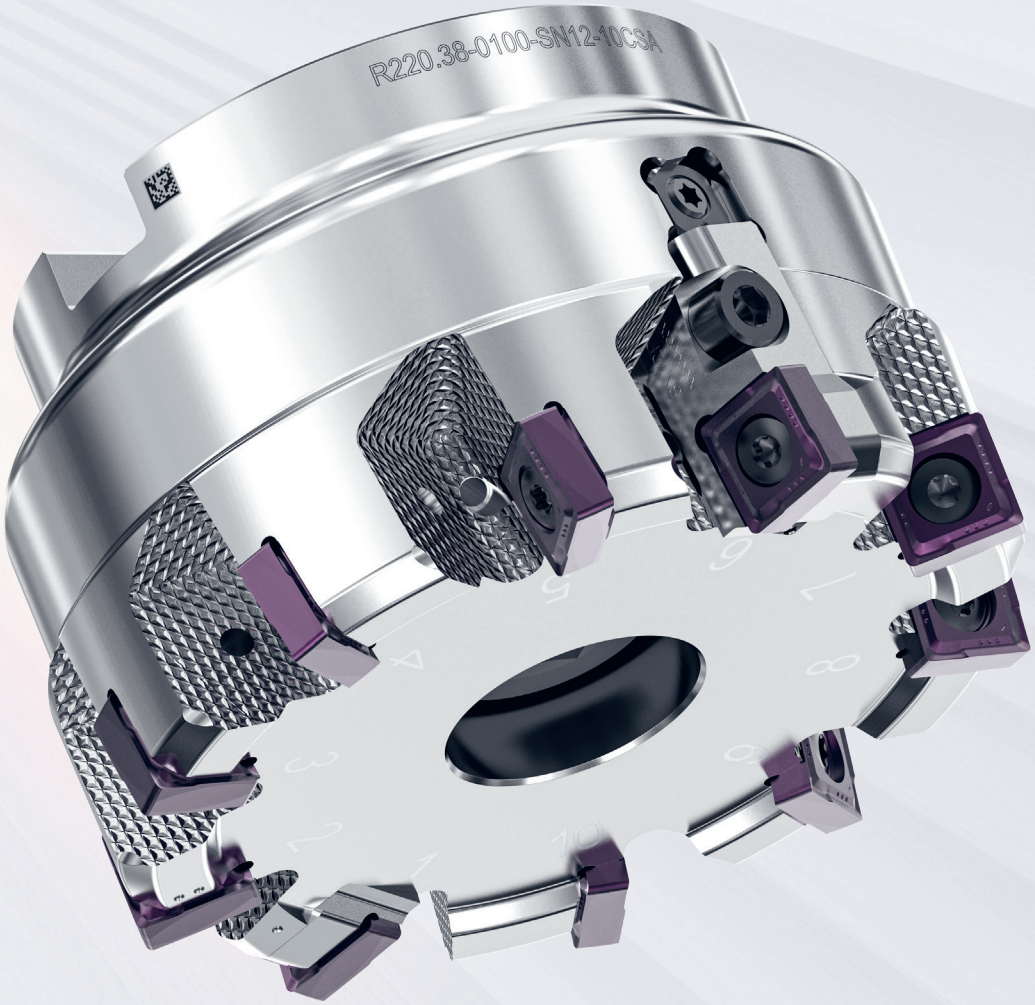
Seco

Catalog & technical guide

Milling 2026.1



At Seco, we make tools, tech, and solutions for the most advanced manufacturing challenges on Earth. From our founding in Fagersta Sweden, to today's global company, our business has always been made to measure, and built on trust.

Combining cutting-edge, precision tools with lasting, personal partnerships, we're a true people company helping our partners discover the future of the manufacturing industry.

We're proud to make for makers, invent for inventors, and partner with pioneers. Driving the future forward with our focus on innovation. In short - if the right tool for the job exists, we'll deliver it. If it doesn't, we'll create it.

We're proud to put sustainability at the heart of everything we do, challenging perceptions of our industry, changing the process of manufacturing, and playing our own small part in shaping a brighter looking future.

Made for Makers

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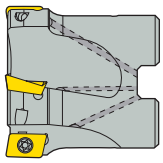
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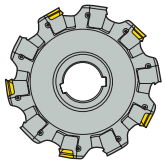
Mounting type

Type – Arbor (Shell end)



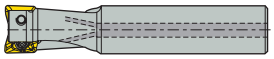
Ex.: R220.69-0050-12-5AN

Type – Arbor hole



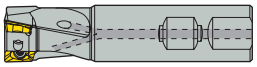
Ex.: 335.25-160.15.40-7N

Type 0 – Cylindrical



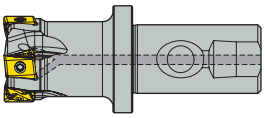
Ex.: R217.69-1616.**0**-10-2A

Type 3 – Weldon Tool chucks acc. to ISO 5414 DIN 1835



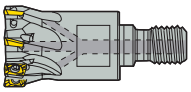
Ex.: R217.69-2525.**3**-12-3AN

Type 3S – Seco/Weldon® Tool chucks acc. to ISO 5414 DIN 1835



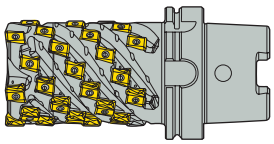
Ex.: R217.69-2532.**3S**-12-4AN

Type RE – Combimaster



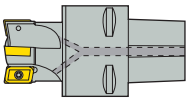
Ex.: R217.69-1225.**RE**-12-3AN

Type HSK



Ex.: R217.94-**HSK**100A-080-104-12.5SA

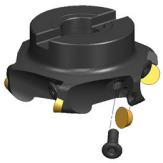
Type Cx – Seco-Capto™



Ex.: **C5**-R217.69-054-10-5A

Insert clamping system

Clamping by umbrella screw-S



The inserts are clamped by an inclined screw which holds the insert in position in its seat.

Clamping by wedge -W or -M



The inserts are held in position by a wedge and a screw which clamps the insert onto the seat. (Example shows milling cutter with cassettes).

Clamping by center lock screw -S



The inserts are secured through a centre hole by means of a screw which clamps the insert firmly against the bottom and side of its seat.

Clamping by spring action



The inserts are retained by a clamping/spring action into a fixed insert seat

Square T4



The inserts are secured through a centre hole by means of a screw which clamps the insert firmly against the bottom and side of its seat.

Code key inserts

S	E	M	X	12	04	AF	T	N	-	ME12
1	2	3	4	5	6	7	8	9		10

1. Insert shape

A 

B 

C 

D 

E 

H 

K 

L 

M 

O 

P 

R 

S 

T 

V 

W 

X=Special shapes Z=Special shapes

2. Insert side clearance angle

A 

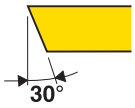
B 

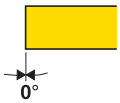
C 

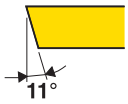
D 

E 

F 

G 

N 

P 

O = Special

Code key inserts

3. Tolerances

Tolerance class	Tolerances: +/- mm/*In*				For IC, dimension in mm/In											
	S mm	IC mm	S inch	IC inch	3,175* 0.125	3,969	4,064	4,760 0.187	6,350 0.250	9,525 0.375	12,700 0.500	15,875 0.625	19,050 0.750	20,000	25,400 1.000	31,750 1.250	38,100 1.500
A	0,025	0,025	0.0010	0.0010	•			•	•	•	•	•	•	•	•	•	•
C	0,025	0,025	0.0010	0.0010	•	•	•	•	•	•	•	•	•	•	•	•	•
E	0,025	0,025	0.0010	0.0010	•			•	•	•	•	•	•	•	•	•	•
F	0,025	0,013	0.0010	0.0005	•			•	•	•	•	•	•	•	•	•	•
G	0,050*	0,025	0.0020	0.0010	•			•	•								
G	0,130	0,025	0.0051	0.0010						•	•	•	•	•	•	•	•
H	0,025	0,013	0.0010	0.0005	•			•	•	•	•	•	•	•	•	•	•
J	0,025	0,050	0.0010	0.0020	•			•	•	•							
J	0,025	0,080	0.0010	0.0031							•						
J	0,025	0,100	0.0010	0.0039								•	•	•			
J	0,025	0,130	0.0010	0.0051											•		
J	0,025	0,150	0.0010	0.0059												•	•
K	0,025	0,050	0.0010	0.0020	•			•	•	•							
K	0,025	0,080	0.0010	0.0031							•						
K	0,025	0,100	0.0010	0.0039								•	•	•			
K	0,025	0,130	0.0010	0.0051											•		
K	0,025	0,150	0.0010	0.0059												•	•
M	0,050*	0,050	0.0020	0.0020	•			•	•								
M	0,130	0,050	0.0051	0.0020						•							
M	0,130	0,080	0.0051	0.0031							•						
M	0,130	0,100	0.0051	0.0039								•	•	•			
M	0,130	0,130	0.0051	0.0051											•		
M	0,130	0,150	0.0051	0.0059												•	•
U	0,050*	0,080	0.0020	0.0031	•			•	•								
U	0,130	0,080	0.0051	0.0031						•							
U	0,130	0,130	0.0051	0.0051							•						
U	0,130	0,180	0.0051	0.0071								•	•	•			
U	0,130	0,250	0.0051	0.0098											•	•	•

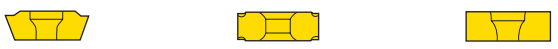
* Not ISO

4. Type

A B G M N R



T U W



X=Special shapes

Z=Special shapes

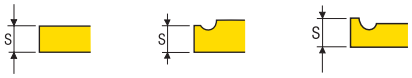
5. Cutting edge length

A, B, K C, D, E, M, V H, O, P L R S T W



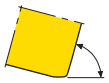
Code key inserts

6. Thickness



01 = 1,59 mm	01 = 0.0626 Inch	T3 = 3,97 mm	T3 = 0.1563 Inch	07 = 7,94 mm	07 = 0.3126 Inch
T1 = 1,98 mm	T1 = 0.0780 Inch	04 = 4,76 mm	04 = 0.1874 Inch	08 = 8,00 mm	08 = 0.3150 Inch
02 = 2,38 mm	02 = 0.0937 Inch	05 = 5,56 mm	05 = 0.2189 Inch	09 = 9,52 mm	09 = 0.3748 Inch
03 = 3,18 mm	03 = 0.1252 Inch	06 = 6,35 mm	06 = 0.2500 Inch		

7. Corner configuration

1st letter		2nd letter		nose radius		
	A = 45°		A = 45°		M0 = round inserts	M0 = round inserts
	D = 60°		B = 5°		005 = 0,05 mm	005 = 0.0020 Inch
	E = 75°		C = 7°		01 = 0,1 mm	01 = 0.0039 Inch
	F = 85°		D = 15°		02 = 0,2 mm	02 = 0.0079 Inch
	P = 90°		E = 20°		04 = 0,4 mm	04 = 0.0157 Inch
	Z = Special		F = 25°		08 = 0,8 mm	08 = 0.0315 Inch
			G = 30°		12 = 1,2 mm	12 = 0.0472 Inch
			N = 0°		etc.	etc.
			P = 11°			
			Z = Special			

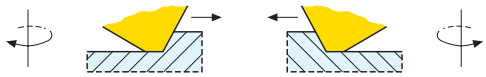
8. Cutting edge condition

F E T S



9. Direction of cutting

R L N



Neutral (R- and L- rotated)

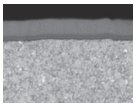
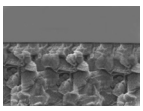
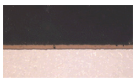
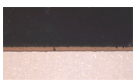
10. Internal designations

Machining conditions

E=Easy
ME=Medium Easy
M=Medium
MD=Medium Difficult
D=Difficult

Insert grades

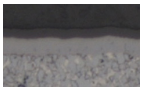
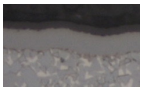
PVD Coated Grades

MH1051			Extremely hard high wear resistant grade for milling hardened steels. Also suitable for finishing operations in cast iron. (Ti,Si)N – (Ti,Al)N
F15M			Hard and wear resistant grade for milling in aluminium and non-ferrous alloys. Excellent grade, in combination with protected cutting edges, for high speed machining in hardened steel. (Ti, Al) N – TiN
MK2050			PVD-coated grade for cast iron, Improved edge integrity. First choice in all cast iron materials. Excellent for milling with and without coolant. (Ti,Si)N/(Ti,Al)N
F30M			Basic grade for Minimaster inserts and thread milling inserts. Also suitable for milling stainless steel, hardened steel and superalloys. (Ti, Al) N – TiN
F32M			Universal grade for R335.14 replaceable head offering an excellent combination of strength and toughness. The F32M shows an exceptionally broad application range and is applicable in all type of material with this type of tool. (Ti, Al) N – TiN
MP3000			Highly wear resistant optimized grade for milling in steel. (Ti;Al)N
MS2050			PVD-coated grade first choice for machining titanium alloys. Can also be used as a complementary grade for milling stainless steels when increased toughness is needed. (Ti;Al) N – NbN
F40M			PVD-coated grade for fine to medium rough milling. First choice for milling with small feeds and/or low cutting speeds. Excellent for milling when there is a risk of vibrations and when coolant is used. Recommended for machining superalloys. (Ti, Al) N – TiN
MP2050			PVD-coated grade for tough machining conditions and high temperatures in martensitic and austenitic stainless steels, dry and wet machining possible. Alternative in super alloys in unstable conditions. (Ti,Si)N/(Ti,Al)N
MP2051			PVD-coated grade with high heat resistance and good toughness, for rough machining in high alloyed steel, precipitation hardened steel and martensitic stainless steel (Ti,Si)N/(Ti,Al)N

For more information go to www.secotools.com

Insert grades

CVD Coated Grades

MK1501			CVD-coated grade based on Duratomic™ coating. High performance grade for milling cast iron and nodular cast iron, with or without coolant. Ti (C, N) – Al_2O_3
MP1501			CVD-coated grade based on Duratomic™ coating. Grade for high performance and productivity in steel material under stable conditions and for milliing hardened steel. Excellent grade for grey and nodular cast iron. Ti (C, N) – Al_2O_3
MP2501			CVD-coated grade based on Duratomic™ coating. Grade for high versatility when dealing with variations in productivity, cutting data and workpiece material requirements in steel and stainless steel Ti (C, N) – Al_2O_3
MS2500			Optimization grade for superalloy materials, also suitable for rough milling in tool steel. Ti (C, N) – Al_2O_3
MP3501			CVD-coated grade based on DuratomicTM coating. Basic choice for unstable conditions in steel and cast iron material, alternative choice when machining stainless steels. Ti (C, N) – Al_2O_3
MM4500			Extremly tough grade for duplex stainless steel. Can also be used for a wide range of materials when cutting conditions are unstable. Ti(C, N)-Al_2O_3

Uncoated Grades

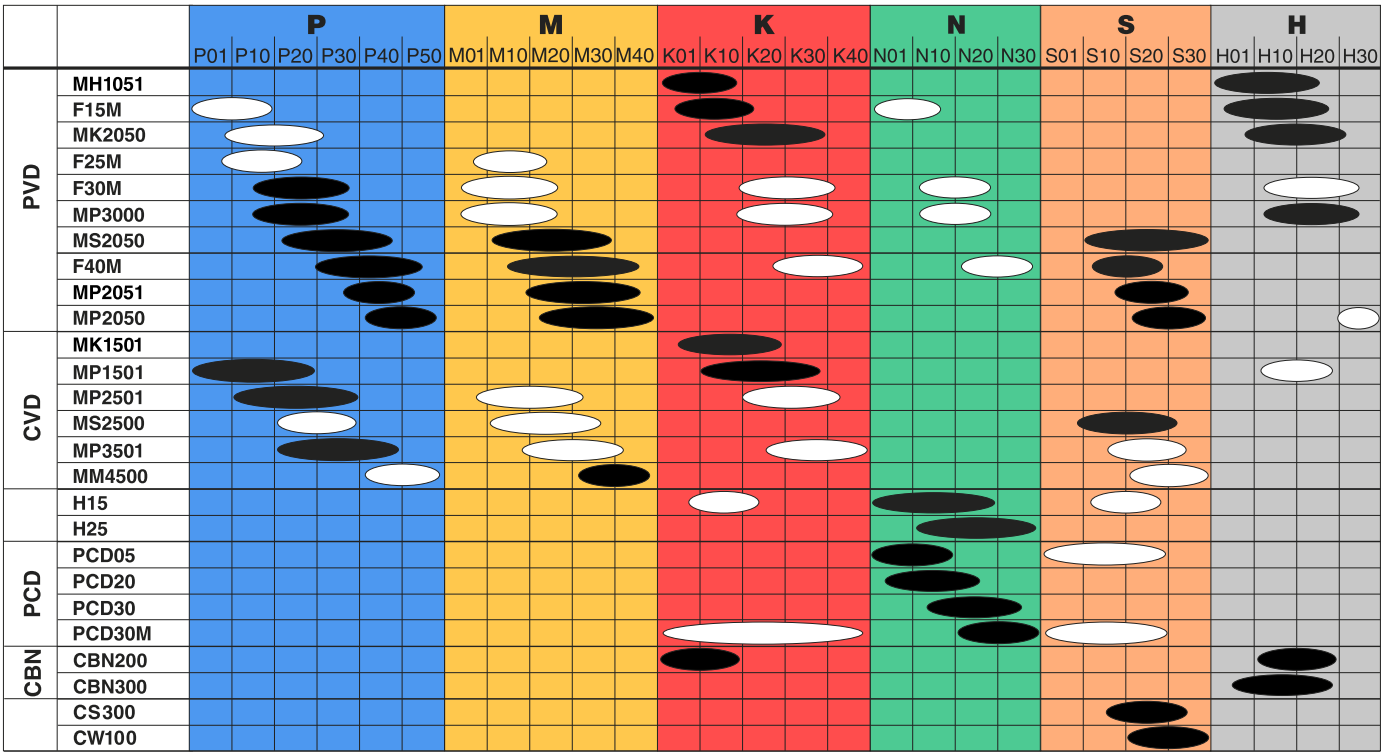
H15			Hard, wear resistant grade for milling in aluminium.
H25			Tough micro-grain carbide grade for milling in superalloys and aluminium.

For more information go to www.secotools.com

Insert grades

Cemented carbide is an alloy of tungsten carbide (WC) and cobalt (Co). Cubic carbides like tantalum carbide (TaC), titanium carbide (TiC) and niobium carbide (NbC) can also be added. Tungsten carbide is the main component and gives the hardness. Cobalt is the binder phase and gives the toughness. Cubic carbides are added in order to affect properties like hot hardness, deformation resistance and chemical wear resistance.

Most modern grades are coated with either CVD (Chemical Vapour Deposition) or PVD (Physical Vapour Deposition) technique.
The coating improves the wear resistance of the grade.
CVD-coated grades are suitable for wear resistance in demanding applications with high feed rates and intermediate to high cutting speed.
PVD-coated grades are recommended for applications with low feed rate where high edge toughness is required. PVD-coated grades are suitable for applications with low to intermediate cutting speed.

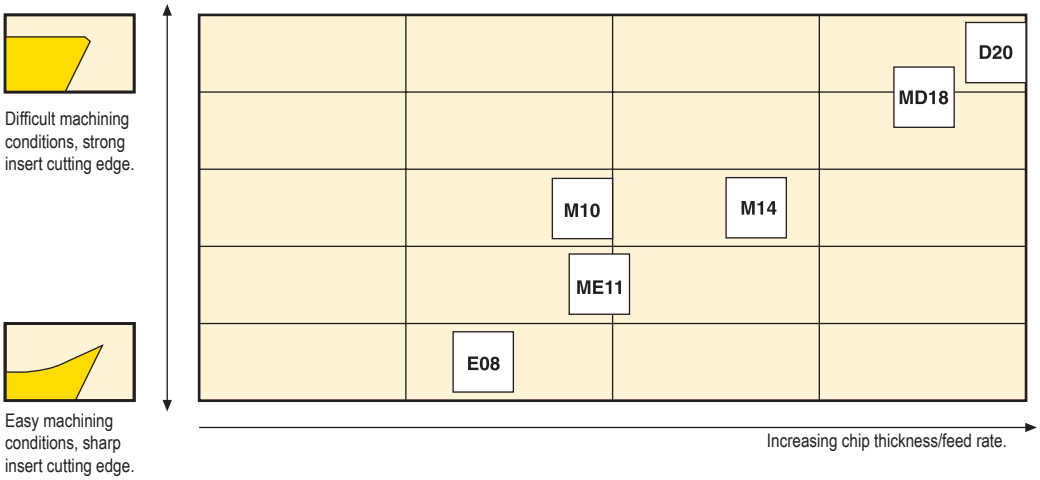


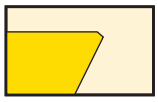
H15 and H25 = uncoated
CS300 and CW100 = ceramic

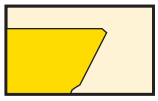
The black oval circle areas in the chart indicate an inserts main ISO application groups.
The white oval circle area in the chart indicate an inserts other complementary ISO application groups.

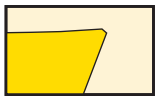
For TGP45 use ISO application area for MP2501
For CP500 and CP600 use ISO application area respectively for F30M and F40M

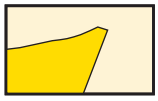
Insert geometries - Designation system

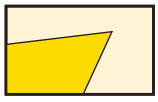


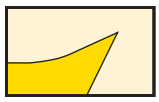

..AFTN-D20 Negative and very protected cutting edge


..AFTN-MD18 Negative and protected cutting edge


..AFTN-M14 Positive and protected cutting edge


..AFTN-ME11 Very positive and protected cutting edge


..AFN-M10 Positive and sharp cutting edge


..AFN-E08 Very positive and very sharp cutting edge

ISO attribute

ISO attribute	Explanation
APMXE	Depth of cut maximum in feed direction end
APMXS	Depth of cut maximum in feed direction side
AZ	Plunge depth maximum
BD	Body diameter
BHTA	Body half taper angle
BS	Wiper edge length
C	Keyway depth
CBTHN	Connection body thickness
CCER	Curved cutting edge radius
CDX	Cutting depth maximum
CF	Spot chamfer
CHW	Corner chamfer width
Cmax	Helical interpolation hole diameter maximum
Cmin	Helical interpolation hole diameter minimum
CPNDIA	Connection pin diameter
CTMS	Connection text machine side
CW	Cutting width
CWN	Cutting width minimum
CWX	Cutting width maximum
DC	Cutting diameter
DCB	Connection bore diameter
DCB1	Connection bore diameter 1
DCSFMS	Contact surface diameter machine side
DCSFWS	Contact surface diameter work piece side
DCX	Cutting diameter maximum
DMM	Shank diameter
FDESU	Feed direction suitability end
FDP	Feed direction primary
FDSSU	Feed direction suitability side
GAMF	Rake angle radial
GAMO	Rake angle orthogonal
GAMP	Rake angle axial
HC	Thread height actual
IC	Inscribed circle diameter
INSD	Insert diameter
INSL	Insert length
KAPRE	Tool cutting edge angle in feed direction end
KAPRS	Tool cutting edge angle in feed direction side
KCH	Corner chamfer angle
KWW	Keyway width
L	Cutting edge length
LB	Body length
LE	Cutting edge effective length
LF	Functional length
LS	Shank length
LUX	Usable length maximum
OAL	Overall length
PDX	Profile distance ex
PNA	Profile included angle
RE	Corner radius
RP	Programming radius
RMPX	Ramping angle maximum
RPMX	Rotational speed maximum
S	Insert thickness
S1	Insert thickness alt 1
UTCN	Uncut thickness
TDZ	Thread diameter size
THUB	Hub thickness
TTL	True tip length
W1	Insert width
ZEFP	Peripheral effective cutting edge count
ZNP	Peripheral mounted insert count
SA	sphere angle
TACH	Cutting half taper angle
DC1	Cutting diameter 1
LPR	Protruding length
FHA	Flute helix angle
PL	Point length
SIG	Point angle
BEC	Back end chamfer angle
DN	Neck diameter
RA	Relief angle

Code keys metric and inch

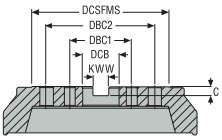
R	217	.	69	-	25	32	.	3S	-	12	-	4	AN
1	2		3		4	5		6		7		8	9

R	217	.	69	-	01.25	.	3S	-	12	-	4	AN
1	2		3		5		6		7		8	9

1.	2.	3
Right hand rotation Cx = For Seco-Capto	217 = With shank 220 = For arbor	Cutter system

4. (Not applicable for inch designation)	5.	6.
Shank diameter	Cutter diameter	Shank type 0 = Cylindrical 3 = Weldon 3S = Seco Weldon RE = Combimaster

7.	8.	9.
Insert size and shape	Effective No. of teeth (ZEFP)	A = With through coolant supply AD = Anti vibration material with through coolant supply T = Close pitch version for contouring operations C = With adjustable cassettes N = Coated



Dimensions in mm

DCB	DCSFMS	DBC1	DBC2	KWW	C
16	30-35	–	–	8,4	5,6
22	42-47	–	–	10,4	6,3
27	48-62	–	–	12,4	7
32	60-90	–	–	14,4	8
40	90-130	66,7	–	16,4	9
60	130-270	101,6	177,8	25,7	14

Dimensions in inch

DCB	DCSFMS	DBC1	DBC2	KWW	C
0.500	*1.181 - 1.378*			*0.258*	*0.165*
0.750	*1.378 - 1.850*	–	–	*0.321*	*0.193*
1.000	*1.803 - 2.441*	–	–	*0.382*	*0.224*
1.250	*2.250 - 3.031*	–	–	*0.508*	*0.287*
1.500	*2.750 - 3.543*	–	–	*0.630*	*0.382*
2.000	*4.331*	–	–	*0.756*	*0.445*
2.500	*5.118 - 6.299 (8.858)*	*4.000*	*(7.000)*	*1.000*	*0.551*

For a more exact DCSFMS and DCB measurement, see each product table.

Selection – Metric

Cutter	Insert	Recommended a_p		Material suitability						Corner radius (mm)					
				P	M	K	N	S	H						
Double Turbo	ZOMX11	5	10	■	◩	■	□	◩	◩	0,8	■	◩	–	◩	◩
	ZOMX16	7	15	■	◩	■	□	◩	◩	0,8/1,6	□	■	–	–	◩
Turbo	XO..06	3	5	■	■	■	■	■	◩	0,2/0,4/0,8/1,6	■	□	■	■	◩
	XO..10	5	9	■	■	■	■	■	◩	0,2/0,4/0,8/1,2/ 1,6/2,0/2,4/3,1	■	◩	■	■	◩
	XO..12	6	11	■	■	■	■	■	◩	0,2/0,4/0,8/1,2/1,6/ 2,0/2,4/3,1/4,0/ 5,0/6,3	◩	■	■	■	◩
	XOMX16	8	15	■	■	■	■	■	◩	0,2/0,4/0,8/1,2/ 1,6/2,0/2,4/3,1 4,0/5,0/6,3	□	■	■	■	◩
	XO..18	9	17	■	◩	■	■	◩	◩	0,4/0,8/1,2/1,6/2,0/ 2,4/3,1/4,0/5,0/6,3	□	■	■	■	◩
Square T4	LO..08	3	7	■	◩	■	□	□	◩	0,4/0,8/1,2/1,6	■	◩	◩	-	□
	LO..12	6	10	■	■	■	■	■	◩	0,4/0,8/1,2/1,6/2,0/ 2,4/3,1/4,0/5,0/6,3	■	◩	◩	-	□
Square 6	XN..04..R	2	3	■	◩	■	-	□	◩	0,4/0,8	■	□	◩	-	◩
	XN..08..R	4	7	■	◩	■	-	□	◩	0,4/0,8/1,2/1,6	□	■	□	-	◩
ABEX	ABEX26	13	20	■	◩	■	-	-	◩	1,6	□	■	□	-	◩

1st choice ■

Alternative choice ◩

Possible choice □

High speed machine with low power/torque

Strong stable machine with rigid connecion

Not recommended –

Unstable condition suitability

Ramping ability

Plunging ability

Selection – Metric

Cutter	No. of cutting edges	Application	Cutter diameter (mm) available with effective number of teeth																								See page
			10	12	14	16	18	20	22	25	32	40	44	50	52 54	63	66	80	84	100	125	160	200	250	315		
Double Turbo 11	4							2		2	3	4		5		6		7		8	11	12	14				23
										3	4	5		6		8		9		11	13	12	14				
Double Turbo 16	4										2	3		4		5		6		8	10	12	14				
											3	4		5		6		8		10	12	14	16				
Turbo 06	2		2	2	3	3	4	4																			38, 39
				3		4		5		7	8	10															
Turbo 10	2					2	2	2		3	3	4	4	5	5	5	5	8									45
								3		4	5	6		7		8		10		12							
Turbo 12	2							2		2	3	4	4	5	5	6	6	7	7	8	8	10	10	12	16		53
										3	4	5		7		8		10		12	14						
Turbo 16	2									2	2	3		4	5	5	6	6		8	8	10	10	11	12	16		63
											3	4		5/6		6/7		8/9	8	10	12		13				
Turbo 18	2										2	3		4	4	4/5	5	5/6	6	7	8	7/8	7/9	10	12	16		73
											3	4		5		6		8		9	11		12				
Square T4 08	4					2	2	2	3	3	3	4		5	5	6											84
								3		4	5	6		7		9											
Square T4 12	4									2	3	3/4	4	5	5	6	6	7		9	12						91
												5		6		8		10		12							
Square 6 04	6									4	5	5		6		7											100
								3		5	6	7		8/9		9											
Square 6 08	6											3	3	4	4	6	7	5/7	7	6/8	7/11	12	8	10			107
												4	4	5	5	7		9		11	14	16	12				
ABEX	2															5		5			7	8	10	12	14		117
																6											

x — Fixed pocket (x indicates number of teeth)

x — With cassette (x indicates number of teeth)

Slotting and contouring

Optimized for contouring

Selection – Inch

Cutter	Insert	Recommended a_p		Material suitability						Corner radius (inch)					
				P	M	K	N	S	H						
Double Turbo	ZOMX11	0.197	0.394	■	◩	■	□	◩	◩	.031	□	◩	–	◩	◩
	ZOMX16	0.276	0.590	■	◩	■	□	◩	◩	.031/.063	□	■	–	–	◩
Turbo	XO..06	0.118	0.197	■	■	■	■	■	◩	.008/.016 .031/.063	■	□	■	■	◩
	XO..10	0.197	0.354	■	■	■	■	■	◩	016/.031 .047/.063 .079/.094 .122	■	◩	■	■	◩
	XO..12	0.236	0.433	■	■	■	■	■	◩	.016/.031 .047/.063 .079/.094 .122/.157 .197/.248	◩	■	■	■	◩
	XOMX16	0.315	0.590	■	■	■	■	■	◩	.016/.031 .047/.063 .079/.095 .122/.157 .197/.248	◩	■	■	■	◩
	XO..18	0.354	0.669	■	◩	■	■	◩	◩	.016/.031 .047/.063 .079/.094 .122/.157 .197/.248	□	■	■	■	◩
Square T4	LO..08	0.118	0.276	■	◩	■	□	□	◩	.016/.031 .047/.063	■	◩	◩	-	□
	LO..12	0.276	0.393	■	■	■	■	■	◩	.079/.031/.047 .063/.094	■	◩	◩	-	□
Square 6	XN..04..R	0.079	0.118	■	◩	■	-	□	◩	.016/.031	■	□	◩	-	◩
	XN..08..R	0.157	0.276	■	◩	■	-	□	◩	.016/.031 .047/.063	□	■	□	-	◩

1st choice ■

Alternative choice ◩

Possible choice □

High speed machine with low power/torque

Strong stable machine with rigid connecion

Not recommended –

Unstable condition suitability

Ramping ability

Plunging ability

Selection – Inch

Cutter	No. of cutting edges	Application	Cutter diameter available (inch)/number of teeth															See page
			0.375	0.50	0.625	0.75	0.875	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00	6.00	8.00	10.00	
Double Turbo 11	4							2 3	 4	4 5	5 6	6 8	7 9	8 11					23
Double Turbo 16	4								2 3	3 4	4 5	5 6	6 8	8 10	10 12				30
Turbo 06	2		2	2 3	3 4	4 5	5	6 7	 8	 10									38, 39
Turbo 10	2			1	2	2 3	3	3 4	 5	4 6	5 7		10						45
Turbo 12	2					2	2	2 3	3/4 4	4 5	4/5 7	4 6	4/7 10	5/8 12					53
Turbo 16	2							2	2 3	3 4	4 5/6	5 6	6 8	8 10	9	12			63
Turbo 18	2							2	2 3	3 4	3/4 5	5 6	4/6 8	5 7/9	8 11	9 12			73
Square T4 08	4				2	 3		3 4	4	4	5								84
Square T4 12	4							2	3	4	5 6	6 8	8	10	12	14			91
Square 6 04	6					 3		 5	5	6	 9								100
Square 6 08	6									3	4 5	4 6/7	5 7/9	6 8/11	7 11	12			107

x — Fixed pocket (x indicates number of teeth)

x — With cassette (x indicates number of teeth)

Slotting and contouring

Optimized for contouring



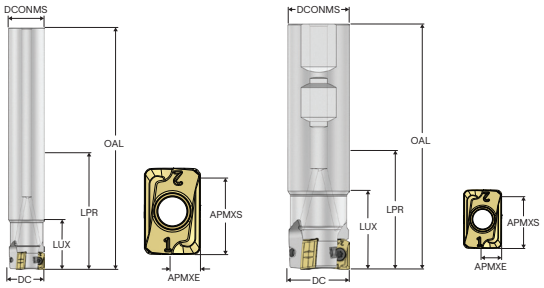
Double Turbo

Using the most positive helix cutting angle geometry on the market today means less power consumption, smoother cutting, and longer tool life. Together with the impressive 90-degree angle accuracy and the double-sided inserts with 4 cutting edges, this generates a good surface finish and reduces costs. ZOMX11 inserts have a depth of cut capability of 10mm (0.39”), while ZOMX16 inserts can handle a depth of cut up to 15mm (0.59”), providing versatility for various machining needs.

– Double Turbo 11, insert type ZOMX11, cutter range metric, Ø 20-125 mm (Imperial Ø 1.000-4.000 inch)
– Double Turbo 16, insert type ZOMX16, cutter range metric, Ø 32-200 mm (Imperial Ø 1.250-5.000 inch)

Double Turbo 11 – R217.64-ZO11 – Metric





–For insert selection and cutting data recommendations, see page(s) 28-29
–For complete insert programme, see page(s) 927
–For ISO attribute explanation, see page 16
–KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCONMS	LF	LUX	LPR	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm	mm		mm	mm		kg	
R217.64-2020.3-ZO11-2A	10310365	Weldon	20,0	2	10,0	3,4	20,0	65,0	29,0	40,0	90,0	1,7	33,8	39,1	19400	0,2	ZOMX1107
R217.64-2525.3-ZO11-2A	10310366	Weldon	25,0	2	10,0	3,4	25,0	68,0	32,0	44,0	100,0	1,2	43,8	49,1	17400	0,4	ZOMX1107
R217.64-2525.3-ZO11-3A	10310367	Weldon	25,0	3	10,0	3,4	25,0	68,0	32,0	44,0	100,0	1,2	43,8	49,1	17400	0,4	ZOMX1107
R217.64-3232.3-ZO11-4A	10310368	Weldon	32,0	4	10,0	3,4	32,0	74,0	37,0	50,0	110,0	0,8	57,8	63,1	15400	0,7	ZOMX1107
R217.64-1820.0-ZO11-2A	10310355	Cylindrical	20,0	2	10,0	3,4	18,0	–	70,0	70,0	120,0	1,7	33,8	39,1	19400	0,3	ZOMX1107
R217.64-2020.0-ZO11-2A	10310356	Cylindrical	20,0	2	10,0	3,4	20,0	–	30,0	70,0	120,0	1,7	33,8	39,1	19400	0,3	ZOMX1107
R217.64-2525.0-ZO11-2A	10310357	Cylindrical	25,0	2	10,0	3,4	25,0	–	35,0	94,0	150,0	1,2	43,8	49,1	17400	0,6	ZOMX1107
R217.64-2525.0-ZO11-3A	10310358	Cylindrical	25,0	3	10,0	3,4	25,0	–	35,0	94,0	150,0	1,2	43,8	49,1	17400	0,6	ZOMX1107
R217.64-3232.0-ZO11-3A	10310359	Cylindrical	32,0	3	10,0	3,4	32,0	–	40,0	110,0	170,0	0,8	57,8	63,1	15400	1,1	ZOMX1107
R217.64-3232.0-ZO11-4A	10310360	Cylindrical	32,0	4	10,0	3,4	32,0	–	40,0	110,0	170,0	0,8	57,8	63,1	15400	1,0	ZOMX1107

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217/220.64-..	1/4HEX-T10PX50	C03509-T10P

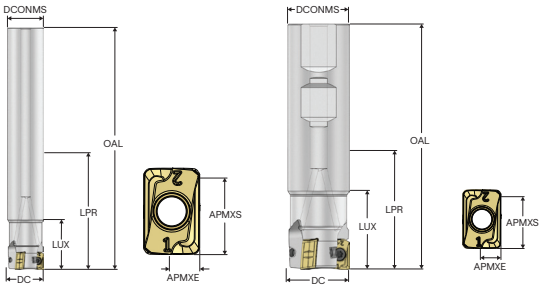
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.64-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30

Torque and fixed keys, see page 944

Double Turbo 11 – R217.64-ZO11 – Inch





—For insert selection and cutting data recommendations, see page(s) 28-29
—For complete insert programme, see page(s) 927
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCONMS	LF	LUX	LPR	OAL	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch	inch		inch	inch		lbs	
R217.64-01.00-3-ZO11-3A	10310384	Weldon	1.000	3	0.394	0.134	1.000	2.795	1.260	1.732	3.937	1,2	1.795	1.965	17200	0.880	ZOMX1107
R217.64-01.25-3-ZO11-4A	10310385	Weldon	1.250	4	0.394	0.134	1.250	3.189	1.457	1.969	4.331	0,8	2.256	2.465	15400	1.540	ZOMX1107
R217.64-01.00-0-ZO11-2A	10310379	Cylindrical	1.000	2	0.394	0.134	1.000	–	1.378	3.701	5.906	1,2	1.795	1.965	17200	1.320	ZOMX1107
R217.64-01.00-0-ZO11-3A	10310380	Cylindrical	1.000	3	0.394	0.134	1.000	–	1.378	3.701	5.906	1,2	1.795	1.965	17200	1.320	ZOMX1107
R217.64-01.25-0-ZO11-4A	10310381	Cylindrical	1.250	4	0.394	0.134	1.250	–	1.575	4.331	6.693	0,8	2.256	2.465	15200	2.200	ZOMX1107

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217/220.64-..	1/4HEX-T10PX50	C03509-T10P

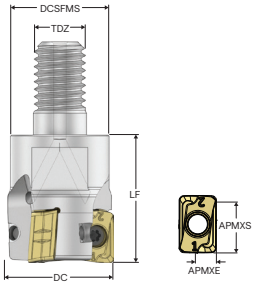
Accessories

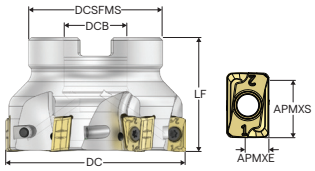
For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.64-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30

Torque and fixed keys, see page 944

Double Turbo 11 – R217.64-ZO11 – Metric



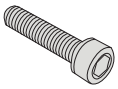




—For insert selection and cutting data recommendations, see page(s) 28–29
—For complete insert programme, see page(s) 927
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ	LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm		mm		mm	mm		kg	
R217.64-1020.RE-ZO11-2A	10310361	Combimaster	20,0	2	10,0	3,4	–	19,0	M10	28,0	1,7	33,8	39,1	19400	0,1	ZOMX1107
R217.64-1225.RE-ZO11-2A	10310362	Combimaster	25,0	2	10,0	3,4	–	23,0	M12	30,0	1,2	43,8	49,1	17400	0,2	ZOMX1107
R217.64-1225.RE-ZO11-3A	10310363	Combimaster	25,0	3	10,0	3,4	–	23,0	M12	30,0	1,2	43,8	49,1	17400	0,1	ZOMX1107
R217.64-1632.RE-ZO11-4A	10310364	Combimaster	32,0	4	10,0	3,4	–	30,0	M16	40,0	0,8	57,8	63,1	15400	0,3	ZOMX1107
R220.64-0040-ZO11-4A	10310341	Arbor	40,0	4	10,0	3,4	16,0	35,0	–	40,0	0,5	73,8	79,1	13600	0,3	ZOMX1107
R220.64-0040-ZO11-5A	10310342	Arbor	40,0	5	10,0	3,4	16,0	35,0	–	40,0	0,5	73,8	79,1	13600	0,3	ZOMX1107
R220.64-0050-ZO11-5A	10310343	Arbor	50,0	5	10,0	3,4	22,0	47,0	–	40,0	0,4	93,8	99,1	12300	0,4	ZOMX1107
R220.64-0050-ZO11-6A	10310344	Arbor	50,0	6	10,0	3,4	22,0	47,0	–	40,0	0,4	93,8	99,1	12300	0,4	ZOMX1107
R220.64-0063-ZO11-6A	10310345	Arbor	63,0	6	10,0	3,4	22,0	47,0	–	40,0	0,3	119,8	125,1	10900	0,6	ZOMX1107
R220.64-0063-ZO11-6A-27	10310347	Arbor	63,0	6	10,0	3,4	27,0	56,0	–	40,0	0,3	119,8	125,1	10900	0,6	ZOMX1107
R220.64-0063-ZO11-8A	10310346	Arbor	63,0	8	10,0	3,4	22,0	47,0	–	40,0	0,3	119,8	125,1	10900	0,6	ZOMX1107
R220.64-0063-ZO11-8A-27	10310348	Arbor	63,0	8	10,0	3,4	27,0	56,0	–	40,0	0,3	119,8	125,1	10900	0,7	ZOMX1107
R220.64-0080-ZO11-7A	10310349	Arbor	80,0	7	10,0	3,4	27,0	62,0	–	50,0	0,23	153,8	159,1	9700	1,2	ZOMX1107
R220.64-0080-ZO11-9A	10310350	Arbor	80,0	9	10,0	3,4	27,0	62,0	–	50,0	0,23	153,8	159,1	9700	1,2	ZOMX1107
R220.64-0100-ZO11-11A	10310352	Arbor	100,0	11	10,0	3,4	32,0	77,0	–	50,0	0,18	193,8	199,1	8700	2,0	ZOMX1107
R220.64-0100-ZO11-8A	10310351	Arbor	100,0	8	10,0	3,4	32,0	77,0	–	50,0	0,18	193,8	199,1	8700	2,2	ZOMX1107
R220.64-0125-ZO11-11A	10310353	Arbor	125,0	11	10,0	3,4	40,0	90,0	–	63,0	0,1	243,8	249,1	7800	3,9	ZOMX1107
R220.64-0125-ZO11-13A	10310354	Arbor	125,0	13	10,0	3,4	40,0	90,0	–	63,0	0,1	243,8	249,1	7800	3,7	ZOMX1107

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.64-..	–	1/4HEX-T10PX50	C03509-T10P
R220.64-0040	TCEI0825	1/4HEX-T10PX50	C03509-T10P
R220.64-0050-0063	220.17-692	1/4HEX-T10PX50	C03509-T10P
R220.64-0063-27	MLC6S12X30	1/4HEX-T10PX50	C03509-T10P
R220.64-0080	MC6S12X35	1/4HEX-T10PX50	C03509-T10P
R220.64-0100	MC6S16X35	1/4HEX-T10PX50	C03509-T10P
R220.64-0125	MC6S20X40	1/4HEX-T10PX50	C03509-T10P

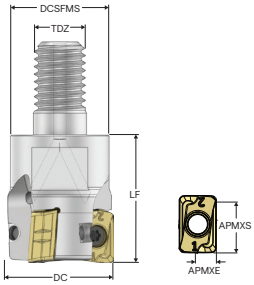
Accessories

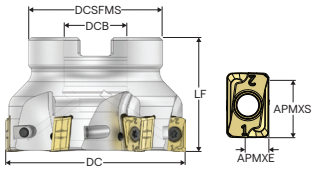
For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.64-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30

Torque and fixed keys, see page 944

Double Turbo 11 – R217.64-ZO11 – Inch



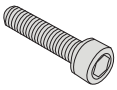




–For insert selection and cutting data recommendations, see page(s) 28–29
–For complete insert programme, see page(s) 927
–For ISO attribute explanation, see page 16
–KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ	LF	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch	inch		inch		inch	inch		lbs	
R217.64-01.00-12RE-ZO11-3A	10310382	Combimaster	1.000	3	0.394	0.134	–	0.906	M12	1.575	1,2	1.795	1.965	17200	0.440	ZOMX1107
R217.64-01.25-16RE-ZO11-4A	10310383	Combimaster	1.250	4	0.394	0.134	–	1.181	M16	1.575	0,8	2.256	2.465	15400	0.660	ZOMX1107
R220.64-01.50-ZO11-4A	10310369	Arbor	1.500	4	0.394	0.134	0.750	1.378	–	1.575	0,55	2.756	2.965	14000	0.660	ZOMX1107
R220.64-01.50-ZO11-5A	10310370	Arbor	1.500	5	0.394	0.134	0.750	1.378	–	1.575	0,55	2.756	2.965	14000	0.660	ZOMX1107
R220.64-02.00-ZO11-5A	10310371	Arbor	2.000	5	0.394	0.134	0.750	1.850	–	1.575	0,4	3.756	3.965	12200	1.100	ZOMX1107
R220.64-02.00-ZO11-6A	10310372	Arbor	2.000	6	0.394	0.134	0.750	1.850	–	1.575	0,4	3.756	3.965	12200	1.100	ZOMX1107
R220.64-02.50-ZO11-6A	10310373	Arbor	2.500	6	0.394	0.134	0.750	1.850	–	1.575	0,3	4.756	4.965	10900	1.100	ZOMX1107
R220.64-02.50-ZO11-8A	10310374	Arbor	2.500	8	0.394	0.134	0.750	1.850	–	1.575	0,3	4.756	4.965	10900	2.200	ZOMX1107
R220.64-03.00-ZO11-7A	10310375	Arbor	3.000	7	0.394	0.134	1.000	2.441	–	1.969	0,2	5.756	5.965	9900	2.650	ZOMX1107
R220.64-03.00-ZO11-9A	10310376	Arbor	3.000	9	0.394	0.134	1.000	2.441	–	1.969	0,2	5.756	5.965	9900	2.650	ZOMX1107
R220.64-04.00-ZO11-11A	10310378	Arbor	4.000	11	0.394	0.134	1.500	3.031	–	1.969	0,18	7.756	7.965	8700	5.070	ZOMX1107
R220.64-04.00-ZO11-8A	10310377	Arbor	4.000	8	0.394	0.134	1.500	3.031	–	1.969	0,18	7.756	7.965	8700	4.850	ZOMX1107

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.64-..	–	1/4HEX-T10PX50	C03509-T10P
R220.64-01.50	UC6S3/8UNFX1-1/4	1/4HEX-T10PX50	C03509-T10P
R220.64-02.00-02.50	UC6S3/8UNFX1	1/4HEX-T10PX50	C03509-T10P
R220.64-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T10PX50	C03509-T10P
R220.64-04.00	UC6S3/4UNFX1-1/4	1/4HEX-T10PX50	C03509-T10P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key	Torque value
					
R217/220.64-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30	–
R217/220.64-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	–	T00-10P30

Torque and fixed keys, see page 944

R217/220.64-11 – Insert selection – Metric/ Inch

SMG		a_p	f_z		
			100%	30%	10%
P1	ZOMX110708TR-ME10 F40M	5,0 *0.20*	0,14 0.0055	0,16 0.0065	0,24 0.0095
P2	ZOMX110708TR-ME10 F40M	5,0 *0.20*	0,14 0.0055	0,16 0.0065	0,24 0.0095
P3	ZOMX110708TR-M12 MP2501	5,0 *0.20*	0,16 0.0065	0,18 0.0070	0,28 0.011
P4	ZOMX110708TR-M12 MP2501	5,0 *0.20*	0,16 0.0065	0,18 0.0070	0,28 0.011
P5	ZOMX110708TR-M12 MP2501	5,0 *0.20*	0,16 0.0065	0,17 0.0065	0,26 0.010
P6	ZOMX110708TR-M12 MP2501	5,0 *0.20*	0,16 0.0065	0,17 0.0065	0,26 0.010
P7	ZOMX110708TR-M12 MP2501	5,0 *0.20*	0,16 0.0065	0,17 0.0065	0,26 0.010
P8	ZOMX110708TR-M12 MP2501	5,0 *0.20*	0,16 0.0065	0,18 0.0070	0,28 0.011
P11	ZOMX110708TR-M12 MP3501	5,0 *0.20*	0,16 0.0065	0,17 0.0065	0,26 0.010
P12	ZOMX110708TR-M12 MP3501	4,0 *0.16*	0,11 0.0044	0,12 0.0048	0,18 0.0070
M1	ZOMX110708R-M08 F40M	5,0 *0.20*	0,12 0.0048	0,13 0.0050	0,19 0.0075
M2	ZOMX110708R-M08 F40M	5,0 *0.20*	0,11 0.0044	0,12 0.0048	0,18 0.0070
M3	ZOMX110708R-M08 F40M	4,0 *0.16*	0,085 0.0034	0,095 0.0038	0,14 0.0055
M4	ZOMX110708R-M08 MS2050	3,0 *0.12*	0,075 0.0030	0,080 0.0032	0,13 0.0050
M5	ZOMX110708R-M08 MS2050	3,0 *0.12*	0,075 0.0030	0,080 0.0032	0,13 0.0050
K1	ZOMX110708TR-M12 MK2050	5,0 *0.20*	0,17 0.0065	0,19 0.0075	0,30 0.012
K2	ZOMX110708TR-M12 MK2050	5,0 *0.20*	0,16 0.0065	0,17 0.0065	0,26 0.010
K3	ZOMX110708TR-M12 MK2050	5,0 *0.20*	0,16 0.0065	0,17 0.0065	0,26 0.010
K4	ZOMX110708TR-M12 MK2050	5,0 *0.20*	0,16 0.0065	0,17 0.0065	0,26 0.010
K5	ZOMX110708TR-M12 MK2050	5,0 *0.20*	0,14 0.0055	0,16 0.0065	0,24 0.0095
K6	ZOMX110708TR-M12 MK2050	5,0 *0.20*	0,16 0.0065	0,17 0.0065	0,26 0.010
K7	ZOMX110708TR-M12 MK2050	5,0 *0.20*	0,14 0.0055	0,16 0.0065	0,24 0.0095
S1	ZOMX110708R-M08 F40M	3,0 *0.12*	0,075 0.0030	0,080 0.0032	0,13 0.0050
S2	ZOMX110708R-M08 F40M	3,0 *0.12*	0,075 0.0030	0,080 0.0032	0,13 0.0050
S3	ZOMX110708R-M08 F40M	3,0 *0.12*	0,070 0.0028	0,075 0.0030	0,12 0.0048
S11	ZOMX110708R-M08 MS2050	3,5 *0.14*	0,085 0.0034	0,095 0.0038	0,14 0.0055
S12	ZOMX110708R-M08 MS2050	3,5 *0.14*	0,085 0.0034	0,095 0.0038	0,14 0.0055
S13	ZOMX110708R-M08 MS2050	3,0 *0.12*	0,075 0.0030	0,080 0.0032	0,13 0.0050
H5	ZOMX110708TR-MD14 MP3000	4,0 *0.16*	0,13 0.0050	0,14 0.0055	0,22 0.0085
H8	ZOMX110708TR-MD14 MP3000	3,5 *0.14*	0,095 0.0038	0,11 0.0044	0,16 0.0065
H11	ZOMX110708TR-MD14 MP1501	4,0 *0.16*	0,13 0.0050	0,14 0.0055	0,22 0.0085
H12	ZOMX110708TR-MD14 MP1501	3,5 *0.14*	0,095 0.0038	0,11 0.0044	0,16 0.0065
H21	ZOMX110708TR-MD14 MP1501	3,5 *0.14*	0,095 0.0038	0,11 0.0044	0,16 0.0065

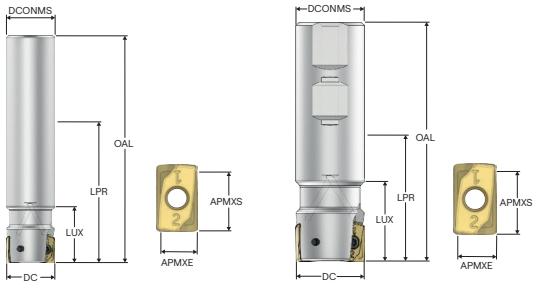
SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.64-11 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK2050			MP3000			MS2050			F40M			MP1501			MP2501			MP3501		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	265 *870*	345 *1125*	415 *1350*	245 *800*	330 *1075*	390 *1275*	290 *950*	370 *1225*	425 *1400*	230 *750*	285 *940*	325 *1075*	385 *1275*	475 *1550*	550 *1800*	390 *1275*	485 *1600*	560 *1825*	400 *1300*	490 *1600*	550 *1800*
P2	255 *840*	340 *1125*	405 *1325*	240 *790*	320 *1050*	380 *1250*	275 *900*	355 *1175*	415 *1350*	225 *740*	275 *900*	320 *1050*	375 *1225*	465 *1525*	530 *1750*	380 *1250*	470 *1550*	540 *1775*	380 *1250*	470 *1550*	530 *1750*
P3	225 *740*	295 *970*	350 *1150*	210 *690*	290 *950*	335 *1100*	245 *800*	310 *1025*	360 *1175*	200 *660*	245 *800*	275 *900*	330 *1075*	405 *1325*	460 *1500*	335 *1100*	410 *1350*	465 *1525*	335 *1100*	410 *1350*	460 *1500*
P4	200 *660*	260 *850*	315 *1025*	185 *610*	255 *840*	295 *970*	215 *710*	275 *900*	320 *1050*	180 *590*	225 *740*	265 *870*	290 *950*	355 *1175*	410 *1350*	295 *970*	360 *1175*	420 *1375*	295 *970*	360 *1175*	405 *1325*
P5	190 *620*	255 *840*	300 *980*	185 *610*	245 *800*	290 *950*	205 *670*	270 *890*	305 *1000*	170 *560*	210 *690*	235 *770*	280 *920*	345 *1125*	390 *1275*	280 *920*	350 *1150*	400 *1300*	280 *920*	350 *1150*	390 *1275*
P6	215 *710*	285 *940*	335 *1100*	205 *670*	270 *890*	325 *1075*	240 *790*	300 *980*	345 *1125*	190 *620*	235 *770*	265 *870*	310 *1025*	390 *1275*	440 *1450*	315 *1025*	395 *1300*	450 *1475*	325 *1075*	395 *1300*	440 *1450*
P7	200 *660*	270 *890*	315 *1025*	195 *640*	255 *840*	310 *1025*	225 *740*	285 *940*	325 *1075*	180 *590*	220 *720*	250 *820*	295 *970*	365 *1200*	415 *1350*	300 *980*	375 *1225*	425 *1400*	305 *1000*	370 *1225*	415 *1350*
P8	190 *620*	250 *820*	295 *970*	180 *590*	245 *800*	285 *940*	205 *670*	260 *850*	305 *1000*	170 *560*	205 *670*	230 *750*	280 *920*	340 *1125*	385 *1275*	280 *920*	345 *1125*	390 *1275*	280 *920*	345 *1125*	390 *1275*
P11	195 *640*	260 *850*	310 *1025*	190 *620*	250 *820*	300 *980*	220 *720*	275 *900*	315 *1025*	175 *570*	215 *710*	245 *800*	285 *940*	355 *1175*	405 *1325*	290 *950*	360 *1175*	410 *1350*	295 *970*	360 *1175*	405 *1325*
P12	130 *425*	170 *560*	200 *660*	130 *425*	170 *560*	205 *670*	140 *460*	175 *570*	200 *660*	120 *395*	145 *475*	160 *520*	185 *610*	230 *750*	255 *840*	190 *620*	235 *770*	260 *850*	185 *610*	225 *740*	250 *820*
M1	— —	— —	— —	175 *570*	230 *750*	270 *890*	200 *660*	265 *870*	320 *1050*	160 *520*	210 *690*	250 *820*	— —	— —	— —	195 *640*	255 *840*	305 *1000*	200 *660*	265 *870*	320 *1050*
M2	— —	— —	— —	145 *475*	190 *620*	225 *740*	165 *540*	225 *740*	260 *850*	130 *425*	175 *570*	205 *670*	— —	— —	— —	160 *520*	215 *710*	255 *840*	165 *540*	225 *740*	260 *850*
M3	— —	— —	— —	115 *375*	155 *510*	180 *590*	135 *445*	180 *590*	210 *690*	105 *345*	140 *460*	165 *540*	— —	— —	— —	130 *425*	175 *570*	200 *660*	135 *445*	180 *590*	210 *690*
M4	— —	— —	— —	95 *310*	120 *395*	140 *460*	105 *345*	140 *460*	165 *540*	85 *280*	110 *360*	130 *425*	— —	— —	— —	105 *345*	135 *445*	160 *520*	105 *345*	140 *460*	165 *540*
M5	— —	— —	— —	75 *245*	100 *330*	120 *395*	90 *295*	115 *375*	135 *445*	70 *230*	95 *310*	110 *360*	— —	— —	— —	85 *280*	115 *375*	135 *445*	90 *295*	115 *375*	135 *445*
K1	280 *920*	365 *1200*	435 *1425*	185 *610*	245 *800*	285 *940*	— —	— —	— —	155 *510*	205 *670*	245 *800*	380 *1250*	470 *1550*	540 *1775*	385 *1275*	475 *1550*	550 *1800*	385 *1275*	470 *1550*	540 *1775*
K2	245 *800*	325 *1075*	385 *1275*	165 *540*	215 *710*	260 *850*	— —	— —	— —	140 *460*	185 *610*	220 *720*	335 *1100*	420 *1375*	475 *1550*	340 *1125*	425 *1400*	485 *1600*	340 *1125*	425 *1400*	470 *1550*
K3	205 *670*	275 *900*	325 *1075*	140 *460*	185 *610*	220 *720*	— —	— —	— —	115 *375*	155 *510*	185 *610*	285 *940*	355 *1175*	400 *1300*	290 *950*	360 *1175*	410 *1350*	290 *950*	360 *1175*	400 *1300*
K4	200 *660*	265 *870*	310 *1025*	135 *445*	175 *570*	210 *690*	— —	— —	— —	110 *360*	150 *490*	175 *570*	270 *890*	340 *1125*	385 *1275*	275 *900*	345 *1125*	390 *1275*	275 *900*	340 *1125*	380 *1250*
K5	120 *395*	165 *540*	190 *620*	80 *260*	105 *345*	125 *410*	— —	— —	— —	70 *230*	90 *295*	105 *345*	170 *560*	205 *670*	230 *750*	170 *560*	210 *690*	235 *770*	170 *560*	205 *670*	230 *750*
K6	175 *570*	230 *750*	275 *900*	115 *375*	155 *510*	185 *610*	— —	— —	— —	100 *330*	130 *425*	155 *510*	240 *790*	295 *970*	335 *1100*	240 *790*	305 *1000*	345 *1125*	245 *800*	300 *980*	335 *1100*
K7	155 *510*	210 *690*	245 *800*	105 *345*	140 *460*	160 *520*	— —	— —	— —	90 *295*	120 *395*	135 *445*	215 *710*	265 *870*	295 *970*	220 *720*	270 *890*	305 *1000*	215 *710*	265 *870*	295 *970*
S1	— —	— —	— —	43 *140*	55 *180*	65 *215*	50 *165*	65 *215*	75 *245*	40 *130*	50 *165*	60 *195*	— —	— —	— —	— —	— —	— —	50 *165*	65 *215*	75 *245*
S2	— —	— —	— —	35 *115*	46 *150*	55 *180*	40 *130*	50 *165*	60 *195*	32 *105*	42 *140*	49 *160*	— —	— —	— —	— —	— —	— —	40 *130*	50 *165*	60 *195*
S3	— —	— —	— —	31 *100*	40 *130*	47 *155*	35 *115*	46 *150*	55 *180*	28 *90*	37 *120*	43 *140*	— —	— —	— —	— —	— —	— —	35 *115*	46 *150*	55 *180*
S11	— —	— —	— —	60 *195*	80 *260*	90 *295*	70 *230*	90 *295*	105 *345*	55 *180*	70 *230*	85 *280*	— —	— —	— —	— —	— —	— —	70 *230*	90 *295*	105 *345*
S12	— —	— —	— —	41 *135*	55 *180*	65 *215*	48 *155*	65 *215*	75 *245*	38 *125*	50 *165*	60 *195*	— —	— —	— —	— —	— —	— —	48 *155*	65 *215*	75 *245*
S13	— —	— —	— —	24 *80*	32 *105*	37 *120*	28 *90*	37 *120*	43 *140*	22 *70*	29 *95*	34 *110*	— —	— —	— —	— —	— —	— —	28 *90*	37 *120*	43 *140*
H5	44 *145*	60 *195*	70 *230*	36 *120*	48 *155*	55 *180*	— —	— —	— —	33 *110*	43 *140*	50 *165*	49 *160*	65 *215*	75 *245*	— —	— —	— —	44 *145*	55 *180*	65 *215*
H8	47 *155*	60 *195*	75 *245*	40 *130*	50 *165*	60 *195*	— —	— —	— —	35 *115*	47 *155*	55 *180*	55 *180*	70 *230*	80 *260*	— —	— —	— —	46 *150*	60 *195*	70 *230*
H11	55 *180*	75 *245*	85 *280*	46 *150*	60 *195*	75 *245*	— —	— —	— —	42 *140*	55 *180*	65 *215*	60 *195*	80 *260*	95 *310*	— —	— —	— —	55 *180*	70 *230*	85 *280*
H12	80 *260*	110 *360*	125 *410*	75 *245*	100 *330*	115 *375*	— —	— —	— —	65 *215*	85 *280*	100 *330*	95 *310*	125 *410*	145 *475*	— —	— —	— —	85 *280*	110 *360*	130 *425*
H21	47 *155*	60 *195*	75 *245*	40 *130*	50 *165*	60 *195*	— —	— —	— —	35 *115*	47 *155*	55 *180*	55 *180*	70 *230*	80 *260*	— —	— —	— —	46 *150*	60 *195*	70 *230*

Double Turbo 16 – R217.64-ZO16 – Metric





—For insert selection and cutting data recommendations, see page(s) 35-36
—For complete insert programme, see page(s) 927
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCONMS	LF	LUX	LPR	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm	mm		mm	mm		kg	
R217.64-3232.3-ZO16-2A	03290222	Weldon	32,0	2	15,0	5,0	32,0	74,0	37,0	50,0	110,0	0,35	49,0	62,0	11400	0,6	ZOMX1607
R217.64-3232.3-ZO16-3A	10107617	Weldon	32,0	3	15,0	5,0	32,0	74,0	37,0	50,0	110,0	0,35	49,0	62,0	11400	0,6	ZOMX1607
R217.64-3240.3-ZO16-3A	03290223	Weldon	40,0	3	15,0	5,0	32,0	74,0	50,0	50,0	110,0	0,25	65,0	78,0	10000	0,7	ZOMX1607
R217.64-3240.3-ZO16-4A	03290224	Weldon	40,0	4	15,0	5,0	32,0	74,0	50,0	50,0	110,0	0,25	65,0	78,0	10000	0,7	ZOMX1607
R217.64-3232.0-ZO16-2A	03290227	Cylindrical	32,0	2	15,0	5,0	32,0	–	37,0	94,0	150,0	0,35	49,0	62,0	11400	0,9	ZOMX1607
R217.64-3232.0-ZO16-3A	10107618	Cylindrical	32,0	3	15,0	5,0	32,0	–	37,0	94,0	150,0	0,35	49,0	62,0	11400	0,8	ZOMX1607
R217.64-3240.0-ZO16-3A	03290228	Cylindrical	40,0	3	15,0	5,0	32,0	–	94,0	94,0	150,0	0,25	65,0	78,0	11400	0,9	ZOMX1607
R217.64-3240.0-ZO16-4A	03290229	Cylindrical	40,0	4	15,0	5,0	32,0	–	94,0	94,0	150,0	0,25	65,0	78,0	11400	0,8	ZOMX1607

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.64-3232-3240	1/4HEX-T15PX50	C04011B-T15P

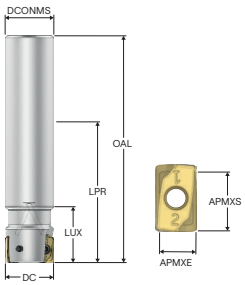
Accessories

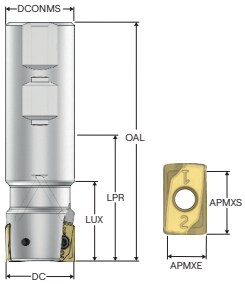
For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.64-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Double Turbo 16 – R217.64-ZO16 – Inch







—For insert selection and cutting data recommendations, see page(s) 35–36
—For complete insert programme, see page(s) 927
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCONMS	LF	LUX	LPR	OAL	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch	inch		inch	inch		lbs	
R217.64-01.25-3-ZO16-2A	03290225	Weldon	1.250	2	0.591	0.197	1.250	3.189	1.457	1.969	4.331	0,25	1.890	2.402	11400	1.320	ZOMX1607
R217.64-01.25-3-ZO16-3A	10107620	Weldon	1.250	3	0.591	0.197	1.250	3.189	1.457	1.969	4.331	0,25	1.890	2.402	11400	1.320	ZOMX1607
R217.64-01.50-3-ZO16-3A	03290226	Weldon	1.500	3	0.591	0.197	1.250	3.189	1.969	1.969	4.331	0,25	2.402	2.913	10000	1.320	ZOMX1607
R217.64-01.50-3-ZO16-4A	10107621	Weldon	1.500	4	0.591	0.197	1.250	3.189	1.969	1.969	4.331	0,25	2.402	2.913	10000	1.320	ZOMX1607
R217.64-01.25-0-ZO16-2A	03290230	Cylindrical	1.250	2	0.591	0.197	1.250	–	1.378	3.701	7.677	0,35	1.890	2.402	11400	2.430	ZOMX1607
R217.64-01.50-0-ZO16-3A	03290231	Cylindrical	1.500	3	0.591	0.197	1.250	–	3.701	3.701	7.677	0,25	2.402	2.913	10000	2.650	ZOMX1607

Spare Parts, included in delivery

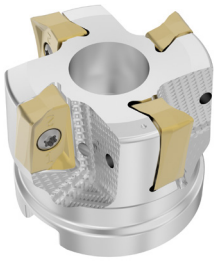
For cutter	Insert key	Insert screw
		
R217.64-..	1/4HEX-T15PX50	C04011B-T15P

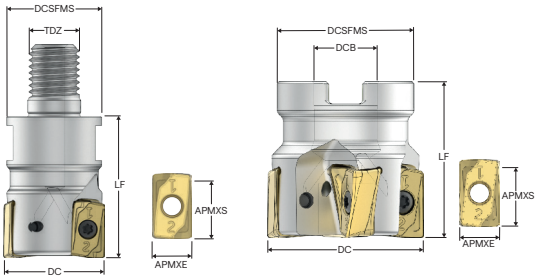
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.64-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Double Turbo 16 – R217/220.64-ZO16 – Metric



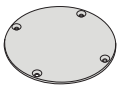


—For insert selection and cutting data recommendations, see page(s) 35-36
—For complete insert programme, see page(s) 927
—For ISO attribute explanation, see page 16
—KAPRS 90°

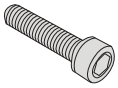
Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ		LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm		mm	mm		mm	mm		kg	
R217.64-1632.RE-ZO16-3A	10107619	Combimaster	32,0	3	15,0	5,0	–	30,0	M16	30,0	45,0	0,35	49,0	62,0	11400	0,3	ZOMX1607
R217.64-2040.RE-ZO16-3A	03290233	Combimaster	40,0	3	15,0	5,0	–	36,5	M20	36,5	45,0	0,25	65,0	78,0	10000	0,3	ZOMX1607
R217.64-2040.RE-ZO16-4A	03290234	Combimaster	40,0	4	15,0	5,0	–	36,5	M20	36,5	45,0	0,25	65,0	78,0	10000	0,3	ZOMX1607
R220.64-0040-ZO16-3A	03290237	Arbor	40,0	3	15,0	5,0	16,0	35,0	–	16,0	40,0	0,25	65,0	78,0	10000	0,3	ZOMX1607
R220.64-0040-ZO16-4A	03290238	Arbor	40,0	4	15,0	5,0	16,0	35,0	–	16,0	40,0	0,25	65,0	78,0	10000	0,3	ZOMX1607
R220.64-0050-ZO16-4A	03290239	Arbor	50,0	4	15,0	5,0	22,0	47,0	–	22,0	40,0	0,2	85,0	98,0	9000	0,3	ZOMX1607
R220.64-0050-ZO16-5A	03290240	Arbor	50,0	5	15,0	5,0	22,0	47,0	–	22,0	40,0	0,2	85,0	98,0	9000	0,4	ZOMX1607
R220.64-0063-ZO16-5A	03290241	Arbor	63,0	5	15,0	5,0	22,0	47,0	–	22,0	40,0	0,15	111,0	124,0	8200	0,5	ZOMX1607
R220.64-0063-ZO16-5A-27	10000039	Arbor	63,0	5	15,0	5,0	27,0	56,0	–	27,0	40,0	0,15	111,0	124,0	8200	0,5	ZOMX1607
R220.64-0063-ZO16-6A	03290242	Arbor	63,0	6	15,0	5,0	22,0	47,0	–	22,0	40,0	0,15	111,0	124,0	8200	0,5	ZOMX1607
R220.64-0063-ZO16-6A-27	10000040	Arbor	63,0	6	15,0	5,0	27,0	56,0	–	27,0	40,0	0,15	111,0	124,0	8200	0,6	ZOMX1607
R220.64-0080-ZO16-6A	03290243	Arbor	80,0	6	15,0	5,0	27,0	62,0	–	27,0	50,0	0,1	145,0	158,0	7200	0,9	ZOMX1607
R220.64-0080-ZO16-8A	03290244	Arbor	80,0	8	15,0	5,0	27,0	62,0	–	27,0	50,0	0,1	145,0	158,0	7200	1,0	ZOMX1607
R220.64-0100-ZO16-8A	03290245	Arbor	100,0	8	15,0	5,0	32,0	77,0	–	32,0	50,0	0,0	–	–	6500	1,6	ZOMX1607
R220.64-0100-ZO16-10A	03290246	Arbor	100,0	10	15,0	5,0	32,0	77,0	–	32,0	50,0	0,0	–	–	6500	1,5	ZOMX1607
R220.64-0125-ZO16-10A	03290247	Arbor	125,0	10	15,0	5,0	40,0	90,0	–	40,0	63,0	0,0	–	–	5800	3,0	ZOMX1607
R220.64-0125-ZO16-12A	03290248	Arbor	125,0	12	15,0	5,0	40,0	90,0	–	40,0	63,0	0,0	–	–	5800	2,9	ZOMX1607
R220.64-8160-ZO16-12A	03307754	Arbor	160,0	12	15,0	5,0	40,0	90,0	–	40,0	63,0	0,0	–	–	5100	5,1	ZOMX1607
R220.64-8160-ZO16-14A	03307755	Arbor	160,0	14	15,0	5,0	40,0	90,0	–	40,0	63,0	0,0	–	–	5100	9,6	ZOMX1607
R220.64-8200-ZO16-14A	03307756	Arbor	200,0	14	15,0	5,0	60,0	130,0	–	60,0	63,0	0,0	–	–	4500	6,7	ZOMX1607
R220.64-8200-ZO16-16A	03307757	Arbor	200,0	16	15,0	5,0	60,0	130,0	–	60,0	63,0	0,0	–	–	4500	6,8	ZOMX1607

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

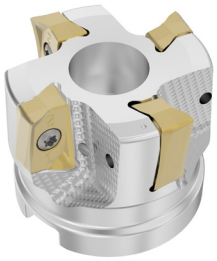
For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R217.64-1632-2040	–	1/4HEX-T15PX50	C04011B-T15P	–	–
R220.64-0040	220.17-690	1/4HEX-T15PX50	C04011B-T15P	–	–
R220.64-0050-0063	220.17-692	1/4HEX-T15PX50	C04011B-T15P	–	–
R220.64-0063-27	MLC6S12X30	1/4HEX-T15PX50	C04011B-T15P	–	–
R220.64-0080-0125	MC6S12X35	1/4HEX-T15PX50	C04011B-T15P	–	–
R220.64-0080-0125	MLC6S16X35	1/4HEX-T15PX50	C04011B-T15P	–	–
R220.64-0080-0125	MC6S20X40	1/4HEX-T15PX50	C04011B-T15P	–	–
R220.64-8160	–	1/4HEX-T15PX90	C04011B-T15P	SC-160-90	MF6S4X10
R220.64-8200	–	1/4HEX-T15PX90	C04011B-T15P	SC-200-90	MF6S4X10

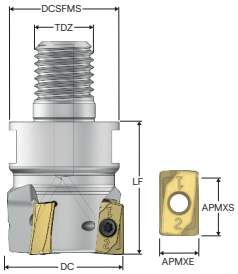
Accessories

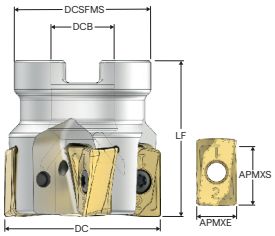
For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R217/220.64-1632-0125	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.64-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.64-8200	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Double Turbo 16 – R217/220.64-ZO16 – inch





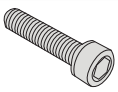


—For insert selection and cutting data recommendations, see page(s) 35-36
—For complete insert programme, see page(s) 927
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ	DCONMS	LF	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch	inch		inch	inch		inch	inch		lbs	
R217.64-01.25-16RE-ZO16-2A	03290235	Combimaster	1.250	2	0.591	0.197	–	1.181	M16	1.181	1.772	0,35	1.890	2.402	11400	0.660	ZOMX1607
R217.64-01.50-20RE-ZO16-3A	03290236	Combimaster	1.500	3	0.591	0.197	–	1.437	M20	1.437	1.772	0,25	2.402	2.913	10000	0.660	ZOMX1607
R220.64-02.00-ZO16-4A	03290250	Arbor	2.000	4	0.591	0.197	0.750	1.850	–	0.750	1.575	0,2	3.386	3.898	9000	0.880	ZOMX1607
R220.64-02.00-ZO16-5A	03290251	Arbor	2.000	5	0.591	0.197	0.750	1.850	–	0.750	1.575	0,2	3.386	3.898	9000	0.880	ZOMX1607
R220.64-02.50-ZO16-5A	03290252	Arbor	2.500	5	0.591	0.197	0.750	1.850	–	0.750	1.575	0,15	4.409	4.921	8200	1.320	ZOMX1607
R220.64-02.50-ZO16-6A	03290253	Arbor	2.500	6	0.591	0.197	0.750	1.850	–	0.750	1.575	0,15	4.409	4.921	8200	1.100	ZOMX1607
R220.64-03.00-ZO16-6A	03290254	Arbor	3.000	6	0.591	0.197	1.000	2.441	–	1.000	1.969	0,1	5.394	5.906	7200	2.200	ZOMX1607
R220.64-03.00-ZO16-8A	03290255	Arbor	3.000	8	0.591	0.197	1.000	2.441	–	1.000	1.969	0,1	5.394	5.906	7200	1.980	ZOMX1607
R220.64-04.00-ZO16-8A	03290256	Arbor	4.000	8	0.591	0.197	1.500	3.031	–	1.500	1.969	0,0	–	–	6500	3.970	ZOMX1607
R220.64-04.00-ZO16-10A	03290257	Arbor	4.000	10	0.591	0.197	1.500	3.031	–	1.500	1.969	0,0	–	–	6500	3.530	ZOMX1607
R220.64-05.00-ZO16-10A	03290258	Arbor	5.000	10	0.591	0.197	1.500	3.543	–	1.500	2.480	0,0	–	–	5800	5.730	ZOMX1607
R220.64-05.00-ZO16-12A	03290259	Arbor	5.000	12	0.591	0.197	1.500	3.543	–	1.500	2.480	0,0	–	–	5800	7.500	ZOMX1607

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.64-..	–	1/4HEX-T15PX50	C04011B-T15P
R220.64-02.00-02.50	UC6S3/8UNFX1	1/4HEX-T15PX50	C04011B-T15P
R220.64-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T15PX50	C04011B-T15P
R220.64-04.00-05.00	UC6S3/4UNFX1-1/4	1/4HEX-T15PX50	C04011B-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.64-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

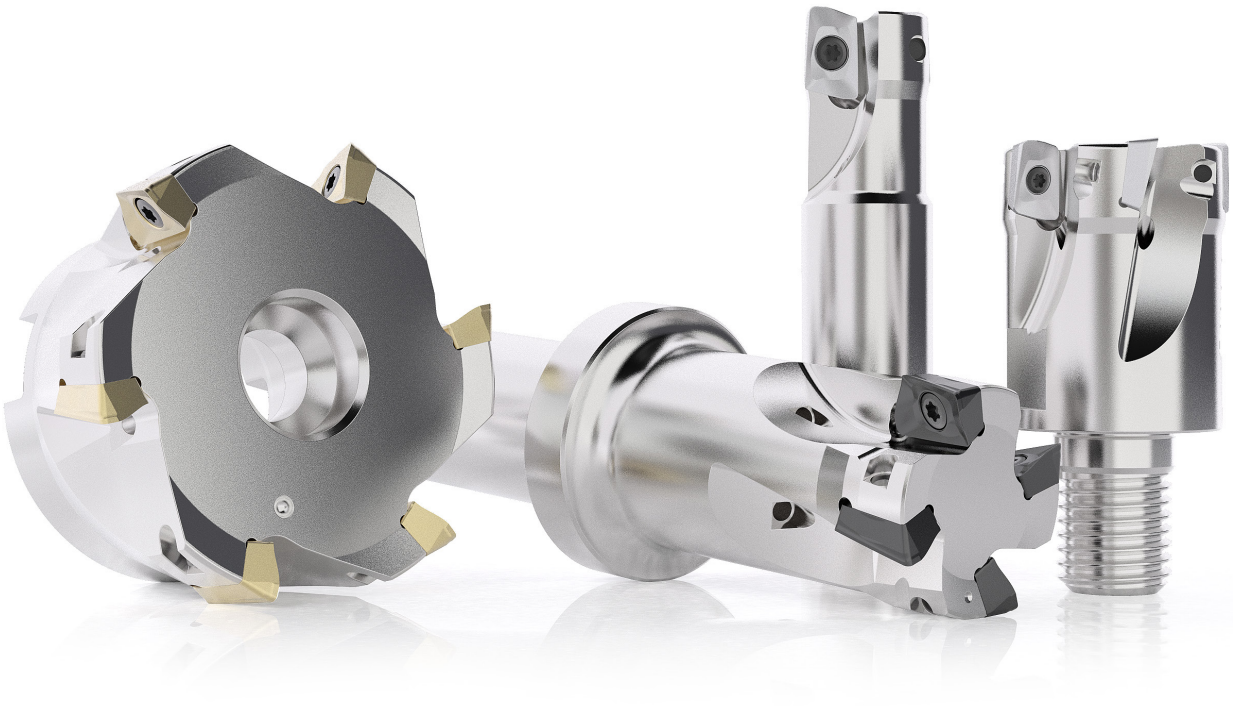
R217/220.64-16 – Insert selection – Metric/ Inch

SMG		a_p	f_z		
			100%	30%	10%
P1	ZOMX160708TR-ME10 F40M	7,0 *0.28*	0,14 0.0055	0,15 0.0060	0,24 0.0095
P2	ZOMX160708TR-ME10 F40M	7,0 *0.28*	0,14 0.0055	0,16 0.0065	0,24 0.0095
P3	ZOMX160708TR-M12 MP2501	7,0 *0.28*	0,16 0.0065	0,18 0.0070	0,28 0.011
P4	ZOMX160708TR-M12 MP2501	7,0 *0.28*	0,16 0.0065	0,17 0.0065	0,26 0.010
P5	ZOMX160708TR-M12 MP2501	7,0 *0.28*	0,16 0.0065	0,17 0.0065	0,26 0.010
P6	ZOMX160708TR-M12 MP2501	7,0 *0.28*	0,16 0.0065	0,17 0.0065	0,26 0.010
P7	ZOMX160708TR-M12 MP2501	7,0 *0.28*	0,16 0.0065	0,17 0.0065	0,26 0.010
P8	ZOMX160708TR-M12 MP2501	7,0 *0.28*	0,16 0.0065	0,18 0.0070	0,28 0.011
P11	ZOMX160708TR-M12 MS2500	7,0 *0.28*	0,16 0.0065	0,17 0.0065	0,26 0.010
P12	ZOMX160708TR-M12 MS2500	6,0 *0.24*	0,11 0.0044	0,12 0.0048	0,18 0.0070
M1	ZOMX160708TR-ME10 F40M	7,0 *0.28*	0,14 0.0055	0,16 0.0065	0,24 0.0095
M2	ZOMX160708TR-ME10 F40M	7,0 *0.28*	0,13 0.0050	0,14 0.0055	0,22 0.0085
M3	ZOMX160708TR-ME10 F40M	6,0 *0.24*	0,10 0.0040	0,11 0.0044	0,18 0.0070
M4	ZOMX160708TR-ME10 MS2050	4,5 *0.18*	0,095 0.0038	0,10 0.0040	0,15 0.0060
M5	ZOMX160708TR-ME10 MS2050	4,5 *0.18*	0,095 0.0038	0,10 0.0040	0,15 0.0060
K1	ZOMX160708TR-M12 MK2050	7,0 *0.28*	0,17 0.0065	0,19 0.0075	0,28 0.011
K2	ZOMX160708TR-M12 MK2050	7,0 *0.28*	0,16 0.0065	0,17 0.0065	0,26 0.010
K3	ZOMX160708TR-M12 MK2050	7,0 *0.28*	0,16 0.0065	0,17 0.0065	0,26 0.010
K4	ZOMX160708TR-M12 MK2050	7,0 *0.28*	0,16 0.0065	0,17 0.0065	0,26 0.010
K5	ZOMX160708TR-M12 MK2050	7,0 *0.28*	0,14 0.0055	0,15 0.0060	0,24 0.0095
K6	ZOMX160708TR-M12 MK2050	7,0 *0.28*	0,16 0.0065	0,17 0.0065	0,26 0.010
K7	ZOMX160708TR-M12 MP3000	7,0 *0.28*	0,14 0.0055	0,15 0.0060	0,24 0.0095
S1	ZOMX160708TR-ME10 MS2050	4,5 *0.18*	0,095 0.0038	0,10 0.0040	0,15 0.0060
S2	ZOMX160708TR-ME10 MS2050	4,5 *0.18*	0,095 0.0038	0,10 0.0040	0,15 0.0060
S3	ZOMX160708TR-ME10 MS2050	4,5 *0.18*	0,085 0.0034	0,095 0.0038	0,14 0.0055
S11	ZOMX160708TR-ME10 MS2050	5,0 *0.20*	0,11 0.0044	0,12 0.0048	0,18 0.0070
S12	ZOMX160708TR-ME10 MS2050	5,0 *0.20*	0,11 0.0044	0,12 0.0048	0,18 0.0070
S13	ZOMX160708TR-ME10 MS2050	4,5 *0.18*	0,095 0.0038	0,10 0.0040	0,15 0.0060
H5	ZOMX160708TR-M12 MP3000	6,0 *0.24*	0,11 0.0044	0,12 0.0048	0,18 0.0070
H8	ZOMX160708TR-M12 MP3000	5,0 *0.20*	0,080 0.0032	0,090 0.0036	0,14 0.0055
H11	ZOMX160708TR-M12 MP1501	6,0 *0.24*	0,11 0.0044	0,12 0.0048	0,18 0.0070
H12	ZOMX160708TR-M12 MP1501	5,0 *0.20*	0,080 0.0032	0,090 0.0036	0,14 0.0055
H21	ZOMX160708TR-M12 MP1501	5,0 *0.20*	0,080 0.0032	0,090 0.0036	0,14 0.0055

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.64-16 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK2050			MP3000			MS2050			F40M			MP1501			MP2501			MP3501		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	265	355	420	275	370	435	280	365	420	235	295	330	390	490	550	380	480	540	340	430	485
	870	*1175*	*1375*	*900*	*1225*	*1425*	*920*	*1200*	*1375*	*770*	*970*	*1075*	*1275*	*1600*	*1800*	*1250*	*1575*	*1775*	*1125*	*1400*	*1600*
P2	260	340	410	265	350	425	275	350	405	230	280	320	380	470	540	370	460	530	330	410	475
	850	*1125*	*1350*	*870*	*1150*	*1400*	*900*	*1150*	*1325*	*750*	*920*	*1050*	*1250*	*1550*	*1775*	*1225*	*1500*	*1750*	*1075*	*1350*	*1550*
P3	230	300	355	235	310	365	235	305	360	200	245	275	335	410	465	325	400	455	290	360	410
	750	*980*	*1175*	*770*	*1025*	*1200*	*770*	*1000*	*1175*	*660*	*800*	*900*	*1100*	*1350*	*1525*	*1075*	*1300*	*1500*	*950*	*1175*	*1350*
P4	200	270	315	205	280	330	215	270	315	180	230	265	295	365	415	285	360	410	255	325	365
	660	*890*	*1025*	*670*	*920*	*1075*	*710*	*890*	*1025*	*590*	*750*	*870*	*970*	*1200*	*1350*	*940*	*1175*	*1350*	*840*	*1075*	*1200*
P5	190	255	305	200	265	315	205	265	300	170	210	240	280	350	395	275	345	390	245	310	350
	620	*840*	*1000*	*660*	*870*	*1025*	*670*	*870*	*980*	*560*	*690*	*790*	*920*	*1150*	*1300*	*900*	*1125*	*1275*	*800*	*1025*	*1150*
P6	215	285	340	220	300	355	230	295	340	190	235	270	315	395	445	310	385	440	275	345	395
	710	*940*	*1125*	*720*	*980*	*1175*	*750*	*970*	*1125*	*620*	*770*	*890*	*1025*	*1300*	*1450*	*1025*	*1275*	*1450*	*900*	*1125*	*1300*
P7	205	270	320	210	285	335	215	280	320	180	225	255	295	370	420	290	365	415	260	325	370
	670	*890*	*1050*	*690*	*940*	*1100*	*710*	*920*	*1050*	*590*	*740*	*840*	*970*	*1225*	*1375*	*950*	*1200*	*1350*	*850*	*1075*	*1225*
P8	190	250	295	200	260	305	200	255	300	170	205	235	280	345	390	275	340	385	245	305	345
	620	*820*	*970*	*660*	*850*	*1000*	*660*	*840*	*980*	*560*	*670*	*770*	*920*	*1125*	*1275*	*900*	*1125*	*1275*	*800*	*1000*	*1125*
P11	195	265	310	205	275	325	210	270	310	175	215	245	290	360	410	285	355	400	250	315	360
	640	*870*	*1025*	*670*	*900*	*1075*	*690*	*890*	*1025*	*570*	*710*	*800*	*950*	*1175*	*1350*	*940*	*1175*	*1300*	*820*	*1025*	*1175*
P12	130	170	205	140	185	215	140	175	200	120	145	160	190	230	260	185	230	255	170	205	230
	425	*560*	*670*	*460*	*610*	*710*	*460*	*570*	*660*	*395*	*475*	*520*	*620*	*750*	*850*	*610*	*750*	*840*	*560*	*670*	*750*
M1	—	—	—	185	245	295	200	265	315	160	210	255	—	—	—	190	250	300	175	235	280
	—	—	—	*610*	*800*	*970*	*660*	*870*	*1025*	*520*	*690*	*840*	—	—	—	*620*	*820*	*980*	*570*	*770*	*920*
M2	—	—	—	155	205	245	165	220	260	135	175	210	—	—	—	155	210	245	145	195	230
	—	—	—	*510*	*670*	*800*	*540*	*720*	*850*	*445*	*570*	*690*	—	—	—	*510*	*690*	*800*	*475*	*640*	*750*
M3	—	—	—	125	165	200	135	180	210	110	145	170	—	—	—	125	170	205	120	155	190
	—	—	—	*410*	*540*	*660*	*445*	*590*	*690*	*360*	*475*	*560*	—	—	—	*410*	*560*	*670*	*395*	*510*	*620*
M4	—	—	—	100	130	155	105	140	165	85	110	130	—	—	—	100	130	155	95	125	145
	—	—	—	*330*	*425*	*510*	*345*	*460*	*540*	*280*	*360*	*425*	—	—	—	*330*	*425*	*510*	*310*	*410*	*475*
M5	—	—	—	80	110	130	90	115	135	70	95	110	—	—	—	85	110	130	80	105	120
	—	—	—	*260*	*360*	*425*	*295*	*375*	*445*	*230*	*310*	*360*	—	—	—	*280*	*360*	*425*	*260*	*345*	*395*
K1	280	370	440	200	260	310	—	—	—	160	210	250	385	475	540	375	465	530	335	415	480
	920	*1225*	*1450*	*660*	*850*	*1025*	—	—	—	*520*	*690*	*820*	*1275*	*1550*	*1775*	*1225*	*1525*	*1750*	*1100*	*1350*	*1575*
K2	245	330	390	175	235	275	—	—	—	140	185	220	340	425	480	330	415	470	295	370	425
	800	*1075*	*1275*	*570*	*770*	*900*	—	—	—	*460*	*610*	*720*	*1125*	*1400*	*1575*	*1075*	*1350*	*1550*	*970*	*1225*	*1400*
K3	210	280	330	150	200	235	—	—	—	120	160	185	285	360	405	280	350	400	250	315	360
	690	*920*	*1075*	*490*	*660*	*770*	—	—	—	*395*	*520*	*610*	*940*	*1175*	*1325*	*920*	*1150*	*1300*	*820*	*1025*	*1175*
K4	200	265	315	140	190	225	—	—	—	115	150	180	275	340	390	270	335	380	240	300	340
	660	*870*	*1025*	*460*	*620*	*740*	—	—	—	*375*	*490*	*590*	*900*	*1125*	*1275*	*890*	*1100*	*1250*	*790*	*980*	*1125*
K5	125	165	190	85	115	135	—	—	—	70	95	110	170	210	235	165	205	230	150	185	210
	410	*540*	*620*	*280*	*375*	*445*	—	—	—	*230*	*310*	*360*	*560*	*690*	*770*	*540*	*670*	*750*	*490*	*610*	*690*
K6	175	235	280	125	165	195	—	—	—	100	135	155	240	300	340	235	295	335	210	265	300
	570	*770*	*920*	*410*	*540*	*640*	—	—	—	*330*	*445*	*510*	*790*	*980*	*1125*	*770*	*970*	*1100*	*690*	*870*	*980*
K7	160	210	245	110	150	175	—	—	—	90	120	140	215	270	300	215	265	295	190	240	265
	520	*690*	*800*	*360*	*490*	*570*	—	—	—	*295*	*395*	*460*	*710*	*890*	*980*	*710*	*870*	*970*	*620*	*790*	*870*
S1	—	—	—	46	60	70	49	65	75	40	50	60	—	—	—	—	—	—	44	60	70
	—	—	—	*150*	*195*	*230*	*160*	*215*	*245*	*130*	*165*	*195*	—	—	—	—	—	—	*145*	*195*	*230*
S2	—	—	—	37	49	60	40	50	60	32	42	50	—	—	—	—	—	—	35	46	55
	—	—	—	*120*	*160*	*195*	*130*	*165*	*195*	*105*	*140*	*165*	—	—	—	—	—	—	*115*	*150*	*180*
S3	—	—	—	33	43	50	35	45	55	28	37	43	—	—	—	—	—	—	31	41	48
	—	—	—	*110*	*140*	*165*	*115*	*150*	*180*	*90*	*120*	*140*	—	—	—	—	—	—	*100*	*135*	*155*
S11	—	—	—	—	—	—	70	90	105	55	70	85	—	—	—	—	—	—	60	80	95
	—	—	—	—	—	—	*230*	*295*	*345*	*180*	*230*	*280*	—	—	—	—	—	—	*195*	*260*	*310*
S12	—	—	—	—	—	—	47	65	75	38	50	60	—	—	—	—	—	—	42	55	65
	—	—	—	—	—	—	*155*	*215*	*245*	*125*	*165*	*195*	—	—	—	—	—	—	*140*	*180*	*215*
S13	—	—	—	—	—	—	28	36	43	22	29	35	—	—	—	—	—	—	25	32	38
	—	—	—	—	—	—	*90*	*120*	*140*	*70*	*95*	*115*	—	—	—	—	—	—	*80*	*105*	*125*
H5	44	60	70	39	50	60	—	—	—	33	44	50	49	65	75	—	—	—	38	50	60
	145	*195*	*230*	*130*	*165*	*195*	—	—	—	*110*	*145*	*165*	*160*	*215*	*245*	—	—	—	*125*	*165*	*195*
H8	48	65	75	42	55	65	—	—	—	36	47	55	55	70	80	—	—	—	42	55	65
	155	*215*	*245*	*140*	*180*	*215*	—	—	—	*120*	*155*	*180*	*180*	*230*	*260*	—	—	—	*140*	*180*	*215*
H11	55	75	90	49	65	75	—	—	—	42	55	65	65	85	100	—	—	—	49	65	75
	180	*245*	*295*	*160*	*215*	*245*	—	—	—	*140*	*180*	*215*	*215*	*280*	*330*	—	—	—	*160*	*215*	*245*
H12	85	110	130	80	105	125	—	—	—	65	85	100	95	125	145	—	—	—	75	95	115
	280	*360*	*425*	*260*	*345*	*410*	—	—	—	*215*	*280*	*330*	*310*	*410*	*475*	—	—	—	*245*	*310*	*375*
H21	48	65	75	42	55	65	—	—	—	36	47	55	55	70	80	—	—	—	42	55	65
	155	*215*	*245*	*140*	*180*	*215*	—	—	—	*120*	*155*	*180*	*180*	*230*	*260*	—	—	—	*140*	*180*	*215*



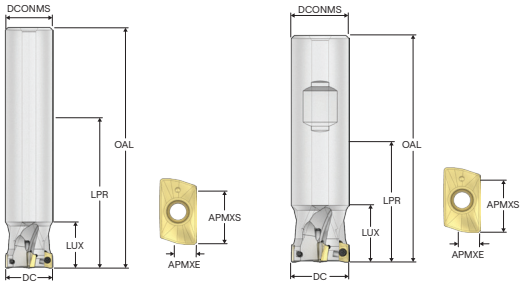
Turbo cutters

The Turbo family takes square shoulder milling to the max. Suitable for most roughing, semi-finishing and finishing operations, these highly versatile cutters offer long tool life and high precision via optimized properties that reduce heat generation and cutting forces.

– Turbo 06 Insert size 06, cutter range metric, Ø 10-40 mm (Imperial Ø 0.375-1.500 inch)
– Turbo 10 Insert size 10, cutter range metric, Ø 16-100mm (Imperial Ø 0.500-3.000 inch)
– Turbo 12 Insert size 12, cutter range metric, Ø 20-250 mm (Imperial Ø 0.750-4.000 inch)
– Turbo 16 Insert size 16, cutter range metric, Ø 25-250 mm (Imperial Ø 1.000-6.000 inch)
– Turbo 18 Insert size 18, cutter range metric, Ø 32-250 mm (Imperial Ø 1.000-6.000 inch)

Turbo 06 – R217.69-06 – Metric





—For insert selection and cutting data recommendations, see page(s) 43-44
—For complete insert programme, see page(s) 917
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCONMS	LF	LUX	LPR	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm	mm		mm	mm		kg	
R217.69-1616.3-06-3AN	02690646	Weldon	16,0	3	5,0	3,0	16,0	46,0	20,0	22,0	70,0	4,0	26,5	31,0	48000	0,2	XO.X0602
R217.69-1616.3-06-4AN	02690647	Weldon	16,0	4	5,0	3,0	16,0	46,0	20,0	42,0	70,0	4,0	26,5	31,0	48000	0,1	XO.X0602
R217.69-2020.3-06-4AN	02690648	Weldon	20,0	4	5,0	3,0	20,0	55,0	20,0	30,0	80,0	2,5	34,5	39,0	44000	0,2	XO.X0602
R217.69-2020.3-06-5AN	02690649	Weldon	20,0	5	5,0	3,0	20,0	60,0	20,0	35,0	85,0	2,5	34,5	39,0	44000	0,2	XO.X0602
R217.69-2025.3-06-7AN	02690650	Weldon	25,0	7	5,0	3,0	20,0	65,0	40,0	40,0	90,0	2,5	44,5	49,0	37600	0,2	XO.X0602
R217.69-0810.0-06-2AN	02690707	Cylindrical	10,0	2	5,0	3,0	8,0	–	64,0	64,0	100,0	10,0	14,5	19,0	60000	0,1	XO.X0602
R217.69-0810.0-06-2N	02690736	Cylindrical	10,0	2	5,0	3,0	8,0	–	64,0	64,0	100,0	10,0	14,5	19,0	60000	0,1	XO.X0602
R217.69-1010.0-06-2AD	00035456	Cylindrical	10,0	2	5,0	3,0	10,0	–	17,0	17,0	55,0	10,0	14,5	19,0	60000	0,1	XO.X0602
R217.69-1010.0-06-2AN	02690714	Cylindrical	10,0	2	5,0	3,0	10,0	–	17,0	17,0	55,0	10,0	14,5	19,0	60000	0,1	XO.X0602
R217.69-1010.0-06-2N	02690737	Cylindrical	10,0	2	5,0	3,0	10,0	–	18,0	62,0	100,0	10,0	14,5	19,0	60000	0,1	XO.X0602
R217.69-1012.0-06-2AN	02690712	Cylindrical	12,0	2	5,0	3,0	10,0	–	80,0	80,0	120,0	6,5	18,5	23,0	54400	0,1	XO.X0602
R217.69-1012.0-06-2N	02690738	Cylindrical	12,0	2	5,0	3,0	10,0	–	80,0	80,0	120,0	6,5	18,5	23,0	54400	0,1	XO.X0602
R217.69-1212.0-06-2AN	02690715	Cylindrical	12,0	2	5,0	3,0	12,0	–	18,0	35,0	80,0	6,5	18,5	23,0	54400	0,1	XO.X0602
R217.69-1212.0-06-2N	02690739	Cylindrical	12,0	2	5,0	3,0	12,0	–	18,0	75,0	120,0	6,5	18,5	23,0	54400	0,1	XO.X0602
R217.69-1212.0-06-3AD	00035457	Cylindrical	12,0	3	5,0	3,0	12,0	–	18,0	35,0	80,0	6,5	18,5	23,0	54400	0,2	XO.X0602
R217.69-1212.0-06-3AN	02690724	Cylindrical	12,0	3	5,0	3,0	12,0	–	18,0	18,0	60,0	6,5	18,5	23,0	54400	0,1	XO.X0602
R217.69-1214.0-06-3AN	02690708	Cylindrical	14,0	3	5,0	3,0	12,0	–	95,0	95,0	140,0	5,0	22,5	27,0	51200	0,2	XO.X0602
R217.69-1416.0-06-3AN	02690713	Cylindrical	16,0	3	5,0	3,0	14,0	–	115,0	115,0	160,0	4,0	26,5	31,0	48000	0,2	XO.X0602
R217.69-1616.0-06-3AN	02690717	Cylindrical	16,0	3	5,0	3,0	16,0	–	20,0	42,0	90,0	4,0	26,5	31,0	48000	0,2	XO.X0602
R217.69-1616.0-06-4AD	00035458	Cylindrical	16,0	4	5,0	3,0	16,0	–	20,0	42,0	90,0	4,0	26,5	31,0	48000	0,3	XO.X0602
R217.69-1616.0-06-4AN	02690718	Cylindrical	16,0	4	5,0	3,0	16,0	–	20,0	42,0	90,0	4,0	26,5	31,0	48000	0,2	XO.X0602
R217.69-1618.0-06-4AN	02690710	Cylindrical	18,0	4	5,0	3,0	16,0	–	132,0	132,0	180,0	3,0	30,5	35,0	45600	0,3	XO.X0602
R217.69-1820.0-06-4AN	02690711	Cylindrical	20,0	4	5,0	3,0	18,0	–	150,0	150,0	200,0	2,5	34,5	39,0	44000	0,4	XO.X0602
R217.69-2020.0-06-4AN	02690703	Cylindrical	20,0	4	5,0	3,0	20,0	–	20,0	55,0	105,0	2,5	34,5	39,0	44000	0,3	XO.X0602
R217.69-2020.0-06-5AD	00035459	Cylindrical	20,0	5	5,0	3,0	20,0	–	20,0	55,0	105,0	2,5	34,5	39,0	44000	0,5	XO.X0602
R217.69-2020.0-06-5AN	02690720	Cylindrical	20,0	5	5,0	3,0	20,0	–	20,0	55,0	105,0	2,5	34,5	39,0	44000	0,3	XO.X0602
R217.69-2025.0-06-7AN	02690721	Cylindrical	25,0	7	5,0	3,0	20,0	–	65,0	65,0	115,0	2,5	44,5	49,0	37600	0,3	XO.X0602
R217.69-2532.0-06-8AN	02690723	Cylindrical	32,0	8	5,0	3,0	25,0	–	74,0	74,0	130,0	1,5	58,5	63,0	33600	0,5	XO.X0602
R217.69-3240.0-06-10AN	02690725	Cylindrical	40,0	10	5,0	3,0	32,0	–	80,0	80,0	140,0	1,0	74,5	79,0	28000	0,9	XO.X0602

Modification of the cutter body needed for radii > 0,8 mm

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.69-..	T06P-2	C01804-T06P

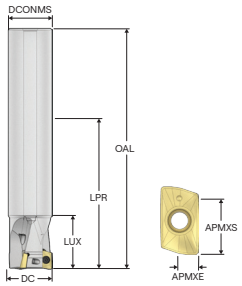
Accessories

For cutter	Insert clamping torque	Torque key
		
R217.69-..	0.5NM	T00-06P05

Torque and fixed keys, see page 944

Turbo 06 – R217.69-06 – Inch





—For insert selection and cutting data recommendations, see page(s) 43-44
—For complete insert programme, see page(s) 917
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCONMS	LUX	LPR	OAL	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch		inch	inch		lbs	
R217.69-00.375-0-06-2AN	02694880	Cylindrical	0.375	2	0.197	0.118	0.375	0.669	0.669	2.165	10,0	0.531	0.709	60000	0.220	XO.X0602
R217.69-00.375-0-06-2LAN	02694883	Cylindrical	0.375	2	0.197	0.118	0.313	2.362	2.362	3.937	10,0	0.531	0.709	60000	0.220	XO.X0602
R217.69-00.50-0-06-2AN	02694884	Cylindrical	0.500	2	0.197	0.118	0.500	0.709	1.378	3.150	6,5	0.768	0.945	54000	0.220	XO.X0602
R217.69-00.50-0-06-2LAN	02694886	Cylindrical	0.500	2	0.197	0.118	0.375	2.362	2.362	3.937	6,5	0.768	0.945	54000	0.220	XO.X0602
R217.69-00.50-0-06-3AN	02694887	Cylindrical	0.500	3	0.197	0.118	0.500	0.709	0.709	2.362	6,0	0.768	0.945	54000	0.220	XO.X0602
R217.69-00.625-0-06-3AN	02694889	Cylindrical	0.625	3	0.197	0.118	0.625	0.787	1.654	3.543	4,0	1.024	1.201	48000	0.440	XO.X0602
R217.69-00.625-0-06-3LAN	02694890	Cylindrical	0.625	3	0.197	0.118	0.500	3.150	3.150	4.921	4,0	1.024	1.201	48000	0.440	XO.X0602
R217.69-00.625-0-06-4AN	02694891	Cylindrical	0.625	4	0.197	0.118	0.625	0.787	1.654	3.543	4,0	1.024	1.201	48000	0.440	XO.X0602
R217.69-00.75-0-06-4AN	02694892	Cylindrical	0.750	4	0.197	0.118	0.750	0.787	1.969	3.937	2,0	1.280	1.457	44000	0.660	XO.X0602
R217.69-00.75-0-06-4LAN	02694898	Cylindrical	0.750	4	0.197	0.118	0.625	4.016	4.016	5.906	2,0	1.280	1.457	44000	0.440	XO.X0602
R217.69-00.75-0-06-5AN	02694896	Cylindrical	0.750	5	0.197	0.118	0.750	0.787	1.969	3.937	2,5	1.280	1.457	44000	0.440	XO.X0602
R217.69-00.875-0-06-5LAN	02694899	Cylindrical	0.875	5	0.197	0.118	0.750	3.937	3.937	5.906	2,0	1.535	1.713	44000	0.880	XO.X0602
R217.69-01.00-0-06-6LAN	02694903	Cylindrical	1.000	6	0.197	0.118	0.750	5.906	5.906	7.874	1,0	1.772	1.949	37600	0.880	XO.X0602
R217.69-01.25-0-06-8AN	02694907	Cylindrical	1.250	8	0.197	0.118	1.000	2.913	2.913	5.118	1,0	2.283	2.461	33600	1.100	XO.X0602

Modification of the cutter body needed for radii > 0.031 in

Spare Parts, included in delivery

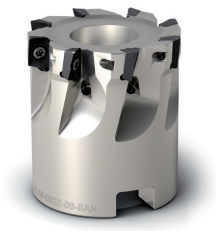
For cutter	Insert key	Insert screw
		
R217.69-..	T06P-2	C01804-T06P

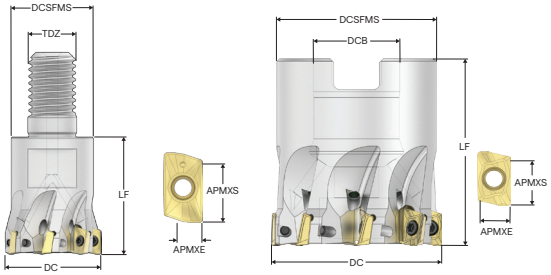
Accessories

For cutter	Insert clamping torque	Torque key
		
R217.69-..	0.5NM	T00-06P05

Torque and fixed keys, see page 944

Turbo 06 – R217/220.69-06 – Metric



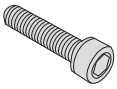


—For insert selection and cutting data recommendations, see page(s) 43–44
—For complete insert programme, see page(s) 917
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ		LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm		mm	mm		mm	mm		kg	
R217.69-0816.RE-06-4AN	02690643	Combimaster	16,0	4	5,0	3,0	–	13,5	M8	13,5	23,0	7,5	26,5	31,0	48000	0,1	XO.X0602
R217.69-1020.RE-06-5AN	02690641	Combimaster	20,0	5	5,0	3,0	–	18,0	M10	18,0	28,0	4,5	34,5	39,0	44000	0,1	XO.X0602
R217.69-1225.RE-06-7AN	02690642	Combimaster	25,0	7	5,0	3,0	–	21,0	M12	21,0	30,0	2,5	44,5	49,0	37600	0,1	XO.X0602
R217.69-1632.RE-06-8AN	02690638	Combimaster	32,0	8	5,0	3,0	–	28,0	M16	28,0	35,0	1,5	58,5	63,0	33600	0,2	XO.X0602
R217.69-1640.RE-06-10AN	02690639	Combimaster	40,0	10	5,0	3,0	–	28,0	M16	28,0	40,0	1,0	74,5	79,0	28000	0,3	XO.X0602
R220.69-0032-06-8AN	02690741	Arbor	32,0	8	5,0	3,0	16,0	30,0	–	16,0	35,0	1,5	58,5	63,0	33600	0,2	XO.X0602
R220.69-0040-06-10AN	02690742	Arbor	40,0	10	5,0	3,0	16,0	35,0	–	16,0	35,0	1,0	74,5	79,0	18600	0,2	XO.X0602

Modification of the cutter body needed for radii > 0,8 mm
For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

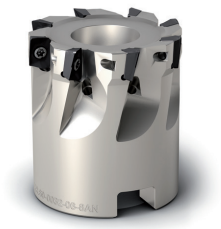
For cutter	Arbor screw	Insert key	Insert screw
			
R217.69-..	–	T06P-2	C01804-T06P
R220.69-..	TCEI0825	T06P-2	C01804-T06P

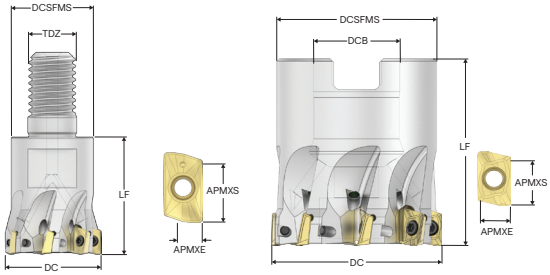
Accessories

For cutter	Insert clamping torque	Torque key
		
R217/220.69-..	0.5NM	T00-06P05

Torque and fixed keys, see page 944

Turbo 06 – R217/220.69-06 – Inch



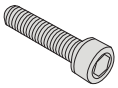


–For insert selection and cutting data recommendations, see page(s) 43-44
–For complete insert programme, see page(s) 917
–For ISO attribute explanation, see page 16
–KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ	DCONMS	LF	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch	inch		inch	inch		inch	inch		lbs	
R217.69-01.00-12RE-06-7AN	02695013	Combimaster	1.000	7	0.197	0.118	–	0.906	M12	0.906	1.378	1,5	1.772	1.949	37600	0.220	XO.X0602
R220.69-01.50-06-10AN	02694915	Arbor	1.500	10	0.197	0.118	0.500	1.378	–	0.500	1.378	1,0	2.776	2.953	28000	0.660	XO.X0602

Modification of the cutter body needed for radii > 0.031 in
For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.69-..	–	T06P-2	C01804-T06P
R220.69-..	UC6S1/4UNFX1	T06P-2	C01804-T06P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217/220.69-..	0.5NM	T00-06P05

Torque and fixed keys, see page 944

R217/220.69-06 – Insert selection – mm/Inch

SMG		a_p	f_z		
			100%	30%	10%
P1	XOMX060204R-M05 F40M	2,5 *0.10*	0,070 0.0028	0,080 0.0032	0,12 0.0048
P2	XOMX060204R-M05 F40M	2,5 *0.10*	0,070 0.0028	0,080 0.0032	0,12 0.0048
P3	XOMX060204R-M05 F40M	2,5 *0.10*	0,070 0.0028	0,075 0.0030	0,12 0.0048
P4	XOMX060204R-M05 F40M	2,5 *0.10*	0,065 0.0026	0,075 0.0030	0,11 0.0044
P5	XOMX060204R-M05 F40M	2,5 *0.10*	0,065 0.0026	0,070 0.0028	0,11 0.0044
P6	XOMX060204R-M05 F40M	2,5 *0.10*	0,065 0.0026	0,070 0.0028	0,11 0.0044
P7	XOMX060204R-M05 F40M	2,5 *0.10*	0,065 0.0026	0,070 0.0028	0,11 0.0044
P8	XOMX060204R-M05 F40M	2,5 *0.10*	0,070 0.0028	0,075 0.0030	0,12 0.0048
P11	XOMX060204R-M05 MP3000	2,5 *0.10*	0,065 0.0026	0,070 0.0028	0,11 0.0044
P12	XOMX060204R-M05 MP3000	2,0 *0.080*	0,046 0.0018	0,050 0.0020	0,075 0.0030
M1	XOMX060204R-M05 F40M	2,5 *0.10*	0,070 0.0028	0,080 0.0032	0,12 0.0048
M2	XOMX060204R-M05 F40M	2,5 *0.10*	0,065 0.0026	0,070 0.0028	0,11 0.0044
M3	XOMX060204R-M05 F40M	2,0 *0.080*	0,055 0.0022	0,060 0.0024	0,090 0.0036
M4	XOMX060204R-M05 MS2050	1,5 *0.060*	0,048 0.0019	0,050 0.0020	0,080 0.0032
M5	XOMX060204R-M05 MS2050	1,5 *0.060*	0,048 0.0019	0,050 0.0020	0,080 0.0032
K1	XOMX060204R-M05 MP3000	2,5 *0.10*	0,070 0.0028	0,080 0.0032	0,12 0.0048
K2	XOMX060204R-M05 MP3000	2,5 *0.10*	0,065 0.0026	0,070 0.0028	0,11 0.0044
K3	XOMX060204R-M05 MP3000	2,5 *0.10*	0,065 0.0026	0,070 0.0028	0,11 0.0044
K4	XOMX060204R-M05 MP3000	2,5 *0.10*	0,065 0.0026	0,070 0.0028	0,11 0.0044
K5	XOMX060204R-M05 MP3000	2,5 *0.10*	0,060 0.0024	0,065 0.0026	0,10 0.0040
K6	XOMX060204R-M05 MP3000	2,5 *0.10*	0,065 0.0026	0,070 0.0028	0,11 0.0044
K7	XOMX060204R-M05 MP3000	2,5 *0.10*	0,060 0.0024	0,065 0.0026	0,10 0.0040
N1	XOEX060204FR-E03 H15	2,5 *0.10*	0,075 0.0030	0,080 0.0032	0,12 0.0048
N2	XOEX060204FR-E03 H15	2,5 *0.10*	0,075 0.0030	0,080 0.0032	0,12 0.0048
N3	XOEX060204FR-E03 H15	2,5 *0.10*	0,075 0.0030	0,080 0.0032	0,12 0.0048
N11	XOEX060204FR-E03 H15	2,5 *0.10*	0,075 0.0030	0,080 0.0032	0,12 0.0048
S1	XOMX060204R-M05 F40M	1,5 *0.060*	0,048 0.0019	0,050 0.0020	0,080 0.0032
S2	XOMX060204R-M05 F40M	1,5 *0.060*	0,048 0.0019	0,050 0.0020	0,080 0.0032
S3	XOMX060204R-M05 F40M	1,5 *0.060*	0,044 0.0017	0,048 0.0019	0,075 0.0030
S11	XOMX060204R-M05 MS2050	1,7 *0.065*	0,055 0.0022	0,060 0.0024	0,090 0.0036
S12	XOMX060204R-M05 MS2050	1,7 *0.065*	0,055 0.0022	0,060 0.0024	0,090 0.0036
S13	XOMX060208R-M05 MS2050	1,5 *0.060*	0,050 0.0020	0,055 0.0022	0,085 0.0034
H5	XOMX060208R-M05 MH1051	2,0 *0.080*	0,048 0.0019	0,050 0.0020	0,080 0.0032
H8	XOMX060208R-M05 MH1051	1,7 *0.065*	0,038 0.0015	0,040 0.0016	0,065 0.0026
H11	XOMX060208R-M05 MH1051	2,0 *0.080*	0,048 0.0019	0,050 0.0020	0,080 0.0032
H12	XOMX060208R-M05 MH1051	1,7 *0.065*	0,038 0.0015	0,040 0.0016	0,065 0.0026
H21	XOMX060208R-M05 MH1051	1,7 *0.065*	0,038 0.0015	0,040 0.0016	0,065 0.0026

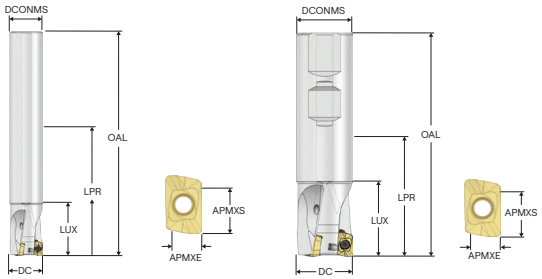
SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.69-06 – Cutting data v_c = (m/min)/(sf/min)

SMG	MH1051			F30M			MP3000			MS2050			F40M			MM4500			H15		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	290	380	450	395	495	570	335	420	475	335	395	440	275	335	375	—	—	—
	—	—	—	*950*	*1250*	*1475*	*1300*	*1625*	*1875*	*1100*	*1375*	*1550*	*1100*	*1300*	*1450*	*900*	*1100*	*1225*	—	—	—
P2	—	—	—	280	370	435	385	485	550	330	405	465	325	385	430	265	325	365	—	—	—
	—	—	—	*920*	*1225*	*1425*	*1275*	*1600*	*1800*	*1075*	*1325*	*1525*	*1075*	*1275*	*1400*	*870*	*1075*	*1200*	—	—	—
P3	—	—	—	245	325	375	335	420	475	280	355	405	285	335	370	230	280	315	—	—	—
	—	—	—	*800*	*1075*	*1225*	*1100*	*1375*	*1550*	*920*	*1175*	*1325*	*940*	*1100*	*1225*	*750*	*920*	*1025*	—	—	—
P4	—	—	—	215	285	335	295	370	420	255	310	355	250	305	345	220	265	300	—	—	—
	—	—	—	*710*	*940*	*1100*	*970*	*1225*	*1375*	*840*	*1025*	*1175*	*820*	*1000*	*1125*	*720*	*870*	*980*	—	—	—
P5	550	710	830	205	270	320	280	350	400	240	300	340	240	285	315	195	235	265	—	—	—
	1800	*2325*	*2725*	*670*	*890*	*1050*	*920*	*1150*	*1300*	*790*	*980*	*1125*	*790*	*940*	*1025*	*640*	*770*	*870*	—	—	—
P6	620	800	930	235	305	360	315	395	450	270	340	380	265	320	355	215	265	295	—	—	—
	2025	*2625*	*3050*	*770*	*1000*	*1175*	*1025*	*1300*	*1475*	*890*	*1125*	*1250*	*870*	*1050*	*1175*	*710*	*870*	*970*	—	—	—
P7	590	750	880	220	290	340	295	375	425	255	320	360	250	300	335	205	250	280	—	—	—
	1925	*2450*	*2875*	*720*	*950*	*1125*	*970*	*1225*	*1400*	*840*	*1050*	*1175*	*820*	*980*	*1100*	*670*	*820*	*920*	—	—	—
P8	550	710	810	205	270	315	280	350	400	235	295	340	240	285	310	190	235	265	—	—	—
	1800	*2325*	*2650*	*670*	*890*	*1025*	*920*	*1150*	*1300*	*770*	*970*	*1125*	*790*	*940*	*1025*	*620*	*770*	*870*	—	—	—
P11	570	730	850	215	280	330	290	360	415	250	310	350	245	290	325	200	240	270	—	—	—
	1875	*2400*	*2800*	*710*	*920*	*1075*	*950*	*1175*	*1350*	*820*	*1025*	*1150*	*800*	*950*	*1075*	*660*	*790*	*890*	—	—	—
P12	365	460	520	140	180	210	175	215	240	155	195	215	155	185	200	115	135	150	—	—	—
	1200	*1500*	*1700*	*460*	*590*	*690*	*570*	*710*	*790*	*510*	*640*	*710*	*510*	*610*	*660*	*375*	*445*	*490*	—	—	—
M1	—	—	—	225	300	350	250	330	390	235	305	360	215	285	335	185	240	285	—	—	—
	—	—	—	*740*	*980*	*1150*	*820*	*1075*	*1275*	*770*	*1000*	*1175*	*710*	*940*	*1100*	*610*	*790*	*940*	—	—	—
M2	—	—	—	185	245	290	205	270	320	195	255	295	180	235	275	150	200	235	—	—	—
	—	—	—	*610*	*800*	*950*	*670*	*890*	*1050*	*640*	*840*	*970*	*590*	*770*	*900*	*490*	*660*	*770*	—	—	—
M3	—	—	—	150	195	230	165	215	255	155	205	235	145	185	220	120	160	185	—	—	—
	—	—	—	*490*	*640*	*750*	*540*	*710*	*840*	*510*	*670*	*770*	*475*	*610*	*720*	*395*	*520*	*610*	—	—	—
M4	—	—	—	120	150	175	130	170	195	120	155	185	110	145	165	95	125	145	—	—	—
	—	—	—	*395*	*490*	*570*	*425*	*560*	*640*	*395*	*510*	*610*	*360*	*475*	*540*	*310*	*410*	*475*	—	—	—
M5	—	—	—	100	125	145	110	140	160	100	130	150	95	120	140	80	105	120	—	—	—
	—	—	—	*330*	*410*	*475*	*360*	*460*	*520*	*330*	*425*	*490*	*310*	*395*	*460*	*260*	*345*	*395*	—	—	—
K1	760	980	1125	225	295	345	265	350	410	—	—	—	215	280	330	—	—	—	—	—	—
	2500	*3225*	*3700*	*740*	*970*	*1125*	*870*	*1150*	*1350*	—	—	—	*710*	*920*	*1075*	—	—	—	—	—	—
K2	670	860	1000	195	260	305	235	305	365	—	—	—	185	245	290	—	—	—	—	—	—
	2200	*2825*	*3275*	*640*	*850*	*1000*	*770*	*1000*	*1200*	—	—	—	*610*	*800*	*950*	—	—	—	—	—	—
K3	570	730	850	165	220	260	200	260	305	—	—	—	160	210	245	—	—	—	—	—	—
	1875	*2400*	*2800*	*540*	*720*	*850*	*660*	*850*	*1000*	—	—	—	*520*	*690*	*800*	—	—	—	—	—	—
K4	540	690	810	160	210	245	190	250	295	—	—	—	150	200	235	—	—	—	—	—	—
	1775	*2275*	*2650*	*520*	*690*	*800*	*620*	*820*	*970*	—	—	—	*490*	*660*	*770*	—	—	—	—	—	—
K5	335	425	485	100	130	150	115	150	180	—	—	—	95	120	140	—	—	—	—	—	—
	1100	*1400*	*1600*	*330*	*425*	*490*	*375*	*490*	*590*	—	—	—	*310*	*395*	*460*	—	—	—	—	—	—
K6	475	610	710	140	185	215	165	220	260	—	—	—	135	175	205	—	—	—	—	—	—
	1550	*2000*	*2325*	*460*	*610*	*710*	*540*	*720*	*850*	—	—	—	*445*	*570*	*670*	—	—	—	—	—	—
K7	425	540	620	125	165	190	150	195	230	—	—	—	120	155	180	—	—	—	—	—	—
	1400	*1775*	*2025*	*410*	*540*	*620*	*490*	*640*	*750*	—	—	—	*395*	*510*	*590*	—	—	—	—	—	—
N1	—	—	—	1675	2200	2575	—	—	—	—	—	—	1600	2100	2450	—	—	—	1650	2175	2575
	—	—	—	*5500*	*7225*	*8450*	—	—	—	—	—	—	*5250*	*6900*	*8050*	—	—	—	*5425*	*7125*	*8450*
N2	—	—	—	680	890	1025	—	—	—	—	—	—	640	850	990	—	—	—	660	880	1050
	—	—	—	*2225*	*2925*	*3375*	—	—	—	—	—	—	*2100*	*2800*	*3250*	—	—	—	*2175*	*2875*	*3450*
N3	—	—	—	450	590	690	—	—	—	—	—	—	430	570	660	—	—	—	445	590	690
	—	—	—	*1475*	*1925*	*2275*	—	—	—	—	—	—	*1400*	*1875*	*2175*	—	—	—	*1450*	*1925*	*2275*
N11	—	—	—	510	680	790	—	—	—	—	—	—	490	650	750	—	—	—	510	670	790
	—	—	—	*1675*	*2225*	*2600*	—	—	—	—	—	—	*1600*	*2125*	*2450*	—	—	—	*1675*	*2200*	*2600*
S1	—	—	—	—	—	—	—	—	—	55	75	85	50	65	80	29	38	44	—	—	—
	—	—	—	—	—	—	—	—	—	*180*	*245*	*280*	*165*	*215*	*260*	*95*	*125*	*145*	—	—	—
S2	—	—	—	—	—	—	—	—	—	45	60	70	42	55	65	23	30	35	—	—	—
	—	—	—	—	—	—	—	—	—	*150*	*195*	*230*	*140*	*180*	*215*	*75*	*100*	*115*	—	—	—
S3	—	—	—	—	—	—	—	—	—	39	50	60	37	48	55	20	26	31	—	—	—
	—	—	—	—	—	—	—	—	—	*130*	*165*	*195*	*120*	*155*	*180*	*65*	*85*	*100*	—	—	—
S11	—	—	—	—	—	—	—	—	—	80	100	120	75	95	110	40	55	60	—	—	—
	—	—	—	—	—	—	—	—	—	*260*	*330*	*395*	*245*	*310*	*360*	*130*	*180*	*195*	—	—	—
S12	—	—	—	—	—	—	—	—	—	55	70	80	50	65	75	37	48	55	—	—	—
	—	—	—	—	—	—	—	—	—	*180*	*230*	*260*	*165*	*215*	*245*	*120*	*155*	*180*	—	—	—
S13	—	—	—	—	—	—	—	—	—	31	41	48	30	38	44	22	28	33	—	—	—
	—	—	—	—	—	—	—	—	—	*100*	*135*	*155*	*100*	*125*	*145*	*70*	*90*	*110*	—	—	—
H5	185	235	265	46	60	70	50	65	80	—	—	—	—	—	—	—	—	—	—	—	—
	610	*770*	*870*	*150*	*195*	*230*	*165*	*215*	*260*	—	—	—	—	—	—	—	—	—	—	—	—
H8	190	240	265	48	65	70	55	70	80	—	—	—	—	—	—	—	—	—	—	—	—
	620	*790*	*870*	*155*	*215*	*230*	*180*	*230*	*260*	—	—	—	—	—	—	—	—	—	—	—	—
H11	240	300	340	60	75	90	65	85	100	—	—	—	—	—	—	—	—	—	—	—	—
	790	*980*	*1125*	*195*	*245*	*295*	*215*	*280*	*330*	—	—	—	—	—	—	—	—	—	—	—	—
H12	225	275	310	85	115	130	105	135	155	—	—	—	—	—	—	—	—	—	—	—	—
	740	*900*	*1025*	*280*	*375*	*425*	*345*	*445*	*510*	—	—	—	—	—	—	—	—	—	—	—	—
H21	190	240	265	48	65	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	620	*790*	*870*	*155*	*215*	*230*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Turbo 10 – R217.69-10 – Metric





–For insert selection and cutting data recommendations, see page(s) 50–52
–For complete insert programme, see page(s) 918, 919
–For ISO attribute explanation, see page 16
–KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCONMS	LF	LUX	LPR	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm	mm		mm	mm		kg	
R217.69-1616.3-10-2A	02769180	Weldon	16,0	2	9,0	6,0	16,0	54,0	24,0	30,0	78,0	7,5	21,0	30,5	29400	0,1	XO.X10T3
R217.69-2018.3-10-2A	02772254	Weldon	18,0	2	9,0	6,0	20,0	60,0	29,0	30,0	85,0	6,0	25,0	34,5	27800	0,2	XO.X10T3
R217.69-2020.3-10-2A	02769210	Weldon	20,0	2	9,0	6,0	20,0	65,0	29,0	40,0	90,0	4,5	29,0	38,5	26300	0,2	XO.X10T3
R217.69-2020.3-10-3A	02769212	Weldon	20,0	3	9,0	6,0	20,0	65,0	29,0	40,0	90,0	4,5	29,0	38,5	26300	0,2	XO.X10T3
R217.69-2525.3-10-3A	02769225	Weldon	25,0	3	9,0	6,0	25,0	69,0	34,0	45,0	101,0	3,0	39,0	48,5	23500	0,3	XO.X10T3
R217.69-2525.3-10-4A	02769227	Weldon	25,0	4	9,0	6,0	25,0	69,0	34,0	45,0	101,0	3,0	39,0	48,5	23500	0,3	XO.X10T3
R217.69-3232.3-10-3A	02769232	Weldon	32,0	3	9,0	6,0	32,0	74,0	35,0	45,0	110,0	2,0	53,0	62,5	20800	0,7	XO.X10T3
R217.69-3232.3-10-5A	02769233	Weldon	32,0	5	9,0	6,0	32,0	74,0	35,0	45,0	110,0	2,0	53,0	62,5	20800	0,6	XO.X10T3
R217.69-1416.0-10-2A	02772250	Cylindrical	16,0	2	9,0	6,0	14,0	–	112,0	112,0	160,0	7,5	21,0	30,5	29400	0,2	XO.X10T3
R217.69-1616.0-10-2A	02769179	Cylindrical	16,0	2	9,0	6,0	16,0	–	30,0	87,0	135,0	7,5	21,0	30,5	29400	0,2	XO.X10T3
R217.69-1618.0-10-2A	02772252	Cylindrical	18,0	2	9,0	6,0	16,0	–	112,0	112,0	160,0	6,0	25,0	34,5	27800	0,3	XO.X10T3
R217.69-1820.0-10-2A	02769205	Cylindrical	20,0	2	9,0	6,0	18,0	–	150,0	150,0	200,0	4,5	29,0	38,5	26300	0,4	XO.X10T3
R217.69-2020.0-10-2A	02769206	Cylindrical	20,0	2	9,0	6,0	20,0	–	35,0	100,0	150,0	4,5	29,0	38,5	26300	0,3	XO.X10T3
R217.69-2020.0-10-3A	02769209	Cylindrical	20,0	3	9,0	6,0	20,0	–	35,0	100,0	150,0	4,5	29,0	38,5	26300	0,4	XO.X10T3
R217.69-2225.0-10-3A	02772253	Cylindrical	25,0	3	9,0	6,0	22,0	–	150,0	150,0	200,0	3,0	39,0	48,5	23500	0,6	XO.X10T3
R217.69-2525.0-10-3A	02769218	Cylindrical	25,0	3	9,0	6,0	25,0	–	40,0	114,0	170,0	3,0	39,0	48,5	23500	0,6	XO.X10T3
R217.69-2525.0-10-4A	02769224	Cylindrical	25,0	4	9,0	6,0	25,0	–	40,0	114,0	170,0	3,0	39,0	48,5	23500	0,6	XO.X10T3
R217.69-3232.0-10-3A	02769230	Cylindrical	32,0	3	9,0	6,0	32,0	–	40,0	135,0	195,0	2,0	53,0	62,5	20800	1,1	XO.X10T3
R217.69-3232.0-10-5A	02769231	Cylindrical	32,0	5	9,0	6,0	32,0	–	40,0	135,0	195,0	2,0	53,0	62,5	20800	1,1	XO.X10T3

Modification of the cutter body needed for radii > 2,4 mm

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.69-..	1/4HEX-T07PX50	C02506-T07P

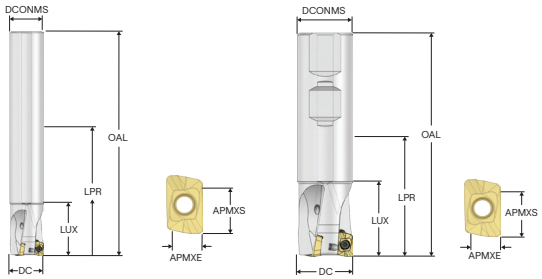
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.69-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09

Torque and fixed keys, see page 944

Turbo 10 – R217.69-10 – inch





—For insert selection and cutting data recommendations, see page(s) 50-52
—For complete insert programme, see page(s) 918, 919
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCONMS	LF	LUX	LPR	OAL	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch	inch		inch	inch		lbs	
R217.69-00.50-3-10-1A	03058730	Weldon	0.500	1	0.354	0.236	0.625	2.299	1.083	1.378	3.252	3,0	1.516	1.890	33100	0.440	XO.X10T3
R217.69-00.62-3-10-2A	02772634	Weldon	0.625	2	0.354	0.236	0.625	2.299	1.083	1.362	3.252	7,5	0.827	1.201	29400	0.440	XO.X10T3
R217.69-00.75-3-10-2A	02772637	Weldon	0.750	2	0.354	0.236	0.750	2.374	1.189	1.374	3.390	5,0	1.063	1.437	26300	0.440	XO.X10T3
R217.69-00.750-3-10-3A	02903111	Weldon	0.750	3	0.354	0.236	0.750	2.374	1.189	1.575	3.390	4,5	1.083	1.457	26300	0.220	XO.X10T3
R217.69-00.87-3-10-3A	02772720	Weldon	0.875	3	0.354	0.236	0.750	2.374	1.421	1.421	3.390	5,0	1.319	1.693	25000	0.440	XO.X10T3
R217.69-01.00-3-10-3A	02772711	Weldon	1.000	3	0.354	0.236	1.000	2.638	1.280	1.575	3.780	3,0	1.575	1.949	23500	0.660	XO.X10T3
R217.69-01.00-3-10-4A	02772713	Weldon	1.000	4	0.354	0.236	1.000	2.638	1.280	1.575	3.780	3,0	1.575	1.949	23500	0.880	XO.X10T3
R217.69-01.25-3-10-5A	02772731	Weldon	1.250	5	0.354	0.236	1.250	2.858	1.240	1.736	4.000	2,0	2.067	2.441	20800	1.100	XO.X10T3
R217.69-01.50-3-10-4A	02773428	Weldon	1.500	4	0.354	0.236	1.250	2.858	1.736	1.736	4.000	1,5	2.579	2.953	18600	1.320	XO.X10T3
R217.69-00.62-0-10-2A	02772633	Cylindrical	0.625	2	0.354	0.236	0.625	–	1.083	3.425	5.315	7,5	0.807	1.181	29400	0.440	XO.X10T3
R217.69-00.75-0-10-2A	02772636	Cylindrical	0.750	2	0.354	0.236	0.750	–	1.181	3.937	5.906	5,0	1.063	1.437	26300	0.660	XO.X10T3
R217.69-00.87-0-10-3A	02772719	Cylindrical	0.875	3	0.354	0.236	0.750	–	3.937	3.937	5.906	5,0	1.299	1.673	26300	0.880	XO.X10T3
R217.69-01.00-0-10-3A	02772707	Cylindrical	1.000	3	0.354	0.236	1.000	–	1.280	4.488	6.693	3,0	1.555	1.929	23500	1.540	XO.X10T3
R217.69-01.00-0-10-4A	02772710	Cylindrical	1.000	4	0.354	0.236	1.000	–	1.280	4.488	6.693	3,0	1.555	1.929	23500	1.320	XO.X10T3
R217.69-01.25-0-10-5A	02772728	Cylindrical	1.250	5	0.354	0.236	1.250	–	1.240	5.315	7.677	2,0	2.067	2.441	20800	2.650	XO.X10T3

Modification of the cutter body needed for radii > 0.094 in

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.69-..	1/4HEX-T07PX50	C02506-T07P

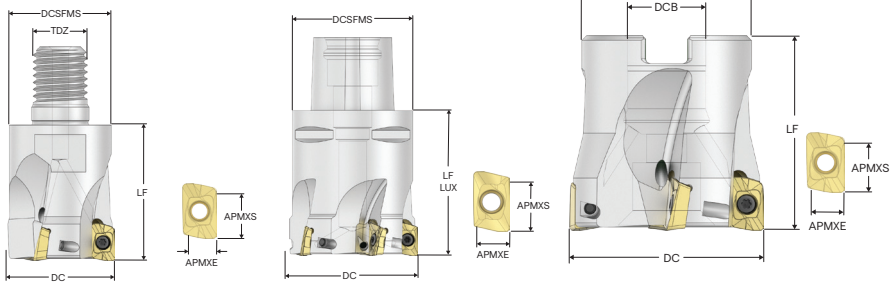
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.69-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09

Torque and fixed keys, see page 944

Turbo 10 – R217/220.69-10 – Metric





—For insert selection and cutting data recommendations, see page(s) 50–52
—For complete insert programme, see page(s) 918, 919
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCS-FMS	TDZ		LF	LUX	RMPX°	Cmin		RPMX	Weight	Insert
			mm		mm	mm	mm	mm		mm	mm	mm		mm	mm		kg	
C4-R217.69-044-10-4A	02824179	Seco-Capto	44,0	4	9,0	6,0	–	40,0	–	40,0	60,0	60,0	1,3	77,0	86,5	28000	0,6	XO.X10T3
C5-R217.69-054-10-5A	02824181	Seco-Capto	54,0	5	9,0	6,0	–	50,0	–	50,0	60,0	60,0	1,2	97,0	106,5	14200	1,0	XO.X10T3
R217.69-0816.RE-10-2A	02769181	Combimaster	16,0	2	9,0	6,0	–	14,0	M8	14,0	23,0	–	7,5	21,0	30,5	29400	0,1	XO.X10T3
R217.69-1020.RE-10-2A	02769213	Combimaster	20,0	2	9,0	6,0	–	19,0	M10	19,0	28,0	–	4,5	29,0	38,5	26300	0,1	XO.X10T3
R217.69-1020.RE-10-3A	02769214	Combimaster	20,0	3	9,0	6,0	–	19,0	M10	19,0	28,0	–	4,5	29,0	38,5	26300	0,1	XO.X10T3
R217.69-1225.RE-10-3A	02769228	Combimaster	25,0	3	9,0	6,0	–	23,0	M12	23,0	30,0	–	3,0	39,0	48,5	23500	0,1	XO.X10T3
R217.69-1225.RE-10-4A	02769229	Combimaster	25,0	4	9,0	6,0	–	23,0	M12	23,0	30,0	–	3,0	39,0	48,5	23500	0,1	XO.X10T3
R217.69-1632.RE-10-3A	02769234	Combimaster	32,0	3	9,0	6,0	–	30,0	M16	30,0	40,0	–	2,0	53,0	62,5	20800	0,2	XO.X10T3
R217.69-1632.RE-10-5A	02769235	Combimaster	32,0	5	9,0	6,0	–	30,0	M16	30,0	40,0	–	2,0	53,0	62,5	20800	0,2	XO.X10T3
R217.69-2040.RE-10-4A	02769295	Combimaster	40,0	4	9,0	6,0	–	36,5	M20	36,5	40,0	–	1,5	69,0	78,5	18600	0,3	XO.X10T3
R217.69-2040.RE-10-6A	02769296	Combimaster	40,0	6	9,0	6,0	–	36,5	M20	36,5	40,0	–	1,5	69,0	78,5	18600	0,3	XO.X10T3
R220.69-0032-10-4A	02840940	Arbor	32,0	4	9,0	6,0	16,0	30,0	–	16,0	35,0	–	2,0	53,0	62,5	20800	0,2	XO.X10T3
R220.69-0032-10-5A	02841295	Arbor	32,0	5	9,0	6,0	16,0	30,0	–	16,0	35,0	–	2,0	53,0	62,5	20800	0,2	XO.X10T3
R220.69-0040-10-4A	02769302	Arbor	40,0	4	9,0	6,0	16,0	35,0	–	16,0	40,0	–	1,5	69,0	78,5	18600	0,3	XO.X10T3
R220.69-0040-10-6A	02769304	Arbor	40,0	6	9,0	6,0	16,0	35,0	–	16,0	40,0	–	1,5	69,0	78,5	18600	0,3	XO.X10T3
R220.69-0044-10-4A	02969079	Arbor	44,0	4	9,0	6,0	16,0	35,0	–	16,0	40,0	–	1,3	77,0	86,5	18600	0,3	XO.X10T3
R220.69-0050-10-5A	02769710	Arbor	50,0	5	9,0	6,0	22,0	47,0	–	22,0	40,0	–	1,2	89,0	98,5	16600	0,4	XO.X10T3
R220.69-0050-10-7A	02769713	Arbor	50,0	7	9,0	6,0	22,0	47,0	–	22,0	40,0	–	1,2	89,0	98,5	16600	0,4	XO.X10T3
R220.69-0052-10-5A	02969080	Arbor	52,0	5	9,0	6,0	22,0	47,0	–	22,0	40,0	–	1,2	93,0	102,5	16400	0,5	XO.X10T3
R220.69-0063-10-5A	02770205	Arbor	63,0	5	9,0	6,0	27,0	52,0	–	27,0	40,0	–	0,9	115,0	124,5	14800	0,6	XO.X10T3
R220.69-0063-10-8A	02770206	Arbor	63,0	8	9,0	6,0	27,0	52,0	–	27,0	40,0	–	0,9	115,0	124,5	14800	0,6	XO.X10T3
R220.69-0066-10-5A	02969081	Arbor	66,0	5	9,0	6,0	27,0	52,0	–	27,0	40,0	–	0,9	121,0	130,5	14800	0,6	XO.X10T3
R220.69-0080-10-8A	02770207	Arbor	80,0	8	9,0	6,0	27,0	62,0	–	27,0	50,0	–	0,5	149,0	158,5	13200	1,1	XO.X10T3
R220.69-0080-10-10A	02770208	Arbor	80,0	10	9,0	6,0	27,0	62,0	–	27,0	50,0	–	0,5	149,0	158,5	13200	1,0	XO.X10T3
R220.69-0100-10-12A	02770209	Arbor	100,0	12	9,0	6,0	32,0	77,0	–	32,0	50,0	–	0,5	189,0	198,5	11800	1,8	XO.X10T3

Modification of the cutter body needed for radii > 2,4 mm
For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
Cx/R217.69/220.69-0080-0100	–	1/4HEX-T07PX50	C02506-T07P
R220.69-0032	220.17-690	1/4HEX-T07PX50	C02506-T07P
R220.69-0040-0044	MC6S8X30	1/4HEX-T07PX50	C02506-T07P
R220.69-0050-0052	220.17-692	1/4HEX-T07PX50	C02506-T07P
R220.69-0063-0066	220.17-693	1/4HEX-T07PX50	C02506-T07P

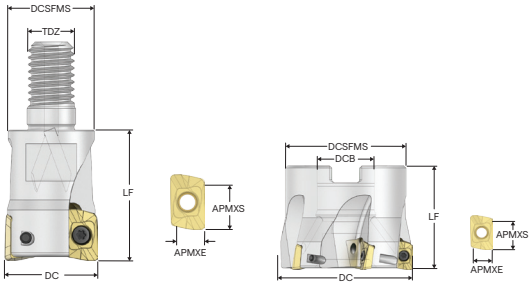
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
Cx-R217/220.69-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09

Torque and fixed keys, see page 944

Turbo 10 – R217/220.69-10 – Inch



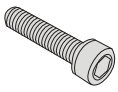


—For insert selection and cutting data recommendations, see page(s) 50–52
—For complete insert programme, see page(s) 918, 919
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ	DCONMS	LF	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch	inch		inch	inch		inch	inch		lbs	
R217.69-00.62-08RE-10-2A	02772627	Combimaster	0.625	2	0.354	0.236	–	0.531	M8	0.531	0.906	7,5	0.807	1.181	29400	0.220	XO.X10T3
R217.69-00.75-10RE-10-2A	02772635	Combimaster	0.750	2	0.354	0.236	–	0.728	M10	0.728	1.378	5,0	1.063	1.437	26300	0.220	XO.X10T3
R217.69-01.00-12RE-10-3A	02772703	Combimaster	1.000	3	0.354	0.236	–	0.906	M12	0.906	1.575	2,5	1.555	1.929	23500	0.220	XO.X10T3
R217.69-01.00-12RE-10-4A	02772705	Combimaster	1.000	4	0.354	0.236	–	0.906	M12	0.906	1.575	2,5	1.555	1.929	23500	0.220	XO.X10T3
R217.69-01.25-16RE-10-5A	02772725	Combimaster	1.250	5	0.354	0.236	–	1.181	M16	1.181	1.575	1,5	2.067	2.441	20800	0.440	XO.X10T3
R217.69-01.50-20RE-10-6A	03170244	Combimaster	1.500	6	0.354	0.236	–	1.457	M20	1.457	1.575	1,5	2.559	2.933	18600	0.880	XO.X10T3
R220.69-01.50-10-4A	02773432	Arbor	1.500	4	0.354	0.236	0.750	1.378	–	0.750	1.575	1,5	2.559	2.933	18600	0.440	XO.X10T3
R220.69-01.50-10-6A	02773433	Arbor	1.500	6	0.354	0.236	0.750	1.378	–	0.750	1.575	1,5	2.559	2.933	18600	0.660	XO.X10T3
R220.69-02.00-10-5A	02773434	Arbor	2.000	5	0.354	0.236	0.750	1.850	–	0.750	1.575	1,0	3.563	3.937	16600	1.100	XO.X10T3
R220.69-02.00-10-7A	02773435	Arbor	2.000	7	0.354	0.236	0.750	1.850	–	0.750	1.575	1,0	3.563	3.937	16600	0.880	XO.X10T3
R220.69-03.00-10-10A	02773438	Arbor	3.000	10	0.354	0.236	1.000	2.441	–	1.000	1.969	0,5	5.551	5.925	13200	2.430	XO.X10T3

Modification of the cutter body needed for radii > 0.094 in
For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.69-..	–	1/4HEX-T07PX50	C02506-T07P
R220.69-01.50 - 02.00	UC6S3/8UNFX1	1/4HEX-T07PX50	C02506-T07P
R220.69-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T07PX50	C02506-T07P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.69-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09

Torque and fixed keys, see page 944

R217/220.69-10 – Insert selection – mm/Inch

SMG		a_p	f_z		
			100%	30%	10%
P1	XOMX10T308TR-ME07 F40M	4,5 *0.18*	0,10 0.0040	0,11 0.0044	0,17 0.0065
P2	XOMX10T308TR-ME07 F40M	4,5 *0.18*	0,10 0.0040	0,11 0.0044	0,17 0.0065
P3	XOMX10T308TR-ME07 MP2501	4,5 *0.18*	0,095 0.0038	0,11 0.0044	0,16 0.0065
P4	XOMX10T308TR-ME07 MP2501	4,5 *0.18*	0,095 0.0038	0,10 0.0040	0,16 0.0065
P5	XOMX10T308TR-M09 MP2501	4,5 *0.18*	0,12 0.0048	0,13 0.0050	0,20 0.0080
P6	XOMX10T308TR-M09 MP2501	4,5 *0.18*	0,12 0.0048	0,13 0.0050	0,20 0.0080
P7	XOMX10T308TR-M09 MP2501	4,5 *0.18*	0,12 0.0048	0,13 0.0050	0,20 0.0080
P8	XOMX10T308TR-M09 MP2501	4,5 *0.18*	0,12 0.0048	0,14 0.0055	0,20 0.0080
P11	XOMX10T308TR-M09 MP3501	4,5 *0.18*	0,12 0.0048	0,13 0.0050	0,20 0.0080
P12	XOMX10T308TR-M09 MS2500	3,5 *0.14*	0,080 0.0032	0,090 0.0036	0,14 0.0055
M1	XOEX10T308R-M06 F40M	4,5 *0.18*	0,085 0.0034	0,095 0.0038	0,15 0.0060
M2	XOEX10T308R-M06 F40M	4,5 *0.18*	0,080 0.0032	0,085 0.0034	0,13 0.0050
M3	XOEX10T308R-M06 F40M	3,5 *0.14*	0,065 0.0026	0,070 0.0028	0,11 0.0044
M4	XOEX10T308R-M06 MS2050	2,5 *0.10*	0,055 0.0022	0,065 0.0026	0,095 0.0038
M5	XOEX10T304R-M06 MS2050	2,5 *0.10*	0,055 0.0022	0,060 0.0024	0,090 0.0036
K1	XOMX10T308TR-M09 MK1501	4,5 *0.18*	0,13 0.0050	0,14 0.0055	0,22 0.0085
K2	XOMX10T308TR-M09 MK1501	4,5 *0.18*	0,12 0.0048	0,13 0.0050	0,20 0.0080
K3	XOMX10T308TR-M09 MK2050	4,5 *0.18*	0,12 0.0048	0,13 0.0050	0,20 0.0080
K4	XOMX10T308TR-M09 MK2050	4,5 *0.18*	0,12 0.0048	0,13 0.0050	0,20 0.0080
K5	XOMX10T308TR-M09 MK2050	4,5 *0.18*	0,11 0.0044	0,12 0.0048	0,18 0.0070
K6	XOMX10T308TR-M09 MK2050	4,5 *0.18*	0,12 0.0048	0,13 0.0050	0,20 0.0080
K7	XOMX10T308TR-M09 MK2050	4,5 *0.18*	0,11 0.0044	0,12 0.0048	0,18 0.0070
N1	XOEX10T308FR-E05 H15	4,5 *0.18*	0,095 0.0038	0,10 0.0040	0,15 0.0060
N2	XOEX10T308FR-E05 H15	4,5 *0.18*	0,095 0.0038	0,10 0.0040	0,15 0.0060
N3	XOEX10T308FR-E05 H15	4,5 *0.18*	0,095 0.0038	0,10 0.0040	0,15 0.0060
N11	XOEX10T308FR-E05 H15	4,5 *0.18*	0,095 0.0038	0,10 0.0040	0,15 0.0060
S1	XOEX10T308R-M06 F40M	2,5 *0.10*	0,055 0.0022	0,065 0.0026	0,095 0.0038
S2	XOEX10T308R-M06 F40M	2,5 *0.10*	0,055 0.0022	0,065 0.0026	0,095 0.0038
S3	XOEX10T308R-M06 F40M	2,5 *0.10*	0,055 0.0022	0,060 0.0024	0,090 0.0036
S11	XOEX10T308R-M06 MS2050	3,0 *0.12*	0,065 0.0026	0,070 0.0028	0,11 0.0044
S12	XOEX10T308R-M06 MS2050	3,0 *0.12*	0,065 0.0026	0,070 0.0028	0,11 0.0044
S13	XOEX10T308R-M06 MS2050	2,5 *0.10*	0,055 0.0022	0,065 0.0026	0,095 0.0038
H5	XOMX10T308TR-M09 MH1051	3,5 *0.14*	0,080 0.0032	0,090 0.0036	0,14 0.0055
H8	XOMX10T308TR-M09 MH1051	3,0 *0.12*	0,065 0.0026	0,070 0.0028	0,11 0.0044
H11	XOMX10T308TR-M09 MH1051	3,5 *0.14*	0,080 0.0032	0,090 0.0036	0,14 0.0055
H12	XOMX10T308TR-M09 MH1051	3,0 *0.12*	0,065 0.0026	0,070 0.0028	0,11 0.0044
H21	XOMX10T308TR-M09 MH1051	3,0 *0.12*	0,065 0.0026	0,070 0.0028	0,11 0.0044

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.69-10 – Cutting data v_c = (m/min)/(sf/min)

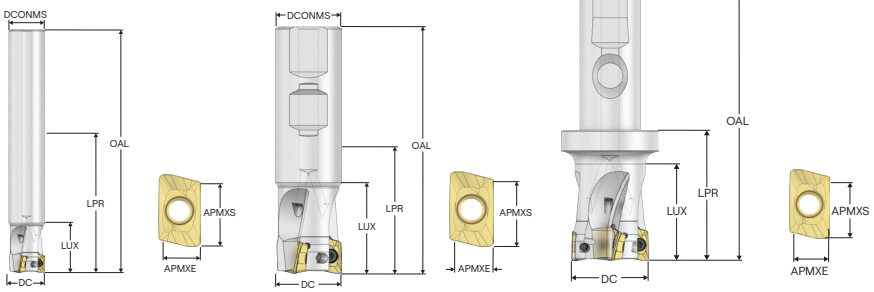
SMG	MH1051			MK2050			MP3000			MS2050			F40M			MP2051			MP2050			H15		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	285	380	445	300	395	460	315	395	455	305	365	410	430	530	590	330	430	510	—	—	—
	—	—	—	*940*	*1250*	*1450*	*980*	*1300*	*1500*	*1025*	*1300*	*1500*	*1000*	*1200*	*1350*	*1400*	*1750*	*1925*	*1075*	*1400*	*1675*	—	—	—
P2	—	—	—	280	370	435	290	385	450	305	385	440	300	355	400	420	520	580	320	420	500	—	—	—
	—	—	—	*920*	*1225*	*1425*	*950*	*1275*	*1475*	*1000*	*1275*	*1450*	*980*	*1175*	*1300*	*1375*	*1700*	*1900*	*1050*	*1375*	*1650*	—	—	—
P3	—	—	—	245	325	380	260	340	400	265	335	380	260	310	345	365	445	495	280	365	430	—	—	—
	—	—	—	*800*	*1075*	*1250*	*850*	*1125*	*1300*	*870*	*1100*	*1250*	*850*	*1025*	*1125*	*1200*	*1450*	*1625*	*920*	*1200*	*1400*	—	—	—
P4	—	—	—	215	285	335	230	300	350	235	295	340	230	280	320	325	395	435	245	320	385	—	—	—
	—	—	—	*710*	*940*	*1100*	*750*	*980*	*1150*	*770*	*970*	*1125*	*750*	*920*	*1050*	*1075*	*1300*	*1425*	*800*	*1050*	*1275*	—	—	—
P5	415	550	650	205	275	320	220	285	335	225	285	325	220	265	295	310	375	415	235	310	365	—	—	—
	1350	*1800*	*2125*	*670*	*900*	*1050*	*720*	*940*	*1100*	*740*	*940*	*1075*	*720*	*870*	*970*	*1025*	*1225*	*1350*	*770*	*1025*	*1200*	—	—	—
P6	465	620	730	230	305	360	245	320	380	250	320	365	245	295	330	345	425	465	265	350	410	—	—	—
	1525	*2025*	*2400*	*750*	*1000*	*1175*	*800*	*1050*	*1250*	*820*	*1050*	*1200*	*800*	*970*	*1075*	*1125*	*1400*	*1525*	*870*	*1150*	*1350*	—	—	—
P7	440	590	690	220	290	340	230	305	360	240	300	345	230	280	310	325	400	440	250	330	390	—	—	—
	1450	*1925*	*2275*	*720*	*950*	*1125*	*750*	*1000*	*1175*	*790*	*980*	*1125*	*750*	*920*	*1025*	*1075*	*1300*	*1450*	*820*	*1075*	*1275*	—	—	—
P8	415	550	650	205	275	320	220	285	335	225	280	320	220	260	290	310	375	415	235	310	360	—	—	—
	1350	*1800*	*2125*	*670*	*900*	*1050*	*720*	*940*	*1100*	*740*	*920*	*1050*	*720*	*850*	*950*	*1025*	*1225*	*1350*	*770*	*1025*	*1175*	—	—	—
P11	425	570	670	210	280	330	225	295	350	230	290	335	225	270	300	285	430	540	240	320	375	—	—	—
	1400	*1875*	*2200*	*690*	*920*	*1075*	*740*	*970*	*1150*	*750*	*950*	*1100*	*740*	*890*	*980*	*940*	*1400*	*1775*	*790*	*1050*	*1225*	—	—	—
P12	300	385	450	140	180	215	150	195	220	150	185	205	145	170	190	170	245	295	155	205	240	—	—	—
	980	*1275*	*1475*	*460*	*590*	*710*	*490*	*640*	*720*	*490*	*610*	*670*	*475*	*560*	*620*	*560*	*800*	*970*	*510*	*670*	*790*	—	—	—
M1	—	—	—	—	—	—	195	260	305	220	285	340	200	260	310	335	500	630	230	300	355	—	—	—
	—	—	—	—	—	—	*640*	*850*	*1000*	*720*	*940*	*1125*	*660*	*850*	*1025*	*1100*	*1650*	*2075*	*750*	*980*	*1175*	—	—	—
M2	—	—	—	—	—	—	165	215	255	180	240	280	165	215	255	270	405	510	190	250	295	—	—	—
	—	—	—	—	—	—	*540*	*710*	*840*	*590*	*790*	*920*	*540*	*710*	*840*	*890*	*1325*	*1675*	*620*	*820*	*970*	—	—	—
M3	—	—	—	—	—	—	135	175	205	145	190	220	130	175	200	210	305	380	150	200	230	—	—	—
	—	—	—	—	—	—	*445*	*570*	*670*	*475*	*620*	*720*	*425*	*570*	*660*	*690*	*1000*	*1250*	*490*	*660*	*750*	—	—	—
M4	—	—	—	—	—	—	105	135	160	115	150	175	105	135	155	155	220	270	120	155	180	—	—	—
	—	—	—	—	—	—	*345*	*445*	*520*	*375*	*490*	*570*	*345*	*445*	*510*	*510*	*720*	*890*	*395*	*510*	*590*	—	—	—
M5	—	—	—	—	—	—	85	115	130	95	125	145	85	110	130	130	185	225	100	130	150	—	—	—
	—	—	—	—	—	—	*280*	*375*	*425*	*310*	*410*	*475*	*280*	*360*	*425*	*425*	*610*	*740*	*330*	*425*	*490*	—	—	—
K1	560	750	880	300	400	465	210	275	325	—	—	—	195	255	305	—	—	—	—	—	—	—	—	—
	1825	*2450*	*2875*	*980*	*1300*	*1525*	*690*	*900*	*1075*	—	—	—	*640*	*840*	*1000*	—	—	—	—	—	—	—	—	—
K2	500	670	790	265	355	415	185	245	290	—	—	—	175	230	270	—	—	—	—	—	—	—	—	—
	1650	*2200*	*2600*	*870*	*1175*	*1350*	*610*	*800*	*950*	—	—	—	*570*	*750*	*890*	—	—	—	—	—	—	—	—	—
K3	425	570	670	225	300	350	155	205	245	—	—	—	145	195	225	—	—	—	—	—	—	—	—	—
	1400	*1875*	*2200*	*740*	*980*	*1150*	*510*	*670*	*800*	—	—	—	*475*	*640*	*740*	—	—	—	—	—	—	—	—	—
K4	405	540	640	215	285	335	150	200	235	—	—	—	140	185	215	—	—	—	—	—	—	—	—	—
	1325	*1775*	*2100*	*710*	*940*	*1100*	*490*	*660*	*770*	—	—	—	*460*	*610*	*710*	—	—	—	—	—	—	—	—	—
K5	250	330	395	130	175	205	90	120	145	—	—	—	85	110	130	—	—	—	—	—	—	—	—	—
	820	*1075*	*1300*	*425*	*570*	*670*	*295*	*395*	*475*	—	—	—	*280*	*360*	*425*	—	—	—	—	—	—	—	—	—
K6	355	475	560	190	250	295	130	175	205	—	—	—	125	160	190	—	—	—	—	—	—	—	—	—
	1175	*1550*	*1825*	*620*	*820*	*970*	*425*	*570*	*670*	—	—	—	*410*	*520*	*620*	—	—	—	—	—	—	—	—	—
K7	320	425	500	170	220	260	115	155	185	—	—	—	110	140	170	—	—	—	—	—	—	—	—	—
	1050	*1400*	*1650*	*560*	*720*	*850*	*375*	*510*	*610*	—	—	—	*360*	*460*	*560*	—	—	—	—	—	—	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	1450	1925	2275	—	—	—	—	—	—	1525	2000	2350
	—	—	—	—	—	—	—	—	—	—	—	—	*4750*	*6325*	*7475*	—	—	—	—	—	—	*5000*	*6550*	*7700*
N2	—	—	—	—	—	—	—	—	—	—	—	—	590	770	920	—	—	—	—	—	—	610	800	950
	—	—	—	—	—	—	—	—	—	—	—	—	*1925*	*2525*	*3025*	—	—	—	—	—	—	*2000*	*2625*	*3125*
N3	—	—	—	—	—	—	—	—	—	—	—	—	390	520	610	—	—	—	—	—	—	410	540	630
	—	—	—	—	—	—	—	—	—	—	—	—	*1275*	*1700*	*2000*	—	—	—	—	—	—	*1350*	*1775*	*2075*
N11	—	—	—	—	—	—	—	—	—	—	—	—	445	590	700	—	—	—	—	—	—	470	610	720
	—	—	—	—	—	—	—	—	—	—	—	—	*1450*	*1925*	*2300*	—	—	—	—	—	—	*1550*	*2000*	*2350*
S1	—	—	—	—	—	—	48	65	75	55	70	80	49	65	75	60	75	90	60	75	90	—	—	—
	—	—	—	—	—	—	*155*	*215*	*245*	*180*	*230*	*260*	*160*	*215*	*245*	*195*	*245*	*295*	*195*	*245*	*295*	—	—	—
S2	—	—	—	—	—	—	39	50	60	43	55	65	39	50	60	47	60	70	47	60	70	—	—	—
	—	—	—	—	—	—	*130*	*165*	*195*	*140*	*180*	*215*	*130*	*165*	*195*	*155*	*195*	*230*	*155*	*195*	*230*	—	—	—
S3	—	—	—	—	—	—	34	45	50	37	49	55	34	44	50	41	55	60	41	55	60	—	—	—
	—	—	—	—	—	—	*110*	*150*	*165*	*120*	*160*	*180*	*110*	*145*	*165*	*135*	*180*	*195*	*135*	*180*	*195*	—	—	—
S11	—	—	—	—	—	—	—	—	—	75	95	110	65	90	100	80	105	125	80	105	125	—	—	—
	—	—	—	—	—	—	—	—	—	*245*	*310*	*360*	*215*	*295*	*330*	*260*	*345*	*410*	*260*	*345*	*410*	—	—	—
S12	—	—	—	—	—	—	—	—	—	50	65	75	46	60	70	55	75	85	55	75	85	—	—	—
	—	—	—	—	—	—	—	—	—	*165*	*215*	*245*	*150*	*195*	*230*	*180*	*245*	*280*	*180*	*245*	*280*	—	—	—
S13	—	—	—	—	—	—	—	—	—	30	39	45	27	35	41	33	43	50	33	43	50	—	—	—
	—	—	—	—	—	—	—	—	—	*100*	*130*	*150*	*90*	*115*	*135*	*110*	*140*	*165*	*110*	*140*	*165*	—	—	—
H5	155	195	230	48	60	75	41	55	65	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	510	*640*	*750*	*155*	*195*	*245*	*135*	*180*	*215*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
H8	165	210	245	50	65	80	44	60	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	540	*690*	*800*	*165*	*215*	*260*	*145*	*195*	*230*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
H11	195	250	295	60	80	95	50	70	80	—	—	—	—	—	—	110	160	190	60	80	90	—	—	—
	640	*820*	*970*	*195*	*260*	*310*	*165*	*230*	*260*	—	—	—	—	—	—	*360*	*520*	*620*	*195*	*260*	*295*	—	—	—
H12	190	245	280	90	115	135	85	110	130	—	—	—	—	—	—	95	130	155	100	130	150	—	—	—
	620	*800*	*920*	*295*	*375*	*445*	*280*	*360*	*425*	—	—	—	—	—	—	*310*	*425*	*510*	*330*	*425*	*490*	—	—	—
H21	165	210	245	50	65	80	44	60	70	—	—	—	—	—	—	100	105	110	50	65	75	—	—	—
	540	*690*	*800*	*165*	*215*	*260*	*145*	*195*	*230*	—	—	—	—	—	—	*330*	*345*	*360*	*165*	*215*	*245*	—	—	—

R217/220.69-10 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK1501			MP1501			MP2501			MS2500			MP3501			MM4500		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	420	510	580	410	510	570	395	490	550	370	455	510	235	300	345
	—	—	—	*1375*	*1675*	*1900*	*1350*	*1675*	*1875*	*1300*	*1600*	*1800*	*1225*	*1500*	*1675*	*770*	*980*	*1125*
P2	—	—	—	410	500	560	400	495	550	385	475	540	360	445	495	230	290	335
	—	—	—	*1350*	*1650*	*1825*	*1300*	*1625*	*1800*	*1275*	*1550*	*1775*	*1175*	*1450*	*1625*	*750*	*950*	*1100*
P3	—	—	—	360	440	490	355	430	485	335	415	470	315	390	435	200	255	290
	—	—	—	*1175*	*1450*	*1600*	*1175*	*1400*	*1600*	*1100*	*1350*	*1550*	*1025*	*1275*	*1425*	*660*	*840*	*950*
P4	—	—	—	315	385	430	310	380	425	295	365	415	280	340	385	190	245	280
	—	—	—	*1025*	*1275*	*1400*	*1025*	*1250*	*1400*	*970*	*1200*	*1350*	*920*	*1125*	*1275*	*620*	*800*	*920*
P5	—	—	—	300	370	415	295	365	410	285	350	395	265	325	365	170	215	245
	—	—	—	*980*	*1225*	*1350*	*970*	*1200*	*1350*	*940*	*1150*	*1300*	*870*	*1075*	*1200*	*560*	*710*	*800*
P6	—	—	—	340	415	465	335	410	460	320	395	445	300	365	410	190	240	275
	—	—	—	*1125*	*1350*	*1525*	*1100*	*1350*	*1500*	*1050*	*1300*	*1450*	*980*	*1200*	*1350*	*620*	*790*	*900*
P7	—	—	—	320	390	435	315	385	430	300	370	420	280	345	390	180	225	260
	—	—	—	*1050*	*1275*	*1425*	*1025*	*1275*	*1400*	*980*	*1225*	*1375*	*920*	*1125*	*1275*	*590*	*740*	*850*
P8	—	—	—	300	370	415	295	365	410	285	350	395	265	325	365	170	215	245
	—	—	—	*980*	*1225*	*1350*	*970*	*1200*	*1350*	*940*	*1150*	*1300*	*870*	*1075*	*1200*	*560*	*710*	*800*
P11	—	—	—	310	380	425	305	375	420	290	360	405	275	335	380	175	220	250
	—	—	—	*1025*	*1250*	*1400*	*1000*	*1225*	*1375*	*950*	*1175*	*1325*	*900*	*1100*	*1250*	*570*	*720*	*820*
P12	—	—	—	200	240	265	195	235	260	190	225	255	180	210	235	110	135	155
	—	—	—	*660*	*790*	*870*	*640*	*770*	*850*	*620*	*740*	*840*	*590*	*690*	*770*	*360*	*445*	*510*
M1	—	—	—	—	—	—	205	270	315	220	295	345	190	250	295	150	200	230
	—	—	—	—	—	—	*670*	*890*	*1025*	*720*	*970*	*1125*	*620*	*820*	*970*	*490*	*660*	*750*
M2	—	—	—	—	—	—	170	225	260	185	240	285	155	210	245	125	165	190
	—	—	—	—	—	—	*560*	*740*	*850*	*610*	*790*	*940*	*510*	*690*	*800*	*410*	*540*	*620*
M3	—	—	—	—	—	—	140	180	210	150	195	230	130	170	195	100	135	155
	—	—	—	—	—	—	*460*	*590*	*690*	*490*	*640*	*750*	*425*	*560*	*640*	*330*	*445*	*510*
M4	—	—	—	—	—	—	110	140	165	115	155	175	100	130	150	80	105	120
	—	—	—	—	—	—	*360*	*460*	*540*	*375*	*510*	*570*	*330*	*425*	*490*	*260*	*345*	*395*
M5	—	—	—	—	—	—	90	120	135	100	130	150	85	110	125	65	85	100
	—	—	—	—	—	—	*295*	*395*	*445*	*330*	*425*	*490*	*280*	*360*	*410*	*215*	*280*	*330*
K1	350	610	830	410	510	570	405	500	560	245	325	380	365	450	500	—	—	—
	1150	*2000*	*2725*	*1350*	*1675*	*1875*	*1325*	*1650*	*1825*	*800*	*1075*	*1250*	*1200*	*1475*	*1650*	—	—	—
K2	310	530	730	365	445	500	360	440	495	215	285	335	320	395	445	—	—	—
	1025	*1750*	*2400*	*1200*	*1450*	*1650*	*1175*	*1450*	*1625*	*710*	*940*	*1100*	*1050*	*1300*	*1450*	—	—	—
K3	245	360	445	310	375	420	305	370	415	185	245	285	270	335	375	—	—	—
	800	*1175*	*1450*	*1025*	*1225*	*1375*	*1000*	*1225*	*1350*	*610*	*800*	*940*	*890*	*1100*	*1225*	—	—	—
K4	235	345	425	295	360	405	290	355	400	175	230	270	260	320	360	—	—	—
	770	*1125*	*1400*	*970*	*1175*	*1325*	*950*	*1175*	*1300*	*570*	*750*	*890*	*850*	*1050*	*1175*	—	—	—
K5	145	210	260	180	215	245	175	215	240	105	140	165	160	195	220	—	—	—
	475	*690*	*850*	*590*	*710*	*800*	*570*	*710*	*790*	*345*	*460*	*540*	*520*	*640*	*720*	—	—	—
K6	210	300	375	260	315	355	255	315	350	155	205	240	230	280	315	—	—	—
	690	*980*	*1225*	*850*	*1025*	*1175*	*840*	*1025*	*1150*	*510*	*670*	*790*	*750*	*920*	*1025*	—	—	—
K7	185	265	330	230	280	310	225	275	310	135	180	215	205	245	280	—	—	—
	610	*870*	*1075*	*750*	*920*	*1025*	*740*	*900*	*1025*	*445*	*590*	*710*	*670*	*800*	*920*	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	55	75	85	47	60	70	24	32	37
	—	—	—	—	—	—	—	—	—	*180*	*245*	*280*	*155*	*195*	*230*	*80*	*105*	*120*
S2	—	—	—	—	—	—	—	—	—	46	60	70	38	50	55	19	25	29
	—	—	—	—	—	—	—	—	—	*150*	*195*	*230*	*125*	*165*	*180*	*60*	*80*	*95*
S3	—	—	—	—	—	—	—	—	—	40	55	60	33	43	50	17	22	26
	—	—	—	—	—	—	—	—	—	*130*	*180*	*195*	*110*	*140*	*165*	*55*	*70*	*85*
S11	—	—	—	—	—	—	—	—	—	80	105	120	65	85	100	34	44	50
	—	—	—	—	—	—	—	—	—	*260*	*345*	*395*	*215*	*280*	*330*	*110*	*145*	*165*
S12	—	—	—	—	—	—	—	—	—	55	75	85	45	60	70	31	41	47
	—	—	—	—	—	—	—	—	—	*180*	*245*	*280*	*150*	*195*	*230*	*100*	*135*	*155*
S13	—	—	—	—	—	—	—	—	—	32	42	49	26	35	40	18	24	27
	—	—	—	—	—	—	—	—	—	*105*	*140*	*160*	*85*	*115*	*130*	*60*	*80*	*90*
H5	—	—	—	55	70	80	—	—	—	47	60	70	41	55	65	—	—	—
	—	—	—	*180*	*230*	*260*	—	—	—	*155*	*195*	*230*	*135*	*180*	*215*	—	—	—
H8	—	—	—	55	75	85	—	—	—	49	65	75	44	55	65	—	—	—
	—	—	—	*180*	*245*	*280*	—	—	—	*160*	*215*	*245*	*145*	*180*	*215*	—	—	—
H11	—	—	—	70	90	105	—	—	—	60	75	90	50	70	80	—	—	—
	—	—	—	*230*	*295*	*345*	—	—	—	*195*	*245*	*295*	*165*	*230*	*260*	—	—	—
H12	—	—	—	100	130	155	—	—	—	100	130	150	80	100	120	—	—	—
	—	—	—	*330*	*425*	*510*	—	—	—	*330*	*425*	*490*	*260*	*330*	*395*	—	—	—
H21	—	—	—	55	75	85	—	—	—	49	65	75	44	55	65	—	—	—
	—	—	—	*180*	*245*	*280*	—	—	—	*160*	*215*	*245*	*145*	*180*	*215*	—	—	—

Turbo 12 – R217.69-12 – Metric





—For insert selection and cutting data recommendations, see page(s) 60–62
—For complete insert programme, see page(s) 920, 921
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCSFMS	DCONMS	LF	LUX	LPR	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm	mm	mm		mm	mm		kg	
R217.69-2020.3-12-2AN	02676817	Weldon	20,0	2	11,0	7,0	–	20,0	60,0	30,0	35,0	85,0	8,0	27,5	38,0	23200	0,2	XO.X1204
R217.69-2525.3-12-3AN	02676819	Weldon	25,0	3	11,0	7,0	–	25,0	63,0	32,0	39,0	95,0	5,0	37,5	48,0	20800	0,3	XO.X1204
R217.69-3232.3-12-3AN	02676820	Weldon	32,0	3	11,0	7,0	–	32,0	69,0	37,0	45,0	105,0	3,0	51,5	62,0	18400	0,5	XO.X1204
R217.69-3232.3-12-4AN	02676823	Weldon	32,0	4	11,0	7,0	–	32,0	69,0	37,0	45,0	105,0	3,0	51,5	62,0	18400	0,5	XO.X1204
R217.69-2025.3S-12-3AN	02676812	Seco-Weldon	25,0	3	11,0	7,0	35,0	20,0	–	36,0	50,0	100,0	5,0	37,5	48,0	20800	0,3	XO.X1204
R217.69-2532.3S-12-4AN	02676814	Seco-Weldon	32,0	4	11,0	7,0	40,0	25,0	–	40,0	54,0	110,0	3,0	51,5	62,0	18400	0,5	XO.X1204
R217.69-3240.3S-12-5AN	02676815	Seco-Weldon	40,0	5	11,0	7,0	50,0	32,0	–	46,0	60,0	120,0	2,5	67,5	78,0	16400	0,8	XO.X1204
R217.69-1820.0-12-2AN	02676791	Cylindrical	20,0	2	11,0	7,0	–	18,0	–	100,0	100,0	150,0	8,0	27,5	38,0	23200	0,3	XO.X1204
R217.69-2020.0-12-2AN	02676793	Cylindrical	20,0	2	11,0	7,0	–	20,0	–	30,0	100,0	150,0	8,0	27,5	38,0	23200	0,4	XO.X1204
R217.69-2225.0-12-2AN	02676794	Cylindrical	25,0	2	11,0	7,0	–	22,0	–	114,0	114,0	170,0	5,0	37,5	48,0	20800	0,5	XO.X1204
R217.69-2525.0-12-2AN	02676795	Cylindrical	25,0	2	11,0	7,0	–	25,0	–	35,0	114,0	170,0	5,0	37,5	48,0	20800	0,6	XO.X1204
R217.69-2525.0-12-3AN	02676800	Cylindrical	25,0	3	11,0	7,0	–	25,0	–	35,0	114,0	170,0	5,0	37,5	48,0	20800	0,6	XO.X1204
R217.69-3032.0-12-3AN	02676801	Cylindrical	32,0	3	11,0	7,0	–	30,0	–	135,0	135,0	195,0	3,0	51,5	62,0	18400	1,0	XO.X1204
R217.69-3232.0-12-3AN	02676802	Cylindrical	32,0	3	11,0	7,0	–	32,0	–	40,0	135,0	195,0	3,0	51,5	62,0	18400	1,0	XO.X1204
R217.69-3232.0-12-4AN	02676803	Cylindrical	32,0	4	11,0	7,0	–	32,0	–	40,0	135,0	195,0	3,0	51,5	62,0	18400	1,0	XO.X1204

Modification of the cutter body needed for radii > 2,4 mm

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.69-.. Ø20-25	1/4HEX-T10PX50	C03507-T10P
R217.69-.. Ø32	1/4HEX-T10PX50	C03508-T10P
R217.69-.. Ø40	1/4HEX-T10PX50	C03509-T10P

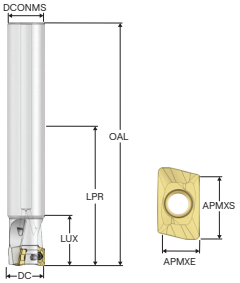
Accessories

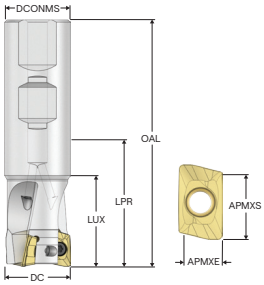
For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.69-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30

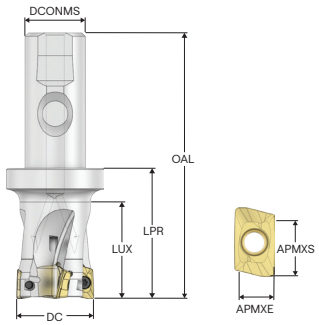
Torque and fixed keys, see page 944

Turbo 12 – R217.69-12 – inch









—For insert selection and cutting data recommendations, see page(s) 60-62
—For complete insert programme, see page(s) 920, 921
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCSFMS	DCONMS	LF	LUX	LPR	OAL	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch	inch	inch		inch	inch		lbs	
R217.69-00.75-3-12-2AN	02688950	Weldon	0.750	2	0.433	0.276	–	0.750	2.362	1.170	1.417	3.378	8,0	1.004	1.417	23200	0.440	XO.X1204
R217.69-00.87-3-12-2AN	02688951	Weldon	0.875	2	0.433	0.276	–	0.750	2.362	1.409	1.409	3.378	6,0	1.240	1.654	22000	0.440	XO.X1204
R217.69-01.00-3-12-3AN	02688954	Weldon	1.000	3	0.433	0.276	–	1.000	2.858	1.575	1.795	4.000	5,0	1.496	1.909	20800	0.660	XO.X1204
R217.69-01.25-3-12-3AN	02688957	Weldon	1.250	3	0.433	0.276	–	1.250	3.110	1.339	1.890	4.252	3,0	2.008	2.421	18400	1.320	XO.X1204
R217.69-01.25-3-12-4AN	02688960	Weldon	1.250	4	0.433	0.276	–	1.250	3.110	1.339	1.890	4.252	3,0	2.008	2.421	18400	1.320	XO.X1204
R217.69-01.00-3S-12-3AN	02688974	Seco-Weldon	1.000	3	0.433	0.276	1.378	0.750	–	1.480	2.031	4.000	5,0	1.496	1.909	20800	0.660	XO.X1204
R217.69-01.25-3S-12-4AN	02688976	Seco-Weldon	1.250	4	0.433	0.276	1.575	1.000	–	1.260	1.811	4.252	3,0	2.008	2.421	18400	1.100	XO.X1204
R217.69-01.50-3S-12-5AN	02688996	Seco-Weldon	1.500	5	0.433	0.276	1.969	1.250	–	1.787	2.339	4.780	2,5	2.500	2.913	16400	1.760	XO.X1204
R217.69-00.75-0-12-2AN	02688842	Cylindrical	0.750	2	0.433	0.276	–	0.750	–	1.181	3.937	5.906	8,0	1.004	1.417	23200	0.660	XO.X1204
R217.69-00.87-0-12-2AN	02688849	Cylindrical	0.875	2	0.433	0.276	–	0.750	–	3.937	3.937	5.906	6,0	1.240	1.654	22000	0.880	XO.X1204
R217.69-01.00-0-12-2AN	02688853	Cylindrical	1.000	2	0.433	0.276	–	1.000	–	1.378	4.488	6.693	5,0	1.476	1.890	20800	1.540	XO.X1204
R217.69-01.00-0-12-3AN	02688854	Cylindrical	1.000	3	0.433	0.276	–	1.000	–	1.378	4.488	6.693	5,0	1.476	1.890	20800	1.320	XO.X1204
R217.69-01.25-0-12-3AN	02688855	Cylindrical	1.250	3	0.433	0.276	–	1.250	–	1.575	5.315	7.677	3,0	1.988	2.421	18400	2.430	XO.X1204

Modification of the cutter body needed for radii > 0.094 in

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.69-..	1/4HEX-T10PX50	C03507-T10P

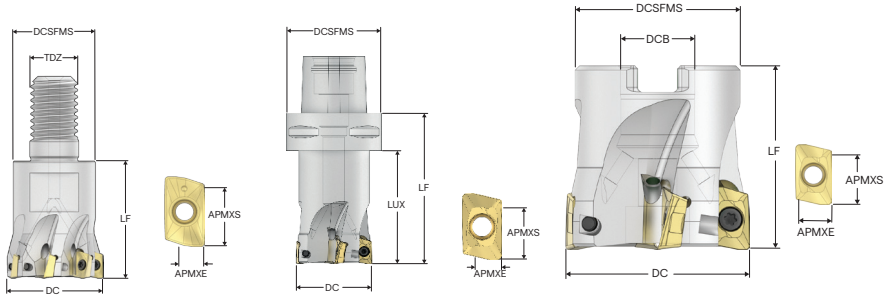
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.69-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30

Torque and fixed keys, see page 944

Turbo 12 – R217/220.69-12 – Metric





—For insert selection and cutting data recommendations, see page(s) 60–62
—For complete insert programme, see page(s) 920, 921
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ	LF	LUX	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm		mm	mm		mm	mm		kg	
C5-R217.69-040-12-4AN	02677616	Seco-Capto	40,0	4	11,0	7,0	–	50,0	–	80,0	57,0	2,5	67,5	78,0	16400	0,9	XO.X12..
C5-R217.69-054-12-5AN	02677619	Seco-Capto	54,0	5	11,0	7,0	–	50,0	–	60,0	60,0	1,7	95,5	106,0	14200	1,0	XO.X12..
R217.69-1020.RE-12-2AN	02676828	Combimaster	20,0	2	11,0	7,0	–	18,0	M10	28,0	–	8,0	27,5	38,0	23200	0,1	XO.X12..
R217.69-1225.RE-12-3AN	02676833	Combimaster	25,0	3	11,0	7,0	–	23,0	M12	30,0	–	5,0	37,5	48,0	20800	0,1	XO.X12..
R217.69-1632.RE-12-3AN	02676838	Combimaster	32,0	3	11,0	7,0	–	30,0	M16	40,0	–	3,0	51,5	62,0	18400	0,2	XO.X12..
R217.69-1632.RE-12-4AN	02676839	Combimaster	32,0	4	11,0	7,0	–	30,0	M16	40,0	–	3,0	51,5	62,0	18400	0,2	XO.X12..
R217.69-1640.RE-12-4AN	02676840	Combimaster	40,0	4	11,0	7,0	–	30,0	M16	40,0	–	2,5	67,5	78,0	16400	0,3	XO.X12..
R217.69-1640.RE-12-5AN	02676845	Combimaster	40,0	5	11,0	7,0	–	30,0	M16	40,0	–	2,5	67,5	78,0	16400	0,3	XO.X12..
R217.69-2040.RE-12-4AN	02972700	Combimaster	40,0	4	11,0	7,0	–	36,5	M20	40,0	–	2,5	67,5	78,0	16400	0,3	XO.X12..
R217.69-2040.RE-12-5AN	02972704	Combimaster	40,0	5	11,0	7,0	–	36,5	M20	40,0	–	2,5	67,5	78,0	16400	0,3	XO.X12..
R220.69-0032-12-3AN	02841296	Arbor	32,0	3	11,0	7,0	16,0	30,0	–	35,0	–	3,0	51,5	62,0	18400	0,1	XO.X12..
R220.69-0032-12-4AN	02841297	Arbor	32,0	4	11,0	7,0	16,0	30,0	–	35,0	–	3,0	51,5	62,0	18400	0,1	XO.X12..
R220.69-0040-12-4AN	02677566	Arbor	40,0	4	11,0	7,0	16,0	35,0	–	40,0	–	2,5	67,5	78,0	16400	0,2	XO.X12..
R220.69-0040-12-5AN	02677570	Arbor	40,0	5	11,0	7,0	16,0	35,0	–	40,0	–	2,5	67,5	78,0	16400	0,2	XO.X12..
R220.69-0044-12-4AN	02969083	Arbor	44,0	4	11,0	7,0	16,0	36,0	–	40,0	–	2,2	75,5	86,0	15600	0,3	XO.X12..
R220.69-0050-12-5AN	02677572	Arbor	50,0	5	11,0	7,0	22,0	47,0	–	40,0	–	2,0	87,5	98,0	14800	0,4	XO.X12..
R220.69-0050-12-7AN	02677573	Arbor	50,0	7	11,0	7,0	22,0	47,0	–	40,0	–	2,0	87,5	98,0	14800	0,4	XO.X12..
R220.69-0052-12-5AN	02497527	Arbor	52,0	5	11,0	7,0	22,0	47,0	–	40,0	–	1,7	91,5	102,0	14200	0,4	XO.X12..
R220.69-0063-12-6AN	02677576	Arbor	63,0	6	11,0	7,0	27,0	52,0	–	40,0	–	1,5	113,5	124,0	13200	0,6	XO.X12..
R220.69-0063-12-8AN	02677578	Arbor	63,0	8	11,0	7,0	27,0	52,0	–	40,0	–	1,5	113,5	124,0	13200	0,6	XO.X12..
R220.69-0066-12-6AN	02969085	Arbor	66,0	6	11,0	7,0	27,0	52,0	–	40,0	–	1,5	119,5	130,0	13200	0,6	XO.X12..
R220.69-0080-12-7AN	02677608	Arbor	80,0	7	11,0	7,0	27,0	62,0	–	50,0	–	1,0	147,5	158,0	11600	1,0	XO.X12..
R220.69-0080-12-10AN	02677581	Arbor	80,0	10	11,0	7,0	27,0	62,0	–	50,0	–	1,0	147,5	158,0	11600	1,0	XO.X12..
R220.69-0084-12-7AN	02969086	Arbor	84,0	7	11,0	7,0	27,0	62,0	–	50,0	–	1,0	155,5	166,0	11300	1,1	XO.X12..
R220.69-0100-12-8AN	02677610	Arbor	100,0	8	11,0	7,0	32,0	77,0	–	50,0	–	0,5	187,5	198,0	10400	1,7	XO.X12..
R220.69-0100-12-12AN	02677609	Arbor	100,0	12	11,0	7,0	32,0	77,0	–	50,0	–	0,5	187,5	198,0	10400	1,7	XO.X12..
R220.69-0125-12-10AN	02677611	Arbor	125,0	10	11,0	7,0	40,0	90,0	–	63,0	–	0,5	237,5	248,0	9200	3,2	XO.X12..
R220.69-0125-12-14AN	02677613	Arbor	125,0	14	11,0	7,0	40,0	90,0	–	63,0	–	0,5	237,5	248,0	9200	2,9	XO.X12..

Modification of the cutter body needed for radii > 2,4 mm
For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

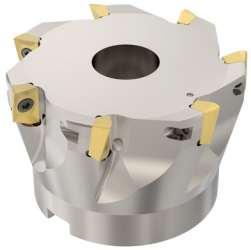
For cutter	Arbor screw	Insert key	Insert screw
			
C5-R217.69-..	–	1/4HEX-T10PX50	C03509-T10P
R217.69-.. Ø20-25	–	1/4HEX-T10PX50	C03507-T10P
R217.69- Ø32	–	1/4HEX-T10PX50	C03508-T10P
R217.69- Ø40	–	1/4HEX-T10PX50	C03509-T10P
R220.69-0032	220.17-690	1/4HEX-T10PX50	C03507-T10P
R220.69-0040-0044	MC6S8X30	1/4HEX-T10PX50	C03509-T10P
R220.69-0050-0052	220.17-692	1/4HEX-T10PX50	C03509-T10P
R220.69-0063-0066	220.17-693	1/4HEX-T10PX50	C03509-T10P
R220.69-0080-0084	–	1/4HEX-T10PX50	C03509-T10P
R220.69-0100-0125	–	1/4HEX-T10PX90	C03509-T10P

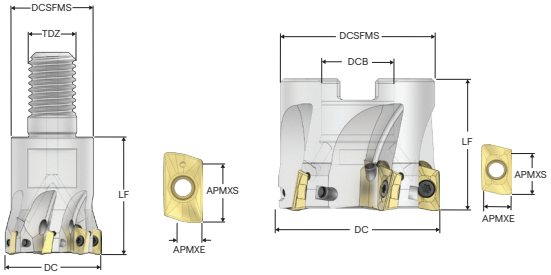
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.69-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30

Torque and fixed keys, see page 944

Turbo 12 – R217/220.69-12 – inch





—For insert selection and cutting data recommendations, see page(s) 60–62
—For complete insert programme, see page(s) 920, 921
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ	DCONMS	LF	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch	inch		inch	inch		inch	inch		lbs	
R217.69-00.75-10RE-12-2AN	02689794	Combimaster	0.750	2	0.433	0.276	–	0.709	M10	0.709	1.378	8,0	1.004	1.417	23200	0.440	XO.X1204
R217.69-01.00-12RE-12-3AN	02689797	Combimaster	1.000	3	0.433	0.276	–	0.906	M12	0.906	1.575	5,0	1.496	1.909	20800	0.220	XO.X1204
R217.69-01.25-16RE-12-3AN	02689799	Combimaster	1.250	3	0.433	0.276	–	1.181	M16	1.181	1.575	3,0	2.008	2.421	18400	0.660	XO.X1204
R217.69-01.25-16RE-12-4AN	02689801	Combimaster	1.250	4	0.433	0.276	–	1.181	M16	1.181	1.575	3,0	2.008	2.421	18400	0.660	XO.X1204
R217.69-01.50-16RE-12-4AN	02689802	Combimaster	1.500	4	0.433	0.276	–	1.181	M16	1.181	1.575	2,5	2.500	2.913	16400	0.880	XO.X1204
R217.69-01.50-16RE-12-5AN	02689805	Combimaster	1.500	5	0.433	0.276	–	1.181	M16	1.181	1.575	2,5	2.500	2.913	16400	0.660	XO.X1204
R220.69-01.50-12-4AN	02689808	Arbor	1.500	4	0.433	0.276	0.750	1.378	–	0.750	1.575	2,5	2.500	2.913	16400	0.660	XO.X1204
R220.69-01.50-12-5AN	02689809	Arbor	1.500	5	0.433	0.276	0.750	1.378	–	0.750	1.575	2,5	2.500	2.913	16400	0.440	XO.X1204
R220.69-02.00-12-4AN	02689812	Arbor	2.000	4	0.433	0.276	0.750	1.850	–	0.750	1.575	2,0	3.504	3.917	14800	1.100	XO.X1204
R220.69-02.00-12-5AN	02689813	Arbor	2.000	5	0.433	0.276	0.750	1.850	–	0.750	1.575	2,0	3.504	3.917	14800	0.880	XO.X1204
R220.69-02.00-12-7AN	02689815	Arbor	2.000	7	0.433	0.276	0.750	1.850	–	0.750	1.575	2,0	3.504	3.917	14800	1.100	XO.X1204
R220.69-02.50-12-4AN	02689816	Arbor	2.500	4	0.433	0.276	0.750	1.850	–	0.750	1.575	1,5	4.508	4.921	13200	1.320	XO.X1204
R220.69-02.50-12-6AN	02689817	Arbor	2.500	6	0.433	0.276	0.750	1.850	–	0.750	1.575	1,5	4.508	4.921	13200	1.320	XO.X1204
R220.69-03.00-12-4AN	02689820	Arbor	3.000	4	0.433	0.276	1.000	2.441	–	1.000	2.000	1,0	5.492	5.906	11600	2.200	XO.X1204
R220.69-03.00-12-7AN	02689822	Arbor	3.000	7	0.433	0.276	1.000	2.441	–	1.000	2.000	1,0	5.492	5.906	11600	2.430	XO.X1204
R220.69-03.00-12-10AN	02689821	Arbor	3.000	10	0.433	0.276	1.000	2.441	–	1.000	2.000	1,0	5.492	5.906	11600	2.650	XO.X1204
R220.69-04.00-12-5AN	02689824	Arbor	4.000	5	0.433	0.276	1.500	3.543	–	1.500	2.000	0,5	7.500	7.913	10400	4.850	XO.X1204
R220.69-04.00-12-8AN	02689826	Arbor	4.000	8	0.433	0.276	1.500	3.543	–	1.500	2.000	0,5	7.500	7.913	10400	5.070	XO.X1204
R220.69-04.00-12-12AN	02689825	Arbor	4.000	12	0.433	0.276	1.500	3.543	–	1.500	2.000	0,5	7.500	7.913	10400	5.070	XO.X1204

Modification of the cutter body needed for radii > 0.094 in
For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.69-00.75 - 01.25	–	1/4HEX-T10PX50	C03507-T10P
R217.69- 01.50	–	1/4HEX-T10PX50	C03509-T10P
R220.69-01.50	220.17-698	1/4HEX-T10PX50	C03509-T10P
R220.69-02.00-02.50	UC6S3/8UNFX1	1/4HEX-T10PX50	C03509-T10P
R220.69-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T10PX50	C03509-T10P
R220.69-04.00	UC6S3/4UNFX1-1/4	1/4HEX-T10PX90	C03509-T10P

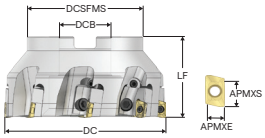
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.69-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30

Torque and fixed keys, see page 944

Turbo 12 – R217/220.69-12 – Metric



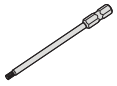


—For insert selection and cutting data recommendations, see page(s) 60–62
—For complete insert programme, see page(s) 920, 921
—For ISO attribute explanation, see page 16
—KAPRS 90°

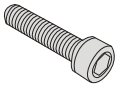
Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	DCONMS	LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm		mm	mm		kg	
R220.69-0125-12-8CN	02706936	Arbor	125,0	8	11,0	7,0	40,0	90,0	40,0	63,0	0,5	237,5	248,0	9200	3,1	XO.X1204
R220.69-8160-12-10CN	02706940	Arbor	160,0	10	11,0	7,0	40,0	90,0	40,0	63,0	0,3	307,5	318,0	8200	5,3	XO.X1204
R220.69-8200-12-12CN	02706943	Arbor	200,0	12	11,0	7,0	60,0	130,0	60,0	63,0	0,3	387,5	398,0	7300	7,4	XO.X1204
R220.69-8250-12-16CN	02706945	Arbor	250,0	16	11,0	7,0	60,0	130,0	60,0	63,0	0,2	487,5	498,0	6500	14,8	XO.X1204

Modification of the cutter body needed for radii > 2,4 mm

Spare Parts, included in delivery

For cutter	Adjustment unit	Cassette	Cassette screw	Insert key	Insert screw
					
R220.69-0125-8250	AU1114T-T15P	XO12PRN	FS96018	1/4HEX-T10PX90	C03509-T10P

Accessories

For cutter	Adjustable Torque key	Allen key	Arbor screw	Bit holder	Insert clamping torque	Torque key
						
R220.69-0125	1/4HEX-S-HANDLE-0.8-5.0NM	H05-4	–	1/4HEX-S-HANDLE	3.0NM	T00-10P30
R220.69-8160	1/4HEX-S-HANDLE-0.8-5.0NM	H05-4	MC6S12X40	1/4HEX-S-HANDLE	3.0NM	T00-10P30
R220.69-8200-8250	1/4HEX-S-HANDLE-0.8-5.0NM	H05-4	MC6S16X50	1/4HEX-S-HANDLE	3.0NM	T00-10P30

Torque and fixed keys, see page 944

R217/220.69-12 – Insert selection – mm/Inch

SMG		a_p	f_z		
			100%	30%	10%
P1	XOMX120408TR-ME08 F40M	5,0 *0.20*	0,11 0.0044	0,12 0.0048	0,19 0.0075
P2	XOMX120408TR-ME08 F40M	5,0 *0.20*	0,12 0.0048	0,13 0.0050	0,19 0.0075
P3	XOMX120408TR-M12 MP2501	5,0 *0.20*	0,16 0.0065	0,18 0.0070	0,28 0.011
P4	XOMX120408TR-M12 MP2501	5,0 *0.20*	0,16 0.0065	0,18 0.0070	0,26 0.010
P5	XOMX120408TR-M12 MP2501	5,0 *0.20*	0,16 0.0065	0,17 0.0065	0,26 0.010
P6	XOMX120408TR-M12 MP2501	5,0 *0.20*	0,16 0.0065	0,17 0.0065	0,26 0.010
P7	XOMX120408TR-M12 MP2501	5,0 *0.20*	0,16 0.0065	0,17 0.0065	0,26 0.010
P8	XOMX120408TR-M12 MP2501	5,0 *0.20*	0,16 0.0065	0,18 0.0070	0,28 0.011
P11	XOMX120408TR-M12 MP3501	5,0 *0.20*	0,16 0.0065	0,17 0.0065	0,26 0.010
P12	XOMX120408TR-M12 MP3000	4,5 *0.18*	0,11 0.0044	0,12 0.0048	0,18 0.0070
M1	XOEX120408R-M07 F40M	5,0 *0.20*	0,13 0.0050	0,14 0.0055	0,22 0.0085
M2	XOEX120408R-M07 F40M	5,0 *0.20*	0,12 0.0048	0,13 0.0050	0,20 0.0080
M3	XOEX120408R-M07 F40M	4,5 *0.18*	0,095 0.0038	0,10 0.0040	0,16 0.0065
M4	XOEX120408R-M07 MS2050	3,0 *0.12*	0,085 0.0034	0,095 0.0038	0,14 0.0055
M5	XOEX120408R-M07 MS2050	3,0 *0.12*	0,085 0.0034	0,095 0.0038	0,14 0.0055
K1	XOMX120408TR-M12 MK1501	5,0 *0.20*	0,17 0.0065	0,19 0.0075	0,30 0.012
K2	XOMX120408TR-M12 MK1501	5,0 *0.20*	0,16 0.0065	0,17 0.0065	0,26 0.010
K3	XOMX120408TR-M12 MK2050	5,0 *0.20*	0,16 0.0065	0,17 0.0065	0,26 0.010
K4	XOMX120408TR-M12 MK2050	5,0 *0.20*	0,16 0.0065	0,17 0.0065	0,26 0.010
K5	XOMX120408TR-M12 MK2050	5,0 *0.20*	0,14 0.0055	0,16 0.0065	0,24 0.0095
K6	XOMX120408TR-M12 MK2050	5,0 *0.20*	0,16 0.0065	0,17 0.0065	0,26 0.010
K7	XOMX120408TR-M12 MK2050	5,0 *0.20*	0,14 0.0055	0,16 0.0065	0,24 0.0095
N1	XOEX120408FR-E06 H15	5,0 *0.20*	0,13 0.0050	0,14 0.0055	0,22 0.0085
N2	XOEX120408FR-E06 H15	5,0 *0.20*	0,13 0.0050	0,14 0.0055	0,22 0.0085
N3	XOEX120408FR-E06 H15	5,0 *0.20*	0,13 0.0050	0,14 0.0055	0,22 0.0085
N11	XOEX120408FR-E06 H15	5,0 *0.20*	0,13 0.0050	0,14 0.0055	0,22 0.0085
S1	XOEX120408R-M07 F40M	3,0 *0.12*	0,085 0.0034	0,095 0.0038	0,14 0.0055
S2	XOEX120408R-M07 F40M	3,0 *0.12*	0,085 0.0034	0,095 0.0038	0,14 0.0055
S3	XOEX120408R-M07 F40M	3,0 *0.12*	0,080 0.0032	0,085 0.0034	0,13 0.0050
S11	XOEX120408R-M07 MS2050	4,0 *0.16*	0,095 0.0038	0,10 0.0040	0,16 0.0065
S12	XOEX120408R-M07 MS2050	4,0 *0.16*	0,095 0.0038	0,10 0.0040	0,16 0.0065
S13	XOEX120408R-M07 MS2050	3,0 *0.12*	0,085 0.0034	0,095 0.0038	0,14 0.0055
H5	XOMX120408TR-MD13 MH1051	4,5 *0.18*	0,12 0.0048	0,13 0.0050	0,20 0.0080
H8	XOMX120408TR-MD13 MH1051	4,0 *0.16*	0,090 0.0036	0,10 0.0040	0,15 0.0060
H11	XOMX120408TR-MD13 MH1051	4,5 *0.18*	0,12 0.0048	0,13 0.0050	0,20 0.0080
H12	XOMX120408TR-MD13 MH1051	4,0 *0.16*	0,090 0.0036	0,10 0.0040	0,15 0.0060
H21	XOMX120408TR-MD13 MH1051	4,0 *0.16*	0,090 0.0036	0,10 0.0040	0,15 0.0060

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.69-12 – Cutting data v_c = (m/min)/(sf/min)

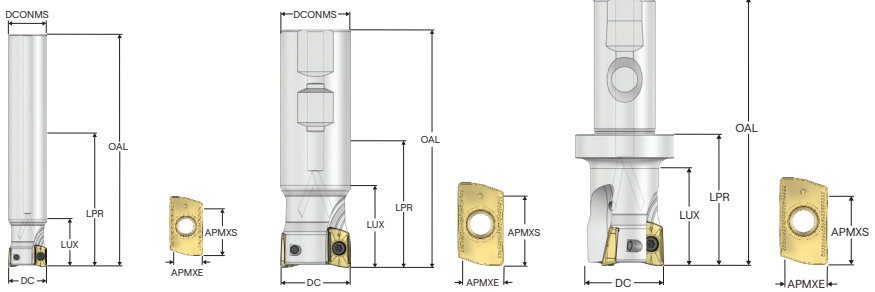
SMG	MH1051			MK2050			MP3000			MS2050			F40M			MP2051			MP2050			H15		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	260	340	405	265	350	420	280	360	410	270	330	370	410	520	600	300	395	465	—	—	—
	—	—	—	*850*	*1125*	*1325*	*870*	*1150*	*1375*	*920*	*1175*	*1350*	*890*	*1075*	*1225*	*1350*	*1700*	*1975*	*980*	*1300*	*1525*	—	—	—
P2	—	—	—	255	330	395	260	340	410	275	350	400	265	325	360	400	510	580	290	385	450	—	—	—
	—	—	—	*840*	*1075*	*1300*	*850*	*1125*	*1350*	*900*	*1150*	*1300*	*870*	*1075*	*1175*	*1300*	*1675*	*1900*	*950*	*1275*	*1475*	—	—	—
P3	—	—	—	220	290	340	230	300	350	240	310	355	235	285	320	350	445	500	255	340	400	—	—	—
	—	—	—	*720*	*950*	*1125*	*750*	*980*	*1150*	*790*	*1025*	*1175*	*770*	*940*	*1050*	*1150*	*1450*	*1650*	*840*	*1125*	*1300*	—	—	—
P4	—	—	—	195	255	305	205	265	320	215	270	310	210	260	295	310	395	440	225	300	350	—	—	—
	—	—	—	*640*	*840*	*1000*	*670*	*870*	*1050*	*710*	*890*	*1025*	*690*	*850*	*970*	*1025*	*1300*	*1450*	*740*	*980*	*1150*	—	—	—
P5	350	465	570	185	250	290	195	260	305	205	260	300	195	240	270	300	375	425	215	285	335	—	—	—
	1150	*1525*	*1875*	*610*	*820*	*950*	*640*	*850*	*1000*	*670*	*850*	*980*	*640*	*790*	*890*	*980*	*1225*	*1400*	*710*	*940*	*1100*	—	—	—
P6	390	540	640	210	280	325	215	290	340	230	290	340	220	270	305	340	420	475	240	320	380	—	—	—
	1275	*1775*	*2100*	*690*	*920*	*1075*	*710*	*950*	*1125*	*750*	*950*	*1125*	*720*	*890*	*1000*	*1125*	*1375*	*1550*	*790*	*1050*	*1250*	—	—	—
P7	370	510	600	195	260	310	205	275	320	215	275	320	210	255	290	320	400	450	230	300	360	—	—	—
	1225	*1675*	*1975*	*640*	*850*	*1025*	*670*	*900*	*1050*	*710*	*900*	*1050*	*690*	*840*	*950*	*1050*	*1300*	*1475*	*750*	*980*	*1175*	—	—	—
P8	340	465	550	185	245	285	195	255	295	205	260	300	195	240	270	295	375	420	215	285	335	—	—	—
	1125	*1525*	*1800*	*610*	*800*	*940*	*640*	*840*	*970*	*670*	*850*	*980*	*640*	*790*	*890*	*970*	*1225*	*1375*	*710*	*940*	*1100*	—	—	—
P11	360	495	580	190	255	300	200	265	315	210	265	310	200	245	280	285	430	540	220	295	350	—	—	—
	1175	*1625*	*1900*	*620*	*840*	*980*	*660*	*870*	*1025*	*690*	*870*	*1025*	*660*	*800*	*920*	*940*	*1400*	*1775*	*720*	*970*	*1150*	—	—	—
P12	255	340	405	125	165	195	135	180	205	140	175	200	135	160	180	175	255	310	145	190	225	—	—	—
	840	*1125*	*1325*	*410*	*540*	*640*	*445*	*590*	*670*	*460*	*570*	*660*	*445*	*520*	*590*	*570*	*840*	*1025*	*475*	*620*	*740*	—	—	—
M1	—	—	—	—	—	—	180	240	285	200	265	310	180	240	280	325	495	630	210	275	325	—	—	—
	—	—	—	—	—	—	*590*	*790*	*940*	*660*	*870*	*1025*	*590*	*790*	*920*	*1075*	*1625*	*2075*	*690*	*900*	*1075*	—	—	—
M2	—	—	—	—	—	—	150	200	235	165	215	255	150	200	230	270	405	520	170	230	265	—	—	—
	—	—	—	—	—	—	*490*	*660*	*770*	*540*	*710*	*840*	*490*	*660*	*750*	*890*	*1325*	*1700*	*560*	*750*	*870*	—	—	—
M3	—	—	—	—	—	—	120	160	190	135	180	205	120	160	185	215	315	390	140	185	215	—	—	—
	—	—	—	—	—	—	*395*	*520*	*620*	*445*	*590*	*670*	*395*	*520*	*610*	*710*	*1025*	*1275*	*460*	*610*	*710*	—	—	—
M4	—	—	—	—	—	—	95	125	150	105	135	160	95	125	145	160	235	290	110	145	165	—	—	—
	—	—	—	—	—	—	*310*	*410*	*490*	*345*	*445*	*520*	*310*	*410*	*475*	*520*	*770*	*950*	*360*	*475*	*540*	—	—	—
M5	—	—	—	—	—	—	80	105	125	90	115	135	80	105	120	135	195	240	90	120	140	—	—	—
	—	—	—	—	—	—	*260*	*345*	*410*	*295*	*375*	*445*	*260*	*345*	*395*	*445*	*640*	*790*	*295*	*395*	*460*	—	—	—
K1	455	630	740	270	355	425	190	250	300	—	—	—	180	235	275	—	—	—	—	—	—	—	—	—
	1500	*2075*	*2425*	*890*	*1175*	*1400*	*620*	*820*	*980*	—	—	—	*590*	*770*	*900*	—	—	—	—	—	—	—	—	—
K2	420	560	690	240	320	375	170	225	265	—	—	—	160	210	245	—	—	—	—	—	—	—	—	—
	1375	*1825*	*2275*	*790*	*1050*	*1225*	*560*	*740*	*870*	—	—	—	*520*	*690*	*800*	—	—	—	—	—	—	—	—	—
K3	355	475	580	205	270	320	145	190	225	—	—	—	135	175	205	—	—	—	—	—	—	—	—	—
	1175	*1550*	*1900*	*670*	*890*	*1050*	*475*	*620*	*740*	—	—	—	*445*	*570*	*670*	—	—	—	—	—	—	—	—	—
K4	340	455	550	195	260	305	135	185	215	—	—	—	130	170	200	—	—	—	—	—	—	—	—	—
	1125	*1500*	*1800*	*640*	*850*	*1000*	*445*	*610*	*710*	—	—	—	*425*	*560*	*660*	—	—	—	—	—	—	—	—	—
K5	220	285	340	120	160	185	85	115	130	—	—	—	80	100	120	—	—	—	—	—	—	—	—	—
	720	*940*	*1125*	*395*	*520*	*610*	*280*	*375*	*425*	—	—	—	*260*	*330*	*395*	—	—	—	—	—	—	—	—	—
K6	300	400	490	170	230	270	120	160	190	—	—	—	110	150	175	—	—	—	—	—	—	—	—	—
	980	*1300*	*1600*	*560*	*750*	*890*	*395*	*520*	*620*	—	—	—	*360*	*490*	*570*	—	—	—	—	—	—	—	—	—
K7	280	365	435	155	205	235	110	145	170	—	—	—	100	130	155	—	—	—	—	—	—	—	—	—
	920	*1200*	*1425*	*510*	*670*	*770*	*360*	*475*	*560*	—	—	—	*330*	*425*	*510*	—	—	—	—	—	—	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	1300	1725	2025	—	—	—	—	—	—	1400	1850	2175
	—	—	—	—	—	—	—	—	—	—	—	—	*4275*	*5650*	*6650*	—	—	—	—	—	—	*4600*	*6075*	*7125*
N2	—	—	—	—	—	—	—	—	—	—	—	—	530	700	820	—	—	—	—	—	—	570	750	880
	—	—	—	—	—	—	—	—	—	—	—	—	*1750*	*2300*	*2700*	—	—	—	—	—	—	*1875*	*2450*	*2875*
N3	—	—	—	—	—	—	—	—	—	—	—	—	350	470	550	—	—	—	—	—	—	380	500	580
	—	—	—	—	—	—	—	—	—	—	—	—	*1150*	*1550*	*1800*	—	—	—	—	—	—	*1250*	*1650*	*1900*
N11	—	—	—	—	—	—	—	—	—	—	—	—	400	530	630	—	—	—	—	—	—	430	570	670
	—	—	—	—	—	—	—	—	—	—	—	—	*1300*	*1750*	*2075*	—	—	—	—	—	—	*1400*	*1875*	*2200*
S1	—	—	—	—	—	—	45	60	70	49	65	75	45	60	70	55	75	85	55	70	80	—	—	—
	—	—	—	—	—	—	*150*	*195*	*230*	*160*	*215*	*245*	*150*	*195*	*230*	*180*	*245*	*280*	*180*	*230*	*260*	—	—	—
S2	—	—	—	—	—	—	37	47	55	40	50	60	36	47	55	46	60	70	43	55	65	—	—	—
	—	—	—	—	—	—	*120*	*155*	*180*	*130*	*165*	*195*	*120*	*155*	*180*	*150*	*195*	*230*	*140*	*180*	*215*	—	—	—
S3	—	—	—	—	—	—	32	42	49	35	45	55	31	41	48	40	50	60	38	49	60	—	—	—
	—	—	—	—	—	—	*105*	*140*	*160*	*115*	*150*	*180*	*100*	*135*	*155*	*130*	*165*	*195*	*125*	*160*	*195*	—	—	—
S11	—	—	—	—	—	—	—	—	—	70	90	105	60	80	95	80	105	120	75	100	115	—	—	—
	—	—	—	—	—	—	—	—	—	*230*	*295*	*345*	*195*	*260*	*310*	*260*	*345*	*395*	*245*	*330*	*375*	—	—	—
S12	—	—	—	—	—	—	—	—	—	47	60	70	43	55	65	55	70	85	50	70	80	—	—	—
	—	—	—	—	—	—	—	—	—	*155*	*195*	*230*	*140*	*180*	*215*	*180*	*230*	*280*	*165*	*230*	*260*	—	—	—
S13	—	—	—	—	—	—	—	—	—	28	36	42	25	33	38	32	42	48	30	40	46	—	—	—
	—	—	—	—	—	—	—	—	—	*90*	*120*	*140*	*80*	*110*	*125*	*105*	*140*	*155*	*100*	*130*	*150*	—	—	—
H5	130	175	210	43	55	65	38	50	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	425	*570*	*690*	*140*	*180*	*215*	*125*	*165*	*195*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
H8	150	195	225	46	60	70	40	55	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	490	*640*	*740*	*150*	*195*	*230*	*130*	*180*	*195*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
H11	165	225	265	55	75	85	48	65	75	—	—	—	—	—	—	115	165	205	55	75	85	—	—	—
	540	*740*	*870*	*180*	*245*	*280*	*155*	*215*	*245*	—	—	—	—	—	—	*375*	*540*	*670*	*180*	*245*	*280*	—	—	—
H12	170	225	260	80	105	125	80	100	120	—	—	—	—	—	—	100	140	170	95	120	140	—	—	—
	560	*740*	*850*	*260*	*345*	*410*	*260*	*330*	*395*	—	—	—	—	—	—	*330*	*460*	*560*	*310*	*395*	*460*	—	—	—
H21	150	195	225	46	60	70	40	55	60	—	—	—	—	—	—	100	110	120	47	60	70	—	—	—
	490	*640*	*740*	*150*	*195*	*230*	*130*	*180*	*195*	—	—	—	—	—	—	*330*	*360*	*395*	*155*	*195*	*230*	—	—	—

R217/220.69-12 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK1501			MP1501			MP2501			MS2500			MP3501			MM4500		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	380	465	530	370	455	520	415	510	580	330	410	470	245	315	360
	—	—	—	*1250*	*1525*	*1750*	*1225*	*1500*	*1700*	*1350*	*1675*	*1900*	*1075*	*1350*	*1550*	*800*	*1025*	*1175*
P2	—	—	—	370	455	520	360	445	510	400	500	560	325	400	455	240	305	350
	—	—	—	*1225*	*1500*	*1700*	*1175*	*1450*	*1675*	*1300*	*1650*	*1825*	*1075*	*1300*	*1500*	*790*	*1000*	*1150*
P3	—	—	—	325	395	445	320	390	440	355	435	490	285	350	395	210	265	305
	—	—	—	*1075*	*1300*	*1450*	*1050*	*1275*	*1450*	*1175*	*1425*	*1600*	*940*	*1150*	*1300*	*690*	*870*	*1000*
P4	—	—	—	285	350	400	280	345	395	310	385	435	250	305	355	200	255	290
	—	—	—	*940*	*1150*	*1300*	*920*	*1125*	*1300*	*1025*	*1275*	*1425*	*820*	*1000*	*1175*	*660*	*840*	*950*
P5	—	—	—	270	340	380	265	335	375	295	365	415	240	300	335	175	225	255
	—	—	—	*890*	*1125*	*1250*	*870*	*1100*	*1225*	*970*	*1200*	*1350*	*790*	*980*	*1100*	*570*	*740*	*840*
P6	—	—	—	305	380	430	300	375	420	335	410	470	270	335	380	200	250	290
	—	—	—	*1000*	*1250*	*1400*	*980*	*1225*	*1375*	*1100*	*1350*	*1550*	*890*	*1100*	*1250*	*660*	*820*	*950*
P7	—	—	—	290	360	405	285	355	400	315	390	445	255	315	355	190	240	275
	—	—	—	*950*	*1175*	*1325*	*940*	*1175*	*1300*	*1025*	*1275*	*1450*	*840*	*1025*	*1175*	*620*	*790*	*900*
P8	—	—	—	270	335	375	265	325	370	295	365	415	240	295	330	175	225	255
	—	—	—	*890*	*1100*	*1225*	*870*	*1075*	*1225*	*970*	*1200*	*1350*	*790*	*970*	*1075*	*570*	*740*	*840*
P11	—	—	—	280	350	395	275	340	385	305	380	430	245	305	345	185	230	265
	—	—	—	*920*	*1150*	*1300*	*900*	*1125*	*1275*	*1000*	*1250*	*1400*	*800*	*1000*	*1125*	*610*	*750*	*870*
P12	—	—	—	185	225	250	180	220	245	195	240	265	165	200	220	115	140	160
	—	—	—	*610*	*740*	*820*	*590*	*720*	*800*	*640*	*790*	*870*	*540*	*660*	*720*	*375*	*460*	*520*
M1	—	—	—	—	—	—	185	240	290	230	305	360	170	225	270	155	205	240
	—	—	—	—	—	—	*610*	*790*	*950*	*750*	*1000*	*1175*	*560*	*740*	*890*	*510*	*670*	*790*
M2	—	—	—	—	—	—	150	200	240	190	255	295	140	190	220	130	170	200
	—	—	—	—	—	—	*490*	*660*	*790*	*620*	*840*	*970*	*460*	*620*	*720*	*425*	*560*	*660*
M3	—	—	—	—	—	—	125	165	195	155	205	240	115	155	180	105	140	160
	—	—	—	—	—	—	*410*	*540*	*640*	*510*	*670*	*790*	*375*	*510*	*590*	*345*	*460*	*520*
M4	—	—	—	—	—	—	100	130	150	120	160	185	90	120	140	80	110	125
	—	—	—	—	—	—	*330*	*425*	*490*	*395*	*520*	*610*	*295*	*395*	*460*	*260*	*360*	*410*
M5	—	—	—	—	—	—	80	105	125	100	135	155	75	100	115	70	90	105
	—	—	—	—	—	—	*260*	*345*	*410*	*330*	*445*	*510*	*245*	*330*	*375*	*230*	*295*	*345*
K1	325	570	790	375	460	520	365	450	510	255	340	395	325	400	460	—	—	—
	1075	*1875*	*2600*	*1225*	*1500*	*1700*	*1200*	*1475*	*1675*	*840*	*1125*	*1300*	*1075*	*1300*	*1500*	—	—	—
K2	285	500	690	330	410	460	325	400	455	225	300	355	290	360	410	—	—	—
	940	*1650*	*2275*	*1075*	*1350*	*1500*	*1075*	*1300*	*1500*	*740*	*980*	*1175*	*950*	*1175*	*1350*	—	—	—
K3	225	330	410	280	345	390	275	340	385	190	255	300	245	305	345	—	—	—
	740	*1075*	*1350*	*920*	*1125*	*1275*	*900*	*1125*	*1275*	*620*	*840*	*980*	*800*	*1000*	*1125*	—	—	—
K4	215	315	390	265	330	375	260	325	365	185	240	285	235	290	330	—	—	—
	710	*1025*	*1275*	*870*	*1075*	*1225*	*850*	*1075*	*1200*	*610*	*790*	*940*	*770*	*950*	*1075*	—	—	—
K5	130	195	235	165	205	225	160	200	225	110	145	175	145	180	200	—	—	—
	425	*640*	*770*	*540*	*670*	*740*	*520*	*660*	*740*	*360*	*475*	*570*	*475*	*590*	*660*	—	—	—
K6	185	275	345	235	290	330	230	285	325	160	215	250	205	255	290	—	—	—
	610	*900*	*1125*	*770*	*950*	*1075*	*750*	*940*	*1075*	*520*	*710*	*820*	*670*	*840*	*950*	—	—	—
K7	170	245	305	210	260	290	205	255	285	145	190	225	185	230	255	—	—	—
	560	*800*	*1000*	*690*	*850*	*950*	*670*	*840*	*940*	*475*	*620*	*740*	*610*	*750*	*840*	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	60	80	90	43	55	65	25	33	38
	—	—	—	—	—	—	—	—	—	*195*	*260*	*295*	*140*	*180*	*215*	*80*	*110*	*125*
S2	—	—	—	—	—	—	—	—	—	48	65	75	35	45	55	20	27	31
	—	—	—	—	—	—	—	—	—	*155*	*215*	*245*	*115*	*150*	*180*	*65*	*90*	*100*
S3	—	—	—	—	—	—	—	—	—	42	55	65	31	40	46	18	23	27
	—	—	—	—	—	—	—	—	—	*140*	*180*	*215*	*100*	*130*	*150*	*60*	*75*	*90*
S11	—	—	—	—	—	—	—	—	—	85	110	125	60	75	90	35	46	55
	—	—	—	—	—	—	—	—	—	*280*	*360*	*410*	*195*	*245*	*295*	*115*	*150*	*180*
S12	—	—	—	—	—	—	—	—	—	55	75	90	41	55	65	32	43	49
	—	—	—	—	—	—	—	—	—	*180*	*245*	*295*	*135*	*180*	*215*	*105*	*140*	*160*
S13	—	—	—	—	—	—	—	—	—	34	44	50	24	31	37	19	25	29
	—	—	—	—	—	—	—	—	—	*110*	*145*	*165*	*80*	*100*	*120*	*60*	*80*	*95*
H5	—	—	—	48	65	75	—	—	—	—	—	—	37	49	55	—	—	—
	—	—	—	*155*	*215*	*245*	—	—	—	—	—	—	*120*	*160*	*180*	—	—	—
H8	—	—	—	50	70	80	—	—	—	—	—	—	40	50	60	—	—	—
	—	—	—	*165*	*230*	*260*	—	—	—	—	—	—	*130*	*165*	*195*	—	—	—
H11	—	—	—	60	80	95	—	—	—	—	—	—	47	60	75	—	—	—
	—	—	—	*195*	*260*	*310*	—	—	—	—	—	—	*155*	*195*	*245*	—	—	—
H12	—	—	—	95	120	140	—	—	—	—	—	—	70	95	110	—	—	—
	—	—	—	*310*	*395*	*460*	—	—	—	—	—	—	*230*	*310*	*360*	—	—	—
H21	—	—	—	50	70	80	—	—	—	—	—	—	40	50	60	—	—	—
	—	—	—	*165*	*230*	*260*	—	—	—	—	—	—	*130*	*165*	*195*	—	—	—

Turbo 16 – R217.69-XO16 – Metric





—For insert selection and cutting data recommendations, see page(s) 70–72
—For complete insert programme, see page(s) 922, 923
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCSFMS	DCONMS	LF	LUX	LPR	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm	mm	mm		mm	mm		kg	
R217.69-2525.3-XO16-2A	03336092	Weldon	25,0	2	15,0	9,0	–	25,0	68,0	38,0	44,0	100,0	11,0	33,5	47,7	16700	0,3	XO.X1605
R217.69-3232.3-XO16-2A	03336093	Weldon	32,0	2	15,0	9,0	–	32,0	74,0	38,0	50,0	110,0	6,0	47,5	61,7	14800	0,6	XO.X1605
R217.69-3232.3-XO16-3A	03336094	Weldon	32,0	3	15,0	9,0	–	32,0	74,0	38,0	50,0	110,0	6,0	47,5	61,7	14800	0,6	XO.X1605
R217.69-2025.3S-XO16-2A	03336095	Seco-Weldon	25,0	2	15,0	9,0	35,0	20,0	–	40,0	50,0	100,0	11,0	33,5	47,7	16700	0,3	XO.X1605
R217.69-2532.3S-XO16-2A	03336096	Seco-Weldon	32,0	2	15,0	9,0	40,0	25,0	–	40,0	54,0	110,0	6,0	47,5	61,7	14800	0,5	XO.X1605
R217.69-2532.3S-XO16-3A	03336097	Seco-Weldon	32,0	3	15,0	9,0	40,0	25,0	–	40,0	54,0	110,0	6,0	47,5	61,7	14800	0,5	XO.X1605
R217.69-3240.3S-XO16-3A	03336098	Seco-Weldon	40,0	3	15,0	9,0	50,0	32,0	–	46,0	60,0	120,0	3,5	63,5	77,7	13200	0,8	XO.X1605
R217.69-3240.3S-XO16-4A	03336099	Seco-Weldon	40,0	4	15,0	9,0	50,0	32,0	–	46,0	60,0	120,0	3,5	63,5	77,7	13200	0,8	XO.X1605
R217.69-2525.0-XO16-2A	03336100	Cylindrical	25,0	2	15,0	9,0	–	25,0	–	35,0	114,0	170,0	11,0	33,5	47,7	16700	0,6	XO.X1605
R217.69-3232.0-XO16-2A	03336101	Cylindrical	32,0	2	15,0	9,0	–	32,0	–	40,0	135,0	195,0	6,0	47,5	61,7	14800	1,1	XO.X1605
R217.69-3232.0-XO16-3A	03336102	Cylindrical	32,0	3	15,0	9,0	–	32,0	–	40,0	135,0	195,0	6,0	47,5	61,7	14800	1,1	XO.X1605

Modification of the cutter body needed for radii > 4,0 mm

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.69-2525-2532	1/4HEX-T15PX50	C04008-T15P
R217.69-3240	1/4HEX-T15PX50	C04009-T15P

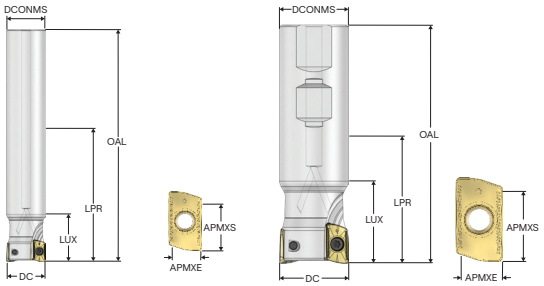
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.69-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Turbo 16 – R217.69-XO16 – inch





—For insert selection and cutting data recommendations, see page(s) 70-72
—For complete insert programme, see page(s) 922, 923
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCONMS	LF	LUX	LPR	OAL	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch	inch		inch	inch		lbs	
R217.69-01.00-3-XO16-2A	03336130	Weldon	1.000	2	0.591	0.354	1.000	2.795	1.575	1.732	3.937	10,0	1.350	1.909	16600	0.660	XO.X1605
R217.69-01.25-3-XO16-3A	03336131	Weldon	1.250	3	0.591	0.354	1.250	3.189	1.575	1.969	4.331	6,0	1.850	2.409	14800	1.320	XO.X1605
R217.69-01.50-3-XO16-3A	03336132	Weldon	1.500	3	0.591	0.354	1.250	3.583	2.362	2.362	4.724	4,0	2.350	2.909	13500	1.540	XO.X1605
R217.69-01.50-3-XO16-4A	03336133	Weldon	1.500	4	0.591	0.354	1.250	3.583	2.362	2.362	4.724	4,0	2.350	2.909	13500	1.540	XO.X1605
R217.69-01.00-0-XO16-2A	03336134	Cylindrical	1.000	2	0.591	0.354	1.000	–	1.378	4.488	6.693	9,0	1.350	1.909	16600	1.320	XO.X1605
R217.69-01.50-0-XO16-3A	03336136	Cylindrical	1.500	3	0.591	0.354	1.250	–	5.906	5.906	8.268	4,0	2.350	2.909	13500	2.650	XO.X1605
R217.69-01.50-0-XO16-4A	03336137	Cylindrical	1.500	4	0.591	0.354	1.250	–	5.906	5.906	8.268	4,0	2.350	2.909	13500	2.650	XO.X1605

Modification of the cutter body needed for radii > 0.158 in

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.69-01.00-01.25	1/4HEX-T15PX50	C04008-T15P
R217.69-01.50	1/4HEX-T15PX50	C04009-T15P

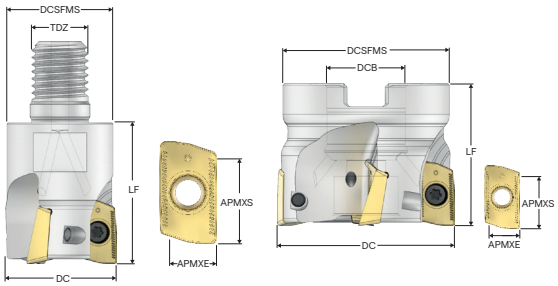
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.69-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Turbo 16 – R217/220.69-XO16 – Metric



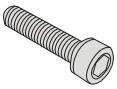
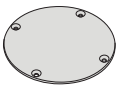


—For insert selection and cutting data recommendations, see page(s) 70–72
—For complete insert programme, see page(s) 922, 923
—For ISO attribute explanation, see page 16
—KAPRS 90°

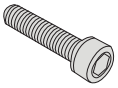
Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCS-FMS	TDZ		LF	OAL	RMPX°	Cmin		RPMX	Weight	Insert
			mm		mm	mm	mm	mm		mm	mm	mm		mm	mm		kg	
R217.69-1225.RE-XO16-2A	03336103	Combimaster	25,0	2	15,0	9,0	–	23,0	M12	23,0	40,0	40,0	11,0	33,5	47,7	16700	0,2	XO.X1605
R217.69-1632.RE-XO16-2A	03336104	Combimaster	32,0	2	15,0	9,0	–	30,0	M16	30,0	40,0	40,0	6,0	47,5	61,7	14800	0,2	XO.X1605
R217.69-1632.RE-XO16-3A	03336105	Combimaster	32,0	3	15,0	9,0	–	30,0	M16	30,0	40,0	40,0	6,0	47,5	61,7	14800	0,2	XO.X1605
R217.69-2040.RE-XO16-3A	03336106	Combimaster	40,0	3	15,0	9,0	–	36,5	M20	36,5	45,0	45,0	3,5	63,5	77,7	13200	0,4	XO.X1605
R217.69-2040.RE-XO16-4A	03336107	Combimaster	40,0	4	15,0	9,0	–	36,5	M20	36,5	45,0	45,0	3,5	63,5	77,7	13200	0,4	XO.X1605
R220.69-0040-XO16-3A	03336108	Arbor	40,0	3	15,0	9,0	16,0	35,0	–	16,0	40,0	–	3,5	63,5	77,7	13200	0,2	XO.X1605
R220.69-0040-XO16-4A	03336109	Arbor	40,0	4	15,0	9,0	16,0	35,0	–	16,0	40,0	–	3,5	63,5	77,7	13200	0,2	XO.X1605
R220.69-0050-XO16-4A	03336110	Arbor	50,0	4	15,0	9,0	22,0	47,0	–	22,0	40,0	–	2,6	83,5	97,7	11800	0,3	XO.X1605
R220.69-0050-XO16-5A	03336111	Arbor	50,0	5	15,0	9,0	22,0	47,0	–	22,0	40,0	–	2,6	83,5	97,7	11800	0,3	XO.X1605
R220.69-0050-XO16-6A	10010246	Arbor	50,0	6	15,0	9,0	22,0	47,0	–	22,0	40,0	–	2,6	83,5	97,7	11800	0,4	XO.X1605
R220.69-0052-XO16-5A	03336112	Arbor	52,0	5	15,0	9,0	22,0	47,0	–	22,0	40,0	–	2,5	87,5	101,7	11600	0,4	XO.X1605
R220.69-0063-XO16-5A	03336113	Arbor	63,0	5	15,0	9,0	27,0	56,0	–	27,0	40,0	–	2,0	109,5	123,7	10500	0,5	XO.X1605
R220.69-0063-XO16-6A	03336115	Arbor	63,0	6	15,0	9,0	27,0	56,0	–	27,0	40,0	–	2,0	109,5	123,7	10500	0,5	XO.X1605
R220.69-0063-XO16-7A	10010247	Arbor	63,0	7	15,0	9,0	27,0	56,0	–	27,0	40,0	–	2,0	109,5	123,7	10549	0,6	XO.X1605
R220.69-0066-XO16-6A	03336117	Arbor	66,0	6	15,0	9,0	27,0	56,0	–	27,0	40,0	–	1,8	115,5	129,7	10300	0,6	XO.X1605
R220.69-0080-XO16-6A	03336118	Arbor	80,0	6	15,0	9,0	27,0	62,0	–	27,0	50,0	–	1,5	143,5	157,7	9300	1,0	XO.X1605
R220.69-0080-XO16-8A	03336119	Arbor	80,0	8	15,0	9,0	27,0	62,0	–	27,0	50,0	–	1,5	143,5	157,7	9300	1,0	XO.X1605
R220.69-0080-XO16-9A	10010248	Arbor	80,0	9	15,0	9,0	27,0	62,0	–	27,0	50,0	–	1,5	143,5	157,7	9300	1,0	XO.X1605
R220.69-0084-XO16-8A	03336120	Arbor	84,0	8	15,0	9,0	27,0	62,0	–	27,0	50,0	–	1,3	151,5	165,7	9100	1,1	XO.X1605
R220.69-0100-XO16-8A	03336121	Arbor	100,0	8	15,0	9,0	32,0	77,0	–	32,0	50,0	–	1,1	183,5	197,7	8300	1,6	XO.X1605
R220.69-0100-XO16-10A	03336122	Arbor	100,0	10	15,0	9,0	32,0	77,0	–	32,0	50,0	–	1,1	183,5	197,7	8300	1,6	XO.X1605
R220.69-0125-XO16-10A	03336123	Arbor	125,0	10	15,0	9,0	40,0	90,0	–	40,0	63,0	–	0,85	233,5	247,7	7400	3,0	XO.X1605
R220.69-0125-XO16-12A	03336124	Arbor	125,0	12	15,0	9,0	40,0	90,0	–	40,0	63,0	–	0,85	233,5	247,7	7400	3,0	XO.X1605
R220.69-8160-XO16-11A	03336125	Arbor	160,0	11	15,0	9,0	40,0	90,0	–	40,0	63,0	–	0,65	303,5	317,7	6600	5,0	XO.X1605
R220.69-8160-XO16-13A	03336126	Arbor	160,0	13	15,0	9,0	40,0	90,0	–	40,0	63,0	–	0,65	303,5	317,7	6600	5,1	XO.X1605

Modification of the cutter body needed for radii > 4,0 mm
For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

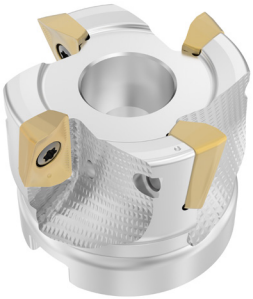
For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R217.69-1225-1632	–	1/4HEX-T15PX50	C04008-T15P	–	–
R217.69-2040	–	1/4HEX-T15PX50	C04009-T15P	–	–
R220.69-0040	TCEI0825	1/4HEX-T15PX50	C04009-T15P	–	–
R220.69-0050-0052	220.17-692	1/4HEX-T15PX50	C04009-T15P	–	–
R220.69-0063-0066	MLC6S12X30	1/4HEX-T15PX50	C04009-T15P	–	–
R220.69-0080-0084	MC6S12X35	1/4HEX-T15PX50	C04009-T15P	–	–
R220.69-0100-0125	MLC6S16X35	1/4HEX-T15PX90	C04009-T15P	–	–
R220.69-0100-0125	MC6S20X40	1/4HEX-T15PX90	C04009-T15P	–	–
R220.69-8160	–	1/4HEX-T15PX90	C04009-T15P	SC-160-90	MF6S4X10

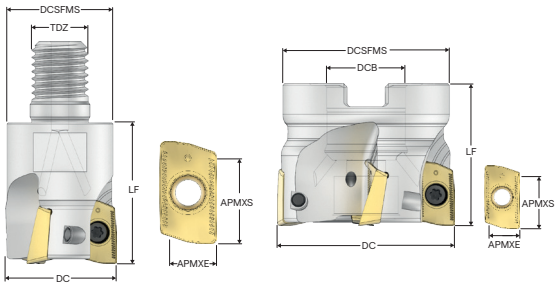
Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R217/220.69-1225-0125	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.69-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Turbo 16 – R217/220.69-XO16 – inch



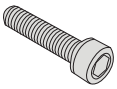
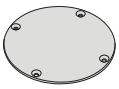


–For insert selection and cutting data recommendations, see page(s) 70–72
–For complete insert programme, see page(s) 922, 923
–For ISO attribute explanation, see page 16
–KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ		LF	OAL	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch	inch		inch	inch	inch		inch	inch		lbs	
R217.69-01.00-12RE-XO16-2A	03336138	Combimaster	1.000	2	0.591	0.354	–	0.906	M12	0.906	1.575	1.575	11,0	1.350	1.909	16600	0.440	XO.X1605
R217.69-01.25-16RE-XO16-3A	03336139	Combimaster	1.250	3	0.591	0.354	–	1.181	M16	1.181	1.575	1.575	6,0	1.850	2.409	14800	0.440	XO.X1605
R217.69-01.50-20RE-XO16-4A	03336140	Combimaster	1.500	4	0.591	0.354	–	1.437	M20	1.437	1.772	1.772	4,0	2.350	2.909	13500	0.880	XO.X1605
R220.69-01.50-XO16-4A	03336141	Arbor	1.500	4	0.591	0.354	0.500	1.378	–	0.500	1.575	–	4,0	2.350	2.909	13500	0.660	XO.X1605
R220.69-02.00-XO16-4A	03336142	Arbor	2.000	4	0.591	0.354	0.750	1.850	–	0.750	1.575	–	2,5	3.350	3.909	11700	0.880	XO.X1605
R220.69-02.00-XO16-5A	03336143	Arbor	2.000	5	0.591	0.354	0.750	1.850	–	0.750	1.575	–	2,5	3.350	3.909	11700	0.880	XO.X1605
R220.69-02.00-XO16-6A	03336144	Arbor	2.000	6	0.591	0.354	0.750	1.850	–	0.750	1.575	–	2,5	3.350	3.909	11700	0.660	XO.X1605
R220.69-02.50-XO16-5A	03336145	Arbor	2.500	5	0.591	0.354	0.750	1.850	–	0.750	1.575	–	2,0	4.350	4.909	10500	1.320	XO.X1605
R220.69-02.50-XO16-6A	03336146	Arbor	2.500	6	0.591	0.354	0.750	1.850	–	0.750	1.575	–	2,0	4.370	4.882	10500	1.320	XO.X1605
R220.69-03.00-XO16-6A	03336147	Arbor	3.000	6	0.591	0.354	1.000	2.441	–	1.000	1.969	–	1,5	5.354	5.906	9500	2.430	XO.X1605
R220.69-03.00-XO16-8A	03336148	Arbor	3.000	8	0.591	0.354	1.000	2.441	–	1.000	1.969	–	1,5	5.354	5.906	9500	2.430	XO.X1605
R220.69-04.00-XO16-8A	03336149	Arbor	4.000	8	0.591	0.354	1.500	3.543	–	1.500	1.969	–	1,1	7.362	7.874	8300	4.410	XO.X1605
R220.69-04.00-XO16-10A	03336150	Arbor	4.000	10	0.591	0.354	1.500	3.543	–	1.500	1.969	–	1,1	7.362	7.874	8300	5.070	XO.X1605
R220.69-05.00-XO16-9A	03336151	Arbor	5.000	9	0.591	0.354	1.500	3.543	–	1.500	2.480	–	0,85	9.370	9.882	7400	7.940	XO.X1605
R220.69-06.00-XO16-12A	10000967	Arbor	6.000	12	0.591	0.354	2.000	4.331	–	2.000	2.480	–	0,7	11.378	11.890	6700	10.360	XO.X1605

Modification of the cutter body needed for radii > 0.158 in
For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R217.69-01.00-01.25	–	1/4HEX-T15PX50	C04008-T15P	–	–
R217.69-01.50	–	1/4HEX-T15PX50	C04009-T15P	–	–
R220.69-01.50	UC6S1/4UNFX1	1/4HEX-T15PX50	C04009-T15P	–	–
R220.69-02.00-02.50	UC6S3/8UNFX1	1/4HEX-T15PX50	C04009-T15P	–	–
R220.69-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T15PX50	C04009-T15P	–	–
R220.69-04.00	UF6S3/4UNFX2	1/4HEX-T15PX90	C04009-T15P	–	–
R220.69-05.00	UC6S3/4UNFX1-1/4	1/4HEX-T15PX90	C04009-T15P	–	–
R220.69-06.00	–	1/4HEX-T15PX90	C04009-T15P	SC-160-90	MF6S4X10

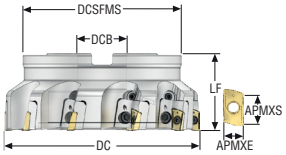
Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R217/220.69-01.00-05.00	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.69-06.00	1/4HEX-S-HANDLE-0.8-5.0NM	58215080	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Turbo 16 – R220.69-XO16 – Metric



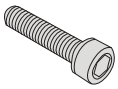
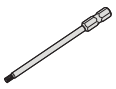
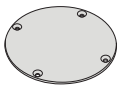


–For insert selection and cutting data recommendations, see page(s) 70–72
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–For ISO attribute explanation, see page 16
–KAPRS 90°

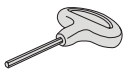
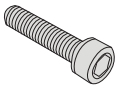
Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	DCONMS	LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm		mm	mm		kg	
R220.69-0125-XO16-8CA	03336127	Arbor	125,0	8	15,0	9,0	40,0	90,0	40,0	63,0	0,85	233,5	247,7	7400	2,8	XO.X1605
R220.69-8160-XO16-10CA	10000966	Arbor	160,0	10	15,0	9,0	40,0	90,0	40,0	63,0	0,65	303,5	317,7	6600	0,2	XO.X1605
R220.69-8200-XO16-12CA	03336128	Arbor	200,0	12	15,0	9,0	60,0	130,0	60,0	63,0	0,5	383,5	397,7	5900	6,6	XO.X1605
R220.69-8250-XO16-16CA	03336129	Arbor	250,0	16	15,0	9,0	60,0	130,0	60,0	63,0	0,4	483,5	497,7	5200	13,3	XO.X1605

Modification of the cutter body needed for radii > 4,0 mm

Spare Parts, included in delivery

For cutter	Adjustment unit	Arbor screw	Cassette	Cassette screw	Insert key	Insert screw	Lid	Lid screw
								
R220.69-0125	AU1114T-T15P	MC6S20X40	XO16PRA	FS96018	1/4HEX-T15PX90	C04009-T15P	–	–
R220.69-8160	AU1114T-T15P	–	XO16PRA	FS96018	1/4HEX-T15PX90	C04009-T15P	SC-160-90	MF6S4X10
R220.69-8200	AU1114T-T15P	–	XO16PRA	FS96018	1/4HEX-T15PX90	C04009-T15P	SC-200-90	MF6S4X8
R220.69-8250	AU1114T-T15P	–	XO16PRA	FS96018	1/4HEX-T15PX90	C04009-T15P	SC-250-90	MF6S4X10

Accessories

For cutter	Adjustable Torque key	Allen key	Arbor screw	Bit holder	Insert clamping torque	Torque key
						
R220.69-0125	1/4HEX-S-HANDLE-0.8-5.0NM	H05-4	–	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.69-8160-8200	1/4HEX-S-HANDLE-0.8-5.0NM	H05-4	MC6S12X40	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.69-8200-8250	1/4HEX-S-HANDLE-0.8-5.0NM	H05-4	MC6S16X50	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

R217/220.69-16 – Insert selection – mm/Inch

SMG		a_p	f_z		
			100%	30%	10%
P1	XOMX160508TR-ME11 F40M	7,0 *0.28*	0,16 0.0065	0,17 0.0065	0,26 0.010
P2	XOMX160508TR-ME11 F40M	7,0 *0.28*	0,16 0.0065	0,17 0.0065	0,26 0.010
P3	XOMX160508TR-M13 MP2501	7,0 *0.28*	0,18 0.0070	0,19 0.0075	0,30 0.012
P4	XOMX160508TR-M13 MP2501	7,0 *0.28*	0,17 0.0065	0,19 0.0075	0,30 0.012
P5	XOMX160508TR-M13 MP2501	7,0 *0.28*	0,17 0.0065	0,19 0.0075	0,28 0.011
P6	XOMX160508TR-M13 MP2501	7,0 *0.28*	0,17 0.0065	0,18 0.0070	0,28 0.011
P7	XOMX160508TR-M13 MP2501	7,0 *0.28*	0,17 0.0065	0,18 0.0070	0,28 0.011
P8	XOMX160508TR-M13 MP2501	7,0 *0.28*	0,18 0.0070	0,19 0.0075	0,30 0.012
P11	XOMX160508TR-M13 MP3501	7,0 *0.28*	0,17 0.0065	0,18 0.0070	0,28 0.011
P12	XOMX160508TR-M13 MP3000	6,0 *0.24*	0,12 0.0048	0,13 0.0050	0,19 0.0075
M1	XOEX160508R-M09 F40M	7,0 *0.28*	0,13 0.0050	0,14 0.0055	0,22 0.0085
M2	XOEX160508R-M09 F40M	7,0 *0.28*	0,12 0.0048	0,13 0.0050	0,20 0.0080
M3	XOEX160508R-M09 F40M	6,0 *0.24*	0,095 0.0038	0,10 0.0040	0,16 0.0065
M4	XOEX160516R-M09 MS2050	4,5 *0.18*	0,085 0.0034	0,095 0.0038	0,15 0.0060
M5	XOEX160516R-M09 MS2050	4,5 *0.18*	0,085 0.0034	0,095 0.0038	0,15 0.0060
K1	XOMX160508TR-M13 MK1501	7,0 *0.28*	0,19 0.0075	0,20 0.0080	0,32 0.013
K2	XOMX160508TR-M13 MK1501	7,0 *0.28*	0,17 0.0065	0,19 0.0075	0,28 0.011
K3	XOMX160508TR-M13 MK2050	7,0 *0.28*	0,17 0.0065	0,19 0.0075	0,28 0.011
K4	XOMX160508TR-M13 MK2050	7,0 *0.28*	0,17 0.0065	0,19 0.0075	0,28 0.011
K5	XOMX160508TR-M13 MK2050	7,0 *0.28*	0,15 0.0060	0,17 0.0065	0,26 0.010
K6	XOMX160508TR-M13 MK2050	7,0 *0.28*	0,17 0.0065	0,19 0.0075	0,28 0.011
K7	XOMX160508TR-M13 MK2050	7,0 *0.28*	0,15 0.0060	0,17 0.0065	0,26 0.010
N1	XOEX160508FR-E07 H25	7,0 *0.28*	0,13 0.0050	0,14 0.0055	0,22 0.0085
N2	XOEX160508FR-E07 H25	7,0 *0.28*	0,13 0.0050	0,14 0.0055	0,22 0.0085
N3	XOEX160508FR-E07 H25	7,0 *0.28*	0,13 0.0050	0,14 0.0055	0,22 0.0085
N11	XOEX160508FR-E07 H25	7,0 *0.28*	0,13 0.0050	0,14 0.0055	0,22 0.0085
S1	XOEX160516R-M09 F40M	4,5 *0.18*	0,085 0.0034	0,095 0.0038	0,15 0.0060
S2	XOEX160516R-M09 F40M	4,5 *0.18*	0,085 0.0034	0,095 0.0038	0,15 0.0060
S3	XOEX160516R-M09 F40M	4,5 *0.18*	0,080 0.0032	0,090 0.0036	0,13 0.0050
S11	XOEX160508R-M09 MS2050	5,0 *0.20*	0,095 0.0038	0,10 0.0040	0,16 0.0065
S12	XOEX160508R-M09 MS2050	5,0 *0.20*	0,095 0.0038	0,10 0.0040	0,16 0.0065
S13	XOEX160508R-M09 MS2050	4,5 *0.18*	0,085 0.0034	0,090 0.0036	0,14 0.0055
H5	XOMX160508TR-MD14 MH1051	6,0 *0.24*	0,12 0.0048	0,14 0.0055	0,20 0.0080
H8	XOMX160508TR-MD14 MH1051	5,0 *0.20*	0,095 0.0038	0,10 0.0040	0,16 0.0065
H11	XOMX160508TR-MD14 MH1051	6,0 *0.24*	0,12 0.0048	0,14 0.0055	0,20 0.0080
H12	XOMX160508TR-MD14 MH1051	5,0 *0.20*	0,095 0.0038	0,10 0.0040	0,16 0.0065
H21	XOMX160508TR-MD14 MH1051	5,0 *0.20*	0,095 0.0038	0,10 0.0040	0,16 0.0065

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.69-16 – Cutting data v_c = (m/min)/(sf/min)

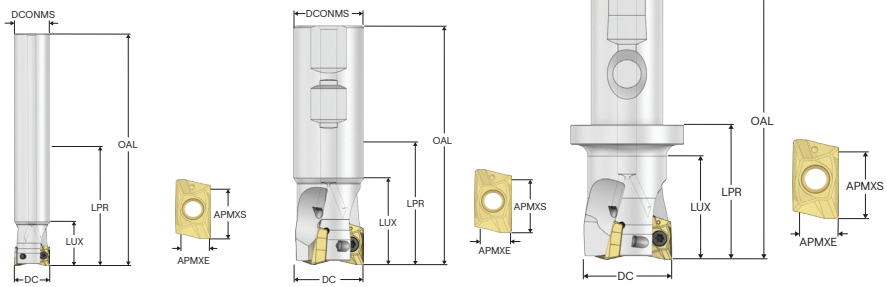
SMG	MH1051			MK2050			MP3000			MS2050			F40M			MP2051			MP2050			H25		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	250	330	390	305	405	470	270	345	395	260	320	355	340	465	540	285	380	445	—	—	—
	—	—	—	*820*	*1075*	*1275*	*1000*	*1325*	*1550*	*890*	*1125*	*1300*	*850*	*1050*	*1175*	*1125*	*1525*	*1775*	*940*	*1250*	*1450*	—	—	—
P2	—	—	—	240	320	375	300	395	455	260	335	385	250	310	345	335	450	530	280	370	435	—	—	—
	—	—	—	*790*	*1050*	*1225*	*980*	*1300*	*1500*	*850*	*1100*	*1275*	*820*	*1025*	*1125*	*1100*	*1475*	*1750*	*920*	*1225*	*1425*	—	—	—
P3	—	—	—	210	280	330	265	345	405	230	295	340	225	275	305	300	400	465	245	325	380	—	—	—
	—	—	—	*690*	*920*	*1075*	*870*	*1125*	*1325*	*750*	*970*	*1125*	*740*	*900*	*1000*	*980*	*1300*	*1525*	*800*	*1075*	*1250*	—	—	—
P4	—	—	—	185	245	295	235	305	355	205	260	300	200	250	285	265	355	410	215	285	335	—	—	—
	—	—	—	*610*	*800*	*970*	*770*	*1000*	*1175*	*670*	*850*	*980*	*660*	*820*	*940*	*870*	*1175*	*1350*	*710*	*940*	*1100*	—	—	—
P5	310	415	510	180	235	280	220	290	340	195	250	285	185	230	255	250	335	390	205	275	320	—	—	—
	1025	*1350*	*1675*	*590*	*770*	*920*	*720*	*950*	*1125*	*640*	*820*	*940*	*610*	*750*	*840*	*820*	*1100*	*1275*	*670*	*900*	*1050*	—	—	—
P6	345	470	570	200	270	315	250	330	390	215	280	325	210	255	295	285	380	445	230	305	365	—	—	—
	1125	*1550*	*1875*	*660*	*890*	*1025*	*820*	*1075*	*1275*	*710*	*920*	*1075*	*690*	*840*	*970*	*940*	*1250*	*1450*	*750*	*1000*	*1200*	—	—	—
P7	325	440	540	190	255	300	235	310	365	205	265	305	200	245	275	265	355	420	220	290	345	—	—	—
	1075	*1450*	*1775*	*620*	*840*	*980*	*770*	*1025*	*1200*	*670*	*870*	*1000*	*660*	*800*	*900*	*870*	*1175*	*1375*	*720*	*950*	*1125*	—	—	—
P8	300	415	490	175	235	275	220	290	340	195	250	285	185	230	255	250	335	390	205	275	320	—	—	—
	980	*1350*	*1600*	*570*	*770*	*900*	*720*	*950*	*1125*	*640*	*820*	*940*	*610*	*750*	*840*	*820*	*1100*	*1275*	*670*	*900*	*1050*	—	—	—
P11	320	430	520	185	245	290	230	300	355	200	255	300	195	235	270	240	380	500	210	280	335	—	—	—
	1050	*1400*	*1700*	*610*	*800*	*950*	*750*	*980*	*1175*	*660*	*840*	*980*	*640*	*770*	*890*	*790*	*1250*	*1650*	*690*	*920*	*1100*	—	—	—
P12	235	305	370	120	160	190	155	195	225	135	170	190	130	155	175	165	245	310	140	185	215	—	—	—
	770	*1000*	*1225*	*395*	*520*	*620*	*510*	*640*	*740*	*445*	*560*	*620*	*425*	*510*	*570*	*540*	*800*	*1025*	*460*	*610*	*710*	—	—	—
M1	—	—	—	—	—	—	200	265	310	190	255	295	175	230	270	270	435	560	200	265	310	—	—	—
	—	—	—	—	—	—	*660*	*870*	*1025*	*620*	*840*	*970*	*570*	*750*	*890*	*890*	*1425*	*1825*	*660*	*870*	*1025*	—	—	—
M2	—	—	—	—	—	—	165	220	260	155	210	245	145	190	225	230	360	470	165	220	255	—	—	—
	—	—	—	—	—	—	*540*	*720*	*850*	*510*	*690*	*800*	*475*	*620*	*740*	*750*	*1175*	*1550*	*540*	*720*	*840*	—	—	—
M3	—	—	—	—	—	—	135	180	210	130	170	200	115	155	180	195	300	375	135	180	205	—	—	—
	—	—	—	—	—	—	*445*	*590*	*690*	*425*	*560*	*660*	*375*	*510*	*590*	*640*	*980*	*1225*	*445*	*590*	*670*	—	—	—
M4	—	—	—	—	—	—	105	140	160	100	130	155	90	120	140	150	225	285	105	140	160	—	—	—
	—	—	—	—	—	—	*345*	*460*	*520*	*330*	*425*	*510*	*295*	*395*	*460*	*490*	*740*	*940*	*345*	*460*	*520*	—	—	—
M5	—	—	—	—	—	—	90	115	135	85	110	130	75	100	115	125	190	235	85	115	135	—	—	—
	—	—	—	—	—	—	*295*	*375*	*445*	*280*	*360*	*425*	*245*	*330*	*375*	*410*	*620*	*770*	*280*	*375*	*445*	—	—	—
K1	405	550	660	255	345	405	215	280	330	—	—	—	170	225	265	—	—	—	—	—	—	—	—	—
	1325	*1800*	*2175*	*840*	*1125*	*1325*	*710*	*920*	*1075*	—	—	—	*560*	*740*	*870*	—	—	—	—	—	—	—	—	—
K2	375	500	610	230	305	365	190	250	295	—	—	—	150	200	235	—	—	—	—	—	—	—	—	—
	1225	*1650*	*2000*	*750*	*1000*	*1200*	*620*	*820*	*970*	—	—	—	*490*	*660*	*770*	—	—	—	—	—	—	—	—	—
K3	315	425	520	195	255	305	160	210	250	—	—	—	130	170	200	—	—	—	—	—	—	—	—	—
	1025	*1400*	*1700*	*640*	*840*	*1000*	*520*	*690*	*820*	—	—	—	*425*	*560*	*660*	—	—	—	—	—	—	—	—	—
K4	300	405	495	185	245	295	150	200	235	—	—	—	120	160	190	—	—	—	—	—	—	—	—	—
	980	*1325*	*1625*	*610*	*800*	*970*	*490*	*660*	*770*	—	—	—	*395*	*520*	*620*	—	—	—	—	—	—	—	—	—
K5	190	255	305	115	150	180	95	125	145	—	—	—	75	100	115	—	—	—	—	—	—	—	—	—
	620	*840*	*1000*	*375*	*490*	*590*	*310*	*410*	*475*	—	—	—	*245*	*330*	*375*	—	—	—	—	—	—	—	—	—
K6	265	360	435	165	215	260	135	180	210	—	—	—	105	140	165	—	—	—	—	—	—	—	—	—
	870	*1175*	*1425*	*540*	*710*	*850*	*445*	*590*	*690*	—	—	—	*345*	*460*	*540*	—	—	—	—	—	—	—	—	—
K7	245	330	390	150	195	230	120	155	185	—	—	—	95	125	150	—	—	—	—	—	—	—	—	—
	800	*1075*	*1275*	*490*	*640*	*750*	*395*	*510*	*610*	—	—	—	*310*	*410*	*490*	—	—	—	—	—	—	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	1275	1675	1950	—	—	—	—	—	—	1350	1775	2100
	—	—	—	—	—	—	—	—	—	—	—	—	*4175*	*5500*	*6400*	—	—	—	—	—	—	*4425*	*5825*	*6900*
N2	—	—	—	—	—	—	—	—	—	—	—	—	510	670	790	—	—	—	—	—	—	540	720	850
	—	—	—	—	—	—	—	—	—	—	—	—	*1675*	*2200*	*2600*	—	—	—	—	—	—	*1775*	*2350*	*2800*
N3	—	—	—	—	—	—	—	—	—	—	—	—	340	450	530	—	—	—	—	—	—	360	480	560
	—	—	—	—	—	—	—	—	—	—	—	—	*1125*	*1475*	*1750*	—	—	—	—	—	—	*1175*	*1575*	*1825*
N11	—	—	—	—	—	—	—	—	—	—	—	—	390	510	600	—	—	—	—	—	—	415	550	650
	—	—	—	—	—	—	—	—	—	—	—	—	*1275*	*1675*	*1975*	—	—	—	—	—	—	*1350*	*1800*	*2125*
S1	—	—	—	—	—	—	—	—	—	47	60	70	42	55	65	50	65	80	50	65	80	—	—	—
	—	—	—	—	—	—	—	—	—	*155*	*195*	*230*	*140*	*180*	*215*	*165*	*215*	*260*	*165*	*215*	*260*	—	—	—
S2	—	—	—	—	—	—	—	—	—	37	49	60	34	45	50	41	55	65	41	55	65	—	—	—
	—	—	—	—	—	—	—	—	—	*120*	*160*	*195*	*110*	*150*	*165*	*135*	*180*	*215*	*135*	*180*	*215*	—	—	—
S3	—	—	—	—	—	—	—	—	—	33	43	50	30	39	46	37	47	55	37	47	55	—	—	—
	—	—	—	—	—	—	—	—	—	*110*	*140*	*165*	*100*	*130*	*150*	*120*	*155*	*180*	*120*	*155*	*180*	—	—	—
S11	—	—	—	—	—	—	—	—	—	65	85	100	60	80	90	70	95	110	70	95	110	—	—	—
	—	—	—	—	—	—	—	—	—	*215*	*280*	*330*	*195*	*260*	*295*	*230*	*310*	*360*	*230*	*310*	*360*	—	—	—
S12	—	—	—	—	—	—	—	—	—	45	60	70	41	55	65	49	65	75	49	65	75	—	—	—
	—	—	—	—	—	—	—	—	—	*150*	*195*	*230*	*135*	*180*	*215*	*160*	*215*	*245*	*160*	*215*	*245*	—	—	—
S13	—	—	—	—	—	—	—	—	—	26	35	40	24	31	37	29	38	44	29	38	44	—	—	—
	—	—	—	—	—	—	—	—	—	*85*	*115*	*130*	*80*	*100*	*120*	*95*	*125*	*145*	*95*	*125*	*145*	—	—	—
H5	120	155	190	41	55	65	42	55	65	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	395	*510*	*620*	*135*	*180*	*215*	*140*	*180*	*215*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
H8	135	175	205	45	60	70	45	60	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	445	*570*	*670*	*150*	*195*	*230*	*150*	*195*	*230*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
H11	155	200	240	55	70	85	55	70	85	—	—	—	—	—	—	110	160	205	55	70	85	—	—	—
	510	*660*	*790*	*180*	*230*	*280*	*180*	*230*	*280*	—	—	—	—	—	—	*360*	*520*	*670*	*180*	*230*	*280*	—	—	—
H12	155	205	235	80	105	120	85	115	130	—	—	—	—	—	—	100	145	180	90	115	135	—	—	—
	510	*670*	*770*	*260*	*345*	*395*	*280*	*375*	*425*	—	—	—	—	—	—	*330*	*475*	*590*	*295*	*375*	*445*	—	—	—
H21	135	175	205	45	60	70	—	—	—	—	—	—	—	—	—	100	115	120	45	60	70	—	—	—
	445	*570*	*670*	*150*	*195*	*230*	—	—	—	—	—	—	—	—	—	*330*	*375*	*395*	*150*	*195*	*230*	—	—	—

R217/220.69-16 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK1501			MP1501			MP2501			MP3501		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	365	450	510	355	440	510	315	395	450
	—	—	—	*1200*	*1475*	*1675*	*1175*	*1450*	*1675*	*1025*	*1300*	*1475*
P2	—	—	—	350	440	490	340	430	480	300	385	430
	—	—	—	*1150*	*1450*	*1600*	*1125*	*1400*	*1575*	*980*	*1275*	*1400*
P3	—	—	—	305	385	430	300	375	425	265	335	380
	—	—	—	*1000*	*1275*	*1400*	*980*	*1225*	*1400*	*870*	*1100*	*1250*
P4	—	—	—	275	335	385	270	330	380	240	295	340
	—	—	—	*900*	*1100*	*1275*	*890*	*1075*	*1250*	*790*	*970*	*1125*
P5	—	—	—	260	320	370	255	315	365	230	280	325
	—	—	—	*850*	*1050*	*1225*	*840*	*1025*	*1200*	*750*	*920*	*1075*
P6	—	—	—	295	365	415	285	360	405	255	320	365
	—	—	—	*970*	*1200*	*1350*	*940*	*1175*	*1325*	*840*	*1050*	*1200*
P7	—	—	—	275	345	390	270	340	385	240	305	345
	—	—	—	*900*	*1125*	*1275*	*890*	*1125*	*1275*	*790*	*1000*	*1125*
P8	—	—	—	255	320	365	250	315	355	225	280	320
	—	—	—	*840*	*1050*	*1200*	*820*	*1025*	*1175*	*740*	*920*	*1050*
P11	—	—	—	270	335	380	265	330	375	235	295	335
	—	—	—	*890*	*1100*	*1250*	*870*	*1075*	*1225*	*770*	*970*	*1100*
P12	—	—	—	175	215	245	175	215	240	155	190	215
	—	—	—	*570*	*710*	*800*	*570*	*710*	*790*	*510*	*620*	*710*
M1	—	—	—	—	—	—	175	235	275	165	220	255
	—	—	—	—	—	—	*570*	*770*	*900*	*540*	*720*	*840*
M2	—	—	—	—	—	—	145	190	230	135	180	215
	—	—	—	—	—	—	*475*	*620*	*750*	*445*	*590*	*710*
M3	—	—	—	—	—	—	120	155	185	110	145	175
	—	—	—	—	—	—	*395*	*510*	*610*	*360*	*475*	*570*
M4	—	—	—	—	—	—	95	125	145	85	115	135
	—	—	—	—	—	—	*310*	*410*	*475*	*280*	*375*	*445*
M5	—	—	—	—	—	—	80	105	120	75	95	110
	—	—	—	—	—	—	*260*	*345*	*395*	*245*	*310*	*360*
K1	315	550	760	350	445	495	340	435	485	305	385	435
	1025	*1800*	*2500*	*1150*	*1450*	*1625*	*1125*	*1425*	*1600*	*1000*	*1275*	*1425*
K2	280	485	670	315	390	445	310	380	440	275	340	395
	920	*1600*	*2200*	*1025*	*1275*	*1450*	*1025*	*1250*	*1450*	*900*	*1125*	*1300*
K3	215	310	395	265	330	380	260	325	370	235	290	330
	710	*1025*	*1300*	*870*	*1075*	*1250*	*850*	*1075*	*1225*	*770*	*950*	*1075*
K4	205	300	375	255	315	360	250	310	355	225	275	315
	670	*980*	*1225*	*840*	*1025*	*1175*	*820*	*1025*	*1175*	*740*	*900*	*1025*
K5	125	185	230	160	195	220	155	190	215	140	170	195
	410	*610*	*750*	*520*	*640*	*720*	*510*	*620*	*710*	*460*	*560*	*640*
K6	180	265	330	225	275	320	220	270	310	195	245	280
	590	*870*	*1075*	*740*	*900*	*1050*	*720*	*890*	*1025*	*640*	*800*	*920*
K7	160	235	295	200	245	280	200	245	275	175	220	245
	520	*770*	*970*	*660*	*800*	*920*	*660*	*800*	*900*	*570*	*720*	*800*
N1	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	41	55	65
	—	—	—	—	—	—	—	—	—	*135*	*180*	*215*
S2	—	—	—	—	—	—	—	—	—	33	43	50
	—	—	—	—	—	—	—	—	—	*110*	*140*	*165*
S3	—	—	—	—	—	—	—	—	—	29	38	45
	—	—	—	—	—	—	—	—	—	*95*	*125*	*150*
S11	—	—	—	—	—	—	—	—	—	55	75	90
	—	—	—	—	—	—	—	—	—	*180*	*245*	*295*
S12	—	—	—	—	—	—	—	—	—	39	50	60
	—	—	—	—	—	—	—	—	—	*130*	*165*	*195*
S13	—	—	—	—	—	—	—	—	—	23	30	35
	—	—	—	—	—	—	—	—	—	*75*	*100*	*115*
H5	—	—	—	46	60	70	—	—	—	35	47	55
	—	—	—	*150*	*195*	*230*	—	—	—	*115*	*155*	*180*
H8	—	—	—	50	65	75	—	—	—	38	50	60
	—	—	—	*165*	*215*	*245*	—	—	—	*125*	*165*	*195*
H11	—	—	—	60	75	90	—	—	—	45	60	70
	—	—	—	*195*	*245*	*295*	—	—	—	*150*	*195*	*230*
H12	—	—	—	90	120	140	—	—	—	70	90	105
	—	—	—	*295*	*395*	*460*	—	—	—	*230*	*295*	*345*
H21	—	—	—	50	65	75	—	—	—	38	50	60
	—	—	—	*165*	*215*	*245*	—	—	—	*125*	*165*	*195*

Turbo 18 – R217.69-18 – Metric





—For insert selection and cutting data recommendations, see page(s) 80–82
—For complete insert programme, see page(s) 924, 925
—For ISO attribute explanation, see page 16
—KAPRS 90°

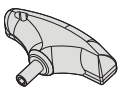
Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCSFMS	DCONMS	LF	LUX	LPR	OAL	RMPX°	Cmin		RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm	mm	mm		mm	mm		kg	
R217.69-3232.3-18-2AN	02691792	Weldon	32,0	2	17,0	10,0	–	32,0	74,0	38,0	50,0	110,0	7,0	46,0	61,5	11100	0,6	XO.X1806
R217.69-3232.3-18-3AN	02691793	Weldon	32,0	3	17,0	10,0	–	32,0	74,0	38,0	50,0	110,0	7,0	46,0	61,5	11100	0,5	XO.X1806
R217.69-2532.3S-18-2AN	02691790	Seco-Weldon	32,0	2	17,0	10,0	40,0	25,0	–	40,0	54,0	109,5	7,0	46,0	61,5	11100	0,5	XO.X1806
R217.69-3240.3S-18-3AN	02691791	Seco-Weldon	40,0	3	17,0	10,0	50,0	32,0	–	46,0	60,0	119,5	4,5	62,0	77,5	9900	0,9	XO.X1806
R217.69-3032.0-18-2AN	02691799	Cylindrical	32,0	2	17,0	10,0	–	30,0	–	150,0	150,0	210,0	7,0	46,0	61,5	11100	1,1	XO.X1806
R217.69-3232.0-18-2AN	02691795	Cylindrical	32,0	2	17,0	10,0	–	32,0	–	40,0	150,0	210,0	7,0	46,0	61,5	11100	1,2	XO.X1806
R217.69-3232.0-18-3AN	02691796	Cylindrical	32,0	3	17,0	10,0	–	32,0	–	40,0	150,0	210,0	7,0	46,0	61,5	11100	1,2	XO.X1806
R217.69-3240.0-18-3AN	02691797	Cylindrical	40,0	3	17,0	10,0	–	32,0	–	150,0	150,0	210,0	4,5	62,0	77,5	9900	1,3	XO.X1806
R217.69-3240.0-18-4AN	02691798	Cylindrical	40,0	4	17,0	10,0	–	32,0	–	150,0	150,0	210,0	4,5	62,0	77,5	9900	1,3	XO.X1806

Modification of the cutter body needed for radii > 4,0 mm

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.69-..	1/4HEX-T20PX50	C04510-T20P

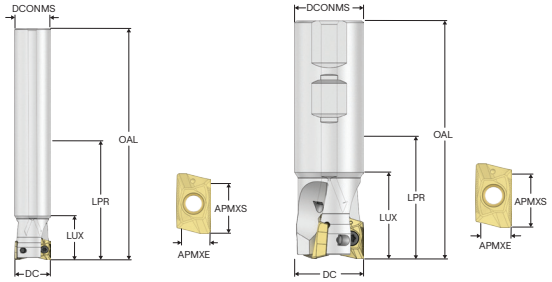
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.69-..	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Turbo 18 – R217.69-18 – inch





—For insert selection and cutting data recommendations, see page(s) 80-82
—For complete insert programme, see page(s) 924, 925
—For ISO attribute explanation, see page 16
—KAPRS 90°

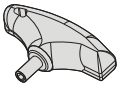
Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCONMS	LF	LUX	LPR	OAL	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch	inch		inch	inch		lbs	
R217.69-01.00-3-18-2AN	02699130	Weldon	1.000	2	0.669	0.394	1.000	2.795	1.575	1.732	3.937	6,0	1.280	1.890	13800	0.660	XO.X1806
R217.69-01.25-3-18-3AN	02694949	Weldon	1.250	3	0.669	0.394	1.250	3.189	1.575	1.969	4.331	7,0	1.791	2.402	11100	1.320	XO.X1806
R217.69-01.50-3-18-3AN	02694951	Weldon	1.500	3	0.669	0.394	1.250	3.583	2.362	2.362	4.724	4,5	2.283	2.894	9900	1.540	XO.X1806
R217.69-01.50-3-18-4AN	02694954	Weldon	1.500	4	0.669	0.394	1.250	3.535	2.362	2.362	4.724	4,5	2.283	2.894	9900	1.320	XO.X1806
R217.69-01.00-0-18-2LAN	02699117	Cylindrical	1.000	2	0.669	0.394	1.000	–	1.575	4.488	6.693	5,0	1.280	1.890	13800	1.320	XO.X1806
R217.69-01.25-0-18-2LAN	02694932	Cylindrical	1.250	2	0.669	0.394	1.000	–	5.315	5.315	7.677	2,0	1.791	2.402	11100	1.540	XO.X1806
R217.69-01.25-0-18-3LAN	02694936	Cylindrical	1.250	3	0.669	0.394	1.000	–	5.472	5.472	7.677	7,0	1.791	2.402	11100	1.980	XO.X1806
R217.69-01.50-0-18-3LAN	02694937	Cylindrical	1.500	3	0.669	0.394	1.250	–	5.906	5.906	8.268	4,5	2.283	2.894	9900	2.650	XO.X1806
R217.69-01.50-0-18-4LAN	02694938	Cylindrical	1.500	4	0.669	0.394	1.250	–	5.906	5.906	8.268	4,5	2.283	2.894	9900	2.650	XO.X1806

Modification of the cutter body needed for radii > 0.158 in

Spare Parts, included in delivery

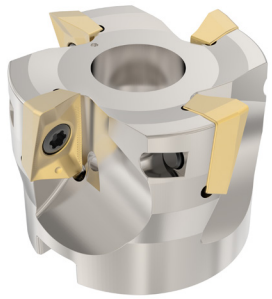
For cutter	Insert key	Insert screw
		
R217.69-..	1/4HEX-T20PX50	C04510-T20P

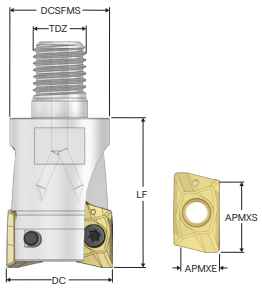
Accessories

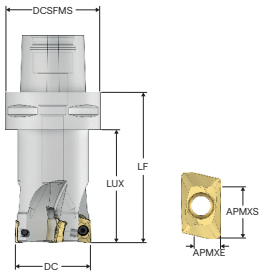
For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.69-..	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	5.0NM	T00-20P50

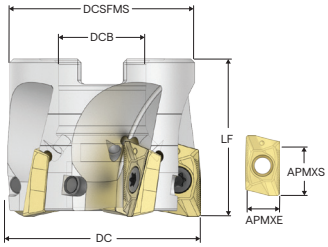
Torque and fixed keys, see page 944

Turbo 18 – R217/220.69-18 – Metric







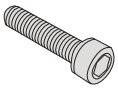


—For insert selection and cutting data recommendations, see page(s) 80–82
—For complete insert programme, see page(s) 924, 925
—For ISO attribute explanation, see page 16
—KAPRS 90°

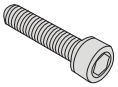
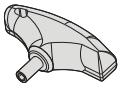
Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCS-FMS	TDZ		LF	LUX	RMPX°	Cmin		RPMX	Weight	Insert
			mm		mm	mm	mm	mm		mm	mm	mm		mm	mm		kg	
C6-R217.69-040-18-3AN	02707507	Seco-Capto	40,0	3	17,0	10,0	–	63,0	–	63,0	80,0	55,0	4,5	62,0	77,5	9900	1,1	XO.X1806
C6-R217.69-066-18-5AN	02707509	Seco-Capto	66,0	5	17,0	10,0	–	63,0	–	63,0	60,0	60,0	2,0	114,0	129,5	7700	1,4	XO.X1806
C6-R217.69-080-18-6AN	02707511	Seco-Capto	80,0	6	17,0	10,0	–	63,0	–	63,0	60,0	60,0	1,5	142,0	157,5	7000	1,7	XO.X1806
R217.69-1632.RE-18-2AN	02691807	Combimaster	32,0	2	17,0	10,0	–	30,0	M16	30,0	45,0	–	7,0	46,0	61,5	11100	0,3	XO.X1806
R217.69-1632.RE-18-3AN	02691805	Combimaster	32,0	3	17,0	10,0	–	30,0	M16	30,0	45,0	–	7,0	46,0	61,5	11100	0,2	XO.X1806
R217.69-1640.RE-18-3AN	02691808	Combimaster	40,0	3	17,0	10,0	–	30,0	M16	30,0	45,0	–	4,5	62,0	77,5	9900	0,3	XO.X1806
R217.69-1640.RE-18-4AN	02691806	Combimaster	40,0	4	17,0	10,0	–	30,0	M16	30,0	45,0	–	4,5	62,0	77,5	9900	0,3	XO.X1806
R217.69-2040.RE-18-4AN	02753402	Combimaster	40,0	4	17,0	10,0	–	36,5	M20	36,5	45,0	–	4,5	62,0	77,5	9900	0,4	XO.X1806
R220.69-0040-18-4AN	03004031	Arbor	40,0	4	17,0	10,0	16,0	35,0	–	16,0	40,0	–	4,5	62,0	77,5	9900	0,2	XO.X1806
R220.69-0050-18-4AN	02701130	Arbor	50,0	4	17,0	10,0	22,0	47,0	–	22,0	40,0	–	3,0	82,0	97,5	8900	0,3	XO.X1806
R220.69-0050-18-5AN	02691824	Arbor	50,0	5	17,0	10,0	22,0	47,0	–	22,0	40,0	–	3,0	82,0	97,5	8900	0,3	XO.X1806
R220.69-0052-18-4AN	02969087	Arbor	52,0	4	17,0	10,0	22,0	47,0	–	22,0	40,0	–	3,15	86,0	101,5	8900	0,4	XO.X1806
R220.69-0063-18-4AN	02691810	Arbor	63,0	4	17,0	10,0	27,0	52,0	–	27,0	40,0	–	2,4	108,0	123,5	7900	0,6	XO.X1806
R220.69-0063-18-5AN	02691825	Arbor	63,0	5	17,0	10,0	27,0	52,0	–	27,0	40,0	–	2,4	108,0	123,5	7900	0,5	XO.X1806
R220.69-0063-18-6AN	02691826	Arbor	63,0	6	17,0	10,0	27,0	52,0	–	27,0	40,0	–	2,4	108,0	123,5	7900	0,5	XO.X1806
R220.69-0066-18-5AN	02969088	Arbor	66,0	5	17,0	10,0	27,0	52,0	–	27,0	40,0	–	2,0	114,0	129,5	7900	0,6	XO.X1806
R220.69-0080-18-5AN	02691811	Arbor	80,0	5	17,0	10,0	27,0	62,0	–	27,0	50,0	–	1,5	142,0	157,5	7000	0,9	XO.X1806
R220.69-0080-18-6AN	02691827	Arbor	80,0	6	17,0	10,0	27,0	62,0	–	27,0	50,0	–	1,5	142,0	157,5	7000	0,9	XO.X1806
R220.69-0080-18-8AN	02691828	Arbor	80,0	8	17,0	10,0	27,0	62,0	–	27,0	50,0	–	1,5	142,0	157,5	7000	0,9	XO.X1806
R220.69-0084-18-6AN	02440816	Arbor	84,0	6	17,0	10,0	27,0	62,0	–	27,0	50,0	–	1,5	150,0	165,5	7000	0,8	XO.X1806
R220.69-0100-18-6AN	02691817	Arbor	100,0	6	17,0	10,0	32,0	77,0	–	32,0	50,0	–	1,0	182,0	197,5	6300	1,6	XO.X1806
R220.69-0100-18-7AN	02691820	Arbor	100,0	7	17,0	10,0	32,0	77,0	–	32,0	50,0	–	1,0	182,0	197,5	6300	1,7	XO.X1806
R220.69-0100-18-9AN	02691822	Arbor	100,0	9	17,0	10,0	32,0	77,0	–	32,0	50,0	–	1,0	182,0	197,5	6300	1,6	XO.X1806
R220.69-0125-18-7AN	02691818	Arbor	125,0	7	17,0	10,0	40,0	90,0	–	40,0	63,0	–	1,0	232,0	247,5	5600	2,9	XO.X1806
R220.69-0125-18-8AN	02691823	Arbor	125,0	8	17,0	10,0	40,0	90,0	–	40,0	63,0	–	1,0	232,0	247,5	5600	3,0	XO.X1806
R220.69-0125-18-11AN	02691815	Arbor	125,0	11	17,0	10,0	40,0	90,0	–	40,0	63,0	–	1,0	232,0	247,5	5600	3,0	XO.X1806
R220.69-8160-18-7N	02691814	Arbor	160,0	7	17,0	10,0	40,0	90,0	–	40,0	63,0	–	0,5	302,0	317,5	5000	4,4	XO.X1806
R220.69-8160-18-9N	02691813	Arbor	160,0	9	17,0	10,0	40,0	90,0	–	40,0	63,0	–	0,5	302,0	317,5	5000	4,5	XO.X1806
R220.69-8160-18-12N	02691809	Arbor	160,0	12	17,0	10,0	40,0	90,0	–	40,0	63,0	–	0,5	302,0	317,5	5000	4,4	XO.X1806

Modification of the cutter body needed for radii > 4,0 mm
For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

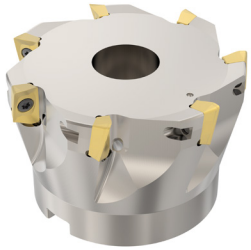
For cutter	Arbor screw	Insert key	Insert screw
			
Cx-R217.69-..	–	1/4HEX-T20PX50	C04510-T20P
R220.69-0040	TCEI0825	1/4HEX-T20PX50	C04510-T20P
R220.69-0050-0052	220.17-692	1/4HEX-T20PX50	C04510-T20P
R220.69-0063-0066	220.17-693	1/4HEX-T20PX50	C04510-T20P
R220.69-0080-0084	–	1/4HEX-T20PX50	C04510-T20P
R220.69-0100-8160	–	1/4HEX-T20PX90	C04510-T20P

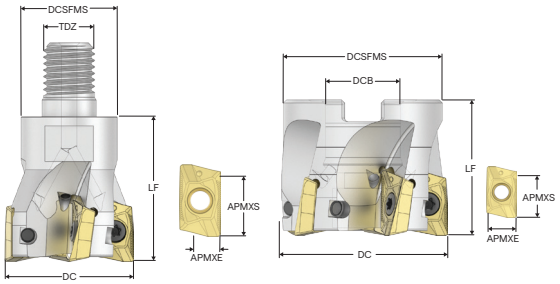
Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
Cx-R217/220.69-1632-0125	1/4HEX-T-HANDLE-5.0-14.0NM	–	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.69-8160	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Turbo 18 – R217/220.69-18 – inch





–For insert selection and cutting data recommendations, see page(s) 80–82
–For complete insert programme, see page(s) 924, 925
–For ISO attribute explanation, see page 16
–KAPRS 90°

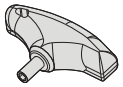
Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ	DCONMS	LF	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch	inch		inch	inch		inch	inch		lbs	
R217.69-01.00-12RE-18-2AN	02699134	Combimaster	1.000	2	0.669	0.394	–	0.906	M12	0.906	1.575	6,0	1.280	1.890	13800	0.220	XO.X1806
R217.69-01.25-16RE-18-3AN	02699137	Combimaster	1.250	3	0.669	0.394	–	1.181	M16	1.181	1.772	7,0	1.791	2.402	11100	0.660	XO.X1806
R217.69-01.50-16RE-18-3AN	02699141	Combimaster	1.500	3	0.669	0.394	–	1.181	M16	1.181	1.772	4,5	2.283	2.894	9900	0.660	XO.X1806
R217.69-01.50-16RE-18-4AN	02699143	Combimaster	1.500	4	0.669	0.394	–	1.181	M16	1.181	1.772	4,5	2.283	2.894	9900	0.660	XO.X1806
R220.69-02.00-18-3AN	02694974	Arbor	2.000	3	0.669	0.394	0.750	1.850	–	0.750	1.575	3,0	3.287	3.898	8900	0.880	XO.X1806
R220.69-02.00-18-4AN	02694975	Arbor	2.000	4	0.669	0.394	0.750	1.850	–	0.750	1.575	3,0	3.287	3.898	8900	0.880	XO.X1806
R220.69-02.00-18-5AN	02694976	Arbor	2.000	5	0.669	0.394	0.750	1.850	–	0.750	1.575	3,0	3.287	3.898	8900	0.880	XO.X1806
R220.69-02.50-18-5AN	02694979	Arbor	2.500	5	0.669	0.394	0.750	1.850	–	0.750	1.575	2,0	4.291	4.902	7900	1.100	XO.X1806
R220.69-02.50-18-6AN	02694981	Arbor	2.500	6	0.669	0.394	0.750	1.850	–	0.750	1.575	2,0	4.291	4.902	7900	1.100	XO.X1806
R220.69-03.00-18-6AN	02694985	Arbor	3.000	6	0.669	0.394	1.000	2.441	–	1.000	1.969	1,5	5.276	5.886	7000	2.200	XO.X1806
R220.69-03.00-18-8AN	02694987	Arbor	3.000	8	0.669	0.394	1.000	2.441	–	1.000	1.969	1,5	5.276	5.886	7000	2.430	XO.X1806
R220.69-04.00-18-5AN	02694990	Arbor	4.000	5	0.669	0.394	1.500	3.543	–	1.500	1.969	1,0	7.283	7.894	6300	4.850	XO.X1806
R220.69-04.00-18-7AN	02694992	Arbor	4.000	7	0.669	0.394	1.500	3.543	–	1.500	1.969	1,0	7.283	7.894	6300	4.630	XO.X1806
R220.69-04.00-18-9AN	02694993	Arbor	4.000	9	0.669	0.394	1.500	3.543	–	1.500	1.969	1,0	7.283	7.894	6300	4.630	XO.X1806
R220.69-05.00-18-8AN	02694995	Arbor	5.000	8	0.669	0.394	1.500	3.543	–	1.500	2.480	1,0	9.291	9.902	5600	8.160	XO.X1806
R220.69-05.00-18-11AN	02694994	Arbor	5.000	11	0.669	0.394	1.500	3.543	–	1.500	2.480	1,0	9.291	9.902	5600	8.160	XO.X1806
R220.69-06.00-18-9N	02694997	Arbor	6.000	9	0.669	0.394	2.000	4.331	–	2.000	2.480	0,5	11.280	11.890	5000	9.040	XO.X1806
R220.69-06.00-18-12N	02694996	Arbor	6.000	12	0.669	0.394	2.000	4.331	–	2.000	2.480	0,5	11.280	11.890	5000	9.040	XO.X1806

Modification of the cutter body needed for radii > 0.158 in
For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.69-..	–	1/4HEX-T20PX50	C04510-T20P
R220.69-02.00-02.50	220.17-695	1/4HEX-T20PX50	C04510-T20P
R220.69-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T20PX50	C04510-T20P
R220.69-04.00	UF6S3/4UNFX2	1/4HEX-T20PX90	C04510-T20P
R220.69-05.00	UC6S3/4UNFX1-1/4	1/4HEX-T20PX90	C04510-T20P
R220.69-06.00	–	1/4HEX-T20PX90	C04510-T20P

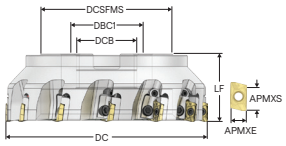
Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R217/220.69-01.00-05.00	1/4HEX-T-HANDLE-5.0-14.0NM	–	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.69-06.00	1/4HEX-T-HANDLE-5.0-14.0NM	58215080	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Turbo 18 – R220.69-18 – Metric



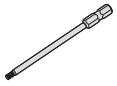


—For insert selection and cutting data recommendations, see page(s) 80–82
—For complete insert programme, see page(s) 924, 925
—For ISO attribute explanation, see page 16
—KAPRS 90°

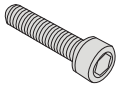
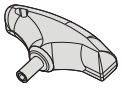
Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	DCONMS	LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm		mm	mm		kg	
R220.69-0125-18-8CN	02706947	Arbor	125,0	8	17,0	10,0	40,0	90,0	40,0	63,0	1,0	232,0	247,5	5600	3,3	XO.X1806
R220.69-8160-18-10CN	02706948	Arbor	160,0	10	17,0	10,0	40,0	90,0	40,0	63,0	0,7	302,0	317,5	5000	5,2	XO.X1806
R220.69-8200-18-12CN	02706950	Arbor	200,0	12	17,0	10,0	60,0	130,0	60,0	63,0	0,5	382,0	397,5	4400	7,4	XO.X1806
R220.69-8250-18-16CN	02706951	Arbor	250,0	16	17,0	10,0	60,0	130,0	60,0	63,0	0,4	482,0	497,5	3900	14,7	XO.X1806

Modification of the cutter body needed for radii > 4,0 mm

Spare Parts, included in delivery

For cutter	Adjustment unit	Cassette	Cassette screw	Insert key	Insert screw
					
R220.69-0125-8250	AU1114T-T15P	XO18PRN	FS96018	1/4HEX-T20PX90	C04510-T20P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Nest key	Setting key	Torque key
							
R220.69-0125-8250	1/4HEX-T-HANDLE-5.0-14.0NM	–	1/4HEX-T-HANDLE	5.0NM	1/4HEX-H5.0X50	1/4HEX-T15PX50	T00-20P50
R220.69-8160	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	1/4HEX-T-HANDLE	5.0NM	1/4HEX-H5.0X50	1/4HEX-T15PX50	T00-20P50
R220.69-8200-8250	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	1/4HEX-T-HANDLE	5.0NM	1/4HEX-H5.0X50	1/4HEX-T15PX50	T00-20P50

Torque and fixed keys, see page 944

R217/220.69-18 – Insert selection – mm/Inch

SMG		a_p	f_z		
			100%	30%	10%
P1	XOMX180608TR-ME13 F40M	8,0 *0.32*	0,18 0.0070	0,20 0.0080	0,30 0.012
P2	XOMX180608TR-ME13 F40M	8,0 *0.32*	0,19 0.0075	0,20 0.0080	0,32 0.013
P3	XOMX180608TR-M14 MP2501	8,0 *0.32*	0,19 0.0075	0,20 0.0080	0,32 0.013
P4	XOMX180608TR-M14 MP2501	8,0 *0.32*	0,19 0.0075	0,20 0.0080	0,32 0.013
P5	XOMX180608TR-M14 MP2501	8,0 *0.32*	0,18 0.0070	0,20 0.0080	0,30 0.012
P6	XOMX180608TR-M14 MP2501	8,0 *0.32*	0,18 0.0070	0,20 0.0080	0,30 0.012
P7	XOMX180608TR-M14 MP2501	8,0 *0.32*	0,18 0.0070	0,20 0.0080	0,30 0.012
P11	XOMX180608TR-M14 MP3501	8,0 *0.32*	0,18 0.0070	0,20 0.0080	0,30 0.012
P12	XOMX180608TR-M14 MP3000	7,0 *0.28*	0,12 0.0048	0,14 0.0055	0,20 0.0080
M1	XOMX180608R-M10 F40M	8,0 *0.32*	0,14 0.0055	0,16 0.0065	0,24 0.0095
M2	XOMX180608R-M10 F40M	8,0 *0.32*	0,13 0.0050	0,14 0.0055	0,22 0.0085
M3	XOMX180608R-M10 F40M	7,0 *0.28*	0,10 0.0040	0,11 0.0044	0,17 0.0065
M4	XOMX180608R-M10 MS2050	5,0 *0.20*	0,090 0.0036	0,10 0.0040	0,15 0.0060
M5	XOMX180608R-M10 MS2050	5,0 *0.20*	0,090 0.0036	0,10 0.0040	0,15 0.0060
K1	XOMX180608TR-M14 MK1501	8,0 *0.32*	0,20 0.0080	0,22 0.0085	0,34 0.013
K2	XOMX180608TR-M14 MK1501	8,0 *0.32*	0,18 0.0070	0,20 0.0080	0,30 0.012
K3	XOMX180608TR-M14 MK2050	8,0 *0.32*	0,18 0.0070	0,20 0.0080	0,30 0.012
K4	XOMX180608TR-M14 MK2050	8,0 *0.32*	0,18 0.0070	0,20 0.0080	0,30 0.012
K5	XOMX180608TR-M14 MK2050	8,0 *0.32*	0,16 0.0065	0,18 0.0070	0,28 0.011
K6	XOMX180608TR-M14 MK2050	8,0 *0.32*	0,18 0.0070	0,20 0.0080	0,30 0.012
K7	XOMX180608TR-M14 MK2050	8,0 *0.32*	0,16 0.0065	0,18 0.0070	0,28 0.011
N1	XOEX180608FR-E10 H25	8,0 *0.32*	0,18 0.0070	0,20 0.0080	0,30 0.012
N2	XOEX180608FR-E10 H25	8,0 *0.32*	0,18 0.0070	0,20 0.0080	0,30 0.012
N3	XOEX180608FR-E10 H25	8,0 *0.32*	0,18 0.0070	0,20 0.0080	0,30 0.012
N11	XOEX180608FR-E10 H25	8,0 *0.32*	0,18 0.0070	0,20 0.0080	0,30 0.012
S1	XOMX180608R-M10 F40M	5,0 *0.20*	0,090 0.0036	0,10 0.0040	0,15 0.0060
S2	XOMX180608R-M10 F40M	5,0 *0.20*	0,090 0.0036	0,10 0.0040	0,15 0.0060
S3	XOMX180608R-M10 F40M	5,0 *0.20*	0,085 0.0034	0,095 0.0038	0,14 0.0055
S11	XOMX180608R-M10 MS2050	6,0 *0.24*	0,10 0.0040	0,11 0.0044	0,18 0.0070
S12	XOMX180608R-M10 MS2050	6,0 *0.24*	0,10 0.0040	0,11 0.0044	0,18 0.0070
S13	XOMX180608R-M10 MS2050	5,0 *0.20*	0,090 0.0036	0,10 0.0040	0,15 0.0060
H5	XOMX180608TR-MD15 MH1051	7,0 *0.28*	0,13 0.0050	0,15 0.0060	0,22 0.0085
H8	XOMX180608TR-MD15 MH1051	6,0 *0.24*	0,10 0.0040	0,11 0.0044	0,17 0.0065
H11	XOMX180608TR-MD15 MH1051	7,0 *0.28*	0,13 0.0050	0,15 0.0060	0,22 0.0085
H12	XOMX180608TR-MD15 MH1051	6,0 *0.24*	0,10 0.0040	0,11 0.0044	0,17 0.0065
H21	XOMX180608TR-MD15 MH1051	6,0 *0.24*	0,10 0.0040	0,11 0.0044	0,17 0.0065

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.69-18 – Cutting data v_c = (m/min)/(sf/min)

SMG	MH1051			MK2050			MP3000			MS2050			F40M			MP2051			MP2050			H25		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	255	335	400	250	335	410	270	350	400	260	320	355	335	465	550	290	385	450	—	—	—
	—	—	—	*840*	*1100*	*1300*	*820*	*1100*	*1350*	*890*	*1150*	*1300*	*850*	*1050*	*1175*	*1100*	*1525*	*1800*	*950*	*1275*	*1475*	—	—	—
P2	—	—	—	245	325	385	245	325	385	265	335	390	255	305	350	330	440	530	280	370	440	—	—	—
	—	—	—	*800*	*1075*	*1275*	*800*	*1075*	*1275*	*870*	*1100*	*1275*	*840*	*1000*	*1150*	*1075*	*1450*	*1750*	*920*	*1225*	*1450*	—	—	—
P3	—	—	—	215	290	335	215	295	340	225	295	345	220	270	310	280	390	470	245	325	385	—	—	—
	—	—	—	*710*	*950*	*1100*	*710*	*970*	*1125*	*740*	*970*	*1125*	*720*	*890*	*1025*	*920*	*1275*	*1550*	*800*	*1075*	*1275*	—	—	—
P4	—	—	—	190	255	295	190	260	300	205	260	305	200	250	290	260	345	415	220	285	340	—	—	—
	—	—	—	*620*	*840*	*970*	*620*	*850*	*980*	*670*	*850*	*1000*	*660*	*820*	*950*	*850*	*1125*	*1350*	*720*	*940*	*1125*	—	—	—
P5	310	425	530	185	245	290	185	245	295	195	250	290	190	230	260	250	340	395	210	275	325	—	—	—
	1025	*1400*	*1750*	*610*	*800*	*950*	*610*	*800*	*970*	*640*	*820*	*950*	*620*	*750*	*850*	*820*	*1125*	*1300*	*690*	*900*	*1075*	—	—	—
P6	360	475	590	205	275	325	210	280	330	220	285	325	210	260	290	280	380	445	235	310	365	—	—	—
	1175	*1550*	*1925*	*670*	*900*	*1075*	*690*	*920*	*1075*	*720*	*940*	*1075*	*690*	*850*	*950*	*920*	*1250*	*1450*	*770*	*1025*	*1200*	—	—	—
P7	340	450	560	195	255	305	195	260	315	205	265	305	200	245	275	265	360	420	220	295	345	—	—	—
	1125	*1475*	*1825*	*640*	*840*	*1000*	*640*	*850*	*1025*	*670*	*870*	*1000*	*660*	*800*	*900*	*870*	*1175*	*1375*	*720*	*970*	*1125*	—	—	—
P8	310	425	510	180	245	285	180	245	290	190	245	290	185	225	260	235	330	395	205	270	325	—	—	—
	1025	*1400*	*1675*	*590*	*800*	*940*	*590*	*800*	*950*	*620*	*800*	*950*	*610*	*740*	*850*	*770*	*1075*	*1300*	*670*	*890*	*1075*	—	—	—
P11	330	435	540	190	250	295	190	255	305	200	260	295	195	240	265	240	385	495	215	285	335	—	—	—
	1075	*1425*	*1775*	*620*	*820*	*970*	*620*	*840*	*1000*	*660*	*850*	*970*	*640*	*790*	*870*	*790*	*1275*	*1625*	*710*	*940*	*1100*	—	—	—
P12	240	315	380	125	165	195	135	175	210	135	170	195	130	160	175	165	255	320	140	185	215	—	—	—
	790	*1025*	*1250*	*410*	*540*	*640*	*445*	*570*	*690*	*445*	*560*	*640*	*425*	*520*	*570*	*540*	*840*	*1050*	*460*	*610*	*710*	—	—	—
M1	—	—	—	—	—	—	175	235	275	195	250	300	175	230	275	270	420	560	200	265	315	—	—	—
	—	—	—	—	—	—	*570*	*770*	*900*	*640*	*820*	*980*	*570*	*750*	*900*	*890*	*1375*	*1825*	*660*	*870*	*1025*	—	—	—
M2	—	—	—	—	—	—	150	195	230	160	210	250	145	190	225	225	365	470	165	220	260	—	—	—
	—	—	—	—	—	—	*490*	*640*	*750*	*520*	*690*	*820*	*475*	*620*	*740*	*740*	*1200*	*1550*	*540*	*720*	*850*	—	—	—
M3	—	—	—	—	—	—	120	160	190	130	170	200	120	155	185	195	300	385	135	180	210	—	—	—
	—	—	—	—	—	—	*395*	*520*	*620*	*425*	*560*	*660*	*395*	*510*	*610*	*640*	*980*	*1275*	*445*	*590*	*690*	—	—	—
M4	—	—	—	—	—	—	95	125	145	100	135	155	95	120	140	155	230	295	105	140	165	—	—	—
	—	—	—	—	—	—	*310*	*410*	*475*	*330*	*445*	*510*	*310*	*395*	*460*	*510*	*750*	*970*	*345*	*460*	*540*	—	—	—
M5	—	—	—	—	—	—	80	105	120	85	110	130	75	100	120	130	195	245	90	115	135	—	—	—
	—	—	—	—	—	—	*260*	*345*	*395*	*280*	*360*	*425*	*245*	*330*	*395*	*425*	*640*	*800*	*295*	*375*	*445*	—	—	—
K1	405	560	690	265	350	415	185	250	295	—	—	—	175	225	270	—	—	—	—	—	—	—	—	—
	1325	*1825*	*2275*	*870*	*1150*	*1350*	*610*	*820*	*970*	—	—	—	*570*	*740*	*890*	—	—	—	—	—	—	—	—	—
K2	375	510	640	240	315	375	170	220	265	—	—	—	155	205	240	—	—	—	—	—	—	—	—	—
	1225	*1675*	*2100*	*790*	*1025*	*1225*	*560*	*720*	*870*	—	—	—	*510*	*670*	*790*	—	—	—	—	—	—	—	—	—
K3	320	435	540	200	265	315	140	190	225	—	—	—	130	170	200	—	—	—	—	—	—	—	—	—
	1050	*1425*	*1775*	*660*	*870*	*1025*	*460*	*620*	*740*	—	—	—	*425*	*560*	*660*	—	—	—	—	—	—	—	—	—
K4	305	415	510	190	255	300	135	180	215	—	—	—	125	165	190	—	—	—	—	—	—	—	—	—
	1000	*1350*	*1675*	*620*	*840*	*980*	*445*	*590*	*710*	—	—	—	*410*	*540*	*620*	—	—	—	—	—	—	—	—	—
K5	195	270	315	120	155	185	85	110	130	—	—	—	75	100	115	—	—	—	—	—	—	—	—	—
	640	*890*	*1025*	*395*	*510*	*610*	*280*	*360*	*425*	—	—	—	*245*	*330*	*375*	—	—	—	—	—	—	—	—	—
K6	265	365	455	170	225	265	120	160	190	—	—	—	110	145	170	—	—	—	—	—	—	—	—	—
	870	*1200*	*1500*	*560*	*740*	*870*	*395*	*520*	*620*	—	—	—	*360*	*475*	*560*	—	—	—	—	—	—	—	—	—
K7	245	345	405	150	200	235	105	140	165	—	—	—	95	125	150	—	—	—	—	—	—	—	—	—
	800	*1125*	*1325*	*490*	*660*	*770*	*345*	*460*	*540*	—	—	—	*310*	*410*	*490*	—	—	—	—	—	—	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	1275	1675	1975	—	—	—	—	—	—	1275	1675	2000
	—	—	—	—	—	—	—	—	—	—	—	—	*4175*	*5500*	*6475*	—	—	—	—	—	—	*4175*	*5500*	*6550*
N2	—	—	—	—	—	—	—	—	—	—	—	—	510	670	800	—	—	—	—	—	—	520	680	810
	—	—	—	—	—	—	—	—	—	—	—	—	*1675*	*2200*	*2625*	—	—	—	—	—	—	*1700*	*2225*	*2650*
N3	—	—	—	—	—	—	—	—	—	—	—	—	340	450	540	—	—	—	—	—	—	345	455	540
	—	—	—	—	—	—	—	—	—	—	—	—	*1125*	*1475*	*1775*	—	—	—	—	—	—	*1125*	*1500*	*1775*
N11	—	—	—	—	—	—	—	—	—	—	—	—	390	510	610	—	—	—	—	—	—	395	520	620
	—	—	—	—	—	—	—	—	—	—	—	—	*1275*	*1675*	*2000*	—	—	—	—	—	—	*1300*	*1700*	*2025*
S1	—	—	—	—	—	—	44	60	70	48	60	75	43	55	65	50	70	80	50	70	80	—	—	—
	—	—	—	—	—	—	*145*	*195*	*230*	*155*	*195*	*245*	*140*	*180*	*215*	*165*	*230*	*260*	*165*	*230*	*260*	—	—	—
S2	—	—	—	—	—	—	35	47	55	38	50	60	35	45	55	42	55	65	42	55	65	—	—	—
	—	—	—	—	—	—	*115*	*155*	*180*	*125*	*165*	*195*	*115*	*150*	*180*	*140*	*180*	*215*	*140*	*180*	*215*	—	—	—
S3	—	—	—	—	—	—	31	41	48	33	44	50	30	40	47	37	48	55	37	48	55	—	—	—
	—	—	—	—	—	—	*100*	*135*	*155*	*110*	*145*	*165*	*100*	*130*	*155*	*120*	*155*	*180*	*120*	*155*	*180*	—	—	—
S11	—	—	—	—	—	—	—	—	—	65	85	100	60	80	95	75	95	110	75	95	110	—	—	—
	—	—	—	—	—	—	—	—	—	*215*	*280*	*330*	*195*	*260*	*310*	*245*	*310*	*360*	*245*	*310*	*360*	—	—	—
S12	—	—	—	—	—	—	—	—	—	46	60	70	42	55	65	50	65	80	50	65	80	—	—	—
	—	—	—	—	—	—	—	—	—	*150*	*195*	*230*	*140*	*180*	*215*	*165*	*215*	*260*	*165*	*215*	*260*	—	—	—
S13	—	—	—	—	—	—	—	—	—	27	35	41	24	32	37	29	38	45	29	38	45	—	—	—
	—	—	—	—	—	—	—	—	—	*90*	*115*	*135*	*80*	*105*	*120*	*95*	*125*	*150*	*95*	*125*	*150*	—	—	—
H5	125	160	195	43	55	65	38	49	60	—	—	—	36	48	55	—	—	—	—	—	—	—	—	—
	410	*520*	*640*	*140*	*180*	*215*	*125*	*160*	*195*	—	—	—	*120*	*155*	*180*	—	—	—	—	—	—	—	—	—
H8	140	185	215	46	60	70	40	55	60	—	—	—	38	50	60	—	—	—	—	—	—	—	—	—
	460	*610*	*710*	*150*	*195*	*230*	*130*	*180*	*195*	—	—	—	*125*	*165*	*195*	—	—	—	—	—	—	—	—	—
H11	160	205	250	55	70	85	48	60	75	—	—	—	46	60	70	110	165	210	55	70	85	—	—	—
	520	*670*	*820*	*180*	*230*	*280*	*155*	*195*	*245*	—	—	—	*150*	*195*	*230*	*360*	*540*	*690*	*180*	*230*	*280*	—	—	—
H12	165	215	250	80	105	125	75	105	120	—	—	—	70	90	105	105	155	190	90	120	140	—	—	—
	540	*710*	*820*	*260*	*345*	*410*	*245*	*345*	*395*	—	—	—	*230*	*295*	*345*	*345*	*510*	*620*	*295*	*395*	*460*	—	—	—
H21	140	185	215	46	60	70	40	55	60	—	—	—	38	50	60	100	120	130	45	60	70	—	—	—
	460	*610*	*710*	*150*	*195*	*230*	*130*	*180*	*195*	—	—	—	*125*	*165*	*195*	*330*	*395*	*425*	*150*	*195*	*230*	—	—	—

R217/220.69-18 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK1501			MP1501			MP2501			MP3501			MM4500		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	365	460	530	360	450	520	325	405	460	225	290	340
	—	—	—	*1200*	*1500*	*1750*	*1175*	*1475*	*1700*	*1075*	*1325*	*1500*	*740*	*950*	*1125*
P2	—	—	—	360	445	510	350	435	495	315	395	445	215	285	325
	—	—	—	*1175*	*1450*	*1675*	*1150*	*1425*	*1625*	*1025*	*1300*	*1450*	*710*	*940*	*1075*
P3	—	—	—	315	395	445	305	390	435	275	350	390	190	250	285
	—	—	—	*1025*	*1300*	*1450*	*1000*	*1275*	*1425*	*900*	*1150*	*1275*	*620*	*820*	*940*
P4	—	—	—	275	350	390	270	340	385	245	310	345	185	235	280
	—	—	—	*900*	*1150*	*1275*	*890*	*1125*	*1275*	*800*	*1025*	*1125*	*610*	*770*	*920*
P5	—	—	—	270	335	380	260	325	375	235	295	335	160	210	245
	—	—	—	*890*	*1100*	*1250*	*850*	*1075*	*1225*	*770*	*970*	*1100*	*520*	*690*	*800*
P6	—	—	—	300	375	425	295	365	420	265	330	380	180	240	275
	—	—	—	*980*	*1225*	*1400*	*970*	*1200*	*1375*	*870*	*1075*	*1250*	*590*	*790*	*900*
P7	—	—	—	285	355	405	280	345	395	250	310	355	170	225	260
	—	—	—	*940*	*1175*	*1325*	*920*	*1125*	*1300*	*820*	*1025*	*1175*	*560*	*740*	*850*
P8	—	—	—	265	335	375	255	325	365	230	295	330	160	210	240
	—	—	—	*870*	*1100*	*1225*	*840*	*1075*	*1200*	*750*	*970*	*1075*	*520*	*690*	*790*
P11	—	—	—	275	345	390	270	335	385	245	305	345	165	220	255
	—	—	—	*900*	*1125*	*1275*	*890*	*1100*	*1275*	*800*	*1000*	*1125*	*540*	*720*	*840*
P12	—	—	—	185	225	255	180	220	250	160	200	225	110	140	160
	—	—	—	*610*	*740*	*840*	*590*	*720*	*820*	*520*	*660*	*740*	*360*	*460*	*520*
M1	—	—	—	—	—	—	180	240	280	170	225	265	145	190	225
	—	—	—	—	—	—	*590*	*790*	*920*	*560*	*740*	*870*	*475*	*620*	*740*
M2	—	—	—	—	—	—	150	200	235	140	185	220	120	155	190
	—	—	—	—	—	—	*490*	*660*	*770*	*460*	*610*	*720*	*395*	*510*	*620*
M3	—	—	—	—	—	—	120	160	190	115	155	180	95	130	155
	—	—	—	—	—	—	*395*	*520*	*620*	*375*	*510*	*590*	*310*	*425*	*510*
M4	—	—	—	—	—	—	95	125	145	90	120	140	75	100	120
	—	—	—	—	—	—	*310*	*410*	*475*	*295*	*395*	*460*	*245*	*330*	*395*
M5	—	—	—	—	—	—	80	105	125	75	100	115	65	85	100
	—	—	—	—	—	—	*260*	*345*	*410*	*245*	*330*	*375*	*215*	*280*	*330*
K1	325	570	790	360	450	510	350	440	500	315	395	450	—	—	—
	1075	*1875*	*2600*	*1175*	*1475*	*1675*	*1150*	*1450*	*1650*	*1025*	*1300*	*1475*	—	—	—
K2	290	500	700	325	405	460	315	395	450	285	355	405	—	—	—
	950	*1650*	*2300*	*1075*	*1325*	*1500*	*1025*	*1300*	*1475*	*940*	*1175*	*1325*	—	—	—
K3	220	325	410	275	340	390	270	335	380	240	300	345	—	—	—
	720	*1075*	*1350*	*900*	*1125*	*1275*	*890*	*1100*	*1250*	*790*	*980*	*1125*	—	—	—
K4	210	310	390	260	325	370	255	320	365	230	285	330	—	—	—
	690	*1025*	*1275*	*850*	*1075*	*1225*	*840*	*1050*	*1200*	*750*	*940*	*1075*	—	—	—
K5	130	190	235	160	200	225	160	195	220	140	175	200	—	—	—
	425	*620*	*770*	*520*	*660*	*740*	*520*	*640*	*720*	*460*	*570*	*660*	—	—	—
K6	185	270	345	230	285	330	225	280	320	205	255	290	—	—	—
	610	*890*	*1125*	*750*	*940*	*1075*	*740*	*920*	*1050*	*670*	*840*	*950*	—	—	—
K7	165	240	300	210	255	290	205	250	285	180	225	255	—	—	—
	540	*790*	*980*	*690*	*840*	*950*	*670*	*820*	*940*	*590*	*740*	*840*	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	42	55	65	23	31	36
	—	—	—	—	—	—	—	—	—	*140*	*180*	*215*	*75*	*100*	*120*
S2	—	—	—	—	—	—	—	—	—	34	45	50	19	25	29
	—	—	—	—	—	—	—	—	—	*110*	*150*	*165*	*60*	*80*	*95*
S3	—	—	—	—	—	—	—	—	—	30	39	46	17	22	26
	—	—	—	—	—	—	—	—	—	*100*	*130*	*150*	*55*	*70*	*85*
S11	—	—	—	—	—	—	—	—	—	60	80	90	32	43	50
	—	—	—	—	—	—	—	—	—	*195*	*260*	*295*	*105*	*140*	*165*
S12	—	—	—	—	—	—	—	—	—	40	55	65	30	39	47
	—	—	—	—	—	—	—	—	—	*130*	*180*	*215*	*100*	*130*	*155*
S13	—	—	—	—	—	—	—	—	—	24	31	36	18	23	27
	—	—	—	—	—	—	—	—	—	*80*	*100*	*120*	*60*	*75*	*90*
H5	—	—	—	48	60	75	—	—	—	37	49	60	—	—	—
	—	—	—	*155*	*195*	*245*	—	—	—	*120*	*160*	*195*	—	—	—
H8	—	—	—	50	70	80	—	—	—	40	55	60	—	—	—
	—	—	—	*165*	*230*	*260*	—	—	—	*130*	*180*	*195*	—	—	—
H11	—	—	—	60	80	95	—	—	—	47	60	75	—	—	—
	—	—	—	*195*	*260*	*310*	—	—	—	*155*	*195*	*245*	—	—	—
H12	—	—	—	90	125	140	—	—	—	70	95	110	—	—	—
	—	—	—	*295*	*410*	*460*	—	—	—	*230*	*310*	*360*	—	—	—
H21	—	—	—	50	70	80	—	—	—	40	55	60	—	—	—
	—	—	—	*165*	*230*	*260*	—	—	—	*130*	*180*	*195*	—	—	—



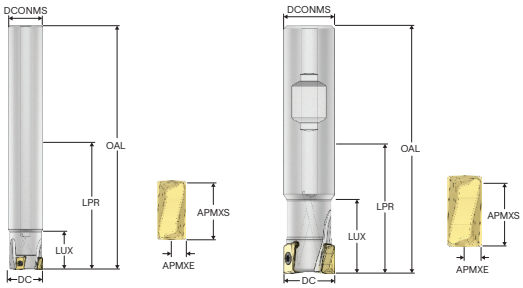
Square T4

Made for roughing and semi-finishing operations, the Square T4 features four cutting edges and an innovative tangential cutter design that increases the surface area of contact between the insert and the cutter body resulting in good surface finish during slotting, contouring and plunging applications.

- Multi-edge inserts optimize cutting stability
- Available in two inserts size, 08 and 12
- Allow for clean 90-degree walls

Square T4 – R217.94-08 – Metric





—For insert selection and cutting data recommendations, see page(s) 88-90
—For complete insert programme, see page(s) 875
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCONMS	LF	LUX	LPR	OAL	RMPX°	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm	mm			kg	
R217.94-1616.3-08-2A	02827530	Weldon	16,0	2	8,0	2,0	16,0	54,0	23,4	30,0	78,0	0,0	20600	0,2	LOEX0804
R217.94-2018.3-08-2A	02829812	Weldon	18,0	2	8,0	2,0	20,0	65,0	26,7	40,0	90,0	0,0	19400	0,2	LOEX0804
R217.94-2020.3-08-2A	02827531	Weldon	20,0	2	8,0	2,0	20,0	65,0	28,8	40,0	90,0	0,0	18400	0,3	LOEX0804
R217.94-2020.3-08-3A	02827533	Weldon	20,0	3	8,0	2,0	20,0	65,0	28,9	40,0	90,0	0,0	18400	0,2	LOEX0804
R217.94-2522.3-08-3A	02829813	Weldon	22,0	3	8,0	2,0	25,0	69,0	26,5	45,0	101,0	0,0	17600	0,4	LOEX0804
R217.94-2525.3-08-3A	02827534	Weldon	25,0	3	8,0	2,0	25,0	69,0	28,9	45,0	101,0	0,0	16500	0,4	LOEX0804
R217.94-2525.3-08-4A	02827535	Weldon	25,0	4	8,0	2,0	25,0	69,0	28,9	45,0	101,0	0,0	16500	0,3	LOEX0804
R217.94-3232.3-08-5A	02827537	Weldon	32,0	5	8,0	2,0	32,0	69,0	28,2	45,0	105,0	0,0	14600	0,6	LOEX0804
R217.94-1616.0-08-2A	02827519	Cylindrical	16,0	2	8,0	2,0	16,0	–	29,0	42,0	90,0	0,0	20600	0,2	LOEX0804
R217.94-1820.0-08-2A	02827520	Cylindrical	20,0	2	8,0	2,0	18,0	–	110,0	110,0	160,0	0,0	18400	0,4	LOEX0804
R217.94-2020.0-08-2A	02827522	Cylindrical	20,0	2	8,0	2,0	20,0	–	29,0	110,0	160,0	0,0	18400	0,4	LOEX0804
R217.94-2020.0-08-3A	02827523	Cylindrical	20,0	3	8,0	2,0	20,0	–	29,0	60,0	110,0	0,0	18400	0,3	LOEX0804
R217.94-2225.0-08-3A	02827524	Cylindrical	25,0	3	8,0	2,0	22,0	–	124,0	124,0	180,0	0,0	17600	0,5	LOEX0804
R217.94-2525.0-08-3A	02827525	Cylindrical	25,0	3	8,0	2,0	25,0	–	29,0	124,0	180,0	0,0	16500	0,6	LOEX0804
R217.94-2525.0-08-4A	02827526	Cylindrical	25,0	4	8,0	2,0	25,0	–	29,0	64,0	120,0	0,0	16500	0,4	LOEX0804
R217.94-3232.0-08-3A	02827528	Cylindrical	32,0	3	8,0	2,0	32,0	–	29,0	140,0	200,0	0,0	14600	1,1	LOEX0804
R217.94-3232.0-08-5A	02827529	Cylindrical	32,0	5	8,0	2,0	32,0	–	29,0	70,0	130,0	0,0	14600	0,7	LOEX0804

Spare Parts, included in delivery

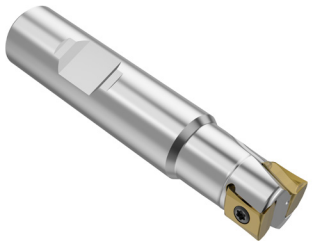
For cutter	Insert key	Insert screw
		
R217.94-.. Ø16-18	1/4HEX-T08PX50	C02707B-T08P
R217.94-.. Ø20-32	1/4HEX-T08PX50	C02708B-T08P

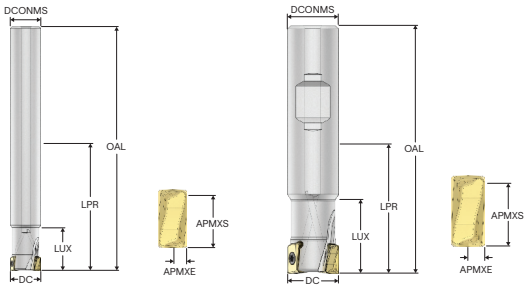
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.94-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12

Torque and fixed keys, see page 944

Square T4 – R217.94-08 – inch





—For insert selection and cutting data recommendations, see page(s) 88–90
—For complete insert programme, see page(s) 875
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCONMS	LF	LUX	LPR	OAL	RMPX°	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch	inch			lbs	
R217.94-00.75-3-08-3A	02887522	Weldon	0.750	3	0.315	0.079	0.750	2.559	1.138	1.531	3.500	0,0	18400	0.440	LOEX0804
R217.94-01.00-3-08-3A	02887524	Weldon	1.000	3	0.315	0.079	1.000	2.858	1.138	2.031	4.000	0,0	16500	0.880	LOEX0804
R217.94-01.00-3-08-4A	02887525	Weldon	1.000	4	0.315	0.079	1.000	2.858	1.138	2.031	4.000	0,0	16500	0.880	LOEX0804
R217.94-01.25-3-08-4A	02887527	Weldon	1.250	4	0.315	0.079	1.250	2.717	1.110	2.138	4.500	0,0	14600	1.540	LOEX0804
R217.94-00.62-0-08-2A	02887518	Cylindrical	0.625	2	0.315	0.079	0.625	–	1.122	3.630	5.520	0,0	20600	0.440	LOEX0804
R217.94-01.00-0-08-3A	02887523	Cylindrical	1.000	3	0.315	0.079	1.000	–	1.138	5.665	7.870	0,0	16500	1.540	LOEX0804

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.94-00.62-00.75	1/4HEX-T08PX50	C02707B-T08P
R217.94-01.00-01.25	1/4HEX-T08PX50	C02708B-T08P

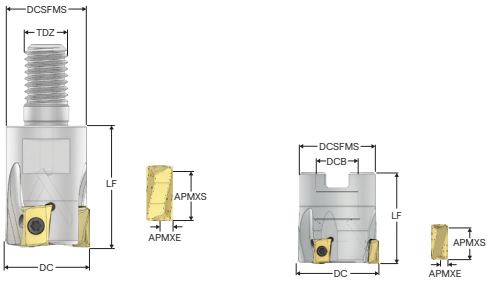
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.94-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12

Torque and fixed keys, see page 944

Square T4 – R217/220.94-08 – Metric



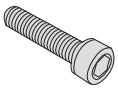


—For insert selection and cutting data recommendations, see page(s) 88-90
—For complete insert programme, see page(s) 875
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ	DCONMS	LF	RMPX°	RPMX	Weight	Insert
			mm		mm	mm	mm	mm		mm	mm			kg	
R217.94-0816.RE-08-2A	02827538	Combimaster	16,0	2	8,0	2,0	–	13,5	M8	13,5	23,0	0,0	20600	0,1	LOEX0804
R217.94-1020.RE-08-3A	02827540	Combimaster	20,0	3	8,0	2,0	–	18,5	M10	18,5	28,0	0,0	18400	0,1	LOEX0804
R217.94-1225.RE-08-3A	02827541	Combimaster	25,0	3	8,0	2,0	–	23,0	M12	23,0	30,0	0,0	16500	0,2	LOEX0804
R217.94-1225.RE-08-4A	02827542	Combimaster	25,0	4	8,0	2,0	–	23,0	M12	23,0	30,0	0,0	16500	0,1	LOEX0804
R217.94-1632.RE-08-3A	02827543	Combimaster	32,0	3	8,0	2,0	–	30,0	M16	30,0	35,0	0,0	14600	0,2	LOEX0804
R217.94-1632.RE-08-5A	02827544	Combimaster	32,0	5	8,0	2,0	–	30,0	M16	30,0	35,0	0,0	14600	0,2	LOEX0804
R217.94-2040.RE-08-6A	02972755	Combimaster	40,0	6	8,0	2,0	–	36,5	M20	36,5	40,0	0,0	13000	0,4	LOEX0804
R220.94-0032-08-5A	02845461	Arbor	32,0	5	8,0	2,0	16,0	29,3	–	16,0	35,0	0,0	13000	0,2	LOEX0804
R220.94-0040-08-4A	02827545	Arbor	40,0	4	8,0	2,0	16,0	35,0	–	16,0	40,0	0,0	13000	0,3	LOEX0804
R220.94-0040-08-6A	02827546	Arbor	40,0	6	8,0	2,0	16,0	35,0	–	16,0	40,0	0,0	13000	0,3	LOEX0804
R220.94-0050-08-5A	02827547	Arbor	50,0	5	8,0	2,0	22,0	45,0	–	22,0	40,0	0,0	11700	0,5	LOEX0804
R220.94-0050-08-7A	02827548	Arbor	50,0	7	8,0	2,0	22,0	45,0	–	22,0	40,0	0,0	11700	0,5	LOEX0804
R220.94-0063-08-6A	02827549	Arbor	63,0	6	8,0	2,0	27,0	56,0	–	27,0	40,0	0,0	10400	0,7	LOEX0804
R220.94-0063-08-9A	02827550	Arbor	63,0	9	8,0	2,0	27,0	56,0	–	27,0	40,0	0,0	10400	0,7	LOEX0804

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.94-.. Ø16	–	1/4HEX-T08PX50	C02707B-T08P
R217.94-.. Ø20-40	–	1/4HEX-T08PX50	C02708B-T08P
R220.94-0032	TCEI0825	1/4HEX-T08PX50	C02707B-T08P
R220.94-0040	TCEI0825	1/4HEX-T08PX50	C02708B-T08P
R220.94-0050	220.17-692	1/4HEX-T08PX50	C02708B-T08P
R220.94-0063	MLC6S12X30	1/4HEX-T08PX50	C02708B-T08P

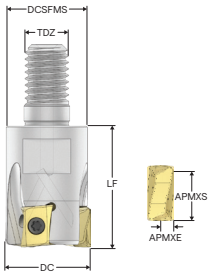
Accessories

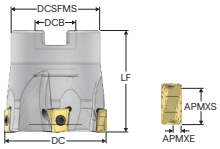
For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.94-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12

Torque and fixed keys, see page 944

Square T4 – R217/220.94-08 – inch





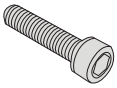


—For insert selection and cutting data recommendations, see page(s) 88–90
—For complete insert programme, see page(s) 875
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ	DCONMS	LF	RMPX°	RPMX	Weight	Insert
			inch		inch	inch	inch	inch		inch	inch			lbs	
R217.94-00.75-10RE-08-3A	10225143	Combimaster	0.750	3	0.315	0.079	–	0.728	M10	0.728	1.102	0,0	18400	0.220	LOEX0804
R217.94-01.00-12RE-08-3A	02890010	Combimaster	1.000	3	0.315	0.079	–	0.906	M12	0.906	1.181	0,0	16500	0.220	LOEX0804
R217.94-01.25-16RE-08-4A	10225144	Combimaster	1.250	4	0.315	0.079	–	1.181	M16	1.181	1.378	0,0	14600	0.440	LOEX0804
R220.94-01.50-08-4A	02887529	Arbor	1.500	4	0.315	0.079	0.750	1.378	–	0.750	1.575	0,0	13000	0.660	LOEX0804
R220.94-02.00-08-5A	02887530	Arbor	2.000	5	0.315	0.079	0.750	1.772	–	0.750	1.575	0,0	11700	1.100	LOEX0804

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.94-00.75	–	1/4HEX-T08PX50	C02707B-T08P
R217.94-01.00-01.25	–	1/4HEX-T08PX50	C02708B-T08P
R220.94-..	UC6S3/8UNFX1	1/4HEX-T08PX50	C02708B-T08P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.94-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12

Torque and fixed keys, see page 944

R217/220.94-08 – Insert selection – mm/Inch

SMG		a_p	f_z		
			100%	30%	10%
P1	LOEX080408TR-M08 F40M	4,0 *0.16*	0,11 0.0044	0,13 0.0050	0,19 0.0075
P2	LOEX080408TR-M08 F40M	4,0 *0.16*	0,12 0.0048	0,13 0.0050	0,20 0.0080
P3	LOEX080408TR-M08 MP2501	4,0 *0.16*	0,11 0.0044	0,12 0.0048	0,19 0.0075
P4	LOEX080408TR-M08 MP2501	4,0 *0.16*	0,11 0.0044	0,12 0.0048	0,18 0.0070
P5	LOEX080408TR-M08 MP2501	4,0 *0.16*	0,11 0.0044	0,12 0.0048	0,18 0.0070
P6	LOEX080408TR-M08 MP2501	4,0 *0.16*	0,11 0.0044	0,11 0.0044	0,18 0.0070
P7	LOEX080408TR-M08 MP2501	4,0 *0.16*	0,11 0.0044	0,11 0.0044	0,18 0.0070
P8	LOEX080408TR-M08 MP2501	4,0 *0.16*	0,11 0.0044	0,12 0.0048	0,19 0.0075
P11	LOEX080408TR-M08 MP3501	4,0 *0.16*	0,11 0.0044	0,11 0.0044	0,18 0.0070
P12	LOEX080408TR-M08 MP3000	3,0 *0.12*	0,075 0.0030	0,080 0.0032	0,12 0.0048
M1	LOEX080408TR-M08 F40M	4,0 *0.16*	0,12 0.0048	0,13 0.0050	0,20 0.0080
M2	LOEX080408TR-M08 F40M	4,0 *0.16*	0,11 0.0044	0,12 0.0048	0,18 0.0070
M3	LOEX080408TR-M08 F40M	3,0 *0.12*	0,085 0.0034	0,095 0.0038	0,14 0.0055
M4	LOEX080408TR-M08 MS2050	2,5 *0.10*	0,075 0.0030	0,085 0.0034	0,13 0.0050
M5	LOEX080408TR-M08 MS2050	2,5 *0.10*	0,075 0.0030	0,085 0.0034	0,13 0.0050
K1	LOEX080408TR-MD08 MK1501	4,0 *0.16*	0,12 0.0048	0,13 0.0050	0,20 0.0080
K2	LOEX080408TR-MD08 MK1501	4,0 *0.16*	0,11 0.0044	0,12 0.0048	0,18 0.0070
K3	LOEX080408TR-MD08 MK1501	4,0 *0.16*	0,11 0.0044	0,12 0.0048	0,18 0.0070
K4	LOEX080408TR-M08 MK2050	4,0 *0.16*	0,11 0.0044	0,12 0.0048	0,18 0.0070
K5	LOEX080408TR-M08 MK2050	4,0 *0.16*	0,095 0.0038	0,10 0.0040	0,16 0.0065
K6	LOEX080408TR-M08 MK2050	4,0 *0.16*	0,11 0.0044	0,12 0.0048	0,18 0.0070
K7	LOEX080408TR-M08 MK2050	4,0 *0.16*	0,095 0.0038	0,10 0.0040	0,16 0.0065
N1	LOEX080408TR-M08 F40M	4,0 *0.16*	0,15 0.0060	0,16 0.0065	0,25 0.010
N2	LOEX080408TR-M08 F40M	4,0 *0.16*	0,15 0.0060	0,16 0.0065	0,25 0.010
N3	LOEX080408TR-M08 F40M	4,0 *0.16*	0,15 0.0060	0,16 0.0065	0,25 0.010
N11	LOEX080408TR-M08 F40M	4,0 *0.16*	0,15 0.0060	0,16 0.0065	0,25 0.010
S1	LOEX080408TR-M08 F40M	2,5 *0.10*	0,075 0.0030	0,085 0.0034	0,13 0.0050
S2	LOEX080408TR-M08 F40M	2,5 *0.10*	0,075 0.0030	0,085 0.0034	0,13 0.0050
S3	LOEX080408TR-M08 F40M	2,5 *0.10*	0,070 0.0028	0,080 0.0032	0,12 0.0048
S11	LOEX080408TR-M08 MS2050	2,5 *0.10*	0,085 0.0034	0,095 0.0038	0,15 0.0060
S12	LOEX080408TR-M08 MS2050	2,5 *0.10*	0,085 0.0034	0,095 0.0038	0,15 0.0060
S13	LOEX080408TR-M08 MS2050	2,5 *0.10*	0,075 0.0030	0,085 0.0034	0,13 0.0050
H5	LOEX080408TR-M08 MP3000	3,0 *0.12*	0,075 0.0030	0,080 0.0032	0,12 0.0048
H8	LOEX080408TR-M08 MP3000	2,5 *0.10*	0,055 0.0022	0,060 0.0024	0,095 0.0038
H11	LOEX080408TR-MD08 MP1501	3,0 *0.12*	0,075 0.0030	0,080 0.0032	0,12 0.0048
H12	LOEX080408TR-MD08 MP1501	2,5 *0.10*	0,055 0.0022	0,060 0.0024	0,095 0.0038
H21	LOEX080408TR-MD08 MP1501	2,5 *0.10*	0,055 0.0022	0,060 0.0024	0,095 0.0038

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.94-08 – Cutting data v_c = (m/min)/(sf/min)

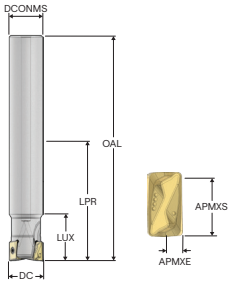
SMG	MK2050			MP3000			MS2050			F40M			MP2051			MP2050		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	310 *1025*	410 *1350*	475 *1550*	340 *1125*	440 *1450*	500 *1650*	290 *950*	370 *1225*	425 *1400*	285 *940*	345 *1125*	380 *1250*	345 *1125*	455 *1500*	540 *1775*	295 *970*	390 *1275*	460 *1500*
P2	295 *970*	390 *1275*	465 *1525*	320 *1050*	415 *1350*	490 *1600*	275 *900*	355 *1175*	415 *1350*	270 *890*	330 *1075*	370 *1225*	320 *1050*	445 *1450*	530 *1750*	290 *950*	380 *1250*	445 *1450*
P3	260 *850*	345 *1125*	405 *1325*	285 *940*	365 *1200*	430 *1400*	245 *800*	310 *1025*	360 *1175*	240 *790*	290 *950*	325 *1075*	285 *940*	395 *1300*	455 *1500*	255 *840*	330 *1075*	395 *1300*
P4	230 *750*	300 *980*	355 *1175*	250 *820*	325 *1075*	375 *1225*	215 *710*	275 *900*	315 *1025*	210 *690*	265 *870*	300 *980*	255 *840*	345 *1125*	410 *1350*	225 *740*	295 *970*	345 *1125*
P5	220 *720*	290 *950*	340 *1125*	240 *790*	310 *1025*	360 *1175*	205 *670*	260 *850*	305 *1000*	200 *660*	245 *800*	275 *900*	250 *820*	340 *1125*	395 *1300*	215 *710*	280 *920*	330 *1075*
P6	250 *820*	330 *1075*	390 *1275*	275 *900*	355 *1175*	410 *1350*	240 *790*	300 *980*	345 *1125*	230 *750*	280 *920*	310 *1025*	285 *940*	380 *1250*	440 *1450*	240 *790*	315 *1025*	370 *1225*
P7	235 *770*	310 *1025*	365 *1200*	260 *850*	335 *1100*	385 *1275*	225 *740*	285 *940*	325 *1075*	220 *720*	265 *870*	295 *970*	265 *870*	360 *1175*	415 *1350*	225 *740*	300 *980*	350 *1150*
P8	220 *720*	290 *950*	340 *1125*	240 *790*	310 *1025*	360 *1175*	205 *670*	260 *850*	305 *1000*	200 *660*	245 *800*	275 *900*	240 *790*	330 *1075*	385 *1275*	215 *710*	275 *900*	330 *1075*
P11	230 *750*	305 *1000*	355 *1175*	255 *840*	325 *1075*	375 *1225*	220 *720*	275 *900*	315 *1025*	210 *690*	255 *840*	285 *940*	245 *800*	385 *1275*	495 *1625*	220 *720*	290 *950*	340 *1125*
P12	145 *475*	195 *640*	230 *750*	160 *520*	205 *670*	235 *770*	140 *460*	175 *570*	200 *660*	135 *445*	165 *540*	180 *590*	165 *540*	250 *820*	315 *1025*	145 *475*	190 *620*	225 *740*
M1	— —	— —	— —	210 *690*	280 *920*	335 *1100*	200 *660*	265 *870*	315 *1025*	185 *610*	240 *790*	290 *950*	260 *850*	425 *1400*	560 *1825*	205 *670*	275 *900*	320 *1050*
M2	— —	— —	— —	175 *570*	230 *750*	275 *900*	165 *540*	220 *720*	260 *850*	150 *490*	200 *660*	235 *770*	230 *750*	365 *1200*	465 *1525*	170 *560*	225 *740*	265 *870*
M3	— —	— —	— —	145 *475*	185 *610*	220 *720*	135 *445*	180 *590*	210 *690*	125 *410*	160 *520*	190 *620*	195 *640*	295 *970*	380 *1250*	140 *460*	185 *610*	215 *710*
M4	— —	— —	— —	110 *360*	145 *475*	170 *560*	105 *345*	140 *460*	165 *540*	95 *310*	125 *410*	150 *490*	155 *510*	230 *750*	290 *950*	110 *360*	140 *460*	165 *540*
M5	— —	— —	— —	95 *310*	125 *410*	145 *475*	90 *295*	115 *375*	135 *445*	80 *260*	105 *345*	125 *410*	125 *410*	190 *620*	240 *790*	90 *295*	115 *375*	140 *460*
K1	320 *1050*	420 *1375*	500 *1650*	225 *740*	295 *970*	355 *1175*	— —	— —	— —	180 *590*	240 *790*	285 *940*	— —	— —	— —	— —	— —	— —
K2	280 *920*	370 *1225*	440 *1450*	200 *660*	265 *870*	310 *1025*	— —	— —	— —	160 *520*	210 *690*	250 *820*	— —	— —	— —	— —	— —	— —
K3	240 *790*	315 *1025*	375 *1225*	170 *560*	225 *740*	265 *870*	— —	— —	— —	135 *445*	180 *590*	210 *690*	— —	— —	— —	— —	— —	— —
K4	230 *750*	300 *980*	355 *1175*	160 *520*	210 *690*	250 *820*	— —	— —	— —	130 *425*	170 *560*	200 *660*	— —	— —	— —	— —	— —	— —
K5	140 *460*	185 *610*	220 *720*	100 *330*	130 *425*	155 *510*	— —	— —	— —	80 *260*	105 *345*	125 *410*	— —	— —	— —	— —	— —	— —
K6	200 *660*	265 *870*	315 *1025*	140 *460*	185 *610*	220 *720*	— —	— —	— —	115 *375*	150 *490*	175 *570*	— —	— —	— —	— —	— —	— —
K7	180 *590*	240 *790*	280 *920*	125 *410*	170 *560*	195 *640*	— —	— —	— —	100 *330*	135 *445*	160 *520*	— —	— —	— —	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	1325 *4350*	1775 *5825*	2075 *6800*	— —	— —	— —	— —	— —	— —
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	540 *1775*	720 *2350*	840 *2750*	— —	— —	— —	— —	— —	— —
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	360 *1175*	480 *1575*	560 *1825*	— —	— —	— —	— —	— —	— —
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	410 *1350*	550 *1800*	640 *2100*	— —	— —	— —	— —	— —	— —
S1	— —	— —	— —	50 *165*	70 *230*	80 *260*	50 *165*	65 *215*	75 *245*	45 *150*	60 *195*	70 *230*	50 *165*	70 *230*	80 *260*	55 *180*	70 *230*	80 *260*
S2	— —	— —	— —	42 *140*	55 *180*	65 *215*	40 *130*	55 *180*	60 *195*	36 *120*	48 *155*	55 *180*	41 *135*	55 *180*	65 *215*	43 *140*	55 *180*	65 *215*
S3	— —	— —	— —	37 *120*	48 *155*	55 *180*	35 *115*	46 *150*	55 *180*	32 *105*	42 *140*	49 *160*	36 *120*	48 *155*	55 *180*	37 *120*	49 *160*	55 *180*
S11	— —	— —	— —	— —	— —	— —	70 *230*	90 *295*	105 *345*	65 *215*	80 *260*	95 *310*	70 *230*	95 *310*	110 *360*	75 *245*	100 *330*	115 *375*
S12	— —	— —	— —	— —	— —	— —	48 *155*	60 *195*	75 *245*	44 *145*	55 *180*	65 *215*	49 *160*	65 *215*	75 *245*	50 *165*	70 *230*	80 *260*
S13	— —	— —	— —	— —	— —	— —	28 *90*	37 *120*	43 *140*	25 *80*	33 *110*	39 *130*	29 *95*	38 *125*	45 *150*	30 *100*	39 *130*	45 *150*
H5	50 *165*	65 *215*	80 *260*	44 *145*	60 *195*	70 *230*	— —	— —	— —	38 *125*	49 *160*	60 *195*	— —	— —	— —	— —	— —	— —
H8	55 *180*	70 *230*	85 *280*	47 *155*	60 *195*	70 *230*	— —	— —	— —	40 *130*	55 *180*	60 *195*	— —	— —	— —	— —	— —	— —
H11	65 *215*	85 *280*	100 *330*	55 *180*	75 *245*	85 *280*	— —	— —	— —	48 *155*	65 *215*	75 *245*	110 *360*	165 *540*	205 *670*	55 *180*	70 *230*	85 *280*
H12	95 *310*	125 *410*	145 *475*	90 *295*	120 *395*	140 *460*	— —	— —	— —	75 *245*	95 *310*	110 *360*	105 *345*	150 *490*	185 *610*	90 *295*	120 *395*	140 *460*

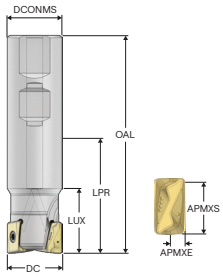
R217/220.94-08 – Cutting data v_c = (m/min)/(sf/min)

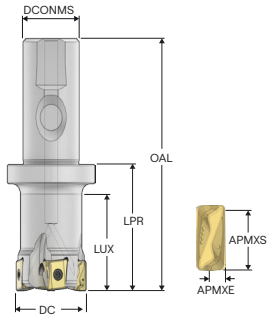
SMG	MK1501			MP1501			MP2501			MP3501		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	450	550	610	445	540	600	400	490	540
	—	—	—	*1475*	*1800*	*2000*	*1450*	*1775*	*1975*	*1300*	*1600*	*1775*
P2	—	—	—	430	530	600	425	520	590	380	470	530
	—	—	—	*1400*	*1750*	*1975*	*1400*	*1700*	*1925*	*1250*	*1550*	*1750*
P3	—	—	—	380	460	520	375	455	510	335	410	460
	—	—	—	*1250*	*1500*	*1700*	*1225*	*1500*	*1675*	*1100*	*1350*	*1500*
P4	—	—	—	330	405	455	330	400	450	295	360	405
	—	—	—	*1075*	*1325*	*1500*	*1075*	*1300*	*1475*	*970*	*1175*	*1325*
P5	—	—	—	315	385	435	315	380	430	280	345	385
	—	—	—	*1025*	*1275*	*1425*	*1025*	*1250*	*1400*	*920*	*1125*	*1275*
P6	—	—	—	365	440	490	360	435	485	325	395	440
	—	—	—	*1200*	*1450*	*1600*	*1175*	*1425*	*1600*	*1075*	*1300*	*1450*
P7	—	—	—	345	415	465	340	410	460	305	370	415
	—	—	—	*1125*	*1350*	*1525*	*1125*	*1350*	*1500*	*1000*	*1225*	*1350*
P8	—	—	—	315	385	435	315	380	430	280	345	385
	—	—	—	*1025*	*1275*	*1425*	*1025*	*1250*	*1400*	*920*	*1125*	*1275*
P11	—	—	—	335	405	450	330	400	445	295	360	400
	—	—	—	*1100*	*1325*	*1475*	*1075*	*1300*	*1450*	*970*	*1175*	*1300*
P12	—	—	—	205	250	275	205	245	275	185	220	245
	—	—	—	*670*	*820*	*900*	*670*	*800*	*900*	*610*	*720*	*800*
M1	—	—	—	—	—	—	215	285	340	200	265	315
	—	—	—	—	—	—	*710*	*940*	*1125*	*660*	*870*	*1025*
M2	—	—	—	—	—	—	180	235	280	165	220	260
	—	—	—	—	—	—	*590*	*770*	*920*	*540*	*720*	*850*
M3	—	—	—	—	—	—	145	190	225	135	180	210
	—	—	—	—	—	—	*475*	*620*	*740*	*445*	*590*	*690*
M4	—	—	—	—	—	—	115	150	175	105	140	165
	—	—	—	—	—	—	*375*	*490*	*570*	*345*	*460*	*540*
M5	—	—	—	—	—	—	95	125	145	90	115	135
	—	—	—	—	—	—	*310*	*410*	*475*	*295*	*375*	*445*
K1	355	610	850	435	530	600	430	520	590	385	470	530
	1175	*2000*	*2800*	*1425*	*1750*	*1975*	*1400*	*1700*	*1925*	*1275*	*1550*	*1750*
K2	315	540	740	385	470	530	380	460	520	340	415	470
	1025	*1775*	*2425*	*1275*	*1550*	*1750*	*1250*	*1500*	*1700*	*1125*	*1350*	*1550*
K3	255	365	455	325	395	445	320	390	440	290	350	395
	840	*1200*	*1500*	*1075*	*1300*	*1450*	*1050*	*1275*	*1450*	*950*	*1150*	*1300*
K4	240	350	435	310	380	425	305	375	420	275	335	380
	790	*1150*	*1425*	*1025*	*1250*	*1400*	*1000*	*1225*	*1375*	*900*	*1100*	*1250*
K5	150	220	265	190	230	255	190	230	255	170	205	230
	490	*720*	*870*	*620*	*750*	*840*	*620*	*750*	*840*	*560*	*670*	*750*
K6	215	310	385	275	335	375	270	330	370	240	295	335
	710	*1025*	*1275*	*900*	*1100*	*1225*	*890*	*1075*	*1225*	*790*	*970*	*1100*
K7	190	280	340	245	295	330	240	295	325	215	265	295
	620	*920*	*1125*	*800*	*970*	*1075*	*790*	*970*	*1075*	*710*	*870*	*970*
N1	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	50	65	75
	—	—	—	—	—	—	—	—	—	*165*	*215*	*245*
S2	—	—	—	—	—	—	—	—	—	40	55	60
	—	—	—	—	—	—	—	—	—	*130*	*180*	*195*
S3	—	—	—	—	—	—	—	—	—	35	46	55
	—	—	—	—	—	—	—	—	—	*115*	*150*	*180*
S11	—	—	—	—	—	—	—	—	—	70	90	105
	—	—	—	—	—	—	—	—	—	*230*	*295*	*345*
S12	—	—	—	—	—	—	—	—	—	48	60	75
	—	—	—	—	—	—	—	—	—	*155*	*195*	*245*
S13	—	—	—	—	—	—	—	—	—	28	37	43
	—	—	—	—	—	—	—	—	—	*90*	*120*	*140*
H5	—	—	—	55	75	85	—	—	—	43	55	65
	—	—	—	*180*	*245*	*280*	—	—	—	*140*	*180*	*215*
H8	—	—	—	60	80	90	—	—	—	47	60	70
	—	—	—	*195*	*260*	*295*	—	—	—	*155*	*195*	*230*
H11	—	—	—	70	95	110	—	—	—	55	70	85
	—	—	—	*230*	*310*	*360*	—	—	—	*180*	*230*	*280*
H12	—	—	—	110	140	165	—	—	—	85	110	125
	—	—	—	*360*	*460*	*540*	—	—	—	*280*	*360*	*410*
H21	—	—	—	60	80	90	—	—	—	47	60	70
	—	—	—	*195*	*260*	*295*	—	—	—	*155*	*195*	*230*

Square T4 – R217.94-12 – Metric









—For insert selection and cutting data recommendations, see page(s) 96–98
—For complete insert programme, see page(s) 875
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCSFMS	DCONMS	LF	LUX	LPR	OAL	RMPX°	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm	mm	mm			kg	
R217.94-2525.3-LO12-2A	10207962	Weldon	25,0	2	12,0	3,5	–	25,0	69,5	30,0	45,0	101,0	0,0	14000	0,4	LOEX1207
R217.94-3232.3-LO12-3A	10207963	Weldon	32,0	3	12,0	3,5	–	32,0	74,5	30,0	50,0	110,0	0,0	12400	0,6	LOEX1207
R217.94-2532.3S-LO12-3A	10207964	Seco-Weldon	32,0	3	12,0	3,5	40,0	25,0	–	40,0	54,0	110,0	0,0	12400	0,5	LOEX1207
R217.94-2525.0-LO12-2A	10207966	Cylindrical	25,0	2	12,0	3,5	–	25,0	–	35,0	114,0	170,0	0,0	14000	0,6	LOEX1207
R217.94-3232.0-LO12-3A	10207967	Cylindrical	32,0	3	12,0	3,5	–	32,0	–	30,0	135,0	195,0	0,0	12400	1,1	LOEX1207
R217.94-3240.0-LO12-4A	10207968	Cylindrical	40,0	4	12,0	3,5	–	32,0	–	150,0	150,0	210,0	0,0	11100	1,4	LOEX1207

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.94-2525	1/4HEX-T15PX50	C040105B-T15P
R217.94-3232-3240	1/4HEX-T15PX50	C04012B-T15P

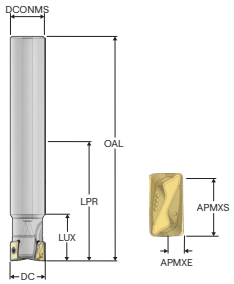
Accessories

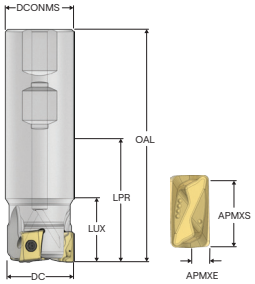
For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.94-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Square T4 – R217.94-12 – inch







—For insert selection and cutting data recommendations, see page(s) 96-98
—For complete insert programme, see page(s) 875
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCONMS	LF	LUX	LPR	OAL	RMPX°	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch	inch			lbs	
R217.94-01.00-3-LO12-2A	10207985	Weldon	1.000	2	0.472	0.138	1.000	2.878	1.181	1.795	4.000	0,0	14000	0.880	LOEX1207
R217.94-01.25-3-LO12-3A	10207986	Weldon	1.250	3	0.472	0.138	1.250	3.555	1.181	1.890	4.252	0,0	12400	1.320	LOEX1207
R217.94-01.50-3-LO12-4A	10207987	Weldon	1.500	4	0.472	0.138	1.500	3.555	1.181	1.969	4.724	0,0	11300	2.200	LOEX1207
R217.94-01.00-0-LO12-2A	10207988	Cylindrical	1.000	2	0.472	0.138	1.000	–	1.181	3.740	6.693	0,0	13900	1.320	LOEX1207
R217.94-01.50-0-LO12-4A	10207989	Cylindrical	1.500	4	0.472	0.138	1.500	–	1.181	5.906	8.268	0,0	11300	4.190	LOEX1207

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.94-01.00	1/4HEX-T15PX50	C040105B-T15P
R217.94-01.25-01.50	1/4HEX-T15PX50	C04012B-T15P

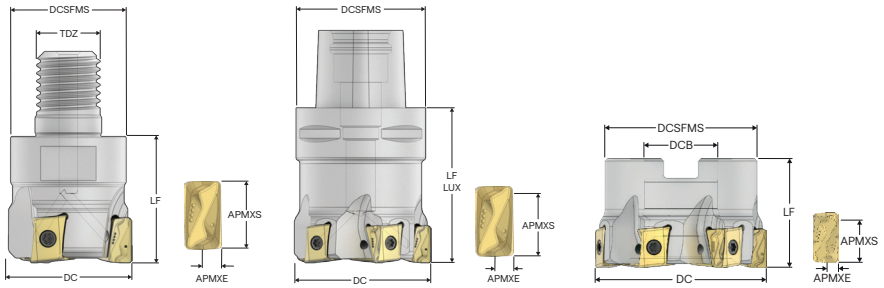
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.94-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Square T4 – R217/220.94-12 – Metric



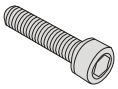


–For insert selection and cutting data recommendations, see page(s) 96–98
–For complete insert programme, see page(s) 875
–For ISO attribute explanation, see page 16
–KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ	DCONMS	LF	LUX	RMPX°	RPMX	Weight	Insert
			mm		mm	mm	mm	mm		mm	mm	mm			kg	
C4-R217.94-044-LO12-4A	10207972	Seco-Capto	44,0	4	12,0	3,5	–	40,0	–	40,0	60,0	60,0	0,0	10600	0,6	LOEX1207
C5-R217.94-054-LO12-5A	10207973	Seco-Capto	54,0	5	12,0	3,5	–	50,0	–	50,0	60,0	60,0	0,0	9500	0,9	LOEX1207
C6-R217.94-066-LO12-6A	10207974	Seco-Capto	66,0	6	12,0	3,5	–	63,0	–	63,0	60,0	60,0	0,0	8600	1,5	LOEX1207
R217.94-1632.RE-LO12-3A	10207969	Combimaster	32,0	3	12,0	3,5	–	30,0	M16	30,0	40,0	–	0,0	12400	0,2	LOEX1207
R217.94-2040.RE-LO12-3A	10207970	Combimaster	40,0	3	12,0	3,5	–	36,5	M20	36,5	40,0	–	0,0	11100	0,4	LOEX1207
R217.94-2040.RE-LO12-5A	10207971	Combimaster	40,0	5	12,0	3,5	–	36,5	M20	36,5	40,0	–	0,0	11100	0,4	LOEX1207
R220.94-0040-LO12-4A	10207999	Arbor	40,0	4	12,0	3,5	16,0	35,0	–	–	40,0	–	0,0	11100	0,3	LOEX1207
R220.94-0040-LO12-5A	10207975	Arbor	40,0	5	12,0	3,5	16,0	35,0	–	–	40,0	–	0,0	11100	0,3	LOEX1207
R220.94-0050-LO12-5A	10207976	Arbor	50,0	5	12,0	3,5	22,0	45,0	–	–	40,0	–	0,0	9900	0,4	LOEX1207
R220.94-0050-LO12-6A	10207977	Arbor	50,0	6	12,0	3,5	22,0	45,0	–	–	40,0	–	0,0	9900	0,4	LOEX1207
R220.94-0063-LO12-6A	10207978	Arbor	63,0	6	12,0	3,5	27,0	56,0	–	–	40,0	–	0,0	8800	0,6	LOEX1207
R220.94-0063-LO12-8A	10207979	Arbor	63,0	8	12,0	3,5	27,0	56,0	–	–	40,0	–	0,0	8800	0,6	LOEX1207
R220.94-0080-LO12-7A	10207980	Arbor	80,0	7	12,0	3,5	27,0	62,0	–	–	50,0	–	0,0	7800	1,2	LOEX1207
R220.94-0080-LO12-10A	10207981	Arbor	80,0	10	12,0	3,5	27,0	62,0	–	–	50,0	–	0,0	7800	1,2	LOEX1207
R220.94-0100-LO12-9A	10207982	Arbor	100,0	9	12,0	3,5	32,0	77,0	–	–	50,0	–	0,0	7000	1,9	LOEX1207
R220.94-0100-LO12-12A	10207983	Arbor	100,0	12	12,0	3,5	32,0	77,0	–	–	50,0	–	0,0	7000	1,9	LOEX1207
R220.94-0125-LO12-12A	10207984	Arbor	125,0	12	12,0	3,5	40,0	90,0	–	–	63,0	–	0,0	6300	3,5	LOEX1207

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
Cx-R217.94-..	–	1/4HEX-T15PX50	C04012B-T15P
R220.94-0040	220.17-689	1/4HEX-T15PX50	C04012B-T15P
R220.94-0050	220.17-692	1/4HEX-T15PX50	C04012B-T15P
R220.94-0063	MLC6S12X30	1/4HEX-T15PX50	C04012B-T15P
R220.94-0080	MC6S12X35	1/4HEX-T15PX50	C04012B-T15P
R220.94-0100	MC6S16X35	1/4HEX-T15PX50	C04012B-T15P
R220.94-0125	MC6S20X40	1/4HEX-T15PX50	C04012B-T15P

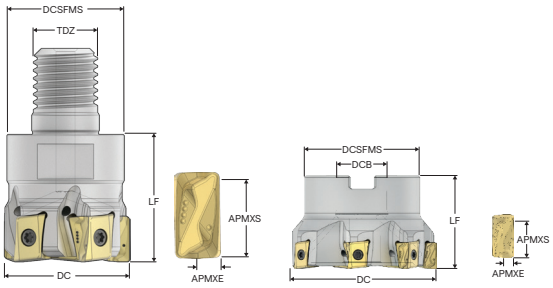
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
Cx-R217/220.94-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Square T4 – R217/220.94-12 – inch



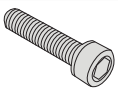
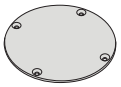


–For insert selection and cutting data recommendations, see page(s) 96–98
–For complete insert programme, see page(s) 875
–For ISO attribute explanation, see page 16
–KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ	DCONMS	LF	RMPX°	RPMX	Weight	Insert
			inch		inch	inch	inch	inch		inch	inch			lbs	
R217.94-01.25-16RE-LO12-3A	10207990	Combimaster	1.250	3	0.472	0.138	–	1.181	M16	1.181	1.575	0,0	12400	0.660	LOEX1207
R220.94-01.50-LO12-4A	10207991	Arbor	1.500	4	0.472	0.138	0.500	1.378	–	–	1.575	0,0	11300	0.660	LOEX1207
R220.94-02.00-LO12-5A	10207992	Arbor	2.000	5	0.472	0.138	0.750	1.850	–	0.750	1.575	0,0	9800	0.880	LOEX1207
R220.94-02.00-LO12-6A	10207993	Arbor	2.000	6	0.472	0.138	0.750	1.850	–	–	1.575	0,0	9800	1.100	LOEX1207
R220.94-02.50-LO12-6A	10207994	Arbor	2.500	6	0.472	0.138	0.750	1.850	–	–	1.575	0,0	8800	1.320	LOEX1207
R220.94-02.50-LO12-8A	10207995	Arbor	2.500	8	0.472	0.138	0.750	1.850	–	–	1.575	0,0	8800	1.320	LOEX1207
R220.94-03.00-LO12-8A	10207996	Arbor	3.000	8	0.472	0.138	1.000	2.441	–	–	1.969	0,0	8000	2.870	LOEX1207
R220.94-04.00-LO12-10A	10207997	Arbor	4.000	10	0.472	0.138	1.500	3.543	–	–	1.969	0,0	7000	4.630	LOEX1207
R220.94-05.00-LO12-12A	10207998	Arbor	5.000	12	0.472	0.138	1.500	3.543	–	–	2.480	0,0	6200	7.720	LOEX1207
R220.94-06.00-LO12-14A	10208000	Arbor	6.000	14	0.472	0.138	2.000	4.331	–	–	2.480	0,0	6200	9.920	LOEX1207

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R217.94-..	–	1/4HEX-T15PX50	C04012B-T15P	–	–
R220.94-01.50	UC6S1/4UNFX1	1/4HEX-T15PX50	C04012B-T15P	–	–
R220.94-02.00-02.50	UC6S3/8UNFX1	1/4HEX-T15PX50	C04012B-T15P	–	–
R220.94-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T15PX50	C04012B-T15P	–	–
R220.94-04.00	ULC6S3/4UNFX11/2	1/4HEX-T15PX50	C04012B-T15P	–	–
R220.94-05.00	UC6S3/4UNFX1-1/4	1/4HEX-T15PX50	C04012B-T15P	–	–
R220.94-06.00	–	1/4HEX-T15PX50	C04012B-T15P	SC-160-90	MF6S4X10

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.94-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

R217/220.94-LO12 – Insert selection – Metric/ Inch

SMG		a_p	f_z		
			100%	30%	10%
P1	LOEX120708TR-T4-M12 F40M	6,0 *0.24*	0,18 0.0070	0,20 0.0080	0,30 0.012
P2	LOEX120708TR-T4-M12 F40M	6,0 *0.24*	0,19 0.0075	0,20 0.0080	0,32 0.013
P3	LOEX120708TR-T4-M12 MP2501	6,0 *0.24*	0,16 0.0065	0,18 0.0070	0,28 0.011
P4	LOEX120708TR-T4-M12 MP2501	6,0 *0.24*	0,16 0.0065	0,18 0.0070	0,26 0.010
P5	LOEX120708TR-T4-M12 MP2501	6,0 *0.24*	0,16 0.0065	0,17 0.0065	0,26 0.010
P6	LOEX120708TR-T4-M12 MP2501	6,0 *0.24*	0,16 0.0065	0,17 0.0065	0,26 0.010
P7	LOEX120708TR-T4-M12 MP2501	6,0 *0.24*	0,16 0.0065	0,17 0.0065	0,26 0.010
P8	LOEX120708TR-T4-M12 MP2501	6,0 *0.24*	0,16 0.0065	0,18 0.0070	0,28 0.011
P11	LOEX120708TR-T4-M12 MP3501	6,0 *0.24*	0,17 0.0065	0,18 0.0070	0,28 0.011
P12	LOEX120708TR-T4-M12 MS2500	4,5 *0.18*	0,11 0.0044	0,12 0.0048	0,18 0.0070
M1	LOEX120708R-T4-M09 F40M	6,0 *0.24*	0,14 0.0055	0,16 0.0065	0,24 0.0095
M2	LOEX120708R-T4-M09 F40M	6,0 *0.24*	0,13 0.0050	0,14 0.0055	0,22 0.0085
M3	LOEX120708R-T4-M09 F40M	4,5 *0.18*	0,11 0.0044	0,12 0.0048	0,18 0.0070
M4	LOEX120708R-T4-M09 MS2050	3,5 *0.14*	0,095 0.0038	0,10 0.0040	0,16 0.0065
M5	LOEX120708R-T4-M09 MS2050	3,5 *0.14*	0,095 0.0038	0,10 0.0040	0,16 0.0065
K1	LOEX120708TR-T4-MD13 MK1501	6,0 *0.24*	0,20 0.0080	0,22 0.0085	0,34 0.013
K2	LOEX120708TR-T4-MD13 MK1501	6,0 *0.24*	0,18 0.0070	0,20 0.0080	0,30 0.012
K3	LOEX120708TR-T4-M12 MK2050	6,0 *0.24*	0,17 0.0065	0,19 0.0075	0,28 0.011
K4	LOEX120708TR-T4-M12 MK2050	6,0 *0.24*	0,17 0.0065	0,19 0.0075	0,28 0.011
K5	LOEX120708TR-T4-M12 MK2050	6,0 *0.24*	0,15 0.0060	0,17 0.0065	0,26 0.010
K6	LOEX120708TR-T4-M12 MK2050	6,0 *0.24*	0,17 0.0065	0,19 0.0075	0,28 0.011
K7	LOEX120708TR-T4-M12 MK2050	6,0 *0.24*	0,15 0.0060	0,17 0.0065	0,26 0.010
N1	LOEX120708R-T4-M09 F40M	6,0 *0.24*	0,18 0.0070	0,20 0.0080	0,30 0.012
N2	LOEX120708R-T4-M09 F40M	6,0 *0.24*	0,18 0.0070	0,20 0.0080	0,30 0.012
N3	LOEX120708R-T4-M09 F40M	6,0 *0.24*	0,18 0.0070	0,20 0.0080	0,30 0.012
N11	LOEX120708R-T4-M09 F40M	6,0 *0.24*	0,18 0.0070	0,20 0.0080	0,30 0.012
S1	LOEX120708R-T4-M09 F40M	3,5 *0.14*	0,095 0.0038	0,10 0.0040	0,16 0.0065
S2	LOEX120708R-T4-M09 F40M	3,5 *0.14*	0,095 0.0038	0,10 0.0040	0,16 0.0065
S3	LOEX120708R-T4-M09 F40M	3,5 *0.14*	0,085 0.0034	0,095 0.0038	0,14 0.0055
S11	LOEX120708R-T4-M09 MS2050	4,0 *0.16*	0,11 0.0044	0,12 0.0048	0,18 0.0070
S12	LOEX120708R-T4-M09 MS2050	4,0 *0.16*	0,11 0.0044	0,12 0.0048	0,18 0.0070
S13	LOEX120708R-T4-M09 MS2050	3,5 *0.14*	0,095 0.0038	0,10 0.0040	0,16 0.0065
H5	LOEX120708TR-T4-M12 MP3000	4,5 *0.18*	0,12 0.0048	0,13 0.0050	0,20 0.0080
H8	LOEX120708TR-T4-M12 MP3000	4,0 *0.16*	0,090 0.0036	0,10 0.0040	0,15 0.0060
H11	LOEX120708TR-T4-MD13 MP1501	4,5 *0.18*	0,12 0.0048	0,13 0.0050	0,20 0.0080
H12	LOEX120708TR-T4-MD13 MP1501	4,0 *0.16*	0,090 0.0036	0,10 0.0040	0,15 0.0060
H21	LOEX120708TR-T4-MD13 MP1501	4,0 *0.16*	0,090 0.0036	0,10 0.0040	0,15 0.0060

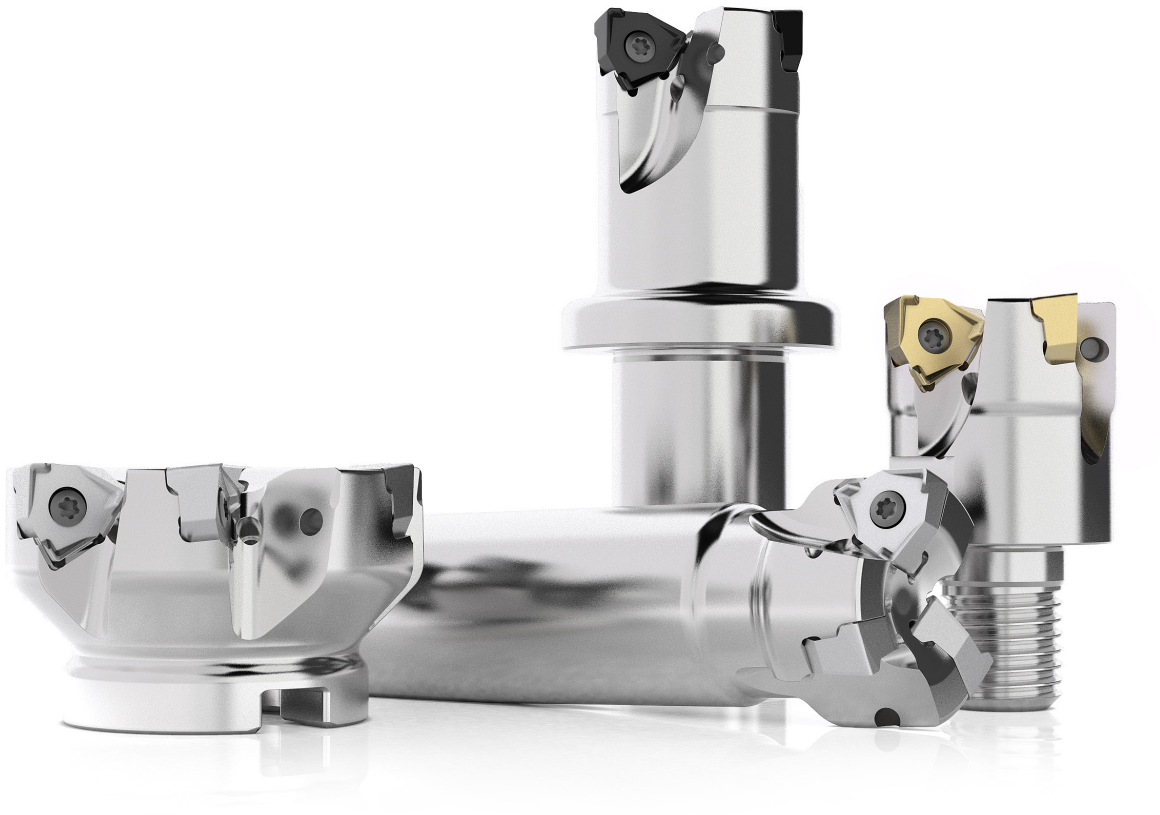
SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.94-LO12 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK2050			MP3000			MS2050			F40M			MP2051			MP2050		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	265 *870*	355 *1175*	420 *1375*	270 *890*	360 *1175*	430 *1400*	245 *800*	315 *1025*	370 *1225*	235 *770*	285 *940*	330 *1075*	340 *1125*	465 *1525*	550 *1800*	290 *950*	385 *1275*	450 *1475*
P2	255 *840*	345 *1125*	400 *1300*	255 *840*	350 *1150*	410 *1350*	230 *750*	305 *1000*	355 *1175*	220 *720*	280 *920*	310 *1025*	330 *1075*	440 *1450*	530 *1750*	280 *920*	370 *1225*	440 *1450*
P3	225 *740*	300 *980*	350 *1150*	225 *740*	310 *1025*	360 *1175*	205 *670*	270 *890*	310 *1025*	195 *640*	245 *800*	275 *900*	285 *940*	390 *1275*	470 *1550*	240 *790*	320 *1050*	385 *1275*
P4	200 *660*	265 *870*	310 *1025*	205 *670*	270 *890*	320 *1050*	185 *610*	235 *770*	275 *900*	180 *590*	230 *750*	260 *850*	260 *850*	345 *1125*	415 *1350*	220 *720*	285 *940*	340 *1125*
P5	190 *620*	250 *820*	300 *980*	195 *640*	260 *850*	315 *1025*	175 *570*	225 *740*	265 *870*	170 *560*	205 *670*	235 *770*	250 *820*	340 *1125*	395 *1300*	210 *690*	275 *900*	325 *1075*
P6	215 *710*	290 *950*	340 *1125*	220 *720*	300 *980*	350 *1150*	195 *640*	260 *850*	300 *980*	190 *620*	235 *770*	265 *870*	280 *920*	380 *1250*	445 *1450*	235 *770*	310 *1025*	365 *1200*
P7	205 *670*	270 *890*	320 *1050*	210 *690*	280 *920*	330 *1075*	185 *610*	245 *800*	285 *940*	180 *590*	225 *740*	250 *820*	265 *870*	360 *1175*	420 *1375*	220 *720*	295 *970*	345 *1125*
P8	190 *620*	250 *820*	295 *970*	190 *620*	260 *850*	305 *1000*	170 *560*	225 *740*	260 *850*	165 *540*	205 *670*	230 *750*	240 *790*	330 *1075*	395 *1300*	205 *670*	270 *890*	325 *1075*
P11	195 *640*	265 *870*	310 *1025*	200 *660*	275 *900*	320 *1050*	180 *590*	235 *770*	275 *900*	175 *570*	215 *710*	245 *800*	240 *790*	385 *1275*	495 *1625*	215 *710*	285 *940*	335 *1100*
P12	130 *425*	170 *560*	205 *670*	140 *460*	185 *610*	215 *710*	120 *395*	155 *510*	180 *590*	120 *395*	145 *475*	165 *540*	165 *540*	255 *840*	320 *1050*	140 *460*	185 *610*	215 *710*
M1	— —	— —	— —	185 *610*	245 *800*	290 *950*	175 *570*	235 *770*	275 *900*	160 *520*	215 *710*	250 *820*	270 *890*	420 *1375*	560 *1825*	200 *660*	265 *870*	315 *1025*
M2	— —	— —	— —	155 *510*	205 *670*	245 *800*	145 *475*	190 *620*	230 *750*	135 *445*	175 *570*	210 *690*	230 *750*	365 *1200*	470 *1550*	165 *540*	220 *720*	260 *850*
M3	— —	— —	— —	125 *410*	165 *540*	200 *660*	120 *395*	155 *510*	190 *620*	110 *360*	145 *475*	170 *560*	190 *620*	300 *980*	385 *1275*	135 *445*	180 *590*	210 *690*
M4	— —	— —	— —	100 *330*	130 *425*	150 *490*	95 *310*	125 *410*	145 *475*	85 *280*	110 *360*	130 *425*	150 *490*	230 *750*	295 *970*	105 *345*	140 *460*	165 *540*
M5	— —	— —	— —	80 *260*	110 *360*	125 *410*	80 *260*	105 *345*	120 *395*	70 *230*	95 *310*	110 *360*	125 *410*	195 *640*	245 *800*	85 *280*	115 *375*	135 *445*
K1	275 *900*	370 *1225*	435 *1425*	195 *640*	260 *850*	305 *1000*	— —	— —	— —	155 *510*	210 *690*	245 *800*	— —	— —	— —	— —	— —	— —
K2	250 *820*	325 *1075*	390 *1275*	175 *570*	230 *750*	275 *900*	— —	— —	— —	140 *460*	185 *610*	220 *720*	— —	— —	— —	— —	— —	— —
K3	210 *690*	275 *900*	330 *1075*	150 *490*	195 *640*	235 *770*	— —	— —	— —	120 *395*	155 *510*	185 *610*	— —	— —	— —	— —	— —	— —
K4	200 *660*	265 *870*	315 *1025*	140 *460*	185 *610*	225 *740*	— —	— —	— —	115 *375*	150 *490*	180 *590*	— —	— —	— —	— —	— —	— —
K5	125 *410*	160 *520*	190 *620*	85 *280*	115 *375*	135 *445*	— —	— —	— —	70 *230*	90 *295*	110 *360*	— —	— —	— —	— —	— —	— —
K6	175 *570*	230 *750*	280 *920*	125 *410*	165 *540*	195 *640*	— —	— —	— —	100 *330*	130 *425*	155 *510*	— —	— —	— —	— —	— —	— —
K7	160 *520*	205 *670*	245 *800*	110 *360*	145 *475*	175 *570*	— —	— —	— —	90 *295*	115 *375*	140 *460*	— —	— —	— —	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	1150 *3775*	1525 *5000*	1800 *5900*	— —	— —	— —	— —	— —	— —
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	460 *1500*	620 *2025*	730 *2400*	— —	— —	— —	— —	— —	— —
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	310 *1025*	410 *1350*	485 *1600*	— —	— —	— —	— —	— —	— —
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	350 *1150*	470 *1550*	560 *1825*	— —	— —	— —	— —	— —	— —
S1	— —	— —	— —	46 *150*	60 *195*	70 *230*	44 *145*	60 *195*	65 *215*	40 *130*	50 *165*	60 *195*	50 *165*	70 *230*	80 *260*	50 *165*	70 *230*	80 *260*
S2	— —	— —	— —	37 *120*	49 *160*	55 *180*	35 *115*	46 *150*	55 *180*	32 *105*	42 *140*	49 *160*	41 *135*	55 *180*	65 *215*	41 *135*	55 *180*	65 *215*
S3	— —	— —	— —	33 *110*	43 *140*	50 *165*	31 *100*	41 *135*	48 *155*	28 *90*	37 *120*	44 *145*	37 *120*	48 *155*	55 *180*	37 *120*	48 *155*	55 *180*
S11	— —	— —	— —	— —	— —	— —	60 *195*	80 *260*	95 *310*	55 *180*	70 *230*	85 *280*	70 *230*	95 *310*	110 *360*	70 *230*	95 *310*	110 *360*
S12	— —	— —	— —	— —	— —	— —	42 *140*	55 *180*	65 *215*	38 *125*	50 *165*	60 *195*	49 *160*	65 *215*	75 *245*	49 *160*	65 *215*	75 *245*
S13	— —	— —	— —	— —	— —	— —	25 *80*	32 *105*	38 *125*	22 *70*	29 *95*	34 *110*	29 *95*	38 *125*	45 *150*	29 *95*	38 *125*	45 *150*
H5	44 *145*	60 *195*	70 *230*	39 *130*	50 *165*	60 *195*	— —	— —	— —	33 *110*	44 *145*	50 *165*	— —	— —	— —	— —	— —	— —
H8	48 *155*	65 *215*	75 *245*	42 *140*	55 *180*	65 *215*	— —	— —	— —	36 *120*	47 *155*	55 *180*	— —	— —	— —	— —	— —	— —
H11	55 *180*	75 *245*	90 *295*	49 *160*	65 *215*	80 *260*	— —	— —	— —	42 *140*	55 *180*	65 *215*	110 *360*	165 *540*	210 *690*	55 *180*	70 *230*	85 *280*
H12	85 *280*	110 *360*	130 *425*	80 *260*	105 *345*	125 *410*	— —	— —	— —	65 *215*	85 *280*	100 *330*	105 *345*	150 *490*	190 *620*	90 *295*	115 *375*	140 *460*
H21	48 *155*	65 *215*	75 *245*	42 *140*	55 *180*	65 *215*	— —	— —	— —	36 *120*	47 *155*	55 *180*	100 *330*	120 *395*	130 *425*	45 *150*	60 *195*	70 *230*

R217/220.94-LO12 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK1501			MP1501			MP2501			MS2500			MP3501			MM4500		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	375	465	530	390	480	550	370	465	540	340	425	485	215	280	330
	—	—	—	*1225*	*1525*	*1750*	*1275*	*1575*	*1800*	*1225*	*1525*	*1775*	*1125*	*1400*	*1600*	*710*	*920*	*1075*
P2	—	—	—	360	455	510	380	470	540	360	450	520	325	410	465	205	270	315
	—	—	—	*1175*	*1500*	*1675*	*1250*	*1550*	*1775*	*1175*	*1475*	*1700*	*1075*	*1350*	*1525*	*670*	*890*	*1025*
P3	—	—	—	315	395	450	335	410	465	320	395	450	285	360	405	180	240	275
	—	—	—	*1025*	*1300*	*1475*	*1100*	*1350*	*1525*	*1050*	*1300*	*1475*	*940*	*1175*	*1325*	*590*	*790*	*900*
P4	—	—	—	285	350	395	295	365	415	280	355	405	255	315	360	175	225	260
	—	—	—	*940*	*1150*	*1300*	*970*	*1200*	*1350*	*920*	*1175*	*1325*	*840*	*1025*	*1175*	*570*	*740*	*850*
P5	—	—	—	270	335	385	280	350	400	265	340	385	245	305	350	155	200	235
	—	—	—	*890*	*1100*	*1275*	*920*	*1150*	*1300*	*870*	*1125*	*1275*	*800*	*1000*	*1150*	*510*	*660*	*770*
P6	—	—	—	305	380	430	315	395	445	300	380	435	275	345	390	175	230	265
	—	—	—	*1000*	*1250*	*1400*	*1025*	*1300*	*1450*	*980*	*1250*	*1425*	*900*	*1125*	*1275*	*570*	*750*	*870*
P7	—	—	—	285	360	405	295	370	420	285	360	410	260	325	370	165	215	250
	—	—	—	*940*	*1175*	*1325*	*970*	*1225*	*1375*	*940*	*1175*	*1350*	*850*	*1075*	*1225*	*540*	*710*	*820*
P8	—	—	—	265	335	375	280	345	390	265	330	380	240	305	340	150	200	230
	—	—	—	*870*	*1100*	*1225*	*920*	*1125*	*1275*	*870*	*1075*	*1250*	*790*	*1000*	*1125*	*490*	*660*	*750*
P11	—	—	—	280	350	395	290	360	410	275	350	395	250	315	360	160	210	245
	—	—	—	*920*	*1150*	*1300*	*950*	*1175*	*1350*	*900*	*1150*	*1300*	*820*	*1025*	*1175*	*520*	*690*	*800*
P12	—	—	—	185	225	255	190	230	260	180	225	255	165	205	235	105	135	155
	—	—	—	*610*	*740*	*840*	*620*	*750*	*850*	*590*	*740*	*840*	*540*	*670*	*770*	*345*	*445*	*510*
M1	—	—	—	—	—	—	195	255	305	210	275	330	175	235	275	135	185	215
	—	—	—	—	—	—	*640*	*840*	*1000*	*690*	*900*	*1075*	*570*	*770*	*900*	*445*	*610*	*710*
M2	—	—	—	—	—	—	160	215	250	175	230	275	145	190	230	115	150	180
	—	—	—	—	—	—	*520*	*710*	*820*	*570*	*750*	*900*	*475*	*620*	*750*	*375*	*490*	*590*
M3	—	—	—	—	—	—	130	170	205	140	185	225	120	155	190	95	125	145
	—	—	—	—	—	—	*425*	*560*	*670*	*460*	*610*	*740*	*395*	*510*	*620*	*310*	*410*	*475*
M4	—	—	—	—	—	—	105	135	160	110	145	175	95	125	145	75	95	115
	—	—	—	—	—	—	*345*	*445*	*520*	*360*	*475*	*570*	*310*	*410*	*475*	*245*	*310*	*375*
M5	—	—	—	—	—	—	85	115	135	95	120	145	80	105	120	60	80	95
	—	—	—	—	—	—	*280*	*375*	*445*	*310*	*395*	*475*	*260*	*345*	*395*	*195*	*260*	*310*
K1	320	560	780	365	460	520	380	475	540	230	305	365	325	415	470	—	—	—
	1050	*1825*	*2550*	*1200*	*1500*	*1700*	*1250*	*1550*	*1775*	*750*	*1000*	*1200*	*1075*	*1350*	*1550*	—	—	—
K2	285	495	690	325	405	465	340	425	480	205	275	325	295	365	425	—	—	—
	940	*1625*	*2275*	*1075*	*1325*	*1525*	*1125*	*1400*	*1575*	*670*	*900*	*1075*	*970*	*1200*	*1400*	—	—	—
K3	220	320	405	275	340	390	285	360	405	175	230	275	250	310	360	—	—	—
	720	*1050*	*1325*	*900*	*1125*	*1275*	*940*	*1175*	*1325*	*570*	*750*	*900*	*820*	*1025*	*1175*	—	—	—
K4	210	305	385	265	325	375	275	340	390	165	220	260	240	295	340	—	—	—
	690	*1000*	*1275*	*870*	*1075*	*1225*	*900*	*1125*	*1275*	*540*	*720*	*850*	*790*	*970*	*1125*	—	—	—
K5	125	185	235	165	200	225	170	210	235	105	135	160	150	180	205	—	—	—
	410	*610*	*770*	*540*	*660*	*740*	*560*	*690*	*770*	*345*	*445*	*520*	*490*	*590*	*670*	—	—	—
K6	185	270	340	235	285	330	240	300	340	145	195	230	210	260	300	—	—	—
	610	*890*	*1125*	*770*	*940*	*1075*	*790*	*980*	*1125*	*475*	*640*	*750*	*690*	*850*	*980*	—	—	—
K7	160	240	300	210	255	290	215	270	300	130	175	205	190	235	265	—	—	—
	520	*790*	*980*	*690*	*840*	*950*	*710*	*890*	*980*	*425*	*570*	*670*	*620*	*770*	*870*	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	55	70	85	44	60	65	22	30	35
	—	—	—	—	—	—	—	—	—	*180*	*230*	*280*	*145*	*195*	*215*	*70*	*100*	*115*
S2	—	—	—	—	—	—	—	—	—	44	60	70	35	46	55	18	24	28
	—	—	—	—	—	—	—	—	—	*145*	*195*	*230*	*115*	*150*	*180*	*60*	*80*	*90*
S3	—	—	—	—	—	—	—	—	—	39	50	60	31	41	48	16	21	25
	—	—	—	—	—	—	—	—	—	*130*	*165*	*195*	*100*	*135*	*155*	*50*	*70*	*80*
S11	—	—	—	—	—	—	—	—	—	75	100	120	60	80	95	31	41	49
	—	—	—	—	—	—	—	—	—	*245*	*330*	*395*	*195*	*260*	*310*	*100*	*135*	*160*
S12	—	—	—	—	—	—	—	—	—	50	70	80	42	55	65	29	38	45
	—	—	—	—	—	—	—	—	—	*165*	*230*	*260*	*140*	*180*	*215*	*95*	*125*	*150*
S13	—	—	—	—	—	—	—	—	—	31	40	47	25	32	38	17	22	26
	—	—	—	—	—	—	—	—	—	*100*	*130*	*155*	*80*	*105*	*125*	*55*	*70*	*85*
H5	—	—	—	48	65	75	—	—	—	44	60	70	38	50	60	—	—	—
	—	—	—	*155*	*215*	*245*	—	—	—	*145*	*195*	*230*	*125*	*165*	*195*	—	—	—
H8	—	—	—	50	70	80	—	—	—	47	60	75	41	55	65	—	—	—
	—	—	—	*165*	*230*	*260*	—	—	—	*155*	*195*	*245*	*135*	*180*	*215*	—	—	—
H11	—	—	—	60	80	95	—	—	—	55	75	85	48	65	75	—	—	—
	—	—	—	*195*	*260*	*310*	—	—	—	*180*	*245*	*280*	*155*	*215*	*245*	—	—	—
H12	—	—	—	90	120	145	—	—	—	95	125	145	75	100	115	—	—	—
	—	—	—	*295*	*395*	*475*	—	—	—	*310*	*410*	*475*	*245*	*330*	*375*	—	—	—
H21	—	—	—	50	70	80	—	—	—	47	60	75	41	55	65	—	—	—
	—	—	—	*165*	*230*	*260*	—	—	—	*155*	*195*	*245*	*135*	*180*	*215*	—	—	—



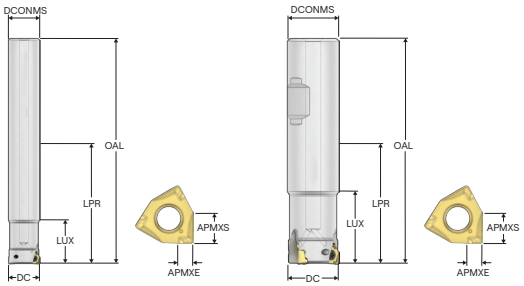
Square 6

Seco's line of Square 6 shoulder milling cutters answers the need for added economy in square shoulder milling. This unique square shoulder milling cutter uses trigonal inserts with three cutting edges on each side – six total cutting edges – to lower the cost per cutting edge.

– With two different cutter family sizes - Insert size 04 and 08
– Wiper flats optimize surface finishes
– Multiple grades and geometries are available

Square 6™ – R217.96-04 – Metric





—For insert selection and cutting data recommendations, see page(s) 104-106
—For complete insert programme, see page(s) 912
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCONMS	LF	LUX	LPR	OAL	RMPX°	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm	mm			kg	
R217.96-2020.3-04-3A	02768349	Weldon	20,0	3	4,0	2,0	20,0	65,0	29,0	40,0	90,0	0,0	29400	0,2	XNEX0403
R217.96-2525.3-04-4A	02768362	Weldon	25,0	4	4,0	2,0	25,0	69,0	34,0	45,0	101,0	0,0	26300	0,3	XNEX0403
R217.96-2525.3-04-5A	02768364	Weldon	25,0	5	4,0	2,0	25,0	69,0	34,0	45,0	101,0	0,0	26300	0,4	XNEX0403
R217.96-3232.3-04-5A	02768372	Weldon	32,0	5	4,0	2,0	32,0	69,0	37,0	45,0	105,0	0,0	23200	0,6	XNEX0403
R217.96-1820.0-04-3A	02833459	Cylindrical	20,0	3	4,0	2,0	18,0	–	100,0	100,0	150,0	0,0	29400	0,3	XNEX0403
R217.96-2020.0-04-3A	02768343	Cylindrical	20,0	3	4,0	2,0	20,0	–	29,0	100,0	150,0	0,0	29400	0,3	XNEX0403
R217.96-2525.0-04-4A	02768359	Cylindrical	25,0	4	4,0	2,0	25,0	–	29,0	114,0	170,0	0,0	26300	0,3	XNEX0403
R217.96-2525.0-04-5A	02768361	Cylindrical	25,0	5	4,0	2,0	25,0	–	29,0	114,0	170,0	0,0	26300	0,6	XNEX0403
R217.96-3232.0-04-5A	02768370	Cylindrical	32,0	5	4,0	2,0	32,0	–	31,0	135,0	195,0	0,0	23200	1,2	XNEX0403
R217.96-3232.0-04-6A	02768371	Cylindrical	32,0	6	4,0	2,0	32,0	–	31,0	135,0	195,0	0,0	23200	1,2	XNEX0403

Spare Parts, included in delivery

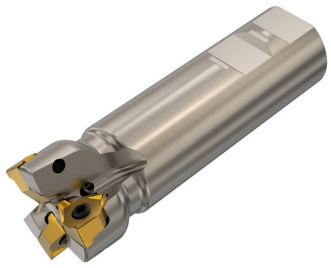
For cutter	Insert key	Insert screw
		
R217.96-..	1/4HEX-T08PX50	C02506-T08P

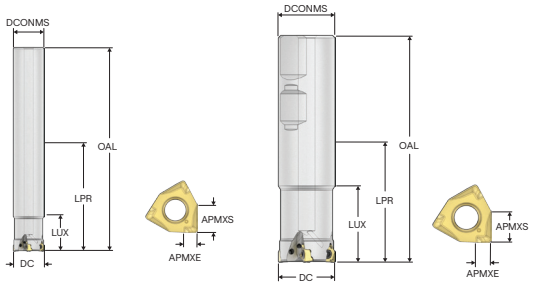
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.96-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12

Torque and fixed keys, see page 944

Square 6™ – R217.96-04 – inch





—For insert selection and cutting data recommendations, see page(s) 104-106
—For complete insert programme, see page(s) 912
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCONMS	LF	LUX	LPR	OAL	RMPX°	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch	inch			lbs	
R217.96-00.75-3-04-3A	02770536	Weldon	0.750	3	0.157	0.079	0.750	2.374	1.193	1.422	3.390	0,0	29400	0.440	XNEX0403
R217.96-01.00-3-04-5A	02770596	Weldon	1.000	5	0.157	0.079	1.000	2.638	1.178	1.575	3.780	0,0	26300	0.880	XNEX0403
R217.96-01.25-3-04-5A	02770602	Weldon	1.250	5	0.157	0.079	1.250	2.858	1.240	1.638	4.000	0,0	23200	1.320	XNEX0403
R217.96-00.75-0-04-3A	02770505	Cylindrical	0.750	3	0.157	0.079	0.750	–	1.394	3.941	5.910	0,0	29400	0.660	XNEX0403

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.96..	1/4HEX-T08PX50	C02506-T08P

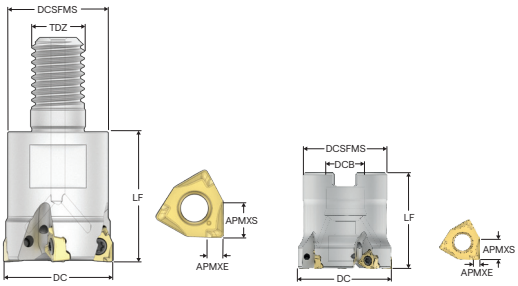
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.96-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12

Torque and fixed keys, see page 944

Square 6™ – R217/220.96-04 – Metric



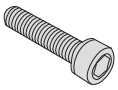


–For insert selection and cutting data recommendations, see page(s) 104-106
–For complete insert programme, see page(s) 912
–For ISO attribute explanation, see page 16
–KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ	DCONMS	LF	RMPX°	RPMX	Weight	Insert
			mm		mm	mm	mm	mm		mm	mm			kg	
R217.96-1020.RE-04-3A	02768351	Combimaster	20,0	3	4,0	2,0	–	18,3	M10	18,3	28,0	0,0	29400	0,1	XNEX0403
R217.96-1225.RE-04-4A	02768365	Combimaster	25,0	4	4,0	2,0	–	23,0	M12	23,0	30,0	0,0	26300	0,2	XNEX0403
R217.96-1225.RE-04-5A	02768367	Combimaster	25,0	5	4,0	2,0	–	23,0	M12	23,0	30,0	0,0	26300	0,1	XNEX0403
R217.96-1632.RE-04-5A	02768375	Combimaster	32,0	5	4,0	2,0	–	30,0	M16	30,0	40,0	0,0	23200	0,3	XNEX0403
R217.96-1632.RE-04-6A	02768376	Combimaster	32,0	6	4,0	2,0	–	30,0	M16	30,0	40,0	0,0	23200	0,3	XNEX0403
R220.96-0032-04-4A	02841298	Arbor	32,0	4	4,0	2,0	16,0	35,0	–	16,0	40,0	0,0	23200	0,2	XNEX0403
R220.96-0032-04-6A	02841306	Arbor	32,0	6	4,0	2,0	16,0	35,0	–	16,0	40,0	0,0	23200	0,2	XNEX0403
R220.96-0040-04-5A	02841154	Arbor	40,0	5	4,0	2,0	16,0	35,0	–	16,0	40,0	0,0	20700	0,3	XNEX0403
R220.96-0040-04-7A	02768377	Arbor	40,0	7	4,0	2,0	16,0	35,0	–	16,0	40,0	0,0	20700	0,3	XNEX0403
R220.96-0050-04-6A	02841155	Arbor	50,0	6	4,0	2,0	22,0	47,0	–	22,0	40,0	0,0	18600	0,5	XNEX0403
R220.96-0050-04-8A	02768413	Arbor	50,0	8	4,0	2,0	22,0	47,0	–	22,0	40,0	0,0	18600	0,5	XNEX0403
R220.96-0050-04-9A	02768412	Arbor	50,0	9	4,0	2,0	22,0	47,0	–	22,0	40,0	0,0	18600	0,5	XNEX0403
R220.96-0063-04-7A	02841156	Arbor	63,0	7	4,0	2,0	27,0	62,0	–	27,0	40,0	0,0	16500	0,7	XNEX0403
R220.96-0063-04-9A	02768433	Arbor	63,0	9	4,0	2,0	27,0	62,0	–	27,0	40,0	0,0	16500	0,7	XNEX0403

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.96-..	–	1/4HEX-T08PX50	C02506-T08P
R220.96-0032-0040	TCEI0825	1/4HEX-T08PX50	C02506-T08P
R220.96-0050	220.17-692	1/4HEX-T08PX50	C02506-T08P
R220.96-0063	–	1/4HEX-T08PX50	C02506-T08P

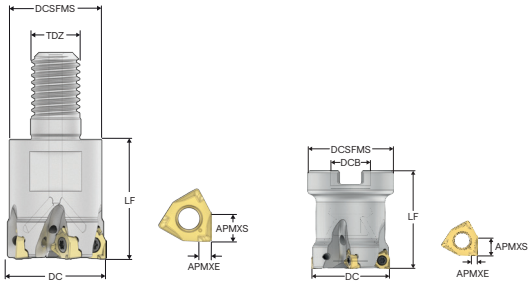
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.96-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12

Torque and fixed keys, see page 944

Square 6™ – R217/220.96-04 – inch



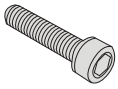


—For insert selection and cutting data recommendations, see page(s) 104-106
—For complete insert programme, see page(s) 912
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ	DCONMS	LF	RMPX°	RPMX	Weight	Insert
			inch		inch	inch	inch	inch		inch	inch			lbs	
R217.96-00.75-10RE-04-3A	02770501	Combimaster	0.750	3	0.157	0.079	–	0.689	M10	0.689	1.070	0,0	29400	0.220	XNEX0403
R217.96-01.00-12RE-04-5A	02770543	Combimaster	1.000	5	0.157	0.079	–	0.906	M12	0.906	1.570	0,0	26300	0.220	XNEX0403
R217.96-01.25-16RE-04-5A	02770599	Combimaster	1.250	5	0.157	0.079	–	1.181	M16	1.181	1.570	0,0	23200	0.660	XNEX0403
R220.96-01.50-04-6A	02770608	Arbor	1.500	6	0.157	0.079	0.750	1.378	–	0.750	1.570	0,0	20700	0.440	XNEX0403
R220.96-02.00-04-9A	02770613	Arbor	2.000	9	0.157	0.079	0.750	1.850	–	0.750	1.567	0,0	18600	0.880	XNEX0403

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.96-..	–	1/4HEX-T08PX50	C02506-T08P
R220.96-..	UC6S3/8UNFX1	1/4HEX-T08PX50	C02506-T08P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.96-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12

Torque and fixed keys, see page 944

R217/220.96-04 – Insert selection – mm/Inch

SMG		a_p	f_z		
			100%	30%	10%
P1	XNEX040304TR-M08 F40M	2,0 *0.080*	0,11 0.0044	0,13 0.0050	0,19 0.0075
P2	XNEX040304TR-M08 F40M	2,0 *0.080*	0,12 0.0048	0,13 0.0050	0,20 0.0080
P3	XNEX040304TR-M08 MP2501	2,0 *0.080*	0,11 0.0044	0,12 0.0048	0,19 0.0075
P4	XNEX040304TR-M08 MP2501	2,0 *0.080*	0,11 0.0044	0,12 0.0048	0,18 0.0070
P5	XNEX040304TR-M08 MP2501	2,0 *0.080*	0,11 0.0044	0,12 0.0048	0,18 0.0070
P6	XNEX040304TR-M08 MP2501	2,0 *0.080*	0,11 0.0044	0,11 0.0044	0,18 0.0070
P7	XNEX040304TR-M08 MP2501	2,0 *0.080*	0,11 0.0044	0,11 0.0044	0,18 0.0070
P8	XNEX040304TR-M08 MP2501	2,0 *0.080*	0,11 0.0044	0,12 0.0048	0,19 0.0075
P11	XNEX040304TR-M08 MP3000	2,0 *0.080*	0,11 0.0044	0,11 0.0044	0,18 0.0070
P12	XNEX040304TR-M08 MP3000	1,6 *0.065*	0,075 0.0030	0,080 0.0032	0,12 0.0048
M1	XNEX040304R-M06 F40M	2,0 *0.080*	0,090 0.0036	0,095 0.0038	0,15 0.0060
M2	XNEX040304R-M06 F40M	2,0 *0.080*	0,080 0.0032	0,085 0.0034	0,13 0.0050
M3	XNEX040304R-M06 F40M	1,6 *0.065*	0,065 0.0026	0,070 0.0028	0,11 0.0044
M4	XNEX040304R-M06 MS2050	1,2 *0.048*	0,060 0.0024	0,065 0.0026	0,095 0.0038
M5	XNEX040304R-M06 MS2050	1,2 *0.048*	0,060 0.0024	0,065 0.0026	0,095 0.0038
K1	XNEX040304TR-M08 MK1501	2,0 *0.080*	0,12 0.0048	0,13 0.0050	0,20 0.0080
K2	XNEX040304TR-M08 MK1501	2,0 *0.080*	0,11 0.0044	0,12 0.0048	0,18 0.0070
K3	XNEX040304TR-M08 MK2050	2,0 *0.080*	0,11 0.0044	0,12 0.0048	0,18 0.0070
K4	XNEX040304TR-M08 MK2050	2,0 *0.080*	0,11 0.0044	0,12 0.0048	0,18 0.0070
K5	XNEX040304TR-M08 MK2050	2,0 *0.080*	0,095 0.0038	0,10 0.0040	0,16 0.0065
K6	XNEX040304TR-M08 MK2050	2,0 *0.080*	0,11 0.0044	0,12 0.0048	0,18 0.0070
K7	XNEX040304TR-M08 MK2050	2,0 *0.080*	0,095 0.0038	0,10 0.0040	0,16 0.0065
N1	XNEX040304R-M06 F40M	2,0 *0.080*	0,11 0.0044	0,12 0.0048	0,19 0.0075
N2	XNEX040304R-M06 F40M	2,0 *0.080*	0,11 0.0044	0,12 0.0048	0,19 0.0075
N3	XNEX040304R-M06 F40M	2,0 *0.080*	0,11 0.0044	0,12 0.0048	0,19 0.0075
N11	XNEX040304R-M06 F40M	2,0 *0.080*	0,11 0.0044	0,12 0.0048	0,19 0.0075
S1	XNEX040304R-M06 F40M	1,2 *0.048*	0,060 0.0024	0,065 0.0026	0,095 0.0038
S2	XNEX040304R-M06 F40M	1,2 *0.048*	0,060 0.0024	0,065 0.0026	0,095 0.0038
S3	XNEX040304R-M06 F40M	1,2 *0.048*	0,055 0.0022	0,060 0.0024	0,090 0.0036
S11	XNEX040304R-M06 MS2050	1,4 *0.055*	0,065 0.0026	0,070 0.0028	0,11 0.0044
S12	XNEX040304R-M06 MS2050	1,4 *0.055*	0,065 0.0026	0,070 0.0028	0,11 0.0044
S13	XNEX040304R-M06 MS2050	1,2 *0.048*	0,060 0.0024	0,065 0.0026	0,095 0.0038
H5	XNEX040304TR-M08 MP3000	1,6 *0.065*	0,075 0.0030	0,080 0.0032	0,12 0.0048
H8	XNEX040304TR-M08 MP3000	1,4 *0.055*	0,055 0.0022	0,060 0.0024	0,095 0.0038
H11	XNEX040308TR-M08 MP1501	1,6 *0.065*	0,080 0.0032	0,085 0.0034	0,13 0.0050
H12	XNEX040304TR-M08 MP1501	1,4 *0.055*	0,055 0.0022	0,060 0.0024	0,095 0.0038
H21	XNEX040304TR-M08 MP1501	1,4 *0.055*	0,055 0.0022	0,060 0.0024	0,095 0.0038

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

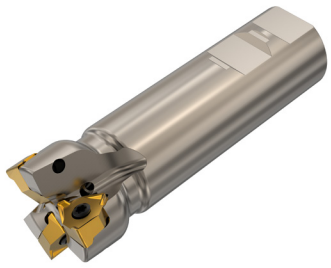
R217/220.96-04 – Cutting data v_c = (m/min)/(sf/min)

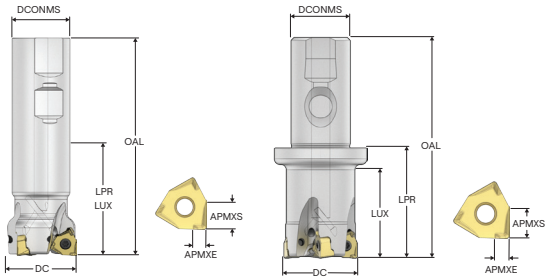
SMG	MK2050			MP3000			MS2050			F40M		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	305 *1000*	395 *1300*	470 *1550*	370 *1225*	475 *1550*	550 *1800*	320 *1050*	400 *1300*	460 *1500*	280 *920*	330 *1075*	375 *1225*
P2	290 *950*	385 *1275*	455 *1500*	365 *1200*	460 *1500*	530 *1750*	310 *1025*	390 *1275*	445 *1450*	265 *870*	325 *1075*	365 *1200*
P3	255 *840*	340 *1125*	400 *1300*	310 *1025*	400 *1300*	460 *1500*	270 *890*	340 *1125*	385 *1275*	235 *770*	285 *940*	320 *1050*
P4	225 *740*	295 *970*	350 *1150*	280 *920*	355 *1175*	410 *1350*	240 *790*	300 *980*	345 *1125*	210 *690*	260 *850*	295 *970*
P5	215 *710*	285 *940*	335 *1100*	265 *870*	340 *1125*	390 *1275*	230 *750*	290 *950*	330 *1075*	195 *640*	240 *790*	270 *890*
P6	245 *800*	325 *1075*	380 *1250*	300 *980*	380 *1250*	440 *1450*	255 *840*	325 *1075*	370 *1225*	225 *740*	275 *900*	305 *1000*
P7	235 *770*	310 *1025*	360 *1175*	280 *920*	360 *1175*	415 *1350*	245 *800*	305 *1000*	350 *1150*	215 *710*	260 *850*	290 *950*
P8	215 *710*	285 *940*	335 *1100*	260 *850*	335 *1100*	385 *1275*	225 *740*	285 *940*	325 *1075*	195 *640*	240 *790*	270 *890*
P11	225 *740*	300 *980*	350 *1150*	275 *900*	350 *1150*	400 *1300*	235 *770*	300 *980*	340 *1125*	210 *690*	250 *820*	280 *920*
P12	145 *475*	190 *620*	225 *740*	170 *560*	215 *710*	240 *790*	150 *490*	185 *610*	210 *690*	135 *445*	160 *520*	180 *590*
M1	— —	— —	— —	235 *770*	310 *1025*	360 *1175*	225 *740*	295 *970*	340 *1125*	180 *590*	240 *790*	285 *940*
M2	— —	— —	— —	195 *640*	260 *850*	300 *980*	185 *610*	245 *800*	285 *940*	150 *490*	195 *640*	230 *750*
M3	— —	— —	— —	155 *510*	205 *670*	240 *790*	145 *475*	195 *640*	225 *740*	120 *395*	160 *520*	190 *620*
M4	— —	— —	— —	120 *395*	160 *520*	185 *610*	115 *375*	150 *490*	175 *570*	95 *310*	125 *410*	145 *475*
M5	— —	— —	— —	100 *330*	135 *445*	155 *510*	95 *310*	125 *410*	145 *475*	80 *260*	105 *345*	120 *395*
K1	315 *1025*	415 *1350*	495 *1625*	250 *820*	330 *1075*	385 *1275*	— —	— —	— —	175 *570*	235 *770*	280 *920*
K2	275 *900*	365 *1200*	435 *1425*	220 *720*	295 *970*	345 *1125*	— —	— —	— —	155 *510*	205 *670*	245 *800*
K3	235 *770*	310 *1025*	365 *1200*	185 *610*	250 *820*	290 *950*	— —	— —	— —	135 *445*	175 *570*	205 *670*
K4	225 *740*	295 *970*	350 *1150*	180 *590*	235 *770*	275 *900*	— —	— —	— —	125 *410*	170 *560*	200 *660*
K5	140 *460*	185 *610*	215 *710*	110 *360*	145 *475*	170 *560*	— —	— —	— —	80 *260*	105 *345*	120 *395*
K6	195 *640*	260 *850*	310 *1025*	155 *510*	210 *690*	245 *800*	— —	— —	— —	110 *360*	150 *490*	175 *570*
K7	175 *570*	235 *770*	275 *900*	140 *460*	185 *610*	215 *710*	— —	— —	— —	100 *330*	135 *445*	155 *510*
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	1325 *4350*	1750 *5750*	2050 *6725*
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	530 *1750*	710 *2325*	830 *2725*
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	355 *1175*	470 *1550*	550 *1800*
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	405 *1325*	540 *1775*	630 *2075*
S1	— —	— —	— —	— —	— —	— —	55 *180*	70 *230*	80 *260*	44 *145*	60 *195*	70 *230*
S2	— —	— —	— —	— —	— —	— —	43 *140*	55 *180*	65 *215*	36 *120*	47 *155*	55 *180*
S3	— —	— —	— —	— —	— —	— —	37 *120*	50 *165*	60 *195*	31 *100*	41 *135*	48 *155*
S11	— —	— —	— —	— —	— —	— —	75 *245*	100 *330*	115 *375*	60 *195*	80 *260*	95 *310*
S12	— —	— —	— —	— —	— —	— —	50 *165*	70 *230*	80 *260*	43 *140*	55 *180*	65 *215*
S13	— —	— —	— —	— —	— —	— —	30 *100*	39 *130*	46 *150*	25 *80*	33 *110*	38 *125*
H5	49 *160*	65 *215*	75 *245*	48 *155*	65 *215*	75 *245*	— —	— —	— —	37 *120*	49 *160*	55 *180*
H8	55 *180*	70 *230*	80 *260*	50 *165*	65 *215*	75 *245*	— —	— —	— —	40 *130*	50 *165*	60 *195*
H11	65 *215*	85 *280*	95 *310*	60 *195*	80 *260*	95 *310*	— —	— —	— —	47 *155*	60 *195*	75 *245*
H12	90 *295*	120 *395*	140 *460*	95 *310*	125 *410*	150 *490*	— —	— —	— —	70 *230*	95 *310*	110 *360*
H21	55 *180*	70 *230*	80 *260*	— —	— —	— —	— —	— —	— —	40 *130*	50 *165*	60 *195*

R217/220.96-04 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK1501			MP1501			MP2501			MM4500		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	445	540	600	480	580	640	270	335	375
	—	—	—	*1450*	*1775*	*1975*	*1575*	*1900*	*2100*	*890*	*1100*	*1225*
P2	—	—	—	430	530	590	470	560	630	260	325	365
	—	—	—	*1400*	*1750*	*1925*	*1550*	*1825*	*2075*	*850*	*1075*	*1200*
P3	—	—	—	370	455	510	405	490	540	225	280	315
	—	—	—	*1225*	*1500*	*1675*	*1325*	*1600*	*1775*	*740*	*920*	*1025*
P4	—	—	—	335	405	450	360	430	475	215	265	300
	—	—	—	*1100*	*1325*	*1475*	*1175*	*1400*	*1550*	*710*	*870*	*980*
P5	—	—	—	320	385	430	340	410	455	190	235	265
	—	—	—	*1050*	*1275*	*1400*	*1125*	*1350*	*1500*	*620*	*770*	*870*
P6	—	—	—	355	435	485	385	465	510	215	265	295
	—	—	—	*1175*	*1425*	*1600*	*1275*	*1525*	*1675*	*710*	*870*	*970*
P7	—	—	—	335	410	455	365	435	485	200	250	280
	—	—	—	*1100*	*1350*	*1500*	*1200*	*1425*	*1600*	*660*	*820*	*920*
P8	—	—	—	310	380	425	340	410	455	190	235	265
	—	—	—	*1025*	*1250*	*1400*	*1125*	*1350*	*1500*	*620*	*770*	*870*
P11	—	—	—	325	400	445	350	425	470	195	240	270
	—	—	—	*1075*	*1300*	*1450*	*1150*	*1400*	*1550*	*640*	*790*	*890*
P12	—	—	—	205	245	270	215	255	280	115	140	155
	—	—	—	*670*	*800*	*890*	*710*	*840*	*920*	*375*	*460*	*510*
M1	—	—	—	—	—	—	245	320	375	180	235	275
	—	—	—	—	—	—	*800*	*1050*	*1225*	*590*	*770*	*900*
M2	—	—	—	—	—	—	200	265	305	145	195	225
	—	—	—	—	—	—	*660*	*870*	*1000*	*475*	*640*	*740*
M3	—	—	—	—	—	—	160	210	245	115	155	180
	—	—	—	—	—	—	*520*	*690*	*800*	*375*	*510*	*590*
M4	—	—	—	—	—	—	125	165	190	90	120	140
	—	—	—	—	—	—	*410*	*540*	*620*	*295*	*395*	*460*
M5	—	—	—	—	—	—	105	135	160	75	100	115
	—	—	—	—	—	—	*345*	*445*	*520*	*245*	*330*	*375*
K1	370	630	860	435	530	590	475	570	630	—	—	—
	1225	*2075*	*2825*	*1425*	*1750*	*1925*	*1550*	*1875*	*2075*	—	—	—
K2	325	550	750	385	465	520	415	500	550	—	—	—
	1075	*1800*	*2450*	*1275*	*1525*	*1700*	*1350*	*1650*	*1800*	—	—	—
K3	265	385	470	325	395	440	350	420	465	—	—	—
	870	*1275*	*1550*	*1075*	*1300*	*1450*	*1150*	*1375*	*1525*	—	—	—
K4	255	365	450	310	375	420	335	405	445	—	—	—
	840	*1200*	*1475*	*1025*	*1225*	*1375*	*1100*	*1325*	*1450*	—	—	—
K5	155	220	275	190	225	255	200	240	265	—	—	—
	510	*720*	*900*	*620*	*740*	*840*	*660*	*790*	*870*	—	—	—
K6	225	320	395	275	330	370	295	355	390	—	—	—
	740	*1050*	*1300*	*900*	*1075*	*1225*	*970*	*1175*	*1275*	—	—	—
K7	195	285	350	240	290	325	260	310	340	—	—	—
	640	*940*	*1150*	*790*	*950*	*1075*	*850*	*1025*	*1125*	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	28	37	43
	—	—	—	—	—	—	—	—	—	*90*	*120*	*140*
S2	—	—	—	—	—	—	—	—	—	22	29	34
	—	—	—	—	—	—	—	—	—	*70*	*95*	*110*
S3	—	—	—	—	—	—	—	—	—	20	26	30
	—	—	—	—	—	—	—	—	—	*65*	*85*	*100*
S11	—	—	—	—	—	—	—	—	—	39	50	60
	—	—	—	—	—	—	—	—	—	*130*	*165*	*195*
S12	—	—	—	—	—	—	—	—	—	36	47	55
	—	—	—	—	—	—	—	—	—	*120*	*155*	*180*
S13	—	—	—	—	—	—	—	—	—	21	27	32
	—	—	—	—	—	—	—	—	—	*70*	*90*	*105*
H5	—	—	—	55	75	85	—	—	—	—	—	—
	—	—	—	*180*	*245*	*280*	—	—	—	—	—	—
H8	—	—	—	60	75	90	—	—	—	—	—	—
	—	—	—	*195*	*245*	*295*	—	—	—	—	—	—
H11	—	—	—	70	95	110	—	—	—	—	—	—
	—	—	—	*230*	*310*	*360*	—	—	—	—	—	—
H12	—	—	—	105	140	160	—	—	—	—	—	—
	—	—	—	*345*	*460*	*520*	—	—	—	—	—	—
H21	—	—	—	60	75	90	—	—	—	—	—	—
	—	—	—	*195*	*245*	*295*	—	—	—	—	—	—

Square 6™ – R217.96-08 – Metric





—For insert selection and cutting data recommendations, see page(s) 113–115
—For complete insert programme, see page(s) 912
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCSFMS	DCONMS	LF	LUX	LPR	OAL	RMPX°	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm	mm	mm			kg	
R217.96-3240.3-08-3A	02622987	Weldon	40,0	3	7,5	3,0	–	32,0	84,0	60,0	60,0	120,0	0,0	11800	0,7	XNEX0806
R217.96-3240.3-08-4A	02622989	Weldon	40,0	4	7,5	3,0	–	32,0	84,0	60,0	60,0	120,0	0,0	11800	0,7	XNEX0806
R217.96-3240.3S-08-4A	02622915	Seco-Weldon	40,0	4	7,5	3,0	50,0	32,0	–	50,0	60,0	120,0	0,0	11800	0,8	XNEX0806

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.96-..	1/4HEX-T15PX50	C04011-T15P

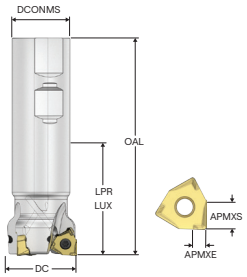
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.96-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Square 6™ – R217.96-08 – inch





—For insert selection and cutting data recommendations, see page(s) 113-115
—For complete insert programme, see page(s) 912
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCONMS	LF	LUX	LPR	OAL	RMPX°	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch	inch			lbs	
R217.96-01.50-3-08-3A	02642818	Weldon	1.500	3	0.295	0.118	1.250	3.358	2.138	2.138	4.500	0,0	20700	1.540	XNEX0806

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.96-..	1/4HEX-T15PX50	C04011-T15P

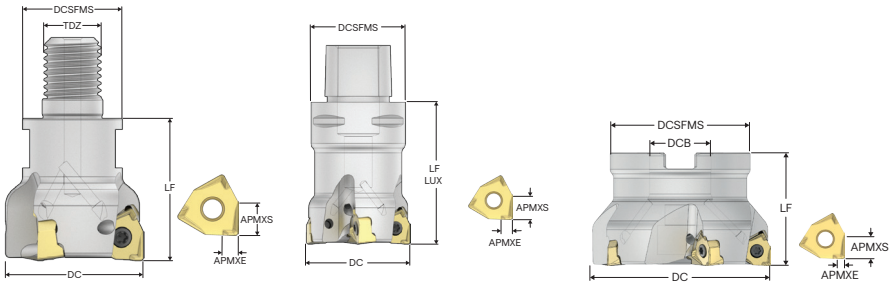
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.96-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Square 6™ – R217/220.96-08 – Metric





–For insert selection and cutting data recommendations, see page(s) 113–115
–For complete insert programme, see page(s) 912
–For ISO attribute explanation, see page 16
–KAPRS 90°

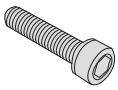
Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ	DCONMS	LF	LUX	RMPX°	RPMX	Weight	Insert
			mm		mm	mm	mm	mm		mm	mm	mm			kg	
C4-R217.96-044-08-3A	02690109	Seco-Capto	44,0	3	7,5	3,0	–	40,0	–	40,0	60,0	60,0	0,0	11300	0,6	XNEX0806
C4-R217.96-044-08-4A	02690177	Seco-Capto	44,0	4	7,5	3,0	–	40,0	–	40,0	60,0	60,0	0,0	11300	0,5	XNEX0806
C5-R217.96-054-08-4A	02690178	Seco-Capto	54,0	4	7,5	3,0	–	50,0	–	50,0	60,0	60,0	0,0	10200	0,9	XNEX0806
C5-R217.96-054-08-5A	02690179	Seco-Capto	54,0	5	7,5	3,0	–	50,0	–	50,0	60,0	60,0	0,0	10200	0,9	XNEX0806
C5-R217.96-063-08-6A	02690180	Seco-Capto	63,0	6	7,5	3,0	–	50,0	–	50,0	60,0	60,0	0,0	9400	1,0	XNEX0806
C6-R217.96-066-08-7A	02780514	Seco-Capto	66,0	7	7,5	3,0	–	63,0	–	63,0	60,0	60,0	0,0	9400	1,4	XNEX0806
C6-R217.96-080-08-7A	02690182	Seco-Capto	80,0	7	7,5	3,0	–	63,0	–	63,0	60,0	60,0	0,0	8400	1,7	XNEX0806
C6-R217.96-080-08-9A	02690183	Seco-Capto	80,0	9	7,5	3,0	–	63,0	–	63,0	60,0	60,0	0,0	8400	1,2	XNEX0806
R217.96-1640.RE-08-3A	02678953	Combimaster	40,0	3	7,5	3,0	–	28,0	M16	28,0	40,0	–	0,0	11800	0,3	XNEX0806
R217.96-1640.RE-08-4A	02678957	Combimaster	40,0	4	7,5	3,0	–	28,0	M16	28,0	40,0	–	0,0	11800	0,3	XNEX0806
R217.96-2040.RE-08-4A	02972745	Combimaster	40,0	4	7,5	3,0	–	36,5	M20	36,5	40,0	–	0,0	11800	0,3	XNEX0806
R220.96-0050-08-4A	02623180	Arbor	50,0	4	7,5	3,0	22,0	47,0	–	22,0	40,0	–	0,0	10600	0,3	XNEX0806
R220.96-0050-08-5A	02623182	Arbor	50,0	5	7,5	3,0	22,0	47,0	–	22,0	40,0	–	0,0	10600	0,4	XNEX0806
R220.96-0052-08-5A	02969090	Arbor	52,0	5	7,5	3,0	22,0	47,0	–	22,0	40,0	–	0,0	10600	0,4	XNEX0806
R220.96-0063-08-4A	02623183	Arbor	63,0	4	7,5	3,0	22,0	47,0	–	22,0	40,0	–	0,0	9400	0,6	XNEX0806
R220.96-0063-08-5A-27	02768079	Arbor	63,0	5	7,5	3,0	27,0	62,0	–	27,0	40,0	–	0,0	9400	0,7	XNEX0806
R220.96-0063-08-6A	02623194	Arbor	63,0	6	7,5	3,0	22,0	47,0	–	22,0	40,0	–	0,0	9400	0,5	XNEX0806
R220.96-0063-08-6A-27	02679623	Arbor	63,0	6	7,5	3,0	27,0	62,0	–	27,0	40,0	–	0,0	9400	0,6	XNEX0806
R220.96-0063-08-7A	02623196	Arbor	63,0	7	7,5	3,0	22,0	47,0	–	22,0	40,0	–	0,0	9400	0,5	XNEX0806
R220.96-0063-08-7A-27	02679624	Arbor	63,0	7	7,5	3,0	27,0	62,0	–	27,0	40,0	–	0,0	9400	0,6	XNEX0806
R220.96-0066-08-6A	02711515	Arbor	66,0	6	7,5	3,0	22,0	47,0	–	22,0	40,0	–	0,0	9400	0,5	XNEX0806
R220.96-0080-08-5A	02623197	Arbor	80,0	5	7,5	3,0	27,0	62,0	–	27,0	50,0	–	0,0	8400	1,1	XNEX0806
R220.96-0080-08-7A	02623198	Arbor	80,0	7	7,5	3,0	27,0	62,0	–	27,0	50,0	–	0,0	8400	1,0	XNEX0806
R220.96-0080-08-9A	02623200	Arbor	80,0	9	7,5	3,0	27,0	62,0	–	27,0	50,0	–	0,0	8400	1,0	XNEX0806
R220.96-0084-08-7A	02969094	Arbor	84,0	7	7,5	3,0	27,0	62,0	–	27,0	50,0	–	0,0	8400	1,2	XNEX0806
R220.96-0100-08-6A	02623201	Arbor	100,0	6	7,5	3,0	32,0	77,0	–	32,0	50,0	–	0,0	7500	1,6	XNEX0806
R220.96-0100-08-8A	02623203	Arbor	100,0	8	7,5	3,0	32,0	77,0	–	32,0	50,0	–	0,0	7500	1,6	XNEX0806
R220.96-0100-08-11A	02623204	Arbor	100,0	11	7,5	3,0	32,0	77,0	–	32,0	50,0	–	0,0	7500	1,5	XNEX0806
R220.96-0125-08-7A	02640708	Arbor	125,0	7	7,5	3,0	40,0	90,0	–	40,0	63,0	–	0,0	6700	2,9	XNEX0806
R220.96-0125-08-11A	02640709	Arbor	125,0	11	7,5	3,0	40,0	90,0	–	40,0	63,0	–	0,0	6700	2,8	XNEX0806
R220.96-0125-08-14A	02640710	Arbor	125,0	14	7,5	3,0	40,0	90,0	–	40,0	63,0	–	0,0	6700	2,8	XNEX0806
R220.96-8160-08-12	02640711	Arbor	160,0	12	7,5	3,0	40,0	90,0	–	40,0	63,0	–	0,0	5900	4,6	XNEX0806
R220.96-8160-08-16	02640712	Arbor	160,0	16	7,5	3,0	40,0	90,0	–	40,0	63,0	–	0,0	5900	4,8	XNEX0806

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

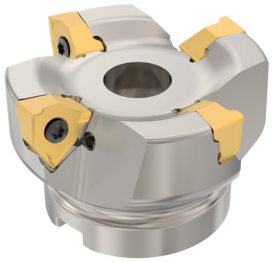
For cutter	Arbor screw	Insert key	Insert screw
			
Cx/R217.96-..	–	1/4HEX-T15PX50	C04011-T15P
R220.96-0050-0052	220.17-696	1/4HEX-T15PX50	C04011-T15P
R220.96-0063-0066	220.17-692	1/4HEX-T15PX50	C04011-T15P
R220.96-0063-27	220.17-693	1/4HEX-T15PX50	C04011-T15P
R220.96-0080-0084	MC6S12X35	1/4HEX-T15PX50	C04011-T15P
R220.96-0100-0125	–	1/4HEX-T15PX50	C04011-T15P
R220.96-8160	–	1/4HEX-T15PX90	C04011-T15P

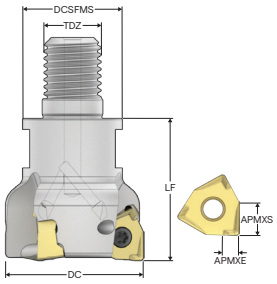
Accessories

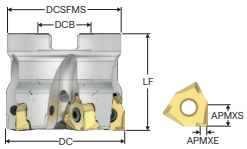
For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
Cx-R217/220.96-1640-0125	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.96-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Square 6™ – R217/220.96-08 – inch





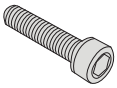


—For insert selection and cutting data recommendations, see page(s) 113–115
—For complete insert programme, see page(s) 912
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ	DCONMS	LF	RMPX°	RPMX	Weight	Insert
			inch		inch	inch	inch	inch		inch	inch			lbs	
R217.96-01.50-20RE-08-3A	03212088	Combimaster	1.500	3	0.295	0.118	–	1.398	M20	1.398	1.575	0,0	20700	0.880	XNEX0806
R220.96-02.00-08-4A	02642870	Arbor	2.000	4	0.295	0.118	0.750	1.850	–	0.750	1.575	0,0	10600	0.660	XNEX0806
R220.96-02.00-08-5A	02642872	Arbor	2.000	5	0.295	0.118	0.750	1.850	–	0.750	1.575	0,0	10600	0.660	XNEX0806
R220.96-02.50-08-4A	02642873	Arbor	2.500	4	0.295	0.118	0.750	1.850	–	0.750	1.575	0,0	9400	1.540	XNEX0806
R220.96-02.50-08-6A	02642874	Arbor	2.500	6	0.295	0.118	0.750	1.850	–	0.750	1.575	0,0	9400	1.100	XNEX0806
R220.96-02.50-08-7A	02642878	Arbor	2.500	7	0.295	0.118	0.750	1.850	–	0.750	1.575	0,0	9400	1.320	XNEX0806
R220.96-03.00-08-5A	02642879	Arbor	3.000	5	0.295	0.118	1.000	2.441	–	1.000	1.969	0,0	8400	2.430	XNEX0806
R220.96-03.00-08-7A	02642881	Arbor	3.000	7	0.295	0.118	1.000	2.441	–	1.000	1.969	0,0	8400	2.200	XNEX0806
R220.96-03.00-08-9A	02642882	Arbor	3.000	9	0.295	0.118	1.000	2.441	–	1.000	1.969	0,0	8400	2.200	XNEX0806
R220.96-04.00-08-6A	02642884	Arbor	4.000	6	0.295	0.118	1.500	3.031	–	1.500	1.969	0,0	7500	3.970	XNEX0806
R220.96-04.00-08-8A	02642886	Arbor	4.000	8	0.295	0.118	1.500	3.031	–	1.500	1.969	0,0	7500	3.750	XNEX0806
R220.96-04.00-08-11A	02642887	Arbor	4.000	11	0.295	0.118	1.500	3.031	–	1.500	1.969	0,0	7500	3.750	XNEX0806
R220.96-05.00-08-7A	02642888	Arbor	5.000	7	0.295	0.118	1.500	3.543	–	1.500	2.480	0,0	6700	7.720	XNEX0806
R220.96-05.00-08-11A	02642889	Arbor	5.000	11	0.295	0.118	1.500	3.543	–	1.500	2.480	0,0	6700	7.280	XNEX0806
R220.96-06.00-08-12	02642891	Arbor	6.000	12	0.295	0.118	2.000	4.331	–	2.000	2.480	0,0	5900	9.480	XNEX0806

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.96-..	–	1/4HEX-T15PX50	C04011-T15P
R220.96-02.00-02.50	UC6S3/8UNFX1	1/4HEX-T15PX50	C04011-T15P
R220.96-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T15PX50	C04011-T15P
R220.96-04.00	UF6S3/4UNFX1-3/4	1/4HEX-T15PX50	C04011-T15P
R220.96-05.00	UC6S3/4UNFX1-1/4	1/4HEX-T15PX50	C04011-T15P
R220.96-06.00	–	1/4HEX-T15PX90	C04011-T15P

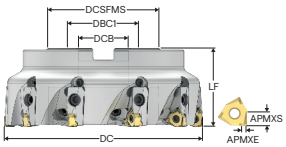
Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R217/220.96-01.50-05.00	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.96-06.00	1/4HEX-S-HANDLE-0.8-5.0NM	58215080	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Square 6™ – R220.96-08 – Metric

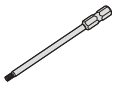




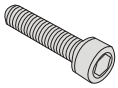
—For insert selection and cutting data recommendations, see page(s) 113-115
—For complete insert programme, see page(s) 912
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	DCONMS	LF	RMPX°	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm			kg	
R220.96-8160-08-7C	02827066	Arbor	160,0	7	7,5	3,0	40,0	90,0	–	63,0	0,0	5900	5,4	XNEX0806
R220.96-8160-08-10C	02827062	Arbor	160,0	10	7,5	3,0	40,0	90,0	–	63,0	0,0	5900	5,2	XNEX0806
R220.96-8200-08-8C	02827067	Arbor	200,0	8	7,5	3,0	60,0	130,0	–	63,0	0,0	5300	7,9	XNEX0806
R220.96-8200-08-12C	02827063	Arbor	200,0	12	7,5	3,0	60,0	130,0	60,0	63,0	0,0	5300	7,7	XNEX0806
R220.96-8250-08-10C	02827068	Arbor	250,0	10	7,5	3,0	60,0	130,0	60,0	63,0	0,0	4200	15,2	XNEX0806

Spare Parts, included in delivery

For cutter	Adjustment unit	Cassette	Cassette screw	Insert key	Insert screw	Wedge clamp radial adj.	Wedge screw
							
R220.96-8160-8250	AU1114T-T15P	XN08PRN	FS96018	1/4HEX-T15PX90	C04011-T15P	CW0810	LD8020-T25P

Accessories

For cutter	Adjustable Torque key	Allen key	Arbor screw	Bit holder	Insert clamping torque	Torque key	Wedge key
							
R220.96-8160	1/4HEX-S-HANDLE-0.8-5.0NM	H05-4	MC6S12X40	1/4HEX-S-HANDLE	3.5NM	T00-15P35	1/4HEX-T25PX50
R220.96-8200-8250	1/4HEX-S-HANDLE-0.8-5.0NM	H05-4	MC6S16X50	1/4HEX-S-HANDLE	3.5NM	T00-15P35	1/4HEX-T25PX50

Torque and fixed keys, see page 944

R217/220.96-08 – Insert selection – mm/Inch

SMG		a_p	f_z		
			100%	30%	10%
P1	XNEX080608TR-ME09 F40M	3,5 *0.14*	0,13 0.0050	0,14 0.0055	0,22 0.0085
P2	XNEX080608TR-ME09 F40M	3,5 *0.14*	0,13 0.0050	0,14 0.0055	0,22 0.0085
P3	XNEX080608TR-M13 MP2501	3,5 *0.14*	0,18 0.0070	0,20 0.0080	0,30 0.012
P4	XNEX080608TR-M13 MP2501	3,5 *0.14*	0,18 0.0070	0,19 0.0075	0,30 0.012
P5	XNEX080608TR-M13 MP2501	3,5 *0.14*	0,17 0.0065	0,19 0.0075	0,30 0.012
P6	XNEX080608TR-M13 MP2501	3,5 *0.14*	0,17 0.0065	0,19 0.0075	0,28 0.011
P7	XNEX080608TR-M13 MP2501	3,5 *0.14*	0,17 0.0065	0,19 0.0075	0,28 0.011
P8	XNEX080608TR-M13 MP2501	3,5 *0.14*	0,18 0.0070	0,20 0.0080	0,30 0.012
P11	XNEX080608TR-M13 MP3501	3,5 *0.14*	0,17 0.0065	0,19 0.0075	0,28 0.011
P12	XNEX080608R-M08 MS2500	3,0 *0.12*	0,075 0.0030	0,080 0.0032	0,12 0.0048
M1	XNEX080608R-M08 F40M	3,5 *0.14*	0,12 0.0048	0,13 0.0050	0,20 0.0080
M2	XNEX080608R-M08 F40M	3,5 *0.14*	0,11 0.0044	0,12 0.0048	0,18 0.0070
M3	XNEX080608R-M08 F40M	3,0 *0.12*	0,085 0.0034	0,095 0.0038	0,14 0.0055
M4	XNEX080608R-M08 MS2050	2,0 *0.080*	0,080 0.0032	0,085 0.0034	0,13 0.0050
M5	XNEX080608R-M08 MS2050	2,0 *0.080*	0,080 0.0032	0,085 0.0034	0,13 0.0050
K1	XNEX080608TR-M13 MK1501	3,5 *0.14*	0,19 0.0075	0,20 0.0080	0,32 0.013
K2	XNEX080608TR-M13 MK1501	3,5 *0.14*	0,17 0.0065	0,19 0.0075	0,30 0.012
K3	XNEX080608TR-M13 MK2050	3,5 *0.14*	0,17 0.0065	0,19 0.0075	0,30 0.012
K4	XNEX080608TR-M13 MK2050	3,5 *0.14*	0,17 0.0065	0,19 0.0075	0,30 0.012
K5	XNEX080608TR-M13 MK2050	3,5 *0.14*	0,16 0.0065	0,17 0.0065	0,26 0.010
K6	XNEX080608TR-M13 MK2050	3,5 *0.14*	0,17 0.0065	0,19 0.0075	0,30 0.012
K7	XNEX080608TR-M13 MK2050	3,5 *0.14*	0,16 0.0065	0,17 0.0065	0,26 0.010
N1	XNEX080608R-M08 H25	3,5 *0.14*	0,15 0.0060	0,16 0.0065	0,25 0.010
N2	XNEX080608R-M08 H25	3,5 *0.14*	0,15 0.0060	0,16 0.0065	0,25 0.010
N3	XNEX080608R-M08 H25	3,5 *0.14*	0,15 0.0060	0,16 0.0065	0,25 0.010
N11	XNEX080608R-M08 H25	3,5 *0.14*	0,15 0.0060	0,16 0.0065	0,25 0.010
S1	XNEX080608R-M08 F40M	2,0 *0.080*	0,080 0.0032	0,085 0.0034	0,13 0.0050
S2	XNEX080608R-M08 F40M	2,0 *0.080*	0,080 0.0032	0,085 0.0034	0,13 0.0050
S3	XNEX080608R-M08 F40M	2,0 *0.080*	0,075 0.0030	0,080 0.0032	0,12 0.0048
S11	XNEX080608R-M08 MS2050	2,5 *0.10*	0,085 0.0034	0,095 0.0038	0,15 0.0060
S12	XNEX080608R-M08 MS2050	2,5 *0.10*	0,085 0.0034	0,095 0.0038	0,15 0.0060
S13	XNEX080608R-M08 MS2050	2,0 *0.080*	0,080 0.0032	0,085 0.0034	0,13 0.0050
H5	XNEX080608TR-MD15 MH1051	3,0 *0.12*	0,14 0.0055	0,15 0.0060	0,22 0.0085
H8	XNEX080608TR-MD15 MH1051	2,5 *0.10*	0,11 0.0044	0,12 0.0048	0,18 0.0070
H11	XNEX080608TR-MD15 MH1051	3,0 *0.12*	0,14 0.0055	0,15 0.0060	0,22 0.0085
H12	XNEX080608TR-MD15 MH1051	2,5 *0.10*	0,11 0.0044	0,12 0.0048	0,18 0.0070
H21	XNEX080608TR-MD15 MH1051	2,5 *0.10*	0,11 0.0044	0,12 0.0048	0,18 0.0070

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.96-08 – Cutting data v_c = (m/min)/(sf/min)

SMG	MH1051			MK2050			MP3000			MS2050			F40M			MP2051			MP2050			H25		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	260	350	415	265	355	425	285	360	420	225	280	320	375	490	570	300	395	475	—	—	—
	—	—	—	*850*	*1150*	*1350*	*870*	*1175*	*1400*	*940*	*1175*	*1375*	*740*	*920*	*1050*	*1225*	*1600*	*1875*	*980*	*1300*	*1550*	—	—	—
P2	—	—	—	255	340	395	255	350	405	275	350	410	215	270	305	365	480	560	290	385	460	—	—	—
	—	—	—	*840*	*1125*	*1300*	*840*	*1150*	*1325*	*900*	*1150*	*1350*	*710*	*890*	*1000*	*1200*	*1575*	*1825*	*950*	*1275*	*1500*	—	—	—
P3	—	—	—	220	290	345	225	300	355	245	310	360	190	240	270	325	420	485	255	340	400	—	—	—
	—	—	—	*720*	*950*	*1125*	*740*	*980*	*1175*	*800*	*1025*	*1175*	*620*	*790*	*890*	*1075*	*1375*	*1600*	*840*	*1125*	*1300*	—	—	—
P4	—	—	—	195	260	305	200	270	315	215	275	315	175	220	260	285	370	425	225	300	355	—	—	—
	—	—	—	*640*	*850*	*1000*	*660*	*890*	*1025*	*710*	*900*	*1025*	*570*	*720*	*850*	*940*	*1225*	*1400*	*740*	*980*	*1175*	—	—	—
P5	310	420	500	190	250	295	195	255	310	205	260	300	165	200	230	275	355	405	215	285	340	—	—	—
	1025	*1375*	*1650*	*620*	*820*	*970*	*640*	*840*	*1025*	*670*	*850*	*980*	*540*	*660*	*750*	*900*	*1175*	*1325*	*710*	*940*	*1125*	—	—	—
P6	350	475	580	210	280	335	220	290	345	230	300	340	185	230	260	310	405	460	245	325	385	—	—	—
	1150	*1550*	*1900*	*690*	*920*	*1100*	*720*	*950*	*1125*	*750*	*980*	*1125*	*610*	*750*	*850*	*1025*	*1325*	*1500*	*800*	*1075*	*1275*	—	—	—
P7	330	445	550	200	265	315	205	275	325	215	280	325	175	215	245	290	385	435	230	310	365	—	—	—
	1075	*1450*	*1800*	*660*	*870*	*1025*	*670*	*900*	*1075*	*710*	*920*	*1075*	*570*	*710*	*800*	*950*	*1275*	*1425*	*750*	*1025*	*1200*	—	—	—
P8	310	420	500	185	245	290	190	250	300	205	260	300	160	200	225	275	355	405	215	285	340	—	—	—
	1025	*1375*	*1650*	*610*	*800*	*950*	*620*	*820*	*980*	*670*	*850*	*980*	*520*	*660*	*740*	*900*	*1175*	*1325*	*710*	*940*	*1125*	—	—	—
P11	320	435	530	195	255	305	200	265	315	210	275	315	170	210	235	260	410	520	220	300	355	—	—	—
	1050	*1425*	*1750*	*640*	*840*	*1000*	*660*	*870*	*1025*	*690*	*900*	*1025*	*560*	*690*	*770*	*850*	*1350*	*1700*	*720*	*980*	*1175*	—	—	—
P12	230	310	375	125	170	200	140	180	210	140	175	200	115	140	160	170	250	310	145	190	225	—	—	—
	750	*1025*	*1225*	*410*	*560*	*660*	*460*	*590*	*690*	*460*	*570*	*660*	*375*	*460*	*520*	*560*	*820*	*1025*	*475*	*620*	*740*	—	—	—
M1	—	—	—	—	—	—	180	245	285	200	265	315	155	205	240	295	460	600	210	275	330	—	—	—
	—	—	—	—	—	—	*590*	*800*	*940*	*660*	*870*	*1025*	*510*	*670*	*790*	*970*	*1500*	*1975*	*690*	*900*	*1075*	—	—	—
M2	—	—	—	—	—	—	150	200	240	165	220	260	130	170	205	250	380	490	175	230	270	—	—	—
	—	—	—	—	—	—	*490*	*660*	*790*	*540*	*720*	*850*	*425*	*560*	*670*	*820*	*1250*	*1600*	*570*	*750*	*890*	—	—	—
M3	—	—	—	—	—	—	125	165	195	135	175	210	105	140	165	205	305	385	140	185	220	—	—	—
	—	—	—	—	—	—	*410*	*540*	*640*	*445*	*570*	*690*	*345*	*460*	*540*	*670*	*1000*	*1275*	*460*	*610*	*720*	—	—	—
M4	—	—	—	—	—	—	95	130	150	105	140	160	85	110	130	155	230	285	110	145	170	—	—	—
	—	—	—	—	—	—	*310*	*425*	*490*	*345*	*460*	*520*	*280*	*360*	*425*	*510*	*750*	*940*	*360*	*475*	*560*	—	—	—
M5	—	—	—	—	—	—	80	105	125	85	115	135	70	90	105	130	190	240	90	120	140	—	—	—
	—	—	—	—	—	—	*260*	*345*	*410*	*280*	*375*	*445*	*230*	*295*	*345*	*425*	*620*	*790*	*295*	*395*	*460*	—	—	—
K1	410	560	680	275	365	425	190	260	300	—	—	—	150	205	240	—	—	—	—	—	—	170	225	265
	1350	*1825*	*2225*	*900*	*1200*	*1400*	*620*	*850*	*980*	—	—	—	*490*	*670*	*790*	—	—	—	—	—	—	*560*	*740*	*870*
K2	375	510	610	245	320	385	175	225	270	—	—	—	135	180	215	—	—	—	—	—	—	150	200	235
	1225	*1675*	*2000*	*800*	*1050*	*1275*	*570*	*740*	*890*	—	—	—	*445*	*590*	*710*	—	—	—	—	—	—	*490*	*660*	*770*
K3	320	430	510	205	270	325	145	190	230	—	—	—	115	150	180	—	—	—	—	—	—	—	—	—
	1050	*1400*	*1675*	*670*	*890*	*1075*	*475*	*620*	*750*	—	—	—	*375*	*490*	*590*	—	—	—	—	—	—	—	—	—
K4	305	410	490	195	260	310	140	185	220	—	—	—	110	145	175	—	—	—	—	—	—	—	—	—
	1000	*1350*	*1600*	*640*	*850*	*1025*	*460*	*610*	*720*	—	—	—	*360*	*475*	*570*	—	—	—	—	—	—	—	—	—
K5	190	260	310	120	160	190	85	115	135	—	—	—	70	90	105	—	—	—	—	—	—	—	—	—
	620	*850*	*1025*	*395*	*520*	*620*	*280*	*375*	*445*	—	—	—	*230*	*295*	*345*	—	—	—	—	—	—	—	—	—
K6	270	365	435	175	230	275	125	160	195	—	—	—	95	130	155	—	—	—	—	—	—	—	—	—
	890	*1200*	*1425*	*570*	*750*	*900*	*410*	*520*	*640*	—	—	—	*310*	*425*	*510*	—	—	—	—	—	—	—	—	—
K7	245	330	400	155	205	240	110	145	170	—	—	—	85	115	135	—	—	—	—	—	—	—	—	—
	800	*1075*	*1300*	*510*	*670*	*790*	*360*	*475*	*560*	—	—	—	*280*	*375*	*445*	—	—	—	—	—	—	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	1125	1475	1750	—	—	—	—	—	—	1250	1675	1975
	—	—	—	—	—	—	—	—	—	—	—	—	*3700*	*4850*	*5750*	—	—	—	—	—	—	*4100*	*5500*	*6475*
N2	—	—	—	—	—	—	—	—	—	—	—	—	450	600	710	—	—	—	—	—	—	510	680	790
	—	—	—	—	—	—	—	—	—	—	—	—	*1475*	*1975*	*2325*	—	—	—	—	—	—	*1675*	*2225*	*2600*
N3	—	—	—	—	—	—	—	—	—	—	—	—	300	400	475	—	—	—	—	—	—	340	450	530
	—	—	—	—	—	—	—	—	—	—	—	—	*980*	*1300*	*1550*	—	—	—	—	—	—	*1125*	*1475*	*1750*
N11	—	—	—	—	—	—	—	—	—	—	—	—	340	455	540	—	—	—	—	—	—	390	520	610
	—	—	—	—	—	—	—	—	—	—	—	—	*1125*	*1500*	*1775*	—	—	—	—	—	—	*1275*	*1700*	*2000*
S1	—	—	—	—	—	—	45	60	70	49	65	75	39	50	60	55	70	85	55	70	85	—	—	—
	—	—	—	—	—	—	*150*	*195*	*230*	*160*	*215*	*245*	*130*	*165*	*195*	*180*	*230*	*280*	*180*	*230*	*280*	—	—	—
S2	—	—	—	—	—	—	36	48	55	39	50	60	31	41	48	43	55	65	43	55	65	—	—	—
	—	—	—	—	—	—	*120*	*155*	*180*	*130*	*165*	*195*	*100*	*135*	*155*	*140*	*180*	*215*	*140*	*180*	*215*	—	—	—
S3	—	—	—	—	—	—	32	42	49	34	45	55	27	36	42	38	50	60	38	50	60	—	—	—
	—	—	—	—	—	—	*105*	*140*	*160*	*110*	*150*	*180*	*90*	*120*	*140*	*125*	*165*	*195*	*125*	*165*	*195*	—	—	—
S11	—	—	—	—	—	—	—	—	—	70	90	105	55	70	85	75	100	115	75	100	115	38	49	60
	—	—	—	—	—	—	—	—	—	*230*	*295*	*345*	*180*	*230*	*280*	*245*	*330*	*375*	*245*	*330*	*375*	*125*	*160*	*195*
S12	—	—	—	—	—	—	—	—	—	47	60	75	37	49	60	50	70	80	50	70	80	—	—	—
	—	—	—	—	—	—	—	—	—	*155*	*195*	*245*	*120*	*160*	*195*	*165*	*230*	*260*	*165*	*230*	*260*	—	—	—
S13	—	—	—	—	—	—	—	—	—	27	36	43	22	29	33	30	40	47	30	40	47	—	—	—
	—	—	—	—	—	—	—	—	—	*90*	*120*	*140*	*70*	*95*	*110*	*100*	*130*	*155*	*100*	*130*	*155*	—	—	—
H5	120	160	190	44	60	70	38	50	60	—	—	—	32	42	50	—	—	—	—	—	—	—	—	—
	395	*520*	*620*	*145*	*195*	*230*	*125*	*165*	*195*	—	—	—	*105*	*140*	*165*	—	—	—	—	—	—	—	—	—
H8	135	180	210	47	60	75	41	55	65	—	—	—	35	46	55	—	—	—	—	—	—	—	—	—
	445	*590*	*690*	*155*	*195*	*245*	*135*	*180*	*215*	—	—	—	*115*	*150*	*180*	—	—	—	—	—	—	—	—	—
H11	150	205	245	55	75	85	48	65	75	—	—	—	41	55	65	110	165	205	55	75	85	—	—	—
	490	*670*	*800*	*180*	*245*	*280*	*155*	*215*	*245*	—	—	—	*135*	*180*	*215*	*360*	*540*	*670*	*180*	*245*	*280*	—	—	—
H12	155	210	245	80	105	125	80	105	120	—	—	—	60	85	95	100	140	175	95	120	140	—	—	—
	510	*690*	*800*	*260*	*345*	*410*	*260*	*345*	*395*	—	—	—	*195*	*280*	*310*	*330*	*460*	*570*	*310*	*395*	*460*	—	—	—
H21	135	180	210	47	60	75	41	55	65	—	—	—	35	46	55	100	110	120	47	60	70	—	—	—
	445	*590*	*690*	*155*	*195*	*245*	*135*	*180*	*215*	—	—	—	*115*	*150*	*180*	*330*	*360*	*395*	*155*	*195*	*230*	—	—	—

R217/220.96-08 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK1501			MP1501			MP2501			MS2500			MP3501			MM4500		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	380	475	540	370	465	530	415	510	580	390	475	540	245	310	360
	—	—	—	*1250*	*1550*	*1775*	*1225*	*1525*	*1750*	*1350*	*1675*	*1900*	*1275*	*1550*	*1775*	*800*	*1025*	*1175*
P2	—	—	—	370	465	520	360	455	510	400	495	570	380	465	530	240	305	350
	—	—	—	*1225*	*1525*	*1700*	*1175*	*1500*	*1675*	*1300*	*1625*	*1875*	*1250*	*1525*	*1750*	*790*	*1000*	*1150*
P3	—	—	—	325	400	455	315	390	445	355	435	490	335	405	455	210	265	305
	—	—	—	*1075*	*1300*	*1500*	*1025*	*1275*	*1450*	*1175*	*1425*	*1600*	*1100*	*1325*	*1500*	*690*	*870*	*1000*
P4	—	—	—	285	355	400	280	350	395	310	385	435	295	355	400	200	250	290
	—	—	—	*940*	*1175*	*1300*	*920*	*1150*	*1300*	*1025*	*1275*	*1425*	*970*	*1175*	*1300*	*660*	*820*	*950*
P5	—	—	—	275	340	390	270	335	385	295	365	415	280	340	385	175	225	255
	—	—	—	*900*	*1125*	*1275*	*890*	*1100*	*1275*	*970*	*1200*	*1350*	*920*	*1125*	*1275*	*570*	*740*	*840*
P6	—	—	—	310	380	435	305	375	430	335	415	470	315	390	435	200	250	285
	—	—	—	*1025*	*1250*	*1425*	*1000*	*1225*	*1400*	*1100*	*1350*	*1550*	*1025*	*1275*	*1425*	*660*	*820*	*940*
P7	—	—	—	295	360	415	285	355	405	315	395	440	295	365	410	185	240	270
	—	—	—	*970*	*1175*	*1350*	*940*	*1175*	*1325*	*1025*	*1300*	*1450*	*970*	*1200*	*1350*	*610*	*790*	*890*
P8	—	—	—	270	335	385	265	330	375	295	365	415	280	340	385	175	225	255
	—	—	—	*890*	*1100*	*1275*	*870*	*1075*	*1225*	*970*	*1200*	*1350*	*920*	*1125*	*1275*	*570*	*740*	*840*
P11	—	—	—	285	350	400	280	345	395	305	380	430	290	355	400	180	230	265
	—	—	—	*940*	*1150*	*1300*	*920*	*1125*	*1300*	*1000*	*1250*	*1400*	*950*	*1175*	*1300*	*590*	*750*	*870*
P12	—	—	—	185	225	255	185	225	255	195	235	260	185	220	245	110	140	155
	—	—	—	*610*	*740*	*840*	*610*	*740*	*840*	*640*	*770*	*850*	*610*	*720*	*800*	*360*	*460*	*510*
M1	—	—	—	—	—	—	185	250	290	230	305	365	200	265	315	155	205	245
	—	—	—	—	—	—	*610*	*820*	*950*	*750*	*1000*	*1200*	*660*	*870*	*1025*	*510*	*670*	*800*
M2	—	—	—	—	—	—	155	205	240	190	255	300	165	220	260	130	170	200
	—	—	—	—	—	—	*510*	*670*	*790*	*620*	*840*	*980*	*540*	*720*	*850*	*425*	*560*	*660*
M3	—	—	—	—	—	—	125	165	195	155	205	245	135	175	210	105	140	165
	—	—	—	—	—	—	*410*	*540*	*640*	*510*	*670*	*800*	*445*	*570*	*690*	*345*	*460*	*540*
M4	—	—	—	—	—	—	100	130	150	120	160	190	105	140	160	80	110	125
	—	—	—	—	—	—	*330*	*425*	*490*	*395*	*520*	*620*	*345*	*460*	*520*	*260*	*360*	*410*
M5	—	—	—	—	—	—	80	110	125	100	135	155	85	115	135	70	90	105
	—	—	—	—	—	—	*260*	*360*	*410*	*330*	*445*	*510*	*280*	*375*	*445*	*230*	*295*	*345*
K1	330	580	800	375	470	520	365	460	510	255	340	405	380	470	530	—	—	—
	1075	*1900*	*2625*	*1225*	*1550*	*1700*	*1200*	*1500*	*1675*	*840*	*1125*	*1325*	*1250*	*1550*	*1750*	—	—	—
K2	290	510	710	335	410	470	330	405	465	230	300	355	340	415	465	—	—	—
	950	*1675*	*2325*	*1100*	*1350*	*1550*	*1075*	*1325*	*1525*	*750*	*980*	*1175*	*1125*	*1350*	*1525*	—	—	—
K3	225	330	415	285	350	400	275	340	390	195	255	300	285	350	395	—	—	—
	740	*1075*	*1350*	*940*	*1150*	*1300*	*900*	*1125*	*1275*	*640*	*840*	*980*	*940*	*1150*	*1300*	—	—	—
K4	215	315	400	270	335	380	265	325	375	185	245	290	275	335	375	—	—	—
	710	*1025*	*1300*	*890*	*1100*	*1250*	*870*	*1075*	*1225*	*610*	*800*	*950*	*900*	*1100*	*1225*	—	—	—
K5	130	195	240	165	205	230	160	200	225	115	150	175	170	205	225	—	—	—
	425	*640*	*790*	*540*	*670*	*750*	*520*	*660*	*740*	*375*	*490*	*570*	*560*	*670*	*740*	—	—	—
K6	190	275	350	240	295	335	235	285	330	160	215	255	240	295	330	—	—	—
	620	*900*	*1150*	*790*	*970*	*1100*	*770*	*940*	*1075*	*520*	*710*	*840*	*790*	*970*	*1075*	—	—	—
K7	170	245	310	210	260	295	205	255	290	145	195	225	215	260	290	—	—	—
	560	*800*	*1025*	*690*	*850*	*970*	*670*	*840*	*950*	*475*	*640*	*740*	*710*	*850*	*950*	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	60	80	90	49	65	75	25	33	39
	—	—	—	—	—	—	—	—	—	*195*	*260*	*295*	*160*	*215*	*245*	*80*	*110*	*130*
S2	—	—	—	—	—	—	—	—	—	48	65	75	39	50	60	20	27	31
	—	—	—	—	—	—	—	—	—	*155*	*215*	*245*	*130*	*165*	*195*	*65*	*90*	*100*
S3	—	—	—	—	—	—	—	—	—	42	55	65	34	45	55	18	23	27
	—	—	—	—	—	—	—	—	—	*140*	*180*	*215*	*110*	*150*	*180*	*60*	*75*	*90*
S11	—	—	—	—	—	—	—	—	—	85	110	130	70	90	105	35	46	55
	—	—	—	—	—	—	—	—	—	*280*	*360*	*425*	*230*	*295*	*345*	*115*	*150*	*180*
S12	—	—	—	—	—	—	—	—	—	60	75	90	47	60	75	33	42	50
	—	—	—	—	—	—	—	—	—	*195*	*245*	*295*	*155*	*195*	*245*	*110*	*140*	*165*
S13	—	—	—	—	—	—	—	—	—	33	44	50	27	36	43	19	25	29
	—	—	—	—	—	—	—	—	—	*110*	*145*	*165*	*90*	*120*	*140*	*60*	*80*	*95*
H5	—	—	—	49	65	75	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	*160*	*215*	*245*	—	—	—	—	—	—	—	—	—	—	—	—
H8	—	—	—	55	70	80	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	*180*	*230*	*260*	—	—	—	—	—	—	—	—	—	—	—	—
H11	—	—	—	60	80	95	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	*195*	*260*	*310*	—	—	—	—	—	—	—	—	—	—	—	—
H12	—	—	—	95	125	145	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	*310*	*410*	*475*	—	—	—	—	—	—	—	—	—	—	—	—
H21	—	—	—	55	70	80	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	*180*	*230*	*260*	—	—	—	—	—	—	—	—	—	—	—	—

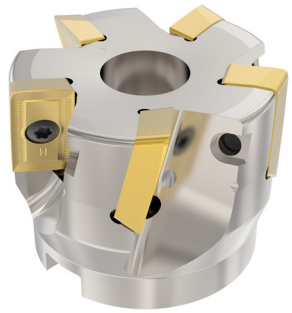


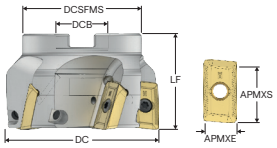
R220.90 ABEX

These multipurpose 90° square-shoulder milling cutters are for heavy roughing applications, delivering large depth-of-cut capability and high feed rates for consistent performance and excellent metal-removal rates.

– Cutter range 63-315 mm (2.5-12 inch)
– Max depth of cut 24 mm (0.94 inch)
– Recommended slotting depth of cut 13 mm (0.51 inch)
– Insert corner radii range 1.6 mm (0.063 inch)

R220.90-26 ABEX – Metric

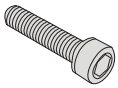




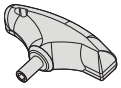
–For insert selection and cutting data recommendations, see page(s) 119–120
–For complete insert programme, see page(s) 872
–For ISO attribute explanation, see page 16
–KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	DCONMS	LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm		mm	mm		kg	
R220.90-0063-26-5AM	02789823	Arbor	63,0	5	20,0	10,0	27,0	55,0	27,0	50,0	1,5	107,6	123,5	6700	0,6	ABEX2606
R220.90-0063-26-6AM	02789825	Arbor	63,0	6	20,0	10,0	27,0	55,0	27,0	50,0	1,5	107,6	123,5	6700	0,8	ABEX2606
R220.90-0080-26-5AM	02789826	Arbor	80,0	5	20,0	10,0	27,0	62,0	27,0	50,0	1,0	141,6	157,5	5900	1,1	ABEX2606
R220.90-0125-26-7AM	02789831	Arbor	125,0	7	20,0	10,0	40,0	90,0	40,0	63,0	0,5	231,6	247,5	4700	3,1	ABEX2606

Spare Parts, included in delivery

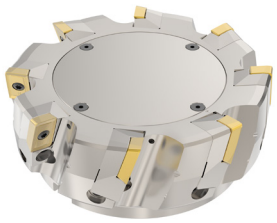
For cutter	Arbor screw	Insert key	Insert screw
			
R220.90-0063-0080	MC6S12X35	1/4HEX-T20PX50	C05013-T20P
R220.90-0100-0125	–	1/4HEX-T20PX90	C05013-T20P

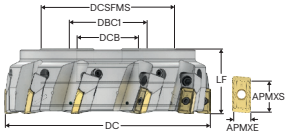
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R220.90-0063-0125	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R220.90 ABEX – Metric

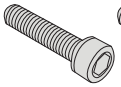
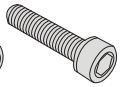
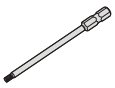
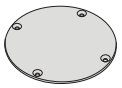




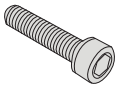
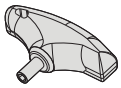
–For insert selection and cutting data recommendations, see page(s) 119-120
–For complete insert programme, see page(s) 872
–For ISO attribute explanation, see page 16
–KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DBC1	DCB	DCSFMS		LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm	mm		mm	mm		kg	
R220.90-8160-26-8CAN	02830886	Arbor	160,0	8	20,0	10,0	66,7	40,0	90,0	40,0	63,0	0,4	296,5	316,8	4200	5,3	ABEX2606
R220.90-8200-26-10CAN	02830887	Arbor	200,0	10	20,0	10,0	101,6	60,0	130,0	60,0	63,0	0,35	376,5	396,8	3800	8,1	ABEX2606
R220.90-8250-26-12CAN	02830888	Arbor	250,0	12	20,0	10,0	101,6	60,0	130,0	60,0	63,0	0,3	476,5	496,8	3400	13,4	ABEX2606
R220.90-8315-26-14CAN	02830889	Arbor	315,0	14	20,0	10,0	101,6	60,0	225,0	60,0	80,0	0,3	606,5	626,8	3000	28,1	ABEX2606

Spare Parts, included in delivery

For cutter	Adjustment unit	Arbor screw	Arbor screw 2	Cassette	Cassette screw	Cassette screw 2	Insert key	Insert screw	Lid	Lid screw
										
R220.90-8160	AU1114T-T15P	–	–	AB26PRN	FS96018	C05018-T20P	1/4HEX-T20PX90	C05013-T20P	SC-160-90	MF6S4X10
R220.90-8200	AU1114T-T15P	–	–	AB26PRN	FS96018	C05018-T20P	1/4HEX-T20PX90	C05013-T20P	SC-200-90	MF6S4X10
R220.90-8250	AU1114T-T15P	–	–	AB26PRN	FS96018	C05018-T20P	1/4HEX-T20PX90	C05013-T20P	SC-250-90	MF6S4X10
R220.90-8315	AU1114T-T15P	MC6S16X50	MC6S20X50	AB26PRN	FS96018	C05018-T20P	1/4HEX-T20PX90	C05013-T20P	SC-315-90	MF6S4X10

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Nest key	Setting key	Torque key
							
R220.90-8160	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	1/4HEX-T-HANDLE	5.0NM	1/4HEX-H5.0X50	1/4HEX-T15PX50	T00-20P50
R220.90-8200-8250	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	1/4HEX-T-HANDLE	5.0NM	1/4HEX-H5.0X50	1/4HEX-T15PX50	T00-20P50
R220.90-8315	1/4HEX-T-HANDLE-5.0-14.0NM	–	1/4HEX-T-HANDLE	5.0NM	1/4HEX-H5.0X50	1/4HEX-T15PX50	T00-20P50

Torque and fixed keys, see page 944

R220.90-26 – Insert selection – mm/Inch

SMG		a_p	f_z		
			100%	30%	10%
P1	ABEX2606ZFFR-M15 F40M	10,0 *0.40*	0,22 0.0085	0,24 0.0095	0,36 0.014
P2	ABEX2606ZFFR-M15 F40M	10,0 *0.40*	0,22 0.0085	0,24 0.0095	0,36 0.014
P3	ABEX2606ZFFR-M15 MP2501	10,0 *0.40*	0,20 0.0080	0,22 0.0085	0,34 0.013
P4	ABEX2606ZFFR-M15 MP2501	10,0 *0.40*	0,20 0.0080	0,22 0.0085	0,34 0.013
P5	ABEX2606ZFFR-M15 MP2501	10,0 *0.40*	0,20 0.0080	0,22 0.0085	0,34 0.013
P6	ABEX2606ZFFR-M15 MP2501	10,0 *0.40*	0,20 0.0080	0,22 0.0085	0,32 0.013
P7	ABEX2606ZFFR-M15 MP2501	10,0 *0.40*	0,20 0.0080	0,22 0.0085	0,32 0.013
P8	ABEX2606ZFFR-M15 MP2501	10,0 *0.40*	0,20 0.0080	0,22 0.0085	0,34 0.013
P11	ABEX2606ZZFR-M15 MP3501	10,0 *0.40*	0,20 0.0080	0,22 0.0085	0,32 0.013
P12	ABEX2606ZZFR-M15 MP3501	8,0 *0.32*	0,14 0.0055	0,15 0.0060	0,22 0.0085
M1	ABEX2606ZFFR-M15 F40M	10,0 *0.40*	0,22 0.0085	0,24 0.0095	0,36 0.014
M2	ABEX2606ZFFR-M15 F40M	10,0 *0.40*	0,20 0.0080	0,22 0.0085	0,34 0.013
M3	ABEX2606ZFFR-M15 F40M	8,0 *0.32*	0,16 0.0065	0,17 0.0065	0,26 0.010
M4	ABEX2606ZFFR-M15 F40M	6,0 *0.24*	0,14 0.0055	0,15 0.0060	0,24 0.0095
M5	ABEX2606ZFFR-M15 F40M	6,0 *0.24*	0,14 0.0055	0,15 0.0060	0,24 0.0095
K1	ABEX2606ZFFR-M15 MK1501	10,0 *0.40*	0,22 0.0085	0,24 0.0095	0,36 0.014
K2	ABEX2606ZFFR-M15 MK1501	10,0 *0.40*	0,20 0.0080	0,22 0.0085	0,34 0.013
K3	ABEX2606ZFFR-M15 MK1501	10,0 *0.40*	0,20 0.0080	0,22 0.0085	0,34 0.013
K4	ABEX2606ZFFR-M15 MK1501	10,0 *0.40*	0,20 0.0080	0,22 0.0085	0,34 0.013
K5	ABEX2606ZZFR-M15 MP3501	10,0 *0.40*	0,18 0.0070	0,19 0.0075	0,30 0.012
K6	ABEX2606ZZFR-M15 MP3501	10,0 *0.40*	0,20 0.0080	0,22 0.0085	0,34 0.013
K7	ABEX2606ZZFR-M15 MP3501	10,0 *0.40*	0,18 0.0070	0,19 0.0075	0,30 0.012

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R220.90-26 – Cutting data v_c = (m/min)/(sf/min)

SMG	F40M			MK1501			MP1501			MP2501			MP3501		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	205 *670*	260 *850*	295 *970*	— —	— —	— —	355 *1175*	440 *1450*	510 *1675*	345 *1125*	430 *1400*	495 *1625*	305 *1000*	385 *1275*	440 *1450*
P2	200 *660*	250 *820*	285 *940*	— —	— —	— —	345 *1125*	430 *1400*	490 *1600*	335 *1100*	420 *1375*	480 *1575*	295 *970*	375 *1225*	430 *1400*
P3	180 *590*	225 *740*	255 *840*	— —	— —	— —	305 *1000*	380 *1250*	430 *1400*	300 *980*	375 *1225*	420 *1375*	265 *870*	330 *1075*	375 *1225*
P4	165 *540*	210 *690*	240 *790*	— —	— —	— —	270 *890*	335 *1100*	380 *1250*	265 *870*	330 *1075*	370 *1225*	235 *770*	295 *970*	330 *1075*
P5	150 *490*	190 *620*	220 *720*	— —	— —	— —	255 *840*	320 *1050*	370 *1225*	250 *820*	315 *1025*	360 *1175*	225 *740*	280 *920*	325 *1075*
P6	170 *560*	210 *690*	245 *800*	— —	— —	— —	290 *950*	360 *1175*	415 *1350*	280 *920*	350 *1150*	405 *1325*	250 *820*	315 *1025*	365 *1200*
P7	160 *520*	200 *660*	230 *750*	— —	— —	— —	275 *900*	340 *1125*	390 *1275*	265 *870*	330 *1075*	385 *1275*	235 *770*	295 *970*	340 *1125*
P8	150 *490*	190 *620*	215 *710*	— —	— —	— —	255 *840*	320 *1050*	360 *1175*	250 *820*	315 *1025*	355 *1175*	225 *740*	280 *920*	315 *1025*
P11	155 *510*	195 *640*	225 *740*	— —	— —	— —	265 *870*	330 *1075*	380 *1250*	260 *850*	325 *1075*	370 *1225*	230 *750*	290 *950*	335 *1100*
P12	110 *360*	135 *445*	150 *490*	— —	— —	— —	175 *570*	220 *720*	245 *800*	175 *570*	215 *710*	240 *790*	155 *510*	190 *620*	220 *720*
M1	145 *475*	195 *640*	230 *750*	— —	— —	— —	— —	— —	— —	175 *570*	230 *750*	275 *900*	160 *520*	215 *710*	255 *840*
M2	120 *395*	160 *520*	195 *640*	— —	— —	— —	— —	— —	— —	145 *475*	190 *620*	230 *750*	135 *445*	180 *590*	215 *710*
M3	100 *330*	135 *445*	155 *510*	— —	— —	— —	— —	— —	— —	120 *395*	160 *520*	185 *610*	110 *360*	145 *475*	175 *570*
M4	80 *260*	105 *345*	125 *410*	— —	— —	— —	— —	— —	— —	95 *310*	125 *410*	145 *475*	90 *295*	115 *375*	135 *445*
M5	65 *215*	90 *295*	105 *345*	— —	— —	— —	— —	— —	— —	80 *260*	105 *345*	120 *395*	75 *245*	95 *310*	115 *375*
K1	145 *475*	190 *620*	225 *740*	315 *1025*	560 *1825*	770 *2525*	345 *1125*	435 *1425*	495 *1625*	335 *1100*	425 *1400*	485 *1600*	300 *980*	375 *1225*	435 *1425*
K2	130 *425*	170 *560*	205 *670*	280 *920*	490 *1600*	680 *2225*	310 *1025*	390 *1275*	445 *1450*	305 *1000*	380 *1250*	435 *1425*	270 *890*	340 *1125*	390 *1275*
K3	110 *360*	145 *475*	175 *570*	210 *690*	310 *1025*	395 *1300*	265 *870*	330 *1075*	380 *1250*	255 *840*	320 *1050*	370 *1225*	230 *750*	285 *940*	330 *1075*
K4	105 *345*	140 *460*	165 *540*	205 *670*	300 *980*	375 *1225*	250 *820*	315 *1025*	360 *1175*	245 *800*	305 *1000*	355 *1175*	220 *720*	275 *900*	315 *1025*
K5	65 *215*	85 *280*	100 *330*	125 *410*	185 *610*	230 *750*	155 *510*	195 *640*	220 *720*	150 *490*	190 *620*	215 *710*	135 *445*	170 *560*	190 *620*
K6	90 *295*	120 *395*	145 *475*	180 *590*	260 *850*	330 *1075*	220 *720*	275 *900*	315 *1025*	215 *710*	270 *890*	310 *1025*	190 *620*	240 *790*	280 *920*
K7	80 *260*	110 *360*	130 *425*	160 *520*	235 *770*	290 *950*	200 *660*	250 *820*	280 *920*	195 *640*	245 *800*	275 *900*	175 *570*	220 *720*	245 *800*

Code keys metric and inch

R	217	.	69	-	25	32	.	3S	-	042	-	10	.	4	A
1	2		3		4	5		6		7		8		9	10

R	217	.	69	-	01.50	-	3	-	01.34	-	10	-	4	A
1	2		3		5		6		7		8		9	10

1.

Right hand rotation
Cx = For Seco-Capto

2.

215/217=With shank
220 = For Arbor
235 = Finishing

3.

69 = Rectangular positive 2 cutting edges
94 = Tangential 4 cutting edges
59 = Square positive 4 cutting edges
15 = Finishing

4. (Not applicable for inch designation)

Shank diameter
(except for Arbor type)

5.

Cutter diameter

6.

Shank type (except for Arbor type)
0 = Cylindrical
3 = Weldon
3S = Seco Weldon
RE = Combimaster

7.

Max. axial
cutting depht

8.

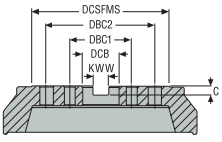
Insert size
xxS = short edge
xxM = Medium edge
xxL = Long edge
xxH = Heavy duty

9.

Effective No. of flutes (ZEFP)

10.

A = With through coolant supply
N = Coated
S = Set
H = Heavy Duty
K = Full effective (for .59 only)
R6 = Compatible with radius 6.3 mm (for .59 only)



Dimensions in mm

DCB	DCSFMS	DBC1	DBC2	KWW	C
16	30-35	–	–	8,4	5,6
22	42-47	–	–	10,4	6,3
27	48-62	–	–	12,4	7
32	60-90	–	–	14,4	8
40	90-130	66,7	–	16,4	9
60	130-270	101,6	177,8	25,7	14

Dimensions in inch

DCB	DCSFMS	DBC1	DBC2	KWW	C
0.500	*1.181 - 1.378*			*0.258*	*0.165*
0.750	*1.378 - 1.850*	–	–	*0.321*	*0.193*
1.000	*1.803 - 2.441*	–	–	*0.382*	*0.224*
1.250	*2.250 - 3.031*	–	–	*0.508*	*0.287*
1.500	*2.750 - 3.543*	–	–	*0.630*	*0.382*
2.000	*4.331*	–	–	*0.756*	*0.445*
2.500	*5.118 - 6.299 (8.858)*	*4.000*	*(7.000)*	*1.000*	*0.551*

For a more exact DCSFMS and DCB measurement, see each product table.

Selection – Metric

Cutter	Insert	Material suitability					Corner radius (mm)					
		P	M	K	N	S						
Turbo	XO..06	■	■	■	■	■	0,2/0,4/0,8/1,6	■	□	■	■	◩
	XO..10	■	■	■	■	■	0,2/0,4/0,8/1,2/ 1,6/2,0/2,4/3,1	■	◩	■	■	◩
	XO..12	■	■	■	■	■	0,2/0,4/0,8/1,2/ 1,6/2,0/2,4/3,1/ 4,0/5,0/6,3	◩	■	■	■	◩
	XO..16	■	■	■	■	■	0,4/0,8/1,2/ 1,6/2,0/2,4/3,1/ 4,0/5,0/6,3	◩	■	■	■	◩
	XO..18	■	■	■	■	■	0,4/0,8/1,2/1,6/2,0/ 2,4/3,1/4,0/5,0/6,3	□	■	■	■	◩
Helical T4	LO..08	■	□	■	–	◩	0,4/0,8/1,2/1,6	◩	◩	◩	–	□
	LO..12	■	◩	■	◩	◩	0,4/0,8/1,2/1,6/2,0/ 2,4/3,1/4,0/5,0/6,3	◩	◩	◩	–	□
R215/220.59 / R215/220.59K	AC15 SC12	◩	◩	◩	□	□	1,2/3,0/3,1/6,0	_	■	□	_	□
220.69-15	AC15	◩	◩	◩	□	□	1,2/3,0/3,1/6,0	_	■	□	_	□

Helical solution for side-finishing operation (small radial engagement)

235.15		■	■	■	-	■	Chamfer	■	■	◩	-	-

1st choice ■

Alternative choice ◩

Possible choice □

High speed machine with low power/torque

Strong stable machine with rigid connecion

Not recommended –

Unstable condition suitability

Ramping ability

Plunging ability

Selection – Metric

Cutter	No. of cutting edges	Applica-tion	Cutter diameter (mm)/available depth of cut and number of teeth															See page
			12	14	16	20	25	32	40	44	50	54	63	66	80	100	125	
Turbo 06	2		10 (2)	15 (2)	20 (2)	20 (3) / 25 (3)												131
					15 (3)													
Turbo 10	2					25 (1)	25 (2)	25 (3)	34 (4)		42 (5)							136
						17 (2)	17 (3) / 25 (3) / 34 (3) / 42 (2)	34 (4) / 42 (4) / 50 (3)	34 (5) / 58 (4)	58 (5)	42 (6)							
Turbo 12	2						22 (2) / 33 (2)	33 (2)	33 (3) / 55 (3)	33 (3)	33 (4) / 44 (4) / 55 (4) / 66 (4)	44 (4)	33 (5) / 55 (5)	44 (5)				142
								22 (3) / 33 (3) / 44 (3) / 55 (3)	44 (4) / 65.5 (3)		44 (5) / 86 (5) / 106 (5)		77 (4) / 107 (5)		64 (6)			
Turbo 16	2							29 (2)	29 (3) 43 (3)		57 (3)		43 (4)		71 (5)	71 (6)		150
									71 (3)		43 (4) 57 (4) 85 (4) 98 (4)		57 (5) 85 (5)		71 (6)			
Turbo 18	2								47 (2)		47 (3) / 62 (3)	47 (3)	47 (4) / 62 (3)	47 (4)	47 (5) / 62 (5)	62 (6)		157
													62 (4) / 77 (4)		77 (4) / 93 (5)	77 (5)		
T4 08	4						29 (2) / 36 (2)	36 (3)	36 (3)		43 (4)							191
							43 (2)	43 (3) / 50 (3)	43 (4) / 50 (4)	57 (4)	57 (5)	64 (5)						
T4 12	4								35 (2)	35 (3)	35 (3) / 46 (3)		46 (4)					196
										58 (3)	46 (4) / 58 (4) / 81 (4)	69 (4)	58 (5) / 81 (4) / 92 (4)	81 (5)	69 (5) / 104 (5)	81 (6)		
215/220.59	2 & 4 half effective										50 (2) / 59 (2)		59 (2)		68 (2/3)	77 (3/4)		203
											77 (2) / 120 (2)		86 (2) / 120 (2) / 160 (2)		95 (2/3)			203
215/220.59K	2 & 4 full effective										63 (3) / 72 (3)		72 (4) / 110 (3)		72 (5)			203
220.69-15	2												38 (4)		38 (5) / 50 (5)	50 (6)	50 (7)	210
235.15	1							40 (2)			50 (3)				90 (3)			214

x(y) **Slotting and contouring operations : x indicates the maximum depth of cut (y indicates the number of teeth)**

x(y) **For contouring operations only : x indicates the maximum depth of cut (y indicates the number of teeth)**

Slotting and contouring

Contouring only

Selection – Inch

Cutter	Insert	Material suitability					Corner radius (inch)					
		P	M	K	N	S						
Turbo	XO..06	■	■	■	■	■	.007/.016 .031/.063	■	□	■	■	◩
	XO..10	■	■	■	■	■	.007/.016/.031 .047/.063 .079/.094 .122	■	◩	■	■	◩
	XO..12	■	■	■	■	■	.007/.016/.031 .047/.063 .079/.094 .122/.157 .197/.248	◩	■	■	■	◩
	XO..16	■	■	■	■	■	.007/.016/.031 .047/.063 .079/.094 .122/.157 .197/.248	◩	■	■	■	◩
	XO..18	■	■	■	■	■	.016/.031 .047/.063 .079/.094 .122/.157 .197/.248	□	■	■	■	◩
Helical T4	LO..08	■	□	■	–	◩	.016/.031 .047/.063	◩	◩	◩	–	□
	LO..12	■	◩	■	◩	◩	.016/.031 .047/.063 .079/.094 .122/.157 .197/.248	◩	◩	◩	–	□
220.69-15	AC15	◩	◩	◩	□	□	.047/.122 .118/.236	–	■	□	–	□

Helical solution for side-finishing operation (small radial engagement)

235.15		■	■	■	-	■	Chamfer	■	■	◩	-	-

1st choice ■

Alternative choice ◩

Possible choice □

High speed machine with low power/torque

Strong stable machine with rigid connecion

Not recommended –

Unstable condition suitability

Ramping ability

Plunging ability

Selection – Inch

Cutter	No. of cutting edges	Applica-tion	Cutter diameter (inch)/available depth of cut and number of teeth								See page
			0.750	1.00	1.25	1.50	2.00	2.50	3.00	4.00	
Turbo 06	2		1.024 (3)								131
Turbo 10	2			1.024 (2)		1.378 (4)					136
				1.378 (3) / 1.693 (2)		1.339 (5)					
Turbo 12	2			0.870 (2) / 0.902 (2)	1.299 (2)	1.732 (3)	1.740 (4) / 2.591 (4)	2.953 (4)			142
					1.732 (3)	1.732 (4) / 2.165 (4) / 2.559 (3)	2.146 (5)				
Turbo 16	2					1.69 (3)	1.69 (3)	1.69 (4)	2.79 (5)		142
							1.69 (4) 2.24 (4) 3.89 (4)	2.24 (5) / 3.34 (5)			
Turbo 18	2					1.862 (2)	1.850 (3)	1.866 (4) / 2.409 (4) / 2.441 (4)	2.480 (5) / 3.024 (4)	3.024 (5)	157
							2.441 (3)	3.024 (4)			
Helical T4 08	4			1.417 (2)	1.417 (2)		1.693 (4)				191
				1.693 (2)		1.969 (4)					
Helical T4 12	4						1.406 (3) / 1.850 (3)				196
							2.283 (4) / 2.310 (4)	3.189 (4) / 3.211 (4)	3.189 (5) / 3.211 (5)		
220.69-15	2						1.567 (3)				210
235.15	1						1.969 (3)		3.500 (3)		214

x(y) Slotting and contouring operations : x indicates the maximum depth of cut (y indicates the number of teeth)

x(y) For contouring operations only : x indicates the maximum depth of cut (y indicates the number of teeth)

Slotting and contouring

Contouring only

Selection – Metric

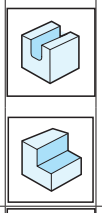
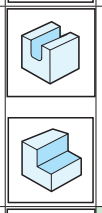
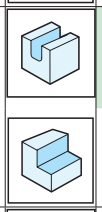
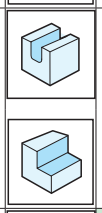
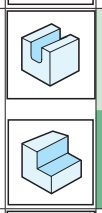
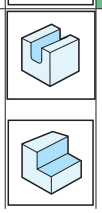
Cutter	Insert	Material suitability P	M	K	N	S	Corner radius (mm)					
Right Helix R217/220.82-SNXO16	XO.X16	■	■	■	□	■	0,4/0,8/1,2/ 1,6/2,0/2,4/3,1/ 4,0/5,0/6,3	–	■	–	■	◩
	SN.U13						1,2					
Right Helix R217/220.82-SNAC15-H Left Helix R217/220.81-SNAC15 R217/220.81-SNAC15-K	AC.T15	■	◩	■	□	□	1,2/3,0/3,1/6,0	–	■	◩	–	–
	SN.U13						1,2					
R217/220.42-LNXO	XO.X12	■	■	■	□	■	0,2/0,4/0,8/1,2/1,6/2,0 /2,4/3,1/4,0/5,0/6,3	–	■	–	■	◩
	LN.U11						0,8					
R217/220.82	SP.T12	■	■	■	□	■	0,8/1,2	–	■	–	–	◩
	SN.U13						1,2					

1st choice ■
Alternative choice ◩
Possible choice □

High speed machine with low power/torque
Strong stable machine with rigid connecion
Not recommended –

Unstable condition suitability
Ramping ability
Plunging ability

Selection – Metric

Cutter	No. of cutting edges	Application	Cutter diameter (mm)/available depth of cut and number of teeth									See page
			32	40	50	63	80	100	125	160	200	
Right Helix R2177220.82-SNXO16	2/8				47 (3)	47 (4)	68 (5)					166
						69 (5) / 79 (4)	79 (6)					
Right Helix R217/220.82-SNAC15-H	2/8					46 (4)	57 (5)	57 (6)				174
Left Helix R217/220.81-SNAC15	2/8		68 (2)	68 (2)	68 (2)	68 (2)	68 (3)	68 (4)				172
Left Helix R217/220.81-SNAC15-K	2/8					68 (4)	79 (5)					173
R217/220.42-LNXO	2/8		21 (3)	41 (4)	40 (4)							184
			41 (3)	70 (3)	70 (5)	50 (6)						
R217/220.82-SNSP					43(3)	64(4)	86(5)					184

x(y) **Slotting and contouring operations : x indicates the maximum depth of cut (y indicates the number of teeth)**

x(y) **For contouring operations only : x indicates the maximum depth of cut (y indicates the number of teeth)**

 **Slotting and contouring**

 **Contouring only**

Selection – Inch

Cutter	Insert	Material suitability					Corner radius (inch)					
		P	M	K	N	S						
Right Helix R217/220.82-SNXO16	XO.X16  SN.U13 	■	■	■	□	■	.007/.016/.031 .047/.063 .079/.094 .122/.157 .197/.248 0.047	–	■	–	■	◩
R217/220.42-LNXO	XO.X12  LN.U11 	■	■	■	□	■	.008/.016/.031/.047 /.063/.079/.094/.122 /.157/.197/.248/ 0.031	–	■	–	■	◩
R217/220.82	SP.T12  SN.U13 	■	■	■	□	■	0.031/0.047 0.047		■			◩

1st choice ■

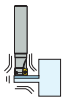
Alternative choice ◩

Possible choice □

High speed machine with low power/torque 

Strong stable machine with rigid connecion 

Not recommended –

Unstable condition suitability 

Ramping ability 

Plunging ability 

Selection – Inch

Cutter	No. of cutting edges	Applica-tion	Cutter diameter (inch)/available depth of cut and number of teeth						See page
			1.25	1.50	2.00	2.50	3.00	4.00	
Right Helix R2177220.82-SNXO16	2/8				1.85 (3)	1.85 (4)	2.68 (5)		166
						2.75 (5) / 3.11 (4)	3.11 (6)		
R217/220.42-LNXO	2/8			1.61 (3)	1.96 (5)				184
			1.61 (3)	2.79 (3)	3.90 (5)				
R217/220.82-SNSP							2.94(5)		184

x(y) **Slotting and contouring operations : x indicates the maximum depth of cut (y indicates the number of teeth)**

x(y) **For contouring operations only : x indicates the maximum depth of cut (y indicates the number of teeth)**

Slotting and contouring

Contouring only



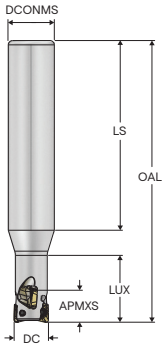
Turbo Helical

Seco's range of high-performance Turbo helical cutters offers high feeds, large depths of cut and high metal removal rates in contouring and profiling applications. These cutters provide a first choice for mixed production in all workpiece materials

- Insert size 06, cutter range 12-20 mm (0.75 inch)
- Insert size 10, cutter range 20-50 mm (1 inch)
- Insert size 12, cutter range 25-66 mm (1 - 2.5 inch)
- Insert size 16, cutter range 32-100 mm (1.5 - 3 inch)
- Insert size 18, cutter range 40-100 mm (1.5 - 4 inch)

Turbo 06 – R217.69-06 – Metric



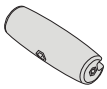


—For insert selection and cutting data recommendations, see page(s) 134-135
—For complete insert programme, see page(s) 917
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCONMS	LUX	LPR	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm		kg	
R217.69-1612.0-10-06.2N	02709311	Cylindrical	12,0	2	4	10,0	16,0	23,0	53,0	98,0	54400	0,2	XO.X0602
R217.69-1616.0-15-06.3N	02709314	Cylindrical	16,0	3	9	15,0	16,0	30,0	62,0	110,0	48000	0,2	XO.X0602
R217.69-1616.0-20-06.2N	02709316	Cylindrical	16,0	2	8	20,0	16,0	30,0	62,0	110,0	48000	0,2	XO.X0602
R217.69-2020.0-25-06.3N	02709317	Cylindrical	20,0	3	15	25,0	20,0	35,0	70,0	120,0	44000	0,4	XO.X0602

Modification of the cutter body needed for radii > 0,8 mm

Spare Parts, included in delivery

For cutter	Insert key	Insert screw	Key (T-handle)
			
R217.69-..	H4B-T06P	C01804-T06P	DOUBLE-T

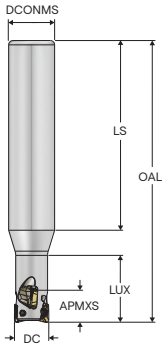
Accessories

For cutter	Insert clamping torque	Torque key
		
	0.5NM	T00-06P05

Torque and fixed keys, see page 944

Turbo 06 – R217.69-06 – Inch



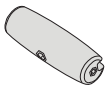


—For insert selection and cutting data recommendations, see page(s) 134-135
—For complete insert programme, see page(s) 917
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCONMS	LUX	LPR	OAL	RPMX	Weight	Insert
			inch			inch	inch	inch	inch	inch		lbs	
R217.69-00.75-0-06M3N	02710568	Cylindrical	0.750	3	15	1.024	0.750	1.378	3.031	5.000	44000	0.660	XO.X0602

Modification of the cutter body needed for radii > 0.031 in

Spare Parts, included in delivery

For cutter	Insert key	Insert screw	Key (T-handle)
			
R217.69-..	H4B-T06P	C01804-T06P	DOUBLE-T

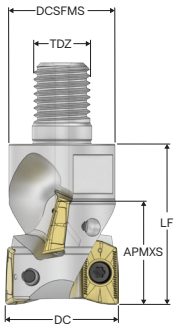
Accessories

For cutter	Insert clamping torque	Torque key
		
R217.69-..	0.5NM	T00-06P05

Torque and fixed keys, see page 944

Turbo 06 – R217.69-06– Metric



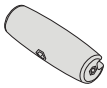


–For insert selection and cutting data recommendations, see page(s) 134-135
–For complete insert programme, see page(s) 917
–For ISO attribute explanation, see page 16
–KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCSFMS	TDZ	LF	OAL	RPMX	Weight	Insert
			mm			mm	mm		mm	mm		kg	
R217.69-0814.RE-15-06.2N	02709297	Combimaster	14,0	2	6	15,0	13,2	M8	25,0	42,75	51200	0,1	XO.X0602
R217.69-1020.RE-20-06.3AN	02709306	Combimaster	20,0	3	12	20,0	18,5	M10	35,0	53,75	44800	0,2	XO.X0602

Modification of the cutter body needed for radii > 0,8 mm

Spare Parts, included in delivery

For cutter	Insert key	Insert screw	Key (T-handle)
			
R217.69-..	H4B-T06P	C01804-T06P	DOUBLE-T

Accessories

For cutter	Insert clamping torque	Torque key
		
R217.69-..	0.5NM	T00-06P05

Torque and fixed keys, see page 944

R217/220.69-06 – Insert selection – mm/Inch

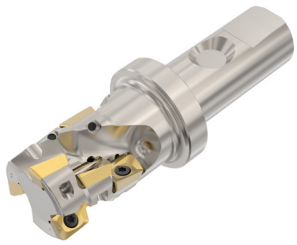
SMG		f_z		
		100%	30%	10%
P1	XOMX060208R-M05 F40M	0,055 *0.0022*	0,060 0.0024	0,095 0.0038
P2	XOMX060208R-M05 F40M	0,060 *0.0024*	0,065 0.0026	0,095 0.0038
P3	XOMX060208R-M05 F40M	0,055 *0.0022*	0,060 0.0024	0,090 0.0036
P4	XOMX060208R-M05 F40M	0,055 *0.0022*	0,060 0.0024	0,090 0.0036
P5	XOMX060208R-M05 F40M	0,050 *0.0020*	0,055 0.0022	0,090 0.0036
P6	XOMX060208R-M05 F40M	0,050 *0.0020*	0,055 0.0022	0,085 0.0034
P7	XOMX060208R-M05 F40M	0,050 *0.0020*	0,055 0.0022	0,085 0.0034
P8	XOMX060208R-M05 F40M	0,055 *0.0022*	0,060 0.0024	0,090 0.0036
P11	XOMX060208R-M05 MP3000	0,050 *0.0020*	0,055 0.0022	0,085 0.0034
P12	XOMX060208R-M05 MP3000	0,036 *0.0014*	0,040 0.0016	0,060 0.0024
M1	XOMX060208R-M05 MS2050	0,060 *0.0024*	0,065 0.0026	0,095 0.0038
M2	XOMX060208R-M05 MS2050	0,050 *0.0020*	0,055 0.0022	0,090 0.0036
M3	XOMX060208R-M05 MS2050	0,042 *0.0017*	0,046 0.0018	0,070 0.0028
M4	XOMX060208R-M05 MS2050	0,038 *0.0015*	0,040 0.0016	0,060 0.0024
M5	XOMX060208R-M05 MS2050	0,038 *0.0015*	0,040 0.0016	0,060 0.0024
K1	XOMX060208R-M05 F40M	0,060 *0.0024*	0,065 0.0026	0,095 0.0038
K2	XOMX060208R-M05 F40M	0,050 *0.0020*	0,055 0.0022	0,090 0.0036
K3	XOMX060208R-M05 F40M	0,050 *0.0020*	0,055 0.0022	0,090 0.0036
K4	XOMX060208R-M05 F40M	0,050 *0.0020*	0,055 0.0022	0,090 0.0036
K5	XOMX060208R-M05 F40M	0,048 *0.0019*	0,050 0.0020	0,080 0.0032
K6	XOMX060208R-M05 F40M	0,050 *0.0020*	0,055 0.0022	0,090 0.0036
K7	XOMX060208R-M05 F40M	0,048 *0.0019*	0,050 0.0020	0,080 0.0032
N1	XOEX060204FR-E03 H15	0,060 *0.0024*	0,065 0.0026	0,10 0.0040
N2	XOEX060204FR-E03 H15	0,060 *0.0024*	0,065 0.0026	0,10 0.0040
N3	XOEX060204FR-E03 H15	0,060 *0.0024*	0,065 0.0026	0,10 0.0040
N11	XOEX060204FR-E03 H15	0,060 *0.0024*	0,065 0.0026	0,10 0.0040
S1	XOMX060208R-M05 F40M	0,038 *0.0015*	0,040 0.0016	0,060 0.0024
S2	XOMX060208R-M05 F40M	0,038 *0.0015*	0,040 0.0016	0,060 0.0024
S3	XOMX060208R-M05 F40M	0,034 *0.0013*	0,038 0.0015	0,060 0.0024
S11	XOMX060208R-M05 MS2050	0,042 *0.0017*	0,046 0.0018	0,070 0.0028
S12	XOMX060208R-M05 MS2050	0,042 *0.0017*	0,046 0.0018	0,070 0.0028
S13	XOMX060208R-M05 MS2050	0,038 *0.0015*	0,040 0.0016	0,060 0.0024
H5	XOMX060208R-M05 MP3000	0,036 *0.0014*	0,040 0.0016	0,060 0.0024
H8	XOMX060208R-M05 MP3000	0,028 *0.0011*	0,030 0.0012	0,046 0.0018
H11	XOMX060208R-M05 MP3000	0,036 *0.0014*	0,040 0.0016	0,060 0.0024
H12	XOMX060208R-M05 MP3000	0,028 *0.0011*	0,030 0.0012	0,046 0.0018

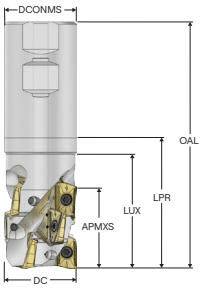
SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

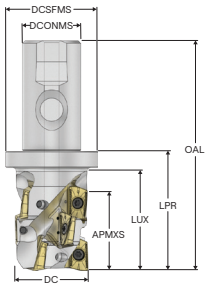
R217/220.69-06 – Cutting data v_c = (m/min)/(sf/min)

SMG	F15M			F30M			MP3000			MS2050			F40M			H15			MM4500		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	165	180	190	175	195	205	165	185	195	160	180	190	—	—	—	145	165	175
	—	—	—	*540*	*590*	*620*	*570*	*640*	*670*	*540*	*610*	*640*	*520*	*590*	*620*	—	—	—	*475*	*540*	*570*
P2	—	—	—	160	180	190	175	190	200	165	180	195	160	175	185	—	—	—	145	160	175
	—	—	—	*520*	*590*	*620*	*570*	*620*	*660*	*540*	*590*	*640*	*520*	*570*	*610*	—	—	—	*475*	*520*	*570*
P3	—	—	—	150	170	180	165	180	195	155	175	185	150	165	180	—	—	—	135	155	165
	—	—	—	*490*	*560*	*590*	*540*	*590*	*640*	*510*	*570*	*610*	*490*	*540*	*590*	—	—	—	*445*	*510*	*540*
P4	—	—	—	145	160	170	155	175	185	—	—	—	140	160	170	—	—	—	125	145	155
	—	—	—	*475*	*520*	*560*	*510*	*570*	*610*	—	—	—	*460*	*520*	*560*	—	—	—	*410*	*475*	*510*
P5	—	—	—	140	160	170	155	170	180	—	—	—	140	155	165	—	—	—	125	140	155
	—	—	—	*460*	*520*	*560*	*510*	*560*	*590*	—	—	—	*460*	*510*	*540*	—	—	—	*410*	*460*	*510*
P6	—	—	—	150	165	180	160	180	190	—	—	—	145	165	175	—	—	—	130	150	160
	—	—	—	*490*	*540*	*590*	*520*	*590*	*620*	—	—	—	*475*	*540*	*570*	—	—	—	*425*	*490*	*520*
P7	—	—	—	145	165	175	155	175	185	—	—	—	145	160	170	—	—	—	130	145	155
	—	—	—	*475*	*540*	*570*	*510*	*570*	*610*	—	—	—	*475*	*520*	*560*	—	—	—	*425*	*475*	*510*
P8	—	—	—	140	160	170	150	170	180	—	—	—	135	155	165	—	—	—	125	140	150
	—	—	—	*460*	*520*	*560*	*490*	*560*	*590*	—	—	—	*445*	*510*	*540*	—	—	—	*410*	*460*	*490*
P11	—	—	—	145	160	170	155	175	185	—	—	—	140	160	170	—	—	—	125	145	155
	—	—	—	*475*	*520*	*560*	*510*	*570*	*610*	—	—	—	*460*	*520*	*560*	—	—	—	*410*	*475*	*510*
P12	—	—	—	115	130	140	125	145	155	—	—	—	110	130	140	—	—	—	95	115	125
	—	—	—	*375*	*425*	*460*	*410*	*475*	*510*	—	—	—	*360*	*425*	*460*	—	—	—	*310*	*375*	*410*
M1	—	—	—	145	165	175	155	170	185	150	170	180	145	160	175	—	—	—	135	150	165
	—	—	—	*475*	*540*	*570*	*510*	*560*	*610*	*490*	*560*	*590*	*475*	*520*	*570*	—	—	—	*445*	*490*	*540*
M2	—	—	—	135	155	165	140	160	170	140	155	165	130	150	160	—	—	—	120	140	150
	—	—	—	*445*	*510*	*540*	*460*	*520*	*560*	*460*	*510*	*540*	*425*	*490*	*520*	—	—	—	*395*	*460*	*490*
M3	—	—	—	120	135	145	125	145	155	125	140	150	115	135	145	—	—	—	105	125	135
	—	—	—	*395*	*445*	*475*	*410*	*475*	*510*	*410*	*460*	*490*	*375*	*445*	*475*	—	—	—	*345*	*410*	*445*
M4	—	—	—	100	120	130	110	125	135	105	125	135	100	115	125	—	—	—	90	105	115
	—	—	—	*330*	*395*	*425*	*360*	*410*	*445*	*345*	*410*	*445*	*330*	*375*	*410*	—	—	—	*295*	*345*	*375*
M5	—	—	—	90	110	120	95	115	125	95	110	120	85	105	115	—	—	—	75	95	105
	—	—	—	*295*	*360*	*395*	*310*	*375*	*410*	*310*	*360*	*395*	*280*	*345*	*375*	—	—	—	*245*	*310*	*345*
K1	155	170	185	145	165	175	155	175	185	—	—	—	140	160	170	—	—	—	—	—	—
	510	*560*	*610*	*475*	*540*	*570*	*510*	*570*	*610*	—	—	—	*460*	*520*	*560*	—	—	—	—	—	—
K2	145	165	175	140	155	165	150	170	180	—	—	—	135	155	165	—	—	—	—	—	—
	475	*540*	*570*	*460*	*510*	*540*	*490*	*560*	*590*	—	—	—	*445*	*510*	*540*	—	—	—	—	—	—
K3	135	155	165	125	145	155	140	155	165	—	—	—	125	140	150	—	—	—	—	—	—
	445	*510*	*540*	*410*	*475*	*510*	*460*	*510*	*540*	—	—	—	*410*	*460*	*490*	—	—	—	—	—	—
K4	135	150	160	125	140	150	135	155	165	—	—	—	120	140	150	—	—	—	—	—	—
	445	*490*	*520*	*410*	*460*	*490*	*445*	*510*	*540*	—	—	—	*395*	*460*	*490*	—	—	—	—	—	—
K5	100	120	130	90	110	120	100	120	130	—	—	—	85	105	115	—	—	—	—	—	—
	330	*395*	*425*	*295*	*360*	*395*	*330*	*395*	*425*	—	—	—	*280*	*345*	*375*	—	—	—	—	—	—
K6	125	140	155	115	135	145	125	145	155	—	—	—	115	130	140	—	—	—	—	—	—
	410	*460*	*510*	*375*	*445*	*475*	*410*	*475*	*510*	—	—	—	*375*	*425*	*460*	—	—	—	—	—	—
K7	115	135	145	105	125	135	120	135	145	—	—	—	105	120	130	—	—	—	—	—	—
	375	*445*	*475*	*345*	*410*	*445*	*395*	*445*	*475*	—	—	—	*345*	*395*	*425*	—	—	—	—	—	—
N1	290	305	320	280	300	310	—	—	—	—	—	—	275	295	305	280	300	310	—	—	—
	950	*1000*	*1050*	*920*	*980*	*1025*	—	—	—	—	—	—	*900*	*970*	*1000*	*920*	*980*	*1025*	—	—	—
N2	230	245	260	220	240	250	—	—	—	—	—	—	215	235	245	220	240	250	—	—	—
	750	*800*	*850*	*720*	*790*	*820*	—	—	—	—	—	—	*710*	*770*	*800*	*720*	*790*	*820*	—	—	—
N3	200	220	230	190	210	220	—	—	—	—	—	—	190	210	220	190	210	220	—	—	—
	660	*720*	*750*	*620*	*690*	*720*	—	—	—	—	—	—	*620*	*690*	*720*	*620*	*690*	*720*	—	—	—
N11	210	230	240	200	220	230	—	—	—	—	—	—	200	215	225	200	220	230	—	—	—
	690	*750*	*790*	*660*	*720*	*750*	—	—	—	—	—	—	*660*	*710*	*740*	*660*	*720*	*750*	—	—	—
S1	—	—	—	—	—	—	—	—	—	55	70	80	50	65	75	—	—	—	28	37	43
	—	—	—	—	—	—	—	—	—	*180*	*230*	*260*	*165*	*215*	*245*	—	—	—	*90*	*120*	*140*
S2	—	—	—	—	—	—	—	—	—	45	60	70	41	55	60	—	—	—	23	30	35
	—	—	—	—	—	—	—	—	—	*150*	*195*	*230*	*135*	*180*	*195*	—	—	—	*75*	*100*	*115*
S3	—	—	—	—	—	—	—	—	—	39	50	60	36	46	55	—	—	—	20	26	30
	—	—	—	—	—	—	—	—	—	*130*	*165*	*195*	*120*	*150*	*180*	—	—	—	*65*	*85*	*100*
S11	—	—	—	—	—	—	—	—	—	75	95	105	70	90	100	—	—	—	40	50	60
	—	—	—	—	—	—	—	—	—	*245*	*310*	*345*	*230*	*295*	*330*	—	—	—	*130*	*165*	*195*
S12	—	—	—	—	—	—	—	—	—	55	70	80	49	65	75	—	—	—	37	48	55
	—	—	—	—	—	—	—	—	—	*180*	*230*	*260*	*160*	*215*	*245*	—	—	—	*120*	*155*	*180*
S13	—	—	—	—	—	—	—	—	—	31	41	47	28	37	43	—	—	—	21	28	32
	—	—	—	—	—	—	—	—	—	*100*	*135*	*155*	*90*	*120*	*140*	—	—	—	*70*	*90*	*105*
H5	—	—	—	45	60	70	50	65	75	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	*150*	*195*	*230*	*165*	*215*	*245*	—	—	—	—	—	—	—	—	—	—	—	—
H8	—	—	—	46	60	70	50	65	75	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	*150*	*195*	*230*	*165*	*215*	*245*	—	—	—	—	—	—	—	—	—	—	—	—
H11	—	—	—	55	75	85	65	80	90	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	*180*	*245*	*280*	*215*	*260*	*295*	—	—	—	—	—	—	—	—	—	—	—	—
H12	—	—	—	80	100	110	95	110	120	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	*260*	*330*	*360*	*310*	*360*	*395*	—	—	—	—	—	—	—	—	—	—	—	—

Turbo 10 – R217.69-10 – Metric





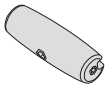


–For insert selection and cutting data recommendations, see page(s) 139-141
–For complete insert programme, see page(s) 918, 919
–For ISO attribute explanation, see page 16
–KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCSFMS	DCONMS	LF	LUX	LPR	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm	mm	mm		kg	
R217.69-2020.3-017-10.2A	02827022	Weldon	20,0	2	4	17,0	–	20,0	59,0	35,0	35,0	85,0	26300	0,3	XO.X10T3
R217.69-2020.3-025-10.1A	02827023	Weldon	20,0	1	3	25,0	–	20,0	64,0	45,0	40,0	95,0	26300	0,3	XO.X10T3
R217.69-2525.3-025-10.2A	02827024	Weldon	25,0	2	6	25,0	–	25,0	63,0	44,0	44,0	100,0	23500	0,4	XO.X10T3
R217.69-2025.3S-025-10.3A	02827025	Seco-Weldon	25,0	3	9	25,0	35,0	20,0	–	43,0	50,0	100,0	23500	0,3	XO.X10T3
R217.69-2025.3S-034-10.3A	02827026	Seco-Weldon	25,0	3	12	34,0	35,0	20,0	–	43,0	50,0	100,0	23500	0,3	XO.X10T3
R217.69-2525.3S-034-10.3A	02827027	Seco-Weldon	25,0	3	12	34,0	40,0	25,0	–	43,0	54,0	110,0	23500	0,5	XO.X10T3
R217.69-2525.3S-042-10.2A	02827028	Seco-Weldon	25,0	2	10	42,0	40,0	25,0	–	53,0	64,0	120,0	23500	0,5	XO.X10T3
R217.69-2532.3S-034-10.4A	02827029	Seco-Weldon	32,0	4	16	34,0	40,0	25,0	–	43,0	54,0	110,0	20800	0,5	XO.X10T3
R217.69-2532.3S-042-10.4A	02827030	Seco-Weldon	32,0	4	20	42,0	40,0	25,0	–	53,0	64,0	120,0	20800	0,6	XO.X10T3
R217.69-2532.3S-050-10.3A	02827031	Seco-Weldon	32,0	3	18	50,0	40,0	25,0	–	63,0	74,0	130,0	20800	0,6	XO.X10T3
R217.69-3240.3S-058-10.4A	02827032	Seco-Weldon	40,0	4	28	58,0	50,0	32,0	–	72,0	84,0	144,0	18600	1,0	XO.X10T3

Modification of the cutter body needed for radii > 2,0 mm
* No axial support in the front row for radii > 1,6 mm

Spare Parts, included in delivery

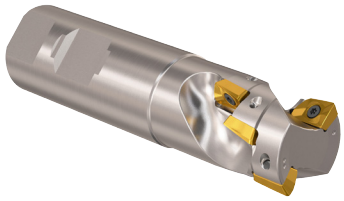
For cutter	Insert key	Insert screw	Key (T-handle)
			
R217.69-..	H4B-T07P	C02506-T07P	DOUBLE-T

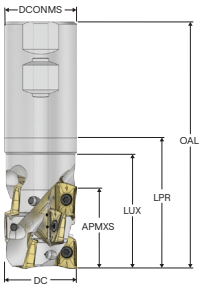
Accessories

For cutter	Insert clamping torque	Torque key
		
R217.69-..	0.9NM	T00-07P09

Torque and fixed keys, see page 944

Turbo 10 – R217.69-10 – Inch



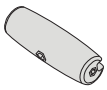


—For insert selection and cutting data recommendations, see page(s) 139-141
—For complete insert programme, see page(s) 918, 919
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCONMS	LF	LUX	LPR	OAL	RPMX	Weight	Insert
			inch			inch	inch	inch	inch	inch	inch		lbs	
R217.69-01.00-3-01.00-10-2A	02829883	Weldon	1.000	2	6	1.024	1.000	2.858	1.874	1.874	4.000	23500	0.880	XO.X10T3
R217.69-01.00-3-01.34-10-3A	02865301	Weldon	1.000	3	12	1.378	1.000	3.110	1.969	2.124	4.250	23500	0.880	XO.X10T3
R217.69-01.00-3-01.65-10-2A	02865304	Weldon	1.000	2	10	1.693	1.000	3.358	2.078	2.374	4.500	23500	0.880	XO.X10T3

Modification of the cutter body needed for radii > 0.079 in
* No axial support in the front row for radii > 0.063

Spare Parts, included in delivery

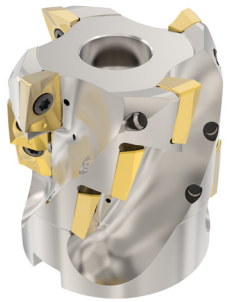
For cutter	Insert key	Insert screw	Key (T-handle)
			
R217.69-..	H4B-T07P	C02506-T07P	DOUBLE-T

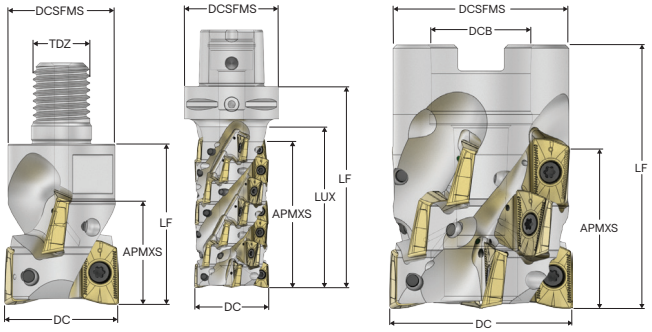
Accessories

For cutter	Insert clamping torque	Torque key
		
R217.69-..	0.9NM	T00-07P09

Torque and fixed keys, see page 944

Turbo 10 – R217/220.69-10 – Metric





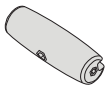
—For insert selection and cutting data recommendations, see page(s) 139–141
—For complete insert programme, see page(s) 918, 919
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	TDZ	LF	LUX	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm		mm	mm	mm		kg	
C4-R217.69-044-058-10.5A	02827033	Seco-Capto	44,0	5	35	58,0	–	40,0	–	90,0	90,0	114,0	16600	0,8	XO.X10T3
R217.69-1020.RE-017-10.2A	02827017	Combimaster	20,0	2	4	17,0	–	18,5	M10	28,0	–	46,75	26300	0,1	XO.X10T3
R217.69-1225.RE-017-10.3A	02827018	Combimaster	25,0	3	6	17,0	–	23,0	M12	35,0	–	56,75	23500	0,2	XO.X10T3
R217.69-1225.RE-025-10.2A	02827019	Combimaster	25,0	2	6	25,0	–	23,0	M12	40,0	–	61,75	23500	0,2	XO.X10T3
R217.69-1632.RE-025-10.3A	02827020	Combimaster	32,0	3	9	25,0	–	30,0	M16	45,0	–	67,75	20800	0,3	XO.X10T3
R217.69-1632.RE-034-10.4A	02827021	Combimaster	32,0	4	16	34,0	–	30,0	M16	50,0	–	72,75	20800	0,3	XO.X10T3
R220.69-00040-034-10.4A	02865893	Arbor	40,0	4	16	34,0	16,0	35,0	–	55,0	–	–	18600	0,4	XO.X10T3
R220.69-00040-034-10.5A	02827038	Arbor	40,0	5	20	34,0	16,0	38,0	–	55,0	–	–	18600	0,4	XO.X10T3
R220.69-00050-042-10.5A	02865895	Arbor	50,0	5	25	42,0	27,0	48,0	–	65,0	–	–	16600	0,5	XO.X10T3
R220.69-00050-042-10.6A	02827039	Arbor	50,0	6	30	42,0	27,0	48,0	–	65,0	–	–	16600	0,5	XO.X10T3

For Combimaster Shanks, see Machining Navigator Tooling System

Modification of the cutter body needed for radii > 2,0 mm
* No axial support in the front row for radii > 1,6 mm

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Key (T-handle)
				
R217.69-../Cx-R217.69-..	–	H4B-T07P	C02506-T07P	DOUBLE-T
R220.69-00040	950D0850	H4B-T07P	C02506-T07P	DOUBLE-T
R220.69-00050	MC6S12X60	H4B-T07P	C02506-T07P	DOUBLE-T

Accessories

For cutter	Insert clamping torque	Torque key
		
R217/220.69-..	0.9NM	T00-07P09

Torque and fixed keys, see page 944

R217/220.69-10 – Insert selection – mm/Inch

SMG		f_z		
		100%	30%	10%
P1	XOMX10T308TR-ME07 MP2501	0,080 *0.0032*	0,085 0.0034	0,13 0.0050
P2	XOMX10T308TR-ME07 MP2501	0,080 *0.0032*	0,090 0.0036	0,13 0.0050
P3	XOMX10T308TR-ME07 MP2501	0,075 *0.0030*	0,085 0.0034	0,13 0.0050
P4	XOMX10T308TR-M09 MP2501	0,095 *0.0038*	0,10 0.0040	0,16 0.0065
P5	XOMX10T308TR-M09 MP2501	0,095 *0.0038*	0,10 0.0040	0,16 0.0065
P6	XOMX10T308TR-M09 MP2501	0,095 *0.0038*	0,10 0.0040	0,16 0.0065
P7	XOMX10T308TR-M09 MP2501	0,095 *0.0038*	0,10 0.0040	0,16 0.0065
P8	XOMX10T308TR-M09 MP2501	0,10 *0.0040*	0,11 0.0044	0,16 0.0065
P11	XOMX10T308TR-M09 MP3501	0,095 *0.0038*	0,10 0.0040	0,16 0.0065
P12	XOMX10T308TR-M09 MS2500	0,065 *0.0026*	0,070 0.0028	0,11 0.0044
M1	XOEX10T308R-M06 MS2050	0,070 *0.0028*	0,075 0.0030	0,12 0.0048
M2	XOEX10T308R-M06 MS2050	0,065 *0.0026*	0,070 0.0028	0,10 0.0040
M3	XOEX10T308R-M06 MS2050	0,050 *0.0020*	0,055 0.0022	0,085 0.0034
M4	XOMX10T308TR-ME07 MS2050	0,050 *0.0020*	0,055 0.0022	0,085 0.0034
M5	XOMX10T304TR-ME07 MS2050	0,050 *0.0020*	0,055 0.0022	0,085 0.0034
K1	XOMX10T308TR-M09 MK2050	0,10 *0.0040*	0,11 0.0044	0,17 0.0065
K2	XOMX10T308TR-M09 MK2050	0,095 *0.0038*	0,10 0.0040	0,16 0.0065
K3	XOMX10T308TR-M09 MK2050	0,095 *0.0038*	0,10 0.0040	0,16 0.0065
K4	XOMX10T308TR-M09 MK2050	0,095 *0.0038*	0,10 0.0040	0,16 0.0065
K5	XOMX10T308TR-M09 MK2050	0,085 *0.0034*	0,090 0.0036	0,14 0.0055
K6	XOMX10T308TR-M09 MK2050	0,095 *0.0038*	0,10 0.0040	0,16 0.0065
K7	XOMX10T308TR-M09 MK2050	0,085 *0.0034*	0,090 0.0036	0,14 0.0055
N1	XOEX10T308FR-E05 H15	0,075 *0.0030*	0,080 0.0032	0,12 0.0048
N2	XOEX10T308FR-E05 H15	0,075 *0.0030*	0,080 0.0032	0,12 0.0048
N3	XOEX10T308FR-E05 H15	0,075 *0.0030*	0,080 0.0032	0,12 0.0048
N11	XOEX10T308FR-E05 H15	0,075 *0.0030*	0,080 0.0032	0,12 0.0048
S1	XOMX10T308TR-ME07 F40M	0,050 *0.0020*	0,055 0.0022	0,085 0.0034
S2	XOMX10T308TR-ME07 F40M	0,050 *0.0020*	0,055 0.0022	0,085 0.0034
S3	XOMX10T308TR-ME07 F40M	0,048 *0.0019*	0,050 0.0020	0,080 0.0032
S11	XOEX10T308R-M06 MS2050	0,050 *0.0020*	0,055 0.0022	0,085 0.0034
S12	XOEX10T308R-M06 MS2050	0,050 *0.0020*	0,055 0.0022	0,085 0.0034
S13	XOEX10T308R-M06 MS2050	0,044 *0.0017*	0,048 0.0019	0,075 0.0030
H5	XOMX10T308TR-M09 MP3000	0,065 *0.0026*	0,070 0.0028	0,11 0.0044
H8	XOMX10T308TR-M09 MP3000	0,048 *0.0019*	0,055 0.0022	0,080 0.0032
H11	XOMX10T308TR-M09 MP3000	0,065 *0.0026*	0,070 0.0028	0,11 0.0044
H12	XOMX10T308TR-M09 MS2500	0,048 *0.0019*	0,055 0.0022	0,080 0.0032

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

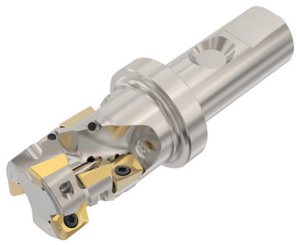
R217/220.69-10 – Cutting data v_c = (m/min)/(sf/min)

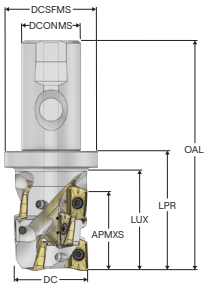
SMG	MK2050			MP3000			MS2050			F40M			H15		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	145 *475*	160 *520*	170 *560*	145 *475*	160 *520*	170 *560*	145 *475*	160 *520*	170 *560*	140 *460*	155 *510*	165 *540*	— —	— —	— —
P2	145 *475*	160 *520*	170 *560*	140 *460*	160 *520*	170 *560*	145 *475*	160 *520*	170 *560*	135 *445*	150 *490*	165 *540*	— —	— —	— —
P3	135 *445*	150 *490*	160 *520*	135 *445*	150 *490*	160 *520*	135 *445*	150 *490*	160 *520*	130 *425*	145 *475*	155 *510*	— —	— —	— —
P4	130 *425*	145 *475*	155 *510*	125 *410*	145 *475*	150 *490*	130 *425*	145 *475*	155 *510*	120 *395*	135 *445*	145 *475*	— —	— —	— —
P5	125 *410*	145 *475*	150 *490*	125 *410*	140 *460*	150 *490*	125 *410*	140 *460*	150 *490*	115 *375*	135 *445*	145 *475*	— —	— —	— —
P6	130 *425*	150 *490*	160 *520*	130 *425*	145 *475*	155 *510*	135 *445*	150 *490*	160 *520*	125 *410*	140 *460*	150 *490*	— —	— —	— —
P7	130 *425*	145 *475*	155 *510*	125 *410*	145 *475*	155 *510*	130 *425*	145 *475*	155 *510*	120 *395*	140 *460*	150 *490*	— —	— —	— —
P8	125 *410*	140 *460*	150 *490*	120 *395*	140 *460*	150 *490*	125 *410*	140 *460*	150 *490*	115 *375*	135 *445*	145 *475*	— —	— —	— —
P11	125 *410*	145 *475*	155 *510*	125 *410*	140 *460*	150 *490*	125 *410*	145 *475*	155 *510*	120 *395*	135 *445*	145 *475*	— —	— —	— —
P12	100 *330*	120 *395*	125 *410*	100 *330*	115 *375*	125 *410*	100 *330*	115 *375*	125 *410*	95 *310*	110 *360*	120 *395*	— —	— —	— —
M1	— —	— —	— —	125 *410*	140 *460*	150 *490*	130 *425*	145 *475*	155 *510*	125 *410*	140 *460*	150 *490*	— —	— —	— —
M2	— —	— —	— —	110 *360*	130 *425*	140 *460*	120 *395*	135 *445*	145 *475*	110 *360*	130 *425*	140 *460*	— —	— —	— —
M3	— —	— —	— —	100 *330*	115 *375*	125 *410*	105 *345*	120 *395*	130 *425*	100 *330*	115 *375*	125 *410*	— —	— —	— —
M4	— —	— —	— —	85 *280*	100 *330*	110 *360*	90 *295*	105 *345*	115 *375*	85 *280*	100 *330*	110 *360*	— —	— —	— —
M5	— —	— —	— —	75 *245*	90 *295*	100 *330*	80 *260*	95 *310*	105 *345*	70 *230*	90 *295*	100 *330*	— —	— —	— —
K1	150 *490*	165 *540*	175 *570*	130 *425*	145 *475*	155 *510*	— —	— —	— —	120 *395*	140 *460*	150 *490*	— —	— —	— —
K2	140 *460*	160 *520*	165 *540*	120 *395*	135 *445*	145 *475*	— —	— —	— —	115 *375*	130 *425*	140 *460*	— —	— —	— —
K3	130 *425*	150 *490*	155 *510*	110 *360*	125 *410*	135 *445*	— —	— —	— —	105 *345*	120 *395*	130 *425*	— —	— —	— —
K4	130 *425*	145 *475*	155 *510*	105 *345*	125 *410*	135 *445*	— —	— —	— —	100 *330*	120 *395*	130 *425*	— —	— —	— —
K5	100 *330*	115 *375*	125 *410*	80 *260*	95 *310*	105 *345*	— —	— —	— —	70 *230*	90 *295*	100 *330*	— —	— —	— —
K6	120 *395*	140 *460*	145 *475*	100 *330*	115 *375*	125 *410*	— —	— —	— —	95 *310*	110 *360*	120 *395*	— —	— —	— —
K7	115 *375*	130 *425*	140 *460*	95 *310*	110 *360*	120 *395*	— —	— —	— —	85 *280*	105 *345*	115 *375*	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	245 *800*	260 *850*	270 *890*
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	190 *620*	210 *690*	220 *720*
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	165 *540*	185 *610*	195 *640*
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	175 *570*	190 *620*	200 *660*
S1	— —	— —	— —	42 *140*	55 *180*	65 *215*	47 *155*	60 *195*	70 *230*	41 *135*	55 *180*	65 *215*	— —	— —	— —
S2	— —	— —	— —	34 *110*	45 *150*	50 *165*	38 *125*	49 *160*	55 *180*	33 *110*	43 *140*	50 *165*	— —	— —	— —
S3	— —	— —	— —	30 *100*	39 *130*	46 *150*	33 *110*	43 *140*	49 *160*	29 *95*	38 *125*	44 *145*	— —	— —	— —
S11	— —	— —	— —	— —	— —	— —	65 *215*	80 *260*	90 *295*	55 *180*	75 *245*	85 *280*	— —	— —	— —
S12	— —	— —	— —	— —	— —	— —	46 *150*	60 *195*	70 *230*	40 *130*	50 *165*	60 *195*	— —	— —	— —
S13	— —	— —	— —	— —	— —	— —	26 *85*	34 *110*	40 *130*	23 *75*	30 *100*	35 *115*	— —	— —	— —
H5	— —	— —	— —	36 *120*	47 *155*	55 *180*	— —	— —	— —	35 *115*	45 *150*	55 *180*	— —	— —	— —
H8	— —	— —	— —	38 *125*	49 *160*	60 *195*	— —	— —	— —	36 *120*	48 *155*	55 *180*	— —	— —	— —
H11	— —	— —	— —	45 *150*	60 *195*	70 *230*	— —	— —	— —	44 *145*	60 *195*	65 *215*	— —	— —	— —
H12	— —	— —	— —	70 *230*	85 *280*	100 *330*	— —	— —	— —	65 *215*	80 *260*	90 *295*	— —	— —	— —

R217/220.69-10 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK1501			MP1501			MP2501			MS2500			MP3501			MM4500		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	170	180	185	165	180	185	170	185	190	160	175	180	140	155	160
	—	—	—	*560*	*590*	*610*	*540*	*590*	*610*	*560*	*610*	*620*	*520*	*570*	*590*	*460*	*510*	*520*
P2	—	—	—	165	180	185	165	175	185	170	180	190	160	170	180	140	150	160
	—	—	—	*540*	*590*	*610*	*540*	*570*	*610*	*560*	*590*	*620*	*520*	*560*	*590*	*460*	*490*	*520*
P3	—	—	—	160	170	175	155	170	175	160	175	180	150	160	170	130	140	150
	—	—	—	*520*	*560*	*570*	*510*	*560*	*570*	*520*	*570*	*590*	*490*	*520*	*560*	*425*	*460*	*490*
P4	—	—	—	150	165	170	150	160	170	155	165	175	145	155	160	125	140	145
	—	—	—	*490*	*540*	*560*	*490*	*520*	*560*	*510*	*540*	*570*	*475*	*510*	*520*	*410*	*460*	*475*
P5	—	—	—	150	160	165	145	160	165	150	165	170	140	155	160	120	130	140
	—	—	—	*490*	*520*	*540*	*475*	*520*	*540*	*490*	*540*	*560*	*460*	*510*	*520*	*395*	*425*	*460*
P6	—	—	—	155	165	175	155	165	170	160	170	175	145	160	165	125	140	145
	—	—	—	*510*	*540*	*570*	*510*	*540*	*560*	*520*	*560*	*570*	*475*	*520*	*540*	*410*	*460*	*475*
P7	—	—	—	150	165	170	150	160	170	155	165	175	145	155	165	125	135	140
	—	—	—	*490*	*540*	*560*	*490*	*520*	*560*	*510*	*540*	*570*	*475*	*510*	*540*	*410*	*445*	*460*
P8	—	—	—	145	160	165	145	160	165	150	165	170	140	150	160	120	130	140
	—	—	—	*475*	*520*	*540*	*475*	*520*	*540*	*490*	*540*	*560*	*460*	*490*	*520*	*395*	*425*	*460*
P11	—	—	—	150	160	170	150	160	165	155	165	170	140	155	160	120	135	140
	—	—	—	*490*	*520*	*560*	*490*	*520*	*540*	*510*	*540*	*560*	*460*	*510*	*520*	*395*	*445*	*460*
P12	—	—	—	120	130	140	120	130	140	125	135	140	115	125	130	90	100	105
	—	—	—	*395*	*425*	*460*	*395*	*425*	*460*	*410*	*445*	*460*	*375*	*410*	*425*	*295*	*330*	*345*
M1	—	—	—	—	—	—	125	140	150	140	155	165	120	135	145	115	130	140
	—	—	—	—	—	—	*410*	*460*	*490*	*460*	*510*	*540*	*395*	*445*	*475*	*375*	*425*	*460*
M2	—	—	—	—	—	—	115	130	140	125	145	155	110	125	135	100	120	130
	—	—	—	—	—	—	*375*	*425*	*460*	*410*	*475*	*510*	*360*	*410*	*445*	*330*	*395*	*425*
M3	—	—	—	—	—	—	100	115	125	115	130	140	95	115	120	90	105	115
	—	—	—	—	—	—	*330*	*375*	*410*	*375*	*425*	*460*	*310*	*375*	*395*	*295*	*345*	*375*
M4	—	—	—	—	—	—	85	100	110	100	115	125	80	100	105	75	90	100
	—	—	—	—	—	—	*280*	*330*	*360*	*330*	*375*	*410*	*260*	*330*	*345*	*245*	*295*	*330*
M5	—	—	—	—	—	—	75	90	100	85	105	115	70	85	95	65	80	90
	—	—	—	—	—	—	*245*	*295*	*330*	*280*	*345*	*375*	*230*	*280*	*310*	*215*	*260*	*295*
K1	155	190	210	165	180	185	165	180	185	145	160	170	160	170	180	—	—	—
	510	*620*	*690*	*540*	*590*	*610*	*540*	*590*	*610*	*475*	*520*	*560*	*520*	*560*	*590*	—	—	—
K2	150	180	200	160	170	180	160	170	175	135	155	165	150	165	170	—	—	—
	490	*590*	*660*	*520*	*560*	*590*	*520*	*560*	*570*	*445*	*510*	*540*	*490*	*540*	*560*	—	—	—
K3	135	160	170	150	160	170	150	160	165	125	145	155	140	155	160	—	—	—
	445	*520*	*560*	*490*	*520*	*560*	*490*	*520*	*540*	*410*	*475*	*510*	*460*	*510*	*520*	—	—	—
K4	135	155	170	145	160	165	145	160	165	125	140	150	140	150	160	—	—	—
	445	*510*	*560*	*475*	*520*	*540*	*475*	*520*	*540*	*410*	*460*	*490*	*460*	*490*	*520*	—	—	—
K5	105	125	140	115	130	135	115	125	135	95	110	120	110	120	130	—	—	—
	345	*410*	*460*	*375*	*425*	*445*	*375*	*410*	*445*	*310*	*360*	*395*	*360*	*395*	*425*	—	—	—
K6	125	150	160	140	150	155	140	150	155	115	135	145	130	145	150	—	—	—
	410	*490*	*520*	*460*	*490*	*510*	*460*	*490*	*510*	*375*	*445*	*475*	*425*	*475*	*490*	—	—	—
K7	120	140	155	130	145	150	130	140	150	110	125	135	125	135	145	—	—	—
	395	*460*	*510*	*425*	*475*	*490*	*425*	*460*	*490*	*360*	*410*	*445*	*410*	*445*	*475*	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	55	70	80	40	50	60	23	30	36
	—	—	—	—	—	—	—	—	—	*180*	*230*	*260*	*130*	*165*	*195*	*75*	*100*	*120*
S2	—	—	—	—	—	—	—	—	—	45	60	70	32	42	49	19	25	29
	—	—	—	—	—	—	—	—	—	*150*	*195*	*230*	*105*	*140*	*160*	*60*	*80*	*95*
S3	—	—	—	—	—	—	—	—	—	39	50	60	28	37	43	16	22	25
	—	—	—	—	—	—	—	—	—	*130*	*165*	*195*	*90*	*120*	*140*	*50*	*70*	*80*
S11	—	—	—	—	—	—	—	—	—	75	90	100	55	70	80	32	42	50
	—	—	—	—	—	—	—	—	—	*245*	*295*	*330*	*180*	*230*	*260*	*105*	*140*	*165*
S12	—	—	—	—	—	—	—	—	—	55	70	80	38	50	60	30	39	46
	—	—	—	—	—	—	—	—	—	*180*	*230*	*260*	*125*	*165*	*195*	*100*	*130*	*150*
S13	—	—	—	—	—	—	—	—	—	31	41	48	22	29	34	17	23	27
	—	—	—	—	—	—	—	—	—	*100*	*135*	*155*	*70*	*95*	*110*	*55*	*75*	*90*
H5	—	—	—	45	60	70	—	—	—	45	60	70	35	46	55	—	—	—
	—	—	—	*150*	*195*	*230*	—	—	—	*150*	*195*	*230*	*115*	*150*	*180*	—	—	—
H8	—	—	—	48	65	75	—	—	—	47	60	70	37	48	55	—	—	—
	—	—	—	*155*	*215*	*245*	—	—	—	*155*	*195*	*230*	*120*	*155*	*180*	—	—	—
H11	—	—	—	60	75	85	—	—	—	55	75	85	44	60	70	—	—	—
	—	—	—	*195*	*245*	*280*	—	—	—	*180*	*245*	*280*	*145*	*195*	*230*	—	—	—
H12	—	—	—	80	100	110	—	—	—	85	105	110	65	80	90	—	—	—
	—	—	—	*260*	*330*	*360*	—	—	—	*280*	*345*	*360*	*215*	*260*	*295*	—	—	—

Turbo 12 – R217.69-12 – Metric



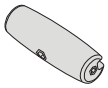


—For insert selection and cutting data recommendations, see page(s) 147-149
—For complete insert programme, see page(s) 920, 921
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCSFMS	DCONMS	LUX	LPR	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm	mm		kg	
R217.69-2025.3S-022-12.2AN	02709523	Seco-Weldon	25,0	2	4	22,0	35,0	20,0	38,0	50,0	99,5	20800	0,4	XO.X1204
R217.69-2525.3S-033-12.2AN	02709526	Seco-Weldon	25,0	2	6	33,0	40,0	25,0	49,0	60,0	115,5	20800	0,5	XO.X1204
R217.69-2532.3S-033-12.2AN	02709528	Seco-Weldon	32,0	2	6	33,0	40,0	25,0	47,0	60,0	115,5	18400	0,6	XO.X1204
R217.69-2532.3S-033-12.3AN	02709530	Seco-Weldon	32,0	3	9	33,0	40,0	25,0	48,0	60,0	115,5	18400	0,5	XO.X1204
R217.69-2532.3S-044-12.3AN	02629796	Seco-Weldon	32,0	3	12	44,0	40,0	25,0	58,0	70,0	125,5	18400	0,6	XO.X1204
R217.69-3240.3S-033-12.3AN	02709540	Seco-Weldon	40,0	3	9	33,0	50,0	32,0	49,0	60,0	119,5	16400	0,8	XO.X1204
R217.69-3240.3S-044-12.4AN	02709541	Seco-Weldon	40,0	4	16	44,0	50,0	32,0	57,0	70,0	129,5	16400	0,8	XO.X1204
R217.69-3240.3S-055-12.3AN	02709543	Seco-Weldon	40,0	3	15	55,0	50,0	32,0	69,0	80,0	139,5	16400	1,0	XO.X1204
R217.69-3250.3S-055-12.4AN	02709546	Seco-Weldon	50,0	4	20	55,0	50,0	32,0	67,0	80,0	139,5	14800	1,2	XO.X1204

Modification of the cutter body needed for radii > 3,1 mm
* No axial support in the front row for radii > 1,6 mm

Spare Parts, included in delivery

For cutter	Insert key	Insert screw	Key (T-handle)
			
R217.69-..Ø25/R217.69-HSK	H4B-T10P	C03507-T10P	DOUBLE-T
R217.69-..Ø32	H4B-T10P	C03508-T10P	DOUBLE-T
R217.69-..Ø40-50	H4B-T10P	C03509-T10P	DOUBLE-T

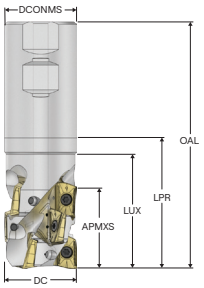
Accessories

For cutter	Insert clamping torque	Torque key
		
R217.69-..	3.0NM	T00-10P30

Torque and fixed keys, see page 944

Turbo 12 – R217.69-12 – Inch



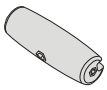


–For insert selection and cutting data recommendations, see page(s) 147-149
–For complete insert programme, see page(s) 920, 921
–For ISO attribute explanation, see page 16
–KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCONMS	LF	LUX	LPR	OAL	RPMX	Weight	Insert
			inch			inch	inch	inch	inch	inch	inch		lbs	
R217.69-01.25-3-12M3AN	02710789	Weldon	1.250	3	12	1.732	1.250	3.860	2.695	2.638	5.000	18400	1.540	XO.X1204
R217.69-01.50-3-12M4AN	02710799	Weldon	1.500	4	20	2.165	1.500	4.563	3.010	3.061	5.750	16400	2.430	XO.X1204
R217.69-01.50-3-12L3AN	02710795	Weldon	1.500	3	18	2.559	1.500	4.811	3.262	3.636	5.998	16400	2.430	XO.X1204

Modification of the cutter body needed for radii > 0.122 in
* No axial support in the front row for radii > 0.063

Spare Parts, included in delivery

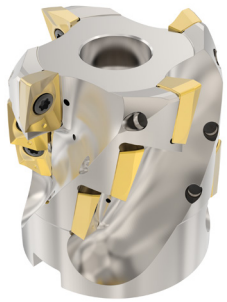
For cutter	Insert key	Insert screw	Key (T-handle)
			
R217.69-01.00-01.25	H4B-T10P	C03507-T10P	DOUBLE-T
R217.69-01.50-02.00	H4B-T10P	C03509-T10P	DOUBLE-T

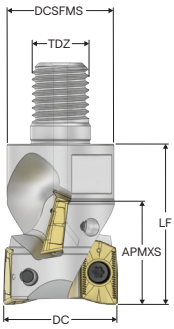
Accessories

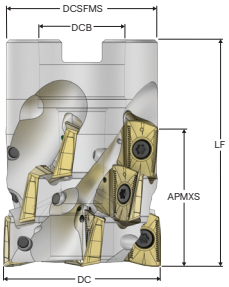
For cutter	Insert clamping torque	Torque key
		
R217.69-..	3.0NM	T00-10P30

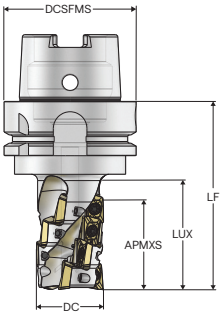
Torque and fixed keys, see page 944

Turbo 12 – R217/220.69-12 – Metric









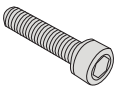
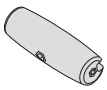
–For insert selection and cutting data recommendations, see page(s) 147-149
–For complete insert programme, see page(s) 920, 921
–For ISO attribute explanation, see page 16
–KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	TDZ	LF	LUX	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm		mm	mm	mm		kg	
R217.69-HSK63A.32-044-12.3AN	02717942	HSK	32,0	3	12	44,0	–	63,0	–	90,0	52,0	122,0	18400	0,1	XO.X1204
R217.69-1225.RE-022-12.2AN	02709506	Combimaster	25,0	2	4	22,8	–	23,0	M12	35,0	–	56,75	20800	0,2	XO.X1204
R217.69-1632.RE-022-12.3AN	02709508	Combimaster	32,0	3	6	22,5	–	30,0	M16	40,0	–	62,75	18400	0,3	XO.X1204
R217.69-2040.RE-033-12.3AN	02972763	Combimaster	40,0	3	9	33,0	–	36,5	M20	50,0	–	77,0	16400	0,4	XO.X1204
R217.69-2040.RE-044-12.4AN	02972764	Combimaster	40,0	4	16	44,0	–	36,5	M20	61,0	–	88,0	16400	0,5	XO.X1204
R220.69-00050-033-12.4AN	02709941	Arbor	50,0	4	12	33,0	27,0	48,0	–	55,0	–	–	14800	0,5	XO.X1204
R220.69-00050-044-12.4AN	02709947	Arbor	50,0	4	16	44,0	27,0	48,0	–	65,0	–	–	14800	0,6	XO.X1204
R220.69-00050-044-12.5AN	02709951	Arbor	50,0	5	20	44,0	27,0	48,0	–	65,0	–	–	14800	0,6	XO.X1204
R220.69-00063-033-12.5AN	02709956	Arbor	63,0	5	15	33,0	27,0	62,0	–	63,0	–	–	13200	1,1	XO.X1204
R220.69-00063-055-12.5AN	02709965	Arbor	63,0	5	25	55,0	27,0	60,0	–	75,0	–	–	13200	1,1	XO.X1204
R220.69-00063-077-12.4SAN	02717797	Arbor	63,0	4	28	77,0	27,0	60,0	–	100,0	–	–	13200	1,5	XO.X1204

For Combimaster Shanks, see Machining Navigator Tooling System

Modification of the cutter body needed for radii > 3,1 mm
* No axial support in the front row for radii > 1,6 mm

Spare Parts, included in delivery

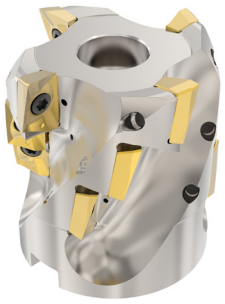
For cutter	Arbor screw	Basic body	Insert key	Insert screw	Key (T-handle)	Replaceable end
						
R217.69-../C5-R217.69-Ø32	–	–	H4B-T10P	C03508-T10P	DOUBLE-T	–
R217.69-../Cx-R217.69-Ø40	–	–	H4B-T10P	C03509-T10P	DOUBLE-T	–
R217.69-..Ø25	–	–	H4B-T10P	C03507-T10P	DOUBLE-T	–
R217.69-..Ø25/R217.69-HSK	–	–	H4B-T10P	C03507-T10P	DOUBLE-T	–
R220.69-00063	MP6S12X80	R220.69-00063044-12.4BAN	H4B-T10P	C03509-T10P	DOUBLE-T	R220.69-RE063033-12.4AN
R220.69-Ø50/Ø63-033-044	MC6S12X50	–	H4B-T10P	C03509-T10P	DOUBLE-T	–
R220.69-Ø50/Ø63-044-055	MC6S12X60	–	H4B-T10P	C03509-T10P	DOUBLE-T	–
R220.69-Ø50-033	MC6S12X40	–	H4B-T10P	C03509-T10P	DOUBLE-T	–

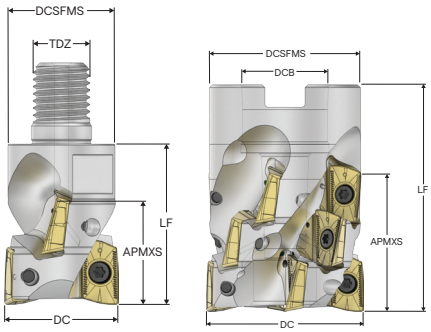
Accessories

For cutter	Coolant kit	Insert clamping torque	Torque key
			
R217/220.69-..	–	3.0NM	T00-10P30
R220.69-..SAN	LUBRICATION_SET_29	3.0NM	T00-10P30

Torque and fixed keys, see page 944

Turbo 12 – R217/220.69-12 – Inch





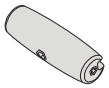
–For insert selection and cutting data recommendations, see page(s) 147-149
–For complete insert programme, see page(s) 920, 921
–For ISO attribute explanation, see page 16
–KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	TDZ	LF	OAL	RPMX	Weight	Insert
			inch			inch	inch	inch		inch	inch		lbs	
R217.69-01.50-20RE-01.73-12-4A	03003976	Combimaster	1.500	4	16	1.732	–	1.437	M20	2.402	3.465	16400	0.880	XO.X1204
R220.69-02.00-12S4AN	02710915	Arbor	2.000	4	16	1.740	1.000	1.929	–	2.750	–	14800	1.540	XO.X1204
R220.69-02.00-12M5AN	02710895	Arbor	2.000	5	25	2.146	1.000	2.047	–	3.250	–	14800	1.760	XO.X1204
R220.69-02.50-12L4SAN	02722266	Arbor	2.500	4	28	2.953	1.000	2.441	–	4.020	–	13200	4.630	XO.X1204

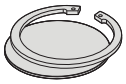
For Combimaster Shanks, see Machining Navigator Tooling System

Modification of the cutter body needed for radii > 0.122 in
* No axial support in the front row for radii > 0.063

Spare Parts, included in delivery

For cutter	Arbor screw	Basic body	Insert key	Insert screw	Key (T-handle)	Replaceable end
						
R217.69-01.50	–	–	H4B-T10P	C03509-T10P	DOUBLE-T	–
R220.69-..L4	UP6S1/2UNFX3-1/4	R220.69-02.50-12L4BAN	H4B-T10P	C03509-T10P	DOUBLE-T	R220.69-02.50-RE-12.4AN
R220.69-..M5	UC6S1/2UNFX2-1/2	–	H4B-T10P	C03509-T10P	DOUBLE-T	–
R220.69-..S4	UC6S1/2UNFX3	–	H4B-T10P	C03509-T10P	DOUBLE-T	–

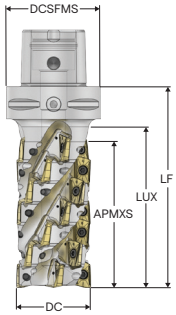
Accessories

For cutter	Coolant kit	Insert clamping torque	Torque key
			
R220.69-..	–	3.0NM	T00-10P30
R220.69-..L4	LUBRICATION_SET_29	3.0NM	T00-10P30

Torque and fixed keys, see page 944

Turbo 12 – R217/220.69-12 – Metric



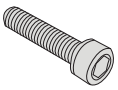
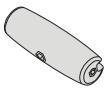


—For insert selection and cutting data recommendations, see page(s) 147-149
—For complete insert programme, see page(s) 920, 921
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCSFMS	LF	LUX	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm		kg	
C5-R217.69-032-044-12.3AN	02717844	Seco-Capto	32,0	3	12	44,0	50,0	79,0	56,0	109,0	18400	0,7	XO.X1204
C5-R217.69-032-055-12.3AN	02829929	Seco-Capto	32,0	3	15	55,0	50,0	90,0	67,0	120,0	18400	0,8	XO.X1204
C6-R217.69-040-055-12.3AN	02717917	Seco-Capto	40,0	3	15	55,0	63,0	92,0	67,0	130,0	16400	1,1	XO.X1204
C6-R217.69-040-066-12.3AN	02829930	Seco-Capto	40,0	3	18	65,5	63,0	103,0	79,9	141,0	16400	1,2	XO.X1204
C4-R217.69-044-033-12.3AN	02717838	Seco-Capto	44,0	3	9	33,0	40,0	68,0	48,0	92,0	15500	0,7	XO.X1204
C6-R217.69-050-055-12.4AN	02717918	Seco-Capto	50,0	4	20	55,0	63,0	92,0	67,0	130,0	14800	1,4	XO.X1204
C6-R217.69-050-066-12.4SAN	02717991	Seco-Capto	50,0	4	24	66,0	63,0	101,0	76,0	139,0	14800	1,4	XO.X1204
C6-R217.69-050-086-12.5SAN	02829935	Seco-Capto	50,0	5	40	86,0	63,0	119,0	97,0	157,0	14800	1,7	XO.X1204
C6-R217.69-050-106-12.5SAN	02829936	Seco-Capto	50,0	5	50	106,0	63,0	140,0	118,0	178,0	12000	1,7	XO.X1204
C5-R217.69-054-044-12.4AN	02717852	Seco-Capto	54,0	4	16	44,0	50,0	79,0	59,0	109,0	13900	1,2	XO.X1204
C6-R217.69-063-107-12.5SAN	02829940	Seco-Capto	63,0	5	50	107,0	63,0	140,0	118,0	178,0	12000	2,4	XO.X1204
C6-R217.69-066-044-12.5AN	02717924	Seco-Capto	66,0	5	20	44,0	63,0	81,0	59,0	119,0	12000	1,9	XO.X1204

Modification of the cutter body needed for radii > 3,1 mm
* No axial support in the front row for radii > 1,6 mm

Spare Parts, included in delivery

For cutter	Assembly screw	Basic body	Insert key	Insert screw	Key (T-handle)	Replaceable end
						
C6-R217.69-050-066-4SAN	MC6S10X40	C6-R217.69-050-044-12.4BAN	H4B-T10P	C03509-T10P	DOUBLE-T	R220.69-RE050022-12.4AN
C6-R217.69-050-086-5SAN	MC6S10X40	C6-R217.69-050-064-12.5BAN	H4B-T10P	C03509-T10P	DOUBLE-T	R220.69-RE050022-12.5AN
C6-R217.69-050-106-5SAN	MC6S10X40	C6-R217.69-050-084-12.5BAN	H4B-T10P	C03509-T10P	DOUBLE-T	R220.69-RE050022-12.5AN
C6-R217.69-063-5SAN	MC6S10X40	C6-R217.69-063-074-12.5BAN	H4B-T10P	C03509-T10P	DOUBLE-T	R220.69-RE063033-12.5AN
Cx-R217.69-Ø32	–	–	H4B-T10P	C03508-T10P	DOUBLE-T	–
Cx-R217.69-Ø40-66	–	–	H4B-T10P	C03509-T10P	DOUBLE-T	–

Accessories

For cutter	Coolant kit	Insert clamping torque	Torque key
			
C6-R217.69-050-SAN	LUBRICATION_SET_19	3.0NM	T00-10P30
C6-R217.69-063-SAN	–	3.0NM	T00-10P30
Cx-R217.69-032-066	–	3.0NM	T00-10P30

Torque and fixed keys, see page 944

R217/220.69-12 – Insert selection – mm/Inch

SMG		f_z		
		100%	30%	10%
P1	XOMX120408TR-ME08 MP2501	0,095 *0.0038*	0,11 0.0044	0,16 0.0065
P2	XOMX120408TR-ME08 MP2501	0,10 *0.0040*	0,11 0.0044	0,17 0.0065
P3	XOMX120408TR-ME08 MP2501	0,095 *0.0038*	0,10 0.0040	0,16 0.0065
P4	XOMX120408TR-M12 MP2501	0,14 *0.0055*	0,15 0.0060	0,22 0.0095
P5	XOMX120408TR-M12 MP2501	0,13 *0.0050*	0,15 0.0060	0,22 0.0085
P6	XOMX120408TR-M12 MP2501	0,13 *0.0050*	0,15 0.0060	0,22 0.0085
P7	XOMX120408TR-M12 MP2501	0,13 *0.0050*	0,15 0.0060	0,22 0.0085
P8	XOMX120408TR-M12 MP2501	0,14 *0.0055*	0,15 0.0060	0,24 0.0095
P11	XOMX120408TR-M12 MP3501	0,13 *0.0050*	0,15 0.0060	0,22 0.0085
P12	XOMX120408TR-M12 MP3501	0,090 *0.0036*	0,10 0.0040	0,15 0.0060
M1	XOEX120408R-M07 MS2050	0,11 *0.0044*	0,12 0.0048	0,19 0.0075
M2	XOEX120408R-M07 MS2050	0,10 *0.0040*	0,11 0.0044	0,17 0.0065
M3	XOEX120408R-M07 MS2050	0,080 *0.0032*	0,090 0.0036	0,14 0.0055
M4	XOMX120408TR-ME08 MS2050	0,065 *0.0026*	0,070 0.0028	0,11 0.0044
M5	XOMX120408TR-ME08 MS2050	0,065 *0.0026*	0,070 0.0028	0,11 0.0044
K1	XOMX120408TR-MD13 MK2050	0,16 *0.0065*	0,18 0.0070	0,26 0.010
K2	XOMX120408TR-MD13 MK2050	0,15 *0.0060*	0,16 0.0065	0,24 0.0095
K3	XOMX120408TR-MD13 MK2050	0,15 *0.0060*	0,16 0.0065	0,24 0.0095
K4	XOMX120408TR-MD13 MK2050	0,15 *0.0060*	0,16 0.0065	0,24 0.0095
K5	XOMX120408TR-MD13 MK2050	0,13 *0.0050*	0,14 0.0055	0,22 0.0085
K6	XOMX120408TR-MD13 MK2050	0,15 *0.0060*	0,16 0.0065	0,24 0.0095
K7	XOMX120408TR-MD13 MK2050	0,13 *0.0050*	0,14 0.0055	0,22 0.0085
N1	XOEX120408FR-E06 H15	0,11 *0.0044*	0,12 0.0048	0,18 0.0070
N2	XOEX120408FR-E06 H15	0,11 *0.0044*	0,12 0.0048	0,18 0.0070
N3	XOEX120408FR-E06 H15	0,11 *0.0044*	0,12 0.0048	0,18 0.0070
N11	XOEX120408FR-E06 H15	0,11 *0.0044*	0,12 0.0048	0,18 0.0070
S1	XOEX120408R-M07 F40M	0,070 *0.0028*	0,075 0.0030	0,12 0.0048
S2	XOEX120408R-M07 F40M	0,070 *0.0028*	0,075 0.0030	0,12 0.0048
S3	XOEX120408R-M07 F40M	0,065 *0.0026*	0,070 0.0028	0,11 0.0044
S11	XOEX120408R-M07 MS2050	0,080 *0.0032*	0,090 0.0036	0,14 0.0055
S12	XOEX120408R-M07 MS2050	0,080 *0.0032*	0,090 0.0036	0,14 0.0055
S13	XOEX120408R-M07 MS2050	0,070 *0.0028*	0,075 0.0030	0,12 0.0048
H5	XOMX120408TR-MD13 MP3000	0,10 *0.0040*	0,11 0.0044	0,17 0.0065
H8	XOMX120408TR-MD13 MP3000	0,075 *0.0030*	0,085 0.0034	0,13 0.0050
H11	XOMX120412TR-MD13 MP3000	0,10 *0.0040*	0,11 0.0044	0,17 0.0065
H12	XOMX120408TR-MD13 MP3000	0,075 *0.0030*	0,085 0.0034	0,13 0.0050

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

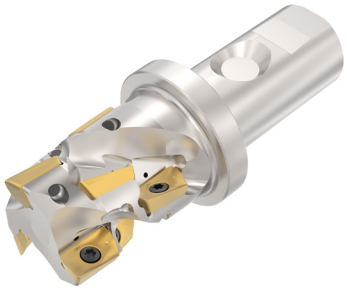
R217/220.69-12 – Cutting data v_c = (m/min)/(sf/min)

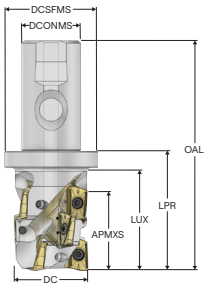
SMG	MK2050			MP3000			MS2050			F40M			MP2051			MP2050			H15		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	150	170	180	145	160	170	150	165	170	135	145	155	170	180	190	150	165	175	—	—	—
	490	*560*	*590*	*475*	*520*	*560*	*490*	*540*	*560*	*445*	*475*	*510*	*560*	*590*	*620*	*490*	*540*	*570*	—	—	—
P2	150	165	175	140	160	170	145	160	170	130	145	155	170	180	185	150	165	175	—	—	—
	490	*540*	*570*	*460*	*520*	*560*	*475*	*520*	*560*	*425*	*475*	*510*	*560*	*590*	*610*	*490*	*540*	*570*	—	—	—
P3	140	160	170	135	150	160	140	150	160	125	135	145	160	170	180	140	155	165	—	—	—
	460	*520*	*560*	*445*	*490*	*520*	*460*	*490*	*520*	*410*	*445*	*475*	*520*	*560*	*590*	*460*	*510*	*540*	—	—	—
P4	135	150	160	125	145	155	130	145	155	120	130	140	150	165	170	130	150	160	—	—	—
	445	*490*	*520*	*410*	*475*	*510*	*425*	*475*	*510*	*395*	*425*	*460*	*490*	*540*	*560*	*425*	*490*	*520*	—	—	—
P5	130	150	160	125	140	150	130	145	150	115	125	135	150	160	165	130	145	155	—	—	—
	425	*490*	*520*	*410*	*460*	*490*	*425*	*475*	*490*	*375*	*410*	*445*	*490*	*520*	*540*	*425*	*475*	*510*	—	—	—
P6	140	155	165	135	150	160	135	150	155	125	135	140	155	170	175	135	155	165	—	—	—
	460	*510*	*540*	*445*	*490*	*520*	*445*	*490*	*510*	*410*	*445*	*460*	*510*	*560*	*570*	*445*	*510*	*540*	—	—	—
P7	135	150	160	130	145	155	135	145	155	120	130	140	155	165	170	135	150	160	—	—	—
	445	*490*	*520*	*425*	*475*	*510*	*445*	*475*	*510*	*395*	*425*	*460*	*510*	*540*	*560*	*445*	*490*	*520*	—	—	—
P8	130	150	160	125	140	150	130	140	150	115	125	135	150	160	165	130	145	155	—	—	—
	425	*490*	*520*	*410*	*460*	*490*	*425*	*460*	*490*	*375*	*410*	*445*	*490*	*520*	*540*	*425*	*475*	*510*	—	—	—
P11	135	150	160	125	145	155	130	145	150	115	130	135	145	170	185	130	150	160	—	—	—
	445	*490*	*520*	*410*	*475*	*510*	*425*	*475*	*490*	*375*	*425*	*445*	*475*	*560*	*610*	*425*	*490*	*520*	—	—	—
P12	110	125	135	105	120	130	105	120	125	95	105	110	115	135	145	105	120	130	—	—	—
	360	*410*	*445*	*345*	*395*	*425*	*345*	*395*	*410*	*310*	*345*	*360*	*375*	*445*	*475*	*345*	*395*	*425*	—	—	—
M1	—	—	—	120	135	145	125	145	155	110	125	140	155	180	190	130	145	155	—	—	—
	—	—	—	*395*	*445*	*475*	*410*	*475*	*510*	*360*	*410*	*460*	*510*	*590*	*620*	*425*	*475*	*510*	—	—	—
M2	—	—	—	110	125	135	115	130	140	100	115	125	140	165	180	115	135	145	—	—	—
	—	—	—	*360*	*410*	*445*	*375*	*425*	*460*	*330*	*375*	*410*	*460*	*540*	*590*	*375*	*445*	*475*	—	—	—
M3	—	—	—	95	110	125	105	120	130	85	105	115	125	150	160	105	120	130	—	—	—
	—	—	—	*310*	*360*	*410*	*345*	*395*	*425*	*280*	*345*	*375*	*410*	*490*	*520*	*345*	*395*	*425*	—	—	—
M4	—	—	—	80	100	105	90	105	115	70	90	95	110	130	140	90	105	115	—	—	—
	—	—	—	*260*	*330*	*345*	*295*	*345*	*375*	*230*	*295*	*310*	*360*	*425*	*460*	*295*	*345*	*375*	—	—	—
M5	—	—	—	70	85	95	80	95	100	60	75	85	100	120	130	75	95	105	—	—	—
	—	—	—	*230*	*280*	*310*	*260*	*310*	*330*	*195*	*245*	*280*	*330*	*395*	*425*	*245*	*310*	*345*	—	—	—
K1	155	170	180	125	140	150	—	—	—	110	125	135	—	—	—	—	—	—	—	—	—
	510	*560*	*590*	*410*	*460*	*490*	—	—	—	*360*	*410*	*445*	—	—	—	—	—	—	—	—	—
K2	145	165	175	115	135	145	—	—	—	105	120	130	—	—	—	—	—	—	—	—	—
	475	*540*	*570*	*375*	*445*	*475*	—	—	—	*345*	*395*	*425*	—	—	—	—	—	—	—	—	—
K3	135	155	165	105	125	135	—	—	—	95	110	120	—	—	—	—	—	—	—	—	—
	445	*510*	*540*	*345*	*410*	*445*	—	—	—	*310*	*360*	*395*	—	—	—	—	—	—	—	—	—
K4	135	150	160	100	120	130	—	—	—	90	105	115	—	—	—	—	—	—	—	—	—
	445	*490*	*520*	*330*	*395*	*425*	—	—	—	*295*	*345*	*375*	—	—	—	—	—	—	—	—	—
K5	105	120	130	75	90	100	—	—	—	60	75	85	—	—	—	—	—	—	—	—	—
	345	*395*	*425*	*245*	*295*	*330*	—	—	—	*195*	*245*	*280*	—	—	—	—	—	—	—	—	—
K6	125	145	155	95	110	125	—	—	—	80	100	110	—	—	—	—	—	—	—	—	—
	410	*475*	*510*	*310*	*360*	*410*	—	—	—	*260*	*330*	*360*	—	—	—	—	—	—	—	—	—
K7	120	135	145	90	105	115	—	—	—	75	90	100	—	—	—	—	—	—	—	—	—
	395	*445*	*475*	*295*	*345*	*375*	—	—	—	*245*	*295*	*330*	—	—	—	—	—	—	—	—	—
N1	—	—	—	245	260	270	—	—	—	230	245	255	—	—	—	—	—	—	240	260	270
	—	—	—	*800*	*850*	*890*	—	—	—	*750*	*800*	*840*	—	—	—	—	—	—	*790*	*850*	*890*
N2	—	—	—	190	205	215	—	—	—	175	190	200	—	—	—	—	—	—	190	205	215
	—	—	—	*620*	*670*	*710*	—	—	—	*570*	*620*	*660*	—	—	—	—	—	—	*620*	*670*	*710*
N3	—	—	—	165	180	190	—	—	—	150	165	175	—	—	—	—	—	—	165	180	190
	—	—	—	*540*	*590*	*620*	—	—	—	*490*	*540*	*570*	—	—	—	—	—	—	*540*	*590*	*620*
N11	—	—	—	170	190	200	—	—	—	160	175	185	—	—	—	—	—	—	170	190	200
	—	—	—	*560*	*620*	*660*	—	—	—	*520*	*570*	*610*	—	—	—	—	—	—	*560*	*620*	*660*
S1	—	—	—	40	55	60	45	60	65	34	45	50	50	65	75	47	60	70	—	—	—
	—	—	—	*130*	*180*	*195*	*150*	*195*	*215*	*110*	*150*	*165*	*165*	*215*	*245*	*155*	*195*	*230*	—	—	—
S2	—	—	—	32	42	49	36	47	55	27	36	42	40	50	60	38	50	60	—	—	—
	—	—	—	*105*	*140*	*160*	*120*	*155*	*180*	*90*	*120*	*140*	*130*	*165*	*195*	*125*	*165*	*195*	—	—	—
S3	—	—	—	28	37	43	32	41	48	24	31	37	35	46	55	33	44	50	—	—	—
	—	—	—	*90*	*120*	*140*	*105*	*135*	*155*	*80*	*100*	*120*	*115*	*150*	*180*	*110*	*145*	*165*	—	—	—
S11	—	—	—	55	70	80	60	80	85	47	60	70	70	85	95	65	80	90	—	—	—
	—	—	—	*180*	*230*	*260*	*195*	*260*	*280*	*155*	*195*	*230*	*230*	*280*	*310*	*215*	*260*	*295*	—	—	—
S12	—	—	—	38	50	60	43	55	65	33	43	50	48	65	75	45	60	70	—	—	—
	—	—	—	*125*	*165*	*195*	*140*	*180*	*215*	*110*	*140*	*165*	*155*	*215*	*245*	*150*	*195*	*230*	—	—	—
S13	—	—	—	22	30	34	25	33	38	19	25	29	28	37	43	26	35	41	—	—	—
	—	—	—	*70*	*100*	*110*	*80*	*110*	*125*	*60*	*80*	*95*	*90*	*120*	*140*	*85*	*115*	*135*	—	—	—
H5	45	60	70	34	45	55	—	—	—	29	37	44	—	—	—	—	—	—	—	—	—
	150	*195*	*230*	*110*	*150*	*180*	—	—	—	*95*	*120*	*145*	—	—	—	—	—	—	—	—	—
H8	48	60	70	36	48	55	—	—	—	31	40	47	—	—	—	—	—	—	—	—	—
	155	*195*	*230*	*120*	*155*	*180*	—	—	—	*100*	*130*	*155*	—	—	—	—	—	—	—	—	—
H11	60	75	85	43	55	65	—	—	—	36	48	55	90	110	120	49	65	75	—	—	—
	195	*245*	*280*	*140*	*180*	*215*	—	—	—	*120*	*155*	*180*	*295*	*360*	*395*	*160*	*215*	*245*	—	—	—
H12	80	95	105	70	85	95	—	—	—	55	70	80	80	100	110	80	95	105	—	—	—
	260	*310*	*345*	*230*	*280*	*310*	—	—	—	*180*	*230*	*260*	*260*	*330*	*360*	*260*	*310*	*345*	—	—	—

R217/220.69-12 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK1501			MP1501			MP2501			MS2500			MP3501		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	175	190	195	175	185	195	180	195	200	165	180	190
	—	—	—	*570*	*620*	*640*	*570*	*610*	*640*	*590*	*640*	*660*	*540*	*590*	*620*
P2	—	—	—	170	185	195	170	185	195	180	190	200	165	180	185
	—	—	—	*560*	*610*	*640*	*560*	*610*	*640*	*590*	*620*	*660*	*540*	*590*	*610*
P3	—	—	—	165	180	185	160	175	185	170	180	190	155	170	175
	—	—	—	*540*	*590*	*610*	*520*	*570*	*610*	*560*	*590*	*620*	*510*	*560*	*570*
P4	—	—	—	155	170	175	155	170	175	160	175	180	145	160	170
	—	—	—	*510*	*560*	*570*	*510*	*560*	*570*	*520*	*570*	*590*	*475*	*520*	*560*
P5	—	—	—	155	165	175	150	165	175	160	170	180	145	160	165
	—	—	—	*510*	*540*	*570*	*490*	*540*	*570*	*520*	*560*	*590*	*475*	*520*	*540*
P6	—	—	—	160	175	185	160	175	180	165	180	185	155	165	175
	—	—	—	*520*	*570*	*610*	*520*	*570*	*590*	*540*	*590*	*610*	*510*	*540*	*570*
P7	—	—	—	155	170	180	155	170	180	160	175	185	150	165	170
	—	—	—	*510*	*560*	*590*	*510*	*560*	*590*	*520*	*570*	*610*	*490*	*540*	*560*
P8	—	—	—	150	165	175	150	165	175	160	170	180	145	160	165
	—	—	—	*490*	*540*	*570*	*490*	*540*	*570*	*520*	*560*	*590*	*475*	*520*	*540*
P11	—	—	—	155	170	175	155	170	175	160	175	180	145	160	170
	—	—	—	*510*	*560*	*570*	*510*	*560*	*570*	*520*	*570*	*590*	*475*	*520*	*560*
P12	—	—	—	125	140	145	125	135	145	130	140	150	120	130	140
	—	—	—	*410*	*460*	*475*	*410*	*445*	*475*	*425*	*460*	*490*	*395*	*425*	*460*
M1	—	—	—	—	—	—	125	145	155	140	160	170	120	140	150
	—	—	—	—	—	—	*410*	*475*	*510*	*460*	*520*	*560*	*395*	*460*	*490*
M2	—	—	—	—	—	—	115	130	145	130	150	160	110	125	140
	—	—	—	—	—	—	*375*	*425*	*475*	*425*	*490*	*520*	*360*	*410*	*460*
M3	—	—	—	—	—	—	100	120	130	115	135	145	95	115	125
	—	—	—	—	—	—	*330*	*395*	*425*	*375*	*445*	*475*	*310*	*375*	*410*
M4	—	—	—	—	—	—	85	100	110	100	115	125	80	95	105
	—	—	—	—	—	—	*280*	*330*	*360*	*330*	*375*	*410*	*260*	*310*	*345*
M5	—	—	—	—	—	—	70	90	100	85	105	115	65	85	95
	—	—	—	—	—	—	*230*	*295*	*330*	*280*	*345*	*375*	*215*	*280*	*310*
K1	165	200	225	175	185	195	170	185	195	150	165	180	165	180	185
	540	*660*	*740*	*570*	*610*	*640*	*560*	*610*	*640*	*490*	*540*	*590*	*540*	*590*	*610*
K2	155	195	215	165	180	190	165	180	185	140	160	170	160	170	180
	510	*640*	*710*	*540*	*590*	*620*	*540*	*590*	*610*	*460*	*520*	*560*	*520*	*560*	*590*
K3	140	165	180	155	170	175	155	165	175	130	150	160	145	160	170
	460	*540*	*590*	*510*	*560*	*570*	*510*	*540*	*570*	*425*	*490*	*520*	*475*	*520*	*560*
K4	135	160	175	150	165	175	150	165	175	125	145	155	145	155	165
	445	*520*	*570*	*490*	*540*	*570*	*490*	*540*	*570*	*410*	*475*	*510*	*475*	*510*	*540*
K5	105	130	145	120	130	140	120	130	140	95	110	125	110	125	130
	345	*425*	*475*	*395*	*425*	*460*	*395*	*425*	*460*	*310*	*360*	*410*	*360*	*410*	*425*
K6	130	155	170	145	155	165	140	155	165	120	135	145	135	150	155
	425	*510*	*560*	*475*	*510*	*540*	*460*	*510*	*540*	*395*	*445*	*475*	*445*	*490*	*510*
K7	120	145	160	135	150	155	135	150	155	110	130	140	125	140	150
	395	*475*	*520*	*445*	*490*	*510*	*445*	*490*	*510*	*360*	*425*	*460*	*410*	*460*	*490*
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	50	70	80	37	49	55
	—	—	—	—	—	—	—	—	—	*165*	*230*	*260*	*120*	*160*	*180*
S2	—	—	—	—	—	—	—	—	—	42	55	65	30	40	46
	—	—	—	—	—	—	—	—	—	*140*	*180*	*215*	*100*	*130*	*150*
S3	—	—	—	—	—	—	—	—	—	37	49	55	27	35	40
	—	—	—	—	—	—	—	—	—	*120*	*160*	*180*	*90*	*115*	*130*
S11	—	—	—	—	—	—	—	—	—	75	90	100	50	70	80
	—	—	—	—	—	—	—	—	—	*245*	*295*	*330*	*165*	*230*	*260*
S12	—	—	—	—	—	—	—	—	—	50	65	75	36	47	55
	—	—	—	—	—	—	—	—	—	*165*	*215*	*245*	*120*	*155*	*180*
S13	—	—	—	—	—	—	—	—	—	29	39	45	21	28	32
	—	—	—	—	—	—	—	—	—	*95*	*130*	*150*	*70*	*90*	*105*
H5	—	—	—	43	55	65	—	—	—	—	—	—	33	43	50
	—	—	—	*140*	*180*	*215*	—	—	—	—	—	—	*110*	*140*	*165*
H8	—	—	—	46	60	70	—	—	—	—	—	—	35	46	55
	—	—	—	*150*	*195*	*230*	—	—	—	—	—	—	*115*	*150*	*180*
H11	—	—	—	55	70	80	—	—	—	—	—	—	42	55	65
	—	—	—	*180*	*230*	*260*	—	—	—	—	—	—	*140*	*180*	*215*
H12	—	—	—	80	100	110	—	—	—	—	—	—	65	80	90
	—	—	—	*260*	*330*	*360*	—	—	—	—	—	—	*215*	*260*	*295*

Turbo 16 – R217.69-16 – Metric



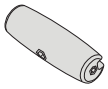


—For insert selection and cutting data recommendations, see page(s) 154-156
—For complete insert programme, see page(s) 922, 923
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCSFMS	DCONMS	LUX	LPR	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm	mm		kg	
R217.69-3240.3S-043-XO16.3A	10067004	Seco-Weldon	40,0	3	9	43,0	50,0	32,0	54,9	65,0	125,0	13200	0,8	XO.X1605
R217.69-3240.3S-071-XO16.3A	10067005	Seco-Weldon	40,0	3	15	71,0	50,0	32,0	85,4	95,0	155,0	13200	1,0	XO.X1605
R217.69-3250.3S-057-XO16.3A	10067006	Seco-Weldon	50,0	3	12	57,0	50,0	32,0	70,8	80,0	140,0	11800	1,1	XO.X1605
R217.69-3250.3S-057-XO16.4A	10067007	Seco-Weldon	50,0	4	16	57,0	50,0	32,0	70,8	80,0	140,0	11800	1,1	XO.X1605
R217.69-3250.3S-085-XO16.4A	10067008	Seco-Weldon	50,0	4	24	85,0	50,0	32,0	95,8	105,0	165,0	11800	1,3	XO.X1605

Modification of the cutter body needed for radii > 3,1 mm

Spare Parts, included in delivery

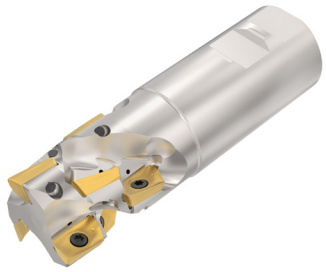
For cutter	Insert key	Insert screw	Key (T-handle)
			
R217.69-3240	H4B-T15P	C04009-T15P	DOUBLE-T
R217.69-3250	H4B-T15P	C04011-T15P	DOUBLE-T

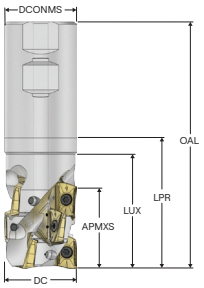
Accessories

For cutter	Insert clamping torque	Key	Screw	Torque key
				
R217.69-..	3.5NM	T05P-2	SX2035-T05P	T00-15P35

Torque and fixed keys, see page 944

Turbo 16 – R217.69-16 – Inch



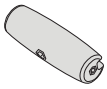


—For insert selection and cutting data recommendations, see page(s) 154–156
—For complete insert programme, see page(s) 922, 923
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCONMS	LF	LUX	LPR	OAL	RPMX	Weight	Insert
			inch			inch	inch	inch	inch	inch	inch		lbs	
R217.69-01.50-3-1.69-XO16-3A	10067015	Weldon	1.500	3	9	1.693	1.500	4.000	2.417	2.441	5.169	13200	2.200	XO.X1605
R217.69-02.00-3-1.69-XO16-3A	10067016	Weldon	2.000	3	9	1.693	2.000	4.000	2.512	2.535	5.823	13200	4.190	XO.X1605
R217.69-02.00-3-2.24-XO16-4A	10067017	Weldon	2.000	4	16	2.244	2.000	4.500	3.130	3.035	6.323	11800	4.410	XO.X1605

Modification of the cutter body needed for radii > 0.122 in

Spare Parts, included in delivery

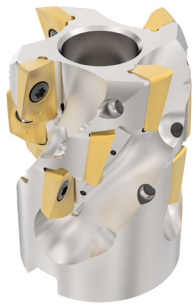
For cutter	Insert key	Insert screw	Key (T-handle)
			
R217.69-01.50	H4B-T15P	C04009-T15P	DOUBLE-T
R217.69-02.00.3A	H4B-T15P	C04009-T15P	DOUBLE-T
R217.69-02.00.4A	H4B-T15P	C04011-T15P	DOUBLE-T

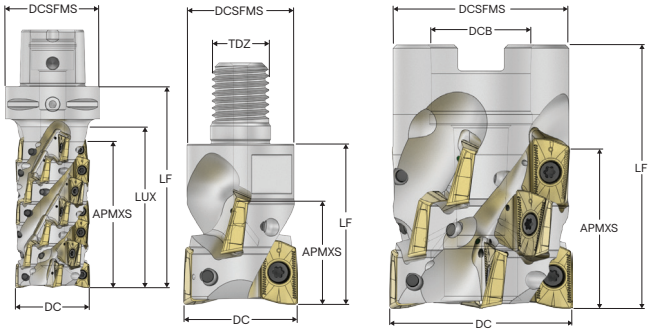
Accessories

For cutter	Insert clamping torque	Key	Screw	Torque key
				
R217.69-..	3.5NM	T05P-2	SX2035-T05P	T00-15P35

Torque and fixed keys, see page 944

Turbo 16 – R217/220.69-16 – Metric



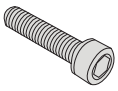
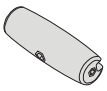
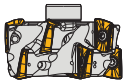


–For insert selection and cutting data recommendations, see page(s) 154-156
–For complete insert programme, see page(s) 922, 923
–For ISO attribute explanation, see page 16
–KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	TDZ	LF	LUX	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm		mm	mm	mm		kg	
C6-R217.69-050-098-XO16.4A	10067022	Seco-Capto	50,0	4	28	98,0	–	63,0	–	135,0	110,4	173,0	11800	1,6	XO.X1605
R217.69-1632.RE-029-XO16.2A	10067002	Combimaster	32,0	2	4	29,0	–	30,0	M16	45,0	–	67,75	14800	0,2	XO.X1605
R217.69-2040.RE-029-XO16.3A	10067003	Combimaster	40,0	3	6	29,0	–	36,5	M20	55,0	–	82,0	13200	0,4	XO.X1605
R220.69-0050-043-XO16.4A	10067009	Arbor	50,0	4	12	43,0	27,0	46,0	–	72,0	–	–	11800	0,6	XO.X1605
R220.69-0063-043-XO16.4A	10067010	Arbor	63,0	4	12	43,0	27,0	58,0	–	70,0	–	–	10500	1,0	XO.X1605
R220.69-0063-057-XO16.5A	10067011	Arbor	63,0	5	20	57,0	27,0	58,0	–	80,0	–	–	10500	1,2	XO.X1605
R220.69-0063-085-XO16.5SA	10067024	Arbor	63,0	5	30	85,0	27,0	58,0	–	108,9	–	–	10500	1,6	XO.X1605
R220.69-0080-071-XO16.5A	10067012	Arbor	80,0	5	25	71,0	32,0	75,0	–	95,0	–	–	9300	2,5	XO.X1605
R220.69-0080-071-XO16.6A	10067013	Arbor	80,0	6	30	71,0	32,0	75,0	–	95,0	–	–	9300	2,3	XO.X1605
R220.69-0100-071-XO16.6A	10067014	Arbor	100,0	6	30	71,0	40,0	88,0	–	95,0	–	–	8300	3,7	XO.X1605

Modification of the cutter body needed for radii > 3,1 mm

Spare Parts, included in delivery

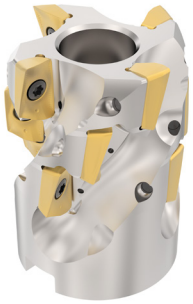
For cutter	Arbor screw	Assembly screw	Basic body	Insert key	Insert screw	Key (T-handle)	Replaceable end
							
Cx-R217.69-..	–	–	–	H4B-T15P	C04011-T15P	DOUBLE-T	–
R217.69-1632-2040	–	–	–	H4B-T15P	C04009-T15P	DOUBLE-T	–
R220.69-0050	MC6S12X60	–	–	H4B-T15P	C04009-T15P	DOUBLE-T	–
R220.69-0063.4A	MC6S12X60	–	–	H4B-T15P	C04011-T15P	DOUBLE-T	–
R220.69-0063.5A	MC6S12X70	–	–	H4B-T15P	C04011-T15P	DOUBLE-T	–
R220.69-0063SA	MC6S12X40	MC6S5X35	R220.69-0063-057-XO16.5BA	H4B-T15P	C04011-T15P	DOUBLE-T	R220.69-RE063-029-XO16.5A
R220.69-0080	MP6S16X80	–	–	H4B-T15PL	C04011-T15P	DOUBLE-T	–
R220.69-0100	MP6S20X80	–	–	H4B-T15PL	C04011-T15P	DOUBLE-T	–

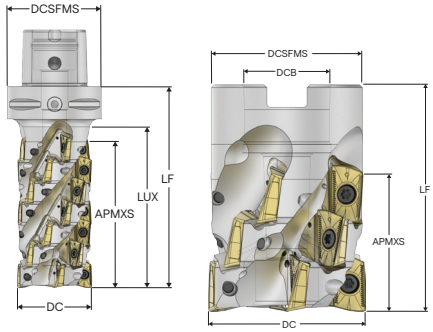
Accessories

For cutter	Insert clamping torque	Key	Screw	Torque key
				
R217/220.69-..	3.5NM	T05P-2	SX2035-T05P	T00-15P35

Torque and fixed keys, see page 944

Turbo 16 – 220.69-16 – Inch





–For insert selection and cutting data recommendations, see page(s) 154-156
–For complete insert programme, see page(s) 922, 923
–For ISO attribute explanation, see page 16
–KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	LF	LUX	OAL	RPMX	Weight	Insert
			inch			inch	inch	inch	inch	inch	inch		lbs	
C6-R217.69-02.00-3.89-XO16-4A	10067023	Seco-Capto	2.000	4	28	3.858	–	2.480	5.350	4.382	6.846	11800	3.530	XO.X1605
R220.69-02.00-1.69-XO16-4A	10067018	Arbor	2.000	4	12	1.693	1.000	1.850	2.750	–	–	11800	1.320	XO.X1605
R220.69-02.50-1.69-XO16-4A	10067019	Arbor	2.500	4	12	1.693	1.000	2.283	2.750	–	–	10500	1.100	XO.X1605
R220.69-02.50-2.24-XO16-5A	10067020	Arbor	2.500	5	20	2.244	1.000	2.283	3.250	–	–	10500	2.650	XO.X1605
R220.69-02.50-3.34-XO16-5SA	10155391	Arbor	2.500	5	30	3.346	1.000	2.283	4.280	–	–	10500	3.090	XO.X1605
R220.69-03.00-2.79-XO16-5A	10067021	Arbor	3.000	5	25	2.795	1.250	2.795	3.750	–	–	9300	2.200	XO.X1605

Modification of the cutter body needed for radii > 3,1 mm

Spare Parts, included in delivery

For cutter	Arbor screw	Assembly screw	Basic body	Insert key	Insert screw	Key (T-handle)	Replaceable end
C6-R217.69-..	–	–	–	H4B-T15P	C04011-T15P	DOUBLE-T	–
R220.69-02.00	UC6S1/2UNFX2-1/2	–	–	H4B-T15P	C04009-T15P	DOUBLE-T	–
R220.69-02.50.4A	UC6S1/2UNFX2-1/2	–	–	H4B-T15P	C04011-T15P	DOUBLE-T	–
R220.69-02.50.5A	UC6S1/2UNFX3	–	–	H4B-T15P	C04011-T15P	DOUBLE-T	–
R220.69-02.50-3.34	UC6S1/2UNFX1-1/2M	UC6S10UNFX1-1/2	R220.69-02.50-2.24-XO16-5BA	1/4HEX-T15PX50	C04011-T15P	–	R220.69-RE02.50-1.14-XO16-5A
R220.69-03.00	UP6S5/8UNFX3-1/4	–	–	H4B-T15PL	C04011-T15P	DOUBLE-T	–

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Key	Screw	Torque key
C6-R217-02.00	–	–	3.5NM	T05P-2	SX2035-T05P	T00-15P35
R220.69-02.00-03.00	–	–	3.5NM	T05P-2	SX2035-T05P	T00-15P35
R220.69-02.50-SA	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T05P-2	SX2035-T05P	–

Torque and fixed keys, see page 944

R217/220.69-16 – Insert selection – Metric/ Inch

SMG		f_z		
		100%	30%	10%
P1	XOMX160508TR-ME11 MP2501	0,13 *0.0050*	0,15 0.0060	0,22 0.0085
P2	XOMX160508TR-ME11 MP2501	0,14 *0.0055*	0,15 0.0060	0,22 0.0085
P3	XOMX160508TR-M13 MP2501	0,15 *0.0060*	0,17 0.0065	0,25 0.010
P4	XOMX160508TR-M13 MP2501	0,15 *0.0060*	0,16 0.0065	0,25 0.010
P5	XOMX160508TR-MD14 MP1501	0,16 *0.0065*	0,17 0.0065	0,26 0.010
P6	XOMX160508TR-MD14 MP1501	0,16 *0.0065*	0,17 0.0065	0,26 0.010
P7	XOMX160508TR-MD14 MP1501	0,16 *0.0065*	0,17 0.0065	0,26 0.010
P8	XOMX160508TR-MD14 MP1501	0,16 *0.0065*	0,18 0.0070	0,28 0.011
P11	XOMX160508TR-ME11 MP2050	0,12 *0.0048*	0,13 0.0050	0,20 0.0080
P12	XOMX160508TR-ME11 MS2050	0,085 *0.0034*	0,090 0.0036	0,14 0.0055
M1	XOMX160508R-M09 MS2050	0,11 *0.0044*	0,12 0.0048	0,19 0.0075
M2	XOMX160508R-M09 MS2050	0,10 *0.0040*	0,11 0.0044	0,17 0.0065
M3	XOMX160508R-M09 MS2050	0,080 *0.0032*	0,090 0.0036	0,13 0.0050
M4	XOMX160508TR-ME11 MP2050	0,085 *0.0034*	0,095 0.0038	0,14 0.0055
M5	XOMX160508TR-ME11 MP2050	0,085 *0.0034*	0,095 0.0038	0,14 0.0055
K1	XOMX160508TR-M13 MK2050	0,16 *0.0065*	0,17 0.0065	0,26 0.010
K2	XOMX160508TR-M13 MK2050	0,15 *0.0060*	0,16 0.0065	0,24 0.0095
K3	XOMX160508TR-MD14 MK2050	0,16 *0.0065*	0,17 0.0065	0,26 0.010
K4	XOMX160508TR-MD14 MK2050	0,16 *0.0065*	0,17 0.0065	0,26 0.010
K5	XOMX160508TR-MD14 MK2050	0,14 *0.0055*	0,15 0.0060	0,24 0.0095
K6	XOMX160508TR-MD14 MK2050	0,16 *0.0065*	0,17 0.0065	0,26 0.010
K7	XOMX160508TR-MD14 MK2050	0,14 *0.0055*	0,15 0.0060	0,24 0.0095
N1	XOEX160508FR-E07 H25	0,11 *0.0044*	0,12 0.0048	0,18 0.0070
N2	XOEX160508FR-E07 H25	0,11 *0.0044*	0,12 0.0048	0,18 0.0070
N3	XOEX160508FR-E07 H25	0,11 *0.0044*	0,12 0.0048	0,18 0.0070
N11	XOEX160508FR-E07 H25	0,11 *0.0044*	0,12 0.0048	0,18 0.0070
S1	XOMX160508TR-ME11 MP2050	0,085 *0.0034*	0,095 0.0038	0,14 0.0055
S2	XOMX160508TR-ME11 MP2050	0,085 *0.0034*	0,095 0.0038	0,14 0.0055
S3	XOMX160508TR-ME11 MP2050	0,080 *0.0032*	0,090 0.0036	0,13 0.0050
S11	XOMX160508TR-ME11 MS2050	0,10 *0.0040*	0,11 0.0044	0,17 0.0065
S12	XOMX160508TR-ME11 MS2050	0,10 *0.0040*	0,11 0.0044	0,17 0.0065
S13	XOMX160508TR-ME11 MS2050	0,085 *0.0034*	0,095 0.0038	0,14 0.0055
H5	XOMX160508TR-MD14 MP3000	0,11 *0.0044*	0,12 0.0048	0,18 0.0070
H11	XOMX160508TR-MD14 MP3000	0,11 *0.0044*	0,12 0.0048	0,18 0.0070
H12	XOMX160508TR-ME11 MP2050	0,065 *0.0026*	0,070 0.0028	0,11 0.0044

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.69-16 – Cutting data v_c = (m/min)/(sf/min)

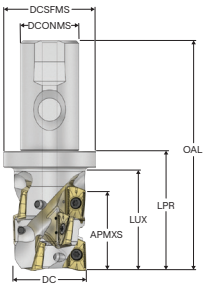
SMG	MK2050			MP3000			MS2050			F40M			MP2051			MP2050			H25		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	155 *510*	180 *590*	190 *620*	160 *520*	185 *610*	200 *660*	165 *540*	185 *610*	195 *640*	150 *490*	165 *540*	175 *570*	185 *610*	205 *670*	220 *720*	170 *560*	190 *620*	205 *670*	— —	—	—
P2	155 *510*	175 *570*	190 *620*	160 *520*	185 *610*	195 *640*	160 *520*	180 *590*	195 *640*	150 *490*	165 *540*	175 *570*	180 *590*	205 *670*	215 *710*	165 *540*	190 *620*	200 *660*	—	—	—
P3	145 *475*	165 *540*	180 *590*	150 *490*	170 *560*	185 *610*	150 *490*	170 *560*	180 *590*	140 *460*	155 *510*	165 *540*	170 *560*	195 *640*	205 *670*	160 *520*	180 *590*	190 *620*	—	—	—
P4	135 *445*	155 *510*	170 *560*	140 *460*	165 *540*	175 *570*	145 *475*	160 *520*	175 *570*	130 *425*	150 *490*	160 *520*	160 *520*	185 *610*	195 *640*	150 *490*	170 *560*	180 *590*	—	—	—
P5	130 *425*	155 *510*	165 *540*	140 *460*	160 *520*	175 *570*	140 *460*	160 *520*	170 *560*	125 *410*	145 *475*	155 *510*	160 *520*	185 *610*	195 *640*	145 *475*	165 *540*	180 *590*	—	—	—
P6	140 *460*	160 *520*	175 *570*	150 *490*	170 *560*	180 *590*	150 *490*	170 *560*	180 *590*	135 *445*	150 *490*	160 *520*	170 *560*	190 *620*	205 *670*	155 *510*	175 *570*	190 *620*	—	—	—
P7	135 *445*	160 *520*	170 *560*	145 *475*	165 *540*	180 *590*	145 *475*	165 *540*	175 *570*	135 *445*	145 *475*	155 *510*	165 *540*	185 *610*	200 *660*	150 *490*	170 *560*	185 *610*	—	—	—
P8	130 *425*	150 *490*	165 *540*	140 *460*	160 *520*	170 *560*	140 *460*	160 *520*	170 *560*	125 *410*	140 *460*	150 *490*	155 *510*	180 *590*	190 *620*	145 *475*	165 *540*	180 *590*	—	—	—
P11	135 *445*	155 *510*	170 *560*	145 *475*	165 *540*	175 *570*	145 *475*	160 *520*	175 *570*	130 *425*	145 *475*	155 *510*	160 *520*	190 *620*	210 *690*	150 *490*	170 *560*	180 *590*	—	—	—
P12	105 *345*	125 *410*	135 *445*	115 *375*	135 *445*	145 *475*	110 *360*	130 *425*	140 *460*	100 *330*	115 *375*	125 *410*	130 *425*	160 *520*	180 *590*	115 *375*	135 *445*	150 *490*	—	—	—
M1	— —	—	—	135 *445*	155 *510*	170 *560*	140 *460*	160 *520*	175 *570*	125 *410*	145 *475*	155 *510*	165 *540*	200 *660*	220 *720*	140 *460*	165 *540*	175 *570*	—	—	—
M2	— —	—	—	120 *395*	140 *460*	155 *510*	125 *410*	145 *475*	160 *520*	110 *360*	130 *425*	145 *475*	155 *510*	190 *620*	210 *690*	130 *425*	150 *490*	165 *540*	—	—	—
M3	— —	—	—	105 *345*	125 *410*	140 *460*	110 *360*	130 *425*	145 *475*	95 *310*	115 *375*	125 *410*	140 *460*	170 *560*	190 *620*	115 *375*	135 *445*	145 *475*	—	—	—
M4	— —	—	—	85 *280*	105 *345*	120 *395*	90 *295*	110 *360*	125 *410*	75 *245*	95 *310*	110 *360*	125 *410*	155 *510*	170 *560*	95 *310*	115 *375*	130 *425*	—	—	—
M5	— —	—	—	75 *245*	95 *310*	105 *345*	80 *260*	100 *330*	110 *360*	65 *215*	80 *260*	95 *310*	110 *360*	140 *460*	160 *520*	80 *260*	100 *330*	115 *375*	—	—	—
K1	160 *520*	180 *590*	195 *640*	140 *460*	160 *520*	170 *560*	— —	—	—	120 *395*	145 *475*	155 *510*	—	—	—	—	—	—	—	—	—
K2	150 *490*	175 *570*	185 *610*	130 *425*	150 *490*	165 *540*	— —	—	—	110 *360*	135 *445*	145 *475*	—	—	—	—	—	—	—	—	—
K3	140 *460*	160 *520*	175 *570*	115 *375*	140 *460*	150 *490*	— —	—	—	100 *330*	120 *395*	135 *445*	—	—	—	—	—	—	—	—	—
K4	135 *445*	155 *510*	170 *560*	115 *375*	135 *445*	145 *475*	— —	—	—	95 *310*	120 *395*	130 *425*	—	—	—	—	—	—	—	—	—
K5	100 *330*	120 *395*	130 *425*	75 *245*	100 *330*	110 *360*	— —	—	—	60 *195*	80 *260*	95 *310*	—	—	—	—	—	—	—	—	—
K6	125 *410*	145 *475*	160 *520*	105 *345*	125 *410*	140 *460*	— —	—	—	85 *280*	110 *360*	120 *395*	—	—	—	—	—	—	—	—	—
K7	120 *395*	140 *460*	150 *490*	95 *310*	115 *375*	130 *425*	— —	—	—	80 *260*	100 *330*	110 *360*	—	—	—	—	—	—	—	—	—
N1	— —	—	—	—	—	—	—	—	—	270 *890*	290 *950*	305 *1000*	—	—	—	—	—	—	290 *950*	310 *1025*	320 *1050*
N2	— —	—	—	—	—	—	—	—	—	205 *670*	225 *740*	235 *770*	—	—	—	—	—	—	220 *720*	240 *790*	255 *840*
N3	— —	—	—	—	—	—	—	—	—	175 *570*	195 *640*	205 *670*	—	—	—	—	—	—	190 *620*	210 *690*	225 *740*
N11	— —	—	—	—	—	—	—	—	—	185 *610*	205 *670*	215 *710*	—	—	—	—	—	—	200 *660*	220 *720*	235 *770*
S1	— —	—	—	41 *135*	55 *180*	65 *215*	44 *145*	55 *180*	70 *230*	35 *115*	46 *150*	55 *180*	48 *155*	60 *195*	75 *245*	48 *155*	60 *195*	75 *245*	—	—	—
S2	— —	—	—	33 *110*	43 *140*	50 *165*	35 *115*	46 *150*	55 *180*	28 *90*	37 *120*	44 *145*	39 *130*	50 *165*	60 *195*	39 *130*	50 *165*	60 *195*	—	—	—
S3	— —	—	—	29 *95*	38 *125*	44 *145*	31 *100*	41 *135*	48 *155*	25 *80*	33 *110*	38 *125*	34 *110*	45 *150*	50 *165*	34 *110*	45 *150*	50 *165*	—	—	—
S11	— —	—	—	—	—	—	60 *195*	80 *260*	90 *295*	48 *155*	65 *215*	75 *245*	65 *215*	85 *280*	100 *330*	65 *215*	85 *280*	100 *330*	—	—	—
S12	— —	—	—	—	—	—	42 *140*	55 *180*	65 *215*	33 *110*	44 *145*	55 *180*	46 *150*	60 *195*	70 *230*	46 *150*	60 *195*	70 *230*	—	—	—
S13	— —	—	—	—	—	—	25 *80*	32 *105*	38 *125*	20 *65*	26 *85*	30 *100*	27 *90*	35 *115*	42 *140*	27 *90*	35 *115*	42 *140*	—	—	—
H5	— —	—	—	34 *110*	45 *150*	55 *180*	— —	—	—	29 *95*	39 *130*	45 *150*	— —	—	—	— —	—	—	—	—	—
H11	— —	—	—	44 *145*	60 *195*	70 *230*	— —	—	—	37 *120*	49 *160*	60 *195*	95 *310*	130 *425*	145 *475*	49 *160*	65 *215*	75 *245*	—	—	—
H12	70 *230*	90 *295*	100 *330*	70 *230*	90 *295*	105 *345*	— —	—	—	55 *180*	75 *245*	85 *280*	95 *310*	120 *395*	140 *460*	80 *260*	105 *345*	115 *375*	—	—	—

R217/220.69-16 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK1501			MP1501			MP2501			MP3501		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	190	205	215	185	205	215	180	195	205
	—	—	—	*620*	*670*	*710*	*610*	*670*	*710*	*590*	*640*	*670*
P2	—	—	—	185	205	215	185	200	210	175	195	205
	—	—	—	*610*	*670*	*710*	*610*	*660*	*690*	*570*	*640*	*670*
P3	—	—	—	175	190	205	175	190	200	165	185	195
	—	—	—	*570*	*620*	*670*	*570*	*620*	*660*	*540*	*610*	*640*
P4	—	—	—	170	185	195	165	185	190	160	175	185
	—	—	—	*560*	*610*	*640*	*540*	*610*	*620*	*520*	*570*	*610*
P5	—	—	—	165	180	190	165	180	190	155	170	180
	—	—	—	*540*	*590*	*620*	*540*	*590*	*620*	*510*	*560*	*590*
P6	—	—	—	175	190	200	175	190	200	165	180	190
	—	—	—	*570*	*620*	*660*	*570*	*620*	*660*	*540*	*590*	*620*
P7	—	—	—	170	185	195	170	185	195	160	175	185
	—	—	—	*560*	*610*	*640*	*560*	*610*	*640*	*520*	*570*	*610*
P8	—	—	—	165	180	190	165	180	190	155	170	180
	—	—	—	*540*	*590*	*620*	*540*	*590*	*620*	*510*	*560*	*590*
P11	—	—	—	170	185	190	165	180	190	160	175	185
	—	—	—	*560*	*610*	*620*	*540*	*590*	*620*	*520*	*570*	*610*
P12	—	—	—	135	150	160	135	150	155	125	140	150
	—	—	—	*445*	*490*	*520*	*445*	*490*	*510*	*410*	*460*	*490*
M1	—	—	—	—	—	—	135	155	170	130	150	165
	—	—	—	—	—	—	*445*	*510*	*560*	*425*	*490*	*540*
M2	—	—	—	—	—	—	120	140	155	115	135	150
	—	—	—	—	—	—	*395*	*460*	*510*	*375*	*445*	*490*
M3	—	—	—	—	—	—	105	125	140	100	120	135
	—	—	—	—	—	—	*345*	*410*	*460*	*330*	*395*	*445*
M4	—	—	—	—	—	—	90	110	120	80	105	115
	—	—	—	—	—	—	*295*	*360*	*395*	*260*	*345*	*375*
M5	—	—	—	—	—	—	75	95	105	70	90	100
	—	—	—	—	—	—	*245*	*310*	*345*	*230*	*295*	*330*
K1	180	220	245	190	205	215	185	205	215	175	195	205
	590	*720*	*800*	*620*	*670*	*710*	*610*	*670*	*710*	*570*	*640*	*670*
K2	170	210	235	180	195	205	175	195	205	170	185	195
	560	*690*	*770*	*590*	*640*	*670*	*570*	*640*	*670*	*560*	*610*	*640*
K3	150	180	195	165	180	190	165	180	190	155	175	185
	490	*590*	*640*	*540*	*590*	*620*	*540*	*590*	*620*	*510*	*570*	*610*
K4	145	175	190	160	180	190	160	180	185	150	170	180
	475	*570*	*620*	*520*	*590*	*620*	*520*	*590*	*610*	*490*	*560*	*590*
K5	110	140	155	125	140	150	125	140	150	115	135	140
	360	*460*	*510*	*410*	*460*	*490*	*410*	*460*	*490*	*375*	*445*	*460*
K6	135	165	180	155	170	180	150	170	180	145	160	170
	445	*540*	*590*	*510*	*560*	*590*	*490*	*560*	*590*	*475*	*520*	*560*
K7	130	155	175	145	160	170	145	160	170	135	150	160
	425	*510*	*570*	*475*	*520*	*560*	*475*	*520*	*560*	*445*	*490*	*520*
N1	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	39	50	60
	—	—	—	—	—	—	—	—	—	*130*	*165*	*195*
S2	—	—	—	—	—	—	—	—	—	31	41	48
	—	—	—	—	—	—	—	—	—	*100*	*135*	*155*
S3	—	—	—	—	—	—	—	—	—	27	36	42
	—	—	—	—	—	—	—	—	—	*90*	*120*	*140*
S11	—	—	—	—	—	—	—	—	—	55	70	85
	—	—	—	—	—	—	—	—	—	*180*	*230*	*280*
S12	—	—	—	—	—	—	—	—	—	37	48	60
	—	—	—	—	—	—	—	—	—	*120*	*155*	*195*
S13	—	—	—	—	—	—	—	—	—	22	29	33
	—	—	—	—	—	—	—	—	—	*70*	*95*	*110*
H5	—	—	—	44	60	70	—	—	—	34	44	50
	—	—	—	*145*	*195*	*230*	—	—	—	*110*	*145*	*165*
H11	—	—	—	55	75	85	—	—	—	43	55	65
	—	—	—	*180*	*245*	*280*	—	—	—	*140*	*180*	*215*
H12	—	—	—	85	105	115	—	—	—	65	85	95
	—	—	—	*280*	*345*	*375*	—	—	—	*215*	*280*	*310*

Turbo 18 – R217.69-18 – Metric



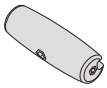


—For insert selection and cutting data recommendations, see page(s) 162-164
—For complete insert programme, see page(s) 924, 925
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCSFMS	DCONMS	LUX	LPR	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm	mm		kg	
R217.69-3240.3S-047-18.2AN	02710003	Seco-Weldon	40,0	2	6	47,0	50,0	32,0	57,0	70,0	130,0	9900	0,8	XO.X1806
R217.69-3250.3S-047-18.3AN	02710010	Seco-Weldon	50,0	3	9	47,0	50,0	32,0	65,0	75,0	134,5	8900	1,2	XO.X1806

Modification of the cutter body needed for radii > 3,1 mm

Spare Parts, included in delivery

For cutter	Insert key	Insert screw	Key (T-handle)
			
R217.69-..	H6B-T20P	C04510-T20P	DOUBLE-T

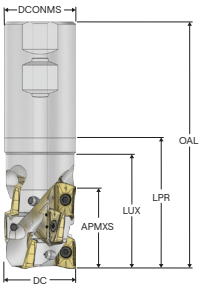
Accessories

For cutter	Insert clamping torque	Torque key
		
R217.69-..	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Turbo 18 – R217.69-18 – Inch



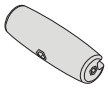


—For insert selection and cutting data recommendations, see page(s) 162-164
—For complete insert programme, see page(s) 924, 925
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCONMS	LF	LUX	LPR	OAL	RPMX	Weight	Insert
			inch			inch	inch	inch	inch	inch	inch		lbs	
R217.69-01.50-3-18S2AN	02710923	Weldon	1.500	2	6	1.862	1.500	4.252	2.618	2.750	5.439	9900	2.200	XO.X1806
R217.69-02.00-3-18S3AN	02710934	Weldon	2.000	3	9	1.850	1.500	4.303	2.802	2.802	5.491	8900	2.870	XO.X1806

Modification of the cutter body needed for radii > 0.122 in

Spare Parts, included in delivery

For cutter	Insert key	Insert screw	Key (T-handle)
			
R217.69-..	H6B-T20P	C04510-T20P	DOUBLE-T

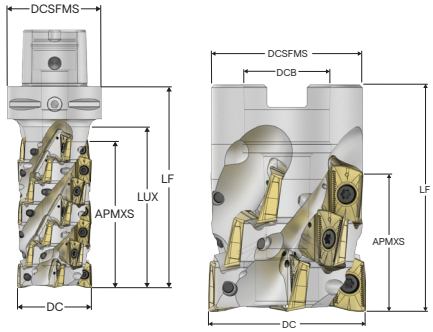
Accessories

For cutter	Insert clamping torque	Torque key
		
R217.69-..	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Turbo 18 – R217/220.69-18 – Metric



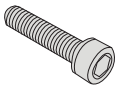
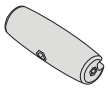


—For insert selection and cutting data recommendations, see page(s) 162-164
—For complete insert programme, see page(s) 924, 925
—For ISO attribute explanation, see page 16
—KAPRS 90°

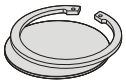
Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	LF	LUX	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm	mm		kg	
C5-R217.69-040-047-18.2AN	02717849	Seco-Capto	40,0	2	6	47,0	–	50,0	82,0	58,0	112,0	9900	0,8	XO.X1806
C6-R217.69-050-062-18.3AN	02717919	Seco-Capto	50,0	3	12	62,0	–	63,0	99,0	73,0	137,0	8900	1,5	XO.X1806
C5-R217.69-054-047-18.3AN	02717916	Seco-Capto	54,0	3	9	47,0	–	50,0	82,0	62,0	112,0	8600	1,1	XO.X1806
C6-R217.69-066-047-18.4AN	02717933	Seco-Capto	66,0	4	12	47,0	–	63,0	84,0	62,0	122,0	7700	1,7	XO.X1806
C8-R217.69-080-093-18.5SAN	02829948	Seco-Capto	80,0	5	30	93,0	–	80,0	140,0	110,0	188,0	7000	4,2	XO.X1806
R220.69-00063-047-18.4AN	02710017	Arbor	63,0	4	12	47,0	27,0	60,0	70,0	–	–	7900	0,9	XO.X1806
R220.69-00063-047-18.5AN	10178497	Arbor	63,0	5	15	47,0	27,0	59,0	70,0	–	–	7900	1,0	XO.X1806
R220.69-00063-062-18.3AN	02710032	Arbor	63,0	3	12	62,0	27,0	60,0	85,0	–	–	7900	1,2	XO.X1806
R220.69-00063-062-18.4AN	02710034	Arbor	63,0	4	16	62,0	27,0	60,0	85,0	–	–	7900	1,1	XO.X1806
R220.69-00063-077-18.4SAN	02717825	Arbor	63,0	4	20	77,0	27,0	60,0	100,0	–	–	7900	1,3	XO.X1806
R220.69-00080-047-18.5AN	02710037	Arbor	80,0	5	15	47,0	32,0	77,0	70,0	–	–	7000	1,7	XO.X1806
R220.69-00080-062-18.5AN	02710039	Arbor	80,0	5	20	62,0	32,0	77,0	85,0	–	–	7000	2,1	XO.X1806
R220.69-00080-077-18.4SAN	02717831	Arbor	80,0	4	20	77,0	32,0	77,0	100,0	–	–	7000	2,4	XO.X1806
R220.69-00100-062-18.6AN	02710042	Arbor	100,0	6	24	62,0	40,0	90,0	85,0	–	–	6300	3,4	XO.X1806
R220.69-00100-077-18.5SAN	02717833	Arbor	100,0	5	25	77,0	40,0	90,0	100,0	–	–	6300	4,0	XO.X1806

Modification of the cutter body needed for radii > 3,1 mm

Spare Parts, included in delivery

For cutter	Arbor screw	Assembly screw	Basic body	Insert key	Insert screw	Key (T-handle)	Replaceable end
							
C8-R217.69-080	–	MC6S16X40	C8-R217.69-080-062-18.5BAN	H6B-T20PL	C04510-T20P	DOUBLE-T	R220.69-RE080031-18.5AN
Cx-R217.69-..	–	–	–	H6B-T20P	C04510-T20P	DOUBLE-T	–
R220.69-00063	MC6S12X60	–	–	H6B-T20P	C04510-T20P	DOUBLE-T	–
R220.69-00063	MC6S12X60	–	–	1/4HEX-T20PX50	C04510-T20P	–	–
R220.69-00063-SAN	MP6S12X80	–	R220.69-00063046-18.4BAN	H6B-T20P	C04510-T20P	DOUBLE-T	R220.69-RE063031-18.4AN
R220.69-00080	MC6S16X70	–	–	H6B-T20P	C04510-T20P	DOUBLE-T	–
R220.69-00080-SAN	MP6S16X80	–	R220.69-00080046-18.4BAN	H6B-T20PL	C04510-T20P	DOUBLE-T	R220.69-RE080031-18.4AN
R220.69-00100	MC6S20X70	–	–	H6B-T20PL	C04510-T20P	DOUBLE-T	–
R220.69-00100-SAN	MP6S20X80	–	R220.69-00100046-18.5BAN	H6B-T20PL	C04510-T20P	DOUBLE-T	R220.69-RE100031-18.5AN

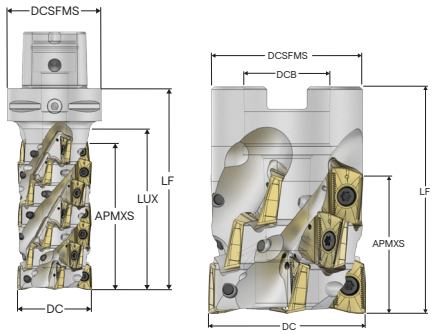
Accessories

For cutter	Adjustable Torque key	Bit holder	Coolant kit	Insert clamping torque	Torque key
					
Cx-R217/220.69-..	–	–	–	5.0NM	T00-20P50
Cx-R217/220.69-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	–	5.0NM	T00-20P50
R220.69-00063-SAN	–	–	LUBRICATION_SET_29	5.0NM	T00-20P50
R220.69-00080-SAN	–	–	LUBRICATION_SET_36	5.0NM	T00-20P50
R220.69-00100-SAN	–	–	LUBRICATION_SET_44	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Turbo 18 – R217/220.69-18 – Inch





–For insert selection and cutting data recommendations, see page(s) 162-164
–For complete insert programme, see page(s) 924, 925
–For ISO attribute explanation, see page 16
–KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	LF	LUX	OAL	RPMX	Weight	Insert
			inch			inch	inch	inch	inch	inch	inch		lbs	
C6-R217.69-02.00-18M3AN	02721715	Seco-Capto	2.000	3	12	2.441	–	2.480	3.898	3.031	5.394	8900	2.430	XO.X1806
C6-R217.69-02.50-18M4AN	02721716	Seco-Capto	2.500	4	16	2.409	–	2.480	3.898	3.898	5.394	7900	4.190	XO.X1806
R220.69-02.50-18S4AN	02710940	Arbor	2.500	4	12	1.866	1.000	2.441	2.750	–	–	7900	2.200	XO.X1806
R220.69-02.50-18M4AN	02710937	Arbor	2.500	4	16	2.441	1.000	2.441	3.346	–	–	7900	2.200	XO.X1806
R220.69-02.50-18L4SAN	02722279	Arbor	2.500	4	20	3.024	1.000	2.441	3.937	–	–	7900	3.310	XO.X1806
R220.69-03.00-18M5AN	02710942	Arbor	3.000	5	20	2.480	1.250	2.890	3.500	–	–	7000	4.410	XO.X1806
R220.69-03.00-18L4SAN	02722281	Arbor	3.000	4	20	3.024	1.250	2.890	3.937	–	–	7000	4.630	XO.X1806
R220.69-04.00-18L5SAN	02722282	Arbor	4.000	5	25	3.024	1.500	3.543	3.937	–	–	6300	8.820	XO.X1806

Modification of the cutter body needed for radii > 0.122 in

Spare Parts, included in delivery

For cutter	Arbor screw	Basic body	Insert key	Insert screw	Key (T-handle)	Replaceable end
Cx-R217.69-..	–	–	H6B-T20P	C04510-T20P	DOUBLE-T	–
R220.69-02.50L	UP6S1/2UNFX3-1/4	R220.69-02.50-18L4BAN	H6B-T20P	C04510-T20P	DOUBLE-T	R220.69-02.50-RE-18.4AN
R220.69-02.50M	UC6S1/2UNFX3	–	H6B-T20P	C04510-T20P	DOUBLE-T	–
R220.69-02.50S	UC6S1/2UNFX2-1/2	–	H6B-T20P	C04510-T20P	DOUBLE-T	–
R220.69-03.00M	UC6S5/8UNFX3	–	H6B-T20P	C04510-T20P	DOUBLE-T	–
R220.69-03.00S	UP6S5/8UNFX3-1/4	R220.69-03.00-18L4BAN	H6B-T20PL	C04510-T20P	DOUBLE-T	R220.69-03.00-RE-18.4AN
R220.69-04.00S	UP6S3/4UNFX3-1/4	R220.69-04.00-18L5BAN	H6B-T20PL	C04510-T20P	DOUBLE-T	R220.69-04.00-RE-18.5AN

Accessories

For cutter	Coolant kit	Insert clamping torque	Torque key
Cx-R217/220.69-..	–	5.0NM	T00-20P50
R220.69-02.50-SAN	LUBRICATION_SET_29	5.0NM	T00-20P50
R220.69-03.00-SAN	LUBRICATION_SET_36	5.0NM	T00-20P50
R220.69-04.00-SAN	LUBRICATION_SET_44	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R217/220.69-18 – Insert selection – mm/Inch

SMG		f_z		
		100%	30%	10%
P1	XOMX180608TR-ME13 MP2501	0,15 *0.0060*	0,16 0.0065	0,24 0.0095
P2	XOMX180608TR-ME13 MP2501	0,15 *0.0060*	0,16 0.0065	0,25 0.010
P3	XOMX180608TR-ME13 MP2501	0,14 *0.0055*	0,15 0.0060	0,24 0.0095
P4	XOMX180608TR-M14 MP2501	0,15 *0.0060*	0,16 0.0065	0,25 0.010
P5	XOMX180608TR-M14 MP2501	0,15 *0.0060*	0,16 0.0065	0,24 0.0095
P6	XOMX180608TR-M14 MP2501	0,14 *0.0055*	0,16 0.0065	0,24 0.0095
P7	XOMX180608TR-M14 MP2501	0,14 *0.0055*	0,16 0.0065	0,24 0.0095
P8	XOMX180608TR-M14 MP2501	0,15 *0.0060*	0,17 0.0065	0,25 0.010
P11	XOMX180608TR-M14 MP3501	0,14 *0.0055*	0,16 0.0065	0,24 0.0095
P12	XOMX180608TR-M14 MP3000	0,10 *0.0040*	0,11 0.0044	0,17 0.0065
M1	XOMX180608R-M10 MS2050	0,11 *0.0044*	0,12 0.0048	0,19 0.0075
M2	XOMX180608R-M10 MS2050	0,10 *0.0040*	0,11 0.0044	0,17 0.0065
M3	XOMX180608R-M10 MS2050	0,085 *0.0034*	0,090 0.0036	0,14 0.0055
M4	XOMX180608TR-M14 MP3501	0,10 *0.0040*	0,11 0.0044	0,17 0.0065
M5	XOMX180608TR-M14 MP3501	0,10 *0.0040*	0,11 0.0044	0,17 0.0065
K1	XOMX180608TR-MD15 MK2050	0,17 *0.0065*	0,19 0.0075	0,28 0.011
K2	XOMX180608TR-MD15 MK2050	0,16 *0.0065*	0,17 0.0065	0,26 0.010
K3	XOMX180608TR-MD15 MK2050	0,16 *0.0065*	0,17 0.0065	0,26 0.010
K4	XOMX180608TR-MD15 MK2050	0,16 *0.0065*	0,17 0.0065	0,26 0.010
K5	XOMX180608TR-MD15 MK2050	0,14 *0.0055*	0,15 0.0060	0,24 0.0095
K6	XOMX180608TR-MD15 MK2050	0,16 *0.0065*	0,17 0.0065	0,26 0.010
K7	XOMX180608TR-MD15 MK2050	0,14 *0.0055*	0,15 0.0060	0,24 0.0095
N1	XOEX180608FR-E10 H25	0,15 *0.0060*	0,16 0.0065	0,24 0.0095
N2	XOEX180608FR-E10 H25	0,15 *0.0060*	0,16 0.0065	0,24 0.0095
N3	XOEX180608FR-E10 H25	0,15 *0.0060*	0,16 0.0065	0,24 0.0095
N11	XOEX180608FR-E10 H25	0,15 *0.0060*	0,16 0.0065	0,24 0.0095
S1	XOMX180608R-M10 F40M	0,075 *0.0030*	0,080 0.0032	0,12 0.0048
S2	XOMX180608R-M10 F40M	0,075 *0.0030*	0,080 0.0032	0,12 0.0048
S3	XOMX180608R-M10 F40M	0,070 *0.0028*	0,075 0.0030	0,11 0.0044
S11	XOMX180608R-M10 MS2050	0,085 *0.0034*	0,090 0.0036	0,14 0.0055
S12	XOMX180608R-M10 MS2050	0,085 *0.0034*	0,090 0.0036	0,14 0.0055
S13	XOMX180608R-M10 MS2050	0,075 *0.0030*	0,080 0.0032	0,12 0.0048
H5	XOMX180608TR-MD15 MP3000	0,11 *0.0044*	0,12 0.0048	0,18 0.0070
H8	XOMX180608TR-MD15 MP3000	0,080 *0.0032*	0,090 0.0036	0,14 0.0055
H11	XOMX180608TR-MD15 MP3000	0,11 *0.0044*	0,12 0.0048	0,18 0.0070
H12	XOMX180608TR-M14 MP3000	0,075 *0.0030*	0,085 0.0034	0,13 0.0050

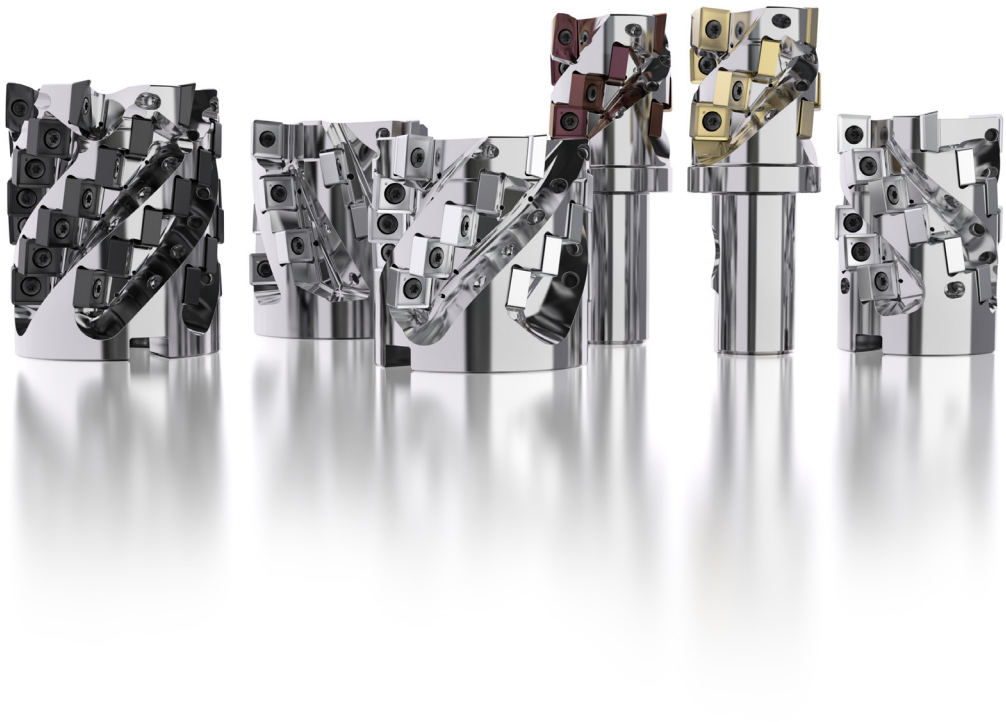
SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.69-18 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK2050			F30M			MP3000			MS2050			F40M			H25		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	140 *460*	155 *510*	165 *540*	130 *425*	145 *475*	155 *510*	140 *460*	155 *510*	165 *540*	140 *460*	155 *510*	165 *540*	125 *410*	140 *460*	155 *510*	— —	— —	— —
P2	140 *460*	155 *510*	165 *540*	125 *410*	145 *475*	155 *510*	135 *445*	155 *510*	165 *540*	140 *460*	155 *510*	165 *540*	125 *410*	140 *460*	150 *490*	— —	— —	— —
P3	130 *425*	145 *475*	155 *510*	120 *395*	135 *445*	145 *475*	130 *425*	145 *475*	155 *510*	130 *425*	145 *475*	155 *510*	115 *375*	130 *425*	145 *475*	— —	— —	— —
P4	120 *395*	140 *460*	150 *490*	110 *360*	130 *425*	140 *460*	120 *395*	140 *460*	150 *490*	120 *395*	140 *460*	150 *490*	110 *360*	125 *410*	135 *445*	— —	— —	— —
P5	120 *395*	135 *445*	145 *475*	110 *360*	125 *410*	135 *445*	120 *395*	135 *445*	145 *475*	120 *395*	135 *445*	145 *475*	105 *345*	120 *395*	135 *445*	— —	— —	— —
P6	130 *425*	145 *475*	155 *510*	115 *375*	130 *425*	145 *475*	125 *410*	145 *475*	155 *510*	125 *410*	145 *475*	155 *510*	115 *375*	130 *425*	140 *460*	— —	— —	— —
P7	125 *410*	140 *460*	150 *490*	115 *375*	130 *425*	140 *460*	125 *410*	140 *460*	150 *490*	125 *410*	140 *460*	150 *490*	110 *360*	125 *410*	135 *445*	— —	— —	— —
P8	120 *395*	135 *445*	145 *475*	110 *360*	125 *410*	135 *445*	120 *395*	135 *445*	145 *475*	120 *395*	135 *445*	145 *475*	105 *345*	120 *395*	130 *425*	— —	— —	— —
P11	120 *395*	140 *460*	150 *490*	110 *360*	125 *410*	140 *460*	120 *395*	140 *460*	150 *490*	120 *395*	140 *460*	150 *490*	110 *360*	125 *410*	135 *445*	— —	— —	— —
P12	95 *310*	115 *375*	125 *410*	85 *280*	100 *330*	110 *360*	95 *310*	110 *360*	120 *395*	95 *310*	110 *360*	120 *395*	80 *260*	100 *330*	110 *360*	— —	— —	— —
M1	— —	— —	— —	115 *375*	130 *425*	140 *460*	120 *395*	135 *445*	145 *475*	125 *410*	140 *460*	150 *490*	110 *360*	130 *425*	140 *460*	— —	— —	— —
M2	— —	— —	— —	100 *330*	120 *395*	130 *425*	110 *360*	125 *410*	135 *445*	115 *375*	130 *425*	140 *460*	100 *330*	115 *375*	125 *410*	— —	— —	— —
M3	— —	— —	— —	90 *295*	105 *345*	115 *375*	95 *310*	110 *360*	125 *410*	100 *330*	115 *375*	125 *410*	85 *280*	105 *345*	115 *375*	— —	— —	— —
M4	— —	— —	— —	75 *245*	90 *295*	100 *330*	80 *260*	100 *330*	110 *360*	85 *280*	100 *330*	110 *360*	70 *230*	90 *295*	100 *330*	— —	— —	— —
M5	— —	— —	— —	65 *215*	80 *260*	90 *295*	70 *230*	85 *280*	95 *310*	75 *245*	90 *295*	100 *330*	60 *195*	80 *260*	90 *295*	— —	— —	— —
K1	140 *460*	160 *520*	170 *560*	110 *360*	130 *425*	140 *460*	125 *410*	140 *460*	150 *490*	— —	— —	— —	110 *360*	125 *410*	135 *445*	— —	— —	— —
K2	135 *445*	150 *490*	165 *540*	105 *345*	120 *395*	135 *445*	115 *375*	135 *445*	145 *475*	— —	— —	— —	100 *330*	120 *395*	130 *425*	— —	— —	— —
K3	125 *410*	140 *460*	155 *510*	95 *310*	110 *360*	125 *410*	105 *345*	125 *410*	135 *445*	— —	— —	— —	90 *295*	110 *360*	120 *395*	— —	— —	— —
K4	120 *395*	140 *460*	150 *490*	90 *295*	110 *360*	120 *395*	100 *330*	120 *395*	130 *425*	— —	— —	— —	90 *295*	105 *345*	115 *375*	— —	— —	— —
K5	95 *310*	110 *360*	120 *395*	65 *215*	80 *260*	90 *295*	75 *245*	90 *295*	100 *330*	— —	— —	— —	60 *195*	80 *260*	85 *280*	— —	— —	— —
K6	115 *375*	130 *425*	140 *460*	85 *280*	100 *330*	110 *360*	95 *310*	110 *360*	125 *410*	— —	— —	— —	80 *260*	100 *330*	110 *360*	— —	— —	— —
K7	110 *360*	125 *410*	135 *445*	80 *260*	95 *310*	105 *345*	90 *295*	105 *345*	115 *375*	— —	— —	— —	75 *245*	90 *295*	100 *330*	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	230 *750*	245 *800*	255 *840*	235 *770*	255 *840*	265 *870*
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	175 *570*	190 *620*	200 *660*	185 *610*	200 *660*	210 *690*
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	150 *490*	170 *560*	180 *590*	160 *520*	175 *570*	185 *610*
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	160 *520*	175 *570*	185 *610*	165 *540*	185 *610*	195 *640*
S1	— —	— —	— —	36 *120*	47 *155*	55 *180*	40 *130*	50 *165*	60 *195*	42 *140*	55 *180*	65 *215*	34 *110*	45 *150*	55 *180*	— —	— —	— —
S2	— —	— —	— —	29 *95*	38 *125*	45 *150*	32 *105*	42 *140*	50 *165*	34 *110*	45 *150*	55 *180*	28 *90*	36 *120*	43 *140*	— —	— —	— —
S3	— —	— —	— —	25 *80*	34 *110*	39 *130*	28 *90*	37 *120*	44 *145*	30 *100*	39 *130*	46 *150*	24 *80*	32 *105*	38 *125*	— —	— —	— —
S11	— —	— —	— —	— —	— —	— —	— —	— —	— —	60 *195*	75 *245*	85 *280*	47 *155*	60 *195*	75 *245*	— —	— —	— —
S12	— —	— —	— —	— —	— —	— —	— —	— —	— —	41 *135*	55 *180*	65 *215*	33 *110*	43 *140*	50 *165*	— —	— —	— —
S13	— —	— —	— —	— —	— —	— —	— —	— —	— —	24 *80*	31 *100*	37 *120*	19 *60*	25 *80*	30 *100*	— —	— —	— —
H5	— —	— —	— —	30 *100*	40 *130*	47 *155*	34 *110*	44 *145*	50 *165*	— —	— —	— —	29 *95*	38 *125*	45 *150*	— —	— —	— —
H8	— —	— —	— —	33 *110*	42 *140*	50 *165*	36 *120*	47 *155*	55 *180*	— —	— —	— —	31 *100*	40 *130*	48 *155*	— —	— —	— —
H11	— —	— —	— —	38 *125*	50 *165*	60 *195*	43 *140*	55 *180*	65 *215*	— —	— —	— —	37 *120*	48 *155*	55 *180*	— —	— —	— —
H12	— —	— —	— —	60 *195*	75 *245*	85 *280*	70 *230*	85 *280*	95 *310*	— —	— —	— —	55 *180*	70 *230*	80 *260*	— —	— —	— —

R217/220.69-18 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK1501			MP1501			MP2501			MP3501		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	165	175	185	160	175	185	155	170	175
	—	—	—	*540*	*570*	*610*	*520*	*570*	*610*	*510*	*560*	*570*
P2	—	—	—	160	175	185	160	175	180	155	170	175
	—	—	—	*520*	*570*	*610*	*520*	*570*	*590*	*510*	*560*	*570*
P3	—	—	—	155	165	175	155	165	175	145	160	165
	—	—	—	*510*	*540*	*570*	*510*	*540*	*570*	*475*	*520*	*540*
P4	—	—	—	145	160	165	145	160	165	140	150	160
	—	—	—	*475*	*520*	*540*	*475*	*520*	*540*	*460*	*490*	*520*
P5	—	—	—	145	155	165	140	155	165	135	150	155
	—	—	—	*475*	*510*	*540*	*460*	*510*	*540*	*445*	*490*	*510*
P6	—	—	—	150	165	170	150	165	170	145	155	165
	—	—	—	*490*	*540*	*560*	*490*	*540*	*560*	*475*	*510*	*540*
P7	—	—	—	150	160	170	145	160	165	140	155	160
	—	—	—	*490*	*520*	*560*	*475*	*520*	*540*	*460*	*510*	*520*
P8	—	—	—	145	155	165	140	155	165	135	150	155
	—	—	—	*475*	*510*	*540*	*460*	*510*	*540*	*445*	*490*	*510*
P11	—	—	—	145	160	165	145	160	165	140	150	160
	—	—	—	*475*	*520*	*540*	*475*	*520*	*540*	*460*	*490*	*520*
P12	—	—	—	120	130	140	120	130	140	115	125	130
	—	—	—	*395*	*425*	*460*	*395*	*425*	*460*	*375*	*410*	*425*
M1	—	—	—	—	—	—	120	140	150	115	135	145
	—	—	—	—	—	—	*395*	*460*	*490*	*375*	*445*	*475*
M2	—	—	—	—	—	—	110	125	135	105	120	130
	—	—	—	—	—	—	*360*	*410*	*445*	*345*	*395*	*425*
M3	—	—	—	—	—	—	95	115	125	90	110	120
	—	—	—	—	—	—	*310*	*375*	*410*	*295*	*360*	*395*
M4	—	—	—	—	—	—	80	100	110	80	95	105
	—	—	—	—	—	—	*260*	*330*	*360*	*260*	*310*	*345*
M5	—	—	—	—	—	—	70	90	100	65	85	95
	—	—	—	—	—	—	*230*	*295*	*330*	*215*	*280*	*310*
K1	155	185	205	160	175	185	160	175	185	155	170	175
	510	*610*	*670*	*520*	*570*	*610*	*520*	*570*	*610*	*510*	*560*	*570*
K2	145	180	200	155	170	175	155	165	175	145	160	170
	475	*590*	*660*	*510*	*560*	*570*	*510*	*540*	*570*	*475*	*520*	*560*
K3	130	155	170	145	160	165	145	155	165	135	150	160
	425	*510*	*560*	*475*	*520*	*540*	*475*	*510*	*540*	*445*	*490*	*520*
K4	125	150	165	140	155	165	140	155	165	135	150	155
	410	*490*	*540*	*460*	*510*	*540*	*460*	*510*	*540*	*445*	*490*	*510*
K5	100	120	135	115	125	135	115	125	135	105	120	125
	330	*395*	*445*	*375*	*410*	*445*	*375*	*410*	*445*	*345*	*395*	*410*
K6	120	145	155	135	150	155	135	145	155	125	140	150
	395	*475*	*510*	*445*	*490*	*510*	*445*	*475*	*510*	*410*	*460*	*490*
K7	115	135	150	130	140	150	125	140	145	120	135	140
	375	*445*	*490*	*425*	*460*	*490*	*410*	*460*	*475*	*395*	*445*	*460*
N1	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	38	50	60
	—	—	—	—	—	—	—	—	—	*125*	*165*	*195*
S2	—	—	—	—	—	—	—	—	—	30	40	47
	—	—	—	—	—	—	—	—	—	*100*	*130*	*155*
S3	—	—	—	—	—	—	—	—	—	27	35	41
	—	—	—	—	—	—	—	—	—	*90*	*115*	*135*
S11	—	—	—	—	—	—	—	—	—	50	70	80
	—	—	—	—	—	—	—	—	—	*165*	*230*	*260*
S12	—	—	—	—	—	—	—	—	—	36	48	55
	—	—	—	—	—	—	—	—	—	*120*	*155*	*180*
S13	—	—	—	—	—	—	—	—	—	21	28	33
	—	—	—	—	—	—	—	—	—	*70*	*90*	*110*
H5	—	—	—	43	55	65	—	—	—	33	44	50
	—	—	—	*140*	*180*	*215*	—	—	—	*110*	*145*	*165*
H8	—	—	—	46	60	70	—	—	—	36	47	55
	—	—	—	*150*	*195*	*230*	—	—	—	*120*	*155*	*180*
H11	—	—	—	55	70	80	—	—	—	42	55	65
	—	—	—	*180*	*230*	*260*	—	—	—	*140*	*180*	*215*
H12	—	—	—	80	95	105	—	—	—	65	80	90
	—	—	—	*260*	*310*	*345*	—	—	—	*215*	*260*	*295*

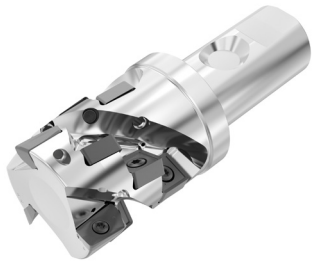


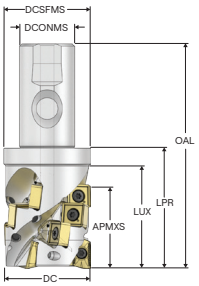
Helical SN8-13

Keep up with customer demand for lower part prices. The Seco Helical SN8-13 features double-sided helix inserts with eight cutting edges that significantly lower cost per edge to boost slotting, side milling and circular rough milling efficiency. Built for difficult applications involving ISO P, M, K and S materials, the cutters offer application-specific sub-family designs featuring left or right-hand helixes, half or full effective teeth options, three different front inserts and many radii choices for long tool life and maximum chip evacuation. Reliable and user-friendly, the Helical SN8-13 also eliminates incorrect indexing of front and helix inserts, reducing operator error.

– Range is built with 5 sub families built with SN13 helix insert:
– SN.U13 insert offering 8 cutting edges in 3 geometries and several grades
– R217/220.82: XO16 lead insert = First choice
– R217/220.82-H: AC15 lead insert = Heavy Duty, R220.69-15H replacement
– R217/R220.82: SP12 lead insert, 4 cutting edges, close to 90°
– R217/220.81: AC15 lead insert = Low Power, R215/220.59 replacement
– R217/220.81-K: AC15 lead insert = Long reach, R215/220.59 replacement

R217.82-SNXO16 – Metric





—For insert selection and cutting data recommendations, see page(s) 170-171
—For complete insert programme, see page(s) 897, 922, 923
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCSFMS	DCONMS	LUX	LPR	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm	mm		kg	
R217.82-3250.3S-047-SNXO16.3A	10127480	Seco-Weldon	50,0	3	12	47,0	50,0	32,0	60,0	70,0	130,0	11800	1,0	XO.X1605 / SN.U1306

Spare Parts, included in delivery

For cutter	Insert key	Insert screw	Insert screw 2
			
R217.82-..	1/4HEX-T15PX50	C55011-T15P	C04011-T15P

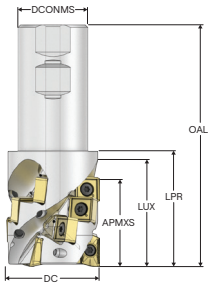
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Insert clamping torque 2	Torque key	Torque key 2
						
R217.82-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	5.0NM	3.5NM	T00-15P50	T00-15P35

Torque and fixed keys, see page 944

R217.82-SNXO16 – inch





—For insert selection and cutting data recommendations, see page(s) 170-171
—For complete insert programme, see page(s) 897, 922, 923
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCONMS	LF	LUX	LPR	OAL	RPMX	Weight	Insert
			inch			inch	inch	inch	inch	inch	inch		lbs	
R217.82-02.00-3-1.85-SNXO16.3A	10127485	Weldon	2.000	3	12	1.850	1.500	4.000	2.362	2.441	5.169	11800	2.650	XO.X1605 / SN.U1306

Spare Parts, included in delivery

For cutter	Insert key	Insert screw	Insert screw 2
			
R217.82-..	1/4HEX-T15PX50	C55011-T15P	C04011-T15P

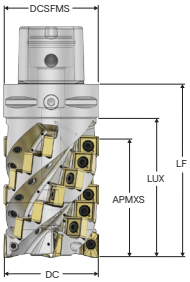
Accessories

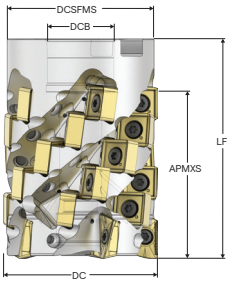
For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Insert clamping torque 2	Torque key	Torque key 2
						
R217.82-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	5.0NM	3.5NM	T00-15P50	T00-15P35

Torque and fixed keys, see page 944

R220.82-SNXO16 – Metric



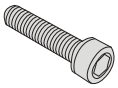
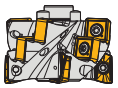




–For insert selection and cutting data recommendations, see page(s) 170-171
–For complete insert programme, see page(s) 897, 922, 923
–For ISO attribute explanation, see page 16
–KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	LF	LUX	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm	mm		kg	
C6-R217.82-063-079-SNXO16.4SA	10127467	Seco-Capto	63,0	4	28	79,0	–	63,0	115,0	92,2	153,0	7400	2,0	XO.X1605 / SN.U1306
R220.82-0063-047-SNXO16.4A	10127481	Arbor	63,0	4	16	47,0	27,0	59,0	70,0	–	–	10500	0,9	XO.X1605 / SN.U1306
R220.82-0063-069-SNXO16.5A	10127482	Arbor	63,0	5	30	69,0	27,0	59,0	90,0	–	–	10500	1,2	XO.X1605 / SN.U1306
R220.82-0080-068-SNXO16.5A	10127483	Arbor	80,0	5	30	68,0	32,0	75,0	90,0	–	–	6500	1,9	XO.X1605 / SN.U1306
R220.82-0080-079-SNXO16.6A	10127484	Arbor	80,0	6	42	79,0	32,0	75,0	100,0	–	–	6500	2,1	XO.X1605 / SN.U1306
R220.82-0080-090-SNXO16.5SA	10127468	Arbor	80,0	5	30	90,0	32,0	75,0	115,0	–	–	6500	2,7	XO.X1605 / SN.U1306

Spare Parts, included in delivery

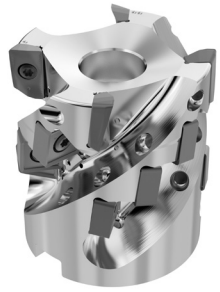
For cutter	Arbor screw	Assembly screw	Basic body	Insert key	Insert screw	Insert screw 2	Replaceable end
							
Cx-R217.82	–	MC6S5X35	C6-R217.82-063-043-SN.4BA	1/4HEX-T15PX50	C55011-T15P	C04011-T15P	R220.82-RE063-036-SNXO16.4A
R220.82-0063-047	MC6S12X60	–	–	1/4HEX-T15PX50	C55011-T15P	C04011-T15P	–
R220.82-0063-069	MC6S12X80	–	–	1/4HEX-T15PX50	C55011-T15P	C04011-T15P	–
R220.82-0080	MP6S16X80	–	–	1/4HEX-T15PX90	C55011-T15P	C04011-T15P	–
R220.82-0080-090	MC6S16X100	–	R220.82-0080-054-SN.5BA	1/4HEX-T15PX50	C55011-T15P	C04011-T15P	R220.82-RE080-036-SNXO16.5A

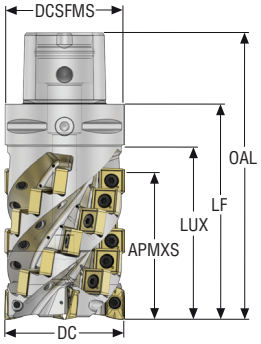
Accessories

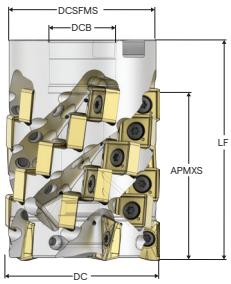
For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Insert clamping torque 2	Torque key	Torque key 2
						
	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	5.0NM	3.5NM	T00-15P50	T00-15P35
Cx-R217/220.82	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	5.0NM	3.5NM	T00-15P50	T00-15P35

Torque and fixed keys, see page 944

R220.82-SNXO16 – inch



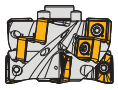




–For insert selection and cutting data recommendations, see page(s) 170-171
–For complete insert programme, see page(s) 897, 922, 923
–For ISO attribute explanation, see page 16
–KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	LF	LUX	OAL	RPMX	Weight	Insert
			inch			inch	inch	inch	inch	inch	inch		lbs	
C6-R217.82-2.5-3.11-SNXO16.4SA	10128065	Seco-Capto	2.500	4	28	3.110	–	2.480	4.528	3.630	6.024	7400	3.970	XO.X1605 / SN.U1306
R220.82-02.50-1.85-SNXO16.4A	10127486	Arbor	2.500	4	16	1.850	1.000	2.323	2.750	–	–	10500	1.980	XO.X1605 / SN.U1306
R220.82-02.50-2.75-SNXO16.5A	10127487	Arbor	2.500	5	30	2.717	1.000	2.323	3.500	–	–	10500	2.650	XO.X1605 / SN.U1306
R220.82-03.00-2.68-SNXO16.5A	10127488	Arbor	3.000	5	30	2.677	1.250	2.795	3.500	–	–	6500	3.750	XO.X1605 / SN.U1306
R220.82-03.00-3.11-SNXO16.6A	10127489	Arbor	3.000	6	42	3.110	1.250	2.795	3.938	–	–	6500	4.190	XO.X1605 / SN.U1306
R220.82-03.00-3.11-SNXO16.5SA	10164790	Arbor	3.000	5	30	3.110	1.250	2.795	4.000	–	–	6500	4.410	XO.X1605 / SN.U1306

Spare Parts, included in delivery

For cutter	Arbor screw	Assembly screw	Basic body	Insert key	Insert screw	Insert screw 2	Replaceable end
							
Cx-R217.82	–	UC6S10UNFX1-1/2	C6-R217.82-2.5-1.69-SN.4BA	1/4HEX-T15PX50	C55011-T15P	C04011-T15P	R220.82-RE02.50-1.42-SNXO16.4A
R220.82-02.50.4A	UC6S1/2UNFX2-1/4	–	–	1/4HEX-T15PX50	C55011-T15P	C04011-T15P	–
R220.82-02.50.5A	UC6S1/2UNFX3	–	–	1/4HEX-T15PX50	C55011-T15P	C04011-T15P	–
R220.82-03.00	UP6S5/8UNFX3-1/4	–	–	1/4HEX-T15PX90	C55011-T15P	C04011-T15P	–
R220.82-03.00-SA	MC6S16X100	–	R220.82-03.00-1.69-SN.5BA	1/4HEX-T15PX50	C55011-T15P	C04011-T15P	R220.82-RE03.00-1.42-SNXO16.5A

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Insert clamping torque 2	Torque key	Torque key 2
						
	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	5.0NM	3.5NM	T00-15P50	T00-15P35
Cx-R217/220.82-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	5.0NM	3.5NM	T00-15P50	T00-15P35

Torque and fixed keys, see page 944

R217/220.82-SNXO16 – Insert selection – mm/Inch

SMG			f_z		
			100%	30%	10%
P1	XOMX160508TR-M13 MP2501	SNXU130612TN-M12 MP2501	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*
P2	XOMX160508TR-M13 MP2501	SNXU130612TN-M12 MP2501	0,15 *0.0060*	0,16 *0.0065*	0,25 *0.010*
P3	XOMX160508TR-M13 MP2501	SNXU130612TN-M12 MP2501	0,14 *0.0055*	0,15 *0.0060*	0,24 *0.0095*
P4	XOMX160508TR-M13 MP2501	SNXU130612TN-M12 MP2501	0,14 *0.0055*	0,15 *0.0060*	0,24 *0.0095*
P5	XOMX160508TR-MD14 MP1501	SNGU130612TN-M14 MP1501	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*
P6	XOMX160508TR-MD14 MP1501	SNGU130612TN-M14 MP1501	0,14 *0.0055*	0,16 *0.0065*	0,24 *0.0095*
P7	XOMX160508TR-MD14 MP1501	SNGU130612TN-M14 MP1501	0,14 *0.0055*	0,16 *0.0065*	0,24 *0.0095*
P8	XOMX160508TR-MD14 MP1501	SNGU130612TN-M14 MP1501	0,15 *0.0060*	0,17 *0.0065*	0,25 *0.010*
P11	XOMX160508TR-ME11 MP3501	SNXU130612TN-M12 MP3501	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
P12	XOMX160508TR-ME11 MP3501	SNXU130612TN-M12 MP3501	0,080 *0.0032*	0,085 *0.0034*	0,13 *0.0050*
M1	XOMX160508R-M09 MS2050	SNGU130612EN-ME10 MS2050	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*
M2	XOMX160508R-M09 MS2050	SNGU130612EN-ME10 MS2050	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*
M3	XOMX160508R-M09 MS2050	SNGU130612EN-ME10 MS2050	0,075 *0.0030*	0,080 *0.0032*	0,13 *0.0050*
M4	XOMX160508TR-ME11 MS2050	SNGU130612EN-ME10 MS2050	0,080 *0.0032*	0,090 *0.0036*	0,13 *0.0050*
M5	XOMX160508TR-ME11 MS2050	SNGU130612EN-ME10 MS2050	0,080 *0.0032*	0,090 *0.0036*	0,13 *0.0050*
K1	XOMX160508TR-M13 MK2050	SNGU130612TN-M14 MK2050	0,15 *0.0060*	0,16 *0.0065*	0,25 *0.010*
K2	XOMX160508TR-M13 MK2050	SNGU130612TN-M14 MK2050	0,14 *0.0055*	0,15 *0.0060*	0,22 *0.0085*
K3	XOMX160508TR-M13 MK2050	SNGU130612TN-M14 MK2050	0,14 *0.0055*	0,15 *0.0060*	0,22 *0.0085*
K4	XOMX160508TR-M13 MK2050	SNGU130612TN-M14 MK2050	0,14 *0.0055*	0,15 *0.0060*	0,22 *0.0085*
K5	XOMX160508TR-M13 MK2050	SNGU130612TN-M14 MK2050	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
K6	XOMX160508TR-M13 MK2050	SNGU130612TN-M14 MK2050	0,14 *0.0055*	0,15 *0.0060*	0,22 *0.0085*
K7	XOMX160508TR-M13 MK2050	SNGU130612TN-M14 MK2050	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
S1	XOMX160508TR-ME11 F40M	SNGU130612EN-ME10 MS2050	0,080 *0.0032*	0,090 *0.0036*	0,13 *0.0050*
S2	XOMX160508TR-ME11 F40M	SNGU130612EN-ME10 MS2050	0,080 *0.0032*	0,090 *0.0036*	0,13 *0.0050*
S3	XOMX160508TR-ME11 F40M	SNGU130612EN-ME10 MS2050	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*
S11	XOMX160508TR-ME11 MS2050	SNGU130612EN-ME10 MS2050	0,090 *0.0036*	0,10 *0.0040*	0,15 *0.0060*
S12	XOMX160508TR-ME11 MS2050	SNGU130612EN-ME10 MS2050	0,090 *0.0036*	0,10 *0.0040*	0,15 *0.0060*
S13	XOMX160508TR-ME11 MS2050	SNGU130612EN-ME10 MS2050	0,080 *0.0032*	0,090 *0.0036*	0,13 *0.0050*
H5	XOMX160508TR-MD14 MP1501	SNGU130612TN-M14 MP1501	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*
H11	XOMX160508TR-MD14 MP1501	SNGU130612TN-M14 MP1501	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*
H12	XOMX160508TR-ME11 MP2050	SNGU130612EN-ME10 MP2050	0,060 *0.0024*	0,065 *0.0026*	0,10 *0.0040*

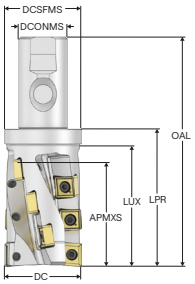
SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.82-SNXO16 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK2050			MS2050			F40M			MS2500			MP1501			MP2501			MS2500			MP3501		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	135 *445*	150 *490*	160 *520*	125 *410*	140 *460*	150 *490*	120 *395*	135 *445*	145 *475*	140 *460*	155 *510*	165 *540*	155 *510*	165 *540*	175 *570*	155 *510*	165 *540*	170 *560*	140 *460*	155 *510*	165 *540*	150 *490*	160 *520*	170 *560*
P2	135 *445*	150 *490*	160 *520*	125 *410*	140 *460*	150 *490*	120 *395*	135 *445*	145 *475*	140 *460*	155 *510*	165 *540*	150 *490*	165 *540*	170 *560*	150 *490*	165 *540*	170 *560*	140 *460*	155 *510*	165 *540*	145 *475*	160 *520*	165 *540*
P3	125 *410*	140 *460*	150 *490*	115 *375*	130 *425*	140 *460*	110 *360*	125 *410*	135 *445*	130 *425*	145 *475*	155 *510*	145 *475*	155 *510*	165 *540*	145 *475*	155 *510*	165 *540*	130 *425*	145 *475*	155 *510*	140 *460*	150 *490*	160 *520*
P4	120 *395*	135 *445*	145 *475*	110 *360*	125 *410*	135 *445*	105 *345*	120 *395*	130 *425*	125 *410*	140 *460*	150 *490*	140 *460*	150 *490*	155 *510*	135 *445*	150 *490*	155 *510*	125 *410*	140 *460*	150 *490*	135 *445*	145 *475*	150 *490*
P5	120 *395*	130 *425*	140 *460*	110 *360*	125 *410*	135 *445*	105 *345*	120 *395*	130 *425*	125 *410*	140 *460*	150 *490*	135 *445*	150 *490*	155 *510*	135 *445*	145 *475*	155 *510*	125 *410*	140 *460*	150 *490*	130 *425*	140 *460*	150 *490*
P6	125 *410*	140 *460*	150 *490*	115 *375*	130 *425*	140 *460*	110 *360*	125 *410*	135 *445*	130 *425*	145 *475*	155 *510*	145 *475*	155 *510*	160 *520*	140 *460*	155 *510*	160 *520*	130 *425*	145 *475*	155 *510*	140 *460*	150 *490*	155 *510*
P7	120 *395*	135 *445*	145 *475*	110 *360*	125 *410*	135 *445*	105 *345*	120 *395*	130 *425*	125 *410*	140 *460*	150 *490*	140 *460*	150 *490*	160 *520*	140 *460*	150 *490*	155 *510*	125 *410*	140 *460*	150 *490*	135 *445*	145 *475*	155 *510*
P8	115 *375*	130 *425*	140 *460*	105 *345*	125 *410*	130 *425*	100 *330*	120 *395*	125 *410*	120 *395*	140 *460*	145 *475*	135 *445*	145 *475*	155 *510*	135 *445*	145 *475*	155 *510*	120 *395*	140 *460*	145 *475*	130 *425*	140 *460*	150 *490*
P11	120 *395*	135 *445*	145 *475*	110 *360*	125 *410*	135 *445*	105 *345*	120 *395*	130 *425*	125 *410*	140 *460*	150 *490*	140 *460*	150 *490*	155 *510*	135 *445*	150 *490*	155 *510*	125 *410*	140 *460*	150 *490*	135 *445*	145 *475*	150 *490*
P12	95 *310*	110 *360*	120 *395*	85 *280*	100 *330*	110 *360*	80 *260*	95 *310*	105 *345*	100 *330*	115 *375*	125 *410*	115 *375*	125 *410*	130 *425*	115 *375*	125 *410*	130 *425*	100 *330*	115 *375*	125 *410*	110 *360*	120 *395*	125 *410*
M1	— —	— —	— —	110 *360*	130 *425*	140 *460*	105 *345*	120 *395*	130 *425*	120 *395*	135 *445*	145 *475*	— —	— —	— —	115 *375*	130 *425*	140 *460*	120 *395*	135 *445*	145 *475*	110 *360*	130 *425*	140 *460*
M2	— —	— —	— —	105 *345*	115 *375*	125 *410*	100 *330*	110 *360*	120 *395*	110 *360*	125 *410*	135 *445*	— —	— —	— —	105 *345*	120 *395*	130 *425*	110 *360*	125 *410*	135 *445*	105 *345*	115 *375*	125 *410*
M3	— —	— —	— —	90 *295*	105 *345*	115 *375*	85 *280*	100 *330*	110 *360*	100 *330*	115 *375*	125 *410*	— —	— —	— —	95 *310*	110 *360*	115 *375*	100 *330*	115 *375*	125 *410*	90 *295*	105 *345*	115 *375*
M4	— —	— —	— —	75 *245*	90 *295*	100 *330*	70 *230*	85 *280*	95 *310*	85 *280*	100 *330*	110 *360*	— —	— —	— —	80 *260*	95 *310*	105 *345*	85 *280*	100 *330*	110 *360*	75 *245*	90 *295*	100 *330*
M5	— —	— —	— —	65 *215*	80 *260*	90 *295*	60 *195*	75 *245*	85 *280*	75 *245*	90 *295*	100 *330*	— —	— —	— —	70 *230*	85 *280*	95 *310*	75 *245*	90 *295*	100 *330*	65 *215*	80 *260*	90 *295*
K1	135 *445*	155 *510*	165 *540*	— —	— —	— —	105 *345*	120 *395*	130 *425*	125 *410*	140 *460*	150 *490*	155 *510*	165 *540*	170 *560*	150 *490*	165 *540*	170 *560*	125 *410*	140 *460*	150 *490*	145 *475*	160 *520*	165 *540*
K2	130 *425*	145 *475*	155 *510*	— —	— —	— —	100 *330*	115 *375*	125 *410*	120 *395*	135 *445*	145 *475*	145 *475*	160 *520*	165 *540*	145 *475*	155 *510*	165 *540*	120 *395*	135 *445*	145 *475*	140 *460*	155 *510*	160 *520*
K3	125 *410*	135 *445*	145 *475*	— —	— —	— —	90 *295*	105 *345*	115 *375*	110 *360*	125 *410*	135 *445*	135 *445*	150 *490*	155 *510*	135 *445*	150 *490*	155 *510*	110 *360*	125 *410*	135 *445*	135 *445*	145 *475*	150 *490*
K4	120 *395*	135 *445*	145 *475*	— —	— —	— —	90 *295*	105 *345*	115 *375*	110 *360*	125 *410*	135 *445*	135 *445*	145 *475*	155 *510*	135 *445*	145 *475*	155 *510*	110 *360*	125 *410*	135 *445*	130 *425*	140 *460*	150 *490*
K5	95 *310*	110 *360*	115 *375*	— —	— —	— —	60 *195*	75 *245*	85 *280*	80 *260*	95 *310*	105 *345*	110 *360*	120 *395*	125 *410*	105 *345*	120 *395*	125 *410*	80 *260*	95 *310*	105 *345*	105 *345*	115 *375*	120 *395*
K6	115 *375*	125 *410*	140 *460*	— —	— —	— —	80 *260*	95 *310*	105 *345*	100 *330*	115 *375*	125 *410*	130 *425*	140 *460*	145 *475*	125 *410*	140 *460*	145 *475*	100 *330*	115 *375*	125 *410*	125 *410*	135 *445*	140 *460*
K7	105 *345*	120 *395*	130 *425*	— —	— —	— —	75 *245*	90 *295*	100 *330*	95 *310*	110 *360*	120 *395*	120 *395*	135 *445*	140 *460*	120 *395*	135 *445*	140 *460*	95 *310*	110 *360*	120 *395*	115 *375*	130 *425*	135 *445*
S1	— —	— —	— —	38 *125*	50 *165*	60 *195*	35 *115*	46 *150*	55 *180*	47 *155*	60 *195*	70 *230*	— —	— —	— —	— —	— —	— —	47 *155*	60 *195*	70 *230*	38 *125*	50 *165*	60 *195*
S2	— —	— —	— —	31 *100*	41 *135*	48 *155*	28 *90*	37 *120*	43 *140*	37 *120*	50 *165*	60 *195*	— —	— —	— —	— —	— —	— —	37 *120*	50 *165*	60 *195*	31 *100*	41 *135*	48 *155*
S3	— —	— —	— —	27 *90*	36 *120*	42 *140*	25 *80*	32 *105*	38 *125*	33 *110*	43 *140*	50 *165*	— —	— —	— —	— —	— —	— —	33 *110*	43 *140*	50 *165*	27 *90*	36 *120*	42 *140*
S11	— —	— —	— —	55 *180*	70 *230*	75 *245*	49 *160*	65 *215*	70 *230*	65 *215*	80 *260*	90 *295*	— —	— —	— —	— —	— —	— —	65 *215*	80 *260*	90 *295*	55 *180*	70 *230*	75 *245*
S12	— —	— —	— —	37 *120*	49 *160*	55 *180*	34 *110*	44 *145*	50 *165*	45 *150*	60 *195*	70 *230*	— —	— —	— —	— —	— —	— —	45 *150*	60 *195*	70 *230*	37 *120*	49 *160*	55 *180*
S13	— —	— —	— —	21 *70*	28 *90*	33 *110*	20 *65*	26 *85*	30 *100*	26 *85*	35 *115*	40 *130*	— —	— —	— —	— —	— —	— —	26 *85*	35 *115*	40 *130*	21 *70*	28 *90*	33 *110*
H5	— —	— —	— —	— —	— —	— —	29 *95*	39 *130*	46 *150*	38 *125*	50 *165*	60 *195*	43 *140*	55 *180*	65 *215*	— —	— —	— —	38 *125*	50 *165*	60 *195*	34 *110*	44 *145*	55 *180*
H8	— —	— —	— —	— —	— —	— —	31 *100*	41 *135*	48 *155*	41 *135*	55 *180*	60 *195*	46 *150*	60 *195*	70 *230*	— —	— —	— —	41 *135*	55 *180*	60 *195*	36 *120*	48 *155*	55 *180*
H11	— —	— —	— —	— —	— —	— —	37 *120*	49 *160*	60 *195*	49 *160*	65 *215*	75 *245*	55 *180*	70 *230*	80 *260*	— —	— —	— —	49 *160*	65 *215*	75 *245*	43 *140*	55 *180*	65 *215*
H12	— —	— —	— —	— —	— —	— —	55 *180*	70 *230*	80 *260*	75 *245*	90 *295*	100 *330*	75 *245*	90 *295*	100 *330*	— —	— —	— —	75 *245*	90 *295*	100 *330*	65 *215*	80 *260*	90 *295*

R217.81-SNAC15 Left Helix Troubleshooter – Metric





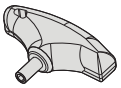
—For insert selection and cutting data recommendations, see page(s) 176-177
—For complete insert programme, see page(s) 873, 897
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCSFMS	DCONMS	LUX	LPR	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm	mm		kg	
R217.81-3250.3S-068-SNAC15.2	10127496	Seco-Weldon	50,0	2	12	68,0	50,0	32,0	79,0	90,0	150,0	8300	1,1	AC.T1506 / SN.U1306

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.81-..	1/4HEX-T15PX50	C55011-T15P

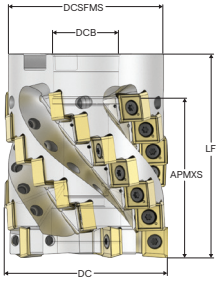
Accessories

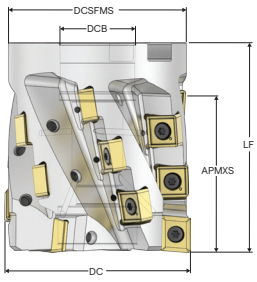
For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.81-..	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	5.0NM	T00-15P50

Torque and fixed keys, see page 944

R220.81-SNAC15 – Left Helix Troubleshooter - Metric







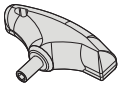
–For insert selection and cutting data recommendations, see page(s) 176-177
–For complete insert programme, see page(s) 873, 897
–For ISO attribute explanation, see page 16
–KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm			mm	mm	mm	mm		kg	
R220.81-0063-068-SNAC15.2A	10127497	Arbor	63,0	2	12	68,0	27,0	59,0	90,0	7400	1,2	AC.T1506 / SN.U1306
R220.81-0063-068-SNAC15.4KA	10127494	Arbor	63,0	4	24	68,0	27,0	59,0	90,0	7400	1,2	AC.T1506 / SN.U1306
R220.81-0080-068-SNAC15.3A	10127498	Arbor	80,0	3	18	68,0	32,0	75,5	90,0	6500	2,1	AC.T1506 / SN.U1306
R220.81-0080-079-SNAC15.5KA	10127495	Arbor	80,0	5	35	79,0	32,0	75,0	100,0	6500	2,1	AC.T1506 / SN.U1306
R220.81-0100-068-SNAC15.4A	10127499	Arbor	100,0	4	24	68,0	40,0	91,0	90,0	5800	3,5	AC.T1506 / SN.U1306

Spare Parts, included in delivery

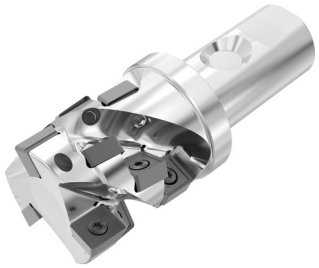
For cutter	Arbor screw	Insert key	Insert screw
			
R220.81-0063	MP6S12X80	1/4HEX-T15PX50	C55011-T15P
R220.81-0080	MP6S16X80	1/4HEX-T15PX90	C55011-T15P
R220.81-0100	MP6S20X80	1/4HEX-T15PX90	C55011-T15P

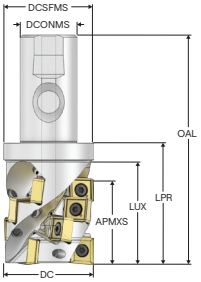
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.81-..	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	5.0NM	T00-15P50

Torque and fixed keys, see page 944

R217.82-SNAC15 – Right Helix for Heavy Duty – Metric





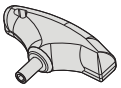
—For insert selection and cutting data recommendations, see page(s) 162-164
—For complete insert programme, see page(s) 873, 897
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCSFMS	DCONMS	LUX	LPR	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm	mm		kg	
R217.82-3250.3S-046-SNAC15.3HA	10127490	Seco-Weldon	50,0	3	12	47,0	50,0	32,0	57,0	68,0	128,0	8300	1,0	AC.T1506 / SN.U1306

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.82-..	1/4HEX-T15PX50	C55011-T15P

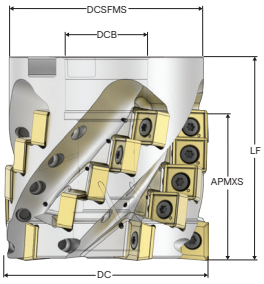
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.82-..	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	5.0NM	T00-15P50

Torque and fixed keys, see page 944

R220-82-SNAC15 Right Helix for Heavy Duty – Metric





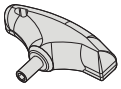
—For insert selection and cutting data recommendations, see page(s) 176-177
—For complete insert programme, see page(s) 873, 897
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm			mm	mm	mm	mm		kg	
R220.82-0063-046-SNAC15.4HA	10127491	Arbor	63,0	4	16	46,0	27,0	59,0	70,0	7400	0,9	AC.T1506 / SN.U1306
R220.82-0080-057-SNAC15.5HA	10127492	Arbor	80,0	5	25	57,0	32,0	75,0	80,0	6500	1,7	AC.T1506 / SN.U1306
R220.82-0100-057-SNAC15.6HA	10127493	Arbor	100,0	6	30	57,0	40,0	90,0	75,0	5800	2,6	AC.T1506 / SN.U1306

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R220.82-0063	MC6S12X60	1/4HEX-T15PX50	C55011-T15P
R220.82-0080	MC6S16X70	1/4HEX-T15PX90	C55011-T15P
R220.82-0100	MC6S20X50	1/4HEX-T15PX90	C55011-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R220.82-0063-0080	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	5.0NM	T00-15P50
R220.82-0100	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	5.0NM	T00-15P50

Torque and fixed keys, see page 944

R217/220.82-SNAC15 – Insert selection – mm/Inch

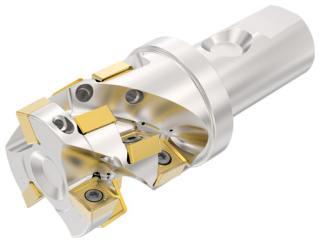
SMG			f_z		
			100%	30%	10%
P1	ACET150612TR-M11 MP2501	SNXU130612TN-M12 MP2501	0,12 *0.0048*	0,14 *0.0055*	0,20 *0.0080*
P2	ACET150612TR-M11 MP2501	SNXU130612TN-M12 MP2501	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*
P3	ACET150612TR-M11 MP2501	SNXU130612TN-M12 MP2501	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
P4	ACET150612TR-M11 MP2501	SNXU130612TN-M12 MP2501	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
P5	ACET150612TR-M11 MP2501	SNGU130612TN-M14 MP2501	0,11 *0.0044*	0,13 *0.0050*	0,19 *0.0075*
P6	ACET150612TR-M11 MP2501	SNGU130612TN-M14 MP2501	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
P7	ACET150612TR-M11 MP2501	SNGU130612TN-M14 MP2501	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
P8	ACET150612TR-M11 MP2501	SNGU130612TN-M14 MP2501	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
P11	ACET150612TR-M11 MP3501	SNXU130612TN-M12 MP3501	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
P12	ACET150612TR-M11 MP3501	SNXU130612TN-M12 MP3501	0,080 *0.0032*	0,085 *0.0034*	0,13 *0.0050*
M1	ACET150612TR-ME10 MS2050	SNGU130612EN-ME10 MS2050	0,11 *0.0044*	0,13 *0.0050*	0,19 *0.0075*
M2	ACET150612TR-ME10 MS2050	SNGU130612EN-ME10 MS2050	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*
M3	ACET150612TR-ME10 MS2050	SNGU130612EN-ME10 MS2050	0,085 *0.0034*	0,090 *0.0036*	0,14 *0.0055*
M4	ACET150612TR-M11 MP3501	SNXU130612TN-M12 MP3501	0,080 *0.0032*	0,090 *0.0036*	0,13 *0.0050*
M5	ACET150612TR-M11 MP3501	SNXU130612TN-M12 MP3501	0,080 *0.0032*	0,090 *0.0036*	0,13 *0.0050*
K1	ACET150612TR-M14 MK1501	SNGU130612TN-M14 MK2050	0,16 *0.0065*	0,18 *0.0070*	0,26 *0.010*
K2	ACET150612TR-M14 MK1501	SNGU130612TN-M14 MK2050	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*
K3	ACET150612TR-M14 MK1501	SNGU130612TN-M14 MK2050	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*
K4	ACET150612TR-M14 MK1501	SNGU130612TN-M14 MK2050	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*
K5	ACET150612TR-M14 MK1501	SNGU130612TN-M14 MK2050	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*
K6	ACET150612TR-M14 MK1501	SNGU130612TN-M14 MK2050	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*
K7	ACET150612TR-M14 MK1501	SNGU130612TN-M14 MK2050	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*
S1	ACET150612TR-M11 F40M	SNXU130612TN-M12 F40M	0,080 *0.0032*	0,090 *0.0036*	0,13 *0.0050*
S2	ACET150612TR-M11 F40M	SNXU130612TN-M12 F40M	0,080 *0.0032*	0,090 *0.0036*	0,13 *0.0050*
S3	ACET150612TR-M11 F40M	SNXU130612TN-M12 F40M	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*
S11	ACET150612TR-ME10 MS2050	SNGU130612EN-ME10 MS2050	0,085 *0.0034*	0,090 *0.0036*	0,14 *0.0055*
S12	ACET150612TR-ME10 MS2050	SNGU130612EN-ME10 MS2050	0,085 *0.0034*	0,090 *0.0036*	0,14 *0.0055*
S13	ACET150612TR-ME10 MS2050	SNGU130612EN-ME10 MS2050	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*
H5	ACET150612TR-M11 MP3501	SNXU130612TN-M12 MP3501	0,080 *0.0032*	0,085 *0.0034*	0,13 *0.0050*
H8	ACET150612TR-M11 MP3501	SNXU130612TN-M12 MP3501	0,060 *0.0024*	0,065 *0.0026*	0,10 *0.0040*
H11	ACET150612TR-M11 MP3501	SNXU130612TN-M12 MP3501	0,080 *0.0032*	0,085 *0.0034*	0,13 *0.0050*
H12	ACET150612TR-M11 MP3501	SNXU130612TN-M12 MP3501	0,060 *0.0024*	0,065 *0.0026*	0,10 *0.0040*

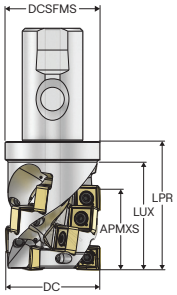
SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.82-SNAC15 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK2050			MS2050			F40M			MS2500			MP1501			MP2501			MS2500			MP3501		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	140 *460*	150 *490*	160 *520*	135 *445*	145 *475*	155 *510*	130 *425*	140 *460*	150 *490*	155 *510*	165 *540*	175 *570*	155 *510*	170 *560*	175 *570*	155 *510*	165 *540*	175 *570*	155 *510*	165 *540*	175 *570*	150 *490*	165 *540*	170 *560*
P2	135 *445*	150 *490*	160 *520*	130 *425*	145 *475*	155 *510*	130 *425*	140 *460*	150 *490*	150 *490*	165 *540*	175 *570*	155 *510*	165 *540*	175 *570*	155 *510*	165 *540*	175 *570*	150 *490*	165 *540*	175 *570*	150 *490*	160 *520*	170 *560*
P3	130 *425*	145 *475*	155 *510*	125 *410*	140 *460*	145 *475*	120 *395*	135 *445*	140 *460*	145 *475*	160 *520*	165 *540*	145 *475*	160 *520*	165 *540*	145 *475*	160 *520*	165 *540*	145 *475*	160 *520*	165 *540*	140 *460*	155 *510*	160 *520*
P4	120 *395*	135 *445*	145 *475*	115 *375*	130 *425*	140 *460*	115 *375*	130 *425*	135 *445*	140 *460*	150 *490*	160 *520*	140 *460*	155 *510*	160 *520*	140 *460*	150 *490*	160 *520*	140 *460*	150 *490*	160 *520*	135 *445*	145 *475*	155 *510*
P5	120 *395*	135 *445*	145 *475*	115 *375*	130 *425*	140 *460*	115 *375*	125 *410*	130 *425*	135 *445*	150 *490*	155 *510*	140 *460*	150 *490*	155 *510*	135 *445*	150 *490*	155 *510*	135 *445*	150 *490*	155 *510*	135 *445*	145 *475*	150 *490*
P6	125 *410*	140 *460*	150 *490*	120 *395*	135 *445*	145 *475*	120 *395*	130 *425*	140 *460*	145 *475*	155 *510*	165 *540*	145 *475*	155 *510*	165 *540*	145 *475*	155 *510*	165 *540*	145 *475*	155 *510*	165 *540*	140 *460*	150 *490*	160 *520*
P7	125 *410*	140 *460*	150 *490*	120 *395*	135 *445*	140 *460*	115 *375*	130 *425*	135 *445*	140 *460*	150 *490*	160 *520*	140 *460*	155 *510*	160 *520*	140 *460*	150 *490*	160 *520*	140 *460*	150 *490*	160 *520*	135 *445*	150 *490*	155 *510*
P8	120 *395*	135 *445*	145 *475*	115 *375*	130 *425*	135 *445*	115 *375*	125 *410*	130 *425*	135 *445*	150 *490*	155 *510*	140 *460*	150 *490*	155 *510*	135 *445*	150 *490*	155 *510*	135 *445*	150 *490*	155 *510*	130 *425*	145 *475*	150 *490*
P11	120 *395*	135 *445*	145 *475*	120 *395*	130 *425*	140 *460*	115 *375*	125 *410*	135 *445*	140 *460*	150 *490*	160 *520*	140 *460*	150 *490*	160 *520*	140 *460*	150 *490*	160 *520*	140 *460*	150 *490*	160 *520*	135 *445*	145 *475*	155 *510*
P12	100 *330*	110 *360*	120 *395*	95 *310*	105 *345*	115 *375*	95 *310*	105 *345*	110 *360*	115 *375*	125 *410*	130 *425*	115 *375*	125 *410*	135 *445*	115 *375*	125 *410*	135 *445*	115 *375*	125 *410*	130 *425*	110 *360*	120 *395*	130 *425*
M1	— —	— —	— —	115 *375*	130 *425*	140 *460*	110 *360*	125 *410*	135 *445*	120 *395*	140 *460*	150 *490*	— —	— —	— —	115 *375*	135 *445*	140 *460*	120 *395*	140 *460*	150 *490*	115 *375*	130 *425*	140 *460*
M2	— —	— —	— —	105 *345*	120 *395*	130 *425*	100 *330*	115 *375*	125 *410*	115 *375*	130 *425*	140 *460*	— —	— —	— —	105 *345*	120 *395*	130 *425*	115 *375*	130 *425*	140 *460*	105 *345*	120 *395*	130 *425*
M3	— —	— —	— —	95 *310*	110 *360*	115 *375*	90 *295*	105 *345*	110 *360*	100 *330*	115 *375*	125 *410*	— —	— —	— —	95 *310*	110 *360*	120 *395*	100 *330*	115 *375*	125 *410*	95 *310*	110 *360*	115 *375*
M4	— —	— —	— —	80 *260*	95 *310*	105 *345*	75 *245*	90 *295*	100 *330*	85 *280*	105 *345*	110 *360*	— —	— —	— —	80 *260*	95 *310*	105 *345*	85 *280*	105 *345*	110 *360*	80 *260*	95 *310*	105 *345*
M5	— —	— —	— —	70 *230*	85 *280*	95 *310*	65 *215*	80 *260*	90 *295*	75 *245*	95 *310*	100 *330*	— —	— —	— —	70 *230*	85 *280*	95 *310*	75 *245*	95 *310*	100 *330*	70 *230*	85 *280*	95 *310*
K1	140 *460*	155 *510*	165 *540*	— —	— —	— —	110 *360*	125 *410*	135 *445*	130 *425*	145 *475*	155 *510*	155 *510*	165 *540*	175 *570*	155 *510*	165 *540*	175 *570*	130 *425*	145 *475*	155 *510*	150 *490*	160 *520*	170 *560*
K2	135 *445*	150 *490*	160 *520*	— —	— —	— —	105 *345*	115 *375*	125 *410*	125 *410*	135 *445*	145 *475*	150 *490*	160 *520*	170 *560*	145 *475*	160 *520*	165 *540*	125 *410*	135 *445*	145 *475*	145 *475*	155 *510*	160 *520*
K3	125 *410*	140 *460*	150 *490*	— —	— —	— —	95 *310*	110 *360*	120 *395*	115 *375*	130 *425*	140 *460*	140 *460*	150 *490*	160 *520*	140 *460*	150 *490*	160 *520*	115 *375*	130 *425*	140 *460*	135 *445*	145 *475*	155 *510*
K4	120 *395*	135 *445*	145 *475*	— —	— —	— —	90 *295*	105 *345*	115 *375*	110 *360*	125 *410*	135 *445*	135 *445*	150 *490*	155 *510*	135 *445*	150 *490*	155 *510*	110 *360*	125 *410*	135 *445*	135 *445*	145 *475*	150 *490*
K5	95 *310*	110 *360*	120 *395*	— —	— —	— —	65 *215*	80 *260*	90 *295*	85 *280*	100 *330*	110 *360*	110 *360*	120 *395*	130 *425*	110 *360*	120 *395*	130 *425*	85 *280*	100 *330*	110 *360*	105 *345*	115 *375*	125 *410*
K6	115 *375*	130 *425*	140 *460*	— —	— —	— —	85 *280*	100 *330*	110 *360*	105 *345*	120 *395*	130 *425*	130 *425*	140 *460*	150 *490*	130 *425*	140 *460*	150 *490*	105 *345*	120 *395*	130 *425*	125 *410*	135 *445*	145 *475*
K7	110 *360*	125 *410*	135 *445*	— —	— —	— —	75 *245*	95 *310*	100 *330*	95 *310*	115 *375*	120 *395*	125 *410*	135 *445*	140 *460*	125 *410*	135 *445*	140 *460*	95 *310*	115 *375*	120 *395*	120 *395*	130 *425*	135 *445*
S1	— —	— —	— —	39 *130*	55 *180*	60 *195*	36 *120*	48 *155*	55 *180*	48 *155*	65 *215*	70 *230*	— —	— —	— —	— —	— —	— —	48 *155*	65 *215*	70 *230*	39 *130*	55 *180*	60 *195*
S2	— —	— —	— —	32 *105*	42 *140*	50 *165*	29 *95*	38 *125*	45 *150*	39 *130*	50 *165*	60 *195*	— —	— —	— —	— —	— —	— —	39 *130*	50 *165*	60 *195*	32 *105*	42 *140*	50 *165*
S3	— —	— —	— —	28 *90*	37 *120*	43 *140*	26 *85*	34 *110*	39 *130*	34 *110*	45 *150*	55 *180*	— —	— —	— —	— —	— —	— —	34 *110*	45 *150*	55 *180*	28 *90*	37 *120*	43 *140*
S11	— —	— —	— —	55 *180*	70 *230*	80 *260*	50 *165*	65 *215*	75 *245*	65 *215*	80 *260*	90 *295*	— —	— —	— —	— —	— —	— —	65 *215*	80 *260*	90 *295*	55 *180*	70 *230*	80 *260*
S12	— —	— —	— —	38 *125*	50 *165*	60 *195*	35 *115*	46 *150*	55 *180*	47 *155*	60 *195*	70 *230*	— —	— —	— —	— —	— —	— —	47 *155*	60 *195*	70 *230*	38 *125*	50 *165*	60 *195*
S13	— —	— —	— —	22 *70*	30 *100*	35 *115*	20 *65*	27 *90*	31 *100*	27 *90*	36 *120*	42 *140*	— —	— —	— —	— —	— —	— —	27 *90*	36 *120*	42 *140*	22 *70*	30 *100*	35 *115*
H5	41 *135*	55 *180*	65 *215*	— —	— —	— —	31 *100*	40 *130*	48 *155*	40 *130*	50 *165*	60 *195*	44 *145*	60 *195*	65 *215*	— —	— —	— —	40 *130*	50 *165*	60 *195*	35 *115*	46 *150*	55 *180*
H8	44 *145*	60 *195*	65 *215*	— —	— —	— —	33 *110*	43 *140*	50 *165*	42 *140*	55 *180*	65 *215*	48 *155*	60 *195*	70 *230*	— —	— —	— —	42 *140*	55 *180*	65 *215*	38 *125*	49 *160*	60 *195*
H11	50 *165*	65 *215*	75 *245*	— —	— —	— —	39 *130*	50 *165*	60 *195*	50 *165*	65 *215*	75 *245*	55 *180*	70 *230*	80 *260*	— —	— —	— —	50 *165*	65 *215*	75 *245*	45 *150*	60 *195*	70 *230*
H12	75 *245*	90 *295*	95 *310*	— —	— —	— —	60 *195*	75 *245*	80 *260*	80 *260*	95 *310*	100 *330*	80 *260*	95 *310*	105 *345*	— —	— —	— —	80 *260*	95 *310*	100 *330*	65 *215*	80 *260*	90 *295*

R217.82-SNSP12 – Metric





—For insert selection and cutting data recommendations, see page(s) 181-182
—For complete insert programme, see page(s) 873, 897
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCONMS	LUX	LPR	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm		kg	
R217.82-3250-3S-043-SNSP12.3A	10361216	Seco-Weldon	50,0	3	12	43,0	32,0	57,7	68,0	128,0	10100	0,9	SP.T1205/SN.U1306

Spare Parts, included in delivery

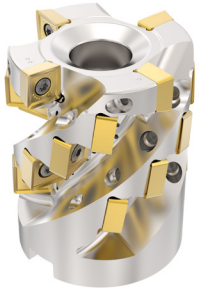
For cutter	Insert key	Insert screw	Insert screw 2
			
R217.82-..	1/4HEX-T15PX50	C55011-T15P	C04011-T15P

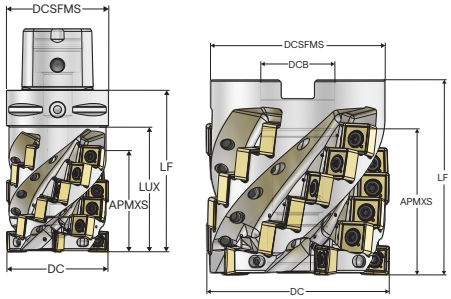
Accessories

For cutter	Adjustable Torque key	Bit holder	Torque key	Torque value
				
R217.82-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	T00-15P50	5.0NM

Torque and fixed keys, see page 944

R217/220.82-SNSP12 – Metric





–For insert selection and cutting data recommendations, see page(s) 170-171
–For complete insert programme, see page(s) 897, 922, 923
–For ISO attribute explanation, see page 16
–KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	LF	LUX	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm	mm		kg	
C6-R217.82-063-064-SNSP12.4SA	10361223	Seco-Capto	63,0	4	24	64,0	–	63,0	100,0	77,5	138,0	9000	1,7	SP.T1205/SN.U1306
R220.82-0063-054-SNSP12.4A	10361217	Arbor	63,0	4	20	54,0	27,0	59,0	80,0	–	–	9000	1,0	SP.T1205/SN.U1306
R220.82-0080-064-SNSP12.5A	10361218	Arbor	80,0	5	30	64,0	32,0	75,0	85,0	–	–	8000	1,9	SP.T1205/SN.U1306
R220.82-0080-086-SNSP12.5SA	10361224	Arbor	80,0	5	40	86,0	32,0	75,0	111,0	–	–	8000	2,3	SP.T1205/SN.U1306

Spare Parts, included in delivery

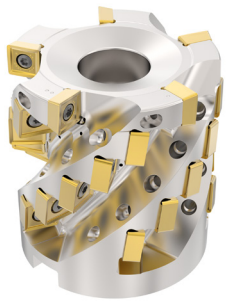
For cutter	Arbor screw	Basic body	Insert key	Insert screw	Insert screw 2	Replaceable End
						
R217.82-..	–	C6-R217.82-063-043-SN.4BA	1/4HEX-T15PX50	C55011-T15P	C04011-T15P	R220.82-RE063-021-SNSP12.4A
R220.82-0063	MC6S12X70	–	1/4HEX-T15PX50	C55011-T15P	C04011-T15P	–
R220.82-0080	MC6S16X70	–	1/4HEX-T15PX90	C55011-T15P	C04011-T15P	–
R220.82-0080-SA	MC6S16X100	R220.82-0080-054-SN.5BA	1/4HEX-T15PX50	C55011-T15P	C04011-T15P	R220.82-RE080-032-SNSP12.5A

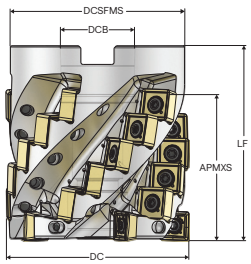
Accessories

For cutter	Adjustable Torque key	Bit holder	Torque key	Torque value
				
R217.82-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	T00-15P50	5.0NM
R220.82-0063	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	T00-15P50	5.0NM
R220.82-0080	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	T00-15P50	5.0NM
R220.82-0080-SA	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	T00-15P50	5.0NM

Torque and fixed keys, see page 944

R220.82-SNSP12 – inch

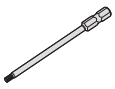




—For insert selection and cutting data recommendations, see page(s) 170-171
—For complete insert programme, see page(s) 897, 922, 923
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	LF	RPMX	Weight	Insert
			inch			inch	inch	inch	inch		lbs	
R220.82-03.00-2.51-SNSP12.5A	10361221	Arbor	3.000	5	30	2.520	1.250	2.795	3.454	8200	3.750	SP.T1205/SN.U1306
R220.82-03.00-2.94-SNSP12.5SA	10361225	Arbor	3.000	5	35	2.953	1.250	2.795	3.843	8200	3.750	SP.T1205/SN.U1306

Spare Parts, included in delivery

For cutter	Arbor screw	Basic body	Insert key	Insert screw	Insert screw 2	Replaceable End
						
R220.82-2.51	UC6S5/8UNFX3	–	1/4HEX-T15PX90	C55011-T15P	C04011-T15P	–
R220.82-2.94	UC6S5/8UNFX3-1/2	R220.82-03.00-1.69-SN.5BA	1/4HEX-T15PX50	C55011-T15P	C04011-T15P	R220.82-RE03.00-1.25-SNSP12.5A

Accessories

For cutter	Adjustable Torque key	Bit holder	Torque key	Torque value
				
R220.82-2.51	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	–	5.0NM
R220.82-2.94	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	T00-15P50	5.0NM

Torque and fixed keys, see page 944

R217/220.82-SNSP12 – Insert selection – mm/Inch

SMG			f_z		
			100%	30%	10%
P1	SPMT120508SR-M12 MP2501	SNXU130612TN-M12 MP2501	0,13 *0.0050*	0,15 *0.0060*	0,22 *0.0085*
P2	SPMT120508SR-M12 MP2501	SNXU130612TN-M12 MP2501	0,14 *0.0055*	0,15 *0.0060*	0,24 *0.0095*
P3	SPMT120508SR-M12 MP2501	SNXU130612TN-M12 MP2501	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*
P4	SPMT120508SR-M12 MP2501	SNXU130612TN-M12 MP2501	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*
P5	SPMT120508SR-M12 MP2501	SNGU130612TN-M14 MP1501	0,12 *0.0048*	0,14 *0.0055*	0,20 *0.0080*
P6	SPMT120508SR-M12 MP2501	SNGU130612TN-M14 MP1501	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
P7	SPMT120508SR-M12 MP2501	SNGU130612TN-M14 MP1501	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
P8	SPMT120508SR-M12 MP2501	SNGU130612TN-M14 MP1501	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*
P11	SPMT120508SR-M12 MP3501	SNXU130612TN-M12 MP3501	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
P12	SPMT120508SR-M12 MP3501	SNXU130612TN-M12 MP3501	0,085 *0.0034*	0,095 *0.0038*	0,14 *0.0055*
M1	SPMT120508SR-ME10 MS2050	SNGU130612EN-ME10 MS2050	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
M2	SPMT120508SR-ME10 MS2050	SNGU130612EN-ME10 MS2050	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*
M3	SPMT120508SR-ME10 MS2050	SNGU130612EN-ME10 MS2050	0,085 *0.0034*	0,090 *0.0036*	0,14 *0.0055*
M4	SPMT120508SR-ME10 MS2050	SNGU130612EN-ME10 MS2050	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*
M5	SPMT120508SR-ME10 MS2050	SNGU130612EN-ME10 MS2050	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*
K1	SPMT120508SR-M12 MK2050	SNGU130612TN-M14 MK2050	0,14 *0.0055*	0,15 *0.0060*	0,24 *0.0095*
K2	SPMT120508SR-M12 MK2050	SNGU130612TN-M14 MK2050	0,12 *0.0048*	0,14 *0.0055*	0,20 *0.0080*
K3	SPMT120508SR-M12 MK2050	SNGU130612TN-M14 MK2050	0,12 *0.0048*	0,14 *0.0055*	0,20 *0.0080*
K4	SPMT120508SR-M12 MK2050	SNGU130612TN-M14 MK2050	0,12 *0.0048*	0,14 *0.0055*	0,20 *0.0080*
K5	SPMT120508SR-M12 MK2050	SNGU130612TN-M14 MK2050	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
K6	SPMT120508SR-M12 MK2050	SNGU130612TN-M14 MK2050	0,12 *0.0048*	0,14 *0.0055*	0,20 *0.0080*
K7	SPMT120508SR-M12 MK2050	SNGU130612TN-M14 MK2050	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
S1	SPMT120508SR-ME10 MS2050	SNGU130612EN-ME10 MS2050	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*
S2	SPMT120508SR-ME10 MS2050	SNGU130612EN-ME10 MS2050	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*
S3	SPMT120508SR-ME10 MS2050	SNGU130612EN-ME10 MS2050	0,070 *0.0028*	0,075 *0.0030*	0,11 *0.0044*
S11	SPMT120508SR-ME10 MS2050	SNGU130612EN-ME10 MS2050	0,085 *0.0034*	0,090 *0.0036*	0,14 *0.0055*
S12	SPMT120508SR-ME10 MS2050	SNGU130612EN-ME10 MS2050	0,085 *0.0034*	0,090 *0.0036*	0,14 *0.0055*
S13	SPMT120508SR-ME10 MS2050	SNGU130612EN-ME10 MS2050	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.82-SNSP12 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK2050			MS2050			F40M			MS2500			MP1501			MP2501			MS2500			MP3501		
P1																								
P1	460	520	560	460	510	540	445	490	510	520	570	610	540	570	610	520	570	610	520	570	610	510	560	590
	140	*160*	*165*	*135*	*150*	*160*	*135*	*145*	*155*	*160*	*175*	*180*	*160*	*175*	*185*	*160*	*175*	*180*	*160*	*175*	*180*	*155*	*170*	*175*
P2	460	520	540	445	490	520	445	475	510	520	570	590	520	570	610	520	570	590	520	570	590	510	560	570
	135	*150*	*160*	*130*	*145*	*150*	*125*	*140*	*145*	*150*	*165*	*175*	*155*	*165*	*175*	*155*	*165*	*175*	*150*	*165*	*175*	*150*	*160*	*170*
P3	445	490	520	425	475	490	410	460	475	490	540	570	510	540	570	510	540	570	490	540	570	490	520	560
	125	*140*	*150*	*120*	*135*	*145*	*120*	*135*	*140*	*145*	*160*	*165*	*145*	*160*	*165*	*145*	*160*	*165*	*145*	*160*	*165*	*140*	*155*	*160*
P4	410	460	490	395	445	475	395	445	460	475	520	540	475	520	540	475	520	540	475	520	540	460	510	520
	120	*140*	*150*	*120*	*135*	*145*	*115*	*130*	*135*	*140*	*155*	*165*	*145*	*155*	*165*	*140*	*155*	*165*	*140*	*155*	*165*	*140*	*150*	*160*
P5	395	460	490	395	445	475	375	425	445	460	510	540	475	510	540	460	510	540	460	510	540	460	490	520
	130	*145*	*155*	*125*	*140*	*150*	*125*	*135*	*145*	*150*	*160*	*170*	*150*	*165*	*170*	*150*	*165*	*170*	*150*	*160*	*170*	*145*	*155*	*165*
P6	425	475	510	410	460	490	410	445	475	490	520	560	490	540	560	490	540	560	490	520	560	475	510	540
	125	*145*	*155*	*125*	*135*	*145*	*120*	*130*	*140*	*145*	*160*	*165*	*150*	*160*	*170*	*145*	*160*	*165*	*145*	*160*	*165*	*145*	*155*	*160*
P7	410	475	510	410	445	475	395	425	460	475	520	540	490	520	560	475	520	540	475	520	540	475	510	520
	120	*140*	*150*	*120*	*135*	*140*	*115*	*130*	*135*	*140*	*155*	*160*	*145*	*155*	*165*	*140*	*155*	*165*	*140*	*155*	*160*	*140*	*150*	*155*
P8	395	460	490	395	445	460	375	425	445	460	510	520	475	510	540	460	510	540	460	510	520	460	490	510
	125	*140*	*150*	*120*	*135*	*145*	*120*	*130*	*140*	*145*	*155*	*165*	*145*	*160*	*165*	*145*	*155*	*165*	*145*	*155*	*165*	*140*	*150*	*160*
P11	410	460	490	395	445	475	395	425	460	475	510	540	475	520	540	475	510	540	475	510	540	460	490	520
	100	*115*	*125*	*95*	*110*	*120*	*95*	*105*	*110*	*120*	*130*	*135*	*120*	*130*	*140*	*120*	*130*	*140*	*120*	*130*	*135*	*115*	*125*	*130*
P12	330	375	410	310	360	395	310	345	360	395	425	445	395	425	460	395	425	460	395	425	445	375	410	425
	—	—	—	*115*	*135*	*145*	*110*	*130*	*140*	*125*	*145*	*155*	—	—	—	*120*	*135*	*150*	*125*	*145*	*155*	*115*	*135*	*145*
M1	—	—	—	375	445	475	360	425	460	410	475	510	—	—	—	395	445	490	410	475	510	375	445	475
	—	—	—	*105*	*125*	*135*	*100*	*115*	*130*	*115*	*130*	*145*	—	—	—	*110*	*125*	*135*	*115*	*130*	*145*	*105*	*125*	*135*
M2	—	—	—	345	410	445	330	375	425	375	425	475	—	—	—	360	410	445	375	425	475	345	410	445
	—	—	—	*95*	*110*	*120*	*90*	*105*	*115*	*105*	*120*	*130*	—	—	—	*95*	*115*	*125*	*105*	*120*	*130*	*95*	*110*	*120*
M3	—	—	—	310	360	395	295	345	375	345	395	425	—	—	—	310	375	410	345	395	425	310	360	395
	—	—	—	*80*	*95*	*105*	*75*	*90*	*100*	*90*	*105*	*115*	—	—	—	*80*	*100*	*110*	*90*	*105*	*115*	*80*	*95*	*105*
M4	—	—	—	260	310	345	245	295	330	295	345	375	—	—	—	260	330	360	295	345	375	260	310	345
	—	—	—	*70*	*85*	*95*	*60*	*80*	*90*	*75*	*95*	*105*	—	—	—	*70*	*90*	*95*	*75*	*95*	*105*	*70*	*85*	*95*
M5	—	—	—	230	280	310	195	260	295	245	310	345	—	—	—	230	295	310	245	310	345	230	280	310
	145	*160*	*170*	—	—	—	*110*	*130*	*135*	*135*	*150*	*160*	*160*	*175*	*185*	*160*	*175*	*180*	*135*	*150*	*160*	*155*	*170*	*175*
K1	475	520	560	—	—	—	360	425	445	445	490	520	520	570	610	520	570	590	445	490	520	510	560	570
	140	*155*	*165*	—	—	—	*105*	*120*	*130*	*125*	*140*	*155*	*155*	*170*	*175*	*155*	*165*	*175*	*125*	*140*	*155*	*150*	*160*	*170*
K2	460	510	540	—	—	—	345	395	425	410	460	510	510	560	570	510	540	570	410	460	510	490	520	560
	130	*145*	*155*	—	—	—	*95*	*110*	*120*	*115*	*130*	*145*	*145*	*160*	*165*	*145*	*155*	*165*	*115*	*130*	*145*	*140*	*150*	*160*
K3	425	475	510	—	—	—	310	360	395	375	425	475	475	520	540	475	510	540	375	425	475	460	490	520
	125	*140*	*155*	—	—	—	*90*	*110*	*120*	*110*	*130*	*140*	*140*	*155*	*165*	*140*	*155*	*160*	*110*	*130*	*140*	*135*	*150*	*155*
K4	410	460	510	—	—	—	295	360	395	360	425	460	460	510	540	460	510	520	360	425	460	445	490	510
	95	*115*	*125*	—	—	—	*60*	*80*	*90*	*85*	*100*	*110*	*115*	*125*	*135*	*110*	*125*	*130*	*85*	*100*	*110*	*110*	*120*	*125*
K5	310	375	410	—	—	—	195	260	295	280	330	360	375	410	445	360	410	425	280	330	360	360	395	410
	115	*135*	*145*	—	—	—	*85*	*100*	*110*	*105*	*120*	*135*	*135*	*150*	*155*	*135*	*145*	*155*	*105*	*120*	*135*	*130*	*140*	*150*
K6	375	445	475	—	—	—	280	330	360	345	395	445	445	490	510	445	475	510	345	395	445	425	460	490
	110	*130*	*140*	—	—	—	*75*	*95*	*105*	*100*	*115*	*125*	*130*	*140*	*150*	*125*	*140*	*145*	*100*	*115*	*125*	*125*	*135*	*140*
K7	360	425	460	—	—	—	245	310	345	330	375	410	425	460	490	410	460	475	330	375	410	410	445	460
	—	—	—	*38*	*50*	*60*	*35*	*46*	*55*	*47*	*60*	*70*	—	—	—	—	—	—	*47*	*60*	*70*	*38*	*50*	*60*
S1	—	—	—	125	165	195	115	150	180	155	195	230	—	—	—	—	—	—	155	195	230	125	165	195
	—	—	—	*31*	*41*	*48*	*28*	*37*	*43*	*38*	*50*	*60*	—	—	—	—	—	—	*38*	*50*	*60*	*31*	*41*	*48*
S2	—	—	—	100	135	155	90	120	140	125	165	195	—	—	—	—	—	—	125	165	195	100	135	155
	—	—	—	*27*	*36*	*42*	*25*	*32*	*38*	*33*	*43*	*50*	—	—	—	—	—	—	*33*	*43*	*50*	*27*	*36*	*42*
S3	—	—	—	90	120	140	80	105	125	110	140	165	—	—	—	—	—	—	110	140	165	90	120	140
	—	—	—	*55*	*70*	*80*	*49*	*65*	*75*	*65*	*80*	*90*	—	—	—	—	—	—	*65*	*80*	*90*	*55*	*70*	*80*
S11	—	—	—	180	230	260	160	215	245	215	260	295	—	—	—	—	—	—	215	260	295	180	230	260
	—	—	—	*37*	*49*	*55*	*34*	*44*	*50*	*45*	*60*	*70*	—	—	—	—	—	—	*45*	*60*	*70*	*37*	*49*	*55*
S12	—	—	—	120	160	180	110	145	165	150	195	230	—	—	—	—	—	—	150	195	230	120	160	180
	—	—	—	*22*	*29*	*33*	*20*	*26*	*30*	*26*	*35*	*40*	—	—	—	—	—	—	*26*	*35*	*40*	*22*	*29*	*33*
	—	—	—	70	95	110	65	85	100	85	115	130	—	—	—	—	—	—	85	115	130	70	95	110



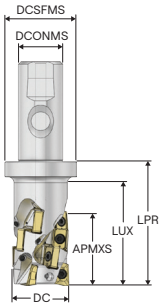
Helical LN4-11

The Seco Helical LN4-11 cutter range featuring double sided helix inserts with four cutting edges offers low cost per edge combined with high performance in a large variety of applications eg slotting, side milling and circular rough milling. Geometry and grade offer developed to cover ISO P, M, K and S materials.
Front insert offering many radii choices. User-friendly and reliable the LN4-11 cutter also eliminates incorrect indexing of front and helix inserts, reducing operator error.

– R217/220.42, cutter range 32-63mm (1.25-2.00 inch)

R217.42-LNXO





—For insert selection and cutting data recommendations, see page(s) 188-189
—For complete insert programme, see page(s) 879, 920, 921
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCSFMS	DCONMS	LUX	LPR	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm	mm		kg	
R217.42-2532.3S-031-LNXO.3A	10255162	Seco-Weldon	32,0	3	9	31,0	40,0	25,0	49,7	60,0	116,0	17000	0,5	XO.X12/LN.U11
R217.42-2532.3S-041-LNXO.3A	10255161	Seco-Weldon	32,0	3	12	41,0	40,0	25,0	59,7	70,0	126,0	17000	0,5	XO.X12/LN.U11
R217.42-3240.3S-041-LNXO.3A	10255164	Seco-Weldon	40,0	3	12	41,0	50,0	32,0	50,5	70,0	130,0	15200	0,9	XO.X12/LN.U11
R217.42-3240.3S-051-LNXO.4A	10255165	Seco-Weldon	40,0	4	20	51,0	50,0	32,0	69,5	80,0	140,0	15200	0,9	XO.X12/LN.U11
R217.42-3240.3S-070-LNXO.3A	10255166	Seco-Weldon	40,0	3	21	70,0	50,0	32,0	80,5	90,0	150,0	15200	0,9	XO.X12/LN.U11

Spare Parts, included in delivery

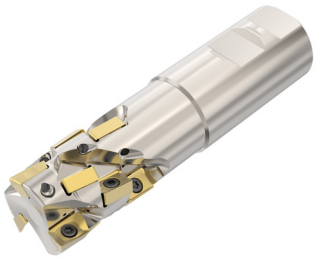
For cutter	Insert key	Insert screw
		
R217.42-2532	1/4HEX-T10PX50	C03508-T10P
R217.42-3240	1/4HEX-T10PX50	C03509-T10P

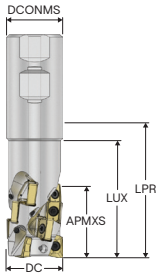
Accessories

For cutter	Adjustable Torque key	Bit holder	Torque key
			
R217.42-2532	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	T00-10P30
R217.42-3240	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	T00-10P30

Torque and fixed keys, see page 944

R217.42-LNXO





—For insert selection and cutting data recommendations, see page(s) 188-189
—For complete insert programme, see page(s) 879, 920, 921
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCONMS	LF	LUX	LPR	OAL	RPMX	Weight	Insert
			inch			inch	inch	inch	inch	inch	inch		lbs	
R217.42-1.25-3-1.61-LNXO.3A	10256018	Weldon	1.250	3	12	1.614	1.250	3.860	2.642	2.663	4.982	17100	1.540	XO.X12/LN.U11
R217.42-1.50-3-2.79-LNXO.3A	10256020	Weldon	1.500	3	21	2.756	1.500	5.016	3.437	3.457	6.185	15600	2.430	XO.X12/LN.U11

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.42-1.25	1/4HEX-T10PX50	C03508-T10P
R217.42-1.50	1/4HEX-T10PX50	C03509-T10P

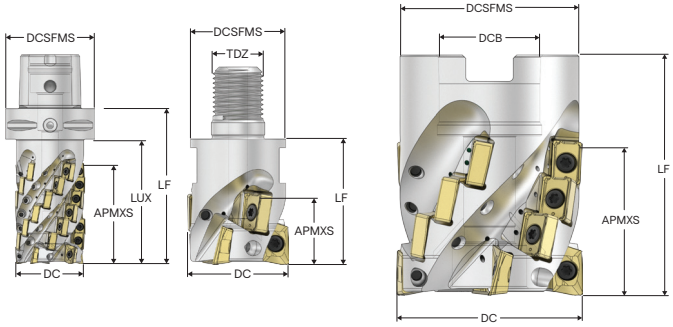
Accessories

For cutter	Adjustable Torque key	Bit holder	Torque key
			
R217.42-1.25	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	T00-10P30
R217.42-1.50	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	T00-10P30

Torque and fixed keys, see page 944

R217.42-LNXO

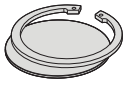
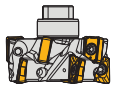




—For insert selection and cutting data recommendations, see page(s) 188-189
—For complete insert programme, see page(s) 879, 920, 921
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	TDZ	LF	LUX	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm		mm	mm	mm		kg	
C6-R217.42-0050-070-LNXO.5SA	10255172	Seco-Capto	50,0	5	35	70,0	–	63,0	–	110,0	87,5	148,0	13600	1,5	XO.X12/LN.U11
R217.42-1632.RE-021-LNXO.3A	10255160	Combimaster	32,0	3	6	21,0	–	30,0	M16	40,0	–	62,75	17000	0,2	XO.X12/LN.U11
R217.42-2040.RE-041-LNXO.4A	10255163	Combimaster	40,0	4	16	41,0	–	36,5	M20	61,0	–	88,0	15200	0,5	XO.X12/LN.U11
R220.42-0050-040-LNXO.4A	10255167	Arbor	50,0	4	16	40,0	27,0	47,09	–	65,0	–	–	13600	0,6	XO.X12/LN.U11
R220.42-0050-050-LNXO.5A	10255168	Arbor	50,0	5	25	50,0	27,0	46,88	–	75,0	–	–	13600	0,8	XO.X12/LN.U11
R220.42-0063-050-LNXO.6A	10255169	Arbor	63,0	6	30	50,0	27,0	59,82	–	75,0	–	–	12100	1,2	XO.X12/LN.U11

Spare Parts, included in delivery

For cutter	Arbor screw	Basic body	Coolant kit	Insert key	Insert screw	Replaceable end
						
C6-R217.42-..	–	C6-R217.42-0050-049-LN.5BA	LUBRICATION_SET_19	1/4HEX-T10PX50	C03509-T10P	R220.42-RE0050-021-LNXO.5A
R217.42-..	–	–	–	1/4HEX-T10PX50	C03509-T10P	–
R220.42-0050-0063	MC6S12X70	–	–	1/4HEX-T10PX50	C03509-T10P	–
R220.42-0050-040	MC6S12X60	–	–	1/4HEX-T10PX50	C03509-T10P	–

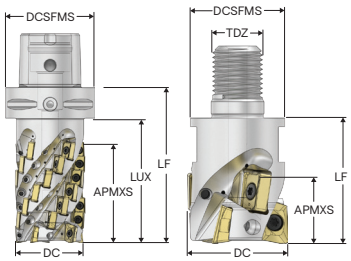
Accessories

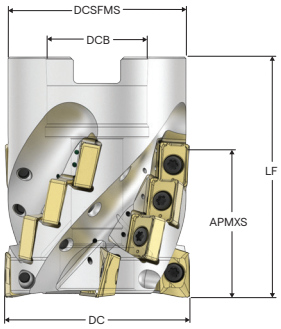
For cutter	Adjustable Torque key	Bit holder	Torque key
			
R217/220.42-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	T00-10P30

Torque and fixed keys, see page 944

R217.42-LNXO



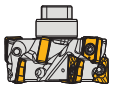




—For insert selection and cutting data recommendations, see page(s) 188-189
—For complete insert programme, see page(s) 879, 920, 921
—For ISO attribute explanation, see page 16
—KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	TDZ	LF	LUX	OAL	RPMX	Weight	Insert
			inch			inch	inch	inch		inch	inch	inch		lbs	
C6-R217.42-2.00-3.90-LNXO.5SA	10256021	Seco-Capto	2.000	5	50	3.898	–	2.480	–	5.500	4.614	6.996	13500	3.970	XO.X12/LN.U11
R217.42-1.50-20RE-1.61-LNXO.3A	10256019	Combimaster	1.500	3	12	1.614	–	1.437	M20	2.402	–	3.465	15600	0.880	XO.X12/LN.U11
R220.42-2.00-1.57-LNXO.4A	10255170	Arbor	2.000	4	16	1.602	1.000	1.885	–	2.750	–	–	13500	1.760	XO.X12/LN.U11
R220.42-2.00-1.96-LNXO.5A	10255171	Arbor	2.000	5	25	2.000	1.000	1.876	–	3.250	–	–	13500	1.980	XO.X12/LN.U11

Spare Parts, included in delivery

For cutter	Arbor screw	Basic body	Coolant kit	Insert key	Insert screw	Replaceable end
						
C6-R217.42-..	–	C6-R217.42-2.00-3.07-LN.5BA	LUBRICATION_SET_19	1/4HEX-T10PX50	C03509-T10P	R220.42-RE2.00-0.83-LNXO.5A
R217.42-..	–	–	–	1/4HEX-T10PX50	C03509-T10P	–
R220.42-2.00-1.57	UC6S1/2UNFX2-1/2	–	–	1/4HEX-T10PX50	C03509-T10P	–
R220.42-2.00-1.96	UC6S1/2UNFX3	–	–	1/4HEX-T10PX50	C03509-T10P	–

Accessories

For cutter	Adjustable Torque key	Bit holder	Torque key
			
R217/220.42-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	T00-10P30

Torque and fixed keys, see page 944

R217/220.42 – Insert selection – Metric/ Inch

SMG			f_z		
			100%	30%	10%
P1	XOMX120408TR-M12 MP2501	LNMU110408SR-M12 MP2501	0,14 *0.0055*	0,15 *0.0060*	0,22 *0.0085*
P2	XOMX120408TR-M12 MP2501	LNMU110408SR-M12 MP2501	0,14 *0.0055*	0,15 *0.0060*	0,24 *0.0095*
P3	XOMX120408TR-M12 MP2501	LNMU110408SR-M12 MP2501	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*
P4	XOMX120408TR-M12 MP2501	LNMU110408SR-M12 MP2501	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*
P5	XOEX120404R-M07 MP2501	LNEU110408SR-M12 MP2501	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*
P6	XOEX120408R-M07 MP2501	LNEU110408SR-M12 MP2501	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*
P7	XOEX120408R-M07 MP2501	LNEU110408SR-M12 MP2501	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*
P8	XOEX120408R-M07 MP2501	LNEU110408SR-M12 MP2501	0,10 *0.0040*	0,11 *0.0044*	0,16 *0.0065*
P11	XOEX120408R-M07 MP3501	LNEU110408SR-M12 MP3501	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*
P12	XOEX120408R-M07 MP2501	LNEU110408SR-M12 MP3501	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*
M1	XOEX120408R-M07 MS2050	LNEU110408SR-ME07 MS2050	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*
M2	XOEX120404R-M07 MS2050	LNEU110408SR-ME07 MS2050	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*
M3	XOEX120404R-M07 MS2050	LNEU110408SR-ME07 MS2050	0,075 *0.0030*	0,080 *0.0032*	0,13 *0.0050*
M4	XOEX120408R-M07 MP3501	LNEU110408SR-M12 MP3501	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*
M5	XOEX120408R-M07 MP3501	LNEU110408SR-M12 MP3501	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*
K1	XOMX120408TR-M12 MK2050	LNMU110408SR-M12 MK2050	0,14 *0.0055*	0,15 *0.0060*	0,24 *0.0095*
K2	XOMX120408TR-M12 MK2050	LNMU110408SR-M12 MK2050	0,13 *0.0050*	0,14 *0.0055*	0,20 *0.0080*
K3	XOMX120408TR-M12 MK2050	LNMU110408SR-M12 MK2050	0,13 *0.0050*	0,14 *0.0055*	0,20 *0.0080*
K4	XOMX120408TR-M12 MK2050	LNMU110408SR-M12 MK2050	0,13 *0.0050*	0,14 *0.0055*	0,20 *0.0080*
K5	XOMX120408TR-M12 MK2050	LNMU110408SR-M12 MK2050	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
K6	XOMX120408TR-M12 MK2050	LNMU110408SR-M12 MK2050	0,13 *0.0050*	0,14 *0.0055*	0,20 *0.0080*
K7	XOMX120408TR-M12 MK2050	LNMU110408SR-M12 MK2050	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
S1	XOMX120404TR-ME08 F40M	LNMU110408SR-ME08 F40M	0,060 *0.0024*	0,065 *0.0026*	0,095 *0.0038*
S2	XOMX120404TR-ME08 F40M	LNMU110408SR-ME08 F40M	0,060 *0.0024*	0,065 *0.0026*	0,095 *0.0038*
S3	XOMX120404TR-ME08 F40M	LNMU110408SR-ME08 F40M	0,055 *0.0022*	0,060 *0.0024*	0,090 *0.0036*
S11	XOEX120404R-M07 MS2050	LNEU110408ER-M07 MS2050	0,075 *0.0030*	0,080 *0.0032*	0,13 *0.0050*
S12	XOEX120404R-M07 MS2050	LNEU110408ER-M07 MS2050	0,075 *0.0030*	0,080 *0.0032*	0,13 *0.0050*
S13	XOEX120404R-M07 MS2050	LNMU110408ER-M07 MS2050	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*
H5	XOMX120408TR-M12 MP3501	LNEU110408SR-M12 MP3501	0,085 *0.0034*	0,095 *0.0038*	0,14 *0.0055*
H8	XOMX120408TR-M12 MP3501	LNEU110408SR-M12 MP3501	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*
H11	XOMX120408TR-M12 MP3501	XOMX120408TR-M12 MP3501	0,085 *0.0034*	0,095 *0.0038*	0,14 *0.0055*
H12	XOMX120408TR-M12 MP3501	LNEU110408SR-M12 MP3501	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.42 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK2050			MS2050			MP2050			F40M			MP1501			MP2501			MP3501		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	150	170	185	155	175	185	165	185	195	135	155	165	180	190	200	175	190	200	170	185	195
	490	*560*	*610*	*510*	*570*	*610*	*540*	*610*	*640*	*445*	*510*	*540*	*590*	*620*	*660*	*570*	*620*	*660*	*560*	*610*	*640*
P2	150	170	180	155	170	180	165	180	195	135	150	165	175	190	200	175	190	195	165	180	190
	490	*560*	*590*	*510*	*560*	*590*	*540*	*590*	*640*	*445*	*490*	*540*	*570*	*620*	*660*	*570*	*620*	*640*	*540*	*590*	*620*
P3	140	160	170	145	160	170	155	170	185	125	145	155	170	180	190	165	180	190	160	175	180
	460	*520*	*560*	*475*	*520*	*560*	*510*	*560*	*610*	*410*	*475*	*510*	*560*	*590*	*620*	*540*	*590*	*620*	*520*	*570*	*590*
P4	135	155	165	135	155	165	145	165	175	115	135	145	160	175	180	160	170	180	150	165	175
	445	*510*	*540*	*445*	*510*	*540*	*475*	*540*	*570*	*375*	*445*	*475*	*520*	*570*	*590*	*520*	*560*	*590*	*490*	*540*	*570*
P5	130	150	160	130	150	160	145	160	175	115	130	145	155	170	180	155	170	180	145	160	170
	425	*490*	*520*	*425*	*490*	*520*	*475*	*520*	*570*	*375*	*425*	*475*	*510*	*560*	*590*	*510*	*560*	*590*	*475*	*520*	*560*
P6	140	155	170	140	160	170	150	170	180	120	140	150	165	180	185	165	175	185	155	170	180
	460	*510*	*560*	*460*	*520*	*560*	*490*	*560*	*590*	*395*	*460*	*490*	*540*	*590*	*610*	*540*	*570*	*610*	*510*	*560*	*590*
P7	135	155	165	135	155	165	150	165	175	120	135	150	160	175	185	160	175	180	155	165	175
	445	*510*	*540*	*445*	*510*	*540*	*490*	*540*	*570*	*395*	*445*	*490*	*520*	*570*	*610*	*520*	*570*	*590*	*510*	*540*	*570*
P8	130	150	160	130	150	160	145	160	170	115	130	145	155	170	180	155	170	175	145	160	170
	425	*490*	*520*	*425*	*490*	*520*	*475*	*520*	*560*	*375*	*425*	*475*	*510*	*560*	*590*	*510*	*560*	*570*	*475*	*520*	*560*
P11	135	150	165	135	155	165	145	165	175	115	135	145	160	170	180	160	170	180	150	165	175
	445	*490*	*540*	*445*	*510*	*540*	*475*	*540*	*570*	*375*	*445*	*475*	*520*	*560*	*590*	*520*	*560*	*590*	*490*	*540*	*570*
P12	105	125	135	105	125	135	115	135	145	90	105	115	130	140	150	130	140	150	120	135	140
	345	*410*	*445*	*345*	*410*	*445*	*375*	*445*	*475*	*295*	*345*	*375*	*425*	*460*	*490*	*425*	*460*	*490*	*395*	*445*	*460*
M1	—	—	—	140	155	170	140	160	170	120	140	150	—	—	—	130	150	160	125	145	155
	—	—	—	*460*	*510*	*560*	*460*	*520*	*560*	*395*	*460*	*490*	—	—	—	*425*	*490*	*520*	*410*	*475*	*510*
M2	—	—	—	125	145	155	130	145	160	105	125	135	—	—	—	115	135	150	110	130	145
	—	—	—	*410*	*475*	*510*	*425*	*475*	*520*	*345*	*410*	*445*	—	—	—	*375*	*445*	*490*	*360*	*425*	*475*
M3	—	—	—	110	130	140	115	130	145	95	110	120	—	—	—	105	120	135	100	120	130
	—	—	—	*360*	*425*	*460*	*375*	*425*	*475*	*310*	*360*	*395*	—	—	—	*345*	*395*	*445*	*330*	*395*	*425*
M4	—	—	—	95	110	120	95	115	125	75	95	105	—	—	—	85	105	115	85	100	110
	—	—	—	*310*	*360*	*395*	*310*	*375*	*410*	*245*	*310*	*345*	—	—	—	*280*	*345*	*375*	*280*	*330*	*360*
M5	—	—	—	80	100	110	85	105	115	65	85	95	—	—	—	75	95	105	70	90	100
	—	—	—	*260*	*330*	*360*	*280*	*345*	*375*	*215*	*280*	*310*	—	—	—	*245*	*310*	*345*	*230*	*295*	*330*
K1	155	175	185	—	—	—	—	—	—	120	135	145	175	190	200	175	190	195	170	185	190
	510	*570*	*610*	—	—	—	—	—	—	*395*	*445*	*475*	*570*	*620*	*660*	*570*	*620*	*640*	*560*	*610*	*620*
K2	150	165	180	—	—	—	—	—	—	110	130	140	170	185	190	165	180	190	160	175	185
	490	*540*	*590*	—	—	—	—	—	—	*360*	*425*	*460*	*560*	*610*	*620*	*540*	*590*	*620*	*520*	*570*	*610*
K3	135	155	170	—	—	—	—	—	—	100	115	130	155	170	180	155	170	180	150	165	170
	445	*510*	*560*	—	—	—	—	—	—	*330*	*375*	*425*	*510*	*560*	*590*	*510*	*560*	*590*	*490*	*540*	*560*
K4	135	150	165	—	—	—	—	—	—	95	115	125	155	170	175	155	165	175	145	160	170
	445	*490*	*540*	—	—	—	—	—	—	*310*	*375*	*410*	*510*	*560*	*570*	*510*	*540*	*570*	*475*	*520*	*560*
K5	100	120	130	—	—	—	—	—	—	65	85	95	125	135	145	120	135	145	115	130	135
	330	*395*	*425*	—	—	—	—	—	—	*215*	*280*	*310*	*410*	*445*	*475*	*395*	*445*	*475*	*375*	*425*	*445*
K6	125	145	155	—	—	—	—	—	—	85	105	120	145	160	170	145	160	170	135	150	160
	410	*475*	*510*	—	—	—	—	—	—	*280*	*345*	*395*	*475*	*520*	*560*	*475*	*520*	*560*	*445*	*490*	*520*
K7	120	135	145	—	—	—	—	—	—	80	100	110	140	150	160	140	150	160	130	145	150
	395	*445*	*475*	—	—	—	—	—	—	*260*	*330*	*360*	*460*	*490*	*520*	*460*	*490*	*520*	*425*	*475*	*490*
S1	—	—	—	47	60	70	50	65	80	36	47	55	—	—	—	—	—	—	39	50	60
	—	—	—	*155*	*195*	*230*	*165*	*215*	*260*	*120*	*155*	*180*	—	—	—	—	—	—	*130*	*165*	*195*
S2	—	—	—	38	49	60	42	55	65	29	38	44	—	—	—	—	—	—	32	42	49
	—	—	—	*125*	*160*	*195*	*140*	*180*	*215*	*95*	*125*	*145*	—	—	—	—	—	—	*105*	*140*	*160*
S3	—	—	—	33	43	50	36	48	55	26	33	39	—	—	—	—	—	—	28	37	43
	—	—	—	*110*	*140*	*165*	*120*	*155*	*180*	*85*	*110*	*130*	—	—	—	—	—	—	*90*	*120*	*140*
S11	—	—	—	65	85	95	70	90	100	50	65	75	—	—	—	—	—	—	55	70	85
	—	—	—	*215*	*280*	*310*	*230*	*295*	*330*	*165*	*215*	*245*	—	—	—	—	—	—	*180*	*230*	*280*
S12	—	—	—	45	60	70	50	65	75	35	46	55	—	—	—	—	—	—	38	50	60
	—	—	—	*150*	*195*	*230*	*165*	*215*	*245*	*115*	*150*	*180*	—	—	—	—	—	—	*125*	*165*	*195*
S13	—	—	—	27	35	40	29	38	44	20	27	31	—	—	—	—	—	—	22	29	34
	—	—	—	*90*	*115*	*130*	*95*	*125*	*145*	*65*	*90*	*100*	—	—	—	—	—	—	*70*	*95*	*110*
H5	41	55	65	—	—	—	—	—	—	30	40	47	45	60	70	—	—	—	35	46	55
	135	*180*	*215*	—	—	—	—	—	—	*100*	*130*	*155*	*150*	*195*	*230*	—	—	—	*115*	*150*	*180*
H8	44	55	65	—	—	—	—	—	—	32	43	50	48	65	75	—	—	—	37	49	55
	145	*180*	*215*	—	—	—	—	—	—	*105*	*140*	*165*	*155*	*215*	*245*	—	—	—	*120*	*160*	*180*
H11	50	70	80	—	—	—	55	70	80	39	50	60	60	75	85	—	—	—	45	60	70
	165	*230*	*260*	—	—	—	*180*	*230*	*260*	*130*	*165*	*195*	*195*	*245*	*280*	—	—	—	*150*	*195*	*230*
H12	75	95	105	—	—	—	85	105	115	60	75	85	85	105	115	—	—	—	65	85	95
	245	*310*	*345*	—	—	—	*280*	*345*	*375*	*195*	*245*	*280*	*280*	*345*	*375*	—	—	—	*215*	*280*	*310*

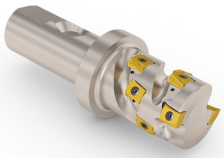


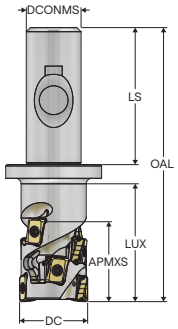
Square T4 Helical

The Square T4 Helical cutter range takes our diverse milling portfolio to the next level with tools that features tangentially mounted inserts, each having 4 cutting edges.

– T4 Helical Insert size 08, cutter range 25-54mm (1 inch)
– T4 Helical Insert size 12, cutter range 40-100mm (2 - 3 inch)

T4 – R217.94-08 – Metric

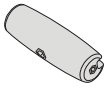




—For insert selection and cutting data recommendations, see page(s) 194-195
—For complete insert programme, see page(s) 875
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCSFMS	DCONMS	LUX	LPR	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm	mm		kg	
R217.94-2025.3S-029-08.2A	02926806	Seco-Weldon	25,0	2	8	29,0	35,0	20,0	44,0	50,0	100,0	20800	0,3	LOEX0804
R217.94-2025.3S-036-08.2A	02926807	Seco-Weldon	25,0	2	10	36,0	35,0	20,0	44,0	50,0	100,0	20800	0,3	LOEX0804
R217.94-2532.3S-043-08.3A	02926813	Seco-Weldon	32,0	3	18	43,0	40,0	25,0	55,0	65,0	121,0	18400	0,6	LOEX0804
R217.94-2532.3S-050-08.3A	02926814	Seco-Weldon	32,0	3	21	50,0	40,0	25,0	59,0	69,0	125,0	18400	0,5	LOEX0804
R217.94-3240.3S-050-08.4A	02926816	Seco-Weldon	40,0	4	28	50,0	50,0	32,0	60,0	70,0	130,0	16400	0,9	LOEX0804

Spare Parts, included in delivery

For cutter	Insert key	Insert screw	Key (T-handle)
			
R217.94-..	H4B-T08P	C02708B-T08P	DOUBLE-T

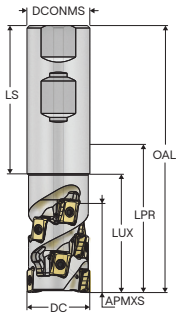
Accessories

For cutter	Insert clamping torque	Torque key
		
R217.94-..	1.2NM	T00-08P12

Torque and fixed keys, see page 944

T4 – R217.94-08 – Inch

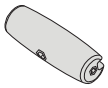




—For insert selection and cutting data recommendations, see page(s) 194-195
—For complete insert programme, see page(s) 875
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCONMS	LF	LUX	LPR	OAL	RPMX	Weight	Insert
			inch			inch	inch	inch	inch	inch	inch		lbs	
R217.94-01.00-3-01.40-08-2A	02941522	Weldon	0.996	2	10	1.417	1.000	3.110	1.870	1.772	4.252	20800	0.880	LOEX0804
R217.94-01.00-3-01.70-08-2A	02941527	Weldon	0.996	2	12	1.693	1.000	3.346	2.106	1.772	4.488	20800	0.880	LOEX0804

Spare Parts, included in delivery

For cutter	Insert key	Insert screw	Key (T-handle)
			
R127.94-..	H4B-T08P	C02708B-T08P	DOUBLE-T

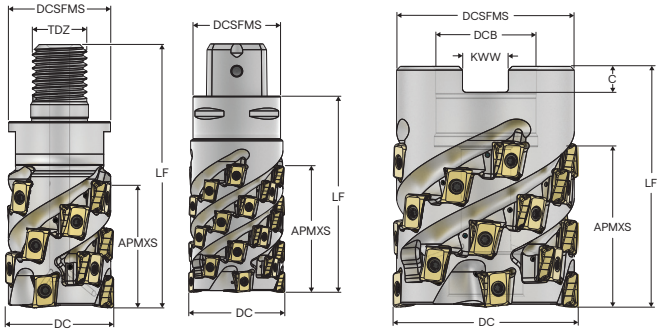
Accessories

For cutter	Insert clamping torque	Torque key
		
R127.94-..	1.2NM	T00-08P12
R217.94-..	1.2NM	T00-08P12

Torque and fixed keys, see page 944

T4 – R217/220.94-08 – Metric



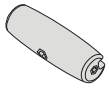


—For insert selection and cutting data recommendations, see page(s) 194-195
—For complete insert programme, see page(s) 875
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	TDZ	LF	LUX	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm		mm	mm	mm		kg	
C4-R217.94-044-057-08.4A	02926819	Seco-Capto	44,0	4	32	57,0	–	40,0	–	90,0	70,0	114,0	15500	0,9	LOEX0804
R217.94-1632.RE-036-08.3A	02926805	Combimaster	32,0	3	15	36,0	–	30,0	M16	55,0	–	77,75	18400	0,3	LOEX0804
R217.94-2040.RE-043-08.4A	02972768	Combimaster	40,0	4	24	43,0	–	36,5	M20	60,0	–	87,0	16400	0,5	LOEX0804
R220.94-00050-043-08.4A	02926817	Arbor	50,0	4	24	43,0	27,0	48,0	–	65,0	–	–	14800	0,7	LOEX0804
R220.94-00050-057-08.5A	02926818	Arbor	50,0	5	40	57,0	27,0	48,0	–	70,0	–	–	14800	0,7	LOEX0804

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Key (T-handle)
				
R217.94-../Cx-217.94-..	–	H4B-T08P	C02708B-T08P	DOUBLE-T
R220.94-..	MC6S12X60	H4B-T08P	C02708B-T08P	DOUBLE-T

Accessories

For cutter	Insert clamping torque	Torque key
		
Cx-R217/220.69-..	1.2NM	T00-08P12

Torque and fixed keys, see page 944

R217/220.94-08 – Insert selection – mm/Inch

SMG		f_z		
		100%	30%	10%
P1	LOEX080408TR-M08 F40M	0,090 *0.0036*	0,10 0.0040	0,15 0.0060
P2	LOEX080408TR-M08 F40M	0,090 *0.0036*	0,10 0.0040	0,15 0.0060
P3	LOEX080408TR-M08 F40M	0,085 *0.0034*	0,095 0.0038	0,15 0.0055
P4	LOEX080408TR-M08 F40M	0,085 *0.0034*	0,095 0.0038	0,14 0.0055
P5	LOEX080408TR-M08 F40M	0,085 *0.0034*	0,090 0.0036	0,14 0.0055
P6	LOEX080408TR-M08 F40M	0,080 *0.0032*	0,090 0.0036	0,14 0.0055
P7	LOEX080408TR-M08 F40M	0,080 *0.0032*	0,090 0.0036	0,14 0.0055
P8	LOEX080408TR-M08 F40M	0,085 *0.0034*	0,095 0.0038	0,15 0.0055
P11	LOEX080408TR-M08 MP2050	0,095 *0.0038*	0,10 0.0040	0,16 0.0065
P12	LOEX080408TR-M08 MP2050	0,065 *0.0026*	0,070 0.0028	0,11 0.0044
M1	LOEX080408TR-M08 MS2050	0,090 *0.0036*	0,10 0.0040	0,15 0.0060
M2	LOEX080408TR-M08 MS2050	0,085 *0.0034*	0,090 0.0036	0,14 0.0055
M3	LOEX080408TR-M08 MS2050	0,065 *0.0026*	0,075 0.0030	0,11 0.0044
M4	LOEX080408TR-M08 MS2050	0,060 *0.0024*	0,065 0.0026	0,10 0.0040
M5	LOEX080408TR-M08 MS2050	0,060 *0.0024*	0,065 0.0026	0,10 0.0040
K1	LOEX080408TR-MD08 MK2050	0,090 *0.0036*	0,10 0.0040	0,15 0.0060
K2	LOEX080408TR-MD08 MK2050	0,085 *0.0034*	0,090 0.0036	0,14 0.0055
K3	LOEX080408TR-MD08 MK2050	0,085 *0.0034*	0,090 0.0036	0,14 0.0055
K4	LOEX080408TR-MD08 MK2050	0,085 *0.0034*	0,090 0.0036	0,14 0.0055
K5	LOEX080408TR-MD08 MK2050	0,075 *0.0030*	0,080 0.0032	0,13 0.0050
K6	LOEX080408TR-MD08 MK2050	0,085 *0.0034*	0,090 0.0036	0,14 0.0055
K7	LOEX080408TR-MD08 MK2050	0,075 *0.0030*	0,080 0.0032	0,13 0.0050
N1	LOEX080408TR-M08 F40M	0,12 *0.0048*	0,13 0.0050	0,20 0.0080
N2	LOEX080408TR-M08 F40M	0,12 *0.0048*	0,13 0.0050	0,20 0.0080
N3	LOEX080408TR-M08 F40M	0,12 *0.0048*	0,13 0.0050	0,20 0.0080
N11	LOEX080408TR-M08 F40M	0,12 *0.0048*	0,13 0.0050	0,20 0.0080
S1	LOEX080408TR-M08 F40M	0,060 *0.0024*	0,065 0.0026	0,10 0.0040
S2	LOEX080408TR-M08 F40M	0,060 *0.0024*	0,065 0.0026	0,10 0.0040
S3	LOEX080408TR-M08 F40M	0,055 *0.0022*	0,060 0.0024	0,090 0.0036
S11	LOEX080408TR-M08 MS2050	0,065 *0.0026*	0,075 0.0030	0,11 0.0044
S12	LOEX080408TR-M08 MS2050	0,065 *0.0026*	0,075 0.0030	0,11 0.0044
S13	LOEX080408TR-M08 MS2050	0,060 *0.0024*	0,065 0.0026	0,10 0.0040
H5	LOEX080408TR-M08 MP3000	0,055 *0.0022*	0,060 0.0024	0,095 0.0038
H8	LOEX080408TR-M08 MP3000	0,044 *0.0017*	0,048 0.0019	0,075 0.0028
H11	LOEX080408TR-M08 MP3000	0,055 *0.0022*	0,060 0.0024	0,095 0.0038
H12	LOEX080408TR-M08 MP2050	0,048 *0.0019*	0,055 0.0022	0,080 0.0032

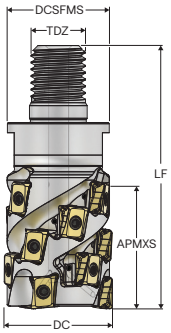
SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

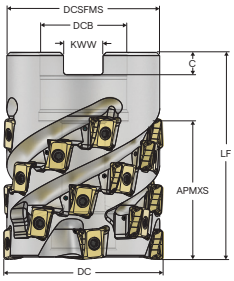
R217/220.94-08 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK2050			MP3000			MS2050			F40M			MP2051			MP2050		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	140 *460*	155 *510*	165 *540*	145 *475*	160 *520*	170 *560*	140 *460*	150 *490*	160 *520*	135 *445*	150 *490*	155 *510*	150 *490*	165 *540*	175 *570*	140 *460*	155 *510*	165 *540*
P2	140 *460*	155 *510*	165 *540*	145 *475*	160 *520*	170 *560*	135 *445*	150 *490*	160 *520*	135 *445*	145 *475*	155 *510*	150 *490*	165 *540*	170 *560*	140 *460*	155 *510*	165 *540*
P3	130 *425*	145 *475*	155 *510*	140 *460*	150 *490*	160 *520*	130 *425*	145 *475*	150 *490*	130 *425*	140 *460*	145 *475*	140 *460*	155 *510*	165 *540*	130 *425*	145 *475*	155 *510*
P4	125 *410*	140 *460*	150 *490*	130 *425*	145 *475*	155 *510*	125 *410*	135 *445*	145 *475*	120 *395*	135 *445*	140 *460*	135 *445*	150 *490*	160 *520*	125 *410*	140 *460*	150 *490*
P5	120 *395*	135 *445*	145 *475*	130 *425*	145 *475*	150 *490*	120 *395*	135 *445*	140 *460*	120 *395*	130 *425*	135 *445*	135 *445*	150 *490*	155 *510*	120 *395*	135 *445*	145 *475*
P6	130 *425*	145 *475*	150 *490*	135 *445*	150 *490*	155 *510*	130 *425*	140 *460*	145 *475*	125 *410*	135 *445*	140 *460*	140 *460*	155 *510*	160 *520*	130 *425*	145 *475*	150 *490*
P7	125 *410*	140 *460*	150 *490*	135 *445*	145 *475*	155 *510*	125 *410*	135 *445*	145 *475*	125 *410*	135 *445*	140 *460*	135 *445*	150 *490*	160 *520*	125 *410*	140 *460*	150 *490*
P8	120 *395*	135 *445*	145 *475*	130 *425*	140 *460*	150 *490*	120 *395*	135 *445*	140 *460*	120 *395*	130 *425*	135 *445*	130 *425*	145 *475*	155 *510*	120 *395*	135 *445*	145 *475*
P11	125 *410*	140 *460*	150 *490*	130 *425*	145 *475*	150 *490*	125 *410*	135 *445*	145 *475*	120 *395*	130 *425*	135 *445*	130 *425*	155 *510*	170 *560*	125 *410*	140 *460*	150 *490*
P12	100 *330*	115 *375*	125 *410*	105 *345*	120 *395*	125 *410*	100 *330*	110 *360*	115 *375*	100 *330*	105 *345*	110 *360*	110 *360*	130 *425*	140 *460*	100 *330*	115 *375*	125 *410*
M1	— —	— —	— —	120 *395*	135 *445*	145 *475*	120 *395*	135 *445*	145 *475*	115 *375*	130 *425*	140 *460*	140 *460*	160 *520*	175 *570*	120 *395*	135 *445*	145 *475*
M2	— —	— —	— —	110 *360*	125 *410*	135 *445*	110 *360*	125 *410*	135 *445*	105 *345*	120 *395*	130 *425*	130 *425*	150 *490*	165 *540*	110 *360*	125 *410*	135 *445*
M3	— —	— —	— —	100 *330*	115 *375*	125 *410*	95 *310*	110 *360*	120 *395*	90 *295*	105 *345*	115 *375*	115 *375*	140 *460*	150 *490*	100 *330*	115 *375*	120 *395*
M4	— —	— —	— —	85 *280*	100 *330*	110 *360*	85 *280*	100 *330*	105 *345*	80 *260*	90 *295*	100 *330*	105 *345*	125 *410*	135 *445*	85 *280*	100 *330*	110 *360*
M5	— —	— —	— —	75 *245*	90 *295*	100 *330*	75 *245*	90 *295*	95 *310*	70 *230*	80 *260*	90 *295*	95 *310*	115 *375*	125 *410*	75 *245*	90 *295*	100 *330*
K1	145 *475*	160 *520*	165 *540*	125 *410*	140 *460*	150 *490*	— —	— —	— —	115 *375*	130 *425*	140 *460*	— —	— —	— —	— —	— —	— —
K2	135 *445*	150 *490*	160 *520*	120 *395*	135 *445*	145 *475*	— —	— —	— —	105 *345*	120 *395*	130 *425*	— —	— —	— —	— —	— —	— —
K3	125 *410*	140 *460*	150 *490*	110 *360*	125 *410*	135 *445*	— —	— —	— —	95 *310*	115 *375*	120 *395*	— —	— —	— —	— —	— —	— —
K4	125 *410*	140 *460*	150 *490*	105 *345*	120 *395*	130 *425*	— —	— —	— —	95 *310*	110 *360*	120 *395*	— —	— —	— —	— —	— —	— —
K5	95 *310*	115 *375*	120 *395*	80 *260*	95 *310*	105 *345*	— —	— —	— —	70 *230*	85 *280*	90 *295*	— —	— —	— —	— —	— —	— —
K6	115 *375*	135 *445*	140 *460*	100 *330*	115 *375*	125 *410*	— —	— —	— —	90 *295*	105 *345*	110 *360*	— —	— —	— —	— —	— —	— —
K7	110 *360*	125 *410*	135 *445*	95 *310*	110 *360*	115 *375*	— —	— —	— —	80 *260*	95 *310*	105 *345*	— —	— —	— —	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	220 *720*	240 *790*	245 *800*	— —	— —	— —	— —	— —	— —
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	175 *570*	190 *620*	195 *640*	— —	— —	— —	— —	— —	— —
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	150 *490*	165 *540*	175 *570*	— —	— —	— —	— —	— —	— —
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	160 *520*	175 *570*	180 *590*	— —	— —	— —	— —	— —	— —
S1	— —	— —	— —	45 *150*	60 *195*	70 *230*	43 *140*	55 *180*	65 *215*	39 *130*	50 *165*	60 *195*	44 *145*	60 *195*	65 *215*	46 *150*	60 *195*	70 *230*
S2	— —	— —	— —	36 *120*	47 *155*	55 *180*	34 *110*	45 *150*	55 *180*	31 *100*	41 *135*	48 *155*	36 *120*	47 *155*	55 *180*	37 *120*	49 *160*	55 *180*
S3	— —	— —	— —	32 *105*	42 *140*	49 *160*	30 *100*	39 *130*	46 *150*	27 *90*	36 *120*	42 *140*	31 *100*	41 *135*	49 *160*	32 *105*	43 *140*	50 *165*
S11	— —	— —	— —	— —	— —	— —	60 *195*	75 *245*	85 *280*	55 *180*	70 *230*	80 *260*	60 *195*	75 *245*	85 *280*	65 *215*	80 *260*	85 *280*
S12	— —	— —	— —	— —	— —	— —	42 *140*	55 *180*	65 *215*	38 *125*	49 *160*	60 *195*	43 *140*	55 *180*	65 *215*	44 *145*	60 *195*	65 *215*
S13	— —	— —	— —	— —	— —	— —	24 *80*	31 *100*	37 *120*	22 *70*	29 *95*	34 *110*	25 *80*	33 *110*	39 *130*	26 *85*	34 *110*	40 *130*
H5	— —	— —	— —	39 *130*	50 *165*	60 *195*	— —	— —	— —	33 *110*	43 *140*	50 *165*	— —	— —	— —	— —	— —	— —
H8	— —	— —	— —	41 *135*	55 *180*	60 *195*	— —	— —	— —	35 *115*	45 *150*	55 *180*	— —	— —	— —	— —	— —	— —
H11	— —	— —	— —	49 *160*	65 *215*	70 *230*	— —	— —	— —	42 *140*	55 *180*	65 *215*	85 *280*	105 *345*	120 *395*	47 *155*	60 *195*	70 *230*
H12	75 *245*	90 *295*	100 *330*	75 *245*	90 *295*	100 *330*	— —	— —	— —	60 *195*	75 *245*	85 *280*	80 *260*	100 *330*	110 *360*	75 *245*	90 *295*	100 *330*

T4 – R217/220.94-LO12 – Metric







—For insert selection and cutting data recommendations, see page(s) 199-201
—For complete insert programme, see page(s) 875
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	TDZ	LF	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm		mm	mm		kg	
R217.94-2040.RE-035-LO12.2A	10215197	Combimaster	40,0	2	6	35,0	–	36,5	M20	50,0	77,0	11000	0,4	LOEX1207
R220.94-0050-046-LO12.3A	10215181	Arbor	50,0	3	12	46,0	27,0	46,4	–	70,0	–	9900	0,7	LOEX1207
R220.94-0050-046-LO12.4A	10215182	Arbor	50,0	4	16	46,0	27,0	46,4	–	65,0	–	9900	0,6	LOEX1207
R220.94-0050-058-LO12.4A	10215183	Arbor	50,0	4	20	58,0	27,0	46,4	–	80,0	–	9900	0,7	LOEX1207
R220.94-0063-046-LO12.4A	10215184	Arbor	63,0	4	16	46,0	27,0	59,6	–	65,0	–	8800	1,0	LOEX1207
R220.94-0063-058-LO12.5A	10215185	Arbor	63,0	5	25	58,0	27,0	59,6	–	75,0	–	8800	1,2	LOEX1207
R220.94-0063-081-LO12.4A	10215186	Arbor	63,0	4	28	81,0	27,0	59,6	–	93,0	–	8800	1,4	LOEX1207
R220.94-0080-069-LO12.5A	10215187	Arbor	80,0	5	30	69,0	32,0	76,6	–	90,0	–	7800	2,4	LOEX1207

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

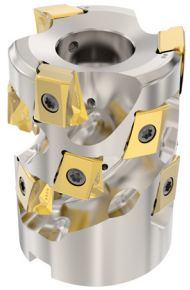
For cutter	Arbor screw	Insert key	Insert screw
			
R217.94-2040	–	1/4HEX-T15PX50	C04012B-T15P
R220.94-0050/0063-046	MC6S12X60	1/4HEX-T15PX50	C04012B-T15P
R220.94-0050/0063-058	MC6S12X70	1/4HEX-T15PX50	C04012B-T15P
R220.94-0063-081	MP6S12X80	1/4HEX-T15PX50	C04012B-T15P
R220.94-0080-069	MP6S16X80	1/4HEX-T15PX50	C04012B-T15P

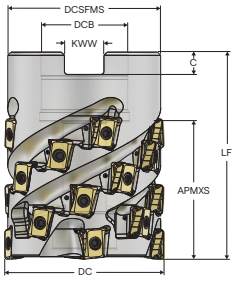
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.94-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

T4 – R217/220.94-LO12 – Inch





—For insert selection and cutting data recommendations, see page(s) 199-201
—For complete insert programme, see page(s) 875
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	LF	RPMX	Weight	Insert
			inch			inch	inch	inch	inch		lbs	
R220.94-02.00-1.81-LO12-3A	10215190	Arbor	2.000	3	12	1.850	1.000	1.862	2.756	9900	1.540	LOEX1207
R220.94-02.00-2.28-LO12-4A	10215191	Arbor	2.000	4	20	2.283	1.000	1.862	3.150	9900	1.540	LOEX1207
R220.94-02.50-3.18-LO12-4A	10215192	Arbor	2.500	4	28	3.189	1.000	2.366	3.661	8800	3.090	LOEX1207
R220.94-02.50-3.18-LO12-4SA	10226053	Arbor	2.500	4	28	3.189	1.000	2.366	3.937	8800	3.090	LOEX1207
R220.94-03.00-3.18-LO12-5A	10215193	Arbor	3.000	5	35	3.189	1.250	2.870	3.740	8000	5.070	LOEX1207

Spare Parts, included in delivery

For cutter	Arbor screw	Basic body	Coolant kit	Insert key	Insert screw	Replaceable End
						
R220.94-02.00-3A	UC6S1/2UNFX2-1/4	–	–	1/4HEX-T15PX50	C04012B-T15P	–
R220.94-02.00-4A	UC6S1/2UNFX2-1/2	–	–	1/4HEX-T15PX50	C04012B-T15P	–
R220.94-02.50-4A	UP6S1/2UNFX3-1/4	–	–	1/4HEX-T15PX50	C04012B-T15P	–
R220.94-02.50-4SA	UP6S1/2UNFX3-1/4	R220.94-02.50-1.76-LO12.4BA	LUBRICATION_SET_19	1/4HEX-T15PX50	C04012B-T15P	R220.94-RE2.50-1.42-LO12.4A
R220.94-03.00	UP6S5/8UNFX3-1/4	–	–	1/4HEX-T15PX50	C04012B-T15P	–

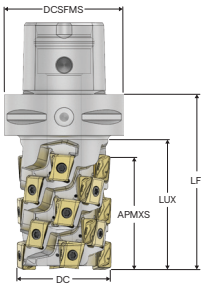
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R220.94-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

T4 – R217/220.94-LO12 – Metric

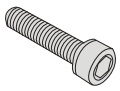




—For insert selection and cutting data recommendations, see page(s) 199-201
—For complete insert programme, see page(s) 875
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCSFMS	LF	LUX	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm		kg	
C5-R217.94-044-058-LO12.3A	10215194	Seco-Capto	44,0	3	15	58,0	50,0	95,0	73,0	125,0	10600	0,9	LOEX1207
C6-R217.94-050-081-LO12.4SA	10226054	Seco-Capto	50,0	4	28	81,0	63,0	115,0	91,0	153,0	10000	1,5	LOEX1207
C5-R217.94-054-069-LO12.4A	10215195	Seco-Capto	54,0	4	24	69,0	50,0	69,0	84,1	105,0	9700	1,3	LOEX1207
C6-R217.94-063-092-LO12.4SA	10226052	Seco-Capto	63,0	4	32	92,0	63,0	125,0	101,5	163,0	9000	2,4	LOEX1207
C6-R217.94-066-081-LO12.5A	10215196	Seco-Capto	66,0	5	35	81,0	63,0	115,0	101,5	153,0	8700	2,3	LOEX1207

Spare Parts, included in delivery

For cutter	Assembly screw	Basic body	Coolant kit	Insert key	Insert screw	Replaceable end
						
C5-R217.94-044/055	–	–	–	1/4HEX-T15PX50	C04012B-T15P	–
C6-R217.94-050	220.17-692M	C6-R217.94-050-058-LO12.4BA	LUBRICATION_SET_19	1/4HEX-T15PX50	C04012B-T15P	R220.94-RE050023-LO12.4A
C6-R217.94-063	MC6S12X35	C6-R217.94-063-056-LO12.4BA	LUBRICATION_SET_29	1/4HEX-T15PX50	C04012B-T15P	R220.94-RE063036-LO12.4A
C6-R217.94-066	–	–	–	1/4HEX-T15PX50	C04012B-T15P	–

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
Cx-R217.94-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

R217/220.94-12 – Insert selection – mm/Inch

SMG		f_z		
		100%	30%	10%
P1	LOEX120708R-T4-M09 MP2501	0,11 *0.0044*	0,12 0.0048	0,19 0.0075
P2	LOEX120708R-T4-M09 MP2501	0,11 *0.0044*	0,13 0.0050	0,19 0.0075
P3	LOEX120708R-T4-M09 MP2501	0,11 *0.0044*	0,12 0.0048	0,18 0.0070
P4	LOEX120708TR-T4-M12 MP2501	0,13 *0.0050*	0,14 0.0055	0,22 0.0085
P5	LOEX120708TR-T4-M12 MP2501	0,12 *0.0048*	0,14 0.0055	0,20 0.0080
P6	LOEX120708TR-T4-M12 MP2501	0,12 *0.0048*	0,14 0.0055	0,20 0.0080
P7	LOEX120708TR-T4-M12 MP2501	0,12 *0.0048*	0,14 0.0055	0,20 0.0080
P8	LOEX120708TR-T4-M12 MP2501	0,13 *0.0050*	0,14 0.0055	0,22 0.0085
P11	LOEX120708TR-T4-M12 MP2501	0,12 *0.0048*	0,14 0.0055	0,20 0.0080
P12	LOEX120708TR-T4-M12 MP2501	0,085 *0.0034*	0,095 0.0038	0,14 0.0055
M1	LOEX120708R-T4-M09 MS2050	0,11 *0.0044*	0,13 0.0050	0,19 0.0075
M2	LOEX120708R-T4-M09 MS2050	0,10 *0.0040*	0,11 0.0044	0,17 0.0065
M3	LOEX120708R-T4-M09 MS2050	0,085 *0.0034*	0,090 0.0036	0,14 0.0055
M4	LOEX120708TR-T4-M12 MS2050	0,095 *0.0038*	0,10 0.0040	0,16 0.0065
M5	LOEX120708TR-T4-M12 MS2050	0,095 *0.0038*	0,10 0.0040	0,16 0.0065
K1	LOEX120708TR-T4-MD13 MK2050	0,16 *0.0065*	0,18 0.0070	0,26 0.010
K2	LOEX120708TR-T4-MD13 MK2050	0,15 *0.0060*	0,16 0.0065	0,24 0.0095
K3	LOEX120708TR-T4-MD13 MK2050	0,15 *0.0060*	0,16 0.0065	0,24 0.0095
K4	LOEX120708TR-T4-MD13 MK2050	0,15 *0.0060*	0,16 0.0065	0,24 0.0095
K5	LOEX120708TR-T4-MD13 MK2050	0,13 *0.0050*	0,14 0.0055	0,22 0.0085
K6	LOEX120708TR-T4-MD13 MK2050	0,15 *0.0060*	0,16 0.0065	0,24 0.0095
K7	LOEX120708TR-T4-MD13 MK2050	0,13 *0.0050*	0,14 0.0055	0,22 0.0085
N1	LOEX120708R-T4-M09 F40M	0,15 *0.0060*	0,16 0.0065	0,24 0.0095
N2	LOEX120708R-T4-M09 F40M	0,15 *0.0060*	0,16 0.0065	0,24 0.0095
N3	LOEX120708R-T4-M09 F40M	0,15 *0.0060*	0,16 0.0065	0,24 0.0095
N11	LOEX120708R-T4-M09 F40M	0,15 *0.0060*	0,16 0.0065	0,24 0.0095
S1	LOEX120708TR-T4-M12 F40M	0,095 *0.0038*	0,10 0.0040	0,16 0.0065
S2	LOEX120708TR-T4-M12 F40M	0,095 *0.0038*	0,10 0.0040	0,16 0.0065
S3	LOEX120708TR-T4-M12 F40M	0,090 *0.0036*	0,095 0.0038	0,15 0.0060
S11	LOEX120708R-T4-M09 F40M	0,085 *0.0034*	0,090 0.0036	0,14 0.0055
S12	LOEX120708R-T4-M09 F40M	0,085 *0.0034*	0,090 0.0036	0,14 0.0055
S13	LOEX120708R-T4-M09 F40M	0,075 *0.0030*	0,080 0.0032	0,12 0.0048
H5	LOEX120708TR-T4-MD13 MP1501	0,090 *0.0036*	0,10 0.0040	0,15 0.0060
H8	LOEX120708TR-T4-MD13 MP1501	0,070 *0.0028*	0,075 0.0030	0,12 0.0048
H11	LOEX120708TR-T4-MD13 MP1501	0,090 *0.0036*	0,10 0.0040	0,15 0.0060
H12	LOEX120708TR-T4-M12 MS2500	0,065 *0.0026*	0,070 0.0028	0,11 0.0044

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.94-12 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK2050			MP3000			MS2050			F40M			MP2051			MP2050		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	155 *510*	170 *560*	185 *610*	160 *520*	180 *590*	190 *620*	160 *520*	175 *570*	185 *610*	150 *490*	165 *540*	170 *560*	165 *540*	185 *610*	200 *660*	155 *510*	175 *570*	185 *610*
P2	150 *490*	170 *560*	180 *590*	155 *510*	175 *570*	190 *620*	155 *510*	175 *570*	180 *590*	145 *475*	160 *520*	170 *560*	160 *520*	185 *610*	195 *640*	155 *510*	175 *570*	185 *610*
P3	140 *460*	160 *520*	170 *560*	150 *490*	170 *560*	180 *590*	145 *475*	165 *540*	175 *570*	140 *460*	155 *510*	160 *520*	155 *510*	175 *570*	190 *620*	145 *475*	165 *540*	175 *570*
P4	135 *445*	155 *510*	165 *540*	140 *460*	160 *520*	170 *560*	140 *460*	155 *510*	165 *540*	130 *425*	145 *475*	155 *510*	145 *475*	170 *560*	180 *590*	135 *445*	155 *510*	165 *540*
P5	130 *425*	150 *490*	160 *520*	140 *460*	155 *510*	170 *560*	135 *445*	155 *510*	165 *540*	125 *410*	140 *460*	150 *490*	145 *475*	165 *540*	180 *590*	135 *445*	155 *510*	165 *540*
P6	140 *460*	160 *520*	170 *560*	150 *490*	165 *540*	175 *570*	145 *475*	160 *520*	170 *560*	135 *445*	150 *490*	160 *520*	155 *510*	175 *570*	185 *610*	145 *475*	160 *520*	175 *570*
P7	135 *445*	155 *510*	165 *540*	145 *475*	160 *520*	175 *570*	140 *460*	155 *510*	165 *540*	135 *445*	145 *475*	155 *510*	150 *490*	170 *560*	180 *590*	140 *460*	155 *510*	170 *560*
P8	130 *425*	150 *490*	160 *520*	140 *460*	155 *510*	165 *540*	135 *445*	150 *490*	160 *520*	125 *410*	140 *460*	150 *490*	145 *475*	165 *540*	175 *570*	135 *445*	155 *510*	165 *540*
P11	135 *445*	150 *490*	165 *540*	140 *460*	160 *520*	170 *560*	140 *460*	155 *510*	165 *540*	130 *425*	145 *475*	150 *490*	145 *475*	175 *570*	195 *640*	140 *460*	155 *510*	165 *540*
P12	105 *345*	125 *410*	135 *445*	115 *375*	130 *425*	140 *460*	110 *360*	125 *410*	135 *445*	105 *345*	115 *375*	125 *410*	120 *395*	150 *490*	165 *540*	110 *360*	125 *410*	140 *460*
M1	— —	— —	— —	135 *445*	150 *490*	165 *540*	135 *445*	155 *510*	165 *540*	125 *410*	140 *460*	155 *510*	150 *490*	180 *590*	200 *660*	130 *425*	150 *490*	160 *520*
M2	— —	— —	— —	120 *395*	140 *460*	150 *490*	125 *410*	140 *460*	150 *490*	110 *360*	130 *425*	140 *460*	140 *460*	170 *560*	190 *620*	120 *395*	140 *460*	150 *490*
M3	— —	— —	— —	105 *345*	125 *410*	135 *445*	110 *360*	125 *410*	135 *445*	95 *310*	115 *375*	125 *410*	130 *425*	160 *520*	175 *570*	105 *345*	125 *410*	135 *445*
M4	— —	— —	— —	90 *295*	110 *360*	120 *395*	90 *295*	110 *360*	120 *395*	80 *260*	100 *330*	110 *360*	115 *375*	145 *475*	160 *520*	90 *295*	110 *360*	120 *395*
M5	— —	— —	— —	80 *260*	95 *310*	105 *345*	80 *260*	95 *310*	110 *360*	70 *230*	85 *280*	95 *310*	100 *330*	130 *425*	145 *475*	80 *260*	95 *310*	105 *345*
K1	155 *510*	175 *570*	185 *610*	135 *445*	155 *510*	165 *540*	— —	— —	— —	120 *395*	140 *460*	150 *490*	— —	— —	— —	— —	— —	— —
K2	150 *490*	165 *540*	180 *590*	130 *425*	145 *475*	160 *520*	— —	— —	— —	115 *375*	135 *445*	145 *475*	— —	— —	— —	— —	— —	— —
K3	135 *445*	155 *510*	170 *560*	115 *375*	135 *445*	150 *490*	— —	— —	— —	100 *330*	120 *395*	135 *445*	— —	— —	— —	— —	— —	— —
K4	135 *445*	155 *510*	165 *540*	115 *375*	135 *445*	145 *475*	— —	— —	— —	100 *330*	120 *395*	130 *425*	— —	— —	— —	— —	— —	— —
K5	100 *330*	120 *395*	130 *425*	85 *280*	100 *330*	110 *360*	— —	— —	— —	70 *230*	85 *280*	100 *330*	— —	— —	— —	— —	— —	— —
K6	125 *410*	145 *475*	155 *510*	105 *345*	125 *410*	135 *445*	— —	— —	— —	90 *295*	110 *360*	120 *395*	— —	— —	— —	— —	— —	— —
K7	120 *395*	135 *445*	150 *490*	100 *330*	120 *395*	130 *425*	— —	— —	— —	85 *280*	105 *345*	115 *375*	— —	— —	— —	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	255 *840*	275 *900*	285 *940*	— —	— —	— —	— —	— —	— —
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	195 *640*	215 *710*	225 *740*	— —	— —	— —	— —	— —	— —
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	165 *540*	185 *610*	195 *640*	— —	— —	— —	— —	— —	— —
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	175 *570*	195 *640*	205 *670*	— —	— —	— —	— —	— —	— —
S1	— —	— —	— —	44 *145*	60 *195*	70 *230*	45 *150*	60 *195*	70 *230*	38 *125*	50 *165*	60 *195*	46 *150*	60 *195*	70 *230*	46 *150*	60 *195*	70 *230*
S2	— —	— —	— —	36 *120*	47 *155*	55 *180*	36 *120*	48 *155*	55 *180*	31 *100*	41 *135*	48 *155*	37 *120*	49 *160*	55 *180*	37 *120*	49 *160*	55 *180*
S3	— —	— —	— —	31 *100*	41 *135*	48 *155*	32 *105*	42 *140*	50 *165*	27 *90*	36 *120*	42 *140*	32 *105*	43 *140*	50 *165*	32 *105*	43 *140*	50 *165*
S11	— —	— —	— —	— —	— —	— —	65 *215*	80 *260*	90 *295*	55 *180*	70 *230*	80 *260*	65 *215*	80 *260*	95 *310*	65 *215*	80 *260*	95 *310*
S12	— —	— —	— —	— —	— —	— —	43 *140*	60 *195*	70 *230*	37 *120*	48 *155*	55 *180*	44 *145*	60 *195*	70 *230*	44 *145*	60 *195*	70 *230*
S13	— —	— —	— —	— —	— —	— —	25 *80*	33 *110*	39 *130*	21 *70*	29 *95*	33 *110*	26 *85*	34 *110*	40 *130*	26 *85*	34 *110*	40 *130*
H5	— —	— —	— —	38 *125*	50 *165*	60 *195*	— —	— —	— —	32 *105*	43 *140*	50 *165*	— —	— —	— —	— —	— —	— —
H8	— —	— —	— —	40 *130*	55 *180*	60 *195*	— —	— —	— —	34 *110*	46 *150*	55 *180*	— —	— —	— —	— —	— —	— —
H11	— —	— —	— —	48 *155*	65 *215*	75 *245*	— —	— —	— —	41 *135*	55 *180*	65 *215*	90 *295*	120 *395*	135 *445*	48 *155*	65 *215*	75 *245*
H12	75 *245*	95 *310*	105 *345*	75 *245*	95 *310*	105 *345*	— —	— —	— —	60 *195*	80 *260*	90 *295*	90 *295*	115 *375*	130 *425*	80 *260*	100 *330*	110 *360*

R217/220.94-12 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK1501			MP1501			MP2501			MP3000			MP3501		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	180	195	200	185	195	205	160	180	190	175	190	195
	—	—	—	*590*	*640*	*660*	*610*	*640*	*670*	*520*	*590*	*620*	*570*	*620*	*640*
P2	—	—	—	180	190	200	180	195	200	155	175	190	170	185	195
	—	—	—	*590*	*620*	*660*	*590*	*640*	*660*	*510*	*570*	*620*	*560*	*610*	*640*
P3	—	—	—	170	185	190	170	185	195	150	170	180	165	175	185
	—	—	—	*560*	*610*	*620*	*560*	*610*	*640*	*490*	*560*	*590*	*540*	*570*	*610*
P4	—	—	—	160	175	185	165	175	185	140	160	170	155	170	175
	—	—	—	*520*	*570*	*610*	*540*	*570*	*610*	*460*	*520*	*560*	*510*	*560*	*570*
P5	—	—	—	155	170	180	160	175	185	140	155	170	150	165	175
	—	—	—	*510*	*560*	*590*	*520*	*570*	*610*	*460*	*510*	*560*	*490*	*540*	*570*
P6	—	—	—	165	180	190	170	185	190	150	165	175	160	175	185
	—	—	—	*540*	*590*	*620*	*560*	*610*	*620*	*490*	*540*	*570*	*520*	*570*	*610*
P7	—	—	—	165	175	185	165	180	185	145	160	175	155	170	180
	—	—	—	*540*	*570*	*610*	*540*	*590*	*610*	*475*	*520*	*570*	*510*	*560*	*590*
P8	—	—	—	155	170	180	160	175	180	140	155	165	150	165	175
	—	—	—	*510*	*560*	*590*	*520*	*570*	*590*	*460*	*510*	*540*	*490*	*540*	*570*
P11	—	—	—	160	175	185	165	175	185	140	160	170	155	170	175
	—	—	—	*520*	*570*	*610*	*540*	*570*	*610*	*460*	*520*	*560*	*510*	*560*	*570*
P12	—	—	—	130	145	150	135	145	155	115	130	140	125	140	145
	—	—	—	*425*	*475*	*490*	*445*	*475*	*510*	*375*	*425*	*460*	*410*	*460*	*475*
M1	—	—	—	—	—	—	135	155	165	135	150	165	130	150	160
	—	—	—	—	—	—	*445*	*510*	*540*	*445*	*490*	*540*	*425*	*490*	*520*
M2	—	—	—	—	—	—	125	140	155	120	140	150	115	135	145
	—	—	—	—	—	—	*410*	*460*	*510*	*395*	*460*	*490*	*375*	*445*	*475*
M3	—	—	—	—	—	—	110	130	140	105	125	135	105	120	135
	—	—	—	—	—	—	*360*	*425*	*460*	*345*	*410*	*445*	*345*	*395*	*445*
M4	—	—	—	—	—	—	90	110	120	90	110	120	85	105	115
	—	—	—	—	—	—	*295*	*360*	*395*	*295*	*360*	*395*	*280*	*345*	*375*
M5	—	—	—	—	—	—	80	100	110	80	95	105	75	95	105
	—	—	—	—	—	—	*260*	*330*	*360*	*260*	*310*	*345*	*245*	*310*	*345*
K1	170	205	225	180	195	200	180	195	205	135	155	165	170	185	195
	560	*670*	*740*	*590*	*640*	*660*	*590*	*640*	*670*	*445*	*510*	*540*	*560*	*610*	*640*
K2	160	195	220	170	185	195	175	185	195	130	145	160	165	180	190
	520	*640*	*720*	*560*	*610*	*640*	*570*	*610*	*640*	*425*	*475*	*520*	*540*	*590*	*620*
K3	145	170	185	160	175	180	165	175	185	115	135	150	155	165	175
	475	*560*	*610*	*520*	*570*	*590*	*540*	*570*	*610*	*375*	*445*	*490*	*510*	*540*	*570*
K4	140	165	180	155	170	180	160	175	180	115	135	145	150	165	175
	460	*540*	*590*	*510*	*560*	*590*	*520*	*570*	*590*	*375*	*445*	*475*	*490*	*540*	*570*
K5	110	135	150	125	140	145	125	140	150	85	100	110	120	130	140
	360	*445*	*490*	*410*	*460*	*475*	*410*	*460*	*490*	*280*	*330*	*360*	*395*	*425*	*460*
K6	130	155	170	145	160	170	150	165	175	105	125	135	140	155	165
	425	*510*	*560*	*475*	*520*	*560*	*490*	*540*	*570*	*345*	*410*	*445*	*460*	*510*	*540*
K7	125	150	165	140	155	160	145	155	165	100	120	130	135	150	155
	410	*490*	*540*	*460*	*510*	*520*	*475*	*510*	*540*	*330*	*395*	*425*	*445*	*490*	*510*
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	44	60	70	42	55	65
	—	—	—	—	—	—	—	—	—	*145*	*195*	*230*	*140*	*180*	*215*
S2	—	—	—	—	—	—	—	—	—	36	47	55	34	45	50
	—	—	—	—	—	—	—	—	—	*120*	*155*	*180*	*110*	*150*	*165*
S3	—	—	—	—	—	—	—	—	—	31	41	48	30	39	46
	—	—	—	—	—	—	—	—	—	*100*	*135*	*155*	*100*	*130*	*150*
S11	—	—	—	—	—	—	—	—	—	—	—	—	60	75	90
	—	—	—	—	—	—	—	—	—	—	—	—	*195*	*245*	*295*
S12	—	—	—	—	—	—	—	—	—	—	—	—	40	55	65
	—	—	—	—	—	—	—	—	—	—	—	—	*130*	*180*	*215*
S13	—	—	—	—	—	—	—	—	—	—	—	—	24	31	37
	—	—	—	—	—	—	—	—	—	—	—	—	*80*	*100*	*120*
H5	—	—	—	47	60	70	—	—	—	38	50	60	37	49	60
	—	—	—	*155*	*195*	*230*	—	—	—	*125*	*165*	*195*	*120*	*160*	*195*
H8	—	—	—	50	65	75	—	—	—	40	55	60	40	50	60
	—	—	—	*165*	*215*	*245*	—	—	—	*130*	*180*	*195*	*130*	*165*	*195*
H11	—	—	—	60	75	90	—	—	—	48	65	75	47	60	75
	—	—	—	*195*	*245*	*295*	—	—	—	*155*	*215*	*245*	*155*	*195*	*245*
H12	—	—	—	85	105	115	—	—	—	75	95	105	70	90	100
	—	—	—	*280*	*345*	*375*	—	—	—	*245*	*310*	*345*	*230*	*295*	*330*



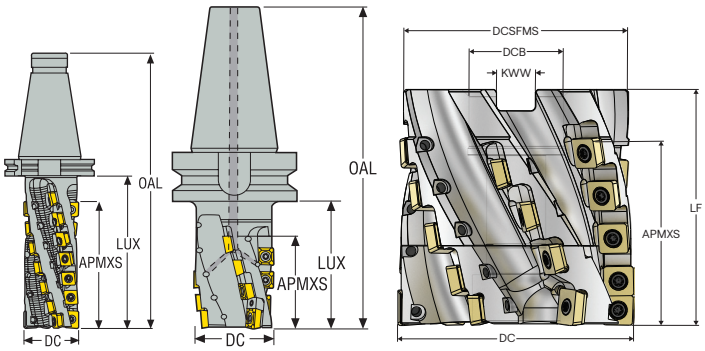
R215/220.59 Helical

Our comprehensive selection of high-performance helical milling cutters incorporate the latest geometries and grades to achieve high feed rates, large depths of cut and aggressive metal removal in contouring and profiling operations. The helix angle allows the cutter to absorb most of the end load so it smoothly enter and exit the workpiece.

– Cutter range 50-100 mm (2 inch)
– Many options for different types of mounting

R215.59-12.4 – Half effective – Metric



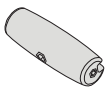
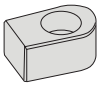
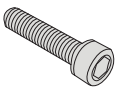


—For insert selection and cutting data recommendations, see page(s) 207-208
—For complete insert programme, see page(s) 873,892
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	LF	LUX	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm	mm		kg	
R215.59-50063120-12.4S	00026979	DIN2080	63,0	2	28	122,8	–	97,45	200,0	165,0	327,0	7400	5,6	AC.T1506 / SC.T1206
R215.59-BT50.050.077-12.4A	75066231	BT50	50,0	2	18	77,0	–	100,0	148,0	110,0	250,0	8300	4,5	AC.T1506 / SC.T1206
R215.59-BT50.063.086-12.4S	75034445	BT50	63,0	2	18	86,0	–	100,0	162,9	125,0	265,0	7400	6,8	AC.T1506 / SC.T1206
R215.59-BT50.080.095-12.4S	75034446	BT50	80,0	2	22	96,0	–	100,0	173,0	135,0	275,0	6500	6,6	AC.T1506 / SC.T1206
R220.59-00080.068-12.6	75000109	Arbor	80,0	3	24	68,0	32,0	77,0	85,0	–	–	6500	1,9	AC.T1506 / SC.T1206
R220.59-00100077-12.6S	75000112	Arbor	100,0	3	27	77,0	40,0	90,0	100,0	–	–	5800	3,7	AC.T1506 / SC.T1206
R220.59-00100077-12.6SR6	75000247	Arbor	100,0	3	24	77,0	40,0	90,0	100,0	–	–	5800	4,4	AC.T1506 / SC.T1206
R220.59-00100077-12.8S	75000113	Arbor	100,0	4	36	77,0	40,0	90,0	100,0	–	–	5800	3,9	AC.T1506 / SC.T1206
R220.59-00100077-12.8SR6	75000248	Arbor	100,0	4	32	77,0	40,0	90,0	100,0	–	–	5800	4,5	AC.T1506 / SC.T1206

Modification of the cutter body needed for radii > 3,0 mm
*Compatible with radii 6.0 mm only

Spare Parts, included in delivery

For cutter	Arbor screw	Assembly screw	Basic body	Insert key	Insert screw	Key (T-handle)	Replaceable end	Tenon	Tenon screw
									
R215.59-050	–	–	–	H6B-T20P	C45011-T20P	DOUBLE-T	–	–	–
R215.59-060	–	215.59-691	R215.59-BT50.063.062-12.4B	H6B-T20P	C45011-T20P	DOUBLE-T	R220.59-RE063024-12.4	–	–
R215.59-50-4S	–	215.59-691	R215.59-CV50/50063096-12.4B	H6B-T20P	C45011-T20P	DOUBLE-T	R220.59-RE063024-12.4	–	–
R220.59-00080	MC6S16X70	–	–	H6B-T20P	C45011-T20P	DOUBLE-T	–	–	–
R220.59-00100..6S	215.59-693S	–	R220.59-00100043-12.6B	H6B-T20PL	C45011-T20P	DOUBLE-T	R220.59-RE100034-12.6	DK1210	TCEI0412
R220.59-00100..6SR	215.59-693S	–	R220.59-00100043-12.6B	H6B-T20PL	C45011-T20P	DOUBLE-T	R220.59-RE100034-12.6R6	DK1210	TCEI0412
R220.59-00100..8S	215.59-693S	–	R220.59-00100043-12.8B	H6B-T20PL	C45011-T20P	DOUBLE-T	R220.59-RE100034-12.8	DK1210	TCEI0412
R220.59-00100..8SR	215.59-693S	–	R220.59-00100043-12.8B	H6B-T20PL	C45011-T20P	DOUBLE-T	R220.59-RE100034-12.8R6	DK1210	TCEI0412
R220.59-080	–	215.59-692S	R215.59-BT50.080.061-12.4B	H6B-T20PL	C45011-T20P	DOUBLE-T	R220.59-RE080034-12.4	DK1010	TCEI0412

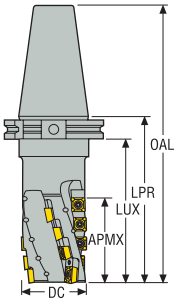
Accessories

For cutter	Insert clamping torque	Torque key
		
R215.59-..	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R215.59-12.4 – Half effective – Metric



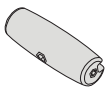
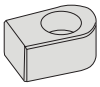
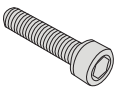


—For insert selection and cutting data recommendations, see page(s) 207-208
—For complete insert programme, see page(s) 873,892
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCSFMS	LF	LUX	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm		kg	
R215.59-CV50050120-12.4	00026978	CV50	50,0	2	28	122,9	97,45	180,0	145,0	282,0	8300	4,5	AC.T1506 / SC.T1206
R215.59-CV50063086-12.4S	75003346	CV50	63,0	2	20	86,0	97,45	160,0	120,0	261,0	7400	5,0	AC.T1506 / SC.T1206
R215.59-CV50063086-12.4SR6	75000244	CV50	63,0	2	20	86,0	97,45	160,0	120,0	261,0	7400	5,1	AC.T1506 / SC.T1206
R215.59-CV50063120-12.4S	00026980	CV50	63,0	2	28	122,8	97,45	200,0	165,0	302,0	7400	5,6	AC.T1506 / SC.T1206
R215.59-CV50063120-12.4SR6	00027074	CV50	63,0	2	28	122,8	97,45	199,9	165,0	302,0	7400	5,8	AC.T1506 / SC.T1206
R215.59-CV50063160-12.4S	00095805	CV50	63,0	2	36	158,7	97,45	234,9	200,0	336,5	7400	6,2	AC.T1506 / SC.T1206
R215.59-CV50063160-12.4SR6	00095807	CV50	63,0	2	36	158,7	97,45	234,9	200,0	336,5	7400	6,2	AC.T1506 / SC.T1206
R215.59-CV50080095-12.4S	75007713	CV50	80,0	2	22	96,0	97,45	150,0	131,0	252,0	6500	5,5	AC.T1506 / SC.T1206
R215.59-CV50080095-12.6S	75003347	CV50	80,0	3	33	96,0	97,45	150,0	131,0	252,0	6500	5,9	AC.T1506 / SC.T1206

Modification of the cutter body needed for radii > 3,0 mm
*Compatible with radii 6.0 mm only

Spare Parts, included in delivery

For cutter	Adaptor	Assembly screw	Basic body	Insert key	Insert screw	Key (T-handle)	Replaceable end	Tenon	Tenon screw
									
R215.59-63-120-12.4S	AD-CV50	215.59-691	R215.59-CV50/50063096-12.4B	H6B-T20P	C45011-T20P	DOUBLE-T	R220.59-RE063024-12.4	–	–
R215.59-63-120-12.4SR	AD-CV50	215.59-691	R215.59-CV50/50063096-12.4B	H6B-T20P	C45011-T20P	DOUBLE-T	R220.59-RE063024-12.4R6	–	–
R215.59-63-160-12.4S	AD-CV50	215.59-691	R215.59-CV50/50063134-12.4B	H6B-T20P	C45011-T20P	DOUBLE-T	R220.59-RE063024-12.4	–	–
R215.59-63-160-12.4SR	AD-CV50	215.59-691	R215.59-CV50/50063134-12.4B	H6B-T20P	C45011-T20P	DOUBLE-T	R220.59-RE063024-12.4R6	–	–
R215.59-CV5006-12.4S	–	215.59-691	R215.59-CV50063062-12.4B	H6B-T20P	C45011-T20P	DOUBLE-T	R220.59-RE063024-12.4	–	–
R215.59-CV5008-12.4S	–	215.59-692S	R215.59-CV50080061-12.4B	H6B-T20PL	C45011-T20P	DOUBLE-T	R220.59-RE080034-12.4	DK1010	TCEI0412
R215.59-CV50-12.4	–	–	–	H6B-T20P	C45011-T20P	DOUBLE-T	–	–	–
R215.59-CV50-12.4SR	–	215.59-691	R215.59-CV50063062-12.4B	H6B-T20P	C45011-T20P	DOUBLE-T	R220.59-RE063024-12.4R6	–	–
R220.59-080-12.6S	–	215.59-692S	R215.59-CV50080061-12.6B	H6B-T20PL	C45011-T20P	DOUBLE-T	R220.59-RE080034-12.6	DK1010	TCEI0412

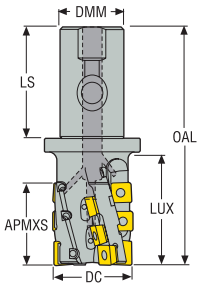
Accessories

For cutter	Insert clamping torque	Torque key
		
R215.59-..	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R215.59-12.4..K – Full effective – Metric



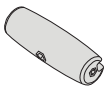


—For insert selection and cutting data recommendations, see page(s) 207-208
—For complete insert programme, see page(s) 873,892
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCSFMS	DMM	LUX	LPR	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm	mm		kg	
R215.59-4050.3S-063-12.3K	00092248	Seco-Weldon	50,0	3	18	63,0	60,0	40,0	78,0	90,0	160,0	8300	1,5	AC.T1506 / SC.T1206

Modification of the cutter body needed for radii > 3,0 mm

Spare Parts, included in delivery

For cutter	Insert key	Insert screw	Key (T-handle)
			
R215.59-..	H6B-T20P	C45011-T20P	DOUBLE-T

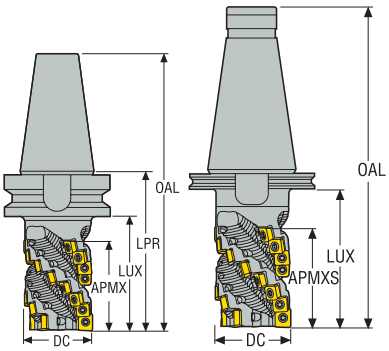
Accessories

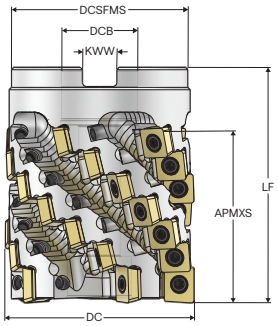
For cutter	Insert clamping torque	Torque key
		
R215.59-..	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R215/220.59-12.4 – Full effective – Metric





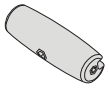


—For insert selection and cutting data recommendations, see page(s) 207-208
—For complete insert programme, see page(s) 873,892
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	LF	LUX	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm	mm		kg	
R215.59-BT50050072-12.3K	00008459	BT50	50,0	3	21	73,0	–	100,0	145,0	103,0	247,0	8300	4,9	AC.T1506 / SC.T1206
R215.59-BT50063110-12.3K	00008466	BT50	63,0	3	33	111,8	–	100,0	180,0	137,0	282,0	7400	5,7	AC.T1506 / SC.T1206
R220.59-00080.072-12.5K	00008462	Arbor	80,0	5	35	72,0	32,0	74,7	100,0	–	–	6500	2,3	AC.T1506 / SC.T1206

Modification of the cutter body needed for radii > 3,0 mm

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Key (T-handle)
				
R215.59-..	–	H6B-T20P	C45011-T20P	DOUBLE-T
R220.59-00080	MC6S16X80	H6B-T20P	C45011-T20P	DOUBLE-T

Accessories

For cutter	Insert clamping torque	Torque key
		
R215.59-..	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R215/220.59-12 – Insert selection – mm/Inch

SMG			f_z		
			100%	30%	10%
P1	ACET150612TR-M11 MP2501	SCET120612T-M11 MP2501	0,12 *0.0048*	0,14 *0.0055*	0,20 *0.0080*
P2	ACET150612TR-M11 MP2501	SCET120612T-M11 MP2501	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*
P3	ACET150612TR-M11 MP2501	SCET120612T-M11 MP2501	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
P4	ACET150612TR-M11 MP2501	SCET120612T-M11 MP2501	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
P5	ACET150612TR-M11 MP2501	SCET120612T-M11 MP2501	0,11 *0.0044*	0,13 *0.0050*	0,19 *0.0075*
P6	ACET150612TR-M11 MP2501	SCET120612T-M11 MP2501	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
P7	ACET150612TR-M11 MP2501	SCET120612T-M11 MP2501	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
P8	ACET150612TR-M11 MP2501	SCET120612T-M11 MP2501	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
P11	ACET150612TR-M11 MP3501	SCET120612T-M11 MP3501	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
P12	ACET150612TR-M11 MP3501	SCET120612T-M11 MP3501	0,080 *0.0032*	0,085 *0.0034*	0,13 *0.0050*
M1	ACET150612TR-ME10 MS2050	SCET120612R-M10 MS2050	0,11 *0.0044*	0,13 *0.0050*	0,19 *0.0075*
M2	ACET150612TR-ME10 MS2050	SCET120612R-M10 MS2050	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*
M3	ACET150612TR-ME10 MS2050	SCET120612R-M10 MS2050	0,085 *0.0034*	0,090 *0.0036*	0,14 *0.0055*
M4	ACET150612TR-M11 MP3501	SCET120612T-M11 MP3501	0,080 *0.0032*	0,090 *0.0036*	0,13 *0.0050*
M5	ACET150612TR-M11 MP3501	SCET120612T-M11 MP3501	0,080 *0.0032*	0,090 *0.0036*	0,13 *0.0050*
K1	ACET150612TR-M14 MK1501	SCET120612T-M14 MK1501	0,16 *0.0065*	0,18 *0.0070*	0,26 *0.010*
K2	ACET150612TR-M14 MK1501	SCET120612T-M14 MK1501	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*
K3	ACET150612TR-M14 MK1501	SCET120612T-M14 MK1501	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*
K4	ACET150612TR-M14 MK1501	SCET120612T-M14 MK1501	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*
K5	ACET150612TR-M14 MK1501	SCET120612T-M14 MK1501	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*
K6	ACET150612TR-M14 MK1501	SCET120612T-M14 MK1501	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*
K7	ACET150612TR-M14 MK1501	SCET120612T-M14 MK1501	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*
S1	ACET150612TR-M11 F40M	SCET120612T-M11 F40M	0,080 *0.0032*	0,090 *0.0036*	0,13 *0.0050*
S2	ACET150612TR-M11 F40M	SCET120612T-M11 F40M	0,080 *0.0032*	0,090 *0.0036*	0,13 *0.0050*
S3	ACET150612TR-M11 F40M	SCET120612T-M11 F40M	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*
S11	ACET150612TR-ME10 MS2050	SCET120612R-M10 MS2050	0,085 *0.0034*	0,090 *0.0036*	0,14 *0.0055*
S12	ACET150612TR-ME10 MS2050	SCET120612R-M10 MS2050	0,085 *0.0034*	0,090 *0.0036*	0,14 *0.0055*
S13	ACET150612TR-ME10 MS2050	SCET120612R-M10 MS2050	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*
H5	ACET150612TR-M11 MP3501	SCET120612T-M11 MP3501	0,080 *0.0032*	0,085 *0.0034*	0,13 *0.0050*
H8	ACET150612TR-M11 MP3501	SCET120612T-M11 MP3501	0,060 *0.0024*	0,065 *0.0026*	0,10 *0.0040*
H11	ACET150612TR-M11 MP3501	SCET120612T-M11 MP3501	0,080 *0.0032*	0,085 *0.0034*	0,13 *0.0050*
H12	ACET150612TR-M11 MP3501	SCET120612T-M11 MP3501	0,060 *0.0024*	0,065 *0.0026*	0,10 *0.0040*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R215/220.59-12 – Cutting data v_c = (m/min)/(sf/min)

SMG	MP3000			MS2050			F40M			MK1501			MP1501			MP2501			MP3501		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	120	135	140	125	135	140	120	130	135	—	—	—	140	150	155	140	150	155	135	145	150
	395	*445*	*460*	*410*	*445*	*460*	*395*	*425*	*445*	—	—	—	*460*	*490*	*510*	*460*	*490*	*510*	*445*	*475*	*490*
P2	120	130	140	125	135	140	115	125	130	—	—	—	140	150	155	140	150	155	135	145	150
	395	*425*	*460*	*410*	*445*	*460*	*375*	*410*	*425*	—	—	—	*460*	*490*	*510*	*460*	*490*	*510*	*445*	*475*	*490*
P3	115	125	135	115	130	135	110	120	125	—	—	—	135	145	150	135	145	150	130	140	145
	375	*410*	*445*	*375*	*425*	*445*	*360*	*395*	*410*	—	—	—	*445*	*475*	*490*	*445*	*475*	*490*	*425*	*460*	*475*
P4	110	120	130	110	120	130	105	115	125	—	—	—	130	135	145	125	135	140	120	130	135
	360	*395*	*425*	*360*	*395*	*425*	*345*	*375*	*410*	—	—	—	*425*	*445*	*475*	*410*	*445*	*460*	*395*	*425*	*445*
P5	105	120	125	110	120	125	105	115	120	—	—	—	125	135	140	125	135	140	120	130	135
	345	*395*	*410*	*360*	*395*	*410*	*345*	*375*	*395*	—	—	—	*410*	*445*	*460*	*410*	*445*	*460*	*395*	*425*	*445*
P6	110	125	135	115	125	130	110	120	125	—	—	—	130	140	145	130	140	145	125	135	140
	360	*410*	*445*	*375*	*410*	*425*	*360*	*395*	*410*	—	—	—	*425*	*460*	*475*	*425*	*460*	*475*	*410*	*445*	*460*
P7	110	120	130	110	125	130	105	115	120	—	—	—	130	140	145	130	140	145	125	135	140
	360	*395*	*425*	*360*	*410*	*425*	*345*	*375*	*395*	—	—	—	*425*	*460*	*475*	*425*	*460*	*475*	*410*	*445*	*460*
P8	105	120	125	110	120	125	105	115	120	—	—	—	125	135	140	125	135	140	120	130	135
	345	*395*	*410*	*360*	*395*	*410*	*345*	*375*	*395*	—	—	—	*410*	*445*	*460*	*410*	*445*	*460*	*395*	*425*	*445*
P11	110	120	130	110	120	130	105	115	120	—	—	—	130	135	140	125	135	140	120	130	135
	360	*395*	*425*	*360*	*395*	*425*	*345*	*375*	*395*	—	—	—	*425*	*445*	*460*	*410*	*445*	*460*	*395*	*425*	*445*
P12	90	100	110	90	100	105	85	95	100	—	—	—	105	115	120	105	115	120	100	110	115
	295	*330*	*360*	*295*	*330*	*345*	*280*	*310*	*330*	—	—	—	*345*	*375*	*395*	*345*	*375*	*395*	*330*	*360*	*375*
M1	105	115	125	110	120	130	100	115	120	—	—	—	—	—	—	105	120	130	105	115	125
	345	*375*	*410*	*360*	*395*	*425*	*330*	*375*	*395*	—	—	—	—	—	—	*345*	*395*	*425*	*345*	*375*	*410*
M2	95	110	115	100	110	120	90	105	110	—	—	—	—	—	—	100	115	120	95	110	115
	310	*360*	*375*	*330*	*360*	*395*	*295*	*345*	*360*	—	—	—	—	—	—	*330*	*375*	*395*	*310*	*360*	*375*
M3	85	100	105	90	100	110	80	95	100	—	—	—	—	—	—	90	100	110	85	100	105
	280	*330*	*345*	*295*	*330*	*360*	*260*	*310*	*330*	—	—	—	—	—	—	*295*	*330*	*360*	*280*	*330*	*345*
M4	75	85	95	75	90	100	70	80	90	—	—	—	—	—	—	80	90	100	75	85	95
	245	*280*	*310*	*245*	*295*	*330*	*230*	*260*	*295*	—	—	—	—	—	—	*260*	*295*	*330*	*245*	*280*	*310*
M5	65	80	85	70	80	90	60	75	80	—	—	—	—	—	—	70	80	90	65	80	85
	215	*260*	*280*	*230*	*260*	*295*	*195*	*245*	*260*	—	—	—	—	—	—	*230*	*260*	*295*	*215*	*260*	*280*
K1	105	120	125	—	—	—	100	110	120	130	155	175	140	150	155	140	150	155	135	145	150
	345	*395*	*410*	—	—	—	*330*	*360*	*395*	*425*	*510*	*570*	*460*	*490*	*510*	*460*	*490*	*510*	*445*	*475*	*490*
K2	100	115	120	—	—	—	95	105	115	125	150	165	135	145	150	135	145	150	130	140	145
	330	*375*	*395*	—	—	—	*310*	*345*	*375*	*410*	*490*	*540*	*445*	*475*	*490*	*445*	*475*	*490*	*425*	*460*	*475*
K3	90	105	115	—	—	—	85	100	105	115	130	140	130	135	140	125	135	140	120	130	135
	295	*345*	*375*	—	—	—	*280*	*330*	*345*	*375*	*425*	*460*	*425*	*445*	*460*	*410*	*445*	*460*	*395*	*425*	*445*
K4	90	105	110	—	—	—	85	95	105	110	130	140	125	135	140	125	135	140	120	130	135
	295	*345*	*360*	—	—	—	*280*	*310*	*345*	*360*	*425*	*460*	*410*	*445*	*460*	*410*	*445*	*460*	*395*	*425*	*445*
K5	70	80	90	—	—	—	60	75	80	90	105	115	100	110	115	100	110	115	95	105	110
	230	*260*	*295*	—	—	—	*195*	*245*	*260*	*295*	*345*	*375*	*330*	*360*	*375*	*330*	*360*	*375*	*310*	*345*	*360*
K6	85	100	105	—	—	—	80	90	100	105	125	135	120	130	135	120	130	135	115	125	130
	280	*330*	*345*	—	—	—	*260*	*295*	*330*	*345*	*410*	*445*	*395*	*425*	*445*	*395*	*425*	*445*	*375*	*410*	*425*
K7	80	95	100	—	—	—	75	85	95	100	120	130	115	125	130	115	120	130	110	120	125
	260	*310*	*330*	—	—	—	*245*	*280*	*310*	*330*	*395*	*425*	*375*	*410*	*425*	*375*	*395*	*425*	*360*	*395*	*410*
S1	39	50	60	42	55	60	36	47	55	—	—	—	—	—	—	—	—	—	40	50	60
	130	*165*	*195*	*140*	*180*	*195*	*120*	*155*	*180*	—	—	—	—	—	—	—	—	—	*130*	*165*	*195*
S2	31	41	49	34	45	50	29	38	45	—	—	—	—	—	—	—	—	—	32	42	50
	100	*135*	*160*	*110*	*150*	*165*	*95*	*125*	*150*	—	—	—	—	—	—	—	—	—	*105*	*140*	*165*
S3	28	36	43	30	39	46	25	34	40	—	—	—	—	—	—	—	—	—	28	37	44
	90	*120*	*140*	*100*	*130*	*150*	*80*	*110*	*130*	—	—	—	—	—	—	—	—	—	*90*	*120*	*145*
S11	55	65	75	55	70	80	50	65	70	—	—	—	—	—	—	—	—	—	55	65	75
	180	*215*	*245*	*180*	*230*	*260*	*165*	*215*	*230*	—	—	—	—	—	—	—	—	—	*180*	*215*	*245*
S12	37	49	60	41	55	60	35	46	55	—	—	—	—	—	—	—	—	—	38	50	60
	120	*160*	*195*	*135*	*180*	*195*	*115*	*150*	*180*	—	—	—	—	—	—	—	—	—	*125*	*165*	*195*
S13	22	29	34	24	31	37	20	26	32	—	—	—	—	—	—	—	—	—	22	29	35
	70	*95*	*110*	*80*	*100*	*120*	*65*	*85*	*105*	—	—	—	—	—	—	—	—	—	*70*	*95*	*115*
H5	33	43	50	—	—	—	30	40	47	—	—	—	45	60	65	—	—	—	35	46	55
	110	*140*	*165*	—	—	—	*100*	*130*	*155*	—	—	—	*150*	*195*	*215*	—	—	—	*115*	*150*	*180*
H8	36	46	55	—	—	—	32	42	50	—	—	—	48	60	70	—	—	—	37	49	55
	120	*150*	*180*	—	—	—	*105*	*140*	*165*	—	—	—	*155*	*195*	*230*	—	—	—	*120*	*160*	*180*
H11	42	55	60	—	—	—	38	50	60	—	—	—	55	70	75	—	—	—	44	55	65
	140	*180*	*195*	—	—	—	*125*	*165*	*195*	—	—	—	*180*	*230*	*245*	—	—	—	*145*	*180*	*215*
H12	65	75	85	—	—	—	55	70	75	—	—	—	75	90	95	—	—	—	65	75	85
	215	*245*	*280*	—	—	—	*180*	*230*	*245*	—	—	—	*245*	*295*	*310*	—	—	—	*215*	*245*	*280*



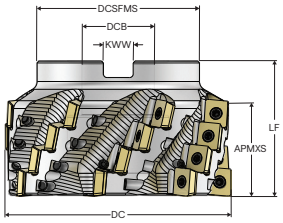
R220.69-15XH Helical

Helical mills for heavy duty, inserts with 4-cutting edges, single-sided inserts.

- Cutter range 100-125 mm (2 - 4 inch)
- Depth of cut <=160 mm (6.3 inch), max 30% ae
- Slotting depth max 50% DC
- Insert corner radii range 1.2-6.3 mm (.047 - .248 inch)

R220.69-15H – High feed rates – Metric



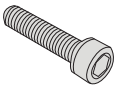
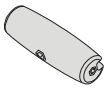


—For insert selection and cutting data recommendations, see page(s) 211-212
—For complete insert programme, see page(s) 873
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm			mm	mm	mm	mm		kg	
R220.69-0100050-15.6H	75068040	Arbor	100,0	6	24	50,0	40,0	90,0	75,0	5800	2,8	AC.T1506
R220.69-00125050-15.7H	00094725	Arbor	125,0	7	28	50,0	40,0	90,0	75,0	5200	3,5	AC.T1506

Modification of the cutter body needed for radii > 3,0 mm

Spare Parts, included in delivery

For cutter	Arbor screw	Axial support	Insert key	Insert screw	Key (T-handle)	Setting key
						
R220.69-00125	–	CH9411-T09P	H6B-T20P	C45011-T20P	DOUBLE-T	H4B-T09P
R220.69-0100	MC6S20X50	CH9411-T09P	H6B-T20PL	C45011-T20P	DOUBLE-T	H4B-T09P

Accessories

For cutter	Insert clamping torque	Torque key
		
R220.69-..	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R220.69-15 – Insert selection – mm/Inch

SMG		f_z		
		100%	30%	10%
P1	ACET150612TR-M11 MP2501	0,12 *0.0048*	0,14 0.0055	0,20 0.0080
P2	ACET150612TR-M11 MP2501	0,13 *0.0050*	0,14 0.0055	0,22 0.0085
P3	ACET150612TR-M11 MP2501	0,12 *0.0048*	0,13 0.0050	0,20 0.0080
P4	ACET150612TR-M11 MP2501	0,12 *0.0048*	0,13 0.0050	0,20 0.0080
P5	ACET150612TR-M11 MP2501	0,11 *0.0044*	0,13 0.0050	0,19 0.0075
P6	ACET150612TR-M11 MP2501	0,11 *0.0044*	0,12 0.0048	0,19 0.0075
P7	ACET150612TR-M11 MP2501	0,11 *0.0044*	0,12 0.0048	0,19 0.0075
P8	ACET150612TR-M11 MP2501	0,12 *0.0048*	0,13 0.0050	0,20 0.0080
P11	ACET150612TR-M11 MP3501	0,11 *0.0044*	0,12 0.0048	0,19 0.0075
P12	ACET150612TR-M11 MP3501	0,080 *0.0032*	0,085 0.0034	0,13 0.0050
M1	ACET150612TR-ME10 MS2050	0,11 *0.0044*	0,13 0.0050	0,19 0.0075
M2	ACET150612TR-ME10 MS2050	0,10 *0.0040*	0,11 0.0044	0,17 0.0065
M3	ACET150612TR-ME10 MS2050	0,085 *0.0034*	0,090 0.0036	0,14 0.0055
M4	ACET150612TR-M11 MP3501	0,080 *0.0032*	0,090 0.0036	0,13 0.0050
M5	ACET150612TR-M11 MP3501	0,080 *0.0032*	0,090 0.0036	0,13 0.0050
K1	ACET150612TR-M14 MK1501	0,16 *0.0065*	0,18 0.0070	0,26 0.010
K2	ACET150612TR-M14 MK1501	0,15 *0.0060*	0,16 0.0065	0,24 0.0095
K3	ACET150612TR-M14 MK1501	0,15 *0.0060*	0,16 0.0065	0,24 0.0095
K4	ACET150612TR-M14 MK1501	0,15 *0.0060*	0,16 0.0065	0,24 0.0095
K5	ACET150612TR-M14 MK1501	0,13 *0.0050*	0,14 0.0055	0,22 0.0085
K6	ACET150612TR-M14 MK1501	0,15 *0.0060*	0,16 0.0065	0,24 0.0095
K7	ACET150612TR-M14 MK1501	0,13 *0.0050*	0,14 0.0055	0,22 0.0085
S1	ACET150612TR-M11 F40M	0,080 *0.0032*	0,090 0.0036	0,13 0.0050
S2	ACET150612TR-M11 F40M	0,080 *0.0032*	0,090 0.0036	0,13 0.0050
S3	ACET150612TR-M11 F40M	0,075 *0.0030*	0,080 0.0032	0,13 0.0048
S11	ACET150612TR-ME10 MS2050	0,085 *0.0034*	0,090 0.0036	0,14 0.0055
S12	ACET150612TR-ME10 MS2050	0,085 *0.0034*	0,090 0.0036	0,14 0.0055
S13	ACET150612TR-ME10 MS2050	0,075 *0.0030*	0,080 0.0032	0,12 0.0048
H5	ACET150612TR-M11 MP3501	0,080 *0.0032*	0,085 0.0034	0,13 0.0050
H8	ACET150612TR-M11 MP3501	0,060 *0.0024*	0,065 0.0026	0,10 0.0040
H11	ACET150612TR-M11 MP3501	0,080 *0.0032*	0,085 0.0034	0,13 0.0050
H12	ACET150612TR-M14 MP3501	0,075 *0.0030*	0,085 0.0034	0,13 0.0050

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R220.69-15 – Cutting data v_c = (m/min)/(sf/min)

SMG	F40M			MP3000			MS2050			MK1501			MP1501			MP2501			MP3501		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	145	160	165	145	165	180	155	170	180	—	—	—	180	190	200	175	190	200	170	180	190
	475	*520*	*540*	*475*	*540*	*590*	*510*	*560*	*590*	—	—	—	*590*	*620*	*660*	*570*	*620*	*660*	*560*	*590*	*620*
P2	140	155	165	145	165	175	150	165	175	—	—	—	175	190	195	175	185	195	165	180	190
	460	*510*	*540*	*475*	*540*	*570*	*490*	*540*	*570*	—	—	—	*570*	*620*	*640*	*570*	*610*	*640*	*540*	*590*	*620*
P3	135	145	155	135	155	165	140	160	170	—	—	—	165	180	185	165	180	185	160	170	180
	445	*475*	*510*	*445*	*510*	*540*	*460*	*520*	*560*	—	—	—	*540*	*590*	*610*	*540*	*590*	*610*	*520*	*560*	*590*
P4	125	140	150	130	150	160	135	150	160	—	—	—	155	170	180	155	170	180	150	165	170
	410	*460*	*490*	*425*	*490*	*520*	*445*	*490*	*520*	—	—	—	*510*	*560*	*590*	*510*	*560*	*590*	*490*	*540*	*560*
P5	125	135	145	125	145	155	130	150	155	—	—	—	155	170	175	155	165	175	150	160	170
	410	*445*	*475*	*410*	*475*	*510*	*425*	*490*	*510*	—	—	—	*510*	*560*	*570*	*510*	*540*	*570*	*490*	*520*	*560*
P6	130	145	150	135	155	165	140	155	165	—	—	—	165	175	185	165	175	185	155	170	175
	425	*475*	*490*	*445*	*510*	*540*	*460*	*510*	*540*	—	—	—	*540*	*570*	*610*	*540*	*570*	*610*	*510*	*560*	*570*
P7	130	140	150	130	150	160	135	150	160	—	—	—	160	175	180	160	170	180	150	165	170
	425	*460*	*490*	*425*	*490*	*520*	*445*	*490*	*520*	—	—	—	*520*	*570*	*590*	*520*	*560*	*590*	*490*	*540*	*560*
P8	120	135	145	125	145	155	130	145	155	—	—	—	155	170	175	155	165	175	145	160	170
	395	*445*	*475*	*410*	*475*	*510*	*425*	*475*	*510*	—	—	—	*510*	*560*	*570*	*510*	*540*	*570*	*475*	*520*	*560*
P11	125	140	145	130	150	160	135	150	160	—	—	—	160	170	180	155	170	180	150	165	170
	410	*460*	*475*	*425*	*490*	*520*	*445*	*490*	*520*	—	—	—	*520*	*560*	*590*	*510*	*560*	*590*	*490*	*540*	*560*
P12	100	110	120	105	120	130	105	120	130	—	—	—	125	140	145	125	140	145	120	130	140
	330	*360*	*395*	*345*	*395*	*425*	*345*	*395*	*425*	—	—	—	*410*	*460*	*475*	*410*	*460*	*475*	*395*	*425*	*460*
M1	115	135	145	120	140	155	130	150	160	—	—	—	—	—	—	130	145	160	125	140	155
	375	*445*	*475*	*395*	*460*	*510*	*425*	*490*	*520*	—	—	—	—	—	—	*425*	*475*	*520*	*410*	*460*	*510*
M2	105	125	135	110	130	140	120	135	145	—	—	—	—	—	—	115	135	145	115	130	140
	345	*410*	*445*	*360*	*425*	*460*	*395*	*445*	*475*	—	—	—	—	—	—	*375*	*445*	*475*	*375*	*425*	*460*
M3	90	110	120	95	115	125	105	120	130	—	—	—	—	—	—	105	120	130	100	115	125
	295	*360*	*395*	*310*	*375*	*410*	*345*	*395*	*425*	—	—	—	—	—	—	*345*	*395*	*425*	*330*	*375*	*410*
M4	75	95	105	80	100	110	85	105	115	—	—	—	—	—	—	85	105	115	80	100	110
	245	*310*	*345*	*260*	*330*	*360*	*280*	*345*	*375*	—	—	—	—	—	—	*280*	*345*	*375*	*260*	*330*	*360*
M5	65	80	90	70	85	95	75	90	105	—	—	—	—	—	—	75	90	105	70	85	100
	215	*260*	*295*	*230*	*280*	*310*	*245*	*295*	*345*	—	—	—	—	—	—	*245*	*295*	*345*	*230*	*280*	*330*
K1	115	135	145	125	145	155	—	—	—	165	200	220	175	190	195	175	190	195	165	180	190
	375	*445*	*475*	*410*	*475*	*510*	—	—	—	*540*	*660*	*720*	*570*	*620*	*640*	*570*	*620*	*640*	*540*	*590*	*620*
K2	110	125	140	120	135	150	—	—	—	155	190	215	170	180	190	170	180	190	160	175	180
	360	*410*	*460*	*395*	*445*	*490*	—	—	—	*510*	*620*	*710*	*560*	*590*	*620*	*560*	*590*	*620*	*520*	*570*	*590*
K3	100	115	130	105	125	135	—	—	—	135	165	180	155	170	180	155	170	175	150	160	170
	330	*375*	*425*	*345*	*410*	*445*	—	—	—	*445*	*540*	*590*	*510*	*560*	*590*	*510*	*560*	*570*	*490*	*520*	*560*
K4	95	115	125	105	125	135	—	—	—	135	160	175	155	165	175	155	165	175	145	160	165
	310	*375*	*410*	*345*	*410*	*445*	—	—	—	*445*	*520*	*570*	*510*	*540*	*570*	*510*	*540*	*570*	*475*	*520*	*540*
K5	65	80	90	70	90	100	—	—	—	100	130	140	120	135	140	120	135	140	115	125	135
	215	*260*	*295*	*230*	*295*	*330*	—	—	—	*330*	*425*	*460*	*395*	*445*	*460*	*395*	*445*	*460*	*375*	*410*	*445*
K6	85	105	115	95	115	125	—	—	—	125	150	165	145	160	165	145	155	165	140	150	160
	280	*345*	*375*	*310*	*375*	*410*	—	—	—	*410*	*490*	*540*	*475*	*520*	*540*	*475*	*510*	*540*	*460*	*490*	*520*
K7	80	95	110	90	105	115	—	—	—	120	145	160	140	150	160	135	150	155	130	145	150
	260	*310*	*360*	*295*	*345*	*375*	—	—	—	*395*	*475*	*520*	*460*	*490*	*520*	*445*	*490*	*510*	*425*	*475*	*490*
S1	35	46	55	38	50	60	42	55	65	—	—	—	—	—	—	—	—	—	39	50	60
	115	*150*	*180*	*125*	*165*	*195*	*140*	*180*	*215*	—	—	—	—	—	—	—	—	—	*130*	*165*	*195*
S2	28	37	44	31	40	47	34	44	50	—	—	—	—	—	—	—	—	—	31	41	48
	90	*120*	*145*	*100*	*130*	*155*	*110*	*145*	*165*	—	—	—	—	—	—	—	—	—	*100*	*135*	*155*
S3	25	33	39	27	35	42	29	39	46	—	—	—	—	—	—	—	—	—	27	36	42
	80	*110*	*130*	*90*	*115*	*140*	*95*	*130*	*150*	—	—	—	—	—	—	—	—	—	*90*	*120*	*140*
S11	49	65	75	50	70	80	60	75	85	—	—	—	—	—	—	—	—	—	55	70	80
	160	*215*	*245*	*165*	*230*	*260*	*195*	*245*	*280*	—	—	—	—	—	—	—	—	—	*180*	*230*	*260*
S12	34	45	55	36	48	55	40	55	60	—	—	—	—	—	—	—	—	—	38	49	60
	110	*150*	*180*	*120*	*155*	*180*	*130*	*180*	*195*	—	—	—	—	—	—	—	—	—	*125*	*160*	*195*
S13	20	26	31	21	28	33	23	31	36	—	—	—	—	—	—	—	—	—	22	28	34
	65	*85*	*100*	*70*	*90*	*110*	*75*	*100*	*120*	—	—	—	—	—	—	—	—	—	*70*	*90*	*110*
H5	29	39	46	32	42	50	—	—	—	—	—	—	44	60	70	—	—	—	34	45	55
	95	*130*	*150*	*105*	*140*	*165*	—	—	—	—	—	—	*145*	*195*	*230*	—	—	—	*110*	*150*	*180*
H8	32	41	49	35	45	55	—	—	—	—	—	—	47	60	70	—	—	—	36	48	55
	105	*135*	*160*	*115*	*150*	*180*	—	—	—	—	—	—	*155*	*195*	*230*	—	—	—	*120*	*155*	*180*
H11	38	50	60	41	55	65	—	—	—	—	—	—	55	75	85	—	—	—	43	55	65
	125	*165*	*195*	*135*	*180*	*215*	—	—	—	—	—	—	*180*	*245*	*280*	—	—	—	*140*	*180*	*215*
H12	55	75	85	65	85	95	—	—	—	—	—	—	80	100	110	—	—	—	65	85	95
	180	*245*	*280*	*215*	*280*	*310*	—	—	—	—	—	—	*260*	*330*	*360*	—	—	—	*215*	*280*	*310*

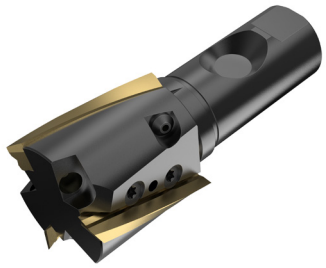


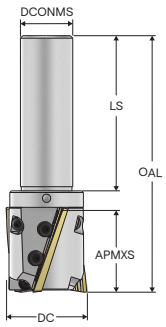
R235.15 Helical

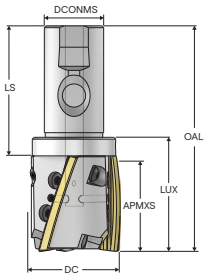
Helical mills for high surface finish in square shoulder and contouring operations. Suitable for finishing operations.

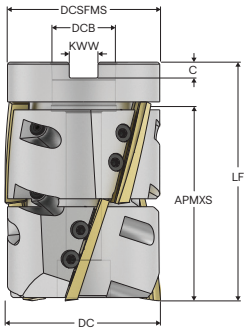
- Cutter range 32-80mm, (1.25 - 3 inch)
- Depth of cut <=90 mm (3.5 inch)
- Max a_e = 1 mm

R235.15 – Finishing operations – Metric





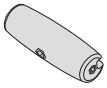




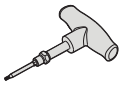
—For insert selection and cutting data recommendations, see page(s) 216-217
—For complete insert programme, see page(s) 931
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	DCONMS	LF	LUX	LPR	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm	mm	mm	mm		kg	
R235.15-2532.3S-40A	75036948	Seco-Weldon	32,0	2	2	40,0	–	40,0	25,0	–	50,0	69,0	125,0	8000	0,7	R235.15-032
R235.15A-3250.3S-50A	75036946	Seco-Weldon	50,0	3	3	50,0	–	50,0	32,0	–	61,4	60,0	120,0	5500	1,0	R235.15-050
R235.15-2532.0-40	75036949	Cylindrical	32,0	2	2	40,0	–	–	25,0	–	40,0	84,0	140,0	8000	0,7	R235.15-032
R235.15A-3250.0-50	75036947	Cylindrical	50,0	3	3	50,0	–	–	32,0	–	50,0	95,0	155,0	5500	1,3	R235.15-050
R235.15A-0080-90	75037122	Arbor	80,0	3	6	90,0	32,0	75,0	–	120,0	–	–	–	4400	3,5	R235.15-080

Spare Parts, included in delivery

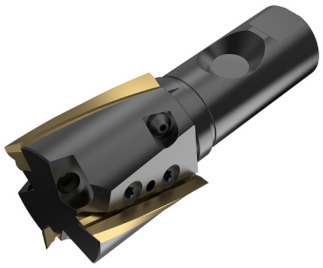
For cutter	Arbor screw	Insert key	Insert screw	Key (T-handle)	Setting gauge	Setting key
						
R235.15-2532	–	H6B-T25P	CL85012-T25P	DOUBLE-T	–	–
R235.15-3250	–	H6B-T25P	CL85012-T25P	DOUBLE-T	AU8019-T15P	H4B-T15P
R235.15A-0080	MC6S16X100	H6B-T25P	CL85012-T25P	DOUBLE-T	AU8019-T15P	H4B-T15P

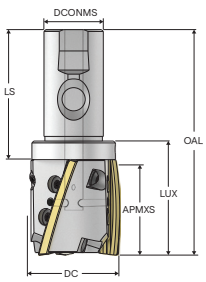
Accessories

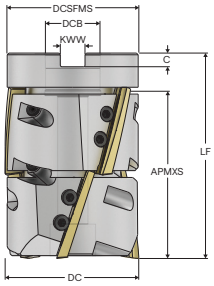
For cutter	Insert clamping torque	Torque key
		
R235.15-..	6.0NM	T00T-25P60

Torque and fixed keys, see page 944

R235.15 – Finishing operations – inch



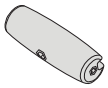




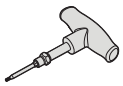
—For insert selection and cutting data recommendations, see page(s) 216-217
—For complete insert programme, see page(s) 931
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	DCONMS	LF	LUX	LPR	OAL	RPMX	Weight	Insert
			inch			inch	inch	inch	inch	inch	inch	inch	inch		lbs	
R235.15A-02.00-3S-50A	75056423	Seco-Weldon	2.000	3	3	1.969	–	1.772	1.250	–	1.969	2.283	4.724	5500	2.200	R235.15-050
R235.15A-03.00-90	75056424	Arbor	3.000	3	6	3.500	1.000	2.866	–	4.724	–	–	–	4400	7.050	R235.15-080

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Key (T-handle)	Setting gauge	Setting key
						
R235.15A-02.00	–	H6B-T25P	CL85012-T25P	DOUBLE-T	AU8019-T15P	H4B-T15P
R235.15A-03.00	UC6S1/2UNFX4	H6B-T25P	CL85012-T25P	DOUBLE-T	AU8019-T15P	H4B-T15P

Accessories

For cutter	Insert clamping torque	Torque key
		
R235.15-..	6.0NM	T00T-25P60

Torque and fixed keys, see page 944

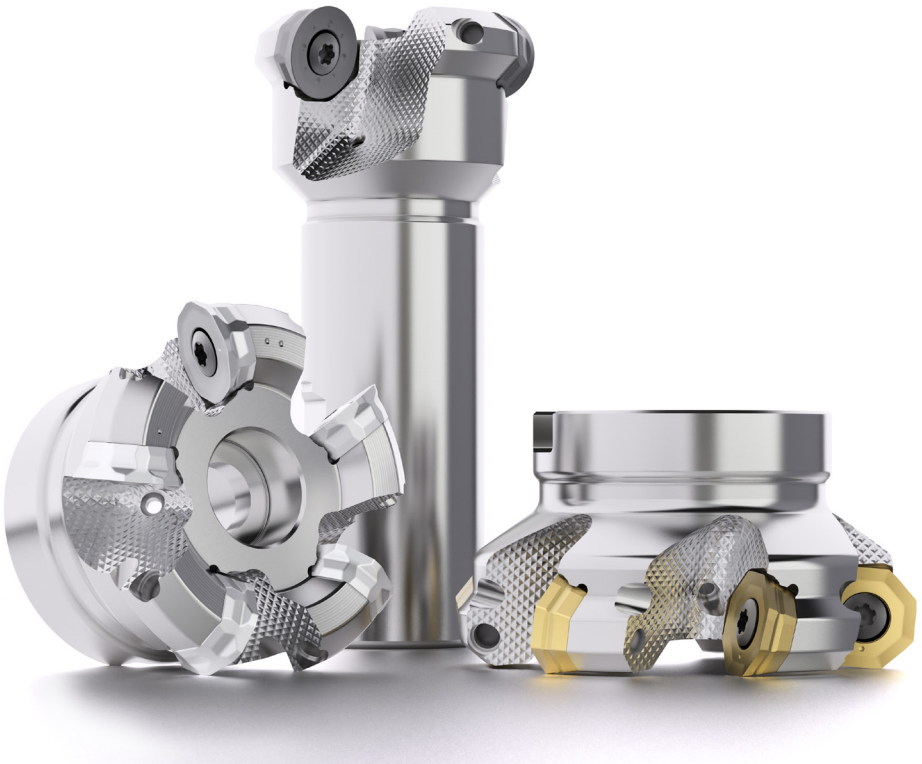
R235.15 – Insert selection – mm/Inch

SMG		f_z
		3%
P1	R235.15-xxx-E05 F30M	0,20 *0.0080*
P2	R235.15-xxx-E05 F30M	0,22 *0.0085*
P3	R235.15-xxx-E05 F30M	0,20 *0.0080*
P4	R235.15-xxx-E05 F30M	0,20 *0.0080*
P5	R235.15-xxx-E05 F30M	0,19 *0.0075*
P6	R235.15-xxx-E05 F30M	0,19 *0.0075*
P7	R235.15-xxx-E05 F30M	0,19 *0.0075*
P8	R235.15-xxx-E05 F30M	0,20 *0.0080*
P11	R235.15-xxx-E05 F30M	0,19 *0.0075*
P12	R235.15-xxx-E05 F30M	0,13 *0.0050*
M1	R235.15-xxx-E05 F30M	0,22 *0.0085*
M2	R235.15-xxx-E05 F30M	0,19 *0.0075*
M3	R235.15-xxx-E05 F30M	0,15 *0.0060*
M4	R235.15-xxx-E05 F30M	0,13 *0.0050*
M5	R235.15-xxx-E05 F30M	0,13 *0.0050*
K1	R235.15-xxx-E05 F30M	0,22 *0.0085*
K2	R235.15-xxx-E05 F30M	0,19 *0.0075*
K3	R235.15-xxx-E05 F30M	0,19 *0.0075*
K4	R235.15-xxx-E05 F30M	0,19 *0.0075*
K5	R235.15-xxx-E05 F30M	0,17 *0.0065*
K6	R235.15-xxx-E05 F30M	0,19 *0.0075*
K7	R235.15-xxx-E05 F30M	0,17 *0.0065*
N1	R235.15-xxx-E05 F30M	0,28 *0.011*
N2	R235.15-xxx-E05 F30M	0,28 *0.011*
N3	R235.15-xxx-E05 F30M	0,28 *0.011*
N11	R235.15-xxx-E05 F30M	0,28 *0.011*
S1	R235.15-xxx-E05 F30M	0,13 *0.0050*
S2	R235.15-xxx-E05 F30M	0,13 *0.0050*
S3	R235.15-xxx-E05 F30M	0,13 *0.0050*
S11	R235.15-xxx-E05 F30M	0,15 *0.0060*
S12	R235.15-xxx-E05 F30M	0,15 *0.0060*
S13	R235.15-xxx-E05 F30M	0,13 *0.0050*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R235.15 – Cutting data v_c = (m/min)/(sf/min)

SMG	F30M
	3%
P1	310 *1025*
P2	295 *970*
P3	260 *850*
P4	230 *750*
P5	220 *720*
P6	245 *800*
P7	235 *770*
P8	215 *710*
P11	225 *740*
P12	145 *475*
M1	200 *660*
M2	165 *540*
M3	130 *425*
M4	100 *330*
M5	85 *280*
K1	235 *770*
K2	210 *690*
K3	175 *570*
K4	170 *560*
K5	105 *345*
K6	150 *490*
K7	130 *425*
N1	1450 *4750*
N2	590 *1925*
N3	390 *1275*
N11	445 *1450*
S1	70 *230*
S2	55 *180*
S3	49 *160*
S11	100 *330*
S12	70 *230*
S13	40 *130*



Code keys metric and inch

R	220	.	53	-	0100	-	12	-	7	A
1	2		3		4		5		6	7

R	220	.	53	-	04.00	-	12	-	7	A
1	2		3		4		5		6	7

1.

R = Right hand rotation
L = Left hand rotation
Cx = For Seco-Capto

2.

217 = With shank
220 = For arbor

3.

Cutter system

4.

Mounting type & Cutter diameter
0xxx = shell mill mounting
8xxx = Flange mounting
9xxx = CAP mounting

5.

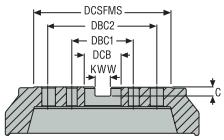
Insert size and shape

6.

Effective No. of teeth (ZEFP)

7.

A = With through coolant supply
W = Insert locking with wedge
G = Coarse pitch version for low power machines
T = Close pitch version for high feed rates in powerful machines
C = Cassettes
S = Insert locking with screw
M = Modified or insert locking with wedge
H = Adjustable



Dimensions in mm

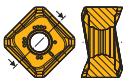
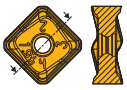
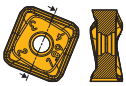
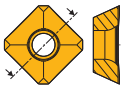
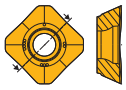
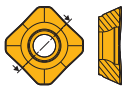
DCB	DCSFMS	DBC1	DBC2	KWW	C
16	30-35	–	–	8,4	5,6
22	42-47	–	–	10,4	6,3
27	48-62	–	–	12,4	7
32	60-90	–	–	14,4	8
40	90-130	66,7	–	16,4	9
60	130-270	101,6	177,8	25,7	14

Dimensions in inch

DCB	DCSFMS	DBC1	DBC2	KWW	C
0.500	*1.181 - 1.378*			*0.258*	*0.165*
0.750	*1.378 - 1.850*	–	–	*0.321*	*0.193*
1.000	*1.803 - 2.441*	–	–	*0.382*	*0.224*
1.250	*2.250 - 3.031*	–	–	*0.508*	*0.287*
1.500	*2.750 - 3.543*	–	–	*0.630*	*0.382*
2.000	*4.331*	–	–	*0.756*	*0.445*
2.500	*5.118 - 6.299 (8.858)*	*4.000*	*(7.000)*	*1.000*	*0.551*

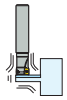
For a more exact DCSFMS and DCB measurement, see each product table.

Selection – Metric

Cutter family	Insert	a_p max	a_p rec.	Material suitability								KAPRS°
				P	M	K	N	S				
Double Quattromill .54-14	SN.X14..AN 	6,0	5,0	■	■	■	◩	■	■	■	◩	48°
Double Quattromill .56-14	SN.X14..ZN 	8,0	6,0	■	◩	■	–	□	◩	■	◩	71°
Double Quattromill .54-22	SNMX22..AN 	9,0	7,0	■	■	■	□	◩	□	■	–	48°
Double Quattromill .56-22	SNMX22..ZN 	13	10,0	■	◩	■	–	□	–	■	–	71°
Quattromill .53-09/.53-12/.53-15	SE.X09T3 	4,5	3,0	■	■	◩	■	■	■	◩	■	45°
	SE.X1204 	6,0	4,5	■	■	■	■	■	■	■	■	45°
	SE.X1505 	7,5	6,0	■	■	■	■	■	◩	■	■	45°

1st choice ■
Alternative choice ◩
Possible choice □

High speed machine with low power/torque 
Strong stable machine with rigid connecion 
Not recommended -

Unstable condition suitability 

a_p max = Maximum depth of cut possible
a_p rec. = Recommended depth of cut for optimal result

Selection – Metric

Insert	No. of cutting edges	Applica-tion	Cutter diameter (mm) available with effective number of teeth													See page
			20	24*/25	32	40	50	63	80	100	125	160	200	250	315	
SNMX14..AN	8						4	5	6	7	8	10	12			245
							5	7	8	10	12	15	17			
													11	14	16	
SNMX14..ZN	8						4	5	6	7	8	10	12			245
							5	7	8	10	12	15	17			
													11	14	16	
SNMX22..AN	8								5	5	6	8				257
									6	7	8	11				
													9	11	14	
SNMX22..ZN	8									5	6	8				257
									5	7	8	10				
													9	11	14	
SE.X09T3	4		2	3	4	4	5	6	6	7						286
						5	6	7	8	10						
											8	10				
SE.X1204	4									5	6	7				294
							4	5	6	7	8	10				
						4	5	6	8	10	12					
								9								
														10	12	
											8	10	12	16		
SE.X1505	4							5	6	7	8	10	12			301
									7	9	10					
														10	12	
											8	10	12	16		

x — Fixed pocket (x indicates number of teeth)

x — With cassette (x indicates number of teeth)

Troubleshooter for unstable fixturing and/or unstable conditions

Basic choice

Productivity

Selection – Metric

Cutter family	Insert	a_p max	a_p rec.	Material suitability								KAPRS°
				P	M	K	N	S				
Double Octomill .48-05/.48-09	ON..05	3,0	2,0	■	■	◩	□	◩	■	◩	◩	40°
	ON..09	6,0	4,0	■	■	■	□	◩	◩	■	□	40°
Octomill 06 .43-06	OO.T06	4,0	3,0	■	■	◩	■	■	■	■	■	40°
	ROMT16	7,5	4,5	■	■	◩	–	◩	◩	■	–	–
	MHF	1,5	1,5	■	■	–	–	■	■	■	–	20°
Octomill .43-05/.43-07	OF..05	3,5	2,5	■	■	◩	◩	◩	■	◩	■	43°
	OF..07	5,0	4,0	■	■	◩	◩	◩	■	■	◩	43°
.88-12/.88.16	SNMU12..	9,0	5,0	■	◩	■	-	-	■	■	■	88°
	SNMU16..	13,0	8,0	■	◩	■	-	-	□	■	■	88°

■ 1st choice
◩ Alternative choice
□ Possible choice

High speed machine with low power/torque
Strong stable machine with rigid connecion
Not recommended

Unstable condition suitability

a_p max = Maximum depth of cut possible
a_p rec. = Recommended depth of cut for optimal result

Selection – Metric

Insert	No. of cutting edges	Application	Cutter diameter (mm) available with effective number of teeth															See page
			20	24*/25	32	40	50	63	80	100	125	160	200	250	315	400	500	
ON..05	16						4	5	6	7	8							270
				3	4		5	6										
						5	6	8	10	12	14							
ON..09	16							5	6	7	8	10	12	16	20			276
								6	7	8	10	12						
									9	12	15	20	24	30	40	50	60	
													28					
												10	12	16	20			
OO.T06/ROMT								4	5	6	7	8	10	12				233
							4	5	7	8	10	12	12	14				
							5	6	8	10	12							
OF..05					3	3	4	5	6	7	8	10						319
						4	5	6	8									
											8	10	12	16				
											10	14						
OF..07	8						4	4	5	6	8	10						325
								6	9	12								
												10	12	16				
												14						
SNMU12..	8						4	6	7	8	10	12						308
						4	5	7	9	11	13	16						
SNMU16..	8								6	8	10	12						313
								5	7	9	11	13						

x — Fixed pocket (x indicates number of teeth)

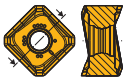
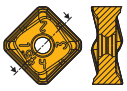
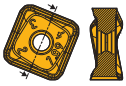
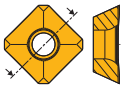
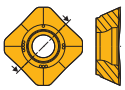
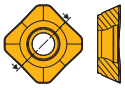
x — With cassette (x indicates number of teeth)

Troubleshooter for unstable fixturing and/or unstable conditions

Basic choice

Productivity

Selection – inch

Cutter family	Insert	a_p max	a_p rec.	Material suitability								KAPRS°
				P	M	K	N	S				
Double Quattromill .54-14	SN.X14..AN 	0.236	0.197	■	■	■	◩	■	◩	■	◩	48°
Double Quattromill .56-14	SN.X14..ZN 	0.315	0.236	■	◩	■	–	□	◩	■	◩	71°
Double Quattromill .54-22	SNMX22..AN 	0.354	0.275	■	■	■	□	◩	□	■	–	48°
Double Quattromill .56-22	SNMX22..ZN 	0.512	0.393	■	◩	■	–	□	–	■	–	71°
Quattromill .53-09/.53-12/.53-15	SE.X09T3 	0.177	0.118	■	■	◩	■	■	■	◩	■	45°
	SE.X1204 	0.236	0.177	■	■	■	■	■	■	■	■	45°
	SE.X1505 	0.295	0.236	■	■	■	■	■	◩	■	■	45°

1st choice ■
Alternative choice ◩
Possible choice □
High speed machine with low power/torque
Strong stable machine with rigid connecion
Not recommended -
Unstable condition suitability
a_p max = Maximum depth of cut possible
a_p rec. = Recommended depth of cut for optimal result

Selection – inch

Insert	No. of cutting edges	Application	Cutter diameter (inch) available with effective number of teeth													See page
			0.75	1	1.25	1.5	2	2.5	3	4	5	6	8	10	12.5	
SNMX14..AN	8						4	5	6	7	8	10	12			245
							5	7	8	10	12	15	17			
													11	14	16	
SNMX14..ZN	8						4	5	6	7	8	10	12			245
							5	7	8	10	12	15	17			
													11	14	16	
SNMX22..AN	8								5	5	6	8				257
									6	7	8	11				
													9	11	14	
SNMX22..ZN	8								5	5	6	8				257
										7	8	10				
													9	11	14	
SE.X09T3	4			3	4	4	5	6	6							286
SE.X1204	4					4	4	5	6	7	8	7				294
							5	6	8	10		10	12			
SE.X1505	4								6	7		10				301

x — Fixed pocket (x indicates number of teeth)

x — With cassette (x indicates number of teeth)

Troubleshooter for unstable fixturing and/or unstable conditions

Basic choice

Productivity

Selection – inch

Cutter family	Insert	a_p max	a_p rec.	Material suitability P	M	K	N	S				KAPRS°
Double Octomill .48-05/.48-09	ON..05	0.118	0.079	■	■	◩	□	◩	■	◩	◩	40°
	ON..09	0.236	0.157	■	■	■	□	◩	◩	■	□	40°
Octomill 06 .43-06	OO.T06	0.157	0.118	■	■	◩	■	■	■	■	■	40°
	ROMT16	0.295	0.177	■	■	◩	–	◩	◩	■	–	–
	MHF	0.059	0.059	■	■	–	–	■	■	■	–	20°
Octomill .43-05/.43-07	OF..05	0.138	0.098	■	■	◩	◩	◩	■	◩	◩	43°
	OF..07	0.197	0.157	■	■	◩	◩	◩	■	■	◩	43°
.88-12/.88-16	SNMU12..	0.354	0.197	■	◩	■	-	-	■	■	■	88°
	SNMU16..	0.512	0.354	■	◩	■	-	-	□	■	◩	88°

1st choice ■
Alternative choice ◩
Possible choice □
High speed machine with low power/torque
Strong stable machine with rigid connecion
Not recommended -
Unstable condition suitability
a_p max = Maximum depth of cut possible
a_p rec. = Recommended depth of cut for optimal result

Selection – Inch

Insert	No. of cutting edges	Application	Cutter diameter (inch) available with effective number of teeth													See page
			0.75	1	1.25	1.5	2	2.5	3	4	5	6	8	10	12.5	
ON..05	16					4		5	6	7						270
							5		10							
ON..09	16							5	6	7	8	10	12	16	20	276
									9	12	15					
												10	12	16		
OO.T06/ROMT									5	6	7					233
								5	7	8	10	12	12			
							5	6								
OF..05	8						4	5	6	7						319
OF..07	8								5	6						325
SNMU12..	8					4	4	6	7	8	10	12				308
							5	7	9	11	13					
SNMU16..	8								6	8	10	12				313
									7	9						

x — Fixed pocket (x indicates number of teeth)

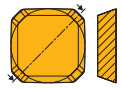
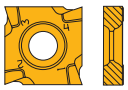
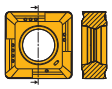
x — With cassette (x indicates number of teeth)

Troubleshooter for unstable fixturing and/or unstable conditions

Basic choice

Productivity

Selection – Metric

Cutter family	Insert	a_p max	a_p rec.	Material suitability								KAPRS°
				P	M	K	N	S				
.30	SEEX1203 	1,0	0,20 - 0,50	■	◩	■	–	–	◩	■	◩	88 45
R230.19	SNHQ 	3,1	0,10 - 0,50	■	■	◩	–	■	■	◩	■	90
.38	SNFX1204 	3,0 - 1,0	0,10 - 0,50	■	◩	■	–	◩	◩	■	◩	88 27

■ 1st choice

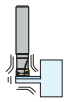
◩ Alternative choice

□ Possible choice

High speed machine with low power/torque 

Strong stable machine with rigid connecion 

\- Not recommended

Unstable condition suitability 

a_p max = Maximum depth of cut possible
a_p rec. = Recommended depth of cut for optimal result

Selection – Metric

Insert	No. of cutting edges	Application	Cutter diameter (mm) available with effective number of teeth														See page
			20	24*/25	32	40	50	63	80	100	125	160	200	250	315	400	500	
SEEX1203	4								6	8	10			22				270
									9				25	32				
SNHQ1103	4					3	5	6	8	10								276
SNFX1204	8							4	6	8	10	12	16	22				233
									8	10	12	15	20	25				
									10	12	14	18						
										14	18	22						

x — Fixed pocket (x indicates number of teeth)

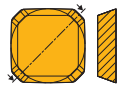
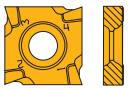
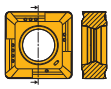
x — With adjustment unit

Troubleshooter for unstable fixturing and/or unstable conditions

Basic choice

Productivity

Selection – inch

Cutter family	Insert	a_p max	a_p rec.	Material suitability								KAPRS°
				P	M	K	N	S				
.30	SEEX1203 	0.04	0.008 - 0.0196	■	◩	■	–	–	◩	■	◩	88 45
.19	SNHQ 	0.122	0.004 - 0.0196	■	■	◩	–	■	■	◩	■	90
.38	SNFX1204 	0.118-0.04	0.004 - 0.0196	■	◩	■	–	◩	◩	■	◩	88 27

1st choice ■

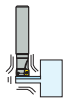
Alternative choice ◩

Possible choice □

High speed machine with low power/torque 

Strong stable machine with rigid connecion 

Not recommended -

Unstable condition suitability 

a_p max = Maximum depth of cut possible
a_p rec. = Recommended depth of cut for optimal result

Selection – inch

Insert	No. of cutting edges	Application	Cutter diameter (mm) available with effective number of teeth													See page
			0.75	1	1.25	1.5	2	2.5	3	4	5	6	8	10	12.5	
SEEX1203	4															270
SNHQ1103	4															276
SNFX1204	8								6	8 10	10 12 14	12 15 18				233

x — Fixed pocket (x indicates number of teeth)

x — With adjustment unit

Troubleshooter for unstable fixturing and/or unstable conditions

Basic choice

Productivity



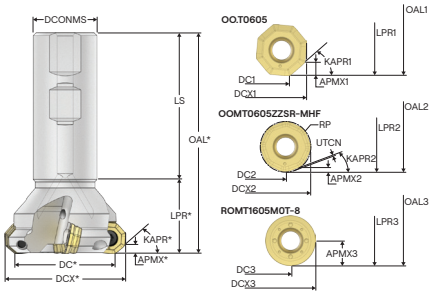
Octomill™ 06

Octomill™ size 06 is a new generation and evolution of Seco's Octomill™ size 05 and 07 based on a OF-style design.
The new generation Octomill™ 06 tackles the major challenge of single-sided inserts, which is an easy and secured insert handling. Explore the favorable single-sided characteristics as cutting behavior together with a comparable handling of a double-sided solution.
Octomill™ 06 combines the strength and overcomes the weakness of common OF- and OD-style solutions. It combines the light cutting behavior of an OF- and the cutting edge strength/robustness of an OD-style solutions.
Still Octomill™ size 07 offers a key strength based on the wedge clamping option and the thinner inserts compared to new generation size 06. This allows close and super close cutter pitches as well as a fast insert indexing. This is beneficial for bigger cutter diameters and typically from interest for block and sheet machining applications.

– Insert size 06, cutter range 40-250mm (2.00" - 8.00 inches)
– 8 cutting edges, single-sided inserts

R217.43-06 – Metric





—For insert selection and cutting data recommendations, see page(s) 239 - 275
—For complete insert programme, see page(s) 884
—For ISO attribute explanation, see page 16

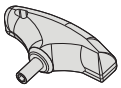
Designation	Item number	Type of mounting	DC1	DC2	DC3	ZEFP	APMX1	APMX2	APMX3	KAPR1°	KAPR2°	LPR1	LPR2	LPR3
			mm	mm	mm		mm	mm	mm			mm	mm	mm
R217.43-3240.3-06-03SA	10260220	Weldon	40,0	36,0	34,5	3	4,0	1,5	7,5	40,0	20,0	50,0	50,15	50,0
R217.43-3250.3-06-04SA	10260221	Weldon	50,0	46,0	44,5	4	4,0	1,5	7,5	40,0	20,0	50,0	50,15	50,0

Designation	Item number	Type of mounting	DCX1	DCX2	DCX3	DCONMS	OAL1	OAL2	OAL3	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm	mm	mm	mm	mm	mm	mm	mm		kg	
R217.43-3240.3-06-03SA	10260220	Weldon	50,4	50,7	50,35	32,0	110,0	110,15	110,0	71,4	96,8	13200	0,7	OO.T0605 / ROMT1605
R217.43-3250.3-06-04SA	10260221	Weldon	60,4	60,7	60,35	32,0	110,0	110,15	110,0	91,4	116,8	11500	0,9	OO.T0605 / ROMT1605

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.43-..	1/4HEX-T20PX50	C05013-T20P

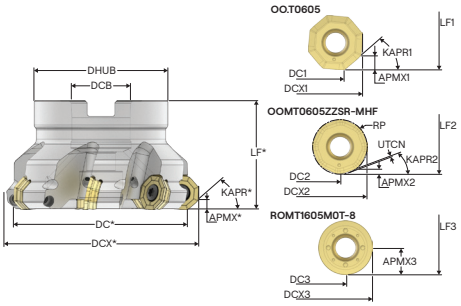
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.43-..	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R220.43-06 – Metric



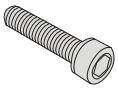
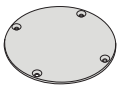


—For insert selection and cutting data recommendations, see page(s) 239 - 275
—For complete insert programme, see page(s) 884
—For ISO attribute explanation, see page 16

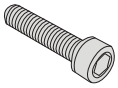
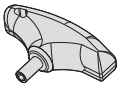
Designation	Item number	Type of mounting	DC1	DC2	DC3	ZEFP	APMX1	APMX2	APMX3	KAPR1°	KAPR2°	DCB	DHUB	LF1	LF2	LF3
			mm	mm	mm		mm	mm	mm			mm	mm	mm	mm	mm
R220.43-0050-06-05SA	10260222	Arbor	50,0	46,0	44,5	5	4,0	1,5	7,5	40,0	20,0	22,0	47,0	40,0	40,15	40,0
R220.43-0063-06-04SA	10260223	Arbor	63,0	59,0	57,5	4	4,0	1,5	7,5	40,0	20,0	22,0	47,0	40,0	40,15	40,0
R220.43-0063-06-05SA	10260224	Arbor	63,0	59,0	57,5	5	4,0	1,5	7,5	40,0	20,0	22,0	47,0	40,0	40,15	40,0
R220.43-0063-06-06SA	10260225	Arbor	63,0	59,0	57,5	6	4,0	1,5	7,5	40,0	20,0	22,0	47,0	40,0	40,15	40,0
R220.43-0080-06-05SA	10260226	Arbor	80,0	76,0	74,5	5	4,0	1,5	7,5	40,0	20,0	27,0	62,0	50,0	50,15	50,0
R220.43-0080-06-07SA	10260227	Arbor	80,0	76,0	74,5	7	4,0	1,5	7,5	40,0	20,0	27,0	62,0	50,0	50,15	50,0
R220.43-0080-06-08SA	10260228	Arbor	80,0	76,0	74,5	8	4,0	1,5	7,5	40,0	20,0	27,0	62,0	50,0	50,15	50,0
R220.43-0100-06-06SA	10260229	Arbor	100,0	96,0	94,5	6	4,0	1,5	7,5	40,0	20,0	32,0	77,0	50,0	50,15	50,0
R220.43-0100-06-08SA	10260230	Arbor	100,0	96,0	94,5	8	4,0	1,5	7,5	40,0	20,0	32,0	77,0	50,0	50,15	50,0
R220.43-0100-06-10SA	10260231	Arbor	100,0	96,0	94,5	10	4,0	1,5	7,5	40,0	20,0	32,0	77,0	50,0	50,15	50,0
R220.43-0125-06-07SA	10260232	Arbor	125,0	121,0	119,5	7	4,0	1,5	7,5	40,0	20,0	40,0	90,0	63,0	63,15	63,0
R220.43-0125-06-10SA	10260233	Arbor	125,0	121,0	119,5	10	4,0	1,5	7,5	40,0	20,0	40,0	90,0	63,0	63,15	63,0
R220.43-0125-06-12SA	10260234	Arbor	125,0	121,0	119,5	12	4,0	1,5	7,5	40,0	20,0	40,0	90,0	63,0	63,15	63,0
R220.43-8160-06-08SA	10260235	Arbor	160,0	156,0	154,5	8	4,0	1,5	7,5	40,0	20,0	40,0	130,0	63,0	63,15	63,0
R220.43-8160-06-12SA	10260236	Arbor	160,0	156,0	154,5	12	4,0	1,5	7,5	40,0	20,0	40,0	130,0	63,0	63,15	63,0
R220.43-8200-06-12SA	10260237	Arbor	200,0	196,0	194,5	12	4,0	1,5	7,5	40,0	20,0	60,0	170,0	63,0	63,15	63,0
R220.43-8250-06-14SA	10260238	Arbor	250,0	246,0	244,5	14	4,0	1,5	7,5	40,0	20,0	60,0	200,0	63,0	63,15	63,0

Designation	Item number	Type of mounting	DCX1	DCX2	DCX3	DBC1	DCONMS	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm	mm	mm	mm	mm	mm		kg	
R220.43-0050-06-05SA	10260222	Arbor	60,4	60,7	60,35	–	22,0	91,4	116,8	11300	0,4	OO.T0605 / ROMT1605
R220.43-0063-06-04SA	10260223	Arbor	73,4	73,7	73,35	–	22,0	117,4	142,8	10100	0,6	OO.T0605 / ROMT1605
R220.43-0063-06-05SA	10260224	Arbor	73,4	73,7	73,35	–	22,0	117,4	142,8	10100	0,6	OO.T0605 / ROMT1605
R220.43-0063-06-06SA	10260225	Arbor	73,4	73,7	73,35	–	22,0	117,4	142,8	10100	0,5	OO.T0605 / ROMT1605
R220.43-0080-06-05SA	10260226	Arbor	90,4	90,7	90,35	–	27,0	151,4	176,8	8900	1,3	OO.T0605 / ROMT1605
R220.43-0080-06-07SA	10260227	Arbor	90,4	90,7	90,35	–	27,0	151,4	176,8	8900	1,3	OO.T0605 / ROMT1605
R220.43-0080-06-08SA	10260228	Arbor	90,4	90,7	90,35	–	27,0	151,4	176,8	8900	1,3	OO.T0605 / ROMT1605
R220.43-0100-06-06SA	10260229	Arbor	110,4	110,7	110,35	–	32,0	191,4	216,8	8000	1,9	OO.T0605 / ROMT1605
R220.43-0100-06-08SA	10260230	Arbor	110,4	110,7	110,35	–	32,0	191,4	216,8	8000	1,8	OO.T0605 / ROMT1605
R220.43-0100-06-10SA	10260231	Arbor	110,4	110,7	110,35	–	32,0	191,4	216,8	8000	2,0	OO.T0605 / ROMT1605
R220.43-0125-06-07SA	10260232	Arbor	135,4	135,7	135,35	–	40,0	241,4	266,8	7100	3,6	OO.T0605 / ROMT1605
R220.43-0125-06-10SA	10260233	Arbor	135,4	135,7	135,35	–	40,0	241,4	266,8	7100	3,8	OO.T0605 / ROMT1605
R220.43-0125-06-12SA	10260234	Arbor	135,4	135,7	135,35	–	40,0	241,4	266,8	7100	3,8	OO.T0605 / ROMT1605
R220.43-8160-06-08SA	10260235	Arbor	170,4	170,7	170,35	66,7	40,0	311,4	336,8	6300	5,3	OO.T0605 / ROMT1605
R220.43-8160-06-12SA	10260236	Arbor	170,4	170,7	170,35	66,7	40,0	311,4	336,8	6300	5,6	OO.T0605 / ROMT1605
R220.43-8200-06-12SA	10260237	Arbor	210,4	210,7	210,35	101,6	60,0	391,4	416,8	5600	7,6	OO.T0605 / ROMT1605
R220.43-8250-06-14SA	10260238	Arbor	260,4	260,7	260,35	101,6	60,0	491,4	516,8	5000	16,4	OO.T0605 / ROMT1605

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R220.43-0050-0063	220.17-692	1/4HEX-T20PX50	C05013-T20P	–	–
R220.43-0080	MC6S12X35	1/4HEX-T20PX50	C05013-T20P	–	–
R220.43-0100	MLC6S16X35	1/4HEX-T20PX50	C05013-T20P	–	–
R220.43-0100-SA	MLC6S16X35	1/4HEX-T20PX90	C05013-T20P	–	–
R220.43-0125	MC6S20X40	1/4HEX-T20PX50	C05013-T20P	–	–
R220.43-0125-SA	MC6S20X40	1/4HEX-T20PX90	C05013-T20P	–	–
R220.43-8160	–	1/4HEX-T20PX90	C05013-T20P	SC-160-90	MF6S4X10
R220.43-8200	–	1/4HEX-T20PX90	C05013-T20P	SC-200-90	MF6S4X10
R220.43-8250	–	1/4HEX-T20PX90	C05013-T20P	SC-250-90	MF6S4X10

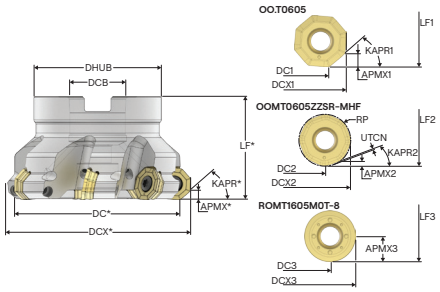
Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.43-0050-0125	1/4HEX-T-HANDLE-5.0-14.0NM	–	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.43-8160	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.43-8200-8250	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R220.43-06 – inch



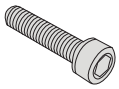
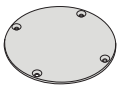


—For insert selection and cutting data recommendations, see page(s) 239 - 275
—For complete insert programme, see page(s) 884
—For ISO attribute explanation, see page 16

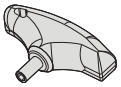
Designation	Item number	Type of mounting	DC1	DC2	DC3	ZEFP	APMX1	APMX2	APMX3	KAPR1°	KAPR2°	DCB	DBC2	DHUB	LF1	LF2	LF3
			inch	inch	inch		inch	inch	inch			inch	inch	inch	inch	inch	inch
R220.43-02.00-06-05SA	10260239	Arbor	2.000	1.843	1.783	5	0.157	0.059	0.295	40,0	20,0	0.750	–	1.850	1.575	1.581	1.575
R220.43-02.50-06-05SA	10260240	Arbor	2.500	2.343	2.283	5	0.157	0.059	0.295	40,0	20,0	0.750	–	1.850	1.575	1.581	1.575
R220.43-02.50-06-06SA	10260241	Arbor	2.500	2.343	2.283	6	0.157	0.059	0.295	40,0	20,0	0.750	–	1.850	1.575	1.581	1.575
R220.43-03.00-06-05SA	10260242	Arbor	3.000	2.843	2.783	5	0.157	0.059	0.295	40,0	20,0	1.000	–	2.441	1.969	1.974	1.969
R220.43-03.00-06-07SA	10260243	Arbor	3.000	2.843	2.783	7	0.157	0.059	0.295	40,0	20,0	1.000	–	2.441	1.969	1.974	1.969
R220.43-04.00-06-06SA	10260244	Arbor	4.000	3.843	3.783	6	0.157	0.059	0.295	40,0	20,0	1.500	–	3.031	1.969	1.974	1.969
R220.43-04.00-06-08SA	10260245	Arbor	4.000	3.846	3.783	8	0.157	0.059	0.295	40,0	20,0	1.500	–	3.031	1.969	1.974	1.969
R220.43-05.00-06-07SA	10260246	Arbor	5.000	4.843	4.783	7	0.157	0.059	0.295	40,0	20,0	1.500	–	3.543	2.480	2.486	2.480
R220.43-05.00-06-10SA	10260247	Arbor	5.000	4.843	4.783	10	0.157	0.059	0.295	40,0	20,0	1.500	–	3.543	2.480	2.486	2.480
R220.43-06.00-06-12SA	10260248	Arbor	6.000	5.843	5.783	12	0.157	0.059	0.295	40,0	20,0	2.000	–	4.724	2.480	2.486	2.480
R220.43-808.00-06-12SA	10260249	Arbor	8.000	7.843	7.783	12	0.157	0.059	0.295	40,0	20,0	2.500	4.000	6.693	2.480	2.486	2.480

Designation	Item number	Type of mounting	DCX1	DCX2	DCX3	DBC1	DBC2	DCONMS	C min	C max	RPMX	Weight	Insert
			inch	inch	inch	inch	inch	inch	inch	inch		lbs	
R220.43-02.00-06-05SA	10260239	Arbor	2.409	2.421	2.407	–	–	0.750	3.661	4.661	11300	1.100	OO.T0605 / ROMT1605
R220.43-02.50-06-05SA	10260240	Arbor	2.909	2.921	2.907	–	–	0.750	4.661	5.661	10100	1.540	OO.T0605 / ROMT1605
R220.43-02.50-06-06SA	10260241	Arbor	2.909	2.921	2.907	–	–	0.750	4.661	5.661	10100	1.540	OO.T0605 / ROMT1605
R220.43-03.00-06-05SA	10260242	Arbor	3.409	3.421	3.407	–	–	1.000	5.661	6.661	8900	2.650	OO.T0605 / ROMT1605
R220.43-03.00-06-07SA	10260243	Arbor	3.409	3.421	3.407	–	–	1.000	5.661	6.661	8900	2.430	OO.T0605 / ROMT1605
R220.43-04.00-06-06SA	10260244	Arbor	4.409	4.421	4.407	–	–	1.500	7.661	8.661	8000	4.190	OO.T0605 / ROMT1605
R220.43-04.00-06-08SA	10260245	Arbor	4.409	4.421	4.407	–	–	1.500	7.661	8.661	8000	4.190	OO.T0605 / ROMT1605
R220.43-05.00-06-07SA	10260246	Arbor	5.409	5.421	5.407	–	–	1.500	9.661	10.661	7100	11.020	OO.T0605 / ROMT1605
R220.43-05.00-06-10SA	10260247	Arbor	5.409	5.421	5.407	–	–	1.500	9.661	10.661	7100	8.600	OO.T0605 / ROMT1605
R220.43-06.00-06-12SA	10260248	Arbor	6.409	6.421	6.407	–	–	2.000	11.661	12.661	6500	10.140	OO.T0605 / ROMT1605
R220.43-808.00-06-12SA	10260249	Arbor	8.409	8.421	8.407	4.000	4.000	2.500	15.661	16.661	5900	22.050	OO.T0605 / ROMT1605

Spare Parts, included in delivery

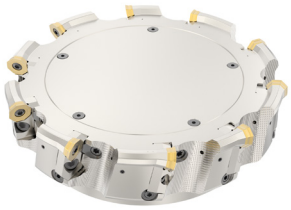
For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R220.43-02.00-02.50	UC6S3/8UNFX1	1/4HEX-T20PX50	C05013-T20P	–	–
R220.43-03.00	UC6S1/2UNFX1-1/2	1/4HEX-T20PX50	C05013-T20P	–	–
R220.43-04.00	ULC6S3/4UNFX11/2	1/4HEX-T20PX50	C05013-T20P	–	–
R220.43-05.00	UC6S3/4UNFX1-1/4	1/4HEX-T20PX50	C05013-T20P	–	–
R220.43-05.00-10SA	UC6S3/4UNFX1-1/4	1/4HEX-T20PX90	C05013-T20P	–	–
R220.43-06.00	–	1/4HEX-T20PX90	C05013-T20P	SC-160-90	MF6S4X10
R220.43-808.00	–	1/4HEX-T20PX90	C05013-T20P	SC-200-90	MF6S4X10

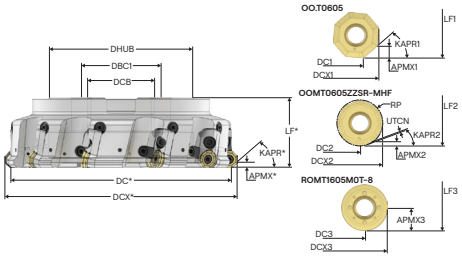
Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.43-02.00-05.00	1/4HEX-T-HANDLE-5.0-14.0NM	–	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.43-06.00	1/4HEX-T-HANDLE-5.0-14.0NM	58215080	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.43-808.00	1/4HEX-T-HANDLE-5.0-14.0NM	950DNC062225	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R220.43-06 – Metric



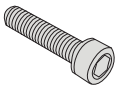
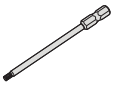
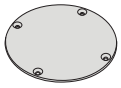


—For insert selection and cutting data recommendations, see page(s) 239 - 275
—For complete insert programme, see page(s) 884
—For ISO attribute explanation, see page 16

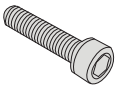
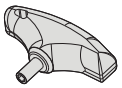
Designation	Item number	Type of mounting	DC1	DC2	DC3	ZEFP	APMX1	APMX2	APMX3	KAPR1°	KAPR2°	DCB	DHUB	LF1	LF2	LF3
			mm	mm	mm		mm	mm	mm			mm	mm	mm	mm	mm
R220.43-8200-06-10CSA	10260250	Arbor	200,0	196,0	194,5	10	4,0	1,5	7,5	40,0	20,0	60,0	160,0	63,0	63,15	63,0
R220.43-8250-06-12CSA	10260251	Arbor	250,0	246,0	244,5	12	4,0	1,5	7,5	40,0	20,0	60,0	200,0	63,0	63,15	63,0

Designation	Item number	Type of mounting	DCX1	DCX2	DCX3	DBC1	DCONMS	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm	mm	mm	mm	mm	mm		kg	
R220.43-8200-06-10CSA	10260250	Arbor	210,4	210,7	210,35	101,6	60,0	391,4	416,8	1800	12,0	OO.T0605 / ROMT1605
R220.43-8250-06-12CSA	10260251	Arbor	260,4	260,7	260,35	101,6	60,0	491,4	516,8	1560	12,7	OO.T0605 / ROMT1605

Spare Parts, included in delivery

For cutter	Adjustment unit	Cassette	Cassette screw	Insert key	Insert screw	Lid	Lid screw	Stop screw	Wedge	Wedge screw
										
R220.43-10CSA	AU1114T-T15P	OO06ZR	MC6S6X20	1/4HEX-T20PX90	C05013-T20P	SC-200-90	MF6S4X10	P6SS4X4G	CW0810	LD8020-T25P
R220.43-12CSA	AU1114T-T15P	OO06ZR	MC6S6X20	1/4HEX-T20PX90	C05013-T20P	SC-250-90	MF6S4X10	P6SS4X4G	CW0810	LD8020-T25P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.43-..	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R17/220.43-06 – Insert selection – mm/Inch

SMG		a_p	f_z			
			80%	60%	40%	20%
P1	OOET0605ZZSR-ME12 MP3501	3,0 *0.12*	0,28 0.011	0,28 0.011	0,28 0.011	0,34 0.013
P2	OOET0605ZZSR-ME12 MP3501	3,0 *0.12*	0,28 0.011	0,28 0.011	0,28 0.011	0,36 0.014
P3	OOET0605ZZSR-ME12 MP3501	3,0 *0.12*	0,26 0.010	0,26 0.010	0,26 0.010	0,34 0.013
P4	OOMT0605ZZSR-M15 MP2501	3,0 *0.12*	0,32 0.013	0,32 0.013	0,34 0.013	0,42 0.017
P5	OOMT0605ZZSR-M15 MP2501	3,0 *0.12*	0,32 0.013	0,32 0.013	0,32 0.013	0,40 0.016
P6	OOMT0605ZZSR-M15 MP2501	3,0 *0.12*	0,32 0.013	0,32 0.013	0,32 0.013	0,40 0.016
P7	OOMT0605ZZSR-M15 MP3501	3,0 *0.12*	0,32 0.013	0,32 0.013	0,32 0.013	0,40 0.016
P8	OOMT0605ZZSR-M15 MP3501	3,0 *0.12*	0,32 0.013	0,32 0.013	0,34 0.013	0,42 0.017
P11	OOET0605ZZSR-ME12 MP2051	3,0 *0.12*	0,25 0.010	0,25 0.010	0,26 0.010	0,32 0.013
P12	OOET0605ZZSR-ME12 MP2051	2,5 *0.10*	0,17 0.0065	0,17 0.0065	0,18 0.0070	0,22 0.0085
M1	OOET0605ZZER-M10 F40M	3,0 *0.12*	0,24 0.0095	0,24 0.0095	0,24 0.0095	0,30 0.012
M2	OOET0605ZZER-M10 MS2050	3,0 *0.12*	0,20 0.0080	0,20 0.0080	0,22 0.0085	0,26 0.010
M3	OOET0605ZZER-M10 MS2050	2,5 *0.10*	0,17 0.0065	0,17 0.0065	0,17 0.0065	0,22 0.0085
M4	OOET0605ZZER-M10 MP2051	1,9 *0.075*	0,15 0.0060	0,15 0.0060	0,15 0.0060	0,19 0.0075
M5	OOET0605ZZER-M10 MP2051	1,9 *0.075*	0,15 0.0060	0,15 0.0060	0,15 0.0060	0,19 0.0075
K1	OOMT0605ZZSR-M15 MK1501	3,0 *0.12*	0,34 0.013	0,34 0.013	0,36 0.014	0,44 0.017
K2	OOMT0605ZZSR-M15 MK1501	3,0 *0.12*	0,32 0.013	0,32 0.013	0,32 0.013	0,40 0.016
K3	OOMT0605ZZSR-M15 MP1501	3,0 *0.12*	0,32 0.013	0,32 0.013	0,32 0.013	0,40 0.016
K4	OOMT0605ZZSR-M15 MP1501	3,0 *0.12*	0,32 0.013	0,32 0.013	0,32 0.013	0,40 0.016
K5	OOMT0605ZZSR-M15 MP1501	3,0 *0.12*	0,28 0.011	0,28 0.011	0,30 0.012	0,36 0.014
K6	OOMT0605ZZSR-M15 MK2050	3,0 *0.12*	0,32 0.013	0,32 0.013	0,32 0.013	0,40 0.016
K7	OOMT0605ZZSR-M15 MK2050	3,0 *0.12*	0,28 0.011	0,28 0.011	0,30 0.012	0,36 0.014
N1	OOET0605ZZFR-E08 H25	3,0 *0.12*	0,26 0.010	0,26 0.010	0,28 0.011	0,34 0.013
N2	OOET0605ZZFR-E08 H25	3,0 *0.12*	0,26 0.010	0,26 0.010	0,28 0.011	0,34 0.013
N3	OOET0605ZZFR-E08 H25	3,0 *0.12*	0,26 0.010	0,26 0.010	0,28 0.011	0,34 0.013
N11	OOET0605ZZFR-E08 H25	3,0 *0.12*	0,26 0.010	0,26 0.010	0,28 0.011	0,34 0.013
S1	OOET0605ZZER-M10 MS2050	1,9 *0.075*	0,15 0.0060	0,15 0.0060	0,15 0.0060	0,19 0.0075
S2	OOET0605ZZER-M10 MS2050	1,9 *0.075*	0,15 0.0060	0,15 0.0060	0,15 0.0060	0,19 0.0075
S3	OOET0605ZZER-M10 MS2050	1,9 *0.075*	0,14 0.0055	0,14 0.0055	0,14 0.0055	0,18 0.0070
S11	OOET0605ZZER-M10 MS2050	2,0 *0.080*	0,17 0.0065	0,17 0.0065	0,17 0.0065	0,22 0.0085
S12	OOET0605ZZER-M10 MS2050	2,0 *0.080*	0,17 0.0065	0,17 0.0065	0,17 0.0065	0,22 0.0085
S13	OOET0605ZZER-M10 MS2050	1,9 *0.075*	0,15 0.0060	0,15 0.0060	0,15 0.0060	0,19 0.0075
H5	OOEW0605ZZSR-D20 MH1051	2,5 *0.10*	0,28 0.011	0,28 0.011	0,28 0.011	0,34 0.013
H8	OOEW0605ZZSR-D20 MH1051	2,0 *0.080*	0,20 0.0080	0,20 0.0080	0,22 0.0085	0,26 0.010
H11	OOEW0605ZZSR-D20 MH1051	2,5 *0.10*	0,28 0.011	0,28 0.011	0,28 0.011	0,34 0.013
H12	OOEW0605ZZSR-D20 MH1051	2,0 *0.080*	0,20 0.0080	0,20 0.0080	0,22 0.0085	0,26 0.010
H21	OOEW0605ZZSR-D20 MH1051	2,0 *0.080*	0,20 0.0080	0,20 0.0080	0,22 0.0085	0,26 0.010

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.43-06 – Insert selection – mm/Inch

SMG		a_p	f_z			
			80%	60%	40%	20%
P1	OOMT0605ZZSR-MHF-M16 MS2050	1,5 *0.060*	0,75 0.030	0,75 0.030	0,80 0.032	1,0 0.040
P2	OOMT0605ZZSR-MHF-M16 MS2050	1,5 *0.060*	0,75 0.030	0,75 0.030	0,80 0.032	1,0 0.040
P3	OOMT0605ZZSR-MHF-M16 MP2501	1,5 *0.060*	0,75 0.030	0,75 0.030	0,75 0.030	0,95 0.038
P4	OOMT0605ZZSR-MHF-M16 MP2501	1,5 *0.060*	0,70 0.028	0,70 0.028	0,75 0.030	0,90 0.036
P5	OOMT0605ZZSR-MHF-M16 MP2501	1,5 *0.060*	0,70 0.028	0,70 0.028	0,70 0.028	0,90 0.036
P6	OOMT0605ZZSR-MHF-M16 MP2501	1,5 *0.060*	0,70 0.028	0,70 0.028	0,70 0.028	0,90 0.036
P7	OOMT0605ZZSR-MHF-M16 MP2501	1,5 *0.060*	0,70 0.028	0,70 0.028	0,70 0.028	0,90 0.036
P8	OOMT0605ZZSR-MHF-M16 MS2050	1,5 *0.060*	0,75 0.030	0,75 0.030	0,75 0.030	0,95 0.038
P11	OOMT0605ZZSR-MHF-M16 MS2050	1,5 *0.060*	0,70 0.028	0,70 0.028	0,70 0.028	0,90 0.036
P12	OOMT0605ZZSR-MHF-M16 MS2050	1,2 *0.046*	0,48 0.019	0,48 0.019	0,50 0.020	0,60 0.024
M1	OOMT0605ZZSR-MHF-M16 MS2050	1,5 *0.060*	0,75 0.030	0,75 0.030	0,80 0.032	1,0 0.040
M2	OOMT0605ZZSR-MHF-M16 MS2050	1,5 *0.060*	0,70 0.028	0,70 0.028	0,70 0.028	0,90 0.036
M3	OOMT0605ZZSR-MHF-M16 MS2050	1,2 *0.046*	0,55 0.022	0,55 0.022	0,60 0.024	0,70 0.028
M4	OOMT0605ZZSR-MHF-M16 MS2050	1,2 *0.046*	0,48 0.019	0,48 0.019	0,50 0.020	0,65 0.026
M5	OOMT0605ZZSR-MHF-M16 MS2050	1,2 *0.046*	0,48 0.019	0,48 0.019	0,50 0.020	0,65 0.026
K1	OOMT0605ZZSR-MHF-M16 MP2501	1,5 *0.060*	0,75 0.030	0,75 0.030	0,80 0.032	1,0 0.040
K2	OOMT0605ZZSR-MHF-M16 MP2501	1,5 *0.060*	0,70 0.028	0,70 0.028	0,70 0.028	0,90 0.036
K3	OOMT0605ZZSR-MHF-M16 MP2501	1,5 *0.060*	0,70 0.028	0,70 0.028	0,70 0.028	0,90 0.036
K4	OOMT0605ZZSR-MHF-M16 MP2501	1,5 *0.060*	0,70 0.028	0,70 0.028	0,70 0.028	0,90 0.036
K5	OOMT0605ZZSR-MHF-M16 MP2501	1,5 *0.060*	0,65 0.026	0,65 0.026	0,65 0.026	0,80 0.032
K6	OOMT0605ZZSR-MHF-M16 MP2501	1,5 *0.060*	0,70 0.028	0,70 0.028	0,70 0.028	0,90 0.036
K7	OOMT0605ZZSR-MHF-M16 MP2501	1,5 *0.060*	0,65 0.026	0,65 0.026	0,65 0.026	0,80 0.032
S1	OOMT0605ZZSR-MHF-M16 MS2050	1,2 *0.046*	0,48 0.019	0,48 0.019	0,50 0.020	0,65 0.026
S2	OOMT0605ZZSR-MHF-M16 MS2050	1,2 *0.046*	0,48 0.019	0,48 0.019	0,50 0.020	0,65 0.026
S3	OOMT0605ZZSR-MHF-M16 MS2050	1,2 *0.046*	0,46 0.018	0,46 0.018	0,46 0.018	0,60 0.024

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.43-06 – Insert selection – Metric/ Inch

SMG		a_p	f_z			
			80%	60%	40%	20%
P1	ROMT1605M0T-8-M14 MS2050	3,0 *0.12*	0,50 0.020	0,50 0.020	0,55 0.022	0,70 0.028
P2	ROMT1605M0T-8-M14 MS2050	3,0 *0.12*	0,55 0.022	0,55 0.022	0,55 0.022	0,70 0.028
P3	ROMT1605M0T-8-M14 MP2501	3,0 *0.12*	0,50 0.020	0,50 0.020	0,50 0.020	0,65 0.026
P4	ROMT1605M0T-8-M14 MP2501	3,0 *0.12*	0,48 0.019	0,48 0.019	0,50 0.020	0,65 0.026
P5	ROMT1605M0T-8-M14 MP2501	3,0 *0.12*	0,48 0.019	0,48 0.019	0,50 0.020	0,65 0.026
P6	ROMT1605M0T-8-M14 MP2501	3,0 *0.12*	0,48 0.019	0,48 0.019	0,50 0.020	0,65 0.026
P7	ROMT1605M0T-8-M14 MP2501	3,0 *0.12*	0,48 0.019	0,48 0.019	0,50 0.020	0,65 0.026
P8	ROMT1605M0T-8-M14 MS2050	3,0 *0.12*	0,50 0.020	0,50 0.020	0,50 0.020	0,65 0.026
P11	ROMT1605M0T-8-M14 MS2050	3,0 *0.12*	0,48 0.019	0,48 0.019	0,50 0.020	0,65 0.026
P12	ROMT1605M0T-8-M14 MS2050	2,5 *0.10*	0,36 0.014	0,36 0.014	0,38 0.015	0,48 0.019
M1	ROMT1605M0T-8-M14 MS2050	3,0 *0.12*	0,55 0.022	0,55 0.022	0,55 0.022	0,70 0.028
M2	ROMT1605M0T-8-M14 MS2050	3,0 *0.12*	0,48 0.019	0,48 0.019	0,50 0.020	0,65 0.026
M3	ROMT1605M0T-8-M14 MS2050	2,5 *0.10*	0,42 0.017	0,42 0.017	0,44 0.017	0,55 0.022
M4	ROMT1605M0T-8-M14 MS2050	1,8 *0.070*	0,44 0.017	0,44 0.017	0,46 0.018	0,55 0.022
M5	ROMT1605M0T-8-M14 MS2050	1,8 *0.070*	0,44 0.017	0,44 0.017	0,46 0.018	0,55 0.022
K1	ROMT1605M0T-8-M14 MK2050	3,0 *0.12*	0,55 0.022	0,55 0.022	0,55 0.022	0,70 0.028
K2	ROMT1605M0T-8-M14 MK2050	3,0 *0.12*	0,48 0.019	0,48 0.019	0,50 0.020	0,65 0.026
K3	ROMT1605M0T-8-M14 MK2050	3,0 *0.12*	0,48 0.019	0,48 0.019	0,50 0.020	0,65 0.026
K4	ROMT1605M0T-8-M14 MK2050	3,0 *0.12*	0,48 0.019	0,48 0.019	0,50 0.020	0,65 0.026
K5	ROMT1605M0T-8-M14 MK2050	3,0 *0.12*	0,44 0.017	0,44 0.017	0,46 0.018	0,55 0.022
K6	ROMT1605M0T-8-M14 MK2050	3,0 *0.12*	0,48 0.019	0,48 0.019	0,50 0.020	0,65 0.026
K7	ROMT1605M0T-8-M14 MK2050	3,0 *0.12*	0,44 0.017	0,44 0.017	0,46 0.018	0,55 0.022
S1	ROMT1605M0T-8-M14 MS2050	1,8 *0.070*	0,44 0.017	0,44 0.017	0,46 0.018	0,55 0.022
S2	ROMT1605M0T-8-M14 MS2050	1,8 *0.070*	0,44 0.017	0,44 0.017	0,46 0.018	0,55 0.022
S3	ROMT1605M0T-8-M14 MS2050	1,8 *0.070*	0,40 0.016	0,40 0.016	0,42 0.017	0,55 0.022
S11	ROMT1605M0T-8-M14 MS2050	2,0 *0.080*	0,48 0.019	0,48 0.019	0,50 0.020	0,60 0.024
S12	ROMT1605M0T-8-M14 MS2050	2,0 *0.080*	0,48 0.019	0,48 0.019	0,50 0.020	0,60 0.024
S13	ROMT1605M0T-8-M14 MS2050	1,8 *0.070*	0,44 0.017	0,44 0.017	0,46 0.018	0,55 0.022
H5	ROMT1605M0T-8-M14 MK2050	2,5 *0.10*	0,36 0.014	0,36 0.014	0,38 0.015	0,48 0.019
H8	ROMT1605M0T-8-M14 MK2050	2,0 *0.080*	0,30 0.012	0,30 0.012	0,32 0.013	0,40 0.016
H11	ROMT1605M0T-8-M14 MK2050	2,5 *0.10*	0,36 0.014	0,36 0.014	0,38 0.015	0,48 0.019
H12	ROMT1605M0T-8-M14 MK2050	2,0 *0.080*	0,30 0.012	0,30 0.012	0,32 0.013	0,40 0.016
H21	ROMT1605M0T-8-M14 MK2050	2,0 *0.080*	0,30 0.012	0,30 0.012	0,32 0.013	0,40 0.016

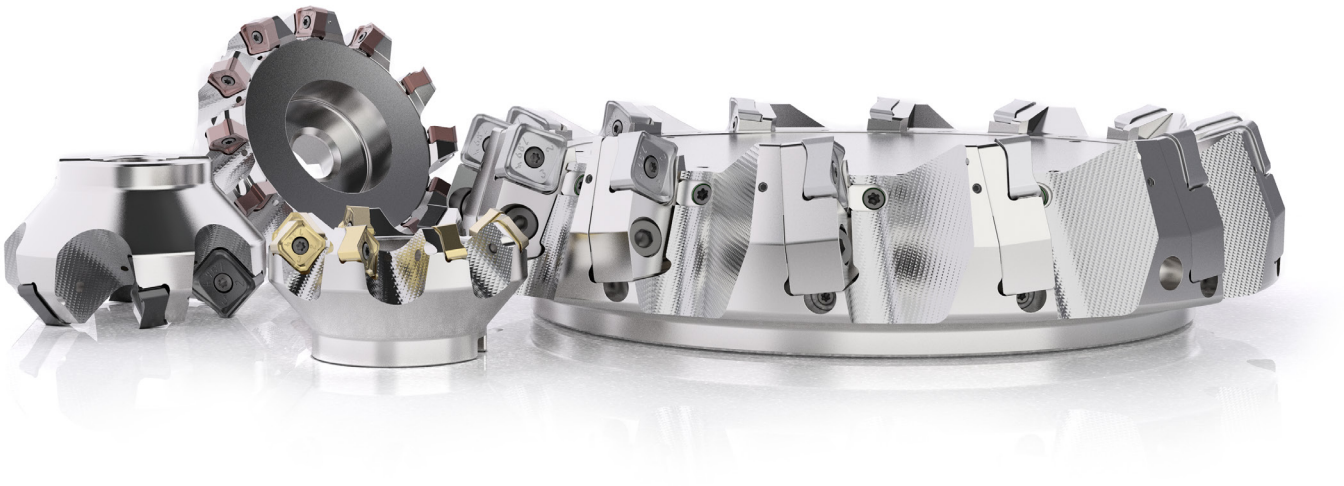
SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.43-06 – Cutting data v_c = (m/min)/(sf/min)

SMG	MH1051				MK2050				MP3000				MS2050				F40M				MP2051				MP1020				H15			
	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%
P1	—	—	—	—	275	295	325	370	295	325	375	430	270	290	325	370	250	270	300	335	300	340	410	485	195	225	260	310	—	—	—	—
	—	—	—	—	*900*	*970*	*1075*	*1225*	*970*	*1075*	*1225*	*1400*	*890*	*950*	*1075*	*1225*	*820*	*890*	*980*	*1100*	*980*	*1125*	*1350*	*1600*	*640*	*740*	*850*	*1025*	—	—	—	—
P2	—	—	—	—	270	290	320	360	290	315	365	410	260	285	320	355	245	265	290	320	290	330	400	460	190	220	255	300	—	—	—	—
	—	—	—	—	*890*	*950*	*1050*	*1175*	*950*	*1025*	*1200*	*1350*	*850*	*940*	*1050*	*1175*	*800*	*870*	*950*	*1050*	*950*	*1075*	*1300*	*1500*	*620*	*720*	*840*	*980*	—	—	—	—
P3	—	—	—	—	235	255	280	315	260	285	325	360	235	250	280	310	220	235	260	280	265	300	360	405	180	205	235	270	—	—	—	—
	—	—	—	—	*770*	*840*	*920*	*1025*	*850*	*940*	*1075*	*1175*	*770*	*820*	*920*	*1025*	*720*	*770*	*850*	*920*	*870*	*980*	*1175*	*1325*	*590*	*670*	*770*	*890*	—	—	—	—
P4	—	—	—	—	205	225	245	280	230	250	285	325	205	220	250	280	200	215	240	265	235	265	315	370	155	180	205	240	—	—	—	—
	—	—	—	—	*670*	*740*	*800*	*920*	*750*	*820*	*940*	*1075*	*670*	*720*	*820*	*920*	*660*	*710*	*790*	*870*	*770*	*870*	*1025*	*1225*	*510*	*590*	*670*	*790*	—	—	—	—
P5	265	295	335	405	200	215	240	270	220	245	270	310	200	215	235	265	185	200	220	240	230	260	300	355	150	170	210	240	—	—	—	—
	870	*970*	*1100*	*1325*	*660*	*710*	*790*	*890*	*720*	*800*	*890*	*1025*	*660*	*710*	*770*	*870*	*610*	*660*	*720*	*790*	*750*	*850*	*980*	*1175*	*490*	*560*	*690*	*790*	—	—	—	—
P6	295	330	390	455	220	240	270	305	250	270	305	350	225	240	265	300	210	225	245	270	260	295	340	395	170	190	235	270	—	—	—	—
	970	*1075*	*1275*	*1500*	*720*	*790*	*890*	*1000*	*820*	*890*	*1000*	*1150*	*740*	*790*	*870*	*980*	*690*	*740*	*800*	*890*	*850*	*970*	*1125*	*1300*	*560*	*620*	*770*	*890*	—	—	—	—
P7	280	310	370	430	210	225	255	285	235	255	290	330	210	225	250	280	195	210	230	255	245	275	320	375	160	180	225	255	—	—	—	—
	920	*1025*	*1225*	*1400*	*690*	*740*	*840*	*940*	*770*	*840*	*950*	*1075*	*690*	*740*	*820*	*920*	*640*	*690*	*750*	*840*	*800*	*900*	*1050*	*1225*	*520*	*590*	*740*	*840*	—	—	—	—
P8	255	285	335	380	200	215	235	265	220	240	270	305	195	210	235	260	185	195	220	235	225	255	300	340	150	170	195	230	—	—	—	—
	840	*940*	*1100*	*1250*	*660*	*710*	*770*	*870*	*720*	*790*	*890*	*1000*	*640*	*690*	*770*	*850*	*610*	*640*	*720*	*770*	*740*	*840*	*980*	*1125*	*490*	*560*	*640*	*750*	—	—	—	—
P11	270	300	360	415	205	220	245	280	230	250	280	320	205	220	245	275	190	205	225	250	235	275	330	410	155	175	215	245	—	—	—	—
	890	*980*	*1175*	*1350*	*670*	*720*	*800*	*920*	*750*	*820*	*920*	*1050*	*670*	*720*	*800*	*900*	*620*	*670*	*740*	*820*	*770*	*900*	*1075*	*1350*	*510*	*570*	*710*	*800*	—	—	—	—
P12	205	225	260	305	135	145	160	180	160	175	190	215	140	150	160	180	130	140	150	165	180	205	235	285	140	155	175	190	—	—	—	—
	670	*740*	*850*	*1000*	*445*	*475*	*520*	*590*	*520*	*570*	*620*	*710*	*460*	*490*	*520*	*590*	*425*	*460*	*490*	*540*	*590*	*670*	*770*	*940*	*460*	*510*	*570*	*620*	—	—	—	—
M1	—	—	—	—	—	—	—	—	210	230	255	285	200	215	245	270	185	195	220	245	250	295	365	445	165	190	220	265	—	—	—	—
	—	—	—	—	—	—	—	—	*690*	*750*	*840*	*940*	*660*	*710*	*800*	*890*	*610*	*640*	*720*	*800*	*820*	*970*	*1200*	*1450*	*540*	*620*	*720*	*870*	—	—	—	—
M2	—	—	—	—	—	—	—	—	180	190	210	240	170	180	200	225	155	165	180	205	225	260	310	390	145	165	205	235	—	—	—	—
	—	—	—	—	—	—	—	—	*590*	*620*	*690*	*790*	*560*	*590*	*660*	*740*	*510*	*540*	*590*	*670*	*740*	*850*	*1025*	*1275*	*475*	*540*	*670*	*770*	—	—	—	—
M3	—	—	—	—	—	—	—	—	145	155	175	195	135	145	165	185	125	135	150	165	200	230	275	330	150	170	190	215	—	—	—	—
	—	—	—	—	—	—	—	—	*475*	*510*	*570*	*640*	*445*	*475*	*540*	*610*	*410*	*445*	*490*	*540*	*660*	*750*	*900*	*1075*	*490*	*560*	*620*	*710*	—	—	—	—
M4	—	—	—	—	—	—	—	—	110	120	135	150	105	115	125	145	95	105	115	130	160	180	215	260	130	140	160	175	—	—	—	—
	—	—	—	—	—	—	—	—	*360*	*395*	*445*	*490*	*345*	*375*	*410*	*475*	*310*	*345*	*375*	*425*	*520*	*590*	*710*	*850*	*425*	*460*	*520*	*570*	—	—	—	—
M5	—	—	—	—	—	—	—	—	95	100	110	125	90	95	105	120	80	85	95	110	135	150	180	215	110	120	135	145	—	—	—	—
	—	—	—	—	—	—	—	—	*310*	*330*	*360*	*410*	*295*	*310*	*345*	*395*	*260*	*280*	*310*	*360*	*445*	*490*	*590*	*710*	*360*	*395*	*445*	*475*	—	—	—	—
K1	340	385	440	530	290	310	345	390	225	245	270	305	—	—	—	—	180	195	215	245	—	—	—	—	195	210	235	265	—	—	—	—
	1125	*1275*	*1450*	*1750*	*950*	*1025*	*1125*	*1275*	*740*	*800*	*890*	*1000*	—	—	—	—	*590*	*640*	*710*	*800*	—	—	—	—	*640*	*690*	*770*	*870*	—	—	—	—
K2	320	355	405	490	255	275	310	350	200	220	240	270	—	—	—	—	160	175	190	220	—	—	—	—	175	185	210	235	—	—	—	—
	1050	*1175*	*1325*	*1600*	*840*	*900*	*1025*	*1150*	*660*	*720*	*790*	*890*	—	—	—	—	*520*	*570*	*620*	*720*	—	—	—	—	*570*	*610*	*690*	*770*	—	—	—	—
K3	270	300	345	415	215	235	260	295	170	185	205	230	—	—	—	—	135	145	160	185	—	—	—	—	145	160	175	200	—	—	—	—
	890	*980*	*1125*	*1350*	*710*	*770*	*850*	*970*	*560*	*610*	*670*	*750*	—	—	—	—	*445*	*475*	*520*	*610*	—	—	—	—	*475*	*520*	*570*	*660*	—	—	—	—
K4	255	285	330	395	205	225	250	280	165	175	195	220	—	—	—	—	130	140	155	175	—	—	—	—	140	150	170	190	—	—	—	—
	840	*940*	*1075*	*1300*	*670*	*740*	*820*	*920*	*540*	*570*	*640*	*720*	—	—	—	—	*425*	*460*	*510*	*570*	—	—	—	—	*460*	*490*	*560*	*620*	—	—	—	—
K5	165	185	215	250	130	140	150	175	100	110	120	135	—	—	—	—	80	85	95	110	—	—	—	—	85	95	105	115	—	—	—	—
	540	*610*	*710*	*820*	*425*	*460*	*490*	*570*	*330*	*360*	*395*	*445*	—	—	—	—	*260*	*280*	*310*	*360*	—	—	—	—	*280*	*310*	*345*	*375*	—	—	—	—
K6	225	255	290	350	180	195	220	250	145	155	170	195	—	—	—	—	115	125	135	155	—	—	—	—	125	135	150	170	—	—	—	—
	740	*840*	*950*	*1150*	*590*	*640*	*720*	*820*	*475*	*510*	*560*	*640*	—	—	—	—	*375*	*410*	*445*	*510*	—	—	—	—	*410*	*445*	*490*	*560*	—	—	—	—
K7	210	235	275	315	165	175	195	220	130	140	150	175	—	—	—	—	105	110	120	140	—	—	—	—	110	120	130	150	—	—	—	—
	690	*770*	*900*	*1025*	*540*	*570*	*640*	*720*	*425*	*460*	*490*	*570*	—	—	—	—	*345*	*360*	*395*	*460*	—	—	—	—	*360*	*395*	*425*	*490*	—	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1425	1550	1675	1925
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*4675*	*5075*	*5500*	*6325*
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	580	620	680	770
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*1900*	*2025*	*2225*	*2525*
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	385	415	455	520
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*1275*	*1350*	*1500*	*1700*
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	440	475	520	590
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*1450*	*1550*	*1700*	*1925*
S1	—	—	—	—	—	—	—	—	50	55	60	70	49	55	60	65	45	48	55	60	55	60	65	75	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	*165*	*180*	*195*	*230*	*160*	*180*	*195*	*215*	*150*	*155*	*180*	*195*	*180*	*195*	*215*	*245*	—	—	—	—	—	—	—	—
S2	—	—	—	—	—	—	—	—	42	45	50	55	40	43	48	55	36	39	43	49	44	47	50	60	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	*140*	*150*	*165*	*180*	*130*	*140*	*155*	*180*	*120*	*130*	*140*	*160*	*145*	*155*	*165*	*195*	—	—	—	—	—	—	—	—
S3	—	—	—	—	—	—	—	—	37	39	44	50	35	37	42	48	32	34	38	43	38	41	46	50	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	*120*	*130*	*145*	*165*	*115*	*120*	*140*	*155*	*105*	*110*	*125*	*140*	*125*	*135*	*150*	*165*	—	—	—	—	—	—	—	—
S11	—	—	—	—	—	—	—	—	—	—	—	—	70	75	85	95	65	70	75	85	75	80	90	100	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*230*	*245*	*280*	*310*	*215*	*230*	*245*	*280*	*245*	*260*	*295*	*330*	—	—	—	—	—	—	—	—
S12	—	—	—	—	—	—	—	—	—	—	—	—	48	50	55	65	44	47	50	60	50	55	65	70	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*155*	*165*	*180*	*215*	*145*	*155*	*165*	*195*	*165*	*180*	*215*	*230*	—	—	—	—	—	—	—	—
S13	—	—	—	—	—	—	—	—	—	—	—	—	28	30	33	38	25	27	30	34	30	33	36	41	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*90*	*100*	*110*	*125*	*80*	*90*	*100*	*110*	*100*	*110*	*120*	*135*	—	—	—	—	—	—	—	—
H5	105	115	135	155	46	50	55	60	45	48	55	60	—	—	—	—	38	41	45	50	—	—	—	—	—	—	—	—	—	—	—	—
	345	*375*	*445*	*510*	*150*	*165*	*180*	*195*	*150*	*155*	*180*	*195*	—	—	—	—	*125*	*135*	*150*	*165*	—	—	—	—	—	—	—	—	—	—	—	—
H8	125	140	150	180	50	55	60	70	48	50	55	65	—	—	—	—	41	44	48	55	—	—	—	—	—	—	—	—	—	—	—	—
	410	*460*	*490*	*590*	*165*	*180*	*195*	*230*	*155*	*165*	*180*	*215*	—	—	—	—	*135*	*145*	*155*	*180*	—	—	—	—	—	—	—	—	—	—	—	—
H11	135	145	170	200	60	65	70	80	55	60	65	75	—	—	—	—	49	55	60	65	120	135	155	185	—	—	—	—	—	—	—	—
	445	*475*	*560*	*660*	*195*	*215*	*230*	*260*	*180*	*195*	*215*	*245*	—	—	—	—	*160*	*180*	*195*	*215*	*395*	*445*	*510*	*610*	—	—	—	—	—	—	—	—
H12	145	160	175	205	90	95	105	120	90	100	110	120	—	—	—	—	75	80	85	100	120	135	150	180	—	—	—	—	—	—	—	—
	475	*520*	*570*	*670*	*295*	*310*	*345*	*395*	*295*	*330*	*360*	*395*	—	—	—	—	*245*	*260*	*280*	*330*	*395*	*445*	*490*	*590*	—	—	—	—	—	—	—	—
H21	125	140	150	180	50	55	60	70	48	50	55	65	—	—	—	—	41	44	48	55	105	110	120	130	—	—	—	—	—	—	—	—
	410	*460*	*490*	*590*	*165*	*180*	*195*	*230*	*155*	*165*	*180*	*215*	—	—	—	—	*135*	*145*	*155*	*180*	*345*	*360*	*395*	*425*	—	—	—	—	—	—	—	—

R217/220.43-06 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK1501				MP1501				MP2501				MS2500				MP3501			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	—	—	—	—	375	385	415	450	365	375	400	440	390	400	430	475	325	330	355	390
	—	—	—	—	*1225*	*1275*	*1350*	*1475*	*1200*	*1225*	*1300*	*1450*	*1275*	*1300*	*1400*	*1550*	*1075*	*1075*	*1175*	*1275*
P2	—	—	—	—	365	375	405	440	355	365	390	425	375	390	420	465	315	320	345	380
	—	—	—	—	*1200*	*1225*	*1325*	*1450*	*1175*	*1200*	*1275*	*1400*	*1225*	*1275*	*1375*	*1525*	*1025*	*1050*	*1125*	*1250*
P3	—	—	—	—	320	330	355	385	310	320	345	375	335	345	370	410	280	285	305	335
	—	—	—	—	*1050*	*1075*	*1175*	*1275*	*1025*	*1050*	*1125*	*1225*	*1100*	*1125*	*1225*	*1350*	*920*	*940*	*1000*	*1100*
P4	—	—	—	—	285	290	310	340	275	285	305	330	295	305	325	360	245	250	270	295
	—	—	—	—	*940*	*950*	*1025*	*1125*	*900*	*940*	*1000*	*1075*	*970*	*1000*	*1075*	*1175*	*800*	*820*	*890*	*970*
P5	—	—	—	—	270	280	300	330	265	270	290	320	285	295	315	345	235	240	255	285
	—	—	—	—	*890*	*920*	*980*	*1075*	*870*	*890*	*950*	*1050*	*940*	*970*	*1025*	*1125*	*770*	*790*	*840*	*940*
P6	—	—	—	—	305	310	335	370	295	305	325	360	320	330	355	385	260	270	290	320
	—	—	—	—	*1000*	*1025*	*1100*	*1225*	*970*	*1000*	*1075*	*1175*	*1050*	*1075*	*1175*	*1275*	*850*	*890*	*950*	*1050*
P7	—	—	—	—	285	295	315	350	280	285	305	340	300	310	335	365	245	255	275	305
	—	—	—	—	*940*	*970*	*1025*	*1150*	*920*	*940*	*1000*	*1125*	*980*	*1025*	*1100*	*1200*	*800*	*840*	*900*	*1000*
P8	—	—	—	—	270	280	300	325	265	270	290	315	280	290	310	345	235	240	255	280
	—	—	—	—	*890*	*920*	*980*	*1075*	*870*	*890*	*950*	*1025*	*920*	*950*	*1025*	*1125*	*770*	*790*	*840*	*920*
P11	—	—	—	—	280	285	305	340	270	280	300	330	290	305	325	355	240	245	265	295
	—	—	—	—	*920*	*940*	*1000*	*1125*	*890*	*920*	*980*	*1075*	*950*	*1000*	*1075*	*1175*	*790*	*800*	*870*	*970*
P12	—	—	—	—	185	190	205	225	180	190	200	220	195	200	215	230	165	170	180	195
	—	—	—	—	*610*	*620*	*670*	*740*	*590*	*620*	*660*	*720*	*640*	*660*	*710*	*750*	*540*	*560*	*590*	*640*
M1	—	—	—	—	—	—	—	—	185	195	210	235	220	235	255	280	170	185	195	215
	—	—	—	—	—	—	—	—	*610*	*640*	*690*	*770*	*720*	*770*	*840*	*920*	*560*	*610*	*640*	*710*
M2	—	—	—	—	—	—	—	—	150	160	175	195	185	195	210	235	140	150	165	180
	—	—	—	—	—	—	—	—	*490*	*520*	*570*	*640*	*610*	*640*	*690*	*770*	*460*	*490*	*540*	*590*
M3	—	—	—	—	—	—	—	—	125	135	145	160	150	160	170	190	115	125	135	150
	—	—	—	—	—	—	—	—	*410*	*445*	*475*	*520*	*490*	*520*	*560*	*620*	*375*	*410*	*445*	*490*
M4	—	—	—	—	—	—	—	—	95	105	110	125	115	125	130	145	90	95	105	115
	—	—	—	—	—	—	—	—	*310*	*345*	*360*	*410*	*375*	*410*	*425*	*475*	*295*	*310*	*345*	*375*
M5	—	—	—	—	—	—	—	—	80	85	95	105	95	100	110	125	75	80	85	95
	—	—	—	—	—	—	—	—	*260*	*280*	*310*	*345*	*310*	*330*	*360*	*410*	*245*	*260*	*280*	*310*
K1	335	410	465	550	370	380	405	440	360	365	395	430	245	260	280	310	315	325	350	380
	1100	*1350*	*1525*	*1800*	*1225*	*1250*	*1325*	*1450*	*1175*	*1200*	*1300*	*1400*	*800*	*850*	*920*	*1025*	*1025*	*1075*	*1150*	*1250*
K2	295	360	410	485	325	335	360	400	320	325	350	390	220	230	250	275	280	290	310	345
	970	*1175*	*1350*	*1600*	*1075*	*1100*	*1175*	*1300*	*1050*	*1075*	*1150*	*1275*	*720*	*750*	*820*	*900*	*920*	*950*	*1025*	*1125*
K3	225	250	275	315	275	285	305	335	270	275	295	330	185	195	210	235	240	245	265	295
	740	*820*	*900*	*1025*	*900*	*940*	*1000*	*1100*	*890*	*900*	*970*	*1075*	*610*	*640*	*690*	*770*	*790*	*800*	*870*	*970*
K4	215	235	260	300	265	270	290	320	255	265	285	315	175	190	205	225	230	235	250	280
	710	*770*	*850*	*980*	*870*	*890*	*950*	*1050*	*840*	*870*	*940*	*1025*	*570*	*620*	*670*	*740*	*750*	*770*	*820*	*920*
K5	130	145	160	180	165	170	180	195	160	165	175	190	110	115	125	135	145	145	160	170
	425	*475*	*520*	*590*	*540*	*560*	*590*	*640*	*520*	*540*	*570*	*620*	*360*	*375*	*410*	*445*	*475*	*475*	*520*	*560*
K6	190	210	230	265	230	240	255	285	225	230	250	275	155	165	180	195	200	205	220	245
	620	*690*	*750*	*870*	*750*	*790*	*840*	*940*	*740*	*750*	*820*	*900*	*510*	*540*	*590*	*640*	*660*	*670*	*720*	*800*
K7	170	190	210	235	210	220	235	250	205	210	225	245	140	150	160	175	185	190	200	220
	560	*620*	*690*	*770*	*690*	*720*	*770*	*820*	*670*	*690*	*740*	*800*	*460*	*490*	*520*	*570*	*610*	*620*	*660*	*720*
S1	—	—	—	—	—	—	—	—	—	—	—	—	55	60	65	70	42	45	48	55
	—	—	—	—	—	—	—	—	—	—	—	—	*180*	*195*	*215*	*230*	*140*	*150*	*155*	*180*
S2	—	—	—	—	—	—	—	—	—	—	—	—	45	48	50	60	34	36	39	44
	—	—	—	—	—	—	—	—	—	—	—	—	*150*	*155*	*165*	*195*	*110*	*120*	*130*	*145*
S3	—	—	—	—	—	—	—	—	—	—	—	—	40	42	46	50	30	32	35	38
	—	—	—	—	—	—	—	—	—	—	—	—	*130*	*140*	*150*	*165*	*100*	*105*	*115*	*125*
S11	—	—	—	—	—	—	—	—	—	—	—	—	80	85	90	100	60	65	70	75
	—	—	—	—	—	—	—	—	—	—	—	—	*260*	*280*	*295*	*330*	*195*	*215*	*230*	*245*
S12	—	—	—	—	—	—	—	—	—	—	—	—	55	60	65	70	40	43	47	50
	—	—	—	—	—	—	—	—	—	—	—	—	*180*	*195*	*215*	*230*	*130*	*140*	*155*	*165*
S13	—	—	—	—	—	—	—	—	—	—	—	—	32	34	36	40	24	25	27	30
	—	—	—	—	—	—	—	—	—	—	—	—	*105*	*110*	*120*	*130*	*80*	*80*	*90*	*100*
H5	—	—	—	—	48	50	55	60	—	—	—	—	47	50	55	60	37	40	43	48
	—	—	—	—	*155*	*165*	*180*	*195*	—	—	—	—	*155*	*165*	*180*	*195*	*120*	*130*	*140*	*155*
H8	—	—	—	—	50	55	60	65	—	—	—	—	50	55	55	60	40	43	47	50
	—	—	—	—	*165*	*180*	*195*	*215*	—	—	—	—	*165*	*180*	*180*	*195*	*130*	*140*	*155*	*165*
H11	—	—	—	—	60	65	70	80	—	—	—	—	60	65	70	75	47	50	55	60
	—	—	—	—	*195*	*215*	*230*	*260*	—	—	—	—	*195*	*215*	*230*	*245*	*155*	*165*	*180*	*195*
H12	—	—	—	—	95	100	110	120	—	—	—	—	100	105	115	125	70	80	85	90
	—	—	—	—	*310*	*330*	*360*	*395*	—	—	—	—	*330*	*345*	*375*	*410*	*230*	*260*	*280*	*295*
H21	—	—	—	—	50	55	60	65	—	—	—	—	50	55	55	60	40	43	47	50
	—	—	—	—	*165*	*180*	*195*	*215*	—	—	—	—	*165*	*180*	*180*	*195*	*130*	*140*	*155*	*165*

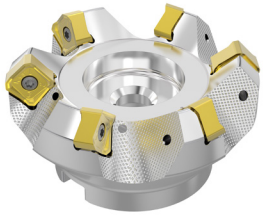


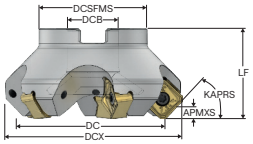
Double Quattromill 14/22

Take full advantage of your machine tool's milling power for increased productivity with Seco's Double Quattromill™ face mill cutter for roughing and semi finishing. The 48-degree Double Quattromill provides a combination of lower cutting forces, less power consumption, higher feed rates and exceptional chip thinning. While on the other hand, the 71 degree is best when having to mill close to a wall or part fixture. The cutter is the perfect balance between the 48-degree version and a typical square shoulder mill in terms of cutting forces and depth of cut.

– Insert size 14, cutter range 50-315mm (2 - 12.50 inches)
– Insert size 22, cutter range 80-315mm (3 - 12.50 inches)
– 8 cutting edges, double-sided inserts

R220.54-14 metric

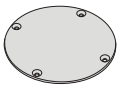




—For insert selection and cutting data recommendations, see page(s) 251-256
—For complete insert programme, see page(s) 906
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm	mm		kg	
R220.54-0050-14-4A	03213622	Arbor	50,0	4	6,0	48,0 °	65,0	22,0	–	47,0	40,0	8500	0,5	SN.X1407A
R220.54-0050-14-5A	03213629	Arbor	50,0	5	6,0	48,0 °	65,0	22,0	–	47,0	40,0	8500	0,5	SN.X1407A
R220.54-0063-14-5A	03213623	Arbor	63,0	5	6,0	48,0 °	78,0	22,0	–	47,0	40,0	7600	0,6	SN.X1407A
R220.54-0063-14-7A	03213630	Arbor	63,0	7	6,0	48,0 °	78,0	22,0	–	47,0	40,0	7600	0,6	SN.X1407A
R220.54-0080-14-6A	03213624	Arbor	80,0	6	6,0	48,0 °	95,0	27,0	–	62,0	50,0	6700	1,2	SN.X1407A
R220.54-0080-14-8A	03213631	Arbor	80,0	8	6,0	48,0 °	95,0	27,0	–	62,0	50,0	6700	1,2	SN.X1407A
R220.54-0100-14-7A	03213625	Arbor	100,0	7	6,0	48,0 °	115,0	32,0	–	77,0	50,0	6000	1,8	SN.X1407A
R220.54-0100-14-10A	03213632	Arbor	100,0	10	6,0	48,0 °	115,0	32,0	–	77,0	50,0	6000	1,8	SN.X1407A
R220.54-0125-14-8A	03213626	Arbor	125,0	8	6,0	48,0 °	140,0	40,0	–	90,0	63,0	5400	3,6	SN.X1407A
R220.54-0125-14-12A	03213633	Arbor	125,0	12	6,0	48,0 °	140,0	40,0	–	90,0	63,0	5400	3,4	SN.X1407A
R220.54-8160-14-10A	03213627	Arbor	160,0	10	6,0	48,0 °	175,0	40,0	66,7	90,0	63,0	4700	6,2	SN.X1407A
R220.54-8160-14-15A	03213634	Arbor	160,0	15	6,0	48,0 °	175,0	40,0	66,7	90,0	63,0	4700	5,8	SN.X1407A
R220.54-8200-14-12A	03213628	Arbor	200,0	12	6,0	48,0 °	215,0	60,0	101,6	130,0	63,0	4200	11,8	SN.X1407A

Spare Parts, included in delivery

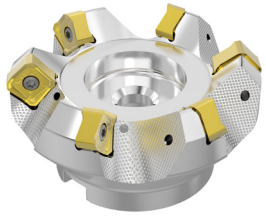
For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R220.54-0050-0063	220.17-691	1/4HEX-T15PX50	C04011-T15P	–	–
R220-54-0080	–	1/4HEX-T15PX50	C04011-T15P	–	–
R220-54-0100-0125	–	1/4HEX-T15PX90	C04011-T15P	–	–
R220-54-8160	–	1/4HEX-T15PX90	C04011-T15P	SC-160-90	MF6S4X10
R220-54-8200	–	1/4HEX-T15PX90	C04011-T15P	SC-200-90	MF6S4X10

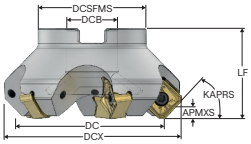
Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.54-0050-0063	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.54-0080	1/4HEX-S-HANDLE-0.8-5.0NM	5802712	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.54-0100	1/4HEX-S-HANDLE-0.8-5.0NM	5803216	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.54-0125	1/4HEX-S-HANDLE-0.8-5.0NM	5804020	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.54-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.54-8200	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Double Quattro R220.54-14 – inch

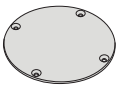




–For insert selection and cutting data recommendations, see page(s) 251-256
–For complete insert programme, see page(s) 906
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DBC2	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch		inch	inch	inch	inch	inch	inch		lbs	
R220.54-02.00-14-4A	03213636	Arbor	1.969	4	0.236	48,0 °	2.559	0.750	–	–	1.850	1.575	8500	1.100	SN.X1407A
R220.54-02.00-14-5A	03213643	Arbor	1.969	5	0.236	48,0 °	2.559	0.750	–	–	1.850	1.575	8500	1.100	SN.X1407A
R220.54-02.50-14-5A	03213637	Arbor	2.480	5	0.236	48,0 °	3.071	0.750	–	–	1.850	1.575	7600	1.320	SN.X1407A
R220.54-02.50-14-7A	03213644	Arbor	2.480	7	0.236	48,0 °	3.071	0.750	–	–	1.850	1.575	7600	1.320	SN.X1407A
R220.54-03.00-14-6A	03213638	Arbor	3.150	6	0.236	48,0 °	3.740	1.000	–	–	2.441	1.969	6700	3.090	SN.X1407A
R220.54-03.00-14-8A	03213645	Arbor	3.150	8	0.236	48,0 °	3.740	1.000	–	–	2.441	1.969	6700	2.870	SN.X1407A
R220.54-04.00-14-7A	03213639	Arbor	3.937	7	0.236	48,0 °	4.528	1.500	–	–	3.031	1.969	6000	3.970	SN.X1407A
R220.54-04.00-14-10A	03213646	Arbor	3.937	10	0.236	48,0 °	4.528	1.500	–	–	3.031	1.969	6000	3.970	SN.X1407A
R220.54-05.00-14-8A	03213640	Arbor	4.921	8	0.236	48,0 °	5.512	1.500	–	–	3.543	2.480	5400	8.380	SN.X1407A
R220.54-05.00-14-12A	03213647	Arbor	4.921	12	0.236	48,0 °	5.512	1.500	–	–	3.543	2.480	5400	8.600	SN.X1407A
R220.54-06.00-14-10A	03213641	Arbor	6.299	10	0.236	48,0 °	6.890	2.000	–	–	4.331	2.480	4700	14.330	SN.X1407A
R220.54-06.00-14-15A	03213648	Arbor	6.299	15	0.236	48,0 °	6.890	2.000	–	–	4.331	2.480	4700	14.110	SN.X1407A
R220.54-808.00-14-12A	03213642	Arbor	7.874	12	0.236	48,0 °	8.465	2.500	4.000	4.000	5.118	2.480	4200	18.080	SN.X1407A

Spare Parts, included in delivery

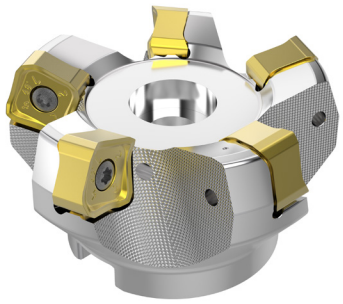
For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R220.54-02.00-02.50	220.17-698	1/4HEX-T15PX50	C04011-T15P	–	–
R220.54-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T15PX50	C04011-T15P	–	–
R220.54-04.00	UF6S3/4UNFX1-3/4	1/4HEX-T15PX90	C04011-T15P	–	–
R220.54-05.00	UC6S3/4UNFX1-1/4	1/4HEX-T15PX90	C04011-T15P	–	–
R220.54-06.00	–	1/4HEX-T15PX90	C04011-T15P	SC-160-90	MF6S4X10
R220.54-808.00	–	1/4HEX-T15PX90	C04011-T15P	SC-200-90	MF6S4X10

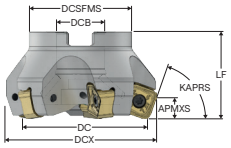
Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.54-02.00-05.00	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.54-06.00	1/4HEX-S-HANDLE-0.8-5.0NM	58215080	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.54-808.00	1/4HEX-S-HANDLE-0.8-5.0NM	950DNC062225	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Double Quattro R220.56-14 – Metric

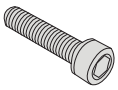
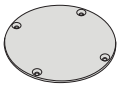




—For insert selection and cutting data recommendations, see page(s) 251-256
—For complete insert programme, see page(s) 906
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm	mm		kg	
R220.56-0050-14-5A	03241902	Arbor	50,0	5	8,0	71,0 °	57,0	22,0	–	47,0	40,0	8500	0,4	SN.X1407Z
R220.56-0063-14-5A	03241896	Arbor	63,0	5	8,0	71,0 °	70,0	22,0	–	47,0	40,0	7600	0,6	SN.X1407Z
R220.56-0063-14-6A	03241903	Arbor	63,0	6	8,0	71,0 °	70,0	22,0	–	47,0	40,0	7600	0,6	SN.X1407Z
R220.56-0080-14-6A	03241897	Arbor	80,0	6	8,0	71,0 °	87,0	27,0	–	62,0	50,0	6700	1,1	SN.X1407Z
R220.56-0080-14-8A	03241904	Arbor	80,0	8	8,0	71,0 °	87,0	27,0	–	62,0	50,0	6700	1,1	SN.X1407Z
R220.56-0100-14-7A	03241898	Arbor	100,0	7	8,0	71,0 °	107,0	32,0	–	77,0	50,0	6000	1,7	SN.X1407Z
R220.56-0100-14-10A	03241905	Arbor	100,0	10	8,0	71,0 °	107,0	32,0	–	77,0	50,0	6000	1,7	SN.X1407Z
R220.56-0125-14-8A	03241899	Arbor	125,0	8	8,0	71,0 °	132,0	40,0	–	90,0	63,0	5400	3,2	SN.X1407Z
R220.56-0125-14-12A	03241906	Arbor	125,0	12	8,0	71,0 °	132,0	40,0	–	90,0	63,0	5400	3,4	SN.X1407Z
R220.56-8160-14-10A	03241900	Arbor	160,0	10	8,0	71,0 °	167,0	40,0	66,7	90,0	63,0	4700	5,5	SN.X1407Z
R220.56-8160-14-15A	03241907	Arbor	160,0	15	8,0	71,0 °	167,0	40,0	66,7	90,0	63,0	4700	5,4	SN.X1407Z
R220.56-8200-14-12A	03241901	Arbor	200,0	12	8,0	71,0 °	207,0	60,0	101,6	130,0	63,0	4200	6,6	SN.X1407Z

Spare Parts, included in delivery

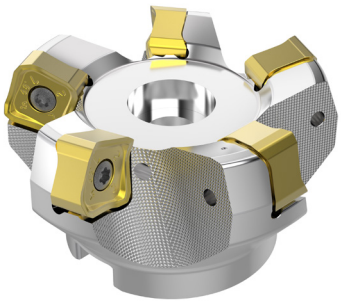
For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R220.56-0050-0063	220.17-692	1/4HEX-T15PX50	C04011-T15P	–	–
R220.56-0080	–	1/4HEX-T15PX50	C04011-T15P	–	–
R220.56-0100-0125	–	1/4HEX-T15PX90	C04011-T15P	–	–
R220.56-8160	–	1/4HEX-T15PX90	C04011-T15P	SC-160-90	MF6S4X10
R220.56-8200	–	1/4HEX-T15PX90	C04011-T15P	SC-200-90	MF6S4X10

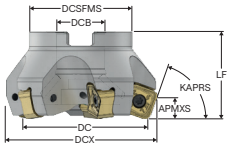
Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.56-0050-0063	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.56-0080-6A	1/4HEX-S-HANDLE-0.8-5.0NM	5802712	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.56-0080-8A	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.56-0100	1/4HEX-S-HANDLE-0.8-5.0NM	5803216	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.56-0125	1/4HEX-S-HANDLE-0.8-5.0NM	5804020	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.56-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.56-8200	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Double Quattro R220.56-14 – inch

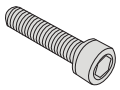
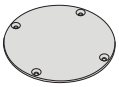




–For insert selection and cutting data recommendations, see page(s) 251-256
–For complete insert programme, see page(s) 906
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DBC2	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch		inch	inch	inch	inch	inch	inch		lbs	
R220.56-02.00-14-5A	03241916	Arbor	1.969	5	0.315	71,0 °	2.244	0.750	–	–	1.850	1.575	8500	1.100	SN.X1407Z
R220.56-02.50-14-5A	03241910	Arbor	2.480	5	0.315	71,0 °	2.756	0.750	–	–	1.850	1.575	7600	1.100	SN.X1407Z
R220.56-02.50-14-6A	03241917	Arbor	2.480	6	0.315	71,0 °	2.756	0.750	–	–	1.850	1.575	7600	1.320	SN.X1407Z
R220.56-03.00-14-6A	03241911	Arbor	3.150	6	0.315	71,0 °	3.425	1.000	–	–	2.441	1.969	6700	2.650	SN.X1407Z
R220.56-03.00-14-8A	03241918	Arbor	3.150	8	0.315	71,0 °	3.425	1.000	–	–	2.441	1.969	6700	2.870	SN.X1407Z
R220.56-04.00-14-7A	03241912	Arbor	3.937	7	0.315	71,0 °	4.213	1.500	–	–	3.031	1.969	6000	3.310	SN.X1407Z
R220.56-04.00-14-10A	03241919	Arbor	3.937	10	0.315	71,0 °	4.213	1.500	–	–	3.031	1.969	6000	3.530	SN.X1407Z
R220.56-05.00-14-8A	03241913	Arbor	4.921	8	0.315	71,0 °	5.197	1.500	–	–	3.543	2.480	5400	8.160	SN.X1407Z
R220.56-05.00-14-12A	03241920	Arbor	4.921	12	0.315	71,0 °	5.197	1.500	–	–	3.543	2.480	5400	7.940	SN.X1407Z
R220.56-06.00-14-10A	03241914	Arbor	6.299	10	0.315	71,0 °	6.575	2.000	–	–	4.331	2.480	4700	13.450	SN.X1407Z
R220.56-06.00-14-15A	03241921	Arbor	6.299	15	0.315	71,0 °	6.575	2.000	–	–	4.331	2.480	4700	13.230	SN.X1407Z
R220.56-808.00-14-12A	03241915	Arbor	7.874	12	0.315	71,0 °	8.150	2.500	4.000	4.000	5.118	2.480	4200	16.310	SN.X1407Z

Spare Parts, included in delivery

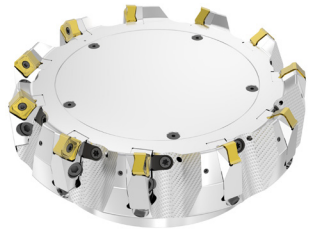
For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R220.56-02.00-02.50	UC6S3/8UNFX1	1/4HEX-T15PX50	C04011-T15P	–	–
R220.56-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T15PX50	C04011-T15P	–	–
R220.56-04.00	UF6S3/4UNFX1-3/4	1/4HEX-T15PX90	C04011-T15P	–	–
R220.56-05.00	UC6S3/4UNFX1-1/4	1/4HEX-T15PX90	C04011-T15P	–	–
R220.56-06.00	–	1/4HEX-T15PX90	C04011-T15P	SC-160-90	MF6S4X10
R220.56-808.00	–	1/4HEX-T15PX90	C04011-T15P	SC-200-90	MF6S4X10

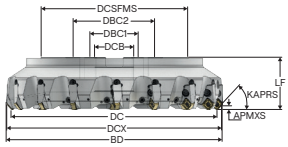
Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.56-02.00-05.00	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.56-06.00	1/4HEX-S-HANDLE-0.8-5.0NM	58215080	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.56-808.00	1/4HEX-S-HANDLE-0.8-5.0NM	950DNC062225	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Double Quattro R220.54/56-14CA – Metric

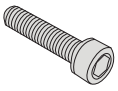
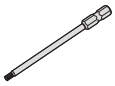
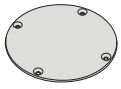




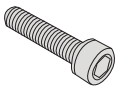
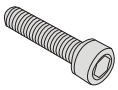
—For insert selection and cutting data recommendations, see page(s) 251-256
—For complete insert programme, see page(s) 906
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DBC2	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm	mm	mm		kg	
R220.54-8200-14-11CA	03213788	Arbor	200,0	11	6,0	48,0 °	215,0	60,0	101,6	–	130,0	80,0	4200	9,8	SN.X1407A
R220.56-8200-14-11CA	03245959	Arbor	200,0	11	8,0	71,0 °	207,0	60,0	101,6	–	130,0	80,0	4200	18,6	SN.X1407Z
R220.54-8250-14-14CA	03213789	Arbor	250,0	14	6,0	48,0 °	265,0	60,0	101,6	–	130,0	80,0	3800	23,2	SN.X1407A
R220.56-8250-14-14CA	03245960	Arbor	250,0	14	8,0	71,0 °	257,0	60,0	101,6	–	130,0	80,0	3800	18,5	SN.X1407Z
R220.54-8315-14-16CA	03213790	Arbor	315,0	16	6,0	48,0 °	330,0	60,0	101,6	177,8	225,0	80,0	3400	32,0	SN.X1407A
R220.56-8315-14-16CA	03245961	Arbor	315,0	16	8,0	71,0 °	322,0	60,0	101,6	177,8	225,0	80,0	3400	29,8	SN.X1407Z

Spare Parts, included in delivery

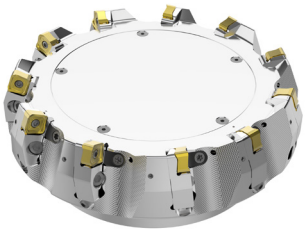
For cutter	Adjustment unit	Cassette	Cassette screw	Insert key	Insert screw	Lid	Lid screw	Wedge clamp	Wedge screw
									
R220.54-8200	AU1114T-T15P	SN14AR	MC6S6X20	1/4HEX-T15PX90	C04011-T15P	SC-200-90	MF6S4X10	CW0810	LD8020-T25P
R220.54-8250	AU1114T-T15P	SN14AR	MC6S6X20	1/4HEX-T15PX90	C04011-T15P	SC-250-90	MF6S4X10	CW0810	LD8020-T25P
R220.54-8315	AU1114T-T15P	SN14AR	MC6S6X20	1/4HEX-T15PX90	C04011-T15P	SC-315-90	MF6S4X10	CW0810	LD8020-T25P
R220.56-8200	AU1114T-T15P	SN14ZR	MC6S6X20	1/4HEX-T15PX90	C04011-T15P	SC-200-90	MF6S4X8	CW0810	LD8020-T25P
R220.56-8250	AU1114T-T15P	SN14ZR	MC6S6X20	1/4HEX-T15PX90	C04011-T15P	SC-250-90	MF6S4X10	CW0810	LD8020-T25P
R220.56-8315	AU1114T-T15P	SN14ZR	MC6S6X20	1/4HEX-T15PX90	C04011-T15P	SC-315-90	MF6S4X10	CW0810	LD8020-T25P

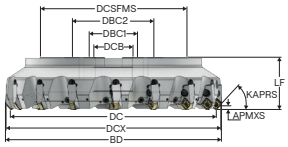
Accessories

For cutter	Adjustable Torque key	Arbor screw	Arbor screw 2	Bit holder	Insert clamping torque	Torque key
						
R220.54/56-8200	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50	–	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.54/56-8250	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50	–	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.54/56-8315	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50	MC6S20X50	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Double Quattro R220.54/56-14CA – inch

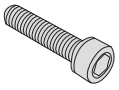
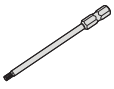
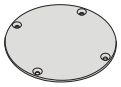




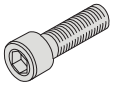
—For insert selection and cutting data recommendations, see page(s) 251-256
—For complete insert programme, see page(s) 906
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DBC2	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch		inch	inch	inch	inch	inch	inch		lbs	
R220.54-808.00-14-11CA	03213792	Arbor	7.874	11	0.236	48,0 °	8.465	2.500	4.000	4.000	5.118	3.150	4200	32.850	SN.X1407A
R220.56-808.00-14-11CA	03245963	Arbor	7.874	11	0.315	71,0 °	8.150	2.500	4.000	4.000	5.118	3.150	4200	22.490	SN.X1407Z
R220.54-810.00-14-14CA	03213793	Arbor	9.843	14	0.236	48,0 °	10.433	2.500	4.000	4.000	5.118	3.150	3800	51.590	SN.X1407A
R220.56-810.00-14-14CA	03245964	Arbor	9.843	14	0.315	71,0 °	10.118	2.500	4.000	4.000	5.118	3.150	3800	43.650	SN.X1407Z
R220.54-812.50-14-16CA	03213794	Arbor	12.402	16	0.236	48,0 °	12.992	2.500	4.000	4.000	8.858	3.150	3400	82.230	SN.X1407A
R220.56-812.50-14-16CA	03245965	Arbor	12.402	16	0.315	71,0 °	12.677	2.500	4.000	4.000	8.858	3.150	3400	65.920	SN.X1407Z

Spare Parts, included in delivery

For cutter	Adjustment unit	Cassette	Cassette screw	Insert key	Insert screw	Lid	Lid screw	Wedge clamp	Wedge screw
									
R220.54-808.00	AU1114T-T15P	SN14AR	MC6S6X20	1/4HEX-T15PX90	C04011-T15P	SC-200-90	MF6S4X10	CW0810	LD8020-T25P
R220.54-810.00	AU1114T-T15P	SN14AR	MC6S6X20	1/4HEX-T15PX90	C04011-T15P	SC-250-90	MF6S4X10	CW0810	LD8020-T25P
R220.54-812.50	AU1114T-T15P	SN14AR	MC6S6X20	1/4HEX-T15PX90	C04011-T15P	SC-315-90	MF6S4X10	CW0810	LD8020-T25P
R220.56-808.00	AU1114T-T15P	SN14ZR	MC6S6X20	1/4HEX-T15PX90	C04011-T15P	SC-200-90	MF6S4X10	CW0810	LD8020-T25P
R220.56-810.00	AU1114T-T15P	SN14ZR	MC6S6X20	1/4HEX-T15PX90	C04011-T15P	SC-250-90	MF6S4X10	CW0810	LD8020-T25P
R220.56-812.50	AU1114T-T15P	SN14ZR	MC6S6X20	1/4HEX-T15PX90	C04011-T15P	SC-315-90	MF6S4X10	CW0810	LD8020-T25P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.54/56-808.-812.50	1/4HEX-S-HANDLE-0.8-5.0NM	950DNC062225	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

R220.54-14 – Insert selection – mm/Inch

SMG		a_p	f_z			
			80%	60%	40%	20%
P1	SNMX1407ANTR-M10 MP3501	5,0 *0.20*	0,24 0.0095	0,24 0.0095	0,25 0.010	0,30 0.012
P2	SNMX1407ANTR-M10 MP3501	5,0 *0.20*	0,24 0.0095	0,24 0.0095	0,25 0.010	0,32 0.013
P3	SNMX1407ANTR-M16 MP2501	5,0 *0.20*	0,36 0.014	0,36 0.014	0,38 0.015	0,46 0.018
P4	SNMX1407ANTR-M16 MP2501	5,0 *0.20*	0,36 0.014	0,36 0.014	0,36 0.014	0,46 0.018
P5	SNMX1407ANTR-M16 MP2501	5,0 *0.20*	0,34 0.013	0,34 0.013	0,36 0.014	0,44 0.017
P6	SNMX1407ANTR-M16 MP2501	5,0 *0.20*	0,34 0.013	0,34 0.013	0,36 0.014	0,44 0.017
P7	SNMX1407ANTR-M10 MP3501	5,0 *0.20*	0,22 0.0085	0,22 0.0085	0,22 0.0085	0,28 0.011
P8	SNMX1407ANTR-M10 MP3501	5,0 *0.20*	0,22 0.0085	0,22 0.0085	0,24 0.0095	0,30 0.012
P11	SNMX1407ANTR-M10 MP2051	5,0 *0.20*	0,22 0.0085	0,22 0.0085	0,22 0.0085	0,28 0.011
P12	SNMX1407ANTR-M10 MP2051	4,0 *0.16*	0,15 0.0060	0,15 0.0060	0,16 0.0065	0,19 0.0075
M1	SNHX1407ANR-ME10 F40M	5,0 *0.20*	0,20 0.0080	0,20 0.0080	0,20 0.0080	0,26 0.010
M2	SNHX1407ANR-ME10 MS2050	5,0 *0.20*	0,18 0.0070	0,18 0.0070	0,19 0.0075	0,24 0.0095
M3	SNHX1407ANR-ME10 MS2050	4,0 *0.16*	0,15 0.0060	0,15 0.0060	0,15 0.0060	0,19 0.0075
M4	SNMX1407ANTR-M10 MP2051	3,0 *0.12*	0,16 0.0065	0,16 0.0065	0,16 0.0065	0,20 0.0080
M5	SNMX1407ANTR-M10 MP2051	3,0 *0.12*	0,16 0.0065	0,16 0.0065	0,16 0.0065	0,20 0.0080
K1	SNMX1407ANTR-M16 MK1501	5,0 *0.20*	0,38 0.015	0,38 0.015	0,40 0.016	0,50 0.020
K2	SNMX1407ANTR-M16 MK1501	5,0 *0.20*	0,34 0.013	0,34 0.013	0,36 0.014	0,44 0.017
K3	SNMX1407ANTR-M16 MP1501	5,0 *0.20*	0,34 0.013	0,34 0.013	0,36 0.014	0,44 0.017
K4	SNMX1407ANTR-M16 MP1501	5,0 *0.20*	0,34 0.013	0,34 0.013	0,36 0.014	0,44 0.017
K5	SNMX1407ANTR-M16 MP1501	5,0 *0.20*	0,32 0.013	0,32 0.013	0,32 0.013	0,40 0.016
K6	SNMX1407ANTR-M16 MK2050	5,0 *0.20*	0,34 0.013	0,34 0.013	0,36 0.014	0,44 0.017
K7	SNMX1407ANTR-M16 MK2050	5,0 *0.20*	0,32 0.013	0,32 0.013	0,32 0.013	0,40 0.016
N1	SNHX1407ANR-ME10 H25	5,0 *0.20*	0,26 0.010	0,26 0.010	0,26 0.010	0,32 0.013
N2	SNHX1407ANR-ME10 H25	5,0 *0.20*	0,26 0.010	0,26 0.010	0,26 0.010	0,32 0.013
N3	SNHX1407ANR-ME10 H25	5,0 *0.20*	0,26 0.010	0,26 0.010	0,26 0.010	0,32 0.013
N11	SNHX1407ANR-ME10 H25	5,0 *0.20*	0,26 0.010	0,26 0.010	0,26 0.010	0,32 0.013
S1	SNMX1407ANTR-M10 MS2500	3,0 *0.12*	0,16 0.0065	0,16 0.0065	0,16 0.0065	0,20 0.0080
S2	SNMX1407ANTR-M10 MS2500	3,0 *0.12*	0,16 0.0065	0,16 0.0065	0,16 0.0065	0,20 0.0080
S3	SNMX1407ANTR-M10 MS2500	3,0 *0.12*	0,15 0.0060	0,15 0.0060	0,15 0.0060	0,19 0.0075
S11	SNHX1407ANR-ME10 MS2050	3,5 *0.14*	0,15 0.0060	0,15 0.0060	0,15 0.0060	0,19 0.0075
S12	SNHX1407ANR-ME10 MS2050	3,5 *0.14*	0,15 0.0060	0,15 0.0060	0,15 0.0060	0,19 0.0075
S13	SNHX1407ANR-ME10 MS2050	3,0 *0.12*	0,13 0.0050	0,13 0.0050	0,14 0.0055	0,17 0.0065
H5	SNMX1407ANTR-M16 MP3000	4,0 *0.16*	0,24 0.0095	0,24 0.0095	0,25 0.010	0,30 0.012
H8	SNMX1407ANTR-M16 MP3000	3,5 *0.14*	0,18 0.0070	0,18 0.0070	0,19 0.0075	0,24 0.0095
H11	SNMX1407ANTR-M16 MP1501	4,0 *0.16*	0,24 0.0095	0,24 0.0095	0,25 0.010	0,30 0.012
H12	SNMX1407ANTR-M16 MP1501	3,5 *0.14*	0,18 0.0070	0,18 0.0070	0,19 0.0075	0,24 0.0095
H21	SNMX1407ANTR-M16 MP1501	3,5 *0.14*	0,18 0.0070	0,18 0.0070	0,19 0.0075	0,24 0.0095

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R220.54-14 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK2050				MP3000				MS2050				F40M				MP2051				H25			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	230 *750*	250 *820*	270 *890*	300 *980*	210 *690*	215 *710*	240 *790*	280 *920*	245 *800*	260 *850*	280 *920*	310 *1025*	235 *770*	240 *790*	260 *850*	280 *920*		290 *950*	330 *1075*		— —			
P2			260 *850*	290 *950*	200 *660*	210 *690*	230 *750*		240 *790*	250 *820*						275 *900*		280 *920*	320 *1050*	375 *1225*	— —	— —	— —	— —
P3	200 *660*	210 *690*			180 *590*			235 *770*	215 *710*	225 *740*	240 *790*	260 *850*	205 *670*	210 *690*	225 *740*	240 *790*	250 *820*	260 *850*			— —	— —	— —	— —
P4	175 *570*	185 *610*	200 *660*		160 *520*	165 *540*	180 *590*		185 *610*	195 *640*	215 *710*	230 *750*	185 *610*	190 *620*	205 *670*	225 *740*	220 *720*	230 *750*	260 *850*	290 *950*	— —	— —	— —	— —
P5	170 *560*	180 *590*	195 *640*	215 *710*	155 *510*	165 *540*	180 *590*	205 *670*	180 *590*	190 *620*	205 *670*	225 *740*	170 *560*	175 *570*	190 *620*	210 *690*	210 *690*	220 *720*	245 *800*	295 *970*	— —	— —	— —	— —
P6	190 *620*	205 *670*	220 *720*	240 *790*	175 *570*	185 *610*	205 *670*	230 *750*	200 *660*	210 *690*	230 *750*	255 *840*	190 *620*	195 *640*	210 *690*	235 *770*	240 *790*	245 *800*	280 *920*	330 *1075*	— —	— —	— —	— —
P7	180 *590*	190 *620*	210 *690*	230 *750*	165 *540*	170 *560*	190 *620*	215 *710*	190 *620*	200 *660*	215 *710*	240 *790*	180 *590*	185 *610*	200 *660*	220 *720*	225 *740*	230 *750*	260 *850*	310 *1025*	— —	— —	— —	— —
P8	165 *540*	180 *590*	190 *620*	210 *690*	150 *490*	155 *510*	175 *570*	195 *640*	180 *590*	190 *620*	205 *670*	220 *720*	170 *560*	175 *570*	190 *620*	200 *660*	210 *690*	220 *720*	245 *800*	280 *920*	— —	— —	— —	— —
P11	175 *570*	185 *610*	200 *660*	220 *720*	160 *520*	165 *540*	185 *610*	210 *690*	185 *610*	195 *640*	210 *690*	235 *770*	175 *570*	180 *590*	195 *640*	215 *710*	205 *670*	225 *740*	260 *850*	320 *1050*	— —	— —	— —	— —
P12	115 *375*	125 *410*	135 *445*	145 *475*	115 *375*	120 *395*	135 *445*	150 *490*	125 *410*	130 *425*	140 *460*	150 *490*	120 *395*	125 *410*	130 *425*	140 *460*	155 *510*	170 *560*	195 *640*	220 *720*	— —	— —	— —	— —
M1	— —	— —	— —	— —	160 *520*	175 *570*	190 *620*	205 *670*	180 *590*	190 *620*	205 *670*	230 *750*	165 *540*	175 *570*	190 *620*	210 *690*	225 *740*	245 *800*	285 *940*	345 *1125*	— —	— —	— —	— —
M2	— —	— —	— —	— —	135 *445*	145 *475*	160 *520*	175 *570*	150 *490*	160 *520*	170 *560*	190 *620*	135 *445*	145 *475*	155 *510*	175 *570*	195 *640*	210 *690*	245 *800*	305 *1000*	— —	— —	— —	— —
M3	— —	— —	— —	— —	110 *360*	120 *395*	125 *410*	140 *460*	120 *395*	130 *425*	140 *460*	155 *510*	110 *360*	115 *375*	125 *410*	140 *460*	170 *560*	185 *610*	215 *710*	260 *850*	— —	— —	— —	— —
M4	— —	— —	— —	— —	85 *280*	90 *295*	100 *330*	110 *360*	95 *310*	100 *330*	105 *345*	120 *395*	85 *280*	90 *295*	95 *310*	110 *360*	135 *445*	150 *490*	170 *560*	200 *660*	— —	— —	— —	— —
M5	— —	— —	— —	— —	70 *230*	75 *245*	80 *260*	90 *295*	75 *245*	80 *260*	90 *295*	100 *330*	70 *230*	75 *245*	80 *260*	90 *295*	115 *375*	125 *410*	140 *460*	170 *560*	— —	— —	— —	— —
K1	245 *800*	260 *850*	280 *920*	310 *1025*	170 *560*	185 *610*	200 *660*	220 *720*	— —	— —	— —	— —	160 *520*	170 *560*	185 *610*	205 *670*	— —	— —	— —	— —	165 *540*	175 *570*	190 *620*	210 *690*
K2	220 *720*	235 *770*	255 *840*	280 *920*	155 *510*	165 *540*	180 *590*	195 *640*	— —	— —	— —	— —	140 *460*	155 *510*	165 *540*	185 *610*	— —	— —	— —	— —	145 *475*	160 *520*	170 *560*	185 *610*
K3	185 *610*	200 *660*	215 *710*	235 *770*	130 *425*	140 *460*	150 *490*	165 *540*	— —	— —	— —	— —	120 *395*	130 *425*	140 *460*	155 *510*	— —	— —	— —	— —	— —	— —	— —	— —
K4	175 *570*	190 *620*	205 *670*	225 *740*	125 *410*	135 *445*	145 *475*	160 *520*	— —	— —	— —	— —	115 *375*	125 *410*	135 *445*	150 *490*	— —	— —	— —	— —	— —	— —	— —	— —
K5	105 *345*	115 *375*	125 *410*	140 *460*	75 *245*	80 *260*	90 *295*	100 *330*	— —	— —	— —	— —	70 *230*	75 *245*	80 *260*	90 *295*	— —	— —	— —	— —	— —	— —	— —	— —
K6	155 *510*	165 *540*	180 *590*	200 *660*	110 *360*	120 *395*	125 *410*	140 *460*	— —	— —	— —	— —	100 *330*	110 *360*	115 *375*	130 *425*	— —	— —	— —	— —	— —	— —	— —	— —
K7	135 *445*	145 *475*	160 *520*	180 *590*	95 *310*	105 *345*	115 *375*	125 *410*	— —	— —	— —	— —	90 *295*	95 *310*	105 *345*	115 *375*	— —	— —	— —	— —	— —	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	1175 *3850*	1250 *4100*	1375 *4500*	1500 *4925*	— —	— —	— —	— —	1200 *3925*	1275 *4175*	1400 *4600*	1550 *5075*
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	475 *1550*	510 *1675*	550 *1800*	600 *1975*	— —	— —	— —	— —	485 *1600*	520 *1700*	560 *1825*	630 *2075*
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	315 *1025*	340 *1125*	365 *1200*	405 *1325*	— —	— —	— —	— —	320 *1050*	345 *1125*	375 *1225*	420 *1375*
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	360 *1175*	390 *1275*	420 *1375*	460 *1500*	— —	— —	— —	— —	370 *1225*	395 *1300*	425 *1400*	475 *1550*
S1	— —	— —	— —	— —	40 *130*	43 *140*	46 *150*	50 *165*	43 *140*	46 *150*	50 *165*	55 *180*	39 *130*	42 *140*	45 *150*	50 *165*	47 *155*	50 *165*	55 *180*	60 *195*	— —	— —	— —	— —
S2	— —	— —	— —	— —	32 *105*	34 *110*	37 *120*	41 *135*	35 *115*	37 *120*	40 *130*	45 *150*	32 *105*	34 *110*	36 *120*	41 *135*	38 *125*	41 *135*	44 *145*	49 *160*	— —	— —	— —	— —
S3	— —	— —	— —	— —	28 *90*	30 *100*	32 *105*	36 *120*	31 *100*	33 *110*	35 *115*	39 *130*	28 *90*	30 *100*	32 *105*	36 *120*	33 *110*	36 *120*	39 *130*	43 *140*	— —	— —	— —	— —
S11	— —	— —	— —	— —	— —	— —	— —	— —	60 *195*	65 *215*	70 *230*	80 *260*	55 *180*	60 *195*	65 *215*	70 *230*	65 *215*	70 *230*	75 *245*	85 *280*	36 *120*	38 *125*	41 *135*	46 *150*
S12	— —	— —	— —	— —	— —	— —	— —	— —	42 *140*	45 *150*	48 *155*	55 *180*	38 *125*	41 *135*	44 *145*	49 *160*	46 *150*	49 *160*	55 *180*	60 *195*	— —	— —	— —	— —
S13	— —	— —	— —	— —	— —	— —	— —	— —	24 *80*	26 *85*	28 *90*	31 *100*	22 *70*	24 *80*	25 *80*	28 *90*	27 *90*	28 *90*	31 *100*	34 *110*	— —	— —	— —	— —
H5	39 *130*	42 *140*	45 *150*	50 *165*	34 *110*	37 *120*	40 *130*	44 *145*	— —	— —	— —	— —	34 *110*	36 *120*	39 *130*	42 *140*	— —	— —	— —	— —	— —	— —	— —	— —
H8	43 *140*	46 *150*	49 *160*	55 *180*	37 *120*	40 *130*	43 *140*	47 *155*	— —	— —	— —	— —	36 *120*	38 *125*	41 *135*	46 *150*	— —	— —	— —	— —	— —	— —	— —	— —
H11	50 *165*	55 *180*	60 *195*	65 *215*	44 *145*	47 *155*	50 *165*	55 *180*	— —	— —	— —	— —	43 *140*	46 *150*	49 *160*	55 *180*	100 *330*	110 *360*	125 *410*	145 *475*	— —	— —	— —	— —
H12	75 *245*	80 *260*	85 *280*	95 *310*	70 *230*	75 *245*	85 *280*	90 *295*	— —	— —	— —	— —	65 *215*	70 *230*	75 *245*	80 *260*	100 *330*	110 *360*	125 *410*	140 *460*	— —	— —	— —	— —
H21	43 *140*	46 *150*	49 *160*	55 *180*	37 *120*	40 *130*	43 *140*	47 *155*	— —	— —	— —	— —	36 *120*	38 *125*	41 *135*	46 *150*	95 *310*	95 *310*	105 *345*	115 *375*	— —	— —	— —	— —

R220.54-14 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK1501				MP1501				MP2501				MP3501				MS2500			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	—	—	—	—	395	410	440	475	385	400	425	465	340	355	380	415	365	385	410	450
	—	—	—	—	*1300*	*1350*	*1450*	*1550*	*1275*	*1300*	*1400*	*1525*	*1125*	*1175*	*1250*	*1350*	*1200*	*1275*	*1350*	*1475*
P2	—	—	—	—	385	400	425	465	375	390	415	455	335	345	370	405	355	375	400	435
	—	—	—	—	*1275*	*1300*	*1400*	*1525*	*1225*	*1275*	*1350*	*1500*	*1100*	*1125*	*1225*	*1325*	*1175*	*1225*	*1300*	*1425*
P3	—	—	—	—	340	355	375	405	330	345	370	395	295	310	330	355	315	330	355	380
	—	—	—	—	*1125*	*1175*	*1225*	*1325*	*1075*	*1125*	*1225*	*1300*	*970*	*1025*	*1075*	*1175*	*1025*	*1075*	*1175*	*1250*
P4	—	—	—	—	300	310	330	355	290	305	325	350	260	270	290	310	280	290	310	335
	—	—	—	—	*980*	*1025*	*1075*	*1175*	*950*	*1000*	*1075*	*1150*	*850*	*890*	*950*	*1025*	*920*	*950*	*1025*	*1100*
P5	—	—	—	—	285	295	315	350	280	290	310	340	250	260	275	305	265	280	300	330
	—	—	—	—	*940*	*970*	*1025*	*1150*	*920*	*950*	*1025*	*1125*	*820*	*850*	*900*	*1000*	*870*	*920*	*980*	*1075*
P6	—	—	—	—	320	335	355	390	315	325	350	385	280	290	310	345	300	315	335	370
	—	—	—	—	*1050*	*1100*	*1175*	*1275*	*1025*	*1075*	*1150*	*1275*	*920*	*950*	*1025*	*1125*	*980*	*1025*	*1100*	*1225*
P7	—	—	—	—	300	315	335	370	295	305	330	360	265	275	295	325	280	295	315	350
	—	—	—	—	*980*	*1025*	*1100*	*1225*	*970*	*1000*	*1075*	*1175*	*870*	*900*	*970*	*1075*	*920*	*970*	*1025*	*1150*
P8	—	—	—	—	285	295	315	340	280	290	310	330	250	260	275	295	265	280	300	320
	—	—	—	—	*940*	*970*	*1025*	*1125*	*920*	*950*	*1025*	*1075*	*820*	*850*	*900*	*970*	*870*	*920*	*980*	*1050*
P11	—	—	—	—	295	305	325	360	285	300	320	350	255	265	285	315	275	285	305	340
	—	—	—	—	*970*	*1000*	*1075*	*1175*	*940*	*980*	*1050*	*1150*	*840*	*870*	*940*	*1025*	*900*	*940*	*1000*	*1125*
P12	—	—	—	—	190	200	210	225	190	200	210	225	170	175	190	200	180	190	200	215
	—	—	—	—	*620*	*660*	*690*	*740*	*620*	*660*	*690*	*740*	*560*	*570*	*620*	*660*	*590*	*620*	*660*	*710*
M1	—	—	—	—	—	—	—	—	190	205	225	245	180	190	205	230	210	225	240	265
	—	—	—	—	—	—	—	—	*620*	*670*	*740*	*800*	*590*	*620*	*670*	*750*	*690*	*740*	*790*	*870*
M2	—	—	—	—	—	—	—	—	160	170	185	205	150	160	170	190	175	185	200	225
	—	—	—	—	—	—	—	—	*520*	*560*	*610*	*670*	*490*	*520*	*560*	*620*	*570*	*610*	*660*	*740*
M3	—	—	—	—	—	—	—	—	130	135	150	165	120	130	140	155	140	150	160	180
	—	—	—	—	—	—	—	—	*425*	*445*	*490*	*540*	*395*	*425*	*460*	*510*	*460*	*490*	*520*	*590*
M4	—	—	—	—	—	—	—	—	100	105	115	125	95	100	105	120	110	115	125	140
	—	—	—	—	—	—	—	—	*330*	*345*	*375*	*410*	*310*	*330*	*345*	*395*	*360*	*375*	*410*	*460*
M5	—	—	—	—	—	—	—	—	85	90	95	105	75	80	90	100	90	95	105	115
	—	—	—	—	—	—	—	—	*280*	*295*	*310*	*345*	*245*	*260*	*295*	*330*	*295*	*310*	*345*	*375*
K1	310	385	440	510	385	400	430	470	380	390	420	460	335	350	375	410	230	245	265	295
	1025	*1275*	*1450*	*1675*	*1275*	*1300*	*1400*	*1550*	*1250*	*1275*	*1375*	*1500*	*1100*	*1150*	*1225*	*1350*	*750*	*800*	*870*	*970*
K2	275	340	390	455	345	360	385	420	335	350	375	415	300	315	335	370	205	220	240	265
	900	*1125*	*1275*	*1500*	*1125*	*1175*	*1275*	*1375*	*1100*	*1150*	*1225*	*1350*	*980*	*1025*	*1100*	*1225*	*670*	*720*	*790*	*870*
K3	205	230	255	285	290	305	325	355	285	295	315	350	255	265	285	315	175	185	200	225
	670	*750*	*840*	*940*	*950*	*1000*	*1075*	*1175*	*940*	*970*	*1025*	*1150*	*840*	*870*	*940*	*1025*	*570*	*610*	*660*	*740*
K4	195	220	245	275	280	290	310	340	275	285	305	335	245	255	270	300	165	180	190	215
	640	*720*	*800*	*900*	*920*	*950*	*1025*	*1125*	*900*	*940*	*1000*	*1100*	*800*	*840*	*890*	*980*	*540*	*590*	*620*	*710*
K5	120	135	145	170	170	180	190	205	165	175	185	205	150	155	165	185	100	110	120	130
	395	*445*	*475*	*560*	*560*	*590*	*620*	*670*	*540*	*570*	*610*	*670*	*490*	*510*	*540*	*610*	*330*	*360*	*395*	*425*
K6	170	195	215	240	245	255	275	300	240	250	265	295	215	220	240	265	145	155	170	190
	560	*640*	*710*	*790*	*800*	*840*	*900*	*980*	*790*	*820*	*870*	*970*	*710*	*720*	*790*	*870*	*475*	*510*	*560*	*620*
K7	150	170	190	215	220	230	245	265	215	225	240	260	190	200	215	235	130	140	150	170
	490	*560*	*620*	*710*	*720*	*750*	*800*	*870*	*710*	*740*	*790*	*850*	*620*	*660*	*710*	*770*	*425*	*460*	*490*	*560*
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	—	—	—	43	46	50	55	55	55	60	65
	—	—	—	—	—	—	—	—	—	—	—	—	*140*	*150*	*165*	*180*	*180*	*180*	*195*	*215*
S2	—	—	—	—	—	—	—	—	—	—	—	—	35	37	40	45	42	45	49	55
	—	—	—	—	—	—	—	—	—	—	—	—	*115*	*120*	*130*	*150*	*140*	*150*	*160*	*180*
S3	—	—	—	—	—	—	—	—	—	—	—	—	31	33	35	39	37	40	43	48
	—	—	—	—	—	—	—	—	—	—	—	—	*100*	*110*	*115*	*130*	*120*	*130*	*140*	*155*
S11	—	—	—	—	—	—	—	—	—	—	—	—	60	65	70	80	75	80	85	95
	—	—	—	—	—	—	—	—	—	—	—	—	*195*	*215*	*230*	*260*	*245*	*260*	*280*	*310*
S12	—	—	—	—	—	—	—	—	—	—	—	—	42	45	48	55	50	55	60	65
	—	—	—	—	—	—	—	—	—	—	—	—	*140*	*150*	*155*	*180*	*165*	*180*	*195*	*215*
S13	—	—	—	—	—	—	—	—	—	—	—	—	24	26	28	31	30	32	34	38
	—	—	—	—	—	—	—	—	—	—	—	—	*80*	*85*	*90*	*100*	*100*	*105*	*110*	*125*
H5	—	—	—	—	50	55	60	65	—	—	—	—	39	42	45	49	44	47	50	55
	—	—	—	—	*165*	*180*	*195*	*215*	—	—	—	—	*130*	*140*	*150*	*160*	*145*	*155*	*165*	*180*
H8	—	—	—	—	55	55	60	70	—	—	—	—	41	44	47	50	46	50	55	60
	—	—	—	—	*180*	*180*	*195*	*230*	—	—	—	—	*135*	*145*	*155*	*165*	*150*	*165*	*180*	*195*
H11	—	—	—	—	65	70	75	80	—	—	—	—	49	55	55	60	55	60	65	70
	—	—	—	—	*215*	*230*	*245*	*260*	—	—	—	—	*160*	*180*	*180*	*195*	*180*	*195*	*215*	*230*
H12	—	—	—	—	95	100	110	120	—	—	—	—	75	80	85	95	90	100	105	120
	—	—	—	—	*310*	*330*	*360*	*395*	—	—	—	—	*245*	*260*	*280*	*310*	*295*	*330*	*345*	*395*
H21	—	—	—	—	55	55	60	70	—	—	—	—	41	44	47	50	46	50	55	60
	—	—	—	—	*180*	*180*	*195*	*230*	—	—	—	—	*135*	*145*	*155*	*165*	*150*	*165*	*180*	*195*

R220.56-14 – Insert selection – mm/Inch

SMG		a_p	f_z			
			80%	60%	40%	20%
P1	SNMX1407ZNTR-M10 MP2501	6,0 *0.24*	0,19 0.0075	0,19 0.0075	0,19 0.0075	0,24 0.0095
P2	SNMX1407ZNTR-M10 MP2501	6,0 *0.24*	0,19 0.0075	0,19 0.0075	0,19 0.0075	0,24 0.0095
P3	SNMX1407ZNTR-M16 MP2501	6,0 *0.24*	0,28 0.011	0,28 0.011	0,28 0.012	0,36 0.014
P4	SNMX1407ZNTR-M16 MP2501	6,0 *0.24*	0,28 0.011	0,28 0.011	0,28 0.011	0,36 0.014
P5	SNMX1407ZNTR-M16 MP2501	6,0 *0.24*	0,28 0.011	0,28 0.011	0,28 0.011	0,34 0.013
P6	SNMX1407ZNTR-M16 MP2501	6,0 *0.24*	0,26 0.010	0,26 0.010	0,28 0.011	0,34 0.013
P7	SNMX1407ZNTR-M16 MP2501	6,0 *0.24*	0,26 0.010	0,26 0.010	0,28 0.011	0,34 0.013
P8	SNMX1407ZNTR-M16 MP2501	6,0 *0.24*	0,28 0.011	0,28 0.011	0,28 0.012	0,36 0.014
P11	SNMX1407ZNTR-M10 MP2051	6,0 *0.24*	0,17 0.0065	0,17 0.0065	0,17 0.0065	0,22 0.0085
P12	SNMX1407ZNTR-M10 MP2051	5,0 *0.20*	0,12 0.0048	0,12 0.0048	0,12 0.0048	0,15 0.0060
M1	SNHX1407ZNR-ME10 MS2050	6,0 *0.24*	0,16 0.0065	0,16 0.0065	0,16 0.0065	0,20 0.0080
M2	SNHX1407ZNR-ME10 MS2050	6,0 *0.24*	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,18 0.0070
M3	SNHX1407ZNR-ME10 MS2050	5,0 *0.20*	0,12 0.0048	0,12 0.0048	0,12 0.0048	0,15 0.0060
M4	SNMX1407ZNTR-M10 MP2051	4,0 *0.16*	0,12 0.0048	0,12 0.0048	0,13 0.0050	0,16 0.0065
M5	SNMX1407ZNTR-M10 MP2051	4,0 *0.16*	0,12 0.0048	0,12 0.0048	0,13 0.0050	0,16 0.0065
K1	SNMX1407ZNTR-M16 MK1501	6,0 *0.24*	0,30 0.012	0,30 0.012	0,30 0.012	0,38 0.015
K2	SNMX1407ZNTR-M16 MK1501	6,0 *0.24*	0,28 0.011	0,28 0.011	0,28 0.011	0,34 0.013
K3	SNMX1407ZNTR-M16 MP1501	6,0 *0.24*	0,28 0.011	0,28 0.011	0,28 0.011	0,34 0.013
K4	SNMX1407ZNTR-M16 MP1501	6,0 *0.24*	0,28 0.011	0,28 0.011	0,28 0.011	0,34 0.013
K5	SNMX1407ZNTR-M16 MP1501	6,0 *0.24*	0,24 0.0095	0,24 0.0095	0,25 0.010	0,30 0.012
K6	SNMX1407ZNTR-M16 MK2050	6,0 *0.24*	0,28 0.011	0,28 0.011	0,28 0.011	0,34 0.013
K7	SNMX1407ZNTR-M16 MK2050	6,0 *0.24*	0,24 0.0095	0,24 0.0095	0,25 0.010	0,30 0.012
S1	SNMX1407ZNTR-M10 MS2500	4,0 *0.16*	0,12 0.0048	0,12 0.0048	0,13 0.0050	0,16 0.0065
S2	SNMX1407ZNTR-M10 MS2500	4,0 *0.16*	0,12 0.0048	0,12 0.0048	0,13 0.0050	0,16 0.0065
S3	SNMX1407ZNTR-M10 MS2500	4,0 *0.16*	0,11 0.0044	0,11 0.0044	0,12 0.0048	0,14 0.0055
S11	SNHX1407ZNR-ME10 MS2050	4,5 *0.18*	0,12 0.0048	0,12 0.0048	0,12 0.0048	0,15 0.0060
S12	SNHX1407ZNR-ME10 MS2050	4,5 *0.18*	0,12 0.0048	0,12 0.0048	0,12 0.0048	0,15 0.0060
S13	SNHX1407ZNR-ME10 MS2050	4,0 *0.16*	0,10 0.0040	0,10 0.0040	0,11 0.0044	0,13 0.0050
H5	SNMX1407ZNTR-M16 MP1501	5,0 *0.20*	0,19 0.0075	0,19 0.0075	0,19 0.0075	0,24 0.0095
H8	SNMX1407ZNTR-M16 MP1501	4,5 *0.18*	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,18 0.0070
H11	SNMX1407ZNTR-M16 MP1501	5,0 *0.20*	0,19 0.0075	0,19 0.0075	0,19 0.0075	0,24 0.0095
H12	SNMX1407ZNTR-M16 MP1501	4,5 *0.18*	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,18 0.0070
H21	SNMX1407ZNTR-M16 MP1501	4,5 *0.18*	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,18 0.0070

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

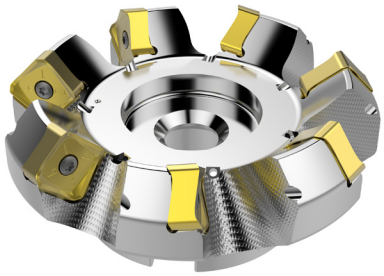
R220.56-14 – Cutting data v_c = (m/min)/(sf/min)

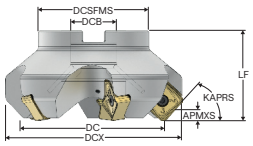
SMG	MK2050				MP3000				MS2050				F40M				MP2051			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	225 *740*	235 *770*	255 *840*	290 *950*	275 *900*	285 *940*	310 *1025*	355 *1175*	245 *800*	255 *840*	275 *900*	310 *1025*	235 *770*	240 *790*	255 *840*	285 *940*	285 *940*	290 *950*	325 *1075*	390 *1275*
P2	220 *720*	230 *750*	250 *820*	280 *920*	270 *890*	275 *900*		345 *1125*	240 *790*	250 *820*	270 *890*	300 *980*	230 *750*	235 *770*						
P3			220 *720*										205 *670*		220 *720*	245 *800*	250 *820*	255 *840*		340 *1125*
P4	170 *560*	180 *590*	195 *640*	220 *720*	210 *690*	215 *710*	235 *770*	270 *890*	185 *610*	195 *640*	210 *690*	235 *770*	185 *610*	190 *620*	205 *670*	225 *740*	220 *720*	220 *720*	250 *820*	300 *980*
P5	160 *520*	170 *560*	185 *610*	210 *690*	205 *670*	210 *690*	230 *750*	255 *840*	180 *590*	190 *620*	205 *670*	225 *740*	175 *570*	175 *570*	190 *620*	205 *670*	220 *720*	220 *720*	250 *820*	285 *940*
P6	185 *610*	195 *640*	215 *710*	235 *770*	230 *750*	240 *790*	260 *850*	290 *950*	205 *670*	210 *690*	230 *750*	250 *820*	195 *640*	200 *660*	215 *710*	230 *750*	245 *800*	250 *820*	280 *920*	320 *1050*
P7	175 *570*	185 *610*	200 *660*	220 *720*	215 *710*	225 *740*	245 *800*	270 *890*	195 *640*	200 *660*	215 *710*	235 *770*	185 *610*	190 *620*	200 *660*	220 *720*	230 *750*	235 *770*	265 *870*	300 *980*
P8	160 *520*	170 *560*	185 *610*	205 *670*	200 *660*	205 *670*	225 *740*	255 *840*	180 *590*	185 *610*	200 *660*	225 *740*	170 *560*	175 *570*	185 *610*	205 *670*	210 *690*	210 *690*	240 *790*	285 *940*
P11	170 *560*	180 *590*	195 *640*	215 *710*	210 *690*	220 *720*	240 *790*	265 *870*	185 *610*	195 *640*	210 *690*	230 *750*	180 *590*	180 *590*	195 *640*	210 *690*	210 *690*	225 *740*	260 *850*	310 *1025*
P12	110 *360*	120 *395*	130 *425*	145 *475*	145 *475*	150 *490*	160 *520*	180 *590*	125 *410*	130 *425*	140 *460*	155 *510*	120 *395*	125 *410*	130 *425*	145 *475*	155 *510*	170 *560*	190 *620*	225 *740*
M1	— —	— —	— —	— —	190 *620*	200 *660*	215 *710*	245 *800*	180 *590*	190 *620*	205 *670*	230 *750*	165 *540*	175 *570*	185 *610*	210 *690*	230 *750*	240 *790*	280 *920*	350 *1150*
M2	— —	— —	— —	— —	160 *520*	170 *560*	180 *590*	200 *660*	150 *490*	160 *520*	170 *560*	190 *620*	135 *445*	145 *475*	155 *510*	170 *560*	200 *660*	215 *710*	250 *820*	295 *970*
M3	— —	— —	— —	— —	130 *425*	135 *445*	145 *475*	165 *540*	120 *395*	130 *425*	140 *460*	155 *510*	110 *360*	115 *375*	125 *410*	140 *460*	175 *570*	190 *620*	215 *710*	260 *850*
M4	— —	— —	— —	— —	100 *330*	105 *345*	115 *375*	125 *410*	95 *310*	100 *330*	110 *360*	120 *395*	85 *280*	90 *295*	100 *330*	110 *360*	140 *460*	155 *510*	175 *570*	205 *670*
M5	— —	— —	— —	— —	85 *280*	90 *295*	95 *310*	105 *345*	80 *260*	85 *280*	90 *295*	100 *330*	70 *230*	75 *245*	80 *260*	90 *295*	120 *395*	130 *425*	145 *475*	170 *560*
K1	235 *770*	250 *820*	270 *890*	305 *1000*	200 *660*	215 *710*	230 *750*	255 *840*	— —	— —	— —	— —	160 *520*	170 *560*	185 *610*	205 *670*	— —	— —	— —	— —
K2	210 *690*	220 *720*	240 *790*	270 *890*	180 *590*	190 *620*	205 *670*	225 *740*	— —	— —	— —	— —	145 *475*	155 *510*	165 *540*	180 *590*	— —	— —	— —	— —
K3	175 *570*	185 *610*	205 *670*	230 *750*	150 *490*	160 *520*	175 *570*	190 *620*	— —	— —	— —	— —	120 *395*	130 *425*	140 *460*	155 *510*	— —	— —	— —	— —
K4	170 *560*	180 *590*	195 *640*	215 *710*	145 *475*	155 *510*	165 *540*	185 *610*	— —	— —	— —	— —	115 *375*	125 *410*	135 *445*	145 *475*	— —	— —	— —	— —
K5	105 *345*	110 *360*	120 *395*	135 *445*	90 *295*	95 *310*	105 *345*	115 *375*	— —	— —	— —	— —	70 *230*	75 *245*	80 *260*	90 *295*	— —	— —	— —	— —
K6	150 *490*	160 *520*	170 *560*	190 *620*	130 *425*	135 *445*	145 *475*	160 *520*	— —	— —	— —	— —	105 *345*	110 *360*	115 *375*	130 *425*	— —	— —	— —	— —
K7	135 *445*	145 *475*	155 *510*	170 *560*	115 *375*	120 *395*	130 *425*	145 *475*	— —	— —	— —	— —	90 *295*	100 *330*	105 *345*	115 *375*	— —	— —	— —	— —
S1	— —	— —	— —	— —	47 *155*	50 *165*	55 *180*	60 *195*	44 *145*	47 *155*	50 *165*	55 *180*	40 *130*	43 *140*	46 *150*	50 *165*	49 *160*	50 *165*	55 *180*	60 *195*
S2	— —	— —	— —	— —	38 *125*	40 *130*	43 *140*	48 *155*	36 *120*	38 *125*	41 *135*	45 *150*	33 *110*	35 *115*	37 *120*	41 *135*	39 *130*	42 *140*	45 *150*	50 *165*
S3	— —	— —	— —	— —	33 *110*	35 *115*	38 *125*	41 *135*	32 *105*	34 *110*	36 *120*	39 *130*	29 *95*	31 *100*	33 *110*	36 *120*	35 *115*	37 *120*	40 *130*	43 *140*
S11	— —	— —	— —	— —	— —	— —	— —	— —	60 *195*	65 *215*	70 *230*	80 *260*	55 *180*	60 *195*	65 *215*	70 *230*	65 *215*	70 *230*	75 *245*	85 *280*
S12	— —	— —	— —	— —	— —	— —	— —	— —	43 *140*	45 *150*	49 *160*	55 *180*	39 *130*	41 *135*	44 *145*	49 *160*	47 *155*	49 *160*	55 *180*	60 *195*
S13	— —	— —	— —	— —	— —	— —	— —	— —	25 *80*	27 *90*	29 *95*	32 *105*	23 *75*	24 *80*	26 *85*	29 *95*	27 *90*	29 *95*	31 *100*	35 *115*
H5	38 *125*	41 *135*	44 *145*	49 *160*	40 *130*	42 *140*	45 *150*	50 *165*	— —	— —	— —	— —	34 *110*	36 *120*	39 *130*	43 *140*	— —	— —	— —	— —
H8	42 *140*	45 *150*	48 *155*	50 *165*	43 *140*	46 *150*	49 *160*	55 *180*	— —	— —	— —	— —	36 *120*	39 *130*	42 *140*	46 *150*	— —	— —	— —	— —
H11	49 *160*	50 *165*	55 *180*	60 *195*	50 *165*	55 *180*	60 *195*	65 *215*	— —	— —	— —	— —	43 *140*	46 *150*	49 *160*	55 *180*	100 *330*	110 *360*	125 *410*	145 *475*
H12	75 *245*	80 *260*	85 *280*	90 *295*	80 *260*	85 *280*	95 *310*	100 *330*	— —	— —	— —	— —	65 *215*	70 *230*	75 *245*	80 *260*	100 *330*	115 *375*	125 *410*	140 *460*
H21	42 *140*	45 *150*	48 *155*	50 *165*	43 *140*	46 *150*	49 *160*	55 *180*	— —	— —	— —	— —	36 *120*	39 *130*	42 *140*	46 *150*	95 *310*	100 *330*	105 *345*	115 *375*

R220.56-14 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK1501				MP1501				MP2501				MS2500			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	—	—	—	—	320	325	350	395	310	315	340	380	370	380	410	450
	—	—	—	—	*1050*	*1075*	*1150*	*1300*	*1025*	*1025*	*1125*	*1250*	*1225*	*1250*	*1350*	*1475*
P2	—	—	—	—	310	320	345	385	300	305	330	370	360	370	400	440
	—	—	—	—	*1025*	*1050*	*1125*	*1275*	*980*	*1000*	*1075*	*1225*	*1175*	*1225*	*1300*	*1450*
P3	—	—	—	—	275	280	305	330	265	270	295	320	315	325	350	385
	—	—	—	—	*900*	*920*	*1000*	*1075*	*870*	*890*	*970*	*1050*	*1025*	*1075*	*1150*	*1275*
P4	—	—	—	—	245	250	265	300	235	240	260	290	280	285	305	340
	—	—	—	—	*800*	*820*	*870*	*980*	*770*	*790*	*850*	*950*	*920*	*940*	*1000*	*1125*
P5	—	—	—	—	230	235	255	285	225	230	245	275	270	280	300	325
	—	—	—	—	*750*	*770*	*840*	*940*	*740*	*750*	*800*	*900*	*890*	*920*	*980*	*1075*
P6	—	—	—	—	270	275	295	320	260	265	285	310	305	315	335	365
	—	—	—	—	*890*	*900*	*970*	*1050*	*850*	*870*	*940*	*1025*	*1000*	*1025*	*1100*	*1200*
P7	—	—	—	—	255	260	280	300	245	250	270	295	285	295	315	345
	—	—	—	—	*840*	*850*	*920*	*980*	*800*	*820*	*890*	*970*	*940*	*970*	*1025*	*1125*
P8	—	—	—	—	230	235	255	275	225	230	245	270	265	275	295	325
	—	—	—	—	*750*	*770*	*840*	*900*	*740*	*750*	*800*	*890*	*870*	*900*	*970*	*1075*
P11	—	—	—	—	245	250	270	295	240	245	260	285	280	290	310	335
	—	—	—	—	*800*	*820*	*890*	*970*	*790*	*800*	*850*	*940*	*920*	*950*	*1025*	*1100*
P12	—	—	—	—	165	170	180	200	160	165	175	195	180	190	200	220
	—	—	—	—	*540*	*560*	*590*	*660*	*520*	*540*	*570*	*640*	*590*	*620*	*660*	*720*
M1	—	—	—	—	—	—	—	—	160	170	185	205	210	220	240	270
	—	—	—	—	—	—	—	—	*520*	*560*	*610*	*670*	*690*	*720*	*790*	*890*
M2	—	—	—	—	—	—	—	—	135	140	150	170	175	185	200	220
	—	—	—	—	—	—	—	—	*445*	*460*	*490*	*560*	*570*	*610*	*660*	*720*
M3	—	—	—	—	—	—	—	—	110	115	125	140	140	150	160	180
	—	—	—	—	—	—	—	—	*360*	*375*	*410*	*460*	*460*	*490*	*520*	*590*
M4	—	—	—	—	—	—	—	—	85	90	95	110	110	120	125	140
	—	—	—	—	—	—	—	—	*280*	*295*	*310*	*360*	*360*	*395*	*410*	*460*
M5	—	—	—	—	—	—	—	—	70	75	80	90	90	100	105	115
	—	—	—	—	—	—	—	—	*230*	*245*	*260*	*295*	*295*	*330*	*345*	*375*
K1	300	360	415	495	315	320	345	385	305	310	335	375	230	245	265	295
	980	*1175*	*1350*	*1625*	*1025*	*1050*	*1125*	*1275*	*1000*	*1025*	*1100*	*1225*	*750*	*800*	*870*	*970*
K2	265	320	365	435	280	285	310	345	270	275	300	335	210	220	240	260
	870	*1050*	*1200*	*1425*	*920*	*940*	*1025*	*1125*	*890*	*900*	*980*	*1100*	*690*	*720*	*790*	*850*
K3	195	215	240	275	235	245	260	290	230	235	250	285	175	185	200	220
	640	*710*	*790*	*900*	*770*	*800*	*850*	*950*	*750*	*770*	*820*	*940*	*570*	*610*	*660*	*720*
K4	185	205	230	265	225	230	250	280	220	225	240	270	170	180	190	210
	610	*670*	*750*	*870*	*740*	*750*	*820*	*920*	*720*	*740*	*790*	*890*	*560*	*590*	*620*	*690*
K5	115	130	145	160	145	145	160	175	140	145	155	170	105	110	120	130
	375	*425*	*475*	*520*	*475*	*475*	*520*	*570*	*460*	*475*	*510*	*560*	*345*	*360*	*395*	*425*
K6	165	180	200	230	200	205	220	245	195	195	210	240	150	155	170	185
	540	*590*	*660*	*750*	*660*	*670*	*720*	*800*	*640*	*640*	*690*	*790*	*490*	*510*	*560*	*610*
K7	150	165	185	205	185	190	200	220	180	185	195	215	135	140	150	165
	490	*540*	*610*	*670*	*610*	*620*	*660*	*720*	*590*	*610*	*640*	*710*	*445*	*460*	*490*	*540*
S1	—	—	—	—	—	—	—	—	—	—	—	—	55	60	60	70
	—	—	—	—	—	—	—	—	—	—	—	—	*180*	*195*	*195*	*230*
S2	—	—	—	—	—	—	—	—	—	—	—	—	44	46	50	55
	—	—	—	—	—	—	—	—	—	—	—	—	*145*	*150*	*165*	*180*
S3	—	—	—	—	—	—	—	—	—	—	—	—	38	41	44	48
	—	—	—	—	—	—	—	—	—	—	—	—	*125*	*135*	*145*	*155*
S11	—	—	—	—	—	—	—	—	—	—	—	—	75	80	85	95
	—	—	—	—	—	—	—	—	—	—	—	—	*245*	*260*	*280*	*310*
S12	—	—	—	—	—	—	—	—	—	—	—	—	50	55	60	65
	—	—	—	—	—	—	—	—	—	—	—	—	*165*	*180*	*195*	*215*
S13	—	—	—	—	—	—	—	—	—	—	—	—	30	32	35	39
	—	—	—	—	—	—	—	—	—	—	—	—	*100*	*105*	*115*	*130*
H5	—	—	—	—	43	45	49	55	—	—	—	—	44	47	50	55
	—	—	—	—	*140*	*150*	*160*	*180*	—	—	—	—	*145*	*155*	*165*	*180*
H8	—	—	—	—	47	50	55	60	—	—	—	—	47	50	55	60
	—	—	—	—	*155*	*165*	*180*	*195*	—	—	—	—	*155*	*165*	*180*	*195*
H11	—	—	—	—	55	55	60	70	—	—	—	—	55	60	65	70
	—	—	—	—	*180*	*180*	*195*	*230*	—	—	—	—	*180*	*195*	*215*	*230*
H12	—	—	—	—	85	90	95	105	—	—	—	—	95	100	110	120
	—	—	—	—	*280*	*295*	*310*	*345*	—	—	—	—	*310*	*330*	*360*	*395*
H21	—	—	—	—	47	50	55	60	—	—	—	—	47	50	55	60
	—	—	—	—	*155*	*165*	*180*	*195*	—	—	—	—	*155*	*165*	*180*	*195*

Double Quattro R220.54-22 – Metric

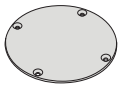




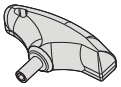
—For insert selection and cutting data recommendations, see page(s) 263-268
—For complete insert programme, see page(s) 906
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm	mm		kg	
R220.54-0080-22-5A	03156810	Arbor	80,0	5	9,0	48,0 °	104,0	27,0	–	62,0	63,0	4600	1,6	SN.X2209A
R220.54-0100-22-5A	03156811	Arbor	100,0	5	9,0	48,0 °	124,0	32,0	–	77,0	63,0	4000	2,4	SN.X2209A
R220.54-0100-22-7A	03157470	Arbor	100,0	7	9,0	48,0 °	124,0	32,0	–	77,0	63,0	4000	2,2	SN.X2209A
R220.54-0125-22-6A	03156812	Arbor	125,0	6	9,0	48,0 °	149,0	40,0	–	90,0	63,0	3700	3,3	SN.X2209A
R220.54-0125-22-8A	03157471	Arbor	125,0	8	9,0	48,0 °	149,0	40,0	–	90,0	63,0	3700	3,3	SN.X2209A
R220.54-8160-22-8A	03156813	Arbor	160,0	8	9,0	48,0 °	184,0	40,0	66,7	90,0	63,0	3300	5,7	SN.X2209A
R220.54-8160-22-11A	03157472	Arbor	160,0	11	9,0	48,0 °	184,0	40,0	66,7	90,0	63,0	3300	5,7	SN.X2209A

Spare Parts, included in delivery

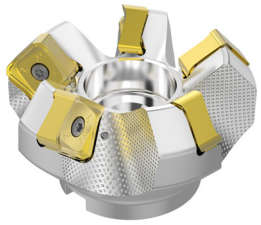
For cutter	Insert key	Insert screw	Lid	Lid screw
				
R220.54-0080	1/4HEX-T20PX50	C05013-T20P	–	–
R220.54-0100-0125	1/4HEX-T20PX90	C05013-T20P	–	–
R220.54-8160	1/4HEX-T20PX90	C05013-T20P	SC-160-90	MF6S4X10

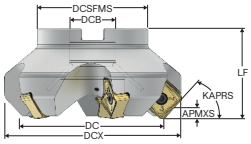
Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.54-0080	1/4HEX-T-HANDLE-5.0-14.0NM	5802712	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.54-0100	1/4HEX-T-HANDLE-5.0-14.0NM	5803216	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.54-0125	1/4HEX-T-HANDLE-5.0-14.0NM	5804020	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.54-8160	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Double Quattro R220.54-22 – inch

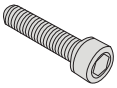
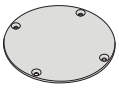




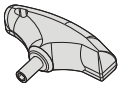
–For insert selection and cutting data recommendations, see page(s) 263-268
–For complete insert programme, see page(s) 906
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch		inch	inch	inch	inch		lbs	
R220.54-03.00-22-5A	03157473	Arbor	3.150	5	0.354	48,0 °	4.094	1.000	2.441	2.480	4600	3.970	SN.X2209A
R220.54-04.00-22-5A	03157474	Arbor	3.937	5	0.354	48,0 °	4.882	1.500	3.543	2.480	4000	5.730	SN.X2209A
R220.54-04.00-22-7A	03157479	Arbor	3.937	7	0.354	48,0 °	4.882	1.500	3.543	2.480	4000	5.510	SN.X2209A
R220.54-05.00-22-6A	03157475	Arbor	4.921	6	0.354	48,0 °	5.866	1.500	3.543	2.480	3700	7.940	SN.X2209A
R220.54-05.00-22-8A	03157480	Arbor	4.921	8	0.354	48,0 °	5.866	1.500	3.543	2.480	3700	7.500	SN.X2209A
R220.54-06.00-22-8A	03157476	Arbor	6.299	8	0.354	48,0 °	7.244	2.000	4.331	2.480	3300	13.010	SN.X2209A
R220.54-06.00-22-11A	03157481	Arbor	6.299	11	0.354	48,0 °	7.244	2.000	4.331	2.480	3300	13.010	SN.X2209A

Spare Parts, included in delivery

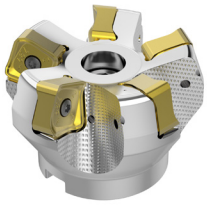
For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R220.54-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T20PX50	C05013-T20P	–	–
R220.54-04.00	UC6S3/4UNFX1-1/4	1/4HEX-T20PX90	C05013-T20P	–	–
R220.54-05.00	UC6S3/4UNFX1-1/4	1/4HEX-T20PX90	C05013-T20P	–	–
R220.54-06.00	–	1/4HEX-T20PX90	C05013-T20P	SC-160-90	MF6S4X10

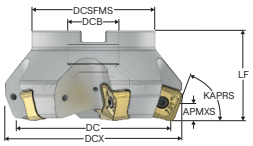
Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.54-03.00-05.00	1/4HEX-T-HANDLE-5.0-14.0NM	–	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.54-06.00	1/4HEX-T-HANDLE-5.0-14.0NM	58215080	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Double Quattro R220.56-22 – Metric

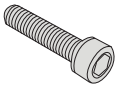
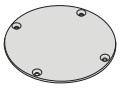




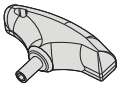
—For insert selection and cutting data recommendations, see page(s) 263-268
—For complete insert programme, see page(s) 906
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm	mm		kg	
R220.56-0080-22-5A	03157447	Arbor	80,0	5	13,0	71,0 °	91,5	27,0	–	62,0	63,0	4600	1,4	SN.X2209ZN.R
R220.56-0100-22-5A	03156816	Arbor	100,0	5	13,0	71,0 °	111,5	32,0	–	77,0	63,0	4000	2,1	SN.X2209ZN.R
R220.56-0100-22-7A	03157448	Arbor	100,0	7	13,0	71,0 °	111,5	32,0	–	77,0	63,0	4000	1,9	SN.X2209ZN.R
R220.56-0125-22-6A	03156817	Arbor	125,0	6	13,0	71,0 °	136,5	40,0	–	90,0	63,0	3700	2,9	SN.X2209ZN.R
R220.56-0125-22-8A	03157449	Arbor	125,0	8	13,0	71,0 °	136,5	40,0	–	90,0	63,0	3700	2,9	SN.X2209ZN.R
R220.56-8160-22-8A	03156818	Arbor	160,0	8	13,0	71,0 °	171,5	40,0	66,7	90,0	63,0	3300	5,0	SN.X2209ZN.R
R220.56-8160-22-10A	03157450	Arbor	160,0	10	13,0	71,0 °	171,5	40,0	66,7	90,0	63,0	3300	4,9	SN.X2209ZN.R

Spare Parts, included in delivery

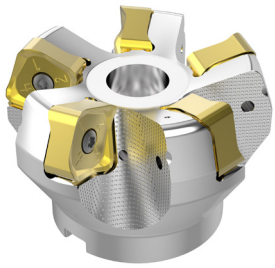
For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R220.56-0080	MC6S12X35	1/4HEX-T20PX50	C05013-T20P	–	–
R220.56-0100-0125	–	1/4HEX-T20PX90	C05013-T20P	–	–
R220.56-8160	–	1/4HEX-T20PX90	C05013-T20P	SC-160-90	MF6S4X10

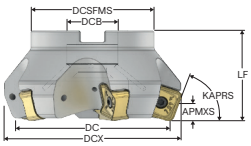
Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.56-0080	1/4HEX-T-HANDLE-5.0-14.0NM	5802712	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.56-0100	1/4HEX-T-HANDLE-5.0-14.0NM	5803216	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.56-0125	1/4HEX-T-HANDLE-5.0-14.0NM	5804020	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.56-8160	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Double Quattro R220.56-22 – inch

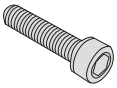
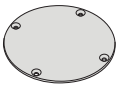




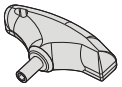
—For insert selection and cutting data recommendations, see page(s) 263-268
—For complete insert programme, see page(s) 906
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch		inch	inch	inch	inch		lbs	
R220.56-03.00-22-5A	03157454	Arbor	3.150	5	0.512	71,0 °	3.602	1.000	2.441	2.480	4600	3.090	SN.X2209ZN.R
R220.56-04.00-22-5A	03157451	Arbor	3.937	5	0.512	71,0 °	4.390	1.500	3.031	2.480	4000	4.630	SN.X2209ZN.R
R220.56-04.00-22-7A	03157455	Arbor	3.937	7	0.512	71,0 °	4.390	1.500	3.031	2.480	4000	4.410	SN.X2209ZN.R
R220.56-05.00-22-6A	03157452	Arbor	4.921	6	0.512	71,0 °	5.374	1.500	3.543	2.480	3700	7.940	SN.X2209ZN.R
R220.56-05.00-22-8A	03157456	Arbor	4.921	8	0.512	71,0 °	5.374	1.500	3.543	2.480	3700	7.500	SN.X2209ZN.R
R220.56-06.00-22-8A	03157453	Arbor	6.299	8	0.512	71,0 °	6.752	2.000	3.937	2.480	3300	10.800	SN.X2209ZN.R
R220.56-06.00-22-10A	03157457	Arbor	6.299	10	0.512	71,0 °	6.752	2.000	4.331	2.480	3300	10.580	SN.X2209ZN.R

Spare Parts, included in delivery

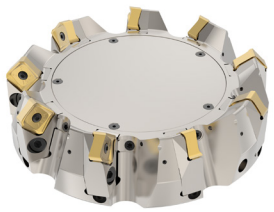
For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R220.56-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T20PX50	C05013-T20P	–	–
R220.56-04.00-05.00	UC6S3/4UNFX1-1/4	1/4HEX-T20PX90	C05013-T20P	–	–
R220.56-06.00	–	1/4HEX-T20PX90	C05013-T20P	SC-160-90	MF6S4X10

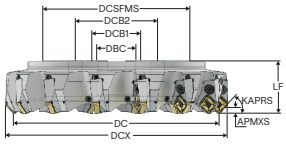
Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.56-03.00-05.00	1/4HEX-T-HANDLE-5.0-14.0NM	–	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.56-06.00	1/4HEX-T-HANDLE-5.0-14.0NM	58215080	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Double Quattro R220.54/56-22CS – Metric

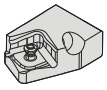
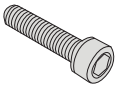
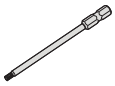
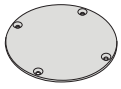




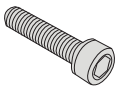
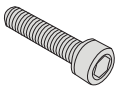
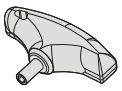
—For insert selection and cutting data recommendations, see page(s) 263-268
—For complete insert programme, see page(s) 906
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DBC2	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm	mm	mm		kg	
R220.54-8200-22-9CS	03167768	Arbor	200,0	9	9,0	48,0 °	224,0	60,0	101,6	–	130,0	80,0	2700	9,9	SN.X2209A
R220.56-8200-22-9CS	03167771	Arbor	200,0	9	13,0	71,0 °	211,5	60,0	101,6	–	130,0	80,0	2700	9,9	SN.X2209ZN.R
R220.54-8250-22-11CS	03167769	Arbor	250,0	11	9,0	48,0 °	274,0	60,0	101,6	–	130,0	80,0	2500	17,9	SN.X2209A
R220.56-8250-22-11CS	03167772	Arbor	250,0	11	13,0	71,0 °	261,5	60,0	101,6	–	130,0	80,0	2500	18,0	SN.X2209ZN.R
R220.54-8315-22-14CS	03167770	Arbor	315,0	14	9,0	48,0 °	339,0	60,0	101,6	177,8	225,0	80,0	2200	34,0	SN.X1407A
R220.56-8315-22-14CS	03167773	Arbor	315,0	14	13,0	71,0 °	326,5	60,0	101,6	177,8	225,0	80,0	2200	29,2	SN.X2209ZN.R

Spare Parts, included in delivery

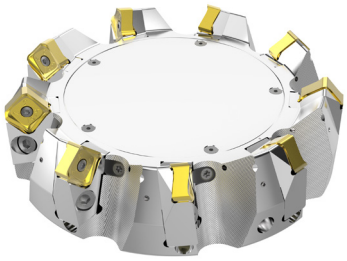
For cutter	Adjustment unit	Cassette	Cassette screw	Insert key	Insert screw	Lid	Lid screw	Wedge clamp	Wedge screw
									
R220.54-8200	AU1114T-T15P	SN22AR	MC6S8X30	1/4HEX-T20PX90	C05013-T20P	SC-200-90	MF6S4X10	CW0810	LD8018-T25P
R220.54-8250	AU1114T-T15P	SN22AR	MC6S8X30	1/4HEX-T20PX90	C05013-T20P	SC-250-90	MF6S4X10	CW0810	LD8020-T25P
R220.54-8315	AU1114T-T15P	SN22AR	MC6S8X30	1/4HEX-T20PX90	C05013-T20P	SC-315-90	MF6S4X10	CW0810	LD8020-T25P
R220.56-8200	AU1114T-T15P	SN22ZR	MC6S8X30	1/4HEX-T20PX90	C05013-T20P	SC-200-90	MF6S4X10	CW0810	LD8018-T25P
R220.56-8250	AU1114T-T15P	SN22ZR	MC6S8X30	1/4HEX-T20PX90	C05013-T20P	SC-250-90	MF6S4X10	CW0810	LD8020-T25P
R220.56-8315	AU1114T-T15P	SN22ZR	MC6S8X30	1/4HEX-T20PX90	C05013-T20P	SC-315-90	MF6S4X10	CW0810	LD8020-T25P

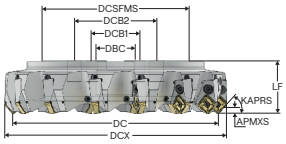
Accessories

For cutter	Adjustable Torque key	Arbor screw	Arbor screw 2	Bit holder	Insert clamping torque	Torque key
						
R220.54/56-8200-8250	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	–	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.54/56-8315	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	MC6S20X50	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Double Quattro R220.54/56-22C – inch

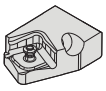
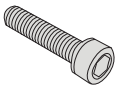
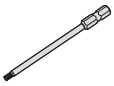
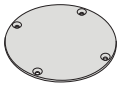




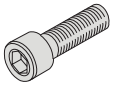
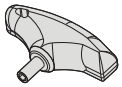
—For insert selection and cutting data recommendations, see page(s) 263-268
—For complete insert programme, see page(s) 906
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DBC2	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch		inch	inch	inch	inch	inch	inch		lbs	
R220.54-808.00-22-9C	03167774	Arbor	7.874	9	0.354	48,0 °	8.819	2.500	4.000	4.000	5.118	3.150	2700	24.030	SN.X2209A
R220.56-808.00-22-9C	03167777	Arbor	7.874	9	0.512	71,0 °	8.335	2.500	4.000	4.000	5.118	3.150	2700	20.060	SN.X2209ZN.R
R220.54-810.00-22-11C	03167775	Arbor	9.843	11	0.354	48,0 °	10.787	2.500	4.000	4.000	5.118	3.150	2500	50.040	SN.X2209A
R220.56-810.00-22-11C	03167778	Arbor	9.843	11	0.512	71,0 °	10.307	2.500	4.000	4.000	5.118	3.150	2500	49.600	SN.X2209ZN.R
R220.54-812.50-22-14C	03167776	Arbor	12.402	14	0.354	48,0 °	13.346	2.500	4.000	4.000	8.858	3.150	2200	81.570	SN.X2209A
R220.56-812.50-22-14C	03167779	Arbor	12.402	14	0.512	71,0 °	12.866	2.500	4.000	4.000	8.858	3.150	2200	75.620	SN.X2209ZN.R

Spare Parts, included in delivery

For cutter	Adjustment unit	Cassette	Cassette screw	Insert key	Insert screw	Lid	Lid screw	Wedge clamp	Wedge screw
									
R220.54-808.00	AU1114T-T15P	SN22AR	MC6S8X30	1/4HEX-T20PX90	C05013-T20P	SC-200-90	MF6S4X10	CW0810	LD8018-T25P
R220.54-810.00	AU1114T-T15P	SN22AR	MC6S8X30	1/4HEX-T20PX90	C05013-T20P	SC-250-90	MF6S4X10	CW0810	LD8020-T25P
R220.54-812.50	AU1114T-T15P	SN22AR	MC6S8X30	1/4HEX-T20PX90	C05013-T20P	SC-315-90	MF6S4X10	CW0810	LD8020-T25P
R220.56-808.00	AU1114T-T15P	SN22ZR	MC6S8X30	1/4HEX-T20PX90	C05013-T20P	SC-200-90	MF6S4X10	CW0810	LD8018-T25P
R220.56-810.00	AU1114T-T15P	SN22ZR	MC6S8X30	1/4HEX-T20PX90	C05013-T20P	SC-250-90	MF6S4X10	CW0810	LD8020-T25P
R220.56-812.50	AU1114T-T15P	SN22ZR	MC6S8X30	1/4HEX-T20PX90	C05013-T20P	SC-315-90	MF6S4X10	CW0810	LD8020-T25P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.54/56-808.-810.00	1/4HEX-T-HANDLE-5.0-14.0NM	–	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.54/56-812.50	1/4HEX-T-HANDLE-5.0-14.0NM	950DNC062225	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R220.54-22 – Insert selection – mm/Inch

SMG		a_p	f_z			
			80%	60%	40%	20%
P1	SNMX2209ANTR-M12 MP2501	7,0 *0.28*	0,28 0.011	0,28 0.011	0,30 0.012	0,36 0.014
P2	SNMX2209ANTR-M12 MP2501	7,0 *0.28*	0,28 0.011	0,28 0.011	0,30 0.012	0,36 0.015
P3	SNMX2209ANTR-M18 MP2501	7,0 *0.28*	0,40 0.016	0,40 0.016	0,42 0.017	0,50 0.022
P4	SNMX2209ANTR-M18 MP2501	7,0 *0.28*	0,40 0.016	0,40 0.016	0,42 0.017	0,50 0.020
P5	SNMX2209ANTR-M18 MP2501	7,0 *0.28*	0,40 0.016	0,40 0.016	0,40 0.016	0,50 0.020
P6	SNMX2209ANTR-M18 MP2501	7,0 *0.28*	0,38 0.015	0,38 0.015	0,40 0.016	0,50 0.020
P7	SNMX2209ANTR-M18 MP3501	7,0 *0.28*	0,38 0.015	0,38 0.015	0,40 0.016	0,50 0.020
P8	SNMX2209ANTR-M18 MP3501	7,0 *0.28*	0,40 0.016	0,40 0.016	0,42 0.017	0,50 0.022
P11	SNMX2209ANTR-M12 MP2051	7,0 *0.28*	0,26 0.010	0,26 0.010	0,26 0.010	0,34 0.013
P12	SNMX2209ANTR-M12 MP2051	6,0 *0.24*	0,18 0.0070	0,18 0.0070	0,19 0.0075	0,22 0.0085
M1	SNMX2209ANR-ME12 F40M	7,0 *0.28*	0,26 0.010	0,26 0.010	0,28 0.011	0,34 0.013
M2	SNMX2209ANR-ME12 F40M	7,0 *0.28*	0,24 0.0095	0,24 0.0095	0,25 0.010	0,32 0.013
M3	SNMX2209ANTR-M12 MS2050	6,0 *0.24*	0,22 0.0085	0,22 0.0085	0,22 0.0085	0,28 0.011
M4	SNMX2209ANTR-M12 MP2051	4,5 *0.18*	0,19 0.0075	0,19 0.0075	0,19 0.0075	0,24 0.0095
M5	SNMX2209ANTR-M12 MP2051	4,5 *0.18*	0,19 0.0075	0,19 0.0075	0,19 0.0075	0,24 0.0095
K1	SNMX2209ANTR-M18 MK1501	7,0 *0.28*	0,44 0.017	0,44 0.017	0,44 0.017	0,55 0.022
K2	SNMX2209ANTR-M18 MK1501	7,0 *0.28*	0,40 0.016	0,40 0.016	0,40 0.016	0,50 0.020
K3	SNMX2209ANTR-M18 MP1501	7,0 *0.28*	0,40 0.016	0,40 0.016	0,40 0.016	0,50 0.020
K4	SNMX2209ANTR-M18 MP1501	7,0 *0.28*	0,40 0.016	0,40 0.016	0,40 0.016	0,50 0.020
K5	SNMX2209ANTR-M18 MP1501	7,0 *0.28*	0,36 0.014	0,36 0.014	0,36 0.014	0,46 0.018
K6	SNMX2209ANTR-M18 MK2050	7,0 *0.28*	0,40 0.016	0,40 0.016	0,40 0.016	0,50 0.020
K7	SNMX2209ANTR-M18 MK2050	7,0 *0.28*	0,36 0.014	0,36 0.014	0,36 0.014	0,46 0.018
S1	SNMX2209ANTR-M12 MS2050	4,5 *0.18*	0,19 0.0075	0,19 0.0075	0,19 0.0075	0,24 0.0095
S2	SNMX2209ANTR-M12 MS2050	4,5 *0.18*	0,19 0.0075	0,19 0.0075	0,19 0.0075	0,24 0.0095
S3	SNMX2209ANTR-M12 MS2050	4,5 *0.18*	0,18 0.0070	0,18 0.0070	0,18 0.0070	0,22 0.0085
S11	SNMX2209ANTR-M12 MS2050	5,0 *0.20*	0,22 0.0085	0,22 0.0085	0,22 0.0085	0,28 0.011
S12	SNMX2209ANTR-M12 MS2050	5,0 *0.20*	0,22 0.0085	0,22 0.0085	0,22 0.0085	0,28 0.011
S13	SNMX2209ANTR-M12 MS2050	4,5 *0.18*	0,19 0.0075	0,19 0.0075	0,19 0.0075	0,24 0.0095
H5	SNMX2209ANTR-M18 MP1501	6,0 *0.24*	0,26 0.010	0,26 0.010	0,28 0.011	0,34 0.013
H8	SNMX2209ANTR-M18 MP1501	5,0 *0.20*	0,20 0.0080	0,20 0.0080	0,22 0.0085	0,26 0.010
H11	SNMX2209ANTR-M18 MP1501	6,0 *0.24*	0,26 0.010	0,26 0.010	0,28 0.011	0,34 0.013
H12	SNMX2209ANTR-M18 MP1501	5,0 *0.20*	0,20 0.0080	0,20 0.0080	0,22 0.0085	0,26 0.010
H21	SNMX2209ANTR-M18 MP1501	5,0 *0.20*	0,20 0.0080	0,20 0.0080	0,22 0.0085	0,26 0.010

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R220.54-22 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK2050				MS2050				F40M				MP2050			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	215 *710*	230 *750*	245 *800*	275 *900*	200 *660*	215 *710*	230 *750*	260 *850*	185 *610*	200 *660*	215 *710*	240 *790*	235 *770*	250 *820*	270 *890*	305 *1000*
P2	210 *690*	220 *720*	240 *790*	265 *870*	195 *640*	210 *690*	225 *740*	250 *820*	180 *590*	195 *640*	210 *690*	235 *770*	230 *750*	245 *800*	265 *870*	295 *970*
P3	185 *610*	195 *640*	210 *690*	235 *770*	175 *570*	185 *610*	200 *660*	215 *710*	160 *520*	170 *560*	185 *610*	200 *660*	205 *670*	215 *710*	235 *770*	255 *840*
P4	160 *520*	170 *560*	185 *610*	210 *690*	150 *490*	160 *520*	175 *570*	195 *640*	140 *460*	150 *490*	160 *520*	180 *590*	180 *590*	190 *620*	205 *670*	230 *750*
P5	155 *510*	165 *540*	180 *590*	200 *660*	145 *475*	155 *510*	165 *540*	185 *610*	135 *445*	145 *475*	155 *510*	175 *570*	170 *560*	180 *590*	195 *640*	220 *720*
P6	175 *570*	185 *610*	200 *660*	225 *740*	165 *540*	175 *570*	190 *620*	210 *690*	155 *510*	165 *540*	175 *570*	195 *640*	195 *640*	210 *690*	225 *740*	245 *800*
P7	165 *540*	175 *570*	190 *620*	210 *690*	155 *510*	165 *540*	180 *590*	195 *640*	145 *475*	155 *510*	165 *540*	185 *610*	185 *610*	195 *640*	215 *710*	230 *750*
P8	155 *510*	165 *540*	175 *570*	195 *640*	145 *475*	155 *510*	165 *540*	180 *590*	135 *445*	145 *475*	155 *510*	170 *560*	170 *560*	180 *590*	195 *640*	215 *710*
P11	160 *520*	170 *560*	185 *610*	205 *670*	155 *510*	160 *520*	175 *570*	190 *620*	140 *460*	150 *490*	160 *520*	180 *590*	180 *590*	190 *620*	205 *670*	225 *740*
P12	110 *360*	115 *375*	125 *410*	135 *445*	100 *330*	105 *345*	115 *375*	125 *410*	95 *310*	100 *330*	105 *345*	115 *375*	115 *375*	125 *410*	135 *445*	150 *490*
M1	— —	— —	— —	— —	160 *520*	170 *560*	180 *590*	205 *670*	145 *475*	155 *510*	170 *560*	190 *620*	165 *540*	175 *570*	190 *620*	215 *710*
M2	— —	— —	— —	— —	130 *425*	140 *460*	150 *490*	170 *560*	125 *410*	130 *425*	140 *460*	155 *510*	135 *445*	145 *475*	155 *510*	175 *570*
M3	— —	— —	— —	— —	105 *345*	115 *375*	125 *410*	135 *445*	100 *330*	105 *345*	115 *375*	125 *410*	110 *360*	120 *395*	130 *425*	145 *475*
M4	— —	— —	— —	— —	85 *280*	90 *295*	95 *310*	105 *345*	75 *245*	80 *260*	90 *295*	100 *330*	85 *280*	90 *295*	100 *330*	110 *360*
M5	— —	— —	— —	— —	70 *230*	75 *245*	80 *260*	90 *295*	65 *215*	70 *230*	75 *245*	80 *260*	75 *245*	75 *245*	85 *280*	90 *295*
K1	225 *740*	240 *790*	260 *850*	290 *950*	— —	— —	— —	— —	145 *475*	155 *510*	165 *540*	185 *610*	— —	— —	— —	— —
K2	205 *670*	215 *710*	235 *770*	255 *840*	— —	— —	— —	— —	130 *425*	140 *460*	150 *490*	165 *540*	— —	— —	— —	— —
K3	170 *560*	180 *590*	195 *640*	220 *720*	— —	— —	— —	— —	110 *360*	115 *375*	125 *410*	140 *460*	— —	— —	— —	— —
K4	165 *540*	175 *570*	190 *620*	210 *690*	— —	— —	— —	— —	105 *345*	110 *360*	120 *395*	135 *445*	— —	— —	— —	— —
K5	100 *330*	105 *345*	115 *375*	130 *425*	— —	— —	— —	— —	65 *215*	70 *230*	75 *245*	80 *260*	— —	— —	— —	— —
K6	145 *475*	155 *510*	165 *540*	185 *610*	— —	— —	— —	— —	90 *295*	100 *330*	105 *345*	115 *375*	— —	— —	— —	— —
K7	130 *425*	135 *445*	150 *490*	165 *540*	— —	— —	— —	— —	85 *280*	90 *295*	95 *310*	105 *345*	— —	— —	— —	— —
S1	— —	— —	— —	— —	39 *130*	41 *135*	44 *145*	49 *160*	36 *120*	38 *125*	42 *140*	46 *150*	43 *140*	45 *150*	49 *160*	55 *180*
S2	— —	— —	— —	— —	31 *100*	33 *110*	36 *120*	40 *130*	29 *95*	31 *100*	33 *110*	37 *120*	34 *110*	36 *120*	39 *130*	44 *145*
S3	— —	— —	— —	— —	27 *90*	29 *95*	32 *105*	35 *115*	26 *85*	27 *90*	29 *95*	32 *105*	30 *100*	32 *105*	35 *115*	38 *125*
S11	— —	— —	— —	— —	55 *180*	60 *195*	60 *195*	70 *230*	49 *160*	50 *165*	55 *180*	65 *215*	60 *195*	65 *215*	70 *230*	75 *245*
S12	— —	— —	— —	— —	38 *125*	40 *130*	43 *140*	48 *155*	34 *110*	36 *120*	39 *130*	44 *145*	41 *135*	44 *145*	47 *155*	55 *180*
S13	— —	— —	— —	— —	22 *70*	23 *75*	25 *80*	28 *90*	20 *65*	21 *70*	23 *75*	26 *85*	24 *80*	25 *80*	27 *90*	30 *100*
H5	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
H8	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
H11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	45 *150*	47 *155*	50 *165*	55 *180*
H12	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	75 *245*	80 *260*	85 *280*	95 *310*
H21	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	38 *125*	40 *130*	43 *140*	48 *155*

R220.54-22 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK1501				MP1501				MP2501				MP3501			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	—	—	—	—	305	315	340	370	295	300	325	360	260	265	285	315
	—	—	—	—	*1000*	*1025*	*1125*	*1225*	*970*	*980*	*1075*	*1175*	*850*	*870*	*940*	*1025*
P2	—	—	—	—	290	300	320	360	280	285	310	350	245	250	270	310
	—	—	—	—	*950*	*980*	*1050*	*1175*	*920*	*940*	*1025*	*1150*	*800*	*820*	*890*	*1025*
P3	—	—	—	—	260	270	290	320	255	255	280	305	225	225	245	270
	—	—	—	—	*850*	*890*	*950*	*1050*	*840*	*840*	*920*	*1000*	*740*	*740*	*800*	*890*
P4	—	—	—	—	230	235	255	280	225	225	245	270	195	200	215	240
	—	—	—	—	*750*	*770*	*840*	*920*	*740*	*740*	*800*	*890*	*640*	*660*	*710*	*790*
P5	—	—	—	—	220	225	245	275	215	215	235	265	185	190	205	235
	—	—	—	—	*720*	*740*	*800*	*900*	*710*	*710*	*770*	*870*	*610*	*620*	*670*	*770*
P6	—	—	—	—	255	260	280	305	245	250	270	295	215	220	235	260
	—	—	—	—	*840*	*850*	*920*	*1000*	*800*	*820*	*890*	*970*	*710*	*720*	*770*	*850*
P7	—	—	—	—	240	245	265	290	230	235	255	280	205	205	225	245
	—	—	—	—	*790*	*800*	*870*	*950*	*750*	*770*	*840*	*920*	*670*	*670*	*740*	*800*
P8	—	—	—	—	220	225	245	265	215	215	235	260	185	190	205	230
	—	—	—	—	*720*	*740*	*800*	*870*	*710*	*710*	*770*	*850*	*610*	*620*	*670*	*750*
P11	—	—	—	—	230	240	255	280	225	230	245	270	200	200	215	240
	—	—	—	—	*750*	*790*	*840*	*920*	*740*	*750*	*800*	*890*	*660*	*660*	*710*	*790*
P12	—	—	—	—	160	165	175	190	155	160	170	185	140	140	150	165
	—	—	—	—	*520*	*540*	*570*	*620*	*510*	*520*	*560*	*610*	*460*	*460*	*490*	*540*
M1	—	—	—	—	—	—	—	—	150	160	175	195	140	150	165	185
	—	—	—	—	—	—	—	—	*490*	*520*	*570*	*640*	*460*	*490*	*540*	*610*
M2	—	—	—	—	—	—	—	—	125	135	145	165	120	125	135	155
	—	—	—	—	—	—	—	—	*410*	*445*	*475*	*540*	*395*	*410*	*445*	*510*
M3	—	—	—	—	—	—	—	—	105	110	120	135	100	105	110	125
	—	—	—	—	—	—	—	—	*345*	*360*	*395*	*445*	*330*	*345*	*360*	*410*
M4	—	—	—	—	—	—	—	—	85	85	95	105	75	80	90	100
	—	—	—	—	—	—	—	—	*280*	*280*	*310*	*345*	*245*	*260*	*295*	*330*
M5	—	—	—	—	—	—	—	—	70	75	80	90	65	70	75	80
	—	—	—	—	—	—	—	—	*230*	*245*	*260*	*295*	*215*	*230*	*245*	*260*
K1	290	355	405	480	295	300	325	365	285	290	310	355	250	250	275	310
	950	*1175*	*1325*	*1575*	*970*	*980*	*1075*	*1200*	*940*	*950*	*1025*	*1175*	*820*	*820*	*900*	*1025*
K2	255	310	360	425	265	275	295	330	255	260	285	320	225	230	250	280
	840	*1025*	*1175*	*1400*	*870*	*900*	*970*	*1075*	*840*	*850*	*940*	*1050*	*740*	*750*	*820*	*920*
K3	190	210	230	265	225	230	250	280	220	220	240	270	190	195	210	240
	620	*690*	*750*	*870*	*740*	*750*	*820*	*920*	*720*	*720*	*790*	*890*	*620*	*640*	*690*	*790*
K4	180	200	220	255	215	220	240	265	210	210	230	260	185	185	200	230
	590	*660*	*720*	*840*	*710*	*720*	*790*	*870*	*690*	*690*	*750*	*850*	*610*	*610*	*660*	*750*
K5	110	125	135	155	135	140	150	165	130	135	145	160	115	115	125	140
	360	*410*	*445*	*510*	*445*	*460*	*490*	*540*	*425*	*445*	*475*	*520*	*375*	*375*	*410*	*460*
K6	160	175	195	225	190	195	210	235	185	185	200	225	160	165	175	200
	520	*570*	*640*	*740*	*620*	*640*	*690*	*770*	*610*	*610*	*660*	*740*	*520*	*540*	*570*	*660*
K7	140	160	175	200	170	175	190	210	165	170	185	205	145	150	160	180
	460	*520*	*570*	*660*	*560*	*570*	*620*	*690*	*540*	*560*	*610*	*670*	*475*	*490*	*520*	*590*
S1	—	—	—	—	—	—	—	—	—	—	—	—	36	38	41	46
	—	—	—	—	—	—	—	—	—	—	—	—	*120*	*125*	*135*	*150*
S2	—	—	—	—	—	—	—	—	—	—	—	—	29	31	33	37
	—	—	—	—	—	—	—	—	—	—	—	—	*95*	*100*	*110*	*120*
S3	—	—	—	—	—	—	—	—	—	—	—	—	26	27	29	33
	—	—	—	—	—	—	—	—	—	—	—	—	*85*	*90*	*95*	*110*
S11	—	—	—	—	—	—	—	—	—	—	—	—	50	50	55	65
	—	—	—	—	—	—	—	—	—	—	—	—	*165*	*165*	*180*	*215*
S12	—	—	—	—	—	—	—	—	—	—	—	—	34	36	39	44
	—	—	—	—	—	—	—	—	—	—	—	—	*110*	*120*	*130*	*145*
S13	—	—	—	—	—	—	—	—	—	—	—	—	20	21	23	26
	—	—	—	—	—	—	—	—	—	—	—	—	*65*	*70*	*75*	*85*
H5	—	—	—	—	42	44	48	50	—	—	—	—	32	34	37	40
	—	—	—	—	*140*	*145*	*155*	*165*	—	—	—	—	*105*	*110*	*120*	*130*
H8	—	—	—	—	45	48	50	55	—	—	—	—	35	37	40	43
	—	—	—	—	*150*	*155*	*165*	*180*	—	—	—	—	*115*	*120*	*130*	*140*
H11	—	—	—	—	55	55	60	65	—	—	—	—	41	43	47	50
	—	—	—	—	*180*	*180*	*195*	*215*	—	—	—	—	*135*	*140*	*155*	*165*
H12	—	—	—	—	80	85	95	100	—	—	—	—	65	65	70	80
	—	—	—	—	*260*	*280*	*310*	*330*	—	—	—	—	*215*	*215*	*230*	*260*
H21	—	—	—	—	45	48	50	55	—	—	—	—	35	37	40	43
	—	—	—	—	*150*	*155*	*165*	*180*	—	—	—	—	*115*	*120*	*130*	*140*

R220.56-22 – Insert selection – mm/Inch

SMG		a_p	f_z			
			80%	60%	40%	20%
P1	SNMX2209ZNTR-M12 MP2501	10,0 *0.40*	0,22 0.0085	0,22 0.0085	0,22 0.0085	0,28 0.011
P2	SNMX2209ZNTR-M12 MP2501	10,0 *0.40*	0,22 0.0085	0,22 0.0085	0,22 0.0085	0,28 0.011
P3	SNMX2209ZNTR-M18 MP2501	10,0 *0.40*	0,32 0.013	0,32 0.013	0,32 0.013	0,40 0.016
P4	SNMX2209ZNTR-M18 MP2501	10,0 *0.40*	0,30 0.012	0,30 0.012	0,32 0.013	0,40 0.016
P5	SNMX2209ZNTR-M18 MP2501	10,0 *0.40*	0,30 0.012	0,30 0.012	0,32 0.013	0,38 0.015
P6	SNMX2209ZNTR-M18 MP2501	10,0 *0.40*	0,30 0.012	0,30 0.012	0,30 0.012	0,38 0.015
P7	SNMX2209ZNTR-M18 MP3501	10,0 *0.40*	0,30 0.012	0,30 0.012	0,30 0.012	0,38 0.015
P8	SNMX2209ZNTR-M18 MP3501	10,0 *0.40*	0,32 0.013	0,32 0.013	0,32 0.013	0,40 0.016
P11	SNMX2209ZNTR-M18 MP3501	10,0 *0.40*	0,30 0.012	0,30 0.012	0,30 0.012	0,38 0.015
P12	SNMX2209ZNTR-M18 MP3501	8,0 *0.32*	0,20 0.0080	0,20 0.0080	0,22 0.0085	0,26 0.010
M1	SNMX2209ZNTR-M12 MS2050	10,0 *0.40*	0,22 0.0085	0,22 0.0085	0,22 0.0085	0,28 0.011
M2	SNMX2209ZNTR-M12 MS2050	10,0 *0.40*	0,20 0.0080	0,20 0.0080	0,20 0.0080	0,26 0.010
M3	SNMX2209ZNTR-M12 MS2050	8,0 *0.32*	0,16 0.0065	0,16 0.0065	0,17 0.0065	0,20 0.0080
M4	SNMX2209ZNTR-M12 MS2050	6,0 *0.24*	0,15 0.0060	0,15 0.0060	0,15 0.0060	0,19 0.0075
M5	SNMX2209ZNTR-M12 MS2050	6,0 *0.24*	0,15 0.0060	0,15 0.0060	0,15 0.0060	0,19 0.0075
K1	SNMX2209ZNTR-M18 MK1500	10,0 *0.40*	0,34 0.013	0,34 0.013	0,34 0.013	0,42 0.017
K2	SNMX2209ZNTR-M18 MK1500	10,0 *0.40*	0,30 0.012	0,30 0.012	0,32 0.013	0,38 0.015
K3	SNMX2209ZNTR-M18 MP1501	10,0 *0.40*	0,30 0.012	0,30 0.012	0,32 0.013	0,38 0.015
K4	SNMX2209ZNTR-M18 MP1501	10,0 *0.40*	0,30 0.012	0,30 0.012	0,32 0.013	0,38 0.015
K5	SNMX2209ZNTR-M18 MP1501	10,0 *0.40*	0,28 0.011	0,28 0.011	0,28 0.011	0,34 0.013
K6	SNMX2209ZNTR-M18 MK2050	10,0 *0.40*	0,30 0.012	0,30 0.012	0,32 0.013	0,38 0.015
K7	SNMX2209ZNTR-M18 MK2050	10,0 *0.40*	0,28 0.011	0,28 0.011	0,28 0.011	0,34 0.013
S1	SNMX2209ZNTR-M12 MS2050	6,0 *0.24*	0,15 0.0060	0,15 0.0060	0,15 0.0060	0,19 0.0075
S2	SNMX2209ZNTR-M12 MS2050	6,0 *0.24*	0,15 0.0060	0,15 0.0060	0,15 0.0060	0,19 0.0075
S3	SNMX2209ZNTR-M12 MS2050	6,0 *0.24*	0,14 0.0055	0,14 0.0055	0,14 0.0055	0,17 0.0065
S11	SNMX2209ZNTR-M12 MS2050	7,0 *0.28*	0,17 0.0065	0,17 0.0065	0,17 0.0065	0,20 0.0080
S12	SNMX2209ZNTR-M12 MS2050	7,0 *0.28*	0,17 0.0065	0,17 0.0065	0,17 0.0065	0,20 0.0080
S13	SNMX2209ZNTR-M12 MS2050	6,0 *0.24*	0,15 0.0060	0,15 0.0060	0,15 0.0060	0,19 0.0075
H5	SNMX2209ZNTR-M18 MP1501	8,0 *0.32*	0,20 0.0080	0,20 0.0080	0,22 0.0085	0,26 0.010
H8	SNMX2209ZNTR-M18 MP1501	7,0 *0.28*	0,16 0.0065	0,16 0.0065	0,17 0.0065	0,20 0.0080
H11	SNMX2209ZNTR-M18 MP1501	8,0 *0.32*	0,20 0.0080	0,20 0.0080	0,22 0.0085	0,26 0.010
H12	SNMX2209ZNTR-M18 MP1501	7,0 *0.28*	0,16 0.0065	0,16 0.0065	0,17 0.0065	0,20 0.0080
H21	SNMX2209ZNTR-M18 MP1501	7,0 *0.28*	0,16 0.0065	0,16 0.0065	0,17 0.0065	0,20 0.0080

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R220.56-22 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK2050				MS2050				F40M			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	220 *720*	230 *750*	250 *820*	280 *920*	205 *670*	220 *720*	235 *770*	265 *870*	190 *620*	200 *660*	215 *710*	240 *790*
P2	215 *710*	225 *740*	240 *790*	270 *890*	200 *660*	215 *710*	230 *750*	250 *820*	185 *610*	195 *640*	210 *690*	225 *740*
P3	185 *610*	195 *640*	215 *710*	235 *770*	175 *570*	185 *610*	200 *660*	220 *720*	160 *520*	165 *540*	180 *590*	200 *660*
P4	165 *540*	175 *570*	185 *610*	210 *690*	155 *510*	160 *520*	175 *570*	195 *640*	140 *460*	145 *475*	160 *520*	175 *570*
P5	160 *520*	170 *560*	185 *610*	200 *660*	150 *490*	160 *520*	170 *560*	185 *610*	135 *445*	145 *475*	155 *510*	170 *560*
P6	180 *590*	190 *620*	205 *670*	225 *740*	170 *560*	180 *590*	190 *620*	215 *710*	155 *510*	160 *520*	175 *570*	195 *640*
P7	170 *560*	180 *590*	195 *640*	215 *710*	160 *520*	170 *560*	180 *590*	205 *670*	145 *475*	155 *510*	165 *540*	185 *610*
P8	155 *510*	165 *540*	180 *590*	195 *640*	145 *475*	155 *510*	165 *540*	185 *610*	135 *445*	140 *460*	150 *490*	170 *560*
P11	165 *540*	175 *570*	190 *620*	205 *670*	155 *510*	165 *540*	175 *570*	195 *640*	140 *460*	150 *490*	160 *520*	180 *590*
P12	110 *360*	115 *375*	125 *410*	140 *460*	100 *330*	110 *360*	115 *375*	125 *410*	95 *310*	100 *330*	105 *345*	115 *375*
M1	— —	— —	— —	— —	160 *520*	170 *560*	185 *610*	200 *660*	150 *490*	155 *510*	170 *560*	185 *610*
M2	— —	— —	— —	— —	135 *445*	145 *475*	155 *510*	165 *540*	125 *410*	130 *425*	140 *460*	150 *490*
M3	— —	— —	— —	— —	110 *360*	115 *375*	125 *410*	140 *460*	100 *330*	105 *345*	110 *360*	125 *410*
M4	— —	— —	— —	— —	85 *280*	90 *295*	95 *310*	105 *345*	80 *260*	80 *260*	90 *295*	100 *330*
M5	— —	— —	— —	— —	70 *230*	75 *245*	80 *260*	90 *295*	65 *215*	70 *230*	75 *245*	80 *260*
K1	230 *750*	240 *790*	260 *850*	295 *970*	— —	— —	— —	— —	145 *475*	155 *510*	165 *540*	180 *590*
K2	210 *690*	220 *720*	235 *770*	260 *850*	— —	— —	— —	— —	130 *425*	135 *445*	150 *490*	160 *520*
K3	175 *570*	185 *610*	200 *660*	220 *720*	— —	— —	— —	— —	110 *360*	115 *375*	125 *410*	135 *445*
K4	170 *560*	175 *570*	190 *620*	210 *690*	— —	— —	— —	— —	105 *345*	110 *360*	120 *395*	130 *425*
K5	100 *330*	110 *360*	115 *375*	130 *425*	— —	— —	— —	— —	65 *215*	65 *215*	70 *230*	80 *260*
K6	150 *490*	155 *510*	170 *560*	185 *610*	— —	— —	— —	— —	90 *295*	95 *310*	105 *345*	115 *375*
K7	130 *425*	140 *460*	150 *490*	165 *540*	— —	— —	— —	— —	80 *260*	85 *280*	95 *310*	105 *345*
S1	— —	— —	— —	— —	40 *130*	42 *140*	45 *150*	50 *165*	36 *120*	38 *125*	41 *135*	46 *150*
S2	— —	— —	— —	— —	32 *105*	34 *110*	36 *120*	40 *130*	29 *95*	31 *100*	33 *110*	37 *120*
S3	— —	— —	— —	— —	28 *90*	30 *100*	32 *105*	35 *115*	26 *85*	27 *90*	29 *95*	32 *105*
S11	— —	— —	— —	— —	55 *180*	60 *195*	65 *215*	70 *230*	50 *165*	55 *180*	55 *180*	65 *215*
S12	— —	— —	— —	— —	38 *125*	40 *130*	43 *140*	48 *155*	35 *115*	37 *120*	39 *130*	44 *145*
S13	— —	— —	— —	— —	22 *70*	24 *80*	25 *80*	28 *90*	20 *65*	22 *70*	23 *75*	26 *85*
H5	— —	— —	— —	— —	— —	— —	— —	— —	31 *100*	33 *110*	35 *115*	38 *125*
H8	— —	— —	— —	— —	— —	— —	— —	— —	33 *110*	35 *115*	38 *125*	42 *140*
H11	— —	— —	— —	— —	— —	— —	— —	— —	39 *130*	41 *135*	45 *150*	49 *160*
H12	— —	— —	— —	— —	— —	— —	— —	— —	60 *195*	65 *215*	65 *215*	75 *245*
H21	— —	— —	— —	— —	— —	— —	— —	— —	33 *110*	35 *115*	38 *125*	42 *140*

R220.56-22 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK1500				MP1501				MP2501				MP3501			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	—	—	—	—	305	310	335	380	295	300	325	365	260	260	285	320
	—	—	—	—	*1000*	*1025*	*1100*	*1250*	*970*	*980*	*1075*	*1200*	*850*	*850*	*940*	*1050*
P2	—	—	—	—	300	305	325	370	285	290	315	355	255	255	275	315
	—	—	—	—	*980*	*1000*	*1075*	*1225*	*940*	*950*	*1025*	*1175*	*840*	*840*	*900*	*1025*
P3	—	—	—	—	265	270	290	315	255	260	280	305	225	225	245	270
	—	—	—	—	*870*	*890*	*950*	*1025*	*840*	*850*	*920*	*1000*	*740*	*740*	*800*	*890*
P4	—	—	—	—	235	235	255	285	225	225	245	275	195	200	215	245
	—	—	—	—	*770*	*770*	*840*	*940*	*740*	*740*	*800*	*900*	*640*	*660*	*710*	*800*
P5	—	—	—	—	230	235	250	275	220	225	240	265	195	195	215	235
	—	—	—	—	*750*	*770*	*820*	*900*	*720*	*740*	*790*	*870*	*640*	*640*	*710*	*770*
P6	—	—	—	—	255	260	280	305	250	250	270	295	220	220	240	260
	—	—	—	—	*840*	*850*	*920*	*1000*	*820*	*820*	*890*	*970*	*720*	*720*	*790*	*850*
P7	—	—	—	—	240	245	265	290	235	235	255	280	205	210	225	245
	—	—	—	—	*790*	*800*	*870*	*950*	*770*	*770*	*840*	*920*	*670*	*690*	*740*	*800*
P8	—	—	—	—	220	225	245	265	215	215	235	255	190	190	205	225
	—	—	—	—	*720*	*740*	*800*	*870*	*710*	*710*	*770*	*840*	*620*	*620*	*670*	*740*
P11	—	—	—	—	235	240	260	280	225	230	250	270	200	205	220	240
	—	—	—	—	*770*	*790*	*850*	*920*	*740*	*750*	*820*	*890*	*660*	*670*	*720*	*790*
P12	—	—	—	—	160	160	175	190	155	155	170	185	135	140	150	165
	—	—	—	—	*520*	*520*	*570*	*620*	*510*	*510*	*560*	*610*	*445*	*460*	*490*	*540*
M1	—	—	—	—	—	—	—	—	155	165	175	200	145	150	165	185
	—	—	—	—	—	—	—	—	*510*	*540*	*570*	*660*	*475*	*490*	*540*	*610*
M2	—	—	—	—	—	—	—	—	130	140	150	165	120	130	140	155
	—	—	—	—	—	—	—	—	*425*	*460*	*490*	*540*	*395*	*425*	*460*	*510*
M3	—	—	—	—	—	—	—	—	105	115	120	135	100	105	115	125
	—	—	—	—	—	—	—	—	*345*	*375*	*395*	*445*	*330*	*345*	*375*	*410*
M4	—	—	—	—	—	—	—	—	85	90	95	105	80	85	90	100
	—	—	—	—	—	—	—	—	*280*	*295*	*310*	*345*	*260*	*280*	*295*	*330*
M5	—	—	—	—	—	—	—	—	70	75	80	90	65	70	75	85
	—	—	—	—	—	—	—	—	*230*	*245*	*260*	*295*	*215*	*230*	*245*	*280*
K1	240	255	275	310	300	305	330	370	290	295	315	360	255	255	280	315
	790	*840*	*900*	*1025*	*980*	*1000*	*1075*	*1225*	*950*	*970*	*1025*	*1175*	*840*	*840*	*920*	*1025*
K2	220	230	250	275	275	280	305	330	265	270	290	320	235	240	255	280
	720	*750*	*820*	*900*	*900*	*920*	*1000*	*1075*	*870*	*890*	*950*	*1050*	*770*	*790*	*840*	*920*
K3	185	195	210	230	235	240	255	280	225	230	245	270	200	200	220	240
	610	*640*	*690*	*750*	*770*	*790*	*840*	*920*	*740*	*750*	*800*	*890*	*660*	*660*	*720*	*790*
K4	175	185	200	220	225	225	245	265	215	220	235	260	190	190	210	230
	570	*610*	*660*	*720*	*740*	*740*	*800*	*870*	*710*	*720*	*770*	*850*	*620*	*620*	*690*	*750*
K5	110	115	125	140	135	140	150	170	135	135	145	165	115	120	130	145
	360	*375*	*410*	*460*	*445*	*460*	*490*	*560*	*445*	*445*	*475*	*540*	*375*	*395*	*425*	*475*
K6	155	165	180	195	195	200	215	235	190	195	210	225	170	170	185	200
	510	*540*	*590*	*640*	*640*	*660*	*710*	*770*	*620*	*640*	*690*	*740*	*560*	*560*	*610*	*660*
K7	140	145	155	175	175	180	190	215	170	170	185	210	150	150	165	185
	460	*475*	*510*	*570*	*570*	*590*	*620*	*710*	*560*	*560*	*610*	*690*	*490*	*490*	*540*	*610*
S1	—	—	—	—	—	—	—	—	—	—	—	—	37	39	42	46
	—	—	—	—	—	—	—	—	—	—	—	—	*120*	*130*	*140*	*150*
S2	—	—	—	—	—	—	—	—	—	—	—	—	30	31	33	37
	—	—	—	—	—	—	—	—	—	—	—	—	*100*	*100*	*110*	*120*
S3	—	—	—	—	—	—	—	—	—	—	—	—	26	27	30	32
	—	—	—	—	—	—	—	—	—	—	—	—	*85*	*90*	*100*	*105*
S11	—	—	—	—	—	—	—	—	—	—	—	—	50	55	55	65
	—	—	—	—	—	—	—	—	—	—	—	—	*165*	*180*	*180*	*215*
S12	—	—	—	—	—	—	—	—	—	—	—	—	35	36	40	44
	—	—	—	—	—	—	—	—	—	—	—	—	*115*	*120*	*130*	*145*
S13	—	—	—	—	—	—	—	—	—	—	—	—	21	22	23	26
	—	—	—	—	—	—	—	—	—	—	—	—	*70*	*70*	*75*	*85*
H5	—	—	—	—	41	44	47	55	—	—	—	—	32	34	36	41
	—	—	—	—	*135*	*145*	*155*	*180*	—	—	—	—	*105*	*110*	*120*	*135*
H8	—	—	—	—	45	48	50	55	—	—	—	—	35	37	40	44
	—	—	—	—	*150*	*155*	*165*	*180*	—	—	—	—	*115*	*120*	*130*	*145*
H11	—	—	—	—	55	55	60	65	—	—	—	—	41	43	46	50
	—	—	—	—	*180*	*180*	*195*	*215*	—	—	—	—	*135*	*140*	*150*	*165*
H12	—	—	—	—	80	85	95	100	—	—	—	—	60	65	70	80
	—	—	—	—	*260*	*280*	*310*	*330*	—	—	—	—	*195*	*215*	*230*	*260*
H21	—	—	—	—	45	48	50	55	—	—	—	—	35	37	40	44
	—	—	—	—	*150*	*155*	*165*	*180*	—	—	—	—	*115*	*120*	*130*	*145*



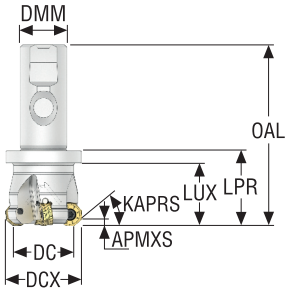
Double Octomill 05/09

The Double Octomill face milling cutter is a highly versatile, economic and productive tool that can be used for both roughing and finishing. With double-sided inserts featuring a total of 16 cutting edges, the cutter represents a combination of high performance with cost-effective operation. Double Octomill also has a coated, pre-hardened body to ensure long tool life by protecting the tool from wear and preventing chips from welding to it.

– Insert size 05, cutter range 25-125mm (1.25-4 inch)
– Insert size 09, cutter range 63-500mm (2.5-12.5 inch)
– Double-sided inserts with 16 cutting edges

Double Octomill™ R217.48-05 – Metric





—For insert selection and cutting data recommendations, see page(s) 273 - 275
—For complete insert programme, see page(s) 883
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCONMS	LUX	LPR	OAL	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm	mm		kg	
R217.48-2025.3S-05-3SA	02810001	Seco-Weldon	25,0	3	3,0	40,0 °	33,0	20,0	33,0	40,0	90,0	20400	0,3	ONMU0504
R217.48-2532.3S-05-4SA	02810002	Seco-Weldon	32,0	4	3,0	40,0 °	40,0	25,0	33,0	40,0	90,0	18000	0,5	ONMU0504

Spare Parts, included in delivery

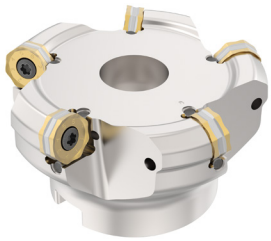
For cutter	Insert key	Insert screw
		
R217.48-..	1/4HEX-T15PX50	C04009-T15P

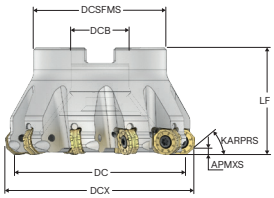
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.48-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Double Octomill™ R220.48-05 – Metric

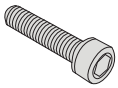




—For insert selection and cutting data recommendations, see page(s) 273 - 275
—For complete insert programme, see page(s) 883
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm		kg	
R220.48-0040-05-05SA	02810083	Arbor	40,0	5	3,0	40,0 °	48,35	16,0	35,0	40,0	16100	0,3	ON.U00504
R220.48-0050-05-04SA	02810003	Arbor	50,0	4	3,0	40,0 °	58,35	22,0	47,0	40,0	14400	0,5	ON.U00504
R220.48-0050-05-05SA	02810084	Arbor	50,0	5	3,0	40,0 °	58,35	22,0	47,0	40,0	14400	0,5	ON.U00504
R220.48-0050-05-06SA	02810085	Arbor	50,0	6	3,0	40,0 °	58,35	22,0	47,0	40,0	14400	0,5	ON.U00504
R220.48-0063-05-05SA	02810004	Arbor	63,0	5	3,0	40,0 °	71,35	22,0	47,0	40,0	12800	0,7	ON.U00504
R220.48-0063-05-06SA	02810086	Arbor	63,0	6	3,0	40,0 °	71,35	22,0	47,0	40,0	12800	0,6	ON.U00504
R220.48-0063-05-08SA	02810087	Arbor	63,0	8	3,0	40,0 °	71,35	22,0	47,0	40,0	12800	0,6	ON.U00504
R220.48-0080-05-06SA	02810005	Arbor	80,0	6	3,0	40,0 °	88,35	27,0	62,0	50,0	11400	1,2	ON.U00504
R220.48-0080-05-10SA	02810088	Arbor	80,0	10	3,0	40,0 °	88,35	27,0	62,0	50,0	11400	1,1	ON.U00504
R220.48-0100-05-07SA	02810089	Arbor	100,0	7	3,0	40,0 °	108,35	32,0	77,0	50,0	10200	1,9	ON.U00504
R220.48-0100-05-12SA	02810090	Arbor	100,0	12	3,0	40,0 °	108,35	32,0	77,0	50,0	10200	1,8	ON.U00504
R220.48-0125-05-08SA	02810091	Arbor	125,0	8	3,0	40,0 °	133,35	40,0	90,0	63,0	9100	3,4	ON.U00504
R220.48-0125-05-14SA	02810092	Arbor	125,0	14	3,0	40,0 °	133,35	40,0	90,0	63,0	9100	3,4	ON.U00504

Spare Parts, included in delivery

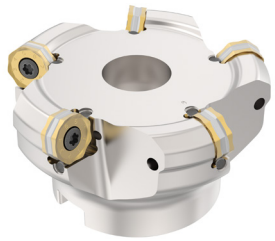
For cutter	Arbor screw	Insert key	Insert screw
			
R220.48-0040	TCEI0825	1/4HEX-T15PX50	C04009-T15P
R220.48-0050-0063	220.17-692	1/4HEX-T15PX50	C04009-T15P
R220.48-0080-0125	–	1/4HEX-T15PX90	C04009-T15P

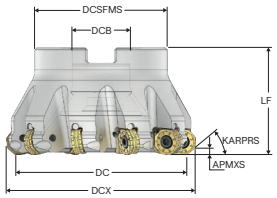
Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.48-0040-0063	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.48-0080	1/4HEX-S-HANDLE-0.8-5.0NM	5802712	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.48-0100	1/4HEX-S-HANDLE-0.8-5.0NM	5803216	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.48-0125	1/4HEX-S-HANDLE-0.8-5.0NM	5804020	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Double Octomill™ R220.48-05 – inch

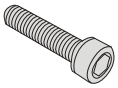




—For insert selection and cutting data recommendations, see page(s) 273 - 275
—For complete insert programme, see page(s) 883
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch		inch	inch	inch	inch		lbs	
R220.48-02.00-05-05SA	02810096	Arbor	1.969	5	0.118	40,0 °	2.297	0.750	1.850	1.575	14400	1.100	ON.U00504
R220.48-02.50-05-05SA	02810098	Arbor	2.480	5	0.118	40,0 °	2.809	0.750	1.850	1.575	12800	1.540	ON.U00504
R220.48-03.00-05-06SA	02810101	Arbor	3.150	6	0.118	40,0 °	3.478	1.000	2.441	1.969	11400	3.090	ON.U00504
R220.48-04.00-05-07SA	02810103	Arbor	3.937	7	0.118	40,0 °	4.266	1.500	3.031	1.969	10200	4.190	ON.U00504

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R220.48-02.00-02.50	UC6S3/8UNFX1	1/4HEX-T15PX50	C04009-T15P
R220.48-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T15PX90	C04009-T15P
R220.48-04.00	UF6S3/4UNFX1-3/4	1/4HEX-T15PX90	C04009-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R220.48-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

R220.48-05 – Insert selection – mm/Inch

SMG		a_p	f_z		
			80%	40%	20%
P1	ONMU050410ANTN-M11 MP3000	1,8 *0.070*	0,26 0.010	0,26 0.010	0,34 0.013
P2	ONMU050410ANTN-M11 MP3000	1,8 *0.070*	0,26 0.010	0,28 0.011	0,34 0.013
P3	ONMU050406ANTN-ME14 MP2501	1,8 *0.070*	0,28 0.011	0,28 0.011	0,36 0.014
P4	ONMU050406ANTN-ME14 MP2501	1,8 *0.070*	0,28 0.011	0,28 0.011	0,34 0.013
P5	ONMU050406ANTN-ME14 MP2501	1,8 *0.070*	0,26 0.010	0,28 0.011	0,34 0.013
P6	ONMU050406ANTN-ME14 MP2501	1,8 *0.070*	0,26 0.010	0,28 0.011	0,34 0.013
P7	ONMU050406ANTN-ME14 MP3501	1,8 *0.070*	0,26 0.010	0,28 0.011	0,34 0.013
P8	ONMU050406ANTN-ME14 MP3501	1,8 *0.070*	0,28 0.011	0,28 0.011	0,36 0.014
P11	ONMU050410ANTN-M10 MP2050	1,8 *0.070*	0,24 0.0095	0,25 0.010	0,30 0.012
P12	ONMU050410ANTN-M10 MP2050	1,4 *0.055*	0,17 0.0065	0,18 0.0070	0,22 0.0085
M1	ONMU050410ANTN-ME11 F40M	1,8 *0.070*	0,24 0.0095	0,25 0.010	0,30 0.012
M2	ONMU050410ANTN-ME11 MS2050	1,8 *0.070*	0,22 0.0085	0,22 0.0085	0,28 0.011
M3	ONMU050410ANTN-ME11 MS2050	1,4 *0.055*	0,18 0.0070	0,19 0.0075	0,24 0.0095
M4	ONMU050410ANTN-M10 MP2050	1,1 *0.044*	0,19 0.0075	0,19 0.0075	0,24 0.0095
M5	ONMU050410ANTN-M10 MP2050	1,1 *0.044*	0,19 0.0075	0,19 0.0075	0,24 0.0095
K1	ONMU050406ANTN-ME14 MP1501	1,8 *0.070*	0,30 0.012	0,30 0.012	0,38 0.015
K2	ONMU050406ANTN-ME14 MP1501	1,8 *0.070*	0,26 0.010	0,28 0.011	0,34 0.013
K3	ONMU050406ANTN-ME14 MK2050	1,8 *0.070*	0,26 0.010	0,28 0.011	0,34 0.013
K4	ONMU050406ANTN-ME14 MK2050	1,8 *0.070*	0,26 0.010	0,28 0.011	0,34 0.013
K5	ONMU050406ANTN-ME14 MK2050	1,8 *0.070*	0,24 0.0095	0,25 0.010	0,30 0.012
K6	ONMU050406ANTN-ME14 MK2050	1,8 *0.070*	0,26 0.010	0,28 0.011	0,34 0.013
K7	ONMU050406ANTN-ME14 MK2050	1,8 *0.070*	0,24 0.0095	0,25 0.010	0,30 0.012
N1	ONMU050410ANTN-ME11 F40M	1,8 *0.070*	0,30 0.012	0,32 0.013	0,38 0.015
N2	ONMU050410ANTN-ME11 F40M	1,8 *0.070*	0,30 0.012	0,32 0.013	0,38 0.015
N3	ONMU050410ANTN-ME11 F40M	1,8 *0.070*	0,30 0.012	0,32 0.013	0,38 0.015
N11	ONMU050410ANTN-ME11 F40M	1,8 *0.070*	0,30 0.012	0,32 0.013	0,38 0.015
S1	ONMU050406ANTN-ME14 MS2050	1,1 *0.044*	0,20 0.0080	0,20 0.0080	0,25 0.010
S2	ONMU050406ANTN-ME14 MS2050	1,1 *0.044*	0,20 0.0080	0,20 0.0080	0,25 0.010
S3	ONMU050406ANTN-ME14 MS2050	1,1 *0.044*	0,19 0.0075	0,19 0.0075	0,24 0.0095
S11	ONMU050410ANTN-ME11 MS2050	1,3 *0.050*	0,18 0.0070	0,19 0.0075	0,24 0.0095
S12	ONMU050410ANTN-ME11 MS2050	1,3 *0.050*	0,18 0.0070	0,19 0.0075	0,24 0.0095
S13	ONMU050410ANTN-ME11 MS2050	1,1 *0.044*	0,17 0.0065	0,17 0.0065	0,22 0.0085
H5	ONMU050410ANTN-M11 MP3000	1,4 *0.055*	0,17 0.0065	0,18 0.0070	0,22 0.0085
H8	ONMU050410ANTN-M11 MP3000	1,3 *0.050*	0,13 0.0050	0,13 0.0050	0,17 0.0065
H11	ONMU050410ANTN-M11 MP3000	1,4 *0.055*	0,17 0.0065	0,18 0.0070	0,22 0.0085
H12	ONMU050410ANTN-M11 MP3000	1,3 *0.050*	0,13 0.0050	0,13 0.0050	0,17 0.0065
H21	ONMU050410ANTN-M11 MP3000	1,3 *0.050*	0,13 0.0050	0,13 0.0050	0,17 0.0065

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.48-05 – Cutting data v_c = (m/min)/(sf/min)

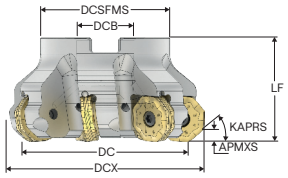
SMG	MK2050				MP3000				MS2050				F40M				MP2050			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	270 *890*	285 *940*	310 *1025*	345 *1125*	260 *850*	275 *900*	295 *970*	330 *1075*	225 *740*	240 *790*	260 *850*	290 *950*	205 *670*	220 *720*	235 *770*	265 *870*	275 *900*	290 *950*	315 *1025*	350 *1150*
P2	260 *850*	275 *900*	300 *980*	335 *1100*	250 *820*	265 *870*	290 *950*	320 *1050*	220 *720*	235 *770*	255 *840*	285 *940*	200 *660*	215 *710*	230 *750*	255 *840*	265 *870*	285 *940*	305 *1000*	335 *1100*
P3	230 *750*	245 *800*	265 *870*	295 *970*	220 *720*	235 *770*	255 *840*	280 *920*	195 *640*	205 *670*	225 *740*	250 *820*	175 *570*	190 *620*	205 *670*	225 *740*	230 *750*	245 *800*	265 *870*	295 *970*
P4	200 *660*	215 *710*	230 *750*	260 *850*	195 *640*	205 *670*	225 *740*	250 *820*	170 *560*	180 *590*	195 *640*	220 *720*	155 *510*	165 *540*	180 *590*	200 *660*	205 *670*	220 *720*	235 *770*	260 *850*
P5	200 *660*	210 *690*	225 *740*	245 *800*	190 *620*	200 *660*	220 *720*	235 *770*	165 *540*	180 *590*	190 *620*	210 *690*	150 *490*	160 *520*	175 *570*	190 *620*	195 *640*	210 *690*	225 *740*	250 *820*
P6	220 *720*	235 *770*	255 *840*	275 *900*	215 *710*	225 *740*	245 *800*	265 *870*	190 *620*	200 *660*	215 *710*	235 *770*	170 *560*	180 *590*	195 *640*	215 *710*	220 *720*	235 *770*	255 *840*	285 *940*
P7	210 *690*	220 *720*	240 *790*	260 *850*	200 *660*	215 *710*	230 *750*	250 *820*	175 *570*	190 *620*	205 *670*	220 *720*	160 *520*	170 *560*	185 *610*	200 *660*	210 *690*	220 *720*	240 *790*	265 *870*
P8	195 *640*	205 *670*	220 *720*	245 *800*	185 *610*	195 *640*	215 *710*	235 *770*	165 *540*	175 *570*	185 *610*	210 *690*	150 *490*	160 *520*	170 *560*	190 *620*	195 *640*	205 *670*	225 *740*	245 *800*
P11	205 *670*	215 *710*	235 *770*	255 *840*	195 *640*	210 *690*	225 *740*	245 *800*	170 *560*	185 *610*	195 *640*	215 *710*	155 *510*	165 *540*	180 *590*	195 *640*	205 *670*	215 *710*	235 *770*	260 *850*
P12	130 *425*	140 *460*	150 *490*	165 *540*	125 *410*	135 *445*	145 *475*	160 *520*	110 *360*	120 *395*	125 *410*	140 *460*	100 *330*	110 *360*	115 *375*	130 *425*	130 *425*	140 *460*	150 *490*	170 *560*
M1	— —	— —	— —	— —	190 *620*	200 *660*	215 *710*	240 *790*	180 *590*	190 *620*	205 *670*	230 *750*	160 *520*	170 *560*	185 *610*	205 *670*	190 *620*	205 *670*	220 *720*	240 *790*
M2	— —	— —	— —	— —	160 *520*	170 *560*	180 *590*	200 *660*	150 *490*	160 *520*	170 *560*	190 *620*	135 *445*	145 *475*	155 *510*	170 *560*	160 *520*	170 *560*	180 *590*	200 *660*
M3	— —	— —	— —	— —	125 *410*	135 *445*	145 *475*	160 *520*	120 *395*	130 *425*	140 *460*	155 *510*	110 *360*	115 *375*	125 *410*	140 *460*	125 *410*	135 *445*	145 *475*	160 *520*
M4	— —	— —	— —	— —	100 *330*	105 *345*	110 *360*	125 *410*	95 *310*	100 *330*	105 *345*	120 *395*	85 *280*	90 *295*	95 *310*	105 *345*	100 *330*	105 *345*	115 *375*	125 *410*
M5	— —	— —	— —	— —	80 *260*	85 *280*	95 *310*	105 *345*	80 *260*	85 *280*	90 *295*	100 *330*	70 *230*	75 *245*	80 *260*	90 *295*	80 *260*	85 *280*	95 *310*	105 *345*
K1	280 *920*	300 *980*	325 *1075*	360 *1175*	200 *660*	210 *690*	230 *750*	255 *840*	— —	— —	— —	— —	160 *520*	170 *560*	185 *610*	205 *670*	— —	— —	— —	— —
K2	255 *840*	270 *890*	295 *970*	320 *1050*	180 *590*	190 *620*	205 *670*	225 *740*	— —	— —	— —	— —	145 *475*	155 *510*	165 *540*	180 *590*	— —	— —	— —	— —
K3	215 *710*	230 *750*	250 *820*	270 *890*	155 *510*	160 *520*	175 *570*	190 *620*	— —	— —	— —	— —	120 *395*	130 *425*	140 *460*	155 *510*	— —	— —	— —	— —
K4	205 *670*	220 *720*	235 *770*	260 *850*	145 *475*	155 *510*	165 *540*	180 *590*	— —	— —	— —	— —	115 *375*	125 *410*	135 *445*	145 *475*	— —	— —	— —	— —
K5	125 *410*	135 *445*	145 *475*	160 *520*	90 *295*	95 *310*	100 *330*	110 *360*	— —	— —	— —	— —	70 *230*	75 *245*	80 *260*	90 *295*	— —	— —	— —	— —
K6	180 *590*	195 *640*	210 *690*	225 *740*	130 *425*	135 *445*	145 *475*	160 *520*	— —	— —	— —	— —	105 *345*	110 *360*	120 *395*	130 *425*	— —	— —	— —	— —
K7	160 *520*	170 *560*	185 *610*	205 *670*	115 *375*	120 *395*	130 *425*	145 *475*	— —	— —	— —	— —	90 *295*	95 *310*	105 *345*	115 *375*	— —	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
S1	— —	— —	— —	— —	46 *150*	49 *160*	50 *165*	60 *195*	44 *145*	46 *150*	50 *165*	55 *180*	40 *130*	42 *140*	45 *150*	50 *165*	48 *155*	50 *165*	55 *180*	60 *195*
S2	— —	— —	— —	— —	37 *120*	39 *130*	42 *140*	47 *155*	35 *115*	37 *120*	40 *130*	44 *145*	32 *105*	34 *110*	36 *120*	40 *130*	38 *125*	41 *135*	44 *145*	49 *160*
S3	— —	— —	— —	— —	32 *105*	34 *110*	37 *120*	42 *140*	31 *100*	33 *110*	36 *120*	39 *130*	28 *90*	30 *100*	32 *105*	36 *120*	34 *110*	36 *120*	39 *130*	43 *140*
S11	— —	— —	— —	— —	— —	— —	— —	— —	60 *195*	65 *215*	70 *230*	80 *260*	55 *180*	60 *195*	65 *215*	70 *230*	70 *230*	70 *230*	75 *245*	85 *280*
S12	— —	— —	— —	— —	— —	— —	— —	— —	42 *140*	45 *150*	48 *155*	55 *180*	38 *125*	41 *135*	44 *145*	49 *160*	47 *155*	50 *165*	55 *180*	60 *195*
S13	— —	— —	— —	— —	— —	— —	— —	— —	25 *80*	26 *85*	28 *90*	31 *100*	22 *70*	24 *80*	25 *80*	28 *90*	27 *90*	28 *90*	31 *100*	34 *110*
H5	— —	— —	— —	— —	39 *130*	42 *140*	45 *150*	50 *165*	— —	— —	— —	— —	34 *110*	36 *120*	38 *125*	43 *140*	— —	— —	— —	— —
H8	— —	— —	— —	— —	42 *140*	45 *150*	49 *160*	55 *180*	— —	— —	— —	— —	36 *120*	38 *125*	42 *140*	45 *150*	— —	— —	— —	— —
H11	— —	— —	— —	— —	50 *165*	55 *180*	55 *180*	65 *215*	— —	— —	— —	— —	43 *140*	45 *150*	49 *160*	55 *180*	50 *165*	55 *180*	60 *195*	65 *215*
H12	— —	— —	— —	— —	80 *260*	85 *280*	95 *310*	100 *330*	— —	— —	— —	— —	65 *215*	70 *230*	75 *245*	80 *260*	85 *280*	90 *295*	95 *310*	105 *345*
H21	— —	— —	— —	— —	42 *140*	45 *150*	49 *160*	55 *180*	— —	— —	— —	— —	36 *120*	38 *125*	42 *140*	45 *150*	42 *140*	45 *150*	49 *160*	55 *180*

R217/220.48-05 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK1501				MP1501				MP2501				MP3501			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	—	—	—	—	400	415	440	485	390	405	430	475	350	360	385	425
	—	—	—	—	*1300*	*1350*	*1450*	*1600*	*1275*	*1325*	*1400*	*1550*	*1150*	*1175*	*1275*	*1400*
P2	—	—	—	—	390	405	430	475	380	395	420	465	340	350	375	415
	—	—	—	—	*1275*	*1325*	*1400*	*1550*	*1250*	*1300*	*1375*	*1525*	*1125*	*1150*	*1225*	*1350*
P3	—	—	—	—	345	355	380	410	335	345	370	400	300	310	330	355
	—	—	—	—	*1125*	*1175*	*1250*	*1350*	*1100*	*1125*	*1225*	*1300*	*980*	*1025*	*1075*	*1175*
P4	—	—	—	—	300	315	335	365	295	305	325	360	265	270	290	320
	—	—	—	—	*980*	*1025*	*1100*	*1200*	*970*	*1000*	*1075*	*1175*	*870*	*890*	*950*	*1050*
P5	—	—	—	—	290	305	325	350	285	295	315	345	255	265	280	305
	—	—	—	—	*950*	*1000*	*1075*	*1150*	*940*	*970*	*1025*	*1125*	*840*	*870*	*920*	*1000*
P6	—	—	—	—	330	340	365	395	320	330	355	385	285	295	315	345
	—	—	—	—	*1075*	*1125*	*1200*	*1300*	*1050*	*1075*	*1175*	*1275*	*940*	*970*	*1025*	*1125*
P7	—	—	—	—	310	320	340	370	305	315	335	365	270	280	300	325
	—	—	—	—	*1025*	*1050*	*1125*	*1225*	*1000*	*1025*	*1100*	*1200*	*890*	*920*	*980*	*1075*
P8	—	—	—	—	290	300	320	345	285	290	310	335	250	260	280	300
	—	—	—	—	*950*	*980*	*1050*	*1125*	*940*	*950*	*1025*	*1100*	*820*	*850*	*920*	*980*
P11	—	—	—	—	300	310	335	360	295	305	325	355	265	270	290	315
	—	—	—	—	*980*	*1025*	*1100*	*1175*	*970*	*1000*	*1075*	*1175*	*870*	*890*	*950*	*1025*
P12	—	—	—	—	195	205	215	230	195	200	215	230	175	180	190	205
	—	—	—	—	*640*	*670*	*710*	*750*	*640*	*660*	*710*	*750*	*570*	*590*	*620*	*670*
M1	—	—	—	—	—	—	—	—	195	210	225	250	180	195	210	235
	—	—	—	—	—	—	—	—	*640*	*690*	*740*	*820*	*590*	*640*	*690*	*770*
M2	—	—	—	—	—	—	—	—	165	175	190	205	150	160	175	195
	—	—	—	—	—	—	—	—	*540*	*570*	*620*	*670*	*490*	*520*	*570*	*640*
M3	—	—	—	—	—	—	—	—	135	140	150	165	125	130	140	155
	—	—	—	—	—	—	—	—	*445*	*460*	*490*	*540*	*410*	*425*	*460*	*510*
M4	—	—	—	—	—	—	—	—	105	110	115	130	95	100	110	120
	—	—	—	—	—	—	—	—	*345*	*360*	*375*	*425*	*310*	*330*	*360*	*395*
M5	—	—	—	—	—	—	—	—	85	90	100	105	80	85	90	100
	—	—	—	—	—	—	—	—	*280*	*295*	*330*	*345*	*260*	*280*	*295*	*330*
K1	345	415	475	560	395	405	435	480	385	395	425	470	340	350	380	420
	1125	*1350*	*1550*	*1825*	*1300*	*1325*	*1425*	*1575*	*1275*	*1300*	*1400*	*1550*	*1125*	*1150*	*1250*	*1375*
K2	310	370	420	495	355	365	390	425	345	360	380	415	310	320	340	370
	1025	*1225*	*1375*	*1625*	*1175*	*1200*	*1275*	*1400*	*1125*	*1175*	*1250*	*1350*	*1025*	*1050*	*1125*	*1225*
K3	245	270	295	335	300	310	330	360	295	305	325	350	260	270	290	315
	800	*890*	*970*	*1100*	*980*	*1025*	*1075*	*1175*	*970*	*1000*	*1075*	*1150*	*850*	*890*	*950*	*1025*
K4	230	255	285	320	285	295	315	340	280	290	310	335	250	260	275	300
	750	*840*	*940*	*1050*	*940*	*970*	*1025*	*1125*	*920*	*950*	*1025*	*1100*	*820*	*850*	*900*	*980*
K5	140	155	175	195	175	185	195	210	175	180	190	205	155	160	170	185
	460	*510*	*570*	*640*	*570*	*610*	*640*	*690*	*570*	*590*	*620*	*670*	*510*	*520*	*560*	*610*
K6	205	225	250	285	250	260	280	300	245	255	270	295	220	225	245	265
	670	*740*	*820*	*940*	*820*	*850*	*920*	*980*	*800*	*840*	*890*	*970*	*720*	*740*	*800*	*870*
K7	180	200	220	250	225	235	250	265	220	230	245	260	200	205	220	235
	590	*660*	*720*	*820*	*740*	*770*	*820*	*870*	*720*	*750*	*800*	*850*	*660*	*670*	*720*	*770*
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	—	—	—	45	47	50	55
	—	—	—	—	—	—	—	—	—	—	—	—	*150*	*155*	*165*	*180*
S2	—	—	—	—	—	—	—	—	—	—	—	—	36	38	41	45
	—	—	—	—	—	—	—	—	—	—	—	—	*120*	*125*	*135*	*150*
S3	—	—	—	—	—	—	—	—	—	—	—	—	31	33	36	40
	—	—	—	—	—	—	—	—	—	—	—	—	*100*	*110*	*120*	*130*
S11	—	—	—	—	—	—	—	—	—	—	—	—	60	65	70	80
	—	—	—	—	—	—	—	—	—	—	—	—	*195*	*215*	*230*	*260*
S12	—	—	—	—	—	—	—	—	—	—	—	—	43	46	50	55
	—	—	—	—	—	—	—	—	—	—	—	—	*140*	*150*	*165*	*180*
S13	—	—	—	—	—	—	—	—	—	—	—	—	25	27	29	31
	—	—	—	—	—	—	—	—	—	—	—	—	*80*	*90*	*95*	*100*
H5	—	—	—	—	50	55	60	65	—	—	—	—	40	42	46	50
	—	—	—	—	*165*	*180*	*195*	*215*	—	—	—	—	*130*	*140*	*150*	*165*
H8	—	—	—	—	55	60	65	70	—	—	—	—	43	45	49	55
	—	—	—	—	*180*	*195*	*215*	*230*	—	—	—	—	*140*	*150*	*160*	*180*
H11	—	—	—	—	65	70	75	80	—	—	—	—	50	55	60	65
	—	—	—	—	*215*	*230*	*245*	*260*	—	—	—	—	*165*	*180*	*195*	*215*
H12	—	—	—	—	100	105	115	125	—	—	—	—	75	80	90	95
	—	—	—	—	*330*	*345*	*375*	*410*	—	—	—	—	*245*	*260*	*295*	*310*
H21	—	—	—	—	55	60	65	70	—	—	—	—	43	45	49	55
	—	—	—	—	*180*	*195*	*215*	*230*	—	—	—	—	*140*	*150*	*160*	*180*

Double Octomill™ R217/220.48-09 – Metric

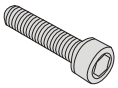




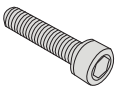
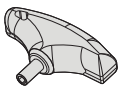
—For insert selection and cutting data recommendations, see page(s) 282 - 284
—For complete insert programme, see page(s) 884
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DBC2	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm	mm	mm		kg	
R220.48-0063-09-05SA	02670226	Arbor	63,0	5	6,0	40,0 °	78,0	22,0	–	–	47,0	40,0	4900	0,6	ON.U0905
R220.48-0063-09-06SA	02685780	Arbor	63,0	6	6,0	40,0 °	78,0	22,0	–	–	47,0	40,0	4900	0,6	ON.U0905
R220.48-0080-09-06SA	02670228	Arbor	80,0	6	6,0	40,0 °	95,0	27,0	–	–	62,0	50,0	4400	1,0	ON.U0905
R220.48-0080-09-07SA	02685781	Arbor	80,0	7	6,0	40,0 °	95,0	27,0	–	–	62,0	50,0	4400	1,0	ON.U0905
R220.48-0100-09-07SA	02670229	Arbor	100,0	7	6,0	40,0 °	115,0	32,0	–	–	77,0	50,0	3900	1,6	ON.U0905
R220.48-0100-09-08SA	02685782	Arbor	100,0	8	6,0	40,0 °	115,0	32,0	–	–	77,0	50,0	3900	1,6	ON.U0905
R220.48-0125-09-08SA	02670231	Arbor	125,0	8	6,0	40,0 °	140,0	40,0	–	–	90,0	63,0	3500	2,9	ON.U0905
R220.48-0125-09-10SA	02685847	Arbor	125,0	10	6,0	40,0 °	140,0	40,0	–	–	90,0	63,0	3500	3,0	ON.U0905
R220.48-8160-09-12S	02685849	Arbor	160,0	12	6,0	40,0 °	175,0	40,0	66,7	–	90,0	63,0	3100	4,2	ON.U0905
R220.48-8160-09-10S	02685776	Arbor	160,0	10	6,0	40,0 °	175,0	40,0	66,7	–	90,0	63,0	3100	4,1	ON.U0905
R220.48-8200-09-12S	02685845	Arbor	200,0	12	6,0	40,0 °	215,0	60,0	101,6	–	130,0	63,0	2700	5,4	ON.U0905
R220.48-8250-09-16S	02685777	Arbor	250,0	16	6,0	40,0 °	265,0	60,0	101,6	–	130,0	63,0	2500	13,0	ON.U0905
R220.48-8315-09-20S	02685846	Arbor	315,0	20	6,0	40,0 °	330,0	60,0	101,6	177,8	225,0	80,0	2200	27,0	ON.U0905

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R220.48-0063	220.17-692	1/4HEX-T20PX50	C05013-T20P
R220.48-0080-8315	–	1/4HEX-T20PX90	C05013-T20P

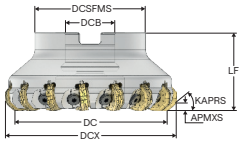
Accessories

For cutter	Adjustable Torque key	Arbor screw	Arbor screw 2	Bit holder	Insert clamping torque	Torque key
						
R217/220.48-063-0100	1/4HEX-T-HANDLE-5.0-14.0NM	–	–	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.48-0080SA	1/4HEX-T-HANDLE-5.0-14.0NM	5802712	–	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.48-0100SA	1/4HEX-T-HANDLE-5.0-14.0NM	5803216	–	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.48-0125SA	1/4HEX-T-HANDLE-5.0-14.0NM	5804020	–	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.48-8160S	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	–	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.48-8200-8250S	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	–	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.48-8315S	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	MC6S20X50	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Double Octomill™ R217/220.48-09 – Metric





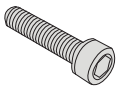
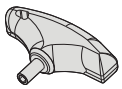
—For insert selection and cutting data recommendations, see page(s) 282 - 284
—For complete insert programme, see page(s) 884
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DBC2	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm	mm	mm		kg	
R220.48-0080-09-09M	02670210	Arbor	80,0	9	6,0	40,0 °	95,0	27,0	–	–	62,0	50,0	4400	1,2	ON.U0905
R220.48-0100-09-12M	02670213	Arbor	100,0	12	6,0	40,0 °	115,0	32,0	–	–	77,0	50,0	3900	1,8	ON.U0905
R220.48-0125-09-15M	02670214	Arbor	125,0	15	6,0	40,0 °	140,0	40,0	–	–	90,0	63,0	3500	3,4	ON.U0905
R220.48-8160-09-20M	02670215	Arbor	160,0	20	6,0	40,0 °	175,0	40,0	66,7	–	90,0	63,0	3100	4,6	ON.U0905
R220.48-8200-09-24M	02685773	Arbor	200,0	24	6,0	40,0 °	215,0	60,0	101,6	–	130,0	63,0	2700	6,0	ON.U0905
R220.48-8250-09-30M	02685774	Arbor	250,0	30	6,0	40,0 °	265,0	60,0	101,6	–	130,0	63,0	2500	14,1	ON.U0905
R220.48-8315-09-40M	02685775	Arbor	315,0	40	6,0	40,0 °	330,0	60,0	101,6	177,8	225,0	80,0	2200	28,6	ON.U0905

Spare Parts, included in delivery

For cutter	Insert key	Wedge kit
		
R220.48-0080-0125M	1/4HEX-T20PX50	CW0816-RHA
R220.48-8160-8315M	1/4HEX-T20PX50	CW0816-RHA

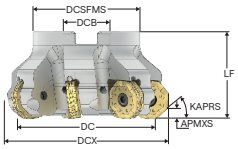
Accessories

For cutter	Adjustable Torque key	Arbor screw	Arbor screw 2	Bit holder	Insert clamping torque
					
R220.48-0125M	1/4HEX-T-HANDLE-5.0-14.0NM	5804020	–	1/4HEX-T-HANDLE	6.0NM
R220.48-080M	1/4HEX-T-HANDLE-5.0-14.0NM	5802712	–	1/4HEX-T-HANDLE	6.0NM
R220.48-100M	1/4HEX-T-HANDLE-5.0-14.0NM	5803216	–	1/4HEX-T-HANDLE	6.0NM
R220.48-8160M	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	–	1/4HEX-T-HANDLE	6.0NM
R220.48-8200-8250M	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	–	1/4HEX-T-HANDLE	6.0NM
R220.48-8315M	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	MC6S20X50	1/4HEX-T-HANDLE	6.0NM

Torque and fixed keys, see page 944

Double Octomill™ R220.48-09 – inch

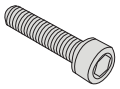




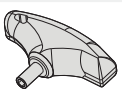
–For insert selection and cutting data recommendations, see page(s) 282 - 284
–For complete insert programme, see page(s) 884
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DBC2	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch		inch	inch	inch	inch	inch	inch		lbs	
R220.48-02.50-09-05SA	02685793	Arbor	2.480	5	0.236	40,0 °	3.071	0.750	–	–	1.850	1.575	4900	1.320	ON.U0905
R220.48-03.00-09-06SA	02685794	Arbor	3.150	6	0.236	40,0 °	3.740	1.000	–	–	2.441	1.969	4400	2.650	ON.U0905
R220.48-03.00-09-09M	02685806	Arbor	3.150	9	0.236	40,0 °	3.740	1.000	–	–	2.441	1.969	4400	3.090	ON.U0905
R220.48-04.00-09-07SA	02685795	Arbor	3.937	7	0.236	40,0 °	4.528	1.500	–	–	3.543	1.969	3900	3.750	ON.U0905
R220.48-04.00-09-12M	02685807	Arbor	3.937	12	0.236	40,0 °	4.528	1.500	–	–	3.543	1.969	3900	4.410	ON.U0905
R220.48-05.00-09-08SA	02685797	Arbor	4.921	8	0.236	40,0 °	5.512	1.500	–	–	3.543	2.480	3500	7.050	ON.U0905
R220.48-05.00-09-15M	02685808	Arbor	4.921	15	0.236	40,0 °	5.512	1.500	–	–	3.543	2.480	3500	8.380	ON.U0905
R220.48-06.00-09-10S	02685799	Arbor	6.299	10	0.236	40,0 °	6.890	2.000	–	–	4.331	2.480	3100	8.600	ON.U0905
R220.48-808.00-09-12S	02685801	Arbor	7.874	12	0.236	40,0 °	8.465	2.500	4.000	4.000	5.118	2.480	2700	13.230	ON.U0905
R220.48-810.00-09-16S	02685802	Arbor	9.843	16	0.236	40,0 °	10.433	2.500	4.000	4.000	5.118	2.480	2500	28.660	ON.U0905
R220.48-812.50-09-20S	02685803	Arbor	12.402	20	0.236	40,0 °	12.992	2.500	4.000	4.000	8.858	3.150	2200	59.520	ON.U0905

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Wedge kit
				
R220.48-02.50	UC6S3/8UNFX1	1/4HEX-T20PX50	C05013-T20P	–
R220.48-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T20PX90	C05013-T20P	–
R220.48-03.00M	UC6S1/2UNFX1-1/4	1/4HEX-T20PX50	–	CW0816-RHA
R220.48-04.00	UF6S3/4UNFX1-3/4	1/4HEX-T20PX90	C05013-T20P	–
R220.48-04.00M	UC6S3/4UNFX1-1/4	1/4HEX-T20PX50	–	CW0816-RHA
R220.48-05.00	UC6S3/4UNFX1-1/4	1/4HEX-T20PX90	C05013-T20P	–
R220.48-05.00M	UC6S3/4UNFX1-1/4	1/4HEX-T20PX50	–	CW0816-RHA
R220.48-06.00 - 812.00	–	1/4HEX-T20PX90	C05013-T20P	–

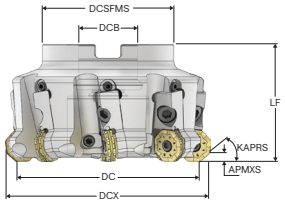
Accessories

For	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.48-02.50-05.00-SA	1/4HEX-T-HANDLE-5.0-14.0NM	–	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.48-03.00-05.00-M	1/4HEX-T-HANDLE-5.0-14.0NM	–	1/4HEX-T-HANDLE	6.0NM	–
R220.48-06.00-S	1/4HEX-T-HANDLE-5.0-14.0NM	58215080	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.48-08.00 - 810.00-S	1/4HEX-T-HANDLE-5.0-14.0NM	–	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.48-812.50-S	1/4HEX-T-HANDLE-5.0-14.0NM	950DNC062225	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Double Octomill™ R/L220.48-09CS – Metric

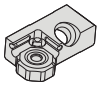
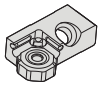
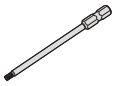




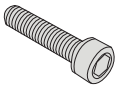
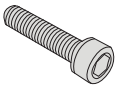
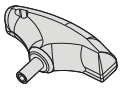
—For insert selection and cutting data recommendations, see page(s) 282 - 284
—For complete insert programme, see page(s) 884
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DBC2	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm	mm	mm		kg	
L220.48-0125-09-08CS	02883050	Arbor	125,0	8	6,0	40,0 °	140,0	40,0	–	–	90,0	80,0	3500	4,9	ON.U0905
R220.48-8160-09-10CS	02883046	Arbor	160,0	10	6,0	40,0 °	175,0	40,0	66,7	–	130,0	80,0	3100	7,4	ON.U0905
L220.48-8160-09-10CS	02883051	Arbor	160,0	10	6,0	40,0 °	175,0	40,0	66,7	–	130,0	80,0	3100	7,5	ON.U0905
R220.48-8200-09-12CS	02883047	Arbor	200,0	12	6,0	40,0 °	215,0	60,0	101,6	–	160,0	80,0	2700	10,5	ON.U0905
L220.48-8200-09-12CS	02883052	Arbor	200,0	12	6,0	40,0 °	215,0	60,0	101,6	–	160,0	80,0	2700	10,1	ON.U0905
R220.48-8250-09-16CS	02883048	Arbor	250,0	16	6,0	40,0 °	265,0	60,0	101,6	–	200,0	80,0	2500	19,6	ON.U0905
L220.48-8250-09-16CS	02883053	Arbor	250,0	16	6,0	40,0 °	265,0	60,0	101,6	–	200,0	80,0	2500	19,6	ON.U0905
R220.48-8315-09-20CS	02883049	Arbor	315,0	20	6,0	40,0 °	330,0	60,0	101,6	177,8	225,0	80,0	2200	35,5	ON.U0905

Spare Parts, included in delivery

For cutter	Adjustment unit	Cassette (L)	Cassette (R)	Cassette screw	Insert key	Insert screw	Wedge clamp	Wedge screw
								
L220.48-0125-8250	AU1114T-T15P	ON09AL	–	FS98030	1/4HEX-T20PX90	C05013-T20P	CW0810	LD8020-T25P
R220.48-0125-8315	AU1114T-T15P	–	ON09AR	FS98030	1/4HEX-T20PX90	C05013-T20P	CW0810	LD8020-T25P

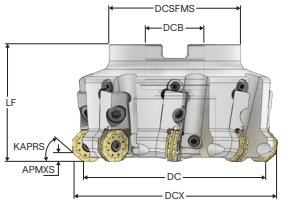
Accessories

For cutter	Adjustable Torque key	Arbor screw	Arbor screw 2	Bit holder	Insert clamping torque	Setting key	Torque key	Wedge key
								
R/L220.48-0125	1/4HEX-T-HANDLE-5.0-14.0NM	5804020	–	1/4HEX-T-HANDLE	5.0NM	1/4HEX-T15PX50	T00-20P50	1/4HEX-T25PX50
R/L220.48-8160	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	–	1/4HEX-T-HANDLE	5.0NM	1/4HEX-T15PX50	T00-20P50	1/4HEX-T25PX50
R/L220.48-8200-8250	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	–	1/4HEX-T-HANDLE	5.0NM	1/4HEX-T15PX50	T00-20P50	1/4HEX-T25PX50
R220.48-8315	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	MC6S20X50	1/4HEX-T-HANDLE	5.0NM	1/4HEX-T15PX50	T00-20P50	1/4HEX-T25PX50

Torque and fixed keys, see page 944

Double Octomill™ R/L220.48-09CS – inch

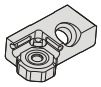
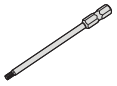




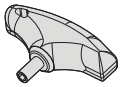
—For insert selection and cutting data recommendations, see page(s) 282 - 284
—For complete insert programme, see page(s) 884
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DBC2	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch		inch	inch	inch	inch	inch	inch		lbs	
R220.48-06.00-09-10CS	02882758	Arbor	6.299	10	0.236	40,0 °	6.890	2.000	–	–	4.331	3.150	3100	16.090	ON.U0905
R220.48-808.00-09-12CS	02883055	Arbor	7.874	12	0.236	40,0 °	8.465	2.500	4.000	4.000	5.118	3.150	2700	23.150	ON.U0905
R220.48-810.00-09-16CS	02883056	Arbor	9.843	16	0.236	40,0 °	10.433	2.500	4.000	4.000	5.118	3.150	2500	43.210	ON.U0905
R220.48-812.50-09-20CS	02883057	Arbor	12.402	20	0.236	40,0 °	12.992	2.500	4.000	4.000	8.858	3.150	2200	78.260	ON.U0905

Spare Parts, included in delivery

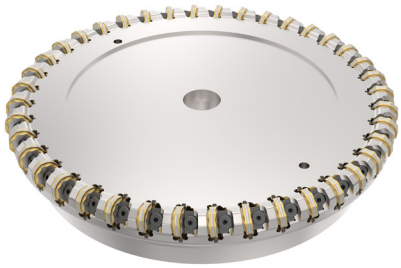
For cutter	Adjustment unit	Cassette (R)	Cassette screw	Insert key	Insert screw	Wedge clamp	Wedge screw
							
R220.48- 06.00-812.50	AU1114T-T15P	ON09AR	FS98030	1/4HEX-T20PX90	C05013-T20P	CW0810	LD8020-T25P

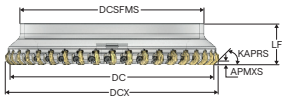
Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Setting key	Torque key	Wedge key
							
R220.48- 06.00	1/4HEX-T-HANDLE-5.0-14.0NM	58215080	1/4HEX-T-HANDLE	5.0NM	1/4HEX-T15PX50	T00-20P50	1/4HEX-T25PX50
R220.48- 808.00-810.00	1/4HEX-T-HANDLE-5.0-14.0NM	–	1/4HEX-T-HANDLE	5.0NM	1/4HEX-T15PX50	T00-20P50	1/4HEX-T25PX50
R220.48-812.50	1/4HEX-T-HANDLE-5.0-14.0NM	950DNC062225	1/4HEX-T-HANDLE	5.0NM	1/4HEX-T15PX50	T00-20P50	1/4HEX-T25PX50

Torque and fixed keys, see page 944

Double Octomill™ R220.48-09 CAP – Metric





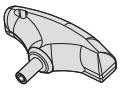
—For insert selection and cutting data recommendations, see page(s) 282 - 284
—For complete insert programme, see page(s) 884
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCSFMS	LF	RPMX	Weight
			mm		mm		mm	mm	mm		kg
R220.48-9355-09-50M	02671031	CAP	355,0	50	6,0	40,0 °	370,0	285,0	63,0	2000	15,1
R220.48-9400-09-50M	02720555	CAP	400,0	50	6,0	40,0 °	415,0	370,0	63,0	1900	18,6
R220.48-9500-09-60M	02720556	CAP	500,0	60	6,0	40,0 °	515,0	470,0	63,0	1700	27,0

Spare Parts, included in delivery

For cutter	Insert key	Wedge kit
		
R220.48-9355-9500	1/4HEX-T20PX50	CW0816-RHA

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque
			
R220.48-9355-9500	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	6.0NM

Torque and fixed keys, see page 944

R220.48-09 – Insert selection – mm/Inch

SMG		a_p	f_z		
			80%	40%	20%
P1	ONMU090520ANTN-ME13 MP3501	3,5 *0.14*	0,24 0.0095	0,25 0.010	0,32 0.013
P2	ONMU090520ANTN-ME13 MP3501	3,5 *0.14*	0,25 0.010	0,25 0.010	0,32 0.013
P3	ONMU090510ANTN-ME16 MP2501	3,5 *0.14*	0,30 0.012	0,32 0.013	0,40 0.016
P4	ONMU090510ANTN-ME16 MP2501	3,5 *0.14*	0,30 0.012	0,32 0.013	0,38 0.015
P5	ONMU090510ANTN-ME16 MP2501	3,5 *0.14*	0,30 0.012	0,30 0.012	0,38 0.015
P6	ONMU090510ANTN-ME16 MP2501	3,5 *0.14*	0,30 0.012	0,30 0.012	0,38 0.015
P7	ONMU090510ANTN-ME16 MP3501	3,5 *0.14*	0,30 0.012	0,30 0.012	0,38 0.015
P8	ONMU090510ANTN-ME16 MP3501	3,5 *0.14*	0,30 0.012	0,32 0.013	0,40 0.016
P11	ONMU090512TN-ME16 MP2051	3,5 *0.14*	0,30 0.012	0,30 0.012	0,38 0.015
P12	ONMU090512TN-ME16 MP2051	3,0 *0.12*	0,20 0.0080	0,22 0.0085	0,26 0.010
M1	ONMU090520ANTN-ME13 F40M	3,5 *0.14*	0,25 0.010	0,25 0.010	0,32 0.013
M2	ONMU090520ANTN-ME13 MS2050	3,5 *0.14*	0,22 0.0085	0,24 0.0095	0,28 0.011
M3	ONMU090520ANTN-ME13 MS2050	3,0 *0.12*	0,18 0.0070	0,19 0.0075	0,24 0.0095
M4	ONMU090520ANTN-ME12 MP2051	2,0 *0.080*	0,19 0.0075	0,19 0.0075	0,24 0.0095
M5	ONMU090520ANTN-ME12 MP2051	2,0 *0.080*	0,19 0.0075	0,19 0.0075	0,24 0.0095
K1	ONMU090520ANTN-M15 MK1501	3,5 *0.14*	0,34 0.013	0,36 0.014	0,44 0.017
K2	ONMU090520ANTN-M15 MK1501	3,5 *0.14*	0,32 0.013	0,32 0.013	0,40 0.016
K3	ONMU090520ANTN-M15 MP1501	3,5 *0.14*	0,32 0.013	0,32 0.013	0,40 0.016
K4	ONMU090520ANTN-M15 MP1501	3,5 *0.14*	0,32 0.013	0,32 0.013	0,40 0.016
K5	ONMU090520ANTN-M15 MK2050	3,5 *0.14*	0,28 0.011	0,30 0.012	0,36 0.014
K6	ONMU090520ANTN-M15 MK2050	3,5 *0.14*	0,32 0.013	0,32 0.013	0,40 0.016
K7	ONMU090520ANTN-M15 MK2050	3,5 *0.14*	0,28 0.011	0,30 0.012	0,36 0.014
N1	ONMU090520ANTN-ME12 F40M	3,5 *0.14*	0,32 0.013	0,32 0.013	0,40 0.016
N2	ONMU090520ANTN-ME12 F40M	3,5 *0.14*	0,32 0.013	0,32 0.013	0,40 0.016
N3	ONMU090520ANTN-ME12 F40M	3,5 *0.14*	0,32 0.013	0,32 0.013	0,40 0.016
N11	ONMU090520ANTN-ME12 F40M	3,5 *0.14*	0,32 0.013	0,32 0.013	0,40 0.016
S1	ONMU090520ANTN-M12 MS2500	2,0 *0.080*	0,19 0.0075	0,19 0.0075	0,24 0.0095
S2	ONMU090520ANTN-M12 MS2500	2,0 *0.080*	0,19 0.0075	0,19 0.0075	0,24 0.0095
S3	ONMU090520ANTN-M12 MS2500	2,0 *0.080*	0,17 0.0065	0,18 0.0070	0,22 0.0085
S11	ONMU090520ANTN-ME13 MS2050	2,5 *0.10*	0,19 0.0075	0,19 0.0075	0,24 0.0095
S12	ONMU090520ANTN-ME13 MS2050	2,5 *0.10*	0,19 0.0075	0,19 0.0075	0,24 0.0095
S13	ONMU090520ANTN-ME13 MS2050	2,0 *0.080*	0,17 0.0065	0,17 0.0065	0,22 0.0085
H5	ONMU090520ANTN-M15 MP1501	3,0 *0.12*	0,22 0.0085	0,22 0.0085	0,28 0.011
H8	ONMU090520ANTN-M15 MP1501	2,5 *0.10*	0,17 0.0065	0,18 0.0070	0,22 0.0085
H11	ONMU090520ANTN-MD16 MP1501	3,0 *0.12*	0,25 0.010	0,25 0.010	0,32 0.013
H12	ONMU090520ANTN-MD16 MP1501	2,5 *0.10*	0,19 0.0075	0,20 0.0080	0,25 0.010
H21	ONMU090520ANTN-MD16 MP1501	2,5 *0.10*	0,19 0.0075	0,20 0.0080	0,25 0.010

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.48-09 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK2050				MP3000				MS2050				F40M				MP2050			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	240 *790*	255 *840*	280 *920*	305 *1000*	230 *750*	245 *800*	265 *870*	295 *970*	220 *720*	235 *770*	255 *840*	280 *920*	200 *660*	210 *690*	230 *750*	255 *840*	270 *890*	290 *950*	310 *1025*	340 *1125*
P2	230 *750*	245 *800*	265 *870*	295 *970*	220 *720*	235 *770*	255 *840*	285 *940*	215 *710*	230 *750*	245 *800*	270 *890*	195 *640*	205 *670*	225 *740*	245 *800*	255 *840*	275 *900*	295 *970*	330 *1075*
P3	200 *660*	215 *710*	230 *750*	260 *850*	195 *640*	205 *670*	225 *740*	250 *820*	190 *620*	200 *660*	215 *710*	235 *770*	170 *560*	180 *590*	195 *640*	215 *710*	225 *740*	240 *790*	260 *850*	290 *950*
P4	180 *590*	195 *640*	210 *690*	230 *750*	175 *570*	185 *610*	200 *660*	220 *720*	165 *540*	175 *570*	190 *620*	210 *690*	150 *490*	160 *520*	170 *560*	195 *640*	200 *660*	210 *690*	230 *750*	255 *840*
P5	175 *570*	185 *610*	200 *660*	225 *740*	165 *540*	175 *570*	190 *620*	215 *710*	160 *520*	170 *560*	180 *590*	205 *670*	145 *475*	155 *510*	170 *560*	185 *610*	195 *640*	205 *670*	225 *740*	245 *800*
P6	195 *640*	205 *670*	225 *740*	250 *820*	185 *610*	200 *660*	215 *710*	240 *790*	175 *570*	190 *620*	205 *670*	230 *750*	165 *540*	175 *570*	190 *620*	205 *670*	220 *720*	235 *770*	250 *820*	275 *900*
P7	185 *610*	195 *640*	210 *690*	235 *770*	175 *570*	190 *620*	205 *670*	225 *740*	165 *540*	180 *590*	195 *640*	215 *710*	155 *510*	165 *540*	180 *590*	195 *640*	205 *670*	220 *720*	235 *770*	260 *850*
P8	170 *560*	180 *590*	195 *640*	220 *720*	165 *540*	175 *570*	190 *620*	210 *690*	160 *520*	170 *560*	180 *590*	200 *660*	145 *475*	150 *490*	165 *540*	180 *590*	190 *620*	205 *670*	220 *720*	245 *800*
P11	180 *590*	190 *620*	205 *670*	230 *750*	170 *560*	180 *590*	195 *640*	220 *720*	160 *520*	175 *570*	185 *610*	210 *690*	150 *490*	160 *520*	175 *570*	190 *620*	200 *660*	215 *710*	230 *750*	250 *820*
P12	115 *375*	125 *410*	135 *445*	150 *490*	115 *375*	120 *395*	130 *425*	145 *475*	105 *345*	115 *375*	125 *410*	135 *445*	95 *310*	105 *345*	110 *360*	125 *410*	130 *425*	140 *460*	150 *490*	165 *540*
M1	— —	— —	— —	— —	165 *540*	175 *570*	190 *620*	215 *710*	170 *560*	185 *610*	200 *660*	220 *720*	155 *510*	165 *540*	180 *590*	200 *660*	185 *610*	195 *640*	210 *690*	235 *770*
M2	— —	— —	— —	— —	140 *460*	150 *490*	160 *520*	180 *590*	140 *460*	150 *490*	165 *540*	185 *610*	130 *425*	140 *460*	150 *490*	165 *540*	155 *510*	165 *540*	180 *590*	195 *640*
M3	— —	— —	— —	— —	115 *375*	120 *395*	130 *425*	145 *475*	115 *375*	125 *410*	135 *445*	150 *490*	105 *345*	115 *375*	120 *395*	135 *445*	125 *410*	135 *445*	145 *475*	160 *520*
M4	— —	— —	— —	— —	85 *280*	95 *310*	100 *330*	110 *360*	90 *295*	95 *310*	105 *345*	115 *375*	80 *260*	85 *280*	95 *310*	105 *345*	95 *310*	105 *345*	110 *360*	125 *410*
M5	— —	— —	— —	— —	75 *245*	75 *245*	85 *280*	95 *310*	75 *245*	80 *260*	85 *280*	95 *310*	65 *215*	70 *230*	80 *260*	90 *295*	80 *260*	85 *280*	90 *295*	100 *330*
K1	250 *820*	265 *870*	285 *940*	320 *1050*	175 *570*	185 *610*	200 *660*	225 *740*	— —	— —	— —	— —	155 *510*	165 *540*	175 *570*	195 *640*	— —	— —	— —	— —
K2	225 *740*	240 *790*	255 *840*	290 *950*	160 *520*	170 *560*	180 *590*	205 *670*	— —	— —	— —	— —	140 *460*	150 *490*	160 *520*	175 *570*	— —	— —	— —	— —
K3	190 *620*	200 *660*	220 *720*	245 *800*	135 *445*	140 *460*	155 *510*	170 *560*	— —	— —	— —	— —	115 *375*	125 *410*	135 *445*	150 *490*	— —	— —	— —	— —
K4	180 *590*	190 *620*	210 *690*	230 *750*	125 *410*	135 *445*	145 *475*	165 *540*	— —	— —	— —	— —	110 *360*	120 *395*	130 *425*	140 *460*	— —	— —	— —	— —
K5	110 *360*	120 *395*	130 *425*	140 *460*	80 *260*	85 *280*	90 *295*	100 *330*	— —	— —	— —	— —	70 *230*	75 *245*	80 *260*	90 *295*	— —	— —	— —	— —
K6	160 *520*	170 *560*	185 *610*	205 *670*	110 *360*	120 *395*	130 *425*	145 *475*	— —	— —	— —	— —	100 *330*	105 *345*	115 *375*	125 *410*	— —	— —	— —	— —
K7	145 *475*	155 *510*	165 *540*	180 *590*	100 *330*	110 *360*	115 *375*	125 *410*	— —	— —	— —	— —	85 *280*	95 *310*	100 *330*	110 *360*	— —	— —	— —	— —
S1	— —	— —	— —	— —	41 *135*	43 *140*	47 *155*	50 *165*	42 *140*	44 *145*	49 *160*	55 *180*	38 *125*	40 *130*	44 *145*	49 *160*	47 *155*	50 *165*	55 *180*	60 *195*
S2	— —	— —	— —	— —	33 *110*	35 *115*	38 *125*	42 *140*	34 *110*	36 *120*	39 *130*	43 *140*	30 *100*	32 *105*	36 *120*	40 *130*	38 *125*	41 *135*	44 *145*	48 *155*
S3	— —	— —	— —	— —	29 *95*	30 *100*	33 *110*	37 *120*	30 *100*	31 *100*	34 *110*	38 *125*	27 *90*	28 *90*	31 *100*	34 *110*	33 *110*	36 *120*	39 *130*	43 *140*
S11	— —	— —	— —	— —	— —	— —	— —	— —	60 *195*	60 *195*	65 *215*	75 *245*	55 *180*	55 *180*	60 *195*	70 *230*	65 *215*	70 *230*	75 *245*	85 *280*
S12	— —	— —	— —	— —	— —	— —	— —	— —	40 *130*	43 *140*	46 *150*	50 *165*	37 *120*	39 *130*	43 *140*	47 *155*	46 *150*	49 *160*	55 *180*	60 *195*
S13	— —	— —	— —	— —	— —	— —	— —	— —	23 *75*	25 *80*	27 *90*	30 *100*	21 *70*	22 *70*	25 *80*	28 *90*	27 *90*	28 *90*	30 *100*	34 *110*
H5	— —	— —	— —	— —	35 *115*	37 *120*	40 *130*	45 *150*	— —	— —	— —	— —	32 *105*	34 *110*	37 *120*	41 *135*	— —	— —	— —	— —
H8	— —	— —	— —	— —	37 *120*	40 *130*	44 *145*	48 *155*	— —	— —	— —	— —	35 *115*	37 *120*	41 *135*	44 *145*	— —	— —	— —	— —
H11	— —	— —	— —	— —	45 *150*	48 *155*	50 *165*	55 *180*	— —	— —	— —	— —	41 *135*	44 *145*	47 *155*	55 *180*	49 *160*	55 *180*	55 *180*	65 *215*
H12	— —	— —	— —	— —	70 *230*	75 *245*	85 *280*	90 *295*	— —	— —	— —	— —	60 *195*	65 *215*	75 *245*	80 *260*	80 *260*	90 *295*	95 *310*	105 *345*
H21	— —	— —	— —	— —	37 *120*	40 *130*	44 *145*	48 *155*	— —	— —	— —	— —	35 *115*	37 *120*	41 *135*	44 *145*	41 *135*	44 *145*	48 *155*	55 *180*

R217/220.48-09 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK1501				MP1501				MP2501				MS2500				MP3501				MM4500			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	—	—	—	—	405	420	450	480	395	410	440	470	380	395	420	455	355	365	390	420	225	235	255	275
	—	—	—	—	*1325*	*1375*	*1475*	*1575*	*1300*	*1350*	*1450*	*1550*	*1250*	*1300*	*1375*	*1500*	*1175*	*1200*	*1275*	*1375*	*740*	*770*	*840*	*900*
P2	—	—	—	—	385	400	425	470	375	390	415	460	360	375	400	440	335	345	370	410	215	225	240	270
	—	—	—	—	*1275*	*1300*	*1400*	*1550*	*1225*	*1275*	*1350*	*1500*	*1175*	*1225*	*1300*	*1450*	*1100*	*1125*	*1225*	*1350*	*710*	*740*	*790*	*890*
P3	—	—	—	—	340	350	375	410	330	345	365	405	315	330	355	390	295	305	330	360	190	200	215	235
	—	—	—	—	*1125*	*1150*	*1225*	*1350*	*1075*	*1125*	*1200*	*1325*	*1025*	*1075*	*1175*	*1275*	*970*	*1000*	*1075*	*1175*	*620*	*660*	*710*	*770*
P4	—	—	—	—	300	315	335	360	295	305	330	355	285	295	315	340	265	275	295	320	180	190	205	225
	—	—	—	—	*980*	*1025*	*1100*	*1175*	*970*	*1000*	*1075*	*1175*	*940*	*970*	*1025*	*1125*	*870*	*900*	*970*	*1050*	*590*	*620*	*670*	*740*
P5	—	—	—	—	290	300	320	350	285	295	315	345	270	280	300	330	255	260	280	305	160	170	180	200
	—	—	—	—	*950*	*980*	*1050*	*1150*	*940*	*970*	*1025*	*1125*	*890*	*920*	*980*	*1075*	*840*	*850*	*920*	*1000*	*520*	*560*	*590*	*660*
P6	—	—	—	—	330	340	365	390	320	335	355	385	305	320	340	370	290	300	320	345	185	190	205	225
	—	—	—	—	*1075*	*1125*	*1200*	*1275*	*1050*	*1100*	*1175*	*1275*	*1000*	*1050*	*1125*	*1225*	*950*	*980*	*1050*	*1125*	*610*	*620*	*670*	*740*
P7	—	—	—	—	310	320	340	370	305	315	335	365	290	300	325	350	270	280	300	325	175	180	195	215
	—	—	—	—	*1025*	*1050*	*1125*	*1225*	*1000*	*1025*	*1100*	*1200*	*950*	*980*	*1075*	*1150*	*890*	*920*	*980*	*1075*	*570*	*590*	*640*	*710*
P8	—	—	—	—	285	295	315	345	280	290	310	340	265	280	295	325	250	260	275	305	160	165	180	200
	—	—	—	—	*940*	*970*	*1025*	*1125*	*920*	*950*	*1025*	*1125*	*870*	*920*	*970*	*1075*	*820*	*850*	*900*	*1000*	*520*	*540*	*590*	*660*
P11	—	—	—	—	300	315	335	360	295	305	325	355	280	295	315	340	265	275	290	315	170	175	190	210
	—	—	—	—	*980*	*1025*	*1100*	*1175*	*970*	*1000*	*1075*	*1175*	*920*	*970*	*1025*	*1125*	*870*	*900*	*950*	*1025*	*560*	*570*	*620*	*690*
P12	—	—	—	—	195	200	215	230	190	200	210	225	185	190	205	215	170	180	190	205	110	115	125	130
	—	—	—	—	*640*	*660*	*710*	*750*	*620*	*660*	*690*	*740*	*610*	*620*	*670*	*710*	*560*	*590*	*620*	*670*	*360*	*375*	*410*	*425*
M1	—	—	—	—	—	—	—	—	195	205	220	250	210	225	240	270	180	190	205	230	140	150	160	180
	—	—	—	—	—	—	—	—	*640*	*670*	*720*	*820*	*690*	*740*	*790*	*890*	*590*	*620*	*670*	*750*	*460*	*490*	*520*	*590*
M2	—	—	—	—	—	—	—	—	160	170	185	205	175	185	200	225	150	160	175	195	120	125	135	150
	—	—	—	—	—	—	—	—	*520*	*560*	*610*	*670*	*570*	*610*	*660*	*740*	*490*	*520*	*570*	*640*	*395*	*410*	*445*	*490*
M3	—	—	—	—	—	—	—	—	130	140	150	165	140	150	165	180	120	130	140	155	95	100	110	120
	—	—	—	—	—	—	—	—	*425*	*460*	*490*	*540*	*460*	*490*	*540*	*590*	*395*	*425*	*460*	*510*	*310*	*330*	*360*	*395*
M4	—	—	—	—	—	—	—	—	100	105	115	130	110	115	125	140	95	100	110	120	75	80	85	95
	—	—	—	—	—	—	—	—	*330*	*345*	*375*	*425*	*360*	*375*	*410*	*460*	*310*	*330*	*360*	*395*	*245*	*260*	*280*	*310*
M5	—	—	—	—	—	—	—	—	85	90	95	110	90	95	105	115	80	85	90	100	60	65	70	80
	—	—	—	—	—	—	—	—	*280*	*295*	*310*	*360*	*295*	*310*	*345*	*375*	*260*	*280*	*295*	*330*	*195*	*215*	*230*	*260*
K1	340	415	475	560	390	405	430	470	380	395	420	465	230	245	265	295	340	350	375	415	—	—	—	—
	1125	*1350*	*1550*	*1825*	*1275*	*1325*	*1400*	*1550*	*1250*	*1300*	*1375*	*1525*	*750*	*800*	*870*	*970*	*1125*	*1150*	*1225*	*1350*	—	—	—	—
K2	305	370	420	495	350	365	385	420	340	355	380	415	205	220	240	265	305	315	340	370	—	—	—	—
	1000	*1225*	*1375*	*1625*	*1150*	*1200*	*1275*	*1375*	*1125*	*1175*	*1250*	*1350*	*670*	*720*	*790*	*870*	*1000*	*1025*	*1125*	*1225*	—	—	—	—
K3	235	265	290	330	295	305	325	355	290	300	320	350	175	185	200	225	260	270	285	315	—	—	—	—
	770	*870*	*950*	*1075*	*970*	*1000*	*1075*	*1175*	*950*	*980*	*1050*	*1150*	*570*	*610*	*660*	*740*	*850*	*890*	*940*	*1025*	—	—	—	—
K4	225	250	275	315	280	295	310	340	275	285	305	335	165	180	195	215	245	255	275	300	—	—	—	—
	740	*820*	*900*	*1025*	*920*	*970*	*1025*	*1125*	*900*	*940*	*1000*	*1100*	*540*	*590*	*640*	*710*	*800*	*840*	*900*	*980*	—	—	—	—
K5	140	155	170	195	175	180	195	210	170	180	190	205	105	110	120	135	155	160	170	185	—	—	—	—
	460	*510*	*560*	*640*	*570*	*590*	*640*	*690*	*560*	*590*	*620*	*670*	*345*	*360*	*395*	*445*	*510*	*520*	*560*	*610*	—	—	—	—
K6	200	220	245	280	250	260	275	300	245	250	270	295	145	160	170	190	220	225	240	265	—	—	—	—
	660	*720*	*800*	*920*	*820*	*850*	*900*	*980*	*800*	*820*	*890*	*970*	*475*	*520*	*560*	*620*	*720*	*740*	*790*	*870*	—	—	—	—
K7	180	200	220	250	225	230	245	270	220	230	240	265	130	140	155	170	195	205	215	235	—	—	—	—
	590	*660*	*720*	*820*	*740*	*750*	*800*	*890*	*720*	*750*	*790*	*870*	*425*	*460*	*510*	*560*	*640*	*670*	*710*	*770*	—	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	—	—	—	55	55	60	70	44	47	50	55	22	24	26	29
	—	—	—	—	—	—	—	—	—	—	—	—	*180*	*180*	*195*	*230*	*145*	*155*	*165*	*180*	*70*	*80*	*85*	*95*
S2	—	—	—	—	—	—	—	—	—	—	—	—	43	46	50	55	35	38	41	45	18	19	21	23
	—	—	—	—	—	—	—	—	—	—	—	—	*140*	*150*	*165*	*180*	*115*	*125*	*135*	*150*	*60*	*60*	*70*	*75*
S3	—	—	—	—	—	—	—	—	—	—	—	—	38	41	44	48	31	33	36	40	16	17	18	20
	—	—	—	—	—	—	—	—	—	—	—	—	*125*	*135*	*145*	*155*	*100*	*110*	*120*	*130*	*50*	*55*	*60*	*65*
S11	—	—	—	—	—	—	—	—	—	—	—	—	75	80	85	95	60	65	70	80	32	34	37	41
	—	—	—	—	—	—	—	—	—	—	—	—	*245*	*260*	*280*	*310*	*195*	*215*	*230*	*260*	*105*	*110*	*120*	*135*
S12	—	—	—	—	—	—	—	—	—	—	—	—	50	55	60	65	43	46	49	55	29	31	34	37
	—	—	—	—	—	—	—	—	—	—	—	—	*165*	*180*	*195*	*215*	*140*	*150*	*160*	*180*	*95*	*100*	*110*	*120*
S13	—	—	—	—	—	—	—	—	—	—	—	—	30	32	35	38	25	26	28	32	17	18	20	22
	—	—	—	—	—	—	—	—	—	—	—	—	*100*	*105*	*115*	*125*	*80*	*85*	*90*	*105*	*55*	*60*	*65*	*70*
H5	—	—	—	—	50	55	60	65	—	—	—	—	44	47	50	55	39	42	45	49	—	—	—	—
	—	—	—	—	*165*	*180*	*195*	*215*	—	—	—	—	*145*	*155*	*165*	*180*	*130*	*140*	*150*	*160*	—	—	—	—
H8	—	—	—	—	55	60	65	70	—	—	—	—	47	50	55	60	42	45	48	55	—	—	—	—
	—	—	—	—	*180*	*195*	*215*	*230*	—	—	—	—	*155*	*165*	*180*	*195*	*140*	*150*	*155*	*180*	—	—	—	—
H11	—	—	—	—	65	70	75	80	—	—	—	—	55	60	65	70	50	55	55	65	—	—	—	—
	—	—	—	—	*215*	*230*	*245*	*260*	—	—	—	—	*180*	*195*	*215*	*230*	*165*	*180*	*180*	*215*	—	—	—	—
H12	—	—	—	—	100	105	110	125	—	—	—	—	95	100	110	120	75	80	85	95	—	—	—	—
	—	—	—	—	*330*	*345*	*360*	*410*	—	—	—	—	*310*	*330*	*360*	*395*	*245*	*260*	*280*	*310*	—	—	—	—
H21	—	—	—	—	55	60	65	70	—	—	—	—	47	50	55	60	42	45	48	55	—	—	—	—
	—	—	—	—	*180*	*195*	*215*	*230*	—	—	—	—	*155*	*165*	*180*	*195*	*140*	*150*	*155*	*180*	—	—	—	—



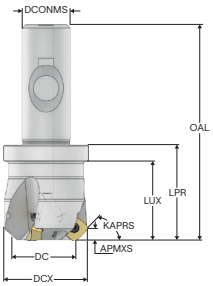
Quatromill 09/12/15

QuattroMill™ is more than a general-purpose face mill. It is a simple solution with more teeth per cutter that increases productivity, ease of use, reliability and precision for the full range of face milling applications and materials. QuattroMill features strong, square inserts that meet the needs of most challenging applications, and a strong center locking screw with quick insert location make it easy to replace inserts. The cutter body is coated and pre-hardened and features a large chip space for steel and stainless steel machining. Positive cutting rakes/ negative radial rakes maximize a machine tool's capability and enables increased productivity in both stable and unstable conditions.

– Insert size 09, cutter range 20-315mm (0.75-3 inch)
– Insert size 12, cutter range 40-315mm (1.5-8 inch)
– Insert size 15, cutter range 63-315mm (3-6 inch)

Quattromill R217.53-09 – Metric





—For insert selection and cutting data recommendations, see page(s) 291-293
—For complete insert programme, see page(s) 893
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCONMS	LUX	LPR	OAL	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm	mm		kg	
R217.53-2020.3S-09-2A	02422248	Seco-Weldon	20,0	2	4,5	45,0 °	30,0	20,0	33,0	40,0	90,0	25100	0,3	SE.X09T
R217.53-2025.3S-09-3A	02422250	Seco-Weldon	25,0	3	4,5	45,0 °	35,0	20,0	33,0	40,0	90,0	22400	0,3	SE.X09T
R217.53-2032.3S-09-4A	02422251	Seco-Weldon	32,0	4	4,5	45,0 °	42,0	20,0	33,0	40,0	90,0	19800	0,4	SE.X09T

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.53..	1/4HEX-T09PX50	C03008-T09P

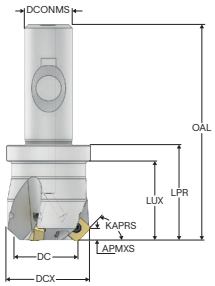
Accessories

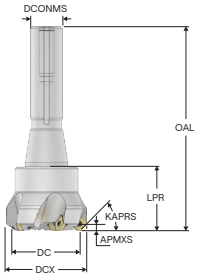
For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.53..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20

Torque and fixed keys, see page 944

Quattromill R217.53-09 – inch







—For insert selection and cutting data recommendations, see page(s) 291-293
—For complete insert programme, see page(s) 893
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCONMS	LUX	LPR	OAL	RPMX	Weight	Insert
			inch		inch		inch	inch	inch	inch	inch		lbs	
R217.53-01.00.3S-09-3A	02422260	Seco-Weldon	0.984	3	0.177	45,0 °	1.378	0.750	1.299	1.575	3.543	22400	0.880	SE.X09T
R217.53-01.25.3S-09-4A	02422261	Seco-Weldon	1.260	4	0.177	45,0 °	1.654	0.750	1.299	1.575	3.543	19800	0.880	SE.X09T
R217.53-02.00.R8-09-5	02422262	Bridgeport R8	1.575	5	0.180	45,0 °	1.969	0.949	–	1.890	6.024	15800	2.200	SE.X09T3

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.53-..	1/4HEX-T09PX50	C03008-T09P

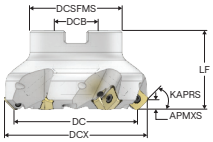
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.53-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20

Torque and fixed keys, see page 944

Quattromill R220.53-09 – Metric





—For insert selection and cutting data recommendations, see page(s) 291-293
—For complete insert programme, see page(s) 893
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm		kg	
R220.53-0032-09-4A	02422230	Arbor	32,0	4	4,5	45,0 °	42,0	16,0	35,0	40,0	19800	0,3	SE.X09T3
R220.53-0040-09-4A	02422231	Arbor	40,0	4	4,5	45,0 °	50,0	22,0	47,0	40,0	17700	0,4	SE.X09T3
R220.53-0040-09-5A	02422161	Arbor	40,0	5	4,5	45,0 °	50,0	22,0	47,0	40,0	17700	0,4	SE.X09T3
R220.53-0050-09-5A	02422232	Arbor	50,0	5	4,5	45,0 °	60,0	22,0	47,0	40,0	15800	0,5	SE.X09T3
R220.53-0050-09-6A	02422162	Arbor	50,0	6	4,5	45,0 °	60,0	22,0	47,0	40,0	15800	0,5	SE.X09T3
R220.53-0063-09-6A	02422233	Arbor	63,0	6	4,5	45,0 °	73,0	22,0	47,0	40,0	14100	0,6	SE.X09T3
R220.53-0063-09-7A	02422163	Arbor	63,0	7	4,5	45,0 °	73,0	22,0	47,0	40,0	14100	0,7	SE.X09T3
R220.53-0080-09-6A	02422234	Arbor	80,0	6	4,5	45,0 °	90,0	27,0	62,0	50,0	12500	1,2	SE.X09T3
R220.53-0080-09-8A	02422164	Arbor	80,0	8	4,5	45,0 °	90,0	27,0	62,0	50,0	12500	1,2	SE.X09T3
R220.53-0100-09-7A	02422235	Arbor	100,0	7	4,5	45,0 °	110,0	32,0	77,0	50,0	11200	1,8	SE.X09T3
R220.53-0100-09-10A	02422165	Arbor	100,0	10	4,5	45,0 °	110,0	32,0	77,0	50,0	11200	1,8	SE.X09T3

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R220.53-0032	220.17-690	1/4HEX-T09PX50	C03008-T09P
R220.53-0040-0063	220.17-696	1/4HEX-T09PX50	C03008-T09P
R220.53-0080	–	1/4HEX-T09PX50	C03008-T09P
R220.53-0100	–	1/4HEX-T09PX90	C03008-T09P

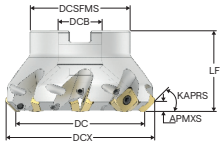
Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R217/220.53-0032-0063	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	2.0NM	T00-09P20
R220.53-0080	1/4HEX-S-HANDLE-0.8-5.0NM	5802712	1/4HEX-S-HANDLE	2.0NM	T00-09P20
R220.53-0100	1/4HEX-S-HANDLE-0.8-5.0NM	5803216	1/4HEX-S-HANDLE	2.0NM	T00-09P20

Torque and fixed keys, see page 944

Quattromill R220.53-09 – inch





—For insert selection and cutting data recommendations, see page(s) 291-293
—For complete insert programme, see page(s) 893
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch		inch	inch	inch	inch		lbs	
R220.53-01.50-09-4A	02422254	Arbor	1.575	4	0.180	45,0 °	1.969	0.750	1.850	1.575	17700	1.100	SE.X09T3
R220.53-02.00-09-5A	02422255	Arbor	1.969	5	0.180	45,0 °	2.362	0.750	1.850	1.575	15800	1.320	SE.X09T3
R220.53-02.50-09-6A	02422256	Arbor	2.480	6	0.180	45,0 °	2.874	0.750	1.850	1.575	14100	1.540	SE.X09T3
R220.53-03.00-09-6A	02422257	Arbor	3.150	6	0.180	45,0 °	3.543	1.000	2.441	1.969	12500	2.870	SE.X09T3

Spare Parts, included in delivery

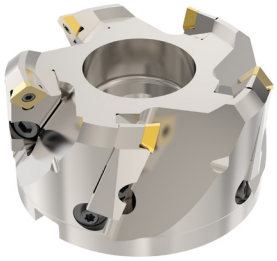
For cutter	Arbor screw	Insert key	Insert screw
			
R220.53-01.50-02.50	220.17-698	1/4HEX-T09PX50	C03008-T09P
R220.53-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T09PX50	C03008-T09P

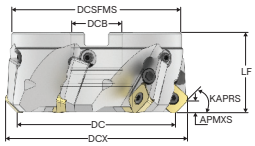
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R220.53-01.50-03.00	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20

Torque and fixed keys, see page 944

Quattromill R220.53-09C – Metric

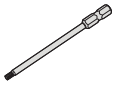




—For insert selection and cutting data recommendations, see page(s) 291-293
—For complete insert programme, see page(s) 893
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm	mm		kg	
R220.53-0125-09-8C	02510182	Arbor	125,0	8	4,5	45,0 °	135,0	40,0	–	90,0	63,0	5900	4,3	SE.X09T3
R220.53-8160-09-10C	02510158	Arbor	160,0	10	4,5	45,0 °	170,0	40,0	66,7	90,0	63,0	5200	7,1	SE.X09T3

Spare Parts, included in delivery

For cutter	Adjustment unit	Cassette	Cassette screw	Insert key	Insert screw
					
R220.53-0080-8315	AU1114T-T15P	SE09AR-53	FS96018	1/4HEX-T09PX90	C03008-T09P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Key	Setting key	Torque key
							
R220.53-0125	1/4HEX-S-HANDLE-0.8-5.0NM	5804020	1/4HEX-S-HANDLE	2.0NM	1/4HEX-H4.0X50	1/4HEX-T15PX50	T00-09P20
R220.53-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	1/4HEX-S-HANDLE	2.0NM	1/4HEX-H4.0X50	1/4HEX-T15PX50	T00-09P20

Torque and fixed keys, see page 944

R217/220.53-09 – Insert selection – mm/Inch

SMG		a_p	f_z			
			80%	60%	40%	20%
P1	SEEX09T3AFTN-ME07 F40M	2,5 *0.10*	0,17 0.0065	0,17 0.0065	0,17 0.0065	0,22 0.0085
P2	SEEX09T3AFTN-ME07 F40M	2,5 *0.10*	0,17 0.0065	0,17 0.0065	0,17 0.0065	0,22 0.0085
P3	SEEX09T3AFTN-M08 MP2501	2,5 *0.10*	0,18 0.0070	0,18 0.0070	0,19 0.0075	0,24 0.0095
P4	SEEX09T3AFTN-M08 MP2501	2,5 *0.10*	0,18 0.0070	0,18 0.0070	0,18 0.0070	0,22 0.0085
P5	SEEX09T3AFTN-M08 MP2501	2,5 *0.10*	0,17 0.0065	0,17 0.0065	0,18 0.0070	0,22 0.0085
P6	SEEX09T3AFTN-M08 MP2501	2,5 *0.10*	0,17 0.0065	0,17 0.0065	0,18 0.0070	0,22 0.0085
P7	SEEX09T3AFTN-M08 MP3501	2,5 *0.10*	0,17 0.0065	0,17 0.0065	0,18 0.0070	0,22 0.0085
P8	SEEX09T3AFTN-M08 MP3501	2,5 *0.10*	0,18 0.0070	0,18 0.0070	0,19 0.0075	0,24 0.0095
P11	SEEX09T3AFTN-M08 MP3501	2,5 *0.10*	0,17 0.0065	0,17 0.0065	0,18 0.0070	0,22 0.0085
P12	SEEX09T3AFTN-M08 MP3501	2,0 *0.080*	0,12 0.0048	0,12 0.0048	0,12 0.0048	0,15 0.0060
M1	SEEX09T3AFN-M05 F40M	2,5 *0.10*	0,13 0.0050	0,13 0.0050	0,13 0.0050	0,16 0.0065
M2	SEEX09T3AFN-M05 MS2050	2,5 *0.10*	0,12 0.0048	0,12 0.0048	0,12 0.0048	0,15 0.0060
M3	SEEX09T3AFN-M05 MS2050	2,0 *0.080*	0,095 0.0038	0,095 0.0038	0,095 0.0038	0,12 0.0048
M4	SEEX09T3AFN-M05 MS2050	1,6 *0.065*	0,085 0.0034	0,085 0.0034	0,085 0.0034	0,10 0.0040
M5	SEEX09T3AFN-M05 MS2050	1,6 *0.065*	0,085 0.0034	0,085 0.0034	0,085 0.0034	0,10 0.0040
K1	SEEX09T3AFTN-M08 MP1501	2,5 *0.10*	0,19 0.0075	0,19 0.0075	0,20 0.0080	0,24 0.0095
K2	SEEX09T3AFTN-M08 MP1501	2,5 *0.10*	0,17 0.0065	0,17 0.0065	0,18 0.0070	0,22 0.0085
K3	SEEX09T3AFTN-M08 MK2050	2,5 *0.10*	0,17 0.0065	0,17 0.0065	0,18 0.0070	0,22 0.0085
K4	SEEX09T3AFTN-M08 MK2050	2,5 *0.10*	0,17 0.0065	0,17 0.0065	0,18 0.0070	0,22 0.0085
K5	SEEX09T3AFTN-M08 MK2050	2,5 *0.10*	0,16 0.0065	0,16 0.0065	0,16 0.0065	0,20 0.0080
K6	SEEX09T3AFTN-M08 MK2050	2,5 *0.10*	0,17 0.0065	0,17 0.0065	0,18 0.0070	0,22 0.0085
K7	SEEX09T3AFTN-M08 MK2050	2,5 *0.10*	0,16 0.0065	0,16 0.0065	0,16 0.0065	0,20 0.0080
N1	SEEX09T3AFN-E04 H15	2,5 *0.10*	0,16 0.0065	0,16 0.0065	0,17 0.0065	0,20 0.0080
N2	SEEX09T3AFN-E04 H15	2,5 *0.10*	0,16 0.0065	0,16 0.0065	0,17 0.0065	0,20 0.0080
N3	SEEX09T3AFN-E04 H15	2,5 *0.10*	0,16 0.0065	0,16 0.0065	0,17 0.0065	0,20 0.0080
N11	SEEX09T3AFN-E04 H15	2,5 *0.10*	0,16 0.0065	0,16 0.0065	0,17 0.0065	0,20 0.0080
S1	SEEX09T3AFTN-ME07 F40M	1,6 *0.065*	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,14 0.0055
S2	SEEX09T3AFTN-ME07 F40M	1,6 *0.065*	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,14 0.0055
S3	SEEX09T3AFTN-ME07 F40M	1,6 *0.065*	0,10 0.0040	0,10 0.0040	0,11 0.0044	0,13 0.0050
S11	SEEX09T3AFN-M05 MS2050	1,9 *0.075*	0,095 0.0038	0,095 0.0038	0,095 0.0038	0,12 0.0048
S12	SEEX09T3AFN-M05 MS2050	1,9 *0.075*	0,095 0.0038	0,095 0.0038	0,095 0.0038	0,12 0.0048
S13	SEEX09T3AFN-M05 MS2050	1,6 *0.065*	0,085 0.0034	0,085 0.0034	0,085 0.0034	0,10 0.0040
H5	SEEX09T3AFTN-D09 MP1501	2,0 *0.080*	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,18 0.0070
H8	SEEX09T3AFTN-D09 MP1501	1,9 *0.075*	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,14 0.0055
H11	SEEX09T3AFTN-D09 MP1501	2,0 *0.080*	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,18 0.0070
H12	SEEX09T3AFTN-D09 MP1501	1,9 *0.075*	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,14 0.0055
H21	SEEX09T3AFTN-D09 MP1501	1,9 *0.075*	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,14 0.0055

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

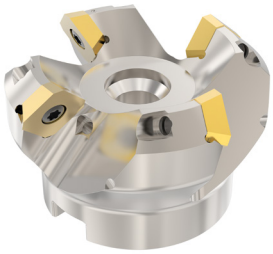
R217/220.53-09 – Cutting data v_c = (m/min)/(sf/min)

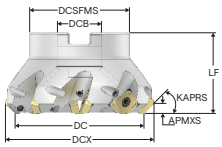
SMG	F15M				MK2050				MP3000				MS2050				F40M				H15			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	—	—	—	—	290	310	335	375	315	340	365	395	280	300	320	350	225	240	260	285	—	—	—	—
	—	—	—	—	*950*	*1025*	*1100*	*1225*	*1025*	*1125*	*1200*	*1300*	*920*	*980*	*1050*	*1150*	*740*	*790*	*850*	*940*	—	—	—	—
P2	—	—	—	—	285	305	325	360	305	325	350	385	265	285	305	340	220	235	250	275	—	—	—	—
	—	—	—	—	*940*	*1000*	*1075*	*1175*	*1000*	*1075*	*1150*	*1275*	*870*	*940*	*1000*	*1125*	*720*	*770*	*820*	*900*	—	—	—	—
P3	—	—	—	—	250	265	285	315	265	285	305	340	235	250	270	300	190	205	220	245	—	—	—	—
	—	—	—	—	*820*	*870*	*940*	*1025*	*870*	*940*	*1000*	*1125*	*770*	*820*	*890*	*980*	*620*	*670*	*720*	*800*	—	—	—	—
P4	—	—	—	—	220	235	250	280	235	250	270	300	205	220	235	260	170	180	195	215	—	—	—	—
	—	—	—	—	*720*	*770*	*820*	*920*	*770*	*820*	*890*	*980*	*670*	*720*	*770*	*850*	*560*	*590*	*640*	*710*	—	—	—	—
P5	—	—	—	—	210	225	245	265	225	240	255	285	195	210	225	250	165	175	185	205	—	—	—	—
	—	—	—	—	*690*	*740*	*800*	*870*	*740*	*790*	*840*	*940*	*640*	*690*	*740*	*820*	*540*	*570*	*610*	*670*	—	—	—	—
P6	—	—	—	—	240	255	275	300	255	275	295	320	225	240	260	280	185	195	210	230	—	—	—	—
	—	—	—	—	*790*	*840*	*900*	*980*	*840*	*900*	*970*	*1050*	*740*	*790*	*850*	*920*	*610*	*640*	*690*	*750*	—	—	—	—
P7	—	—	—	—	225	240	260	280	240	260	280	300	215	230	245	265	175	185	200	215	—	—	—	—
	—	—	—	—	*740*	*790*	*850*	*920*	*790*	*850*	*920*	*980*	*710*	*750*	*800*	*870*	*570*	*610*	*660*	*710*	—	—	—	—
P8	—	—	—	—	210	220	240	265	225	240	255	285	195	210	225	250	160	170	185	205	—	—	—	—
	—	—	—	—	*690*	*720*	*790*	*870*	*740*	*790*	*840*	*940*	*640*	*690*	*740*	*820*	*520*	*560*	*610*	*670*	—	—	—	—
P11	—	—	—	—	220	235	250	275	235	250	270	295	205	220	240	260	170	180	195	210	—	—	—	—
	—	—	—	—	*720*	*770*	*820*	*900*	*770*	*820*	*890*	*970*	*670*	*720*	*790*	*850*	*560*	*590*	*640*	*690*	—	—	—	—
P12	—	—	—	—	140	150	160	180	150	160	170	190	130	140	150	165	110	115	125	140	—	—	—	—
	—	—	—	—	*460*	*490*	*520*	*590*	*490*	*520*	*560*	*620*	*425*	*460*	*490*	*540*	*360*	*375*	*410*	*460*	—	—	—	—
M1	—	—	—	—	—	—	—	—	225	240	260	290	215	230	245	275	175	190	200	220	—	—	—	—
	—	—	—	—	—	—	—	—	*740*	*790*	*850*	*950*	*710*	*750*	*800*	*900*	*570*	*620*	*660*	*720*	—	—	—	—
M2	—	—	—	—	—	—	—	—	185	200	215	240	175	190	205	225	145	155	170	185	—	—	—	—
	—	—	—	—	—	—	—	—	*610*	*660*	*710*	*790*	*570*	*620*	*670*	*740*	*475*	*510*	*560*	*610*	—	—	—	—
M3	—	—	—	—	—	—	—	—	150	160	175	190	140	150	165	180	120	125	135	150	—	—	—	—
	—	—	—	—	—	—	—	—	*490*	*520*	*570*	*620*	*460*	*490*	*540*	*590*	*395*	*410*	*445*	*490*	—	—	—	—
M4	—	—	—	—	—	—	—	—	115	125	135	145	110	120	125	140	90	100	105	115	—	—	—	—
	—	—	—	—	—	—	—	—	*375*	*410*	*445*	*475*	*360*	*395*	*410*	*460*	*295*	*330*	*345*	*375*	—	—	—	—
M5	—	—	—	—	—	—	—	—	95	105	110	120	90	100	105	115	75	80	90	95	—	—	—	—
	—	—	—	—	—	—	—	—	*310*	*345*	*360*	*395*	*295*	*330*	*345*	*375*	*245*	*260*	*295*	*310*	—	—	—	—
K1	270	290	310	345	305	325	350	385	240	255	275	305	—	—	—	—	175	185	200	220	—	—	—	—
	890	*950*	*1025*	*1125*	*1000*	*1075*	*1150*	*1275*	*790*	*840*	*900*	*1000*	—	—	—	—	*570*	*610*	*660*	*720*	—	—	—	—
K2	240	255	275	305	275	290	315	345	210	225	245	270	—	—	—	—	155	165	180	195	—	—	—	—
	790	*840*	*900*	*1000*	*900*	*950*	*1025*	*1125*	*690*	*740*	*800*	*890*	—	—	—	—	*510*	*540*	*590*	*640*	—	—	—	—
K3	200	215	235	260	230	245	265	290	180	190	205	230	—	—	—	—	130	140	150	165	—	—	—	—
	660	*710*	*770*	*850*	*750*	*800*	*870*	*950*	*590*	*620*	*670*	*750*	—	—	—	—	*425*	*460*	*490*	*540*	—	—	—	—
K4	195	205	220	245	220	235	255	280	170	185	195	220	—	—	—	—	125	135	145	155	—	—	—	—
	640	*670*	*720*	*800*	*720*	*770*	*840*	*920*	*560*	*610*	*640*	*720*	—	—	—	—	*410*	*445*	*475*	*510*	—	—	—	—
K5	120	130	140	150	135	145	155	170	105	115	125	130	—	—	—	—	75	80	85	95	—	—	—	—
	395	*425*	*460*	*490*	*445*	*475*	*510*	*560*	*345*	*375*	*410*	*425*	—	—	—	—	*245*	*260*	*280*	*310*	—	—	—	—
K6	170	180	195	215	195	210	225	245	150	160	175	190	—	—	—	—	110	115	125	140	—	—	—	—
	560	*590*	*640*	*710*	*640*	*690*	*740*	*800*	*490*	*520*	*570*	*620*	—	—	—	—	*360*	*375*	*410*	*460*	—	—	—	—
K7	155	165	175	190	170	185	195	220	135	145	155	170	—	—	—	—	95	105	110	125	—	—	—	—
	510	*540*	*570*	*620*	*560*	*610*	*640*	*720*	*445*	*475*	*510*	*560*	—	—	—	—	*310*	*345*	*360*	*410*	—	—	—	—
N1	2025	2175	2325	2550	—	—	—	—	—	—	—	—	—	—	—	—	1275	1350	1475	1625	1600	1700	1850	2025
	6650	*7125*	*7625*	*8375*	—	—	—	—	—	—	—	—	—	—	—	—	*4175*	*4425*	*4850*	*5325*	*5250*	*5575*	*6075*	*6650*
N2	820	870	940	1025	—	—	—	—	—	—	—	—	—	—	—	—	520	550	590	650	650	690	740	810
	2700	*2850*	*3075*	*3375*	—	—	—	—	—	—	—	—	—	—	—	—	*1700*	*1800*	*1925*	*2125*	*2125*	*2275*	*2425*	*2650*
N3	550	580	630	690	—	—	—	—	—	—	—	—	—	—	—	—	345	365	395	435	430	460	495	540
	1800	*1900*	*2075*	*2275*	—	—	—	—	—	—	—	—	—	—	—	—	*1125*	*1200*	*1300*	*1425*	*1400*	*1500*	*1625*	*1775*
N11	620	670	720	780	—	—	—	—	—	—	—	—	—	—	—	—	395	420	450	495	495	530	570	620
	2025	*2200*	*2350*	*2550*	—	—	—	—	—	—	—	—	—	—	—	—	*1300*	*1375*	*1475*	*1625*	*1625*	*1750*	*1875*	*2025*
S1	—	—	—	—	—	—	—	—	—	—	—	—	50	55	60	65	43	46	49	55	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*165*	*180*	*195*	*215*	*140*	*150*	*160*	*180*	—	—	—	—
S2	—	—	—	—	—	—	—	—	—	—	—	—	42	45	48	50	35	37	40	43	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*140*	*150*	*155*	*165*	*115*	*120*	*130*	*140*	—	—	—	—
S3	—	—	—	—	—	—	—	—	—	—	—	—	36	39	42	45	30	32	35	38	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*120*	*130*	*140*	*150*	*100*	*105*	*115*	*125*	—	—	—	—
S11	—	—	—	—	—	—	—	—	—	—	—	—	70	75	85	90	60	65	70	75	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*230*	*245*	*280*	*295*	*195*	*215*	*230*	*245*	—	—	—	—
S12	—	—	—	—	—	—	—	—	—	—	—	—	50	55	55	65	41	44	47	55	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*165*	*180*	*180*	*215*	*135*	*145*	*155*	*180*	—	—	—	—
S13	—	—	—	—	—	—	—	—	—	—	—	—	29	31	33	36	24	26	28	30	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*95*	*100*	*110*	*120*	*80*	*85*	*90*	*100*	—	—	—	—
H5	—	—	—	—	—	—	—	—	46	50	55	60	—	—	—	—	36	38	41	46	—	—	—	—
	—	—	—	—	—	—	—	—	*150*	*165*	*180*	*195*	—	—	—	—	*120*	*125*	*135*	*150*	—	—	—	—
H8	—	—	—	—	—	—	—	—	49	55	55	60	—	—	—	—	39	41	44	49	—	—	—	—
	—	—	—	—	—	—	—	—	*160*	*180*	*180*	*195*	—	—	—	—	*130*	*135*	*145*	*160*	—	—	—	—
H11	—	—	—	—	—	—	—	—	60	65	70	75	—	—	—	—	46	49	55	60	—	—	—	—
	—	—	—	—	—	—	—	—	*195*	*215*	*230*	*245*	—	—	—	—	*150*	*160*	*180*	*195*	—	—	—	—
H12	—	—	—	—	—	—	—	—	95	100	110	120	—	—	—	—	70	75	80	90	—	—	—	—
	—	—	—	—	—	—	—	—	*310*	*330*	*360*	*395*	—	—	—	—	*230*	*245*	*260*	*295*	—	—	—	—
H21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	39	41	44	49	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*130*	*135*	*145*	*160*	—	—	—	—

R217/220.53-09 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK1501				MP1501				MP2501				MP3501			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	—	—	—	—	410	425	450	480	425	440	470	500	380	395	420	450
	—	—	—	—	*1350*	*1400*	*1475*	*1575*	*1400*	*1450*	*1550*	*1650*	*1250*	*1300*	*1375*	*1475*
P2	—	—	—	—	400	410	440	470	410	420	450	490	365	380	400	440
	—	—	—	—	*1300*	*1350*	*1450*	*1550*	*1350*	*1375*	*1475*	*1600*	*1200*	*1250*	*1300*	*1450*
P3	—	—	—	—	340	355	375	415	355	370	395	430	320	330	350	385
	—	—	—	—	*1125*	*1175*	*1225*	*1350*	*1175*	*1225*	*1300*	*1400*	*1050*	*1075*	*1150*	*1275*
P4	—	—	—	—	300	310	330	365	320	330	350	375	285	295	315	340
	—	—	—	—	*980*	*1025*	*1075*	*1200*	*1050*	*1075*	*1150*	*1225*	*940*	*970*	*1025*	*1125*
P5	—	—	—	—	295	305	325	345	305	315	335	365	275	285	300	330
	—	—	—	—	*970*	*1000*	*1075*	*1125*	*1000*	*1025*	*1100*	*1200*	*900*	*940*	*980*	*1075*
P6	—	—	—	—	330	345	365	390	340	355	375	410	305	320	340	370
	—	—	—	—	*1075*	*1125*	*1200*	*1275*	*1125*	*1175*	*1225*	*1350*	*1000*	*1050*	*1125*	*1225*
P7	—	—	—	—	315	325	345	370	325	335	355	385	290	300	320	345
	—	—	—	—	*1025*	*1075*	*1125*	*1225*	*1075*	*1100*	*1175*	*1275*	*950*	*980*	*1050*	*1125*
P8	—	—	—	—	290	300	315	345	300	310	330	360	270	280	295	325
	—	—	—	—	*950*	*980*	*1025*	*1125*	*980*	*1025*	*1075*	*1175*	*890*	*920*	*970*	*1075*
P11	—	—	—	—	305	315	335	360	315	325	345	375	280	290	310	335
	—	—	—	—	*1000*	*1025*	*1100*	*1175*	*1025*	*1075*	*1125*	*1225*	*920*	*950*	*1025*	*1100*
P12	—	—	—	—	195	205	215	230	200	210	220	235	180	190	200	215
	—	—	—	—	*640*	*670*	*710*	*750*	*660*	*690*	*720*	*770*	*590*	*620*	*660*	*710*
M1	—	—	—	—	—	—	—	—	205	220	240	265	195	205	220	245
	—	—	—	—	—	—	—	—	*670*	*720*	*790*	*870*	*640*	*670*	*720*	*800*
M2	—	—	—	—	—	—	—	—	175	185	200	220	160	170	185	205
	—	—	—	—	—	—	—	—	*570*	*610*	*660*	*720*	*520*	*560*	*610*	*670*
M3	—	—	—	—	—	—	—	—	140	150	160	175	130	140	150	165
	—	—	—	—	—	—	—	—	*460*	*490*	*520*	*570*	*425*	*460*	*490*	*540*
M4	—	—	—	—	—	—	—	—	110	115	125	135	100	105	115	130
	—	—	—	—	—	—	—	—	*360*	*375*	*410*	*445*	*330*	*345*	*375*	*425*
M5	—	—	—	—	—	—	—	—	90	95	105	115	85	90	95	105
	—	—	—	—	—	—	—	—	*295*	*310*	*345*	*375*	*280*	*295*	*310*	*345*
K1	360	435	495	580	400	415	445	475	410	425	455	495	370	380	405	445
	1175	*1425*	*1625*	*1900*	*1300*	*1350*	*1450*	*1550*	*1350*	*1400*	*1500*	*1625*	*1225*	*1250*	*1325*	*1450*
K2	320	385	435	510	360	370	395	420	370	380	405	440	330	340	365	395
	1050	*1275*	*1425*	*1675*	*1175*	*1225*	*1300*	*1375*	*1225*	*1250*	*1325*	*1450*	*1075*	*1125*	*1200*	*1300*
K3	255	280	310	350	305	315	335	355	310	325	345	375	280	290	310	335
	840	*920*	*1025*	*1150*	*1000*	*1025*	*1100*	*1175*	*1025*	*1075*	*1125*	*1225*	*920*	*950*	*1025*	*1100*
K4	240	270	295	335	290	300	320	340	295	310	330	355	265	275	295	320
	790	*890*	*970*	*1100*	*950*	*980*	*1050*	*1125*	*970*	*1025*	*1075*	*1175*	*870*	*900*	*970*	*1050*
K5	150	165	180	205	175	180	195	210	185	190	200	215	165	170	180	195
	490	*540*	*590*	*670*	*570*	*590*	*640*	*690*	*610*	*620*	*660*	*710*	*540*	*560*	*590*	*640*
K6	215	235	260	295	255	265	280	300	260	270	290	315	235	245	260	280
	710	*770*	*850*	*970*	*840*	*870*	*920*	*980*	*850*	*890*	*950*	*1025*	*770*	*800*	*850*	*920*
K7	190	210	235	260	225	230	245	270	235	245	260	275	210	220	230	245
	620	*690*	*770*	*850*	*740*	*750*	*800*	*890*	*770*	*800*	*850*	*900*	*690*	*720*	*750*	*800*
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	—	—	—	47	50	55	60
	—	—	—	—	—	—	—	—	—	—	—	—	*155*	*165*	*180*	*195*
S2	—	—	—	—	—	—	—	—	—	—	—	—	38	40	43	48
	—	—	—	—	—	—	—	—	—	—	—	—	*125*	*130*	*140*	*155*
S3	—	—	—	—	—	—	—	—	—	—	—	—	33	36	38	42
	—	—	—	—	—	—	—	—	—	—	—	—	*110*	*120*	*125*	*140*
S11	—	—	—	—	—	—	—	—	—	—	—	—	65	70	75	85
	—	—	—	—	—	—	—	—	—	—	—	—	*215*	*230*	*245*	*280*
S12	—	—	—	—	—	—	—	—	—	—	—	—	45	48	50	60
	—	—	—	—	—	—	—	—	—	—	—	—	*150*	*155*	*165*	*195*
S13	—	—	—	—	—	—	—	—	—	—	—	—	26	28	30	34
	—	—	—	—	—	—	—	—	—	—	—	—	*85*	*90*	*100*	*110*
H5	—	—	—	—	50	55	60	65	—	—	—	—	41	44	48	55
	—	—	—	—	*165*	*180*	*195*	*215*	—	—	—	—	*135*	*145*	*155*	*180*
H8	—	—	—	—	55	60	65	70	—	—	—	—	44	47	50	55
	—	—	—	—	*180*	*195*	*215*	*230*	—	—	—	—	*145*	*155*	*165*	*180*
H11	—	—	—	—	65	70	75	80	—	—	—	—	55	55	60	65
	—	—	—	—	*215*	*230*	*245*	*260*	—	—	—	—	*180*	*180*	*195*	*215*
H12	—	—	—	—	100	105	115	125	—	—	—	—	80	85	90	100
	—	—	—	—	*330*	*345*	*375*	*410*	—	—	—	—	*260*	*280*	*295*	*330*
H21	—	—	—	—	55	60	65	70	—	—	—	—	44	47	50	55
	—	—	—	—	*180*	*195*	*215*	*230*	—	—	—	—	*145*	*155*	*165*	*180*

Quattromill R217/220.53-12 – Metric





—For insert selection and cutting data recommendations, see page(s) 298–300
—For complete insert programme, see page(s) 894
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm	mm		kg	
R220.53-0040-12-4A	02410704	Arbor	40,0	4	6,0	45,0 °	52,0	22,0	–	47,0	40,0	16500	0,4	SE.X1204
R220.53-0050-12-4A	00040081	Arbor	50,0	4	6,0	45,0 °	62,0	22,0	–	47,0	40,0	14800	0,5	SE.X1204
R220.53-0050-12-5A	00040082	Arbor	50,0	5	6,0	45,0 °	62,0	22,0	–	47,0	40,0	14800	0,4	SE.X1204
R220.53-0063-12-5A	00040083	Arbor	63,0	5	6,0	45,0 °	75,0	22,0	–	47,0	40,0	13200	0,6	SE.X1204
R220.53-0063-12-6A	00040084	Arbor	63,0	6	6,0	45,0 °	75,0	22,0	–	47,0	40,0	13200	0,6	SE.X1204
R220.53-0080-12-6A	00040085	Arbor	80,0	6	6,0	45,0 °	92,0	27,0	–	62,0	50,0	11700	1,1	SE.X1204
R220.53-0080-12-8A	00040086	Arbor	80,0	8	6,0	45,0 °	92,0	27,0	–	62,0	50,0	11700	1,1	SE.X1204
R220.53-0100-12-5A	02448963	Arbor	100,0	5	6,0	45,0 °	112,0	32,0	–	77,0	50,0	10500	1,7	SE.X1204
R220.53-0100-12-7A	00040087	Arbor	100,0	7	6,0	45,0 °	112,0	32,0	–	77,0	50,0	10500	1,7	SE.X1204
R220.53-0100-12-10A	00040088	Arbor	100,0	10	6,0	45,0 °	112,0	32,0	–	77,0	50,0	10500	1,8	SE.X1204
R220.53-0125-12-6A	02448964	Arbor	125,0	6	6,0	45,0 °	137,0	40,0	–	90,0	63,0	9400	3,1	SE.X1204
R220.53-0125-12-8A	00040089	Arbor	125,0	8	6,0	45,0 °	137,0	40,0	–	90,0	63,0	9400	2,9	SE.X1204
R220.53-0125-12-12A	00040090	Arbor	125,0	12	6,0	45,0 °	137,0	40,0	–	90,0	63,0	9400	2,9	SE.X1204
R220.53-8160-12-7	02448965	Arbor	160,0	7	6,0	45,0 °	172,0	40,0	66,7	90,0	63,0	8300	4,4	SE.X1204
R220.53-8160-12-10	00040091	Arbor	160,0	10	6,0	45,0 °	172,0	40,0	66,7	90,0	63,0	8300	4,5	SE.X1204

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R220.53-0040-0063	220.17-696	1/4HEX-T15PX50	C04011-T15P
R220.53-0080	–	1/4HEX-T15PX50	C04011-T15P
R220.53-0100-8160	–	1/4HEX-T15PX90	C04011-T15P

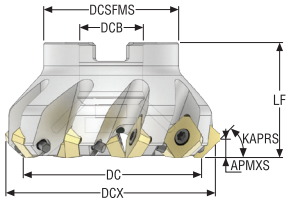
Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.53-0040-0063	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.53-0080	1/4HEX-S-HANDLE-0.8-5.0NM	5802712	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.53-0100	1/4HEX-S-HANDLE-0.8-5.0NM	5803216	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.53-0125	1/4HEX-S-HANDLE-0.8-5.0NM	5804020	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.53-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Quattromill R217/220.53-12 – Metric





—For insert selection and cutting data recommendations, see page(s) 298-300
—For complete insert programme, see page(s) 894
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm		kg	
R220.53-0080-12-11A	02997160	Arbor	80,0	11	6,0	45,0 °	92,0	27,0	62,0	50,0	11700	1,1	SE.X1204

Spare Parts, included in delivery

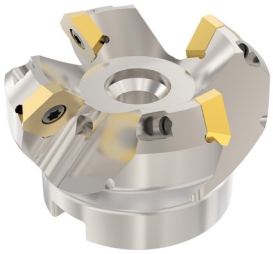
For cutter	Back insert key	Front insert key	Insert screw
			
R220.53-0063-0080	H6B-H3.0	T15P-E8	C04008-H3

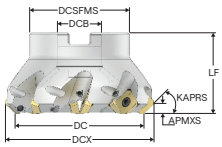
Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque
			
R220.53-0063-0080	1/4HEX-S-HANDLE-0.8-5.0NM	5802712	3.5NM

Torque and fixed keys, see page 944

Quattromill R217/220.53-12 – inch





–For insert selection and cutting data recommendations, see page(s) 298-300
–For complete insert programme, see page(s) 894
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DBC2	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch		inch	inch	inch	inch	inch	inch		lbs	
R220.53-01.50-12-4A	02422139	Arbor	1.575	4	0.236	45,0 °	2.047	0.750	–	–	1.850	1.575	16500	1.100	SE.X1204
R220.53-02.00-12-4A	02422140	Arbor	1.969	4	0.236	45,0 °	2.441	0.750	–	–	1.850	1.575	14800	1.100	SE.X1204
R220.53-02.00-12-5A	02422141	Arbor	1.969	5	0.236	45,0 °	2.441	0.750	–	–	1.850	1.575	14800	1.100	SE.X1204
R220.53-02.50-12-5A	02422142	Arbor	2.480	5	0.236	45,0 °	2.953	0.750	–	–	1.850	1.575	13200	1.540	SE.X1204
R220.53-02.50-12-6A	02422143	Arbor	2.480	6	0.236	45,0 °	2.953	0.750	–	–	1.850	1.575	13200	1.320	SE.X1204
R220.53-03.00-12-6A	02422144	Arbor	3.150	6	0.236	45,0 °	3.622	1.000	–	–	2.441	1.969	11700	2.650	SE.X1204
R220.53-03.00-12-8A	02422145	Arbor	3.150	8	0.236	45,0 °	3.622	1.000	–	–	2.441	1.969	11700	2.870	SE.X1204
R220.53-04.00-12-7A	02422146	Arbor	3.937	7	0.236	45,0 °	4.409	1.500	–	–	3.543	1.969	10500	4.630	SE.X1204
R220.53-04.00-12-10A	02422147	Arbor	3.937	10	0.236	45,0 °	4.409	1.500	–	–	3.543	1.969	10500	4.850	SE.X1204
R220.53-05.00-12-8A	02422148	Arbor	4.921	8	0.236	45,0 °	5.394	1.500	–	–	3.543	2.480	9400	7.940	SE.X1204
R220.53-06.00-12-10	02422150	Arbor	6.299	10	0.236	45,0 °	6.772	2.000	–	–	3.543	2.480	8300	9.920	SE.X1204
R220.53-06.00-12-7	02449820	Arbor	6.299	7	0.236	45,0 °	6.772	2.000	–	–	3.543	2.480	8300	9.920	SE.X1204
R220.53-808.00-12-12	02422151	Arbor	7.874	12	0.236	45,0 °	8.346	2.500	4.000	4.000	5.118	2.480	7400	16.530	SE.X1204

Spare Parts, included in delivery

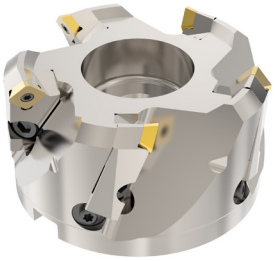
For cutter	Arbor screw	Insert key	Insert screw
			
R220.53-01.50-02.50	220.17-698	1/4HEX-T15PX50	C04011-T15P
R220.53-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T15PX50	C04011-T15P
R220.53-04.00	UF6S3/4UNFX1-3/4	1/4HEX-T15PX90	C04011-T15P
R220.53-05.00	UF6S3/4UNFX2	1/4HEX-T15PX90	C04011-T15P
R220.53-06.00-808.00	–	1/4HEX-T15PX90	C04011-T15P

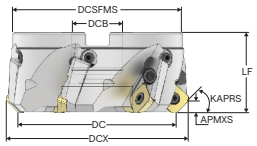
Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.53-01.50 - 05.00	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.53-06.00	1/4HEX-S-HANDLE-0.8-5.0NM	58215080	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.53-808.00	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Quattromill R220.53-12C – Metric

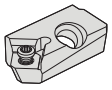
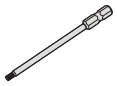




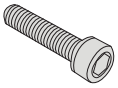
—For insert selection and cutting data recommendations, see page(s) 298-300
—For complete insert programme, see page(s) 894
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DBC2	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm	mm	mm		kg	
R220.53-0125-12-8C	02448846	Arbor	125,0	8	6,0	45,0 °	137,0	40,0	–	–	90,0	63,0	5900	4,4	SE.X1204
R220.53-8160-12-10C	02448847	Arbor	160,0	10	6,0	45,0 °	172,0	40,0	66,7	–	90,0	63,0	5200	6,6	SE.X1204
R220.53-8200-12-12C	02448849	Arbor	200,0	12	6,0	45,0 °	212,0	60,0	101,6	–	130,0	63,0	4700	9,5	SE.X1204
R220.53-8250-12-10C	02448896	Arbor	250,0	10	6,0	45,0 °	262,0	60,0	101,6	–	130,0	63,0	4200	21,4	SE.X1204
R220.53-8250-12-16C	02448853	Arbor	250,0	16	6,0	45,0 °	262,0	60,0	101,6	–	130,0	63,0	4200	21,6	SE.X1204
R220.53-8315-12-12C	02448900	Arbor	315,0	12	6,0	45,0 °	327,0	60,0	101,6	177,8	225,0	80,0	3700	32,9	SE.X1204

Spare Parts, included in delivery

For cutter	Adjustment unit	Cassette	Cassette screw	Insert key	Insert screw
					
R220.53-0100-8315	AU1114T-T15P	SE12AR-53	FS96018	1/4HEX-T15PX90	C04009-T15P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Arbor screw 2	Bit holder	Insert clamping torque	Key	Setting key	Torque key
								
R220.53-0125	1/4HEX-S-HANDLE-0.8-5.0NM	5804020	–	1/4HEX-S-HANDLE	3.5NM	1/4HEX-H4.0X50	1/4HEX-T15PX50	T00-15P35
R220.53-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	–	1/4HEX-S-HANDLE	3.5NM	1/4HEX-H4.0X50	1/4HEX-T15PX50	T00-15P35
R220.53-8200-8250	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50	–	1/4HEX-S-HANDLE	3.5NM	1/4HEX-H4.0X50	1/4HEX-T15PX50	T00-15P35
R220.53-8315	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50	MC6S20X50	1/4HEX-S-HANDLE	3.5NM	1/4HEX-H4.0X50	1/4HEX-T15PX50	T00-15P35

Torque and fixed keys, see page 944

R217/220.53-12 – Insert selection – mm/Inch

SMG		a_p	f_z			
			80%	60%	40%	20%
P1	SEMX1204AFTN-ME12 MP3501	3,5 *0.14*	0,24 0.0095	0,24 0.0095	0,24 0.0095	0,30 0.012
P2	SEMX1204AFTN-ME12 MP3501	3,5 *0.14*	0,24 0.0095	0,24 0.0095	0,25 0.010	0,30 0.012
P3	SEMX1204AFTN-M15 MP2501	3,5 *0.14*	0,28 0.011	0,28 0.011	0,30 0.012	0,36 0.014
P4	SEMX1204AFTN-M15 MP2501	3,5 *0.14*	0,28 0.011	0,28 0.011	0,30 0.012	0,36 0.014
P5	SEMX1204AFTN-M15 MP2501	3,5 *0.14*	0,28 0.011	0,28 0.011	0,28 0.011	0,36 0.014
P6	SEMX1204AFTN-M15 MP2501	3,5 *0.14*	0,28 0.011	0,28 0.011	0,28 0.011	0,34 0.013
P7	SEMX1204AFTN-M15 MP3501	3,5 *0.14*	0,28 0.011	0,28 0.011	0,28 0.011	0,34 0.013
P8	SEMX1204AFTN-M15 MP3501	3,5 *0.14*	0,28 0.011	0,28 0.011	0,30 0.012	0,36 0.014
P11	SEEX1204AFN-M10 MP2051	3,5 *0.14*	0,20 0.0080	0,20 0.0080	0,20 0.0080	0,25 0.010
P12	SEEX1204AFN-M10 MP2051	3,0 *0.12*	0,14 0.0055	0,14 0.0055	0,14 0.0055	0,17 0.0065
M1	SEEX1204AFN-M10 F40M	3,5 *0.14*	0,22 0.0085	0,22 0.0085	0,22 0.0085	0,28 0.011
M2	SEEX1204AFN-M10 MS2050	3,5 *0.14*	0,20 0.0080	0,20 0.0080	0,20 0.0080	0,25 0.010
M3	SEEX1204AFN-M10 MS2050	3,0 *0.12*	0,16 0.0065	0,16 0.0065	0,16 0.0065	0,20 0.0080
M4	SEEX1204AFN-M10 MP2051	2,0 *0.080*	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,18 0.0070
M5	SEEX1204AFN-M10 MP2051	2,0 *0.080*	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,18 0.0070
K1	SEMX1204AFTN-M15 MK1501	3,5 *0.14*	0,30 0.012	0,30 0.012	0,32 0.013	0,38 0.015
K2	SEMX1204AFTN-M15 MK1501	3,5 *0.14*	0,28 0.011	0,28 0.011	0,28 0.011	0,36 0.014
K3	SEMX1204AFTN-M15 MP1501	3,5 *0.14*	0,28 0.011	0,28 0.011	0,28 0.011	0,36 0.014
K4	SEMX1204AFTN-M15 MP1501	3,5 *0.14*	0,28 0.011	0,28 0.011	0,28 0.011	0,36 0.014
K5	SEMX1204AFTN-M15 MP1501	3,5 *0.14*	0,25 0.010	0,25 0.010	0,26 0.010	0,32 0.013
K6	SEMX1204AFTN-M15 MK2050	3,5 *0.14*	0,28 0.011	0,28 0.011	0,28 0.011	0,36 0.014
K7	SEMX1204AFTN-M15 MK2050	3,5 *0.14*	0,25 0.010	0,25 0.010	0,26 0.010	0,32 0.013
N1	SEEX1204AFN-E08 H25	3,5 *0.14*	0,22 0.0085	0,22 0.0085	0,22 0.0085	0,28 0.011
N2	SEEX1204AFN-E08 H25	3,5 *0.14*	0,22 0.0085	0,22 0.0085	0,22 0.0085	0,28 0.011
N3	SEEX1204AFN-E08 H25	3,5 *0.14*	0,22 0.0085	0,22 0.0085	0,22 0.0085	0,28 0.011
N11	SEEX1204AFN-E08 H25	3,5 *0.14*	0,22 0.0085	0,22 0.0085	0,22 0.0085	0,28 0.011
S1	SEMX1204AFTN-ME12 MS2050	2,0 *0.080*	0,16 0.0065	0,16 0.0065	0,16 0.0065	0,20 0.0080
S2	SEMX1204AFTN-ME12 MS2050	2,0 *0.080*	0,16 0.0065	0,16 0.0065	0,16 0.0065	0,20 0.0080
S3	SEMX1204AFTN-ME12 MS2050	2,0 *0.080*	0,15 0.0060	0,15 0.0060	0,15 0.0060	0,19 0.0075
S11	SEEX1204AFN-M10 MS2050	2,5 *0.10*	0,16 0.0065	0,16 0.0065	0,17 0.0065	0,20 0.0080
S12	SEEX1204AFN-M10 MS2050	2,5 *0.10*	0,16 0.0065	0,16 0.0065	0,17 0.0065	0,20 0.0080
S13	SEEX1204AFN-M10 MS2050	2,0 *0.080*	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,18 0.0070
H5	SEMX1204AFTN-MD19 MP3000	3,0 *0.12*	0,24 0.0095	0,24 0.0095	0,24 0.0095	0,30 0.012
H8	SEMX1204AFTN-MD19 MP3000	2,5 *0.10*	0,18 0.0070	0,18 0.0070	0,18 0.0070	0,22 0.0085
H11	SEMX1204AFTN-MD19 MP1501	3,0 *0.12*	0,24 0.0095	0,24 0.0095	0,24 0.0095	0,30 0.012
H12	SEMX1204AFTN-MD19 MP1501	2,5 *0.10*	0,18 0.0070	0,18 0.0070	0,18 0.0070	0,22 0.0085
H21	SEMX1204AFTN-MD19 MP1501	2,5 *0.10*	0,18 0.0070	0,18 0.0070	0,18 0.0070	0,22 0.0085

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.53-12 – Cutting data v_c = (m/min)/(sf/min)

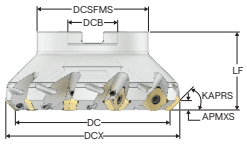
SMG	MK2050				MP3000				MS2050				F40M				MP2051				H25			
	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%
P1	290 *950*	310 *1025*	350 *1150*	390 *1275*	325 *1075*	355 *1175*	400 *1300*	450 *1475*	290 *950*	310 *1025*	345 *1125*	385 *1275*	235 *770*	255 *840*	280 *920*	310 *1025*	345 *1125*	385 *1275*	450 *1475*	520 *1700*	— —	— —	— —	— —
P2	280 *920*	305 *1000*	330 *1075*	380 *1250*	315 *1025*	345 *1125*	390 *1275*	440 *1450*	280 *920*	300 *980*	335 *1100*	375 *1225*	230 *750*	245 *800*	265 *870*									
P3				335 *1100*		310 *1025*				270 *890*						265 *870*	310 *1025*	345 *1125*	380 *1250*	445 *1450*	— —	— —	— —	— —
P4	215 *710*	235 *770*	265 *870*	295 *970*	250 *820*	270 *890*	305 *1000*	340 *1125*	220 *720*	235 *770*	265 *870*	290 *950*	190 *620*	205 *670*	225 *740*	250 *820*	270 *890*	300 *980*	350 *1150*	390 *1275*	— —	— —	— —	— —
P5	210 *690*	225 *740*	250 *820*	280 *920*	240 *790*	260 *850*	295 *970*	330 *1075*	210 *690*	225 *740*	250 *820*	280 *920*	170 *560*	185 *610*	205 *670*	225 *740*	260 *850*	290 *950*	335 *1100*	380 *1250*	— —	— —	— —	— —
P6	235 *770*	250 *820*	280 *920*	320 *1050*	275 *900*	300 *980*	330 *1075*	370 *1225*	240 *790*	260 *850*	280 *920*	315 *1025*	190 *620*	205 *670*	230 *750*	255 *840*	300 *980*	335 *1100*	375 *1225*	425 *1400*	— —	— —	— —	— —
P7	220 *720*	240 *790*	265 *870*	305 *1000*	260 *850*	280 *920*	310 *1025*	350 *1150*	225 *740*	245 *800*	265 *870*	295 *970*	180 *590*	195 *640*	215 *710*	240 *790*	285 *940*	315 *1025*	355 *1175*	400 *1300*	— —	— —	— —	— —
P8	210 *690*	225 *740*	245 *800*	280 *920*	240 *790*	260 *850*	280 *920*	325 *1075*	210 *690*	225 *740*	245 *800*	275 *900*	170 *560*	185 *610*	200 *660*	225 *740*	260 *850*	290 *950*	320 *1050*	375 *1225*	— —	— —	— —	— —
P11	215 *710*	230 *750*	260 *850*	295 *970*	250 *820*	275 *900*	300 *980*	340 *1125*	220 *720*	235 *770*	260 *850*	290 *950*	175 *570*	190 *620*	210 *690*	235 *770*	275 *900*	315 *1025*	370 *1225*	445 *1450*	— —	— —	— —	— —
P12	140 *460*	155 *510*	170 *560*	190 *620*	165 *540*	180 *590*	200 *660*	220 *720*	145 *475*	155 *510*	170 *560*	190 *620*	125 *410*	130 *425*	145 *475*	155 *510*	190 *620*	215 *710*	245 *800*	295 *970*	— —	— —	— —	— —
M1	— —	— —	— —	— —	225 *740*	240 *790*	270 *890*	300 *980*	210 *690*	230 *750*	255 *840*	285 *940*	175 *570*	190 *620*	205 *670*	235 *770*	290 *950*	335 *1100*	410 *1350*	500 *1650*	— —	— —	— —	— —
M2	— —	— —	— —	— —	185 *610*	200 *660*	220 *720*	250 *820*	175 *570*	190 *620*	210 *690*	235 *770*	145 *475*	155 *510*	175 *570*	195 *640*	250 *820*	290 *950*	350 *1150*	425 *1400*	— —	— —	— —	— —
M3	— —	— —	— —	— —	150 *490*	160 *520*	180 *590*	200 *660*	145 *475*	155 *510*	170 *560*	190 *620*	120 *395*	125 *410*	140 *460*	160 *520*	220 *720*	250 *820*	290 *950*	350 *1150*	— —	— —	— —	— —
M4	— —	— —	— —	— —	120 *395*	125 *410*	140 *460*	155 *510*	110 *360*	120 *395*	130 *425*	150 *490*	90 *295*	100 *330*	110 *360*	125 *410*	175 *570*	195 *640*	225 *740*	270 *890*	— —	— —	— —	— —
M5	— —	— —	— —	— —	100 *330*	105 *345*	115 *375*	130 *425*	95 *310*	100 *330*	110 *360*	125 *410*	75 *245*	80 *260*	90 *295*	105 *345*	150 *490*	165 *540*	190 *620*	225 *740*	— —	— —	— —	— —
K1	305 *1000*	325 *1075*	360 *1175*	410 *1350*	235 *770*	255 *840*	285 *940*	320 *1050*	— —	— —	— —	— —	170 *560*	185 *610*	205 *670*	235 *770*	— —	— —	— —	— —	— —	— —	— —	— —
K2	270 *890*	290 *950*	325 *1075*	365 *1200*	210 *690*	225 *740*	255 *840*	285 *940*	— —	— —	— —	— —	150 *490*	165 *540*	185 *610*	205 *670*	— —	— —	— —	— —	— —	— —	— —	— —
K3	225 *740*	245 *800*	275 *900*	305 *1000*	180 *590*	190 *620*	215 *710*	240 *790*	— —	— —	— —	— —	130 *425*	140 *460*	155 *510*	175 *570*	— —	— —	— —	— —	— —	— —	— —	— —
K4	215 *710*	235 *770*	260 *850*	295 *970*	170 *560*	185 *610*	205 *670*	230 *750*	— —	— —	— —	— —	120 *395*	130 *425*	150 *490*	165 *540*	— —	— —	— —	— —	— —	— —	— —	— —
K5	135 *445*	145 *475*	160 *520*	180 *590*	105 *345*	110 *360*	125 *410*	140 *460*	— —	— —	— —	— —	75 *245*	80 *260*	90 *295*	100 *330*	— —	— —	— —	— —	— —	— —	— —	— —
K6	190 *620*	205 *670*	230 *750*	260 *850*	150 *490*	160 *520*	180 *590*	205 *670*	— —	— —	— —	— —	110 *360*	115 *375*	130 *425*	145 *475*	— —	— —	— —	— —	— —	— —	— —	— —
K7	170 *560*	185 *610*	205 *670*	230 *750*	135 *445*	145 *475*	160 *520*	180 *590*	— —	— —	— —	— —	95 *310*	105 *345*	115 *375*	130 *425*	— —	— —	— —	— —	— —	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	1250 *4100*	1350 *4425*	1500 *4925*	1700 *5575*	— —	— —	— —	— —	1600 *5250*	1725 *5650*	1900 *6225*	2150 *7050*
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	500 *1650*	550 *1800*	600 *1975*	680 *2225*	— —	— —	— —	— —	640 *2100*	690 *2275*	770 *2525*	870 *2850*
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	335 *1100*	365 *1200*	400 *1300*	455 *1500*	— —	— —	— —	— —	430 *1400*	460 *1500*	510 *1675*	580 *1900*
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	385 *1275*	415 *1350*	460 *1500*	520 *1700*	— —	— —	— —	— —	490 *1600*	530 *1750*	590 *1925*	660 *2175*
S1	— —	— —	— —	— —	— —	— —	— —	— —	50 *165*	55 *180*	60 *195*	70 *230*	43 *140*	46 *150*	50 *165*	60 *195*	55 *180*	60 *195*	70 *230*	75 *245*	— —	— —	— —	— —
S2	— —	— —	— —	— —	— —	— —	— —	— —	42 *140*	45 *150*	50 *165*	55 *180*	35 *115*	37 *120*	41 *135*	46 *150*	46 *150*	49 *160*	55 *180*	60 *195*	— —	— —	— —	— —
S3	— —	— —	— —	— —	— —	— —	— —	— —	37 *120*	39 *130*	44 *145*	49 *160*	30 *100*	33 *110*	36 *120*	41 *135*	40 *130*	43 *140*	48 *155*	55 *180*	— —	— —	— —	— —
S11	— —	— —	— —	— —	— —	— —	— —	— —	70 *230*	80 *260*	85 *280*	95 *310*	60 *195*	65 *215*	70 *230*	80 *260*	80 *260*	85 *280*	95 *310*	105 *345*	— —	— —	— —	— —
S12	— —	— —	— —	— —	— —	— —	— —	— —	50 *165*	55 *180*	60 *195*	65 *215*	41 *135*	45 *150*	50 *165*	55 *180*	55 *180*	60 *195*	65 *215*	75 *245*	— —	— —	— —	— —
S13	— —	— —	— —	— —	— —	— —	— —	— —	29 *95*	31 *100*	35 *115*	39 *130*	24 *80*	26 *85*	29 *95*	32 *105*	32 *105*	34 *110*	38 *125*	43 *140*	— —	— —	— —	— —
H5	49 *160*	50 *165*	60 *195*	65 *215*	46 *150*	50 *165*	55 *180*	60 *195*	— —	— —	— —	— —	36 *120*	39 *130*	44 *145*	49 *160*	— —	— —	— —	— —	— —	— —	— —	— —
H8	50 *165*	55 *180*	60 *195*	70 *230*	50 *165*	55 *180*	60 *195*	65 *215*	— —	— —	— —	— —	39 *130*	43 *140*	46 *150*	55 *180*	— —	— —	— —	— —	— —	— —	— —	— —
H11	60 *195*	65 *215*	75 *245*	85 *280*	60 *195*	65 *215*	70 *230*	80 *260*	— —	— —	— —	— —	46 *150*	50 *165*	55 *180*	60 *195*	125 *410*	140 *460*	160 *520*	190 *620*	— —	— —	— —	— —
H12	90 *295*	100 *330*	110 *360*	125 *410*	95 *310*	105 *345*	110 *360*	125 *410*	— —	— —	— —	— —	70 *230*	75 *245*	85 *280*	95 *310*	125 *410*	135 *445*	150 *490*	175 *570*	— —	— —	— —	— —
H21	50 *165*	55 *180*	60 *195*	70 *230*	— —	— —	— —	— —	— —	— —	— —	— —	39 *130*	43 *140*	46 *150*	55 *180*	110 *360*	115 *375*	120 *395*	130 *425*	— —	— —	— —	— —

R217/220.53-12 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK1501				MP1501				MP2501				MP3501				MM4500			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	—	—	—	—	395	405	435	480	385	395	425	470	325	335	360	400	245	255	275	305
	—	—	—	—	*1300*	*1325*	*1425*	*1575*	*1275*	*1300*	*1400*	*1550*	*1075*	*1100*	*1175*	*1300*	*800*	*840*	*900*	*1000*
P2	—	—	—	—	385	395	425	460	375	385	410	445	315	325	350	380	240	250	270	295
	—	—	—	—	*1275*	*1300*	*1400*	*1500*	*1225*	*1275*	*1350*	*1450*	*1025*	*1075*	*1150*	*1250*	*790*	*820*	*890*	*970*
P3	—	—	—	—	340	350	375	405	330	340	365	395	280	285	310	335	210	220	240	255
	—	—	—	—	*1125*	*1150*	*1225*	*1325*	*1075*	*1125*	*1200*	*1300*	*920*	*940*	*1025*	*1100*	*690*	*720*	*790*	*840*
P4	—	—	—	—	300	305	330	365	290	300	320	355	245	255	270	300	200	210	225	250
	—	—	—	—	*980*	*1000*	*1075*	*1200*	*950*	*980*	*1050*	*1175*	*800*	*840*	*890*	*980*	*660*	*690*	*740*	*820*
P5	—	—	—	—	285	295	315	345	275	285	305	340	235	240	260	290	175	185	200	220
	—	—	—	—	*940*	*970*	*1025*	*1125*	*900*	*940*	*1000*	*1125*	*770*	*790*	*850*	*950*	*570*	*610*	*660*	*720*
P6	—	—	—	—	320	330	355	390	310	320	345	380	265	270	290	325	200	215	230	250
	—	—	—	—	*1050*	*1075*	*1175*	*1275*	*1025*	*1050*	*1125*	*1250*	*870*	*890*	*950*	*1075*	*660*	*710*	*750*	*820*
P7	—	—	—	—	300	310	335	365	295	300	325	360	250	255	275	305	190	200	215	235
	—	—	—	—	*980*	*1025*	*1100*	*1200*	*970*	*980*	*1075*	*1175*	*820*	*840*	*900*	*1000*	*620*	*660*	*710*	*770*
P8	—	—	—	—	285	295	315	340	275	285	305	330	235	240	260	280	175	185	200	215
	—	—	—	—	*940*	*970*	*1025*	*1125*	*900*	*940*	*1000*	*1075*	*770*	*790*	*850*	*920*	*570*	*610*	*660*	*710*
P11	—	—	—	—	295	300	325	355	285	295	315	350	240	250	265	295	185	195	210	225
	—	—	—	—	*970*	*980*	*1075*	*1175*	*940*	*970*	*1025*	*1150*	*790*	*820*	*870*	*970*	*610*	*640*	*690*	*740*
P12	—	—	—	—	195	205	215	235	190	200	210	230	165	170	180	195	115	125	130	145
	—	—	—	—	*640*	*670*	*710*	*770*	*620*	*660*	*690*	*750*	*540*	*560*	*590*	*640*	*375*	*410*	*425*	*475*
M1	—	—	—	—	—	—	—	—	195	205	220	245	170	180	195	215	155	165	180	200
	—	—	—	—	—	—	—	—	*640*	*670*	*720*	*800*	*560*	*590*	*640*	*710*	*510*	*540*	*590*	*660*
M2	—	—	—	—	—	—	—	—	160	170	185	205	140	150	165	180	130	140	150	165
	—	—	—	—	—	—	—	—	*520*	*560*	*610*	*670*	*460*	*490*	*540*	*590*	*425*	*460*	*490*	*540*
M3	—	—	—	—	—	—	—	—	130	140	150	170	115	125	135	150	105	110	120	135
	—	—	—	—	—	—	—	—	*425*	*460*	*490*	*560*	*375*	*410*	*445*	*490*	*345*	*360*	*395*	*445*
M4	—	—	—	—	—	—	—	—	100	110	115	130	90	95	105	115	80	85	95	105
	—	—	—	—	—	—	—	—	*330*	*360*	*375*	*425*	*295*	*310*	*345*	*375*	*260*	*280*	*310*	*345*
M5	—	—	—	—	—	—	—	—	85	90	95	110	75	80	85	95	70	75	80	85
	—	—	—	—	—	—	—	—	*280*	*295*	*310*	*360*	*245*	*260*	*280*	*310*	*230*	*245*	*260*	*280*
K1	350	425	485	570	385	400	425	465	375	385	415	450	320	325	350	380	—	—	—	—
	1150	*1400*	*1600*	*1875*	*1275*	*1300*	*1400*	*1525*	*1225*	*1275*	*1350*	*1475*	*1050*	*1075*	*1150*	*1250*	—	—	—	—
K2	305	375	425	500	345	355	380	420	335	345	370	410	285	290	315	350	—	—	—	—
	1000	*1225*	*1400*	*1650*	*1125*	*1175*	*1250*	*1375*	*1100*	*1125*	*1225*	*1350*	*940*	*950*	*1025*	*1150*	—	—	—	—
K3	235	260	290	330	290	300	320	355	285	290	315	345	240	245	265	295	—	—	—	—
	770	*850*	*950*	*1075*	*950*	*980*	*1050*	*1175*	*940*	*950*	*1025*	*1125*	*790*	*800*	*870*	*970*	—	—	—	—
K4	225	250	275	315	280	285	305	340	270	280	300	330	230	235	255	280	—	—	—	—
	740	*820*	*900*	*1025*	*920*	*940*	*1000*	*1125*	*890*	*920*	*980*	*1075*	*750*	*770*	*840*	*920*	—	—	—	—
K5	140	155	170	190	170	180	190	205	170	175	185	200	145	145	160	170	—	—	—	—
	460	*510*	*560*	*620*	*560*	*590*	*620*	*670*	*560*	*570*	*610*	*660*	*475*	*475*	*520*	*560*	—	—	—	—
K6	195	220	240	275	245	255	270	300	240	245	265	290	200	210	225	250	—	—	—	—
	640	*720*	*790*	*900*	*800*	*840*	*890*	*980*	*790*	*800*	*870*	*950*	*660*	*690*	*740*	*820*	—	—	—	—
K7	175	195	215	245	220	230	245	265	215	220	235	260	185	190	200	220	—	—	—	—
	570	*640*	*710*	*800*	*720*	*750*	*800*	*870*	*710*	*720*	*770*	*850*	*610*	*620*	*660*	*720*	—	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	—	—	—	42	45	48	55	25	27	29	32
	—	—	—	—	—	—	—	—	—	—	—	—	*140*	*150*	*155*	*180*	*80*	*90*	*95*	*105*
S2	—	—	—	—	—	—	—	—	—	—	—	—	34	36	39	43	20	22	23	26
	—	—	—	—	—	—	—	—	—	—	—	—	*110*	*120*	*130*	*140*	*65*	*70*	*75*	*85*
S3	—	—	—	—	—	—	—	—	—	—	—	—	30	32	34	38	18	19	20	22
	—	—	—	—	—	—	—	—	—	—	—	—	*100*	*105*	*110*	*125*	*60*	*60*	*65*	*70*
S11	—	—	—	—	—	—	—	—	—	—	—	—	60	65	70	75	35	37	40	44
	—	—	—	—	—	—	—	—	—	—	—	—	*195*	*215*	*230*	*245*	*115*	*120*	*130*	*145*
S12	—	—	—	—	—	—	—	—	—	—	—	—	41	43	47	50	32	34	37	41
	—	—	—	—	—	—	—	—	—	—	—	—	*135*	*140*	*155*	*165*	*105*	*110*	*120*	*135*
S13	—	—	—	—	—	—	—	—	—	—	—	—	24	25	27	30	19	20	21	24
	—	—	—	—	—	—	—	—	—	—	—	—	*80*	*80*	*90*	*100*	*60*	*65*	*70*	*80*
H5	—	—	—	—	50	55	60	65	—	—	—	—	37	40	43	48	—	—	—	—
	—	—	—	—	*165*	*180*	*195*	*215*	—	—	—	—	*120*	*130*	*140*	*155*	—	—	—	—
H8	—	—	—	—	55	60	65	70	—	—	—	—	40	43	47	50	—	—	—	—
	—	—	—	—	*180*	*195*	*215*	*230*	—	—	—	—	*130*	*140*	*155*	*165*	—	—	—	—
H11	—	—	—	—	65	70	75	85	—	—	—	—	48	50	55	60	—	—	—	—
	—	—	—	—	*215*	*230*	*245*	*280*	—	—	—	—	*155*	*165*	*180*	*195*	—	—	—	—
H12	—	—	—	—	100	105	115	125	—	—	—	—	70	75	85	90	—	—	—	—
	—	—	—	—	*330*	*345*	*375*	*410*	—	—	—	—	*230*	*245*	*280*	*295*	—	—	—	—
H21	—	—	—	—	55	60	65	70	—	—	—	—	40	43	47	50	—	—	—	—
	—	—	—	—	*180*	*195*	*215*	*230*	—	—	—	—	*130*	*140*	*155*	*165*	—	—	—	—

Quattromill R220.53-15 – Metric





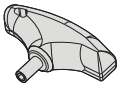
—For insert selection and cutting data recommendations, see page(s) 304-306
—For complete insert programme, see page(s) 894
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm	mm		kg	
R220.53-0063-15-5A	02486622	Arbor	63,0	5	7,5	45,0 °	78,0	22,0	–	47,0	40,0	8300	0,7	SE.X1505
R220.53-0080-15-6A	02486624	Arbor	80,0	6	7,5	45,0 °	96,0	27,0	–	62,0	50,0	7400	1,1	SE.X1505
R220.53-0080-15-7A	02486625	Arbor	80,0	7	7,5	45,0 °	96,0	27,0	–	62,0	50,0	7400	1,2	SE.X1505
R220.53-0100-15-7A	02486627	Arbor	100,0	7	7,5	45,0 °	116,0	32,0	–	77,0	50,0	6600	1,8	SE.X1505
R220.53-0100-15-9A	02486628	Arbor	100,0	9	7,5	45,0 °	116,0	32,0	–	77,0	50,0	6600	1,8	SE.X1505
R220.53-0125-15-8A	02486630	Arbor	125,0	8	7,5	45,0 °	141,0	40,0	–	90,0	63,0	5900	3,1	SE.X1505
R220.53-0125-15-10A	02486631	Arbor	125,0	10	7,5	45,0 °	141,0	40,0	–	90,0	63,0	5900	3,2	SE.X1505
R220.53-8160-15-10	02486633	Arbor	160,0	10	7,5	45,0 °	176,0	40,0	66,7	90,0	63,0	5200	4,7	SE.X1505
R220.53-8200-15-12	02486636	Arbor	200,0	12	7,5	45,0 °	216,0	60,0	101,6	130,0	63,0	4700	7,8	SE.X1505

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R220.53-0063	220.17-696	1/4HEX-T20PX50	C05013-T20P
R220.53-0080	–	1/4HEX-T20PX50	C05013-T20P
R220.53-0100-8200	–	1/4HEX-T20PX90	C05013-T20P

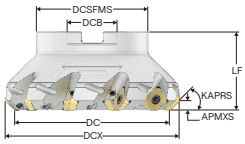
Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.53-0063	1/4HEX-T-HANDLE-5.0-14.0NM	–	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.53-0080	1/4HEX-T-HANDLE-5.0-14.0NM	5802712	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.53-0100	1/4HEX-T-HANDLE-5.0-14.0NM	5803216	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.53-0125	1/4HEX-T-HANDLE-5.0-14.0NM	5804020	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.53-8160	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.53-8200	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Quattromill R220.53-15 – inch

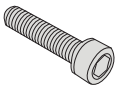




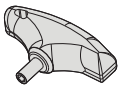
—For insert selection and cutting data recommendations, see page(s) 304-306
—For complete insert programme, see page(s) 894
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch		inch	inch	inch	inch		lbs	
R220.53-03.00-15-6A	02486638	Arbor	3.150	6	0.295	45,0 °	3.740	1.000	2.441	1.969	7400	2.870	SE.X1505
R220.53-04.00-15-7A	02486644	Arbor	3.937	7	0.295	45,0 °	4.528	1.500	3.543	1.969	6600	4.850	SE.X1505
R220.53-06.00-15-10	02486653	Arbor	6.299	10	0.295	45,0 °	6.890	2.000	3.543	2.480	5200	9.920	SE.X1505

Spare Parts, included in delivery

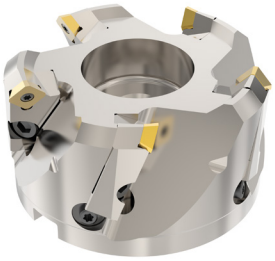
For cutter	Arbor screw	Insert key	Insert screw
			
R220.53-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T20PX50	C05013-T20P
R220.53-04.00	UF6S3/4UNFX1-3/4	1/4HEX-T20PX90	C05013-T20P
R220.53-06.00	–	1/4HEX-T20PX90	C05013-T20P

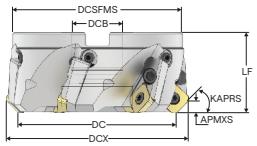
Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.53-03.00-04.00	1/4HEX-T-HANDLE-5.0-14.0NM	–	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.53-06.00	1/4HEX-T-HANDLE-5.0-14.0NM	58215080	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

Quattromill R220.53-15C – Metric

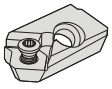
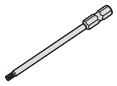




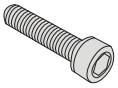
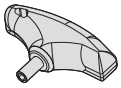
—For insert selection and cutting data recommendations, see page(s) 304-306
—For complete insert programme, see page(s) 894
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DBC2	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm	mm	mm		kg	
R220.53-0125-15-8C	02510199	Arbor	125,0	8	7,5	45,0 °	141,0	40,0	–	–	90,0	63,0	5900	4,5	SE.X1505
R220.53-8160-15-10C	02510202	Arbor	160,0	10	7,5	45,0 °	176,0	40,0	66,7	–	90,0	63,0	5200	6,6	SE.X1505
R220.53-8200-15-12C	02510204	Arbor	200,0	12	7,5	45,0 °	216,0	60,0	101,6	–	130,0	63,0	4700	9,5	SE.X1505
R220.53-8250-15-10C	02510234	Arbor	250,0	10	7,5	45,0 °	266,0	60,0	101,6	–	130,0	63,0	4200	18,0	SE.X1505
R220.53-8250-15-16C	02510231	Arbor	250,0	16	7,5	45,0 °	260,0	60,0	101,6	–	130,0	63,0	4200	22,0	SE.X1505
R220.53-8315-15-12C	02510235	Arbor	315,0	12	7,5	45,0 °	331,0	60,0	101,6	177,8	225,0	80,0	3700	37,2	SE.X1505

Spare Parts, included in delivery

For cutter	Adjustment unit	Cassette	Cassette screw	Insert key	Insert screw
					
R220.53-0080-8315	AU1114T-T15P	SE15AR-53	FS96018	1/4HEX-T20PX90	C05010-T20P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Arbor screw 2	Bit holder	Insert clamping torque	Key	Setting key	Torque key
								
R220.53-0080-0125	1/4HEX-T-HANDLE-5.0-14.0NM	5804020	–	1/4HEX-T-HANDLE	5.0NM	1/4HEX-H4.0X50	1/4HEX-T15PX50	T00-20P50
R220.53-8160	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	–	1/4HEX-T-HANDLE	5.0NM	1/4HEX-H4.0X50	1/4HEX-T15PX50	T00-20P50
R220.53-8200-8250	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	–	1/4HEX-T-HANDLE	5.0NM	1/4HEX-H4.0X50	1/4HEX-T15PX50	T00-20P50
R220.53-8315	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	MC6S20X50	1/4HEX-T-HANDLE	5.0NM	1/4HEX-H4.0X50	1/4HEX-T15PX50	T00-20P50

Torque and fixed keys, see page 944

R220.53-15 – Insert selection – mm/Inch

SMG		a_p	f_z			
			80%	60%	40%	20%
P1	SEMX1505AFTN-ME15 MP3501	4,5 *0.18*	0,28 0.011	0,28 0.011	0,28 0.011	0,36 0.014
P2	SEMX1505AFTN-ME15 MP3501	4,5 *0.18*	0,28 0.011	0,28 0.011	0,30 0.012	0,36 0.014
P3	SEMX1505AFTN-M18 MP2501	4,5 *0.18*	0,34 0.013	0,34 0.013	0,36 0.014	0,44 0.017
P4	SEMX1505AFTN-M18 MP2501	4,5 *0.18*	0,34 0.013	0,34 0.013	0,36 0.014	0,44 0.017
P5	SEMX1505AFTN-M18 MP2501	4,5 *0.18*	0,34 0.013	0,34 0.013	0,34 0.013	0,42 0.017
P6	SEMX1505AFTN-M18 MP2501	4,5 *0.18*	0,34 0.013	0,34 0.013	0,34 0.013	0,42 0.017
P7	SEMX1505AFTN-M18 MP3501	4,5 *0.18*	0,34 0.013	0,34 0.013	0,34 0.013	0,42 0.017
P8	SEMX1505AFTN-M18 MP3501	4,5 *0.18*	0,34 0.013	0,34 0.013	0,36 0.014	0,44 0.017
P11	SEEX1505AFN-M12 MP2051	4,5 *0.18*	0,24 0.0095	0,24 0.0095	0,24 0.0095	0,30 0.012
P12	SEEX1505AFN-M12 MP2051	3,5 *0.14*	0,16 0.0065	0,16 0.0065	0,17 0.0065	0,20 0.0080
M1	SEEX1505AFN-M12 F40M	4,5 *0.18*	0,26 0.010	0,26 0.010	0,26 0.010	0,34 0.013
M2	SEEX1505AFN-M12 MS2050	4,5 *0.18*	0,24 0.0095	0,24 0.0095	0,24 0.0095	0,30 0.012
M3	SEEX1505AFN-M12 MS2050	3,5 *0.14*	0,19 0.0075	0,19 0.0075	0,20 0.0080	0,25 0.010
M4	SEEX1505AFN-M12 MP2051	2,5 *0.10*	0,17 0.0065	0,17 0.0065	0,18 0.0070	0,22 0.0085
M5	SEEX1505AFN-M12 MP2051	2,5 *0.10*	0,17 0.0065	0,17 0.0065	0,18 0.0070	0,22 0.0085
K1	SEMX1505AFTN-M18 MK1501	4,5 *0.18*	0,36 0.014	0,36 0.014	0,38 0.015	0,48 0.019
K2	SEMX1505AFTN-M18 MK1501	4,5 *0.18*	0,34 0.013	0,34 0.013	0,34 0.013	0,42 0.017
K3	SEMX1505AFTN-M18 MP1501	4,5 *0.18*	0,34 0.013	0,34 0.013	0,34 0.013	0,42 0.017
K4	SEMX1505AFTN-M18 MP1501	4,5 *0.18*	0,34 0.013	0,34 0.013	0,34 0.013	0,42 0.017
K5	SEMX1505AFTN-M18 MP1501	4,5 *0.18*	0,30 0.012	0,30 0.012	0,32 0.013	0,38 0.015
K6	SEMX1505AFTN-M18 MK2050	4,5 *0.18*	0,34 0.013	0,34 0.013	0,34 0.013	0,42 0.017
K7	SEMX1505AFTN-M18 MK2050	4,5 *0.18*	0,30 0.012	0,30 0.012	0,32 0.013	0,38 0.015
N1	SEEX1505AFN-E10 H25	4,5 *0.18*	0,28 0.011	0,28 0.011	0,28 0.011	0,36 0.014
N2	SEEX1505AFN-E10 H25	4,5 *0.18*	0,28 0.011	0,28 0.011	0,28 0.011	0,36 0.014
N3	SEEX1505AFN-E10 H25	4,5 *0.18*	0,28 0.011	0,28 0.011	0,28 0.011	0,36 0.014
N11	SEEX1505AFN-E10 H25	4,5 *0.18*	0,28 0.011	0,28 0.011	0,28 0.011	0,36 0.014
S1	SEEX1505AFN-M12 MP2051	2,5 *0.10*	0,17 0.0065	0,17 0.0065	0,18 0.0070	0,22 0.0085
S2	SEEX1505AFN-M12 MP2051	2,5 *0.10*	0,17 0.0065	0,17 0.0065	0,18 0.0070	0,22 0.0085
S3	SEEX1505AFN-M12 MP2051	2,5 *0.10*	0,16 0.0065	0,16 0.0065	0,17 0.0065	0,20 0.0080
S11	SEEX1505AFN-M12 MS2050	3,0 *0.12*	0,20 0.0080	0,20 0.0080	0,20 0.0080	0,25 0.010
S12	SEEX1505AFN-M12 MS2050	3,0 *0.12*	0,20 0.0080	0,20 0.0080	0,20 0.0080	0,25 0.010
S13	SEEX1505AFN-M12 MS2050	2,5 *0.10*	0,17 0.0065	0,17 0.0065	0,18 0.0070	0,22 0.0085
H5	SEMX1505AFTN-MD20 MP3000	3,5 *0.14*	0,26 0.010	0,26 0.010	0,26 0.010	0,34 0.013
H8	SEMX1505AFTN-MD20 MP3000	3,0 *0.12*	0,20 0.0080	0,20 0.0080	0,20 0.0080	0,26 0.010
H11	SEMX1505AFTN-MD20 MP1501	3,5 *0.14*	0,26 0.010	0,26 0.010	0,26 0.010	0,34 0.013
H12	SEMX1505AFTN-MD20 MP1501	3,0 *0.12*	0,20 0.0080	0,20 0.0080	0,20 0.0080	0,26 0.010
H21	SEMX1505AFTN-MD20 MP1501	3,0 *0.12*	0,20 0.0080	0,20 0.0080	0,20 0.0080	0,26 0.010

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R220.53-15 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK2050				MP3000				MS2050				F40M				MP2051				H25			
	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%
P1	260	280	310	355	210	235	265	315	260	280	315	355	205	220	245	275	290	325	395	465	—	—	—	—
	850	*920*	*1025*	*1175*	*690*	*770*	*870*	*1025*	*850*	*920*	*1025*	*1175*	*670*	*720*	*800*	*900*	*950*	*1075*	*1300*	*1525*	—	—	—	—
P2	255	275	300	345	200	220	260	310	250	270	305	335	200	215	235	270	280	320	380	435	—	—	—	—
	840	*900*	*980*	*1125*	*660*	*720*	*850*	*1025*	*820*	*890*	*1000*	*1100*	*660*	*710*	*770*	*890*	*920*	*1050*	*1250*	*1425*	—	—	—	—
P3	220	240	265	300	185	205	230	265	220	240	265	295	180	190	210	235	250	280	335	390	—	—	—	—
	720	*790*	*870*	*980*	*610*	*670*	*750*	*870*	*720*	*790*	*870*	*970*	*590*	*620*	*690*	*770*	*820*	*920*	*1100*	*1275*	—	—	—	—
P4	195	210	235	265	160	180	200	240	195	215	235	265	165	180	195	220	230	255	295	355	—	—	—	—
	640	*690*	*770*	*870*	*520*	*590*	*660*	*790*	*640*	*710*	*770*	*870*	*540*	*590*	*640*	*720*	*750*	*840*	*970*	*1175*	—	—	—	—
P5	185	200	225	255	155	170	200	230	190	205	225	255	150	160	180	200	215	245	290	335	—	—	—	—
	610	*660*	*740*	*840*	*510*	*560*	*660*	*750*	*620*	*670*	*740*	*840*	*490*	*520*	*590*	*660*	*710*	*800*	*950*	*1100*	—	—	—	—
P6	210	225	255	290	175	190	225	255	210	230	255	285	170	180	205	225	245	275	325	380	—	—	—	—
	690	*740*	*840*	*950*	*570*	*620*	*740*	*840*	*690*	*750*	*840*	*940*	*560*	*590*	*670*	*740*	*800*	*900*	*1075*	*1250*	—	—	—	—
P7	200	215	240	270	165	180	210	240	200	215	240	270	160	170	190	215	230	260	310	355	—	—	—	—
	660	*710*	*790*	*890*	*540*	*590*	*690*	*790*	*660*	*710*	*790*	*890*	*520*	*560*	*620*	*710*	*750*	*850*	*1025*	*1175*	—	—	—	—
P8	185	200	220	255	155	170	195	225	185	200	225	250	150	160	175	195	210	235	285	325	—	—	—	—
	610	*660*	*720*	*840*	*510*	*560*	*640*	*740*	*610*	*660*	*740*	*820*	*490*	*520*	*570*	*640*	*690*	*770*	*940*	*1075*	—	—	—	—
P11	190	210	235	265	160	175	205	235	195	210	235	260	155	165	185	205	220	255	315	390	—	—	—	—
	620	*690*	*770*	*870*	*520*	*570*	*670*	*770*	*640*	*690*	*770*	*850*	*510*	*540*	*610*	*670*	*720*	*840*	*1025*	*1275*	—	—	—	—
P12	130	140	155	175	120	130	150	170	135	140	155	175	110	115	125	140	175	195	225	275	—	—	—	—
	425	*460*	*510*	*570*	*395*	*425*	*490*	*560*	*445*	*460*	*510*	*570*	*360*	*375*	*410*	*460*	*570*	*640*	*740*	*900*	—	—	—	—
M1	—	—	—	—	165	180	205	235	190	210	230	260	155	170	185	215	240	280	350	425	—	—	—	—
	—	—	—	—	*540*	*590*	*670*	*770*	*620*	*690*	*750*	*850*	*510*	*560*	*610*	*710*	*790*	*920*	*1150*	*1400*	—	—	—	—
M2	—	—	—	—	140	150	170	190	160	170	190	215	130	140	155	180	210	245	300	370	—	—	—	—
	—	—	—	—	*460*	*490*	*560*	*620*	*520*	*560*	*620*	*710*	*425*	*460*	*510*	*590*	*690*	*800*	*980*	*1225*	—	—	—	—
M3	—	—	—	—	115	125	135	155	130	140	155	175	105	115	125	145	190	220	255	315	—	—	—	—
	—	—	—	—	*375*	*410*	*445*	*510*	*425*	*460*	*510*	*570*	*345*	*375*	*410*	*475*	*620*	*720*	*840*	*1025*	—	—	—	—
M4	—	—	—	—	90	95	105	120	100	110	120	135	85	90	100	115	155	175	205	245	—	—	—	—
	—	—	—	—	*295*	*310*	*345*	*395*	*330*	*360*	*395*	*445*	*280*	*295*	*330*	*375*	*510*	*570*	*670*	*800*	—	—	—	—
M5	—	—	—	—	75	80	90	100	85	90	100	110	70	75	80	95	130	145	170	205	—	—	—	—
	—	—	—	—	*245*	*260*	*295*	*330*	*280*	*295*	*330*	*360*	*230*	*245*	*260*	*310*	*425*	*475*	*560*	*670*	—	—	—	—
K1	275	295	325	370	175	190	215	245	—	—	—	—	155	165	185	210	—	—	—	—	—	—	—	—
	900	*970*	*1075*	*1225*	*570*	*620*	*710*	*800*	—	—	—	—	*510*	*540*	*610*	*690*	—	—	—	—	—	—	—	—
K2	240	260	295	330	160	170	190	215	—	—	—	—	135	150	165	190	—	—	—	—	—	—	—	—
	790	*850*	*970*	*1075*	*520*	*560*	*620*	*710*	—	—	—	—	*445*	*490*	*540*	*620*	—	—	—	—	—	—	—	—
K3	205	220	250	280	135	145	165	185	—	—	—	—	115	125	140	160	—	—	—	—	—	—	—	—
	670	*720*	*820*	*920*	*445*	*475*	*540*	*610*	—	—	—	—	*375*	*410*	*460*	*520*	—	—	—	—	—	—	—	—
K4	195	210	235	270	130	140	155	175	—	—	—	—	110	120	135	150	—	—	—	—	—	—	—	—
	640	*690*	*770*	*890*	*425*	*460*	*510*	*570*	—	—	—	—	*360*	*395*	*445*	*490*	—	—	—	—	—	—	—	—
K5	120	130	145	165	80	85	95	110	—	—	—	—	70	75	80	95	—	—	—	—	—	—	—	—
	395	*425*	*475*	*540*	*260*	*280*	*310*	*360*	—	—	—	—	*230*	*245*	*260*	*310*	—	—	—	—	—	—	—	—
K6	170	185	210	235	115	120	135	155	—	—	—	—	95	105	120	135	—	—	—	—	—	—	—	—
	560	*610*	*690*	*770*	*375*	*395*	*445*	*510*	—	—	—	—	*310*	*345*	*395*	*445*	—	—	—	—	—	—	—	—
K7	155	170	185	210	100	110	125	140	—	—	—	—	90	95	105	120	—	—	—	—	—	—	—	—
	510	*560*	*610*	*690*	*330*	*360*	*410*	*460*	—	—	—	—	*295*	*310*	*345*	*395*	—	—	—	—	—	—	—	—
N1	—	—	—	—	1300	1425	1550	1800	—	—	—	—	1125	1200	1350	1525	—	—	—	—	1425	1550	1725	1950
	—	—	—	—	*4275*	*4675*	*5075*	*5900*	—	—	—	—	*3700*	*3925*	*4425*	*5000*	—	—	—	—	*4675*	*5075*	*5650*	*6400*
N2	—	—	—	—	530	570	620	720	—	—	—	—	450	490	540	610	—	—	—	—	580	630	700	780
	—	—	—	—	*1750*	*1875*	*2025*	*2350*	—	—	—	—	*1475*	*1600*	*1775*	*2000*	—	—	—	—	*1900*	*2075*	*2300*	*2550*
N3	—	—	—	—	355	385	415	480	—	—	—	—	300	325	360	410	—	—	—	—	385	415	465	520
	—	—	—	—	*1175*	*1275*	*1350*	*1575*	—	—	—	—	*980*	*1075*	*1175*	*1350*	—	—	—	—	*1275*	*1350*	*1525*	*1700*
N11	—	—	—	—	405	435	475	550	—	—	—	—	345	375	415	470	—	—	—	—	440	475	530	600
	—	—	—	—	*1325*	*1425*	*1550*	*1800*	—	—	—	—	*1125*	*1225*	*1350*	*1550*	—	—	—	—	*1450*	*1550*	*1750*	*1975*
S1	—	—	—	—	42	45	50	55	47	50	55	65	39	42	46	55	50	55	60	70	—	—	—	—
	—	—	—	—	*140*	*150*	*165*	*180*	*155*	*165*	*180*	*215*	*130*	*140*	*150*	*180*	*165*	*180*	*195*	*230*	—	—	—	—
S2	—	—	—	—	33	36	40	46	38	41	45	50	31	34	37	42	42	45	50	55	—	—	—	—
	—	—	—	—	*110*	*120*	*130*	*150*	*125*	*135*	*150*	*165*	*100*	*110*	*120*	*140*	*140*	*150*	*165*	*180*	—	—	—	—
S3	—	—	—	—	30	32	36	40	33	36	40	45	28	30	33	37	37	39	44	49	—	—	—	—
	—	—	—	—	*100*	*105*	*120*	*130*	*110*	*120*	*130*	*150*	*90*	*100*	*110*	*120*	*120*	*130*	*145*	*160*	—	—	—	—
S11	—	—	—	—	60	65	70	80	65	70	80	90	55	60	65	75	70	80	85	95	—	—	—	—
	—	—	—	—	*195*	*215*	*230*	*260*	*215*	*230*	*260*	*295*	*180*	*195*	*215*	*245*	*230*	*260*	*280*	*310*	—	—	—	—
S12	—	—	—	—	41	44	48	55	45	49	55	60	37	40	45	50	50	55	60	65	—	—	—	—
	—	—	—	—	*135*	*145*	*155*	*180*	*150*	*160*	*180*	*195*	*120*	*130*	*150*	*165*	*165*	*180*	*195*	*215*	—	—	—	—
S13	—	—	—	—	23	25	28	32	27	29	32	35	22	24	26	30	29	31	35	39	—	—	—	—
	—	—	—	—	*75*	*80*	*90*	*105*	*90*	*95*	*105*	*115*	*70*	*80*	*85*	*100*	*95*	*100*	*115*	*130*	—	—	—	—
H5	44	47	50	60	36	39	43	49	—	—	—	—	33	35	39	44	—	—	—	—	—	—	—	—
	145	*155*	*165*	*195*	*120*	*130*	*140*	*160*	—	—	—	—	*110*	*115*	*130*	*145*	—	—	—	—	—	—	—	—
H8	48	50	55	65	39	42	47	55	—	—	—	—	36	38	42	48	—	—	—	—	—	—	—	—
	155	*165*	*180*	*215*	*130*	*140*	*155*	*180*	—	—	—	—	*120*	*125*	*140*	*155*	—	—	—	—	—	—	—	—
H11	55	60	65	75	46	49	55	60	—	—	—	—	41	45	50	55	115	125	145	180	—	—	—	—
	180	*195*	*215*	*245*	*150*	*160*	*180*	*195*	—	—	—	—	*135*	*150*	*165*	*180*	*375*	*410*	*475*	*590*	—	—	—	—
H12	85	90	100	110	75	80	90	100	—	—	—	—	65	70	75	85	115	125	145	170	—	—	—	—
	280	*295*	*330*	*360*	*245*	*260*	*295*	*330*	—	—	—	—	*215*	*230*	*245*	*280*	*375*	*410*	*475*	*560*	—	—	—	—
H21	48	50	55	65	39	42	47	55	—	—	—	—	36	38	42	48	100	105	115	125	—	—	—	—
	155	*165*	*180*	*215*	*130*	*140*	*155*	*180*	—	—	—	—	*120*	*125*	*140*	*155*	*330*	*345*	*375*	*410*	—	—	—	—

R220.53-15 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK1501				MP1501				MP2501				MP3501			
	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%
P1	—	—	—	—	355	380	415	465	340	370	405	455	300	325	355	405
	—	—	—	—	*1175*	*1250*	*1350*	*1525*	*1125*	*1225*	*1325*	*1500*	*980*	*1075*	*1175*	*1325*
P2	—	—	—	—	345	370	405	455	335	360	390	440	295	315	350	395
	—	—	—	—	*1125*	*1225*	*1325*	*1500*	*1100*	*1175*	*1275*	*1450*	*970*	*1025*	*1150*	*1300*
P3	—	—	—	—	305	325	355	395	295	315	345	385	260	280	305	345
	—	—	—	—	*1000*	*1075*	*1175*	*1300*	*970*	*1025*	*1125*	*1275*	*850*	*920*	*1000*	*1125*
P4	—	—	—	—	270	285	315	350	260	280	305	340	230	245	270	305
	—	—	—	—	*890*	*940*	*1025*	*1150*	*850*	*920*	*1000*	*1125*	*750*	*800*	*890*	*1000*
P5	—	—	—	—	255	275	305	340	245	265	295	330	220	235	265	295
	—	—	—	—	*840*	*900*	*1000*	*1125*	*800*	*870*	*970*	*1075*	*720*	*770*	*870*	*970*
P6	—	—	—	—	285	310	345	380	275	300	335	370	245	265	295	330
	—	—	—	—	*940*	*1025*	*1125*	*1250*	*900*	*980*	*1100*	*1225*	*800*	*870*	*970*	*1075*
P7	—	—	—	—	270	290	325	360	260	280	315	350	230	250	280	310
	—	—	—	—	*890*	*950*	*1075*	*1175*	*850*	*920*	*1025*	*1150*	*750*	*820*	*920*	*1025*
P8	—	—	—	—	255	275	300	335	245	265	290	325	220	235	255	290
	—	—	—	—	*840*	*900*	*980*	*1100*	*800*	*870*	*950*	*1075*	*720*	*770*	*840*	*950*
P11	—	—	—	—	265	280	315	350	255	275	305	340	225	240	270	305
	—	—	—	—	*870*	*920*	*1025*	*1150*	*840*	*900*	*1000*	*1125*	*740*	*790*	*890*	*1000*
P12	—	—	—	—	180	190	205	230	175	185	205	225	155	165	180	200
	—	—	—	—	*590*	*620*	*670*	*750*	*570*	*610*	*670*	*740*	*510*	*540*	*590*	*660*
M1	—	—	—	—	—	—	—	—	180	195	215	245	170	185	200	230
	—	—	—	—	—	—	—	—	*590*	*640*	*710*	*800*	*560*	*610*	*660*	*750*
M2	—	—	—	—	—	—	—	—	150	160	180	205	140	150	170	190
	—	—	—	—	—	—	—	—	*490*	*520*	*590*	*670*	*460*	*490*	*560*	*620*
M3	—	—	—	—	—	—	—	—	120	130	145	165	115	125	135	155
	—	—	—	—	—	—	—	—	*395*	*425*	*475*	*540*	*375*	*410*	*445*	*510*
M4	—	—	—	—	—	—	—	—	95	105	115	130	90	95	105	120
	—	—	—	—	—	—	—	—	*310*	*345*	*375*	*425*	*295*	*310*	*345*	*395*
M5	—	—	—	—	—	—	—	—	80	85	95	110	75	80	90	100
	—	—	—	—	—	—	—	—	*260*	*280*	*310*	*360*	*245*	*260*	*295*	*330*
K1	375	430	500	640	350	375	410	460	335	360	395	445	295	320	350	395
	1225	*1400*	*1650*	*2100*	*1150*	*1225*	*1350*	*1500*	*1100*	*1175*	*1300*	*1450*	*970*	*1050*	*1150*	*1300*
K2	330	375	445	560	310	330	370	410	300	320	360	400	265	285	320	355
	1075	*1225*	*1450*	*1825*	*1025*	*1075*	*1225*	*1350*	*980*	*1050*	*1175*	*1300*	*870*	*940*	*1050*	*1175*
K3	225	250	285	340	260	280	310	345	255	270	305	340	225	240	270	300
	740	*820*	*940*	*1125*	*850*	*920*	*1025*	*1125*	*840*	*890*	*1000*	*1125*	*740*	*790*	*890*	*980*
K4	215	240	275	325	250	270	300	330	240	260	290	325	215	230	255	285
	710	*790*	*900*	*1075*	*820*	*890*	*980*	*1075*	*790*	*850*	*950*	*1075*	*710*	*750*	*840*	*940*
K5	135	150	165	200	155	165	180	205	150	165	175	200	135	145	155	180
	445	*490*	*540*	*660*	*510*	*540*	*590*	*670*	*490*	*540*	*570*	*660*	*445*	*475*	*510*	*590*
K6	190	210	240	285	220	235	265	290	215	230	255	285	190	200	225	255
	620	*690*	*790*	*940*	*720*	*770*	*870*	*950*	*710*	*750*	*840*	*940*	*620*	*660*	*740*	*840*
K7	170	190	210	255	200	215	230	260	195	210	225	255	170	185	200	225
	560	*620*	*690*	*840*	*660*	*710*	*750*	*850*	*640*	*690*	*740*	*840*	*560*	*610*	*660*	*740*
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	—	—	—	42	45	50	55
	—	—	—	—	—	—	—	—	—	—	—	—	*140*	*150*	*165*	*180*
S2	—	—	—	—	—	—	—	—	—	—	—	—	34	36	40	46
	—	—	—	—	—	—	—	—	—	—	—	—	*110*	*120*	*130*	*150*
S3	—	—	—	—	—	—	—	—	—	—	—	—	30	32	36	40
	—	—	—	—	—	—	—	—	—	—	—	—	*100*	*105*	*120*	*130*
S11	—	—	—	—	—	—	—	—	—	—	—	—	60	60	70	80
	—	—	—	—	—	—	—	—	—	—	—	—	*195*	*195*	*230*	*260*
S12	—	—	—	—	—	—	—	—	—	—	—	—	40	43	48	55
	—	—	—	—	—	—	—	—	—	—	—	—	*130*	*140*	*155*	*180*
S13	—	—	—	—	—	—	—	—	—	—	—	—	24	25	28	32
	—	—	—	—	—	—	—	—	—	—	—	—	*80*	*80*	*90*	*105*
H5	—	—	—	—	48	50	55	65	—	—	—	—	37	40	44	50
	—	—	—	—	*155*	*165*	*180*	*215*	—	—	—	—	*120*	*130*	*145*	*165*
H8	—	—	—	—	50	55	60	70	—	—	—	—	40	43	48	55
	—	—	—	—	*165*	*180*	*195*	*230*	—	—	—	—	*130*	*140*	*155*	*180*
H11	—	—	—	—	60	65	75	80	—	—	—	—	47	50	55	65
	—	—	—	—	*195*	*215*	*245*	*260*	—	—	—	—	*155*	*165*	*180*	*215*
H12	—	—	—	—	95	100	110	125	—	—	—	—	70	75	85	95
	—	—	—	—	*310*	*330*	*360*	*410*	—	—	—	—	*230*	*245*	*280*	*310*
H21	—	—	—	—	50	55	60	70	—	—	—	—	40	43	48	55
	—	—	—	—	*165*	*180*	*195*	*230*	—	—	—	—	*130*	*140*	*155*	*180*

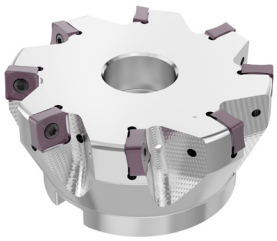


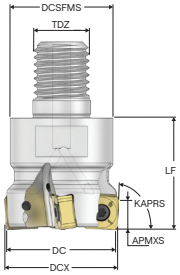
R220.88 (SNMU)

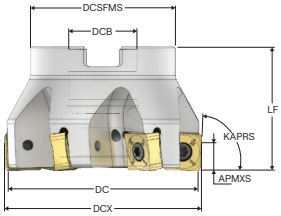
The .88 cutter family is a face milling cutter with square shoulder milling characteristics. The near 90° lead angle generate a high depth-of-cut capability and allows machining operations close to sidewalls of a workpiece or close to fixture clamping due to the reduced risk of interference. Common demands when machining cast iron components since the variable casting allowance cause undefined depth of cut conditions during the first cut..

– Insert size 12, cutter range 40-160mm (1.5-6.0 inch)
– Insert size 16, cutter range 63-160mm (2.5-6.0 inch)

R220.88-12 – Metric



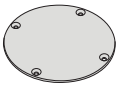




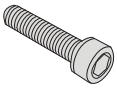
–For insert selection and cutting data recommendations, see page(s) 310–311
–For complete insert programme, see page(s) 905
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DCSFMS	TDZ	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm		mm		kg	
R217.88-2040.RE-12-4SAP	10130009	Combimaster	40,0	4	9,0	88,0 °	41,4	–	–	37,0	M20	40,0	12600	0,3	SN.U1204
R220.88-0040-12-4SAP	10130008	Arbor	40,0	4	9,0	88,0 °	41,4	16,0	–	35,0	–	40,0	12600	0,3	SN.U1204
R220.88-0050-12-4SAP	10134775	Arbor	50,0	4	9,0	88,0 °	51,2	22,0	–	47,0	–	40,0	12600	0,4	SN.U1204
R220.88-0050-12-5SAP	10134776	Arbor	50,0	5	9,0	88,0 °	51,2	22,0	–	47,0	–	40,0	12600	0,4	SN.U1204
R220.88-0063-12-6SAP	10134777	Arbor	63,0	6	9,0	88,0 °	64,5	22,0	–	47,0	–	40,0	11200	0,5	SN.U1204
R220.88-0063-12-7SAP	10134778	Arbor	63,0	7	9,0	88,0 °	64,5	22,0	–	47,0	–	40,0	11200	0,5	SN.U1204
R220.88-0080-12-7SAP	10134779	Arbor	80,0	7	9,0	88,0 °	81,16	27,0	–	62,0	–	50,0	9900	1,1	SN.U1204
R220.88-0080-12-9SAP	10134780	Arbor	80,0	9	9,0	88,0 °	81,16	27,0	–	62,0	–	50,0	9900	1,1	SN.U1204
R220.88-0100-12-8SAP	10134782	Arbor	100,0	8	9,0	88,0 °	101,15	32,0	–	77,0	–	50,0	8900	1,9	SN.U1204
R220.88-0100-12-11SAP	10134781	Arbor	100,0	11	9,0	88,0 °	101,15	32,0	–	77,0	–	50,0	8900	1,9	SN.U1204
R220.88-0125-12-10SAP	10134783	Arbor	125,0	10	9,0	88,0 °	126,15	40,0	–	90,0	–	63,0	7900	3,7	SN.U1204
R220.88-0125-12-13SAP	10134784	Arbor	125,0	13	9,0	88,0 °	126,15	40,0	–	90,0	–	63,0	7900	3,8	SN.U1204
R220.88-8160-12-12SAP	10134785	Arbor	160,0	12	9,0	88,0 °	161,14	40,0	66,7	90,0	–	63,0	7000	5,6	SN.U1204
R220.88-8160-12-16SAP	10134786	Arbor	160,0	16	9,0	88,0 °	161,14	40,0	66,7	90,0	–	63,0	7000	5,6	SN.U1204

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R217.88-..	–	1/4HEX-T15PX50	C04011-T15P	–	–
R220.88-0040	220.17-690	1/4HEX-T15PX50	C04011-T15P	–	–
R220.88-0050-0063	220.17-692	1/4HEX-T15PX50	C04011-T15P	–	–
R220.88-0080	MC6S12X35	1/4HEX-T15PX50	C04011-T15P	–	–
R220.88-0100	MC6S16X35	1/4HEX-T15PX90	C04011-T15P	–	–
R220.88-0125	MC6S20X40	1/4HEX-T15PX90	C04011-T15P	–	–
R220.88-8160	–	1/4HEX-T15PX90	C04011-T15P	SC-160-90	MF6S4X10

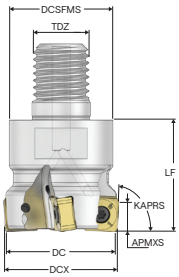
Accessories

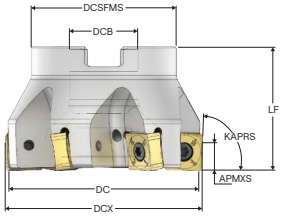
For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R217/220.88-0040-0125	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.88-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

R220.88-12 – inch



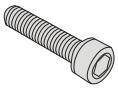
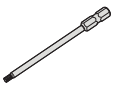
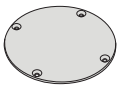




–For insert selection and cutting data recommendations, see page(s) 310–311
–For complete insert programme, see page(s) 905
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	TDZ	LF	RPMX	Weight	Insert
			inch		inch		inch	inch	inch		inch		lbs	
R217.88-01.50-20RE-12-4SAP	10134800	Combimaster	1.500	4	0.354	88,0 °	1.563	–	1.457	M20	1.575	12600	0.660	SN.U1204
R220.88-01.50-12-4SAP	10134787	Arbor	1.500	4	0.354	88,0 °	1.558	0.500	1.378	–	1.575	12600	0.660	SN.U1204
R220.88-02.00-12-5SAP	10134789	Arbor	2.000	5	0.354	88,0 °	2.051	0.750	1.850	–	1.575	12600	0.880	SN.U1204
R220.88-02.50-12-6SAP	10134790	Arbor	2.500	6	0.354	88,0 °	2.549	0.750	1.850	–	1.575	11200	1.320	SN.U1204
R220.88-02.50-12-7SAP	10134791	Arbor	2.500	7	0.354	88,0 °	2.549	0.750	1.850	–	1.575	11200	1.320	SN.U1204
R220.88-03.00-12-7SAP	10134792	Arbor	3.000	7	0.354	88,0 °	3.046	1.000	2.441	–	1.969	9900	2.650	SN.U1204
R220.88-03.00-12-9SAP	10134793	Arbor	3.000	9	0.354	88,0 °	3.046	1.000	2.441	–	1.969	9900	2.430	SN.U1204
R220.88-04.00-12-8SAP	10134795	Arbor	4.000	8	0.354	88,0 °	4.039	1.500	3.031	–	1.969	8900	4.190	SN.U1204
R220.88-04.00-12-11SAP	10134794	Arbor	4.000	11	0.354	88,0 °	4.039	1.500	3.031	–	1.969	8900	4.190	SN.U1204
R220.88-05.00-12-10SAP	10134796	Arbor	5.000	10	0.354	88,0 °	5.039	1.500	3.543	–	2.480	7900	8.380	SN.U1204
R220.88-06.00-12-12SAP	10134798	Arbor	6.000	12	0.354	88,0 °	6.039	2.000	4.331	–	2.480	7000	10.800	SN.U1204

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R217.88-..	–	1/4HEX-T15PX90	C04011-T15P	–	–
R220.88-01.50	UC6S1/4UNFX1	1/4HEX-T15PX50	C04011-T15P	–	–
R220.88-02.00-02.50	UC6S3/8UNFX1	1/4HEX-T15PX50	C04011-T15P	–	–
R220.88-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T15PX90	C04011-T15P	–	–
R220.88-04.00-05.00	UC6S3/4UNFX1-1/4	1/4HEX-T15PX90	C04011-T15P	–	–
R220.88-06.00	–	1/4HEX-T15PX90	C04011-T15P	SC-160-90	MF6S4X10

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R217/220-01.50-05.00	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R217/220-06.00	1/4HEX-S-HANDLE-0.8-5.0NM	58215080	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

R220.88-12 – Insert selection – mm/Inch

SMG		a_p	f_z			
			80%	60%	40%	20%
P1	SNMU120410TN-M10 MS2050	5,0 *0.20*	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,18 0.0070
P2	SNMU120410TN-M10 MS2050	5,0 *0.20*	0,15 0.0060	0,15 0.0060	0,15 0.0060	0,18 0.0070
P3	SNMU120410TN-M10 MP2501	5,0 *0.20*	0,14 0.0055	0,14 0.0055	0,14 0.0055	0,17 0.0065
P4	SNMU120412TN-M16 MP2501	5,0 *0.20*	0,24 0.0095	0,24 0.0095	0,24 0.0095	0,30 0.012
P5	SNMU120412TN-M16 MP2501	5,0 *0.20*	0,22 0.0085	0,22 0.0085	0,24 0.0095	0,28 0.011
P6	SNMU120412TN-M16 MP2501	5,0 *0.20*	0,22 0.0085	0,22 0.0085	0,24 0.0095	0,28 0.011
P7	SNMU120410TN-M10 MP3501	5,0 *0.20*	0,13 0.0050	0,13 0.0050	0,13 0.0050	0,17 0.0065
P8	SNMU120410TN-M10 MP3501	5,0 *0.20*	0,14 0.0055	0,14 0.0055	0,14 0.0055	0,17 0.0065
P11	SNMU120410TN-M10 MS2500	5,0 *0.20*	0,13 0.0050	0,13 0.0050	0,13 0.0050	0,17 0.0065
P12	SNMU120410TN-M10 MS2500	4,5 *0.18*	0,090 0.0036	0,090 0.0036	0,095 0.0038	0,11 0.0044
M1	SNMU120410TN-M10 F40M	5,0 *0.20*	0,15 0.0060	0,15 0.0060	0,15 0.0060	0,18 0.0070
M2	SNMU120410TN-M10 MS2050	5,0 *0.20*	0,13 0.0050	0,13 0.0050	0,14 0.0055	0,17 0.0065
M3	SNMU120410TN-M10 MS2050	4,5 *0.18*	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,13 0.0050
M4	SNMU120410TN-M10 MS2050	3,0 *0.12*	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,12 0.0048
M5	SNMU120410TN-M10 MS2050	3,0 *0.12*	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,12 0.0048
K1	SNMU120412TN-M16 MK1501	5,0 *0.20*	0,25 0.010	0,25 0.010	0,26 0.010	0,32 0.013
K2	SNMU120412TN-M16 MK1501	5,0 *0.20*	0,22 0.0085	0,22 0.0085	0,24 0.0095	0,28 0.011
K3	SNMU120412TN-M16 MP1501	5,0 *0.20*	0,22 0.0085	0,22 0.0085	0,24 0.0095	0,28 0.011
K4	SNMU120412TN-M16 MP1501	5,0 *0.20*	0,22 0.0085	0,22 0.0085	0,24 0.0095	0,28 0.011
K5	SNMU120412TN-M16 MK2050	5,0 *0.20*	0,20 0.0080	0,20 0.0080	0,22 0.0085	0,26 0.010
K6	SNMU120412TN-M16 MK2050	5,0 *0.20*	0,22 0.0085	0,22 0.0085	0,24 0.0095	0,28 0.011
K7	SNMU120412TN-M16 MK2050	5,0 *0.20*	0,20 0.0080	0,20 0.0080	0,22 0.0085	0,26 0.010
H5	SNMU120410TN-MD13 MP1501	4,5 *0.18*	0,15 0.0060	0,15 0.0060	0,16 0.0065	0,19 0.0075
H8	SNMU120410TN-MD13 MP1501	4,0 *0.16*	0,12 0.0048	0,12 0.0048	0,12 0.0048	0,15 0.0060
H11	SNMU120410TN-MD13 MP1501	4,5 *0.18*	0,15 0.0060	0,15 0.0060	0,16 0.0065	0,19 0.0075
H12	SNMU120410TN-MD13 MP1501	4,0 *0.16*	0,12 0.0048	0,12 0.0048	0,12 0.0048	0,15 0.0060
H21	SNMU120410TN-MD13 MP1501	4,0 *0.16*	0,12 0.0048	0,12 0.0048	0,12 0.0048	0,15 0.0060

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

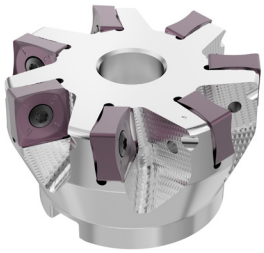
R217/220.88-12 – Cutting data v_c = (m/min)/(sf/min)

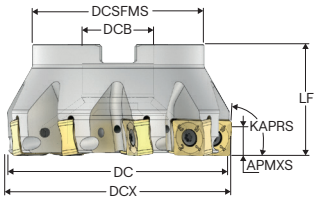
SMG	MK2050				MP3000				MS2050				F40M			
	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%
P1	295 *970*	315 *1025*	345 *1125*	395 *1300*	280 *920*	305 *1000*	330 *1075*	380 *1250*	240 *790*	260 *850*	280 *920*	320 *1050*	225 *740*	245 *800*	265 *870*	305 *1000*
P2	280 *920*	300 *980*	335 *1100*	385 *1275*	270 *890*	290 *950*	325 *1075*	370 *1225*	230 *750*	245 *800*	275 *900*	315 *1025*	215 *710*	230 *750*	260 *850*	295 *970*
P3	245 *800*	265 *870*	295 *970*	335 *1100*	235 *770*	255 *840*	285 *940*	320 *1050*	200 *660*	215 *710*	240 *790*	275 *900*	190 *620*	205 *670*	225 *740*	260 *850*
P4	215 *710*	235 *770*	260 *850*	295 *970*	210 *690*	225 *740*	250 *820*	285 *940*	175 *570*	190 *620*	210 *690*	240 *790*	165 *540*	180 *590*	200 *660*	225 *740*
P5	210 *690*	230 *750*	250 *820*	280 *920*	205 *670*	220 *720*	240 *790*	270 *890*	170 *560*	185 *610*	200 *660*	230 *750*	165 *540*	175 *570*	190 *620*	215 *710*
P6	235 *770*	255 *840*	280 *920*	315 *1025*	230 *750*	245 *800*	270 *890*	305 *1000*	195 *640*	210 *690*	225 *740*	260 *850*	180 *590*	195 *640*	215 *710*	245 *800*
P7	225 *740*	240 *790*	265 *870*	300 *980*	215 *710*	230 *750*	255 *840*	285 *940*	185 *610*	195 *640*	215 *710*	245 *800*	170 *560*	185 *610*	200 *660*	230 *750*
P8	205 *670*	225 *740*	250 *820*	280 *920*	200 *660*	215 *710*	240 *790*	270 *890*	170 *560*	180 *590*	200 *660*	230 *750*	160 *520*	170 *560*	190 *620*	215 *710*
P11	220 *720*	235 *770*	255 *840*	290 *950*	210 *690*	225 *740*	245 *800*	280 *920*	175 *570*	190 *620*	210 *690*	235 *770*	165 *540*	180 *590*	195 *640*	225 *740*
P12	140 *460*	155 *510*	165 *540*	190 *620*	135 *445*	145 *475*	160 *520*	185 *610*	115 *375*	125 *410*	135 *445*	155 *510*	110 *360*	120 *395*	130 *425*	145 *475*
M1	— —	— —	— —	— —	200 *660*	215 *710*	240 *790*	275 *900*	185 *610*	200 *660*	220 *720*	250 *820*	175 *570*	185 *610*	210 *690*	240 *790*
M2	— —	— —	— —	— —	170 *560*	185 *610*	200 *660*	225 *740*	155 *510*	165 *540*	180 *590*	205 *670*	145 *475*	160 *520*	170 *560*	195 *640*
M3	— —	— —	— —	— —	135 *445*	145 *475*	160 *520*	185 *610*	125 *410*	135 *445*	150 *490*	170 *560*	115 *375*	125 *410*	140 *460*	160 *520*
M4	— —	— —	— —	— —	105 *345*	115 *375*	125 *410*	140 *460*	100 *330*	105 *345*	115 *375*	130 *425*	90 *295*	100 *330*	110 *360*	120 *395*
M5	— —	— —	— —	— —	90 *295*	95 *310*	105 *345*	120 *395*	80 *260*	85 *280*	95 *310*	110 *360*	75 *245*	80 *260*	90 *295*	100 *330*
K1	300 *980*	325 *1075*	365 *1200*	415 *1350*	215 *710*	230 *750*	255 *840*	290 *950*	— —	— —	— —	— —	170 *560*	185 *610*	205 *670*	235 *770*
K2	275 *900*	295 *970*	320 *1050*	365 *1200*	195 *640*	210 *690*	225 *740*	255 *840*	— —	— —	— —	— —	155 *510*	165 *540*	180 *590*	205 *670*
K3	230 *750*	250 *820*	270 *890*	310 *1025*	165 *540*	175 *570*	190 *620*	215 *710*	— —	— —	— —	— —	130 *425*	140 *460*	155 *510*	175 *570*
K4	220 *720*	240 *790*	260 *850*	295 *970*	155 *510*	170 *560*	185 *610*	210 *690*	— —	— —	— —	— —	125 *410*	135 *445*	145 *475*	165 *540*
K5	135 *445*	145 *475*	160 *520*	180 *590*	95 *310*	100 *330*	115 *375*	130 *425*	— —	— —	— —	— —	75 *245*	80 *260*	90 *295*	100 *330*
K6	195 *640*	210 *690*	230 *750*	260 *850*	135 *445*	150 *490*	160 *520*	185 *610*	— —	— —	— —	— —	110 *360*	120 *395*	130 *425*	145 *475*
K7	170 *560*	185 *610*	205 *670*	230 *750*	120 *395*	130 *425*	145 *475*	165 *540*	— —	— —	— —	— —	95 *310*	105 *345*	115 *375*	130 *425*
H5	— —	— —	— —	— —	43 *140*	46 *150*	50 *165*	55 *180*	— —	— —	— —	— —	36 *120*	39 *130*	43 *140*	49 *160*
H8	— —	— —	— —	— —	45 *150*	49 *160*	55 *180*	60 *195*	— —	— —	— —	— —	39 *130*	42 *140*	46 *150*	50 *165*
H11	— —	— —	— —	— —	55 *180*	60 *195*	65 *215*	75 *245*	— —	— —	— —	— —	46 *150*	50 *165*	55 *180*	60 *195*
H12	— —	— —	— —	— —	85 *280*	95 *310*	105 *345*	115 *375*	— —	— —	— —	— —	70 *230*	75 *245*	80 *260*	95 *310*

R217/220.88-12 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK1501				MP1501				MP2501				MP3501				MS2500			
	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%
P1	—	—	—	—	330	355	395	445	320	345	385	430	355	380	405	450	395	420	450	500
	—	—	—	—	*1075*	*1175*	*1300*	*1450*	*1050*	*1125*	*1275*	*1400*	*1175*	*1250*	*1325*	*1475*	*1300*	*1375*	*1475*	*1650*
P2	—	—	—	—	320	345	380	420	310	335	370	410	340	360	395	440	375	400	440	490
	—	—	—	—	*1050*	*1125*	*1250*	*1375*	*1025*	*1100*	*1225*	*1350*	*1125*	*1175*	*1300*	*1450*	*1225*	*1300*	*1450*	*1600*
P3	—	—	—	—	280	300	335	370	275	295	325	360	300	315	345	380	330	350	385	425
	—	—	—	—	*920*	*980*	*1100*	*1225*	*900*	*970*	*1075*	*1175*	*980*	*1025*	*1125*	*1250*	*1075*	*1150*	*1275*	*1400*
P4	—	—	—	—	250	265	295	325	240	260	285	320	260	280	305	335	290	310	340	375
	—	—	—	—	*820*	*870*	*970*	*1075*	*790*	*850*	*940*	*1050*	*850*	*920*	*1000*	*1100*	*950*	*1025*	*1125*	*1225*
P5	—	—	—	—	245	265	280	320	240	255	275	310	255	270	290	320	285	305	325	360
	—	—	—	—	*800*	*870*	*920*	*1050*	*790*	*840*	*900*	*1025*	*840*	*890*	*950*	*1050*	*940*	*1000*	*1075*	*1175*
P6	—	—	—	—	275	295	315	360	265	285	310	350	290	305	335	360	320	340	370	400
	—	—	—	—	*900*	*970*	*1025*	*1175*	*870*	*940*	*1025*	*1150*	*950*	*1000*	*1100*	*1175*	*1050*	*1125*	*1225*	*1300*
P7	—	—	—	—	260	280	300	340	250	270	290	330	270	290	315	340	300	320	350	380
	—	—	—	—	*850*	*920*	*980*	*1125*	*820*	*890*	*950*	*1075*	*890*	*950*	*1025*	*1125*	*980*	*1050*	*1150*	*1250*
P8	—	—	—	—	235	255	280	310	230	245	275	305	250	265	290	320	280	295	325	360
	—	—	—	—	*770*	*840*	*920*	*1025*	*750*	*800*	*900*	*1000*	*820*	*870*	*950*	*1050*	*920*	*970*	*1075*	*1175*
P11	—	—	—	—	255	270	290	330	245	265	280	320	265	280	305	330	295	310	340	370
	—	—	—	—	*840*	*890*	*950*	*1075*	*800*	*870*	*920*	*1050*	*870*	*920*	*1000*	*1075*	*970*	*1025*	*1125*	*1225*
P12	—	—	—	—	170	180	195	215	165	175	190	210	170	180	195	210	190	200	215	235
	—	—	—	—	*560*	*590*	*640*	*710*	*540*	*570*	*620*	*690*	*560*	*590*	*640*	*690*	*620*	*660*	*710*	*770*
M1	—	—	—	—	—	—	—	—	170	180	200	230	185	200	220	250	220	240	265	305
	—	—	—	—	—	—	—	—	*560*	*590*	*660*	*750*	*610*	*660*	*720*	*820*	*720*	*790*	*870*	*1000*
M2	—	—	—	—	—	—	—	—	140	155	165	195	155	165	180	205	185	200	220	250
	—	—	—	—	—	—	—	—	*460*	*510*	*540*	*640*	*510*	*540*	*590*	*670*	*610*	*660*	*720*	*820*
M3	—	—	—	—	—	—	—	—	115	125	135	160	125	135	150	170	150	160	180	205
	—	—	—	—	—	—	—	—	*375*	*410*	*445*	*520*	*410*	*445*	*490*	*560*	*490*	*520*	*590*	*670*
M4	—	—	—	—	—	—	—	—	90	100	105	120	100	105	115	130	120	125	140	155
	—	—	—	—	—	—	—	—	*295*	*330*	*345*	*395*	*330*	*345*	*375*	*425*	*395*	*410*	*460*	*510*
M5	—	—	—	—	—	—	—	—	75	80	90	100	80	85	95	110	100	105	115	130
	—	—	—	—	—	—	—	—	*245*	*260*	*295*	*330*	*260*	*280*	*310*	*360*	*330*	*345*	*375*	*425*
K1	350	400	470	600	325	350	380	425	315	340	370	415	340	365	400	440	245	265	295	335
	1150	*1300*	*1550*	*1975*	*1075*	*1150*	*1250*	*1400*	*1025*	*1125*	*1225*	*1350*	*1125*	*1200*	*1300*	*1450*	*800*	*870*	*970*	*1100*
K2	310	355	415	530	295	320	340	385	290	310	330	375	310	330	350	390	220	240	260	295
	1025	*1175*	*1350*	*1750*	*970*	*1050*	*1125*	*1275*	*950*	*1025*	*1075*	*1225*	*1025*	*1075*	*1150*	*1275*	*720*	*790*	*850*	*970*
K3	220	240	270	320	250	270	290	325	245	260	280	320	260	280	300	330	190	205	220	250
	720	*790*	*890*	*1050*	*820*	*890*	*950*	*1075*	*800*	*850*	*920*	*1050*	*850*	*920*	*980*	*1075*	*620*	*670*	*720*	*820*
K4	210	230	255	310	240	255	275	310	235	250	270	305	250	265	285	315	180	195	210	240
	690	*750*	*840*	*1025*	*790*	*840*	*900*	*1025*	*770*	*820*	*890*	*1000*	*820*	*870*	*940*	*1025*	*590*	*640*	*690*	*790*
K5	125	140	155	185	150	160	170	190	145	155	165	185	155	160	175	190	110	120	130	145
	410	*460*	*510*	*610*	*490*	*520*	*560*	*620*	*475*	*510*	*540*	*610*	*510*	*520*	*570*	*620*	*360*	*395*	*425*	*475*
K6	185	200	225	270	210	225	245	275	205	220	235	270	220	235	250	275	160	170	185	210
	610	*660*	*740*	*890*	*690*	*740*	*800*	*900*	*670*	*720*	*770*	*890*	*720*	*770*	*820*	*900*	*520*	*560*	*610*	*690*
K7	165	180	200	240	190	200	215	245	185	195	210	240	195	205	225	245	140	150	165	190
	540	*590*	*660*	*790*	*620*	*660*	*710*	*800*	*610*	*640*	*690*	*790*	*640*	*670*	*740*	*800*	*460*	*490*	*540*	*620*
H5	—	—	—	—	45	48	55	60	—	—	—	—	40	43	47	55	47	50	55	65
	—	—	—	—	*150*	*155*	*180*	*195*	—	—	—	—	*130*	*140*	*155*	*180*	*155*	*165*	*180*	*215*
H8	—	—	—	—	49	50	60	65	—	—	—	—	43	46	50	55	50	55	60	65
	—	—	—	—	*160*	*165*	*195*	*215*	—	—	—	—	*140*	*150*	*165*	*180*	*165*	*180*	*195*	*215*
H11	—	—	—	—	55	60	70	80	—	—	—	—	50	55	60	70	60	65	70	80
	—	—	—	—	*180*	*195*	*230*	*260*	—	—	—	—	*165*	*180*	*195*	*230*	*195*	*215*	*230*	*260*
H12	—	—	—	—	85	95	105	115	—	—	—	—	75	85	90	105	100	110	120	135
	—	—	—	—	*280*	*310*	*345*	*375*	—	—	—	—	*245*	*280*	*295*	*345*	*330*	*360*	*395*	*445*

R220.88-16 – Metric

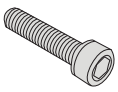
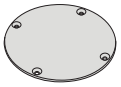




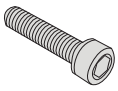
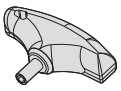
—For insert selection and cutting data recommendations, see page(s) 315-316
—For complete insert programme, see page(s) 905
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm	mm		kg	
R220.88-0063-16-5SAP	10134810	Arbor	63,0	5	13,0	88,0 °	64,75	22,0	–	47,0	40,0	7100	0,5	SN.U1606
R220.88-0080-16-6SAP	10134811	Arbor	80,0	6	13,0	88,0 °	81,62	27,0	–	62,0	50,0	6300	1,1	SN.U1606
R220.88-0080-16-7SAP	10134812	Arbor	80,0	7	13,0	88,0 °	81,62	27,0	–	62,0	50,0	6300	1,1	SN.U1606
R220.88-0100-16-8SAP	10134813	Arbor	100,0	8	13,0	88,0 °	101,6	32,0	–	77,0	50,0	5600	1,9	SN.U1606
R220.88-0100-16-9SAP	10134814	Arbor	100,0	9	13,0	88,0 °	101,6	32,0	–	77,0	50,0	5600	1,9	SN.U1606
R220.88-0125-16-10SAP	10134815	Arbor	125,0	10	13,0	88,0 °	126,6	40,0	–	90,0	63,0	5000	3,7	SN.U1606
R220.88-0125-16-11SAP	10134816	Arbor	125,0	11	13,0	88,0 °	126,6	40,0	–	90,0	63,0	5000	3,6	SN.U1606
R220.88-8160-16-12SAP	10134817	Arbor	160,0	12	13,0	88,0 °	161,58	40,0	66,7	90,0	63,0	4400	5,4	SN.U1204

Spare Parts, included in delivery

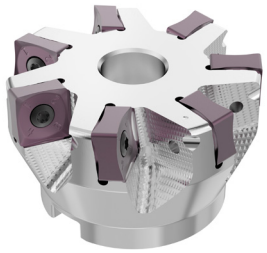
For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R220.88-0063	220.17-692	1/4HEX-T20PX50	C05013-T20P	–	–
R220.88-0080	MC6S12X35	1/4HEX-T20PX50	C05013-T20P	–	–
R220.88-0100	MC6S16X35	1/4HEX-T20PX90	C05013-T20P	–	–
R220.88-0125	MC6S20X40	1/4HEX-T20PX90	C05013-T20P	–	–
R220.88-8160	–	1/4HEX-T20PX90	C05013-T20P	SC-160-90	MF6S4X10

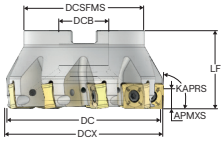
Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.88-0063-0125	1/4HEX-T-HANDLE-5.0-14.0NM	–	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.88-8160	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R220.88-16 – inch

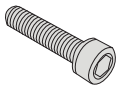
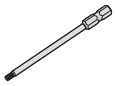
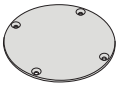




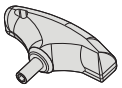
—For insert selection and cutting data recommendations, see page(s) 315–316
—For complete insert programme, see page(s) 905
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch		inch	inch	inch	inch		lbs	
R220.88-03.00-16-6SAP	10134819	Arbor	3.000	6	0.512	88,0 °	3.064	1.000	2.441	1.969	6300	2.650	SN.U1606
R220.88-03.00-16-7SAP	10134820	Arbor	3.000	7	0.512	88,0 °	3.064	1.000	2.441	1.969	6300	2.430	SN.U1606
R220.88-04.00-16-8SAP	10134821	Arbor	4.000	8	0.512	88,0 °	4.063	1.500	3.031	1.969	5600	3.970	SN.U1606
R220.88-04.00-16-9SAP	10134822	Arbor	4.000	9	0.512	88,0 °	4.063	1.500	3.031	1.969	5600	3.970	SN.U1606
R220.88-05.00-16-10SAP	10134823	Arbor	5.000	10	0.512	88,0 °	5.063	1.500	3.543	2.480	5000	8.160	SN.U1606
R220.88-06.00-16-12SAP	10134825	Arbor	6.000	12	0.512	88,0 °	6.062	2.000	4.331	2.480	4400	10.580	SN.U1204

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R220.88-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T20PX90	C05013-T20P	–	–
R220.88-04.00-05.00	UC6S3/4UNFX1-1/4	1/4HEX-T20PX90	C05013-T20P	–	–
R220.88-06.00	–	1/4HEX-T20PX90	C05013-T20P	SC-160-90	MF6S4X10

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.88-03.00-05.00	1/4HEX-T-HANDLE-5.0-14.0NM	–	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.88-06.00	1/4HEX-T-HANDLE-5.0-14.0NM	58215080	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R220.88-16 – Insert selection – mm/Inch

SMG		a_p	f_z			
			80%	60%	40%	20%
P1	SNMU160612TN-M10 MP3000	8,0 *0.32*	0,16 0.0065	0,16 0.0065	0,16 0.0065	0,20 0.0080
P2	SNMU160612TN-M10 MP3000	8,0 *0.32*	0,16 0.0065	0,16 0.0065	0,16 0.0065	0,20 0.0080
P3	SNMU160612TN-M18 MP2501	8,0 *0.32*	0,26 0.010	0,26 0.010	0,26 0.010	0,32 0.013
P4	SNMU160612TN-M18 MP2501	8,0 *0.32*	0,26 0.010	0,26 0.010	0,26 0.010	0,32 0.013
P5	SNMU160612TN-M18 MP2501	8,0 *0.32*	0,25 0.010	0,25 0.010	0,26 0.010	0,32 0.013
P6	SNMU160612TN-M18 MP2501	8,0 *0.32*	0,25 0.010	0,25 0.010	0,25 0.010	0,32 0.013
P7	SNMU160612TN-M18 MP3501	8,0 *0.32*	0,25 0.010	0,25 0.010	0,25 0.010	0,32 0.013
P8	SNMU160612TN-M18 MP3501	8,0 *0.32*	0,26 0.010	0,26 0.010	0,26 0.010	0,32 0.013
P11	SNMU160612TN-M18 MP3501	8,0 *0.32*	0,25 0.010	0,25 0.010	0,25 0.010	0,32 0.013
P12	SNMU160612TN-M18 MP3501	6,0 *0.24*	0,17 0.0065	0,17 0.0065	0,18 0.0070	0,22 0.0085
K1	SNMU160612TN-M18 MK1500	8,0 *0.32*	0,28 0.011	0,28 0.011	0,28 0.011	0,34 0.013
K2	SNMU160612TN-M18 MK1500	8,0 *0.32*	0,25 0.010	0,25 0.010	0,26 0.010	0,32 0.013
K3	SNMU160612TN-M18 MP1501	8,0 *0.32*	0,25 0.010	0,25 0.010	0,26 0.010	0,32 0.013
K4	SNMU160612TN-M18 MP1501	8,0 *0.32*	0,25 0.010	0,25 0.010	0,26 0.010	0,32 0.013
K5	SNMU160612TN-M18 MK2050	8,0 *0.32*	0,22 0.0085	0,22 0.0085	0,24 0.0095	0,28 0.011
K6	SNMU160612TN-M18 MK2050	8,0 *0.32*	0,25 0.010	0,25 0.010	0,26 0.010	0,32 0.013
K7	SNMU160612TN-M18 MK2050	8,0 *0.32*	0,22 0.0085	0,22 0.0085	0,24 0.0095	0,28 0.011
H5	SNMU160612TN-MD16 MP1501	6,0 *0.24*	0,18 0.0070	0,18 0.0070	0,19 0.0075	0,22 0.0085
H8	SNMU160612TN-MD16 MP1501	5,0 *0.20*	0,14 0.0055	0,14 0.0055	0,14 0.0055	0,18 0.0070
H11	SNMU160612TN-MD16 MP1501	6,0 *0.24*	0,18 0.0070	0,18 0.0070	0,19 0.0075	0,22 0.0085
H12	SNMU160612TN-MD16 MP1501	5,0 *0.20*	0,14 0.0055	0,14 0.0055	0,14 0.0055	0,18 0.0070
H21	SNMU160612TN-MD16 MP1501	5,0 *0.20*	0,14 0.0055	0,14 0.0055	0,14 0.0055	0,18 0.0070

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.88-16 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK2050				MP3000				F40M			
	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%
P1	225 *740*	245 *800*	275 *900*	315 *1025*	265 *870*	285 *940*	315 *1025*	355 *1175*	175 *570*	190 *620*	210 *690*	240 *790*
P2	220 *720*	240 *790*	270 *890*	305 *1000*	255 *840*	275 *900*	305 *1000*	345 *1125*	170 *560*	185 *610*	205 *670*	235 *770*
P3	195 *640*	210 *690*	235 *770*	270 *890*	225 *740*	240 *790*	270 *890*	305 *1000*	150 *490*	160 *520*	180 *590*	205 *670*
P4	170 *560*	185 *610*	210 *690*	235 *770*	200 *660*	215 *710*	235 *770*	265 *870*	130 *425*	145 *475*	160 *520*	180 *590*
P5	165 *540*	180 *590*	200 *660*	225 *740*	190 *620*	205 *670*	225 *740*	260 *850*	130 *425*	140 *460*	155 *510*	175 *570*
P6	185 *610*	200 *660*	225 *740*	255 *840*	215 *710*	235 *770*	255 *840*	290 *950*	145 *475*	155 *510*	175 *570*	195 *640*
P7	175 *570*	190 *620*	215 *710*	240 *790*	205 *670*	220 *720*	240 *790*	275 *900*	135 *445*	145 *475*	165 *540*	185 *610*
P8	165 *540*	175 *570*	200 *660*	225 *740*	190 *620*	205 *670*	225 *740*	255 *840*	125 *410*	135 *445*	155 *510*	175 *570*
P11	170 *560*	185 *610*	205 *670*	235 *770*	200 *660*	215 *710*	235 *770*	265 *870*	130 *425*	140 *460*	160 *520*	180 *590*
P12	115 *375*	125 *410*	135 *445*	155 *510*	130 *425*	140 *460*	155 *510*	175 *570*	90 *295*	95 *310*	105 *345*	120 *395*
M1	— —	— —	— —	— —	190 *620*	205 *670*	230 *750*	260 *850*	135 *445*	150 *490*	165 *540*	190 *620*
M2	— —	— —	— —	— —	160 *520*	170 *560*	190 *620*	215 *710*	115 *375*	125 *410*	135 *445*	155 *510*
M3	— —	— —	— —	— —	130 *425*	140 *460*	155 *510*	175 *570*	95 *310*	105 *345*	115 *375*	130 *425*
M4	— —	— —	— —	— —	100 *330*	110 *360*	120 *395*	135 *445*	75 *245*	80 *260*	90 *295*	100 *330*
M5	— —	— —	— —	— —	85 *280*	90 *295*	100 *330*	110 *360*	60 *195*	65 *215*	75 *245*	85 *280*
K1	240 *790*	255 *840*	290 *950*	330 *1075*	200 *660*	220 *720*	245 *800*	275 *900*	135 *445*	145 *475*	165 *540*	185 *610*
K2	215 *710*	230 *750*	255 *840*	290 *950*	180 *590*	195 *640*	215 *710*	245 *800*	120 *395*	130 *425*	145 *475*	165 *540*
K3	180 *590*	195 *640*	215 *710*	245 *800*	150 *490*	165 *540*	180 *590*	210 *690*	105 *345*	110 *360*	125 *410*	140 *460*
K4	175 *570*	185 *610*	205 *670*	235 *770*	145 *475*	155 *510*	175 *570*	200 *660*	100 *330*	105 *345*	115 *375*	135 *445*
K5	110 *360*	115 *375*	125 *410*	145 *475*	90 *295*	95 *310*	110 *360*	120 *395*	60 *195*	65 *215*	70 *230*	85 *280*
K6	155 *510*	165 *540*	185 *610*	210 *690*	125 *410*	135 *445*	155 *510*	175 *570*	85 *280*	95 *310*	105 *345*	115 *375*
K7	140 *460*	150 *490*	160 *520*	190 *620*	115 *375*	125 *410*	140 *460*	155 *510*	80 *260*	85 *280*	90 *295*	105 *345*
H5	— —	— —	— —	— —	40 *130*	43 *140*	48 *155*	55 *180*	29 *95*	32 *105*	35 *115*	39 *130*
H8	— —	— —	— —	— —	43 *140*	47 *155*	50 *165*	55 *180*	32 *105*	34 *110*	38 *125*	43 *140*
H11	— —	— —	— —	— —	50 *165*	55 *180*	60 *195*	70 *230*	37 *120*	40 *130*	44 *145*	50 *165*
H12	— —	— —	— —	— —	85 *280*	90 *295*	95 *310*	110 *360*	55 *180*	60 *195*	70 *230*	75 *245*

R217/220.88-16 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK1501				MP1501				MP2501				MP3501			
	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%
P1	—	—	—	—	310	335	375	420	300	325	365	410	265	285	320	365
	—	—	—	—	*1025*	*1100*	*1225*	*1375*	*980*	*1075*	*1200*	*1350*	*870*	*940*	*1050*	*1200*
P2	—	—	—	—	305	325	365	410	290	315	355	400	255	280	315	355
	—	—	—	—	*1000*	*1075*	*1200*	*1350*	*950*	*1025*	*1175*	*1300*	*840*	*920*	*1025*	*1175*
P3	—	—	—	—	270	290	325	360	260	280	315	350	230	250	280	310
	—	—	—	—	*890*	*950*	*1075*	*1175*	*850*	*920*	*1025*	*1150*	*750*	*820*	*920*	*1025*
P4	—	—	—	—	240	255	285	320	230	245	275	310	200	220	245	275
	—	—	—	—	*790*	*840*	*940*	*1050*	*750*	*800*	*900*	*1025*	*660*	*720*	*800*	*900*
P5	—	—	—	—	230	250	270	305	225	240	265	295	195	210	235	265
	—	—	—	—	*750*	*820*	*890*	*1000*	*740*	*790*	*870*	*970*	*640*	*690*	*770*	*870*
P6	—	—	—	—	260	280	310	340	250	270	300	330	220	240	265	295
	—	—	—	—	*850*	*920*	*1025*	*1125*	*820*	*890*	*980*	*1075*	*720*	*790*	*870*	*970*
P7	—	—	—	—	245	265	295	320	235	255	285	315	210	225	250	280
	—	—	—	—	*800*	*870*	*970*	*1050*	*770*	*840*	*940*	*1025*	*690*	*740*	*820*	*920*
P8	—	—	—	—	225	245	270	305	220	235	265	295	195	210	235	265
	—	—	—	—	*740*	*800*	*890*	*1000*	*720*	*770*	*870*	*970*	*640*	*690*	*770*	*870*
P11	—	—	—	—	240	255	285	315	230	245	275	305	205	220	245	270
	—	—	—	—	*790*	*840*	*940*	*1025*	*750*	*800*	*900*	*1000*	*670*	*720*	*800*	*890*
P12	—	—	—	—	165	175	190	210	160	170	190	205	145	155	170	185
	—	—	—	—	*540*	*570*	*620*	*690*	*520*	*560*	*620*	*670*	*475*	*510*	*560*	*610*
K1	300	345	410	520	305	330	370	415	295	320	355	405	260	280	315	355
	980	*1125*	*1350*	*1700*	*1000*	*1075*	*1225*	*1350*	*970*	*1050*	*1175*	*1325*	*850*	*920*	*1025*	*1175*
K2	270	310	365	455	280	300	330	370	270	290	320	360	240	255	285	320
	890	*1025*	*1200*	*1500*	*920*	*980*	*1075*	*1225*	*890*	*950*	*1050*	*1175*	*790*	*840*	*940*	*1050*
K3	185	205	235	270	235	255	280	310	230	245	270	305	200	215	240	270
	610	*670*	*770*	*890*	*770*	*840*	*920*	*1025*	*750*	*800*	*890*	*1000*	*660*	*710*	*790*	*890*
K4	175	195	225	260	225	245	265	295	220	235	260	290	190	205	230	255
	570	*640*	*740*	*850*	*740*	*800*	*870*	*970*	*720*	*770*	*850*	*950*	*620*	*670*	*750*	*840*
K5	105	120	135	160	140	150	165	185	135	150	160	180	120	130	140	160
	345	*395*	*445*	*520*	*460*	*490*	*540*	*610*	*445*	*490*	*520*	*590*	*395*	*425*	*460*	*520*
K6	155	170	195	230	200	215	235	260	190	205	225	255	170	185	200	225
	510	*560*	*640*	*750*	*660*	*710*	*770*	*850*	*620*	*670*	*740*	*840*	*560*	*610*	*660*	*740*
K7	135	150	175	205	180	195	210	235	175	190	205	230	155	165	180	205
	445	*490*	*570*	*670*	*590*	*640*	*690*	*770*	*570*	*620*	*670*	*750*	*510*	*540*	*590*	*670*
H5	—	—	—	—	44	47	55	60	—	—	—	—	34	37	41	45
	—	—	—	—	*145*	*155*	*180*	*195*	—	—	—	—	*110*	*120*	*135*	*150*
H11	—	—	—	—	55	60	65	75	—	—	—	—	43	47	50	60
	—	—	—	—	*180*	*195*	*215*	*245*	—	—	—	—	*140*	*155*	*165*	*195*
H12	—	—	—	—	85	90	100	115	—	—	—	—	65	70	80	90
	—	—	—	—	*280*	*295*	*330*	*375*	—	—	—	—	*215*	*230*	*260*	*295*



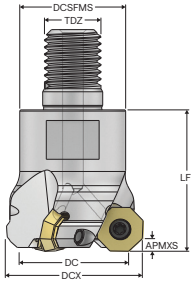
Octomill 05/07

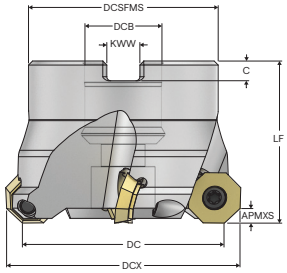
Octomill™ 05 and 07 provide one of the most comprehensive ranges of face milling cutters on the market. Designed to handle many applications, Octomill 05 and 07 offer high performance and process security. These cutters excel in medium to rough machining in steel and stainless steel. With eight edges, the cutters are more economical than traditional cutters due to a lower cost per cutting edge.

– Insert size 05, cutter range 32-315mm (1.5-4 inch)
– Insert size 07, cutter range 50-315mm (2.5-6 inch)
– Octomill 05 is for small machines and Octomill 07 is for medium sized machines

Octomill R217/R220.43-05 – Metric







–For insert selection and cutting data recommendations, see page(s) 322 - 324
–For complete insert programme, see page(s) 882
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DCSFMS	TDZ	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm		mm		kg	
R217.43-1632.RE-05.3A	00005768	Combimaster	32,0	3	3,5	43,0 °	40,0	–	–	30,0	M16	40,0	14800	0,3	OF..05
R220.43-0032-05	75069157	Arbor	32,0	3	3,5	43,0 °	41,0	16,0	–	35,0	–	40,0	14800	0,3	OF..05
R220.43-0040-05	75069158	Arbor	40,0	3	3,5	43,0 °	49,0	16,0	–	35,0	–	40,0	13200	0,3	OF..05
R220.43-0040-05-4A	00026516	Arbor	40,0	4	3,5	43,0 °	49,0	16,0	–	35,0	–	40,0	13200	0,3	OF..05
R220.43-0050-05	75069159	Arbor	50,0	4	3,5	43,0 °	59,0	22,0	–	47,0	–	40,0	11900	0,5	OF..05
R220.43-0050-05-5A	00026517	Arbor	50,0	5	3,5	43,0 °	59,0	22,0	–	47,0	–	40,0	11900	0,5	OF..05
R220.43-0063-05	75069160	Arbor	63,0	5	3,5	43,0 °	72,0	22,0	–	47,0	–	40,0	10600	0,6	OF..05
R220.43-0063-05-6A	00026518	Arbor	63,0	6	3,5	43,0 °	72,0	22,0	–	47,0	–	40,0	10600	0,6	OF..05
R220.43-0080-05	75069161	Arbor	80,0	6	3,5	43,0 °	89,0	27,0	–	62,0	–	50,0	9400	1,2	OF..05
R220.43-0080-05-8A	00026519	Arbor	80,0	8	3,5	43,0 °	89,0	27,0	–	62,0	–	50,0	9400	0,9	OF..05
R220.43-0100-05	75069162	Arbor	100,0	7	3,5	43,0 °	109,0	32,0	–	77,0	–	50,0	8400	1,9	OF..05
R220.43-0125-05	75079618	Arbor	125,0	8	3,5	43,0 °	134,0	40,0	–	90,0	–	63,0	7500	3,3	OF..05
R220.43-8160-05	75080766	Arbor	160,0	10	3,5	43,0 °	169,0	40,0	66,7	90,0	–	63,0	6600	5,5	OF..05

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.43-..	–	1/4HEX-T15PX50	C04008-T15P
R220.43-0032	220.17-690	1/4HEX-T15PX50	C04008-T15P
R220.43-0040	TCEI0825	1/4HEX-T15PX50	C04008-T15P
R220.43-0050-0063	220.17-692	1/4HEX-T15PX50	C04008-T15P
R220.43-0080	–	1/4HEX-T15PX50	C04008-T15P
R220.43-0100-8160	–	1/4HEX-T15PX90	C04008-T15P

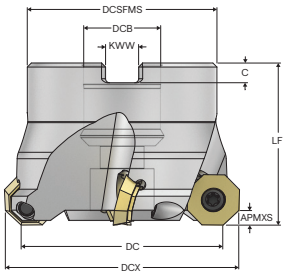
Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R217/220.43-0032-0080	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.43-0100	1/4HEX-S-HANDLE-0.8-5.0NM	5803216	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.43-0125	1/4HEX-S-HANDLE-0.8-5.0NM	5804020	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.43-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Octomill R220.43-05 – inch

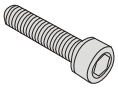




—For insert selection and cutting data recommendations, see page(s) 322 - 324
—For complete insert programme, see page(s) 882
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch		inch	inch	inch	inch		lbs	
R220.43-02.00-05	00086838	Arbor	1.969	4	0.138	43,0 °	2.441	0.750	1.850	1.575	11900	1.100	OF..05
R220.43-02.50-05	00086839	Arbor	2.480	5	0.138	43,0 °	2.953	0.750	1.850	1.575	10600	1.320	OF..05
R220.43-03.00-05	00086840	Arbor	3.150	6	0.138	43,0 °	3.622	1.000	2.441	1.969	9400	2.430	OF..05
R220.43-04.00-05	00086841	Arbor	3.937	7	0.138	43,0 °	4.291	1.500	3.543	1.969	8400	3.750	OF..05

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R220.43-02.00	UC6S3/8UNFX1	1/4HEX-T15PX50	C04008-T15P
R220.43-02.50-03.00	–	1/4HEX-T15PX50	C04008-T15P
R220.43-04.00	–	1/4HEX-T15PX90	C04008-T15P

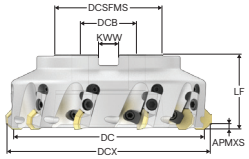
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R220.43-02.00-04.00	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

Octomill R220.43-05C/CT/CG – Metric

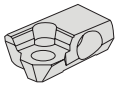




—For insert selection and cutting data recommendations, see page(s) 322 - 324
—For complete insert programme, see page(s) 882
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm	mm		kg	
R220.43-0125-05C	00090988	Arbor	125,0	8	3,5	43,0 °	134,0	40,0	–	90,0	63,0	3800	3,7	OF..05
R220.43-0125-05CT	00090989	Arbor	125,0	10	3,5	43,0 °	134,0	40,0	–	90,0	63,0	3800	4,0	OF..05
R220.43-8160-05C	00090991	Arbor	160,0	10	3,5	43,0 °	169,0	40,0	66,7	90,0	63,0	3300	5,8	OF..05
R220.43-8160-05CT	00090992	Arbor	160,0	14	3,5	43,0 °	169,0	40,0	66,7	90,0	63,0	3300	5,8	OF..05
R220.43-8200-05C	00090994	Arbor	200,0	12	3,5	43,0 °	209,0	60,0	101,6	130,0	63,0	3000	8,5	OF..05
R220.43-8250-05C	00090997	Arbor	250,0	16	3,5	43,0 °	259,0	60,0	101,6	130,0	63,0	2700	14,3	OF..05

Spare Parts, included in delivery

For cutter	Adjustment unit	Cassette	Cassette screw	Insert key	Insert wedge	Wedge screw
						
R220.43-0125	AU1114T-T15P	OF05AR	FS96018	1/4HEX-T25PX50	334.5-640	LD8020-T25P
R220.43-0125C	AU1114T-T15P	OF05AR	FS96018	1/4HEX-T25PX50	CW0810	LD8020-T25P
R220.43-8160C/CG	AU1114T-T15P	OF05AR	FS96018	1/4HEX-T25PX50	CW0810	LD8020-T25P
R220.43-8160CT	AU1114T-T15P	OF05AR	FS96018	1/4HEX-T25PX50	334.5-640	LD8020-T25P
R220.43-8200-8250C/CG	AU1114T-T15P	OF05AR	FS96018	1/4HEX-T25PX50	CW0810	LD8020-T25P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Nest key	Setting key
					
R220.43-0125C	1/4HEX-S-HANDLE-0.8-5.0NM	5804020	1/4HEX-S-HANDLE	1/4HEX-H5.0X50	T15P-4
R220.43-0125CT	1/4HEX-S-HANDLE-0.8-5.0NM	5804020	1/4HEX-S-HANDLE	–	T15P-4
R220.43-8160C/CG	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	1/4HEX-S-HANDLE	1/4HEX-H5.0X50	T15P-4
R220.43-8160CT	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	1/4HEX-S-HANDLE	–	T15P-4
R220.43-8200-8250C/CG	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50	1/4HEX-S-HANDLE	1/4HEX-H5.0X50	T15P-4

Torque and fixed keys, see page 944

R220.43-05 – Insert selection – mm/Inch

SMG		a_p	f_z			
			80%	60%	40%	20%
P1	OFEX05T305TN-M08 MP3501	2,0 *0.080*	0,17 0.0065	0,17 0.0065	0,18 0.0070	0,22 0.0085
P2	OFEX05T305TN-M08 MP3501	2,0 *0.080*	0,18 0.0070	0,18 0.0070	0,18 0.0070	0,22 0.0085
P3	OFEX05T305TN-M08 MP3501	2,0 *0.080*	0,17 0.0065	0,17 0.0065	0,17 0.0065	0,22 0.0085
P4	OFEX05T305TN-M08 MP2501	2,0 *0.080*	0,16 0.0065	0,16 0.0065	0,17 0.0065	0,20 0.0080
P5	OFEX05T305TN-M08 MP2501	2,0 *0.080*	0,16 0.0065	0,16 0.0065	0,16 0.0065	0,20 0.0080
P6	OFEX05T305TN-M08 MP2501	2,0 *0.080*	0,16 0.0065	0,16 0.0065	0,16 0.0065	0,20 0.0080
P7	OFEX05T305TN-M08 MP2501	2,0 *0.080*	0,16 0.0065	0,16 0.0065	0,16 0.0065	0,20 0.0080
P8	OFEX05T305TN-M08 MP3501	2,0 *0.080*	0,17 0.0065	0,17 0.0065	0,17 0.0065	0,22 0.0085
P11	OFEX05T305TN-M08 MP3501	2,0 *0.080*	0,16 0.0065	0,16 0.0065	0,16 0.0065	0,20 0.0080
P12	OFEX05T305TN-M08 MP3501	1,7 *0.065*	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,14 0.0055
M1	OFEX05T305TN-ME07 F40M	2,0 *0.080*	0,15 0.0060	0,15 0.0060	0,16 0.0065	0,19 0.0075
M2	OFEX05T305TN-ME07 F40M	2,0 *0.080*	0,14 0.0055	0,14 0.0055	0,14 0.0055	0,18 0.0070
M3	OFEX05T305TN-ME07 F40M	1,7 *0.065*	0,11 0.0044	0,11 0.0044	0,12 0.0048	0,14 0.0055
M4	OFEX05T305TN-ME07 F40M	1,3 *0.050*	0,10 0.0040	0,10 0.0040	0,10 0.0040	0,13 0.0050
M5	OFEX05T305TN-ME07 F40M	1,3 *0.050*	0,10 0.0040	0,10 0.0040	0,10 0.0040	0,13 0.0050
K1	OFEX05T305TN-M08 MK1501	2,0 *0.080*	0,18 0.0070	0,18 0.0070	0,18 0.0070	0,22 0.0085
K2	OFEX05T305TN-M08 MK1501	2,0 *0.080*	0,16 0.0065	0,16 0.0065	0,16 0.0065	0,20 0.0080
K3	OFEX05T305TN-D09 MP1501	2,0 *0.080*	0,18 0.0070	0,18 0.0070	0,18 0.0070	0,22 0.0085
K4	OFEX05T305TN-D09 MP1501	2,0 *0.080*	0,18 0.0070	0,18 0.0070	0,18 0.0070	0,22 0.0085
K5	OFEX05T305TN-D09 MP1501	2,0 *0.080*	0,16 0.0065	0,16 0.0065	0,17 0.0065	0,20 0.0080
K6	OFEX05T305TN-D09 MP1501	2,0 *0.080*	0,18 0.0070	0,18 0.0070	0,18 0.0070	0,22 0.0085
K7	OFEX05T305TN-D09 MP1501	2,0 *0.080*	0,16 0.0065	0,16 0.0065	0,17 0.0065	0,20 0.0080
N1	OFEX05T305N-E04 F15M	2,0 *0.080*	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,14 0.0055
N2	OFEX05T305N-E04 F15M	2,0 *0.080*	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,14 0.0055
N3	OFEX05T305N-E04 F15M	2,0 *0.080*	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,14 0.0055
N11	OFEX05T305N-E04 F15M	2,0 *0.080*	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,14 0.0055
S1	OFEX05T305TN-ME07 F40M	1,3 *0.050*	0,10 0.0040	0,10 0.0040	0,10 0.0040	0,13 0.0050
S2	OFEX05T305TN-ME07 F40M	1,3 *0.050*	0,10 0.0040	0,10 0.0040	0,10 0.0040	0,13 0.0050
S3	OFEX05T305TN-ME07 F40M	1,3 *0.050*	0,095 0.0038	0,095 0.0038	0,095 0.0038	0,12 0.0048
S11	OFEX05T305TN-ME07 F40M	1,5 *0.060*	0,11 0.0044	0,11 0.0044	0,12 0.0048	0,14 0.0055
S12	OFEX05T305TN-ME07 F40M	1,5 *0.060*	0,11 0.0044	0,11 0.0044	0,12 0.0048	0,14 0.0055
S13	OFEX05T305TN-ME07 F40M	1,3 *0.050*	0,10 0.0040	0,10 0.0040	0,10 0.0040	0,13 0.0050
H5	OFEX05T305TN-D09 MP1501	1,7 *0.065*	0,12 0.0048	0,12 0.0048	0,13 0.0050	0,16 0.0065
H8	OFEX05T305TN-D09 MP1501	1,5 *0.060*	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,12 0.0048
H11	OFEX05T305TN-D09 MP1501	1,7 *0.065*	0,12 0.0048	0,12 0.0048	0,13 0.0050	0,16 0.0065
H12	OFEX05T305TN-D09 MP1501	1,5 *0.060*	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,12 0.0048
H21	OFEX05T305TN-D09 MP1501	1,5 *0.060*	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,12 0.0048

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

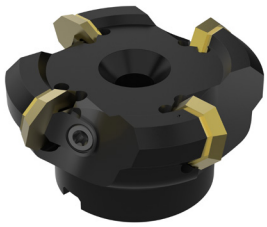
R217/220.43-05 – Cutting data v_c = (m/min)/(sf/min)

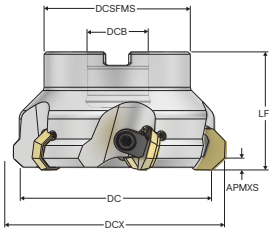
SMG	F15M				F30M				F40M				H15				PCD20			
	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%
P1	—	—	—	—	285	305	335	375	235	255	285	320	—	—	—	—	—	—	—	—
	—	—	—	—	*940*	*1000*	*1100*	*1225*	*770*	*840*	*940*	*1050*	—	—	—	—	—	—	—	—
P2	—	—	—	—	275	295	320	365	230	250	270	310	—	—	—	—	—	—	—	—
	—	—	—	—	*900*	*970*	*1050*	*1200*	*750*	*820*	*890*	*1025*	—	—	—	—	—	—	—	—
P3	—	—	—	—	240	255	280	315	200	215	235	270	—	—	—	—	—	—	—	—
	—	—	—	—	*790*	*840*	*920*	*1025*	*660*	*710*	*770*	*890*	—	—	—	—	—	—	—	—
P4	—	—	—	—	210	225	250	280	180	190	210	235	—	—	—	—	—	—	—	—
	—	—	—	—	*690*	*740*	*820*	*920*	*590*	*620*	*690*	*770*	—	—	—	—	—	—	—	—
P5	—	—	—	—	205	220	235	270	170	185	205	230	—	—	—	—	—	—	—	—
	—	—	—	—	*670*	*720*	*770*	*890*	*560*	*610*	*670*	*750*	—	—	—	—	—	—	—	—
P6	—	—	—	—	230	245	265	300	195	210	225	260	—	—	—	—	—	—	—	—
	—	—	—	—	*750*	*800*	*870*	*980*	*640*	*690*	*740*	*850*	—	—	—	—	—	—	—	—
P7	—	—	—	—	215	230	250	285	185	195	215	245	—	—	—	—	—	—	—	—
	—	—	—	—	*710*	*750*	*820*	*940*	*610*	*640*	*710*	*800*	—	—	—	—	—	—	—	—
P8	—	—	—	—	200	215	235	265	170	185	200	225	—	—	—	—	—	—	—	—
	—	—	—	—	*660*	*710*	*770*	*870*	*560*	*610*	*660*	*740*	—	—	—	—	—	—	—	—
P11	—	—	—	—	210	225	245	275	175	190	210	240	—	—	—	—	—	—	—	—
	—	—	—	—	*690*	*740*	*800*	*900*	*570*	*620*	*690*	*790*	—	—	—	—	—	—	—	—
P12	—	—	—	—	135	145	160	175	115	125	135	155	—	—	—	—	—	—	—	—
	—	—	—	—	*445*	*475*	*520*	*570*	*375*	*410*	*445*	*510*	—	—	—	—	—	—	—	—
M1	—	—	—	—	220	240	260	295	185	200	220	250	—	—	—	—	—	—	—	—
	—	—	—	—	*720*	*790*	*850*	*970*	*610*	*660*	*720*	*820*	—	—	—	—	—	—	—	—
M2	—	—	—	—	185	195	215	240	155	165	180	210	—	—	—	—	—	—	—	—
	—	—	—	—	*610*	*640*	*710*	*790*	*510*	*540*	*590*	*690*	—	—	—	—	—	—	—	—
M3	—	—	—	—	145	155	170	195	125	135	145	165	—	—	—	—	—	—	—	—
	—	—	—	—	*475*	*510*	*560*	*640*	*410*	*445*	*475*	*540*	—	—	—	—	—	—	—	—
M4	—	—	—	—	115	120	130	150	95	105	115	130	—	—	—	—	—	—	—	—
	—	—	—	—	*375*	*395*	*425*	*490*	*310*	*345*	*375*	*425*	—	—	—	—	—	—	—	—
M5	—	—	—	—	95	100	110	125	80	85	95	105	—	—	—	—	—	—	—	—
	—	—	—	—	*310*	*330*	*360*	*410*	*260*	*280*	*310*	*345*	—	—	—	—	—	—	—	—
K1	300	320	350	395	220	235	255	290	185	195	215	250	—	—	—	—	—	—	—	—
	980	*1050*	*1150*	*1300*	*720*	*770*	*840*	*950*	*610*	*640*	*710*	*820*	—	—	—	—	—	—	—	—
K2	260	280	310	350	195	210	225	255	160	175	190	220	—	—	—	—	—	—	—	—
	850	*920*	*1025*	*1150*	*640*	*690*	*740*	*840*	*520*	*570*	*620*	*720*	—	—	—	—	—	—	—	—
K3	220	240	260	295	165	175	190	215	135	145	165	185	—	—	—	—	—	—	—	—
	720	*790*	*850*	*970*	*540*	*570*	*620*	*710*	*445*	*475*	*540*	*610*	—	—	—	—	—	—	—	—
K4	210	225	250	285	155	170	180	205	130	140	155	180	—	—	—	—	—	—	—	—
	690	*740*	*820*	*940*	*510*	*560*	*590*	*670*	*425*	*460*	*510*	*590*	—	—	—	—	—	—	—	—
K5	130	140	150	170	95	100	110	125	80	85	95	105	—	—	—	—	—	—	—	—
	425	*460*	*490*	*560*	*310*	*330*	*360*	*410*	*260*	*280*	*310*	*345*	—	—	—	—	—	—	—	—
K6	185	200	220	250	140	150	160	180	115	125	135	155	—	—	—	—	—	—	—	—
	610	*660*	*720*	*820*	*460*	*490*	*520*	*590*	*375*	*410*	*445*	*510*	—	—	—	—	—	—	—	—
K7	165	175	195	220	120	130	145	160	105	110	120	135	—	—	—	—	—	—	—	—
	540	*570*	*640*	*720*	*395*	*425*	*475*	*520*	*345*	*360*	*395*	*445*	—	—	—	—	—	—	—	—
N1	2200	2375	2625	2925	1600	1725	1900	2175	1325	1425	1600	1800	1750	1875	2075	2325	2050	2050	2050	2050
	7225	*7800*	*8600*	*9600*	*5250*	*5650*	*6225*	*7125*	*4350*	*4675*	*5250*	*5900*	*5750*	*6150*	*6800*	*7625*	*6725*	*6725*	*6725*	*6725*
N2	890	960	1050	1175	640	690	770	870	540	580	640	730	700	760	840	940	1450	1450	1450	1450
	2925	*3150*	*3450*	*3850*	*2100*	*2275*	*2525*	*2850*	*1775*	*1900*	*2100*	*2400*	*2300*	*2500*	*2750*	*3075*	*4750*	*4750*	*4750*	*4750*
N3	590	640	700	790	430	465	510	580	355	385	430	485	470	500	560	630	—	—	—	—
	1925	*2100*	*2300*	*2600*	*1400*	*1525*	*1675*	*1900*	*1175*	*1275*	*1400*	*1600*	*1550*	*1650*	*1825*	*2075*	—	—	—	—
N11	680	730	800	900	490	530	590	670	410	440	490	550	540	580	640	720	900	900	900	900
	2225	*2400*	*2625*	*2950*	*1600*	*1750*	*1925*	*2200*	*1350*	*1450*	*1600*	*1800*	*1775*	*1900*	*2100*	*2350*	*2950*	*2950*	*2950*	*2950*
S1	—	—	—	—	—	—	—	—	45	48	55	60	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	*150*	*155*	*180*	*195*	—	—	—	—	—	—	—	—
S2	—	—	—	—	—	—	—	—	36	39	43	48	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	*120*	*130*	*140*	*155*	—	—	—	—	—	—	—	—
S3	—	—	—	—	—	—	—	—	32	34	38	42	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	*105*	*110*	*125*	*140*	—	—	—	—	—	—	—	—
S11	—	—	—	—	—	—	—	—	60	65	75	85	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	*195*	*215*	*245*	*280*	—	—	—	—	—	—	—	—
S12	—	—	—	—	—	—	—	—	43	46	50	60	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	*140*	*150*	*165*	*195*	—	—	—	—	—	—	—	—
S13	—	—	—	—	—	—	—	—	25	27	30	34	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	*80*	*90*	*100*	*110*	—	—	—	—	—	—	—	—
H5	—	—	—	—	45	48	55	60	38	41	45	50	—	—	—	—	—	—	—	—
	—	—	—	—	*150*	*155*	*180*	*195*	*125*	*135*	*150*	*165*	—	—	—	—	—	—	—	—
H8	—	—	—	—	47	50	55	60	40	43	48	55	—	—	—	—	—	—	—	—
	—	—	—	—	*155*	*165*	*180*	*195*	*130*	*140*	*155*	*180*	—	—	—	—	—	—	—	—
H11	—	—	—	—	55	60	65	75	49	50	55	65	—	—	—	—	—	—	—	—
	—	—	—	—	*180*	*195*	*215*	*245*	*160*	*165*	*180*	*215*	—	—	—	—	—	—	—	—
H12	—	—	—	—	85	90	100	110	70	80	85	95	—	—	—	—	—	—	—	—
	—	—	—	—	*280*	*295*	*330*	*360*	*230*	*260*	*280*	*310*	—	—	—	—	—	—	—	—
H21	—	—	—	—	47	50	55	60	40	43	48	55	—	—	—	—	—	—	—	—
	—	—	—	—	*155*	*165*	*180*	*195*	*130*	*140*	*155*	*180*	—	—	—	—	—	—	—	—

R217/220.43-05 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK1501				MP1501				MP2501				MP3501				T25M			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	—	—	—	—	420	435	460	495	425	440	465	500	380	395	415	445	290	310	330	365
	—	—	—	—	*1375*	*1425*	*1500*	*1625*	*1400*	*1450*	*1525*	*1650*	*1250*	*1300*	*1350*	*1450*	*950*	*1025*	*1075*	*1200*
P2	—	—	—	—	400	415	440	480	405	420	445	485	365	375	400	435	285	300	320	350
	—	—	—	—	*1300*	*1350*	*1450*	*1575*	*1325*	*1375*	*1450*	*1600*	*1200*	*1225*	*1300*	*1425*	*940*	*980*	*1050*	*1150*
P3	—	—	—	—	350	365	385	420	355	365	390	420	320	330	350	380	245	260	275	305
	—	—	—	—	*1150*	*1200*	*1275*	*1375*	*1175*	*1200*	*1275*	*1375*	*1050*	*1075*	*1150*	*1250*	*800*	*850*	*900*	*1000*
P4	—	—	—	—	315	325	345	370	320	330	350	370	285	295	315	335	220	230	250	270
	—	—	—	—	*1025*	*1075*	*1125*	*1225*	*1050*	*1075*	*1150*	*1225*	*940*	*970*	*1025*	*1100*	*720*	*750*	*820*	*890*
P5	—	—	—	—	300	310	330	355	305	315	330	360	275	280	300	325	210	220	235	265
	—	—	—	—	*980*	*1025*	*1075*	*1175*	*1000*	*1025*	*1075*	*1175*	*900*	*920*	*980*	*1075*	*690*	*720*	*770*	*870*
P6	—	—	—	—	335	345	370	400	340	355	375	405	305	315	335	365	235	250	265	295
	—	—	—	—	*1100*	*1125*	*1225*	*1300*	*1125*	*1175*	*1225*	*1325*	*1000*	*1025*	*1100*	*1200*	*770*	*820*	*870*	*970*
P7	—	—	—	—	315	330	345	375	320	335	350	380	290	300	315	345	220	235	250	280
	—	—	—	—	*1025*	*1075*	*1125*	*1225*	*1050*	*1100*	*1150*	*1250*	*950*	*980*	*1025*	*1125*	*720*	*770*	*820*	*920*
P8	—	—	—	—	295	305	325	350	300	310	325	355	270	275	295	320	205	215	235	260
	—	—	—	—	*970*	*1000*	*1075*	*1150*	*980*	*1025*	*1075*	*1175*	*890*	*900*	*970*	*1050*	*670*	*710*	*770*	*850*
P11	—	—	—	—	310	320	335	365	310	325	340	370	280	290	305	335	215	225	245	270
	—	—	—	—	*1025*	*1050*	*1100*	*1200*	*1025*	*1075*	*1125*	*1225*	*920*	*950*	*1000*	*1100*	*710*	*740*	*800*	*890*
P12	—	—	—	—	200	205	215	230	200	205	215	230	180	185	195	210	140	150	160	175
	—	—	—	—	*660*	*670*	*710*	*750*	*660*	*670*	*710*	*750*	*590*	*610*	*640*	*690*	*460*	*490*	*520*	*570*
M1	—	—	—	—	—	—	—	—	205	220	235	260	195	205	220	245	230	240	260	285
	—	—	—	—	—	—	—	—	*670*	*720*	*770*	*850*	*640*	*670*	*720*	*800*	*750*	*790*	*850*	*940*
M2	—	—	—	—	—	—	—	—	175	185	195	220	160	170	185	205	185	200	215	235
	—	—	—	—	—	—	—	—	*570*	*610*	*640*	*720*	*520*	*560*	*610*	*670*	*610*	*660*	*710*	*770*
M3	—	—	—	—	—	—	—	—	140	150	160	175	130	140	150	165	150	160	175	185
	—	—	—	—	—	—	—	—	*460*	*490*	*520*	*570*	*425*	*460*	*490*	*540*	*490*	*520*	*570*	*610*
M4	—	—	—	—	—	—	—	—	105	115	125	135	100	105	115	125	115	125	135	145
	—	—	—	—	—	—	—	—	*345*	*375*	*410*	*445*	*330*	*345*	*375*	*410*	*375*	*410*	*445*	*475*
M5	—	—	—	—	—	—	—	—	90	95	105	110	85	90	95	105	95	105	110	120
	—	—	—	—	—	—	—	—	*295*	*310*	*345*	*360*	*280*	*295*	*310*	*345*	*310*	*345*	*360*	*395*
K1	355	425	480	560	405	420	445	485	410	425	450	490	370	380	405	440	225	235	255	280
	1175	*1400*	*1575*	*1825*	*1325*	*1375*	*1450*	*1600*	*1350*	*1400*	*1475*	*1600*	*1225*	*1250*	*1325*	*1450*	*740*	*770*	*840*	*920*
K2	315	375	425	500	360	375	395	430	365	380	400	435	330	340	360	390	200	210	225	250
	1025	*1225*	*1400*	*1650*	*1175*	*1225*	*1300*	*1400*	*1200*	*1250*	*1300*	*1425*	*1075*	*1125*	*1175*	*1275*	*660*	*690*	*740*	*820*
K3	255	280	305	345	305	315	335	365	310	320	340	370	280	290	305	330	165	175	190	210
	840	*920*	*1000*	*1125*	*1000*	*1025*	*1100*	*1200*	*1025*	*1050*	*1125*	*1225*	*920*	*950*	*1000*	*1075*	*540*	*570*	*620*	*690*
K4	240	265	290	330	290	300	320	345	295	305	325	350	265	275	290	315	160	170	180	200
	790	*870*	*950*	*1075*	*950*	*980*	*1050*	*1125*	*970*	*1000*	*1075*	*1150*	*870*	*900*	*950*	*1025*	*520*	*560*	*590*	*660*
K5	150	165	180	200	180	185	195	210	180	190	200	210	165	170	180	190	95	105	110	120
	490	*540*	*590*	*660*	*590*	*610*	*640*	*690*	*590*	*620*	*660*	*690*	*540*	*560*	*590*	*620*	*310*	*345*	*360*	*395*
K6	215	235	255	290	260	265	280	305	260	270	285	310	235	240	255	280	140	150	160	180
	710	*770*	*840*	*950*	*850*	*870*	*920*	*1000*	*850*	*890*	*940*	*1025*	*770*	*790*	*840*	*920*	*460*	*490*	*520*	*590*
K7	190	210	230	255	230	235	250	270	235	240	255	270	210	215	230	245	125	130	140	155
	620	*690*	*750*	*840*	*750*	*770*	*820*	*890*	*770*	*790*	*840*	*890*	*690*	*710*	*750*	*800*	*410*	*425*	*460*	*510*
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	—	—	—	47	49	55	60	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*155*	*160*	*180*	*195*	—	—	—	—
S2	—	—	—	—	—	—	—	—	—	—	—	—	37	40	44	47	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*120*	*130*	*145*	*155*	—	—	—	—
S3	—	—	—	—	—	—	—	—	—	—	—	—	33	35	38	41	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*110*	*115*	*125*	*135*	—	—	—	—
S11	—	—	—	—	—	—	—	—	—	—	—	—	65	70	75	85	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*215*	*230*	*245*	*280*	—	—	—	—
S12	—	—	—	—	—	—	—	—	—	—	—	—	45	48	50	55	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*150*	*155*	*165*	*180*	—	—	—	—
S13	—	—	—	—	—	—	—	—	—	—	—	—	26	28	30	33	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*85*	*90*	*100*	*110*	—	—	—	—
H5	—	—	—	—	55	55	60	65	—	—	—	—	42	44	47	50	—	—	—	—
	—	—	—	—	*180*	*180*	*195*	*215*	—	—	—	—	*140*	*145*	*155*	*165*	—	—	—	—
H8	—	—	—	—	55	60	65	70	—	—	—	—	44	47	50	55	—	—	—	—
	—	—	—	—	*180*	*195*	*215*	*230*	—	—	—	—	*145*	*155*	*165*	*180*	—	—	—	—
H11	—	—	—	—	65	70	75	85	—	—	—	—	55	55	60	65	—	—	—	—
	—	—	—	—	*215*	*230*	*245*	*280*	—	—	—	—	*180*	*180*	*195*	*215*	—	—	—	—
H12	—	—	—	—	100	105	115	125	—	—	—	—	80	85	90	100	—	—	—	—
	—	—	—	—	*330*	*345*	*375*	*410*	—	—	—	—	*260*	*280*	*295*	*330*	—	—	—	—
H21	—	—	—	—	55	60	65	70	—	—	—	—	44	47	50	55	—	—	—	—
	—	—	—	—	*180*	*195*	*215*	*230*	—	—	—	—	*145*	*155*	*165*	*180*	—	—	—	—

Octomill R220.43-07W – Metric





–For insert selection and cutting data recommendations, see page(s) 329–331
–For complete insert programme, see page(s) 881
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm	mm		kg	
R220.43-0050-07W	00034758	Arbor	50,0	4	5,0	43,0 °	62,0	22,0	–	47,0	60,0	6300	0,7	OF..0704
R220.43-0063-07W	00005691	Arbor	63,0	4	5,0	43,0 °	75,0	22,0	–	47,0	40,0	5600	0,6	OF..0704
R220.43-0080-07W	00005692	Arbor	80,0	5	5,0	43,0 °	92,0	27,0	–	62,0	50,0	5000	1,3	OF..0704
R220.43-0100-07W	00005693	Arbor	100,0	6	5,0	43,0 °	112,0	32,0	–	77,0	50,0	4400	1,8	OF..0704
R220.43-0125-07W	00005694	Arbor	125,0	8	5,0	43,0 °	137,0	40,0	–	90,0	63,0	4000	2,8	OF..0704
R220.43-8160-07W	00005695	Arbor	160,0	10	5,0	43,0 °	172,0	40,0	66,7	90,0	63,0	3500	5,1	OF..0704

Spare Parts, included in delivery

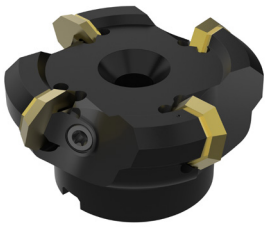
For cutter	Arbor screw	Insert key	Insert wedge	Wedge screw
				
R220.43-0050	220.17-696	1/4HEX-T25PX50	334.5-640	LD8018-T25P
R220.43-0063	MF6S10X40	1/4HEX-T25PX50	CW0810	LD8018-T25P
R220.43-0080	MC6S12X35	1/4HEX-T25PX50	CW0810	LD8020-T25P
R220.43-0100-8160	–	1/4HEX-T25PX50	CW0810	LD8018-T25P

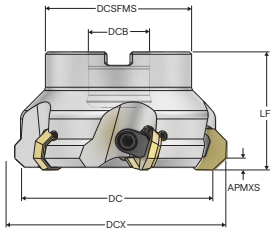
Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder
			
R220.43-0050-0080	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE
R220.43-0100	1/4HEX-S-HANDLE-0.8-5.0NM	5803216	1/4HEX-S-HANDLE
R220.43-0125	1/4HEX-S-HANDLE-0.8-5.0NM	5804020	1/4HEX-S-HANDLE
R220.43-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	1/4HEX-S-HANDLE

Torque and fixed keys, see page 944

Octomill R220.43-07W – inch





—For insert selection and cutting data recommendations, see page(s) 329–331
—For complete insert programme, see page(s) 881
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch		inch	inch	inch	inch		lbs	
R220.43-03.00-07W	00003266	Arbor	3.150	5	0.197	43,0 °	3.622	1.000	2.441	1.969	5000	2.870	OF..0704
R220.43-04.00-07W	00003268	Arbor	3.937	6	0.197	43,0 °	4.409	1.500	3.543	1.969	4400	4.410	OF..0704

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert wedge	Wedge screw
				
R220.43-03.00	UF6S1/2UNFX1-1/2	1/4HEX-T25PX50	CW0810	LD8018-T25P
R220.43-04.00	UF6S3/4UNFX2	1/4HEX-T25PX50	CW0810	LD8020-T25P

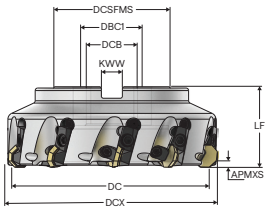
Accessories

For cutter	Adjustable Torque key	Bit holder
		
R220.43-02.50-05.00	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE

Torque and fixed keys, see page 944

Octomill R220.43-07C/CG/CT – Metric

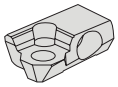




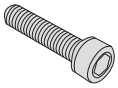
—For insert selection and cutting data recommendations, see page(s) 329–331
—For complete insert programme, see page(s) 881
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm	mm		kg	
R220.43-8160-07C	75077240	Arbor	160,0	10	5,0	43,0 °	172,0	40,0	66,7	90,0	63,0	3300	5,7	OF..0704
R220.43-8160-07CT	75077241	Arbor	160,0	14	5,0	43,0 °	172,0	40,0	66,7	90,0	63,0	3300	5,6	OF..0704
R220.43-8200-07C	75077243	Arbor	200,0	12	5,0	43,0 °	212,0	60,0	101,6	130,0	63,0	3000	8,3	OF..0704
R220.43-8250-07C	75077246	Arbor	250,0	16	5,0	43,0 °	262,0	60,0	101,6	130,0	63,0	2700	14,3	OF..0704

Spare Parts, included in delivery

For cutter	Adjustment unit	Cassette	Cassette screw	Insert key	Insert wedge	Wedge screw
						
R220.43-0125-8200-C	AU1114T-T15P	OF07AR	FS96018	1/4HEX-T25PX50	CW0810	LD8020-T25P
R220.43-8160-CT	AU1114T-T15P	OF07AR	FS96018	1/4HEX-T25PX50	334.5-640	LD8020-T25P

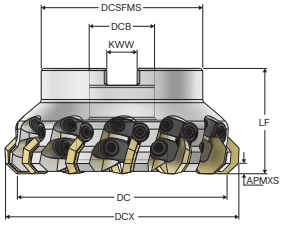
Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Nest key	Setting key
					
R220.43-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	1/4HEX-S-HANDLE	1/4HEX-H5.0X50	1/4HEX-T15PX50
R220.43-8200-8250	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50	1/4HEX-S-HANDLE	1/4HEX-H5.0X50	1/4HEX-T15PX50

Torque and fixed keys, see page 944

Octomill R220.43-07T – Metric





—For insert selection and cutting data recommendations, see page(s) 329–331
—For complete insert programme, see page(s) 881
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm		kg	
R220.43-0063-07-6T	00004368	Arbor	63,0	6	5,0	43,0 °	75,0	22,0	47,0	50,0	5600	0,7	OF..0704
R220.43-0080-07-9T	00004369	Arbor	80,0	9	5,0	43,0 °	92,0	27,0	62,0	50,0	5000	1,2	OF..0704
R220.43-0100-07-12T	00004371	Arbor	100,0	12	5,0	43,0 °	112,0	32,0	77,0	50,0	4400	1,6	OF..0704

Spare Parts, included in delivery

For cutter	Arbor screw	Axial setting unit	Insert key	Insert wedge	Setting key	Setting screw (axial)	Wedge clamp axial adj.	Wedge screw
								
R220.43-0063	MF6S10X40	AS6011	1/4HEX-T25PX50	334.5-640	1/4HEX-T15PX50	LD6019-T15P	CW0608	LD8020-T25P
R220.43-0080	MC6S12X35	AS6011	1/4HEX-T25PX50	334.5-640	1/4HEX-T15PX50	LD6019-T15P	CW0608	LD8020-T25P
R220.43-0100-0125	–	AS6011	1/4HEX-T25PX50	334.5-640	1/4HEX-T15PX50	LD6019-T15P	CW0608	LD8020-T25P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder
			
R220.43-0063-0080	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE
R220.43-0100	1/4HEX-S-HANDLE-0.8-5.0NM	5803216	1/4HEX-S-HANDLE

Torque and fixed keys, see page 944

R220.43-07 – Insert selection – mm/Inch

SMG		a_p	f_z			
			80%	60%	40%	20%
P1	OFER070405TN-ME15 MP3501	3,0 *0.12*	0,32 0.013	0,32 0.013	0,32 0.013	0,40 0.016
P2	OFER070405TN-ME15 MP3501	3,0 *0.12*	0,32 0.013	0,32 0.013	0,34 0.013	0,42 0.017
P3	OFER070405TN-M16 MP2501	3,0 *0.12*	0,32 0.013	0,32 0.013	0,34 0.013	0,42 0.017
P4	OFER070405TN-M16 MP2501	3,0 *0.12*	0,32 0.013	0,32 0.013	0,34 0.013	0,40 0.016
P5	OFER070405TN-M16 MP2501	3,0 *0.12*	0,32 0.013	0,32 0.013	0,32 0.013	0,40 0.016
P6	OFER070405TN-M16 MP2501	3,0 *0.12*	0,32 0.013	0,32 0.013	0,32 0.013	0,40 0.016
P7	OFER070405TN-M16 MP3501	3,0 *0.12*	0,32 0.013	0,32 0.013	0,32 0.013	0,40 0.016
P8	OFER070405TN-M16 MP3501	3,0 *0.12*	0,32 0.013	0,32 0.013	0,34 0.013	0,42 0.017
P11	OFER070405TN-ME15 MP3501	3,0 *0.12*	0,30 0.012	0,30 0.012	0,30 0.012	0,38 0.015
P12	OFER070405TN-ME15 MP3501	2,5 *0.10*	0,20 0.0080	0,20 0.0080	0,20 0.0080	0,26 0.010
M1	OFER070405TN-ME10 F40M	3,0 *0.12*	0,22 0.0085	0,22 0.0085	0,22 0.0085	0,28 0.011
M2	OFER070405TN-ME10 F40M	3,0 *0.12*	0,20 0.0080	0,20 0.0080	0,20 0.0080	0,25 0.010
M3	OFER070405TN-ME10 F40M	2,5 *0.10*	0,16 0.0065	0,16 0.0065	0,16 0.0065	0,20 0.0080
M4	OFER070405TN-ME10 F40M	1,8 *0.070*	0,14 0.0055	0,14 0.0055	0,14 0.0055	0,18 0.0070
M5	OFER070405TN-ME10 F40M	1,8 *0.070*	0,14 0.0055	0,14 0.0055	0,14 0.0055	0,18 0.0070
K1	OFER070405TN-M16 MK1501	3,0 *0.12*	0,34 0.013	0,34 0.013	0,36 0.014	0,44 0.017
K2	OFER070405TN-M16 MK1501	3,0 *0.12*	0,32 0.013	0,32 0.013	0,32 0.013	0,40 0.016
K3	OFER070405TN-M16 MP1501	3,0 *0.12*	0,32 0.013	0,32 0.013	0,32 0.013	0,40 0.016
K4	OFER070405TN-M16 MP1501	3,0 *0.12*	0,32 0.013	0,32 0.013	0,32 0.013	0,40 0.016
K5	OFER070405TN-M16 MP1501	3,0 *0.12*	0,28 0.011	0,28 0.011	0,30 0.012	0,36 0.014
K6	OFER070405TN-M16 MK2050	3,0 *0.12*	0,32 0.013	0,32 0.013	0,32 0.013	0,40 0.016
K7	OFER070405TN-M16 MK2050	3,0 *0.12*	0,28 0.011	0,28 0.011	0,30 0.012	0,36 0.014
N1	OFER070405N-E07 H15	3,0 *0.12*	0,19 0.0075	0,19 0.0075	0,20 0.0080	0,25 0.010
N2	OFER070405N-E07 H15	3,0 *0.12*	0,19 0.0075	0,19 0.0075	0,20 0.0080	0,25 0.010
N3	OFER070405N-E07 H15	3,0 *0.12*	0,19 0.0075	0,19 0.0075	0,20 0.0080	0,25 0.010
N11	OFER070405N-E07 H15	3,0 *0.12*	0,19 0.0075	0,19 0.0075	0,20 0.0080	0,25 0.010
S1	OFER070405TN-ME10 F40M	1,8 *0.070*	0,14 0.0055	0,14 0.0055	0,14 0.0055	0,18 0.0070
S2	OFER070405TN-ME10 F40M	1,8 *0.070*	0,14 0.0055	0,14 0.0055	0,14 0.0055	0,18 0.0070
S3	OFER070405TN-ME10 F40M	1,8 *0.070*	0,13 0.0050	0,13 0.0050	0,13 0.0050	0,17 0.0065
S11	OFER070405TN-ME10 F40M	2,0 *0.080*	0,16 0.0065	0,16 0.0065	0,16 0.0065	0,20 0.0080
S12	OFER070405TN-ME10 F40M	2,0 *0.080*	0,16 0.0065	0,16 0.0065	0,16 0.0065	0,20 0.0080
S13	OFER070405TN-ME10 F40M	1,8 *0.070*	0,14 0.0055	0,14 0.0055	0,14 0.0055	0,18 0.0070
H5	OFEN070405TN-D18 MP1501	2,5 *0.10*	0,24 0.0095	0,24 0.0095	0,25 0.010	0,30 0.012
H8	OFEN070405TN-D18 MP1501	2,0 *0.080*	0,19 0.0075	0,19 0.0075	0,19 0.0075	0,24 0.0095
H11	OFEN070405TN-D18 MP1501	2,5 *0.10*	0,24 0.0095	0,24 0.0095	0,25 0.010	0,30 0.012
H12	OFEN070405TN-D18 MP1501	2,0 *0.080*	0,19 0.0075	0,19 0.0075	0,19 0.0075	0,24 0.0095
H21	OFEN070405TN-D18 MP1501	2,0 *0.080*	0,19 0.0075	0,19 0.0075	0,19 0.0075	0,24 0.0095

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R220.43-07 – Cutting data v_c = (m/min)/(sf/min)

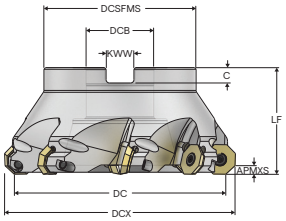
SMG	F15M				MK2050				F30M				F40M				H15			
	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%
P1	—	—	—	—	265	285	315	360	245	265	295	330	210	225	245	280	—	—	—	—
	—	—	—	—	*870*	*940*	*1025*	*1175*	*800*	*870*	*970*	*1075*	*690*	*740*	*800*	*920*	—	—	—	—
P2	—	—	—	—	255	275	305	345	240	260	290	325	200	215	240	275	—	—	—	—
	—	—	—	—	*840*	*900*	*1000*	*1125*	*790*	*850*	*950*	*1075*	*660*	*710*	*790*	*900*	—	—	—	—
P3	—	—	—	—	220	240	270	305	210	230	250	285	175	190	210	240	—	—	—	—
	—	—	—	—	*720*	*790*	*890*	*1000*	*690*	*750*	*820*	*940*	*570*	*620*	*690*	*790*	—	—	—	—
P4	—	—	—	—	200	215	235	270	185	200	220	250	155	170	185	210	—	—	—	—
	—	—	—	—	*660*	*710*	*770*	*890*	*610*	*660*	*720*	*820*	*510*	*560*	*610*	*690*	—	—	—	—
P5	—	—	—	—	190	205	225	255	180	195	215	240	150	160	175	205	—	—	—	—
	—	—	—	—	*620*	*670*	*740*	*840*	*590*	*640*	*710*	*790*	*490*	*520*	*570*	*670*	—	—	—	—
P6	—	—	—	—	215	230	260	295	200	215	240	270	170	180	205	230	—	—	—	—
	—	—	—	—	*710*	*750*	*850*	*970*	*660*	*710*	*790*	*890*	*560*	*590*	*670*	*750*	—	—	—	—
P7	—	—	—	—	200	220	245	275	190	205	225	255	160	170	190	215	—	—	—	—
	—	—	—	—	*660*	*720*	*800*	*900*	*620*	*670*	*740*	*840*	*520*	*560*	*620*	*710*	—	—	—	—
P8	—	—	—	—	185	200	225	255	180	195	210	240	145	160	175	200	—	—	—	—
	—	—	—	—	*610*	*660*	*740*	*840*	*590*	*640*	*690*	*790*	*475*	*520*	*570*	*660*	—	—	—	—
P11	—	—	—	—	195	210	235	270	185	200	220	250	155	165	185	210	—	—	—	—
	—	—	—	—	*640*	*690*	*770*	*890*	*610*	*660*	*720*	*820*	*510*	*540*	*610*	*690*	—	—	—	—
P12	—	—	—	—	130	140	155	175	120	130	145	160	105	110	120	140	—	—	—	—
	—	—	—	—	*425*	*460*	*510*	*570*	*395*	*425*	*475*	*520*	*345*	*360*	*395*	*460*	—	—	—	—
M1	—	—	—	—	—	—	—	—	195	210	230	260	160	175	195	220	—	—	—	—
	—	—	—	—	—	—	—	—	*640*	*690*	*750*	*850*	*520*	*570*	*640*	*720*	—	—	—	—
M2	—	—	—	—	—	—	—	—	160	175	195	215	135	145	160	185	—	—	—	—
	—	—	—	—	—	—	—	—	*520*	*570*	*640*	*710*	*445*	*475*	*520*	*610*	—	—	—	—
M3	—	—	—	—	—	—	—	—	130	140	155	175	110	120	130	150	—	—	—	—
	—	—	—	—	—	—	—	—	*425*	*460*	*510*	*570*	*360*	*395*	*425*	*490*	—	—	—	—
M4	—	—	—	—	—	—	—	—	100	105	120	135	85	90	100	115	—	—	—	—
	—	—	—	—	—	—	—	—	*330*	*345*	*395*	*445*	*280*	*295*	*330*	*375*	—	—	—	—
M5	—	—	—	—	—	—	—	—	85	90	100	115	70	75	85	100	—	—	—	—
	—	—	—	—	—	—	—	—	*280*	*295*	*330*	*375*	*230*	*245*	*280*	*330*	—	—	—	—
K1	270	290	325	365	275	295	330	370	190	205	230	255	155	170	190	215	—	—	—	—
	890	*950*	*1075*	*1200*	*900*	*970*	*1075*	*1225*	*620*	*670*	*750*	*840*	*510*	*560*	*620*	*710*	—	—	—	—
K2	245	260	285	325	245	265	290	330	170	185	205	225	140	155	170	195	—	—	—	—
	800	*850*	*940*	*1075*	*800*	*870*	*950*	*1075*	*560*	*610*	*670*	*740*	*460*	*510*	*560*	*640*	—	—	—	—
K3	205	220	240	275	210	225	245	280	145	155	170	190	120	130	140	165	—	—	—	—
	670	*720*	*790*	*900*	*690*	*740*	*800*	*920*	*475*	*510*	*560*	*620*	*395*	*425*	*460*	*540*	—	—	—	—
K4	195	210	230	260	200	215	235	270	135	150	165	185	115	125	135	155	—	—	—	—
	640	*690*	*750*	*850*	*660*	*710*	*770*	*890*	*445*	*490*	*540*	*610*	*375*	*410*	*445*	*510*	—	—	—	—
K5	120	130	140	160	120	130	145	165	85	90	100	110	70	75	85	95	—	—	—	—
	395	*425*	*460*	*520*	*395*	*425*	*475*	*540*	*280*	*295*	*330*	*360*	*230*	*245*	*280*	*310*	—	—	—	—
K6	175	185	205	230	175	190	210	235	120	130	145	160	100	110	120	140	—	—	—	—
	570	*610*	*670*	*750*	*570*	*620*	*690*	*770*	*395*	*425*	*475*	*520*	*330*	*360*	*395*	*460*	—	—	—	—
K7	155	165	180	205	155	165	185	215	110	115	125	145	90	95	110	125	—	—	—	—
	510	*540*	*590*	*670*	*510*	*540*	*610*	*710*	*360*	*375*	*410*	*475*	*295*	*310*	*360*	*410*	—	—	—	—
N1	2000	2175	2425	2725	—	—	—	—	1400	1500	1650	1875	1150	1250	1375	1575	1600	1725	1900	2150
	6550	*7125*	*7950*	*8950*	—	—	—	—	*4600*	*4925*	*5425*	*6150*	*3775*	*4100*	*4500*	*5175*	*5250*	*5650*	*6225*	*7050*
N2	810	880	970	1100	—	—	—	—	560	610	670	760	465	510	560	630	640	690	770	870
	2650	*2875*	*3175*	*3600*	—	—	—	—	*1825*	*2000*	*2200*	*2500*	*1525*	*1675*	*1825*	*2075*	*2100*	*2275*	*2525*	*2850*
N3	540	580	650	730	—	—	—	—	375	405	445	510	310	335	375	420	430	460	510	580
	1775	*1900*	*2125*	*2400*	—	—	—	—	*1225*	*1325*	*1450*	*1675*	*1025*	*1100*	*1225*	*1375*	*1400*	*1500*	*1675*	*1900*
N11	620	670	740	840	—	—	—	—	430	465	510	580	355	385	425	480	490	530	590	660
	2025	*2200*	*2425*	*2750*	—	—	—	—	*1400*	*1525*	*1675*	*1900*	*1175*	*1275*	*1400*	*1575*	*1600*	*1750*	*1925*	*2175*
S1	—	—	—	—	—	—	—	—	—	—	—	—	40	43	48	55	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*130*	*140*	*155*	*180*	—	—	—	—
S2	—	—	—	—	—	—	—	—	—	—	—	—	32	34	38	44	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*105*	*110*	*125*	*145*	—	—	—	—
S3	—	—	—	—	—	—	—	—	—	—	—	—	28	31	34	38	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*90*	*100*	*110*	*125*	—	—	—	—
S11	—	—	—	—	—	—	—	—	—	—	—	—	55	60	65	75	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*180*	*195*	*215*	*245*	—	—	—	—
S12	—	—	—	—	—	—	—	—	—	—	—	—	38	42	46	50	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*125*	*140*	*150*	*165*	—	—	—	—
S13	—	—	—	—	—	—	—	—	—	—	—	—	22	24	27	31	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*70*	*80*	*90*	*100*	—	—	—	—
H5	—	—	—	—	—	—	—	—	40	43	47	55	34	37	40	46	—	—	—	—
	—	—	—	—	—	—	—	—	*130*	*140*	*155*	*180*	*110*	*120*	*130*	*150*	—	—	—	—
H8	—	—	—	—	—	—	—	—	42	45	50	55	37	39	44	49	—	—	—	—
	—	—	—	—	—	—	—	—	*140*	*150*	*165*	*180*	*120*	*130*	*145*	*160*	—	—	—	—
H11	—	—	—	—	—	—	—	—	50	55	60	70	44	47	50	60	—	—	—	—
	—	—	—	—	—	—	—	—	*165*	*180*	*195*	*230*	*145*	*155*	*165*	*195*	—	—	—	—
H12	—	—	—	—	—	—	—	—	75	80	90	105	65	70	80	90	—	—	—	—
	—	—	—	—	—	—	—	—	*245*	*260*	*295*	*345*	*215*	*230*	*260*	*295*	—	—	—	—
H21	—	—	—	—	—	—	—	—	42	45	50	55	37	39	44	49	—	—	—	—
	—	—	—	—	—	—	—	—	*140*	*150*	*165*	*180*	*120*	*130*	*145*	*160*	—	—	—	—

R220.43-07 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK1501				MP1501				MP2501				MP3501				T25M			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	—	—	—	—	360	370	395	435	350	360	385	420	360	365	395	440	210	225	240	265
	—	—	—	—	*1175*	*1225*	*1300*	*1425*	*1150*	*1175*	*1275*	*1375*	*1175*	*1200*	*1300*	*1450*	*690*	*740*	*790*	*870*
P2	—	—	—	—	350	360	385	420	340	350	375	410	350	355	385	420	205	220	235	260
	—	—	—	—	*1150*	*1175*	*1275*	*1375*	*1125*	*1150*	*1225*	*1350*	*1150*	*1175*	*1275*	*1375*	*670*	*720*	*770*	*850*
P3	—	—	—	—	310	320	340	370	300	310	330	360	310	315	340	370	180	190	205	225
	—	—	—	—	*1025*	*1050*	*1125*	*1225*	*980*	*1025*	*1075*	*1175*	*1025*	*1025*	*1125*	*1225*	*590*	*620*	*670*	*740*
P4	—	—	—	—	275	280	300	325	265	270	290	315	270	275	300	330	160	170	180	200
	—	—	—	—	*900*	*920*	*980*	*1075*	*870*	*890*	*950*	*1025*	*890*	*900*	*980*	*1075*	*520*	*560*	*590*	*660*
P5	—	—	—	—	260	265	285	320	255	260	280	310	260	265	285	315	150	160	175	195
	—	—	—	—	*850*	*870*	*940*	*1050*	*840*	*850*	*920*	*1025*	*850*	*870*	*940*	*1025*	*490*	*520*	*570*	*640*
P6	—	—	—	—	290	300	320	355	285	290	310	350	290	295	320	355	170	180	195	220
	—	—	—	—	*950*	*980*	*1050*	*1175*	*940*	*950*	*1025*	*1150*	*950*	*970*	*1050*	*1175*	*560*	*590*	*640*	*720*
P7	—	—	—	—	275	285	305	335	270	275	295	330	275	280	300	335	160	170	185	205
	—	—	—	—	*900*	*940*	*1000*	*1100*	*890*	*900*	*970*	*1075*	*900*	*920*	*980*	*1100*	*520*	*560*	*610*	*670*
P8	—	—	—	—	260	265	285	310	255	260	280	305	260	265	285	310	150	160	175	190
	—	—	—	—	*850*	*870*	*940*	*1025*	*840*	*850*	*920*	*1000*	*850*	*870*	*940*	*1025*	*490*	*520*	*570*	*620*
P11	—	—	—	—	270	275	295	325	260	265	285	320	265	275	295	325	155	165	180	200
	—	—	—	—	*890*	*900*	*970*	*1075*	*850*	*870*	*940*	*1050*	*870*	*900*	*970*	*1075*	*510*	*540*	*590*	*660*
P12	—	—	—	—	180	185	200	215	175	180	195	210	185	190	200	220	105	110	120	130
	—	—	—	—	*590*	*610*	*660*	*710*	*570*	*590*	*640*	*690*	*610*	*620*	*660*	*720*	*345*	*360*	*395*	*425*
M1	—	—	—	—	—	—	—	—	180	190	205	225	190	200	220	240	165	175	190	210
	—	—	—	—	—	—	—	—	*590*	*620*	*670*	*740*	*620*	*660*	*720*	*790*	*540*	*570*	*620*	*690*
M2	—	—	—	—	—	—	—	—	145	155	170	190	155	165	180	200	135	145	155	175
	—	—	—	—	—	—	—	—	*475*	*510*	*560*	*620*	*510*	*540*	*590*	*660*	*445*	*475*	*510*	*570*
M3	—	—	—	—	—	—	—	—	120	130	140	155	130	135	145	165	115	120	130	140
	—	—	—	—	—	—	—	—	*395*	*425*	*460*	*510*	*425*	*445*	*475*	*540*	*375*	*395*	*425*	*460*
M4	—	—	—	—	—	—	—	—	95	100	110	120	100	105	115	125	90	95	100	110
	—	—	—	—	—	—	—	—	*310*	*330*	*360*	*395*	*330*	*345*	*375*	*410*	*295*	*310*	*330*	*360*
M5	—	—	—	—	—	—	—	—	80	85	90	100	85	85	95	105	75	80	85	95
	—	—	—	—	—	—	—	—	*260*	*280*	*295*	*330*	*280*	*280*	*310*	*345*	*245*	*260*	*280*	*310*
K1	330	400	460	540	355	365	390	425	345	350	380	415	350	360	385	420	165	175	185	205
	1075	*1300*	*1500*	*1775*	*1175*	*1200*	*1275*	*1400*	*1125*	*1150*	*1250*	*1350*	*1150*	*1175*	*1275*	*1375*	*540*	*570*	*610*	*670*
K2	290	350	400	475	315	325	345	385	305	315	335	375	315	320	345	385	145	155	165	185
	950	*1150*	*1300*	*1550*	*1025*	*1075*	*1125*	*1275*	*1000*	*1025*	*1100*	*1225*	*1025*	*1050*	*1125*	*1275*	*475*	*510*	*540*	*610*
K3	220	245	270	310	265	275	295	325	260	265	285	315	265	270	290	325	120	130	140	155
	720	*800*	*890*	*1025*	*870*	*900*	*970*	*1075*	*850*	*870*	*940*	*1025*	*870*	*890*	*950*	*1075*	*395*	*425*	*460*	*510*
K4	210	235	260	295	255	260	280	310	245	255	270	300	255	260	280	310	115	125	135	150
	690	*770*	*850*	*970*	*840*	*850*	*920*	*1025*	*800*	*840*	*890*	*980*	*840*	*850*	*920*	*1025*	*375*	*410*	*445*	*490*
K5	130	145	160	180	160	165	175	190	155	160	170	185	160	165	175	190	75	75	85	90
	425	*475*	*520*	*590*	*520*	*540*	*570*	*620*	*510*	*520*	*560*	*610*	*520*	*540*	*570*	*620*	*245*	*245*	*280*	*295*
K6	185	205	225	260	225	230	245	275	220	225	240	265	225	230	245	275	105	110	120	130
	610	*670*	*740*	*850*	*740*	*750*	*800*	*900*	*720*	*740*	*790*	*870*	*740*	*750*	*800*	*900*	*345*	*360*	*395*	*425*
K7	170	185	205	230	205	210	225	240	200	205	220	235	205	210	225	240	95	100	105	115
	560	*610*	*670*	*750*	*670*	*690*	*740*	*790*	*660*	*670*	*720*	*770*	*670*	*690*	*740*	*790*	*310*	*330*	*345*	*375*
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	—	—	—	46	49	55	60	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*150*	*160*	*180*	*195*	—	—	—	—
S2	—	—	—	—	—	—	—	—	—	—	—	—	37	39	43	47	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*120*	*130*	*140*	*155*	—	—	—	—
S3	—	—	—	—	—	—	—	—	—	—	—	—	33	35	38	42	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*110*	*115*	*125*	*140*	—	—	—	—
S11	—	—	—	—	—	—	—	—	—	—	—	—	65	70	75	85	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*215*	*230*	*245*	*280*	—	—	—	—
S12	—	—	—	—	—	—	—	—	—	—	—	—	45	48	50	55	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*150*	*155*	*165*	*180*	—	—	—	—
S13	—	—	—	—	—	—	—	—	—	—	—	—	26	28	30	33	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*85*	*90*	*100*	*110*	—	—	—	—
H5	—	—	—	—	47	50	55	60	—	—	—	—	42	44	48	55	—	—	—	—
	—	—	—	—	*155*	*165*	*180*	*195*	—	—	—	—	*140*	*145*	*155*	*180*	—	—	—	—
H8	—	—	—	—	50	55	60	65	—	—	—	—	44	47	50	55	—	—	—	—
	—	—	—	—	*165*	*180*	*195*	*215*	—	—	—	—	*145*	*155*	*165*	*180*	—	—	—	—
H11	—	—	—	—	60	65	70	75	—	—	—	—	55	55	60	70	—	—	—	—
	—	—	—	—	*195*	*215*	*230*	*245*	—	—	—	—	*180*	*180*	*195*	*230*	—	—	—	—
H12	—	—	—	—	90	95	105	115	—	—	—	—	80	85	95	100	—	—	—	—
	—	—	—	—	*295*	*310*	*345*	*375*	—	—	—	—	*260*	*280*	*310*	*330*	—	—	—	—
H21	—	—	—	—	50	55	60	65	—	—	—	—	44	47	50	55	—	—	—	—
	—	—	—	—	*165*	*180*	*195*	*215*	—	—	—	—	*145*	*155*	*165*	*180*	—	—	—	—

Octomill R220.43-07S/SA – Metric





—For insert selection and cutting data recommendations, see page(s) 333 - 334
—For complete insert programme, see page(s) 882
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm		kg	
R220.43-0080-07SA	00090771	Arbor	80,0	5	5,0	43,0 °	92,0	27,0	62,0	50,0	6200	1,0	OF..0704
R220.43-0100-07SA	00090773	Arbor	100,0	6	5,0	43,0 °	112,0	32,0	77,0	50,0	5600	1,8	OF..0704
R220.43-0125-07S	00045811	Arbor	125,0	8	5,0	43,0 °	137,0	40,0	90,0	63,0	5100	3,1	OF..0704

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R220.43-0080	1/4HEX-T20PX50	C05013-T20P
R220.43-0100-0125	1/4HEX-T20PX90	C05013-T20P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.43-0080	1/4HEX-S-HANDLE-0.8-5.0NM	5802712	1/4HEX-S-HANDLE	5.0NM	T00-20P50
R220.43-0100	1/4HEX-S-HANDLE-0.8-5.0NM	5803216	1/4HEX-S-HANDLE	5.0NM	T00-20P50
R220.43-0125	1/4HEX-S-HANDLE-0.8-5.0NM	5804020	1/4HEX-S-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

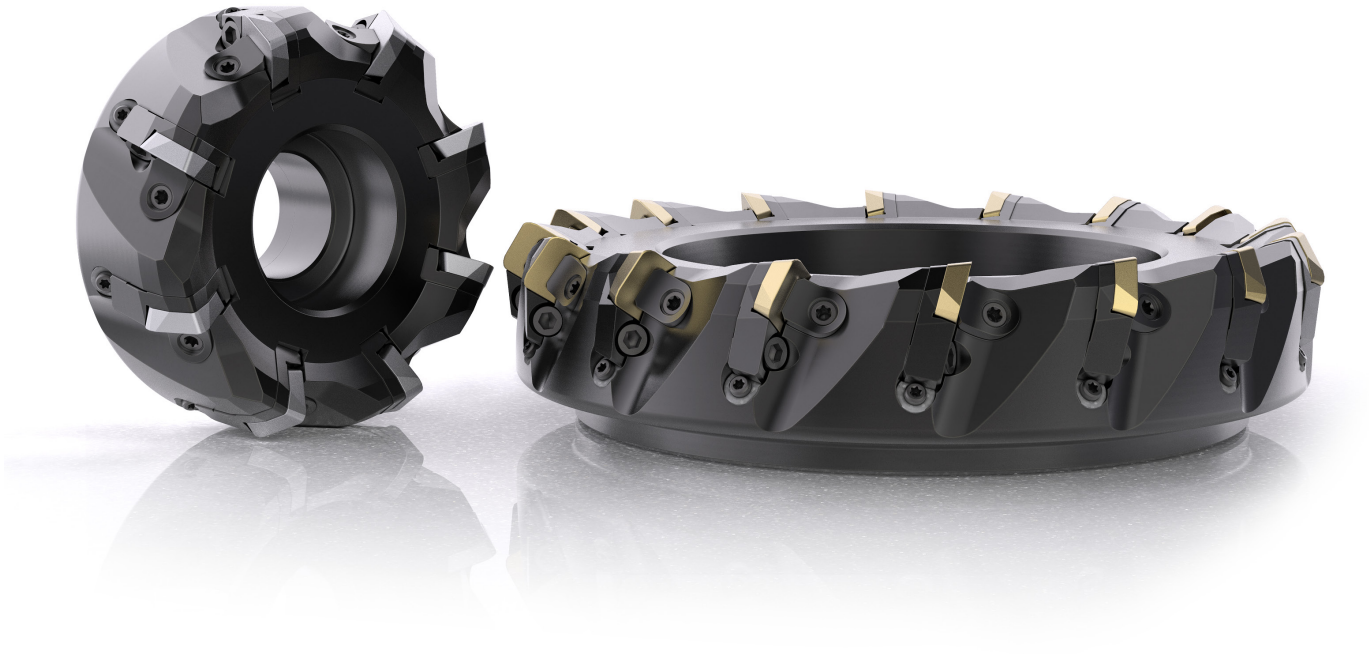
R220.43-7S – Insert selection – mm/Inch

SMG		a_p	f_z			
			80%	60%	40%	20%
P1	OFMT070405TN-ME13 MP2501	3,0 *0.12*	0,28 0.011	0,28 0.011	0,30 0.012	0,36 0.014
P2	OFMT070405TN-ME13 MP2501	3,0 *0.12*	0,28 0.011	0,28 0.011	0,30 0.012	0,36 0.014
P3	OFMT070405TN-ME13 MP2501	3,0 *0.12*	0,28 0.011	0,28 0.011	0,28 0.011	0,34 0.013
P4	OFMT070405TN-M15 MP2501	3,0 *0.12*	0,30 0.012	0,30 0.012	0,32 0.013	0,40 0.016
P5	OFMT070405TN-M15 MP2501	3,0 *0.12*	0,30 0.012	0,30 0.012	0,32 0.013	0,38 0.015
P6	OFMT070405TN-M15 MP2501	3,0 *0.12*	0,30 0.012	0,30 0.012	0,30 0.012	0,38 0.015
P7	OFMT070405TN-M15 MP2501	3,0 *0.12*	0,30 0.012	0,30 0.012	0,30 0.012	0,38 0.015
P8	OFMT070405TN-ME13 MP2501	3,0 *0.12*	0,28 0.011	0,28 0.011	0,28 0.011	0,34 0.013
P11	OFMT070405TN-ME13 MP2501	3,0 *0.12*	0,26 0.010	0,26 0.010	0,26 0.010	0,34 0.013
P12	OFMT070405TN-ME13 MP2501	2,5 *0.10*	0,18 0.0070	0,18 0.0070	0,19 0.0075	0,22 0.0085
M1	OFET070405TN-ME10 F40M	3,0 *0.12*	0,22 0.0085	0,22 0.0085	0,22 0.0085	0,28 0.011
M2	OFET070405TN-ME10 F40M	3,0 *0.12*	0,20 0.0080	0,20 0.0080	0,20 0.0080	0,26 0.010
M3	OFET070405TN-ME10 F40M	2,5 *0.10*	0,16 0.0065	0,16 0.0065	0,17 0.0065	0,20 0.0080
M4	OFET070405TN-ME10 F40M	1,8 *0.070*	0,15 0.0060	0,15 0.0060	0,15 0.0060	0,19 0.0075
M5	OFET070405TN-ME10 F40M	1,8 *0.070*	0,15 0.0060	0,15 0.0060	0,15 0.0060	0,19 0.0075
K1	OFMT070405TN-M15 MP2501	3,0 *0.12*	0,34 0.013	0,34 0.013	0,34 0.013	0,42 0.017
K2	OFMT070405TN-M15 MP2501	3,0 *0.12*	0,30 0.012	0,30 0.012	0,32 0.013	0,38 0.015
K3	OFMT070405TN-M15 MP2501	3,0 *0.12*	0,30 0.012	0,30 0.012	0,32 0.013	0,38 0.015
K4	OFMT070405TN-M15 MP2501	3,0 *0.12*	0,30 0.012	0,30 0.012	0,32 0.013	0,38 0.015
K5	OFMT070405TN-M15 MP2501	3,0 *0.12*	0,28 0.011	0,28 0.011	0,28 0.011	0,34 0.013
K6	OFMT070405TN-M15 MP2501	3,0 *0.12*	0,30 0.012	0,30 0.012	0,32 0.013	0,38 0.015
K7	OFMT070405TN-M15 MP2501	3,0 *0.12*	0,28 0.011	0,28 0.011	0,28 0.011	0,34 0.013
S1	OFET070405TN-ME15 F40M	1,8 *0.070*	0,22 0.0085	0,22 0.0085	0,22 0.0085	0,28 0.011
S2	OFET070405TN-ME15 F40M	1,8 *0.070*	0,22 0.0085	0,22 0.0085	0,22 0.0085	0,28 0.011
S3	OFET070405TN-ME15 F40M	1,8 *0.070*	0,20 0.0080	0,20 0.0080	0,20 0.0080	0,26 0.010
S11	OFET070405TN-ME10 F40M	2,0 *0.080*	0,17 0.0065	0,17 0.0065	0,17 0.0065	0,20 0.0080
S12	OFET070405TN-ME10 F40M	2,0 *0.080*	0,17 0.0065	0,17 0.0065	0,17 0.0065	0,20 0.0080
S13	OFET070405TN-ME10 F40M	1,8 *0.070*	0,15 0.0060	0,15 0.0060	0,15 0.0060	0,19 0.0075

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R220.43-07S – Cutting data v_c = (m/min)/(sf/min)

SMG	F40M				MP2501				F30M			
	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%
P1	235 *770*	255 *840*	280 *920*	315 *1025*	285 *940*	310 *1025*	340 *1125*	390 *1275*	275 *900*	300 *980*	335 *1100*	375 *1225*
P2	225 *740*	240 *790*	270 *890*	305 *1000*	280 *920*	300 *980*	330 *1075*	380 *1250*	270 *890*	290 *950*	325 *1075*	365 *1200*
P3	195 *640*	210 *690*	235 *770*	270 *890*	240 *790*	260 *850*	290 *950*	330 *1075*	240 *790*	255 *840*	280 *920*	320 *1050*
P4	175 *570*	190 *620*	210 *690*	235 *770*	215 *710*	235 *770*	255 *840*	290 *950*	210 *690*	225 *740*	245 *800*	280 *920*
P5	170 *560*	180 *590*	200 *660*	230 *750*	205 *670*	225 *740*	250 *820*	280 *920*	200 *660*	215 *710*	240 *790*	270 *890*
P6	190 *620*	205 *670*	230 *750*	255 *840*	230 *750*	250 *820*	280 *920*	310 *1025*	225 *740*	245 *800*	270 *890*	305 *1000*
P7	180 *590*	195 *640*	215 *710*	245 *800*	220 *720*	235 *770*	265 *870*	295 *970*	215 *710*	230 *750*	255 *840*	290 *950*
P8	165 *540*	180 *590*	200 *660*	225 *740*	200 *660*	220 *720*	245 *800*	280 *920*	200 *660*	215 *710*	235 *770*	270 *890*
P11	175 *570*	185 *610*	210 *690*	235 *770*	215 *710*	230 *750*	255 *840*	285 *940*	205 *670*	225 *740*	250 *820*	280 *920*
P12	115 *375*	125 *410*	135 *445*	155 *510*	140 *460*	150 *490*	165 *540*	190 *620*	135 *445*	145 *475*	160 *520*	180 *590*
M1	180 *590*	195 *640*	220 *720*	245 *800*	200 *660*	220 *720*	240 *790*	270 *890*	215 *710*	235 *770*	260 *850*	295 *970*
M2	150 *490*	165 *540*	180 *590*	205 *670*	165 *540*	180 *590*	200 *660*	225 *740*	180 *590*	195 *640*	215 *710*	240 *790*
M3	125 *410*	135 *445*	145 *475*	170 *560*	135 *445*	145 *475*	160 *520*	185 *610*	145 *475*	160 *520*	170 *560*	195 *640*
M4	95 *310*	105 *345*	115 *375*	130 *425*	105 *345*	115 *375*	125 *410*	140 *460*	110 *360*	120 *395*	135 *445*	150 *490*
M5	80 *260*	85 *280*	95 *310*	110 *360*	85 *280*	95 *310*	105 *345*	120 *395*	95 *310*	100 *330*	110 *360*	125 *410*
K1	175 *570*	190 *620*	215 *710*	245 *800*	220 *720*	240 *790*	260 *850*	300 *980*	— —	— —	— —	— —
K2	160 *520*	175 *570*	190 *620*	215 *710*	195 *640*	210 *690*	235 *770*	265 *870*	— —	— —	— —	— —
K3	135 *445*	145 *475*	160 *520*	185 *610*	165 *540*	180 *590*	200 *660*	225 *740*	— —	— —	— —	— —
K4	130 *425*	140 *460*	155 *510*	175 *570*	160 *520*	170 *560*	190 *620*	215 *710*	— —	— —	— —	— —
K5	80 *260*	85 *280*	95 *310*	110 *360*	95 *310*	105 *345*	115 *375*	130 *425*	— —	— —	— —	— —
K6	115 *375*	125 *410*	135 *445*	155 *510*	140 *460*	150 *490*	170 *560*	190 *620*	— —	— —	— —	— —
K7	100 *330*	110 *360*	120 *395*	140 *460*	125 *410*	135 *445*	150 *490*	170 *560*	— —	— —	— —	— —
N1	1300 *4275*	1400 *4600*	1550 *5075*	1750 *5750*	— —	— —	— —	— —	1575 *5175*	1700 *5575*	1850 *6075*	2125 *6975*
N2	530 *1750*	570 *1875*	630 *2075*	710 *2325*	— —	— —	— —	— —	630 *2075*	680 *2225*	750 *2450*	860 *2825*
N3	350 *1150*	380 *1250*	420 *1375*	475 *1550*	— —	— —	— —	— —	420 *1375*	455 *1500*	500 *1650*	570 *1875*
N11	400 *1300*	435 *1425*	480 *1575*	540 *1775*	— —	— —	— —	— —	480 *1575*	520 *1700*	570 *1875*	650 *2125*
S1	45 *150*	48 *155*	55 *180*	60 *195*	— —	— —	— —	— —	50 *165*	55 *180*	60 *195*	70 *230*
S2	36 *120*	39 *130*	43 *140*	49 *160*	— —	— —	— —	— —	42 *140*	45 *150*	50 *165*	55 *180*
S3	32 *105*	34 *110*	38 *125*	43 *140*	— —	— —	— —	— —	37 *120*	40 *130*	44 *145*	50 *165*
S11	60 *195*	70 *230*	75 *245*	85 *280*	— —	— —	— —	— —	75 *245*	80 *260*	85 *280*	100 *330*
S12	43 *140*	47 *155*	50 *165*	60 *195*	— —	— —	— —	— —	42 *140*	46 *150*	50 *165*	60 *195*
S13	25 *80*	27 *90*	30 *100*	35 *115*	— —	— —	— —	— —	24 *80*	26 *85*	29 *95*	33 *110*
H5	38 *125*	41 *135*	45 *150*	50 *165*	— —	— —	— —	— —	— —	— —	— —	— —
H8	41 *135*	44 *145*	49 *160*	55 *180*	— —	— —	— —	— —	— —	— —	— —	— —
H11	49 *160*	55 *180*	55 *180*	65 *215*	— —	— —	— —	— —	— —	— —	— —	— —
H12	75 *245*	80 *260*	90 *295*	100 *330*	— —	— —	— —	— —	— —	— —	— —	— —
H21	41 *135*	44 *145*	49 *160*	55 *180*	— —	— —	— —	— —	— —	— —	— —	— —



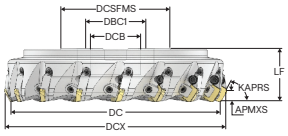
R220.60

Face mills for heavy duty. Strong inserts and the cutter is equipt with cassettes for handling high metal removal.

- Cutter range 63-250 mm
- Inserts SPEN/SPER/SPMR19
- Available in many different grades for most common workpiece materials

R220.60-19CM – Metric

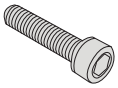




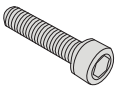
—For insert selection and cutting data recommendations, see page(s) 337 - 338
—For complete insert programme, see page(s) 907
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm	mm		kg	
R220.60-0063-19-4CM	00073305	Arbor	63,0	4	12,0	60,0 °	77,6	22,0	–	47,0	50,0	3700	1,2	SP..1906Z..R
R220.60-0080-19-5CM	00073306	Arbor	80,0	5	12,0	60,0 °	94,5	27,0	–	62,0	50,0	3300	1,9	SP..1906Z..R
R220.60-0100-19-6CM	00073307	Arbor	100,0	6	12,0	60,0 °	114,4	32,0	–	77,0	50,0	2900	2,6	SP..1906Z..R
R220.60-0125-19-8CM	00073309	Arbor	125,0	8	12,0	60,0 °	139,3	40,0	–	90,0	63,0	2600	4,2	SP..1906Z..R
R220.60-8160-19-10CM	00073311	Arbor	160,0	10	12,0	60,0 °	174,3	40,0	66,7	90,0	63,0	2300	6,7	SP..1906Z..R
R220.60-8200-19-12CM	00073313	Arbor	200,0	12	12,0	60,0 °	214,2	60,0	101,6	168,0	63,0	2000	9,4	SP..1906Z..R
R220.60-8250-19-16CM	00073318	Arbor	250,0	16	12,0	60,0 °	264,2	60,0	101,6	218,0	63,0	1800	20,0	SP..1906Z..R

Spare Parts, included in delivery

For cutter	Adjustment unit	Arbor screw	Cassette	Cassette screw	Insert key	Insert wedge	Wedge screw
							
R220.66-0063	AU1114T-T15P	220.17-692	SP19DRM	FS96018	1/4HEX-T25PX50	CW0813	LD8020-T25P
R220.66-0080	AU1114T-T15P	MC6S12X35	SP19DRM	FS96018	1/4HEX-T25PX50	CW0813	LD8020-T25P
R220.66-0100-8250	AU1114T-T15P	–	SP19DRM	FS96018	1/4HEX-T25PX50	CW0813	LD8020-T25P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Arbor screw 2	Bit holder	Key	Setting key
						
R220.66-0063	1/4HEX-S-HANDLE-0.8-5.0NM	–	–	1/4HEX-S-HANDLE	1/4HEX-H5.0X50	1/4HEX-T15PX50
R220.66-0080	1/4HEX-S-HANDLE-0.8-5.0NM	5802712	–	1/4HEX-S-HANDLE	1/4HEX-H5.0X50	1/4HEX-T15PX50
R220.66-0100	1/4HEX-S-HANDLE-0.8-5.0NM	5803216	–	1/4HEX-S-HANDLE	1/4HEX-H5.0X50	1/4HEX-T15PX50
R220.66-0125	1/4HEX-S-HANDLE-0.8-5.0NM	5804020	–	1/4HEX-S-HANDLE	1/4HEX-H5.0X50	1/4HEX-T15PX50
R220.66-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	MC6S12X50	1/4HEX-S-HANDLE	1/4HEX-H5.0X50	1/4HEX-T15PX50
R220.66-8200-8250	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50	–	1/4HEX-S-HANDLE	1/4HEX-H5.0X50	1/4HEX-T15PX50

Torque and fixed keys, see page 944

R220.60-19 – Insert selection – mm/Inch

SMG		a_p	f_z			
			80%	60%	40%	20%
P1	SPER1906ZETR-M17 MP3501	7,0 *0.28*	0,30 0.012	0,30 0.012	0,30 0.012	0,36 0.014
P2	SPER1906ZETR-M17 MP3501	7,0 *0.28*	0,30 0.012	0,30 0.012	0,30 0.012	0,38 0.015
P3	SPEN1906ZETR-MD20 MP2501	7,0 *0.28*	0,32 0.013	0,32 0.013	0,32 0.013	0,40 0.016
P4	SPEN1906ZETR-MD20 MP2501	7,0 *0.28*	0,30 0.012	0,30 0.012	0,32 0.013	0,38 0.015
P5	SPEN1906ZETR-MD20 MP2501	7,0 *0.28*	0,30 0.012	0,30 0.012	0,30 0.012	0,38 0.015
P6	SPEN1906ZETR-MD20 MP2501	7,0 *0.28*	0,30 0.012	0,30 0.012	0,30 0.012	0,38 0.015
P7	SPER1906ZETR-M17 MP3501	7,0 *0.28*	0,26 0.010	0,26 0.010	0,28 0.011	0,34 0.013
P8	SPER1906ZETR-M17 MP3501	7,0 *0.28*	0,28 0.011	0,28 0.011	0,28 0.011	0,36 0.014
P11	SPMR1906ZETR-M17 MP2051	7,0 *0.28*	0,26 0.010	0,26 0.010	0,28 0.011	0,34 0.013
P12	SPMR1906ZETR-M17 MP2051	6,0 *0.24*	0,18 0.0070	0,18 0.0070	0,19 0.0075	0,24 0.0095
M1	SPER1906ZETR-M17 MP3501	7,0 *0.28*	0,30 0.012	0,30 0.012	0,30 0.012	0,38 0.015
M2	SPER1906ZETR-M17 MP3501	7,0 *0.28*	0,26 0.010	0,26 0.010	0,28 0.011	0,34 0.013
M3	SPMR1906ZETR-M17 MP2051	6,0 *0.24*	0,22 0.0085	0,22 0.0085	0,22 0.0085	0,28 0.011
M4	SPMR1906ZETR-M17 MP2051	4,5 *0.18*	0,19 0.0075	0,19 0.0075	0,19 0.0075	0,24 0.0095
M5	SPMR1906ZETR-M17 MP2051	4,5 *0.18*	0,19 0.0075	0,19 0.0075	0,19 0.0075	0,24 0.0095
K1	SPEN1906ZETR-D25 MP1501	7,0 *0.28*	0,42 0.017	0,42 0.017	0,42 0.017	0,50 0.020
K2	SPEN1906ZETR-D25 MP1501	7,0 *0.28*	0,38 0.015	0,38 0.015	0,38 0.015	0,48 0.019
K3	SPEN1906ZETR-D25 MP1501	7,0 *0.28*	0,38 0.015	0,38 0.015	0,38 0.015	0,48 0.019
K4	SPEN1906ZETR-D25 MP1501	7,0 *0.28*	0,38 0.015	0,38 0.015	0,38 0.015	0,48 0.019
K5	SPEN1906ZETR-D25 MP1501	7,0 *0.28*	0,34 0.013	0,34 0.013	0,34 0.013	0,42 0.017
K6	SPEN1906ZETR-D25 MP1501	7,0 *0.28*	0,38 0.015	0,38 0.015	0,38 0.015	0,48 0.019
K7	SPEN1906ZETR-D25 MP1501	7,0 *0.28*	0,34 0.013	0,34 0.013	0,34 0.013	0,42 0.017

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R220.60-19 – Cutting data v_c = (m/min)/(sf/min)

SMG	MP2051				MP1501				MP2501				MP3501			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	175 *570*	170 *560*	200 *660*	255 *840*	240 *790*	245 *800*	265 *870*	295 *970*	260 *850*	265 *870*	285 *940*	310 *1025*	230 *750*	230 *750*	250 *820*	275 *900*
P2	170 *560*	170 *560*	195 *640*	250 *820*	230 *750*	235 *770*	250 *820*	285 *940*	245 *800*	250 *820*	270 *890*	305 *1000*	215 *710*	215 *710*	235 *770*	265 *870*
P3	155 *510*	155 *510*	180 *590*	230 *750*	205 *670*	205 *670*	220 *720*	250 *820*	215 *710*	220 *720*	240 *790*	270 *890*	190 *620*	195 *640*	210 *690*	235 *770*
P4	140 *460*	135 *445*	160 *520*	200 *660*	185 *610*	185 *610*	200 *660*	220 *720*	195 *640*	200 *660*	215 *710*	235 *770*	175 *570*	175 *570*	190 *620*	210 *690*
P5	130 *425*	130 *425*	155 *510*	190 *620*	175 *570*	175 *570*	190 *620*	215 *710*	190 *620*	190 *620*	205 *670*	230 *750*	165 *540*	170 *560*	180 *590*	205 *670*
P6	160 *520*	160 *520*	185 *610*	215 *710*	195 *640*	200 *660*	215 *710*	245 *800*	210 *690*	215 *710*	230 *750*	260 *850*	185 *610*	190 *620*	205 *670*	230 *750*
P7	150 *490*	150 *490*	175 *570*	205 *670*	185 *610*	190 *620*	205 *670*	230 *750*	200 *660*	200 *660*	220 *720*	245 *800*	175 *570*	180 *590*	190 *620*	215 *710*
P8	130 *425*	130 *425*	155 *510*	190 *620*	170 *560*	175 *570*	185 *610*	210 *690*	185 *610*	185 *610*	200 *660*	225 *740*	160 *520*	160 *520*	175 *570*	200 *660*
P11	135 *445*	140 *460*	165 *540*	200 *660*	180 *590*	180 *590*	195 *640*	225 *740*	195 *640*	195 *640*	210 *690*	240 *790*	170 *560*	175 *570*	185 *610*	210 *690*
P12	115 *375*	120 *395*	140 *460*	165 *540*	125 *410*	130 *425*	140 *460*	155 *510*	135 *445*	140 *460*	150 *490*	165 *540*	120 *395*	125 *410*	130 *425*	145 *475*
M1	140 *460*	140 *460*	165 *540*	220 *720*	— —	— —	— —	— —	135 *445*	140 *460*	150 *490*	170 *560*	125 *410*	130 *425*	140 *460*	160 *520*
M2	120 *395*	120 *395*	145 *475*	190 *620*	— —	— —	— —	— —	110 *360*	120 *395*	130 *425*	145 *475*	105 *345*	110 *360*	120 *395*	135 *445*
M3	115 *375*	120 *395*	140 *460*	180 *590*	— —	— —	— —	— —	90 *295*	95 *310*	105 *345*	115 *375*	85 *280*	90 *295*	100 *330*	110 *360*
M4	100 *330*	105 *345*	120 *395*	150 *490*	— —	— —	— —	— —	70 *230*	75 *245*	80 *260*	90 *295*	65 *215*	70 *230*	75 *245*	85 *280*
M5	85 *280*	85 *280*	100 *330*	125 *410*	— —	— —	— —	— —	60 *195*	60 *195*	65 *215*	75 *245*	55 *180*	60 *195*	65 *215*	70 *230*
K1	— —	— —	— —	— —	230 *750*	235 *770*	255 *840*	290 *950*	250 *820*	250 *820*	270 *890*	305 *1000*	220 *720*	220 *720*	235 *770*	270 *890*
K2	— —	— —	— —	— —	210 *690*	215 *710*	230 *750*	260 *850*	230 *750*	230 *750*	250 *820*	280 *920*	200 *660*	205 *670*	220 *720*	250 *820*
K3	— —	— —	— —	— —	180 *590*	180 *590*	195 *640*	220 *720*	195 *640*	195 *640*	210 *690*	235 *770*	170 *560*	170 *560*	185 *610*	210 *690*
K4	— —	— —	— —	— —	170 *560*	175 *570*	185 *610*	210 *690*	185 *610*	185 *610*	200 *660*	225 *740*	160 *520*	165 *540*	175 *570*	200 *660*
K5	— —	— —	— —	— —	105 *345*	110 *360*	115 *375*	130 *425*	115 *375*	115 *375*	125 *410*	140 *460*	100 *330*	100 *330*	110 *360*	125 *410*
K6	— —	— —	— —	— —	150 *490*	150 *490*	165 *540*	185 *610*	160 *520*	165 *540*	175 *570*	200 *660*	145 *475*	145 *475*	155 *510*	175 *570*
K7	— —	— —	— —	— —	135 *445*	140 *460*	150 *490*	170 *560*	145 *475*	145 *475*	160 *520*	180 *590*	130 *425*	130 *425*	140 *460*	155 *510*

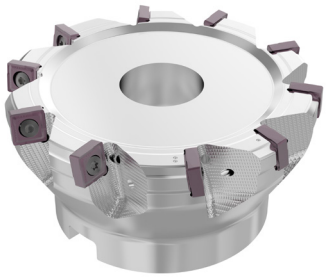


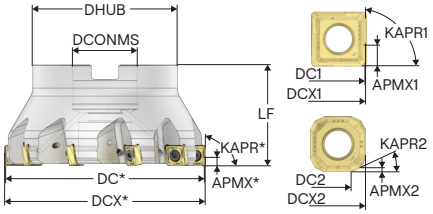
R220.38

The .38-SN12 is a dedicated face finishing milling cutter made for SMG K, P and H and supports SMG M.
The double-sided inserts with F tolerance provide eight edges per insert and is available in two insert types (88° and 27°). Dedicated for finishing of open surfaces with SNFX1204ZZ inserts or close to walls or fixturing's with the SNFX120408PZ inserts, the system shows peak performance in cast iron, steel and hardened steel.
The SA - fixed pocket version is a plug and play solution. Setting up cutters can often be a daunting and costly task. With the fixed pocket variant, setting up is easy and fast. No extra steps are needed. After choosing the insert, you can start over with an excellent run-out.
The CSA - hybrid version provides extra versatility. The cassettes are not mandatory to be set, but can be adjusted to the application needs. When facing challenging burr formation or weaker set-ups, the hybrid variant is your go-to.
The HSA adjustable version achieves highest precision and is ideal when you having highest requirements on the surface quality. Adjust the run-out to the µm.

– Insert size 12, cutter range 63-250mm (3 - 6.00 inches)
– 8 cutting edges, double-sided inserts

R220.38-SN12 Metric



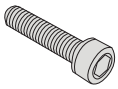
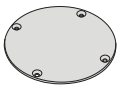


—For insert selection and cutting data recommendations, see page(s) 347-350
—For complete insert programme, see page(s) 896
—For ISO attribute explanation, see page 16

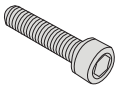
Designation	Item number	Type of mounting	DC1	DC2	ZEFP	APMX1	APMX2	KAPR1°	KAPR2°	DCB	DHUB
			mm	mm		mm	mm			mm	mm
R220.38-0063-SN12-04SA	10271416	Arbor	62,08	55,26	4	3,0	1,0	88,0	27,0	22,0	47,0
R220.38-0080-SN12-06SA	10271417	Arbor	79,1	72,28	6	3,0	1,0	88,0	27,0	27,0	62,0
R220.38-0100-SN12-08SA	10271420	Arbor	99,12	92,3	8	3,0	1,0	88,0	27,0	32,0	77,0
R220.38-0100-SN12-14WA	10271421	Arbor	99,12	92,3	14	3,0	1,0	88,0	27,0	32,0	77,0
R220.38-0125-SN12-10SA	10271424	Arbor	124,13	117,31	10	3,0	1,0	88,0	27,0	40,0	90,0
R220.38-0125-SN12-18WA	10271425	Arbor	124,13	117,31	18	3,0	1,0	88,0	27,0	40,0	90,0
R220.38-8160-SN12-12SA	10271428	Arbor	159,14	152,32	12	3,0	1,0	88,0	27,0	40,0	130,0
R220.38-8160-SN12-22WA	10271429	Arbor	159,14	152,32	22	3,0	1,0	88,0	27,0	40,0	130,0
R220.38-8200-SN12-16SA	10271432	Arbor	199,15	192,32	16	3,0	1,0	88,0	27,0	60,0	160,0
R220.38-8250-SN12-22SA	10271434	Arbor	249,16	242,33	22	3,0	1,0	88,0	27,0	60,0	200,0

Designation	Item number	Type of mounting	DCX1	DCX2	DCONMS	LF	RPMX	Weight	Insert
			mm	mm	mm	mm		kg	
R220.38-0063-SN12-04SA	10271416	Arbor	63,0	62,82	22,0	40,0	10100	0,6	SNFX1204
R220.38-0080-SN12-06SA	10271417	Arbor	80,0	79,83	27,0	50,0	9000	1,2	SNFX1204
R220.38-0100-SN12-08SA	10271420	Arbor	100,0	99,84	32,0	50,0	8000	1,9	SNFX1204
R220.38-0100-SN12-14WA	10271421	Arbor	100,0	99,84	32,0	50,0	8500	2,0	SNFX1204
R220.38-0125-SN12-10SA	10271424	Arbor	125,0	124,84	40,0	63,0	7200	3,4	SNFX1204
R220.38-0125-SN12-18WA	10271425	Arbor	125,0	124,84	40,0	63,0	7600	4,0	SNFX1204
R220.38-8160-SN12-12SA	10271428	Arbor	160,0	159,85	40,0	63,0	6300	5,6	SNFX1204
R220.38-8160-SN12-22WA	10271429	Arbor	160,0	159,85	40,0	63,0	6700	6,0	SNFX1204
R220.38-8200-SN12-16SA	10271432	Arbor	200,0	199,85	60,0	63,0	5700	10,0	SNFX1204
R220.38-8250-SN12-22SA	10271434	Arbor	250,0	249,85	60,0	63,0	5100	18,3	SNFX1204

Spare Parts, included in delivery

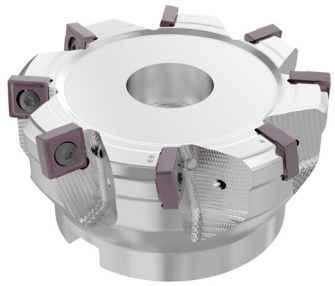
For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw	Wedge clamp	Wedge screw
							
R220.38-0063	220.17-692	1/4HEX-T15PX50	CR4010-T15P	–	–	–	–
R220.38-0080	MC6S12X35	1/4HEX-T15PX50	CR4010-T15P	–	–	–	–
R220.38-0100-08SA	MC6S16X35	1/4HEX-T15PX50	CR4010-T15P	–	–	–	–
R220.38-0100-14WA	MC6S16X35	1/4HEX-T15PX50	–	–	–	CW0512M	LD5018F-T15P
R220.38-0125-10SA	MC6S20X40	1/4HEX-T15PX50	CR4010-T15P	–	–	–	–
R220.38-0125-18WA	MC6S20X40	1/4HEX-T15PX50	–	–	–	CW0512M	LD5018F-T15P
R220.38-8160-12SA	–	1/4HEX-T15PX50	CR4010-T15P	SC-160-90	MF6S4X10	–	–
R220.38-8160-22WA	–	1/4HEX-T15PX50	–	SC-160-90	MF6S4X10	CW0512M	LD5018F-T15P
R220.38-8200-16SA	–	1/4HEX-T15PX50	CR4010-T15P	SC-200-90	MF6S4X10	–	–
R220.38-8250-22SA	–	1/4HEX-T15PX50	CR4010-T15P	SC-250-90	MF6S4X10	–	–

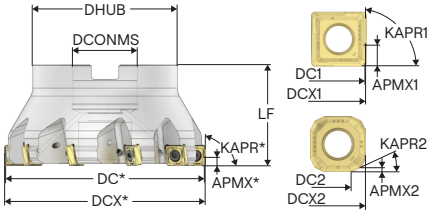
Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Torque key	Torque value
					
R220.38-0063-0125	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	T00-15P35	3.5NM
R220.38-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	1/4HEX-S-HANDLE	T00-15P35	3.5NM
R220.38-8200-8250	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50	1/4HEX-S-HANDLE	T00-15P35	3.5NM

Torque and fixed keys, see page 944

R220.38-SN12 Inch



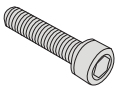


—For insert selection and cutting data recommendations, see page(s) 251-256
—For complete insert programme, see page(s) 906
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC1	DC2	ZEFP	APMX1	APMX2	KAPR1°	KAPR2°	DCB	DHUB
			inch	inch		inch	inch			inch	inch
R220.38-03.00-SN12-06SA	10271436	Arbor	2.965	2.696	6	0.118	0.039	88,0	27,0	1.000	2.441
R220.38-04.00-SN12-08SA	10271438	Arbor	3.965	3.697	8	0.118	0.039	88,0	27,0	1.500	3.031
R220.38-05.00-SN12-10SA	10271440	Arbor	4.966	4.697	10	0.118	0.039	88,0	27,0	1.500	3.543
R220.38-06.00-SN12-12SA	10271443	Arbor	5.966	5.697	12	0.118	0.039	88,0	27,0	2.000	5.118

Designation	Item number	Type of mounting	DCX1	DCX2	DCONMS	LF	RPMX	Weight	Insert
			inch	inch	inch	inch		lbs	
R220.38-03.00-SN12-06SA	10271436	Arbor	3.000	2.993	1.000	1.969	9200	2.650	SNFX1204
R220.38-04.00-SN12-08SA	10271438	Arbor	4.000	3.994	1.500	1.969	8000	4.410	SNFX1204
R220.38-05.00-SN12-10SA	10271440	Arbor	5.000	4.994	1.500	2.480	7100	7.720	SNFX1204
R220.38-06.00-SN12-12SA	10271443	Arbor	6.000	5.994	2.000	2.480	6500	11.240	SNFX1204

Spare Parts, included in delivery

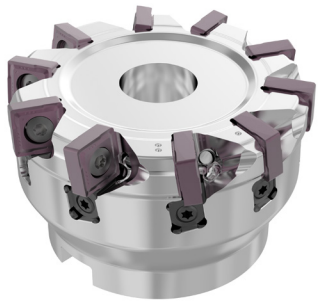
For cutter	Arbor screw	Insert key	Insert screw
			
R220.38-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T15PX50	CR4010-T15P
R220.38-04.00-05.00	UC6S3/4UNFX1-1/4	1/4HEX-T15PX50	CR4010-T15P
R220.38-06.00	–	1/4HEX-T15PX50	CR4010-T15P

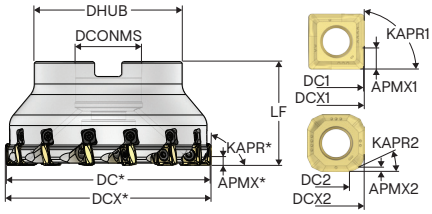
Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Torque key	Torque value
					
R220.38-03.00-05.00	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	T00-15P35	3.5NM
R220.38-06.00	1/4HEX-S-HANDLE-0.8-5.0NM	58215080	1/4HEX-S-HANDLE	T00-15P35	3.5NM

Torque and fixed keys, see page 944

R220.38-SN12 Metric



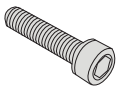
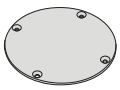


—For insert selection and cutting data recommendations, see page(s) 251-256
—For complete insert programme, see page(s) 906
—For ISO attribute explanation, see page 16

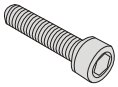
Designation	Item number	Type of mounting	DC1	DC2	ZEFP	APMX1	APMX2	KAPR1°	KAPR2°	DCB	DHUB
			mm	mm		mm	mm			mm	mm
R220.38-0080-SN12-10HSA	10271419	Arbor	79,1	72,28	10	3,0	1,0	88,0	27,0	27,0	62,0
R220.38-0100-SN12-12HSA	10271423	Arbor	99,1172	92,295	12	3,0	1,0	88,0	27,0	32,0	77,0
R220.38-0125-SN12-14HSA	10271427	Arbor	124,13	117,31	14	3,0	1,0	88,0	27,0	40,0	90,0
R220.38-8160-SN12-18HSA	10271431	Arbor	159,14	152,31	18	3,0	1,0	88,0	27,0	40,0	130,0

Designation	Item number	Type of mounting	DCX1	DCX2	DCONMS	LF	RPMX	Weight	Insert
			mm	mm	mm	mm		kg	
R220.38-0080-SN12-10HSA	10271419	Arbor	80,0	79,83	27,0	50,0	9000	1,0	SNFX1204
R220.38-0100-SN12-12HSA	10271423	Arbor	100,0	99,8345	32,0	50,0	8000	2,1	SNFX1204
R220.38-0125-SN12-14HSA	10271427	Arbor	125,0	124,84	40,0	63,0	7200	3,9	SNFX1204
R220.38-8160-SN12-18HSA	10271431	Arbor	160,0	159,84	40,0	63,0	6300	5,9	SNFX1204

Spare Parts, included in delivery

For cutter	Adjusting screw	Adjustment unit	Arbor screw	Insert key	Insert screw	Lid	Lid screw
							
R220.38-0080	LD5018F-T15P	AS608	MC6S12X35	1/4HEX-T15PX50	CR4010-T15P	–	–
R220.38-0100	LD5018F-T15P	AS608	MC6S16X35	1/4HEX-T15PX50	CR4010-T15P	–	–
R220.38-0125	LD5018F-T15P	AS608	MC6S20X40	1/4HEX-T15PX50	CR4010-T15P	–	–
R220.38-8160	LD5018F-T15P	AS608	–	1/4HEX-T15PX50	CR4010-T15P	SC-160-90	MF6S4X10

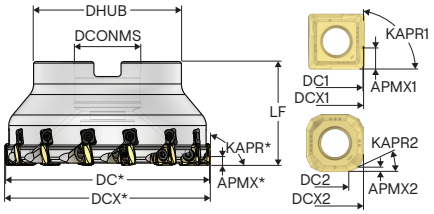
Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Torque key	Torque value
					
R220.38-0063-0125	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	T00-15P35	3.5NM
R220.38-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	1/4HEX-S-HANDLE	T00-15P35	3.5NM

Torque and fixed keys, see page 944

R220.38-SN12 Inch



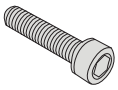
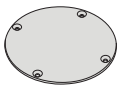


—For insert selection and cutting data recommendations, see page(s) 251-256
—For complete insert programme, see page(s) 906
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC1	DC2	ZEFP	APMX1	APMX2	KAPR1°	KAPR2°	DCB	DHUB
			inch	inch		inch	inch			inch	inch
R220.38-05.00-SN12-14HSA	10271442	Arbor	4.969	4.697	14	0.118	0.039	88,0	27,0	1.500	3.543
R220.38-06.00-SN12-18HSA	10271445	Arbor	5.966	5.697	18	0.118	0.039	88,0	27,0	2.000	5.118

Designation	Item number	Type of mounting	DCX1	DCX2	DCONMS	LF	RPMX	Weight	Insert
			inch	inch	inch	inch		lbs	
R220.38-05.00-SN12-14HSA	10271442	Arbor	5.000	4.994	1.500	2.480	7200	6.610	SNFX1204
R220.38-06.00-SN12-18HSA	10271445	Arbor	6.000	5.994	2.000	2.480	6300	11.900	SNFX1204

Spare Parts, included in delivery

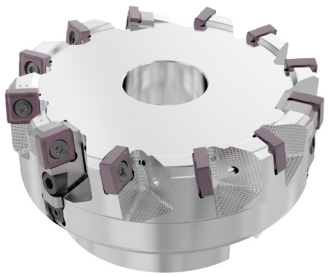
For cutter	Adjusting screw	Adjustment unit	Arbor screw	Insert key	Insert screw	Lid	Lid screw
							
R220.38-05.00	LD5018F-T15P	AS608	UC6S3/4UNFX1-1/4	1/4HEX-T15PX50	CR4010-T15P	–	–
R220.38-06.00	LD5018F-T15P	AS608	–	1/4HEX-T15PX50	CR4010-T15P	SC-160-90	MF6S4X10

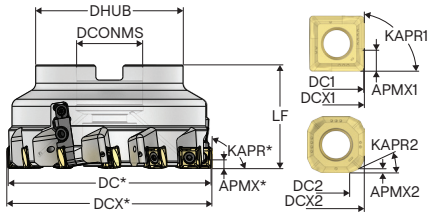
Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Torque key	Torque value
					
R220.38-05.00	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	T00-15P35	3.5NM
R220.38-06.00	1/4HEX-S-HANDLE-0.8-5.0NM	58215080	1/4HEX-S-HANDLE	T00-15P35	3.5NM

Torque and fixed keys, see page 944

R220.38-SN12 Metric



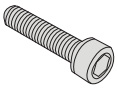
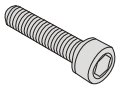
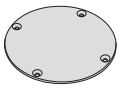


—For insert selection and cutting data recommendations, see page(s) 251-256
—For complete insert programme, see page(s) 906
—For ISO attribute explanation, see page 16

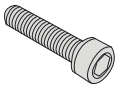
Designation	Item number	Type of mounting	DC1	DC2	ZEFP	APMX1	APMX2	KAPR1°	KAPR2°	DCB	DHUB
			mm	mm		mm	mm			mm	mm
R220.38-0080-SN12-08CSA	10271418	Arbor	79,1	72,3	8	3,0	1,0	88,0	27,0	27,0	62,0
R220.38-0100-SN12-10CSA	10271422	Arbor	99,1	92,3	10	3,0	1,0	88,0	27,0	32,0	77,0
R220.38-0125-SN12-12CSA	10271426	Arbor	124,1	117,3	12	3,0	1,0	88,0	27,0	40,0	90,0
R220.38-8160-SN12-15CSA	10271430	Arbor	159,1	152,3	15	3,0	1,0	88,0	27,0	40,0	130,0
R220.38-8200-SN12-20CSA	10271433	Arbor	199,1	192,3	20	3,0	1,0	88,0	27,0	60,0	160,0
R220.38-8250-SN12-25CSA	10271435	Arbor	249,2	242,3	25	3,0	1,0	88,0	27,0	60,0	200,0

Designation	Item number	Type of mounting	DCX1	DCX2	DCONMS	LF	RPMX	Weight	Insert
			mm	mm	mm	mm		kg	
R220.38-0080-SN12-08CSA	10271418	Arbor	80,0	79,8	27,0	63,0	9000	1,6	SNFX1204
R220.38-0100-SN12-10CSA	10271422	Arbor	100,0	99,8	32,0	63,0	8000	2,7	SNFX1204
R220.38-0125-SN12-12CSA	10271426	Arbor	125,0	124,8	40,0	63,0	7200	4,0	SNFX1204
R220.38-8160-SN12-15CSA	10271430	Arbor	160,0	159,8	40,0	63,0	6300	6,1	SNFX1204
R220.38-8200-SN12-20CSA	10271433	Arbor	200,0	199,8	60,0	63,0	5700	8,7	SNFX1204
R220.38-8250-SN12-25CSA	10271435	Arbor	250,0	249,9	60,0	63,0	5100	19,6	SNFX1204

Spare Parts, included in delivery

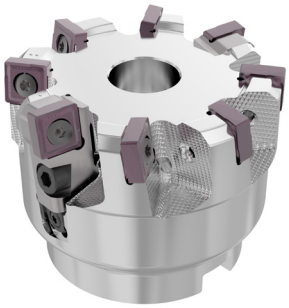
For cutter	Adjusting screw	Adjustment unit	Arbor screw	Cassette	Cassette screw	Insert key	Insert screw	Lid	Lid screw
									
R220.38-0080	LD5018F-T15P	AS608	MC6S12X35	SN12PZR	MC6S5X16	1/4HEX-T15PX50	CR4010-T15P	–	–
R220.38-0100	LD5018F-T15P	AS608	MC6S16X35	SN12PZR	MC6S5X16	1/4HEX-T15PX50	CR4010-T15P	–	–
R220.38-0125	LD5018F-T15P	AS608	MC6S20X40	SN12PZR	MC6S5X16	1/4HEX-T15PX50	CR4010-T15P	–	–
R220.38-8160	LD5018F-T15P	AS608	–	SN12PZR	MC6S5X16	1/4HEX-T15PX50	CR4010-T15P	SC-160-90	MF6S4X10
R220.38-8200	LD5018F-T15P	AS608	–	SN12PZR	MC6S5X16	1/4HEX-T15PX50	CR4010-T15P	SC-200-90	MF6S4X10
R220.38-8250	LD5018F-T15P	AS608	–	SN12PZR	MC6S5X16	1/4HEX-T15PX50	CR4010-T15P	–	–

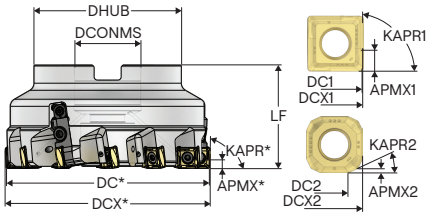
Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Torque key	Torque value
					
R220.38-0080-0125	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	T00-15P35	3.5NM
R220.38-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	1/4HEX-S-HANDLE	T00-15P35	3.5NM
R220.38-8200-8250	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50	1/4HEX-S-HANDLE	T00-15P35	3.5NM

Torque and fixed keys, see page 944

R220.38-SN12 Inch



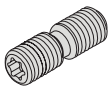
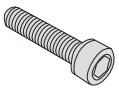
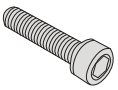
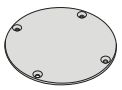


—For insert selection and cutting data recommendations, see page(s) 251-256
—For complete insert programme, see page(s) 906
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC1	DC2	ZEFP	APMX1	APMX2	KAPR1°	KAPR2°	DCB	DHUB
			inch	inch		inch	inch			inch	inch
R220.38-03.00-SN12-08CSA	10271437	Arbor	2.964	2.696	8	0.118	0.039	88,0	27,0	1.000	2.441
R220.38-04.00-SN12-10CSA	10271439	Arbor	3.965	3.696	10	0.118	0.039	88,0	27,0	1.500	3.031
R220.38-05.00-SN12-12CSA	10271441	Arbor	4.969	4.697	12	0.118	0.039	88,0	27,0	1.500	3.543
R220.38-06.00-SN12-15CSA	10271444	Arbor	5.966	5.697	15	0.118	0.039	88,0	-27,0	2.000	5.118

Designation	Item number	Type of mounting	DCX1	DCX2	DCONMS	LF	RPMX	Weight	Insert
			inch	inch	inch	inch		lbs	
R220.38-03.00-SN12-08CSA	10271437	Arbor	3.000	2.993	1.000	2.480	9200	3.310	SNFX1204
R220.38-04.00-SN12-10CSA	10271439	Arbor	4.000	3.993	1.500	2.480	8000	5.730	SNFX1204
R220.38-05.00-SN12-12CSA	10271441	Arbor	5.000	4.994	1.500	2.480	7200	9.260	SNFX1204
R220.38-06.00-SN12-15CSA	10271444	Arbor	6.000	5.994	2.000	2.480	6500	12.130	SNFX1204

Spare Parts, included in delivery

For cutter	Adjusting screw	Adjustment unit	Arbor screw	Cassette	Cassette screw	Insert key	Insert screw	Lid	Lid screw
									
R220.38-03.00	LD5018F-T15P	AS608	UC6S1/2UNFX1-1/4	SN12PZR	MC6S5X16	1/4HEX-T15PX50	CR4010-T15P	–	–
R220.38-04.00-05.00	LD5018F-T15P	AS608	UC6S3/4UNFX1-1/4	SN12PZR	MC6S5X16	1/4HEX-T15PX50	CR4010-T15P	–	–
R220.38-06.00	LD5018F-T15P	AS608	–	SN12PZR	MC6S5X16	1/4HEX-T15PX50	CR4010-T15P	SC-160-90	MF6S4X10

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Torque key	Torque value
					
R220.38-03.00-05.00	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	T00-15P35	3.5NM
R220.38-06.00	1/4HEX-S-HANDLE-0.8-5.0NM	58215080	1/4HEX-S-HANDLE	T00-15P35	3.5NM

Torque and fixed keys, see page 944

38-SNFX120408 – Insert selection – Metric/ Inch

SMG		f_z	
		80%	30%
P1	SNFX120408PZER-W8-M08 MP3000	0,14 *0.0055*	0,15 0.0060
P2	SNFX120408PZER-W8-M08 MP3000	0,14 *0.0055*	0,15 0.0060
P3	SNFX120408PZER-W8-M08 MP3000	0,13 *0.0050*	0,15 0.0060
P4	SNFX120408PZER-W8-M08 MP3000	0,13 *0.0050*	0,14 0.0055
P5	SNFX120408PZER-W8-M08 MP3000	0,13 *0.0050*	0,14 0.0055
P6	SNFX120408PZER-W8-M08 MP3000	0,13 *0.0050*	0,14 0.0055
P7	SNFX120408PZER-W8-M08 MP3000	0,13 *0.0050*	0,14 0.0055
P8	SNFX120408PZER-W8-M08 MS2050	0,13 *0.0050*	0,15 0.0060
P11	SNFX120408PZER-W8-M08 MS2050	0,13 *0.0050*	0,14 0.0055
P12	SNFX120408PZER-W8-M08 MS2050	0,090 *0.0036*	0,10 0.0040
K1	SNFX120408PZSR-W8-M10 MH1051	0,16 *0.0065*	0,17 0.0065
K2	SNFX120408PZSR-W8-M10 MH1051	0,14 *0.0055*	0,16 0.0065
K3	SNFX120408PZSR-W8-M10 MK2050	0,14 *0.0055*	0,16 0.0065
K4	SNFX120408PZSR-W8-M10 MK2050	0,14 *0.0055*	0,16 0.0065
K5	SNFX120408PZSR-W8-M10 MK2050	0,13 *0.0050*	0,14 0.0055
K6	SNFX120408PZSR-W8-M10 MK2050	0,14 *0.0055*	0,16 0.0065
K7	SNFX120408PZSR-W8-M10 MK2050	0,13 *0.0050*	0,14 0.0055
H5	SNFX120408PZSR-W8-M10 MH1051	0,10 *0.0040*	0,11 0.0044
H8	SNFX120408PZSR-W8-M10 MH1051	0,080 *0.0032*	0,085 0.0034
H11	SNFX120408PZSR-W8-M10 MH1051	0,10 *0.0040*	0,11 0.0044
H12	SNFX120408PZSR-W8-M10 MH1051	0,080 *0.0032*	0,085 0.0034
H21	SNFX120408PZSR-W8-M10 MH1051	0,080 *0.0032*	0,085 0.0034

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

38-SNFX1204ZZ – Insert selection – Metric/ Inch

SMG		f_z	
		80%	30%
P1	SNFX1204ZZEN-W8-M08 MP3000	0,38 *0.015*	0,42 0.017
P2	SNFX1204ZZEN-W8-M08 MP3000	0,38 *0.015*	0,42 0.017
P3	SNFX1204ZZEN-W8-M08 MP3000	0,36 *0.014*	0,40 0.016
P4	SNFX1204ZZEN-W8-M08 MP3000	0,36 *0.014*	0,40 0.016
P5	SNFX1204ZZEN-W8-M08 MP3000	0,36 *0.014*	0,38 0.015
P6	SNFX1204ZZEN-W8-M08 MP3000	0,34 *0.013*	0,38 0.015
P7	SNFX1204ZZEN-W8-M08 MP3000	0,34 *0.013*	0,38 0.015
P8	SNFX1204ZZEN-W8-M08 MS2050	0,36 *0.014*	0,40 0.016
P11	SNFX1204ZZEN-W8-M08 MS2050	0,34 *0.013*	0,38 0.015
P12	SNFX1204ZZEN-W8-M08 MS2050	0,25 *0.010*	0,28 0.011
K1	SNFX1204ZZSN-W8-M12 MH1051	0,42 *0.017*	0,48 0.018
K2	SNFX1204ZZSN-W8-M12 MH1051	0,38 *0.015*	0,42 0.017
K3	SNFX1204ZZSN-W8-M12 MK2050	0,38 *0.015*	0,42 0.017
K4	SNFX1204ZZSN-W8-M12 MK2050	0,38 *0.015*	0,42 0.017
K5	SNFX1204ZZSN-W8-M12 MK2050	0,36 *0.014*	0,38 0.015
K6	SNFX1204ZZSN-W8-M12 MK2050	0,38 *0.015*	0,42 0.017
K7	SNFX1204ZZSN-W8-M12 MK2050	0,36 *0.014*	0,38 0.015
H5	SNFX1204ZZSN-W8-M12 MH1051	0,28 *0.011*	0,30 0.012
H8	SNFX1204ZZSN-W8-M12 MH1051	0,22 *0.0085*	0,24 0.0095
H11	SNFX1204ZZSN-W8-M12 MH1051	0,28 *0.011*	0,30 0.012
H12	SNFX1204ZZSN-W8-M12 MH1051	0,22 *0.0085*	0,24 0.0095
H21	SNFX1204ZZSN-W8-M12 MH1051	0,22 *0.0085*	0,24 0.0095

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R220.38 – Cutting data v_c = (m/min)/(sf/min)

SMG	MH1051			F15M			MK2050			MP3000			MS2050			MP1020			H15		
	90%	70%	30%	90%	70%	30%	90%	70%	30%	90%	70%	30%	90%	70%	30%	90%	70%	30%	90%	70%	30%
P1	—	—	—	245	265	315	270	285	345	290	310	380	250	265	320	320	335	395	—	—	—
	—	—	—	*800*	*870*	*1025*	*890*	*940*	*1125*	*950*	*1025*	*1250*	*820*	*870*	*1050*	*1050*	*1100*	*1300*	—	—	—
P2	—	—	—	235	250	310	255	270	335	280	300	370	245	260	315	315	325	385	—	—	—
	—	—	—	*770*	*820*	*1025*	*840*	*890*	*1100*	*920*	*980*	*1225*	*800*	*850*	*1025*	*1025*	*1075*	*1275*	—	—	—
P3	—	—	—	205	220	270	225	240	290	250	265	320	215	230	270	280	290	330	—	—	—
	—	—	—	*670*	*720*	*890*	*740*	*790*	*950*	*820*	*870*	*1050*	*710*	*750*	*890*	*920*	*950*	*1075*	—	—	—
P4	—	—	—	180	195	240	195	210	255	220	235	285	190	200	240	250	255	295	—	—	—
	—	—	—	*590*	*640*	*790*	*640*	*690*	*840*	*720*	*770*	*940*	*620*	*660*	*790*	*820*	*840*	*970*	—	—	—
P5	375	400	495	175	190	225	190	205	245	210	225	275	180	195	230	235	245	285	—	—	—
	1225	*1300*	*1625*	*570*	*620*	*740*	*620*	*670*	*800*	*690*	*740*	*900*	*590*	*640*	*750*	*770*	*800*	*940*	—	—	—
P6	420	450	570	200	210	260	215	230	280	235	250	305	205	215	260	265	275	315	—	—	—
	1375	*1475*	*1875*	*660*	*690*	*850*	*710*	*750*	*920*	*770*	*820*	*1000*	*670*	*710*	*850*	*870*	*900*	*1025*	—	—	—
P7	400	425	540	190	200	245	205	215	265	220	235	290	195	205	245	250	260	300	—	—	—
	1300	*1400*	*1775*	*620*	*660*	*800*	*670*	*710*	*870*	*720*	*770*	*950*	*640*	*670*	*800*	*820*	*850*	*980*	—	—	—
P8	365	390	495	175	185	225	190	200	245	210	225	265	180	195	225	235	245	275	—	—	—
	1200	*1275*	*1625*	*570*	*610*	*740*	*620*	*660*	*800*	*690*	*740*	*870*	*590*	*640*	*740*	*770*	*800*	*900*	—	—	—
P11	385	415	520	185	195	235	200	210	255	215	230	280	185	200	240	245	255	290	—	—	—
	1275	*1350*	*1700*	*610*	*640*	*770*	*660*	*690*	*840*	*710*	*750*	*920*	*610*	*660*	*790*	*800*	*840*	*950*	—	—	—
P12	270	285	345	120	125	150	130	135	165	145	155	180	125	130	155	165	170	170	—	—	—
	890	*940*	*1125*	*395*	*410*	*490*	*425*	*445*	*540*	*475*	*510*	*590*	*410*	*425*	*510*	*540*	*560*	*560*	—	—	—
K1	490	520	670	185	200	245	275	295	360	200	215	265	—	—	—	195	205	255	155	165	200
	1600	*1700*	*2200*	*610*	*660*	*800*	*900*	*970*	*1175*	*660*	*710*	*870*	—	—	—	*640*	*670*	*840*	*510*	*540*	*660*
K2	455	485	600	170	180	215	250	265	320	180	190	230	—	—	—	170	185	225	135	145	175
	1500	*1600*	*1975*	*560*	*590*	*710*	*820*	*870*	*1050*	*590*	*620*	*750*	—	—	—	*560*	*610*	*740*	*445*	*475*	*570*
K3	385	410	510	140	150	180	210	225	270	150	160	195	—	—	—	145	155	190	115	125	150
	1275	*1350*	*1675*	*460*	*490*	*590*	*690*	*740*	*890*	*490*	*520*	*640*	—	—	—	*475*	*510*	*620*	*375*	*410*	*490*
K4	365	390	485	135	145	175	200	215	255	145	155	190	—	—	—	140	150	180	110	115	145
	1200	*1275*	*1600*	*445*	*475*	*570*	*660*	*710*	*840*	*475*	*510*	*620*	—	—	—	*460*	*490*	*590*	*360*	*375*	*475*
K5	225	240	305	85	90	105	120	130	160	90	95	115	—	—	—	85	90	110	65	70	85
	740	*790*	*1000*	*280*	*295*	*345*	*395*	*425*	*520*	*295*	*310*	*375*	—	—	—	*280*	*295*	*360*	*215*	*230*	*280*
K6	325	345	425	120	130	155	175	190	225	125	135	165	—	—	—	120	130	160	95	105	125
	1075	*1125*	*1400*	*395*	*425*	*510*	*570*	*620*	*740*	*410*	*445*	*540*	—	—	—	*395*	*425*	*520*	*310*	*345*	*410*
K7	290	310	390	105	115	135	155	165	200	115	120	145	—	—	—	110	115	140	85	90	110
	950	*1025*	*1275*	*345*	*375*	*445*	*510*	*540*	*660*	*375*	*395*	*475*	—	—	—	*360*	*375*	*460*	*280*	*295*	*360*
H5	140	145	175	40	42	50	44	47	55	40	42	50	—	—	—	—	—	—	—	—	—
	460	*475*	*570*	*130*	*140*	*165*	*145*	*155*	*180*	*130*	*140*	*165*	—	—	—	—	—	—	—	—	—
H8	150	160	190	42	45	55	47	50	60	42	45	55	—	—	—	—	—	—	—	—	—
	490	*520*	*620*	*140*	*150*	*180*	*155*	*165*	*195*	*140*	*150*	*180*	—	—	—	—	—	—	—	—	—
H11	175	185	225	50	55	65	55	60	70	50	55	65	—	—	—	—	—	—	—	—	—
	570	*610*	*740*	*165*	*180*	*215*	*180*	*195*	*230*	*165*	*180*	*215*	—	—	—	—	—	—	—	—	—
H12	175	185	220	75	80	95	80	85	105	80	85	105	—	—	—	—	—	—	—	—	—
	570	*610*	*720*	*245*	*260*	*310*	*260*	*280*	*345*	*260*	*280*	*345*	—	—	—	—	—	—	—	—	—
H21	150	160	190	42	45	55	47	50	60	—	—	—	—	—	—	—	—	—	—	—	—
	490	*520*	*620*	*140*	*150*	*180*	*155*	*165*	*195*	—	—	—	—	—	—	—	—	—	—	—	—

R220.38 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK1501			MP1501			MP2501			MP3501		
	90%	70%	30%	90%	70%	30%	90%	70%	30%	90%	70%	30%
P1	—	—	—	385	405	465	380	395	460	345	365	425
	—	—	—	*1275*	*1325*	*1525*	*1250*	*1300*	*1500*	*1125*	*1200*	*1400*
P2	—	—	—	370	385	455	360	380	450	335	355	415
	—	—	—	*1225*	*1275*	*1500*	*1175*	*1250*	*1475*	*1100*	*1175*	*1350*
P3	—	—	—	325	340	395	315	335	390	295	310	355
	—	—	—	*1075*	*1125*	*1300*	*1025*	*1100*	*1275*	*970*	*1025*	*1175*
P4	—	—	—	285	300	350	280	295	345	260	275	320
	—	—	—	*940*	*980*	*1150*	*920*	*970*	*1125*	*850*	*900*	*1050*
P5	—	—	—	275	290	335	270	285	330	250	260	305
	—	—	—	*900*	*950*	*1100*	*890*	*940*	*1075*	*820*	*850*	*1000*
P6	—	—	—	310	325	380	305	320	375	280	295	340
	—	—	—	*1025*	*1075*	*1250*	*1000*	*1050*	*1225*	*920*	*970*	*1125*
P7	—	—	—	295	305	355	290	300	355	265	275	320
	—	—	—	*970*	*1000*	*1175*	*950*	*980*	*1175*	*870*	*900*	*1050*
P8	—	—	—	270	285	335	265	280	330	250	260	300
	—	—	—	*890*	*940*	*1100*	*870*	*920*	*1075*	*820*	*850*	*980*
P11	—	—	—	285	300	345	280	295	345	255	270	315
	—	—	—	*940*	*980*	*1125*	*920*	*970*	*1125*	*840*	*890*	*1025*
P12	—	—	—	185	190	215	180	190	215	165	175	195
	—	—	—	*610*	*620*	*710*	*590*	*620*	*710*	*540*	*570*	*640*
K1	355	405	560	370	390	460	365	385	450	340	355	420
	1175	*1325*	*1825*	*1225*	*1275*	*1500*	*1200*	*1275*	*1475*	*1125*	*1175*	*1375*
K2	315	355	490	335	350	405	330	345	395	300	315	370
	1025	*1175*	*1600*	*1100*	*1150*	*1325*	*1075*	*1125*	*1300*	*980*	*1025*	*1225*
K3	235	255	325	285	295	340	280	290	335	255	265	310
	770	*840*	*1075*	*940*	*970*	*1125*	*920*	*950*	*1100*	*840*	*870*	*1025*
K4	225	245	310	270	285	325	265	280	320	245	255	295
	740	*800*	*1025*	*890*	*940*	*1075*	*870*	*920*	*1050*	*800*	*840*	*970*
K5	135	150	190	165	170	200	160	170	195	150	155	180
	445	*490*	*620*	*540*	*560*	*660*	*520*	*560*	*640*	*490*	*510*	*590*
K6	200	215	275	240	250	285	235	245	280	215	225	260
	660	*710*	*900*	*790*	*820*	*940*	*770*	*800*	*920*	*710*	*740*	*850*
K7	175	190	245	210	220	255	205	215	250	190	200	230
	570	*620*	*800*	*690*	*720*	*840*	*670*	*710*	*820*	*620*	*660*	*750*
H5	—	—	—	49	50	65	—	—	—	—	—	—
	—	—	—	*160*	*165*	*215*	—	—	—	—	—	—
H8	—	—	—	50	55	65	—	—	—	—	—	—
	—	—	—	*165*	*180*	*215*	—	—	—	—	—	—
H11	—	—	—	65	65	80	—	—	—	—	—	—
	—	—	—	*215*	*215*	*260*	—	—	—	—	—	—
H12	—	—	—	95	100	120	—	—	—	—	—	—
	—	—	—	*310*	*330*	*395*	—	—	—	—	—	—
H21	—	—	—	50	55	65	—	—	—	—	—	—
	—	—	—	*165*	*180*	*215*	—	—	—	—	—	—

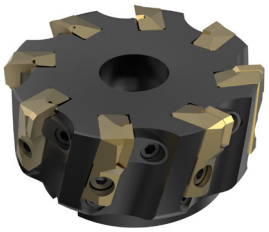


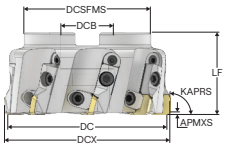
R220.30 -12

This cutter family can meet the highest surface finish requirements in a variety of materials. The strength is in cast iron materials due to a comprehensive offer in geometry and grade combinations. The adjustable pocket ensures a high run out accuracy and the precise inserts reduces the efforts to set the cutter. The single sided inserts are light cutting and include a long wiper flat to meet the requirements of bigger diameter cutters. The included crown design on the SEEX1203 inserts compensates a misalignment between spindle head and the workpiece to ensure a superb surface finish and appearance. The inserts offer is ideal for special cutters like hybrid cutters for rough-finishing with dedicated roughing inserts as well as pure finishing cutters with customized pitches and handling units.

– DC = 80 – 355 mm
– Available in both course and close pitch versions
– Available in both cassette version and fix pocket and also for mounting as CAP

R220.30-12CT – Metric





—For insert selection and cutting data recommendations, see page(s) 355 - 356
—For complete insert programme, see page(s) 894
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm	mm		kg	
R220.30-0080-12CT	75068850	Arbor	80,0	6	1,0	88,0 °	80,75	27,0	–	56,0	50,0	4800	1,3	SE..1203
R220.30-0100-12CT	75068851	Arbor	100,0	8	1,0	88,0 °	100,72	32,0	–	77,0	50,0	4300	1,8	SE..1203
R220.30-0125-12CT	75068852	Arbor	125,0	10	1,0	88,0 °	126,02	40,0	–	90,0	63,0	3800	3,5	SE..1203
R220.30-8250-12CT	75068855	Arbor	250,0	22	1,0	88,0 °	250,91	60,0	101,6	130,0	63,0	2700	17,8	SE..1203

Spare Parts, included in delivery

For cutter	Adjustment unit	Arbor screw	Cassette	Cassette screw	Insert key	Insert wedge	Wedge screw
							
R220.30-0080	AU1114T-T15P	MF6S12X45	SE12PRC	FS95018	1/4HEX-H4.0X50	334.5-640	268-650
R220.30-0100	AU1114T-T15P	MC6S16X35	SE12PRC	FS95018	1/4HEX-H4.0X50	334.5-640	268-650
R220.30-0125-8250	AU1114T-T15P	–	SE12PRC	FS95018	1/4HEX-H4.0X50	334.5-640	268-650

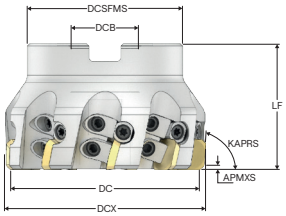
Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder
			
R220.30-0080	1/4HEX-S-HANDLE-0.8-5.0NM	5802712	1/4HEX-S-HANDLE
R220.30-0100	1/4HEX-S-HANDLE-0.8-5.0NM	5803216	1/4HEX-S-HANDLE
R220.30-0125	1/4HEX-S-HANDLE-0.8-5.0NM	5804020	1/4HEX-S-HANDLE
R220.30-8250	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50	1/4HEX-S-HANDLE

Torque and fixed keys, see page 944

R220.30-12ST – Metric

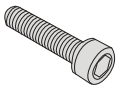




—For insert selection and cutting data recommendations, see page(s) 355 - 356
—For complete insert programme, see page(s) 894
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DBC1	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm	mm		kg	
R220.30-0080-12ST	75038551	Arbor	80,0	9	1,0	88,0 °	80,75	27,0	–	56,0	50,0	5300	1,4	SE..X1203
R220.30-8160-12ST	75036394	Arbor	160,0	20	1,0	88,0 °	160,97	40,0	66,7	90,0	63,0	3800	5,6	SE..1203
R220.30-8200-12ST	75066297	Arbor	200,0	25	1,0	88,0 °	200,94	60,0	101,6	130,0	63,0	3300	8,0	SE..1203

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert wedge	Key	Setting gauge	Setting screw	Wedge screw
							
R220.30-0080	MC6S12X40	1/4HEX-T15PX50	CW0608	T15P-4ST	AS6011	LD6019-T15P	LD6018T-T15P
R220.30-8160-8200	–	1/4HEX-T15PX50	CW0608	T15P-4ST	AS6011	LD6019-T15P	LD6018T-T15P

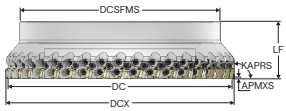
Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder
			
R220.30-0080	1/4HEX-S-HANDLE-0.8-5.0NM	5802712	1/4HEX-S-HANDLE
R220.30-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	1/4HEX-S-HANDLE
R220.30-8200	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50	1/4HEX-S-HANDLE

Torque and fixed keys, see page 944

R220.30-12ST CAP – Metric





—For insert selection and cutting data recommendations, see page(s) 355 - 356
—For complete insert programme, see page(s) 894
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm		kg	
R220.30-9250-12ST	75077274	Arbor	250,0	32	1,0	88,0 °	250,97	220,0	63,0	3000	9,2	SE..1203
R220.30-9355-12ST	75077276	Arbor	355,0	44	1,0	88,0 °	355,94	285,0	63,0	2500	15,9	SE..1203

Spare Parts, included in delivery

For cutter	Insert key	Insert wedge	Key	Setting gauge	Setting screw	Wedge screw
						
R220.30-9250-9355	1/4HEX-T15PX50	CW0608	T15P-4ST	AS6011	LD6019-T15P	LD6018T-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder
		
R220.30-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE

Torque and fixed keys, see page 944

R220.30-12 – Insert selection – mm/Inch

SMG		a_p	f_z			
			80%	60%	40%	20%
P1	SEEX1203AFTN-M13 MP3501	0,60 *0.024*	0,18 0.0070	0,18 0.0070	0,19 0.0075	0,22 0.0085
P2	SEEX1203AFTN-M13 MP3501	0,60 *0.024*	0,19 0.0075	0,19 0.0075	0,19 0.0075	0,24 0.0095
P3	SEEX1203AFTN-M13 MP3501	0,60 *0.024*	0,18 0.0070	0,18 0.0070	0,18 0.0070	0,22 0.0085
P4	SEEX1203AFTN-M13 MP3501	0,60 *0.024*	0,17 0.0065	0,17 0.0065	0,18 0.0070	0,22 0.0085
P5	SEEX1203AFTN-M13 MP3501	0,60 *0.024*	0,17 0.0065	0,17 0.0065	0,17 0.0065	0,22 0.0085
P6	SEEX1203AFTN-M13 MP3501	0,60 *0.024*	0,17 0.0065	0,17 0.0065	0,17 0.0065	0,20 0.0080
P7	SEEX1203AFTN-M13 MP3501	0,60 *0.024*	0,17 0.0065	0,17 0.0065	0,17 0.0065	0,20 0.0080
P8	SEEX1203AFTN-M13 MP3501	0,60 *0.024*	0,18 0.0070	0,18 0.0070	0,18 0.0070	0,22 0.0085
P11	SEEX1203AFTN-M13 MP3501	0,60 *0.024*	0,17 0.0065	0,17 0.0065	0,17 0.0065	0,20 0.0080
P12	SEEX1203AFTN-M13 MP3501	0,48 *0.019*	0,11 0.0044	0,11 0.0044	0,12 0.0048	0,14 0.0055
M1	SEEX1203AFTN-M13 MP3501	0,60 *0.024*	0,19 0.0075	0,19 0.0075	0,19 0.0075	0,24 0.0095
M2	SEEX1203AFTN-M13 MP3501	0,60 *0.024*	0,17 0.0065	0,17 0.0065	0,17 0.0065	0,22 0.0085
M3	SEEX1203AFTN-M13 MP3501	0,48 *0.019*	0,14 0.0055	0,14 0.0055	0,14 0.0055	0,17 0.0065
M4	SEEX1203AFTN-M13 MP3501	0,36 *0.014*	0,12 0.0048	0,12 0.0048	0,12 0.0048	0,15 0.0060
M5	SEEX1203AFTN-M13 MP3501	0,36 *0.014*	0,12 0.0048	0,12 0.0048	0,12 0.0048	0,15 0.0060
K1	SEEX1203AFTN-MD14 MH1051	0,60 *0.024*	0,20 0.0080	0,20 0.0080	0,20 0.0080	0,25 0.010
K2	SEEX1203AFTN-MD14 MH1051	0,60 *0.024*	0,18 0.0070	0,18 0.0070	0,19 0.0075	0,22 0.0085
K3	SEEX1203AFTN-MD14 MH1051	0,60 *0.024*	0,18 0.0070	0,18 0.0070	0,19 0.0075	0,22 0.0085
K4	SEEX1203AFTN-MD14 MH1051	0,60 *0.024*	0,18 0.0070	0,18 0.0070	0,19 0.0075	0,22 0.0085
K5	SEEX1203AFTN-MD14 MH1051	0,60 *0.024*	0,16 0.0065	0,16 0.0065	0,17 0.0065	0,20 0.0080
K6	SEEX1203AFTN-MD14 MH1051	0,60 *0.024*	0,18 0.0070	0,18 0.0070	0,19 0.0075	0,22 0.0085
K7	SEEX1203AFTN-MD14 MH1051	0,60 *0.024*	0,16 0.0065	0,16 0.0065	0,17 0.0065	0,20 0.0080
H5	SEEX1203AFTN-MD14 MH1051	0,48 *0.019*	0,12 0.0048	0,12 0.0048	0,13 0.0050	0,15 0.0065
H8	SEEX1203AFTN-MD14 MH1051	0,42 *0.017*	0,095 0.0038	0,095 0.0038	0,095 0.0038	0,12 0.0048
H11	SEEX1203AFTN-MD14 MH1051	0,48 *0.019*	0,12 0.0048	0,12 0.0048	0,13 0.0050	0,15 0.0065
H12	SEEX1203AFTN-MD14 MH1051	0,42 *0.017*	0,095 0.0038	0,095 0.0038	0,095 0.0038	0,12 0.0048
H21	SEEX1203AFTN-MD14 MH1051	0,42 *0.017*	0,095 0.0038	0,095 0.0038	0,095 0.0038	0,12 0.0048

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R220.30-12 – Cutting data v_c = (m/min)/(sf/min)

SMG	MH1051				F15M				H15				MK1501				MP3501			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	—	—	—	—	225	240	255	285	—	—	—	—	—	—	—	—	320	330	350	380
	—	—	—	—	*740*	*790*	*840*	*940*	—	—	—	—	—	—	—	—	*1050*	*1075*	*1150*	*1250*
P2	—	—	—	—	220	230	250	280	—	—	—	—	—	—	—	—	305	315	335	370
	—	—	—	—	*720*	*750*	*820*	*920*	—	—	—	—	—	—	—	—	*1000*	*1025*	*1100*	*1225*
P3	—	—	—	—	190	200	220	240	—	—	—	—	—	—	—	—	270	275	295	325
	—	—	—	—	*620*	*660*	*720*	*790*	—	—	—	—	—	—	—	—	*890*	*900*	*970*	*1075*
P4	—	—	—	—	170	180	190	215	—	—	—	—	—	—	—	—	240	245	265	285
	—	—	—	—	*560*	*590*	*620*	*710*	—	—	—	—	—	—	—	—	*790*	*800*	*870*	*940*
P5	325	330	360	405	165	175	185	205	—	—	—	—	—	—	—	—	230	235	250	275
	1075	*1075*	*1175*	*1325*	*540*	*570*	*610*	*670*	—	—	—	—	—	—	—	—	*750*	*770*	*820*	*900*
P6	365	370	405	470	185	195	210	230	—	—	—	—	—	—	—	—	260	265	280	310
	1200	*1225*	*1325*	*1550*	*610*	*640*	*690*	*750*	—	—	—	—	—	—	—	—	*850*	*870*	*920*	*1025*
P7	345	350	385	440	175	185	195	220	—	—	—	—	—	—	—	—	245	250	265	295
	1125	*1150*	*1275*	*1450*	*570*	*610*	*640*	*720*	—	—	—	—	—	—	—	—	*800*	*820*	*870*	*970*
P8	315	320	350	405	160	170	185	205	—	—	—	—	—	—	—	—	225	230	245	270
	1025	*1050*	*1150*	*1325*	*520*	*560*	*610*	*670*	—	—	—	—	—	—	—	—	*740*	*750*	*800*	*890*
P11	335	340	370	430	170	180	190	215	—	—	—	—	—	—	—	—	240	245	260	285
	1100	*1125*	*1225*	*1400*	*560*	*590*	*620*	*710*	—	—	—	—	—	—	—	—	*790*	*800*	*850*	*940*
P12	245	250	270	295	—	—	—	—	—	—	—	—	—	—	—	—	160	165	175	185
	800	*820*	*890*	*970*	—	—	—	—	—	—	—	—	—	—	—	—	*520*	*540*	*570*	*610*
M1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	165	175	185	210
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*540*	*570*	*610*	*690*
M2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	140	145	155	175
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*460*	*475*	*510*	*570*
M3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	110	115	125	140
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*360*	*375*	*410*	*460*
M4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	85	90	100	110
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*280*	*295*	*330*	*360*
M5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	75	75	85	90
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*245*	*245*	*280*	*295*
K1	425	435	475	550	175	185	200	220	140	145	155	175	315	370	425	500	310	315	335	370
	1400	*1425*	*1550*	*1800*	*570*	*610*	*660*	*720*	*460*	*475*	*510*	*570*	*1025*	*1225*	*1400*	*1650*	*1025*	*1025*	*1100*	*1225*
K2	390	400	435	490	155	165	175	195	125	130	140	155	275	330	375	440	280	285	305	335
	1275	*1300*	*1425*	*1600*	*510*	*540*	*570*	*640*	*410*	*425*	*460*	*510*	*900*	*1075*	*1225*	*1450*	*920*	*940*	*1000*	*1100*
K3	330	335	370	415	130	140	150	165	105	110	120	130	215	235	255	290	235	240	255	285
	1075	*1100*	*1225*	*1350*	*425*	*460*	*490*	*540*	*345*	*360*	*395*	*425*	*710*	*770*	*840*	*950*	*770*	*790*	*840*	*940*
K4	315	320	355	395	125	130	145	155	100	105	115	125	205	225	245	275	225	230	245	270
	1025	*1050*	*1175*	*1300*	*410*	*425*	*475*	*510*	*330*	*345*	*375*	*410*	*670*	*740*	*800*	*900*	*740*	*750*	*800*	*890*
K5	200	205	225	250	75	80	90	95	60	65	70	75	125	135	150	170	140	145	150	165
	660	*670*	*740*	*820*	*245*	*260*	*295*	*310*	*195*	*215*	*230*	*245*	*410*	*445*	*490*	*560*	*460*	*475*	*490*	*540*
K6	280	285	310	350	110	115	125	140	90	90	100	110	180	195	215	245	200	205	215	240
	920	*940*	*1025*	*1150*	*360*	*375*	*410*	*460*	*295*	*295*	*330*	*360*	*590*	*640*	*710*	*800*	*660*	*670*	*710*	*790*
K7	255	260	285	320	100	105	110	125	80	85	90	95	160	175	195	215	180	185	195	210
	840	*850*	*940*	*1050*	*330*	*345*	*360*	*410*	*260*	*280*	*295*	*310*	*520*	*570*	*640*	*710*	*590*	*610*	*640*	*690*
H5	125	130	140	150	37	39	42	46	—	—	—	—	—	—	—	—	36	38	41	45
	410	*425*	*460*	*490*	*120*	*130*	*140*	*150*	—	—	—	—	—	—	—	—	*120*	*125*	*135*	*150*
H8	135	140	155	170	39	42	45	49	—	—	—	—	—	—	—	—	38	41	44	48
	445	*460*	*510*	*560*	*130*	*140*	*150*	*160*	—	—	—	—	—	—	—	—	*125*	*135*	*145*	*155*
H11	160	165	175	195	47	50	55	60	—	—	—	—	—	—	—	—	46	49	55	55
	520	*540*	*570*	*640*	*155*	*165*	*180*	*195*	—	—	—	—	—	—	—	—	*150*	*160*	*180*	*180*
H12	160	165	180	200	70	75	80	90	—	—	—	—	—	—	—	—	70	75	80	85
	520	*540*	*590*	*660*	*230*	*245*	*260*	*295*	—	—	—	—	—	—	—	—	*230*	*245*	*260*	*280*
H21	135	140	155	170	39	42	45	49	—	—	—	—	—	—	—	—	38	41	44	48
	445	*460*	*510*	*560*	*130*	*140*	*150*	*160*	—	—	—	—	—	—	—	—	*125*	*135*	*145*	*155*



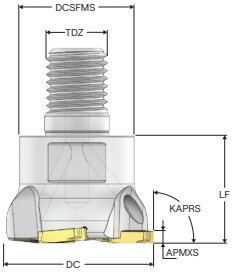
R230.19

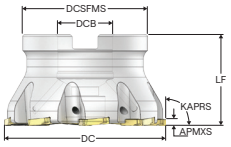
This finishing cutter subsist on an exceptional run out even though it is a fixed pocket solution. The axial mounted inserts have a high accuracy and are light cutting at the same time thanks to the positive rake face design. The small wiper flat length created furthermore low axial tool pressure and the high run out accuracy enables you to run above the wiper flat and still achieve an excellent surface finish. This family is ideal for weak machines and smaller
diameter in steel and stainless-steel materials.

- DC = 30 – 100 mm
- R230.19 Face mills for finishing
- Inserts with 4 cutting edges
- Single sided inserts

R230.19 - Metric



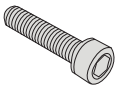




—For insert selection and cutting data recommendations, see page(s) 359 - 360
—For complete insert programme, see page(s) N/A
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	TDZ	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm		mm		kg	
R230.19-1030.RE-SN1103-3A	02735709	Combimaster	30,0	3	2,6	90,0 °	30,0	–	18,5	M10	20,0	18900	0,1	SNHQ1103-R
R230.19-1640.RE-SN1203-3A	02735718	Combimaster	40,0	3	3,1	90,0 °	40,0	–	30,0	M16	28,0	16700	0,2	SNHQ1203-R
R230.19-0050-SN1203-5A	02735719	Arbor	50,0	5	3,1	90,0 °	50,0	22,0	42,0	–	40,0	12300	0,4	SNHQ1203-R
R230.19-0063-SN1203-6A	02735734	Arbor	63,0	6	3,1	90,0 °	63,0	27,0	50,0	–	45,0	10900	0,6	SNHQ1203-R
R230.19-0080-SN1203-8A	02735736	Arbor	80,0	8	3,1	90,0 °	80,0	27,0	62,0	–	45,0	9700	1,1	SNHQ1203-R
R230.19-0100-SN1203-10A	02735737	Arbor	100,0	10	3,1	90,0 °	100,0	32,0	77,0	–	50,0	8700	1,8	SNHQ1203-R

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R230.19-1103	–	1/4HEX-T09PX50	C93505-T09P
R230.19-1203	–	1/4HEX-T15PX50	C94006-T15P
R230.19-1203 ø100	MC6S16X40	1/4HEX-T15PX50	C94006-T15P
R230.19-1203 ø50	220.17-692M	1/4HEX-T15PX50	C94006-T15P
R230.19-1203 ø63-80	MC6S12X35	1/4HEX-T15PX50	C94006-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R230.19-1103	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20
R230.19-1203	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

R230.19 – Insert selection – mm/Inch

SMG		a_p	f_z			
			80%	60%	40%	20%
P1	SNHQ120308TR4-M07 F40M	1,9 *0.075*	0,12 0.0048	0,12 0.0048	0,12 0.0048	0,15 0.0060
P2	SNHQ120308TR4-M07 F40M	1,9 *0.075*	0,12 0.0048	0,12 0.0048	0,13 0.0050	0,15 0.0060
P3	SNHQ120308TR4-M07 F40M	1,9 *0.075*	0,12 0.0048	0,12 0.0048	0,12 0.0048	0,14 0.0055
P4	SNHQ120308TR4-M07 F40M	1,9 *0.075*	0,11 0.0044	0,11 0.0044	0,12 0.0048	0,14 0.0055
P5	SNHQ120308TR4-M07 F40M	1,9 *0.075*	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,14 0.0055
P6	SNHQ120308TR4-M07 F40M	1,9 *0.075*	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,14 0.0055
P7	SNHQ120308TR4-M07 F40M	1,9 *0.075*	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,14 0.0055
P8	SNHQ120308TR4-M07 F40M	1,9 *0.075*	0,12 0.0048	0,12 0.0048	0,12 0.0048	0,14 0.0055
P11	SNHQ120308TR4-M07 F40M	1,9 *0.075*	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,14 0.0055
P12	SNHQ120308TR4-M07 F40M	1,5 *0.060*	0,080 0.0032	0,080 0.0032	0,080 0.0032	0,10 0.0040
M1	SNHQ120308TR4-M07 F40M	1,9 *0.075*	0,12 0.0048	0,12 0.0048	0,13 0.0050	0,15 0.0060
M2	SNHQ120308TR4-M07 F40M	1,9 *0.075*	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,14 0.0055
M3	SNHQ120308TR4-M07 F40M	1,5 *0.060*	0,095 0.0038	0,095 0.0038	0,095 0.0038	0,12 0.0048
M4	SNHQ120308TR4-M07 F40M	1,1 *0.044*	0,090 0.0036	0,090 0.0036	0,090 0.0036	0,11 0.0044
M5	SNHQ120308TR4-M07 F40M	1,1 *0.044*	0,090 0.0036	0,090 0.0036	0,090 0.0036	0,11 0.0044
K1	SNHQ120308TR4-M07 MP2501	1,9 *0.075*	0,12 0.0048	0,12 0.0048	0,13 0.0050	0,15 0.0060
K2	SNHQ120308TR4-M07 MP2501	1,9 *0.075*	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,14 0.0055
K3	SNHQ120308TR4-M07 MP2501	1,9 *0.075*	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,14 0.0055
K4	SNHQ120308TR4-M07 MP2501	1,9 *0.075*	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,14 0.0055
K5	SNHQ120308TR4-M07 MP2501	1,9 *0.075*	0,10 0.0040	0,10 0.0040	0,10 0.0040	0,13 0.0050
K6	SNHQ120308TR4-M07 MP2501	1,9 *0.075*	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,14 0.0055
K7	SNHQ120308TR4-M07 MP2501	1,9 *0.075*	0,10 0.0040	0,10 0.0040	0,10 0.0040	0,13 0.0050
S1	SNHQ120308TR4-M07 F40M	1,1 *0.044*	0,090 0.0036	0,090 0.0036	0,090 0.0036	0,11 0.0044
S2	SNHQ120308TR4-M07 F40M	1,1 *0.044*	0,090 0.0036	0,090 0.0036	0,090 0.0036	0,11 0.0044
S3	SNHQ120308TR4-M07 F40M	1,1 *0.044*	0,085 0.0034	0,085 0.0034	0,085 0.0034	0,10 0.0040
S11	SNHQ120308TR4-M07 F40M	1,3 *0.050*	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,12 0.0048
S12	SNHQ120308TR4-M07 F40M	1,3 *0.050*	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,12 0.0048
S13	SNHQ120308TR4-M07 F40M	1,1 *0.044*	0,090 0.0036	0,090 0.0036	0,090 0.0036	0,11 0.0044

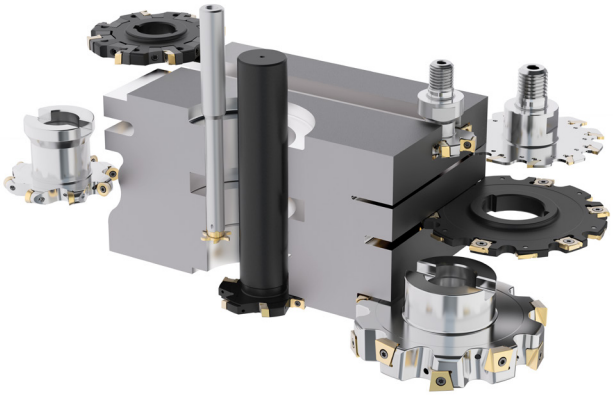
SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R230.19 – Cutting data v_c = (m/min)/(sf/min)

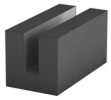
SMG	F30M				F40M				MP2501				H25			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	240 *790*	250 *820*	270 *890*	290 *950*	225 *740*	240 *790*	255 *840*	280 *920*	425 *1400*	440 *1450*	460 *1500*	500 *1650*	— —	— —	— —	— —
P2	225 *740*	240 *790*	255 *840*	285 *940*	215 *710*	225 *740*	245 *800*	270 *890*	415 *1350*	425 *1400*	450 *1475*	480 *1575*	— —	— —	— —	— —
P3	200 *660*	210 *690*	225 *740*	250 *820*	190 *620*	200 *660*	215 *710*	240 *790*	355 *1175*	365 *1200*	385 *1275*	420 *1375*	— —	— —	— —	— —
P4	175 *570*	185 *610*	200 *660*	220 *720*	165 *540*	175 *570*	190 *620*	210 *690*	315 *1025*	325 *1075*	340 *1125*	370 *1225*	— —	— —	— —	— —
P5	165 *540*	175 *570*	190 *620*	210 *690*	160 *520*	170 *560*	180 *590*	200 *660*	305 *1000*	315 *1025*	330 *1075*	350 *1150*	— —	— —	— —	— —
P6	190 *620*	200 *660*	215 *710*	235 *770*	180 *590*	190 *620*	205 *670*	225 *740*	340 *1125*	355 *1175*	375 *1225*	400 *1300*	— —	— —	— —	— —
P7	175 *570*	185 *610*	200 *660*	225 *740*	170 *560*	180 *590*	190 *620*	215 *710*	320 *1050*	335 *1100*	350 *1150*	380 *1250*	— —	— —	— —	— —
P8	165 *540*	175 *570*	190 *620*	210 *690*	160 *520*	170 *560*	180 *590*	200 *660*	300 *980*	310 *1025*	325 *1075*	350 *1150*	— —	— —	— —	— —
P11	170 *560*	180 *590*	195 *640*	215 *710*	165 *540*	175 *570*	185 *610*	205 *670*	315 *1025*	325 *1075*	340 *1125*	370 *1225*	— —	— —	— —	— —
P12	110 *360*	120 *395*	130 *425*	140 *460*	105 *345*	115 *375*	120 *395*	135 *445*	195 *640*	205 *670*	215 *710*	225 *740*	— —	— —	— —	— —
M1	180 *590*	190 *620*	205 *670*	230 *750*	175 *570*	185 *610*	195 *640*	220 *720*	210 *690*	220 *720*	240 *790*	260 *850*	— —	— —	— —	— —
M2	150 *490*	160 *520*	170 *560*	190 *620*	145 *475*	150 *490*	165 *540*	180 *590*	175 *570*	185 *610*	200 *660*	215 *710*	— —	— —	— —	— —
M3	125 *410*	130 *425*	140 *460*	155 *510*	115 *375*	125 *410*	135 *445*	145 *475*	140 *460*	150 *490*	160 *520*	175 *570*	— —	— —	— —	— —
M4	95 *310*	100 *330*	110 *360*	120 *395*	90 *295*	95 *310*	105 *345*	115 *375*	110 *360*	115 *375*	125 *410*	135 *445*	— —	— —	— —	— —
M5	80 *260*	85 *280*	90 *295*	100 *330*	75 *245*	80 *260*	85 *280*	95 *310*	90 *295*	95 *310*	105 *345*	110 *360*	— —	— —	— —	— —
K1	180 *590*	190 *620*	205 *670*	225 *740*	170 *560*	180 *590*	195 *640*	215 *710*	415 *1350*	430 *1400*	455 *1500*	485 *1600*	— —	— —	— —	— —
K2	160 *520*	170 *560*	180 *590*	200 *660*	150 *490*	160 *520*	170 *560*	190 *620*	370 *1225*	380 *1250*	400 *1300*	425 *1400*	— —	— —	— —	— —
K3	135 *445*	140 *460*	155 *510*	170 *560*	130 *425*	135 *445*	145 *475*	160 *520*	310 *1025*	320 *1050*	340 *1125*	360 *1175*	— —	— —	— —	— —
K4	130 *425*	135 *445*	145 *475*	160 *520*	120 *395*	130 *425*	140 *460*	155 *510*	295 *970*	305 *1000*	325 *1075*	345 *1125*	— —	— —	— —	— —
K5	80 *260*	85 *280*	90 *295*	100 *330*	75 *245*	80 *260*	85 *280*	95 *310*	180 *590*	185 *610*	195 *640*	210 *690*	— —	— —	— —	— —
K6	115 *375*	120 *395*	130 *425*	140 *460*	110 *360*	115 *375*	120 *395*	135 *445*	260 *850*	270 *890*	285 *940*	300 *980*	— —	— —	— —	— —
K7	100 *330*	105 *345*	115 *375*	125 *410*	95 *310*	100 *330*	110 *360*	120 *395*	230 *750*	240 *790*	250 *820*	270 *890*	— —	— —	— —	— —
S1	45 *150*	48 *155*	50 *165*	55 *180*	43 *140*	45 *150*	48 *155*	55 *180*	— —	— —	— —	— —	— —	— —	— —	— —
S2	36 *120*	38 *125*	41 *135*	45 *150*	35 *115*	36 *120*	39 *130*	43 *140*	— —	— —	— —	— —	— —	— —	— —	— —
S3	32 *105*	34 *110*	36 *120*	39 *130*	30 *100*	32 *105*	34 *110*	37 *120*	— —	— —	— —	— —	— —	— —	— —	— —
S11	65 *215*	65 *215*	70 *230*	75 *245*	60 *195*	65 *215*	70 *230*	75 *245*	— —	— —	— —	— —	— —	— —	— —	— —
S12	36 *120*	38 *125*	41 *135*	44 *145*	41 *135*	44 *145*	47 *155*	50 *165*	— —	— —	— —	— —	— —	— —	— —	— —
S13	21 *70*	22 *70*	24 *80*	26 *85*	24 *80*	25 *80*	27 *90*	30 *100*	— —	— —	— —	— —	— —	— —	— —	— —

A full range of cutters for all kinds of disc Milling operations

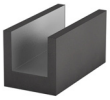
Seco's disc mills, available from 0,7 to 32 mm (0.029 to 1.25") in width, offer a wide range of cutter diameters and connection types suitable for all relevant machine tools and disc milling applications.



The core of the range consists of 4 main cutter families



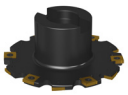
Min



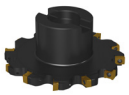
Max



335.10 for narrow slotting and sawing
Width 2,25-4,1mm, .089"-.122"



335.19 for small width of cut and sawing
Fixed pockets
Width 4-12mm, .156"-.500"

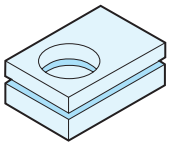


335.18 for medium width of cut
Fixed and adjustable width
Width 8-20mm, .312"-.750"



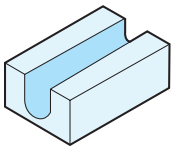
335.25 for large width of cut
Fixed and adjustable width
Width 13,5 -32mm, .53"-1.26"

And 4 other families dedicated to specific disc milling operation

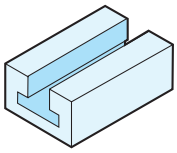




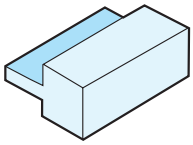
335.14 and 335.15 for circlips groove and narrow slotting
Width 0,7-5,15mm, .029"-.203"



335.29, 335.18 and 335.25 equipped with round insert - full radius profile and copy milling. Fixed and adjustable width
Width 5 - 20 mm, .197"-.787"



335.16 for T-slots
Width 11 - 22 mm, 0.387" - 0.823"



335.98 for Half side and face



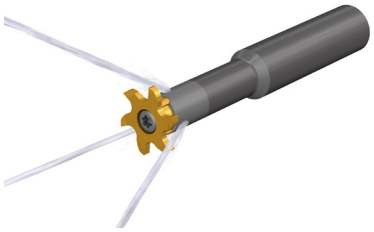
335.14

Small diameter disc milling cutter system dedicated for shallow grooving, circlips grooving, top and bottom chamfering, full radius profile, dove tail, corner rounding and threading

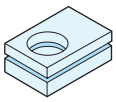
- Exchangeable carbide head systems to help controlling machining costs
- Width of cut range 0.3-10.0 mm (0.012-0.394 inch)
- Diameter insert range 6.7-50 mm (.264 - 1.969 inch)
- A comprehensive range of cylindrical carbide and steel shanks, complemented with integrated ER collet chuck holder
- High precision width of cut +/-0.02mm - +/-0.0008”

Disc Milling cutter 335.14

Disc milling cutter with exchangeable carbide head

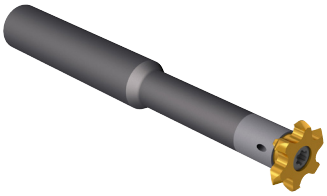




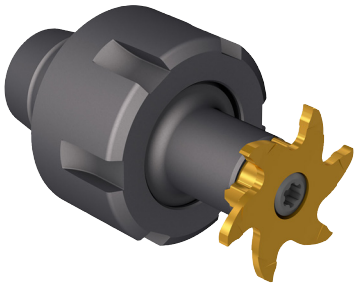


A broad range of heads and shanks available for all your disc milling operation by circular interpolation or linear slotting.
- Strong, Reliable and precise connection between the head and the cutter body
- Cover all type of material with universal M geometry and F3xM grade
- Heads from diameter 6,7 mm

Cylindrical



ER collet chuck



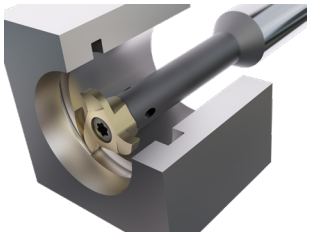
2 types of shanks available: cylindrical available both in steel and carbide, or ER collet chuck system

Disc Milling cutter 335.14

Grooving

Head from dia 6.7 to 50 mm (0.264" to 1.969") for bore with minimum dia 7mm (0.275")
Width from 0.3 to 10 mm (0.012 to 0.394")

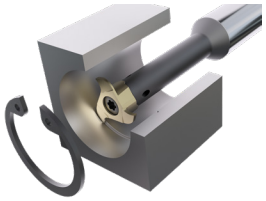


Circlip groove

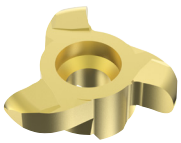
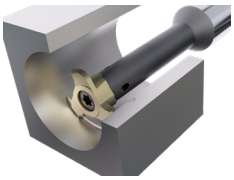
Head from dia 6.7 to 27.7 mm (0.264 to 0.976") and width from 0.7 to 5.15 mm (.029" to.203")





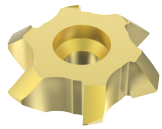
Full radius profile

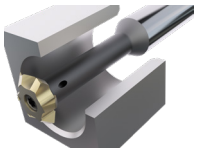
Head from dia 11.7 to 21.7 (0.460 to 0.854") and width from 1 to 5 mm (0.039 to 0.197")

Top & bottom Chamfering profile

Head from dia 9.7 to 27.7 (0.382 to 0.976") for 45° /30° /20° /15° chamfer angles

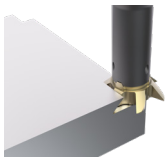




Dovetail

Head from Diameter 11.7 to 21.7mm (0.343 to 0.854") with 45° angle

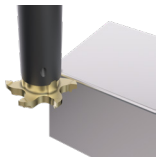




Corner rounding

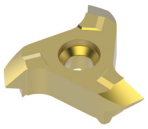
Head diameter 21.7mm (0.854") with corner radius from 0.2 to 3.0mm (0.008 to 0.118")

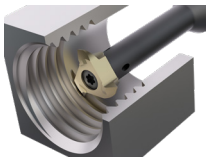




Threading

Head from dia 6,7 to 27,7 mm (0.264 to 0.976") for full and partial metric threads with pitch 1-6 mm and full profile whitworth threads with pitch 19 to 11 tpi and UN threads with pitch 24 to 6 tpi.





Code key – Heads

R	335	.	14	-	217	150	.	12	Z3	-	M03	F32M
1	2		3		4	5		6	7		8	9

1.
Right hand rotation

2.
Disc Milling code

3.
System

4.
Head diameter example: 21.7mm

5.
Width of cut : example 1,50mm
Alternative:
R20: Corner radius for full radius - example R=2,0mm
C45: Top/ bottom chamfering - example 45°
DT45: DoveTail 45°
CR080: Corner rounding with R=0,80mm
Additional variant such as 100C or 400R indicates extra profile variations VS similar one - see product pages
Threading code key: see page 367

6.
Connection size (insert / shank) in mm
Example: 12mm

7.
Number of teeth
Example ZNP=3

8.
Edge geometry

9.
Grade

Code key – Heads Threading

R	335	.	14	-	217	M	N	P	250500	-	12	Z3
1	2		3		4	5	6	7	8		9	10

1.

Right hand

2.

Disc milling code

3.

System

4.

Head diameter
example: 21.7 mm

5.

Thread type
(W and UN)

6.

Internal thread
(E = external,
X = internal/external)

7.

Partial profile (F = full profile)

8.

Pitch size (2,50-5,00 mm or ex. only a fixed pitch 2,5 mm, 16 tpi...)

9.

Connection size

10

No. of teeth

Code key – Shank

Cylindrical shank

335	.	14	-	16	9	.	0	-	45	-	110	-	E
1		2		3	4		5		6		7		8

1.
Disc Milling code

2.
System

3.
Shank diameter
DMM = 16mm
Alternative inch, example 0625 for DMM=0.625”

4.
Connection size (insert/shank) in mm
Example: 9mm

5.
.0 cylindrical connection type

6.
Access length including insert 45 mm
Alternative Inch, example 177 for 1.77”

7.
Overall length including insert 110 mm
Alternative Inch, example 433 for 4.33”

8.
-E for carbide shank otherwise steel shank

Collet chuck

335	.	14	-	ER25	-	12	-	30
1		2		3		4		5

1.
Disc Milling code

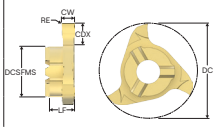
2.
System

3.
ER Collet chuck size

4.
Connection size (insert / shank) in mm
Example: 12mm

5.
Access length in mm
including insert
Example 30mm

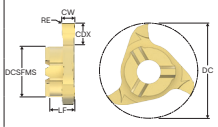
Selection – heads



			Cutter diameter in mm																										
			6,7	7,7	8,7	10,7	9,7		11,7		13,7		15,7		14,7	17,7		19,7	21,7	36,7	39,7	21,7	24,8	27,7		34,7	50	
			Cutter Diameter DC in inch																										
			0.264	0.303	0.343	0.421	0.382		0.343		0.343		0.343		0.579	0.343		0.776	0.343	1.445	1.563		0.976	1.563		1.366	1.969		
			Connection size DCSFMS in mm																										
			5				6				8				9				12			14					16		
			ZNP																										
	mm	inch	3	3	3	3	3	6	3	6	3	6	3	6	6	3	6	3	6	3	6	6	6	3	3	6	6	12	See page
Grooving Width of cut	0,3	0.012		x		x																							372, 373, 374, 375
	0,4	0.016		x		x															x								
	0,5	0.020	x	x		x														x	x							x	
	0,6	0.024		x																x	x								
	0,7	0.028		x																									
	0,8	0.031		x																x	x								
	0,9	0.035		x																									
	1	0.039	x	x	x		x				x								x	x	x	x				x		x	
	1,5	0.059					x		x	x	x		x	x		x	x	x	x	x	x	x	x			x	x	x	x	
	2	0.079					x		x	x	x		x	x		x	x	x	x					x	x	x	x	x	x	
	2,5	0.098					x		x		x		x	x		x	x	x	x	x	x			x	x	x	x	x	x	
	3	0.118							x							x	x		x	x	x			x	x	x	x	x	x	
	3,5	0.138																		x				x	x					
	4	0.157														x				x	x			x	x	x		x		
	5	0.197																		x				x	x	x		x		
	6	0.236																							x	x		x		
	10	0.394																							x					
	*CDX (mm)=		0,6	1,1	1,6	2,6	1,5		2,5	2,5	2,5		3,5	3,5		3,5	4	4,5	5	4,5		12	13,5	13,5	5	6,5	6,5	10	16,5	
Circlips groove Nominal width of cut	0.7	0,028					x									x				x									377, 378
	0,8	0.031					x									x				x									
	0,9	0.035	x				x									x				x									
	1	0.043	x				x													x									
	1,1	0.043	x				x		x							x	x			x									
	1,3	0.051					x		x							x	x			x									
	1,6	0.063					x		x				x			x	x			x									
	1,85	0.073																		x						x			
	2,15	0.085																		x						x			
	2,65	0.104																		x									
	3,15	0.124																		x									
	4,15	0.163																		x									
	5,15	0.203																		x									
Full radius Width of cut and (Radius)	1 (R0,5)	0.039(0.020)							x											x									379
	1,5(R0.75)	0.059(0.03)							x																				
	1,57(R0.79)	0.062(0.031)							x																				
	2(R1)	0.079(0.039)							x							x				x									
	2,2(R1,1)	0.087(0.043)							x				x			x													
	2,39(R1,2)	0.094(0.047)							x							x													
	3(R1,5)	0.118(0.059)							x							x				x									
	4(R2)	0.157(0.079)																		x									
	5(R2,5)	0.197(0.098)																		x									
	*CDX (mm)=								2,5				3,5			3,5				4,5									
Chamfering Angle	45°	45°						x				x			x		x				x						x			380
	30°	30°						x				x					x													
	20°	20°						x				x																		
	15°	10°						x				x																		

X Solution available - grade F32M and F33M

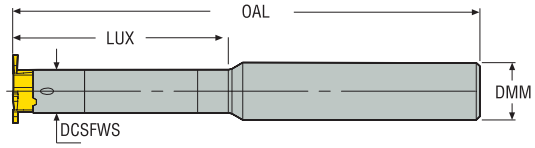
Selection – heads

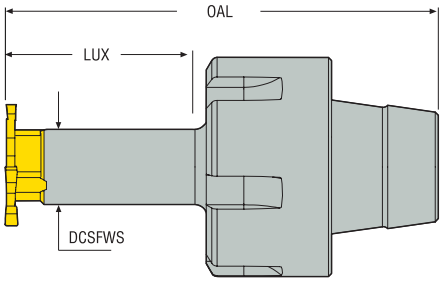


			Cutter diameter in mm																										
			6,7	7,7	8,7	10,7	9,7		11,7		13,7		15,7		14,7	17,7	19,7		21,7	36,7	39,7	21,7	24,8	27,7	34,7	50			
			Cutter Diameter DC in inch																										
			0.264	0.303	0.343	0.421	0.382		0.343		0.343		0.343		0.579	0.343	0.776		0.343	1.445	1.563		0.976	1.563	1.366	1.969			
			Connection size DCSFMS in mm																										
			5				6				8				9				12			14				16			
			ZNP																										
	mm	inch	3	3	3	3	3	6	3	6	3	6	3	6	6	3	6	3	6	3	6	6	6	6	3	3	6	6	12	See page
Dove tail	45°	45°								x				x			x							x					
Corner rounding Corner radius RE	R0.2	R0.008																		x									372, 373, 374, 375
	R0.5	R0.020																		x									
	R0.6	R0.024																		x									
	R0.8	R0.031																		x									
	R1.0	R0.039																		x									
	R1.25	R0.049																		x									
	R1.5	R0.059																		x									
	R2.0	R0.079																		x									
	R2.25	R0.089																		x									
	R2.5	R0.098																		x									
	R3.0	R0.118																		x									
Type of thread	Metric Partial								x	x		x	x			x				x						x	x			380
	Metric Full		x	x			x				x					x	x			x										
	Withworth								x				x			x														
	UN															x														

X **Solution available - grade F32M and F33M**

Selection – shanks



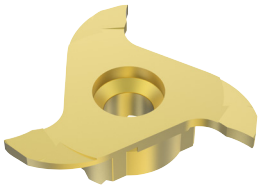


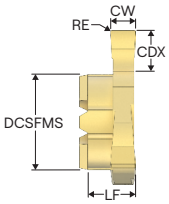
	Shank diameter mm										Shank diameter inch				ER collect chuck size			
Connection size (DCSFWS)	DMM = 8		DMM = 10		DMM = 12		DMM = 16		DMM = 20		DMM=0.5		DMM=0.625		ER11	ER16	ER25	ER32
	OAL	LUX	OAL	LUX	OAL	LUX	OAL	LUX	OAL	LUX	OAL	LUX	OAL	LUX	LUX mm (inch)			
5	65	17	60	10														
	75	25																
	85	35																
6			60	15	80	21					3.15	0.83			16 (0.63)			
					90	30					3.54	1.18						
					100	42					3.94	1.65						
8			60	17	95	29					3.74	1.14			16 (0.63)	22 (0.866)		
					110	42					4.33	1.65						
					120	56					4.72	2.2						
9							80	18					3.15	0.71	22 (0.866)	22 (0.866)	22 (0.866)	
							100	32					3.94	1.26				
							110	45					4.33	1.77				
							130	64					5.12	2.52				
12							80	24					3.15	0.94	30 (1.181)	30 (1.181)	30 (1.181)	
					100	55	100	42					3.94	1.65				
					130	85	130	60					5.12	2.36				
							160	85					6.3	3.35				
14							100	42					3.94	1.65			19 (0.748)	19 (0.748)
							130	60					5.12	2.36			35 (1.378)	35 (1.378)
							160	85	100	35			6.3	3.35				
16							125	60										
							155	90										
							185	120	100	32								
See page	387, 388-389														390			

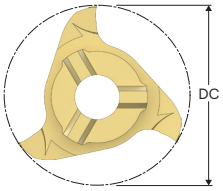
The dimensions OAL and LUX are indicated for a tool with 3 teeth.

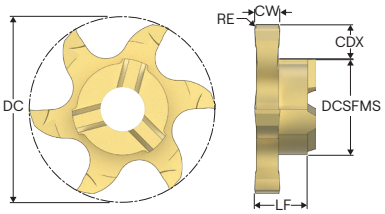
	Shank in steel
	Shank in carbide

335.14 insert: general grooving









—Suitable shank, see page 387, 388–390
—Cutting data, see page(s) 390, 391 - 394
—Technical information, see page 396
—For ISO attribute explanation, see page 16

									Grades
Designation	DC	CW	CDX	RE	DCSFMS	LF	ZNP	Stock standard	Coated
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*			F32M
R335.14-067050.05Z3-M01	6,7 *0.264*	0,5 *0.020*	0,6 *0.024*	–	4,8 *0.189*	3,25 *0.128*	3	○	■
R335.14-067090C.05Z3-M01	6,7 *0.264*	0,94 *0.037*	0,6 *0.024*	–	4,8 *0.189*	3,35 *0.132*	3	○	■
R335.14-067100.05Z3-M01	6,7 *0.264*	1,0 *0.039*	0,6 *0.024*	–	4,8 *0.189*	3,35 *0.132*	3	○	■
R335.14-067100C.05Z3-M01	6,7 *0.264*	1,04 *0.041*	0,6 *0.024*	–	4,8 *0.189*	3,35 *0.132*	3	○	■
R335.14-067110C.05Z3-M01	6,7 *0.264*	1,21 *0.048*	0,6 *0.024*	–	4,8 *0.189*	3,35 *0.132*	3	○	■
R335.14-077030.05Z3-M01	7,7 *0.303*	0,3 *0.012*	1,1 *0.043*	–	4,8 *0.189*	3,25 *0.128*	3	○	■
R335.14-077040.05Z3-M01	7,7 *0.303*	0,4 *0.016*	1,1 *0.043*	–	4,8 *0.189*	3,25 *0.128*	3	○	■
R335.14-077050.05Z3-M01	7,7 *0.303*	0,5 *0.020*	1,1 *0.043*	–	4,8 *0.189*	3,25 *0.128*	3	○	■
R335.14-077060.05Z3-M01	7,7 *0.303*	0,6 *0.024*	1,1 *0.043*	–	4,8 *0.189*	3,25 *0.128*	3	○	■
R335.14-077070.05Z3-M01	7,7 *0.303*	0,7 *0.028*	1,1 *0.043*	–	4,8 *0.189*	3,35 *0.132*	3	○	■
R335.14-077080.05Z3-M01	7,7 *0.303*	0,8 *0.031*	1,1 *0.043*	–	4,8 *0.189*	3,35 *0.132*	3	○	■
R335.14-077090.05Z3-M01	7,7 *0.303*	0,9 *0.035*	1,1 *0.043*	–	4,8 *0.189*	3,35 *0.132*	3	○	■
R335.14-077100.05Z3-M01	7,7 *0.303*	1,0 *0.039*	1,1 *0.043*	–	4,8 *0.189*	3,35 *0.132*	3	○	■
R335.14-087100.05Z3-M01	8,7 *0.343*	1,0 *0.039*	1,6 *0.063*	–	4,8 *0.189*	3,35 *0.132*	3	○	■
R335.14-097100.06Z3-M01	9,7 *0.382*	1,0 *0.039*	1,5 *0.059*	0,1 *0.004*	6,0 *0.236*	3,35 *0.132*	3	•	■
R335.14-097150.06Z3-M01	9,7 *0.382*	1,5 *0.059*	1,5 *0.059*	0,2 *0.008*	6,0 *0.236*	3,5 *0.138*	3	•	■
R335.14-097200.06Z3-M01	9,7 *0.382*	2,0 *0.079*	1,5 *0.059*	0,2 *0.008*	6,0 *0.236*	3,5 *0.138*	3	•	■
R335.14-097250.06Z3-M01	9,7 *0.382*	2,5 *0.098*	1,5 *0.059*	0,2 *0.008*	6,0 *0.236*	3,5 *0.138*	3	•	■
R335.14-107030.05Z3-M01	10,7 *0.421*	0,3 *0.012*	2,6 *0.102*	–	4,8 *0.189*	3,25 *0.128*	3	○	■
R335.14-107040.05Z3-M01	10,7 *0.421*	0,4 *0.016*	2,6 *0.102*	–	4,8 *0.189*	3,25 *0.128*	3	○	■
R335.14-107050.05Z3-M01	10,7 *0.421*	0,5 *0.020*	2,6 *0.102*	–	4,8 *0.189*	3,25 *0.128*	3	○	■
R335.14-117150.06Z3-M01	11,7 *0.461*	1,5 *0.059*	2,5 *0.098*	0,2 *0.008*	6,0 *0.236*	3,5 *0.138*	3	○	■
R335.14-117250.06Z3-M01	11,7 *0.461*	2,5 *0.098*	2,5 *0.098*	0,2 *0.008*	6,0 *0.236*	3,5 *0.138*	3	○	■
R335.14-117300.06Z3-M01	11,7 *0.461*	3,0 *0.118*	2,5 *0.098*	0,2 *0.008*	6,0 *0.236*	3,5 *0.138*	3	○	■
R335.14-117200.06Z3-M01	11,7 *0.461*	2,0 *0.079*	2,5 *0.098*	0,2 *0.008*	6,0 *0.236*	3,5 *0.138*	3	○	■

Designation	DC	CW	CDX	RE	DCSFMS	LF	ZNP	Stock standard	Grades Coated
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*			F32M
R335.14-117150.06Z6-M01	11,7 *0.461*	1,5 *0.059*	2,5 *0.098*	0,2 *0.008*	6,0 *0.236*	3,5 *0.138*	6	○	■
R335.14-117200.06Z6-M01	11,7 *0.461*	2,0 *0.079*	2,5 *0.098*	0,2 *0.008*	6,0 *0.236*	3,5 *0.138*	6	○	■
R335.14-137100.08Z3-M01	13,7 *0.539*	1,0 *0.039*	2,5 *0.098*	0,1 *0.004*	8,0 *0.315*	4,35 *0.171*	3	●	■
R335.14-137150.08Z3-M01	13,7 *0.539*	1,5 *0.059*	2,5 *0.098*	0,2 *0.008*	8,0 *0.315*	4,5 *0.177*	3	●	■
R335.14-137200.08Z3-M01	13,7 *0.539*	2,0 *0.079*	2,5 *0.098*	0,2 *0.008*	8,0 *0.315*	4,5 *0.177*	3	●	■
R335.14-137250.08Z3-M01	13,7 *0.539*	2,5 *0.098*	2,5 *0.098*	0,2 *0.008*	8,0 *0.315*	4,5 *0.177*	3	●	■
R335.14-157150.08Z3-M01	15,7 *0.618*	1,5 *0.059*	3,5 *0.138*	0,2 *0.008*	8,0 *0.315*	4,5 *0.177*	3	○	■
R335.14-157200.08Z3-M01	15,7 *0.618*	2,0 *0.079*	3,5 *0.138*	0,2 *0.008*	8,0 *0.315*	4,5 *0.177*	3	○	■
R335.14-157250.08Z3-M01	15,7 *0.618*	2,5 *0.098*	3,5 *0.138*	0,2 *0.008*	8,0 *0.315*	4,5 *0.177*	3	○	■
R335.14-157150.08Z6-M01	15,7 *0.618*	1,5 *0.059*	3,5 *0.138*	0,2 *0.008*	8,0 *0.315*	4,5 *0.177*	6	○	■
R335.14-157200.08Z6-M01	15,7 *0.618*	2,0 *0.079*	3,5 *0.138*	0,2 *0.008*	8,0 *0.315*	4,5 *0.177*	6	○	■
R335.14-157250.08Z6-M01	15,7 *0.618*	2,5 *0.098*	3,5 *0.138*	0,2 *0.008*	8,0 *0.315*	4,5 *0.177*	6	○	■
R335.14-177150.09Z3-M02	17,7 *0.697*	1,5 *0.059*	3,5 *0.138*	0,2 *0.008*	9,0 *0.354*	5,75 *0.226*	3	●	■
R335.14-177200.09Z3-M02	17,7 *0.697*	2,0 *0.079*	3,5 *0.138*	0,2 *0.008*	9,0 *0.354*	5,75 *0.226*	3	●	■
R335.14-177250.09Z3-M02	17,7 *0.697*	2,5 *0.098*	3,5 *0.138*	0,2 *0.008*	9,0 *0.354*	5,75 *0.226*	3	●	■
R335.14-177300.09Z3-M02	17,7 *0.697*	3,0 *0.118*	3,5 *0.138*	0,2 *0.008*	9,0 *0.354*	5,75 *0.226*	3	●	■
R335.14-177400.09Z3-M02	17,7 *0.697*	4,0 *0.157*	3,5 *0.138*	0,2 *0.008*	9,0 *0.354*	5,75 *0.226*	3	●	■
R335.14-177150.09Z6-M02	17,7 *0.697*	1,5 *0.059*	4,0 *0.157*	0,1 *0.004*	9,0 *0.354*	5,75 *0.226*	6	○	■
R335.14-177200.09Z6-M02	17,7 *0.697*	2,0 *0.079*	4,0 *0.157*	0,2 *0.008*	9,0 *0.354*	5,75 *0.226*	6	○	■
R335.14-177250.09Z6-M02	17,7 *0.697*	2,5 *0.098*	4,0 *0.157*	0,2 *0.008*	9,0 *0.354*	5,75 *0.226*	6	○	■
R335.14-177300.09Z6-M02	17,7 *0.697*	3,0 *0.118*	4,0 *0.157*	0,2 *0.008*	9,0 *0.354*	5,75 *0.226*	6	○	■
R335.14-197150.09Z3-M02	19,7 *0.776*	1,5 *0.059*	4,5 *0.177*	0,2 *0.008*	9,0 *0.354*	5,75 *0.226*	3	○	■
R335.14-197200.09Z3-M02	19,7 *0.776*	2,0 *0.079*	4,5 *0.177*	0,2 *0.008*	9,0 *0.354*	5,75 *0.226*	3	○	■
R335.14-197250.09Z3-M02	19,7 *0.776*	2,5 *0.098*	4,5 *0.177*	0,2 *0.008*	9,0 *0.354*	5,75 *0.226*	3	○	■
R335.14-197150.09Z6-M02	19,7 *0.776*	1,5 *0.059*	5,0 *0.197*	0,1 *0.004*	9,0 *0.354*	5,75 *0.226*	6	○	■
R335.14-197200.09Z6-M02	19,7 *0.776*	2,0 *0.079*	5,0 *0.197*	0,2 *0.008*	9,0 *0.354*	5,75 *0.226*	6	○	■
R335.14-197250.09Z6-M02	19,7 *0.776*	2,5 *0.098*	5,0 *0.197*	0,2 *0.008*	9,0 *0.354*	5,75 *0.226*	6	○	■
R335.14-197300.09Z6-M02	19,7 *0.776*	3,0 *0.118*	5,0 *0.197*	0,2 *0.008*	9,0 *0.354*	5,75 *0.226*	6	○	■
R335.14-217150.12Z3-M03	21,7 *0.854*	1,5 *0.059*	4,5 *0.177*	0,2 *0.008*	12,0 *0.472*	5,7 *0.224*	3	●	■
R335.14-217200.12Z3-M03	21,7 *0.854*	2,0 *0.079*	4,5 *0.177*	0,2 *0.008*	12,0 *0.472*	5,7 *0.224*	3	●	■
R335.14-217250.12Z3-M03	21,7 *0.854*	2,5 *0.098*	4,5 *0.177*	0,2 *0.008*	12,0 *0.472*	5,7 *0.224*	3	●	■
R335.14-217300.12Z3-M03	21,7 *0.854*	3,0 *0.118*	4,5 *0.177*	0,2 *0.008*	12,0 *0.472*	5,7 *0.224*	3	●	■
R335.14-217400.12Z3-M03	21,7 *0.854*	4,0 *0.157*	4,5 *0.177*	0,2 *0.008*	12,0 *0.472*	5,7 *0.224*	3	●	■
R335.14-217500.12Z3-M03	21,7 *0.854*	5,0 *0.197*	4,5 *0.177*	0,2 *0.008*	12,0 *0.472*	5,7 *0.224*	3	●	■

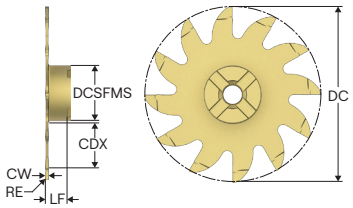
									Grades
Designation	DC	CW	CDX	RE	DCSFMS	LF	ZNP	Stock standard	Coated
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*			F32M
R335.14-217100.12Z3-M03	21,7 *0.854*	1,0 *0.039*	4,5 *0.177*	0,1 *0.004*	12,0 *0.472*	5,7 *0.224*	3	○	■
R335.14-217350.12Z3-M03	21,7 *0.854*	3,5 *0.138*	4,5 *0.177*	0,2 *0.008*	12,0 *0.472*	5,7 *0.224*	3	○	■
R335.14-217400R.12Z3-M03	21,7 *0.854*	4,0 *0.157*	4,5 *0.177*	0,4 *0.016*	12,0 *0.472*	5,7 *0.224*	3	○	■
R335.14-217150.12Z6-M03	21,7 *0.854*	1,5 *0.059*	4,5 *0.177*	0,1 *0.004*	12,0 *0.472*	6,25 *0.246*	6	●	■
R335.14-217200.12Z6-M03	21,7 *0.854*	2,0 *0.079*	4,5 *0.177*	0,2 *0.008*	12,0 *0.472*	6,25 *0.246*	6	●	■
R335.14-217250.12Z6-M03	21,7 *0.854*	2,5 *0.098*	4,5 *0.177*	0,2 *0.008*	12,0 *0.472*	6,25 *0.246*	6	●	■
R335.14-217300.12Z6-M03	21,7 *0.854*	3,0 *0.118*	4,5 *0.177*	0,2 *0.008*	12,0 *0.472*	6,25 *0.246*	6	●	■
R335.14-217400.12Z6-M03	21,7 *0.854*	4,0 *0.157*	4,5 *0.177*	0,2 *0.008*	12,0 *0.472*	6,25 *0.246*	6	●	■
R335.14-217100.12Z6-M03	21,7 *0.854*	1,0 *0.039*	4,5 *0.177*	0,1 *0.004*	12,0 *0.472*	5,85 *0.230*	6	○	■
R335.14-248200.14Z3-M03	24,8 *0.976*	2,0 *0.079*	5,0 *0.197*	0,2 *0.008*	14,0 *0.551*	6,6 *0.260*	3	○	■
R335.14-248250.14Z3-M03	24,8 *0.976*	2,5 *0.098*	5,0 *0.197*	0,2 *0.008*	14,0 *0.551*	6,6 *0.260*	3	○	■
R335.14-248300.14Z3-M03	24,8 *0.976*	3,0 *0.118*	5,0 *0.197*	0,2 *0.008*	14,0 *0.551*	6,6 *0.260*	3	○	■
R335.14-248350.14Z3-M03	24,8 *0.976*	3,5 *0.138*	5,0 *0.197*	0,2 *0.008*	14,0 *0.551*	6,6 *0.260*	3	○	■
R335.14-248400.14Z3-M03	24,8 *0.976*	4,0 *0.157*	5,0 *0.197*	0,2 *0.008*	14,0 *0.551*	6,6 *0.260*	3	○	■
R335.14-248500.14Z3-M03	24,8 *0.976*	5,0 *0.197*	5,0 *0.197*	0,2 *0.008*	14,0 *0.551*	6,6 *0.260*	3	○	■
R335.14-277150.14Z3-M03	27,7 *1.091*	1,5 *0.059*	6,5 *0.256*	0,2 *0.008*	14,0 *0.551*	6,5 *0.256*	3	●	■
R335.14-277200.14Z3-M03	27,7 *1.091*	2,0 *0.079*	6,5 *0.256*	0,2 *0.008*	14,0 *0.551*	6,5 *0.256*	3	●	■
R335.14-277250.14Z3-M03	27,7 *1.091*	2,5 *0.098*	6,5 *0.256*	0,2 *0.008*	14,0 *0.551*	6,5 *0.256*	3	●	■
R335.14-277300.14Z3-M03	27,7 *1.091*	3,0 *0.118*	6,5 *0.256*	0,2 *0.008*	14,0 *0.551*	6,5 *0.256*	3	●	■
R335.14-277350.14Z3-M03	27,7 *1.091*	3,5 *0.138*	6,5 *0.256*	0,2 *0.008*	14,0 *0.551*	6,5 *0.256*	3	●	■
R335.14-277400.14Z3-M03	27,7 *1.091*	4,0 *0.157*	6,5 *0.256*	0,2 *0.008*	14,0 *0.551*	6,5 *0.256*	3	●	■
R335.14-277500.14Z3-M03	27,7 *1.091*	5,0 *0.197*	6,5 *0.256*	0,2 *0.008*	14,0 *0.551*	6,6 *0.260*	3	●	■
R335.14-277600.14Z3-M03	27,7 *1.091*	6,0 *0.236*	6,5 *0.256*	0,2 *0.008*	14,0 *0.551*	6,6 *0.260*	3	●	■
R335.14-2771000.14Z3-M03	27,7 *1.091*	10,0 *0.394*	6,5 *0.256*	0,2 *0.008*	14,0 *0.551*	10,05 *0.396*	3	○	■
R335.14-277150.14Z6-M03	27,7 *1.091*	1,5 *0.059*	6,5 *0.256*	0,1 *0.004*	14,0 *0.551*	6,45 *0.254*	6	●	■
R335.14-277200.14Z6-M03	27,7 *1.091*	2,0 *0.079*	6,5 *0.256*	0,2 *0.008*	14,0 *0.551*	6,4 *0.252*	6	●	■
R335.14-277250.14Z6-M03	27,7 *1.091*	2,5 *0.098*	6,5 *0.256*	0,2 *0.008*	14,0 *0.551*	6,4 *0.252*	6	●	■
R335.14-277300.14Z6-M03	27,7 *1.091*	3,0 *0.118*	6,5 *0.256*	0,2 *0.008*	14,0 *0.551*	6,4 *0.252*	6	●	■
R335.14-277400.14Z6-M03	27,7 *1.091*	4,0 *0.157*	6,5 *0.256*	0,2 *0.008*	14,0 *0.551*	6,4 *0.252*	6	●	■
R335.14-277500.14Z6-M03	27,7 *1.091*	5,0 *0.197*	6,5 *0.256*	0,2 *0.008*	14,0 *0.551*	6,35 *0.250*	6	●	■
R335.14-277600.14Z6-M03	27,7 *1.091*	6,0 *0.236*	6,5 *0.256*	0,2 *0.008*	14,0 *0.551*	6,35 *0.250*	6	●	■
R335.14-277100.14Z6-M03	27,7 *1.091*	1,0 *0.039*	6,5 *0.256*	0,1 *0.004*	14,0 *0.551*	6,05 *0.238*	6	○	■
R335.14-347150.14Z6-M03	34,7 *1.366*	1,5 *0.059*	10,0 *0.394*	0,1 *0.004*	14,0 *0.551*	6,25 *0.246*	6	●	■
R335.14-347200.14Z6-M03	34,7 *1.366*	2,0 *0.079*	10,0 *0.394*	0,2 *0.008*	14,0 *0.551*	6,25 *0.246*	6	●	■

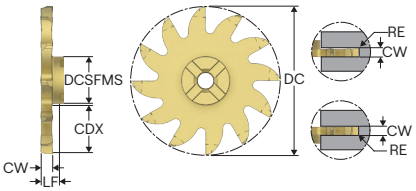
									Grades
Designation	DC	CW	CDX	RE	DCSFMS	LF	ZNP	Stock standard	Coated
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*			F32M
R335.14-347250.14Z6-M03	34,7 *1.366*	2,5 *0.098*	10,0 *0.394*	0,2 *0.008*	14,0 *0.551*	6,25 *0.246*	6	●	■
R335.14-347300.14Z6-M03	34,7 *1.366*	3,0 *0.118*	10,0 *0.394*	0,2 *0.008*	14,0 *0.551*	6,25 *0.246*	6	●	■
R335.14-367050.12Z6-M03	36,7 *1.445*	0,5 *0.020*	12,0 *0.472*	–	12,0 *0.472*	6,0 *0.236*	6	●	■
R335.14-367060.12Z6-M03	36,7 *1.445*	0,6 *0.024*	12,0 *0.472*	–	12,0 *0.472*	5,7 *0.224*	6	○	■
R335.14-367080.12Z6-M03	36,7 *1.445*	0,8 *0.031*	12,0 *0.472*	–	12,0 *0.472*	5,9 *0.232*	6	○	■
R335.14-367100.12Z6-M03	36,7 *1.445*	1,0 *0.039*	12,0 *0.472*	0,1 *0.004*	12,0 *0.472*	6,15 *0.242*	6	○	■
R335.14-367150.12Z6-M03	36,7 *1.445*	1,5 *0.059*	12,0 *0.472*	0,1 *0.004*	12,0 *0.472*	6,25 *0.246*	6	○	■
R335.14-397040.12Z6-M03	39,7 *1.563*	0,4 *0.016*	13,5 *0.531*	–	12,0 *0.472*	6,0 *0.236*	6	○	■
R335.14-397050.12Z6-M03	39,7 *1.563*	0,5 *0.020*	13,5 *0.531*	–	12,0 *0.472*	6,0 *0.236*	6	○	■
R335.14-397060.12Z6-M03	39,7 *1.563*	0,6 *0.024*	13,5 *0.531*	–	12,0 *0.472*	5,7 *0.224*	6	○	■
R335.14-397080.12Z6-M03	39,7 *1.563*	0,8 *0.031*	13,5 *0.531*	–	12,0 *0.472*	5,9 *0.232*	6	○	■
R335.14-397100.12Z6-M03	39,7 *1.563*	1,0 *0.039*	13,5 *0.531*	0,1 *0.004*	12,0 *0.472*	5,85 *0.230*	6	○	■
R335.14-397150.12Z6-M03	39,7 *1.563*	1,5 *0.059*	13,5 *0.531*	0,1 *0.004*	12,0 *0.472*	6,3 *0.248*	6	○	■

●=Stock standard ○=Available on demand (within 2 weeks)

335.14 insert: general grooving





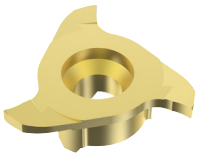


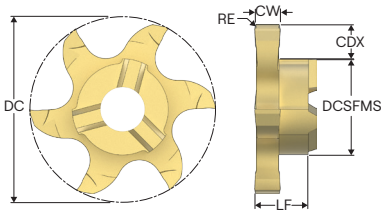
—Suitable shank, see page 387, 388–390
—Cutting data, see page(s) 390, 391 - 394
—Technical information, see page 396
—For ISO attribute explanation, see page 16

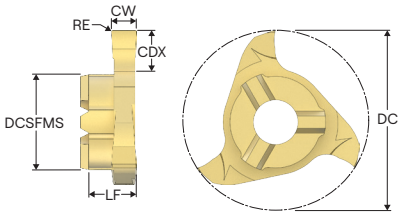
										Grades
Designation	DC	CW	CDX	RE	DCSFMS	LF	ZNP	ZEFP	Stock standard	Coated
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*				F33M
R335.14-500050.16Z12-M02	50,0 *1.969*	0,5 *0.020*	16,5 *0.650*	–	16,0 *0.630*	6,35 *0.250*	12	12	○	■
R335.14-500100.16Z12-M02	50,0 *1.969*	1,0 *0.039*	16,5 *0.650*	–	16,0 *0.630*	6,15 *0.242*	12	12	○	■
R335.14-500150.16Z12-M02	50,0 *1.969*	1,5 *0.059*	16,5 *0.650*	0,1 *0.004*	16,0 *0.630*	6,25 *0.246*	12	6	○	■
R335.14-500200.16Z12-M02	50,0 *1.969*	2,0 *0.079*	16,5 *0.650*	0,2 *0.008*	16,0 *0.630*	6,45 *0.254*	12	6	○	■
R335.14-500250.16Z12-M02	50,0 *1.969*	2,5 *0.098*	16,5 *0.650*	0,2 *0.008*	16,0 *0.630*	6,45 *0.254*	12	6	○	■
R335.14-500300.16Z12-M02	50,0 *1.969*	3,0 *0.118*	16,5 *0.650*	0,2 *0.008*	16,0 *0.630*	6,45 *0.254*	12	6	○	■
R335.14-500400.16Z12-M02	50,0 *1.969*	4,0 *0.157*	16,5 *0.650*	0,2 *0.008*	16,0 *0.630*	6,45 *0.254*	12	6	○	■
R335.14-500500.16Z12-M02	50,0 *1.969*	5,0 *0.197*	16,5 *0.650*	0,2 *0.008*	16,0 *0.630*	6,45 *0.254*	12	6	○	■
R335.14-500600.16Z12-M02	50,0 *1.969*	6,0 *0.236*	16,5 *0.650*	0,2 *0.008*	16,0 *0.630*	6,45 *0.254*	12	6	○	■

●=Stock standard ○=Available on demand (within 2 weeks)

335.14 insert: For circlips groove







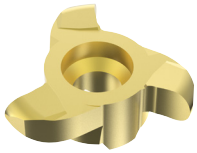
—Suitable shank, see page 387, 388-390
—Cutting data, see page(s) 390, 391 - 394
—Technical information, see page 396
—For ISO attribute explanation, see page 16

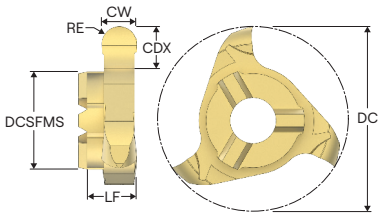
									Grades
Designation	DC	CW	CDX	DCSFMS	LF	RE	ZNP	Stock standard	Coated
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*			F32M
R335.14-097070.06Z3-M01	9,7 *0.382*	0,74 *0.029*	1,5 *0.059*	6,0 *0.236*	3,35 *0.132*	–	3	●	■
R335.14-097080.06Z3-M01	9,7 *0.382*	0,84 *0.033*	1,5 *0.059*	6,0 *0.236*	3,35 *0.132*	–	3	●	■
R335.14-097090.06Z3-M01	9,7 *0.382*	0,94 *0.037*	1,5 *0.059*	6,0 *0.236*	3,35 *0.132*	–	3	●	■
R335.14-097110.06Z3-M01	9,7 *0.382*	1,21 *0.048*	1,5 *0.059*	6,0 *0.236*	3,5 *0.138*	–	3	●	■
R335.14-097130.06Z3-M01	9,7 *0.382*	1,41 *0.056*	1,5 *0.059*	6,0 *0.236*	3,5 *0.138*	0,1 *0.004*	3	●	■
R335.14-097100C.06Z3-M01	9,7 *0.382*	1,04 *0.041*	1,5 *0.059*	6,0 *0.236*	3,35 *0.132*	–	3	○	■
R335.14-097160C.06Z3-M01	9,7 *0.382*	1,71 *0.067*	1,5 *0.059*	6,0 *0.236*	3,5 *0.138*	0,1 *0.004*	3	○	■
R335.14-117110C.06Z3-M01	11,7 *0.461*	1,21 *0.048*	2,5 *0.098*	6,0 *0.236*	3,5 *0.138*	–	3	○	■
R335.14-117130C.06Z3-M01	11,7 *0.461*	1,41 *0.056*	2,5 *0.098*	6,0 *0.236*	3,5 *0.138*	0,1 *0.004*	3	○	■
R335.14-117160C.06Z3-M01	11,7 *0.461*	1,71 *0.067*	2,5 *0.098*	6,0 *0.236*	3,5 *0.138*	0,1 *0.004*	3	○	■
R335.14-157160C.08Z3-M01	15,7 *0.618*	1,71 *0.067*	3,5 *0.138*	8,0 *0.315*	4,5 *0.177*	0,1 *0.004*	3	○	■
R335.14-177110.09Z3-M02	17,7 *0.697*	1,21 *0.048*	3,5 *0.138*	9,0 *0.354*	5,75 *0.226*	–	3	●	■
R335.14-177130.09Z3-M02	17,7 *0.697*	1,41 *0.056*	3,5 *0.138*	9,0 *0.354*	5,75 *0.226*	0,1 *0.004*	3	●	■
R335.14-177160.09Z3-M02	17,7 *0.697*	1,71 *0.067*	3,5 *0.138*	9,0 *0.354*	5,75 *0.226*	0,1 *0.004*	3	●	■
R335.14-177070C.09Z3-M02	17,7 *0.697*	0,74 *0.029*	1,5 *0.059*	9,0 *0.354*	5,65 *0.222*	–	3	○	■
R335.14-177080C.09Z3-M02	17,7 *0.697*	0,84 *0.033*	1,7 *0.067*	9,0 *0.354*	5,65 *0.222*	–	3	○	■
R335.14-177090C.09Z3-M02	17,7 *0.697*	0,94 *0.037*	1,9 *0.075*	9,0 *0.354*	5,65 *0.222*	–	3	○	■
R335.14-177110C.09Z6-M02	17,7 *0.697*	1,21 *0.048*	4,0 *0.157*	9,0 *0.354*	5,75 *0.226*	–	6	○	■
R335.14-177130C.09Z6-M02	17,7 *0.697*	1,41 *0.056*	4,0 *0.157*	9,0 *0.354*	5,75 *0.226*	–	6	○	■
R335.14-177160C.09Z6-M02	17,7 *0.697*	1,71 *0.067*	4,0 *0.157*	9,0 *0.354*	5,75 *0.226*	–	6	○	■
R335.14-217160.12Z3-M03	21,7 *0.854*	1,71 *0.067*	4,5 *0.177*	12,0 *0.472*	5,7 *0.224*	0,1 *0.004*	3	●	■
R335.14-217185.12Z3-M03	21,7 *0.854*	1,96 *0.077*	4,5 *0.177*	12,0 *0.472*	5,7 *0.224*	0,15 *0.006*	3	●	■
R335.14-217215.12Z3-M03	21,7 *0.854*	2,26 *0.089*	4,5 *0.177*	12,0 *0.472*	5,7 *0.224*	0,15 *0.006*	3	●	■
R335.14-217265.12Z3-M03	21,7 *0.854*	2,76 *0.109*	4,5 *0.177*	12,0 *0.472*	5,7 *0.224*	0,15 *0.006*	3	●	■
R335.14-217315.12Z3-M03	21,7 *0.854*	3,26 *0.128*	4,5 *0.177*	12,0 *0.472*	5,7 *0.224*	0,15 *0.006*	3	●	■

									Grades
Designation	DC	CW	CDX	DCSFMS	LF	RE	ZNP	Stock standard	Coated
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*			F32M
R335.14-217415.12Z3-M03	21,7 *0.854*	4,26 *0.168*	4,5 *0.177*	12,0 *0.472*	5,7 *0.224*	0,15 *0.006*	3	●	■
R335.14-217515.12Z3-M03	21,7 *0.854*	5,26 *0.207*	4,5 *0.177*	12,0 *0.472*	5,7 *0.224*	0,15 *0.006*	3	●	■
R335.14-217070C.12Z3-M03	21,7 *0.854*	0,74 *0.029*	1,5 *0.059*	12,0 *0.472*	5,6 *0.220*	–	3	○	■
R335.14-217080C.12Z3-M03	21,7 *0.854*	0,84 *0.033*	1,7 *0.067*	12,0 *0.472*	5,6 *0.220*	–	3	○	■
R335.14-217090C.12Z3-M03	21,7 *0.854*	0,94 *0.037*	1,9 *0.075*	12,0 *0.472*	5,6 *0.220*	–	3	○	■
R335.14-217100C.12Z3-M03	21,7 *0.854*	1,04 *0.041*	2,1 *0.083*	12,0 *0.472*	5,6 *0.220*	–	3	○	■
R335.14-217110C.12Z3-M03	21,7 *0.854*	1,21 *0.048*	2,5 *0.098*	12,0 *0.472*	5,7 *0.224*	–	3	○	■
R335.14-217130C.12Z3-M03	21,7 *0.854*	1,41 *0.056*	4,5 *0.177*	12,0 *0.472*	5,7 *0.224*	–	3	○	■
R335.14-217515R.12Z3-M03	21,7 *0.854*	5,29 *0.208*	4,5 *0.177*	12,0 *0.472*	5,7 *0.224*	0,4 *0.016*	3	○	■
R335.14-277185C.14Z6-M03	27,7 *1.091*	1,96 *0.077*	6,5 *0.256*	14,0 *0.551*	6,35 *0.250*	0,15 *0.006*	6	○	■
R335.14-277215C.14Z6-M03	27,7 *1.091*	2,26 *0.089*	6,5 *0.256*	14,0 *0.551*	6,16 *0.243*	0,15 *0.006*	6	○	■

●=Stock standard ○=Available on demand (within 2 weeks)

335.14 insert: Full radius profile



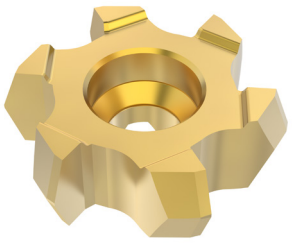


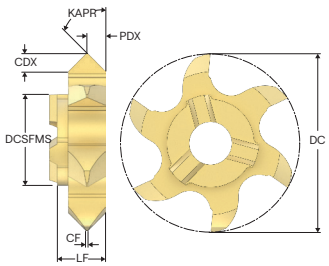
—Suitable shank, see page 387, 388-390
—Cutting data, see page(s) 390, 391 - 394
—Technical information, see page 396
—For ISO attribute explanation, see page 16

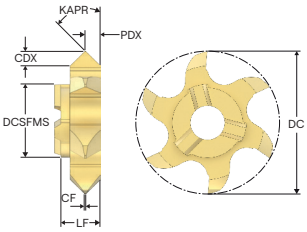
									Grades
Designation	**DC**	**CW**	**CDX**	**RE**	**DCSFMS**	**LF**	**ZNP**	**Stock standard**	**Coated**
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*			F32M
R335.14-117R050.06Z3-M01	11,7 *0.461*	1,0 *0.039*	2,5 *0.098*	0,5 *0.020*	6,0 *0.236*	3,5 *0.138*	3	○	■
R335.14-117R075.06Z3-M01	11,7 *0.461*	1,5 *0.059*	2,5 *0.098*	0,75 *0.030*	6,0 *0.236*	3,5 *0.138*	3	○	■
R335.14-117R079.06Z3-M01	11,7 *0.461*	1,57 *0.062*	2,5 *0.098*	0,787 *0.031*	6,0 *0.236*	3,5 *0.138*	3	○	■
R335.14-117R100.06Z3-M01	11,7 *0.461*	2,0 *0.079*	2,5 *0.098*	1,0 *0.039*	6,0 *0.236*	3,5 *0.138*	3	○	■
R335.14-117R119.06Z3-M01	11,7 *0.461*	2,39 *0.094*	2,5 *0.098*	1,194 *0.047*	6,0 *0.236*	3,5 *0.138*	3	○	■
R335.14-117R150.06Z3-M01	11,7 *0.461*	3,0 *0.118*	2,5 *0.098*	1,5 *0.059*	6,0 *0.236*	3,5 *0.138*	3	○	■
R335.14-117R11.06Z3-M01	11,7 *0.461*	2,2 *0.087*	2,5 *0.098*	1,1 *0.043*	6,0 *0.236*	3,5 *0.138*	3	●	■
R335.14-157R110.08Z3-M01	15,7 *0.618*	2,2 *0.087*	3,5 *0.138*	1,1 *0.043*	8,0 *0.315*	4,5 *0.177*	3	○	■
R335.14-177R10.09Z3-M02	17,7 *0.697*	2,0 *0.079*	3,5 *0.138*	1,0 *0.039*	9,0 *0.354*	5,75 *0.226*	3	○	■
R335.14-177R12.09Z3-M02	17,7 *0.697*	2,39 *0.094*	3,5 *0.138*	1,194 *0.047*	9,0 *0.354*	5,75 *0.226*	3	○	■
R335.14-177R15.09Z3-M02	17,7 *0.697*	3,0 *0.118*	3,5 *0.138*	1,5 *0.059*	9,0 *0.354*	5,75 *0.226*	3	○	■
R335.14-177R11.09Z3-M02	17,7 *0.697*	2,2 *0.087*	3,5 *0.138*	1,1 *0.043*	9,0 *0.354*	5,75 *0.226*	3	●	■
R335.14-217R05.12Z3-M03	21,7 *0.854*	1,0 *0.039*	4,5 *0.177*	0,5 *0.020*	12,0 *0.472*	5,6 *0.220*	3	●	■
R335.14-217R10.12Z3-M03	21,7 *0.854*	2,0 *0.079*	4,5 *0.177*	1,0 *0.039*	12,0 *0.472*	5,75 *0.226*	3	●	■
R335.14-217R15.12Z3-M03	21,7 *0.854*	3,0 *0.118*	4,5 *0.177*	1,5 *0.059*	12,0 *0.472*	5,75 *0.226*	3	●	■
R335.14-217R20.12Z3-M03	21,7 *0.854*	4,0 *0.157*	4,5 *0.177*	2,0 *0.079*	12,0 *0.472*	5,75 *0.226*	3	●	■
R335.14-217R25.12Z3-M03	21,7 *0.854*	5,0 *0.197*	4,5 *0.177*	2,5 *0.098*	12,0 *0.472*	5,75 *0.226*	3	●	■

●=Stock standard ○=Available on demand (within 2 weeks)

335.14 insert: Top and Bottom chamfering







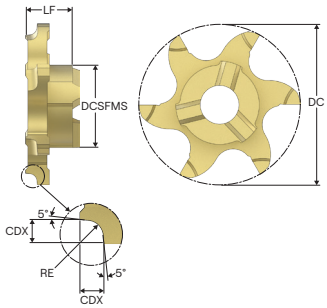
—Suitable shank, see page 387, 388–390
—Cutting data, see page(s) 390, 391 - 394
—Technical information, see page 396
—For ISO attribute explanation, see page 16

										Grades
Designation	DC	KAPR	CDX	CF	PDX	DCSFMS	LF	ZNP	Stock standard	Coated
	mm *Inch*	Inch	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm			F32M
R335.14-097C45.06Z6-M01	9,7 *0.382*	45,0 *0.047*	1,2 *0.008*	0,2 *0.059*	1,5 *0.236*	6,0 *0.134*	3,4	6	●	■
R335.14-097C30.06Z6-M01	9,7 *0.382*	60,0 *0.028*	0,7 *0.008*	0,2 *0.069*	1,75 *0.236*	6,0 *0.142*	3,6	6	○	■
R335.14-097C20.06Z6-M01	9,7 *0.382*	70,0 *0.018*	0,45 *0.008*	0,2 *0.069*	1,75 *0.236*	6,0 *0.142*	3,6	6	○	■
R335.14-097C15.06Z6-M01	9,7 *0.382*	75,0 *0.014*	0,35 *0.008*	0,2 *0.069*	1,75 *0.236*	6,0 *0.142*	3,6	6	○	■
R335.14-137C45.08Z6-M01	13,7 *0.539*	45,0 *0.071*	1,8 *0.008*	0,2 *0.089*	2,25 *0.315*	8,0 *0.181*	4,6	6	●	■
R335.14-137C30.08Z6-M01	13,7 *0.539*	60,0 *0.028*	0,7 *0.008*	0,2 *0.089*	2,25 *0.315*	8,0 *0.181*	4,6	6	○	■
R335.14-137C20.08Z6-M01	13,7 *0.539*	70,0 *0.018*	0,45 *0.008*	0,2 *0.089*	2,25 *0.315*	8,0 *0.181*	4,6	6	○	■
R335.14-137C15.08Z6-M01	13,7 *0.539*	75,0 *0.014*	0,35 *0.008*	0,2 *0.089*	2,25 *0.315*	8,0 *0.181*	4,6	6	○	■
R335.14-147C45.09Z6-M02	14,7 *0.579*	45,0 *0.063*	1,6 *0.020*	0,5 *0.083*	2,1 *0.354*	9,0 *0.219*	5,55	6	○	■
R335.14-177C45.09Z6-M02	17,7 *0.697*	45,0 *0.087*	2,2 *0.008*	0,2 *0.110*	2,8 *0.354*	9,0 *0.228*	5,8	6	●	■
R335.14-177C30.09Z6-M02	17,7 *0.697*	60,0 *0.059*	1,5 *0.008*	0,2 *0.110*	2,8 *0.354*	9,0 *0.230*	5,85	6	○	■
R335.14-217C45.12Z6-M03	21,7 *0.854*	45,0 *0.079*	2,0 *0.008*	0,2 *0.091*	2,3 *0.472*	12,0 *0.238*	6,05	6	●	■
R335.14-277C45.14Z6-M03	27,7 *1.091*	45,0 *0.079*	2,0 *0.008*	0,2 *0.102*	2,6 *0.551*	14,0 *0.256*	6,5	6	○	■

●=Stock standard ○=Available on demand (within 2 weeks)

335.14 Insert: Corner rounding





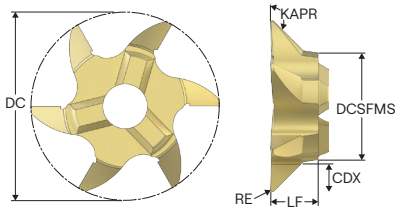
—Suitable shank, see page 387, 388-390
—Cutting data, see page(s) 395
—Technical information, see page 396
—For ISO attribute explanation, see page 16

								Grades
Designation	DC	CDX	RE	DCSFMS	LF	ZNP	Stock standard	Coated
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*			F32M
R335.14-217CR020.12Z6-M03	21,7 *0.854*	0,7 *0.028*	0,2 *0.008*	12,0 *0.472*	6,35 *0.250*	6	○	■
R335.14-217CR050.12Z6-M03	21,7 *0.854*	1,0 *0.039*	0,5 *0.020*	12,0 *0.472*	6,35 *0.250*	6	○	■
R335.14-217CR060.12Z6-M03	21,7 *0.854*	1,1 *0.043*	0,6 *0.024*	12,0 *0.472*	6,35 *0.250*	6	○	■
R335.14-217CR080.12Z6-M03	21,7 *0.854*	1,3 *0.051*	0,8 *0.031*	12,0 *0.472*	6,35 *0.250*	6	○	■
R335.14-217CR100.12Z6-M03	21,7 *0.854*	1,5 *0.059*	1,0 *0.039*	12,0 *0.472*	6,35 *0.250*	6	○	■
R335.14-217CR125.12Z6-M03	21,7 *0.854*	1,75 *0.069*	1,25 *0.049*	12,0 *0.472*	6,35 *0.250*	6	○	■
R335.14-217CR150.12Z6-M03	21,7 *0.854*	2,0 *0.079*	1,5 *0.059*	12,0 *0.472*	6,05 *0.238*	6	○	■
R335.14-217CR200.12Z6-M03	21,7 *0.854*	2,5 *0.098*	2,0 *0.079*	12,0 *0.472*	6,05 *0.238*	6	○	■
R335.14-217CR225.12Z6-M03	21,7 *0.854*	2,75 *0.108*	2,25 *0.089*	12,0 *0.472*	6,05 *0.238*	6	○	■
R335.14-217CR250.12Z6-M03	21,7 *0.854*	3,0 *0.118*	2,5 *0.098*	12,0 *0.472*	6,05 *0.238*	6	○	■
R335.14-217CR300.12Z6-M03	21,7 *0.854*	3,5 *0.138*	3,0 *0.118*	12,0 *0.472*	6,05 *0.238*	6	○	■

●=Stock standard ○=Available on demand (within 2 weeks)

335.14 Insert: Dove tail 45°



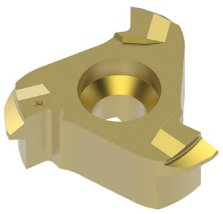


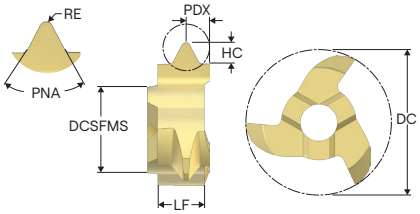
—Suitable shank, see page 387, 388–390
—Cutting data, see page(s) 390, 391 - 394
—Technical information, see page 396
—For ISO attribute explanation, see page 16

									Grades
Designation	DC	CDX	RE	DCSFMS	LF	KAPRS°	ZNP	Stock standard	Coated
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*				F32M
R335.14-117DT45.06Z6-M01	11,7 *0.461*	2,5 *0.098*	0,2 *0.008*	6,0 *0.236*	3,5 *0.138*	135,0	6	○	■
R335.14-157DT45.08Z6-M01	15,7 *0.618*	2,5 *0.098*	0,2 *0.008*	8,0 *0.315*	4,5 *0.177*	135,0	6	○	■
R335.14-177DT45.09Z6-M02	17,7 *0.697*	4,0 *0.157*	0,2 *0.008*	9,0 *0.354*	5,75 *0.226*	135,0	6	○	■
R335.14-217DT45.12Z6-M03	21,7 *0.854*	4,0 *0.157*	0,2 *0.008*	12,0 *0.472*	6,2 *0.244*	135,0	6	●	■

●=Stock standard ○=Available on demand (within 2 weeks)

335.14 Insert: Threading profile Whitworth



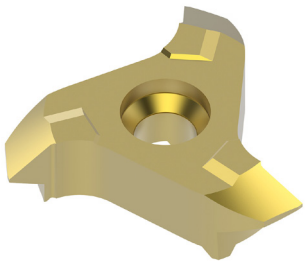


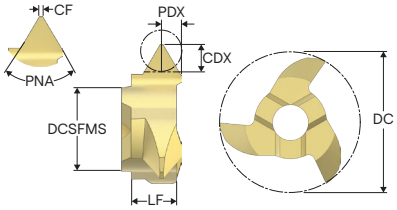
—Suitable shank, see page 387, 388-390
—Cutting data, see page(s) 395
—Technical information, see page 396
—For ISO attribute explanation, see page 16

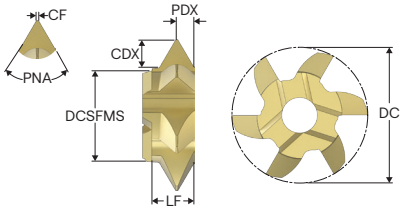
												Grades
Designation	Pitch		DC	RE	DCSFMS	HC	LF	PDX	PNA°	ZEFP	Stock standard	Coated
	mm	TPIX	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*				F32M
R335.14-117WXF11.06Z3	–	11	11,7 *0.461*	0,31 *0.012*	6,0 *0.236*	1,48 *0.058*	3,6 *0.142*	1,6 *0.063*	55,0	3	•	■
R335.14-177WXF11.09Z3	–	11	17,7 *0.697*	0,31 *0.012*	9,0 *0.354*	1,48 *0.058*	5,85 *0.230*	1,45 *0.057*	55,0	3	•	■
R335.14-117WXF14.06Z3	–	14	11,7 *0.461*	0,24 *0.009*	6,0 *0.236*	1,16 *0.046*	3,6 *0.142*	1,3 *0.051*	55,0	3	•	■
R335.14-157WXF14.08Z3	–	14	15,7 *0.618*	0,24 *0.009*	8,0 *0.315*	1,17 *0.046*	4,6 *0.181*	1,5 *0.059*	55,0	3	•	■
R335.14-177WXF14.09Z3	–	14	17,7 *0.697*	0,24 *0.009*	9,0 *0.354*	1,16 *0.046*	5,85 *0.230*	1,25 *0.049*	55,0	3	•	■
R335.14-117WXF19.06Z3	–	19	11,7 *0.461*	0,18 *0.007*	6,0 *0.236*	0,86 *0.034*	3,6 *0.142*	1,1 *0.043*	55,0	3	•	■
R335.14-177WXF19.09Z3	–	19	17,7 *0.697*	0,18 *0.007*	9,0 *0.354*	0,856 *0.034*	5,85 *0.230*	0,95 *0.037*	55,0	3	•	■

●=Stock standard ○=Available on demand (within 2 weeks)

335.14 Insert: Threading Partial profile





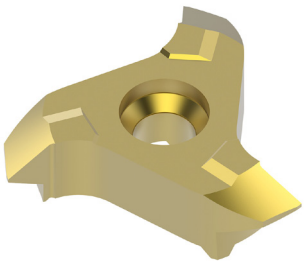


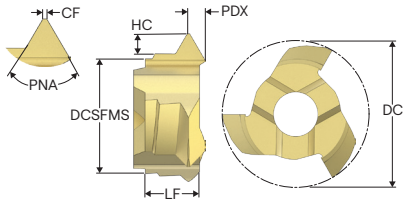
—Suitable shank, see page 387, 388–390
—Cutting data, see page(s) 395
—Technical information, see page 396
—For ISO attribute explanation, see page 16

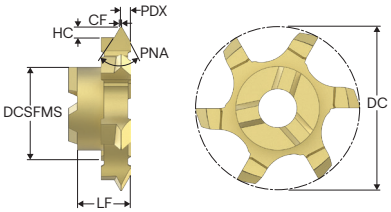
												Grades
Designation	Pitch		DC	CF	CDX	DCSFMS	LF	PDX	PNA°	ZEFP	Stock standard	Coated
	mm	TPI	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*				F32M
R335.14-111MNP200300.06Z6	2-3	0.079-0.118	11,1 *0.437*	0,17 *0.007*	1,78 *0.070*	6,0 *0.236*	3,2 *0.126*	1,4 *0.055*	60,0	6	○	■
R335.14-117MNP100200.06Z3	1-2	0.039-0.079	11,7 *0.461*	0,13 *0.005*	1,25 *0.049*	6,0 *0.236*	3,6 *0.142*	0,8 *0.031*	60,0	3	●	■
R335.14-117MNP200300.06Z3	2-3	0.079-0.118	11,7 *0.461*	0,25 *0.010*	1,78 *0.070*	6,0 *0.236*	3,6 *0.142*	1,2 *0.047*	60,0	3	●	■
R335.14-117MNP100200.06Z6	1-2	0.039-0.079	11,7 *0.461*	0,06 *0.002*	1,25 *0.049*	6,0 *0.236*	3,6 *0.142*	1,04 *0.041*	60,0	6	○	■
R335.14-132MNP150275.08Z6	1,5-2,75	0.059-0.108	13,2 *0.520*	0,13 *0.005*	1,67 *0.066*	8,0 *0.315*	4,2 *0.165*	1,3 *0.051*	60,0	6	○	■
R335.14-133MNP200300.08Z6	2-3	0.079-0.118	13,3 *0.524*	0,17 *0.007*	1,78 *0.070*	8,0 *0.315*	4,2 *0.165*	2,5 *0.098*	60,0	6	○	■
R335.14-157MNP150275.08Z3	1,5-2,75	0.059-0.108	15,7 *0.618*	0,19 *0.007*	1,67 *0.066*	8,0 *0.315*	4,6 *0.181*	1,1 *0.043*	60,0	3	●	■
R335.14-157MNP250300.08Z3	2,5-3	0.098-0.118	15,7 *0.618*	0,31 *0.012*	1,78 *0.070*	8,0 *0.315*	4,6 *0.181*	1,2 *0.047*	60,0	3	●	■
R335.14-177MNP100200.09Z3	1-2	0.039-0.079	17,7 *0.697*	0,12 *0.005*	1,19 *0.047*	9,0 *0.354*	5,85 *0.230*	1,15 *0.045*	60,0	3	●	■
R335.14-177MNP150275.09Z3	1,5-2,75	0.059-0.108	17,7 *0.697*	0,19 *0.007*	1,62 *0.064*	9,0 *0.354*	5,85 *0.230*	1,25 *0.049*	60,0	3	●	■
R335.14-177MNP200375.09Z3	2-3,75	0.079-0.148	17,7 *0.697*	0,25 *0.010*	2,22 *0.087*	9,0 *0.354*	5,85 *0.230*	1,65 *0.065*	60,0	3	●	■
R335.14-177MNP300550.09Z3	3-5,5	0.118-0.217	17,7 *0.697*	0,38 *0.015*	3,25 *0.128*	9,0 *0.354*	5,85 *0.230*	2,25 *0.089*	60,0	3	●	■
R335.14-217MNP100200.12Z3	1-2	0.039-0.079	21,7 *0.854*	0,12 *0.005*	1,19 *0.047*	12,0 *0.472*	5,85 *0.230*	1,25 *0.049*	60,0	3	●	■
R335.14-217MNP200375.12Z3	2-3,75	0.079-0.148	21,7 *0.854*	0,25 *0.010*	2,22 *0.087*	12,0 *0.472*	5,85 *0.230*	1,65 *0.065*	60,0	3	●	■
R335.14-217MNP250450.12Z3	2,5-4,5	0.098-0.177	21,7 *0.854*	0,25 *0.010*	2,7 *0.106*	12,0 *0.472*	5,85 *0.230*	2,15 *0.085*	60,0	3	●	■
R335.14-217MNP350600.12Z3	3,5-6	0.138-0.236	21,7 *0.854*	0,44 *0.017*	3,52 *0.139*	12,0 *0.472*	5,85 *0.230*	2,65 *0.104*	60,0	3	●	■
R335.14-277MNP250500.14Z3	2,5-5	0.098-0.197	27,7 *1.091*	0,37 *0.015*	2,93 *0.115*	14,0 *0.551*	6,6 *0.260*	2,6 *0.102*	60,0	3	●	■
R335.14-277MNP400600.14Z3	4-6	0.157-0.236	27,7 *1.091*	0,5 *0.020*	4,6 *0.181*	14,0 *0.551*	6,6 *0.260*	3,0 *0.118*	60,0	3	●	■
R335.14-277MNP150250.14Z3	1,5-2,5	0.059-0.098	27,7 *1.091*	0,18 *0.007*	1,49 *0.059*	14,0 *0.551*	6,6 *0.260*	2,4 *0.094*	60,0	3	○	■
R335.14-277MNP150250.14Z6	1,5-2,5	0.059-0.098	27,7 *1.091*	0,19 *0.007*	1,6 *0.063*	14,0 *0.551*	6,5 *0.256*	– –	60,0	6	○	■

●=Stock standard ○=Available on demand (within 2 weeks)

335.14 Insert: Thread profile Full Metric





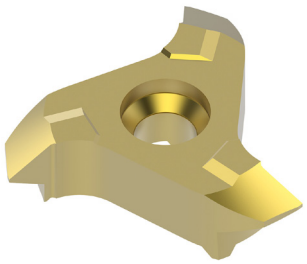


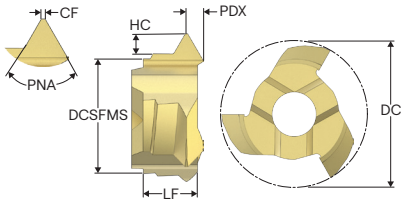
—Suitable shank, see page 387, 388-390
—Cutting data, see page(s) 395
—Technical information, see page 396
—For ISO attribute explanation, see page 16

												Grades
Designation	Pitch		DC	CF	HC	DCSFMS	LF	PDX	PNA°	ZEFP	Stock standard	Coated
	mm	TPI	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*				F32M
R335.14-067MNF050.05Z3	0,5	0.02	6,7 *0.264*	0,06 *0.002*	0,28 *0.011*	4,8 *0.189*	3,25 *0.128*	0,4 *0.016*	60,0	3	○	■
R335.14-077MNF075.05Z3	0,75	0.03	7,7 *0.303*	0,1 *0.004*	0,416 *0.016*	4,8 *0.189*	3,25 *0.128*	0,5 *0.020*	60,0	3	○	■
R335.14-077MNF100.05Z3	1	0.039	7,7 *0.303*	0,12 *0.005*	0,557 *0.022*	4,8 *0.189*	3,55 *0.140*	0,9 *0.035*	60,0	3	○	■
R335.14-097MNF100.06Z3	1	0.039	9,7 *0.382*	0,09 *0.004*	0,58 *0.023*	6,0 *0.236*	3,6 *0.142*	0,7 *0.028*	60,0	3	○	■
R335.14-097MNF150.06Z3	1,5	0.059	9,7 *0.382*	0,125 *0.005*	0,86 *0.034*	6,0 *0.236*	3,6 *0.142*	0,9 *0.035*	60,0	3	○	■
R335.14-097MNF175.06Z3	1,75	0.069	9,7 *0.382*	0,21 *0.008*	0,95 *0.037*	6,0 *0.236*	3,6 *0.142*	1,0 *0.039*	60,0	3	○	■
R335.14-097MNF200.06Z3	2	0.079	9,7 *0.382*	0,165 *0.006*	1,16 *0.046*	6,0 *0.236*	3,6 *0.142*	1,1 *0.043*	60,0	3	○	■
R335.14-097MNF250.06Z3	2,5	0.098	9,7 *0.382*	0,2 *0.008*	1,44 *0.057*	6,0 *0.236*	3,49 *0.137*	1,19 *0.047*	60,0	3	○	■
R335.14-137MNF100.08Z3	1	0.039	13,7 *0.539*	0,1 *0.004*	0,58 *0.023*	8,0 *0.315*	4,6 *0.181*	0,9 *0.035*	60,0	3	○	■
R335.14-137MNF150.08Z3	1,5	0.059	13,7 *0.539*	0,125 *0.005*	0,86 *0.034*	8,0 *0.315*	4,6 *0.181*	1,2 *0.047*	60,0	3	○	■
R335.14-137MNF200.08Z3	2	0.079	13,7 *0.539*	0,165 *0.006*	1,16 *0.046*	8,0 *0.315*	4,6 *0.181*	1,4 *0.055*	60,0	3	○	■
R335.14-137MNF250.08Z3	2,5	0.098	13,7 *0.539*	0,2 *0.008*	1,44 *0.057*	8,0 *0.315*	4,6 *0.181*	1,6 *0.063*	60,0	3	○	■
R335.14-177MNF150.09Z3	1,5	0.059	17,7 *0.697*	0,12 *0.005*	0,86 *0.034*	9,0 *0.354*	5,85 *0.230*	1,15 *0.045*	60,0	3	○	■
R335.14-177MNF150.09Z6	1,5	0.059	17,7 *0.697*	0,12 *0.005*	0,86 *0.034*	9,0 *0.354*	5,85 *0.230*	0,85 *0.033*	60,0	6	○	■
R335.14-177MNF200.09Z3	2	0.079	17,7 *0.697*	0,16 *0.006*	1,16 *0.046*	9,0 *0.354*	5,85 *0.230*	1,35 *0.053*	60,0	3	○	■
R335.14-177MNF200.09Z6	2	0.079	17,7 *0.697*	0,16 *0.006*	1,16 *0.046*	9,0 *0.354*	5,85 *0.230*	1,15 *0.045*	60,0	6	○	■
R335.14-177MNF300.09Z3	3	0.118	17,7 *0.697*	0,25 *0.010*	1,73 *0.068*	9,0 *0.354*	5,85 *0.230*	1,65 *0.065*	60,0	3	○	■
R335.14-177MNF350.09Z3	3,5	0.138	17,7 *0.697*	0,28 *0.011*	2,02 *0.080*	9,0 *0.354*	5,85 *0.230*	1,95 *0.077*	60,0	3	○	■
R335.14-217MNF400.12Z3	4	0.157	21,7 *0.854*	0,5 *0.020*	2,16 *0.085*	12,0 *0.472*	5,85 *0.230*	1,95 *0.077*	60,0	3	○	■
R335.14-217MNF450.12Z3	4,5	0.177	21,7 *0.854*	0,56 *0.022*	2,43 *0.096*	12,0 *0.472*	5,85 *0.230*	2,25 *0.089*	60,0	3	○	■

●=Stock standard ○=Available on demand (within 2 weeks)

335.14 Insert: Threading profile UN



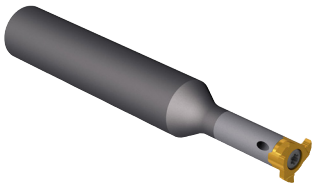


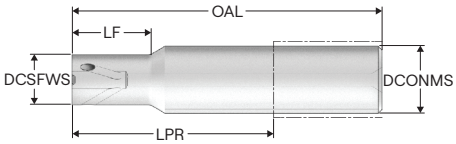
—Suitable shank, see page 387, 388–390
—Cutting data, see page(s) 395
—Technical information, see page 396
—For ISO attribute explanation, see page 16

Designation	Pitch		DC	CF	DCSFMS	HC	LF	PDX	PNA°	ZEFP	Stock standard	Grades
												Coated
	mm	TPIX	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*				F32M
R335.14-177UNNF6.09Z3	–	6	17,7 *0.697*	0,53 *0.021*	9,0 *0.354*	2,291 *0.090*	5,85 *0.230*	1,65 *0.065*	60,0	3	•	■
R335.14-177UNNF8.09Z3	–	8	17,7 *0.697*	0,4 *0.016*	9,0 *0.354*	1,718 *0.068*	5,85 *0.230*	1,45 *0.057*	60,0	3	•	■
R335.14-177UNNF10.09Z3	–	10	17,7 *0.697*	0,32 *0.013*	9,0 *0.354*	1,375 *0.054*	5,85 *0.230*	1,25 *0.049*	60,0	3	•	■
R335.14-177UNNF11.09Z3	–	11	17,7 *0.697*	0,29 *0.011*	9,0 *0.354*	1,249 *0.049*	5,85 *0.230*	1,05 *0.041*	60,0	3	•	■
R335.14-177UNNF12.09Z3	–	12	17,7 *0.697*	0,27 *0.011*	9,0 *0.354*	1,146 *0.045*	5,85 *0.230*	1,05 *0.041*	60,0	3	•	■
R335.14-177UNNF14.09Z3	–	14	17,7 *0.697*	0,23 *0.009*	9,0 *0.354*	0,982 *0.039*	5,85 *0.230*	0,85 *0.033*	60,0	3	•	■
R335.14-177UNNF16.09Z3	–	16	17,7 *0.697*	0,2 *0.008*	9,0 *0.354*	0,859 *0.034*	5,85 *0.230*	0,85 *0.033*	60,0	3	•	■
R335.14-177UNNF18.09Z3	–	18	17,7 *0.697*	0,18 *0.007*	9,0 *0.354*	0,763 *0.030*	5,85 *0.230*	0,85 *0.033*	60,0	3	•	■
R335.14-177UNNF20.09Z3	–	20	17,7 *0.697*	0,16 *0.006*	9,0 *0.354*	0,687 *0.027*	5,85 *0.230*	0,65 *0.026*	60,0	3	•	■
R335.14-177UNNF24.09Z3	–	24	17,7 *0.697*	0,13 *0.005*	9,0 *0.354*	0,572 *0.023*	5,85 *0.230*	0,65 *0.026*	60,0	3	•	■

●=Stock standard ○=Available on demand (within 2 weeks)

335.14 shank - Cylindrical version – Metric

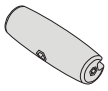




—Cutting data, see page(s) 390, 391 - 395
—Technical information, see page 396
—For ISO attribute explanation, see page 16

Designation	Item number	DCSFWS	DCONMS	LF	LPR	OAL	RPMX	CSP	Weight
		mm	mm	mm	mm	mm			kg
335.14-0805.0-017-065-E	10268993	4,8	8,0	13,5	25,5	61,5	30000	■	0,1
335.14-0805.0-025-075-E	10268994	4,8	8,0	21,5	35,5	71,5	30000	■	0,1
335.14-0805.0-035-085-E	10268995	4,8	8,0	31,5	45,5	81,5	30000	■	0,1
335.14-1005.0-010-060	10268996	4,8	10,0	6,5	16,5	56,5	30000	–	0,1
335.14-1006.0-015-060	03042024	6,0	10,0	11,5	16,5	56,5	30000	–	0,1
335.14-1206.0-021-080-E	03042025	6,0	12,0	17,5	31,5	76,5	30000	■	0,2
335.14-1206.0-030-090-E	03042026	6,0	12,0	26,5	41,5	86,5	30000	■	0,2
335.14-1206.0-042-100-E	03042027	6,0	12,0	38,5	51,5	96,5	30000	■	0,2
335.14-1008.0-017-060	03042040	8,0	10,0	12,5	15,5	55,5	30000	■	0,1
335.14-1208.0-029-095-E	03042041	8,0	12,0	24,5	45,5	90,5	30000	■	0,2
335.14-1208.0-042-110-E	03042042	8,0	12,0	37,5	60,5	105,5	30000	■	0,2
335.14-1208.0-056-120-E	03042043	8,0	12,0	51,5	70,5	115,5	30000	■	0,2
335.14-1212.0-042-100-E	10268997	12,0	12,0	49,3	49,3	94,3	30000	■	0,2
335.14-1212.0-060-130-E	10268998	12,0	12,0	79,3	79,3	124,3	30000	■	0,3
335.14-1609.0-018-080	03042028	9,0	16,0	12,2	26,2	74,2	30000	■	0,2
335.14-1609.0-032-100-E	03042029	9,0	16,0	26,2	46,2	94,2	30000	■	0,3
335.14-1609.0-045-110-E	03042030	9,0	16,0	39,2	56,2	104,2	30000	■	0,3
335.14-1609.0-064-130-E	03042031	9,0	16,0	58,2	76,2	124,2	30000	■	0,3
335.14-1612.0-024-080	03042032	12,0	16,0	18,3	26,3	74,3	30000	■	0,2
335.14-1612.0-042-100-E	03042033	12,0	16,0	36,3	46,3	94,3	30000	■	0,2
335.14-1612.0-060-130-E	03042034	12,0	16,0	54,3	76,3	124,3	30000	■	0,3
335.14-1612.0-085-160-E	03042035	12,0	16,0	76,3	106,3	154,3	30000	■	0,4
335.14-1614.0-042-100-E	03042036	14,3	16,0	35,5	45,5	93,5	30000	■	0,3
335.14-1614.0-060-130-E	03042037	14,3	16,0	53,5	75,5	123,5	30000	■	0,3
335.14-1614.0-085-160-E	03042038	14,3	16,0	78,5	105,5	153,5	30000	■	0,4
335.14-2014.0-036-100	03042039	14,0	20,0	29,2	43,5	93,5	30000	■	0,2
335.14-1616.0-060-125-E	10268999	16,0	16,0	70,65	70,65	118,65	30000	■	0,4
335.14-1616.0-090-155-E	10269000	16,0	16,0	100,65	100,65	148,65	30000	■	0,5
335.14-1616.0-120-185-E	10269001	16,0	16,0	130,65	130,65	178,65	30000	■	0,6
335.14-2016.0-032-100	10269002	16,0	20,0	25,65	43,65	93,65	30000	■	0,3

Spare Parts, included in delivery

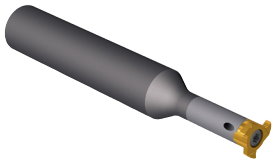
For cutter	Insert key	Insert screw	Key (T-handle)
			
335.14-..05	1/4HEX-T07PX50	C92075-T07P	–
335.14-..06	H4B-T08P	C92608-T08P	DOUBLE-T
335.14-..08	H4B-T10P	C93510-T10P	DOUBLE-T
335.14-..09	H4B-T15P	C94012-T15P	DOUBLE-T
335.14-..12	1/4HEX-T20PX50	C95012-T20P	–
335.14-..14	H6B-T20P	C95012-T20P	DOUBLE-T
335.14-..16	1/4HEX-T20PX50	C95016-T20P	–
335.14-..1612	H6B-T20P	C95012-T20P	DOUBLE-T

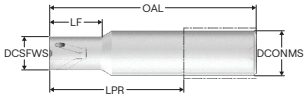
Accessories

For	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
335.14-..05	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.8NM	–
335.14-..06	–	–	2.0NM	T00-08P20
335.14-..08	–	–	3.5NM	T00-10P35
335.14-..09	–	–	5.0NM	T00-15P50
335.14-..12	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-S-HANDLE	7.0NM	–
335.14-..14	–	–	7.0NM	–
335.14-..16	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-S-HANDLE	10.0NM	–
335.14-..1612	–	–	7.0NM	–

-E = Carbide shank with DMM tolerance = h6
Steel shank: DMM tolerance = g6

335.14 shank - Cylindrical version – inch



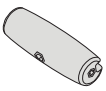


—Cutting data, see page(s) 390, 391 - 395
—Technical information, see page 396
—For ISO attribute explanation, see page 16

Designation	Item number	DCSFWS	DCONMS	LF	LPR	OAL	RPMX	CSP	Weight
		inch	inch	inch	inch	inch			lbs
335.14-050006.0-083-315-E	03042121	0.236	0.500	0.689	1.240	3.012	30000	■	0.220
335.14-050006.0-118-354-E	03042122	0.236	0.500	1.043	1.634	3.406	30000	■	0.440
335.14-050006.0-165-394-E	03042107	0.236	0.500	1.516	2.028	3.799	30000	■	0.440
335.14-050008.0-114-374-E	03042123	0.315	0.500	0.965	1.791	3.563	30000	■	0.440
335.14-050008.0-165-433-E	03042124	0.315	0.500	1.476	2.382	4.154	30000	■	0.440
335.14-050008.0-220-472-E	03042119	0.315	0.500	2.028	2.776	4.547	30000	■	0.440
335.14-062509.0-071-315	03042108	0.354	0.625	0.480	1.031	2.921	30000	■	0.440
335.14-062509.0-126-394-E	03042109	0.354	0.625	1.031	1.819	3.709	30000	■	0.440
335.14-062509.0-177-433-E	03042110	0.354	0.625	1.543	2.213	4.102	30000	■	0.440
335.14-062509.0-252-512-E	03042111	0.354	0.625	2.291	3.000	4.890	30000	■	0.660
335.14-062512.0-094-315	03042112	0.472	0.625	0.720	1.035	2.925	30000	■	0.440
335.14-062512.0-165-394-E	03042113	0.472	0.625	1.429	1.823	3.713	30000	■	0.440
335.14-062512.0-236-512-E	03042114	0.472	0.625	2.138	3.004	4.894	30000	■	0.660
335.14-062512.0-335-630-E	03042115	0.472	0.625	3.122	4.185	6.075	30000	■	0.880
335.14-062514.0-165-394-E	03042116	0.551	0.625	1.398	1.791	3.681	30000	■	0.660
335.14-062514.0-236-512-E	03042117	0.551	0.625	2.106	2.972	4.862	30000	■	0.880
335.14-062514.0-335-630-E	03042118	0.551	0.625	3.091	4.154	6.043	30000	■	0.880

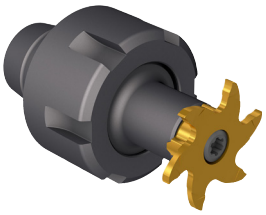
Spare Parts, included in delivery

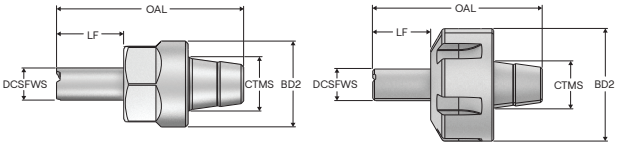
Accessories

For cutter	Insert key	Insert screw	Key (T-handle)	Insert clamping torque	Torque key
					
335.14-..06	H4B-T08P	C92608-T08P	DOUBLE-T	2.0NM	T00-08P20
335.14-..08	H4B-T10P	C93510-T10P	DOUBLE-T	3.5NM	T00-10P35
335.14-..09	H4B-T15P	C94012-T15P	DOUBLE-T	5.0NM	T00-15P50
335.14-..12/14	H6B-T20P	C95012-T20P	DOUBLE-T	7.0NM	–

-E = Carbide shank with DMM tolerance = h6
Steel shank: DMM tolerance = g6

335.14 Shank with ER collet



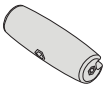


—Cutting data, see page(s) 390, 391 - 395
—Technical information, see page 396
—For ISO attribute explanation, see page 16

Designation	Item number	DCSFWS	DCONMS	LF	OAL	CTMS	BD2	RPMX	Weight
		mm	mm	mm	mm	mm	mm		kg
335.14-ER11-06-016	03042072	6,0	11,0	12,5	34,9	ER 11	16,0	20000	0,1
335.14-ER11-08-016	03042085	8,0	11,0	11,5	33,8	ER 11	16,0	20000	0,1
335.14-ER16-08-022	03042086	8,0	16,0	17,5	49,6	ER 16	32,0	20000	0,2
335.14-ER11-09-022	03042073	9,0	11,0	16,2	38,5	ER 11	16,0	20000	0,1
335.14-ER16-09-022	03042074	9,0	16,0	16,2	48,3	ER 16	32,0	20000	0,2
335.14-ER25-09-022	03042075	9,0	25,0	16,2	55,3	ER 25	35,0	20000	0,2
335.14-ER16-12-030	03042076	12,0	16,0	24,3	56,4	ER 16	32,0	20000	0,2
335.14-ER25-12-030	03042078	12,0	25,0	24,3	63,4	ER 25	35,0	20000	0,2
335.14-ER32-12-030	03042079	12,0	32,0	24,3	69,4	ER 32	50,0	20000	0,4
335.14-ER25-14-019	03042080	14,0	25,0	12,5	52,3	ER 25	35,0	20000	0,2
335.14-ER25-14-035	03042081	14,0	25,0	28,5	67,6	ER 25	35,0	20000	0,2
335.14-ER32-14-019	03042082	14,0	32,0	12,5	58,3	ER 32	50,0	20000	0,5
335.14-ER32-14-035	03042083	14,0	32,0	28,5	73,6	ER 32	50,0	20000	0,4

Spare Parts, included in delivery

Accessories

For cutter	Insert key	Insert screw	Key (T-handle)	Insert clamping torque	Torque key
					
335.14-ER..-06	H4B-T08P	C92608-T08P	DOUBLE-T	2.0NM	T00-08P20
335.14-ER..-08	H4B-T10P	C93510-T10P	DOUBLE-T	3.5NM	T00-10P35
335.14-ER..-09	H4B-T15P	C94012-T15P	DOUBLE-T	5.0NM	T00-15P50
335.14-ER..-12/14	H6B-T20P	C95012-T20P	DOUBLE-T	7.0NM	–

R335.14 – Grooving – Insert selection – mm/Inch

SMG		f_z		
		15%	10%	5%
P1	R335.14...-M01 F32M	0,036 *0.0014*	0,042 0.0017	0,060 0.0024
P2	R335.14...-M01 F32M	0,036 *0.0014*	0,042 0.0017	0,060 0.0024
P3	R335.14...-M01 F32M	0,034 *0.0013*	0,040 0.0016	0,055 0.0022
P4	R335.14...-M01 F32M	0,034 *0.0013*	0,040 0.0016	0,055 0.0022
P5	R335.14...-M01 F32M	0,032 *0.0013*	0,038 0.0015	0,055 0.0022
P6	R335.14...-M01 F32M	0,032 *0.0013*	0,038 0.0015	0,055 0.0022
P7	R335.14...-M01 F32M	0,032 *0.0013*	0,038 0.0015	0,055 0.0022
P8	R335.14...-M01 F32M	0,034 *0.0013*	0,040 0.0016	0,055 0.0022
P11	R335.14...-M01 F32M	0,032 *0.0013*	0,038 0.0015	0,055 0.0022
P12	R335.14...-M01 F32M	0,020 *0.00075*	0,024 0.00090	0,032 0.0013
M1	R335.14...-M01 F32M	0,036 *0.0014*	0,042 0.0017	0,060 0.0024
M2	R335.14...-M01 F32M	0,032 *0.0013*	0,038 0.0015	0,055 0.0022
M3	R335.14...-M01 F32M	0,026 *0.0010*	0,030 0.0012	0,042 0.0017
M4	R335.14...-M01 F32M	0,020 *0.00080*	0,025 0.00095	0,034 0.0013
M5	R335.14...-M01 F32M	0,020 *0.00080*	0,025 0.00095	0,034 0.0013
K1	R335.14...-M01 F32M	0,036 *0.0014*	0,042 0.0017	0,060 0.0024
K2	R335.14...-M01 F32M	0,032 *0.0013*	0,038 0.0015	0,055 0.0022
K3	R335.14...-M01 F32M	0,032 *0.0013*	0,038 0.0015	0,055 0.0022
K4	R335.14...-M01 F32M	0,032 *0.0013*	0,038 0.0015	0,055 0.0022
K5	R335.14...-M01 F32M	0,030 *0.0012*	0,034 0.0013	0,048 0.0019
K6	R335.14...-M01 F32M	0,032 *0.0013*	0,038 0.0015	0,055 0.0022
K7	R335.14...-M01 F32M	0,030 *0.0012*	0,034 0.0013	0,048 0.0019
N1	R335.14...-M01 F32M	0,046 *0.0018*	0,055 0.0022	0,075 0.0030
N2	R335.14...-M01 F32M	0,046 *0.0018*	0,055 0.0022	0,075 0.0030
N3	R335.14...-M01 F32M	0,046 *0.0018*	0,055 0.0022	0,075 0.0030
N11	R335.14...-M01 F32M	0,046 *0.0018*	0,055 0.0022	0,075 0.0030
S1	R335.14...-M01 F32M	0,020 *0.00080*	0,025 0.00095	0,034 0.0013
S2	R335.14...-M01 F32M	0,020 *0.00080*	0,025 0.00095	0,034 0.0013
S3	R335.14...-M01 F32M	0,018 *0.00070*	0,022 0.00085	0,030 0.0012
S11	R335.14...-M01 F32M	0,026 *0.0010*	0,030 0.0012	0,042 0.0017
S12	R335.14...-M01 F32M	0,026 *0.0010*	0,030 0.0012	0,042 0.0017
S13	R335.14...-M01 F32M	0,020 *0.00080*	0,025 0.00095	0,034 0.0013
H5	R335.14...-M01 F32M	0,020 *0.00075*	0,024 0.00090	0,032 0.0013
H8	R335.14...-M01 F32M	0,011 *0.00044*	0,014 0.00055	0,019 0.00075
H11	R335.14...-M01 F32M	0,020 *0.00075*	0,024 0.00090	0,032 0.0013
H12	R335.14...-M01 F32M	0,011 *0.00044*	0,014 0.00055	0,019 0.00075
H21	R335.14...-M01 F32M	0,011 *0.00044*	0,014 0.00055	0,019 0.00075

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R335.14 – Grooving – Insert selection – mm/Inch

SMG			f_z		
			15%	10%	5%
P1	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,060 *0.0024*	0,070 *0.0028*	0,095 *0.0038*
P2	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,060 *0.0024*	0,070 *0.0028*	0,10 *0.0040*
P3	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,055 *0.0022*	0,065 *0.0026*	0,095 *0.0038*
P4	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,055 *0.0022*	0,065 *0.0026*	0,090 *0.0036*
P5	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,055 *0.0022*	0,065 *0.0026*	0,090 *0.0036*
P6	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,055 *0.0022*	0,065 *0.0026*	0,090 *0.0036*
P7	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,055 *0.0022*	0,065 *0.0026*	0,090 *0.0036*
P8	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,055 *0.0022*	0,065 *0.0026*	0,095 *0.0038*
P11	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,055 *0.0022*	0,065 *0.0026*	0,090 *0.0036*
P12	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,032 *0.0013*	0,038 *0.0015*	0,055 *0.0022*
M1	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,060 *0.0024*	0,070 *0.0028*	0,10 *0.0040*
M2	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,055 *0.0022*	0,065 *0.0026*	0,090 *0.0036*
M3	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,044 *0.0017*	0,050 *0.0020*	0,070 *0.0028*
M4	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,034 *0.0014*	0,042 *0.0016*	0,055 *0.0022*
M5	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,034 *0.0014*	0,042 *0.0016*	0,055 *0.0022*
K1	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,060 *0.0024*	0,070 *0.0028*	0,10 *0.0040*
K2	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,055 *0.0022*	0,065 *0.0026*	0,090 *0.0036*
K3	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,055 *0.0022*	0,065 *0.0026*	0,090 *0.0036*
K4	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,055 *0.0022*	0,065 *0.0026*	0,090 *0.0036*
K5	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,048 *0.0019*	0,060 *0.0024*	0,080 *0.0032*
K6	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,055 *0.0022*	0,065 *0.0026*	0,090 *0.0036*
K7	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,048 *0.0019*	0,060 *0.0024*	0,080 *0.0032*
N1	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,075 *0.0030*	0,090 *0.0036*	0,13 *0.0050*
N2	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,075 *0.0030*	0,090 *0.0036*	0,13 *0.0050*
N3	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,075 *0.0030*	0,090 *0.0036*	0,13 *0.0050*
N11	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,075 *0.0030*	0,090 *0.0036*	0,13 *0.0050*
S1	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,034 *0.0014*	0,042 *0.0016*	0,055 *0.0022*
S2	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,034 *0.0014*	0,042 *0.0016*	0,055 *0.0022*
S3	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,030 *0.0012*	0,036 *0.0014*	0,048 *0.0019*
S11	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,044 *0.0017*	0,050 *0.0020*	0,070 *0.0028*
S12	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,044 *0.0017*	0,050 *0.0020*	0,070 *0.0028*
S13	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,034 *0.0014*	0,042 *0.0016*	0,055 *0.0022*
H5	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,032 *0.0013*	0,038 *0.0015*	0,055 *0.0022*
H8	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,019 *0.00075*	0,022 *0.00090*	0,032 *0.0012*
H11	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,032 *0.0013*	0,038 *0.0015*	0,055 *0.0022*
H12	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,019 *0.00075*	0,022 *0.00090*	0,032 *0.0012*
H21	R335.14...-M02 F3xM	R335.14...-M03 F3xM CW≤1.5mm	0,019 *0.00075*	0,022 *0.00090*	0,032 *0.0012*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R335.14 – Grooving – Insert selection – mm/Inch

SMG		f_z			
		20%	15%	10%	5%
P1	R335.14...-M03 F32M	0,065 *0.0026*	0,070 0.0028	0,085 0.0034	0,12 0.0048
P2	R335.14...-M03 F32M	0,065 *0.0026*	0,070 0.0028	0,085 0.0034	0,12 0.0048
P3	R335.14...-M03 F32M	0,060 *0.0024*	0,070 0.0028	0,080 0.0032	0,11 0.0044
P4	R335.14...-M03 F32M	0,060 *0.0024*	0,065 0.0026	0,080 0.0032	0,11 0.0044
P5	R335.14...-M03 F32M	0,060 *0.0024*	0,065 0.0026	0,080 0.0032	0,11 0.0044
P6	R335.14...-M03 F32M	0,060 *0.0024*	0,065 0.0026	0,075 0.0030	0,11 0.0044
P7	R335.14...-M03 F32M	0,060 *0.0024*	0,065 0.0026	0,075 0.0030	0,11 0.0044
P8	R335.14...-M03 F32M	0,060 *0.0024*	0,070 0.0028	0,080 0.0032	0,11 0.0044
P11	R335.14...-M03 F32M	0,060 *0.0024*	0,065 0.0026	0,075 0.0030	0,11 0.0044
P12	R335.14...-M03 F32M	0,036 *0.0014*	0,040 0.0016	0,046 0.0018	0,065 0.0026
M1	R335.14...-M03 F32M	0,065 *0.0026*	0,070 0.0028	0,085 0.0034	0,12 0.0048
M2	R335.14...-M03 F32M	0,060 *0.0024*	0,065 0.0026	0,080 0.0032	0,11 0.0044
M3	R335.14...-M03 F32M	0,046 *0.0018*	0,050 0.0020	0,065 0.0026	0,085 0.0034
M4	R335.14...-M03 F32M	0,038 *0.0015*	0,042 0.0016	0,050 0.0020	0,070 0.0028
M5	R335.14...-M03 F32M	0,038 *0.0015*	0,042 0.0016	0,050 0.0020	0,070 0.0028
K1	R335.14...-M03 F32M	0,065 *0.0026*	0,070 0.0028	0,085 0.0034	0,12 0.0048
K2	R335.14...-M03 F32M	0,060 *0.0024*	0,065 0.0026	0,080 0.0032	0,11 0.0044
K3	R335.14...-M03 F32M	0,060 *0.0024*	0,065 0.0026	0,080 0.0032	0,11 0.0044
K4	R335.14...-M03 F32M	0,060 *0.0024*	0,065 0.0026	0,080 0.0032	0,11 0.0044
K5	R335.14...-M03 F32M	0,055 *0.0022*	0,060 0.0024	0,070 0.0028	0,095 0.0038
K6	R335.14...-M03 F32M	0,060 *0.0024*	0,065 0.0026	0,080 0.0032	0,11 0.0044
K7	R335.14...-M03 F32M	0,055 *0.0022*	0,060 0.0024	0,070 0.0028	0,095 0.0038
N1	R335.14...-M03 F32M	0,080 *0.0032*	0,090 0.0036	0,11 0.0044	0,15 0.0060
N2	R335.14...-M03 F32M	0,080 *0.0032*	0,090 0.0036	0,11 0.0044	0,15 0.0060
N3	R335.14...-M03 F32M	0,080 *0.0032*	0,090 0.0036	0,11 0.0044	0,15 0.0060
N11	R335.14...-M03 F32M	0,080 *0.0032*	0,090 0.0036	0,11 0.0044	0,15 0.0060
S1	R335.14...-M03 F32M	0,038 *0.0015*	0,042 0.0016	0,050 0.0020	0,070 0.0028
S2	R335.14...-M03 F32M	0,038 *0.0015*	0,042 0.0016	0,050 0.0020	0,070 0.0028
S3	R335.14...-M03 F32M	0,032 *0.0013*	0,036 0.0014	0,042 0.0017	0,060 0.0024
S11	R335.14...-M03 F32M	0,046 *0.0018*	0,050 0.0020	0,065 0.0026	0,085 0.0034
S12	R335.14...-M03 F32M	0,046 *0.0018*	0,050 0.0020	0,065 0.0026	0,085 0.0034
S13	R335.14...-M03 F32M	0,038 *0.0015*	0,042 0.0016	0,050 0.0020	0,070 0.0028
H5	R335.14...-M03 F32M	0,036 *0.0014*	0,040 0.0016	0,046 0.0018	0,065 0.0026
H8	R335.14...-M03 F32M	0,020 *0.00080*	0,024 0.00090	0,028 0.0011	0,038 0.0015
H11	R335.14...-M03 F32M	0,036 *0.0014*	0,040 0.0016	0,046 0.0018	0,065 0.0026
H12	R335.14...-M03 F32M	0,020 *0.00080*	0,024 0.00090	0,028 0.0011	0,038 0.0015
H21	R335.14...-M03 F32M	0,020 *0.00080*	0,024 0.00090	0,028 0.0011	0,038 0.0015

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R335.14 – Cutting data v_c = (m/min)/(sf/min)

SMG	335.14			
	20%	15%	10%	5%
P1	230 *750*	240 *790*	255 *840*	275 *900*
P2	225 *740*	235 *770*	245 *800*	265 *870*
P3	195 *640*	200 *660*	215 *710*	230 *750*
P4	170 *560*	180 *590*	190 *620*	205 *670*
P5	165 *540*	170 *560*	180 *590*	195 *640*
P6	185 *610*	190 *620*	205 *670*	220 *720*
P7	175 *570*	180 *590*	195 *640*	205 *670*
P8	165 *540*	170 *560*	180 *590*	195 *640*
P11	170 *560*	175 *570*	190 *620*	200 *660*
P12	105 *345*	110 *360*	120 *395*	130 *425*
M1	195 *640*	205 *670*	215 *710*	235 *770*
M2	160 *520*	165 *540*	175 *570*	190 *620*
M3	125 *410*	135 *445*	140 *460*	150 *490*
M4	100 *330*	100 *330*	110 *360*	115 *375*
M5	80 *260*	85 *280*	90 *295*	95 *310*
K1	225 *740*	235 *770*	250 *820*	270 *890*
K2	200 *660*	205 *670*	220 *720*	235 *770*
K3	165 *540*	175 *570*	185 *610*	200 *660*
K4	160 *520*	165 *540*	175 *570*	190 *620*
K5	95 *310*	100 *330*	105 *345*	115 *375*
K6	140 *460*	145 *475*	155 *510*	170 *560*
K7	125 *410*	130 *425*	135 *445*	150 *490*
N1	1000 *3275*	1050 *3450*	1100 *3600*	1200 *3925*
N2	325 *1075*	340 *1125*	355 *1175*	385 *1275*
N3	215 *710*	225 *740*	235 *770*	260 *850*
N11	290 *950*	300 *980*	315 *1025*	345 *1125*
S1	29 *95*	31 *100*	32 *105*	35 *115*
S2	24 *80*	25 *80*	26 *85*	28 *90*
S3	21 *70*	22 *70*	23 *75*	25 *80*
S11	41 *135*	43 *140*	45 *150*	49 *160*
S12	38 *125*	40 *130*	42 *140*	45 *150*
S13	22 *70*	23 *75*	24 *80*	26 *85*
H5	55 *180*	55 *180*	60 *195*	65 *215*
H8	60 *195*	60 *195*	65 *215*	70 *230*
H11	70 *230*	75 *245*	80 *260*	85 *280*
H12	70 *230*	70 *230*	75 *245*	80 *260*
H21	60 *195*	60 *195*	65 *215*	70 *230*

335.14 – Threading – Cutting data v_c = (m/min)/(sf/min)

SMG	R335.14	
	f_z	v_c
P1	0,070 *0.0028*	275 *900*
P2	0,070 *0.0028*	270 *890*
P3	0,070 *0.0028*	230 *750*
P4	0,065 *0.0026*	205 *670*
P5	0,065 *0.0026*	195 *640*
P6	0,065 *0.0026*	215 *710*
P7	0,065 *0.0026*	205 *670*
P8	0,070 *0.0028*	195 *640*
P11	0,065 *0.0026*	200 *660*
P12	0,044 *0.0017*	120 *395*
M1	0,070 *0.0028*	215 *710*
M2	0,065 *0.0026*	175 *570*
M3	0,050 *0.0020*	130 *425*
M4	0,046 *0.0018*	100 *330*
M5	0,046 *0.0018*	80 *260*
K1	0,070 *0.0028*	210 *690*
K2	0,065 *0.0026*	185 *610*
K3	0,065 *0.0026*	180 *590*
K4	0,065 *0.0026*	150 *490*
K5	0,060 *0.0024*	90 *295*
K6	0,065 *0.0026*	130 *425*
K7	0,060 *0.0024*	115 *375*
N1	0,090 *0.0036*	970 *3175*
N2	0,090 *0.0036*	620 *2025*
N3	0,090 *0.0036*	415 *1350*
N11	0,090 *0.0036*	475 *1550*
S1	0,046 *0.0018*	50 *165*
S2	0,046 *0.0018*	41 *135*
S3	0,042 *0.0017*	35 *115*
S11	0,050 *0.0020*	65 *215*
S12	0,050 *0.0020*	50 *165*
S13	0,046 *0.0018*	39 *130*
H5	0,044 *0.0017*	43 *140*
H8	0,034 *0.0013*	45 *150*
H11	0,044 *0.0017*	60 *195*
H12	0,034 *0.0013*	55 *180*
H21	0,034 *0.0013*	45 *150*

Technical information

Recommendation for circular interpolation

To avoid vibration and insert damage when working with internal circular interpolation, we recommend a progressive entrance into the material. The circular arc angle for the progressive immersion should be between 45° and 180°



When calculating cutting datas for circular interpolation please be aware of the real radial depth of cut and the feed speed related to the centre of the cutter- See page 937 for more info

Milling insert with 6 cutting edges





If vibrations appear when working with milling insert with 6 cutting edges please reduce the radial depth of cut to reduce the number of teeth into contact with the material , an alternative is to choose an insert with 3 cutting edges instead.

Holder recommendation

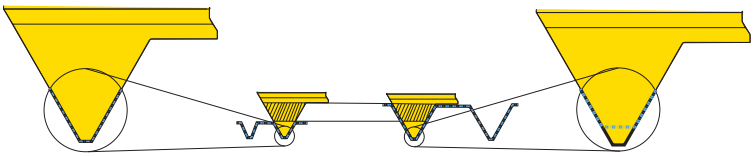
For best result in terms of stability, precision and reliability, it is recommended to use the following SECO-Tooling holders
-High precision collet chucks ERHP 5672
-Shrink fit Holder SFD 5603, SFR 5600 and SFS 5801
-ER Collet chuck ER 5675
-Hydraulic chuck HC / HCR / HCS

Please see Seco Tooling System catalogue for more information.



Technical information – Threading

Pitch (as of/up to)



Actual Thread

Standard thread form

Thread milling by circular interpolation can cause thread profi le violation when using insert for partial thread. Keep this in mind during the process of selecting tool. The tool diameter need to be small enough compare to the hole diameter. The pitch also needs to be considered.

Insert with partial profile for Metric ISO-Threads are multi tools. That means that each insert could machine different pitches. The insert is designed to meet the minimum pitch size (TPN); Machining this pitch will result in a standard conform thread form.

The given maximum pitch size (TPX) can be machined also with this insert at the expense of standard conformity: The result will be a slightly deeper thread than the standard. The deeper thread is normally accepted, but the application and use needs to be evaluated.

Following table is a recommendation over maximum tool diameter in relation to the thread size and pitch:

ISO-Thread, partial profile

Pitch	M12	M16	M20	M24	M27	M30	M36	M42	M48	M56	M60
1	10	14	18	22	25	28	34	40	45	53	57
1,5	8	12	16	20	24	26	32	37	43	51	55
2	7	10	14	18	22	24	30	35	40	48	52
2,5	6	8	12	16	20	22	28	32	37	45	48
3		6	10	14	18	20	26	30	36	43	47
3,5				12	16	18	24	29	35	42	46
4							22	27	32	39	43
4,5								24	30	37	40
5								22	27	34	37
5,5								20	25	31	35
6								19	23	29	32

Code key - Fixed pocket cutters - Metric

Arbor or arbor hole type

R	335	.	25	-	080	.	15	.	22	-	4	-	NA
1	2		3		4		5		6		7		8

1.
For stub arbor mounting /right hand rotation

2.
Disc milling cutters

3.
System

4.
Cutter diameter

5.
Cutter width / axial depth of cut

6.
Dimension of arbor bore

7.
4 = ZEFP value

8.
N=Three side cutting
L or R: 2 sides cutting Left or Right hand
A = Through coolant supply

Cylindrical or Combimaster type

R	335	.	18	-	16	50	.	RE	-	10	.	3	-	NA
1	2		3		4	5		6		7		8		9

1.
Right hand rotation

2.
Disc milling cutter

3.
System

4.
-DMM value for Cyl. version
-M value (thread) for Combimaster version

5.
Cutter diameter

6.
-RE for Combimaster
-.0 for Cyl. shanks

7.
3=ZEFP Value

8.
N=Three side cutting
A = Through coolant supply

Code key – Adjustable cutters – Metric

For adjustable disc milling cutters

R	335	.	18	-	200	.	12	15	XL	.	40	-	8N	-	R6
1	2		3		4		5	6	7		8		9		10

1.

For stub arbor mounting/
right hand rotation

2.

Disc milling cutters

3.

System

4.

Cutter diameter of the basic body
See product page for exact diameter

5.

Minimum cutter width
(adjustable cassettes -3 sides cutting configuration)

6.

Maximum cutter width
(adjustable cassettes -3 sides cutting configuration)

7.

XL for enlarged chip space

8.

Dimension of
arbor bore

9.

8=ZEFP value
N=Three side cutting
R=Right hand version for two side cutting
L=Left hand version for two side cutting

10.

Insert radius if round inserts used
or insert type variant

Code key - Fixed pocket cutters - Inch

Arbor or arbor hole type

R	335	.	18	-	03.00	-	0.37F	-	4N
1	2		3		4		5		6

1.	2.	3.
For stub arbor mounting /right hand rotation	Disc milling cutters	System

4.	5.	6.
Cutter diameter	Cutter width (0.37 = 0.375 inch) F = fixed width, manufacturer's option	4 = ZEFP value N = Three side cutting A = Through coolant supply

Cylindrical or Combimaster type

R	335	.	18	-	02.00	-	RE	-	3NA
1	2		3		4		5		6

1.	2.	3.
Right hand rotation	Disc milling cutter	System

4.	5.	6.
Cutter diameter	.RE = Combimaster, connection size .0 = for Cylindrical shanks	3 = ZEFP value N=Three side cutting A = Through coolant supply

Code key – Adjustable cutters – inch

For adjustable disc milling cutters

R	335	.	18	-	08.00	-	XL0809N	-	R6
1	2		3		4		5		6

1.	2.	3.
For stub arbor mounting/ right hand rotation	Disc milling cutters	System

4.	5.	6.
Cutter diameter of the basic body See product page for exact diameter	08 Cutter body width min (16ths of an inch) 09 Cutter body width max (16ths of an inch) XL: For enlarged chip space, manufacturer's option N = Three side cutting R = Right-hand version, two side cutting L = Left-hand version, two side cutting	Insert radius in mm if round inserts used or insert type variant

Selection – Metric

Full side and face – fixed pocket design

System	Insert	a_p	Application	Diameters (mm) available and max depth of cut (mm) 24	32	40	50	63	80	100	125	160	200	250	315	CEDC	RE	See page
335.15	335.15	1,1 - 2,65	Circlip grooves	3	3			3								2	-	406
		3,15 - 5,15						5										
335.10	150.10	2,25/2,5				12	15	15	24	30	34	39				1	R0,15/R0,3	411
		3,1				12	15	15	24	30	43	39	59	84	117			
		4,1						16	22	29	34	39	59	84	117			
335.19	SNHQ / 335.19	4				11	14	17	26	32	45	42				4	R0,2/R0,4/R0,8/ R1,2/R1,6/R2,0/ R2,4/R3,0/R3,1/ R3,5/ R4,0/ R5,0/R6,0	424
		5				11	14	17	26	32	45	43						
		6					14	17	26	32	31	43	61	86				
		7/ 8						17	26	26	32	44	62	87				
		10								27	33	46	63	88				
		12								27	29	45	64	89				
335.18 LNK	LNKT	8			9	12	15	15	23	27	34					4	R0,4/R0,8/R1,6/ R2,0/R2,4/R3,1/ R4,0	442
		10			9	12	15	15	24	28	34							
		12					15	15	24	28	34							
		14						15	23	26	34	51						
		17							24	26	33	50						
		20							24	26	34	51						
335.25	XNHQ	15							22	25	32	52	64			4	R0,4,/R0,8/ R1,2/R1,6/R2,0/ R2,4/R3,1/R4,0/ R5,0/R6,0	469
		20								25	32	51	64	88				
		25									33	50	62	87				

Full radius profile – fixed pocket design

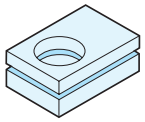
System	Insert	a_p	Application	Diameters (mm) available and max depth of cut (mm) 25	32	40	50	63	80	100	125	160	200	250	315	CEDC	RE	See page
335.19	SNHQ / 335.19	4				11	14	17	26	32	45	42				4	R2,0/R3,0/ R3,5/R4,0/R5,0/ R6,0	424
		6					14	17	26	32	31	43	61	86				
		7/8						17	26	32	32	44	62	87				
		10								27	33	46	63	88				
		12								27	29	45	64	89				
335.29	Round insert	5		6	8	10	12									4	R2,5/R3,0/ R3,5/R4,0/R5,0/ R6,0	502
		6		6	8	10	12	15										
		7			8	10	12	15										
		8			8	10	12	15	20									
		10					12	15	20									
		12	Full radius				12	15	20									

Basic choice (X indicates the maximum radial depth of cut "CDX" in slotting in mm)

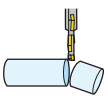
X

Alternative choice (X indicates the maximum radial depth of cut "CDX" in slotting in mm)

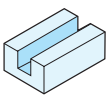
X



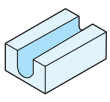
Circlip groove and shallow slotting



Sawing



Full side and face



Full radius profile

CEDC = Max no. of cutting edges
RE = Radii available (mm)

Selection – Metric

Full side and and face - adjustable in width

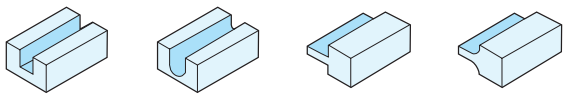
System	Insert	a_p	Application	Diameters (mm) available and max depth of cut (mm) 80	100	125	160	200	250	315	CEDC	RE	See page
335.18 LNK	LNK	8 - 10		14	27	32	50	63	88	121	4	R0,4/R0,8/R1,6/R2,0/R2,4/R3,1/R4,0	442
		10 - 12		14	27	32	50	63	88	121			
		12 - 15		14	27	32	50	63	88	121			
335.25	XNHQ	13,5 - 17			24	32	50	63	88	121	4	R0,4/R0,8/R1,2/R1,6/R2,0/R2,4/R3,1/R4,0/R5,0/R6,0	469
		17 - 21			24	32	50	63	88	121			
		21 - 26				32	50	63	88	113			
		26 - 32					50	63	88	113			
335.18/335.25	Round insert	8 - 10	Full radius	15	28	33	51	63	88	121	4	R4,0	442-469
		10 - 12		15	28	33	51	63	88	121		R5,0	
		12 - 15		15	28	33	51	63	88	121		R6,0	
		16 - 17			28	36	54	67	92	124		R8,0	
		20 - 21							92	124		R10,0	

Half side and face

System	Insert	a_p	Application	Diameters (mm) available and max depth of cut (mm) 80	100	125	160	200	250	315	CEDC	RE	See page
335.98/.18	XN05	≤5		14	27	32	50	63	88	121	4+4	R0.4/R0.8/R1.6	496, 492
335.98/.25	XN07	≤6,9				32	50	63	88	121	4+4	R0.8/R1.6/R3.1	498, 493
335.18 LNK	LNK	≤5		14	27	32	50	63	88	121	2+2	R0,4/R0,8/R1,6/R2,0/R2,4/R3,1/R4,0	442
		≤6		14	27	32	50	63	88	121			
		≤7,5		14	27	32	50	63	88	121			
335.25	XNHQ	≤8,5			24	32	50	63	88	121	2+2	R0,4/R0,8/R1,2/R1,6/R2,0/R2,4/R3,1/R4,0/R5,0/R6,0	469
		≤11			24	32	50	63	88	121			
		≤13				32	50	63	88	113			
		≤16					50	63	88	113			
335.18/335.25	Round insert	≤4		15	28	33	51	63	88	121	4	R4,0	442-469
		≤5		15	28	33	51	63	88	121		R5,0	
		≤6		15	28	33	51	63	88	121		R6,0	
		≤8			28	36	54	67	92	124		R8,0	
		≤10							92	124		R10,0	

Basic choice (X indicates the maximum radial depth of cut "CDX" in slotting in mm) X

Alternative choice (X indicates the maximum radial depth of cut "CDX" in slotting in mm) X



Full side and face | Full radius profile | Half side and face | Half radius profile

CEDC = Max no. of cutting edges
RE = Radii available (mm)

Selection – Inch

Full side and face – fixed pocket design

System	Insert	a_p	Application	Diameters (inch) available and max depth of cut (inch) 1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00	6.00	8.00	10.00	CEDC	RE	See page
335.15	335.15	.124-.203	Circlip grooves					0.22							2	–	406
335.10	150.10	.089-.098					0.62	0.63	0.73	1.06	1.36	1.41			1	.006 .012	411
		0.122					0.62	0.63	0.73	1.06	1.36	1.41					
335.19	SNHQ / 335.19	0.156				0.45	0.6	0.7	0.95	1.32					4	.008 / .016 .031 / .047 .063 / .079 .094 / .118 .122 / .138 .157 / .197 .236	424
		0.187				0.45	0.6	0.7	0.95	1.32	1.41	1.91					
		0.250					0.6	0.7	0.95	1.32	1.45	1.95	2.51				
		0.313						0.56	0.81	1.07	1.45	1.95					
		0.375						0.56	0.81	1.11	1.49	2.02					
		0.500								1.13	1.52	2.00					
335.18 LNK	LNKT	0.312			0.35	0.41	0.59	0.63	0.71	1.06	1.38				4	.016 / .031 .063 / .079 .094 / .122 .157	442
		0.375			0.35	0.41	0.59	0.63	0.71	1.06	1.38						
		0.500					0.59	0.62	0.87	1.14	1.38	1.81					
		0.625							0.71	1.06							
		0.750							0.71	1.06	1.38						
335.25	XNHQ	0.750									1.33	1.83	2.48		4	.031 / .047 .063 / .079 .094 / .122 .157 / .197 .236	469
		1.00									1.35	1.85	2.43	3.43			

Full radius profile – fixed pocket design

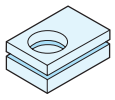
System	Insert	a_p	Application	Diameters (inch) available and max depth of cut (inch) 1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00	6.00	8.00	10.00	CEDC	RE	See page
335.29	Round insert	0.236	Full radius			0.30	0.41								4	0.118 0.157 0.197	502
		0.315					0.41	0.60									
		0.394						0.59	0.70								

Basic choice (X indicates the maximum radial depth of cut "CDX" in slotting in inch)

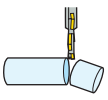
X

Alternative choice (X indicates the maximum radial depth of cut "CDX" in slotting in inch)

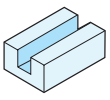
X



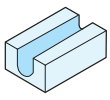
Circlip groove and shallow slotting



Sawing



Full side and face



Full radius profile

CEDC = Max no. of cutting edges
RE = Radii available (inch)

Selection – Inch

Full side and and face – adjustable in width

System	Insert	a_p	Applica-tion	Diameters (inch) available and max depth of cut (inch) 4.00	5.00	6.00	8.00	10.00	12.00	CEDC	RE	See page
335.18 LNK	LNK	.315 - .394		1.1	1.34	1.77	2.42	3.39	4.39	4	.0157 / .031 .063 / .079 .094 / .122 .157	442
		.394 - .472		1.01	1.33	1.77	2.42	3.39	4.39			
		.472 - .591		1.01	1.33	1.77	2.42	3.39	4.39			
335.25	XNHQ	.53 - .67		1.01	1.33	1.80	2.42	3.42	4.46	4	.016 / .031 .063 / .079 .094 / .122 .157 / .197 .236	469
		.67 - .83		1.01	1.33	1.80	2.42	3.42	4.46			
		.83 - 1.02			1.33	1.79	2.41	3.41	4.41			
		1.02 - 1.26				1.79	2.41	3.41	4.41			
335.18	Round insert	.315 - .394	Full radius	1.14	1.38	1.77	2.42	3.39	4.39	4	.157 /.197 .236 /.315 .393	442
		.394 - .472		1.06	1.38	1.81	2.42	3.39	4.39			
		.472 - .591		1.05	1.37	1.83	2.42	3.39	4.39			
		.630 - .669			1.41	1.91	2.54	3.54	4.58			
		.789 - .827						3.54	4.54			

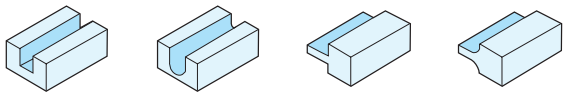
Half side and face

System	Insert	a_p	Applica-tion	Diameters (inch) available and max depth of cut (inch) 4.00	5.00	6.00	8.00	10.00	12.00	CEDC	RE	See page
335.98/.18	XN05	≤0.197		1.01	1.33	1.77	2.42	3.39	4.39	4+4	R0.016/R0.031/ R0.063	442
335.98/.25	XN07	≤0.271			1.33	1.79	2.41	3.41	4.41	4+4	R0.031/R0.063/R0.12	442
335.18 LNK	LNK	≤0.197		1.10	1.34	1.77	2.42	3.39	4.39	2+2	.016 / .031 .063 / .079 .094 / .122 .157	442
		≤0.236		1.01	1.33	1.77	2.42	3.39	4.39			
		≤0.295		1.01	1.33	1.79	2.42	3.39	4.39			
335.25	XNHQ	≤0.354		1.01	1.33	1.80	2.42	3.42	4.46	2+2	.016 / .031 .063 / .079 .094 / .122 .157 / .197 .236	469
		≤0.437		1.01	1.33	1.80	2.42	3.42	4.46			
		≤0.512			1.33	1.79	2.41	3.41	4.41			
		≤0.630				1.79	2.41	3.41	4.41			
335.18	Round insert	≤0.157	Full radius	1.14	1.38	1.77	2.42	3.39	4.39	4	.157	442
		≤0.197		1.06	1.38	1.81	2.42	3.39	4.39		.157	
		≤0.236		1.05	1.37	1.83	2.42	3.39	4.39		.197	
		≤0.315			1.41	1.91	2.54	3.54	4.58		.315	
		≤0.393						3.54	4.54		.315	

Basic choice (X indicates the maximum radial depth of cut "CDX" in slotting in inch) X

Alternative choice (X indicates the maximum radial depth of cut "CDX" in slotting in inch) X

CEDC = Max no. of cutting edges
RE = Radii available (inch)



Full side and face | Full radius profile | Half side and face | Half radius profile



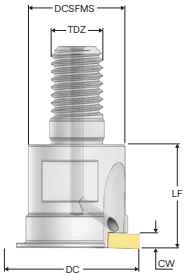
335.15

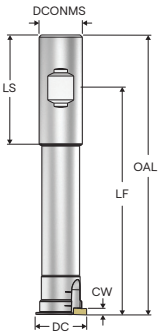
Disc Milling cutter system designed to generate circle snap-ring grooves and shallow slotting grooves

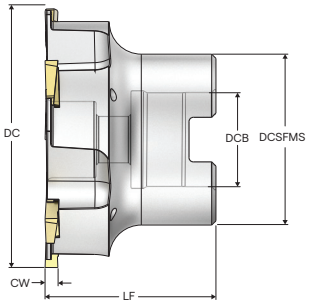
– Width of cut 1.1-5.15 mm (.043 - .202 inch)
– Cutter range diameter 24-63 mm (1 - 2.5 inch)
– Available with Weldon, Arbor and Combimaster with through coolant connection
– Economical light cutting insert with 2 cutting edges design
– Insert width precision +0/+0.05mm - +0/+0.002”

R335.15 – Metric









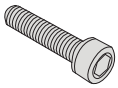
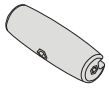
—For insert selection and cutting data recommendations, see page(s) 408, 409 - 410
—For complete insert programme, see page(s) 934
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	ZNP	DCB	DCSFMS	TDZ	DCONMS	LF	LS	OAL	RPMX	Weight	Insert
			mm	mm	mm	mm			mm	mm		mm	mm	mm	mm		kg	
R335.15-20024.3-03-1	75002642	Weldon	24,0	1,1	2,65	2,2	1	1	–	–	–	20,0	105,05	50,0	130,0	28200	0,4	R335.15-13..
R335.15-25034.3-03-2	75002643	Weldon	34,0	1,1	2,65	2,9	2	2	–	–	–	25,0	98,05	56,0	130,0	23600	0,5	R335.15-13..
R335.15-1024.RE-03.1A	03329402	Combimaster	24,0	1,1	2,65	2,2	1	1	–	18,5	M10	–	20,0	–	–	28200	0,5	R335.15-13..
R335.15-1234.RE-03.2A	03329403	Combimaster	34,0	1,1	2,65	2,9	2	2	–	23,0	M12	–	30,0	–	–	23600	0,2	R335.15-13..
R335.15-063-03.22-5	75011752	Arbor	63,0	1,1	2,65	3,8	5	5	22,0	40,0	–	–	40,0	–	–	17300	0,5	R335.15-13..
R335.15-063-05.22-5	75011753	Arbor	63,0	3,15	5,15	5,5	5	5	22,0	40,0	–	–	40,0	–	–	17300	0,5	R335.15-18..

CW depends on the insert width

For groove depth (CDX), please see insert pages 934

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Key (T-handle)
				
R335.15 DC = 24/34	–	H4B-T15P	C03509-T15P	DOUBLE-T
R335.15 DC = 63	220.17-692	H4B-T15P	C03509-T15P	DOUBLE-T

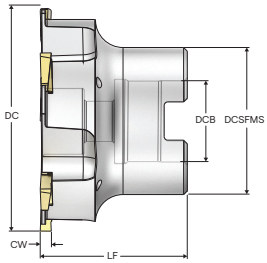
Accessories

For	Insert clamping torque	Torque key
		
R335.15 DC = 24/34	3.0NM	T00-15P30
R335.15 DC = 63	3.0NM	T00-15P30

Torque and fixed keys, see page 944

R335.15 – inch





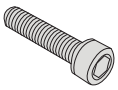
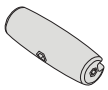
—For insert selection and cutting data recommendations, see page(s) 408, 409 - 410
—For complete insert programme, see page(s) 934
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	RPMX	Weight	Insert
			inch	inch	inch	inch			inch	inch	inch		lbs	
R335.15-02.50-18	75072222	Arbor	2.500	0.124	0.203	0.217	5	5	0.750	1.571	1.571	17300	1.100	R335.15-18...

CW depends on the insert width

For groove depth (CDX), please see insert pages 934

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Key (T-handle)
				
R335.15-02.50-..	UC6S3/8UNFX1-1/4	H4B-T15P	C03509-T15P	DOUBLE-T

Accessories

For	Insert clamping torque	Torque key
		
R335.15-02.50-..	3.0NM	T00-15P30

Torque and fixed keys, see page 944

R335.15– Insert selection – mm/Inch

SMG			f_z		
			10%	5%	2%
P1	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,19 *0.0075*	0,26 *0.010*	0,42 *0.017*
P2	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,19 *0.0075*	0,26 *0.010*	0,42 *0.017*
P3	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,18 *0.0070*	0,25 *0.010*	0,40 *0.016*
P4	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,18 *0.0070*	0,25 *0.010*	0,40 *0.016*
P5	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,17 *0.0065*	0,24 *0.0095*	0,38 *0.015*
P6	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,17 *0.0065*	0,24 *0.0095*	0,38 *0.015*
P7	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,17 *0.0065*	0,24 *0.0095*	0,38 *0.015*
P8	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,18 *0.0070*	0,25 *0.010*	0,40 *0.016*
P11	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,17 *0.0065*	0,24 *0.0095*	0,38 *0.015*
P12	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,12 *0.0048*	0,16 *0.0065*	0,26 *0.010*
M1	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,19 *0.0075*	0,26 *0.010*	0,42 *0.017*
M2	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,17 *0.0065*	0,24 *0.0095*	0,38 *0.015*
M3	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,14 *0.0055*	0,19 *0.0075*	0,30 *0.012*
M4	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,12 *0.0048*	0,17 *0.0065*	0,26 *0.010*
M5	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,12 *0.0048*	0,17 *0.0065*	0,26 *0.010*
K1	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,19 *0.0075*	0,26 *0.010*	0,42 *0.017*
K2	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,17 *0.0065*	0,24 *0.0095*	0,38 *0.015*
K3	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,17 *0.0065*	0,24 *0.0095*	0,38 *0.015*
K4	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,17 *0.0065*	0,24 *0.0095*	0,38 *0.015*
K5	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,16 *0.0065*	0,22 *0.0085*	0,34 *0.013*
K6	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,17 *0.0065*	0,24 *0.0095*	0,38 *0.015*
K7	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,16 *0.0065*	0,22 *0.0085*	0,34 *0.013*
N1	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,24 *0.0095*	0,34 *0.013*	0,55 *0.022*
N2	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,24 *0.0095*	0,34 *0.013*	0,55 *0.022*
N3	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,24 *0.0095*	0,34 *0.013*	0,55 *0.022*
N11	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,24 *0.0095*	0,34 *0.013*	0,55 *0.022*
S1	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,12 *0.0048*	0,17 *0.0065*	0,26 *0.010*
S2	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,12 *0.0048*	0,17 *0.0065*	0,26 *0.010*
S3	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,11 *0.0044*	0,16 *0.0065*	0,25 *0.010*
S11	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,14 *0.0055*	0,19 *0.0075*	0,30 *0.012*
S12	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,14 *0.0055*	0,19 *0.0075*	0,30 *0.012*
S13	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,12 *0.0048*	0,17 *0.0065*	0,26 *0.010*
H5	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,12 *0.0048*	0,16 *0.0065*	0,26 *0.010*
H8	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,090 *0.0036*	0,12 *0.0048*	0,20 *0.0080*
H11	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,12 *0.0048*	0,16 *0.0065*	0,26 *0.010*
H12	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,090 *0.0036*	0,12 *0.0048*	0,20 *0.0080*
H21	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,090 *0.0036*	0,12 *0.0048*	0,20 *0.0080*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R335.15 – Cutting data v_c = (m/min)/(sf/min)

SMG	F40M		
	10%	5%	2%
P1	260 *850*	285 *940*	280 *920*
P2	255 *840*	275 *900*	275 *900*
P3	220 *720*	240 *790*	240 *790*
P4	195 *640*	210 *690*	210 *690*
P5	190 *620*	205 *670*	205 *670*
P6	210 *690*	230 *750*	230 *750*
P7	200 *660*	215 *710*	215 *710*
P8	185 *610*	200 *660*	200 *660*
P11	195 *640*	210 *690*	210 *690*
P12	125 *410*	135 *445*	135 *445*
M1	205 *670*	225 *740*	220 *720*
M2	170 *560*	185 *610*	185 *610*
M3	135 *445*	150 *490*	150 *490*
M4	105 *345*	115 *375*	115 *375*
M5	90 *295*	95 *310*	95 *310*
K1	200 *660*	220 *720*	220 *720*
K2	180 *590*	195 *640*	195 *640*
K3	150 *490*	165 *540*	165 *540*
K4	145 *475*	155 *510*	155 *510*
K5	90 *295*	95 *310*	95 *310*
K6	130 *425*	140 *460*	140 *460*
K7	110 *360*	120 *395*	120 *395*
N1	1500 *4925*	1625 *5325*	1600 *5250*
N2	600 *1975*	650 *2125*	650 *2125*
N3	405 *1325*	435 *1425*	430 *1400*
N11	460 *1500*	495 *1625*	495 *1625*
S1	49 *160*	55 *180*	55 *180*
S2	40 *130*	43 *140*	43 *140*
S3	35 *115*	37 *120*	37 *120*
S11	70 *230*	75 *245*	75 *245*
S12	60 *195*	65 *215*	65 *215*
S13	34 *110*	36 *120*	36 *120*
H5	41 *135*	45 *150*	45 *150*
H8	44 *145*	48 *155*	47 *155*
H11	55 *180*	60 *195*	55 *180*
H12	50 *165*	55 *180*	55 *180*
H21	44 *145*	48 *155*	47 *155*

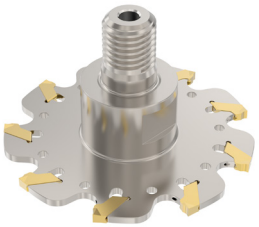


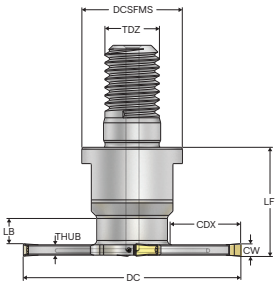
335.10

Easy to use and reliable disc milling cutter system dedicated for slim slotting and cut-off operations.

– Self-clamping carbide insert design, the insert is retained by the spring action of the steel part of the cutter
– Width of cut 2.25-4.1 mm (.088 - .161 inch)
– Cutter range diameter 40-315 mm (1.5 - 6.0 inch)
– Available with Weldon, Combimaster, Arbor and Arbor hole connection
– Large cutter diameter with HSS cutter body material for high rigidity and reliability
– Small cutter diameter with internal coolant and close pitch design for high productivity
– Insert width precision from +/- 0.05 to 0.08mm - +/-0.002 to 0.003”

R335.10 - Insert 150.10 – Metric - full side - close pitch design with internal coolant

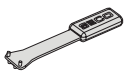




—For insert selection and cutting data recommendations, see page(s) 422-423
—For complete insert programme, see page(s) 928
—For ISO attribute explanation, see page 16

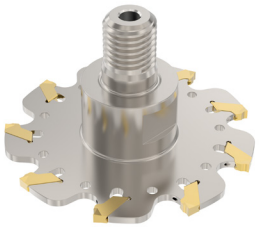
Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCSFMS	TDZ	LF	THUB	LB	RPMX	Weight	Insert 150.10
			mm	mm	mm			mm		mm	mm	mm		kg	
R335.10-1040.RE-02-4A	02926773	Combimaster	40,0	2,25	12,7	4	4	18,5	M10	20,0	1,9	5,3	3970	0,2	-2.25N/2.5N
R335.10-1040.RE-03-4A	02926776	Combimaster	40,0	3,1	12,9	4	4	18,5	M10	20,0	2,4	4,3	3970	0,2	-3N
R335.10-1250.RE-02-5A	02926774	Combimaster	50,0	2,25	15,4	5	5	23,0	M12	20,0	1,9	5,3	3180	0,2	-2.25N/2.5N
R335.10-1250.RE-03-5A	02926777	Combimaster	50,0	3,1	15,6	5	5	23,0	M12	20,0	2,4	4,3	3180	0,1	-3N
R335.10-1663.RE-02-7A	03054405	Combimaster	63,0	2,25	15,7	7	7	30,0	M16	23,0	1,9	–	2520	0,3	-2.25N/2.5N
R335.10-1663.RE-03-7A	03054398	Combimaster	63,0	3,1	15,9	7	7	30,0	M16	23,0	2,4	0,0	2520	0,3	-3N
R335.10-1680.RE-02-9A	03054406	Combimaster	80,0	2,25	24,1	9	9	30,0	M16	23,0	1,9	–	1980	0,3	-2.25N/2.5N
R335.10-1680.RE-03-9A	03054399	Combimaster	80,0	3,1	24,3	9	9	30,0	M16	23,0	2,4	0,0	1980	0,3	-3N
R335.10-20100.RE-02-11A	03054407	Combimaster	100,0	2,25	30,4	11	11	36,5	M20	25,0	1,9	–	1580	0,5	-2.25N/2.5N
R335.10-20100.RE-03-11A	03054400	Combimaster	100,0	3,1	30,6	11	11	36,5	M20	25,0	2,4	0,0	1580	0,5	-3N
R335.10-20125.RE-03-13A	03279546	Combimaster	125,0	3,1	43,1	13	13	36,5	M20	25,0	2,4	0,0	1270	0,6	-3N

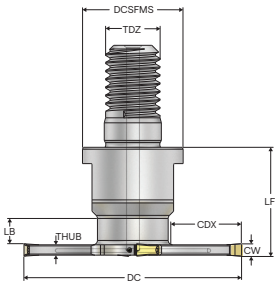
Spare Parts, included in delivery

For cutter	Insert key
	
R335.10 DC=125	150.10-150
R335.10 DC=40-100	335.10-155

Torque and fixed keys, see page 944

R335.10 - Insert 150.10 – Inch - full side - close pitch design with internal coolant

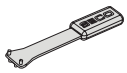




—For insert selection and cutting data recommendations, see page(s) 422-423
—For complete insert programme, see page(s) 928
—For ISO attribute explanation, see page 16

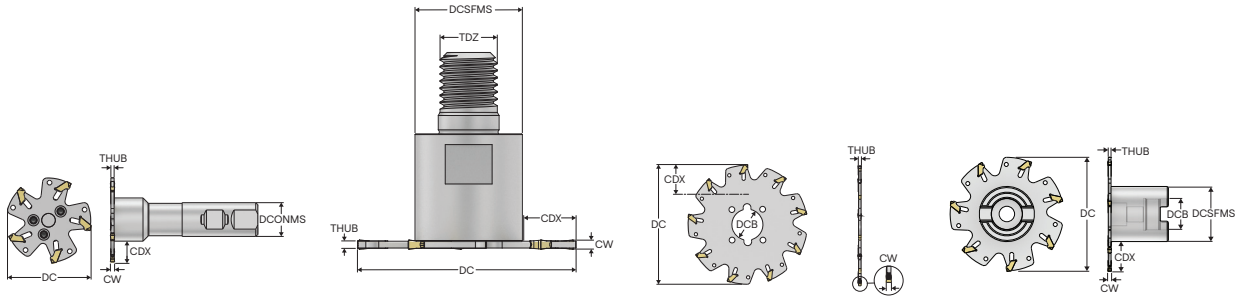
Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCSFMS	TDZ	LF	THUB	LB	RPMX	Weight	Insert 150.10
			inch	inch	inch			inch		inch	inch	inch		lbs	
R335.10-02.00-12RE-02-5A	03054409	Combimaster	2.000	0.089	0.622	5	5	0.906	M12	0.787	0.075	–	3180	0.660	-2.25N/2.5N
R335.10-02.00-12RE-03-5A	03054402	Combimaster	2.000	0.122	0.630	5	5	0.906	M12	0.787	0.094	0.169	3180	0.220	-3N
R335.10-02.50-16RE-02-7A	03054410	Combimaster	2.500	0.089	0.626	7	7	1.181	M16	0.906	0.075	–	2520	0.660	-2.25N/2.5N

Spare Parts, included in delivery

For cutter	Insert key
	
	335.10-155

Torque and fixed keys, see page 944

R335.10/335.10 - Insert 150.10 – Metric - full side - HSS body

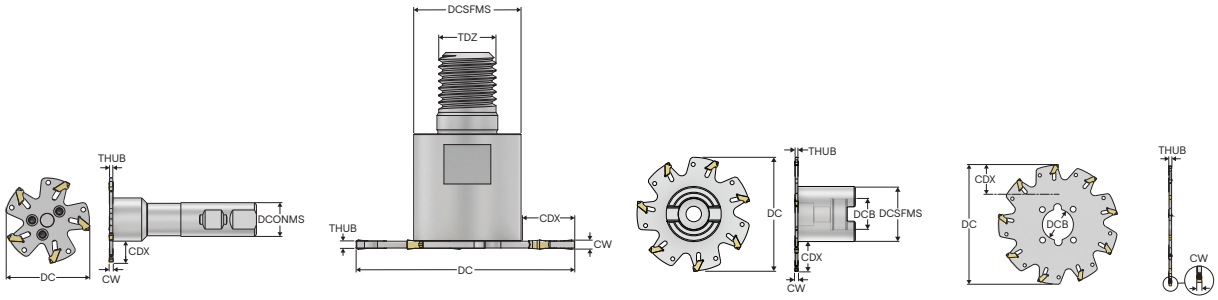


–For insert selection and cutting data recommendations, see page(s) 422-423
–For complete insert programme, see page(s) 928
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCB	DCSFMS	TDZ	DCONMS	THUB	RPMX	Weight	Insert 150.10
			mm	mm	mm			mm	mm		mm	mm		kg	
R335.10-25063.3-02-5	75034462	Weldon	63,0	2,25	15,0	5	5	–	–	–	25,0	1,9	4000	0,6	-2.25N/2.5N
R335.10-25063.3-03-5	75027293	Weldon	63,0	3,1	15,0	5	5	–	–	–	25,0	2,4	4000	0,6	-3N
R335.10-32080.3-02-6	75034463	Weldon	80,0	2,25	19,5	6	6	–	–	–	32,0	1,9	3500	1,1	-2.25N/2.5N
R335.10-32080.3-03-6	75027296	Weldon	80,0	3,1	19,5	6	6	–	–	–	32,0	2,4	3500	1,2	-3N
R335.10-1663.RE-02-5	02731371	Combimaster	63,0	2,25	16,0	5	5	–	30,0	M16	–	1,9	4000	0,3	-2.25N/2.5N
R335.10-1663.RE-03-5	02731375	Combimaster	63,0	3,1	16,0	5	5	–	30,0	M16	–	2,4	4000	0,4	-3N
R335.10-1680.RE-02-6	02731373	Combimaster	80,0	2,25	19,5	6	6	–	30,0	M16	–	1,9	3500	0,6	-2.25N/2.5N
R335.10-1680.RE-03-6	02731378	Combimaster	80,0	3,1	19,5	6	6	–	30,0	M16	–	2,4	3500	0,6	-3N
335.10-080-02.22-6	75034458	Arbor hole	80,0	2,25	22,5	6	6	22,0	–	–	–	1,9	3500	0,2	-2.25N/2.5N
335.10-080-03.22-6	75012752	Arbor hole	80,0	3,1	22,5	6	6	22,0	–	–	–	2,4	3500	0,2	-3N
335.10-100-02.27-7	75034459	Arbor hole	100,0	2,25	29,0	7	7	27,0	–	–	–	1,9	3200	0,2	-2.25N/2.5N
335.10-100-03.27-7	75012754	Arbor hole	100,0	3,1	29,0	7	7	27,0	–	–	–	2,4	3200	0,3	-3N
335.10-125-02.32-9	75028096	Arbor hole	125,0	2,25	34,5	9	9	32,0	–	–	–	1,9	2800	0,3	-2.25N/2.5N
335.10-125-03.32-9	75012756	Arbor hole	125,0	3,1	34,5	9	9	32,0	–	–	–	2,4	2800	0,3	-3N
335.10-160-02.40-12	75034460	Arbor hole	160,0	2,25	39,5	12	12	40,0	–	–	–	1,9	2400	0,4	-2.25N/2.5N
335.10-160-03.40-12	75012758	Arbor hole	160,0	3,1	39,5	12	12	40,0	–	–	–	2,4	2400	0,4	-3N
335.10-200-03.40-14	75027697	Arbor hole	200,0	3,1	59,5	14	14	40,0	–	–	–	2,4	2200	1,3	-3N
335.10-250-03.40-18	75028688	Arbor hole	250,0	3,1	84,5	18	18	40,0	–	–	–	2,4	2000	1,5	-3N
335.10-315-03.40-24	75005264	Arbor hole	315,0	3,1	117,0	24	24	40,0	–	–	–	2,4	1700	1,3	-3N
R335.10-063-02.22-5	75034464	Arbor	63,0	2,25	15,0	5	5	22,0	32,0	–	–	1,9	4000	0,5	-2.25N/2.5N
R335.10-063-03.22-5	75027298	Arbor	63,0	3,1	15,0	5	5	22,0	32,0	–	–	2,4	4000	0,5	-3N
R335.10-080-02.22-6	75034465	Arbor	80,0	2,25	19,5	6	6	22,0	40,0	–	–	1,9	3500	0,6	-2.25N/2.5N
R335.10-080-03.22-6	75027301	Arbor	80,0	3,1	19,5	6	6	22,0	40,0	–	–	2,4	3500	0,6	-3N
R335.10-100-02.27-7	75034466	Arbor	100,0	2,25	25,5	7	7	27,0	48,0	–	–	1,9	3200	0,8	-2.25N/2.5N
R335.10-100-03.27-7	75027303	Arbor	100,0	3,1	25,5	7	7	27,0	48,0	–	–	2,4	3200	0,9	-3N
R335.10-125-02.32-9	75034467	Arbor	125,0	2,25	33,0	9	9	32,0	58,0	–	–	1,9	2800	1,3	-2.25N/2.5N
R335.10-125-03.32-9	75027307	Arbor	125,0	3,1	33,0	9	9	32,0	58,0	–	–	2,4	2800	1,4	-3N
R335.10-160-02.40-12	75034468	Arbor	160,0	2,25	39,5	12	12	40,0	80,0	–	–	1,9	2400	2,9	-2.25N/2.5N
R335.10-160-03.40-12	75027311	Arbor	160,0	3,1	39,5	12	12	40,0	80,0	–	–	2,4	2400	2,4	-3N

For Arbor hole type cutters 335.10-..., no drive holes for cutter dia 80-100 mm. For cutter dia > 100 mm, please use Seco drive rings,see page 417
Note: For R335.10-... cutter types, the blade is assembled on the holder in the delivery

R335.10/335.10 - Insert 150.10 – Metric - full side - HSS body

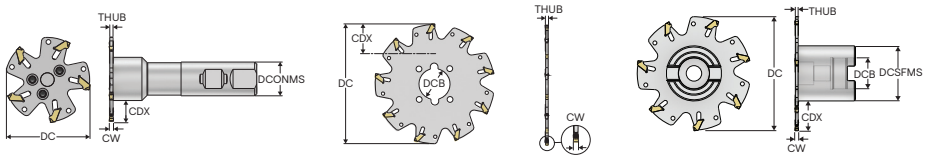


—For insert selection and cutting data recommendations, see page(s) 422-423
—For complete insert programme, see page(s) 928
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCB	DCSFMS	TDZ	DCONMS	THUB	RPMX	Weight	Insert 150.10
			mm	mm	mm			mm	mm		mm	mm		kg	
R335.10-25063.3-04-5	75027294	Weldon	63,0	4,1	15,0	5	5	–	–	–	25,0	3,4	4000	0,5	-4N
R335.10-32080.3-04-6	75027297	Weldon	80,0	4,1	19,5	6	6	–	–	–	32,0	3,4	3500	1,1	-4N
R335.10-1663.RE-04-5	02731380	Combimaster	63,0	4,1	16,0	5	5	–	30,0	M16	–	3,4	4000	0,5	-4N
R335.10-1680.RE-04-6	02731382	Combimaster	80,0	4,1	19,5	6	6	–	30,0	M16	–	3,4	3500	0,5	-4N
335.10-080-04.22-6	75012753	Arbor hole	80,0	4,1	22,5	6	6	22,0	–	–	–	3,4	3500	0,2	-4N
335.10-100-04.27-7	75012755	Arbor hole	100,0	4,1	29,0	7	7	27,0	–	–	–	3,4	3200	0,2	-4N
335.10-125-04.32-9	75012757	Arbor hole	125,0	4,1	34,5	9	9	32,0	–	–	–	3,4	2800	0,4	-4N
335.10-160-04.40-12	75012759	Arbor hole	160,0	4,1	39,5	12	12	40,0	–	–	–	3,4	2400	0,6	-4N
335.10-200-04.40-14	75027826	Arbor hole	200,0	4,1	59,5	14	14	40,0	–	–	–	3,4	2200	0,9	-4N
335.10-250-04.40-18	75028689	Arbor hole	250,0	4,1	84,5	18	18	40,0	–	–	–	3,4	2000	1,2	-4N
335.10-315-04.40-24	75034461	Arbor hole	315,0	4,1	117,0	24	24	40,0	–	–	–	3,4	1700	1,9	-4N
R335.10-063-04.22-5	75027299	Arbor	63,0	4,1	15,0	5	5	22,0	32,0	–	–	3,4	4000	0,4	-4N
R335.10-080-04.22-6	75027302	Arbor	80,0	4,1	19,5	6	6	22,0	40,0	–	–	3,4	3500	0,7	-4N
R335.10-100-04.27-7	75027304	Arbor	100,0	4,1	25,5	7	7	27,0	48,0	–	–	3,4	3200	0,9	-4N
R335.10-125-04.32-9	75027309	Arbor	125,0	4,1	33,0	9	9	32,0	58,0	–	–	3,4	2800	1,5	-4N
R335.10-160-04.40-12	75027312	Arbor	160,0	4,1	39,5	12	12	40,0	80,0	–	–	3,4	2400	3,1	-4N

For Arbor hole type cutters 335.10-..., no drive holes for cutter dia 80-100 mm. For cutter dia > 100 mm, please use Seco drive rings,see page 417
Note: For R335.10-... cutter types, the blade is assembled on the holder in the delivery

R335.10/335.10 - Insert 150.10 – inch - full side - HSS body



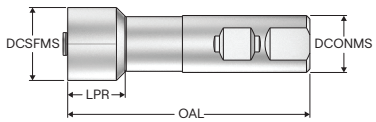
—For insert selection and cutting data recommendations, see page(s) 422-423
—For complete insert programme, see page(s) 928
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCB	DCSFMS	DCONMS	THUB	RPMX	Weight	Insert 150.10
			inch	inch	inch			inch	inch	inch	inch		lbs	
R335.10-02.50-3-2	75054664	Weldon	2.500	0.089	0.602	5	5	–	–	1.000	0.075	4000	0.440	2.25N/2.5N
R335.10-02.50-3-3	75054666	Weldon	2.500	0.122	0.602	5	5	–	–	1.000	0.094	4000	1.540	3N
R335.10-03.00-3-2	75054665	Weldon	3.000	0.089	0.728	6	6	–	–	1.250	0.075	3500	3.090	2.25N/2.5N
R335.10-03.00-3-3	75054667	Weldon	3.000	0.122	0.728	6	6	–	–	1.250	0.094	3500	3.090	3N
335.10-03.00-2	75054743	Arbor hole	3.000	0.089	0.669	6	6	1.000	–	–	0.075	3500	0.440	2.25N/2.5N
335.10-03.00-3	75070139	Arbor hole	3.000	0.122	0.669	6	6	1.000	–	–	0.094	3500	0.440	3N
335.10-04.00-2	75054744	Arbor hole	4.000	0.089	1.161	7	7	1.000	–	–	0.075	3200	0.440	2.25N/2.5N
335.10-04.00-3	75014456	Arbor hole	4.000	0.122	1.161	7	7	1.000	–	–	0.094	3200	0.660	3N
335.10-05.00-2	75054745	Arbor hole	5.000	0.089	1.398	9	9	1.250	–	–	0.075	2800	0.660	2.25N/2.5N
335.10-05.00-3	75014458	Arbor hole	5.000	0.122	1.398	9	9	1.250	–	–	0.094	2800	0.660	3N
335.10-06.00-3	75014460	Arbor hole	6.000	0.122	1.555	12	12	1.250	–	–	0.094	2400	0.880	3N
R335.10-02.50-2B	75054670	Arbor	2.500	0.089	0.600	5	5	0.750	1.575	–	0.075	4000	1.100	2.25N/2.5N
R335.10-02.50-3B	75054672	Arbor	2.500	0.122	0.600	5	5	0.750	1.575	–	0.094	4000	1.320	3N
R335.10-03.00-2B	75054671	Arbor	3.000	0.089	0.693	6	6	0.750	1.575	–	0.075	3500	1.760	2.25N/2.5N
R335.10-03.00-3B	75054673	Arbor	3.000	0.122	0.693	6	6	0.750	1.575	–	0.094	3500	1.980	3N
R335.10-04.00-2B	75054680	Arbor	4.000	0.089	1.035	7	7	1.000	1.890	–	0.075	3200	1.980	2.25N/2.5N
R335.10-04.00-3B	75054683	Arbor	4.000	0.122	1.035	7	7	1.000	1.890	–	0.094	3200	2.650	3N
R335.10-05.00-2B	75054681	Arbor	5.000	0.089	1.339	9	9	1.250	2.283	–	0.075	2800	3.970	2.25N/2.5N
R335.10-05.00-3B	75054684	Arbor	5.000	0.122	1.339	9	9	1.250	2.283	–	0.094	2800	3.750	3N
R335.10-06.00-2B	75054682	Arbor	6.000	0.089	1.406	12	12	1.500	3.150	–	0.075	2400	6.170	2.25N/2.5N
R335.10-06.00-3B	75054685	Arbor	6.000	0.122	1.406	12	12	1.500	3.150	–	0.094	2400	5.510	3N

For Arbor hole type cutters 335.10-..., no drive holes for cutter dia 3.00 -4.00". For cutter dia > 4.00", please use Seco drive rings,see page 420
Note: For R335.10-... cutter types, the blade is assembled on the holder in the delivery

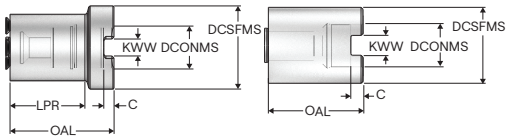
Spare Parts – Metric

Holder for Weldon type



Designation	DMM	DCSFMS	OAL	LPR
335.10-25.3	25	32	106	25
335.10-32.3	32	40	150	30

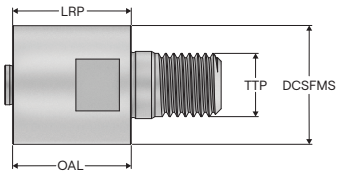
Holder for Arbor type



Designation	DMM	DCSFMS	OAL	LPR	KWW	C
335.10-2232	22	40	50	36	10,4	6,3
335.10-2240M	22	40	50	–	10,4	6,3
335.10-2748	27	48	50	–	12,4	7
335.10-3258	32	58	63	–	14,4	8
335.10-4080	40	80	63	–	16,4	9

Note: Assembly screws delivered Weldon, Arbor and Combimaster holders

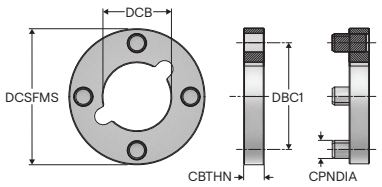
Combimaster type



Designation	LPR	TDZ	DCSFMS	OAL
335.10-16RE-10	28	M16	30	30
335.10-16RE-18	28	M16	30	40

Note: Assembly screws delivered Weldon, Arbor and Combimaster holders

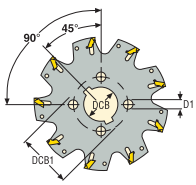
Drive rings for Arbor hole type



Designation	DCB	DCSFMS	CBTHN	DCB1	CPNDIA
335.10-14532	32	55	10	45	5,7
335.10-16340	40	80	12	63	10,7

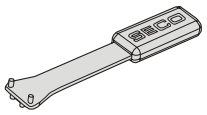
Drive ring to be ordered separately

Arbor hole type



Designation	DCB	DCB1	D1
335.10-080	22	–	–
335.10-100	27	–	–
335.10-125	32	45	6
335.10-160-315	40	63	11

Spare parts (key included in delivery)



For cutter	Insert removal key
R335.10-..	150.10-150

Assembly components/Standard parts – metric

Weldon type cutters

Designation	Cutter body Part No.	Holder Part No.	Assembly screw	Clamp key	Torque Nm
R335.10-25063.3-02-5	B-R335.10-063.10-02	335.10-25.3	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm
R335.10-32080.3-02-6	B-R335.10-080.18-02	335.10-32.3	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm
R335.10-25063.3-03-5	B-R335.10-063.10-03	335.10-25.3	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm
R335.10-32080.3-03-6	B-R335.10-080.18-03	335.10-32.3	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm
R335.10-25063.3-04-5	B-R335.10-063.10-04	335.10-25.3	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm
R335.10-32080.3-04-6	B-R335.10-080.18-04	335.10-32.3	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm

Arbor type cutters

Designation	Cutter body Part No.	Holder Part No.	Assembly screw	Clamp key	Torque Nm	Arbor screw
R335.10-063-02.22-5	B-R335.10-063.10-02	335.10-2232	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm	220.17-696
R335.10-080-02.22-6	B-R335.10-080.18-02	335.10-2240M	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm	220.17-696
R335.10-063-03.22-5	B-R335.10-063.10-03	335.10-2232	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm	220.17-696
R335.10-080-03.22-6	B-R335.10-080.18-03	335.10-2240M	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm	220.17-696
R335.10-063-04.22-5	B-R335.10-063.10-04	335.10-2232	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm	220.17-696
R335.10-080-04.22-6	B-R335.10-080.18-04	335.10-2240M	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm	220.17-696

Arbor type cutters

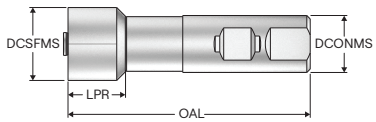
Designation	Cutter body Part No.	Holder Part No.	Assembly screw	Clamp key	Torque Nm	Arbor screw
R335.10-100-02.27-7	B-R335.10-100.27-02	335.10-2748	4 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm	MC6S 12x40
R335.10-100-03.27-7	B-R335.10-100.27-03	335.10-2748	4 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm	MC6S 12x40
R335.10-100-04.27-7	B-R335.10-100.27-04	335.10-2748	4 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm	MC6S 12x40
R335.10-125-02.32-9	B-R335.10-125.32-02	335.10-3258	4 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm	220.17-694
R335.10-125-03.32-9	B-R335.10-125.32-03	335.10-3258	4 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm	220.17-694
R335.10-125-04.32-9	B-R335.10-125.32-04	335.10-3258	4 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm	220.17-694
R335.10-160-02.40-12	B-R335.10-160.40-02	335.10-4080	4 x 335.10-1030-T30P	1/4HEX-T30PX50	10Nm	MC6S 20x40
R335.10-160-03.40-12	B-R335.10-160.40-03	335.10-4080	4 x 335.10-1030-T30P	1/4HEX-T30PX50	10Nm	MC6S 20x40
R335.10-160-04.40-12	B-R335.10-160.40-04	335.10-4080	4 x 335.10-1030-T30P	1/4HEX-T30PX50	10Nm	MC6S 20x40

Combimaster

Designation	Cutter body Part No.	Holder Part No.	Assembly screw	Clamp key	Torque Nm
R335.10-1663.RE-02-5	B-R335.10-063.10-02	335.10-16RE-10	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm
R335.10-1680.RE-02-6	B-R335.10-080.18-02	335.10-16RE-18	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm
R335.10-1663.RE-03-5	B-R335.10-063.10-03	335.10-16RE-10	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm
R335.10-1680.RE-03-6	B-R335.10-080.18-03	335.10-16RE-18	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm
R335.10-1663.RE-04-5	B-R335.10-063.10-04	335.10-16RE-10	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm
R335.10-1680.RE-04-6	B-R335.10-080.18-04	335.10-16RE-18	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm

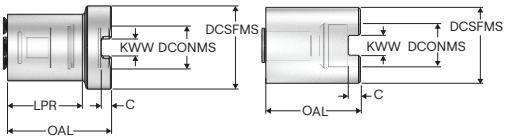
Spare Parts – Inch

Holder for Weldon type



Designation	DMM	DCSFMS	OAL	LPR
335.10-01.00-3-A	1.00	1.25	4.17	1.00
335.10-01.25-3-A	1.25	1.50	5.90	1.18

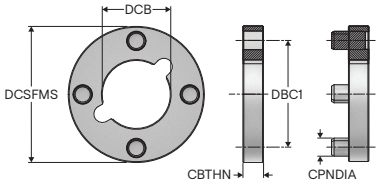
Holder for Arbor type



Designation	DMM	DCSFMS	OAL	LPR	KWW	C
335.10-00.75-1.25B-A	0.75	1.26	1.969	1.50	0.32	0.20
335.10-00.75-1.50B-A	0.75	1.58	1.969	–	0.32	0.20
335.10-01.00-1.89B-A	1.00	1.89	1.969	–	0.38	0.23
335.10-01.25-2.28B-A	1.25	2.28	2.480	–	0.51	0.28
335.10-01.50-3.15B-A	1.50	3.15	2.480	–	0.63	0.38

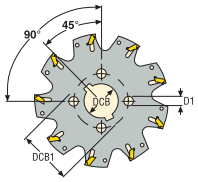
Note: Assembly screws delivered with Weldon and arbor holders

Drive rings for Arbor hole type



Designation	DCB	DCSFMS	CBTHN	DCB1	CPNDIA
335.10-14531	2.16	1.25	1.77	0.22	0.39
335.10-15531	2.83	1.25	2.16	0.42	0.47
335.10-17451	3.50	2.00	2.91	0.42	0.47

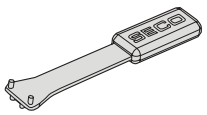
Arbor hole type



Designation	DCB	DCB1	D1
335.10-03.00-04.00	1.00	–	–
335.10-05.00	1.25	1.77	0.24
335.10-06.00	1.25	2.16	0.43
335.10-08.00-12.00	2.00	2.91	0.43

Drive ring to be ordered separately

Spare parts (key included in delivery)



For cutter	Insert removal key
R335.10-..	150.10-150

Assembly components/Standard parts – inch

Weldon type cutters

Designation	Cutter body Part No.	Holder Part No.	Assembly screw	Clamp key	Torque in/lbs
					
R335.10-02.50-3-2	R335.10-02.50-2	335.10-01.00-3-A	335.10-0516-T15P(3X)	1/4HEX-T15PX50	57.5 in.lbs
R335.10-02.50-3-3	R335.10-02.50-3	335.10-01.00-3-A	335.10-0516-T15P(3X)	1/4HEX-T15PX50	57.5 in.lbs
R335.10-03.00-3-2	R335.10-03.00-2	335.10-01.25-3-A	335.10-0516-T15P(3X)	1/4HEX-T15PX50	57.5 in.lbs
R335.10-03.00-3-3	R335.10-03.00-3	335.10-01.25-3-A	335.10-0516-T15P(3X)	1/4HEX-T15PX50	57.5 in.lbs

Arbor type cutters

Designation	Cutter body Part No.	Holder Part No.	Assembly screw	Clamp key	Torque in/lbs	Arbor screw
						
R335.10-02.50-2B	R335.10-02.50-2	335.10-00.75-1.25B-A	335.10-0516-T15P(3X)	1/4HEX-T15PX50	57.5 in.lbs	220.17-695
R335.10-02.50-3B	R335.10-02.50-3	335.10-00.75-1.25B-A	335.10-0516-T15P(3X)	1/4HEX-T15PX50	57.5 in.lbs	220.17-695
R335.10-03.00-2B	R335.10-03.00-2	335.10-00.75-1.50B-A	335.10-0516-T15P(3X)	1/4HEX-T15PX50	57.5 in.lbs	220.17-695
R335.10-03.00-3B	R335.10-03.00-3	335.10-00.75-1.50B-A	335.10-0516-T15P(3X)	1/4HEX-T15PX50	57.5 in.lbs	220.17-695

Arbor type cutters

Designation	Cutter body Part No.	Holder Part No.	Assembly screw	Insert key	Torque in/lbs	Arbor screw
						
R335.10-04.00-2B	R335.10-04.00-2	335.10-01.00-1.89B-A	335.10-0516-T15P(4X)	1/4HEX-T15PX50	57.5 in.lbs	UC6S1/2UNFX1-1/2
R335.10-04.00-3B	R335.10-04.00-3	335.10-01.00-1.89B-A	335.10-0516-T15P(4X)	1/4HEX-T15PX50	57.5 in.lbs	UC6S1/2UNFX1-1/2
R335.10-05.00-2B	R335.10-05.00-2	335.10-01.25-2.28B-A	335.10-0516-T15P(4X)	1/4HEX-T15PX50	57.5 in.lbs	UC6S5/8UNFX11/2
R335.10-05.00-3B	R335.10-05.00-3	335.10-01.25-2.28B-A	335.10-0516-T15P(4X)	1/4HEX-T15PX50	57.5 in.lbs	UC6S5/8UNFX11/2
R335.10-06.00-2B	R335.10-06.00-2	335.10-01.50-3-15B-A	335.10-1030-T30P(4X)	1/4HEX-T30PX50	88.5 in.lbs	UC6S3/4UNFX1-1/4
R335.10-06.00-3B	R335.10-06.00-3	335.10-01.50-3-15B-A	335.10-1030-T30P(4X)	1/4HEX-T30PX50	88.5 in.lbs	UC6S3/4UNFX1-1/4

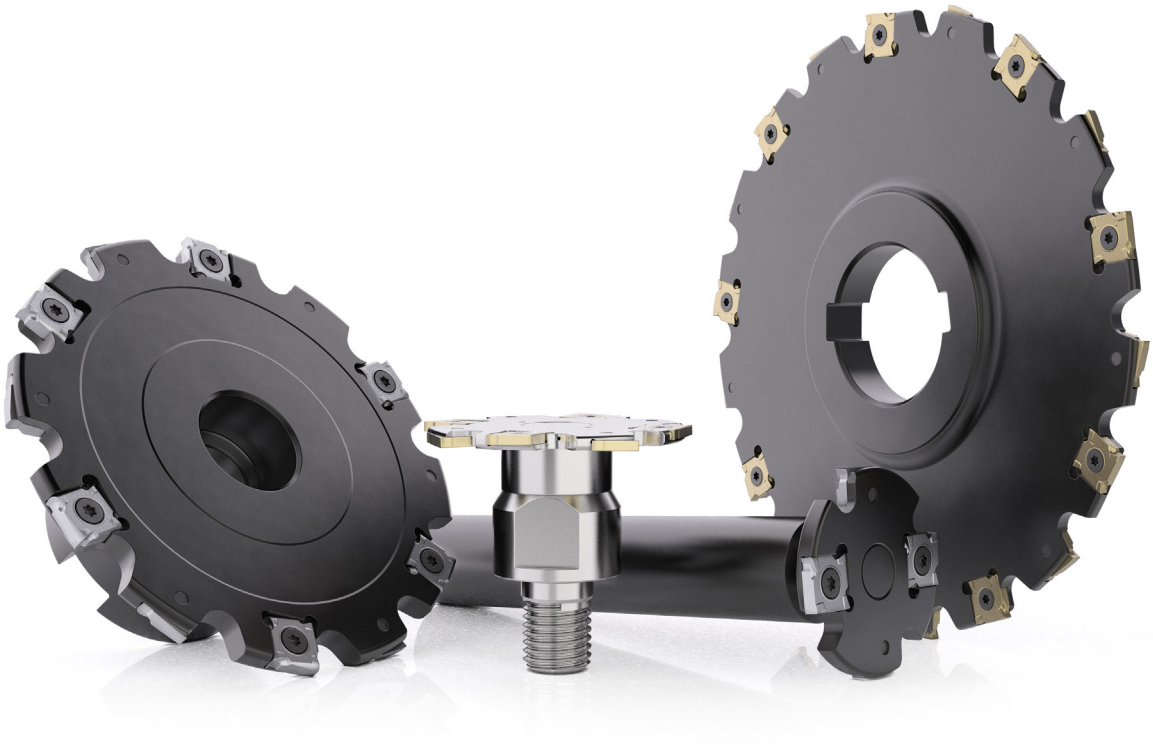
335.10– Insert selection – mm/Inch

SMG					f_z			
					30%	20%	10%	5%
P1	150.10-2.25N-16 CP600	150.10-2.5N-12 CP600	*150.10-3N-12 CP600*	*150.10-4N-12 CP600*	0,10 *0.0040*	0,11 *0.0044*	0,15 0.0060	0,20 0.0080
P2	150.10-2.25N-16 CP600	150.10-2.5N-12 CP600	*150.10-3N-12 CP600*	*150.10-4N-12 CP600*	0,10 *0.0040*	0,11 *0.0044*	0,15 0.0060	0,22 0.0085
P3	150.10-2.25N-16 CP600	150.10-2.5N-12 CP600	*150.10-3N-12 CP600*	*150.10-4N-12 CP600*	0,095 *0.0038*	0,11 *0.0044*	0,14 0.0055	0,20 0.0080
P4	150.10-2.25N-16 CP600	150.10-2.5N-12 CP600	*150.10-3N-12 CP600*	*150.10-4N-12 CP600*	0,090 *0.0036*	0,11 *0.0044*	0,14 0.0055	0,19 0.0075
P5	150.10-2.25N-16 CP600	150.10-2.5N-12 CP600	*150.10-3N-12 CP600*	*150.10-4N-12 CP600*	0,090 *0.0036*	0,10 *0.0040*	0,14 0.0055	0,19 0.0075
P6	150.10-2.25N-16 CP600	150.10-2.5N-12 CP600	*150.10-3N-12 CP600*	*150.10-4N-12 CP600*	0,090 *0.0036*	0,10 *0.0040*	0,14 0.0055	0,19 0.0075
P7	150.10-2.25N-16 CP600	150.10-2.5N-12 CP600	*150.10-3N-12 CP600*	*150.10-4N-12 CP600*	0,090 *0.0036*	0,10 *0.0040*	0,14 0.0055	0,19 0.0075
P8	150.10-2.25N-16 CP500	150.10-2.5N-12 CP600	*150.10-3N-12 CP600*	*150.10-4N-12 CP600*	0,095 *0.0038*	0,11 *0.0044*	0,14 0.0055	0,20 0.0080
P11	150.10-2.25N-16 CP600	150.10-2.5N-12 CP600	*150.10-3N-12 CP600*	*150.10-4N-12 CP600*	0,085 *0.0034*	0,095 *0.0038*	0,13 0.0050	0,17 0.0065
P12	150.10-2.25N-16 CP600	150.10-2.5N-12 CP600	*150.10-3N-12 CP600*	*150.10-4N-12 CP600*	0,055 *0.0022*	0,065 *0.0026*	0,085 0.0034	0,12 0.0048
M1	150.10-2.25N-14 CP600	150.10-2.5N-14 CP600	*150.10-3N-14 CP600*	*150.10-4N-14 CP600*	0,10 *0.0040*	0,11 *0.0044*	0,15 0.0060	0,22 0.0085
M2	150.10-2.25N-14 CP600	150.10-2.5N-14 CP600	*150.10-3N-14 CP600*	*150.10-4N-14 CP600*	0,090 *0.0036*	0,10 *0.0040*	0,14 0.0055	0,19 0.0075
M3	150.10-2.25N-14 CP600	150.10-2.5N-14 CP600	*150.10-3N-14 CP600*	*150.10-4N-14 CP600*	0,070 *0.0028*	0,085 *0.0034*	0,11 0.0044	0,15 0.0060
M4	150.10-2.25N-14 CP600	150.10-2.5N-14 CP600	*150.10-3N-14 CP600*	*150.10-4N-14 CP600*	0,065 *0.0026*	0,075 *0.0030*	0,095 0.0038	0,13 0.0050
M5	150.10-2.25N-14 CP600	150.10-2.5N-14 CP600	*150.10-3N-14 CP600*	*150.10-4N-14 CP600*	0,065 *0.0026*	0,075 *0.0030*	0,095 0.0038	0,13 0.0050
K1	150.10-2.25N-16 TGP45	150.10-2.5N-16 TGP45	*150.10-3N-16 TGP45*	*150.10-4N-16 TGP45*	0,10 *0.0040*	0,11 *0.0044*	0,15 0.0060	0,22 0.0085
K2	150.10-2.25N-16 TGP45	150.10-2.5N-16 TGP45	*150.10-3N-16 TGP45*	*150.10-4N-16 TGP45*	0,090 *0.0036*	0,10 *0.0040*	0,14 0.0055	0,19 0.0075
K3	150.10-2.25N-16 TGP45	150.10-2.5N-16 TGP45	*150.10-3N-16 TGP45*	*150.10-4N-16 TGP45*	0,090 *0.0036*	0,10 *0.0040*	0,14 0.0055	0,19 0.0075
K4	150.10-2.25N-16 TGP45	150.10-2.5N-16 TGP45	*150.10-3N-16 TGP45*	*150.10-4N-16 TGP45*	0,090 *0.0036*	0,10 *0.0040*	0,14 0.0055	0,19 0.0075
K5	150.10-2.25N-16 TGP45	150.10-2.5N-16 TGP45	*150.10-3N-16 TGP45*	*150.10-4N-16 TGP45*	0,080 *0.0032*	0,095 *0.0038*	0,12 0.0048	0,17 0.0065
K6	150.10-2.25N-16 TGP45	150.10-2.5N-16 TGP45	*150.10-3N-16 TGP45*	*150.10-4N-16 TGP45*	0,090 *0.0036*	0,10 *0.0040*	0,14 0.0055	0,19 0.0075
K7	150.10-2.25N-16 TGP45	150.10-2.5N-16 TGP45	*150.10-3N-16 TGP45*	*150.10-4N-16 TGP45*	0,080 *0.0032*	0,095 *0.0038*	0,12 0.0048	0,17 0.0065
N1	150.10-2.25N-14 CP500	150.10-2.5N-14 CP500	*150.10-3N-14 CP500*	*150.10-4N-14 CP500*	0,12 *0.0048*	0,14 *0.0055*	0,19 0.0075	0,26 0.010
N2	150.10-2.25N-14 CP500	150.10-2.5N-14 CP500	*150.10-3N-14 CP500*	*150.10-4N-14 CP500*	0,12 *0.0048*	0,14 *0.0055*	0,19 0.0075	0,26 0.010
N3	150.10-2.25N-14 CP500	150.10-2.5N-14 CP500	*150.10-3N-14 CP500*	*150.10-4N-14 CP500*	0,12 *0.0048*	0,14 *0.0055*	0,19 0.0075	0,26 0.010
N11	150.10-2.25N-14 CP500	150.10-2.5N-14 CP500	*150.10-3N-14 CP500*	*150.10-4N-14 CP500*	0,12 *0.0048*	0,14 *0.0055*	0,19 0.0075	0,26 0.010
S1	150.10-2.25N-14 CP600	150.10-2.5N-14 CP600	*150.10-3N-14 CP600*	*150.10-4N-14 CP600*	0,065 *0.0026*	0,075 *0.0030*	0,095 0.0038	0,13 0.0050
S2	150.10-2.25N-14 CP600	150.10-2.5N-14 CP600	*150.10-3N-14 CP600*	*150.10-4N-14 CP600*	0,065 *0.0026*	0,075 *0.0030*	0,095 0.0038	0,13 0.0050
S3	150.10-2.25N-14 CP600	150.10-2.5N-14 CP600	*150.10-3N-14 CP600*	*150.10-4N-14 CP600*	0,060 *0.0024*	0,065 *0.0026*	0,090 0.0036	0,12 0.0048
S11	150.10-2.25N-14 CP600	150.10-2.5N-14 CP600	*150.10-3N-14 CP600*	*150.10-4N-14 CP600*	0,070 *0.0028*	0,085 *0.0034*	0,11 0.0044	0,15 0.0060
S12	150.10-2.25N-14 CP600	150.10-2.5N-14 CP600	*150.10-3N-14 CP600*	*150.10-4N-14 CP600*	0,070 *0.0028*	0,085 *0.0034*	0,11 0.0044	0,15 0.0060
S13	150.10-2.25N-14 CP600	150.10-2.5N-14 CP600	*150.10-3N-14 CP600*	*150.10-4N-14 CP600*	0,065 *0.0026*	0,075 *0.0030*	0,095 0.0038	0,13 0.0050
H5	150.10-2.25N-16 CP500	150.10-2.5N-16 CP500	*150.10-3N-16 CP500*	*150.10-4N-16 CP500*	0,060 *0.0024*	0,070 *0.0028*	0,095 0.0038	0,13 0.0050
H8	150.10-2.25N-16 CP500	150.10-2.5N-16 CP500	*150.10-3N-16 CP500*	*150.10-4N-16 CP500*	0,048 *0.0019*	0,055 *0.0022*	0,070 0.0028	0,10 0.0040
H11	150.10-2.25N-16 CP500	150.10-2.5N-16 CP500	*150.10-3N-16 CP500*	*150.10-4N-16 CP500*	0,060 *0.0024*	0,070 *0.0028*	0,095 0.0038	0,13 0.0050
H12	150.10-2.25N-16 CP500	150.10-2.5N-16 CP500	*150.10-3N-16 CP500*	*150.10-4N-16 CP500*	0,048 *0.0019*	0,055 *0.0022*	0,070 0.0028	0,10 0.0040
H21	150.10-2.25N-16 CP500	150.10-2.5N-16 CP500	*150.10-3N-16 CP500*	*150.10-4N-16 CP500*	0,048 *0.0019*	0,055 *0.0022*	0,070 0.0028	0,10 0.0040

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

335.10 – Cutting data v_c = (m/min)/(sf/min)

SMG	CP500				CP600				HX				TGP45				T350M			
	30%	20%	10%	5%	30%	20%	10%	5%	30%	20%	10%	5%	30%	20%	10%	5%	30%	20%	10%	5%
P1	195	210	230	250	185	200	220	240	—	—	—	—	250	270	295	325	215	230	255	275
	640	*690*	*750*	*820*	*610*	*660*	*720*	*790*	—	—	—	—	*820*	*890*	*970*	*1075*	*710*	*750*	*840*	*900*
P2	190	205	225	245	180	195	215	235	—	—	—	—	240	260	290	310	210	225	245	270
	620	*670*	*740*	*800*	*590*	*640*	*710*	*770*	—	—	—	—	*790*	*850*	*950*	*1025*	*690*	*740*	*800*	*890*
P3	165	180	200	215	155	170	190	205	—	—	—	—	215	225	250	270	180	195	220	235
	540	*590*	*660*	*710*	*510*	*560*	*620*	*670*	—	—	—	—	*710*	*740*	*820*	*890*	*590*	*640*	*720*	*770*
P4	150	160	175	190	140	150	165	180	—	—	—	—	185	200	220	240	160	175	190	205
	490	*520*	*570*	*620*	*460*	*490*	*540*	*590*	—	—	—	—	*610*	*660*	*720*	*790*	*520*	*570*	*620*	*670*
P5	140	150	165	180	135	145	160	170	—	—	—	—	180	195	215	235	155	165	185	200
	460	*490*	*540*	*590*	*445*	*475*	*520*	*560*	—	—	—	—	*590*	*640*	*710*	*770*	*510*	*540*	*610*	*660*
P6	160	170	190	205	150	160	180	195	—	—	—	—	200	215	240	260	175	185	205	220
	520	*560*	*620*	*670*	*490*	*520*	*590*	*640*	—	—	—	—	*660*	*710*	*790*	*850*	*570*	*610*	*670*	*720*
P7	150	160	175	190	145	150	170	180	—	—	—	—	190	205	225	245	165	175	195	210
	490	*520*	*570*	*620*	*475*	*490*	*560*	*590*	—	—	—	—	*620*	*670*	*740*	*800*	*540*	*570*	*640*	*690*
P8	140	150	165	180	130	145	160	170	—	—	—	—	180	190	210	230	150	165	185	200
	460	*490*	*540*	*590*	*425*	*475*	*520*	*560*	—	—	—	—	*590*	*620*	*690*	*750*	*490*	*540*	*610*	*660*
P11	145	155	170	185	140	150	165	175	—	—	—	—	185	200	220	240	160	170	190	205
	475	*510*	*560*	*610*	*460*	*490*	*540*	*570*	—	—	—	—	*610*	*660*	*720*	*790*	*520*	*560*	*620*	*670*
P12	95	100	110	120	90	95	105	115	—	—	—	—	120	125	140	155	105	110	120	130
	310	*330*	*360*	*395*	*295*	*310*	*345*	*375*	—	—	—	—	*395*	*410*	*460*	*510*	*345*	*360*	*395*	*425*
M1	155	165	180	200	145	155	175	190	105	110	120	130	175	185	205	225	160	175	190	205
	510	*540*	*590*	*660*	*475*	*510*	*570*	*620*	*345*	*360*	*395*	*425*	*570*	*610*	*670*	*740*	*520*	*570*	*620*	*670*
M2	125	135	150	165	120	130	145	155	85	90	100	105	145	155	170	185	135	140	160	170
	410	*445*	*490*	*540*	*395*	*425*	*475*	*510*	*280*	*295*	*330*	*345*	*475*	*510*	*560*	*610*	*445*	*460*	*520*	*560*
M3	105	110	120	130	100	105	115	125	70	75	80	85	115	125	140	150	110	115	125	140
	345	*360*	*395*	*425*	*330*	*345*	*375*	*410*	*230*	*245*	*260*	*280*	*375*	*410*	*460*	*490*	*360*	*375*	*410*	*460*
M4	80	85	95	100	75	80	90	95	55	55	60	65	90	95	105	115	85	90	100	105
	260	*280*	*310*	*330*	*245*	*260*	*295*	*310*	*180*	*180*	*195*	*215*	*295*	*310*	*345*	*375*	*280*	*295*	*330*	*345*
M5	65	70	80	85	65	70	75	80	45	47	50	55	75	80	90	95	70	75	80	90
	215	*230*	*260*	*280*	*215*	*230*	*245*	*260*	*150*	*155*	*165*	*180*	*245*	*260*	*295*	*310*	*230*	*245*	*260*	*295*
K1	150	165	180	195	145	155	170	185	95	100	110	120	190	205	230	245	165	180	195	215
	490	*540*	*590*	*640*	*475*	*510*	*560*	*610*	*310*	*330*	*360*	*395*	*620*	*670*	*750*	*800*	*540*	*590*	*640*	*710*
K2	135	145	160	170	130	135	150	165	85	90	100	105	170	185	205	220	145	155	175	190
	445	*475*	*520*	*560*	*425*	*445*	*490*	*540*	*280*	*295*	*330*	*345*	*560*	*610*	*670*	*720*	*475*	*510*	*570*	*620*
K3	115	120	135	145	110	115	130	140	75	80	85	90	145	155	170	185	125	135	145	160
	375	*395*	*445*	*475*	*360*	*375*	*425*	*460*	*245*	*260*	*280*	*295*	*475*	*510*	*560*	*610*	*410*	*445*	*475*	*520*
K4	110	115	130	140	105	110	120	130	70	75	80	85	135	150	165	180	120	125	140	150
	360	*375*	*425*	*460*	*345*	*360*	*395*	*425*	*230*	*245*	*260*	*280*	*445*	*490*	*540*	*590*	*395*	*410*	*460*	*490*
K5	65	70	80	85	65	70	75	80	43	45	49	55	85	90	100	110	70	80	85	95
	215	*230*	*260*	*280*	*215*	*230*	*245*	*260*	*140*	*150*	*160*	*180*	*280*	*295*	*330*	*360*	*230*	*260*	*280*	*310*
K6	95	100	115	120	90	95	105	115	60	65	70	75	120	130	145	155	105	110	125	135
	310	*330*	*375*	*395*	*295*	*310*	*345*	*375*	*195*	*215*	*230*	*245*	*395*	*425*	*475*	*510*	*345*	*360*	*410*	*445*
K7	85	90	100	110	80	85	95	105	55	60	60	65	110	115	125	140	90	100	110	120
	280	*295*	*330*	*360*	*260*	*280*	*310*	*345*	*180*	*195*	*195*	*215*	*360*	*375*	*410*	*460*	*295*	*330*	*360*	*395*
N1	900	970	1050	1150	850	920	1000	1100	580	610	670	710	—	—	—	—	—	—	—	—
	2950	*3175*	*3450*	*3775*	*2800*	*3025*	*3275*	*3600*	*1900*	*2000*	*2200*	*2325*	—	—	—	—	—	—	—	—
N2	450	490	530	580	430	465	510	550	230	245	270	285	—	—	—	—	—	—	—	—
	1475	*1600*	*1750*	*1900*	*1400*	*1525*	*1675*	*1800*	*750*	*800*	*890*	*940*	—	—	—	—	—	—	—	—
N3	300	325	355	390	285	310	340	370	155	165	180	190	—	—	—	—	—	—	—	—
	980	*1075*	*1175*	*1275*	*940*	*1025*	*1125*	*1225*	*510*	*540*	*590*	*620*	—	—	—	—	—	—	—	—
N11	345	370	405	445	330	355	390	425	175	190	205	215	—	—	—	—	—	—	—	—
	1125	*1225*	*1325*	*1450*	*1075*	*1175*	*1275*	*1400*	*570*	*620*	*670*	*710*	—	—	—	—	—	—	—	—
S1	37	40	44	48	35	38	42	45	20	22	24	25	—	—	—	—	39	42	46	50
	120	*130*	*145*	*155*	*115*	*125*	*140*	*150*	*65*	*70*	*80*	*80*	—	—	—	—	*130*	*140*	*150*	*165*
S2	30	32	35	38	28	31	34	37	16	17	19	20	—	—	—	—	31	34	37	40
	100	*105*	*115*	*125*	*90*	*100*	*110*	*120*	*50*	*55*	*60*	*65*	—	—	—	—	*100*	*110*	*120*	*130*
S3	26	28	31	33	25	27	29	32	14	15	16	17	—	—	—	—	27	29	32	35
	85	*90*	*100*	*110*	*80*	*90*	*95*	*105*	*46*	*49*	*50*	*55*	—	—	—	—	*90*	*95*	*105*	*115*
S11	50	55	60	65	45	48	55	60	—	—	—	—	—	—	—	—	55	60	65	70
	165	*180*	*195*	*215*	*150*	*155*	*180*	*195*	—	—	—	—	—	—	—	—	*180*	*195*	*215*	*230*
S12	37	39	43	47	42	44	49	55	—	—	—	—	—	—	—	—	46	49	55	60
	120	*130*	*140*	*155*	*140*	*145*	*160*	*180*	—	—	—	—	—	—	—	—	*150*	*160*	*180*	*195*
S13	21	23	25	27	24	26	28	31	—	—	—	—	—	—	—	—	27	29	31	34
	70	*75*	*80*	*90*	*80*	*85*	*90*	*100*	—	—	—	—	—	—	—	—	*90*	*95*	*100*	*110*
H5	31	34	37	40	30	32	35	38	32	33	36	39	36	38	43	46	34	37	40	44
	100	*110*	*120*	*130*	*100*	*105*	*115*	*125*	*105*	*110*	*120*	*130*	*120*	*125*	*140*	*150*	*110*	*120*	*130*	*145*
H8	33	36	39	43	31	34	38	41	—	—	—	—	38	41	45	48	36	39	43	47
	110	*120*	*130*	*140*	*100*	*110*	*125*	*135*	—	—	—	—	*125*	*135*	*150*	*155*	*120*	*130*	*140*	*155*
H11	40	43	47	50	38	41	45	48	—	—	—	—	46	49	55	60	44	47	50	55
	130	*140*	*155*	*165*	*125*	*135*	*150*	*155*	—	—	—	—	*150*	*160*	*180*	*195*	*145*	*155*	*165*	*180*
H12	38	42	46	50	37	40	44	47	—	—	—	—	44	47	50	55	65	70	80	85
	125	*140*	*150*	*165*	*120*	*130*	*145*	*155*	—	—	—	—	*145*	*155*	*165*	*180*	*215*	*230*	*260*	*280*
H21	33	36	39	43	31	34	38	41	—	—	—	—	38	41	45	48	36	39	43	47
	110	*120*	*130*	*140*	*100*	*110*	*125*	*135*	—	—	—	—	*125*	*135*	*150*	*155*	*120*	*130*	*140*	*155*

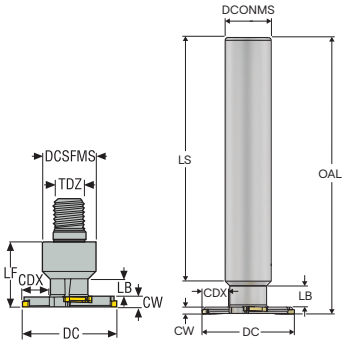


335.19

Economical, precise and free-cutting disc milling cutter system dedicated for small width of cut slotting and cutting off operations

- Width of cut 4-12 mm (.157 - .500 inch) - Flat bottom slot with SNHQ inserts.
- Cutter range diameter 40-250 mm (1.5 - 8 inch)
- Available with Cylindrical, Arbor, Arbor hole and Combimaster connection, with through coolant and close pitch option
- High insert precision with built-in wiper flat and corner radii range 0.2-6 mm (.008 - 0.236 inch)
- Economical solution with up to 4 cutting edges per inserts
- Theoretical tolerance of the slot -0.02 /+0.08mm - -0.001 / +0.003”

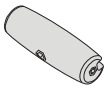
R335.19 - Insert SNHQ – Metric - full side



—For insert selection and cutting data recommendations, see page(s) 440-441
—For complete insert programme, see page(s) 898, 899, 904
—For spare parts and technical information, see page 436-437
—See "CW" Cutting Width information page 380
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCSFMS	TDZ	DCONMS	LF	LS	LPR	OAL	LB	RPMX	Weight	SNHQ.. R/L	335.19
			mm	mm	mm			mm		mm	mm	mm	mm	mm	mm		kg		
R335.19-2550.0-04.2	02565023	Cylindrical	50,0	4,0	13,9	2	4	–	–	25,0	–	132,2	94,0	150,0	11,0	19100	0,7	1102	1102
R335.19-2550.0-05.2	02565034	Cylindrical	50,0	5,0	13,9	2	4	–	–	25,0	–	132,2	94,0	150,0	10,0	16800	0,6	1103	1103
R335.19-3263.0-04.4	02565024	Cylindrical	63,0	4,0	13,9	4	8	–	–	32,0	–	148,6	110,0	170,0	0,0	17100	1,2	1102	1102
R335.19-3280.0-05.5	02565036	Cylindrical	80,0	5,0	22,5	5	10	–	–	32,0	–	148,6	110,0	170,0	0,0	13200	1,2	1103	1103
R335.19-1040.RE-04.2NA	03277857	Combimaster	40,0	4,0	11,6	2	4	18,5	M10	–	23,0	–	–	–	8,26	21500	0,1	1102	1102
R335.19-1040.RE-05.2NA	03277858	Combimaster	40,0	5,0	11,6	2	4	18,5	M10	–	23,0	–	–	–	7,275	18700	0,2	1103	1103
R335.19-1250.RE-04.3NA	03277859	Combimaster	50,0	4,0	14,9	3	6	23,0	M12	–	28,0	–	–	–	10,26	19100	0,2	1102	1102
R335.19-1250.RE-05.3NA	03277860	Combimaster	50,0	5,0	14,9	3	6	23,0	M12	–	28,0	–	–	–	9,275	16800	0,2	1103	1103
R335.19-1663.RE-04.4NA	03277862	Combimaster	63,0	4,0	17,7	4	8	30,0	M16	–	35,0	–	–	–	11,26	17100	0,3	1102	1102
R335.19-1663.RE-05.4NA	03277863	Combimaster	63,0	5,0	17,6	4	8	30,0	M16	–	35,0	–	–	–	10,275	14900	0,3	1103	1103
R335.19-1680.RE-04.5NA	03277866	Combimaster	80,0	4,0	26,2	5	10	30,0	M16	–	35,0	–	–	–	11,26	15200	0,4	1102	1102
R335.19-1680.RE-05.5NA	03277867	Combimaster	80,0	5,0	26,1	5	10	30,0	M16	–	35,0	–	–	–	10,275	13200	0,4	1103	1103
R335.19-20100.RE-04.7NA	03277870	Combimaster	100,0	4,0	32,7	7	14	36,5	M20	–	35,0	–	–	–	13,432	13500	0,6	1102	1102
R335.19-20100.RE-05.7NA	03277871	Combimaster	100,0	5,0	32,6	7	14	36,5	M20	–	35,0	–	–	–	12,447	11800	0,6	1103	1103
R335.19-20125.RE-04.8NA	03277873	Combimaster	125,0	4,0	45,2	8	16	36,5	M20	–	35,0	–	–	–	13,432	12200	0,6	1102	1102
R335.19-20125.RE-05.8NA	03277874	Combimaster	125,0	5,0	45,1	8	16	36,5	M20	–	35,0	–	–	–	12,447	10700	0,7	1103	1103

Spare Parts, included in delivery

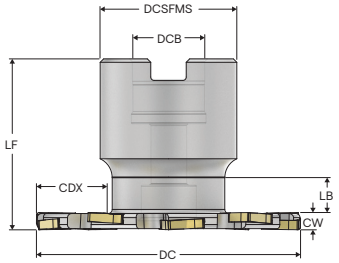
For cutter	Insert key	Insert screw	Key (T-handle)
			
R335.19 .0- DC=50-63 CW=4	T09P-7	C93504-T09P	–
R335.19 .0- DC=50-63 CW=5	T09P-7	C93505-T09P	–
R335.19 .0- DC=80 CW=5	1/4HEX-T09PX50	C93505-T09P	–
R335.19RE CW=4	H4B-T09P	C93504-T09P	DOUBLE-T
R335.19RE CW=5	H4B-T09P	C93505-T09P	DOUBLE-T

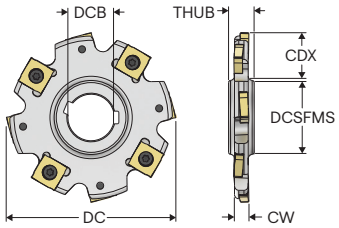
Accessories

For	Adjustable Torque key	Bit holder	Insert clamping torque	Insert key	Torque key
					
R335.19 .0- DC=50-63 CW=4	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	1/4HEX-T09PX50	T00-09P20
R335.19 .0- DC=50-63 CW=5	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	1/4HEX-T09PX50	T00-09P20
R335.19 .0- DC=80 CW=5	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	–	T00-09P20
R335.19RE CW=4	–	–	2.0NM	–	T00-09P20
R335.19RE CW=5	–	–	2.0NM	–	T00-09P20

Torque and fixed keys, see page 944

R335.19/335.19 - Insert SNHQ - full side

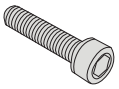




—For insert selection and cutting data recommendations, see page(s) 440–441
—For complete insert programme, see page(s) 898, 899, 904
—For spare parts and technical information, see page 436–437
—See "CW" Cutting Width information page 380
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	LB	RPMX	Weight	SNHQ.. R/L	335.19
			mm	mm	mm			mm	mm	mm	mm	mm		kg		
335.19-063.04.22-4	02565012	Arbor hole	63,0	4,0	13,6	4	8	22,0	33,0	6,0	8,0	–	17100	0,1	1102	1102
335.19-080.05.22-5	02565027	Arbor hole	80,0	5,0	19,6	5	10	22,0	33,0	8,5	12,0	–	13200	0,2	1103	1103
335.19-100.04.27-6	75090131	Arbor hole	100,0	4,0	24,6	6	12	27,0	41,0	8,0	12,0	–	13500	0,3	1102	1102
335.19-100.05.27-6	75090132	Arbor hole	100,0	5,0	25,6	6	12	27,0	41,0	8,5	12,0	–	11800	0,3	1103	1103
335.19-125.04.40-7	75090190	Arbor hole	125,0	4,0	30,1	7	14	40,0	55,0	8,0	12,0	–	12200	0,4	1102	1102
335.19-125.05.40-7	75090191	Arbor hole	125,0	5,0	31,1	7	14	40,0	55,0	8,5	12,0	–	10700	0,5	1103	1103
335.19-160.04.40-9	75090137	Arbor hole	160,0	4,0	42,6	9	18	40,0	65,0	8,0	12,0	–	10700	0,7	1102	1102
335.19-160.05.40-9	75090138	Arbor hole	160,0	5,0	43,6	9	18	40,0	65,0	8,5	12,0	–	9300	0,8	1103	1103
R335.19-063.04.22-3	75011447	Arbor	63,0	4,0	13,9	3	6	22,0	40,0	50,0	–	11,3	17100	0,5	1102	1102
R335.19-063.04.16-4	02565016	Arbor	63,0	4,0	13,9	4	8	16,0	33,0	35,0	–	–	17100	0,3	1102	1102
R335.19-063.05.22-3	75011452	Arbor	63,0	5,0	13,9	3	6	22,0	40,0	50,0	–	10,3	14900	0,5	1103	1103
R335.19-080.04.22-4	75066088	Arbor	80,0	4,0	22,4	4	8	22,0	40,0	50,0	–	11,3	15200	0,5	1102	1102
R335.19-080.04.22-5	02565017	Arbor	80,0	4,0	22,4	5	10	22,0	40,0	50,0	–	11,3	15200	0,5	1102	1102
R335.19-080.05.22-5	02565029	Arbor	80,0	5,0	22,4	5	10	22,0	40,0	50,0	–	10,3	13200	0,5	1103	1103
R335.19-080.05.22-4	75066089	Arbor	80,0	5,0	22,4	4	8	22,0	40,0	50,0	–	10,3	13200	0,5	1103	1103
R335.19-100.04.27-6	75011449	Arbor	100,0	4,0	22,1	6	12	27,0	48,0	50,0	–	–	13500	0,8	1102	1102
R335.19-100.05.27-6	75011453	Arbor	100,0	5,0	22,1	6	12	27,0	48,0	50,0	–	–	11800	0,8	1103	1103
R335.19-125.04.32-7	02565018	Arbor	125,0	4,0	29,6	7	14	32,0	58,0	50,0	–	–	12200	1,1	1102	1102
R335.19-125.05.32-7	02565031	Arbor	125,0	5,0	29,6	7	14	32,0	58,0	50,0	–	–	10700	1,2	1103	1103
R335.19-160.04.40-9	02565020	Arbor	160,0	4,0	41,1	9	18	40,0	70,0	50,0	–	–	10700	1,2	1102	1102
R335.19-160.05.40-9	02565032	Arbor	160,0	5,0	41,1	9	18	40,0	70,0	50,0	–	–	9300	1,2	1103	1103

Spare Parts, included in delivery

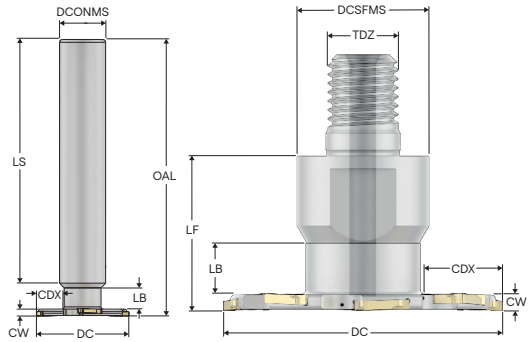
For cutter	Arbor screw	Insert key	Insert screw
			
335.19 DC=63 CW=4	–	T09P-7	C93504-T09P
335.19 DC=80-160 CW=4	–	1/4HEX-T09PX50	C93504-T09P
335.19 DC=80-160 CW=5	–	1/4HEX-T09PX50	C93505-T09P
R335.19 DC=63 DCB=16 CW=4	TCEI0825	T09P-7	C93504-T09P
R335.19 DC=63 DCB=22 CW=4	MC6S10X40	T09P-7	C93504-T09P
R335.19 DC=63 DCB=22 CW=5	MC6S10X40	T09P-7	C93505-T09P
R335.19 DC=80 DCB=22 CW=4	MC6S10X40	1/4HEX-T09PX50	C93504-T09P
R335.19 DC=80 DCB=22 CW=5	MC6S10X40	1/4HEX-T09PX50	C93505-T09P
R335.19 DCB=27 CW=4	MC6S12X35	1/4HEX-T09PX50	C93504-T09P
R335.19 DCB=27 CW=5	MC6S12X35	1/4HEX-T09PX50	C93505-T09P
R335.19 DCB=32 CW=4	MC6S16X35	1/4HEX-T09PX50	C93504-T09P
R335.19 DCB=32 CW=5	MC6S16X35	1/4HEX-T09PX50	C93505-T09P
R335.19 DCB=40 CW=4	MLC6S20X40	1/4HEX-T09PX50	C93504-T09P
R335.19 DCB=40 CW=5	MLC6S20X40	1/4HEX-T09PX50	C93505-T09P

Accessories

For	Adjustable Torque key	Bit holder	Insert clamping torque	Insert key	Torque key
					
335/R335.19 DC=080-180	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	–	T00-09P20
335/R335.19 DC=63	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	1/4HEX-T09PX50	T00-09P20

Torque and fixed keys, see page 944

R335.19 - Insert SNHQ – Metric - full side

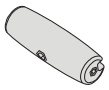


—For insert selection and cutting data recommendations, see page(s) 440–441
—For complete insert programme, see page(s) 898, 899, 904
—For spare parts and technical information, see page 436–437
—See "CW" Cutting Width information page 380
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCSFMS	TDZ	DCONMS	LF	LS	OAL	LB	RPMX	Weight	SNHQ.. R/L	335.19
			mm	mm	mm			mm		mm	mm	mm	mm	mm		kg		
R335.19-2550.0-06.2	02565041	Cylindrical	50,0	6,0	13,9	2	4	–	–	25,0	–	132,2	150,0	9,0	12300	0,7	1203	1203
R335.19-3263.0-06.3	02565042	Cylindrical	63,0	6,0	14,0	3	6	–	–	32,0	–	148,6	170,0	0,0	10900	1,1	1203	1203
R335.19-3280.0-06.4	02565043	Cylindrical	80,0	6,0	22,5	4	8	–	–	32,0	–	148,6	170,0	0,0	9700	1,3	1203	1203
R335.19-1250.RE-06.2NA	03277861	Combimaster	50,0	6,0	14,9	2	4	23,0	M12	–	28,0	–	–	8,285	12300	0,2	1203	1203
R335.19-1663.RE-06.3NA	03277864	Combimaster	63,0	6,0	17,6	3	6	30,0	M16	–	35,0	–	–	9,285	10900	0,3	1203	1203
R335.19-1663.RE-07.3NA	03277865	Combimaster	63,0	7,0	17,6	3	6	30,0	M16	–	35,0	–	–	8,285	9400	0,3	1204/12045*	1204/12045*
R335.19-1680.RE-06.4NA	03277868	Combimaster	80,0	6,0	26,3	4	8	30,0	M16	–	35,0	–	–	9,285	9700	0,4	1203	1203
R335.19-1680.RE-07.4NA	03277869	Combimaster	80,0	7,0	26,3	4	8	30,0	M16	–	35,0	–	–	8,285	8400	0,4	1204/12045*	1204/12045*
R335.19-20100.RE-06.6NA	03277872	Combimaster	100,0	6,0	32,8	6	12	36,5	M20	–	35,0	–	–	11,457	8700	0,6	1203	1203

*To generate CW=8mm use insert SNHQ12045..., LF=50,5mm and 35,5mm

Spare Parts, included in delivery

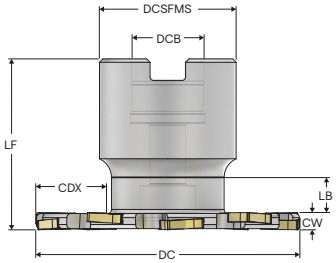
For cutter	Insert key	Insert screw	Key (T-handle)
			
R335.19 CW=6 RE	H4B-T15P	C94005-T15P	DOUBLE-T
R335.19 CW=7 RE	H4B-T15P	C94006-T15P	DOUBLE-T
R335.19 DC=50-63 .0-	T10P-7	C94005-T10P	–
R335.19 DC=80 .0-	1/4HEX-T10PX50	C94005-T10P	–

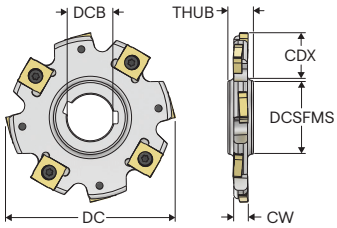
Accessories

For	Adjustable Torque key	Bit holder	Insert clamping torque	Insert key	Torque key
					
R335.19 DC=50-63 .0-	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	1/4HEX-T10PX50	T00-10P35
R335.19 DC=80 .0-	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	–	T00-10P35
R335.19 RE	–	–	3.5NM	–	T00-15P35

Torque and fixed keys, see page 944

R335.19/335.19 - Insert SNHQ – Metric - full side



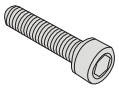


–For insert selection and cutting data recommendations, see page(s) 440-441
–For complete insert programme, see page(s) 898, 899, 904
–For spare parts and technical information, see page 436-437
–See "CW" Cutting Width information page 380
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	LB	RPMX	Weight	SNHQ.. R/L	335.19
			mm	mm	mm			mm	mm	mm	mm	mm		kg		
335.19-063.06.22-3	02565037	Arbor hole	63,0	6,0	13,6	3	6	22,0	33,0	9,0	12,0	–	10900	0,2	1203	1203
335.19-080.07.22-4	00088988	Arbor hole	80,0	7,0	20,6	4	8	22,0	33,0	9,5	12,0	–	8400	0,3	1204/12045*	1204/12045*
335.19-100.06.27-5	75011284	Arbor hole	100,0	6,0	25,6	5	10	27,0	41,0	9,0	12,0	–	8700	0,4	1203	1203
335.19-100.07.27-5	75012670	Arbor hole	100,0	7,0	26,6	5	10	27,0	41,0	9,5	12,0	–	7500	0,4	1204/12045*	1204/12045*
335.19-125.06.40-6	75011289	Arbor hole	125,0	6,0	31,1	6	12	40,0	55,0	9,0	12,0	–	7700	0,5	1203	1203
335.19-125.07.40-6	75012672	Arbor hole	125,0	7,0	32,1	6	12	40,0	55,0	9,5	12,0	–	6700	0,6	1204/12045*	1204/12045*
335.19-160.06.40-8	75011294	Arbor hole	160,0	6,0	43,6	8	16	40,0	65,0	9,0	12,0	–	6800	1,0	1203	1203
335.19-160.07.40-8	75012674	Arbor hole	160,0	7,0	44,6	8	16	40,0	65,0	9,5	12,0	–	5900	0,9	1204/12045*	1204/12045*
335.19-200.06.50-9	75090141	Arbor hole	200,0	6,0	61,6	9	18	50,0	69,0	9,0	12,0	–	6300	1,2	1203	1203
335.19-200.07.50-9	75012676	Arbor hole	200,0	7,0	62,6	9	18	50,0	69,0	9,5	12,0	–	5200	1,4	1204/12045*	1204/12045*
335.19-250.06.50-12	75012301	Arbor hole	250,0	6,0	86,6	12	24	50,0	69,0	9,0	12,0	–	5600	1,9	1203	1203
335.19-250.07.50-12	75012678	Arbor hole	250,0	7,0	87,6	12	24	50,0	69,0	9,5	12,0	–	4700	2,1	1204/12045*	1204/12045*
R335.19-063.06.16-3	02565038	Arbor	63,0	6,0	13,9	3	6	16,0	33,0	35,0	–	–	10900	0,3	1203	1203
R335.19-063.06.22-3	75011448	Arbor	63,0	6,0	13,9	3	6	22,0	40,0	50,0	–	9,3	10900	0,5	1203	1203
R335.19-063.07.16-3	02565044	Arbor	63,0	7,0	13,8	3	6	16,0	33,0	35,0	–	–	9400	0,3	1204/12045*	1204/12045*
R335.19-063.07.22-3	75012680	Arbor	63,0	7,0	13,8	3	6	22,0	40,0	50,0	–	8,3	9400	0,5	1204/12045*	1204/12045*
R335.19-080.06.22-4	75066090	Arbor	80,0	6,0	22,4	4	8	22,0	40,0	50,0	–	9,3	9700	0,6	1203	1203
R335.19-080.07.22-4	75066091	Arbor	80,0	7,0	22,0	4	8	22,0	40,0	50,0	–	8,3	8400	0,6	1204/12045*	1204/12045*
R335.19-100.06.27-5	75011450	Arbor	100,0	6,0	22,0	5	10	27,0	48,0	50,0	–	–	8700	0,9	1203	1203
R335.19-100.07.27-5	75012681	Arbor	100,0	7,0	22,0	5	10	27,0	48,0	50,0	–	–	7500	0,9	1204/12045*	1204/12045*
R335.19-125.06.32-6	02565039	Arbor	125,0	6,0	29,6	6	12	32,0	58,0	50,0	–	–	7700	1,2	1203	1203
R335.19-125.07.32-6	02565045	Arbor	125,0	7,0	29,6	6	12	32,0	58,0	50,0	–	–	6700	1,4	1204/12045*	1204/12045*
R335.19-160.06.40-8	75012913	Arbor	160,0	6,0	41,1	8	16	40,0	70,0	50,0	–	–	6800	1,2	1203	1203
R335.19-160.07.40-8	75012685	Arbor	160,0	7,0	41,1	8	16	40,0	70,0	50,0	–	–	5900	1,4	1204/12045*	1204/12045*

*To generate CW=8mm use insert SNHQ12045..., LF=50,5mm and 35,5mm

Spare Parts, included in delivery

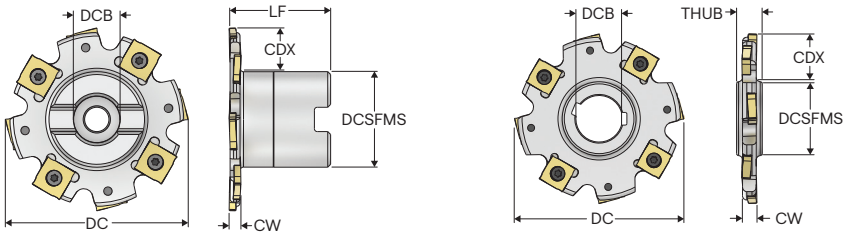
For cutter	Arbor screw	Insert key	Insert screw
			
335.19 DC=63 CW=6	–	T10P-7	C94005-T10P
335.19 DC=80-250 CW=6	–	1/4HEX-T10PX50	C94005-T10P
335.19 DC=80-250 CW=7	–	1/4HEX-T15PX50	C94006-T15P
R335.19 DC=63 DCB=16 CW=6	TCEI0825	T10P-7	C94005-T10P
R335.19 DC=63 DCB=16 CW=7	TCEI0825	T15P-7	C94006-T15P
R335.19 DC=63 DCB=22 CW=6	MC6S10X40	T10P-7	C94005-T10P
R335.19 DC=63 DCB=22 CW=7	MC6S10X40	T15P-7	C94006-T15P
R335.19 DC=80-160 DCB=22 CW=6	MC6S10X40	1/4HEX-T10PX50	C94005-T10P
R335.19 DC=80-160 DCB=22 CW=7	MC6S10X40	1/4HEX-T15PX50	C94006-T15P
R335.19 DC=80-160 DCB=27 CW=6	MC6S12X35	1/4HEX-T10PX50	C94005-T10P
R335.19 DC=80-160 DCB=27 CW=7	MC6S12X35	1/4HEX-T15PX50	C94006-T15P
R335.19 DC=80-160 DCB=32 CW=6	MC6S16X35	1/4HEX-T10PX50	C94005-T10P
R335.19 DC=80-160 DCB=32 CW=7	MC6S16X35	1/4HEX-T15PX50	C94006-T15P
R335.19 DC=80-160 DCB=40 CW=6	MLC6S20X40	1/4HEX-T10PX50	C94005-T10P
R335.19 DC=80-160 DCB=40 CW=7	MLC6S20X40	1/4HEX-T15PX50	C94006-T15P

Accessories

For	Adjustable Torque key	Bit holder	Insert clamping torque	Insert key	Torque key
					
335.19 DC=63 CW=6	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	1/4HEX-T10PX50	T00-10P35
335.19 DC=80-250 CW=6	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	–	T00-10P35
335.19 DC=80-250 CW=7	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	–	T00-15P35
R335.19 DC=63 DCB=16 CW=6	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	1/4HEX-T10PX50	T00-10P35
R335.19 DC=63 DCB=16 CW=7	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	1/4HEX-T15PX50	T00-15P35
R335.19 DC=63 DCB=22 CW=6	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	1/4HEX-T15PX90	T00-10P35
R335.19 DC=63 DCB=22 CW=7	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	1/4HEX-T15PX50	T00-15P35
R335.19 DC=80-160 CW=6	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	–	T00-10P35
R335.19 DC=80-160 CW=7	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	–	T00-15P35

Torque and fixed keys, see page 944

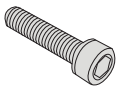
R335.19/335.19 - Insert SNHQ – Metric - full side



–For insert selection and cutting data recommendations, see page(s) 440-441
–For complete insert programme, see page(s) 898, 899, 904
–For spare parts and technical information, see page 436-437
–See "CW" Cutting Width information page 380
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	SNHQ.. R/L	335.19
			mm	mm	mm			mm	mm	mm	mm		kg		
335.19-100.10.27-5	75011288	Arbor hole	100,0	10,0	27,6	5	10	27,0	41,0	11,0	12,0	6600	0,5	1205	1205
335.19-100.12.27-5	75012671	Arbor hole	100,0	12,0	27,9	5	10	27,0	41,0	12,0	12,0	6000	0,5	1207	1207
335.19-125.10.40-6	75011293	Arbor hole	125,0	10,0	33,1	6	12	40,0	55,0	11,0	12,0	6000	0,7	1205	1205
335.19-160.10.40-8	75011298	Arbor hole	160,0	10,0	46,2	8	16	40,0	65,0	11,0	12,0	5200	1,3	1205	1205
335.19-160.12.40-8	75012339	Arbor hole	160,0	12,0	45,9	8	16	40,0	65,0	12,0	12,0	4700	1,3	1207	1207
335.19-200.10.50-9	75011373	Arbor hole	200,0	10,0	63,6	9	18	50,0	69,0	11,0	12,0	4700	1,9	1205	1205
335.19-200.12.50-9	75012677	Arbor hole	200,0	12,0	64,2	9	18	50,0	69,0	12,0	12,0	4200	2,2	1207	1207
335.19-250.10.50-12	75012210	Arbor hole	250,0	10,0	88,6	12	24	50,0	69,0	11,0	12,0	4200	3,0	1205	1205
335.19-250.12.50-11	75012679	Arbor hole	250,0	12,0	89,2	11	22	50,0	69,0	12,0	12,0	3700	3,7	1207	1207
R335.19-100.10.27-5	75011451	Arbor	100,0	10,0	22,0	5	10	27,0	48,0	50,0	–	6600	1,0	1205	1205
R335.19-100.12.27-5	75012682	Arbor	100,0	12,0	22,0	5	10	27,0	48,0	50,0	–	6000	1,0	1207	1207
R335.19-125.10.32-6	02565046	Arbor	125,0	10,0	29,6	6	12	32,0	58,0	50,0	–	6000	1,4	1205	1205
R335.19-125.12.32-6	02565047	Arbor	125,0	12,0	29,6	6	12	32,0	58,0	50,0	–	5300	1,5	1207	1207
R335.19-160.10.40-8	75012914	Arbor	160,0	10,0	41,1	8	16	40,0	70,0	50,0	–	5200	1,6	1205	1205
R335.19-160.12.40-8	75012686	Arbor	160,0	12,0	41,1	8	16	40,0	70,0	50,0	–	4700	1,8	1207	1207

Spare Parts, included in delivery

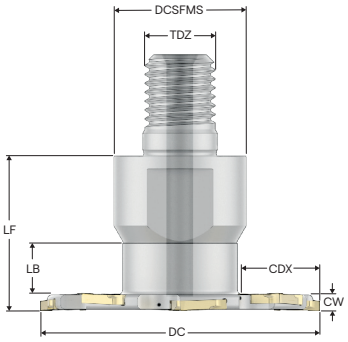
For cutter	Arbor screw	Insert key	Insert screw
			
335.19 CW=10	–	1/4HEX-T15PX50	C94008-T15P
335.19 CW=12	–	1/4HEX-T15PX50	C94010-T15P
R335.19 DCB=27 CW=10	MC6S12X35	1/4HEX-T15PX50	C94008-T15P
R335.19 DCB=27 CW=12	MC6S12X35	1/4HEX-T15PX50	C94010-T15P
R335.19 DCB=32 CW=10	MC6S16X35	1/4HEX-T15PX50	C94008-T15P
R335.19 DCB=32 CW=12	MC6S16X35	1/4HEX-T15PX50	C94010-T15P
R335.19 DCB=40 CW=10	MLC6S20X40	1/4HEX-T15PX50	C94008-T15P
R335.19 DCB=40 CW=12	MLC6S20X40	1/4HEX-T15PX50	C94010-T15P

Accessories

For	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R335/335.19-...	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

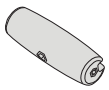
R335.19 - Insert SNHQ – inch - full side



—For insert selection and cutting data recommendations, see page(s) 440-441
—For complete insert programme, see page(s) 898, 899, 904
—For spare parts and technical information, see page 436-437
—See "CW" Cutting Width information page 380
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCSFMS	TDZ	LF	LB	RPMX	Weight	SNHQ.. R/L	335.19
			inch	inch	inch			inch		inch	inch		lbs		
R335.19-01.50-RE-0.15-2NA	03277875	Combimaster	1.500	0.156	0.445	2	4	0.728	M10	0.906	0.326	22000	0.220	1102	1102
R335.19-01.50-RE-0.18-2NA	03277876	Combimaster	1.500	0.187	0.445	2	4	0.728	M10	0.906	0.295	19100	0.220	1103	1103
R335.19-02.00-RE-0.15-3NA	03277877	Combimaster	2.000	0.156	0.602	3	6	0.906	M12	1.102	0.405	19100	0.440	1102	1102
R335.19-02.00-RE-0.18-3NA	03277878	Combimaster	2.000	0.187	0.602	3	6	0.906	M12	1.102	0.374	16800	0.440	1103	1103
R335.19-02.00-RE-0.25-2NA	03277879	Combimaster	2.000	0.250	0.602	2	4	0.906	M12	1.102	0.312	12300	0.440	1204	1204
R335.19-02.50-RE-0.15-4NA	03277880	Combimaster	2.500	0.156	0.705	4	8	1.181	M16	1.378	0.444	17100	0.660	1102	1102
R335.19-02.50-RE-0.25-3NA	03277882	Combimaster	2.500	0.250	0.705	3	6	1.181	M16	1.378	0.352	9400	0.660	1204	1204
R335.19-03.00-RE-0.15-5NA	03277883	Combimaster	3.000	0.156	0.957	5	10	1.181	M16	1.378	0.444	15200	0.880	1102	1102
R335.19-03.00-RE-0.18-5NA	03277884	Combimaster	3.000	0.187	0.953	5	10	1.181	M16	1.378	0.414	13200	0.880	1103	1103
R335.19-03.00-RE-0.25-4NA	03277885	Combimaster	3.000	0.250	0.961	4	8	1.181	M16	1.378	0.352	8400	0.880	1204	1204
R335.19-04.00-RE-0.15-7NA	03277886	Combimaster	4.000	0.156	1.319	7	14	1.437	M20	1.378	0.444	13500	1.100	1102	1102
R335.19-04.00-RE-0.18-7NA	03277887	Combimaster	4.000	0.187	1.315	7	14	1.437	M20	1.378	0.414	11800	1.320	1103	1103
R335.19-04.00-RE-0.25-6NA	03277888	Combimaster	4.000	0.250	1.323	6	12	1.437	M20	1.378	0.352	7500	1.320	1204	1204

Spare Parts, included in delivery

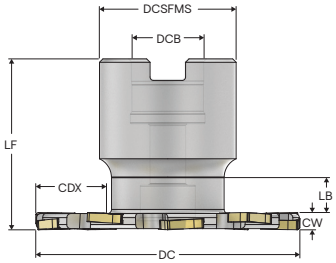
For cutter	Insert key	Insert screw	Key (T-handle)
			
R335.19RE CW=0.156	H4B-T09P	C93504-T09P	DOUBLE-T
R335.19RE CW=0.187	H4B-T09P	C93505-T09P	DOUBLE-T
R335.19 RE CW=0.250	H4B-T15P	C94055-T15P	DOUBLE-T

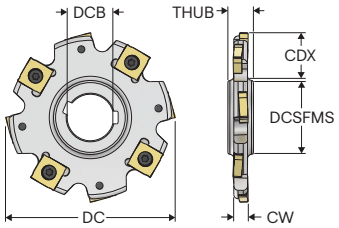
Accessories

For	Insert clamping torque	Torque key
		
R335.19RE CW=0.156	2.0NM	T00-09P20
R335.19RE CW=0.187	2.0NM	T00-09P20
R335.19 RE CW=0.250	3.5NM	T00-15P35

Torque and fixed keys, see page 944

R335.19/335.19 - Insert SNHQ – inch - full side





–For insert selection and cutting data recommendations, see page(s) 440-441
–For complete insert programme, see page(s) 898, 899, 904
–For spare parts and technical information, see page 436-437
–See "CW" Cutting Width information page 380
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	LB	RPMX	Weight	SNHQ.. R/L	335.19
			inch	inch	inch			inch	inch	inch	inch	inch		lbs		
335.19-04.00-0.18-6	02869718	Arbor hole	4.000	0.187	1.035	6	12	1.000	1.625	0.344	0.500	–	11800	0.660	1103	1103
335.19-04.00-0.25-5	02869721	Arbor hole	4.000	0.250	1.075	5	10	1.000	1.625	0.375	0.500	–	7500	0.660	1204	1204
335.19-04.00-0.37-5	02869731	Arbor hole	4.000	0.375	1.114	5	10	1.000	1.625	0.437	0.500	–	6600	1.100	1205	1205
335.19-04.00-0.50-5	02869736	Arbor hole	4.000	0.500	1.126	5	10	1.000	1.625	0.500	0.500	–	6000	1.100	1207	1207
335.19-05.00-0.18-7	02869719	Arbor hole	5.000	0.187	1.409	7	14	1.250	1.875	0.344	0.500	–	10700	1.100	1103	1103
335.19-05.00-0.25-6	02869722	Arbor hole	5.000	0.250	1.449	6	12	1.250	1.875	0.375	0.500	–	6700	1.100	1204	1204
335.19-05.00-0.31-6	02869727	Arbor hole	5.000	0.313	1.449	6	12	1.250	1.875	0.406	0.500	–	6700	1.320	12045	12045
335.19-05.00-0.37-6	02869732	Arbor hole	5.000	0.375	1.488	6	12	1.250	1.875	0.437	0.500	–	6000	1.540	1205	1205
335.19-06.00-0.18-9	02869720	Arbor hole	6.000	0.187	1.909	9	18	1.250	1.875	0.344	0.500	–	9300	1.320	1103	1103
335.19-06.00-0.25-7	02869723	Arbor hole	6.000	0.250	1.949	7	14	1.250	1.875	0.375	0.500	–	5900	1.760	1204	1204
335.19-06.00-0.31-7	02869728	Arbor hole	6.000	0.313	1.949	7	14	1.250	1.875	0.406	0.500	–	5900	2.430	12045	12045
335.19-06.00-0.37-7	02869733	Arbor hole	6.000	0.375	2.020	7	14	1.250	1.875	0.437	0.500	–	5200	2.200	1205	1205
335.19-06.00-0.50-7	02869738	Arbor hole	6.000	0.500	2.000	7	14	1.250	1.875	0.500	0.500	–	4700	2.870	1207	1207
335.19-08.00-0.25-9	02869724	Arbor hole	8.000	0.250	2.512	9	18	1.500	2.750	0.375	0.500	–	5200	0.880	1204	1204
R335.19-02.50-0.15-4	02881176	Arbor	2.500	0.156	0.559	4	8	0.750	1.575	2.000	–	0.445	17100	1.100	1102	1102
R335.19-02.50-0.18-4	02881177	Arbor	2.500	0.187	0.555	4	8	0.750	1.575	2.000	–	0.413	14900	1.100	1103	1103
R335.19-02.50-0.25-3	02881178	Arbor	2.500	0.250	0.555	3	6	0.750	1.575	2.000	–	0.350	9400	1.100	1204	1204
R335.19-02.50-0.31-3	02881179	Arbor	2.500	0.313	0.555	3	6	0.750	1.575	2.000	–	0.287	9400	1.100	12045	12045
R335.19-02.50-0.37-3	02881180	Arbor	2.500	0.375	0.555	3	6	0.750	1.575	2.000	–	0.224	8400	1.100	1205	1205
R335.19-03.00-0.15-5	02881184	Arbor	3.000	0.156	0.807	5	10	0.750	1.575	2.000	–	0.445	15200	1.320	1102	1102
R335.19-03.00-0.18-5	02881185	Arbor	3.000	0.187	0.807	5	10	0.750	1.575	2.000	–	0.413	13200	1.100	1103	1103
R335.19-03.00-0.25-4	02881186	Arbor	3.000	0.250	0.807	4	8	0.750	1.575	2.000	–	0.350	8400	1.320	1204	1204
R335.19-03.00-0.31-4	02881187	Arbor	3.000	0.313	0.807	4	8	0.750	1.575	2.000	–	0.287	8400	1.320	12045	12045
R335.19-03.00-0.37-4	02881188	Arbor	3.000	0.375	0.807	4	8	0.750	1.575	2.000	–	0.224	8400	1.100	1205	1205
R335.19-04.00-0.18-6	02869759	Arbor	4.000	0.187	0.906	6	12	1.000	1.880	2.000	–	–	11800	1.980	1103	1103
R335.19-04.00-0.25-5	02869760	Arbor	4.000	0.250	0.906	5	10	1.000	1.880	2.000	–	–	7500	1.760	1204	1204
R335.19-04.00-0.31-5	02869763	Arbor	4.000	0.313	0.906	5	10	1.000	1.880	2.000	–	–	7500	1.760	12045	12045
R335.19-04.00-0.37-5	02869766	Arbor	4.000	0.375	0.906	5	10	1.000	1.880	2.000	–	–	6600	1.980	1205	1205
R335.19-04.00-0.50-5	02869769	Arbor	4.000	0.500	0.906	5	10	1.000	1.880	2.000	–	–	6000	2.430	1207	1207
R335.19-05.00-0.25-6	02869761	Arbor	5.000	0.250	1.220	6	12	1.250	2.250	2.000	–	–	6700	2.650	1204	1204
R335.19-05.00-0.50-6	02869770	Arbor	5.000	0.500	1.220	6	12	1.250	2.250	2.000	–	–	5300	3.750	1207	1207
R335.19-06.00-0.25-7	02869762	Arbor	6.000	0.250	1.220	7	14	1.500	2.750	2.000	–	–	5900	3.750	1204	1204

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
335.19 CW=0.187	–	1/4HEX-T09PX50	C93505-T09P
335.19 CW=0.250	–	1/4HEX-T15PX50	C94055-T15P
335.19- CW=0.313	–	1/4HEX-T15PX50	C94006-T15P
335.19 CW=0.375	–	1/4HEX-T15PX50	C94008-T15P
335.19 CW=0.500	–	1/4HEX-T15PX50	C94010-T15P
R335.19 DC=02.50 CW=0.15	UC6S3/8UNFX1-3/4	T09P-7	C93504-T09P
R335.19 DC=02.50 CW=0.18	UC6S3/8UNFX1-3/4	T09P-7	C93505-T09P
R335.19 DC=02.50 CW=0.25	UC6S3/8UNFX1-3/4	T15P-7	C94055-T15P
R335.19 DC=02.50 CW=0.31	UC6S3/8UNFX1-3/4	T15P-7	C94006-T15P
R335.19 DC=02.50 CW=0.37	UC6S3/8UNFX1-3/4	T15P-7	C94008-T15P
R335.19 DC=03.00 CW=0.15	UC6S3/8UNFX1-3/4	1/4HEX-T09PX50	C93504-T09P
R335.19 DC=03.00 CW=0.18	UC6S3/8UNFX1-3/4	1/4HEX-T09PX50	C93505-T09P
R335.19 DC=03.00 CW=0.25	UC6S3/8UNFX1-3/4	1/4HEX-T15PX50	C94055-T15P
R335.19 DC=03.00 CW=0.31	UC6S3/8UNFX1-3/4	1/4HEX-T15PX50	C94006-T15P
R335.19 DC=03.00 CW=0.37	UC6S3/8UNFX1-3/4	1/4HEX-T15PX50	C94008-T15P
R335.19 DC=04.00 CW=0.18	UC6S1/2UNFX1-1/2	1/4HEX-T09PX50	C93505-T09P
R335.19 DC=04.00 CW=0.25	UC6S1/2UNFX1-1/2	1/4HEX-T15PX50	C94055-T15P
R335.19 DC=04.00 CW=0.31	UC6S1/2UNFX1-1/2	1/4HEX-T15PX50	C94006-T15P
R335.19 DC=04.00 CW=0.37	UC6S1/2UNFX1-1/2	1/4HEX-T15PX50	C94008-T15P
R335.19 DC=04.00 CW=0.50	UC6S1/2UNFX1-1/2	1/4HEX-T15PX50	C94010-T15P
R335.19 DC=05.00 CW=0.25	UC6S5/8UNFX11/2	1/4HEX-T15PX50	C94055-T15P
R335.19 DC=05.00 CW=0.50	UC6S5/8UNFX11/2	1/4HEX-T15PX50	C94010-T15P
R335.19 DC=06.00 CW=0.25	ULC6S3/4UNFX11/2	1/4HEX-T15PX50	C94055-T15P

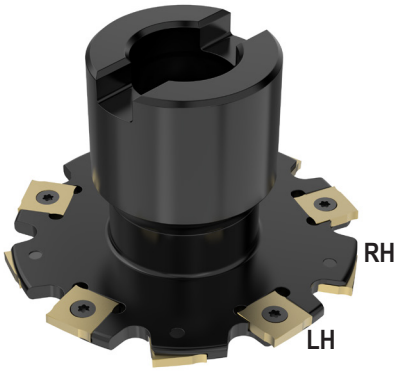
Accessories

For	Adjustable Torque key	Bit holder	Insert clamping torque	Insert key	Torque key
					
335.19 CW=0.187	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	–	T00-09P20
335.19 CW=0.250-0.500	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	–	T00-15P35
R335.19 DC=02.50 CW=0.156, 0.187	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	1/4HEX-T09PX50	T00-09P20
R335.19 DC=02.50 CW=0.25-0.375	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	1/4HEX-T15PX50	T00-15P35
R335.19 DC=03.00 CW=0.156, 0.187	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	–	T00-09P20
R335.19 DC=03.00 CW=0.25-0.375	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	–	T00-15P35
R335.19 DC=04.00 CW=0.156, 0.187	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	–	T00-09P20
R335.19 DC=04.00 CW=0.25-0.5	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	–	T00-15P35
R335.19 DC=05.00-06.00	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	–	T00-15P35

Torque and fixed keys, see page 944

Disc milling cutter 335.19 – Technical information

Cutter side



LH = Left hand insert
RH = Right hand insert

SNHQ insert choice: Width of cut and corner radius choice

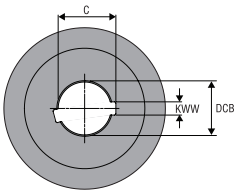


Inserts	a_p	R 0,2	R 0,4	R 0,8	R1,0	R 1,2	R 1,6	R 2,0	R 2,4	R 3,0	R 3,1	R 3,5	R 4,0	R 5,0	R 6,0
SNHQ 1102	4	■	■	■		■	■	■							
SNHQ 1103	5	■	■	■		■	■	■							
SNHQ 1203	6	■	■	■	■	■	■	■	x	o					
SNHQ 1204	7	■	■	■		■	■	■	x		x	o			
SNHQ 12045	8	■	■	■		■	■	■	x		x		o		
SNHQ 1205	10	■	■	■	■	■	■	■	x		x		x	o	
SNHQ 1207	12		■	■		■	■	■	x		x		x	x	o

Inserts	a_p	.008	.016	.031	.039	.047	.063	.079	.094	.118	.122	.138	.157	.197	.236
SNHQ 1102	.156	■	■	■		■	■	■							
SNHQ 1103	.187	■	■	■		■	■	■							
SNHQ 1204	.250	■	■	■		■	■	■	x		x				
SNHQ 12045	.313	■	■	■		■	■	■	x		x				
SNHQ 1205	.375	■	■	■	■	■	■	■	x		x		x		
SNHQ 1207	.500		■	■		■	■	■	x		x		x	x	x

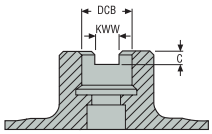
■ = SNHQ 4 edges
x= SNHQ 2 edges
o= Full radius possibillities

Keyway for Arbor hole type and Arbor type cutter



Dimensions in mm		
DCB	KWW	C
22	6	24,15
27	7	29,9
40	10	43,6
50	12	53,6

Dimensions in inch		
DCB	KWW	C
1.00	*0.250*	*1.110*
1.25	*0.312*	*1.393*
1.50	*0.375*	*1.673*
2.00	*0.500*	*2.198*



Dimensions in mm		
DCB	KWW	C
16	8,4	5,6
22	10,4	6,3
27	12,4	7
32	14,4	8
40	16,4	9

Dimensions in inch		
DCB	KWW	C
0.75	*0.32*	*0.19*
1.00	*0.38*	*0.22*
1.25	*0.51*	*0.28*
1.50	*0.63*	*0.38*

SNHQ – Insert selection – Metric/ Inch

SMG		f_z		
		30%	20%	10%
P1	SNHQ...-M07 F40M	0,12 *0.0048*	0,14 0.0055	0,19 0.0075
P2	SNHQ...-M07 F40M	0,13 *0.0050*	0,14 0.0055	0,19 0.0075
P3	SNHQ...-M07 F40M	0,12 *0.0048*	0,14 0.0055	0,18 0.0070
P4	SNHQ...-M07 F40M	0,12 *0.0048*	0,13 0.0050	0,18 0.0070
P5	SNHQ...-M07 F40M	0,11 *0.0044*	0,13 0.0050	0,17 0.0065
P6	SNHQ...-M07 F40M	0,11 *0.0044*	0,13 0.0050	0,17 0.0065
P7	SNHQ...-M07 F40M	0,11 *0.0044*	0,13 0.0050	0,17 0.0065
P8	SNHQ...-M07 F30M	0,12 *0.0048*	0,14 0.0055	0,18 0.0070
P11	SNHQ...-M07 F40M	0,11 *0.0044*	0,13 0.0050	0,17 0.0065
P12	SNHQ...-M07 F40M	0,075 *0.0030*	0,090 0.0036	0,12 0.0048
M1	SNHQ...-M07 F40M	0,13 *0.0050*	0,14 0.0055	0,19 0.0075
M2	SNHQ...-M07 F40M	0,11 *0.0044*	0,13 0.0050	0,17 0.0065
M3	SNHQ...-M07 F40M	0,090 *0.0036*	0,10 0.0040	0,14 0.0055
M4	SNHQ...-M07 F40M	0,080 *0.0032*	0,090 0.0036	0,12 0.0048
M5	SNHQ...-M07 F40M	0,080 *0.0032*	0,090 0.0036	0,12 0.0048
K1	SNHQ...-M07 MP2501	0,13 *0.0050*	0,14 0.0055	0,19 0.0075
K2	SNHQ...-M07 MP2501	0,11 *0.0044*	0,13 0.0050	0,17 0.0065
K3	SNHQ...-M07 MP2501	0,11 *0.0044*	0,13 0.0050	0,17 0.0065
K4	SNHQ...-M07 MP2501	0,11 *0.0044*	0,13 0.0050	0,17 0.0065
K5	SNHQ...-M07 MP2501	0,10 *0.0040*	0,12 0.0048	0,16 0.0065
K6	SNHQ...-M07 MP2501	0,11 *0.0044*	0,13 0.0050	0,17 0.0065
K7	SNHQ...-M07 MP2501	0,10 *0.0040*	0,12 0.0048	0,16 0.0065
N1	SNHQ...-E05 H25	0,14 *0.0055*	0,16 0.0065	0,22 0.0085
N2	SNHQ...-E05 H25	0,14 *0.0055*	0,16 0.0065	0,22 0.0085
N3	SNHQ...-E05 H25	0,14 *0.0055*	0,16 0.0065	0,22 0.0085
N11	SNHQ...-E05 H25	0,14 *0.0055*	0,16 0.0065	0,22 0.0085
S1	SNHQ...-M07 F40M	0,080 *0.0032*	0,090 0.0036	0,12 0.0048
S2	SNHQ...-M07 F40M	0,080 *0.0032*	0,090 0.0036	0,12 0.0048
S3	SNHQ...-M07 F40M	0,075 *0.0030*	0,085 0.0034	0,11 0.0044
S11	SNHQ...-M07 F40M	0,090 *0.0036*	0,10 0.0040	0,14 0.0055
S12	SNHQ...-M07 F40M	0,090 *0.0036*	0,10 0.0040	0,14 0.0055
S13	SNHQ...-M07 F40M	0,080 *0.0032*	0,090 0.0036	0,12 0.0048
H5	SNHQ...-M07 F30M	0,075 *0.0030*	0,090 0.0036	0,12 0.0048
H8	SNHQ...-M07 F30M	0,060 *0.0024*	0,070 0.0028	0,090 0.0036
H11	SNHQ...-M07 F40M	0,075 *0.0030*	0,090 0.0036	0,12 0.0048
H12	SNHQ...-M07 F40M	0,060 *0.0024*	0,070 0.0028	0,090 0.0036
H21	SNHQ...-M07 F30M	0,060 *0.0024*	0,070 0.0028	0,090 0.0036

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

SNHQ – Cutting data v_c = (m/min)/(sf/min)

SMG	F30M			F40M			H25			MP2501		
	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%
P1	195 *640*	205 *670*	230 *750*	185 *610*	195 *640*	215 *710*	— —	— —	— —	320 *1050*	335 *1100*	360 *1175*
P2	185 *610*	200 *660*	220 *720*	175 *570*	190 *620*	210 *690*	— —	— —	— —	305 *1000*	325 *1075*	350 *1150*
P3	165 *540*	175 *570*	195 *640*	155 *510*	165 *540*	185 *610*	— —	— —	— —	270 *890*	280 *920*	300 *980*
P4	145 *475*	155 *510*	170 *560*	135 *445*	150 *490*	165 *540*	— —	— —	— —	235 *770*	250 *820*	265 *870*
P5	140 *460*	150 *490*	165 *540*	135 *445*	140 *460*	155 *510*	— —	— —	— —	230 *750*	240 *790*	255 *840*
P6	155 *510*	165 *540*	185 *610*	150 *490*	160 *520*	175 *570*	— —	— —	— —	255 *840*	270 *890*	290 *950*
P7	150 *490*	160 *520*	175 *570*	140 *460*	150 *490*	165 *540*	— —	— —	— —	240 *790*	255 *840*	270 *890*
P8	135 *445*	145 *475*	165 *540*	130 *425*	140 *460*	155 *510*	— —	— —	— —	225 *740*	235 *770*	255 *840*
P11	145 *475*	155 *510*	170 *560*	135 *445*	145 *475*	160 *520*	— —	— —	— —	235 *770*	245 *800*	265 *870*
P12	95 *310*	100 *330*	110 *360*	90 *295*	95 *310*	105 *345*	— —	— —	— —	145 *475*	150 *490*	160 *520*
M1	150 *490*	165 *540*	180 *590*	140 *460*	155 *510*	170 *560*	— —	— —	— —	170 *560*	185 *610*	200 *660*
M2	125 *410*	135 *445*	150 *490*	120 *395*	125 *410*	140 *460*	— —	— —	— —	140 *460*	150 *490*	165 *540*
M3	100 *330*	110 *360*	120 *395*	95 *310*	105 *345*	115 *375*	— —	— —	— —	115 *375*	120 *395*	135 *445*
M4	80 *260*	85 *280*	90 *295*	75 *245*	80 *260*	90 *295*	— —	— —	— —	85 *280*	95 *310*	105 *345*
M5	65 *215*	70 *230*	75 *245*	60 *195*	65 *215*	75 *245*	— —	— —	— —	75 *245*	80 *260*	85 *280*
K1	145 *475*	160 *520*	175 *570*	140 *460*	150 *490*	170 *560*	— —	— —	— —	310 *1025*	330 *1075*	350 *1150*
K2	135 *445*	140 *460*	155 *510*	125 *410*	135 *445*	150 *490*	— —	— —	— —	275 *900*	290 *950*	310 *1025*
K3	115 *375*	120 *395*	135 *445*	105 *345*	115 *375*	125 *410*	— —	— —	— —	235 *770*	245 *800*	260 *850*
K4	105 *345*	115 *375*	125 *410*	100 *330*	110 *360*	120 *395*	— —	— —	— —	225 *740*	235 *770*	250 *820*
K5	65 *215*	70 *230*	75 *245*	60 *195*	65 *215*	75 *245*	— —	— —	— —	135 *445*	140 *460*	150 *490*
K6	95 *310*	100 *330*	110 *360*	90 *295*	95 *310*	105 *345*	— —	— —	— —	195 *640*	205 *670*	220 *720*
K7	85 *280*	90 *295*	100 *330*	80 *260*	85 *280*	95 *310*	— —	— —	— —	175 *570*	180 *590*	190 *620*
N1	1100 *3600*	1175 *3850*	1300 *4275*	1050 *3450*	1125 *3700*	1250 *4100*	1025 *3375*	1100 *3600*	1200 *3925*	— —	— —	— —
N2	445 *1450*	480 *1575*	530 *1750*	425 *1400*	455 *1500*	500 *1650*	415 *1350*	440 *1450*	485 *1600*	— —	— —	— —
N3	295 *970*	320 *1050*	355 *1175*	280 *920*	305 *1000*	335 *1100*	275 *900*	295 *970*	325 *1075*	— —	— —	— —
N11	340 *1125*	365 *1200*	405 *1325*	320 *1050*	345 *1125*	385 *1275*	315 *1025*	335 *1100*	370 *1225*	— —	— —	— —
S1	36 *120*	39 *130*	43 *140*	35 *115*	37 *120*	41 *135*	— —	— —	— —	— —	— —	— —
S2	29 *95*	31 *100*	35 *115*	28 *90*	30 *100*	33 *110*	— —	— —	— —	— —	— —	— —
S3	26 *85*	27 *90*	30 *100*	24 *80*	26 *85*	29 *95*	— —	— —	— —	— —	— —	— —
S11	50 *165*	55 *180*	60 *195*	49 *160*	50 *165*	55 *180*	— —	— —	— —	— —	— —	— —
S12	36 *120*	38 *125*	42 *140*	41 *135*	44 *145*	48 *155*	— —	— —	— —	— —	— —	— —
S13	21 *70*	22 *70*	24 *80*	24 *80*	25 *80*	28 *90*	— —	— —	— —	— —	— —	— —
H5	31 *100*	33 *110*	36 *120*	29 *95*	31 *100*	34 *110*	— —	— —	— —	— —	— —	— —
H8	32 *105*	34 *110*	38 *125*	31 *100*	33 *110*	36 *120*	— —	— —	— —	— —	— —	— —
H11	39 *130*	42 *140*	46 *150*	37 *120*	40 *130*	44 *145*	— —	— —	— —	— —	— —	— —
H12	38 *125*	40 *130*	45 *150*	36 *120*	38 *125*	42 *140*	— —	— —	— —	— —	— —	— —
H21	32 *105*	34 *110*	38 *125*	31 *100*	33 *110*	36 *120*	— —	— —	— —	— —	— —	— —

335.19 – Insert selection – mm/Inch

SMG		f_z		
		30%	20%	10%
P1	335.19-...-M08 F40M	0,12 *0.0048*	0,14 0.0055	0,19 0.0075
P2	335.19-...-M08 F40M	0,12 *0.0048*	0,14 0.0055	0,19 0.0075
P3	335.19-...-M08 F40M	0,12 *0.0048*	0,14 0.0055	0,18 0.0070
P4	335.19-...-M08 F40M	0,12 *0.0048*	0,13 0.0050	0,18 0.0070
P5	335.19-...-M08 F40M	0,11 *0.0044*	0,13 0.0050	0,17 0.0065
P6	335.19-...-M08 F40M	0,11 *0.0044*	0,13 0.0050	0,17 0.0065
P7	335.19-...-M08 F40M	0,11 *0.0044*	0,13 0.0050	0,17 0.0065
P8	335.19-...-MD09 F40M	0,13 *0.0050*	0,15 0.0060	0,20 0.0080
P11	335.19-...-M08 F40M	0,11 *0.0044*	0,13 0.0050	0,17 0.0065
P12	335.19-...-M08 F40M	0,075 *0.0030*	0,090 0.0036	0,12 0.0048
M1	335.19-...-M08 F40M	0,12 *0.0048*	0,14 0.0055	0,19 0.0075
M2	335.19-...-M08 F40M	0,11 *0.0044*	0,13 0.0050	0,17 0.0065
M3	335.19-...-M08 F40M	0,090 *0.0036*	0,10 0.0040	0,14 0.0055
M4	335.19-...-M08 F40M	0,080 *0.0032*	0,090 0.0036	0,12 0.0048
M5	335.19-...-M08 F40M	0,080 *0.0032*	0,090 0.0036	0,12 0.0048
K1	335.19-...-MD09 F40M	0,14 *0.0055*	0,16 0.0065	0,22 0.0085
K2	335.19-...-MD09 F40M	0,13 *0.0050*	0,15 0.0060	0,20 0.0080
K3	335.19-...-MD09 F40M	0,13 *0.0050*	0,15 0.0060	0,20 0.0080
K4	335.19-...-MD09 F40M	0,13 *0.0050*	0,15 0.0060	0,20 0.0080
K5	335.19-...-MD09 F40M	0,11 *0.0044*	0,13 0.0050	0,18 0.0070
K6	335.19-...-MD09 F40M	0,13 *0.0050*	0,15 0.0060	0,20 0.0080
K7	335.19-...-MD09 F40M	0,11 *0.0044*	0,13 0.0050	0,18 0.0070
S1	335.19-...-M08 F40M	0,080 *0.0032*	0,090 0.0036	0,12 0.0048
S2	335.19-...-M08 F40M	0,080 *0.0032*	0,090 0.0036	0,12 0.0048
S3	335.19-...-M08 F40M	0,075 *0.0030*	0,085 0.0034	0,11 0.0044
S11	335.19-...-M08 F40M	0,090 *0.0036*	0,10 0.0040	0,14 0.0055
S12	335.19-...-M08 F40M	0,090 *0.0036*	0,10 0.0040	0,14 0.0055
S13	335.19-...-M08 F40M	0,080 *0.0032*	0,090 0.0036	0,12 0.0048
H5	335.19-...-MD09 F40M	0,085 *0.0034*	0,10 0.0040	0,13 0.0050
H8	335.19-...-MD09 F40M	0,065 *0.0026*	0,075 0.0030	0,10 0.0040
H11	335.19-...-MD09 F40M	0,085 *0.0034*	0,10 0.0040	0,13 0.0050
H12	335.19-...-MD09 F40M	0,065 *0.0026*	0,075 0.0030	0,10 0.0040
H21	335.19-...-MD09 F40M	0,065 *0.0026*	0,075 0.0030	0,10 0.0040

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

335.19 – Cutting data v_c = (m/min)/(sf/min)

SMG	F40M			MP2501		
	30%	20%	10%	30%	20%	10%
P1	175 *570*	185 *610*	205 *670*	295 *970*	310 *1025*	330 *1075*
P2	170 *560*	180 *590*	200 *660*	285 *940*	300 *980*	320 *1050*
P3	145 *475*	155 *510*	175 *570*	250 *820*	260 *850*	280 *920*
P4	130 *425*	140 *460*	155 *510*	220 *720*	230 *750*	250 *820*
P5	125 *410*	135 *445*	150 *490*	210 *690*	220 *720*	235 *770*
P6	140 *460*	150 *490*	165 *540*	235 *770*	250 *820*	270 *890*
P7	135 *445*	140 *460*	160 *520*	225 *740*	235 *770*	255 *840*
P8	125 *410*	130 *425*	145 *475*	210 *690*	220 *720*	235 *770*
P11	130 *425*	140 *460*	155 *510*	215 *710*	230 *750*	245 *800*
P12	85 *280*	90 *295*	100 *330*	140 *460*	145 *475*	155 *510*
M1	135 *445*	145 *475*	160 *520*	155 *510*	165 *540*	185 *610*
M2	115 *375*	120 *395*	135 *445*	130 *425*	135 *445*	150 *490*
M3	90 *295*	100 *330*	105 *345*	105 *345*	110 *360*	120 *395*
M4	70 *230*	75 *245*	85 *280*	80 *260*	85 *280*	95 *310*
M5	60 *195*	65 *215*	70 *230*	65 *215*	70 *230*	80 *260*
K1	135 *445*	145 *475*	160 *520*	290 *950*	305 *1000*	325 *1075*
K2	120 *395*	125 *410*	140 *460*	255 *840*	265 *870*	285 *940*
K3	100 *330*	110 *360*	120 *395*	215 *710*	225 *740*	245 *800*
K4	95 *310*	105 *345*	115 *375*	205 *670*	215 *710*	230 *750*
K5	60 *195*	60 *195*	70 *230*	125 *410*	130 *425*	140 *460*
K6	85 *280*	90 *295*	100 *330*	180 *590*	190 *620*	205 *670*
K7	75 *245*	80 *260*	90 *295*	160 *520*	170 *560*	180 *590*
N1	990 *3250*	1075 *3525*	1175 *3850*	— —	— —	— —
N2	400 *1300*	430 *1400*	475 *1550*	— —	— —	— —
N3	265 *870*	285 *940*	315 *1025*	— —	— —	— —
N11	305 *1000*	325 *1075*	365 *1200*	— —	— —	— —
S1	33 *110*	35 *115*	39 *130*	— —	— —	— —
S2	26 *85*	28 *90*	31 *100*	— —	— —	— —
S3	23 *75*	25 *80*	27 *90*	— —	— —	— —
S11	46 *150*	50 *165*	55 *180*	— —	— —	— —
S12	39 *130*	42 *140*	46 *150*	— —	— —	— —
S13	22 *70*	24 *80*	27 *90*	— —	— —	— —
H5	28 *90*	30 *100*	33 *110*	— —	— —	— —
H8	29 *95*	31 *100*	35 *115*	— —	— —	— —
H11	36 *120*	38 *125*	42 *140*	— —	— —	— —
H12	34 *110*	36 *120*	40 *130*	— —	— —	— —
H21	29 *95*	31 *100*	35 *115*	— —	— —	— —

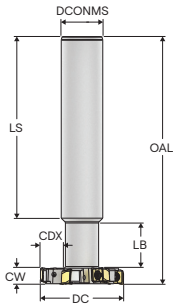


335.18

Highly economical, versatile and free-cutting disc milling cutter system dedicated for medium width of cut slotting, or half side and face cutting operations

- Width of cut 8-20 mm (.312 - .7500 inch) - slot with flat bottom
- Cutter range diameter 32-315 mm (1.25 - 12 inch)
- Fixed or adjustable cutting width with replaceable cassettes
- Available with Cylindrical, Arbor, Arbor hole and Combimaster connection, with through coolant and close pitch option
- Insert corner radii range 0.4-4 mm (.016 - 0.16 inch), and possibility to apply round insert dia 8/10/12mm in adjustable system
- Economical solution with up to 4 cutting edges per insert
- Quickly design and price custom 335.18 disc milling cutter bodies with Seco My Design
- Basic tolerance of the slot:
  Fixed pocket cutters: +/-0.08mm (+/-0.003")
  Adjustable cutters: +/-0.07mm (+/-0.0025")

R335.18 - LNK. – Metric - full side - Fixed pocket



—For insert selection and cutting data recommendations, see page(s) 513-514
—For complete insert programme, see page(s) 877-878
—For spare parts and technical information, see page 506-512
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCONMS	LS	OAL	LB	RPMX	Weight	Insert
			mm	mm	mm			mm	mm	mm	mm		kg	
R335.18-1632-0-08-1N	10092355	Cylindrical	32,0	8,0	8,5	1	2	16,0	108,0	140,0	23,0	18600	0,3	LNK.0504..
R335.18-1632-0-10-1N	10092359	Cylindrical	32,0	10,0	8,5	1	2	16,0	108,0	140,0	21,0	18600	0,3	LNK.0504..
R335.18-2040-0-08-2N	10092356	Cylindrical	40,0	8,0	11,5	2	4	20,0	108,0	140,0	22,0	16600	0,4	LNK.0504..
R335.18-2040-0-10-2N	10092360	Cylindrical	40,0	10,0	11,5	2	4	20,0	108,0	140,0	20,0	14000	0,4	LNK.0605.. / LNK.0805..
R335.18-2040-0-10-2N-LN05	10092361	Cylindrical	40,0	10,0	11,5	2	4	20,0	108,0	140,0	20,0	16600	0,4	LNK.0504..
R335.18-2550-0-08-3N	10092357	Cylindrical	50,0	8,0	14,5	3	6	25,0	110,0	150,0	29,5	14900	0,6	LNK.0504..
R335.18-2550-0-10-3N	10092362	Cylindrical	50,0	10,0	14,5	3	6	25,0	110,0	150,0	27,5	12400	0,6	LNK.0605.. / LNK.0805..
R335.18-2550-0-12-3N	10092363	Cylindrical	50,0	12,0	14,5	3	6	25,0	110,0	150,0	25,5	12400	0,6	LNK.0605.. / LNK.0805..
R335.18-3263-0-08-3N	10092358	Cylindrical	63,0	8,0	15,5	3	6	32,0	153,0	170,0	8,0	13300	1,2	LNK.0504..
R335.18-3263-0-10-3N	10092364	Cylindrical	63,0	10,0	15,5	3	6	32,0	153,0	170,0	6,0	11000	1,2	LNK.0605.. / LNK.0805..
R335.18-3263-0-12-3N	10092366	Cylindrical	63,0	12,0	15,5	3	6	32,0	153,0	170,0	4,0	11000	1,1	LNK.0605.. / LNK.0805..
R335.18-3280-0-10-4N	10092365	Cylindrical	80,0	10,0	24,0	4	8	32,0	153,0	170,0	6,0	9700	1,3	LNK.0605.. / LNK.0805..
R335.18-3280-0-12-4N	10092367	Cylindrical	80,0	12,0	24,0	4	8	32,0	153,0	170,0	4,0	9700	1,5	LNK.0605.. / LNK.0805..

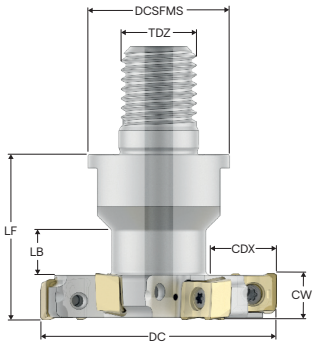
Spare Parts, included in delivery

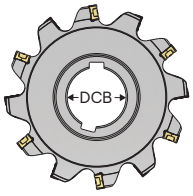
For cutter	Insert key	Insert screw
		
R335.18-LNK.0504	1/4HEX-T08PX50	C02508-T08P
R335.18-LNK.0605/LNK.0805	1/4HEX-T09PX50	C73009-T09P

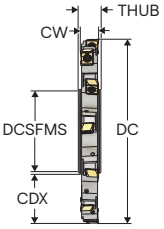
Accessories

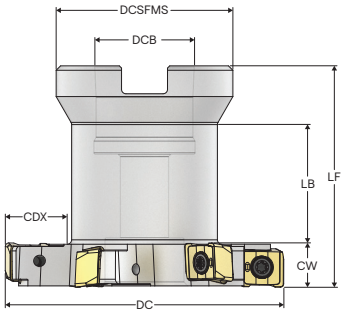
For	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R335.18-LNK.0504	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12
R335.18-LNK.0605/LNK.0805	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20

R335.18 - LNK. – Metric - full side - Fixed pocket





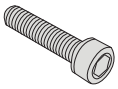




—For insert selection and cutting data recommendations, see page(s) 513-514
—For complete insert programme, see page(s) 877-878
—For spare parts and technical information, see page 506-512
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCB	DCSFMS	TDZ	LF	THUB	LB	RPMX	Weight	Insert
			mm	mm	mm			mm	mm		mm	mm	mm		kg	
R335.18-1032.RE-08.2NA	03277891	Combimaster	32,0	8,0	8,4	2	4	–	18,5	M10	28,0	–	8,89	17300	0,1	LNK.0504
R335.18-1032.RE-10.2NA	03277892	Combimaster	32,0	10,0	8,5	2	4	–	18,5	M10	28,0	–	6,89	17300	0,1	LNK.0504
R335.18-1240.RE-08.2NA	03277893	Combimaster	40,0	8,0	11,2	2	4	–	23,0	M12	30,0	–	8,39	15400	0,2	LNK.0504
R335.18-1240.RE-10.2NA	03277894	Combimaster	40,0	10,0	11,5	2	4	–	23,0	M12	30,0	–	6,39	15400	0,2	LNK.0504
R335.18-1650.RE-08.3NA	03277895	Combimaster	50,0	8,0	14,2	3	6	–	30,0	M16	35,0	–	10,59	13800	0,3	LNK.0504
R335.18-1650.RE-10.3NA	03279026	Combimaster	50,0	10,0	14,4	3	6	–	30,0	M16	35,0	–	8,59	13400	0,3	LNK.0605 / LNK.0805
R335.18-2063.RE-08.4NA	03277897	Combimaster	63,0	8,0	15,0	4	8	–	36,5	M20	40,0	–	14,89	12300	0,4	LNK.0504
R335.18-2063.RE-10.4NA	03277898	Combimaster	63,0	10,0	15,1	4	8	–	36,5	M20	40,0	–	12,89	11900	0,5	LNK.0605 / LNK.0805
335.18-080-10-27-4N	10092420	Arbor hole	80,0	10,0	18,0	4	8	27,0	41,0	–	–	15,0	–	9700	0,3	LNK.0605.. / LNK.0805..
335.18-100-08-27-5N	10092419	Arbor hole	100,0	8,0	28,0	5	10	27,0	41,0	–	–	15,0	–	10500	1,0	LNK.0504..
335.18-100-10-27-5N	10092421	Arbor hole	100,0	10,0	28,0	5	10	27,0	41,0	–	–	15,0	–	8700	0,6	LNK.0605.. / LNK.0805..
R335.18-063-08-22-3N	10092379	Arbor	63,0	8,0	14,5	3	6	22,0	40,0	–	50,0	–	29,0	13300	0,5	LNK.0504..
R335.18-063-10-22-3N	10092383	Arbor	63,0	10,0	14,5	3	6	22,0	40,0	–	50,0	–	27,0	11000	0,5	LNK.0605.. / LNK.0805..
R335.18-080-08-22-4N	10092380	Arbor	80,0	8,0	23,0	4	8	22,0	40,0	–	50,0	–	29,0	11800	0,5	LNK.0504..
R335.18-080-10-22-4N	10092384	Arbor	80,0	10,0	23,0	4	8	22,0	40,0	–	50,0	–	27,0	9700	0,6	LNK.0605.. / LNK.0805..
R335.18-100-08-27-5N	10092381	Arbor	100,0	8,0	25,5	5	10	27,0	48,0	–	50,0	–	49,7	10500	0,9	LNK.0504..
R335.18-100-10-27-5N	10092385	Arbor	100,0	10,0	25,5	5	10	27,0	48,0	–	50,0	–	50,0	8700	0,9	LNK.0605.. / LNK.0805..
R335.18-125-08-32-6N	10092382	Arbor	125,0	8,0	33,0	6	12	32,0	58,0	–	50,0	–	49,7	9400	1,3	LNK.0504..
R335.18-125-10-32-6N	10092386	Arbor	125,0	10,0	33,0	6	12	32,0	58,0	–	50,0	–	50,0	7700	1,4	LNK.0605.. / LNK.0805..

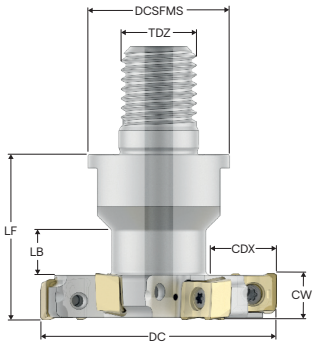
Spare Parts, included in delivery

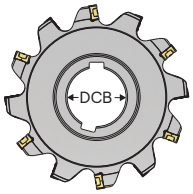
For cutter	Arbor screw	Insert key	Insert screw
			
335.18 DC=100 LNK.0605/LNK.0805	–	1/4HEX-T09PX90	C73009-T09P
335.18 DC=80 LNK.0605/LNK.0805	–	1/4HEX-T09PX50	C73009-T09P
335.18 LNK.0504	–	1/4HEX-T08PX90	C02508-T08P
R335.18 .RE LNK.0504	–	1/4HEX-T08PX50	C02508-T08P
R335.18 .RE LNK.0605/LNK.0805	–	1/4HEX-T09PX50	C73009-T09P
R335.18-DCB=22 LNK.0504	MC6S10X40	1/4HEX-T08PX50	C02508-T08P
R335.18 DCB=22 LNK.0605/LNK.0805	MC6S10X40	1/4HEX-T09PX50	C73009-T09P
R335.18 DCB=27 LNK.0504	MC6S12X40	1/4HEX-T08PX90	C02508-T08P
R335.18 DCB=27 LNK.0605/LNK.0805	MC6S12X40	1/4HEX-T09PX90	C73009-T09P
R335.18 DCB=32 LNK.0504	MC6S16X40	1/4HEX-T08PX90	C02508-T08P
R335.18 DCB=32 LNK.0605/LNK.0805	MC6S16X40	1/4HEX-T09PX90	C73009-T09P

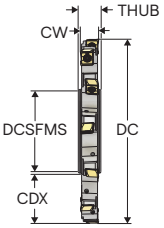
Accessories

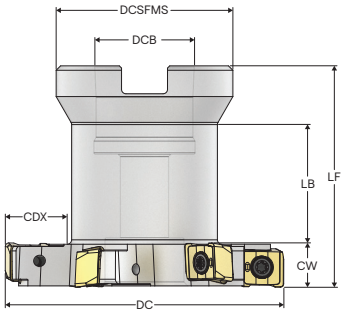
For	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
335/R335.18 LNK.0504	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12
335/R335.18 LNK.0605/LNK.0805	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20

R335.18 - LNK. – Metric - full side - Fixed pocket





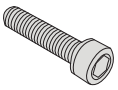




—For insert selection and cutting data recommendations, see page(s) 513-514
—For complete insert programme, see page(s) 877-878
—For spare parts and technical information, see page 506-512
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCB	DCSFMS	TDZ	LF	THUB	LB	RPMX	Weight	Insert
			mm	mm	mm			mm	mm		mm	mm	mm		kg	
R335.18-1650.RE-12.3NA	03277896	Combimaster	50,0	12,0	14,5	3	6	–	30,0	M16	35,0	–	6,59	13400	0,3	LNK.0605 / LNK.0805
335.18-080-12-27-4N	10092422	Arbor hole	80,0	12,0	18,0	4	8	27,0	41,0	–	–	15,0	–	9700	0,3	LNK.0605.. / LNK.0805..
335.18-100-12-27-5N	10092423	Arbor hole	100,0	12,0	28,0	5	10	27,0	41,0	–	–	15,0	–	8700	0,6	LNK.0605.. / LNK.0805..
335.18-125-12-40-6N	10092424	Arbor hole	125,0	12,0	33,5	6	12	40,0	55,0	–	–	15,0	–	7700	1,0	LNK.0605.. / LNK.0805..
335.18-160-14-40-7N	10092425	Arbor hole	160,0	14,0	51,0	7	14	40,0	55,0	–	–	15,0	–	6800	1,7	LNK.0605.. / LNK.0805..
R335.18-063-12-22-3N	10092387	Arbor	63,0	12,0	14,5	3	6	22,0	40,0	–	50,0	–	25,0	11000	0,4	LNK.0605.. / LNK.0805..
R335.18-063-14-22-3N	10092391	Arbor	63,0	14,0	14,5	3	6	22,0	40,0	–	50,0	–	23,0	11000	0,5	LNK.0605.. / LNK.0805..
R335.18-080-12-22-4N	10092388	Arbor	80,0	12,0	23,0	4	8	22,0	40,0	–	50,0	–	25,0	9700	0,7	LNK.0605.. / LNK.0805..
R335.18-080-14-22-4N	10092392	Arbor	80,0	14,0	23,0	4	8	22,0	40,0	–	50,0	–	23,0	9700	0,6	LNK.0605.. / LNK.0805..
R335.18-100-12-27-5N	10092389	Arbor	100,0	12,0	25,5	5	10	27,0	48,0	–	50,0	–	50,0	8700	1,1	LNK.0605.. / LNK.0805..
R335.18-100-14-27-5N	10092393	Arbor	100,0	14,0	25,5	5	10	27,0	48,0	–	50,0	–	50,0	8700	1,2	LNK.0605.. / LNK.0805..
R335.18-125-12-32-6N	10092390	Arbor	125,0	12,0	33,0	6	12	32,0	58,0	–	50,0	–	50,0	7700	1,5	LNK.0605.. / LNK.0805..
R335.18-125-14-32-6N	10092394	Arbor	125,0	14,0	33,0	6	12	32,0	58,0	–	50,0	–	50,0	7700	1,7	LNK.0605.. / LNK.0805..

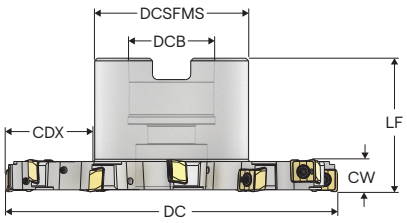
Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
335.18 DC=100-160 CW=12/14	–	1/4HEX-T09PX90	C73009-T09P
335.18 DC=80 CW=12	–	1/4HEX-T09PX50	C73009-T09P
R335.18 .RE	–	1/4HEX-T09PX50	C73009-T09P
R335.18 DCB=22	MC6S10X40	1/4HEX-T09PX50	C73009-T09P
R335.18 DCB=27	MC6S12X40	1/4HEX-T09PX90	C73009-T09P
R335.18 DCB=32	MC6S16X40	1/4HEX-T09PX90	C73009-T09P

Accessories

For	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
335/R335.18-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20

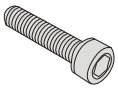
R335.18 - LNK. – Metric - full side - Fixed pocket



—For insert selection and cutting data recommendations, see page(s) 513-514
—For complete insert programme, see page(s) 877-878
—For spare parts and technical information, see page 506-512
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCB	DCSFMS	DCONMS	LF	LB	RPMX	Weight	Insert
			mm	mm	mm			mm	mm	mm	mm	mm		kg	
R335.18-080-17-22-3N	10092395	Arbor	80,0	17,0	23,0	3	9	22,0	40,0	22,0	50,0	20,0	9700	0,6	LNK.0605.. / LNK.0805..
R335.18-080-20-22-4N	10092398	Arbor	80,0	20,0	23,0	4	12	22,0	40,0	22,0	50,0	17,0	9700	0,7	LNK.0605.. / LNK.0805..
R335.18-100-20-27-5N	10092399	Arbor	100,0	20,0	25,5	5	15	27,0	48,0	27,0	50,0	49,3	8700	1,2	LNK.0605.. / LNK.0805..
R335.18-125-17-32-4N	10092396	Arbor	125,0	17,0	33,0	4	12	32,0	58,0	32,0	50,0	50,0	7700	1,9	LNK.0605.. / LNK.0805..
R335.18-125-20-32-6N	10092400	Arbor	125,0	20,0	33,0	6	18	32,0	58,0	32,0	50,0	49,3	7700	1,8	LNK.0605.. / LNK.0805..
R335.18-160-17-40-5N	10092397	Arbor	160,0	17,0	44,5	5	15	40,0	70,0	40,0	50,0	50,0	6800	3,0	LNK.0605.. / LNK.0805..
R335.18-160-20-40-7N	10092401	Arbor	160,0	20,0	44,5	7	21	40,0	70,0	40,0	50,0	49,3	6800	3,0	LNK.0605.. / LNK.0805..

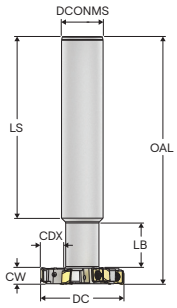
Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R335.18 DCB=22	MC6S10X40	1/4HEX-T09PX50	C73009-T09P
R335.18 DCB=27	MC6S12X40	1/4HEX-T09PX90	C73009-T09P
R335.18 DCB=32	MC6S16X40	1/4HEX-T09PX90	C73009-T09P
R335.18 DCB=40	MLC6S20X40	1/4HEX-T09PX90	C73009-T09P

Accessories

For	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
335/R335.18-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20

R335.18 - LNK. – Inch - full side - Fixed pocket



—For insert selection and cutting data recommendations, see page(s) 513-514
—For complete insert programme, see page(s) 877-878
—For spare parts and technical information, see page 506-512
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCONMS	LS	OAL	LB	RPMX	Weight	Insert
			inch	inch	inch			inch	inch	inch	inch		lbs	
R335.18-01.25-0-0.31-1N	10092368	Cylindrical	1.250	0.312	0.332	1	2	0.625	4.370	5.500	0.748	18700	0.660	LNK.0504..
R335.18-01.25-0-0.37-1N	10092372	Cylindrical	1.250	0.375	0.332	1	2	0.625	4.370	5.500	0.685	18700	0.660	LNK.0504..
R335.18-01.50-0-0.31-2N	10092369	Cylindrical	1.500	0.312	0.395	2	4	0.750	4.370	5.500	0.748	17000	0.880	LNK.0504..
R335.18-01.50-0-0.37-2N	10092373	Cylindrical	1.500	0.375	0.395	2	4	0.750	4.370	5.500	0.685	17000	0.880	LNK.0504..
R335.18-02.00-0-0.31-3N	10092370	Cylindrical	2.000	0.312	0.571	3	6	1.000	4.331	6.000	1.197	14800	1.540	LNK.0504..
R335.18-02.00-0-0.37-3N	10092374	Cylindrical	2.000	0.375	0.571	3	6	1.000	4.331	6.000	1.134	14800	1.540	LNK.0504..
R335.18-02.00-0-0.50-3N	10092376	Cylindrical	2.000	0.500	0.571	3	6	1.000	4.331	6.000	1.008	12300	1.540	LNK.0605.. / LNK.0805..
R335.18-02.50-0-0.31-3N	10092371	Cylindrical	2.500	0.312	0.625	3	6	1.250	6.063	6.750	0.315	13200	2.650	LNK.0504..
R335.18-02.50-0-0.37-3N	10092375	Cylindrical	2.500	0.375	0.625	3	6	1.250	6.063	6.750	0.252	13200	2.650	LNK.0504..
R335.18-02.50-0-0.50-3N	10092377	Cylindrical	2.500	0.500	0.625	3	6	1.250	6.063	6.750	0.130	11000	2.430	LNK.0605.. / LNK.0805..
R335.18-03.00-0-0.50-4N	10092378	Cylindrical	3.000	0.500	0.875	4	8	1.250	6.063	6.750	0.130	10000	3.090	LNK.0605.. / LNK.0805..

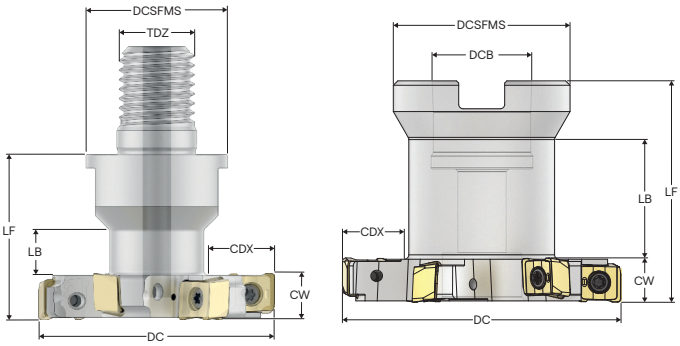
Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R335.18 LNK.0504	1/4HEX-T08PX50	C02508-T08P
R335.18 LNK.0605/LNK.0805	1/4HEX-T09PX50	C73009-T09P

Accessories

For	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R335.18 LNK.0504	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12
R335.18 LNK.0605/ LNK.0805	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20

R335.18 - LNK. – Inch - full side - Fixed pocket



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–For complete insert programme, see page(s) 877-878
–For spare parts and technical information, see page 506-512
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCB	DCSFMS	TDZ	LF	LB	RPMX	Weight	Insert
			inch	inch	inch			inch	inch		inch	inch		lbs	
R335.18-01.50-RE-0.31F-2NA	03277902	Combimaster	1.500	0.312	0.406	2	4	–	0.906	M12	1.181	0.333	15400	0.440	LNK.0504
R335.18-01.50-RE-0.37F-2NA	03277903	Combimaster	1.500	0.375	0.413	2	4	–	0.906	M12	1.181	0.270	15400	0.440	LNK.0504
R335.18-02.00-RE-0.31F-3NA	03277904	Combimaster	2.000	0.312	0.575	3	6	–	1.181	M16	1.378	0.420	13800	0.660	LNK.0504
R335.18-02.00-RE-0.37F-3NA	03277905	Combimaster	2.000	0.375	0.587	3	6	–	1.181	M16	1.378	0.357	13800	0.660	LNK.0504
R335.18-02.50-0.31-3N	10092402	Arbor	2.500	0.312	0.581	3	6	0.750	1.619	–	2.000	1.142	13200	1.320	LNK.0504..
R335.18-02.50-0.37-3N	10092406	Arbor	2.500	0.375	0.581	3	6	0.750	1.619	–	2.000	1.079	13200	0.880	LNK.0504..
R335.18-03.00-0.31-4N	10092403	Arbor	3.000	0.312	0.693	4	8	1.000	1.880	–	2.000	1.142	12000	1.320	LNK.0504..
R335.18-03-00-0.37-4N	10092407	Arbor	3.000	0.375	0.693	4	8	1.000	1.880	–	2.000	1.087	12000	0.220	LNK.0504..
R335.18-04.00-0.31-5N	10092404	Arbor	4.000	0.312	1.193	5	10	1.000	1.880	–	2.000	1.150	10400	1.980	LNK.0504..
R335.18-04.00-0.37-5N	10092408	Arbor	4.000	0.375	1.193	5	10	1.000	1.880	–	2.000	1.087	10400	1.980	LNK.0504..
R335.18-05.00-0.31-6N	10092405	Arbor	5.000	0.312	1.355	6	12	1.250	2.250	–	2.000	1.988	9300	3.090	LNK.0504..
R335.18-05.00-0.37-6N	10092409	Arbor	5.000	0.375	1.355	6	12	1.250	2.250	–	2.000	1.988	9300	3.090	LNK.0504..

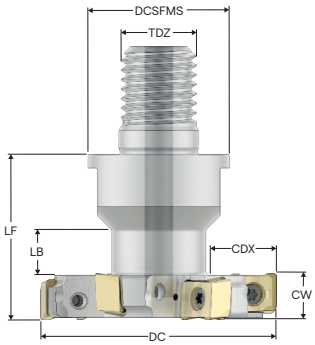
Spare Parts, included in delivery

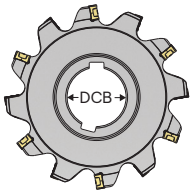
For cutter	Arbor screw	Insert key	Insert screw
			
R335.18 DC=02.50	UC6S3/8UNFX1-3/4	1/4HEX-T08PX50	C02508-T08P
R335.18 DC=03.00	UC6S1/2UNFX1-1/2	1/4HEX-T08PX50	C02508-T08P
R335.18 DC=04.00	UC6S1/2UNFX1-1/2	1/4HEX-T08PX90	C02508-T08P
R335.18 DC=05.00	UC6S5/8UNFX11/2	1/4HEX-T08PX90	C02508-T08P
R335.18-RE	–	1/4HEX-T08PX50	C02508-T08P

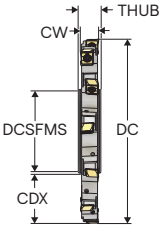
Accessories

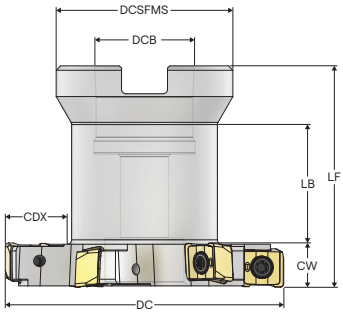
For	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R335/335.18-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12

R335.18 - LNK. – Inch - full side - Fixed pocket









–For insert selection and cutting data recommendations, see page(s) 513-514
–For complete insert programme, see page(s) 877-878
–For spare parts and technical information, see page 506-512
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC inch	CW inch	CDX inch	ZEFP	ZNP	DCB inch	DCSFMS inch	TDZ	LF inch	THUB inch	LB inch	RPMX	Weight lbs	Insert
R335.18-02.00-RE-0.5F-3NA	03277906	Combimaster	2.000	0.500	0.587	3	6	–	1.181	M16	1.378	–	0.232	13400	0.660	LNK.0605 / LNK.0805
335.18-03.00-0.50-4N	10092429	Arbor hole	3.000	0.500	0.665	4	8	1.000	1.551	–	–	0.625	–	10000	0.660	LNK.0605.. / LNK.0805..
335.18-06.00-0.50-7N	10092432	Arbor hole	6.000	0.500	1.815	7	14	1.500	2.252	–	–	0.625	–	7000	2.650	LNK.0605.. / LNK.0805..
R335.18-02.50-0.50-3N	10092410	Arbor	2.500	0.500	0.581	3	6	0.750	1.619	–	2.000	–	0.957	11000	1.100	LNK.0605.. / LNK.0805..
R335.18-03.00-0.50-4N	10092411	Arbor	3.000	0.500	0.693	4	8	1.000	1.880	–	2.000	–	0.961	10000	1.320	LNK.0605.. / LNK.0805..
R335.18-03.00-0.75-3N	10092416	Arbor	3.000	0.750	0.693	3	9	1.000	1.880	–	2.000	–	0.709	10000	1.980	LNK.0605.. / LNK.0805..
R335.18-04.00-0.50-5N	10092412	Arbor	4.000	0.500	1.193	5	10	1.000	1.880	–	2.000	–	0.961	8600	1.980	LNK.0605.. / LNK.0805..
R335.18-04.00-0.62-3N	10092415	Arbor	4.000	0.625	1.193	3	9	1.000	1.880	–	2.000	–	0.837	8600	2.200	LNK.0605.. / LNK.0805..
R335.18-04.00-0.75-3N	10092417	Arbor	4.000	0.750	1.193	3	9	1.000	1.880	–	2.000	–	0.712	8600	2.430	LNK.0605.. / LNK.0805..
R335.18-05.00-0.50-6N	10092413	Arbor	5.000	0.500	1.355	6	12	1.250	2.250	–	2.000	–	1.972	7700	1.320	LNK.0605.. / LNK.0805..
R335.18-05.00-0.75-4N	10092418	Arbor	5.000	0.750	1.355	4	12	1.250	2.250	–	2.000	–	1.972	7700	3.310	LNK.0605.. / LNK.0805..

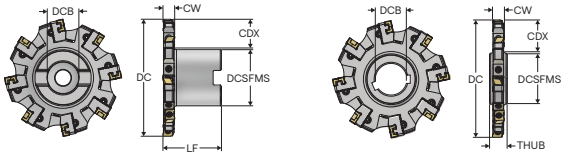
Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
335.18 DC=03.00	–	1/4HEX-T09PX50	C73009-T09P
335.18 DC=06.00	–	1/4HEX-T09PX90	C73009-T09P
R335.18 DC=02.50	UC6S3/8UNFX1-3/4	1/4HEX-T09PX50	C73009-T09P
R335.18 DC=03.00	UC6S1/2UNFX1-1/2	1/4HEX-T09PX50	C73009-T09P
R335.18 DC=04.00	UC6S1/2UNFX1-1/2	1/4HEX-T09PX90	C73009-T09P
R335.18 DC=05.00	UC6S5/8UNFX11/2	1/4HEX-T09PX90	C73009-T09P
R335.18-RE	–	1/4HEX-T09PX50	C73009-T09P

Accessories

For	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R335/335.18-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20

R335.18/335.18 - LNK. – Metric - full side - Adjustable design

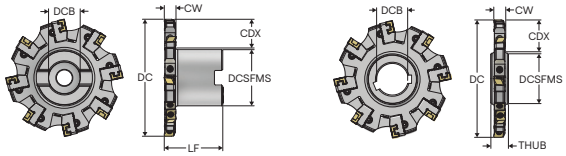


–For insert selection and cutting data recommendations, see page(s) 513-514
–For complete insert programme, see page(s) 877-878
–For spare parts and technical information, see page 506-512
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			mm	mm	mm	mm			mm	mm	mm	mm		kg	
335.18-100.0810.27-4N	02575751	Arbor hole	100,0	8,0	10,0	27,2	4	8	27,0	41,0	11,5	15,0	9400	0,4	LNK.05..
335.18-100.1012.27-4N	00018408	Arbor hole	100,0	10,0	12,0	27,2	4	8	27,0	41,0	12,5	15,0	9400	0,4	LNK.06..
335.18-125.0810.40-5N	02575752	Arbor hole	125,0	8,0	10,0	32,7	5	10	40,0	55,0	11,5	15,0	8400	0,6	LNK.05..
335.18-125.1012.40-5N	00018417	Arbor hole	125,0	10,0	12,0	32,7	5	10	40,0	55,0	12,5	15,0	8400	0,7	LNK.06..
335.18-160.0810.40-6N	02575753	Arbor hole	160,0	8,0	10,0	50,2	6	12	40,0	55,0	11,5	15,0	7500	1,0	LNK.05..
335.18-160.1012.40-6N	00018427	Arbor hole	160,0	10,0	12,0	50,2	6	12	40,0	55,0	12,5	15,0	7500	1,2	LNK.06..
335.18-200.0810XL.50-7N	02712923	Arbor hole	200,0	8,0	10,0	63,5	7	14	50,0	69,0	11,5	15,0	6700	1,4	LNK.05..
335.18-200.1012XL.50-7N	02712930	Arbor hole	200,0	10,0	12,0	63,5	7	14	50,0	69,0	12,5	15,0	6700	1,5	LNK.06..
335.18-250.0810XL.50-9N	02712939	Arbor hole	250,0	8,0	10,0	88,5	9	18	50,0	69,0	11,5	15,0	6000	2,3	LNK.05..
335.18-250.1012XL.50-9N	02712940	Arbor hole	250,0	10,0	12,0	88,5	9	18	50,0	69,0	12,5	15,0	6000	2,8	LNK.06..
335.18-315.0810XL.50-12N	02712948	Arbor hole	315,0	8,0	10,0	121,0	12	24	50,0	69,0	11,5	15,0	5300	2,4	LNK.05..
335.18-315.1012XL.50-12N	02712950	Arbor hole	315,0	10,0	12,0	121,0	12	24	50,0	69,0	12,5	15,0	5300	4,5	LNK.06..
R335.18-080.0810.27-3N	02611694	Arbor	80,0	8,0	10,0	14,8	3	6	27,0	48,0	50,0	–	10900	0,8	LNK.05..
R335.18-080.1012.27-3N	00018581	Arbor	80,0	10,0	12,0	14,8	3	6	27,0	48,0	50,0	–	10500	0,9	LNK.06..
R335.18-100.0810.27-4N	02576013	Arbor	100,0	8,0	10,0	24,8	4	8	27,0	48,0	50,0	–	9400	0,9	LNK.05..
R335.18-100.1012.27-4N	00018597	Arbor	100,0	10,0	12,0	24,8	4	8	27,0	48,0	50,0	–	9400	0,9	LNK.06..
R335.18-125.0810.32-5N	02576014	Arbor	125,0	8,0	10,0	32,3	5	10	32,0	58,0	50,0	–	8400	1,0	LNK.05..
R335.18-125.1012.32-5N	00018613	Arbor	125,0	10,0	12,0	32,3	5	10	32,0	58,0	50,0	–	8400	1,1	LNK.06..
R335.18-160.0810.40-6N	02576015	Arbor	160,0	8,0	10,0	43,8	6	12	40,0	70,0	50,0	–	7500	1,6	LNK.05..
R335.18-160.1012.40-6N	00018641	Arbor	160,0	10,0	12,0	43,8	6	12	40,0	70,0	50,0	–	7500	1,8	LNK.06..
R335.18-200.0810XL.40-7N	02713370	Arbor	200,0	8,0	10,0	53,5	7	14	40,0	90,0	50,0	–	6700	2,7	LNK.05..
R335.18-200.1012XL.40-7N	02713374	Arbor	200,0	10,0	12,0	53,5	7	14	40,0	90,0	50,0	–	6700	3,0	LNK.06..
R335.18-250.0810XL.40-9N	02713381	Arbor	250,0	8,0	10,0	78,0	18	18	40,0	90,0	50,0	–	6000	4,4	LNK.05..
R335.18-250.1012XL.40-9N	02713382	Arbor	250,0	10,0	12,0	78,0	9	18	40,0	90,0	50,0	–	6000	4,5	LNK.06..

All listed adjustable cutters are set to the minimum cutter width CWN (factory setting).
Adjustable cutter may be ordered with the cutting width set to any value within its range (CWN - CWX), see technical data for more info at page 506

R335.18/335.18 - LNK. – Metric - full side - Adjustable design

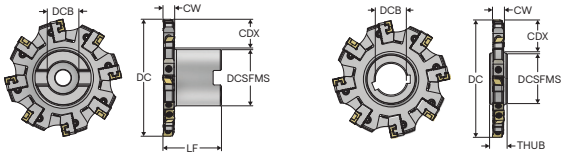


—For insert selection and cutting data recommendations, see page(s) 513-514
—For complete insert programme, see page(s) 877-878
—For spare parts and technical information, see page 506-512
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			mm	mm	mm	mm			mm	mm	mm	mm		kg	
335.18-100.1215.27-4N	00018513	Arbor hole	100,0	12,0	15,0	27,2	4	8	27,0	41,0	13,5	15,0	9400	0,6	LNK.08..
335.18-125.1215.40-5N	00018535	Arbor hole	125,0	12,0	15,0	32,7	5	10	40,0	55,0	13,5	15,0	8400	0,8	LNK.08..
335.18-160.1215.40-6N	00018543	Arbor hole	160,0	12,0	15,0	50,2	6	12	40,0	55,0	13,5	15,0	7500	1,4	LNK.08..
335.18-200.1215XL.50-7N	02712932	Arbor hole	200,0	12,0	15,0	63,5	7	14	50,0	69,0	13,5	15,0	6700	2,1	LNK.08..
335.18-250.1215XL.50-9N	02712941	Arbor hole	250,0	12,0	15,0	88,5	9	18	50,0	69,0	13,5	15,0	6000	3,6	LNK.08..
335.18-315.1215XL.50-12N	02712951	Arbor hole	315,0	12,0	15,0	121,0	12	24	50,0	69,0	13,5	15,0	5300	5,5	LNK.08..
R335.18-080.1215.27-3N	00018712	Arbor	80,0	12,0	15,0	14,8	3	6	27,0	48,0	50,0	–	10500	0,7	LNK.08..
R335.18-100.1215.27-4N	00018734	Arbor	100,0	12,0	15,0	24,8	4	8	27,0	48,0	50,0	–	9400	1,0	LNK.08..
R335.18-125.1215.32-5N	00018763	Arbor	125,0	12,0	15,0	32,3	5	10	32,0	58,0	50,0	–	8400	1,2	LNK.08..
R335.18-160.1215.40-6N	00018782	Arbor	160,0	12,0	15,0	43,8	6	12	40,0	70,0	50,0	–	7500	2,0	LNK.08..
R335.18-200.1215XL.40-7N	02713376	Arbor	200,0	12,0	15,0	53,5	7	14	40,0	90,0	50,0	–	6700	3,3	LNK.08..
R335.18-250.1215XL.40-9N	02713383	Arbor	250,0	12,0	15,0	78,0	9	18	40,0	90,0	50,0	–	6000	5,1	LNK.08..

All listed adjustable cutters are set to the minimum cutter width CWN (factory setting).
Adjustable cutter may be ordered with the cutting width set to any value within its range (CWN - CWX), see technical data for more info at page 506

R335.18/335.18 - LNK. – inch - full side - Adjustable design

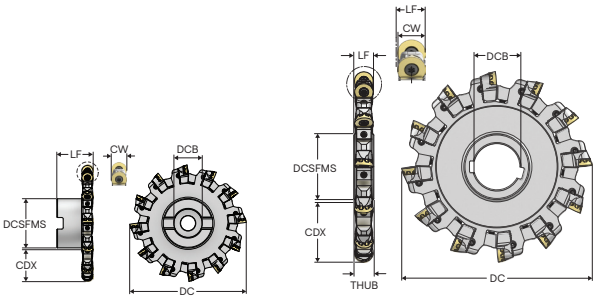


—For insert selection and cutting data recommendations, see page(s) 513-514
—For complete insert programme, see page(s) 877-878
—For spare parts and technical information, see page 506-512
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			inch	inch	inch	inch			inch	inch	inch	inch		lbs	
335.18-04.00-0506N	02834805	Arbor hole	4.000	0.312	0.394	1.102	4	8	1.000	1.551	0.470	0.625	9400	0.880	LNK.05
335.18-05.00-0506N	02834810	Arbor hole	5.000	0.312	0.394	1.299	5	10	1.500	2.252	0.470	0.625	8400	1.320	LNK.05
335.18-05.00-0708N	00079701	Arbor hole	5.000	0.394	0.472	1.258	5	10	1.500	2.252	0.509	0.625	8400	1.760	LNK.06
335.18-05.00-0809N	00079932	Arbor hole	5.000	0.472	0.591	1.285	5	10	1.500	2.252	0.549	0.625	8400	1.980	LNK.08
335.18-06.00-0506N	02834762	Arbor hole	6.000	0.312	0.394	1.772	6	12	1.500	2.252	0.470	0.625	7500	1.980	LNK.05
335.18-06.00-0708N	00079702	Arbor hole	6.000	0.394	0.472	1.766	6	12	1.500	2.252	0.509	0.625	7500	2.430	LNK.06
335.18-06.00-0809N	00079933	Arbor hole	6.000	0.472	0.591	1.790	6	12	1.500	2.252	0.549	0.625	7500	2.870	LNK.08
335.18-08.00-XL0506N	02740202	Arbor hole	8.000	0.312	0.394	2.421	7	14	2.000	3.000	0.469	0.625	6700	3.310	LNK.05
335.18-08.00-XL0708N	02740235	Arbor hole	8.000	0.394	0.472	2.421	7	14	2.000	3.000	0.509	0.625	6700	4.190	LNK.06
335.18-08.00-XL0809N	02740236	Arbor hole	8.000	0.472	0.591	2.421	7	14	2.000	3.000	0.549	0.625	6700	7.500	LNK.08
335.18-10.00-XL0506N	02740460	Arbor hole	10.000	0.312	0.394	3.386	9	18	2.000	3.000	0.469	0.625	6000	5.290	LNK.05
335.18-10.00-XL0708N	02740497	Arbor hole	10.000	0.394	0.472	3.386	9	18	2.000	3.000	0.509	0.625	6000	9.260	LNK.06
335.18-10.00-XL0809N	02740498	Arbor hole	10.000	0.472	0.591	3.386	9	18	2.000	3.000	0.549	0.625	6000	8.160	LNK.08
335.18-12.00-XL0506N	02740860	Arbor hole	12.000	0.312	0.394	4.390	11	22	2.000	3.000	0.469	0.625	5300	8.160	LNK.05
335.18-12.00-XL0708N	02740866	Arbor hole	12.000	0.394	0.472	4.390	11	22	2.000	3.000	0.509	0.625	5300	9.920	LNK.06
335.18-12.00-XL0809N	02740867	Arbor hole	12.000	0.472	0.591	4.390	11	22	2.000	3.000	0.549	0.625	5300	15.430	LNK.08
R335.18-04.00-0506N	02834763	Arbor	4.000	0.312	0.394	1.024	4	8	1.000	1.880	2.000	–	9400	1.760	LNK.05
R335.18-04.00-0708N	00079782	Arbor	4.000	0.394	0.472	1.014	4	8	1.000	1.880	2.000	–	9400	2.430	LNK.06
R335.18-04.00-0809N	00079963	Arbor	4.000	0.472	0.591	1.014	4	8	1.000	1.880	2.000	–	9400	3.090	LNK.08
R335.18-05.00-0506N	02834764	Arbor	5.000	0.312	0.394	1.339	5	10	1.250	2.250	2.000	–	8400	2.650	LNK.05
R335.18-05.00-0708N	00079783	Arbor	5.000	0.394	0.472	1.329	5	10	1.250	2.250	2.000	–	8400	3.530	LNK.06
R335.18-05.00-0809N	00079964	Arbor	5.000	0.472	0.591	1.329	5	10	1.250	2.250	2.000	–	8400	3.530	LNK.08
R335.18-06.00-0506N	02834765	Arbor	6.000	0.312	0.394	1.575	6	12	1.500	2.750	2.000	–	7500	3.310	LNK.05
R335.18-06.00-0708N	00079784	Arbor	6.000	0.394	0.472	1.534	6	12	1.500	2.750	2.000	–	7500	4.850	LNK.06
R335.18-06.00-0809N	00079965	Arbor	6.000	0.472	0.591	1.585	6	12	1.500	2.750	2.000	–	7500	4.190	LNK.08
R335.18-08.00-XL0506N	02740895	Arbor	8.000	0.312	0.394	2.224	7	14	1.500	3.500	2.000	–	6700	6.170	LNK.05
R335.18-08.00-XL0708N	02740896	Arbor	8.000	0.394	0.472	2.224	7	14	1.500	3.500	2.000	–	6700	2.870	LNK.06
R335.18-08.00-XL0809N	02740897	Arbor	8.000	0.472	0.591	2.224	7	14	1.500	3.500	2.000	–	6700	9.920	LNK.08
R335.18-10.00-XL0506N	02741525	Arbor	10.000	0.312	0.394	3.209	9	18	1.500	3.500	2.000	–	6000	17.640	LNK.05
R335.18-10.00-XL0708N	02741541	Arbor	10.000	0.394	0.472	3.209	9	18	1.500	3.500	2.000	–	6000	18.960	LNK.06
R335.18-10.00-XL0809N	02741544	Arbor	10.000	0.472	0.591	3.209	9	18	1.500	3.500	2.000	–	6000	10.580	LNK.08

All listed adjustable cutters are set to the minimum cutter width CWN (factory setting).
Adjustable cutter may be ordered with the cutting width set to any value within its range (CWN - CWX), see technical data for more info at page 506

R335.18/335.18 - RD..08/RD..10T3 – Metric - full side - radius profile - Adjustable design

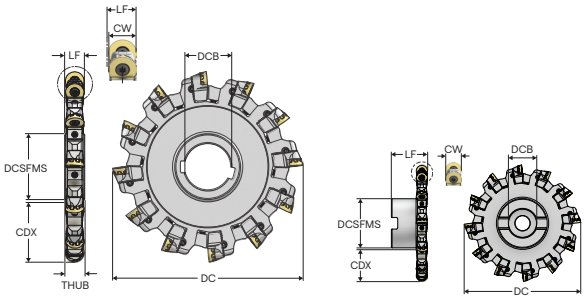


—For insert selection and cutting data recommendations, see page(s) 533-538
—For complete insert programme, see page(s) 886
—For spare parts and technical information, see page 506-512
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			mm	mm	mm	mm			mm	mm	mm	mm		kg	
335.18-100.0810.27-8N-R4	02575800	Arbor hole	102,0	8,03	10,0	28,2	8	8	27,0	41,0	11,5	15,0	9400	0,4	RD..08..
335.18-100.1012.27-4N-R5	00030328	Arbor hole	102,0	10,03	12,0	28,2	4	8	27,0	41,0	12,5	15,0	9400	0,6	RD..10T3
335.18-125.0810.40-10N-R4	02575801	Arbor hole	127,0	8,03	10,0	33,7	10	10	40,0	55,0	11,5	15,0	8400	0,6	RD..08..
335.18-125.1012.40-5N-R5	00030340	Arbor hole	127,0	10,03	12,0	33,7	5	10	40,0	55,0	12,5	15,0	8400	0,7	RD..10T3
335.18-160.0810.40-12N-R4	02575802	Arbor hole	162,0	8,03	10,0	51,2	12	12	40,0	55,0	11,5	15,0	7500	1,0	RD..08..
335.18-160.1012.40-6N-R5	00030343	Arbor hole	162,0	10,03	12,0	51,2	6	12	40,0	55,0	12,5	15,0	7500	1,3	RD..10T3
335.18-200.0810XL.50-14N-R4	02712934	Arbor hole	200,0	8,03	10,0	63,5	14	14	50,0	69,0	11,5	15,0	6700	1,4	RD..08..
335.18-200.1012XL.50-7N-R5	02712935	Arbor hole	200,0	10,03	12,0	63,5	7	14	50,0	69,0	12,5	15,0	6700	1,7	RD..10T3
335.18-250.0810XL.50-18N-R4	02712943	Arbor hole	250,0	8,03	10,0	88,5	18	18	50,0	69,0	11,5	15,0	6000	2,3	RD..08..
335.18-250.1012XL.50-9N-R5	02712946	Arbor hole	250,0	10,03	12,0	88,5	9	18	50,0	69,0	12,5	15,0	6000	1,7	RD..10T3
335.18-315.0810XL.50-24N-R4	02712952	Arbor hole	315,0	8,03	10,0	121,0	24	24	50,0	69,0	11,5	15,0	5300	3,7	RD..08..
335.18-315.1012XL.50-12N-R5	02712954	Arbor hole	315,0	10,03	12,0	121,0	12	24	50,0	69,0	12,5	15,0	5300	4,6	RD..10T3
R335.18-080.0810.27-6N-R4	02611700	Arbor	82,0	8,03	10,0	15,8	6	6	27,0	48,0	50,0	–	10500	0,7	RD..08..
R335.18-080.1012.27-3N-R5	00030352	Arbor	82,0	10,03	12,0	15,8	3	6	27,0	48,0	50,0	–	10500	0,7	RD..10T3
R335.18-100.0810.27-8N-R4	02576017	Arbor	102,0	8,03	10,0	25,8	8	8	27,0	48,0	50,0	–	9400	0,8	RD..08..
R335.18-100.1012.27-4N-R5	00030355	Arbor	102,0	10,03	12,0	25,8	4	8	27,0	48,0	50,0	–	9400	1,0	RD..10T3
R335.18-125.0810.32-10N-R4	02576018	Arbor	127,0	8,03	10,0	32,3	10	10	32,0	58,0	50,0	–	8400	1,0	RD..08..
R335.18-125.1012.32-5N-R5	00030359	Arbor	127,0	10,03	12,0	33,3	5	10	32,0	58,0	50,0	–	8400	1,1	RD..10T3
R335.18-160.0810.40-12N-R4	02576020	Arbor	162,0	8,03	10,0	44,8	12	12	40,0	70,0	50,0	–	7500	1,6	RD..08..
R335.18-160.1012.40-6N-R5	00030362	Arbor	162,0	10,03	12,0	44,8	6	12	40,0	70,0	50,0	–	7500	1,7	RD..10T3
R335.18-200.0810XL.40-14N-R4	02713377	Arbor	200,0	8,03	10,0	53,5	14	14	40,0	90,0	50,0	–	6700	2,6	RD..08..
R335.18-200.1012XL.40-7N-R5	02713379	Arbor	200,0	10,03	12,0	53,5	7	14	40,0	90,0	50,0	–	6700	2,2	RD..10T3
R335.18-250.0810XL.40-18N-R4	02713384	Arbor	250,0	8,03	10,0	78,0	18	18	40,0	90,0	50,0	–	6000	3,5	RD..08..
R335.18-250.1012XL.40-9N-R5	02713386	Arbor	250,0	10,03	12,0	78,0	9	18	40,0	90,0	50,0	–	6000	4,0	RD..10T3

All listed adjustable cutters are set to the minimum cutter width CWN (factory setting).
Adjustable cutter may be ordered with the cutting width set to any value within its range (CWN - CWX), see technical data for more info at page 506

R335.18/335.18 - RP..1204 – Metric - full side - radius profile - Adjustable design

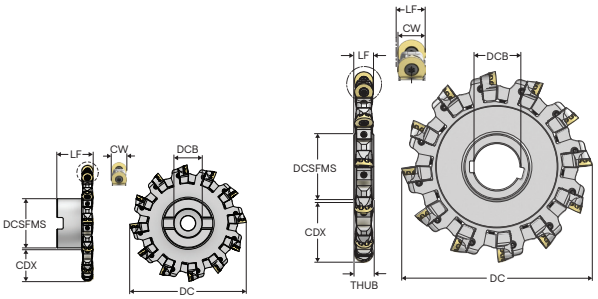


—For insert selection and cutting data recommendations, see page(s) 539-541
—For complete insert programme, see page(s) 889
—For spare parts and technical information, see page 506-512
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			mm	mm	mm	mm			mm	mm	mm	mm		kg	
335.18-100.1215.27-4N-R6	00030370	Arbor hole	102,0	12,03	15,0	28,2	4	8	27,0	41,0	13,5	15,0	9400	0,8	RP..1204
335.18-125.1215.40-5N-R6	00030374	Arbor hole	127,0	12,03	15,0	33,7	5	10	40,0	55,0	13,5	15,0	8400	0,9	RP..1204
335.18-160.1215.40-6N-R6	00030377	Arbor hole	162,0	12,03	15,0	51,2	6	12	40,0	55,0	13,5	15,0	7500	1,5	RP..1204
335.18-200.1215XL.50-7N-R6	02712937	Arbor hole	200,0	12,03	15,0	63,5	7	14	50,0	69,0	13,5	15,0	6700	2,0	RP..1204
335.18-250.1215XL.50-9N-R6	02712947	Arbor hole	250,0	12,03	15,0	88,5	9	18	50,0	69,0	13,5	15,0	6000	3,4	RP..1204
335.18-315.1215XL.50-12N-R6	02712955	Arbor hole	315,0	12,03	15,0	121,0	12	24	50,0	69,0	13,5	15,0	5300	5,5	RP..1204
R335.18-080.1215.27-3N-R6	00030404	Arbor	82,0	12,03	15,0	15,8	3	6	27,0	48,0	50,0	–	10000	0,7	RP..1204
R335.18-100.1215.27-4N-R6	00030412	Arbor	102,0	12,03	15,0	25,8	4	8	27,0	48,0	50,0	–	9400	0,9	RP..1204
R335.18-125.1215.32-5N-R6	00030417	Arbor	127,0	12,03	15,0	33,3	5	10	32,0	58,0	50,0	–	8400	1,2	RP..1204
R335.18-160.1215.40-6N-R6	00030420	Arbor	162,0	12,03	15,0	44,8	6	12	40,0	70,0	50,0	–	7500	1,9	RP..1204
R335.18-200.1215XL.40-7N-R6	02713380	Arbor	200,0	12,03	15,0	53,5	7	14	40,0	90,0	50,0	–	6700	3,2	RP..1204
R335.18-250.1215XL.40-9N-R6	02713387	Arbor	250,0	12,03	15,0	78,0	9	18	40,0	90,0	50,0	–	6000	4,5	RP..1204

All listed adjustable cutters are set to the minimum cutter width CWN (factory setting).
Adjustable cutter may be ordered with the cutting width set to any value within its range (CWN - CWX), see technical data for more info at page 506

R335.18/335.18 - RD..08/RD..10/RP..12 – inch - full side - radius profile - Adjustable design

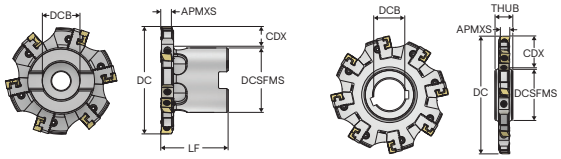


—For insert selection and cutting data recommendations, see page(s) 533-541
—For complete insert programme, see page(s) 886
—For spare parts and technical information, see page 506-512
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			inch	inch	inch	inch			inch	inch	inch	inch		lbs	
335.18-04.00-0506N-R4	02834707	Arbor hole	4.079	0.316	0.394	1.142	4	8	1.000	1.551	0.470	0.625	9400	0.880	RD..08
335.18-05.00-0506N-R4	02834708	Arbor hole	5.079	0.316	0.394	1.299	5	10	1.500	2.252	0.470	0.625	8400	1.320	RD..08
335.18-05.00-0708N-R5	00079978	Arbor hole	5.079	0.395	0.472	1.295	5	10	1.500	2.252	0.509	0.625	8400	1.760	RD..10
335.18-05.00-0809N-R6	00080035	Arbor hole	5.079	0.474	0.591	1.339	5	10	1.500	2.252	0.549	0.625	8400	1.980	RP..12
335.18-06.00-0506N-R4	02834709	Arbor hole	6.079	0.316	0.394	1.772	6	12	1.500	2.252	0.470	0.625	7500	1.980	RD..08
335.18-06.00-0708N-R5	00079979	Arbor hole	6.079	0.395	0.472	1.811	6	12	1.500	2.252	0.509	0.625	7500	2.430	RD..10
335.18-06.00-0809N-R6	00080045	Arbor hole	6.079	0.474	0.591	1.829	6	12	1.500	2.252	0.549	0.625	7500	2.870	RP..12
335.18-08.00-XL0506N-R4	02740237	Arbor hole	8.000	0.316	0.394	2.421	14	14	2.000	3.000	0.470	0.625	6700	3.310	RD..08
335.18-08.00-XL0708N-R5	02740238	Arbor hole	8.000	0.395	0.472	2.421	7	14	2.000	3.000	0.509	0.625	6700	6.830	RD..10
335.18-08.00-XL0809N-R6	02740240	Arbor hole	8.000	0.474	0.591	2.421	7	14	2.000	3.000	0.549	0.625	6700	4.630	RP..12
335.18-10.00-XL0506N-R4	02740500	Arbor hole	10.000	0.316	0.394	3.386	9	18	2.000	3.000	0.470	0.625	6000	5.730	RD..08
335.18-10.00-XL0708N-R5	02740502	Arbor hole	10.000	0.395	0.472	3.386	9	18	2.000	3.000	0.509	0.625	6000	6.610	RD..10
335.18-10.00-XL0809N-R6	02740503	Arbor hole	10.000	0.474	0.591	3.386	9	18	2.000	3.000	0.549	0.625	6000	7.720	RP..12
335.18-12.00-XL0506N-R4	02740869	Arbor hole	12.000	0.316	0.394	4.390	11	22	2.000	3.000	0.470	0.625	5300	8.160	RD..08
335.18-12.00-XL0708N-R5	02740870	Arbor hole	12.000	0.395	0.472	4.390	11	22	2.000	3.000	0.509	0.625	5300	9.920	RD..10
335.18-12.00-XL0809N-R6	02740872	Arbor hole	12.000	0.474	0.591	4.390	11	22	2.000	3.000	0.549	0.625	5300	15.430	RP..12
R335.18-04.00-0506N-R4	02834713	Arbor	4.079	0.316	0.394	1.063	4	8	1.000	1.880	2.000	–	9400	1.760	RD..08
R335.18-04.00-0708N-R5	00079997	Arbor	4.079	0.395	0.472	1.063	4	8	1.000	1.880	2.000	–	9400	2.650	RD..10
R335.18-04.00-0809N-R6	00080158	Arbor	4.079	0.474	0.591	1.053	4	8	1.000	1.880	2.000	–	9400	2.650	RP..12
R335.18-05.00-0506N-R4	02834714	Arbor	5.079	0.316	0.394	1.378	5	10	1.250	2.250	2.000	–	8400	2.650	RD..08
R335.18-05.00-0708N-R5	00079998	Arbor	5.079	0.395	0.472	1.378	5	10	1.250	2.250	2.000	–	8400	3.090	RD..10
R335.18-05.00-0809N-R6	00080160	Arbor	5.079	0.474	0.591	1.368	5	10	1.250	2.250	2.000	–	8400	3.530	RP..12
R335.18-06.00-0506N-R4	02834715	Arbor	6.079	0.316	0.394	1.614	6	12	1.500	2.750	2.000	–	7500	3.310	RD..08
R335.18-06.00-0708N-R5	00079999	Arbor	6.079	0.395	0.472	1.614	6	12	1.500	2.750	2.000	–	7500	3.750	RD..10
R335.18-06.00-0809N-R6	00080181	Arbor	6.079	0.474	0.591	1.624	6	12	1.500	2.750	2.000	–	7500	5.070	RP..12
R335.18-08.00-XL0506N-R4	02740898	Arbor	8.000	0.316	0.394	2.224	7	14	1.500	3.500	2.000	–	6700	6.170	RD..08
R335.18-08.00-XL0708N-R5	02740899	Arbor	8.000	0.395	0.472	2.224	7	14	1.500	3.500	2.000	–	6700	7.050	RD..10
R335.18-08.00-XL0809N-R6	02740900	Arbor	8.000	0.474	0.591	2.224	7	14	1.500	3.500	2.000	–	6700	7.500	RP..12
R335.18-10.00-XL0506N-R4	02741547	Arbor	10.000	0.316	0.394	3.209	9	18	1.500	3.500	2.000	–	6000	17.640	RD..08
R335.18-10.00-XL0708N-R5	02741551	Arbor	10.000	0.395	0.472	3.209	9	18	1.500	3.500	2.000	–	6000	18.740	RD..10
R335.18-10.00-XL0809N-R6	02741552	Arbor	10.000	0.474	0.591	3.209	9	18	1.500	3.500	2.000	–	6000	2.200	RP..12

All listed adjustable cutters are set to the minimum cutter width CWN (factory setting).
Adjustable cutter may be ordered with the cutting width set to any value within its range (CWN - CWX), see technical data for more info at page 506

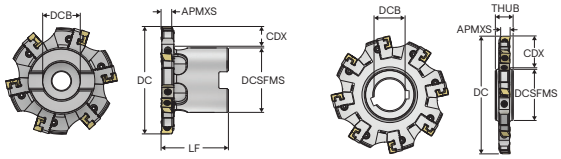
R335.18/335.18 - LNK.05/06 – Metric - Half side - Right hand with cassette



–For insert selection and cutting data recommendations, see page(s) 513-514
–For complete insert programme, see page(s) 877-878
–For spare parts and technical information, see page 506-512
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			mm	mm	mm		mm	mm	mm	mm		kg	
335.18-100.0810.27-8R	02575757	Arbor hole	100,0	5,0	27,2	8	27,0	41,0	11,5	15,0	9400	0,4	LNK.05..
335.18-100.1012.27-8R	00018409	Arbor hole	100,0	6,0	27,2	8	27,0	41,0	12,5	15,0	9400	0,4	LNK.06..
335.18-125.0810.40-10R	02575758	Arbor hole	125,0	5,0	32,7	10	40,0	55,0	11,5	15,0	8400	0,6	LNK.05..
335.18-125.1012.40-10R	00018421	Arbor hole	125,0	6,0	32,7	10	40,0	55,0	12,5	15,0	8400	0,7	LNK.06..
335.18-160.0810.40-12R	02575759	Arbor hole	160,0	5,0	50,2	12	40,0	55,0	11,5	15,0	7500	1,0	LNK.05..
335.18-160.1012.40-12R	00018431	Arbor hole	160,0	6,0	50,2	12	40,0	55,0	12,5	15,0	7500	1,5	LNK.06..
335.18-200.0810XL.50-14R	02713151	Arbor hole	200,0	5,0	63,5	14	50,0	69,0	11,5	15,0	6700	1,7	LNK.05..
335.18-200.1012XL.50-14R	02713154	Arbor hole	200,0	6,0	63,5	14	50,0	69,0	12,5	15,0	6700	1,7	LNK.06..
335.18-250.0810XL.50-18R	02713163	Arbor hole	250,0	5,0	88,5	18	50,0	69,0	11,5	15,0	6000	2,3	LNK.05..
335.18-250.1012XL.50-18R	02713165	Arbor hole	250,0	6,0	88,5	18	50,0	69,0	12,5	15,0	6000	2,8	LNK.06..
335.18-315.0810XL.50-24R	02713172	Arbor hole	315,0	5,0	121,0	24	50,0	69,0	11,5	15,0	5300	1,9	LNK.05..
335.18-315.1012XL.50-24R	02713177	Arbor hole	315,0	6,0	121,0	24	50,0	69,0	12,5	15,0	5300	1,9	LNK.06..
R335.18-080.0810.27-6R	02611697	Arbor	80,0	5,0	14,8	6	27,0	48,0	50,0	–	10500	0,7	LNK.05..
R335.18-080.1012.27-6R	00018584	Arbor	80,0	6,0	14,8	6	27,0	48,0	50,0	–	10500	0,8	LNK.06..
R335.18-100.0810.27-8R	02576023	Arbor	100,0	5,0	24,8	8	27,0	48,0	50,0	–	9400	0,8	LNK.05..
R335.18-100.1012.27-8R	00018603	Arbor	100,0	6,0	24,8	8	27,0	48,0	50,0	–	9400	1,2	LNK.06..
R335.18-125.0810.32-10R	02576025	Arbor	125,0	5,0	32,3	10	32,0	58,0	50,0	–	8400	1,0	LNK.05..
R335.18-125.1012.32-10R	00018618	Arbor	125,0	6,0	32,3	10	32,0	58,0	50,0	–	8400	1,0	LNK.06..
R335.18-160.0810.40-12R	02576026	Arbor	160,0	5,0	43,8	12	40,0	70,0	50,0	–	7500	1,5	LNK.05..
R335.18-160.1012.40-12R	00018674	Arbor	160,0	6,0	43,8	12	40,0	70,0	50,0	–	7500	1,9	LNK.06..
R335.18-200.0810XL.40-14R	02713422	Arbor	200,0	5,0	53,5	14	40,0	90,0	50,0	–	6700	2,6	LNK.05..
R335.18-200.1012XL.40-14R	02713423	Arbor	200,0	6,0	53,5	14	40,0	90,0	50,0	–	6700	2,9	LNK.06..
R335.18-250.0810XL.40-18R	02713432	Arbor	250,0	5,0	78,0	18	40,0	90,0	50,0	–	6000	3,1	LNK.05..
R335.18-250.1012XL.40-18R	02713435	Arbor	250,0	6,0	78,0	18	40,0	90,0	50,0	–	6000	4,0	LNK.06..

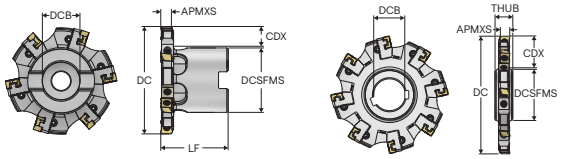
R335.18/335.18 - LNK.08 – Metric - Half side - Right hand with cassette



—For insert selection and cutting data recommendations, see page(s) 513-514
—For complete insert programme, see page(s) 877-878
—For spare parts and technical information, see page 506-512
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			mm	mm	mm		mm	mm	mm	mm		kg	
335.18-100.1215.27-8R	00018515	Arbor hole	100,0	7,5	27,2	8	27,0	41,0	13,5	15,0	9400	0,5	LNK.08..
335.18-125.1215.40-10R	00018540	Arbor hole	125,0	7,5	32,7	10	40,0	55,0	13,5	15,0	8400	0,9	LNK.08..
335.18-160.1215.40-12R	00018546	Arbor hole	160,0	7,5	50,2	12	40,0	55,0	13,5	15,0	7500	1,5	LNK.08..
335.18-200.1215XL.50-14R	02713155	Arbor hole	200,0	7,5	63,5	14	50,0	69,0	13,5	15,0	6700	1,7	LNK.08..
335.18-250.1215XL.50-18R	02713166	Arbor hole	250,0	7,5	88,5	18	50,0	69,0	13,5	15,0	6000	2,5	LNK.08..
335.18-315.1215XL.50-24R	02713178	Arbor hole	315,0	7,5	121,0	24	50,0	69,0	13,5	15,0	5300	2,2	LNK.08..
R335.18-080.1215.27-6R	00018723	Arbor	80,0	7,5	14,8	6	27,0	48,0	50,0	–	10500	1,1	LNK.08..
R335.18-100.1215.27-8R	00018754	Arbor	100,0	7,5	24,8	8	27,0	48,0	50,0	–	9400	0,9	LNK.08..
R335.18-125.1215.32-10R	00018766	Arbor	125,0	7,5	32,3	10	32,0	58,0	50,0	–	8400	1,2	LNK.08..
R335.18-160.1215.40-12R	00018784	Arbor	160,0	7,5	43,8	12	40,0	70,0	50,0	–	7500	2,7	LNK.08..
R335.18-200.1215XL.40-14R	02713424	Arbor	200,0	7,5	53,5	14	40,0	90,0	50,0	–	6700	3,6	LNK.08..
R335.18-250.1215XL.40-18R	02713437	Arbor	250,0	7,5	78,0	18	40,0	90,0	50,0	–	6000	4,5	LNK.08..

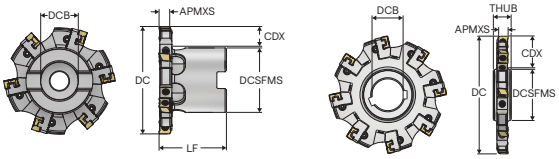
R335.18/335.18 - LNK.05/06 – inch - Half side - Right hand with cassette



—For insert selection and cutting data recommendations, see page(s) 513-514
—For complete insert programme, see page(s) 877-878
—For spare parts and technical information, see page 506-512
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			inch	inch	inch		inch	inch	inch	inch		lbs	
335.18-04.00-0506R	02834787	Arbor hole	4.000	0.197	1.102	8	1.000	1.550	0.469	0.625	9400	0.880	LNK.05
335.18-05.00-0506R	02834788	Arbor hole	5.000	0.197	1.299	10	1.500	2.252	0.469	0.625	8400	1.320	LNK.05
335.18-05.00-0708R	00079766	Arbor hole	5.000	0.236	1.258	10	1.500	2.252	0.508	0.625	8400	1.760	LNK.06
335.18-06.00-0506R	02834789	Arbor hole	6.000	0.197	1.772	12	1.500	2.252	0.469	0.625	7500	1.980	LNK.05
335.18-06.00-0708R	00079767	Arbor hole	6.000	0.236	1.766	12	1.500	2.252	0.508	0.625	7500	2.430	LNK.06
335.18-08.00-XL0506R	02740241	Arbor hole	8.000	0.197	2.421	14	2.000	3.000	0.469	0.625	6700	3.310	LNK.05
335.18-08.00-XL0708R	02740242	Arbor hole	8.000	0.236	2.421	14	2.000	3.000	0.508	0.625	6700	4.190	LNK.06
335.18-10.00-XL0506R	02740505	Arbor hole	10.000	0.197	3.386	18	2.000	3.000	0.469	0.625	6000	5.510	LNK.05
335.18-10.00-XL0708R	02740506	Arbor hole	10.000	0.236	3.386	18	2.000	3.000	0.508	0.625	6000	6.610	LNK.06
335.18-12.00-XL0506R	02740874	Arbor hole	12.000	0.197	4.390	22	2.000	3.000	0.469	0.625	5300	8.160	LNK.05
335.18-12.00-XL0708R	02740875	Arbor hole	12.000	0.236	4.390	22	2.000	3.000	0.508	0.625	5300	9.920	LNK.06
R335.18-04.00-0506R	02834790	Arbor	4.000	0.197	1.024	8	1.000	1.880	2.000	–	9400	1.760	LNK.05
R335.18-04.00-0708R	00079792	Arbor	4.000	0.236	1.014	8	1.000	1.880	2.000	–	9400	2.200	LNK.06
R335.18-05.00-0506R	02834791	Arbor	5.000	0.197	1.339	10	1.250	2.250	2.000	–	8400	2.650	LNK.05
R335.18-05.00-0708R	00079832	Arbor	5.000	0.236	1.329	10	1.250	2.250	2.000	–	8400	3.090	LNK.06
R335.18-06.00-0506R	02834792	Arbor	6.000	0.197	1.575	12	1.500	2.750	2.000	–	7500	3.310	LNK.05
R335.18-06.00-0708R	00079833	Arbor	6.000	0.236	1.534	12	1.500	2.750	2.000	–	7500	3.750	LNK.06
R335.18-08.00-XL0506R	02740901	Arbor	8.000	0.197	2.224	14	1.500	3.500	2.000	–	6700	6.170	LNK.05
R335.18-08.00-XL0708R	02740902	Arbor	8.000	0.236	2.224	14	1.500	3.500	2.000	–	6700	7.050	LNK.06
R335.18-10.00-XL0506R	02741554	Arbor	10.000	0.197	3.209	18	1.500	3.500	2.000	–	6000	8.380	LNK.05
R335.18-10.00-XL0708R	02741556	Arbor	10.000	0.236	3.209	18	1.500	3.500	2.000	–	6000	9.480	LNK.06

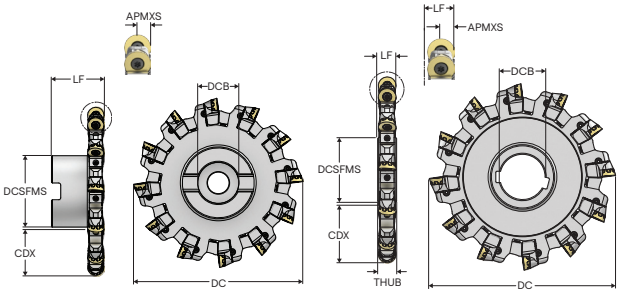
R335.18/335.18 - LNK.08 – inch - Half side - Right hand with cassette



—For insert selection and cutting data recommendations, see page(s) 513-514
—For complete insert programme, see page(s) 877-878
—For spare parts and technical information, see page 506-512
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			inch	inch	inch		inch	inch	inch	inch		lbs	
335.18-05.00-0809R	00079951	Arbor hole	5.000	0.295	1.285	10	1.500	2.252	0.547	0.625	8400	2.650	LNK.08
335.18-06.00-0809R	00079952	Arbor hole	6.000	0.295	1.790	12	1.500	2.252	0.547	0.625	7500	2.870	LNK.08
335.18-08.00-XL0809R	02740244	Arbor hole	8.000	0.295	2.421	14	2.000	3.000	0.547	0.625	6700	5.070	LNK.08
335.18-10.00-XL0809R	02740507	Arbor hole	10.000	0.295	3.386	18	2.000	3.000	0.547	0.625	6000	8.160	LNK.08
335.18-12.00-XL0809R	02740876	Arbor hole	12.000	0.295	4.390	22	2.000	3.000	0.547	0.625	5300	12.130	LNK.08
R335.18-04.00-0809R	00079968	Arbor	4.000	0.295	1.014	8	1.000	1.880	2.000	–	9400	2.430	LNK.08
R335.18-05.00-0809R	00079969	Arbor	5.000	0.295	1.329	10	1.250	2.250	2.000	–	8400	3.530	LNK.08
R335.18-06.00-0809R	00079970	Arbor	6.000	0.295	1.585	12	1.500	2.750	2.000	–	7500	4.190	LNK.08
R335.18-08.00-XL0809R	02740903	Arbor	8.000	0.295	2.224	14	1.500	3.500	2.000	–	6700	8.380	LNK.08
R335.18-10.00-XL0809R	02741557	Arbor	10.000	0.295	3.209	18	1.500	3.500	2.000	–	6000	11.020	LNK.08

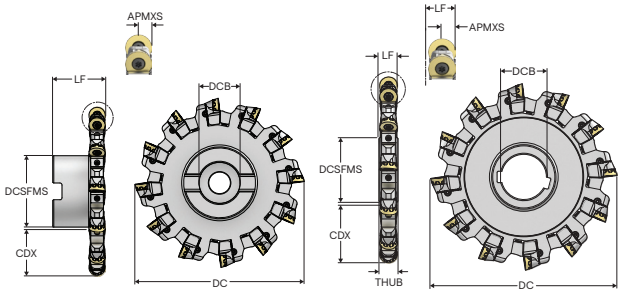
R335.18/335.18 - RD..10T3/RP..1204 – Metric -Half side - Right hand - Radius profile with cassette



–For insert selection and cutting data recommendations, see page(s) 536-541
–For complete insert programme, see page(s) 886, 889
–For spare parts and technical information, see page 506-512
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			mm	mm	mm		mm	mm	mm	mm		kg	
335.18-100.1012.27-8R-R5	00030329	Arbor hole	102,0	5,0	28,2	8	27,0	41,0	12,5	15,0	9400	0,4	RD..10T3
335.18-100.1215.27-8R-R6	00030372	Arbor hole	102,0	6,0	28,2	8	27,0	41,0	13,5	15,0	9400	0,5	RP..1204
335.18-125.1012.40-10R-R5	00030341	Arbor hole	127,0	5,0	33,7	10	40,0	55,0	12,5	15,0	8400	1,0	RD..10T3
335.18-125.1215.40-10R-R6	00030375	Arbor hole	127,0	6,0	33,7	10	40,0	55,0	13,5	15,0	8400	0,9	RP..1204
335.18-160.1012.40-12R-R5	00030344	Arbor hole	162,0	5,0	51,2	12	40,0	55,0	12,5	15,0	7500	1,2	RD..10T3
335.18-160.1215.40-12R-R6	00030378	Arbor hole	162,0	6,0	51,2	12	40,0	55,0	13,5	15,0	7500	1,5	RP..1204
335.18-200.1012XL.50-14R-R5	02713159	Arbor hole	200,0	5,0	63,5	14	50,0	69,0	12,5	15,0	6700	1,7	RD..10T3
335.18-200.1215XL.50-14R-R6	02713162	Arbor hole	200,0	6,0	63,5	14	50,0	69,0	13,5	15,0	6700	3,8	RP..1204
335.18-250.1012XL.50-18R-R5	02713169	Arbor hole	250,0	5,0	88,5	18	50,0	69,0	12,5	15,0	6000	3,8	RD..10T3
335.18-250.1215XL.50-18R-R6	02713170	Arbor hole	250,0	6,0	88,5	18	50,0	69,0	13,5	15,0	6000	4,7	RP..1204
335.18-315.1012XL.50-24R-R5	02713180	Arbor hole	315,0	5,0	121,0	24	50,0	69,0	12,5	15,0	5300	4,6	RD..10T3
335.18-315.1215XL.50-24R-R6	02713182	Arbor hole	315,0	6,0	121,0	24	50,0	69,0	13,5	15,0	5300	7,0	RP..1204
R335.18-080.1012.27-6R-R5	00030353	Arbor	82,0	5,0	15,8	6	27,0	48,0	50,0	–	10500	0,8	RD..10T3
R335.18-080.1215.27-6R-R6	00030407	Arbor	82,0	6,0	14,8	6	27,0	48,0	50,0	–	10500	0,7	RP..1204
R335.18-100.1012.27-8R-R5	00030357	Arbor	102,0	5,0	25,8	8	27,0	48,0	50,0	–	9400	1,2	RD..10T3
R335.18-100.1215.27-8R-R6	00030414	Arbor	102,0	6,0	25,8	8	27,0	48,0	50,0	–	9400	1,1	RP..1204
R335.18-125.1012.32-10R-R5	00030360	Arbor	127,0	5,0	33,3	10	32,0	58,0	50,0	–	8400	1,2	RD..10T3
R335.18-125.1215.32-10R-R6	00030418	Arbor	127,0	6,0	33,3	10	32,0	58,0	50,0	–	8400	1,4	RP..1204
R335.18-160.1012.40-12R-R5	00030364	Arbor	162,0	5,0	44,8	12	40,0	70,0	50,0	–	7500	0,1	RD..10T3
R335.18-160.1215.40-12R-R6	00030421	Arbor	162,0	6,0	44,8	12	40,0	70,0	50,0	–	7500	1,9	RP..1204
R335.18-200.1012XL.40-14R-R5	02713429	Arbor	200,0	5,0	53,5	14	40,0	90,0	50,0	–	6700	3,4	RD..10T3
R335.18-200.1215XL.40-14R-R6	02713431	Arbor	200,0	6,0	53,5	14	40,0	90,0	50,0	–	6700	4,3	RP..1204
R335.18-250.1012XL.40-18R-R5	02713438	Arbor	250,0	5,0	78,0	18	40,0	90,0	50,0	–	6000	4,0	RD..10T3
R335.18-250.1215XL.40-18R-R6	02713441	Arbor	250,0	6,0	78,0	18	40,0	90,0	50,0	–	6000	4,5	RP..1204

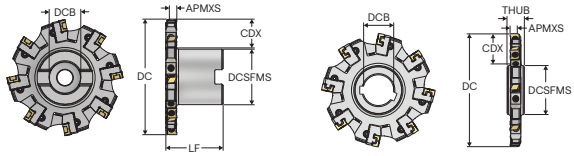
R335.18/335.18 - RD..10T3/RP..1204 – inch- Half side - Right hand - Radius profile with cassette



—For insert selection and cutting data recommendations, see page(s) 536-541
—For complete insert programme, see page(s) 886, 889
—For spare parts and technical information, see page 506-512
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			inch	inch	inch		inch	inch	inch	inch		lbs	
335.18-05.00-0809R-R6	02599495	Arbor hole	5.079	0.236	1.324	10	1.500	2.252	0.548	0.625	8400	1.980	RP..12
335.18-06.00-0809R-R6	02599496	Arbor hole	6.079	0.236	1.829	12	1.500	2.252	0.548	0.625	7500	2.870	RP..12
335.18-08.00-XL0708R-R5	02740245	Arbor hole	8.000	0.197	2.421	14	2.000	3.000	0.509	0.625	6700	4.190	RD..10
335.18-08.00-XL0809R-R6	02740246	Arbor hole	8.000	0.236	2.421	14	2.000	3.000	0.548	0.625	6700	5.070	RP..12
335.18-10.00-XL0708R-R5	02740508	Arbor hole	10.000	0.197	3.386	18	2.000	3.000	0.509	0.625	6000	6.610	RD..10
335.18-10.00-XL0809R-R6	02740527	Arbor hole	10.000	0.236	3.386	18	2.000	3.000	0.548	0.625	6000	8.160	RP..12
335.18-12.00-XL0708R-R5	02740883	Arbor hole	12.000	0.197	4.390	22	2.000	3.000	0.509	0.625	5300	9.920	RD..10
335.18-12.00-XL0809R-R6	02740884	Arbor hole	12.000	0.236	4.390	22	2.000	3.000	0.548	0.625	5300	12.130	RP..12
R335.18-04.00-0809R-R6	02599486	Arbor	4.079	0.236	1.053	8	1.000	1.880	2.000	–	9400	2.650	RP..12
R335.18-05.00-0809R-R6	02599487	Arbor	5.079	0.236	1.368	10	1.250	2.250	2.000	–	8400	3.530	RP..12
R335.18-06.00-0809R-R6	02599488	Arbor	6.079	0.236	1.624	12	1.500	2.750	2.000	–	7500	4.190	RP..12
R335.18-08.00-XL0708R-R5	02740905	Arbor	8.000	0.197	2.264	14	1.500	3.500	2.000	–	6700	7.050	RD..10
R335.18-08.00-XL0809R-R6	02740906	Arbor	8.000	0.236	2.264	14	1.500	3.500	2.000	–	6700	8.160	RP..12
R335.18-10.00-XL0708R-R5	02741559	Arbor	10.000	0.197	3.248	18	1.500	3.500	2.000	–	6000	9.480	RD..10
R335.18-10.00-XL0809R-R6	02741561	Arbor	10.000	0.236	3.248	18	1.500	3.500	2.000	–	6000	11.020	RP..12

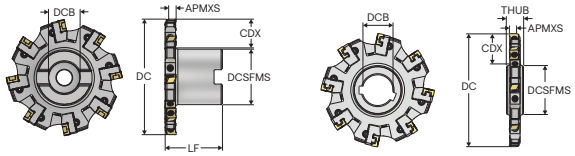
R335.18/335.18 - LNK.05/06 – Metric - Half side - Left hand with cassette



–For insert selection and cutting data recommendations, see page(s) 513-514
–For complete insert programme, see page(s) 877-878
–For spare parts and technical information, see page 506-512
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			mm	mm	mm		mm	mm	mm	mm		kg	
335.18-100.0810.27-8L	02575778	Arbor hole	100,0	5,0	27,2	8	27,0	41,0	3,5	15,0	9400	0,4	LNK.05..
335.18-100.1012.27-8L	00018412	Arbor hole	100,0	6,0	27,2	8	27,0	41,0	2,5	15,0	9400	0,4	LNK.06..
335.18-125.0810.40-10L	02575787	Arbor hole	125,0	5,0	32,7	10	40,0	55,0	3,5	15,0	8400	0,6	LNK.05..
335.18-125.1012.40-10L	00018426	Arbor hole	125,0	6,0	32,7	10	40,0	55,0	2,5	15,0	8400	0,8	LNK.06..
335.18-160.0810.40-12L	02575796	Arbor hole	160,0	5,0	50,2	12	40,0	55,0	3,5	15,0	7500	1,0	LNK.05..
335.18-160.1012.40-12L	00018439	Arbor hole	160,0	6,0	50,2	12	40,0	55,0	2,5	15,0	7500	1,5	LNK.06..
335.18-200.0810XL.50-14L	02713344	Arbor hole	200,0	5,0	63,5	14	50,0	69,0	3,5	15,0	6700	1,7	LNK.05..
335.18-200.1012XL.50-14L	02713348	Arbor hole	200,0	6,0	63,5	14	50,0	69,0	2,5	15,0	6700	1,7	LNK.06..
335.18-250.0810XL.50-18L	02713355	Arbor hole	250,0	5,0	88,5	18	50,0	69,0	3,5	15,0	6000	1,7	LNK.05..
335.18-250.1012XL.50-18L	02713356	Arbor hole	250,0	6,0	88,5	18	50,0	69,0	2,5	15,0	6000	1,9	LNK.06..
335.18-315.0810XL.50-24L	02713361	Arbor hole	315,0	5,0	121,0	24	50,0	69,0	3,5	15,0	5300	1,9	LNK.05..
335.18-315.1012XL.50-24L	02713363	Arbor hole	315,0	6,0	121,0	24	50,0	69,0	2,5	15,0	5300	4,5	LNK.06..
R335.18-080.0810.27-6L	02611696	Arbor	80,0	5,0	14,8	6	27,0	48,0	42,0	–	10500	0,7	LNK.05..
R335.18-080.1012.27-6L	00018592	Arbor	80,0	6,0	14,8	6	27,0	48,0	40,0	–	10500	1,0	LNK.06..
R335.18-100.0810.27-8L	02576028	Arbor	100,0	5,0	24,8	8	27,0	48,0	42,0	–	9400	0,8	LNK.05..
R335.18-100.1012.27-8L	00018612	Arbor	100,0	6,0	24,8	8	27,0	48,0	40,0	–	9400	0,9	LNK.06..
R335.18-125.0810.32-10L	02576029	Arbor	125,0	5,0	32,3	10	32,0	58,0	42,0	–	8400	1,0	LNK.05..
R335.18-125.1012.32-10L	00018624	Arbor	125,0	6,0	32,3	10	32,0	58,0	40,0	–	8400	0,9	LNK.06..
R335.18-160.0810.40-12L	02576030	Arbor	160,0	5,0	43,8	12	40,0	70,0	42,0	–	7500	1,6	LNK.05..
R335.18-160.1012.40-12L	00018687	Arbor	160,0	6,0	43,8	12	40,0	70,0	40,0	–	7500	1,3	LNK.06..
R335.18-200.0810XL.40-14L	02713444	Arbor	200,0	5,0	53,5	14	40,0	90,0	42,0	–	6700	2,8	LNK.05..
R335.18-200.1012XL.40-14L	02713459	Arbor	200,0	6,0	53,5	14	40,0	90,0	40,0	–	6700	2,9	LNK.06..
R335.18-250.0810XL.40-18L	02713466	Arbor	250,0	5,0	78,0	18	40,0	90,0	42,0	–	6000	3,5	LNK.05..
R335.18-250.1012XL.40-18L	02713467	Arbor	250,0	6,0	78,0	18	40,0	90,0	40,0	–	6000	3,9	LNK.06..

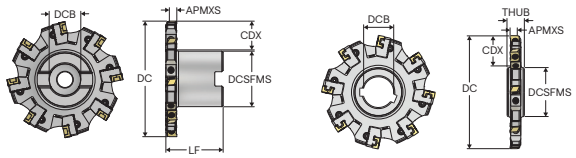
R335.18/335.18 - LNK.08 – Metric - Half side - Left hand with cassette



—For insert selection and cutting data recommendations, see page(s) 513-514
—For complete insert programme, see page(s) 878
—For spare parts and technical information, see page 506-512
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			mm	mm	mm		mm	mm	mm	mm		kg	
335.18-100.1215.27-8L	00018530	Arbor hole	100,0	7,5	27,2	8	27,0	41,0	1,5	15,0	9400	0,6	LNK.08..
335.18-125.1215.40-10L	00018542	Arbor hole	125,0	7,5	32,7	10	40,0	55,0	1,5	15,0	8400	0,9	LNK.08..
335.18-160.1215.40-12L	00018548	Arbor hole	160,0	7,5	50,2	12	40,0	55,0	1,5	15,0	7500	1,4	LNK.08..
335.18-200.1215XL.50-14L	02713349	Arbor hole	200,0	7,5	63,5	14	50,0	69,0	1,5	15,0	6700	2,0	LNK.08..
335.18-250.1215XL.50-18L	02713357	Arbor hole	250,0	7,5	88,5	18	50,0	69,0	1,5	15,0	6000	3,2	LNK.08..
335.18-315.1215XL.50-24L	02713364	Arbor hole	315,0	7,5	121,0	24	50,0	69,0	1,5	15,0	5300	5,6	LNK.08..
R335.18-080.1215.27-6L	00018729	Arbor	80,0	7,5	14,8	6	27,0	48,0	38,0	–	10500	0,8	LNK.08..
R335.18-100.1215.27-8L	00018756	Arbor	100,0	7,5	24,8	8	27,0	48,0	38,0	–	9400	1,1	LNK.08..
R335.18-125.1215.32-10L	00018777	Arbor	125,0	7,5	33,3	10	32,0	58,0	38,0	–	8400	1,0	LNK.08..
R335.18-160.1215.40-12L	00018788	Arbor	160,0	7,5	43,8	12	40,0	70,0	38,0	–	7500	2,1	LNK.08..
R335.18-200.1215XL.40-14L	02713461	Arbor	200,0	7,5	53,5	14	40,0	90,0	38,0	–	6700	3,5	LNK.08..
R335.18-250.1215XL.40-18L	02713470	Arbor	250,0	7,5	78,0	18	40,0	90,0	38,0	–	6000	4,5	LNK.08..

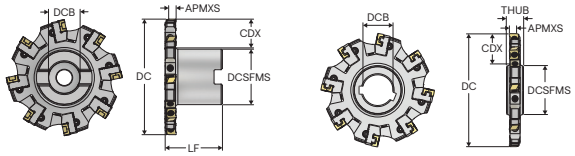
R335.18/335.18 - LNK.05/06 – inch - Half side - Left hand with cassette



—For insert selection and cutting data recommendations, see page(s) 513-514
—For complete insert programme, see page(s) 877-878
—For spare parts and technical information, see page 506-512
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			inch	inch	inch		inch	inch	inch	inch		lbs	
335.18-04.00-0506L	02834738	Arbor hole	4.000	0.197	1.102	8	1.000	1.550	0.154	0.625	9400	0.880	LNK.05
335.18-05.00-0506L	02834739	Arbor hole	5.000	0.197	1.299	10	1.500	2.252	0.154	0.625	8400	1.320	LNK.05
335.18-05.00-0708L	00079776	Arbor hole	5.000	0.236	1.258	10	1.500	2.252	0.117	0.625	8400	1.760	LNK.06
335.18-06.00-0506L	02834740	Arbor hole	6.000	0.197	1.772	12	1.500	2.252	0.154	0.625	7500	1.980	LNK.05
335.18-06.00-0708L	00079777	Arbor hole	6.000	0.236	1.766	12	1.500	2.252	0.117	0.625	7500	2.430	LNK.06
335.18-08.00-XL0506L	02740247	Arbor hole	8.000	0.197	2.421	14	2.000	3.000	0.154	0.625	6700	3.310	LNK.05
335.18-08.00-XL0708L	02740248	Arbor hole	8.000	0.236	2.421	14	2.000	3.000	0.117	0.625	6700	4.190	LNK.06
335.18-10.00-XL0506L	02740528	Arbor hole	10.000	0.197	3.386	18	2.000	3.000	0.154	0.625	6000	5.510	LNK.05
335.18-10.00-XL0708L	02740530	Arbor hole	10.000	0.236	3.386	18	2.000	3.000	0.117	0.625	6000	6.610	LNK.06
335.18-12.00-XL0506L	02740885	Arbor hole	12.000	0.197	4.390	22	2.000	3.000	0.154	0.625	5300	8.160	LNK.05
335.18-12.00-XL0708L	02740887	Arbor hole	12.000	0.236	4.390	22	2.000	3.000	0.117	0.625	5300	9.920	LNK.06
R335.18-04.00-0506L	02834741	Arbor	4.000	0.236	1.024	8	1.000	1.880	1.685	–	9400	1.760	LNK.05
R335.18-04.00-0708L	00079837	Arbor	4.000	0.236	1.014	8	1.000	1.880	1.606	–	9400	2.200	LNK.06
R335.18-05.00-0506L	02834742	Arbor	5.000	0.197	1.339	10	1.250	2.250	1.685	–	8400	2.650	LNK.05
R335.18-05.00-0708L	00079838	Arbor	5.000	0.236	1.329	10	1.250	2.250	1.606	–	8400	3.090	LNK.06
R335.18-06.00-0506L	02834743	Arbor	6.000	0.197	1.575	12	1.500	2.750	1.685	–	7500	3.310	LNK.05
R335.18-06.00-0708L	00079839	Arbor	6.000	0.236	1.534	12	1.500	2.750	1.606	–	7500	3.750	LNK.06
R335.18-08.00-XL0506L	02740907	Arbor	8.000	0.197	2.224	14	1.500	3.500	1.685	–	6700	6.170	LNK.05
R335.18-08.00-XL0708L	02740908	Arbor	8.000	0.236	2.224	14	1.500	3.500	1.606	–	6700	7.050	LNK.06
R335.18-10.00-XL0506L	02741562	Arbor	10.000	0.197	3.209	18	1.500	3.500	1.685	–	6000	8.380	LNK.05
R335.18-10.00-XL0708L	02741564	Arbor	10.000	0.236	3.209	18	1.500	3.500	1.606	–	6000	9.480	LNK.06

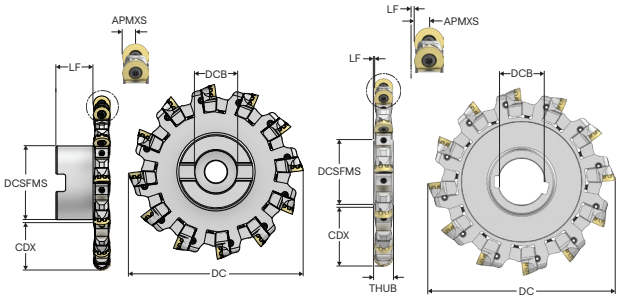
R335.18/335.18 - LNK.08 – inch - Half side - Left hand with cassette



—For insert selection and cutting data recommendations, see page(s) 513-514
—For complete insert programme, see page(s) 878
—For spare parts and technical information, see page 506-512
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			inch	inch	inch		inch	inch	inch	inch		lbs	
335.18-05.00-0809L	00079957	Arbor hole	5.000	0.295	1.285	10	1.500	2.252	0.077	0.625	8400	1.760	LNK.08
335.18-06.00-0809L	00079958	Arbor hole	6.000	0.295	1.790	12	1.500	2.252	0.077	0.625	7500	2.870	LNK.08
335.18-08.00-XL0809L	02740249	Arbor hole	8.000	0.295	2.421	14	2.000	3.000	0.077	0.625	6700	5.070	LNK.08
335.18-10.00-XL0809L	02740531	Arbor hole	10.000	0.295	3.386	18	2.000	3.000	0.077	0.625	6000	8.160	LNK.08
335.18-12.00-XL0809L	02740888	Arbor hole	12.000	0.295	4.390	22	2.000	3.000	0.077	0.625	5300	12.130	LNK.08
R335.18-04.00-0809L	00079973	Arbor	4.000	0.295	1.014	8	1.000	1.880	1.528	–	9400	2.430	LNK.08
R335.18-05.00-0809L	00079974	Arbor	5.000	0.295	1.329	10	1.250	2.250	1.528	–	8400	3.530	LNK.08
R335.18-06.00-0809L	00079975	Arbor	6.000	0.295	1.585	12	1.500	2.750	1.528	–	7500	4.190	LNK.08
R335.18-08.00-XL0809L	02740909	Arbor	8.000	0.295	2.224	14	1.500	3.500	1.528	–	6700	6.610	LNK.08
R335.18-10.00-XL0809L	02741566	Arbor	10.000	0.295	3.209	18	1.500	3.500	1.528	–	6000	11.020	LNK.08

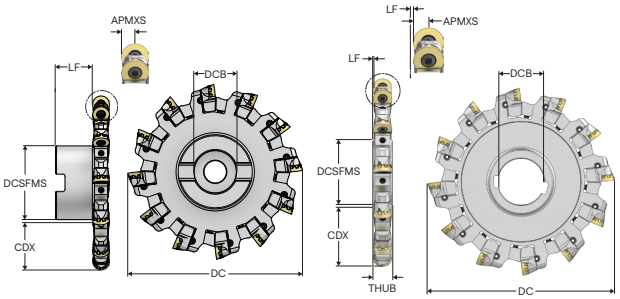
R335.18/335.18 - RD..10T3/RP..1204 – Metric - Half side - Left hand - Radius profile with cassette



–For insert selection and cutting data recommendations, see page(s) 536-541
–For complete insert programme, see page(s) 886, 889
–For spare parts and technical information, see page 506-512
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			mm	mm	mm		mm	mm	mm	mm		kg	
335.18-100.1012.27-8L-R5	00030339	Arbor hole	102,0	5,0	28,2	8	27,0	41,0	2,5	15,0	9400	0,4	RD..10T3
335.18-100.1215.27-8L-R6	00030373	Arbor hole	102,0	6,0	28,2	8	27,0	41,0	1,5	15,0	9400	0,6	RP..1204
335.18-125.1012.40-10L-R5	00030342	Arbor hole	127,0	5,0	33,7	10	40,0	55,0	2,5	15,0	8400	0,8	RD..10T3
335.18-125.1215.40-10L-R6	00030376	Arbor hole	127,0	6,0	33,7	10	40,0	55,0	1,5	15,0	8400	1,1	RP..1204
335.18-160.1012.40-12L-R5	00030345	Arbor hole	162,0	5,0	51,2	12	40,0	55,0	2,5	15,0	7500	11,0	RD..10T3
335.18-160.1215.40-12L-R6	00030380	Arbor hole	162,0	6,0	51,2	12	40,0	55,0	1,5	15,0	7500	1,7	RP..1204
335.18-200.1012XL.50-14L-R5	02713352	Arbor hole	200,0	5,0	63,5	14	50,0	69,0	2,5	15,0	6700	3,0	RD..10T3
335.18-200.1215XL.50-14L-R6	02713354	Arbor hole	200,0	6,0	63,5	14	50,0	69,0	1,5	15,0	6700	1,9	RP..1204
335.18-250.1012XL.50-18L-R5	02713359	Arbor hole	250,0	5,0	88,5	18	50,0	69,0	2,5	15,0	6000	1,9	RD..10T3
335.18-250.1215XL.50-18L-R6	02713360	Arbor hole	250,0	6,0	88,5	18	50,0	69,0	1,5	15,0	6000	2,0	RP..1204
335.18-315.1012XL.50-24L-R5	02713367	Arbor hole	315,0	5,0	121,0	24	50,0	69,0	2,5	15,0	5300	4,6	RD..10T3
335.18-315.1215XL.50-24L-R6	02713368	Arbor hole	315,0	6,0	121,0	24	50,0	69,0	1,5	15,0	5300	2,2	RP..1204
R335.18-080.1012.27-6L-R5	00030354	Arbor	82,0	5,0	15,8	6	27,0	48,0	40,0	–	10500	0,8	RD..10T3
R335.18-080.1215.27-6L-R6	00030408	Arbor	82,0	6,0	15,8	6	27,0	48,0	38,0	–	10500	0,8	RP..1204
R335.18-100.1012.27-8L-R5	00030358	Arbor	102,0	5,0	25,8	8	27,0	48,0	40,0	–	9400	1,0	RD..10T3
R335.18-100.1215.27-8L-R6	00030416	Arbor	102,0	6,0	25,8	8	27,0	48,0	38,0	–	9400	1,2	RP..1204
R335.18-125.1012.32-10L-R5	00030361	Arbor	127,0	5,0	33,3	10	32,0	58,0	42,0	–	8400	1,2	RD..10T3
R335.18-125.1215.32-10L-R6	00030419	Arbor	127,0	6,0	32,3	10	32,0	58,0	38,0	–	8400	1,1	RP..1204
R335.18-160.1012.40-12L-R5	00030366	Arbor	162,0	5,0	44,8	12	40,0	70,0	40,0	–	7500	2,3	RD..10T3
R335.18-160.1215.40-12L-R6	00030422	Arbor	162,0	6,0	44,8	12	40,0	70,0	38,0	–	7500	2,0	RP..1204
R335.18-200.1012XL.40-14L-R5	02713464	Arbor	200,0	5,0	53,5	14	40,0	90,0	40,0	–	6700	2,9	RD..10T3
R335.18-200.1215XL.40-14L-R6	02713465	Arbor	200,0	6,0	53,5	14	40,0	90,0	38,0	–	6700	3,4	RP..1204
R335.18-250.1012XL.40-18L-R5	02713476	Arbor	250,0	5,0	78,0	18	40,0	90,0	40,0	–	6000	9,5	RD..10T3
R335.18-250.1215XL.40-18L-R6	02713478	Arbor	250,0	6,0	78,0	18	40,0	90,0	38,0	–	6000	4,4	RP..1204

R335.18/335.18 - RD..10T3/RP..1204 – inch - Half side - Left hand - Radius profile with cassette



–For insert selection and cutting data recommendations, see page(s) 536-541
–For complete insert programme, see page(s) 886, 889
–For spare parts and technical information, see page 506-512
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			inch	inch	inch		inch	inch	inch	inch		lbs	
335.18-05.00-0809L-R6	02599499	Arbor hole	5.079	0.236	1.324	10	1.500	2.252	0.078	0.625	8400	1.980	RP..12
335.18-06.00-0809L-R6	02599500	Arbor hole	6.079	0.236	1.829	12	1.500	2.252	0.078	0.625	7500	2.870	RP..12
335.18-08.00-XL0708L-R5	02740251	Arbor hole	8.000	0.197	2.421	14	2.000	3.000	0.115	0.625	6700	4.190	RD..10
335.18-08.00-XL0809L-R6	02740252	Arbor hole	8.000	0.236	2.421	14	2.000	3.000	0.078	0.625	6700	5.070	RP..12
335.18-10.00-XL0708L-R5	02740532	Arbor hole	10.000	0.197	3.386	18	2.000	3.000	0.115	0.625	6000	6.610	RD..10
335.18-10.00-XL0809L-R6	02740534	Arbor hole	10.000	0.236	3.386	18	2.000	3.000	0.078	0.625	6000	8.160	RP..12
335.18-12.00-XL0708L-R5	02740889	Arbor hole	12.000	0.197	4.390	22	2.000	3.000	0.115	0.625	5300	9.920	RD..10
335.18-12.00-XL0809L-R6	02740891	Arbor hole	12.000	0.236	4.390	22	2.000	3.000	0.078	0.625	5300	12.130	RP..12
R335.18-04.00-0809L-R6	02599491	Arbor	4.079	0.236	1.063	4	1.000	1.880	1.528	–	9400	2.430	RP..12
R335.18-05.00-0809L-R6	02599492	Arbor	5.079	0.236	1.368	10	1.250	2.250	1.528	–	8400	3.530	RP..12
R335.18-06.00-0809L-R6	02599493	Arbor	6.079	0.236	1.624	12	1.500	2.750	1.528	–	7500	4.190	RP..12
R335.18-08.00-XL0708L-R5	02740910	Arbor	8.000	0.197	2.224	14	1.500	3.500	1.606	–	6700	7.050	RD..10
R335.18-08.00-XL0809L-R6	02740911	Arbor	8.000	0.236	2.224	14	1.500	3.500	1.528	–	6700	7.720	RP..12
R335.18-10.00-XL0708L-R5	02741572	Arbor	10.000	0.197	3.248	18	1.500	3.500	1.606	–	6000	9.480	RD..10
R335.18-10.00-XL0809L-R6	02741574	Arbor	10.000	0.236	3.248	18	1.500	3.500	1.528	–	6000	10.360	RP..12

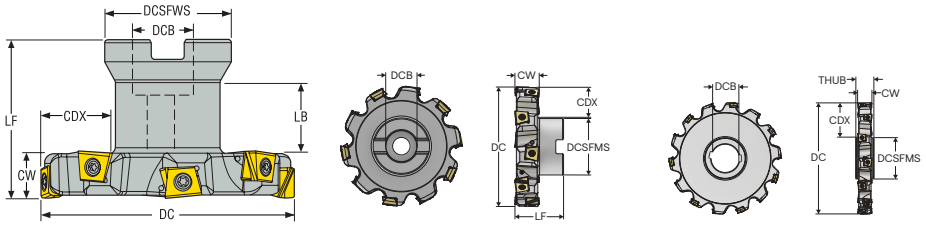


335.25

Easy to use, strong and free-cutting disc milling cutter system dedicated for large width of cut slotting, or half side and face cutting operations

- Width of cut 13.5-32 mm (.512 - 1.25 inch) - slot with flat bottom
- Cutter range diameter 80-315 mm (4.0 - 12 inch)
- Fixed or adjustable cutting width with replaceable cassettes
- Available with Arbor or Arbor hole connection , with through coolant option up to diameter 160mm
- Corner radii range 0.4-6 mm (.016 - 0.236 inch), and possibility to apply round insert dia 16/20 mm on adjustable system
- Economical solution with 4 cutting edges per insert
- Basic tolerance of the slot: Fixed pocket cutters: +/-0.08mm (+/-0.003”),Adjustable cutter: +/-0.07mm (+/-0.0025”)

R335.25/335.25 - XNHQ/LNHQ09/12/14 – Metric - Full side and face - Fixed pocket

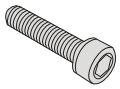
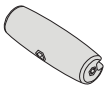
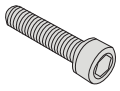


–For insert selection and cutting data recommendations, see page(s) 515–522
–For complete insert programme, see page(s) 913
–For spare parts and technical information, see page 506–512
–For ISO attribute explanation, see page 16

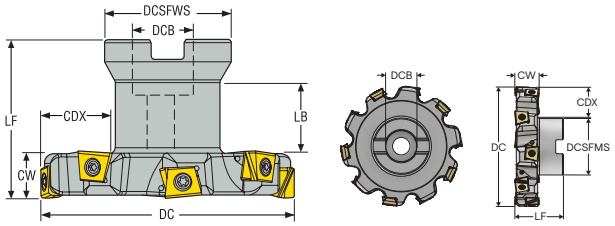
Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	LB	CSP	RPMX	Weight	Insert: First choice	Insert: Alternative choice
			mm	mm	mm			mm	mm	mm	mm	mm			kg		
335.25-160.15.40-7N	02989544	Arbor hole	160,0	15,0	52,0	7	14	40,0	55,0	15,0	15,0	–	–	7200	1,7	XNHQ09…	–
335.25-160.20.40-6N	02961517	Arbor hole	160,0	20,0	51,5	6	12	40,0	55,0	20,0	20,0	–	–	5600	2,3	XNHQ12…	–
335.25-200.15.50-8N	02989545	Arbor hole	200,0	15,0	64,5	8	16	50,0	69,0	15,0	15,0	–	–	6500	2,6	XNHQ09…	–
335.25-200.20.50-7N	02961518	Arbor hole	200,0	20,0	64,3	7	14	50,0	69,0	20,0	20,0	–	–	5100	3,5	XNHQ12…	–
335.25-200.25.50-7N	02788028	Arbor hole	200,0	25,0	62,7	7	14	50,0	71,0	25,0	32,0	–	–	3900	4,3	XNHQ1407…	LNHQ1407…
335.25-250.20.50-9N	02961519	Arbor hole	250,0	20,0	88,5	9	18	50,0	71,0	20,0	20,0	–	–	4600	5,8	XNHQ12…	–
335.25-250.25.50-9N	02788029	Arbor hole	250,0	25,0	87,7	9	18	50,0	71,0	25,0	32,0	–	–	3500	7,3	XNHQ1407…	LNHQ1407…
R335.25-080.15.22-4NA	02989533	Arbor	80,0	15,0	22,7	4	8	22,0	40,0	50,0	–	21,4	■	10200	0,7	XNHQ09…	–
R335.25-100.15.27-5NA	02989535	Arbor	100,0	15,0	25,3	5	10	27,0	48,0	50,0	–	–	■	9200	1,1	XNHQ09…	–
R335.25-100.20.27-4NA	02953594	Arbor	100,0	20,0	25,3	4	8	27,0	48,0	50,0	–	–	■	7200	1,3	XNHQ12…	–
R335.25-125.15.32-6NA	02989541	Arbor	125,0	15,0	32,8	6	12	32,0	58,0	50,0	–	–	■	8200	1,7	XNHQ09…	–
R335.25-125.20.32-5NA	02953595	Arbor	125,0	20,0	32,8	5	10	32,0	58,0	50,0	–	–	■	6500	1,9	XNHQ12…	–
R335.25-125.25.32-5NA	02788023	Arbor	125,0	25,0	33,0	5	10	32,0	58,0	50,0	–	–	■	4900	2,0	XNHQ1407…	LNHQ1407…
R335.25-160.15.40-7NA	02989542	Arbor	160,0	15,0	44,3	7	14	40,0	70,0	50,0	–	–	■	7200	2,4	XNHQ09…	–
R335.25-160.20.40-6NA	02953596	Arbor	160,0	20,0	44,3	6	12	40,0	70,0	50,0	–	–	■	5700	2,9	XNHQ12…	–
R335.25-160.25.40-6NA	02788024	Arbor	160,0	25,0	44,4	6	12	40,0	70,0	50,0	–	–	■	4400	3,1	XNHQ1407…	LNHQ1407…
R335.25-200.15.40-8N	02989543	Arbor	200,0	15,0	54,3	8	16	40,0	90,0	50,0	–	–	–	6500	4,3	XNHQ09…	–
R335.25-200.20.40-7N	02953597	Arbor	200,0	20,0	54,3	7	14	40,0	90,0	50,0	–	–	–	5100	5,1	XNHQ12…	–
R335.25-200.25.40-7N	02788025	Arbor	200,0	25,0	54,5	7	14	40,0	90,0	50,0	–	–	–	3900	5,8	XNHQ1407…	LNHQ1407…
R335.25-250.20.60-9N	02953598	Arbor	250,0	20,0	59,3	9	18	60,0	130,0	50,0	–	–	–	4600	7,2	XNHQ12…	–
R335.25-250.25.60-9N	02788026	Arbor	250,0	25,0	59,5	9	18	60,0	130,0	50,0	–	–	–	3500	8,3	XNHQ1407…	LNHQ1407…

Spare Parts, included in delivery

Accessories

For cutter	Arbor screw	Insert key	Insert screw	Key (T-handle)	Arbor screw	Insert clamping torque	Torque key
							
335.25 CW=15	–	H4B-T10P	C03509-T10P	DOUBLE-T	–	3.0NM	T00-10P30
335.25 CW=20	–	H4B-T10P	C03511-T10P	DOUBLE-T	–	3.0NM	T00-10P30
335.25 CW=25	–	H4B-T15PL	C04013-T15P	DOUBLE-T	–	5.0NM	T00-15P50
R335.25 CW=15 DC=100	MLC6S12X50	H4B-T10P	C03509-T10P	DOUBLE-T	–	3.0NM	T00-10P30
R335.25 CW=15 DC=125	950E1645	H4B-T10P	C03509-T10P	DOUBLE-T	–	3.0NM	T00-10P30
R335.25 CW=15 DC=160	MLC6S20X40	H4B-T10P	C03509-T10P	DOUBLE-T	–	3.0NM	T00-10P30
R335.25 CW=15 DC=200	–	H4B-T10P	C03509-T10P	DOUBLE-T	MC6S12X50	3.0NM	T00-10P30
R335.25 CW=15 DC=80	MLC6S10X45	H4B-T10P	C03509-T10P	DOUBLE-T	–	3.0NM	T00-10P30
R335.25 CW=20 DC=100	MLC6S12X50	H4B-T10P	C03511-T10P	DOUBLE-T	–	3.0NM	T00-10P30
R335.25 CW=20 DC=125	950E1645	H4B-T10P	C03511-T10P	DOUBLE-T	–	3.0NM	T00-10P30
R335.25 CW=20 DC=160	MLC6S20X40	H4B-T10P	C03511-T10P	DOUBLE-T	–	3.0NM	T00-10P30
R335.25 CW=20 DC=200	–	H4B-T10P	C03511-T10P	DOUBLE-T	MC6S12X50	3.0NM	T00-10P30
R335.25 CW=20 DC=250	–	H4B-T10P	C03511-T10P	DOUBLE-T	MC6S16X50	3.0NM	T00-10P30
R335.25 CW=25 DC=125	MLC6S16X35	H4B-T15PL	C04013-T15P	DOUBLE-T	–	5.0NM	T00-15P50
R335.25 CW=25 DC=160	MLC6S20X40	H4B-T15PL	C04013-T15P	DOUBLE-T	–	5.0NM	T00-15P50
R335.25 CW=25 DC=200	–	H4B-T15PL	C04013-T15P	DOUBLE-T	MC6S12X50	5.0NM	T00-15P50
R335.25 CW=25 DC=250	–	H4B-T15PL	C04013-T15P	DOUBLE-T	MC6S16X50	5.0NM	T00-15P50

R335.25/335.25 - XNHQ/LNHQ12/14 – inch - Full side and face - Fixed pocket

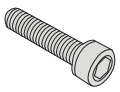
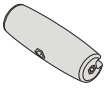


–For insert selection and cutting data recommendations, see page(s) 517-522
–For complete insert programme, see page(s) 913
–For spare parts and technical information, see page 506-512
–For ISO attribute explanation, see page 16

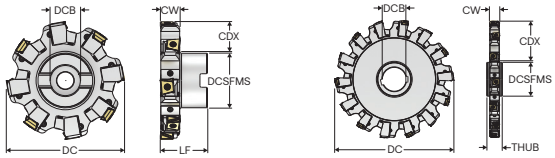
Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	CSP	RPMX	Weight	Insert: First choice	Insert: Alternative choice
			inch	inch	inch			inch	inch	inch	inch			lbs		
335.25-06.00-1.000-6N	02788034	Arbor hole	6.000	1.000	1.846	6	12	1.500	2.252	1.000	1.250	–	4400	5.730	XNHQ14	LNHQ14
335.25-10.00-1.000-9N	02788036	Arbor hole	10.000	1.000	3.429	9	18	2.000	3.000	1.000	1.250	–	3500	18.080	XNHQ14	LNHQ14
R335.25-05.00-0.75-5NA	02989512	Arbor	5.000	0.750	1.331	5	10	1.250	2.283	2.000	–	■	6500	4.410	XNHQ12	–
R335.25-05.00-1.000-5NA	02788030	Arbor	5.000	1.000	1.350	5	10	1.250	2.250	2.000	–	■	4900	4.630	XNHQ14	LNHQ14
R335.25-06.00-0.75-6NA	02989513	Arbor	6.000	0.750	1.595	6	12	1.500	2.756	2.000	–	■	5700	6.170	XNHQ12	–
R335.25-06.00-1.000-6NA	02788031	Arbor	6.000	1.000	1.598	6	12	1.500	2.750	2.000	–	■	4400	6.390	XNHQ14	LNHQ14
R335.25-08.00-1.000-7N	02788032	Arbor	8.000	1.000	2.224	7	14	1.500	3.500	2.000	–	–	3900	11.680	XNHQ14	LNHQ14

Spare Parts, included in delivery

Accessories

For cutter	Arbor screw	Insert key	Insert screw	Key (T-handle)	Insert clamping torque	Torque key
						
335.25 CW 1.000	–	H4B-T15PL	C04013-T15P	DOUBLE-T	5.0NM	T00-15P50
R335.25 CW 0.750 DC=5.000	ULC6S5/8UNFX11/2	H4B-T10P	C03511-T10P	–	3.0NM	T00-10P30
R335.25 CW 0.750 DC=6.000	ULC6S3/4UNFX11/2	H4B-T10P	C03511-T10P	–	3.0NM	T00-10P30
R335.25 CW 1.000 DC=5.000	ULC6S5/8UNFX11/2	H4B-T15PL	C04013-T15P	DOUBLE-T	5.0NM	T00-15P50
R335.25 CW 1.000 DC=6.000	ULC6S5/8UNFX11/2	H4B-T15PL	C04013-T15P	DOUBLE-T	5.0NM	T00-15P50
R335.25 CW 1.000 DC=8.000	–	H4B-T15PL	C04013-T15P	DOUBLE-T	5.0NM	T00-15P50

R335.25/335.25 - Insert XNHQ09/12 – Metric - Full side and face - Adjustable design

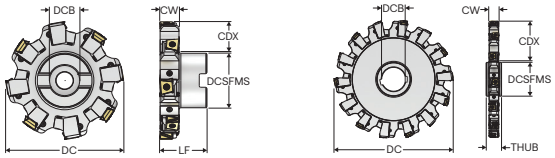


—For insert selection and cutting data recommendations, see page(s) 515-522
—For complete insert programme, see page(s) 913
—For spare parts and technical information, see page 506-512
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			mm	mm	mm	mm			mm	mm	mm	mm		kg	
335.25-125.1317.40-4N	02993731	Arbor hole	125,0	13,5	17,0	32,9	4	8	40,0	55,0	15,25	17,0	8200	0,9	XNHQ09..
335.25-125.1721.40-4N	02993720	Arbor hole	125,0	17,0	21,0	32,9	4	8	40,0	55,0	19,0	21,0	8200	1,2	XNHQ12..
335.25-160.1317.40-6N	02993732	Arbor hole	160,0	13,5	17,0	50,5	6	12	40,0	55,0	15,25	17,0	7200	1,5	XNHQ09..
335.25-160.1721.40-5N	02993721	Arbor hole	160,0	17,0	21,0	50,5	5	10	40,0	55,0	19,0	21,0	7200	1,9	XNHQ12..
335.25-200.1317.50-7N	02993733	Arbor hole	200,0	13,5	17,0	63,5	7	14	50,0	69,0	15,25	17,0	6500	2,5	XNHQ09..
335.25-200.1721.50-6N	02993722	Arbor hole	200,0	17,0	21,0	63,5	6	12	50,0	69,0	19,0	21,0	5100	3,2	XNHQ12..
335.25-250.1317XL.50-8N	02993734	Arbor hole	250,0	13,5	17,0	88,5	8	16	50,0	69,0	15,25	17,0	5800	3,9	XNHQ09..
335.25-250.1721XL.50-8N	02993723	Arbor hole	250,0	17,0	21,0	88,5	8	16	50,0	69,0	19,0	21,0	5800	4,9	XNHQ12..
335.25-315.1317XL.50-10N	02993735	Arbor hole	315,0	13,5	17,0	121,0	10	20	50,0	69,0	15,25	17,0	5200	6,5	XNHQ09..
335.25-315.1721XL.50-10N	02993724	Arbor hole	315,0	17,0	21,0	121,0	10	20	50,0	69,0	19,0	21,0	5200	8,2	XNHQ12..
R335.25-100.1317.27-3N	02993725	Arbor	100,0	13,5	17,0	24,8	3	6	27,0	48,0	50,0	–	9200	1,0	XNHQ09..
R335.25-100.1721.27-3N	02993714	Arbor	100,0	17,0	21,0	24,8	3	6	27,0	48,0	50,0	–	7200	1,1	XNHQ12..
R335.25-125.1317.32-4N	02993726	Arbor	125,0	13,5	17,0	32,3	4	8	32,0	58,0	50,0	–	8200	1,4	XNHQ09..
R335.25-125.1721.32-4N	02993715	Arbor	125,0	17,0	21,0	32,3	4	8	32,0	58,0	50,0	–	6500	1,6	XNHQ12..
R335.25-160.1317.40-6N	02993727	Arbor	160,0	13,5	17,0	43,8	6	12	40,0	70,0	50,0	–	7200	2,3	XNHQ09..
R335.25-160.1721.40-5N	02993716	Arbor	160,0	17,0	21,0	43,8	5	10	40,0	70,0	50,0	–	5700	2,7	XNHQ12..
R335.25-200.1317.40-7N	02993728	Arbor	200,0	13,5	17,0	54,0	7	14	40,0	90,0	50,0	–	6500	3,6	XNHQ09..
R335.25-200.1721.40-6N	02993717	Arbor	200,0	17,0	21,0	54,0	6	12	40,0	90,0	50,0	–	5100	4,1	XNHQ12..
R335.25-250.1317XL.60-8N	02993729	Arbor	250,0	13,5	17,0	59,0	8	16	60,0	130,0	50,0	–	5800	6,0	XNHQ09..
R335.25-250.1721XL.60-8N	02993718	Arbor	250,0	17,0	21,0	59,0	8	16	60,0	130,0	50,0	–	4600	6,7	XNHQ12..
R335.25-315.1317XL.60-10N	02993730	Arbor	315,0	13,5	17,0	91,5	10	20	60,0	130,0	50,0	–	5200	9,0	XNHQ09..
R335.25-315.1721XL.60-10N	02993719	Arbor	315,0	17,0	21,0	91,5	10	20	60,0	130,0	50,0	–	4100	10,0	XNHQ12..

All listed adjustable cutters are set to the minimum cutter width CWN (factory setting).
Adjustable cutter may be ordered with the cutting width set to any value within its range (CWN - CWX), see technical data for more info at page 506

R335.25/335.25 - XNHQ/LNHQ14/17 – Metric - Full side and face - Adjustable design

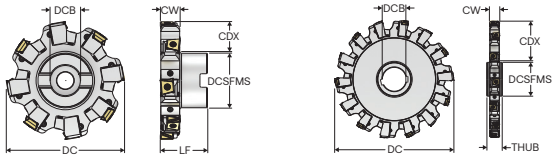


—For insert selection and cutting data recommendations, see page(s) 519–522
—For complete insert programme, see page(s) 913
—For spare parts and technical information, see page 506–512
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert: First choice	Insert: Alternative choice
			mm	mm	mm	mm			mm	mm	mm	mm		kg		
335.25-125.2126.40-4N	02814599	Arbor hole	125,0	21,0	26,0	32,7	4	8	40,0	55,0	26,5	32,0	4900	1,3	XNHQ1407...	LNHQ1407...
335.25-160.2126.40-5N	02814603	Arbor hole	160,0	21,0	26,0	50,3	5	10	40,0	55,0	26,5	32,0	4400	2,3	XNHQ1407...	LNHQ1407...
335.25-160.2632.40-5N	02829065	Arbor hole	160,0	26,0	32,0	50,3	5	10	40,0	55,0	29,0	32,0	4600	3,0	XNHQ1707...	LNHQ1707...
335.25-200.2126.50-6N	02814607	Arbor hole	200,0	21,0	26,0	63,3	6	12	50,0	69,0	26,5	32,0	3900	3,9	XNHQ1407...	LNHQ1407...
335.25-200.2632.50-6N	02827441	Arbor hole	200,0	26,0	32,0	63,3	6	12	50,0	69,0	29,0	32,0	4100	4,8	XNHQ1707...	LNHQ1707...
335.25-250.2126XL.50-7N	02814611	Arbor hole	250,0	21,0	26,0	88,3	7	14	50,0	69,0	26,5	32,0	3500	6,0	XNHQ1407...	LNHQ1407...
335.25-250.2632XL.50-7N	02827445	Arbor hole	250,0	26,0	32,0	88,3	7	14	50,0	69,0	29,0	32,0	3700	7,4	XNHQ1707...	LNHQ1707...
335.25-315.2126XL.60-9N	02814615	Arbor hole	315,0	21,0	26,0	113,3	9	18	60,0	84,0	26,5	32,0	3100	10,0	XNHQ1407...	LNHQ1407...
335.25-315.2632XL.60-9N	02827449	Arbor hole	315,0	26,0	32,0	113,3	9	18	60,0	84,0	29,0	32,0	3300	12,3	XNHQ1707...	LNHQ1707...
R335.25-125.2126.32-4N	02814578	Arbor	125,0	21,0	26,0	32,3	4	8	32,0	58,0	50,0	–	4900	1,7	XNHQ1407...	LNHQ1407...
R335.25-160.2126.40-5N	02814582	Arbor	160,0	21,0	26,0	43,8	5	10	40,0	70,0	50,0	–	4400	2,9	XNHQ1407...	LNHQ1407...
R335.25-160.2632.40-5N	02827411	Arbor	160,0	26,0	32,0	43,8	5	10	40,0	70,0	50,0	–	4600	3,4	XNHQ1707...	LNHQ1707...
R335.25-200.2126.40-6N	02814586	Arbor	200,0	21,0	26,0	54,0	6	12	40,0	90,0	50,0	–	3900	4,6	XNHQ1407...	LNHQ1407...
R335.25-200.2632.40-6N	02827415	Arbor	200,0	26,0	32,0	54,0	6	12	40,0	90,0	50,0	–	4100	5,3	XNHQ1707...	LNHQ1707...
R335.25-250.2126XL.60-7N	02814590	Arbor	250,0	21,0	26,0	59,0	7	14	60,0	130,0	50,0	–	3500	7,3	XNHQ1407...	LNHQ1407...
R335.25-250.2632XL.60-7N	02827419	Arbor	250,0	26,0	32,0	59,0	7	14	60,0	130,0	50,0	–	3700	8,4	XNHQ1707...	LNHQ1707...
R335.25-315.2126XL.60-9N	02814594	Arbor	315,0	21,0	26,0	91,5	9	18	60,0	130,0	50,0	–	3100	11,3	XNHQ1407...	LNHQ1407...
R335.25-315.2632XL.60-9N	02827423	Arbor	315,0	26,0	32,0	91,5	9	18	60,0	130,0	50,0	–	3300	13,4	XNHQ1707...	LNHQ1707...

All listed adjustable cutters are set to the minimum cutter width CWN (factory setting).
Adjustable cutter may be ordered with the cutting width set to any value within its range (CWN - CWX), see technical data for more info at page 506

R335.25/335.25 - XNHQ09/12 – inch - Full side and face - Adjustable design

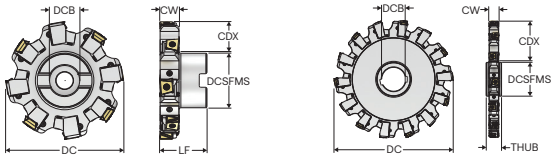


—For insert selection and cutting data recommendations, see page(s) 515–518
—For complete insert programme, see page(s) 913
—For spare parts and technical information, see page 506–512
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			inch	inch	inch	inch			inch	inch	inch	inch		lbs	
335.25-05.00-0911N	02993931	Arbor hole	5.000	0.531	0.669	1.289	4	8	1.500	2.250	0.641	0.750	8200	1.980	XNHQ09
335.25-05.00-1113N	02993881	Arbor hole	5.000	0.669	0.827	1.289	4	8	1.500	2.250	0.835	1.000	6500	2.650	XNHQ12
335.25-06.00-0911N	02993935	Arbor hole	6.000	0.531	0.669	1.795	5	10	1.500	2.250	0.641	0.750	7200	3.750	XNHQ09
335.25-06.00-1113N	02993885	Arbor hole	6.000	0.669	0.827	1.795	5	10	1.500	2.250	0.835	1.000	5700	4.630	XNHQ12
335.25-08.00-0911N	02993939	Arbor hole	8.000	0.531	0.669	2.420	7	14	2.000	3.000	0.641	0.750	6500	5.950	XNHQ09
335.25-08.00-1113N	02993889	Arbor hole	8.000	0.669	0.827	2.420	6	12	2.000	3.000	0.835	1.000	5100	9.920	XNHQ12
335.25-10.00-XL0911N	02993943	Arbor hole	10.000	0.531	0.669	3.420	8	16	2.000	3.000	0.641	0.750	5800	9.040	XNHQ09
335.25-10.00-XL1113N	02993893	Arbor hole	10.000	0.669	0.827	3.420	8	16	2.000	3.000	0.835	1.000	4600	13.890	XNHQ12
335.25-12.00-XL0911N	02993947	Arbor hole	12.000	0.531	0.669	4.460	10	20	2.000	3.000	0.641	0.750	5200	16.530	XNHQ09
335.25-12.00-XL1113N	02993897	Arbor hole	12.000	0.669	0.827	4.420	10	20	2.000	3.000	0.835	1.000	4100	17.200	XNHQ12
R335.25-04.00-0911N	02993907	Arbor	4.000	0.531	0.669	1.014	3	6	1.000	1.880	2.000	–	9200	2.870	XNHQ09
R335.25-04.00-1113N	02993850	Arbor	4.000	0.669	0.827	1.014	3	6	1.000	1.880	2.000	–	7200	2.870	XNHQ12
R335.25-05.00-0911N	02993911	Arbor	5.000	0.531	0.669	1.329	4	8	1.250	2.250	2.000	–	8200	3.970	XNHQ09
R335.25-05.00-1113N	02993854	Arbor	5.000	0.669	0.827	1.329	4	8	1.250	2.250	2.000	–	6500	4.410	XNHQ12
R335.25-06.00-0911N	02993915	Arbor	6.000	0.531	0.669	1.579	5	10	1.500	2.750	2.000	–	7200	4.850	XNHQ09
R335.25-06.00-1113N	02993858	Arbor	6.000	0.669	0.827	1.579	5	10	1.500	2.750	2.000	–	5700	5.730	XNHQ12
R335.25-08.00-0911N	02993919	Arbor	8.000	0.531	0.669	2.210	7	14	1.500	3.500	2.000	–	6500	9.260	XNHQ09
R335.25-08.00-1113N	02993862	Arbor	8.000	0.669	0.827	2.210	6	12	1.500	3.500	2.000	–	5100	10.800	XNHQ12
R335.25-10.00-XL0911N	02993923	Arbor	10.000	0.531	0.669	2.400	8	16	2.500	5.120	2.000	–	5800	13.450	XNHQ09
R335.25-10.00-XL1113N	02993866	Arbor	10.000	0.669	0.827	2.400	8	16	2.500	5.120	2.000	–	4600	15.210	XNHQ12
R335.25-12.00-XL0911N	02993927	Arbor	12.000	0.531	0.669	3.400	10	20	2.500	5.120	2.000	–	5200	17.860	XNHQ09
R335.25-12.00-XL1113N	02993870	Arbor	12.000	0.669	0.827	3.400	10	20	2.500	5.120	2.000	–	4100	20.940	XNHQ12

All listed adjustable cutters are set to the minimum cutter width CWN (factory setting).
Adjustable cutter may be ordered with the cutting width set to any value within its range (CWN - CWX), see technical data for more info at page 506

R335.25/335.25 - XNHQ/LNHQ14/17 – inch - Full side and face - Adjustable design

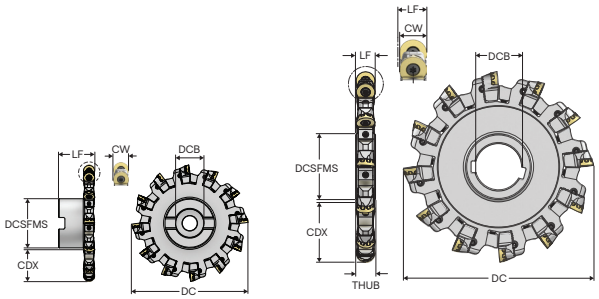


—For insert selection and cutting data recommendations, see page(s) 519-522
—For complete insert programme, see page(s) 913
—For spare parts and technical information, see page 506-512
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert: First choice	Insert: Alternative choice
			inch	inch	inch	inch			inch	inch	inch	inch		lbs		
335.25-05.00-1316N	02814639	Arbor hole	5.000	0.827	1.024	1.291	4	8	1.500	2.250	1.038	1.250	4900	3.090	XNHQ14	LNHQ14
335.25-06.00-1316N	02814643	Arbor hole	6.000	0.827	1.024	1.791	5	10	1.500	2.250	1.038	1.250	4500	4.630	XNHQ14	LNHQ14
335.25-06.00-1620N	02827735	Arbor hole	6.000	1.024	1.260	1.791	5	10	1.500	2.250	1.137	1.250	4700	5.730	XNHQ17	LNHQ17
335.25-08.00-1316N	02814647	Arbor hole	8.000	0.827	1.024	2.413	6	12	2.000	3.000	1.038	1.250	3900	9.040	XNHQ14	LNHQ14
335.25-08.00-1620N	02827740	Arbor hole	8.000	1.024	1.260	2.413	6	12	2.000	3.000	1.137	1.250	4100	11.020	XNHQ17	LNHQ17
335.25-10.00-XL1316N	02814651	Arbor hole	10.000	0.827	1.024	3.413	7	14	2.000	3.000	1.038	1.250	3500	13.890	XNHQ14	LNHQ14
335.25-10.00-XL1620N	02827744	Arbor hole	10.000	1.024	1.260	3.413	7	14	2.000	3.000	1.137	1.250	3600	16.980	XNHQ17	LNHQ17
335.25-12.00-XL1316N	02814655	Arbor hole	12.000	0.827	1.024	4.413	9	18	2.000	3.000	1.038	1.250	3200	20.500	XNHQ14	LNHQ14
335.25-12.00-XL1620N	02827748	Arbor hole	12.000	1.024	1.260	4.413	9	18	2.000	3.000	1.137	1.250	3300	25.350	XNHQ17	LNHQ17
R335.25-05.00-1316N	02814619	Arbor	5.000	0.827	1.024	1.327	4	8	1.250	2.250	2.000	–	4900	3.970	XNHQ14	LNHQ14
R335.25-06.00-1316N	02814623	Arbor	6.000	0.827	1.024	1.579	5	10	1.500	2.750	2.000	–	4500	5.950	XNHQ14	LNHQ14
R335.25-06.00-1620N	02827713	Arbor	6.000	1.024	1.260	1.579	5	10	1.500	2.750	2.000	–	4700	6.830	XNHQ17	LNHQ17
R335.25-08.00-1316N	02814627	Arbor	8.000	0.827	1.024	2.209	6	12	1.500	3.500	2.000	–	3900	10.800	XNHQ14	LNHQ14
R335.25-08.00-1620N	02827717	Arbor	8.000	1.024	1.260	2.209	6	12	1.500	3.500	2.000	–	4100	12.570	XNHQ17	LNHQ17
R335.25-10.00-XL1316N	02814631	Arbor	10.000	0.827	1.024	2.402	7	14	2.500	5.118	2.000	–	3500	16.530	XNHQ14	LNHQ14
R335.25-10.00-XL1620N	02827721	Arbor	10.000	1.024	1.260	2.402	7	14	2.500	5.118	2.000	–	3600	18.960	XNHQ17	LNHQ17
R335.25-12.00-XL1316N	02814635	Arbor	12.000	0.827	1.024	3.402	9	18	2.500	5.118	2.000	–	3200	23.150	XNHQ14	LNHQ14
R335.25-12.00-XL1620N	02827725	Arbor	12.000	1.024	1.260	3.402	9	18	2.500	5.118	2.000	–	3300	27.120	XNHQ17	LNHQ17

All listed adjustable cutters are set to the minimum cutter width CWN (factory setting).
Adjustable cutter may be ordered with the cutting width set to any value within its range (CWN - CWX), see technical data for more info at page 506

R335.25/335.25 - RP..1605/RP..2006 – Metric - full side - radius profile - Adjustable design

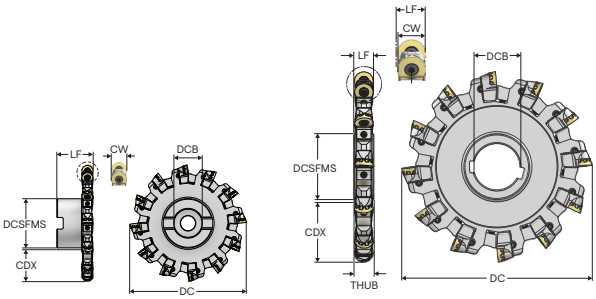


—For insert selection and cutting data recommendations, see page(s) 542-547
—For complete insert programme, see page(s) 891
—For spare parts and technical information, see page 506-512
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			mm	mm	mm	mm			mm	mm	mm	mm		kg	
335.25-125.1317.40-4N-R8	02993833	Arbor hole	130,0	16,03	17,0	36,0	4	8	40,0	55,0	16,52	17,0	8200	1,0	RP..1605
335.25-160.1317.40-6N-R8	02993836	Arbor hole	165,0	16,03	17,0	53,5	6	12	40,0	55,0	16,52	17,0	7200	1,5	RP..1605
335.25-200.1317.50-7N-R8	02993839	Arbor hole	205,0	16,03	17,0	66,5	7	14	50,0	69,0	16,52	17,0	6500	2,4	RP..1605
335.25-250.1317XL.50-8N-R8	02993842	Arbor hole	255,0	16,03	17,0	91,5	8	16	50,0	69,0	16,52	17,0	5800	5,2	RP..1605
335.25-250.1721XL.50-8N-R10I	10296551	Arbor hole	255,0	20,03	21,0	91,5	8	16	50,0	69,0	20,52	21,0	4600	5,5	RP..2006
335.25-315.1317XL.50-10N-R8	02993845	Arbor hole	320,0	16,03	17,0	124,0	10	20	50,0	69,0	16,52	17,0	5200	6,5	RP..1605
335.25-315.1721XL.50-10N-R10I	10296552	Arbor hole	320,0	20,03	21,0	124,1	10	20	50,0	69,0	20,52	21,0	4100	7,0	RP..2006
R335.25-100.1317.27-3N-R8	02993815	Arbor	105,0	16,03	17,0	28,0	3	6	27,0	48,0	51,265	–	9200	1,0	RP..1605
R335.25-125.1317.32-4N-R8	02993818	Arbor	130,0	16,03	17,0	35,5	4	8	32,0	58,0	51,265	–	8200	1,4	RP..1605
R335.25-160.1317.40-6N-R8	02993821	Arbor	165,0	16,03	17,0	47,0	6	12	40,0	70,0	51,265	–	7200	2,3	RP..1605
R335.25-200.1317.40-7N-R8	02993824	Arbor	205,0	16,03	17,0	57,0	7	14	40,0	90,0	51,265	–	6500	4,0	RP..1605
R335.25-250.1317XL.60-8N-R8	02993827	Arbor	255,0	16,03	17,0	62,0	8	16	60,0	130,0	51,265	–	5800	10,3	RP..1605
R335.25-250.1721XL.60-8N-R10I	10296553	Arbor	255,0	20,03	21,0	62,0	8	16	60,0	130,0	51,515	–	4600	6,8	RP..2006
R335.25-315.1317XL.60-10N-R8	02993830	Arbor	320,0	16,03	17,0	94,5	10	20	60,0	130,0	51,265	–	5200	8,6	RP..1605
R335.25-315.1721XL.60-10N-R10I	10296554	Arbor	320,0	20,03	21,0	94,5	10	20	60,0	130,0	51,515	–	4100	8,8	RP..2006

All listed adjustable cutters are set to the minimum cutter width CWN (factory setting).
Adjustable cutter may be ordered with the cutting width set to any value within its range (CWN - CWX), see technical data for more info at page 506

R335.25/335.25 - RP..1605/RP..2006 – inch - full side - radius profile - Adjustable design

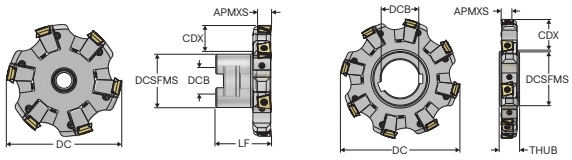


—For insert selection and cutting data recommendations, see page(s) 542-547
—For complete insert programme, see page(s) 891
—For spare parts and technical information, see page 506-512
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			inch	inch	inch	inch			inch	inch	inch	inch		lbs	
335.25-05.00-0911N-R8	02993969	Arbor hole	5.197	0.631	0.669	1.415	4	8	1.500	2.250	0.691	0.750	8200	2.200	RP..1605
335.25-06.00-0911N-R8	02993972	Arbor hole	6.197	0.631	0.669	1.914	5	10	1.500	2.250	0.691	0.750	7200	3.090	RP..1605
335.25-08.00-0911N-R8	02993975	Arbor hole	8.197	0.631	0.669	2.539	7	14	2.000	3.000	0.691	0.750	6500	5.730	RP..1605
335.25-10.00-XL0911N-R8	02993978	Arbor hole	10.197	0.631	0.669	3.539	8	16	2.000	3.000	0.691	0.750	5800	9.260	RP..1605
335.25-10.00-XL1113N-R10I	10296555	Arbor hole	10.197	0.789	0.827	3.539	8	16	2.000	3.000	0.894	1.000	4600	9.480	RP..2006
335.25-12.00-XL0911N-R8	02993981	Arbor hole	12.197	0.631	0.669	4.579	10	20	2.000	3.000	0.691	0.750	5200	13.450	RP..1605
335.25-12.00-XL1113N-R10I	10296556	Arbor hole	12.197	0.789	0.827	4.539	10	20	2.000	3.000	0.894	1.000	4100	17.200	RP..2006
R335.25-04.00-0911N-R8	02993951	Arbor	4.197	0.631	0.669	1.139	3	6	1.000	1.880	2.050	–	9200	2.200	RP..1605
R335.25-05.00-0911N-R8	02993954	Arbor	5.197	0.631	0.669	1.454	4	8	1.250	2.250	2.050	–	8200	3.970	RP..1605
R335.25-06.00-0911N-R8	02993957	Arbor	6.197	0.631	0.669	1.704	5	10	1.500	2.750	2.050	–	7200	6.170	RP..1605
R335.25-08.00-0911N-R8	02993960	Arbor	8.197	0.631	0.669	2.329	7	14	1.500	3.500	2.050	–	6500	8.380	RP..1605
R335.25-10.00-XL0911N-R8	02993963	Arbor	10.197	0.631	0.669	2.519	8	16	2.500	5.120	2.050	–	5800	13.670	RP..1605
R335.25-10.00-XL1113N-R10I	10296557	Arbor	10.197	0.789	0.827	2.520	8	16	2.500	5.120	2.060	–	4600	13.670	RP..2006
R335.25-12.00-XL0911N-R8	02993966	Arbor	12.197	0.631	0.669	3.519	10	20	2.500	5.120	2.050	–	5200	31.530	RP..1605
R335.25-12.00-XL1113N-R10I	10296558	Arbor	12.197	0.789	0.827	3.520	10	20	2.500	5.120	2.060	–	4100	18.740	RP..2006

All listed adjustable cutters are set to the minimum cutter width CWN (factory setting).
Adjustable cutter may be ordered with the cutting width set to any value within its range (CWN - CWX), see technical data for more info at page 506

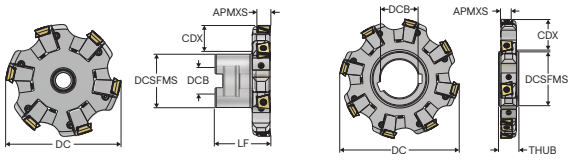
R335.25/335.25 - XNHQ09/12 – Metric - Half side - Right hand with cassette



—For insert selection and cutting data recommendations, see page(s) 515–518
—For complete insert programme, see page(s) 913
—For spare parts and technical information, see page 506–512
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			mm	mm	mm		mm	mm	mm	mm		kg	
335.25-125.1317.40-8R	02993801	Arbor hole	125,0	8,5	32,9	8	40,0	55,0	15,25	17,0	8200	0,9	XNHQ09..
335.25-125.1721.40-8R	02993761	Arbor hole	125,0	11,0	32,9	8	40,0	55,0	19,0	21,0	6500	1,0	XNHQ12..
335.25-160.1317.40-12R	02993804	Arbor hole	160,0	8,5	50,5	12	40,0	55,0	15,25	17,0	7200	1,5	XNHQ09..
335.25-160.1721.40-10R	02993764	Arbor hole	160,0	11,0	50,5	10	40,0	55,0	19,0	21,0	5700	1,9	XNHQ12..
335.25-200.1317.50-14R	02993807	Arbor hole	200,0	8,5	63,5	14	50,0	69,0	15,25	17,0	6500	3,1	XNHQ09..
335.25-200.1721.50-12R	02993767	Arbor hole	200,0	11,0	63,5	12	50,0	69,0	19,0	21,0	5100	3,1	XNHQ12..
335.25-250.1317XL.50-16R	02993810	Arbor hole	250,0	8,5	88,5	16	50,0	69,0	15,25	17,0	5800	3,8	XNHQ09..
335.25-250.1721XL.50-16R	02993770	Arbor hole	250,0	11,0	88,5	16	50,0	69,0	19,0	21,0	4600	8,2	XNHQ12..
335.25-315.1317XL.50-20R	02993813	Arbor hole	315,0	8,5	121,0	20	50,0	69,0	15,25	17,0	5200	6,5	XNHQ09..
335.25-315.1721XL.50-20R	02993773	Arbor hole	315,0	11,0	121,0	20	50,0	69,0	19,0	21,0	4100	8,5	XNHQ12..
R335.25-100.1317.27-6R	02993783	Arbor	100,0	8,5	24,8	6	27,0	48,0	50,0	–	9200	1,2	XNHQ09..
R335.25-100.1721.27-6R	02993737	Arbor	100,0	11,0	24,8	6	27,0	48,0	50,0	–	7200	1,1	XNHQ12..
R335.25-125.1317.32-8R	02993786	Arbor	125,0	8,5	32,3	8	32,0	58,0	50,0	–	8200	1,4	XNHQ09..
R335.25-125.1721.32-8R	02993740	Arbor	125,0	11,0	32,3	8	32,0	58,0	50,0	–	6500	1,7	XNHQ12..
R335.25-160.1317.40-12R	02993789	Arbor	160,0	8,5	43,8	12	40,0	70,0	50,0	–	7200	2,8	XNHQ09..
R335.25-160.1721.40-10R	02993743	Arbor	160,0	11,0	43,8	10	40,0	70,0	50,0	–	5700	3,2	XNHQ12..
R335.25-200.1317.40-14R	02993792	Arbor	200,0	8,5	54,0	14	40,0	90,0	50,0	–	6500	3,7	XNHQ09..
R335.25-200.1721.40-12R	02993746	Arbor	200,0	11,0	54,0	12	40,0	90,0	50,0	–	5100	4,1	XNHQ12..
R335.25-250.1317XL.60-16R	02993795	Arbor	250,0	8,5	59,0	16	60,0	130,0	50,0	–	5800	6,0	XNHQ09..
R335.25-250.1721XL.60-16R	02993749	Arbor	250,0	11,0	59,0	16	60,0	130,0	50,0	–	4600	11,5	XNHQ12..
R335.25-315.1317XL.60-20R	02993798	Arbor	315,0	8,5	91,5	20	60,0	130,0	50,0	–	5200	8,5	XNHQ09..
R335.25-315.1721XL.60-20R	02993752	Arbor	315,0	11,0	91,5	20	60,0	130,0	50,0	–	4100	16,4	XNHQ12..

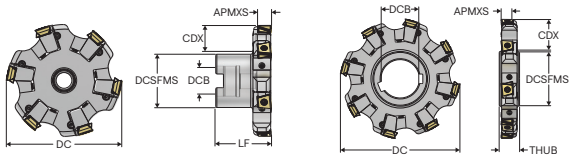
R335.25/335.25 - XNHQ/LNHQ14/17 – Metric - Half side - Right hand with cassette



–For insert selection and cutting data recommendations, see page(s) 519–522
–For complete insert programme, see page(s) 913
–For spare parts and technical information, see page 506–512
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert: First choice	Insert: Alternative choice
			mm	mm	mm			mm	mm	mm	mm		kg		
335.25-125.2126.40-8R	02814601	Arbor hole	125,0	13,0	32,7	8	8	40,0	55,0	26,5	32,0	4900	1,3	XNHQ1407...	LNHQ1407...
335.25-160.2126.40-10R	02814605	Arbor hole	160,0	13,0	50,3	10	10	40,0	55,0	26,5	32,0	4400	2,3	XNHQ1407...	LNHQ1407...
335.25-160.2632.40-10R	02829067	Arbor hole	160,0	16,0	50,3	10	10	40,0	55,0	29,0	32,0	4600	2,9	XNHQ1707...	LNHQ1707...
335.25-200.2126.50-12R	02814609	Arbor hole	200,0	13,0	63,3	12	12	50,0	69,0	26,5	32,0	3900	3,9	XNHQ1407...	LNHQ1407...
335.25-200.2632.50-12R	02827443	Arbor hole	200,0	16,0	63,3	12	12	50,0	69,0	29,0	32,0	4100	5,2	XNHQ1707...	LNHQ1707...
335.25-250.2126XL.50-14R	02814613	Arbor hole	250,0	13,0	88,3	14	14	50,0	69,0	26,5	32,0	3500	6,0	XNHQ1407...	LNHQ1407...
335.25-250.2632XL.50-14R	02827447	Arbor hole	250,0	16,0	88,3	14	14	50,0	69,0	29,0	32,0	3700	7,4	XNHQ1707...	LNHQ1707...
335.25-315.2126XL.60-18R	02814617	Arbor hole	315,0	13,0	113,3	18	18	60,0	84,0	26,5	32,0	3100	10,0	XNHQ1407...	LNHQ1407...
335.25-315.2632XL.60-18R	02827451	Arbor hole	315,0	16,0	113,3	18	18	60,0	84,0	29,0	32,0	3300	12,3	XNHQ1707...	LNHQ1707...
R335.25-125.2126.32-8R	02814580	Arbor	125,0	13,0	32,3	8	8	32,0	58,0	50,0	–	4900	1,7	XNHQ1407...	LNHQ1407...
R335.25-160.2126.40-10R	02814584	Arbor	160,0	13,0	43,8	10	10	40,0	70,0	50,0	–	4400	2,9	XNHQ1407...	LNHQ1407...
R335.25-160.2632.40-10R	02827413	Arbor	160,0	16,0	43,8	10	10	40,0	70,0	50,0	–	4600	3,4	XNHQ1707...	LNHQ1707...
R335.25-200.2126.40-12R	02814588	Arbor	200,0	13,0	54,0	12	12	40,0	90,0	50,0	–	3900	4,6	XNHQ1407...	LNHQ1407...
R335.25-200.2632.40-12R	02827417	Arbor	200,0	16,0	54,0	12	12	40,0	90,0	50,0	–	4100	5,4	XNHQ1707...	LNHQ1707...
R335.25-250.2126XL.60-14R	02814592	Arbor	250,0	13,0	59,0	14	14	60,0	130,0	50,0	–	3500	7,3	XNHQ1407...	LNHQ1407...
R335.25-250.2632XL.60-14R	02827421	Arbor	250,0	16,0	59,0	14	14	60,0	130,0	50,0	–	3700	8,4	XNHQ1707...	LNHQ1707...
R335.25-315.2126XL.60-18R	02814597	Arbor	315,0	13,0	91,5	18	18	60,0	130,0	50,0	–	3100	11,3	XNHQ1407...	LNHQ1407...
R335.25-315.2632XL.60-18R	02827425	Arbor	315,0	16,0	91,5	18	18	60,0	130,0	50,0	–	3300	13,4	XNHQ1707...	LNHQ1707...

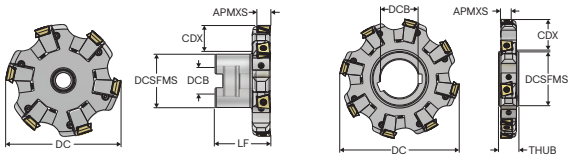
R335.25/335.25 - XNHQ09/12 – inch - Half side - Right hand with cassette



—For insert selection and cutting data recommendations, see page(s) 515-518
—For complete insert programme, see page(s) 913
—For spare parts and technical information, see page 506-512
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			inch	inch	inch			inch	inch	inch	inch		lbs	
335.25-05.00-0911R	02993933	Arbor hole	5.000	0.335	1.289	8	8	1.500	2.250	0.641	0.750	8200	2.200	XNHQ09
335.25-05.00-1113R	02993883	Arbor hole	5.000	0.433	1.289	8	8	1.500	2.250	0.835	1.000	6500	2.650	XNHQ12
335.25-06.00-0911R	02993937	Arbor hole	6.000	0.335	1.795	10	10	1.500	2.250	0.641	0.750	7200	4.410	XNHQ09
335.25-06.00-1113R	02993887	Arbor hole	6.000	0.433	1.795	10	10	1.500	2.250	0.835	1.000	5700	4.630	XNHQ12
335.25-08.00-0911R	02993941	Arbor hole	8.000	0.335	2.420	14	14	2.000	3.000	0.641	0.750	6500	5.950	XNHQ09
335.25-08.00-1113R	02993891	Arbor hole	8.000	0.433	2.420	12	12	2.000	3.000	0.835	1.000	5100	10.140	XNHQ12
335.25-10.00-XL0911R	02993945	Arbor hole	10.000	0.335	3.420	16	16	2.000	3.000	0.641	0.750	5800	9.040	XNHQ09
335.25-10.00-XL1113R	02993895	Arbor hole	10.000	0.433	3.420	16	16	2.000	3.000	0.835	1.000	4600	11.680	XNHQ12
335.25-12.00-XL0911R	02993949	Arbor hole	12.000	0.335	4.460	20	20	2.000	3.000	0.641	0.750	5200	13.450	XNHQ09
335.25-12.00-XL1113R	02993899	Arbor hole	12.000	0.433	4.420	20	20	2.000	3.000	0.835	1.000	4100	17.200	XNHQ12
R335.25-04.00-0911R	02993909	Arbor	4.000	0.335	1.014	6	6	1.000	1.880	2.000	–	9200	2.200	XNHQ09
R335.25-04.00-1113R	02993852	Arbor	4.000	0.433	1.014	6	6	1.000	1.880	2.000	–	7200	2.650	XNHQ12
R335.25-05.00-0911R	02993913	Arbor	5.000	0.335	1.329	8	8	1.250	2.250	2.000	–	8200	3.310	XNHQ09
R335.25-05.00-1113R	02993856	Arbor	5.000	0.433	1.329	8	8	1.250	2.250	2.000	–	6500	3.750	XNHQ12
R335.25-06.00-0911R	02993917	Arbor	6.000	0.335	1.579	10	10	1.500	2.750	2.000	–	7200	6.390	XNHQ09
R335.25-06.00-1113R	02993860	Arbor	6.000	0.433	1.579	10	10	1.500	2.750	2.000	–	5700	5.510	XNHQ12
R335.25-08.00-0911R	02993921	Arbor	8.000	0.335	2.210	14	14	1.500	3.500	2.000	–	6500	8.380	XNHQ09
R335.25-08.00-1113R	02993864	Arbor	8.000	0.433	2.210	12	12	1.500	3.500	2.000	–	5100	9.920	XNHQ12
R335.25-10.00-XL0911R	02993925	Arbor	10.000	0.335	2.400	16	16	2.500	5.120	2.000	–	5800	13.450	XNHQ09
R335.25-10.00-XL1113R	02993868	Arbor	10.000	0.433	2.400	16	16	2.500	5.120	2.000	–	4600	15.430	XNHQ12
R335.25-12.00-XL0911R	02993929	Arbor	12.000	0.335	3.400	20	20	2.500	5.120	2.000	–	5200	17.860	XNHQ09
R335.25-12.00-XL1113R	02993872	Arbor	12.000	0.433	3.400	20	20	2.500	5.120	2.000	–	4100	20.940	XNHQ12

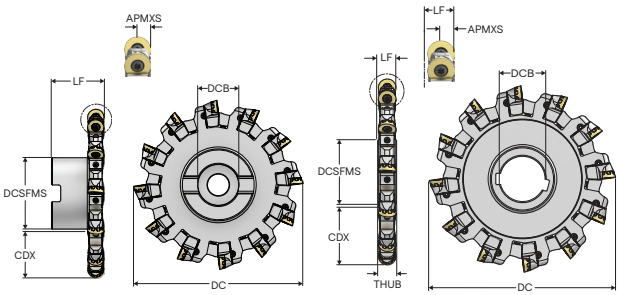
R335.25/335.25 - XNHQ/LNHQ14/17 – inch - Half side - Right hand with cassette



–For insert selection and cutting data recommendations, see page(s) 519-522
–For complete insert programme, see page(s) 913
–For spare parts and technical information, see page 506-512
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert: First choice	Insert: Alternative choice
			inch	inch	inch			inch	inch	inch	inch		lbs		
335.25-05.00-1316R	02814641	Arbor hole	5.000	0.512	1.291	8	8	1.500	2.250	1.038	1.250	4900	3.090	XNHQ14	LNHQ14
335.25-06.00-1316R	02814645	Arbor hole	6.000	0.512	1.791	10	10	1.500	2.250	1.038	1.250	4500	4.850	XNHQ14	LNHQ14
335.25-06.00-1620R	02827738	Arbor hole	6.000	0.630	1.791	10	10	1.500	2.250	1.137	1.250	4700	5.730	XNHQ17	LNHQ17
335.25-08.00-1316R	02814649	Arbor hole	8.000	0.512	2.413	12	12	2.000	3.000	1.038	1.250	3900	9.040	XNHQ14	LNHQ14
335.25-08.00-1620R	02827742	Arbor hole	8.000	0.630	2.413	12	12	2.000	3.000	1.137	1.250	4100	11.020	XNHQ17	LNHQ17
335.25-10.00-XL1316R	02814653	Arbor hole	10.000	0.512	3.413	14	14	2.000	3.000	1.038	1.250	3500	13.890	XNHQ14	LNHQ14
335.25-10.00-XL1620R	02827746	Arbor hole	10.000	0.630	3.413	14	14	2.000	3.000	1.137	1.250	3600	16.980	XNHQ17	LNHQ17
335.25-12.00-XL1316R	02814657	Arbor hole	12.000	0.512	4.413	18	18	2.000	3.000	1.038	1.250	3200	20.720	XNHQ14	LNHQ14
335.25-12.00-XL1620R	02827750	Arbor hole	12.000	0.630	4.413	18	18	2.000	3.000	1.137	1.250	3300	25.350	XNHQ17	LNHQ17
R335.25-05.00-1316R	02814621	Arbor	5.000	0.512	1.327	8	8	1.250	2.250	2.000	–	4900	3.970	XNHQ14	LNHQ14
R335.25-06.00-1316R	02814625	Arbor	6.000	0.512	1.579	10	10	1.500	2.750	2.000	–	4500	5.950	XNHQ14	LNHQ14
R335.25-06.00-1620R	02827715	Arbor	6.000	0.630	1.579	10	10	1.500	2.750	2.000	–	4700	6.830	XNHQ17	LNHQ17
R335.25-08.00-1316R	02814629	Arbor	8.000	0.512	2.209	12	12	1.500	3.500	2.000	–	3900	12.130	XNHQ14	LNHQ14
R335.25-08.00-1620R	02827719	Arbor	8.000	0.630	2.209	12	12	1.500	3.500	2.000	–	4100	12.570	XNHQ17	LNHQ17
R335.25-10.00-XL1316R	02814633	Arbor	10.000	0.512	2.402	14	14	2.500	5.118	2.000	–	3500	16.530	XNHQ14	LNHQ14
R335.25-10.00-XL1620R	02827723	Arbor	10.000	0.630	2.402	14	14	2.500	5.118	2.000	–	3600	18.740	XNHQ17	LNHQ17
R335.25-12.00-XL1316R	02814637	Arbor	12.000	0.512	3.402	18	18	2.500	5.118	2.000	–	3200	23.150	XNHQ14	LNHQ14
R335.25-12.00-XL1620R	02827727	Arbor	12.000	0.630	3.402	18	18	2.500	5.118	2.000	–	3300	27.340	XNHQ17	LNHQ17

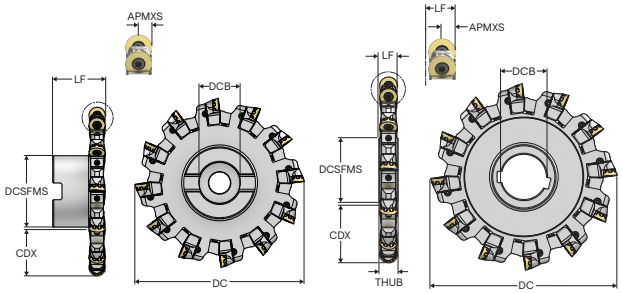
R335.25/335.25 - RP..1605/RP..2006 – Metric - Half side - Right hand - Radius profile with cassette



–For insert selection and cutting data recommendations, see page(s) 542-547
–For complete insert programme, see page(s) 891
–For spare parts and technical information, see page 506-512
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			mm	mm	mm			mm	mm	mm	mm		kg	
335.25-125.1317.40-8R-R8	02993834	Arbor hole	130,0	8,0	36,1	8	8	40,0	55,0	16,52	17,0	8200	0,9	RP..1605
335.25-160.1317.40-12R-R8	02993837	Arbor hole	165,0	8,0	53,6	12	12	40,0	55,0	16,52	17,0	7200	1,5	RP..1605
335.25-200.1317.50-14R-R8	02993840	Arbor hole	205,0	8,0	66,6	14	14	50,0	69,0	16,52	17,0	6500	2,4	RP..1605
335.25-250.1317XL.50-16R-R8	02993843	Arbor hole	255,0	8,0	91,6	16	16	50,0	69,0	16,52	17,0	5800	4,0	RP..1605
335.25-250.1721XL.50-16R-R10I	10296531	Arbor hole	255,0	10,0	91,5	16	16	50,0	69,0	20,52	21,0	4600	4,2	RP..2006
335.25-315.1317XL.50-20R-R8	02993846	Arbor hole	320,0	8,0	124,1	20	20	50,0	69,0	16,52	17,0	5200	6,6	RP..1605
335.25-315.1721XL.50-20R-R10I	10296536	Arbor hole	320,0	10,0	124,1	20	20	50,0	69,0	20,52	21,0	4100	7,3	RP..2006
R335.25-100.1317.27-6R-R8	02993816	Arbor	105,0	8,0	28,0	6	6	27,0	48,0	51,265	–	9200	1,0	RP..1605
R335.25-125.1317.32-8R-R8	02993819	Arbor	130,0	8,0	35,5	8	8	32,0	58,0	51,265	–	8200	1,4	RP..1605
R335.25-160.1317.40-12R-R8	02993822	Arbor	165,0	8,0	47,0	12	12	40,0	70,0	51,265	–	7200	2,3	RP..1605
R335.25-200.1317.40-14R-R8	02993825	Arbor	205,0	8,0	57,0	14	14	40,0	90,0	51,265	–	6500	3,5	RP..1605
R335.25-250.1317XL.60-16R-R8	02993828	Arbor	255,0	8,0	62,0	16	16	60,0	130,0	51,265	–	5800	6,0	RP..1605
R335.25-250.1721XL.60-16R-R10I	10296538	Arbor	255,0	10,0	62,0	16	16	60,0	130,0	51,52	–	4600	6,0	RP..2006
R335.25-315.1317XL.60-20R-R8	02993831	Arbor	320,0	8,0	94,5	20	20	60,0	130,0	51,265	–	5200	8,6	RP..1605
R335.25-315.1721XL.60-20R-R10I	10296540	Arbor	320,0	10,0	94,5	20	20	60,0	130,0	51,52	–	4100	9,1	RP..2006

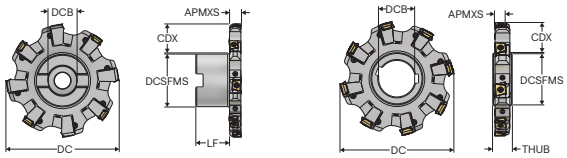
R335.25/335.25 - RP..1605/RP..2006 – inch-Half side - Right hand - Radius profile with cassette



—For insert selection and cutting data recommendations, see page(s) 542-547
—For complete insert programme, see page(s) 891
—For spare parts and technical information, see page 506-512
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			inch	inch	inch			inch	inch	inch	inch		lbs	
335.25-05.00-0911R-R8	02993970	Arbor hole	5.197	0.315	1.414	8	8	1.500	2.250	0.691	0.750	8200	2.200	RP..1605
335.25-06.00-0911R-R8	02993973	Arbor hole	6.197	0.315	1.914	10	10	1.500	2.250	0.691	0.750	7200	3.090	RP..1605
335.25-08.00-0911R-R8	02993976	Arbor hole	8.197	0.315	2.539	14	14	2.000	3.000	0.691	0.750	6500	5.730	RP..1605
335.25-10.00-XL0911R-R8	02993979	Arbor hole	10.197	0.315	3.539	16	16	2.000	3.000	0.691	0.750	5800	9.260	RP..1605
335.25-10.00-XL1113R-R10I	10296542	Arbor hole	10.197	0.394	3.539	16	16	2.000	3.000	0.894	1.000	4600	9.920	RP..2006
335.25-12.00-XL0911R-R8	02993982	Arbor hole	12.197	0.315	4.579	20	20	2.000	3.000	0.691	0.750	5200	13.670	RP..1605
335.25-12.00-XL1113R-R10I	10296544	Arbor hole	12.197	0.394	4.539	20	20	2.000	3.000	0.894	1.000	4100	14.990	RP..2006
R335.25-04.00-0911R-R8	02993952	Arbor	4.197	0.315	1.138	6	6	1.000	1.880	2.050	–	9200	2.200	RP..1605
R335.25-05.00-0911R-R8	02993955	Arbor	5.197	0.315	1.453	8	8	1.250	2.250	2.050	–	8200	3.310	RP..1605
R335.25-06.00-0911R-R8	02993958	Arbor	6.197	0.315	1.703	10	10	1.500	2.750	2.050	–	7200	6.170	RP..1605
R335.25-08.00-0911R-R8	02993961	Arbor	8.197	0.315	2.329	14	14	1.500	3.500	2.050	–	6500	8.380	RP..1605
R335.25-10.00-XL0911R-R8	02993964	Arbor	10.197	0.315	2.519	16	16	2.500	5.120	2.050	–	5800	13.670	RP..1605
R335.25-10.00-XL1113R-R10I	10296546	Arbor	10.197	0.394	2.520	16	16	2.500	5.120	2.060	–	4600	13.670	RP..2006
R335.25-12.00-XL0911R-R8	02993967	Arbor	12.197	0.315	3.519	20	20	2.500	5.120	2.050	–	5200	18.080	RP..1605
R335.25-12.00-XL1113R-R10I	10296548	Arbor	12.197	0.394	3.520	20	20	2.500	5.120	2.060	–	4100	18.740	RP..2006

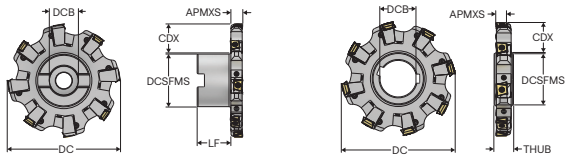
R335.25/335.25 - XNHQ09/12 – Metric - Half side – Left hand with cassette



–For insert selection and cutting data recommendations, see page(s) 515–518
–For complete insert programme, see page(s) 913
–For spare parts and technical information, see page 506–512
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			mm	mm	mm			mm	mm	mm	mm		kg	
335.25-125.1317.40-8L	02993802	Arbor hole	125,0	8,5	32,9	8	8	40,0	55,0	1,75	17,0	8200	0,9	XNHQ09..
335.25-125.1721.40-8L	02993762	Arbor hole	125,0	11,0	32,9	8	8	40,0	55,0	2,0	21,0	6500	1,4	XNHQ12..
335.25-160.1317.40-12L	02993805	Arbor hole	160,0	8,5	50,5	12	12	40,0	55,0	1,75	17,0	7200	1,5	XNHQ09..
335.25-160.1721.40-10L	02993765	Arbor hole	160,0	11,0	50,5	10	10	40,0	55,0	2,0	21,0	5700	1,9	XNHQ12..
335.25-200.1317.50-14L	02993808	Arbor hole	200,0	8,5	63,5	14	14	50,0	69,0	1,75	17,0	6500	3,1	XNHQ09..
335.25-200.1721.50-12L	02993768	Arbor hole	200,0	11,0	63,5	12	12	50,0	69,0	2,0	21,0	5100	4,5	XNHQ12..
335.25-250.1317XL.50-16L	02993811	Arbor hole	250,0	8,5	88,5	16	16	50,0	69,0	1,75	17,0	5800	5,1	XNHQ09..
335.25-250.1721XL.50-16L	02993771	Arbor hole	250,0	11,0	88,5	16	16	50,0	69,0	2,0	21,0	4600	4,9	XNHQ12..
335.25-315.1317XL.50-20L	02993814	Arbor hole	315,0	8,5	121,0	20	20	50,0	69,0	1,75	17,0	5200	6,5	XNHQ09..
335.25-315.1721XL.50-20L	02993774	Arbor hole	315,0	11,0	121,0	20	20	50,0	69,0	2,0	21,0	4100	8,1	XNHQ12..
R335.25-100.1317.27-6L	02993784	Arbor	100,0	8,5	24,8	6	6	27,0	48,0	50,0	–	9200	1,3	XNHQ09..
R335.25-100.1721.27-6L	02993738	Arbor	100,0	11,0	24,8	6	6	27,0	48,0	50,0	–	7200	1,1	XNHQ12..
R335.25-125.1317.32-8L	02993787	Arbor	125,0	8,5	32,3	8	8	32,0	58,0	50,0	–	8200	1,4	XNHQ09..
R335.25-125.1721.32-8L	02993741	Arbor	125,0	11,0	32,3	8	8	32,0	58,0	50,0	–	6500	1,9	XNHQ12..
R335.25-160.1317.40-12L	02993790	Arbor	160,0	8,5	43,8	12	12	40,0	70,0	50,0	–	7200	2,3	XNHQ09..
R335.25-160.1721.40-10L	02993744	Arbor	160,0	11,0	43,8	10	10	40,0	70,0	50,0	–	5700	2,8	XNHQ12..
R335.25-200.1317.40-14L	02993793	Arbor	200,0	8,5	54,0	14	14	40,0	90,0	50,0	–	6500	3,5	XNHQ09..
R335.25-200.1721.40-12L	02993747	Arbor	200,0	11,0	54,0	12	12	40,0	90,0	50,0	–	5100	4,5	XNHQ12..
R335.25-250.1317XL.60-16L	02993796	Arbor	250,0	8,5	59,0	16	16	60,0	130,0	50,0	–	5800	5,9	XNHQ09..
R335.25-250.1721XL.60-16L	02993750	Arbor	250,0	11,0	59,0	16	16	60,0	130,0	50,0	–	4600	6,8	XNHQ12..
R335.25-315.1317XL.60-20L	02993799	Arbor	315,0	8,5	91,5	20	20	60,0	130,0	50,0	–	5200	8,5	XNHQ09..
R335.25-315.1721XL.60-20L	02993753	Arbor	315,0	11,0	91,5	20	20	60,0	130,0	50,0	–	4100	10,0	XNHQ12..

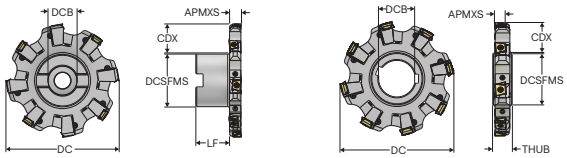
R335.25/335.25 - XNHQ/LNHQ14/17 – Metric - Half side – Left hand with cassette



—For insert selection and cutting data recommendations, see page(s) 519–522
—For complete insert programme, see page(s) 913
—For spare parts and technical information, see page 506–512
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert: First choice	Insert: Alternative choice
			mm	mm	mm			mm	mm	mm	mm		kg		
335.25-125.2126.40-8L	02814602	Arbor hole	125,0	13,0	32,7	8	8	40,0	55,0	5,5	32,0	4900	1,3	XNHQ1407...	LNHQ1407...
335.25-160.2126.40-10L	02814606	Arbor hole	160,0	13,0	50,3	10	10	40,0	55,0	5,5	32,0	4400	2,3	XNHQ1407...	LNHQ1407...
335.25-160.2632.40-10L	02829068	Arbor hole	160,0	16,0	50,3	10	10	40,0	55,0	3,0	32,0	4600	2,9	XNHQ1707...	LNHQ1707...
335.25-200.2126.50-12L	02814610	Arbor hole	200,0	13,0	63,3	12	12	50,0	69,0	5,5	32,0	3900	3,9	XNHQ1407...	LNHQ1407...
335.25-200.2632.50-12L	02827444	Arbor hole	200,0	16,0	63,3	12	12	50,0	69,0	3,0	32,0	4100	4,8	XNHQ1707...	LNHQ1707...
335.25-250.2126XL.50-14L	02814614	Arbor hole	250,0	13,0	88,3	14	14	50,0	69,0	5,5	32,0	3500	6,0	XNHQ1407...	LNHQ1407...
335.25-250.2632XL.50-14L	02827448	Arbor hole	250,0	16,0	88,3	14	14	50,0	69,0	3,0	32,0	3700	8,5	XNHQ1707...	LNHQ1707...
335.25-315.2126XL.60-18L	02814618	Arbor hole	315,0	13,0	113,3	18	18	60,0	84,0	5,5	32,0	3100	10,0	XNHQ1407...	LNHQ1407...
335.25-315.2632XL.60-18L	02827452	Arbor hole	315,0	16,0	113,3	18	18	60,0	84,0	3,0	32,0	3300	12,3	XNHQ1707...	LNHQ1707...
R335.25-125.2126.32-8L	02814581	Arbor	125,0	13,0	32,3	8	8	32,0	58,0	29,0	–	4900	1,7	XNHQ1407...	LNHQ1407...
R335.25-160.2126.40-10L	02814585	Arbor	160,0	13,0	43,8	10	10	40,0	70,0	29,0	–	4400	2,9	XNHQ1407...	LNHQ1407...
R335.25-160.2632.40-10L	02827414	Arbor	160,0	16,0	43,8	10	10	40,0	70,0	24,0	–	4600	3,4	XNHQ1707...	LNHQ1707...
R335.25-200.2126.40-12L	02814589	Arbor	200,0	13,0	54,0	12	12	40,0	90,0	29,0	–	3900	4,7	XNHQ1407...	LNHQ1407...
R335.25-200.2632.40-12L	02827418	Arbor	200,0	16,0	54,0	12	12	40,0	90,0	24,0	–	4100	5,4	XNHQ1707...	LNHQ1707...
R335.25-250.2126XL.60-14L	02814593	Arbor	250,0	13,0	59,0	14	14	60,0	130,0	29,0	–	3500	7,3	XNHQ1407...	LNHQ1407...
R335.25-250.2632XL.60-14L	02827422	Arbor	250,0	16,0	59,0	14	14	60,0	130,0	24,0	–	3700	8,4	XNHQ1707...	LNHQ1707...
R335.25-315.2126XL.60-18L	02814598	Arbor	315,0	13,0	91,5	18	18	60,0	130,0	29,0	–	3100	11,3	XNHQ1407...	LNHQ1407...
R335.25-315.2632XL.60-18L	02827426	Arbor	315,0	16,0	91,5	18	18	60,0	130,0	24,0	–	3300	13,4	XNHQ1707...	LNHQ1707...

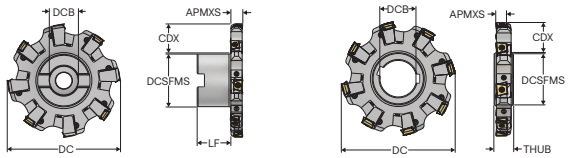
R335.25/335.25 - XNHQ09/12 – inch - Half side – Left hand with cassette



–For insert selection and cutting data recommendations, see page(s) 515-518
–For complete insert programme, see page(s) 913
–For spare parts and technical information, see page 506-512
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			inch	inch	inch			inch	inch	inch	inch		lbs	
335.25-05.00-0911L	02993934	Arbor hole	5.000	0.335	1.289	8	8	1.500	2.250	0.109	0.750	8200	2.200	XNHQ09
335.25-05.00-1113L	02993884	Arbor hole	5.000	0.433	1.289	8	8	1.500	2.250	0.165	1.000	6500	2.650	XNHQ12
335.25-06.00-0911L	02993938	Arbor hole	6.000	0.335	1.795	10	10	1.500	2.250	0.109	0.750	7200	4.410	XNHQ09
335.25-06.00-1113L	02993888	Arbor hole	6.000	0.433	1.795	10	10	1.500	2.250	0.165	1.000	5700	6.610	XNHQ12
335.25-08.00-0911L	02993942	Arbor hole	8.000	0.335	2.420	14	14	2.000	3.000	0.109	0.750	6500	5.950	XNHQ09
335.25-08.00-1113L	02993892	Arbor hole	8.000	0.433	2.420	12	12	2.000	3.000	0.165	1.000	5100	8.160	XNHQ12
335.25-10.00-XL0911L	02993946	Arbor hole	10.000	0.335	3.420	16	16	2.000	3.000	0.109	0.750	5800	9.040	XNHQ09
335.25-10.00-XL1113L	02993896	Arbor hole	10.000	0.433	3.420	16	16	2.000	3.000	0.165	1.000	4600	13.890	XNHQ12
335.25-12.00-XL0911L	02993950	Arbor hole	12.000	0.335	4.460	20	20	2.000	3.000	0.109	0.750	5200	13.450	XNHQ09
335.25-12.00-XL1113L	02993900	Arbor hole	12.000	0.433	4.420	20	20	2.000	3.000	0.165	1.000	4100	17.200	XNHQ12
R335.25-04.00-0911L	02993910	Arbor	4.000	0.335	1.014	6	6	1.000	1.880	2.000	–	9200	2.200	XNHQ09
R335.25-04.00-1113L	02993853	Arbor	4.000	0.433	1.014	6	6	1.000	1.880	2.000	–	7200	2.650	XNHQ12
R335.25-05.00-0911L	02993914	Arbor	5.000	0.335	1.329	8	8	1.250	2.250	2.000	–	8200	3.310	XNHQ09
R335.25-05.00-1113L	02993857	Arbor	5.000	0.433	1.329	8	8	1.250	2.250	2.000	–	6500	3.750	XNHQ12
R335.25-06.00-0911L	02993918	Arbor	6.000	0.335	1.579	10	10	1.500	2.750	2.000	–	7200	6.170	XNHQ09
R335.25-06.00-1113L	02993861	Arbor	6.000	0.433	1.579	10	10	1.500	2.750	2.000	–	5700	6.830	XNHQ12
R335.25-08.00-0911L	02993922	Arbor	8.000	0.335	2.210	14	14	1.500	3.500	2.000	–	6500	8.380	XNHQ09
R335.25-08.00-1113L	02993865	Arbor	8.000	0.433	2.210	12	12	1.500	3.500	2.000	–	5100	10.800	XNHQ12
R335.25-10.00-XL0911L	02993926	Arbor	10.000	0.335	2.400	16	16	2.500	5.120	2.000	–	5800	13.450	XNHQ09
R335.25-10.00-XL1113L	02993869	Arbor	10.000	0.433	2.400	16	16	2.500	5.120	2.000	–	4600	15.430	XNHQ12
R335.25-12.00-XL0911L	02993930	Arbor	12.000	0.335	3.400	20	20	2.500	5.120	2.000	–	5200	17.860	XNHQ09
R335.25-12.00-XL1113L	02993873	Arbor	12.000	0.433	3.400	20	20	2.500	5.120	2.000	–	4100	20.940	XNHQ12

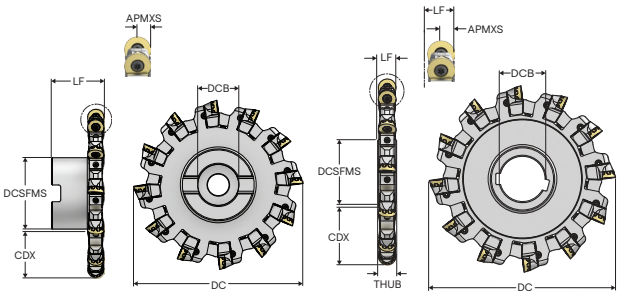
R335.25/335.25 - XNHQ/LNHQ14/17 – inch - Half side – Left hand with cassette



—For insert selection and cutting data recommendations, see page(s) 519-522
—For complete insert programme, see page(s) 913
—For spare parts and technical information, see page 506-512
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert: First choice	Insert: Alternative choice
			inch	inch	inch			inch	inch	inch	inch		lbs		
335.25-05.00-1316L	02814642	Arbor hole	5.000	0.512	1.291	8	8	1.500	2.250	0.212	1.250	4900	3.090	XNHQ14	LNHQ14
335.25-06.00-1316L	02814646	Arbor hole	6.000	0.512	1.791	10	10	1.500	2.250	0.212	1.250	4500	4.850	XNHQ14	LNHQ14
335.25-06.00-1620L	02827739	Arbor hole	6.000	0.630	1.791	10	10	1.500	2.250	0.113	1.250	4700	5.730	XNHQ17	LNHQ17
335.25-08.00-1316L	02814650	Arbor hole	8.000	0.512	2.413	12	12	2.000	3.000	0.212	1.250	3900	9.040	XNHQ14	LNHQ14
335.25-08.00-1620L	02827743	Arbor hole	8.000	0.630	2.413	12	12	2.000	3.000	0.113	1.250	4100	11.020	XNHQ17	LNHQ17
335.25-10.00-XL1316L	02814654	Arbor hole	10.000	0.512	3.413	14	14	2.000	3.000	0.212	1.250	3500	13.890	XNHQ14	LNHQ14
335.25-10.00-XL1620L	02827747	Arbor hole	10.000	0.630	3.413	14	14	2.000	3.000	0.113	1.250	3600	19.400	XNHQ17	LNHQ17
335.25-12.00-XL1316L	02814658	Arbor hole	12.000	0.512	4.413	18	18	2.000	3.000	0.212	1.250	3200	20.720	XNHQ14	LNHQ14
335.25-12.00-XL1620L	02827751	Arbor hole	12.000	0.630	4.413	18	18	2.000	3.000	0.113	1.250	3300	25.350	XNHQ17	LNHQ17
R335.25-05.00-1316L	02814622	Arbor	5.000	0.512	1.327	8	8	1.250	2.250	1.173	–	4900	3.970	XNHQ14	LNHQ14
R335.25-06.00-1316L	02814626	Arbor	6.000	0.512	1.579	10	10	1.500	2.750	1.173	–	4500	5.950	XNHQ14	LNHQ14
R335.25-06.00-1620L	02827716	Arbor	6.000	0.630	1.579	10	10	1.500	2.750	0.976	–	4700	6.830	XNHQ17	LNHQ17
R335.25-08.00-1316L	02814630	Arbor	8.000	0.512	2.209	12	12	1.500	3.500	1.173	–	3900	10.800	XNHQ14	LNHQ14
R335.25-08.00-1620L	02827720	Arbor	8.000	0.630	2.209	12	12	1.500	3.500	0.976	–	4100	12.570	XNHQ17	LNHQ17
R335.25-10.00-XL1316L	02814634	Arbor	10.000	0.512	2.402	14	14	2.500	5.118	1.173	–	3500	16.530	XNHQ14	LNHQ14
R335.25-10.00-XL1620L	02827724	Arbor	10.000	0.630	2.402	14	14	2.500	5.120	0.976	–	3600	18.740	XNHQ17	LNHQ17
R335.25-12.00-XL1316L	02814638	Arbor	12.000	0.512	3.402	18	18	2.500	5.118	1.173	–	3200	23.150	XNHQ14	LNHQ14
R335.25-12.00-XL1620L	02827728	Arbor	12.000	0.630	3.402	18	18	2.500	5.120	0.976	–	3300	27.340	XNHQ17	LNHQ17

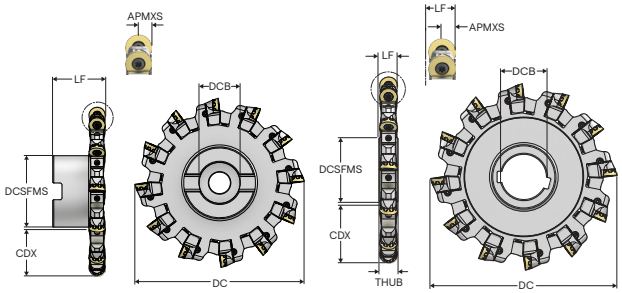
R335.25/335.25 - RP..1605/RP..2006 – Metric - Half side - Left hand - Radius profile with cassette



–For insert selection and cutting data recommendations, see page(s) 542-547
–For complete insert programme, see page(s) 891
–For spare parts and technical information, see page 506-512
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			mm	mm	mm			mm	mm	mm	mm		kg	
335.25-125.1317.40-8L-R8	02993835	Arbor hole	130,0	8,0	36,1	8	8	40,0	55,0	0,48	17,0	8200	1,1	RP..1605
335.25-160.1317.40-12L-R8	02993838	Arbor hole	165,0	8,0	53,6	12	12	40,0	55,0	0,48	17,0	7200	1,5	RP..1605
335.25-200.1317.50-14L-R8	02993841	Arbor hole	205,0	8,0	66,6	14	14	50,0	69,0	0,48	17,0	6500	3,8	RP..1605
335.25-250.1317XL.50-16L-R8	02993844	Arbor hole	255,0	8,0	91,6	16	16	50,0	69,0	0,48	17,0	5800	5,3	RP..1605
335.25-250.1721XL.50-16L-R10I	10296534	Arbor hole	255,0	10,0	91,5	16	16	50,0	69,0	0,48	21,0	4600	4,2	RP..2006
335.25-315.1317XL.50-20L-R8	02993847	Arbor hole	320,0	8,0	124,1	20	20	50,0	69,0	0,48	17,0	5200	6,5	RP..1605
335.25-315.1721XL.50-20L-R10I	10296535	Arbor hole	320,0	10,0	124,1	20	20	50,0	69,0	0,48	21,0	4100	7,3	RP..2006
R335.25-100.1317.27-6L-R8	02993817	Arbor	105,0	8,0	28,0	6	6	27,0	48,0	51,265	–	9200	1,2	RP..1605
R335.25-125.1317.32-8L-R8	02993820	Arbor	130,0	8,0	35,5	8	8	32,0	58,0	51,265	–	8200	1,8	RP..1605
R335.25-160.1317.40-12L-R8	02993823	Arbor	165,0	8,0	47,0	12	12	40,0	70,0	51,265	–	7200	2,3	RP..1605
R335.25-200.1317.40-14L-R8	02993826	Arbor	205,0	8,0	57,0	14	14	40,0	90,0	51,265	–	6500	3,5	RP..1605
R335.25-250.1317XL.60-16L-R8	02993829	Arbor	255,0	8,0	62,0	16	16	60,0	130,0	51,265	–	5800	6,1	RP..1605
R335.25-250.1721XL.60-16L-R10I	10296537	Arbor	255,0	10,0	62,0	16	16	60,0	130,0	31,48	–	4600	6,0	RP..2006
R335.25-315.1317XL.60-20L-R8	02993832	Arbor	320,0	8,0	94,5	20	20	60,0	130,0	51,265	–	5200	8,6	RP..1605
R335.25-315.1721XL.60-20L-R10I	10296539	Arbor	320,0	10,0	94,5	20	20	60,0	130,0	31,48	–	4100	9,1	RP..2006

R335.25/335.25 - RP..1605/RP..2006 – inch - Half side - Left hand - Radius profile with cassette



—For insert selection and cutting data recommendations, see page(s) 542-547
—For complete insert programme, see page(s) 891
—For spare parts and technical information, see page 506-512
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	ZNP	DCB	DCSFMS	LF	THUB	RPMX	Weight	Insert
			inch	inch	inch			inch	inch	inch	inch		lbs	
335.25-05.00-0911L-R8	02993971	Arbor hole	5.197	0.315	1.414	8	8	1.500	2.250	0.059	0.750	8200	2.200	RP..1605
335.25-06.00-0911L-R8	02993974	Arbor hole	6.197	0.315	1.914	10	10	1.500	2.250	0.059	0.750	7200	3.090	RP..1605
335.25-08.00-0911L-R8	02993977	Arbor hole	8.197	0.315	2.539	14	14	2.000	3.000	0.059	0.750	6500	18.080	RP..1605
335.25-10.00-XL0911L-R8	02993980	Arbor hole	10.197	0.315	3.539	16	16	2.000	3.000	0.059	0.750	5800	9.260	RP..1605
335.25-10.00-XL1113L-R10I	10296541	Arbor hole	10.197	0.394	3.539	16	16	2.000	3.000	0.106	1.000	4600	9.920	RP..2006
335.25-12.00-XL0911L-R8	02993983	Arbor hole	12.197	0.315	4.579	20	20	2.000	3.000	0.059	0.750	5200	13.670	RP..1605
335.25-12.00-XL1113L-R10I	10296543	Arbor hole	12.197	0.394	4.539	20	20	2.000	3.000	0.106	1.000	4100	14.990	RP..2006
R335.25-04.00-0911L-R8	02993953	Arbor	4.197	0.315	1.138	6	6	1.000	1.880	2.050	–	9200	2.200	RP..1605
R335.25-05.00-0911L-R8	02993956	Arbor	5.197	0.315	1.453	8	8	1.250	2.250	2.050	–	8200	3.310	RP..1605
R335.25-06.00-0911L-R8	02993959	Arbor	6.197	0.315	1.703	10	10	1.500	2.750	2.050	–	7200	5.070	RP..1605
R335.25-08.00-0911L-R8	02993962	Arbor	8.197	0.315	2.329	14	14	1.500	3.500	2.050	–	6500	8.380	RP..1605
R335.25-10.00-XL0911L-R8	02993965	Arbor	10.197	0.315	2.519	16	16	2.500	5.120	2.050	–	5800	13.670	RP..1605
R335.25-10.00-XL1113L-R10I	10296545	Arbor	10.197	0.394	2.520	16	16	2.500	5.120	1.271	–	4600	13.670	RP..2006
R335.25-12.00-XL0911L-R8	02993968	Arbor	12.197	0.315	3.519	20	20	2.500	5.120	2.050	–	5200	18.080	RP..1605
R335.25-12.00-XL1113L-R10I	10296547	Arbor	12.197	0.394	3.520	20	20	2.500	5.120	1.271	–	4100	18.740	RP..2006

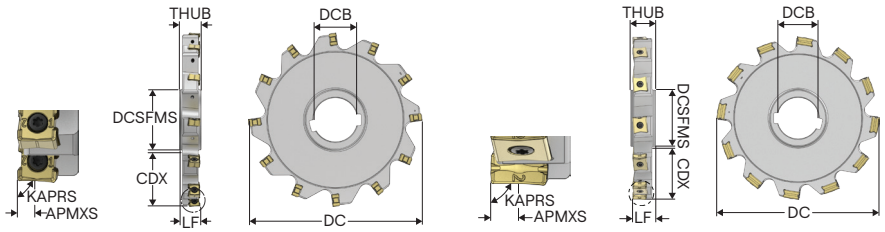


335.98 / 335.18 XN05 / 335.25 XN07

Half side and Face Disc milling system with economical 8 cutting edges inserts

- Easy to use, strong and free-cutting disc milling cutter system dedicated for half side and face operation.
- Depth of cut up to 5mm with XNXU05 insert and 6,9 with XNXH07 inserts
- Cutter range diameter 80-315 mm (4.0 - 12 inch)
- Fixed or adjustable cutting width with replaceable cassettes
- Available with Arbor or Arbor hole connection
- Corner radii range 0.4-3.1mm mm (.016 - 0.122 inch)

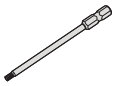
335.98 - XNXU05/XNHQ07 – Metric - Right hand – Fixed pocket



—For insert selection and cutting data recommendations, see page(s) 513-514
—For complete insert programme, see page(s) 877-878
—For spare parts and technical information, see page 506-512
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	DCONMS	LF	THUB	KAPRS°	RPMX	Weight	Insert
			mm	mm	mm		mm	mm	mm	mm	mm			kg	
335.98-160-05-40-12R	10272547	Arbor hole	160,0	5,0	50,5	12	40,0	54,0	40,0	19,0	20,0	90,0	5100	1,9	XNXU0505
335.98-160-07-40-12R	10266675	Arbor hole	160,0	6,9	50,5	12	40,0	54,0	40,0	23,0	25,0	90,0	4400	2,2	XNHQ0707

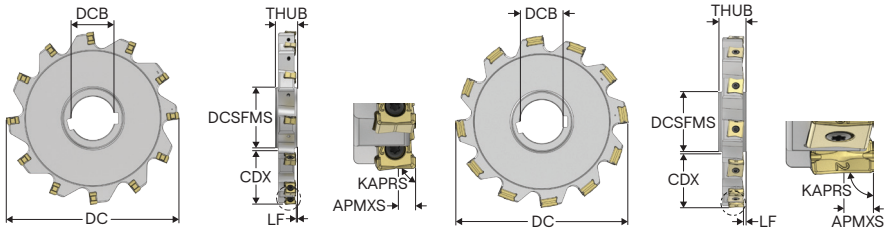
Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
335.98-05	1/4HEX-T10PX90	C03509-T10P
335.98-07	1/4HEX-T15PX50	C04013-T15P

Accessories

For	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
335.98-05	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30
335.98-07	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	–	T00T-15P50

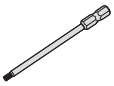
335.98 - XNXU05/XNHQ07 – Metric - Left hand – Fixed pocket



–For insert selection and cutting data recommendations, see page(s) 513-514
–For complete insert programme, see page(s) 877-878
–For spare parts and technical information, see page 506-512
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	LF	THUB	KAPRS°	RPMX	Weight	Insert
			mm	mm	mm		mm	mm	mm	mm			kg	
335.98-160-05-40-12L	10272548	Arbor hole	160,0	5,0	50,5	12	40,0	54,0	1,0	20,0	90,0	5100	1,8	XNXU0505
335.98-160-07-40-12L	10266676	Arbor hole	160,0	6,9	50,5	12	40,0	54,0	2,0	25,0	90,0	4400	2,2	XNHQ0707

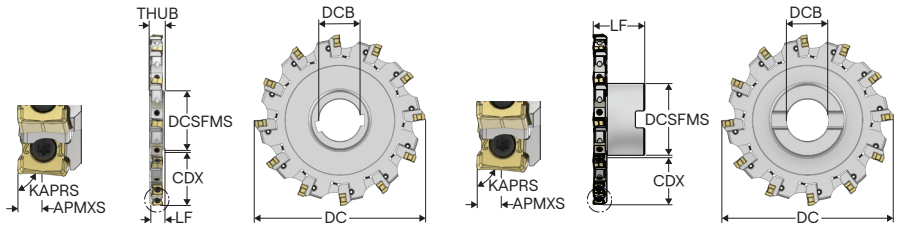
Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
335.98-05	1/4HEX-T10PX90	C03509-T10P
335.98-07	1/4HEX-T15PX50	C04013-T15P

Accessories

For	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
335.98-05	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30
335.98-07	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	–	T00T-15P50

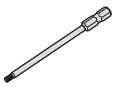
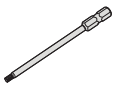
335.18 - XNXU05– Metric - Half side – Right hand with cassette



–For insert selection and cutting data recommendations, see page(s) 523-524
–For complete insert programme, see page(s) 916
–For spare parts and technical information, see page 506-512
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	LF	THUB	KAPRS°	RPMX	Weight	Insert
			mm	mm	mm		mm	mm	mm	mm			kg	
335.18-100.1215.27-8R-XN05	10272475	Arbor hole	104,85	5,0	27,7	8	27,0	41,0	13,5	15,0	90,0	9400	0,4	XNXU0505
335.18-125.1215.40-10R-XN05	10272476	Arbor hole	129,93	5,0	33,2	10	40,0	55,0	13,5	15,0	90,0	8400	0,7	XNXU0505
335.18-160.1215.40-12R-XN05	10272477	Arbor hole	165,0	5,0	50,5	12	40,0	55,0	13,5	15,0	90,0	7500	1,3	XNXU0505
335.18-200.1215XL.50-14R-XN05	10272478	Arbor hole	200,0	5,0	63,5	14	50,0	69,0	13,5	15,0	90,0	6700	1,7	XNXU0505
335.18-250.1215XL.50-18R-XN05	10272479	Arbor hole	250,0	5,0	88,5	18	50,0	69,0	13,5	15,0	90,0	6000	3,0	XNXU0505
335.18-315.1215XL.50-24R-XN05	10272480	Arbor hole	315,0	5,0	121,0	24	50,0	69,0	13,5	15,0	90,0	5300	5,1	XNXU0505
R335.18-080.1215.27-6R-XN05	10272481	Arbor	84,86	5,0	14,8	6	27,0	48,0	50,0	–	90,0	10500	0,7	XNXU0505
R335.18-100.1215.27-8R-XN05	10272482	Arbor	104,85	5,0	24,8	8	27,0	48,0	50,0	–	90,0	9400	1,1	XNXU0505
R335.18-125.1215.32-10R-XN05	10272483	Arbor	129,93	5,0	32,3	10	32,0	58,0	50,0	–	90,0	8400	1,1	XNXU0505
R335.18-160.1215.40-12R-XN05	10272484	Arbor	165,0	5,0	44,0	12	40,0	70,0	50,0	–	90,0	7500	1,9	XNXU0505
R335.18-200.1215XL.40-14R-XN05	10272485	Arbor	200,0	5,0	53,5	14	40,0	90,0	50,0	–	90,0	6700	2,9	XNXU0505
R335.18-250.1215XL.40-18R-XN05	10272486	Arbor	250,0	5,0	79,0	18	40,0	90,0	50,0	–	90,0	6000	4,2	XNXU0505

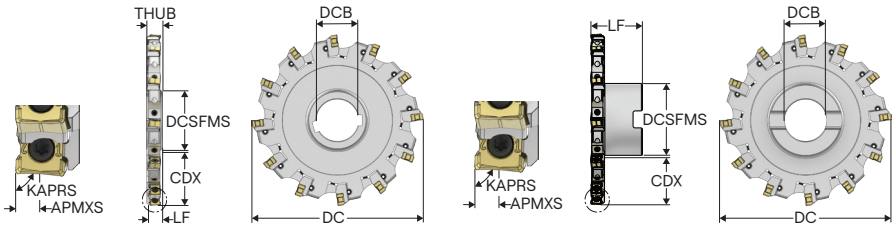
Spare Parts, included in delivery

For cutter	Adjusting screw	Cassette	Clamp key	Insert key	Insert screw	Setting key	Wedge	Wedge screw
								
335.18-..	SH6005-T09P	R335.18-1215-XN05	1/4HEX-T20PX90	1/4HEX-T10PX90	C03509-T10P	1/4HEX-T09PX50	335.18-611	LD6018F-T20P
335.18-XL	SH6005-T09P	R335.18-1215XL-XN05	1/4HEX-T20PX90	1/4HEX-T10PX90	C03509-T10P	1/4HEX-T09PX50	335.18-XL611	LD6018F-T20P
R335.18-080-160	SH6005-T09P	R335.18-1215-XN05	1/4HEX-T20PX90	1/4HEX-T10PX90	C03509-T10P	1/4HEX-T09PX50	335.18-611	LD6018F-T20P
R335.18-200-250	SH6005-T09P	R335.18-1215XL-XN05	1/4HEX-T20PX90	1/4HEX-T10PX90	C03509-T10P	1/4HEX-T09PX50	335.18-XL611	LD6018F-T20P

Accessories

For	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
335.18/R335.18	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30

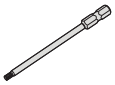
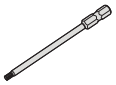
335.18 - XNXU05– inch - Half side – Right hand with cassette



–For insert selection and cutting data recommendations, see page(s) 523-524
–For complete insert programme, see page(s) 916
–For spare parts and technical information, see page 506-512
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	LF	THUB	KAPRS°	RPMX	Weight	Insert
			inch	inch	inch		inch	inch	inch	inch			lbs	
335.18-05.00-0809R-XN05	10272497	Arbor hole	5.194	0.197	1.285	10	1.500	2.252	0.549	0.625	90,0	8400	1.760	XNXU0505
335.18-06.00-0809R-XN05	10272498	Arbor hole	6.197	0.197	1.790	12	1.500	2.252	0.549	0.625	90,0	7500	2.650	XNXU0505
335.18-08.00-XL0809R-XN05	10272499	Arbor hole	8.000	0.197	2.421	14	2.000	3.000	0.547	0.625	90,0	6700	4.190	XNXU0505
335.18-10.00-XL0809R-XN05	10272500	Arbor hole	10.000	0.197	3.386	18	2.000	3.000	0.547	0.625	90,0	6000	7.050	XNXU0505
335.18-12.00-XL0809R-XN05	10272501	Arbor hole	12.000	0.197	4.390	22	2.000	3.000	0.547	0.625	90,0	5300	10.580	XNXU0505
R335.18-04.00-0809R-XN05	10272502	Arbor	4.191	0.197	1.014	8	1.000	1.880	2.000	–	90,0	9400	1.980	XNXU0505
R335.18-05.00-0809R-XN05	10272503	Arbor	5.194	0.197	1.329	10	1.250	2.250	2.000	–	90,0	8400	2.870	XNXU0505
R335.18-06.00-0809R-XN05	10272504	Arbor	6.197	0.197	1.585	12	1.500	2.750	2.000	–	90,0	7500	3.750	XNXU0505
R335.18-08.00-XL0809R-XN05	10272505	Arbor	8.000	0.197	2.224	14	1.500	3.500	2.000	–	90,0	6700	6.830	XNXU0505
R335.18-10.00-XL0809R-XN05	10272506	Arbor	10.000	0.197	3.209	18	1.500	3.500	2.000	–	90,0	6000	9.700	XNXU0505

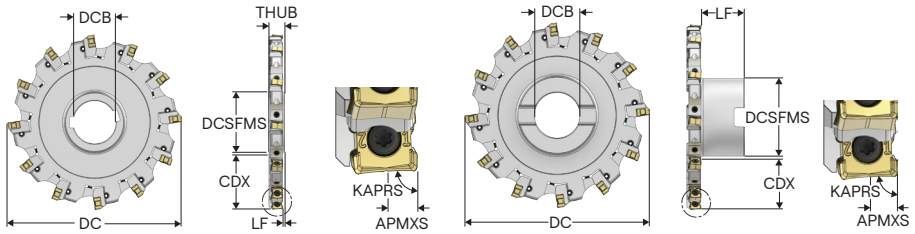
Spare Parts, included in delivery

For cutter	Adjusting screw	Cassette	Clamp key	Insert key	Insert screw	Setting key	Wedge	Wedge screw
								
335.18/R335.18-..	SH6005-T09P	R335.18-1215-XN05	1/4HEX-T20PX90	1/4HEX-T10PX90	C03509-T10P	1/4HEX-T09PX50	335.18-611	LD6018F-T20P
335.18/R335.18XL	SH6005-T09P	R335.18-1215XL-XN05	1/4HEX-T20PX90	1/4HEX-T10PX90	C03509-T10P	1/4HEX-T09PX50	335.18-XL611	LD6018F-T20P

Accessories

For	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
335.18/R335.18-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30
335.18/R335.18XL	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	–
335.18/R335.18XL	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30

335.18 - XNXU05– Metric - Half side - Left hand with cassette



–For insert selection and cutting data recommendations, see page(s) 523-524
–For complete insert programme, see page(s) 916
–For spare parts and technical information, see page 506-512
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	LF	THUB	KAPRS°	RPMX	Weight	Insert
			mm	mm	mm		mm	mm	mm	mm			kg	
335.18-100.1215.27-8L-XN05	10272463	Arbor hole	104,85	5,0	27,7	8	27,0	41,0	1,5	15,0	90,0	9400	0,4	XNXU0505
335.18-125.1215.40-10L-XN05	10272464	Arbor hole	129,93	5,0	33,2	10	40,0	55,0	1,5	15,0	90,0	8400	0,7	XNXU0505
335.18-160.1215.40-12L-XN05	10272465	Arbor hole	165,0	5,0	50,5	12	40,0	55,0	1,5	15,0	90,0	7500	1,3	XNXU0505
335.18-200.1215XL.50-14L-XN05	10272466	Arbor hole	200,0	5,0	63,5	14	50,0	69,0	1,5	15,0	90,0	6700	1,7	XNXU0505
335.18-250.1215XL.50-18L-XN05	10272467	Arbor hole	250,0	5,0	88,5	18	50,0	69,0	1,5	15,0	90,0	6000	3,0	XNXU0505
335.18-315.1215XL.50-24L-XN05	10272468	Arbor hole	315,0	5,0	121,0	24	50,0	69,0	1,5	15,0	90,0	5300	5,1	XNXU0505
R335.18-080.1215.27-6L-XN05	10272469	Arbor	84,86	5,0	14,8	6	27,0	48,0	38,0	–	90,0	10500	0,7	XNXU0505
R335.18-100.1215.27-8L-XN05	10272470	Arbor	104,85	5,0	24,8	8	27,0	48,0	38,0	–	90,0	9400	1,0	XNXU0505
R335.18-125.1215.32-10L-XN05	10272471	Arbor	129,93	5,0	32,3	10	32,0	58,0	38,0	–	90,0	8400	1,1	XNXU0505
R335.18-160.1215.40-12L-XN05	10272472	Arbor	165,0	5,0	44,0	12	40,0	70,0	38,0	–	90,0	7500	1,9	XNXU0505
R335.18-200.1215XL.40-14L-XN05	10272473	Arbor	200,0	5,0	53,5	14	40,0	90,0	38,0	–	90,0	6700	2,9	XNXU0505
R335.18-250.1215XL.40-18L-XN05	10272474	Arbor	250,0	5,0	79,0	18	40,0	90,0	38,0	–	90,0	6000	4,2	XNXU0505

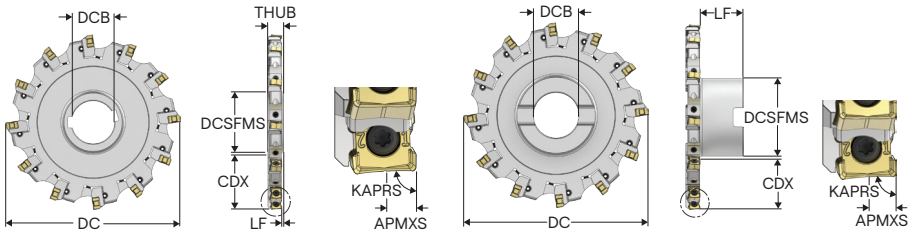
Spare Parts, included in delivery

For cutter	Adjusting screw	Cassette	Clamp key	Insert key	Insert screw	Setting key	Wedge	Wedge screw
335.18-..	SH6005-T09P	L335.18-1215-XN05	1/4HEX-T20PX90	1/4HEX-T10PX90	C03509-T10P	1/4HEX-T09PX50	335.18-611	LD6018F-T20P
335.18-XL	SH6005-T09P	L335.18-1215XL-XN05	1/4HEX-T20PX90	1/4HEX-T10PX90	C03509-T10P	1/4HEX-T09PX50	335.18-XL611	LD6018F-T20P
R335.18-080-160	SH6005-T09P	L335.18-1215-XN05	1/4HEX-T20PX90	1/4HEX-T10PX90	C03509-T10P	1/4HEX-T09PX50	335.18-611	LD6018F-T20P
R335.18-200-250	SH6005-T09P	L335.18-1215XL-XN05	1/4HEX-T20PX90	1/4HEX-T10PX90	C03509-T10P	1/4HEX-T09PX50	335.18-XL611	LD6018F-T20P

Accessories

For	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
335.18/R335.18	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30

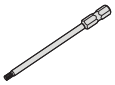
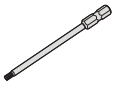
335.18 - XNXU05– inch - Half side - Left hand with cassette



–For insert selection and cutting data recommendations, see page(s) 523-524
–For complete insert programme, see page(s) 916
–For spare parts and technical information, see page 506-512
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	LF	THUB	KAPRS°	RPMX	Weight	Insert
			inch	inch	inch		inch	inch	inch	inch			lbs	
335.18-05.00-0809L-XN05	10272487	Arbor hole	5.194	0.197	1.285	10	1.500	2.252	0.076	0.625	90,0	8400	1.760	XNXU0505
335.18-06.00-0809L-XN05	10272488	Arbor hole	6.197	0.197	1.790	12	1.500	2.252	0.076	0.625	90,0	7500	2.650	XNXU0505
335.18-08.00-XL0809L-XN05	10272489	Arbor hole	8.000	0.197	2.421	14	2.000	3.000	0.078	0.625	90,0	6700	4.190	XNXU0505
335.18-10.00-XL0809L-XN05	10272490	Arbor hole	10.000	0.197	3.386	18	2.000	3.000	0.078	0.625	90,0	6000	7.050	XNXU0505
335.18-12.00-XL0809L-XN05	10272491	Arbor hole	12.000	0.197	4.390	22	2.000	3.000	0.078	0.625	90,0	5300	10.580	XNXU0505
R335.18-04.00-0809L-XN05	10272492	Arbor	4.191	0.197	1.014	8	1.000	1.880	1.528	–	90,0	9400	2.650	XNXU0505
R335.18-05.00-0809L-XN05	10272493	Arbor	5.194	0.197	1.329	10	1.250	2.250	1.528	–	90,0	8400	2.870	XNXU0505
R335.18-06.00-0809L-XN05	10272494	Arbor	6.197	0.197	1.585	12	1.500	2.750	1.528	–	90,0	7500	3.750	XNXU0505
R335.18-08.00-XL0809L-XN05	10272495	Arbor	8.000	0.197	2.224	14	1.500	3.500	1.531	–	90,0	6700	6.830	XNXU0505
R335.18-10.00-XL0809L-XN05	10272496	Arbor	10.000	0.197	3.209	18	1.500	3.500	1.531	–	90,0	6000	9.700	XNXU0505

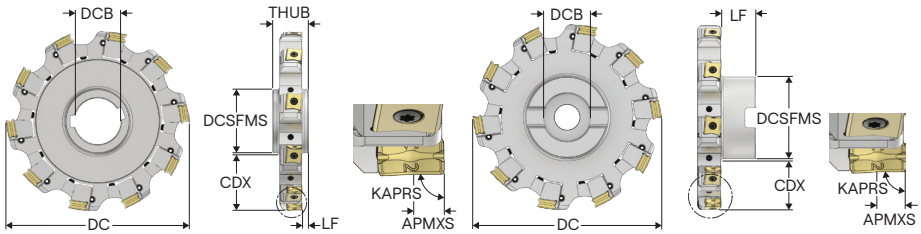
Spare Parts, included in delivery

For cutter	Adjusting screw	Cassette	Clamp key	Insert key	Insert screw	Setting key	Wedge	Wedge screw
								
335.18/R335.18-..	SH6005-T09P	L335.18-1215-XN05	1/4HEX-T20PX90	1/4HEX-T10PX90	C03509-T10P	1/4HEX-T09PX50	335.18-611	LD6018F-T20P
335.18/R335.18XL	SH6005-T09P	L335.18-1215XL-XN05	1/4HEX-T20PX90	1/4HEX-T10PX90	C03509-T10P	1/4HEX-T09PX50	335.18-XL611	LD6018F-T20P

Accessories

For	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
335.18/R335.18	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30

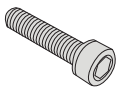
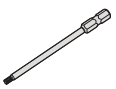
R335.25/335.25 - XNHQ07– Metric - Half side - Left hand with cassette



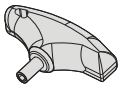
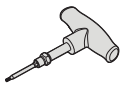
—For insert selection and cutting data recommendations, see page(s) 525–526
—For complete insert programme, see page(s) 913
—For spare parts and technical information, see page 506–512
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	LF	THUB	KAPRS°	RPMX	Weight	Insert
			mm	mm	mm		mm	mm	mm	mm			kg	
335.25-125.2126.40-8L-XN07	10265808	Arbor hole	125,0	6,9	32,7	8	40,0	55,0	5,5	32,0	90,0	4900	1,4	XNHQ0707
335.25-160.2126.40-10L-XN07	10265809	Arbor hole	160,0	6,9	50,3	10	40,0	55,0	5,5	32,0	90,0	4400	2,4	XNHQ0707
335.25-200.2126.50-12L-XN07	10265810	Arbor hole	200,0	6,9	63,3	12	50,0	69,0	5,5	32,0	90,0	3900	4,0	XNHQ0707
335.25-250.2126XL.50-14L-XN07	10265811	Arbor hole	250,0	6,9	88,3	14	50,0	69,0	5,5	32,0	90,0	3500	6,0	XNHQ0707
335.25-315.2126XL.60-18L-XN07	10265812	Arbor hole	315,0	6,9	113,3	18	60,0	84,0	5,5	32,0	90,0	3100	10,1	XNHQ0707
R335.25-125.2126.32-8L-XN07	10265813	Arbor	125,0	6,9	32,3	8	32,0	58,0	29,0	–	90,0	4900	1,8	XNHQ0707
R335.25-160.2126.40-10L-XN07	10265814	Arbor	160,0	6,9	43,8	10	40,0	70,0	29,0	–	90,0	4400	3,0	XNHQ0707
R335.25-200.2126.40-12L-XN07	10265815	Arbor	200,0	6,9	54,0	12	40,0	90,0	29,0	–	90,0	3900	4,7	XNHQ0707
R335.25-250.2126XL.60-14L-XN07	10265816	Arbor	250,0	6,9	59,0	14	60,0	130,0	29,0	–	90,0	3500	7,4	XNHQ0707
R335.25-315.2126XL.60-18L-XN07	10265817	Arbor	315,0	6,9	91,5	18	60,0	130,0	29,0	–	90,0	3100	11,5	XNHQ0707

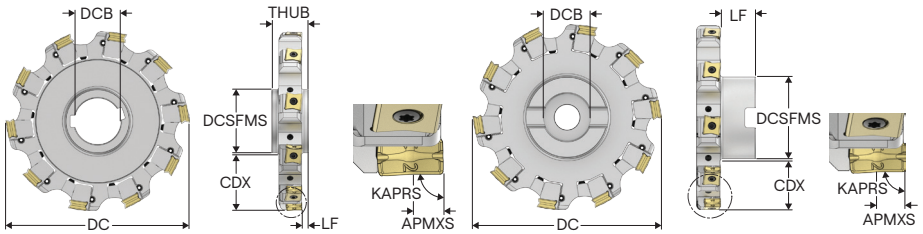
Spare Parts, included in delivery

For cutter	Adjusting screw	Arbor screw	Cassette (L)	Clamp key	Insert key	Insert screw	Setting key	Wedge	Wedge screw
									
335.25	SH6005-T09P	–	L335.25-2126-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
335.25-XL	SH6005-T09P	–	L335.25-2126XL-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
R335.25-125	SH6005-T09P	MC6S16X40	L335.25-2126-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
R335.25-160	SH6005-T09P	MLC6S20X40	L335.25-2126-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
R335.25-200	SH6005-T09P	–	L335.25-2126-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
R335.25-250-315	SH6005-T09P	–	L335.25-2126XL-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P

Accessories

For	Adjustable Torque key	Bit holder	Torque key
			
335.25/R335.25-..	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	T00T-15P50

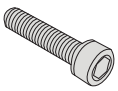
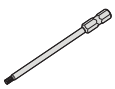
R335.25/335.25 - XNHQ07– inch - Half side - Left hand with cassette



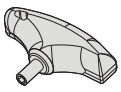
—For insert selection and cutting data recommendations, see page(s) 525–526
—For complete insert programme, see page(s) 913
—For spare parts and technical information, see page 506–512
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	LF	THUB	KAPRS°	RPMX	Weight	Insert
			inch	inch	inch		inch	inch	inch	inch			lbs	
335.25-05.00-1316L-XN07	10265828	Arbor hole	5.000	0.272	1.291	8	1.500	2.250	0.212	1.250	90,0	4900	3.310	XNHQ0707
335.25-06.00-1316L-XN07	10265829	Arbor hole	6.000	0.272	1.791	10	1.500	2.250	0.212	1.250	90,0	4500	4.850	XNHQ0707
335.25-08.00-1316L-XN07	10265830	Arbor hole	8.000	0.272	2.413	12	2.000	3.000	0.212	1.250	90,0	3900	9.260	XNHQ0707
335.25-10.00-XL1316L-XN07	10265831	Arbor hole	10.000	0.272	3.413	14	2.000	3.000	0.212	1.250	90,0	3500	14.110	XNHQ0707
335.25-12.00-XL1316L-XN07	10265832	Arbor hole	12.000	0.272	4.413	18	2.000	3.000	0.212	1.250	90,0	3200	20.720	XNHQ0707
R335.25-05.00-1316L-XN07	10265833	Arbor	5.000	0.272	1.327	8	1.250	2.250	1.173	–	90,0	4900	4.190	XNHQ0707
R335.25-06.00-1316L-XN07	10265834	Arbor	6.000	0.272	1.579	10	1.500	2.750	1.173	–	90,0	4500	6.170	XNHQ0707
R335.25-08.00-1316L-XN07	10265835	Arbor	8.000	0.272	2.209	12	1.500	3.500	1.173	–	90,0	3900	11.020	XNHQ0707
R335.25-10.00-XL1316L-XN07	10265836	Arbor	10.000	0.272	2.402	14	2.500	5.118	1.173	–	90,0	3500	16.760	XNHQ0707
R335.25-12.00-XL1316L-XN07	10265837	Arbor	12.000	0.272	3.402	18	2.500	5.118	1.173	–	90,0	3200	23.590	XNHQ0707

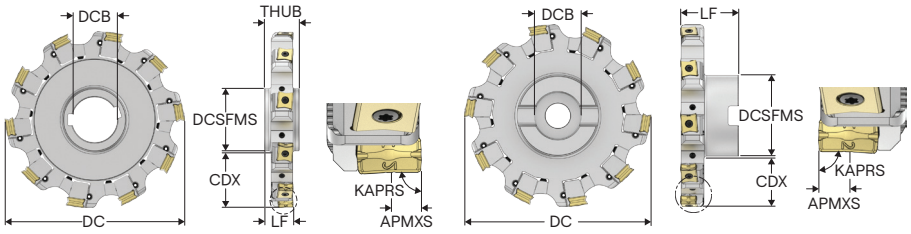
Spare Parts, included in delivery

For cutter	Adjusting screw	Arbor screw	Cassette (L)	Clamp key	Insert key	Insert screw	Setting key	Wedge	Wedge screw
									
335.25-..	SH6005-T09P	–	L335.25-2126-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
335.25-XL	SH6005-T09P	–	L335.25-2126XL-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
R335.25-05.00	SH6005-T09P	ULC6S5/8UNFX11/2	L335.25-2126-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
R335.25-06.00	SH6005-T09P	ULC6S3/4UNFX11/2	L335.25-2126-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
R335.25-08.00	SH6005-T09P	–	L335.25-2126-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
R335.25-10.00	SH6005-T09P	–	L335.25-2126XL-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
R335.25-12.00	SH6005-T09P	–	L335.25-2126XL-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P

Accessories

For	Adjustable Torque key	Bit holder	Torque key
			
335.25/R335.25-..	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	T00T-15P50

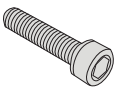
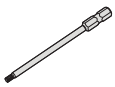
R335.25/335.25 - XNHQ07– Metric – Half side – Right hand with cassette



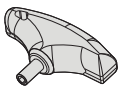
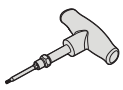
—For insert selection and cutting data recommendations, see page(s) 525–526
—For complete insert programme, see page(s) 913
—For spare parts and technical information, see page 506–512
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	LF	THUB	KAPRS°	RPMX	Weight	Insert
			mm	mm	mm		mm	mm	mm	mm			kg	
335.25-125.2126.40-8R-XN07	10265818	Arbor hole	125,0	6,9	32,7	8	40,0	55,0	26,5	32,0	90,0	4900	1,4	XNHQ0707
335.25-160.2126.40-10R-XN07	10265819	Arbor hole	160,0	6,9	50,3	10	40,0	55,0	26,5	32,0	90,0	4400	2,4	XNHQ0707
335.25-200.2126.50-12R-XN07	10265820	Arbor hole	200,0	6,9	63,3	12	50,0	69,0	26,5	32,0	90,0	3900	4,0	XNHQ0707
335.25-250.2126XL.50-14R-XN07	10265821	Arbor hole	250,0	6,9	88,3	14	50,0	69,0	26,5	32,0	90,0	3500	6,0	XNHQ0707
335.25-315.2126XL.60-18R-XN07	10265822	Arbor hole	315,0	6,9	113,3	18	60,0	84,0	26,5	32,0	90,0	3100	10,0	XNHQ0707
R335.25-125.2126.32-8R-XN07	10265823	Arbor	125,0	6,9	32,3	8	32,0	58,0	50,0	–	90,0	4900	1,8	XNHQ0707
R335.25-160.2126.40-10R-XN07	10265824	Arbor	160,0	6,9	43,8	10	40,0	70,0	50,0	–	90,0	4400	3,0	XNHQ0707
R335.25-200.2126.40-12R-XN07	10265825	Arbor	200,0	6,9	54,0	12	40,0	90,0	50,0	–	90,0	3900	4,7	XNHQ0707
R335.25-250.2126XL.60-14R-XN07	10265826	Arbor	250,0	6,9	59,0	14	60,0	130,0	50,0	–	90,0	3500	7,4	XNHQ0707
R335.25-315.2126XL.60-18R-XN07	10265827	Arbor	315,0	6,9	91,5	18	60,0	130,0	50,0	–	90,0	3100	11,5	XNHQ0707

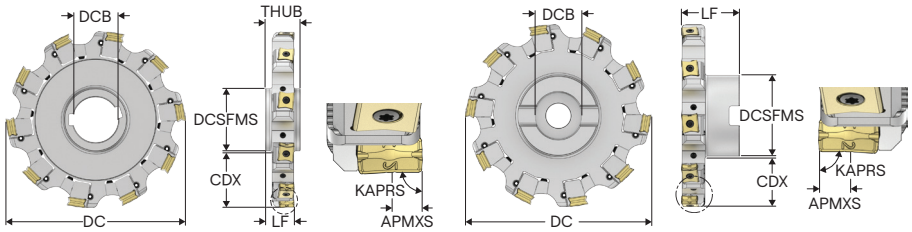
Spare Parts, included in delivery

For cutter	Adjusting screw	Arbor screw	Cassette (R)	Clamp key	Insert key	Insert screw	Setting key	Wedge	Wedge screw
									
335.25-..	SH6005-T09P	–	R335.25-2126-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
335.25-XL	SH6005-T09P	–	R335.25-2126XL-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
R335.25-125	SH6005-T09P	MC6S16X40	R335.25-2126-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
R335.25-160	SH6005-T09P	MLC6S20X40	R335.25-2126-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
R335.25-200	SH6005-T09P	–	R335.25-2126-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
R335.25-250	SH6005-T09P	–	R335.25-2126XL-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
R335.25-315	SH6005-T09P	–	R335.25-2126XL-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P

Accessories

For	Adjustable Torque key	Bit holder	Torque key
			
335.25/R335.25-..	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	T00T-15P50

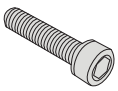
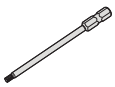
R335.25/335.25 - XNHQ07– inch – Half side – Right hand with cassette



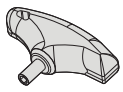
—For insert selection and cutting data recommendations, see page(s) 525–526
—For complete insert programme, see page(s) 913
—For spare parts and technical information, see page 506–512
—For ISO attribute explanation, see page 16

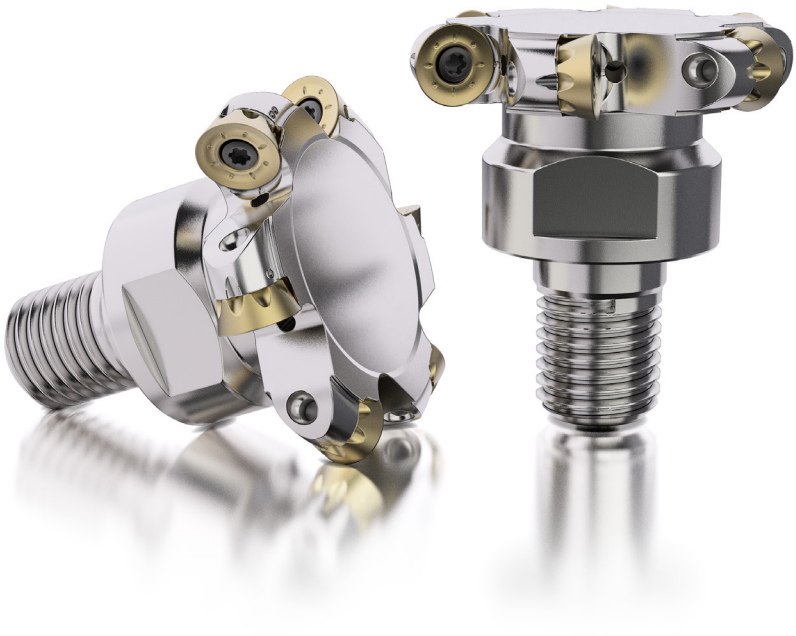
Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	LF	THUB	KAPRS°	RPMX	Weight	Insert
			inch	inch	inch		inch	inch	inch	inch			lbs	
335.25-05.00-1316R-XN07	10265838	Arbor hole	5.000	0.272	1.291	8	1.500	2.250	1.038	1.250	90,0	4900	3.310	XNHQ0707
335.25-06.00-1316R-XN07	10265839	Arbor hole	6.000	0.272	1.791	10	1.500	2.250	1.038	1.250	90,0	4500	4.850	XNHQ0707
335.25-08.00-1316R-XN07	10265840	Arbor hole	8.000	0.272	2.413	12	2.000	3.000	1.038	1.250	90,0	3900	9.260	XNHQ0707
335.25-10.00-XL1316R-XN07	10265841	Arbor hole	10.000	0.272	3.413	14	2.000	3.000	1.038	1.250	90,0	3500	14.110	XNHQ0707
335.25-12.00-XL1316R-XN07	10265842	Arbor hole	12.000	0.272	4.413	18	2.000	3.000	1.038	1.250	90,0	3200	20.720	XNHQ0707
R335.25-05.00-1316R-XN07	10265843	Arbor	5.000	0.272	1.327	8	1.250	2.250	2.000	–	90,0	4900	4.190	XNHQ0707
R335.25-06.00-1316R-XN07	10265844	Arbor	6.000	0.272	1.579	10	1.500	2.750	2.000	–	90,0	4500	6.170	XNHQ0707
R335.25-08.00-1316R-XN07	10265845	Arbor	8.000	0.272	2.209	12	1.500	3.500	2.000	–	90,0	3900	11.020	XNHQ0707
R335.25-10.00-XL1316R-XN07	10265846	Arbor	10.000	0.272	2.402	14	2.500	5.118	2.000	–	90,0	3500	16.760	XNHQ0707
R335.25-12.00-XL1316R-XN07	10265847	Arbor	12.000	0.272	3.402	18	2.500	5.118	2.000	–	90,0	3200	23.590	XNHQ0707

Spare Parts, included in delivery

For cutter	Adjusting screw	Arbor screw	Cassette (R)	Clamp key	Insert key	Insert screw	Setting key	Wedge	Wedge screw
									
335.25-..	SH6005-T09P	–	R335.25-2126-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
335.25-XL	SH6005-T09P	–	R335.25-2126XL-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
R335.25-05.00	SH6005-T09P	ULC6S5/8UNFX11/2	R335.25-2126-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
R335.25-06.00	SH6005-T09P	ULC6S3/4UNFX11/2	R335.25-2126-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
R335.25-08.00	SH6005-T09P	–	R335.25-2126-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
R335.25-10.00	SH6005-T09P	–	R335.25-2126XL-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P
R335.25-12.00	SH6005-T09P	–	R335.25-2126XL-XN07	1/4HEX-T20PX90	1/4HEX-T15PX50	C04013-T15P	1/4HEX-T09PX50	335.25-620	LD6018F-T20P

Accessories

For	Adjustable Torque key	Bit holder	Torque key
			
335.25/R335.25-..	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	T00T-15P50

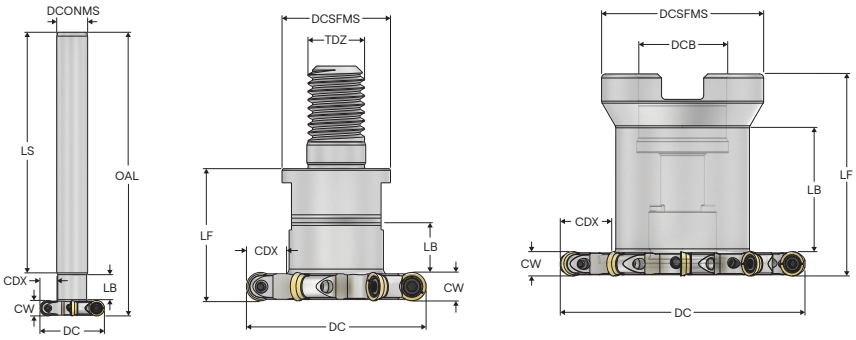


335.29

Free-cutting disc milling cutter system equipped with round inserts dedicated for slotting with full radius or 3D profiling operation

- Width of cut 5-12 mm (.236 - .394 inch)
- Cutter range diameter 25-80 mm (1.5 - 3.0 inch)
- Available with Cylindrical, Arbor, and Combimaster connection, with through coolant capability
- Economical solution with 4 cutting edges per insert

R335.29 - Round insert – Metric - full side - radius profile - Fixed pocket



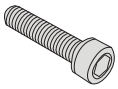
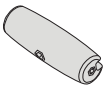
—For insert selection and cutting data recommendations, see page(s) 527-541
—For complete insert programme, see page(s) 886, 889
—For spare parts and technical information, see page 506-512
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	DCB	DCSFMS	TDZ	DCONMS	LF	LS	OAL	LB	RPMX	Weight	Insert
			mm	mm	mm		mm	mm		mm	mm	mm	mm	mm		kg	
R335.29-1225.0-05.4N-R25A	02628056	Cylindrical	25,0	5,0	6,9	4	–	–	–	12,0	–	94,0	110,0	10,0	44800	0,2	RD..0501
R335.29-1225.0-06.4N-R3A	02628045	Cylindrical	25,0	6,0	6,9	4	–	–	–	12,0	–	93,0	110,0	10,0	20600	0,2	RD..06T1
R335.29-1632.0-05.5N-R25A	02628063	Cylindrical	32,0	5,0	8,4	5	–	–	–	16,0	–	114,0	130,0	10,0	39600	0,3	RD..0501
R335.29-1632.0-06.5N-R3A	02628061	Cylindrical	32,0	6,0	8,4	5	–	–	–	16,0	–	113,0	130,0	10,0	18700	0,3	RD..06T1
R335.29-1632.0-07.5N-R35A	02628060	Cylindrical	32,0	7,0	8,4	5	–	–	–	16,0	–	112,0	130,0	10,0	31600	0,2	RD..0702
R335.29-1632.0-08.4N-R4A	02628058	Cylindrical	32,0	8,0	8,4	4	–	–	–	16,0	–	111,0	130,0	10,0	23300	0,3	RD..08..
R335.29-2040.0-05.6N-R25A	02628067	Cylindrical	40,0	5,0	10,4	6	–	–	–	20,0	–	124,0	140,0	10,0	35400	0,4	RD..0501
R335.29-2040.0-06.6N-R3A	02628066	Cylindrical	40,0	6,0	10,4	6	–	–	–	20,0	–	123,0	140,0	10,0	16300	0,4	RD..06T1
R335.29-2040.0-08.5N-R4A	02628064	Cylindrical	40,0	8,0	10,4	5	–	–	–	20,0	–	121,0	140,0	10,0	18800	0,4	RD..08..
R335.29-2550.0-05.8N-R25A	02628071	Cylindrical	50,0	5,0	12,9	8	–	–	–	25,0	–	134,0	150,0	10,0	31700	0,6	RD..0501
R335.29-2550.0-06.8N-R3A	02628069	Cylindrical	50,0	6,0	12,9	8	–	–	–	25,0	–	133,0	150,0	10,0	17300	0,6	RD..06T1
R335.29-2550.0-08.6N-R4A	02628068	Cylindrical	50,0	8,0	12,9	6	–	–	–	25,0	–	131,0	150,0	10,0	17300	0,6	RD..08..
R335.29-1240.RE-06.6N-R3A	02661227	Combimaster	40,0	6,0	10,0	6	–	23,0	M12	–	28,0	–	–	10,0	17600	0,2	RD..06T1
R335.29-1240.RE-07.6N-R35A	02627979	Combimaster	40,0	7,0	10,0	6	–	23,0	M12	–	28,0	–	–	9,0	28200	0,2	RD..0702
R335.29-1240.RE-08.5N-R4A	02627978	Combimaster	40,0	8,0	10,0	5	–	23,0	M12	–	28,0	–	–	8,0	18800	0,2	RD..08..
R335.29-1650.RE-06.8N-R3A	02661228	Combimaster	50,0	6,0	12,5	8	–	30,0	M16	–	28,0	–	–	9,0	17300	0,3	RD..06T1
R335.29-1650.RE-07.7N-R35A	02627984	Combimaster	50,0	7,0	12,5	7	–	30,0	M16	–	28,0	–	–	8,0	25300	0,2	RD..0702
R335.29-1650.RE-08.6N-R4A	02661229	Combimaster	50,0	8,0	12,5	6	–	30,0	M16	–	28,0	–	–	7,0	17300	0,2	RD..08..
R335.29I-1650.RE-10.6N-R5A	03278721	Combimaster	50,0	10,0	12,34	3	–	30,0	M16	–	28,0	–	–	4,3	15800	0,3	RD..10T3
R335.29I-1650.RE-12.4N-R6A	02988077	Combimaster	50,0	12,0	12,5	2	–	30,0	M16	–	28,0	–	–	4,3	11200	0,2	RP..1204
R335.29-063.06.22-10N-R3A	02627922	Arbor	63,0	6,0	15,0	10	22,0	40,0	–	–	50,0	–	–	30,6	13900	0,4	RD..06T1
R335.29-063.07.22-10N-R35A	02627950	Arbor	63,0	7,0	15,0	10	22,0	40,0	–	–	50,0	–	–	29,6	22500	0,4	RD..0702
R335.29-063.08.22-8N-R4A	02661224	Arbor	63,0	8,0	15,0	8	22,0	40,0	–	–	50,0	–	–	28,6	15600	0,4	RD..08..
R335.29I-063.10.22-6N-R5A	03278719	Arbor	63,0	10,0	14,67	6	22,0	38,0	–	–	50,0	–	–	26,61	13500	0,4	RD..10T3
R335.29I-063.12.22-6N-R6A	02988078	Arbor	63,0	12,0	15,0	6	22,0	40,0	–	–	50,0	–	–	24,6	10200	0,4	RP..1204
R335.29-080.08.27-10N-R4A	02627974	Arbor	80,0	8,0	20,0	10	27,0	48,0	–	–	50,0	–	–	26,8	13700	0,6	RD..08..
R335.29I-080.10.27-8N-R5A	03278720	Arbor	80,0	10,0	19,67	8	27,0	46,0	–	–	50,0	–	–	24,74	12000	0,6	RD..10T3
R335.29I-080.12.27-8N-R6A	02988079	Arbor	80,0	12,0	20,0	4	27,0	48,0	–	–	50,0	–	–	22,7	10000	0,6	RP..1204

R335.29I Disc Milling cutters offer indexing possibility - Indexing screw SX2035-T05P included in the delivery

Note: All cutters are equipped with central coolant channels, Arbor type are delivered with a lid kit to get central coolant capability

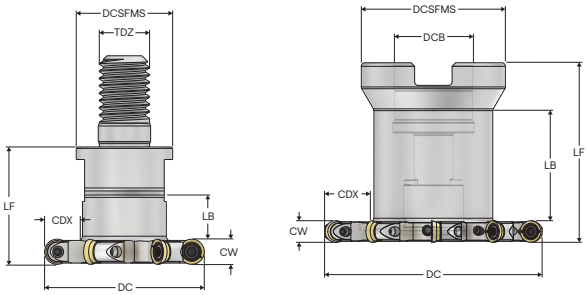
Spare Parts, included in delivery

For cutter	Arbor screw	Coolant kit	Insert key	Insert screw	Key	Key (T-handle)	Screw
							
R335.29 .REXXX-R35A/.0-XXX-R35A	–	–	H4B-T07P	C02545-T07P	–	DOUBLE-T	–
R335.29 .REXXX-R3A/.0-XXX-R3A	–	–	H4B-T07P	C02205-T07P	–	DOUBLE-T	–
R335.29 .REXXX-R4A/.0-XXX-R4A	–	–	H4B-T08P	C02506-T08P	–	DOUBLE-T	–
R335.29 .REXXX-R5A/.0-XXX-R5A	–	–	H4B-T09P	C03007-T09P	–	DOUBLE-T	–
R335.29 .REXXX-R5A/.0-XXX-R6A	–	–	H4B-T15P	C03509-T15P	T05P-2	DOUBLE-T	SX2035-T05P
R335.29 -R25A	–	–	H4B-T06P	C02053-T06P	–	DOUBLE-T	–
R335.29 R35A DCB=22	MC6S10X40	LUBRICATION_SET_19	H4B-T07P	C02545-T07P	–	DOUBLE-T	–
R335.29 R3A DCB=22	MC6S10X40	LUBRICATION_SET_19	H4B-T07P	C02205-T07P	–	DOUBLE-T	–
R335.29 R4A DCB=22	MC6S10X40	LUBRICATION_SET_19	H4B-T08P	C02506-T08P	–	DOUBLE-T	–
R335.29 R4A DCB=27	MC6S12X35	LUBRICATION_SET_29	H4B-T08P	C02506-T08P	–	DOUBLE-T	–
R335.29 R5A DCB=22	MC6S10X40	LUBRICATION_SET_19	H4B-T09P	C03007-T09P	–	DOUBLE-T	–
R335.29 R5A DCB=27	MC6S12X35	LUBRICATION_SET_29	H4B-T09P	C03007-T09P	–	DOUBLE-T	–
R335.29 R6A DCB=22	MC6S10X40	LUBRICATION_SET_19	H4B-T15P	C03509-T15P	T05P-2	DOUBLE-T	SX2035-T05P
R335.29 R6A DCB=27	MC6S12X35	LUBRICATION_SET_29	H4B-T15P	C03509-T15P	T05P-2	DOUBLE-T	SX2035-T05P

Accessories

For	Insert clamping torque	Torque key
		
R335.29 .REXXX-R35A/.0-XXX-R35A	0.9NM	T00-07P09
R335.29 .REXXX-R3A/.0-XXX-R3A	0.9NM	T00-07P09
R335.29 .REXXX-R4A/.0-XXX-R4A	1.2NM	T00-08P12
R335.29 .REXXX-R5A/.0-XXX-R5A	2.0NM	T00-09P20
R335.29 .REXXX-R5A/.0-XXX-R6A	3.0NM	T00-15P30
R335.29 -R25A	0.5NM	T00-06P05
R335.29 R35A DCB=22	0.9NM	T00-07P09
R335.29 R3A DCB=22	0.9NM	T00-07P09
R335.29 R4A DCB=22	1.2NM	T00-08P12
R335.29 R4A DCB=27	1.2NM	T00-08P12
R335.29 R5A DCB=22	2.0NM	T00-09P20
R335.29 R5A DCB=27	2.0NM	T00-09P20
R335.29 R6A DCB=22	3.0NM	T00-15P30
R335.29 R6A DCB=27	3.0NM	T00-15P30

R335.29 - Round insert – inch - full side - radius profile - Fixed pocket



–For insert selection and cutting data recommendations, see page(s) 529-530, 533-538
–For complete insert programme, see page(s) 886
–For spare parts and technical information, see page 506-512
–For ISO attribute explanation, see page 16

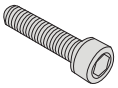
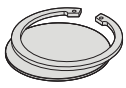
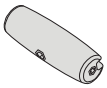
Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	DCB	DCSFMS	TDZ	LF	LB	RPMX	Weight	Insert
			inch	inch	inch		inch	inch		inch	inch		lbs	
R335.29-1.50-12RE-6N-R3	02477694	Combimaster	1.500	0.236	0.297	6	–	0.906	M12	1.102	–	33700	0.440	RD..06T1
R335.29-2.00-16RE-8N-R3	02477702	Combimaster	2.000	0.236	0.409	8	–	1.181	M16	1.102	–	30200	0.660	RD..06T1
R335.29-2.00-16RE-6N-R4	02477709	Combimaster	2.000	0.315	0.409	6	–	1.181	M16	1.102	–	20200	0.660	RD..08
R335.29I-02.50-6N-R5A	03278722	Arbor	2.500	0.394	0.587	6	0.750	1.501	–	1.998	1.075	13500	1.100	RD..10T3
R335.29I-03.00-8N-R5A	03278723	Arbor	3.000	0.394	0.700	8	1.000	1.803	–	2.000	1.052	12000	1.320	RD..10T3

R335.29I Disc Milling cutters offer indexing possibility

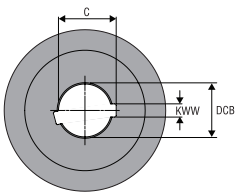
Note: All cutters are equipped with central coolant channels, Arbor type are delivered with a lid kit to get central coolant capability

Spare Parts, included in delivery

Accessories

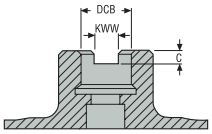
For cutter	Arbor screw	Coolant kit	Insert key	Insert screw	Key (T-handle)	Insert clamping torque	Torque key
							
R335.29I -R5A DCB=0.750	UC6S3/8UNFX11/2	LUBRICATION_SET_19	H4B-T09P	C03007-T09P	DOUBLE-T	0.9NM	T00-07P09
R335.29I -R5A DCB=1.000	UC6S1/2UNFX1-1/2	LUBRICATION_SET_29	H4B-T09P	C03007-T09P	DOUBLE-T	1.2NM	T00-08P12
R335.29 RE- R3	–	–	H4B-T07P	C02205-T07P	DOUBLE-T	2.0NM	T00-09P20
R335.29 RE- R4	–	–	H4B-T08P	C02506-T08P	DOUBLE-T		

335.18, 335.25 and 335.98 – Keyway for Arbor hole type and Arbor cutter



Dimensions in mm		
DCB	KWW	C
22	6	24,15
27	7	29,9
40	10	43,6
50	12	53,6
60	14	64,3

Dimensions in inch		
DCB	KWW	C
1.00	*0.250*	*1.110*
1.25	*0.312*	*1.393*
1.50	*0.375*	*1.673*
2.00	*0.500*	*2.198*



Dimensions in mm		
DCB	KWW	C
16	8,4	5,6
22	10,4	6,3
27	12,4	7
32	14,4	8
40	16,4	9

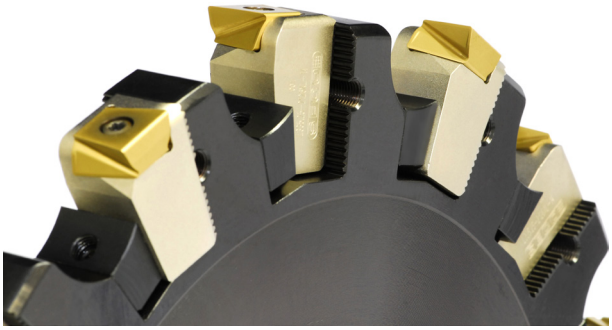
Dimensions in inch		
DCB	KWW	C
0.75	*0.32*	*0.19*
1.00	*0.38*	*0.22*
1.25	*0.51*	*0.28*
1.50	*0.63*	*0.38*

Retaining screw Arbor type cutter: R335.18 / R335.25 (supplied with the cutter in the delivery) - Metric/Inch

For cutter dia – metric	Cutter 335.18 adj. "0810", "1012", "1215" series – metric	Cutter 335.25 - adjustable – metric	For cutter dia – Inch	Cutter 335.25 - adjustable – Inch
63	MC6S 10x40	-	*2.50*	-
80	MC6S 12x40	-	*3.00*	*MLC6S10X45*
100	MC6S 12x40	MC6S12X40	*4.00*	*UC6S1/2UNFX1-1/2*
125	-	MC6S16X40	*5.00*	*ULC6S5/8UNFX11/2*
160	-	MLC6S20X40	*6.00*	*ULC6S3/4UNFX1-1/2*

Note: For disc cutter not mentioned in the tables, please use cross head retaining screw, supplied with the Seco Tooling System shell mill holder

To order a standard adjustable disc milling cutter set at a specific width:



To obtain an adjustable disc mill set to your required dimension add "/ADJ" at the end of the reference and specify your required width which will be set with a tolerance of +/- 0,03 mm (+/- .001"). Without specification the standard disc mill is set to the minimum cutting width.

Ordering example: R335.25-200.1317.40-7N/ADJ and specify on your order your width to any value within its range, for example specify a cutting width of 15.50mm in your order. The disc mill will be set to 15.50 +/- 0,03 mm (0.610" +/- .001").

The delivery time is approx. 3 days for a set adjustable disc mill.

(R)335.18 – LNK inserts



LNK.05
For width 8-10, .312"-.375"



LNK.06
For width 10-12, .625"



LNK.08
For width 12-15, 500"-.750"

LNK.06 and LNK.08 have the same size, but LNK.06 have a reduced cutting length (6mm, .250") to decrease cutting forces for width= 10-12 mm, .394"-.472". LNK.08 have a cutting length = 7,5 mm, .295" for width 12-15 mm, .500"-.750".

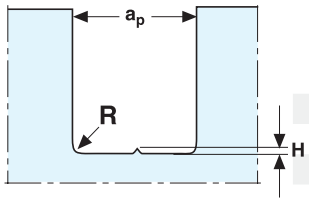
Radius possibilities/Number of cutting edges

	Insert	R	Fixed pocket version: CW =						Adjustable version: CW =				R	Fixed pocket version: CW inch =				Adjustable version: CW inch =			
			8	10	12	14	17	20	8	10	12	15		0.312/ 0.375	0.500	0.625	0.750	0.313	0.394	0.472	0.591
4 cutting edges																					
	LNK.050404	0,4	x	x					x	x			.016	x				x	x		
	LNK.050408	0,8	x	x					x	x			.031	x				x	x		
	LNK.050416	1,6	x	x					x	x			.063	x				x	x		
	LNK.050420	2,0	x	x					x	x			.079	x				x	x		
	LNK.060504	0,4		x	x		x			x	x		.016			x			x	x	
	LNK.060508	0,8		x	x		x			x	x		.031			x			x	x	
	LNK.060516	1,6		x	x		x			x	x		.063			x			x	x	
	LNK.080504	0,4		o	o	x	o	x		o	o	x	.016		x	o	x		o	o	x
	LNK.080508	0,8		o	o	x	o	x		o	o	x	.031		x	o	x		o	o	x
	LNK.080516	1,6		o	o	x	o	x		o	o	x	.063		x	o	x		o	o	x
	LNK.080520	2,0		x	x	x	x	x		x	x	x	.079		x	x	x		x	x	x
	LNK.080524	2,4		x	x	x	x	x		x	x	x	.094		x	x	x		x	x	x
2 cutting edges																					
	LNK.050424	2,4	x	x					x	x			.094	x				x	x		
	LNK.060531	3,1		x	x		x			x	x		.122			x			x	x	
	LNK.080531	3,1			o	x	o	x			o	x	.122		x	o	x			o	x
1 cutting edge (L and R insert)																					
	LNK.050431...C*	3,1	x						x				.122	x				x	x		
	LNK.050431*	3,1		x						x			.157			x			x	x	
	LNK.060540	4,0		x	x		x			x	x		.157		x	o	x			o	x
	LNK.080540	4,0			o	x	o	x			o	x									

*LNK.0504031...C is the first choice for CW = 8 to 9mm and LNK.0504031 is the first choice for CW= 9 to 10mm

x = First choice o = Alternative choice

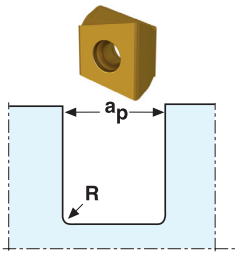
Width and profile generated with LNK.06/08 radii R1,6/R2,0 and R2,4



a_p (mm)	H (mm) Radius 1,6	H (mm) Radii 2 and 2,4	a_p (in)	H (in) Radius .063	H (in) Radii .079 and .095
13,4	–	0	.518	–	0
14	–	0,03	.551	–	.001
14,2	0	0,07	.559	0	.003
14,5	0,01	0,13	.570	.0004	.005
15	0,1	0,3	.591	.004	.012

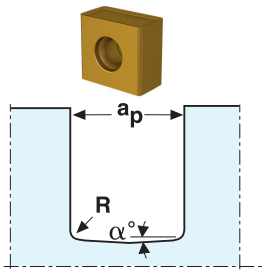
(R)335.25 – LNHQ/XNHQ inserts

Width and profile generated by XNHQ insert with fixed pocket cutter for a_p = 15/20/25mm, a_p = 0.75", 1.00"



Insert corner radius	a_p = 15mm	a_p = 20mm	a_p = 25mm	Insert corner radius	a_p = 0.75"	a_p = 1.00"
0,4	15	20	25	0.016	0.75	1.00
0,8	15	20	25	0.032	0.75	1.00
1,2	15	20	25	0.047	0.75	1.00
1,6	15	20	25	0.063	0.75	1.00
2	15	20	25	0.079	0.75	1.00
2,4	15	20	25	0.094	0.75	1.00
3,1	14,86	20	25	0.122	0.75	1.00
4	14,6	19,78	25	0.157	0.741	1.00
5	–	19,46	24,73	0.197	0.729	0.989
6	–	–	24,46	0.236	–	0.979

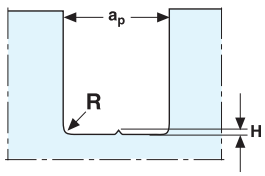
Width and profile generated by LNHQ* insert with fixed pocket cutter for a_p = 25mm, a_p = 1.00"



Insert corner radius mm	a_p mm generated	angle α°	Insert corner radius inch	a_p inch generated	angle α°
0,8	25,17	2	0.0315	1.007	2
3,1	25,02	2	0.122	1.001	2
4	24,92	2	0.157	0.997	2
5	24,78	2	0.197	0.992	2
6	24,64	2	0.236	0.986	2

*LNHQ is an insert intended for roughing in difficult conditions (this will not generate a flat bottom).

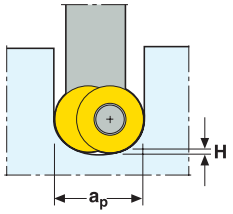
Width and profile generated with XNHQ 14 and 17 insert, radii 5 and 6 mm, radii 0.197" and 0.236" with adjustable cutter



Width cutter	a_p mm	H (mm)		Width cutter	a_p inch	H (inch)	
		Radius 5	Radius 6			Radius 0.197"	Radius 0.236"
21-26	25,5	0	0	0.83-1.02	1.004	0	0
21-26	25,8	0	0,01	0.83-1.02	1.016	0	.0004
21-26	26,0	0,01	0,03	0.83-1.02	1.024	.0004	.0011
26-32	31,7	0	0	1.02-1.26	1.248	0	0
26-32	32,0	0	0,01	1.02-1.26	1.260	0	.0004

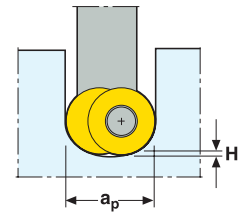
Profile machined with adjustable 335.18/335.25 cutter

335.18/335.25 cutter equipped with round inserts mm/inch



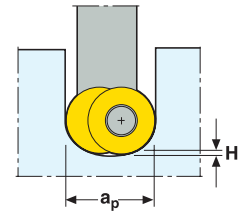
a_p min
a_p max

Round 8		Round 8		Round 10		Round 10	
a_p mm	Profile height H mm	a_p inch	Profile height H inch	a_p mm	Profile height H mm	a_p inch	Profile height H inch
8,03	0	.316	0	10,03	0	.406	0
8,50	0	.335	0	10,50	0	.413	0
9,00	0,03	.354	.001	11,00	0,025	.433	.001
9,50	0,07	.374	.003	11,50	0,060	.453	.002
10,00	0,13	.394	.005	12,00	0,100	.472	.004
Recom. min setting width is 8,03 mm		Recom. min setting width is .316 inch		Recom. min setting width is 10,03 mm		Recom. min setting width is .406 inch	



a_p min
a_p max

Round 12		Round 12		Round 16		Round 16	
a_p mm	Profile height H mm	a_p inch	Profile height H inch	a_p mm	Profile height H mm	a_p inch	Profile height H inch
12,03	0	.474	0	16,03	0	.631	0
12,50	0,01	.492	.0004	16,50	0	.650	0
13,00	0,02	.512	.001	17,00	0,02	.669	.001
14,00	0,08	.551	.002			.709	.002
15,00	0,19	.591	.007			.728	.004
Recom. min setting width is 12,03 mm		Recom. min setting width is .474 inch		Recom. min setting width is 16,03 mm		Recom. min setting width is .631 inch	



a_p min
a_p max

Round 20		Round 20	
a_p mm	Profile height H mm	a_p inch	Profile height H inch
20,03	0	0,789	0,0000
20,5	0,01	0,807	0,0004
21	0,02	0,827	0,0008
Recom. min setting width is 20,03 mm		Recom. min setting width is 0,789 inch	

Spare parts

(R)335.18 -LNK and round insert - Adjustable design - Metric

(R)335.18-xxx-	Insert type	Insert screw/Nm	Insert key	Wedge	Wedge screw	Key for wedge screw	Adjusting screw	Key for adjusting screw	Cassettes R335.18-...	Cassettes L335.18-...
										
0810	LN.K05...	C02508-T08P/1,2	H4B-T08P	335.18-607	LD5018F-T15P	H6B-T15PL	SH6004-T08P	H4B-T08P	...0810-05	...0810-05
0810XL	LN.K05...	C02508-T08P/1,2	H4B-T08P	335.18-XL607	LD5018F-T15P	H6B-T15PL	SH6004-T08P	H4B-T08P	...0810XL-05	...0810XL-05
0810	RD..08..	C02506-T08P/1,2	H4B-T08P	335.18-607	LD5018F-T15P	H6B-T15PL	SH6004-T08P	H4B-T08P	N335.18-08-R4	N335.18-08-R4
0810XL	RD..08..	C02506-T08P/1,2	H4B-T08P	335.18-XL607	LD5018F-T15P	H6B-T15PL	SH6004-T08P	H4B-T08P	N335.18-08XL-R4	N335.18-08XL-R4
1012	LNK.06..	C73007-T09P/2,0	H4B-T09P	335.18-609	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...1012-06	...1012-06
1012XL	LNK.06..	C73007-T09P/2,0	H4B-T09P	335.18-XL609	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...1012XL-06	...1012XL-06
1012	RD..10T3	C03007-T09P/2,0	H4B-T09P	335.18-609	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...10-R5I	...10-R5I
1012XL	RD..10T3	C03007-T09P/2,0	H4B-T09P	335.18-XL609	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...10XL-R5I	...10XL-R5I
1215	LNK08..	C73007-T09P/2,0	H4B-T09P	335.18-611	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...1215-08	...1215-08
1215XL	LNK08..	C73007-T09P/2,0	H4B-T09P	335.18-XL611	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...1215XL-08	...1215XL-08
1215	RP..12..	C03508-T15P/3,0	H6B-T15PL	335.18-611	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...12-R6	...12-R6
1215XL	RP..12..	C03508-T15P/3,0	H6B-T15PL	335.18-XL611	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...12XL-R6	...12XL-R6

Torque and fixed keys, see page 944

(R)335.18 -LNK and round insert - Adjustable design - Inch

(R)335.18-xxx-	Insert type	Insert screw/in. lbs	Insert key	Wedge	Wedge screw	Key for wedge screw	Adjusting screw	Key for adjusting screw	Cassettes R335.18-...	Cassettes L335.18-...
										
0506	LN.K05...	C02508-T08P 10.6	H4B-T08P	335.18-607	LD5018F-T15P	H6B-T15PL	SH6004-T08P	H4B-T08P	...0810-05	...0810-05
XL0506	LN.K05...	C02508-T08P 10.6	H4B-T08P	335.18-XL607	LD5018F-T15P	H6B-T15PL	SH6004-T08P	H4B-T08P	...0810XL-05	...0810XL-05
0506	RD..08..	C02508-T08P 10.6	H4B-T08P	335.18-607	LD5018F-T15P	H6B-T15PL	SH6004-T08P	H4B-T08P	N335.18-08-R4	N335.18-08-R4
XL0506	RD..08..	C02508-T08P 10.6	H4B-T08P	335.18-XL607	LD5018F-T15P	H6B-T15PL	SH6004-T08P	H4B-T08P	N335.18-08XL-R4	N335.18-08XL-R4
0708	LNK.06..	C73007-T09P 17.7	H4B-T08P	335.18-609	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...1012-06	...1012-06
XL0708	LNK.06..	C73007-T09P 17.7	H4B-T09P	335.18-XL609	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...1012XL-06	...1012XL-06
0708	RD..10T3	C73007-T09P 17.7	H4B-T09P	335.18-609	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...10-R5	...10-R5
XL0708	RD..10T3	C73007-T09P 17.7	H4B-T09P	335.18-XL609	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...10XL-R5	...10XL-R5
0809	LNK08..	C73007-T09P 17.7	H4B-T09P	335.18-611	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...1215-08	...1215-08
XL0809	LNK08..	C73007-T09P 17.7	H4B-T09P	335.18-XL611	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...1215XL-08	...1215XL-08
0809	RP..12..	C03508-T15P 26.6	H4B-T09P	335.18-611	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...12-R6	...12-R6
XL0809	RP..12..	C03508-T15P 26.6	H6B-T15PL	335.18-XL611	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...12XL-R6	...12XL-R6

Torque and fixed keys, see page 944

Spare parts

For adjustable cutter (R)335.25 equipped with XNHQ09/12/14/17 and LNHQ14/17 inserts - Metric

(R)335.25-xxx-	Insert type	Insert screw/Nm	Insert key	Wedge	Wedge screw	Key for wedge screw	Adjusting screw	Key for adjusting screw	Cassettes R335.25-...	Cassettes L335.25-...
										
1317	XNHQ09	C03509-T10P/3	H4B-T10P	335.25-612	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	1317-09*	1317-09*
1317XL	XNHQ09	C03509-T10P/3	H4B-T10P	335.25-612	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	1317XL-09	1317XL-09
1721	XNHQ12	C03511-T10P/3	H4B-T10P	335.25-616	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	1721-12**	1721-12**
1721XL	XNHQ12	C03511-T10P/3	H4B-T10P	335.25-616	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	1721XL-12	1721XL-12
2126	XNHQ14 / LNHQ14	C04013-T15P/5	H4B-T15P	335.25-620	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	2126-14***	2126-14***
2126XL	XNHQ14 / LNHQ14	C04013-T15P/5	H4B-T15P	335.25-620	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	2126XL-14	2126XL-14
2632	XNHQ17 / LNHQ17	C05013-T20P/5	H6B-T20P	335.25-625	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	2632-17****	2632-17****
2632XL	XNHQ17 / LNHQ17	C05013-T20P/5	H6B-T20P	335.25-625	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	2632XL-17	2632XL-17

*Cassette compatible with adjustable disc milling cutter x335.18-xxx-1418 series to generate width of cut from 14 to 17 mm, generating nominal “DC” diameter
**Cassette compatible with adjustable disc milling cutter x335.18-xxx-1924 series to generate width of cut from 18.5 to 21 mm, generating nominal “DC” diameter
***Cassette compatible with adjustable disc milling cutter x335.18-xxx-2530 series to generate width of cut from 24,3 to 26 mm, generating nominal “DC” diameter
**** Cassette compatible with adjustable disc milling cutter x335.18-xxx-2530 series to generate width of cut from 26 to 30,5 mm, generating nominal “DC” diameter

For adjustable cutter (R)335.25 equipped with round insert dia 16 and 20mm - Metric

(R)335.25-xxx-	Insert type	Insert screw/Nm	Insert key	Wedge	Wedge screw	Key for wedge screw	Adjusting screw	Key for adjusting screw	Cassettes R335.25-...	Cassettes L335.25-...
										
1317	RP..1605	C05010-T20P / 5	H6B-T20P	335.25-612	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...16-R8I-D5*	...16-R8I-D5*
1317XL	RP..1605	C05010-T20P / 5	H6B-T20P	335.25-612	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...16XL-R8I-D5	...16XL-R8I-D5
1721XL	RP..2006	C05013-T20P / 5	H6B-T20P	335.25-616	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...20XL-R10I-D5	...20XL-R10I-D5

*Cassette compatible with adjustable disc milling cutter x335.18-xxx-1418 series to generate width of cut from 16 to 18,5 mm, generating nominal “DC” diameter +5mm

Spare parts

Spare parts for adjustable cutter (R)335.25 equipped with XNHQ09/12/14/17 and LNHQ14/17 inserts - Inch

(R)335.25-xxx-	Insert type	Insert screw/in. lbs	Insert key	Wedge	Wedge screw	Key for wedge screw	Adjusting screw	Key for adjusting screw	Cassettes R335.25-...	Cassettes L335.25-...
										
0911	XNHQ09	C03509-T10P/26.5	H4B-T10P	335.25-612	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	1317-09*	1317-09*
XL0911	XNHQ09	C03509-T10P/26.5	H4B-T10P	335.25-612	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	1317XL-09	1317XL-09
1113	XNHQ12	C03511-T10P/26.5	H4B-T10P	335.25-616	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	1721-12**	1721-12**
XL1113	XNHQ12	C03511-T10P/26.5	H4B-T10P	335.25-616	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	1721XL-12	1721XL-12
1316	XNHQ14 / LNHQ14	C04013-T15P/44	H4B-T15P	335.25-620	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	2126-14***	2126-14***
XL1316	XNHQ14 / LNHQ14	C04013-T15P/44	H4B-T15P	335.25-620	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	2126XL-14	2126XL-14
1620	XNHQ17 / LNHQ17	C05013-T20P/44	H6B-T20P	335.25-625	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	2632-17****	2632-17****
XL1620	XNHQ17 / LNHQ17	C05013-T20P/44	H6B-T20P	335.25-625	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	2632XL-17	2632XL-17

*Cassette compatible with adjustable disc milling cutter x335.18-xxx-1418 series to generate width of cut from 14 to 17 mm, generating nominal “DC” diameter
**Cassette compatible with adjustable disc milling cutter x335.18-xxx-1924 series to generate width of cut from 18.5 to 21 mm, generating nominal “DC” diameter
***Cassette compatible with adjustable disc milling cutter x335.18-xxx-2530 series to generate width of cut from 24,3 to 26 mm, generating nominal “DC” diameter
**** Cassette compatible with adjustable disc milling cutter x335.18-xxx-2530 series to generate width of cut from 26 to 30,5 mm, generating nominal “DC” diameter

Spare parts for adjustable cutter (R)335.25 equipped with round insert dia 16 and 20mm - Inch

(R)335.25-xxx-	Insert type	Insert screw/in. lbs	Insert key	Wedge	Wedge screw	Key for wedge screw	Adjusting screw	Key for adjusting screw	Cassettes R335.25-...	Cassettes L335.25-...
										
0911	RP..1605	C05010-T20P/44.3	H6B-T20P	335.25-612	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	…16-R8I-D5*	…16-R8I-D5*
XL0911	RP..1605	C05010-T20P/44.3	H6B-T20P	335.25-612	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	…16XL-R8I-D5	…16XL-R8I-D5
XL1113	RP..2006	C05010-T20P/44.3	H6B-T20P	335.25-616	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...20XL-R10I-D5	...20XL-R10I-D5

*Cassette compatible with adjustable disc milling cutter x335.18-xxx-1418 series to generate width of cut from 16 to 18,5 mm, generating nominal “DC” diameter +5mm

335.18-LNK – Insert selection – mm/Inch

SMG				f_z		
				30%	20%	10%
P1	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,12 *0.0048*	0,14 *0.0055*	0,19 *0.0075*
P2	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,13 *0.0050*	0,14 *0.0055*	0,19 *0.0075*
P3	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,12 *0.0048*	0,14 *0.0055*	0,18 *0.0070*
P4	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,12 *0.0048*	0,13 *0.0050*	0,18 *0.0070*
P5	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,11 *0.0044*	0,13 *0.0050*	0,17 *0.0065*
P6	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,11 *0.0044*	0,13 *0.0050*	0,17 *0.0065*
P7	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,11 *0.0044*	0,13 *0.0050*	0,17 *0.0065*
P8	LNKT05...-M06 MP3000	LNKT06...-M06 MP3000	*LNKT08...-M06 MP3000*	0,12 *0.0048*	0,14 *0.0055*	0,18 *0.0070*
P11	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,11 *0.0044*	0,13 *0.0050*	0,17 *0.0065*
P12	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,075 *0.0030*	0,090 *0.0036*	0,12 *0.0048*
M1	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,13 *0.0050*	0,14 *0.0055*	0,19 *0.0075*
M2	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,11 *0.0044*	0,13 *0.0050*	0,17 *0.0065*
M3	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,090 *0.0036*	0,10 *0.0040*	0,14 *0.0055*
M4	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,080 *0.0032*	0,090 *0.0036*	0,12 *0.0048*
M5	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,080 *0.0032*	0,090 *0.0036*	0,12 *0.0048*
K1	LNKT05...-M06 MP3000	LNKT06...-M06 MK2050	*LNKT08...-M06 MK2050*	0,13 *0.0050*	0,14 *0.0055*	0,19 *0.0075*
K2	LNKT05...-M06 MP3000	LNKT06...-M06 MK2050	*LNKT08...-M06 MK2050*	0,11 *0.0044*	0,13 *0.0050*	0,17 *0.0065*
K3	LNKT05...-M06 MP3000	LNKT06...-M06 MK2050	*LNKT08...-M06 MK2050*	0,11 *0.0044*	0,13 *0.0050*	0,17 *0.0065*
K4	LNKT05...-M06 MP3000	LNKT06...-M06 MK2050	*LNKT08...-M06 MK2050*	0,11 *0.0044*	0,13 *0.0050*	0,17 *0.0065*
K5	LNKT05...-M06 MP3000	LNKT06...-M06 MK2050	*LNKT08...-M06 MK2050*	0,10 *0.0040*	0,12 *0.0048*	0,16 *0.0065*
K6	LNKT05...-M06 MP3000	LNKT06...-M06 MK2050	*LNKT08...-M06 MK2050*	0,11 *0.0044*	0,13 *0.0050*	0,17 *0.0065*
K7	LNKT05...-M06 MP3000	LNKT06...-M06 MK2050	*LNKT08...-M06 MK2050*	0,10 *0.0040*	0,12 *0.0048*	0,16 *0.0065*
N1	LNKT05...-E05 H25	LNKT06...-E05 H25	*LNKT08...-E05 H25*	0,14 *0.0055*	0,16 *0.0065*	0,22 *0.0085*
N2	LNKT05...-E05 H25	LNKT06...-E05 H25	*LNKT08...-E05 H25*	0,14 *0.0055*	0,16 *0.0065*	0,22 *0.0085*
N3	LNKT05...-E05 H25	LNKT06...-E05 H25	*LNKT08...-E05 H25*	0,14 *0.0055*	0,16 *0.0065*	0,22 *0.0085*
N11	LNKT05...-E05 H25	LNKT06...-E05 H25	*LNKT08...-E05 H25*	0,14 *0.0055*	0,16 *0.0065*	0,22 *0.0085*
S1	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,080 *0.0032*	0,090 *0.0036*	0,12 *0.0048*
S2	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,080 *0.0032*	0,090 *0.0036*	0,12 *0.0048*
S3	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,075 *0.0030*	0,085 *0.0034*	0,11 *0.0044*
S11	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,090 *0.0036*	0,10 *0.0040*	0,14 *0.0055*
S12	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,090 *0.0036*	0,10 *0.0040*	0,14 *0.0055*
S13	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,080 *0.0032*	0,090 *0.0036*	0,12 *0.0048*
H5	LNKT05...-M06 MP3000	LNKT06...-M06 MP3000	*LNKT08...-M06 MP3000*	0,075 *0.0030*	0,090 *0.0036*	0,12 *0.0048*
H8	LNKT05...-M06 MP3000	LNKT06...-M06 MP3000	*LNKT08...-M06 MP3000*	0,060 *0.0024*	0,070 *0.0028*	0,090 *0.0036*
H11	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,075 *0.0030*	0,090 *0.0036*	0,12 *0.0048*
H12	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,060 *0.0024*	0,070 *0.0028*	0,090 *0.0036*
H21	LNKT05...-M06 MP3000	LNKT06...-M06 MP3000	*LNKT08...-M06 MP3000*	0,060 *0.0024*	0,070 *0.0028*	0,090 *0.0036*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

335.18-LNK – Cutting data v_c = (m/min)/(sf/min)

SMG	MK2050			MP3000			F40M			H25			MK1501			MP2501			MP3501		
	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%
P1	255	275	300	245	265	290	200	210	230	—	—	—	—	—	—	340	355	380	305	320	345
	840	*900*	*980*	*800*	*870*	*950*	*660*	*690*	*750*	—	—	—	—	—	—	*1125*	*1175*	*1250*	*1000*	*1050*	*1125*
P2	245	265	295	235	255	285	190	205	225	—	—	—	—	—	—	325	345	370	295	315	335
	800	*870*	*970*	*770*	*840*	*940*	*620*	*670*	*740*	—	—	—	—	—	—	*1075*	*1125*	*1225*	*970*	*1025*	*1100*
P3	215	230	255	205	220	245	165	175	195	—	—	—	—	—	—	285	300	325	255	270	290
	710	*750*	*840*	*670*	*720*	*800*	*540*	*570*	*640*	—	—	—	—	—	—	*940*	*980*	*1075*	*840*	*890*	*950*
P4	190	205	225	180	200	215	145	160	175	—	—	—	—	—	—	250	265	285	225	240	255
	620	*670*	*740*	*590*	*660*	*710*	*475*	*520*	*570*	—	—	—	—	—	—	*820*	*870*	*940*	*740*	*790*	*840*
P5	185	195	220	180	190	210	140	150	170	—	—	—	—	—	—	245	255	275	220	230	245
	610	*640*	*720*	*590*	*620*	*690*	*460*	*490*	*560*	—	—	—	—	—	—	*800*	*840*	*900*	*720*	*750*	*800*
P6	210	220	245	200	210	235	160	170	190	—	—	—	—	—	—	275	285	305	245	255	275
	690	*720*	*800*	*660*	*690*	*770*	*520*	*560*	*620*	—	—	—	—	—	—	*900*	*940*	*1000*	*800*	*840*	*900*
P7	195	210	230	190	200	225	150	160	180	—	—	—	—	—	—	260	270	290	235	245	260
	640	*690*	*750*	*620*	*660*	*740*	*490*	*520*	*590*	—	—	—	—	—	—	*850*	*890*	*950*	*770*	*800*	*850*
P8	180	195	215	175	185	205	140	150	165	—	—	—	—	—	—	240	250	270	215	225	245
	590	*640*	*710*	*570*	*610*	*670*	*460*	*490*	*540*	—	—	—	—	—	—	*790*	*820*	*890*	*710*	*740*	*800*
P11	190	200	225	185	195	215	145	155	175	—	—	—	—	—	—	250	260	280	225	235	255
	620	*660*	*740*	*610*	*640*	*710*	*475*	*510*	*570*	—	—	—	—	—	—	*820*	*850*	*920*	*740*	*770*	*840*
P12	125	130	145	120	125	140	95	100	110	—	—	—	—	—	—	155	160	170	140	145	155
	410	*425*	*475*	*395*	*410*	*460*	*310*	*330*	*360*	—	—	—	—	—	—	*510*	*520*	*560*	*460*	*475*	*510*
M1	—	—	—	175	190	210	150	165	180	—	—	—	—	—	—	180	195	215	165	180	200
	—	—	—	*570*	*620*	*690*	*490*	*540*	*590*	—	—	—	—	—	—	*590*	*640*	*710*	*540*	*590*	*660*
M2	—	—	—	150	160	175	130	135	150	—	—	—	—	—	—	150	160	180	140	150	165
	—	—	—	*490*	*520*	*570*	*425*	*445*	*490*	—	—	—	—	—	—	*490*	*520*	*590*	*460*	*490*	*540*
M3	—	—	—	120	130	140	105	110	120	—	—	—	—	—	—	120	130	140	115	120	135
	—	—	—	*395*	*425*	*460*	*345*	*360*	*395*	—	—	—	—	—	—	*395*	*425*	*460*	*375*	*395*	*445*
M4	—	—	—	90	100	110	80	85	95	—	—	—	—	—	—	95	100	110	85	95	105
	—	—	—	*295*	*330*	*360*	*260*	*280*	*310*	—	—	—	—	—	—	*310*	*330*	*360*	*280*	*310*	*345*
M5	—	—	—	75	80	90	65	70	80	—	—	—	—	—	—	80	85	90	70	80	85
	—	—	—	*245*	*260*	*295*	*215*	*230*	*260*	—	—	—	—	—	—	*260*	*280*	*295*	*230*	*260*	*280*
K1	265	290	315	155	170	190	150	165	180	—	—	—	400	455	550	330	350	375	295	315	340
	870	*950*	*1025*	*510*	*560*	*620*	*490*	*540*	*590*	—	—	—	*1300*	*1500*	*1800*	*1075*	*1150*	*1225*	*970*	*1025*	*1125*
K2	240	255	285	140	150	170	135	145	160	—	—	—	355	400	485	295	310	330	265	275	300
	790	*840*	*940*	*460*	*490*	*560*	*445*	*475*	*520*	—	—	—	*1175*	*1300*	*1600*	*970*	*1025*	*1075*	*870*	*900*	*980*
K3	205	215	240	120	130	140	115	120	135	—	—	—	245	265	305	250	260	280	225	235	250
	670	*710*	*790*	*395*	*425*	*460*	*375*	*395*	*445*	—	—	—	*800*	*870*	*1000*	*820*	*850*	*920*	*740*	*770*	*820*
K4	195	205	230	115	120	135	110	115	130	—	—	—	235	250	290	240	250	265	215	225	240
	640	*670*	*750*	*375*	*395*	*445*	*360*	*375*	*425*	—	—	—	*770*	*820*	*950*	*790*	*820*	*870*	*710*	*740*	*790*
K5	120	125	140	70	75	80	65	70	80	—	—	—	140	155	175	145	150	160	130	135	145
	395	*410*	*460*	*230*	*245*	*260*	*215*	*230*	*260*	—	—	—	*460*	*510*	*570*	*475*	*490*	*520*	*425*	*445*	*475*
K6	170	180	200	100	105	120	95	100	115	—	—	—	205	220	255	210	220	235	190	195	210
	560	*590*	*660*	*330*	*345*	*395*	*310*	*330*	*375*	—	—	—	*670*	*720*	*840*	*690*	*720*	*770*	*620*	*640*	*690*
K7	150	160	175	90	95	105	85	90	100	—	—	—	180	195	225	185	190	205	165	175	185
	490	*520*	*570*	*295*	*310*	*345*	*280*	*295*	*330*	—	—	—	*590*	*640*	*740*	*610*	*620*	*670*	*540*	*570*	*610*
N1	—	—	—	1400	1500	1675	1125	1200	1325	1150	1225	1350	—	—	—	—	—	—	—	—	—
	—	—	—	*4600*	*4925*	*5500*	*3700*	*3925*	*4350*	*3775*	*4025*	*4425*	—	—	—	—	—	—	—	—	—
N2	—	—	—	560	610	670	450	485	540	465	500	550	—	—	—	—	—	—	—	—	—
	—	—	—	*1825*	*2000*	*2200*	*1475*	*1600*	*1775*	*1525*	*1650*	*1800*	—	—	—	—	—	—	—	—	—
N3	—	—	—	375	405	450	300	325	360	310	330	365	—	—	—	—	—	—	—	—	—
	—	—	—	*1225*	*1325*	*1475*	*980*	*1075*	*1175*	*1025*	*1075*	*1200*	—	—	—	—	—	—	—	—	—
N11	—	—	—	430	465	510	345	370	410	355	380	415	—	—	—	—	—	—	—	—	—
	—	—	—	*1400*	*1525*	*1675*	*1125*	*1225*	*1350*	*1175*	*1250*	*1350*	—	—	—	—	—	—	—	—	—
S1	—	—	—	43	46	50	37	40	44	—	—	—	—	—	—	—	—	—	28	30	34
	—	—	—	*140*	*150*	*165*	*120*	*130*	*145*	—	—	—	—	—	—	—	—	—	*90*	*100*	*110*
S2	—	—	—	34	37	41	30	32	35	—	—	—	—	—	—	—	—	—	23	25	27
	—	—	—	*110*	*120*	*135*	*100*	*105*	*115*	—	—	—	—	—	—	—	—	—	*75*	*80*	*90*
S3	—	—	—	30	32	36	26	28	31	—	—	—	—	—	—	—	—	—	29	31	34
	—	—	—	*100*	*105*	*120*	*85*	*90*	*100*	—	—	—	—	—	—	—	—	—	*95*	*100*	*110*
S11	—	—	—	60	65	70	50	55	60	—	—	—	—	—	—	—	—	—	55	60	65
	—	—	—	*195*	*215*	*230*	*165*	*180*	*195*	—	—	—	—	—	—	—	—	—	*180*	*195*	*215*
S12	—	—	—	50	55	60	44	47	50	—	—	—	—	—	—	—	—	—	39	43	46
	—	—	—	*165*	*180*	*195*	*145*	*155*	*165*	—	—	—	—	—	—	—	—	—	*130*	*140*	*150*
S13	—	—	—	29	31	35	25	27	30	—	—	—	—	—	—	—	—	—	23	24	27
	—	—	—	*95*	*100*	*115*	*80*	*90*	*100*	—	—	—	—	—	—	—	—	—	*75*	*80*	*90*
H5	42	45	49	33	35	39	31	33	37	—	—	—	—	—	—	—	—	—	36	38	42
	140	*150*	*160*	*110*	*115*	*130*	*100*	*110*	*120*	—	—	—	—	—	—	—	—	—	*120*	*125*	*140*
H8	44	47	50	35	37	41	33	35	39	—	—	—	—	—	—	—	—	—	38	40	45
	145	*155*	*165*	*115*	*120*	*135*	*110*	*115*	*130*	—	—	—	—	—	—	—	—	—	*125*	*130*	*150*
H11	55	55	65	42	44	49	40	42	47	—	—	—	—	—	—	—	—	—	46	49	55
	180	*180*	*215*	*140*	*145*	*160*	*130*	*140*	*155*	—	—	—	—	—	—	—	—	—	*150*	*160*	*180*
H12	75	80	90	40	43	48	38	41	45	—	—	—	—	—	—	—	—	—	70	70	80
	245	*260*	*295*	*130*	*140*	*155*	*125*	*135*	*150*	—	—	—	—	—	—	—	—	—	*230*	*230*	*260*
H21	44	47	50	35	37	41	33	35	39	—	—	—	—	—	—	—	—	—	38	40	45
	145	*155*	*165*	*115*	*120*	*135*	*110*	*115*	*130*	—	—	—	—	—	—	—	—	—	*125*	*130*	*150*

335.25-XN09 – Insert selection – mm/Inch

SMG		f_z		
		30%	20%	10%
P1	XNHQ090508TN4-M08 F40M	0,14 *0.0055*	0,16 0.0065	0,22 0.0085
P2	XNHQ090508TN4-M08 F40M	0,14 *0.0055*	0,16 0.0065	0,22 0.0085
P3	XNHQ090508TN4-M08 F40M	0,13 *0.0050*	0,15 0.0060	0,20 0.0080
P4	XNHQ090508TN4-M08 F40M	0,13 *0.0050*	0,15 0.0060	0,20 0.0080
P5	XNHQ090508TN4-M08 F40M	0,13 *0.0050*	0,15 0.0060	0,20 0.0080
P6	XNHQ090508TN4-M08 F40M	0,13 *0.0050*	0,15 0.0060	0,19 0.0075
P7	XNHQ090508TN4-M08 F40M	0,13 *0.0050*	0,15 0.0060	0,19 0.0075
P8	XNHQ090508TN4-M08 MP2501	0,13 *0.0050*	0,15 0.0060	0,20 0.0080
P11	XNHQ090508TN4-M08 F40M	0,13 *0.0050*	0,15 0.0060	0,19 0.0075
P12	XNHQ090508TN4-M08 F40M	0,085 *0.0034*	0,10 0.0040	0,13 0.0050
M1	XNHQ090508TN4-M08 F40M	0,14 *0.0055*	0,16 0.0065	0,22 0.0085
M2	XNHQ090508TN4-M08 F40M	0,13 *0.0050*	0,15 0.0060	0,20 0.0080
M3	XNHQ090508TN4-M08 F40M	0,10 *0.0040*	0,12 0.0048	0,16 0.0065
M4	XNHQ090508TN4-M08 F40M	0,090 *0.0036*	0,10 0.0040	0,14 0.0055
M5	XNHQ090508TN4-M08 F40M	0,090 *0.0036*	0,10 0.0040	0,14 0.0055
K1	XNHQ090508TN4-M08 MK2050	0,14 *0.0055*	0,16 0.0065	0,22 0.0085
K2	XNHQ090508TN4-M08 MK2050	0,13 *0.0050*	0,15 0.0060	0,20 0.0080
K3	XNHQ090508TN4-M08 MK2050	0,13 *0.0050*	0,15 0.0060	0,20 0.0080
K4	XNHQ090508TN4-M08 MK2050	0,13 *0.0050*	0,15 0.0060	0,20 0.0080
K5	XNHQ090508TN4-M08 MK2050	0,12 *0.0048*	0,13 0.0050	0,18 0.0070
K6	XNHQ090508TN4-M08 MK2050	0,13 *0.0050*	0,15 0.0060	0,20 0.0080
K7	XNHQ090508TN4-M08 MK2050	0,12 *0.0048*	0,13 0.0050	0,18 0.0070
N1	XNHQ090508EN4-E07 F40M	0,16 *0.0065*	0,18 0.0070	0,24 0.0095
N2	XNHQ090508EN4-E07 F40M	0,16 *0.0065*	0,18 0.0070	0,24 0.0095
N3	XNHQ090508EN4-E07 F40M	0,16 *0.0065*	0,18 0.0070	0,24 0.0095
N11	XNHQ090508EN4-E07 F40M	0,16 *0.0065*	0,18 0.0070	0,24 0.0095
S1	XNHQ090508TN4-M08 F40M	0,090 *0.0036*	0,10 0.0040	0,14 0.0055
S2	XNHQ090508TN4-M08 F40M	0,090 *0.0036*	0,10 0.0040	0,14 0.0055
S3	XNHQ090508TN4-M08 F40M	0,085 *0.0034*	0,095 0.0038	0,13 0.0050
S11	XNHQ090508TN4-M08 F40M	0,10 *0.0040*	0,12 0.0048	0,16 0.0065
S12	XNHQ090508TN4-M08 F40M	0,10 *0.0040*	0,12 0.0048	0,16 0.0065
S13	XNHQ090508TN4-M08 F40M	0,090 *0.0036*	0,10 0.0040	0,14 0.0055
H5	XNHQ090508TN4-M08 MP2501	0,085 *0.0034*	0,10 0.0040	0,13 0.0050
H8	XNHQ090508TN4-M08 MP2501	0,065 *0.0026*	0,075 0.0030	0,10 0.0040
H11	XNHQ090508TN4-M08 F40M	0,085 *0.0034*	0,10 0.0040	0,13 0.0050
H12	XNHQ090508TN4-M08 F40M	0,065 *0.0026*	0,075 0.0030	0,10 0.0040
H21	XNHQ090508TN4-M08 MP2501	0,065 *0.0026*	0,075 0.0030	0,10 0.0040

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

335.25-XN09 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK2050			F40M			MP2501		
	30%	20%	10%	30%	20%	10%	30%	20%	10%
P1	240 *790*	255 *840*	280 *920*	185 *610*	195 *640*	215 *710*	320 *1050*	335 *1100*	360 *1175*
P2	230 *750*	250 *820*	275 *900*	180 *590*	190 *620*	210 *690*	310 *1025*	325 *1075*	350 *1150*
P3	205 *670*	220 *720*	240 *790*	155 *510*	170 *560*	185 *610*	270 *890*	285 *940*	305 *1000*
P4	180 *590*	190 *620*	210 *690*	140 *460*	150 *490*	165 *540*	240 *790*	250 *820*	270 *890*
P5	170 *560*	185 *610*	205 *670*	130 *425*	140 *460*	155 *510*	230 *750*	240 *790*	260 *850*
P6	195 *640*	205 *670*	230 *750*	150 *490*	160 *520*	180 *590*	255 *840*	270 *890*	290 *950*
P7	180 *590*	195 *640*	220 *720*	140 *460*	150 *490*	170 *560*	240 *790*	255 *840*	275 *900*
P8	170 *560*	185 *610*	205 *670*	130 *425*	140 *460*	155 *510*	230 *750*	240 *790*	260 *850*
P11	175 *570*	190 *620*	210 *690*	135 *445*	145 *475*	165 *540*	235 *770*	245 *800*	270 *890*
P12	115 *375*	125 *410*	135 *445*	90 *295*	95 *310*	105 *345*	150 *490*	155 *510*	165 *540*
M1	— —	— —	— —	145 *475*	155 *510*	170 *560*	170 *560*	180 *590*	200 *660*
M2	— —	— —	— —	120 *395*	125 *410*	140 *460*	140 *460*	150 *490*	165 *540*
M3	— —	— —	— —	95 *310*	100 *330*	115 *375*	115 *375*	120 *395*	135 *445*
M4	— —	— —	— —	75 *245*	80 *260*	90 *295*	90 *295*	95 *310*	105 *345*
M5	— —	— —	— —	60 *195*	65 *215*	75 *245*	75 *245*	80 *260*	85 *280*
K1	250 *820*	270 *890*	295 *970*	140 *460*	150 *490*	165 *540*	315 *1025*	330 *1075*	355 *1175*
K2	220 *720*	235 *770*	260 *850*	125 *410*	135 *445*	150 *490*	275 *900*	290 *950*	310 *1025*
K3	190 *620*	200 *660*	220 *720*	105 *345*	115 *375*	125 *410*	235 *770*	245 *800*	265 *870*
K4	180 *590*	190 *620*	210 *690*	100 *330*	110 *360*	120 *395*	225 *740*	235 *770*	250 *820*
K5	110 *360*	120 *395*	130 *425*	60 *195*	65 *215*	75 *245*	135 *445*	145 *475*	155 *510*
K6	160 *520*	170 *560*	185 *610*	90 *295*	95 *310*	105 *345*	195 *640*	205 *670*	220 *720*
K7	140 *460*	150 *490*	165 *540*	80 *260*	85 *280*	95 *310*	175 *570*	185 *610*	195 *640*
N1	— —	— —	— —	1050 *3450*	1125 *3700*	1225 *4025*	— —	— —	— —
N2	— —	— —	— —	420 *1375*	455 *1500*	500 *1650*	— —	— —	— —
N3	— —	— —	— —	280 *920*	305 *1000*	330 *1075*	— —	— —	— —
N11	— —	— —	— —	320 *1050*	345 *1125*	380 *1250*	— —	— —	— —
S1	— —	— —	— —	35 *115*	37 *120*	41 *135*	— —	— —	— —
S2	— —	— —	— —	28 *90*	30 *100*	33 *110*	— —	— —	— —
S3	— —	— —	— —	24 *80*	26 *85*	29 *95*	— —	— —	— —
S11	— —	— —	— —	49 *160*	50 *165*	55 *180*	— —	— —	— —
S12	— —	— —	— —	41 *135*	43 *140*	48 *155*	— —	— —	— —
S13	— —	— —	— —	24 *80*	26 *85*	28 *90*	— —	— —	— —
H5	— —	— —	— —	30 *100*	31 *100*	35 *115*	— —	— —	— —
H8	— —	— —	— —	31 *100*	33 *110*	37 *120*	— —	— —	— —
H11	— —	— —	— —	38 *125*	40 *130*	44 *145*	— —	— —	— —
H12	— —	— —	— —	36 *120*	39 *130*	43 *140*	— —	— —	— —
H21	— —	— —	— —	31 *100*	33 *110*	37 *120*	— —	— —	— —

335.25-XN12 – Insert selection – mm/Inch

SMG		f_z		
		30%	20%	10%
P1	XNHQ120608TN4-M10 F40M	0,17 *0.0065*	0,19 0.0075	0,26 0.010
P2	XNHQ120608TN4-M10 F40M	0,17 *0.0065*	0,20 0.0080	0,26 0.010
P3	XNHQ120608TN4-M10 F40M	0,16 *0.0065*	0,19 0.0075	0,25 0.010
P4	XNHQ120608TN4-M10 F40M	0,16 *0.0065*	0,18 0.0070	0,24 0.0095
P5	XNHQ120608TN4-M10 F40M	0,16 *0.0065*	0,18 0.0070	0,24 0.0095
P6	XNHQ120608TN4-M10 F40M	0,15 *0.0060*	0,18 0.0070	0,24 0.0095
P7	XNHQ120608TN4-M10 F40M	0,15 *0.0060*	0,18 0.0070	0,24 0.0095
P8	XNHQ120608TN4-M10 MP2501	0,16 *0.0065*	0,19 0.0075	0,25 0.010
P11	XNHQ120608TN4-M10 F40M	0,15 *0.0060*	0,18 0.0070	0,24 0.0095
P12	XNHQ120608TN4-M10 F40M	0,11 *0.0044*	0,12 0.0048	0,16 0.0065
M1	XNHQ120608TN4-M10 F40M	0,17 *0.0065*	0,20 0.0080	0,26 0.010
M2	XNHQ120608TN4-M10 F40M	0,16 *0.0065*	0,18 0.0070	0,24 0.0095
M3	XNHQ120608TN4-M10 F40M	0,12 *0.0048*	0,14 0.0055	0,19 0.0075
M4	XNHQ120608TN4-M10 F40M	0,11 *0.0044*	0,13 0.0050	0,17 0.0065
M5	XNHQ120608TN4-M10 F40M	0,11 *0.0044*	0,13 0.0050	0,17 0.0065
K1	XNHQ120608TN4-M10 MK2050	0,17 *0.0065*	0,20 0.0080	0,26 0.010
K2	XNHQ120608TN4-M10 MK2050	0,16 *0.0065*	0,18 0.0070	0,24 0.0095
K3	XNHQ120608TN4-M10 MK2050	0,16 *0.0065*	0,18 0.0070	0,24 0.0095
K4	XNHQ120608TN4-M10 MK2050	0,16 *0.0065*	0,18 0.0070	0,24 0.0095
K5	XNHQ120608TN4-M10 MK2050	0,14 *0.0055*	0,16 0.0065	0,22 0.0085
K6	XNHQ120608TN4-M10 MK2050	0,16 *0.0065*	0,18 0.0070	0,24 0.0095
K7	XNHQ120608TN4-M10 MK2050	0,14 *0.0055*	0,16 0.0065	0,22 0.0085
N1	XNHQ120608EN4-E09 F40M	0,20 *0.0080*	0,22 0.0085	0,30 0.012
N2	XNHQ120608EN4-E09 F40M	0,20 *0.0080*	0,22 0.0085	0,30 0.012
N3	XNHQ120608EN4-E09 F40M	0,20 *0.0080*	0,22 0.0085	0,30 0.012
N11	XNHQ120608EN4-E09 F40M	0,20 *0.0080*	0,22 0.0085	0,30 0.012
S1	XNHQ120608TN4-M10 F40M	0,11 *0.0044*	0,13 0.0050	0,17 0.0065
S2	XNHQ120608TN4-M10 F40M	0,11 *0.0044*	0,13 0.0050	0,17 0.0065
S3	XNHQ120608TN4-M10 F40M	0,10 *0.0040*	0,12 0.0048	0,16 0.0065
S11	XNHQ120608TN4-M10 F40M	0,12 *0.0048*	0,14 0.0055	0,19 0.0075
S12	XNHQ120608TN4-M10 F40M	0,12 *0.0048*	0,14 0.0055	0,19 0.0075
S13	XNHQ120608TN4-M10 F40M	0,11 *0.0044*	0,13 0.0050	0,17 0.0065
H5	XNHQ120608TN4-M10 MP2501	0,11 *0.0044*	0,12 0.0048	0,16 0.0065
H8	XNHQ120608TN4-M10 MP2501	0,080 *0.0032*	0,095 0.0038	0,12 0.0048
H11	XNHQ120608TN4-M10 F40M	0,11 *0.0044*	0,12 0.0048	0,16 0.0065
H12	XNHQ120608TN4-M10 F40M	0,080 *0.0032*	0,095 0.0038	0,12 0.0048
H21	XNHQ120608TN4-M10 MP2501	0,080 *0.0032*	0,095 0.0038	0,12 0.0048

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

335.25-XN12 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK2050			F40M			MP2501		
	30%	20%	10%	30%	20%	10%	30%	20%	10%
P1	230 *750*	250 *820*	275 *900*	175 *570*	190 *620*	210 *690*	310 *1025*	330 *1075*	350 *1150*
P2	225 *740*	240 *790*	265 *870*	170 *560*	185 *610*	205 *670*	300 *980*	315 *1025*	345 *1125*
P3	195 *640*	210 *690*	230 *750*	150 *490*	160 *520*	180 *590*	265 *870*	275 *900*	300 *980*
P4	175 *570*	185 *610*	205 *670*	135 *445*	145 *475*	160 *520*	230 *750*	245 *800*	265 *870*
P5	165 *540*	175 *570*	195 *640*	125 *410*	135 *445*	150 *490*	220 *720*	235 *770*	255 *840*
P6	190 *620*	200 *660*	220 *720*	145 *475*	155 *510*	170 *560*	255 *840*	265 *870*	285 *940*
P7	180 *590*	190 *620*	210 *690*	135 *445*	145 *475*	160 *520*	240 *790*	250 *820*	270 *890*
P8	165 *540*	175 *570*	195 *640*	125 *410*	135 *445*	150 *490*	220 *720*	230 *750*	250 *820*
P11	175 *570*	185 *610*	200 *660*	135 *445*	140 *460*	155 *510*	230 *750*	240 *790*	260 *850*
P12	110 *360*	120 *395*	135 *445*	85 *280*	90 *295*	100 *330*	145 *475*	155 *510*	165 *540*
M1	— —	— —	— —	140 *460*	150 *490*	165 *540*	165 *540*	175 *570*	195 *640*
M2	— —	— —	— —	115 *375*	125 *410*	135 *445*	135 *445*	145 *475*	160 *520*
M3	— —	— —	— —	95 *310*	100 *330*	110 *360*	110 *360*	120 *395*	130 *425*
M4	— —	— —	— —	70 *230*	75 *245*	85 *280*	85 *280*	90 *295*	100 *330*
M5	— —	— —	— —	60 *195*	65 *215*	70 *230*	70 *230*	75 *245*	85 *280*
K1	240 *790*	255 *840*	285 *940*	135 *445*	145 *475*	160 *520*	305 *1000*	320 *1050*	345 *1125*
K2	215 *710*	230 *750*	255 *840*	120 *395*	130 *425*	145 *475*	270 *890*	285 *940*	305 *1000*
K3	180 *590*	195 *640*	215 *710*	100 *330*	110 *360*	120 *395*	225 *740*	240 *790*	260 *850*
K4	170 *560*	185 *610*	205 *670*	95 *310*	105 *345*	115 *375*	215 *710*	230 *750*	245 *800*
K5	105 *345*	115 *375*	125 *410*	60 *195*	65 *215*	70 *230*	135 *445*	140 *460*	150 *490*
K6	150 *490*	165 *540*	180 *590*	85 *280*	90 *295*	100 *330*	190 *620*	200 *660*	220 *720*
K7	135 *445*	145 *475*	160 *520*	75 *245*	80 *260*	90 *295*	170 *560*	180 *590*	190 *620*
N1	— —	— —	— —	1000 *3275*	1075 *3525*	1175 *3850*	— —	— —	— —
N2	— —	— —	— —	405 *1325*	435 *1425*	480 *1575*	— —	— —	— —
N3	— —	— —	— —	270 *890*	290 *950*	320 *1050*	— —	— —	— —
N11	— —	— —	— —	305 *1000*	330 *1075*	365 *1200*	— —	— —	— —
S1	— —	— —	— —	34 *110*	36 *120*	40 *130*	— —	— —	— —
S2	— —	— —	— —	27 *90*	29 *95*	32 *105*	— —	— —	— —
S3	— —	— —	— —	24 *80*	25 *80*	28 *90*	— —	— —	— —
S11	— —	— —	— —	48 *155*	50 *165*	55 *180*	— —	— —	— —
S12	— —	— —	— —	40 *130*	43 *140*	47 *155*	— —	— —	— —
S13	— —	— —	— —	23 *75*	24 *80*	27 *90*	— —	— —	— —
H5	— —	— —	— —	28 *90*	31 *100*	34 *110*	— —	— —	— —
H8	— —	— —	— —	31 *100*	32 *105*	36 *120*	— —	— —	— —
H11	— —	— —	— —	36 *120*	39 *130*	43 *140*	— —	— —	— —
H12	— —	— —	— —	36 *120*	38 *125*	42 *140*	— —	— —	— —
H21	— —	— —	— —	31 *100*	32 *105*	36 *120*	— —	— —	— —

335.25-XN14/XN17 – Insert selection – mm/Inch

SMG			f_z		
			30%	20%	10%
P1	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,20 *0.0080*	0,22 *0.0085*	0,30 *0.012*
P2	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,20 *0.0080*	0,24 *0.0095*	0,32 *0.013*
P3	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,19 *0.0075*	0,22 *0.0085*	0,30 *0.012*
P4	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,19 *0.0075*	0,22 *0.0085*	0,28 *0.011*
P5	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,18 *0.0070*	0,22 *0.0085*	0,28 *0.011*
P6	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,18 *0.0070*	0,20 *0.0080*	0,28 *0.011*
P7	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,18 *0.0070*	0,20 *0.0080*	0,28 *0.011*
P8	XNHQ140708TN4-M11 MP2501	XNHQ170708TN4-M13 MP2501	0,19 *0.0075*	0,22 *0.0085*	0,30 *0.012*
P11	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,18 *0.0070*	0,20 *0.0080*	0,28 *0.011*
P12	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,13 *0.0050*	0,14 *0.0055*	0,19 *0.0075*
M1	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,20 *0.0080*	0,24 *0.0095*	0,32 *0.013*
M2	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,18 *0.0070*	0,22 *0.0085*	0,28 *0.011*
M3	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,15 *0.0060*	0,17 *0.0065*	0,22 *0.0085*
M4	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
M5	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
K1	XNHQ140708TN4-M11 MK2050	XNHQ170708TN4-M13 MK2050	0,20 *0.0080*	0,24 *0.0095*	0,32 *0.013*
K2	XNHQ140708TN4-M11 MK2050	XNHQ170708TN4-M13 MK2050	0,18 *0.0070*	0,22 *0.0085*	0,28 *0.011*
K3	XNHQ140708TN4-M11 MK2050	XNHQ170708TN4-M13 MK2050	0,18 *0.0070*	0,22 *0.0085*	0,28 *0.011*
K4	XNHQ140708TN4-M11 MK2050	XNHQ170708TN4-M13 MK2050	0,18 *0.0070*	0,22 *0.0085*	0,28 *0.011*
K5	XNHQ140708TN4-M11 MK2050	XNHQ170708TN4-M13 MK2050	0,17 *0.0065*	0,19 *0.0075*	0,25 *0.010*
K6	XNHQ140708TN4-M11 MK2050	XNHQ170708TN4-M13 MK2050	0,18 *0.0070*	0,22 *0.0085*	0,28 *0.011*
K7	XNHQ140708TN4-M11 MK2050	XNHQ170708TN4-M13 MK2050	0,17 *0.0065*	0,19 *0.0075*	0,25 *0.010*
N1	XNHQ140708EN4-E10 H25	XNHQ170708EN4-E12 F40M	0,24 *0.0095*	0,28 *0.011*	0,36 *0.014*
N2	XNHQ140708EN4-E10 H25	XNHQ170708EN4-E12 F40M	0,24 *0.0095*	0,28 *0.011*	0,36 *0.014*
N3	XNHQ140708EN4-E10 H25	XNHQ170708EN4-E12 F40M	0,24 *0.0095*	0,28 *0.011*	0,36 *0.014*
N11	XNHQ140708EN4-E10 H25	XNHQ170708EN4-E12 F40M	0,24 *0.0095*	0,28 *0.011*	0,36 *0.014*
S1	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
S2	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
S3	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,12 *0.0048*	0,14 *0.0055*	0,18 *0.0070*
S11	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,15 *0.0060*	0,17 *0.0065*	0,22 *0.0085*
S12	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,15 *0.0060*	0,17 *0.0065*	0,22 *0.0085*
S13	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
H5	XNHQ140708TN4-M11 MP2501	XNHQ170708TN4-M13 MP2501	0,13 *0.0050*	0,14 *0.0055*	0,19 *0.0075*
H8	XNHQ140708TN4-M11 MP2501	XNHQ170708TN4-M13 MP2501	0,095 *0.0038*	0,11 *0.0044*	0,15 *0.0060*
H11	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,13 *0.0050*	0,14 *0.0055*	0,19 *0.0075*
H12	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,095 *0.0038*	0,11 *0.0044*	0,15 *0.0060*
H21	XNHQ140708TN4-M11 MP2501	XNHQ170708TN4-M13 MP2501	0,095 *0.0038*	0,11 *0.0044*	0,15 *0.0060*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

335.25-XN14/XN17 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK2050			F40M			H25			MP2501		
	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%
P1	225 *740*	245 *800*	265 *870*	170 *560*	185 *610*	205 *670*	— —	— —	— —	300 *980*	320 *1050*	345 *1125*
P2	220 *720*	230 *750*	255 *840*	165 *540*	175 *570*	195 *640*	— —	— —	— —	290 *950*	305 *1000*	330 *1075*
P3	190 *620*	205 *670*	225 *740*	145 *475*	155 *510*	170 *560*	— —	— —	— —	255 *840*	270 *890*	290 *950*
P4	165 *540*	180 *590*	200 *660*	130 *425*	140 *460*	155 *510*	— —	— —	— —	225 *740*	235 *770*	260 *850*
P5	165 *540*	170 *560*	190 *620*	125 *410*	130 *425*	150 *490*	— —	— —	— —	220 *720*	225 *740*	250 *820*
P6	180 *590*	195 *640*	215 *710*	140 *460*	150 *490*	165 *540*	— —	— —	— —	245 *800*	260 *850*	280 *920*
P7	170 *560*	185 *610*	205 *670*	130 *425*	145 *475*	155 *510*	— —	— —	— —	230 *750*	245 *800*	265 *870*
P8	160 *520*	170 *560*	190 *620*	125 *410*	130 *425*	145 *475*	— —	— —	— —	215 *710*	225 *740*	245 *800*
P11	165 *540*	180 *590*	200 *660*	130 *425*	140 *460*	150 *490*	— —	— —	— —	225 *740*	240 *790*	255 *840*
P12	110 *360*	120 *395*	130 *425*	85 *280*	90 *295*	100 *330*	— —	— —	— —	145 *475*	155 *510*	165 *540*
M1	— —	— —	— —	135 *445*	145 *475*	160 *520*	— —	— —	— —	160 *520*	170 *560*	185 *610*
M2	— —	— —	— —	115 *375*	120 *395*	135 *445*	— —	— —	— —	135 *445*	140 *460*	155 *510*
M3	— —	— —	— —	90 *295*	95 *310*	110 *360*	— —	— —	— —	105 *345*	115 *375*	130 *425*
M4	— —	— —	— —	70 *230*	75 *245*	85 *280*	— —	— —	— —	85 *280*	90 *295*	100 *330*
M5	— —	— —	— —	60 *195*	65 *215*	70 *230*	— —	— —	— —	70 *230*	75 *245*	80 *260*
K1	235 *770*	250 *820*	275 *900*	135 *445*	140 *460*	155 *510*	— —	— —	— —	295 *970*	305 *1000*	335 *1100*
K2	210 *690*	220 *720*	250 *820*	120 *395*	125 *410*	140 *460*	— —	— —	— —	265 *870*	275 *900*	300 *980*
K3	180 *590*	185 *610*	210 *690*	100 *330*	105 *345*	120 *395*	— —	— —	— —	225 *740*	230 *750*	255 *840*
K4	170 *560*	180 *590*	200 *660*	95 *310*	100 *330*	115 *375*	— —	— —	— —	215 *710*	220 *720*	240 *790*
K5	105 *345*	110 *360*	125 *410*	60 *195*	65 *215*	70 *230*	— —	— —	— —	130 *425*	135 *445*	150 *490*
K6	150 *490*	155 *510*	175 *570*	85 *280*	90 *295*	100 *330*	— —	— —	— —	190 *620*	195 *640*	215 *710*
K7	130 *425*	140 *460*	160 *520*	75 *245*	80 *260*	90 *295*	— —	— —	— —	165 *540*	175 *570*	190 *620*
N1	— —	— —	— —	970 *3175*	1025 *3375*	1150 *3775*	980 *3225*	1050 *3450*	1175 *3850*	— —	— —	— —
N2	— —	— —	— —	390 *1275*	420 *1375*	465 *1525*	395 *1300*	420 *1375*	470 *1550*	— —	— —	— —
N3	— —	— —	— —	260 *850*	280 *920*	310 *1025*	265 *870*	280 *920*	315 *1025*	— —	— —	— —
N11	— —	— —	— —	295 *970*	320 *1050*	355 *1175*	300 *980*	320 *1050*	360 *1175*	— —	— —	— —
S1	— —	— —	— —	33 *110*	35 *115*	39 *130*	— —	— —	— —	— —	— —	— —
S2	— —	— —	— —	27 *90*	28 *90*	31 *100*	— —	— —	— —	— —	— —	— —
S3	— —	— —	— —	23 *75*	25 *80*	28 *90*	— —	— —	— —	— —	— —	— —
S11	— —	— —	— —	46 *150*	49 *160*	55 *180*	— —	— —	— —	— —	— —	— —
S12	— —	— —	— —	38 *125*	41 *135*	46 *150*	— —	— —	— —	— —	— —	— —
S13	— —	— —	— —	22 *70*	24 *80*	27 *90*	— —	— —	— —	— —	— —	— —
H5	— —	— —	— —	28 *90*	30 *100*	33 *110*	— —	— —	— —	— —	— —	— —
H8	— —	— —	— —	30 *100*	32 *105*	35 *115*	— —	— —	— —	— —	— —	— —
H11	— —	— —	— —	35 *115*	38 *125*	42 *140*	— —	— —	— —	— —	— —	— —
H12	— —	— —	— —	35 *115*	37 *120*	41 *135*	— —	— —	— —	— —	— —	— —
H21	— —	— —	— —	30 *100*	32 *105*	35 *115*	— —	— —	— —	— —	— —	— —

335.25-LN14/LN17 – Insert selection – mm/Inch

SMG			f_z		
			30%	20%	10%
P1	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,20 *0.0080*	0,22 *0.0085*	0,30 *0.012*
P2	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,20 *0.0080*	0,24 *0.0095*	0,32 *0.013*
P3	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,19 *0.0075*	0,22 *0.0085*	0,30 *0.012*
P4	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,19 *0.0075*	0,22 *0.0085*	0,28 *0.011*
P5	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,18 *0.0070*	0,22 *0.0085*	0,28 *0.011*
P6	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,18 *0.0070*	0,20 *0.0080*	0,28 *0.011*
P7	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,18 *0.0070*	0,20 *0.0080*	0,28 *0.011*
P8	LNHQ140708TN4-M11 MP2501	LNHQ170708TN4-M13 F40M	0,19 *0.0075*	0,22 *0.0085*	0,30 *0.012*
P11	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,18 *0.0070*	0,20 *0.0080*	0,28 *0.011*
P12	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,13 *0.0050*	0,14 *0.0055*	0,19 *0.0075*
M1	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,20 *0.0080*	0,24 *0.0095*	0,32 *0.013*
M2	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,18 *0.0070*	0,22 *0.0085*	0,28 *0.011*
M3	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,15 *0.0060*	0,17 *0.0065*	0,22 *0.0085*
M4	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
M5	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
K1	LNHQ140708TN4-M11 MP2501	LNHQ170708TN4-M13 F40M	0,20 *0.0080*	0,24 *0.0095*	0,32 *0.013*
K2	LNHQ140708TN4-M11 MP2501	LNHQ170708TN4-M13 F40M	0,18 *0.0070*	0,22 *0.0085*	0,28 *0.011*
K3	LNHQ140708TN4-M11 MP2501	LNHQ170708TN4-M13 F40M	0,18 *0.0070*	0,22 *0.0085*	0,28 *0.011*
K4	LNHQ140708TN4-M11 MP2501	LNHQ170708TN4-M13 F40M	0,18 *0.0070*	0,22 *0.0085*	0,28 *0.011*
K5	LNHQ140708TN4-M11 MP2501	LNHQ170708TN4-M13 F40M	0,17 *0.0065*	0,19 *0.0075*	0,25 *0.010*
K6	LNHQ140708TN4-M11 MP2501	LNHQ170708TN4-M13 F40M	0,18 *0.0070*	0,22 *0.0085*	0,28 *0.011*
K7	LNHQ140708TN4-M11 MP2501	LNHQ170708TN4-M13 F40M	0,17 *0.0065*	0,19 *0.0075*	0,25 *0.010*
S1	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
S2	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
S3	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,12 *0.0048*	0,14 *0.0055*	0,18 *0.0070*
S11	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,15 *0.0060*	0,17 *0.0065*	0,22 *0.0085*
S12	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,15 *0.0060*	0,17 *0.0065*	0,22 *0.0085*
S13	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
H5	LNHQ140708TN4-M11 MP2501	LNHQ170708TN4-M13 F40M	0,13 *0.0050*	0,14 *0.0055*	0,19 *0.0075*
H8	LNHQ140708TN4-M11 MP2501	LNHQ170708TN4-M13 F40M	0,095 *0.0038*	0,11 *0.0044*	0,15 *0.0060*
H11	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,13 *0.0050*	0,14 *0.0055*	0,19 *0.0075*
H12	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,095 *0.0038*	0,11 *0.0044*	0,15 *0.0060*
H21	LNHQ140708TN4-M11 MP2501	LNHQ170708TN4-M13 F40M	0,095 *0.0038*	0,11 *0.0044*	0,15 *0.0060*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

335.25-LN14/LN17 – Cutting data v_c = (m/min)/(sf/min)

SMG	F40M			MP2501		
	30%	20%	10%	30%	20%	10%
P1	170 *560*	185 *610*	205 *670*	300 *980*	320 *1050*	345 *1125*
P2	165 *540*	175 *570*	195 *640*	290 *950*	305 *1000*	330 *1075*
P3	145 *475*	155 *510*	170 *560*	255 *840*	270 *890*	290 *950*
P4	130 *425*	140 *460*	155 *510*	225 *740*	235 *770*	260 *850*
P5	125 *410*	130 *425*	150 *490*	220 *720*	225 *740*	250 *820*
P6	140 *460*	150 *490*	165 *540*	245 *800*	260 *850*	280 *920*
P7	130 *425*	145 *475*	155 *510*	230 *750*	245 *800*	265 *870*
P8	125 *410*	130 *425*	145 *475*	215 *710*	225 *740*	245 *800*
P11	130 *425*	140 *460*	150 *490*	225 *740*	240 *790*	255 *840*
P12	85 *280*	90 *295*	100 *330*	145 *475*	155 *510*	165 *540*
M1	135 *445*	145 *475*	160 *520*	160 *520*	170 *560*	185 *610*
M2	115 *375*	120 *395*	135 *445*	135 *445*	140 *460*	155 *510*
M3	90 *295*	95 *310*	110 *360*	105 *345*	115 *375*	130 *425*
M4	70 *230*	75 *245*	85 *280*	85 *280*	90 *295*	100 *330*
M5	60 *195*	65 *215*	70 *230*	70 *230*	75 *245*	80 *260*
K1	135 *445*	140 *460*	155 *510*	295 *970*	305 *1000*	335 *1100*
K2	120 *395*	125 *410*	140 *460*	265 *870*	275 *900*	300 *980*
K3	100 *330*	105 *345*	120 *395*	225 *740*	230 *750*	255 *840*
K4	95 *310*	100 *330*	115 *375*	215 *710*	220 *720*	240 *790*
K5	60 *195*	65 *215*	70 *230*	130 *425*	135 *445*	150 *490*
K6	85 *280*	90 *295*	100 *330*	190 *620*	195 *640*	215 *710*
K7	75 *245*	80 *260*	90 *295*	165 *540*	175 *570*	190 *620*
N1	970 *3175*	1025 *3375*	1150 *3775*	— —	— —	— —
N2	390 *1275*	420 *1375*	465 *1525*	— —	— —	— —
N3	260 *850*	280 *920*	310 *1025*	— —	— —	— —
N11	295 *970*	320 *1050*	355 *1175*	— —	— —	— —
S1	33 *110*	35 *115*	39 *130*	— —	— —	— —
S2	27 *90*	28 *90*	31 *100*	— —	— —	— —
S3	23 *75*	25 *80*	28 *90*	— —	— —	— —
S11	46 *150*	49 *160*	55 *180*	— —	— —	— —
S12	38 *125*	41 *135*	46 *150*	— —	— —	— —
S13	22 *70*	24 *80*	27 *90*	— —	— —	— —
H5	28 *90*	30 *100*	33 *110*	— —	— —	— —
H8	30 *100*	32 *105*	35 *115*	— —	— —	— —
H11	35 *115*	38 *125*	42 *140*	— —	— —	— —
H12	35 *115*	37 *120*	41 *135*	— —	— —	— —
H21	30 *100*	32 *105*	35 *115*	— —	— —	— —

335.25-XN05 – Insert selection – mm/Inch

SMG		f_z		
		30%	20%	10%
P1	XNXU050508TN8-M07 F40M	0,14 *0.0055*	0,16 0.0065	0,22 0.0085
P2	XNXU050508TN8-M07 F40M	0,15 *0.0060*	0,17 0.0065	0,22 0.0085
P3	XNXU050508TN8-M07 MP2501	0,14 *0.0055*	0,16 0.0065	0,22 0.0085
P4	XNXU050508TN8-M07 MP2501	0,13 *0.0050*	0,15 0.0060	0,20 0.0080
P5	XNXU050508TN8-M07 MP2501	0,13 *0.0050*	0,15 0.0060	0,20 0.0080
P6	XNXU050508TN8-M07 MP2501	0,13 *0.0050*	0,15 0.0060	0,20 0.0080
P7	XNXU050508TN8-M07 MP2501	0,13 *0.0050*	0,15 0.0060	0,20 0.0080
P8	XNXU050508TN8-M07 MP2501	0,14 *0.0055*	0,16 0.0065	0,22 0.0085
P11	XNXU050508TN8-M07 F40M	0,13 *0.0050*	0,15 0.0060	0,20 0.0080
P12	XNXU050508TN8-M07 F40M	0,090 *0.0036*	0,10 0.0040	0,14 0.0055
M1	XNXU050508TN8-M07 F40M	0,15 *0.0060*	0,17 0.0065	0,22 0.0085
M2	XNXU050508TN8-M07 F40M	0,13 *0.0050*	0,15 0.0060	0,20 0.0080
M3	XNXU050508TN8-M07 F40M	0,11 *0.0044*	0,12 0.0048	0,16 0.0065
M4	XNXU050508TN8-M07 F40M	0,10 *0.0040*	0,11 0.0044	0,15 0.0060
M5	XNXU050508TN8-M07 F40M	0,10 *0.0040*	0,11 0.0044	0,15 0.0060
K1	XNXU050516TN8-M07 MK2050	0,16 *0.0065*	0,18 0.0070	0,24 0.0095
K2	XNXU050508TN8-M07 MK2050	0,13 *0.0050*	0,15 0.0060	0,20 0.0080
K3	XNXU050508TN8-M07 MK2050	0,13 *0.0050*	0,15 0.0060	0,20 0.0080
K4	XNXU050508TN8-M07 MK2050	0,13 *0.0050*	0,15 0.0060	0,20 0.0080
K5	XNXU050508TN8-M07 MK2050	0,12 *0.0048*	0,14 0.0055	0,18 0.0070
K6	XNXU050508TN8-M07 MK2050	0,13 *0.0050*	0,15 0.0060	0,20 0.0080
K7	XNXU050508TN8-M07 MK2050	0,12 *0.0048*	0,14 0.0055	0,18 0.0070
S1	XNXU050508TN8-M07 F40M	0,10 *0.0040*	0,11 0.0044	0,15 0.0060
S2	XNXU050508TN8-M07 F40M	0,10 *0.0040*	0,11 0.0044	0,15 0.0060
S3	XNXU050508TN8-M07 F40M	0,090 *0.0036*	0,10 0.0040	0,14 0.0055
S11	XNXU050508TN8-M07 F40M	0,11 *0.0044*	0,13 0.0050	0,17 0.0065
S12	XNXU050508TN8-M07 F40M	0,11 *0.0044*	0,13 0.0050	0,17 0.0065
S13	XNXU050508TN8-M07 F40M	0,10 *0.0040*	0,11 0.0044	0,15 0.0060
H5	XNXU050516TN8-M07 MK2050	0,10 *0.0040*	0,12 0.0048	0,16 0.0065
H8	XNXU050508TN8-M07 MK2050	0,070 *0.0028*	0,080 0.0032	0,11 0.0044
H11	XNXU050508TN8-M07 F40M	0,090 *0.0036*	0,10 0.0040	0,14 0.0055
H12	XNXU050508TN8-M07 F40M	0,070 *0.0028*	0,080 0.0032	0,11 0.0044
H21	XNXU050508TN8-M07 MK2050	0,070 *0.0028*	0,080 0.0032	0,11 0.0044

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

335.25-XN05 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK2050			F40M			MP2501		
	30%	20%	10%	30%	20%	10%	30%	20%	10%
P1	325 *1075*	345 *1125*	380 *1250*	250 *820*	265 *870*	295 *970*	435 *1425*	455 *1500*	485 *1600*
P2	310 *1025*	335 *1100*	370 *1225*	240 *790*	255 *840*	285 *940*	415 *1350*	435 *1425*	475 *1550*
P3	270 *890*	290 *950*	320 *1050*	210 *690*	225 *740*	245 *800*	360 *1175*	380 *1250*	405 *1325*
P4	245 *800*	260 *850*	290 *950*	190 *620*	200 *660*	220 *720*	325 *1075*	340 *1125*	365 *1200*
P5	235 *770*	250 *820*	275 *900*	180 *590*	190 *620*	210 *690*	310 *1025*	325 *1075*	350 *1150*
P6	260 *850*	280 *920*	310 *1025*	200 *660*	215 *710*	240 *790*	345 *1125*	365 *1200*	390 *1275*
P7	245 *800*	265 *870*	290 *950*	190 *620*	205 *670*	225 *740*	330 *1075*	345 *1125*	370 *1225*
P8	230 *750*	245 *800*	270 *890*	175 *570*	190 *620*	205 *670*	305 *1000*	320 *1050*	340 *1125*
P11	240 *790*	255 *840*	285 *940*	185 *610*	195 *640*	220 *720*	320 *1050*	335 *1100*	360 *1175*
P12	155 *510*	165 *540*	180 *590*	120 *395*	130 *425*	140 *460*	200 *660*	210 *690*	220 *720*
M1	— —	— —	— —	190 *620*	205 *670*	230 *750*	225 *740*	245 *800*	270 *890*
M2	— —	— —	— —	160 *520*	170 *560*	190 *620*	190 *620*	205 *670*	225 *740*
M3	— —	— —	— —	130 *425*	140 *460*	155 *510*	150 *490*	165 *540*	180 *590*
M4	— —	— —	— —	100 *330*	105 *345*	120 *395*	120 *395*	125 *410*	140 *460*
M5	— —	— —	— —	85 *280*	90 *295*	100 *330*	100 *330*	105 *345*	115 *375*
K1	335 *1100*	360 *1175*	400 *1300*	190 *620*	205 *670*	225 *740*	420 *1375*	440 *1450*	475 *1550*
K2	300 *980*	320 *1050*	355 *1175*	170 *560*	180 *590*	200 *660*	375 *1225*	390 *1275*	420 *1375*
K3	255 *840*	270 *890*	300 *980*	145 *475*	155 *510*	170 *560*	315 *1025*	330 *1075*	355 *1175*
K4	245 *800*	260 *850*	290 *950*	135 *445*	145 *475*	160 *520*	300 *980*	315 *1025*	340 *1125*
K5	150 *490*	155 *510*	175 *570*	85 *280*	90 *295*	100 *330*	185 *610*	190 *620*	205 *670*
K6	215 *710*	230 *750*	255 *840*	120 *395*	130 *425*	145 *475*	265 *870*	280 *920*	300 *980*
K7	190 *620*	200 *660*	225 *740*	105 *345*	115 *375*	125 *410*	235 *770*	245 *800*	265 *870*
N1	— —	— —	— —	1425 *4675*	1500 *4925*	1675 *5500*	— —	— —	— —
N2	— —	— —	— —	570 *1875*	600 *1975*	680 *2225*	— —	— —	— —
N3	— —	— —	— —	385 *1275*	400 *1300*	450 *1475*	— —	— —	— —
N11	— —	— —	— —	435 *1425*	460 *1500*	520 *1700*	— —	— —	— —
S1	— —	— —	— —	47 *155*	50 *165*	55 *180*	— —	— —	— —
S2	— —	— —	— —	38 *125*	40 *130*	45 *150*	— —	— —	— —
S3	— —	— —	— —	33 *110*	35 *115*	39 *130*	— —	— —	— —
S11	— —	— —	— —	65 *215*	70 *230*	80 *260*	— —	— —	— —
S12	— —	— —	— —	45 *150*	49 *160*	55 *180*	— —	— —	— —
S13	— —	— —	— —	26 *85*	28 *90*	31 *100*	— —	— —	— —
H5	55 *180*	55 *180*	60 *195*	40 *130*	43 *140*	46 *150*	— —	— —	— —
H8	55 *180*	60 *195*	65 *215*	42 *140*	45 *150*	50 *165*	— —	— —	— —
H11	65 *215*	75 *245*	80 *260*	50 *165*	55 *180*	60 *195*	— —	— —	— —
H12	100 *330*	105 *345*	115 *375*	75 *245*	80 *260*	90 *295*	— —	— —	— —
H21	55 *180*	60 *195*	65 *215*	42 *140*	45 *150*	50 *165*	— —	— —	— —

335.25-XN07 – Insert selection – mm/Inch

SMG		f_z		
		30%	20%	10%
P1	XNHQ070708TN8-M11 F40M	0,20 *0.0080*	0,24 0.0095	0,32 0.013
P2	XNHQ070708TN8-M11 F40M	0,20 *0.0080*	0,24 0.0095	0,32 0.013
P3	XNHQ070708TN8-M11 MP2501	0,20 *0.0080*	0,22 0.0085	0,30 0.012
P4	XNHQ070708TN8-M11 MP2501	0,19 *0.0075*	0,22 0.0085	0,30 0.012
P5	XNHQ070708TN8-M11 MP2501	0,19 *0.0075*	0,22 0.0085	0,28 0.011
P6	XNHQ070708TN8-M11 MP2501	0,19 *0.0075*	0,22 0.0085	0,28 0.011
P7	XNHQ070708TN8-M11 MP2501	0,19 *0.0075*	0,22 0.0085	0,28 0.011
P8	XNHQ070708TN8-M11 MP2501	0,20 *0.0080*	0,22 0.0085	0,30 0.012
P11	XNHQ070708TN8-M11 F40M	0,19 *0.0075*	0,22 0.0085	0,28 0.011
P12	XNHQ070708TN8-M11 F40M	0,13 *0.0050*	0,15 0.0060	0,20 0.0080
M1	XNHQ070708TN8-M11 F40M	0,20 *0.0080*	0,24 0.0095	0,32 0.013
M2	XNHQ070708TN8-M11 F40M	0,19 *0.0075*	0,22 0.0085	0,28 0.011
M3	XNHQ070708TN8-M11 F40M	0,15 *0.0060*	0,17 0.0065	0,24 0.0095
M4	XNHQ070708TN8-M11 F40M	0,14 *0.0055*	0,16 0.0065	0,20 0.0080
M5	XNHQ070708TN8-M11 F40M	0,14 *0.0055*	0,16 0.0065	0,20 0.0080
K1	XNHQ070708TN8-M11 MK2050	0,20 *0.0080*	0,24 0.0095	0,32 0.013
K2	XNHQ070708TN8-M11 MK2050	0,19 *0.0075*	0,22 0.0085	0,28 0.011
K3	XNHQ070708TN8-M11 MK2050	0,19 *0.0075*	0,22 0.0085	0,28 0.011
K4	XNHQ070708TN8-M11 MK2050	0,19 *0.0075*	0,22 0.0085	0,28 0.011
K5	XNHQ070708TN8-M11 MK2050	0,17 *0.0065*	0,19 0.0075	0,26 0.010
K6	XNHQ070708TN8-M11 MK2050	0,19 *0.0075*	0,22 0.0085	0,28 0.011
K7	XNHQ070708TN8-M11 MK2050	0,17 *0.0065*	0,19 0.0075	0,26 0.010
S1	XNHQ070708TN8-M11 F40M	0,14 *0.0055*	0,16 0.0065	0,20 0.0080
S2	XNHQ070708TN8-M11 F40M	0,14 *0.0055*	0,16 0.0065	0,20 0.0080
S3	XNHQ070708TN8-M11 F40M	0,13 *0.0050*	0,14 0.0055	0,19 0.0075
S11	XNHQ070708TN8-M11 F40M	0,15 *0.0060*	0,18 0.0070	0,24 0.0095
S12	XNHQ070708TN8-M11 F40M	0,15 *0.0060*	0,18 0.0070	0,24 0.0095
S13	XNHQ070708TN8-M11 F40M	0,14 *0.0055*	0,16 0.0065	0,20 0.0080
H5	XNHQ070708TN8-M11 MK2050	0,13 *0.0050*	0,15 0.0060	0,20 0.0080
H8	XNHQ070708TN8-M11 MK2050	0,10 *0.0040*	0,11 0.0044	0,15 0.0060
H11	XNHQ070708TN8-M11 F40M	0,13 *0.0050*	0,15 0.0060	0,20 0.0080
H12	XNHQ070708TN8-M11 F40M	0,10 *0.0040*	0,11 0.0044	0,15 0.0060
H21	XNHQ070708TN8-M11 MK2050	0,10 *0.0040*	0,11 0.0044	0,15 0.0060

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

335.25-XN07 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK2050			F40M			MP2501		
	30%	20%	10%	30%	20%	10%	30%	20%	10%
P1	300 *980*	315 *1025*	350 *1150*	230 *750*	245 *800*	270 *890*	405 *1325*	420 *1375*	455 *1500*
P2	290 *950*	310 *1025*	340 *1125*	225 *740*	235 *770*	265 *870*	390 *1275*	410 *1350*	440 *1450*
P3	250 *820*	270 *890*	300 *980*	195 *640*	210 *690*	230 *750*	335 *1100*	360 *1175*	385 *1275*
P4	225 *740*	240 *790*	265 *870*	175 *570*	185 *610*	205 *670*	300 *980*	320 *1050*	340 *1125*
P5	215 *710*	230 *750*	255 *840*	165 *540*	175 *570*	200 *660*	290 *950*	305 *1000*	330 *1075*
P6	240 *790*	255 *840*	290 *950*	185 *610*	200 *660*	220 *720*	325 *1075*	340 *1125*	370 *1225*
P7	225 *740*	245 *800*	275 *900*	175 *570*	185 *610*	210 *690*	305 *1000*	320 *1050*	350 *1150*
P8	210 *690*	230 *750*	250 *820*	160 *520*	175 *570*	195 *640*	285 *940*	305 *1000*	325 *1075*
P11	220 *720*	235 *770*	265 *870*	170 *560*	180 *590*	205 *670*	295 *970*	310 *1025*	340 *1125*
P12	145 *475*	155 *510*	170 *560*	110 *360*	120 *395*	130 *425*	195 *640*	200 *660*	215 *710*
M1	— —	— —	— —	180 *590*	190 *620*	210 *690*	215 *710*	225 *740*	250 *820*
M2	— —	— —	— —	150 *490*	160 *520*	180 *590*	175 *570*	185 *610*	210 *690*
M3	— —	— —	— —	120 *395*	130 *425*	145 *475*	145 *475*	155 *510*	170 *560*
M4	— —	— —	— —	95 *310*	100 *330*	110 *360*	110 *360*	120 *395*	130 *425*
M5	— —	— —	— —	80 *260*	85 *280*	95 *310*	95 *310*	100 *330*	110 *360*
K1	315 *1025*	335 *1100*	370 *1225*	180 *590*	190 *620*	210 *690*	395 *1300*	410 *1350*	445 *1450*
K2	275 *900*	295 *970*	335 *1100*	155 *510*	165 *540*	190 *620*	350 *1150*	365 *1200*	400 *1300*
K3	235 *770*	250 *820*	280 *920*	130 *425*	140 *460*	160 *520*	295 *970*	310 *1025*	340 *1125*
K4	225 *740*	240 *790*	270 *890*	125 *410*	135 *445*	150 *490*	280 *920*	295 *970*	325 *1075*
K5	140 *460*	150 *490*	165 *540*	80 *260*	85 *280*	90 *295*	175 *570*	185 *610*	195 *640*
K6	195 *640*	210 *690*	235 *770*	110 *360*	120 *395*	135 *445*	250 *820*	260 *850*	285 *940*
K7	175 *570*	190 *620*	210 *690*	100 *330*	105 *345*	120 *395*	220 *720*	235 *770*	250 *820*
N1	— —	— —	— —	1300 *4275*	1400 *4600*	1550 *5075*	— —	— —	— —
N2	— —	— —	— —	520 *1700*	560 *1825*	620 *2025*	— —	— —	— —
N3	— —	— —	— —	350 *1150*	375 *1225*	415 *1350*	— —	— —	— —
N11	— —	— —	— —	400 *1300*	430 *1400*	475 *1550*	— —	— —	— —
S1	— —	— —	— —	44 *145*	47 *155*	50 *165*	— —	— —	— —
S2	— —	— —	— —	36 *120*	38 *125*	42 *140*	— —	— —	— —
S3	— —	— —	— —	31 *100*	33 *110*	37 *120*	— —	— —	— —
S11	— —	— —	— —	60 *195*	65 *215*	75 *245*	— —	— —	— —
S12	— —	— —	— —	42 *140*	45 *150*	50 *165*	— —	— —	— —
S13	— —	— —	— —	25 *80*	26 *85*	29 *95*	— —	— —	— —
H5	50 *165*	55 *180*	60 *195*	37 *120*	39 *130*	44 *145*	— —	— —	— —
H8	55 *180*	55 *180*	65 *215*	40 *130*	43 *140*	47 *155*	— —	— —	— —
H11	65 *215*	65 *215*	75 *245*	47 *155*	50 *165*	55 *180*	— —	— —	— —
H12	90 *295*	100 *330*	110 *360*	70 *230*	75 *245*	85 *280*	— —	— —	— —
H21	55 *180*	55 *180*	65 *215*	40 *130*	43 *140*	47 *155*	— —	— —	— —

335.29 Round 5 – Insert selection – mm/Inch

SMG		f_z		
		25%	10%	5%
P1	RDHW0501M0-MD01 F40M	0,055 *0.0022*	0,080 0.0032	0,11 0.0044
P2	RDHW0501M0-MD01 F40M	0,055 *0.0022*	0,080 0.0032	0,11 0.0044
P3	RDHW0501M0-MD01 F40M	0,050 *0.0020*	0,075 0.0030	0,10 0.0040
P4	RDHW0501M0-MD01 F40M	0,050 *0.0020*	0,075 0.0030	0,10 0.0040
P5	RDHW0501M0-MD01 F40M	0,050 *0.0020*	0,075 0.0030	0,10 0.0040
P6	RDHW0501M0-MD01 F40M	0,050 *0.0020*	0,070 0.0028	0,10 0.0040
P7	RDHW0501M0-MD01 F40M	0,050 *0.0020*	0,070 0.0028	0,10 0.0040
P8	RDHW0501M0-MD01 MP3000	0,050 *0.0020*	0,075 0.0030	0,10 0.0040
P11	RDHW0501M0-MD01 F40M	0,050 *0.0020*	0,070 0.0028	0,10 0.0040
P12	RDHW0501M0-MD01 F40M	0,034 *0.0013*	0,050 0.0020	0,070 0.0028
M1	RDHW0501M0-MD01 F40M	0,055 *0.0022*	0,080 0.0032	0,11 0.0044
M2	RDHW0501M0-MD01 F40M	0,050 *0.0020*	0,075 0.0030	0,10 0.0040
M3	RDHW0501M0-MD01 F40M	0,040 *0.0016*	0,060 0.0024	0,080 0.0032
M4	RDHW0501M0-MD01 F40M	0,036 *0.0014*	0,050 0.0020	0,070 0.0028
M5	RDHW0501M0-MD01 F40M	0,036 *0.0014*	0,050 0.0020	0,070 0.0028
K1	RDHW0501M0-MD01 MP3000	0,055 *0.0022*	0,080 0.0032	0,11 0.0044
K2	RDHW0501M0-MD01 MP3000	0,050 *0.0020*	0,075 0.0030	0,10 0.0040
K3	RDHW0501M0-MD01 MP3000	0,050 *0.0020*	0,075 0.0030	0,10 0.0040
K4	RDHW0501M0-MD01 MP3000	0,050 *0.0020*	0,075 0.0030	0,10 0.0040
K5	RDHW0501M0-MD01 MP3000	0,046 *0.0018*	0,065 0.0026	0,090 0.0036
K6	RDHW0501M0-MD01 MP3000	0,050 *0.0020*	0,075 0.0030	0,10 0.0040
K7	RDHW0501M0-MD01 MP3000	0,046 *0.0018*	0,065 0.0026	0,090 0.0036
N1	RDHW0501M0-MD01 MP3000	0,070 *0.0028*	0,10 0.0040	0,14 0.0055
N2	RDHW0501M0-MD01 MP3000	0,070 *0.0028*	0,10 0.0040	0,14 0.0055
N3	RDHW0501M0-MD01 MP3000	0,070 *0.0028*	0,10 0.0040	0,14 0.0055
N11	RDHW0501M0-MD01 MP3000	0,070 *0.0028*	0,10 0.0040	0,14 0.0055
S1	RDHW0501M0-MD01 F40M	0,036 *0.0014*	0,050 0.0020	0,070 0.0028
S2	RDHW0501M0-MD01 F40M	0,036 *0.0014*	0,050 0.0020	0,070 0.0028
S3	RDHW0501M0-MD01 F40M	0,032 *0.0013*	0,048 0.0019	0,065 0.0026
S11	RDHW0501M0-MD01 F40M	0,040 *0.0016*	0,060 0.0024	0,080 0.0032
S12	RDHW0501M0-MD01 F40M	0,040 *0.0016*	0,060 0.0024	0,080 0.0032
S13	RDHW0501M0-MD01 F40M	0,036 *0.0014*	0,050 0.0020	0,070 0.0028
H5	RDHW0501M0-MD01 MP3000	0,034 *0.0013*	0,050 0.0020	0,070 0.0028
H8	RDHW0501M0-MD01 MP3000	0,026 *0.0010*	0,038 0.0015	0,050 0.0020
H11	RDHW0501M0-MD01 MP3000	0,034 *0.0013*	0,050 0.0020	0,070 0.0028
H12	RDHW0501M0-MD01 MP3000	0,026 *0.0010*	0,038 0.0015	0,050 0.0020
H21	RDHW0501M0-MD01 MP3000	0,026 *0.0010*	0,038 0.0015	0,050 0.0020

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

335.29 Round 5 – Cutting data v_c = (m/min)/(sf/min)

SMG	MP3000			F40M		
	25%	10%	5%	25%	10%	5%
P1	325 *1075*	365 *1200*	400 *1300*	260 *850*	295 *970*	320 *1050*
P2	315 *1025*	360 *1175*	390 *1275*	250 *820*	285 *940*	310 *1025*
P3	275 *900*	310 *1025*	340 *1125*	220 *720*	250 *820*	270 *890*
P4	240 *790*	275 *900*	300 *980*	195 *640*	220 *720*	240 *790*
P5	230 *750*	260 *850*	285 *940*	185 *610*	210 *690*	225 *740*
P6	260 *850*	295 *970*	320 *1050*	205 *670*	235 *770*	255 *840*
P7	245 *800*	280 *920*	300 *980*	195 *640*	225 *740*	240 *790*
P8	230 *750*	260 *850*	285 *940*	185 *610*	210 *690*	225 *740*
P11	235 *770*	270 *890*	295 *970*	190 *620*	215 *710*	235 *770*
P12	145 *475*	165 *540*	180 *590*	120 *395*	135 *445*	145 *475*
M1	235 *770*	270 *890*	290 *950*	200 *660*	230 *750*	250 *820*
M2	195 *640*	220 *720*	240 *790*	165 *540*	190 *620*	205 *670*
M3	150 *490*	170 *560*	185 *610*	130 *425*	150 *490*	160 *520*
M4	115 *375*	130 *425*	140 *460*	100 *330*	115 *375*	120 *395*
M5	95 *310*	110 *360*	120 *395*	80 *260*	95 *310*	100 *330*
K1	210 *690*	240 *790*	260 *850*	200 *660*	225 *740*	245 *800*
K2	185 *610*	210 *690*	225 *740*	175 *570*	200 *660*	215 *710*
K3	155 *510*	175 *570*	190 *620*	150 *490*	170 *560*	185 *610*
K4	150 *490*	170 *560*	185 *610*	140 *460*	160 *520*	175 *570*
K5	90 *295*	100 *330*	110 *360*	85 *280*	95 *310*	105 *345*
K6	130 *425*	150 *490*	160 *520*	125 *410*	140 *460*	155 *510*
K7	115 *375*	130 *425*	140 *460*	110 *360*	125 *410*	135 *445*
N1	1900 *6225*	2175 *7125*	2350 *7700*	1525 *5000*	1725 *5650*	1875 *6150*
N2	760 *2500*	870 *2850*	950 *3125*	610 *2000*	700 *2300*	760 *2500*
N3	510 *1675*	580 *1900*	630 *2075*	410 *1350*	465 *1525*	500 *1650*
N11	580 *1900*	670 *2200*	720 *2350*	465 *1525*	530 *1750*	580 *1900*
S1	55 *180*	60 *195*	65 *215*	46 *150*	55 *180*	55 *180*
S2	43 *140*	49 *160*	55 *180*	37 *120*	42 *140*	46 *150*
S3	38 *125*	43 *140*	46 *150*	32 *105*	37 *120*	40 *130*
S11	75 *245*	85 *280*	95 *310*	65 *215*	75 *245*	80 *260*
S12	65 *215*	75 *245*	80 *260*	55 *180*	65 *215*	70 *230*
S13	37 *120*	42 *140*	45 *150*	32 *105*	36 *120*	39 *130*
H5	41 *135*	47 *155*	50 *165*	39 *130*	44 *145*	48 *155*
H8	42 *140*	48 *155*	50 *165*	40 *130*	45 *150*	49 *160*
H11	50 *165*	60 *195*	65 *215*	50 *165*	55 *180*	60 *195*
H12	49 *160*	55 *180*	60 *195*	47 *155*	55 *180*	55 *180*
H21	42 *140*	48 *155*	50 *165*	40 *130*	45 *150*	49 *160*

335.29 Round 6 – Insert selection – mm/Inch

SMG		f_z		
		20%	10%	5%
P1	RDHW06T1M0-MD02 F40M	0,060 *0.0024*	0,080 0.0032	0,11 0.0044
P2	RDHW06T1M0-MD02 F40M	0,060 *0.0024*	0,080 0.0032	0,11 0.0044
P3	RDHW06T1M0-MD02 F40M	0,055 *0.0022*	0,075 0.0030	0,10 0.0040
P4	RDHW06T1M0-MD02 F40M	0,055 *0.0022*	0,075 0.0030	0,10 0.0040
P5	RDHW06T1M0-MD02 F40M	0,055 *0.0022*	0,075 0.0030	0,10 0.0040
P6	RDHW06T1M0-MD02 F40M	0,055 *0.0022*	0,070 0.0028	0,10 0.0040
P7	RDHW06T1M0-MD02 F40M	0,055 *0.0022*	0,070 0.0028	0,10 0.0040
P8	RDHW06T1M0-MD02 MP3000	0,055 *0.0022*	0,075 0.0030	0,10 0.0040
P11	RDHW06T1M0-MD02 F40M	0,055 *0.0022*	0,070 0.0028	0,10 0.0040
P12	RDHW06T1M0-MD02 F40M	0,038 *0.0015*	0,050 0.0020	0,070 0.0028
M1	RDHW06T1M0-MD02 F40M	0,060 *0.0024*	0,080 0.0032	0,11 0.0044
M2	RDHW06T1M0-MD02 F40M	0,055 *0.0022*	0,075 0.0030	0,10 0.0040
M3	RDHW06T1M0-MD02 F40M	0,044 *0.0017*	0,060 0.0024	0,080 0.0032
M4	RDHW06T1M0-MD02 F40M	0,038 *0.0015*	0,050 0.0020	0,070 0.0028
M5	RDHW06T1M0-MD02 F40M	0,038 *0.0015*	0,050 0.0020	0,070 0.0028
K1	RDHW06T1M0-MD02 MK2050	0,060 *0.0024*	0,080 0.0032	0,11 0.0044
K2	RDHW06T1M0-MD02 MK2050	0,055 *0.0022*	0,075 0.0030	0,10 0.0040
K3	RDHW06T1M0-MD02 MK2050	0,055 *0.0022*	0,075 0.0030	0,10 0.0040
K4	RDHW06T1M0-MD02 MK2050	0,055 *0.0022*	0,075 0.0030	0,10 0.0040
K5	RDHW06T1M0-MD02 MK2050	0,050 *0.0020*	0,065 0.0026	0,090 0.0036
K6	RDHW06T1M0-MD02 MK2050	0,055 *0.0022*	0,075 0.0030	0,10 0.0040
K7	RDHW06T1M0-MD02 MK2050	0,050 *0.0020*	0,065 0.0026	0,090 0.0036
N1	RDHT06T1M0-E02 H25	0,050 *0.0020*	0,070 0.0028	0,095 0.0038
N2	RDHT06T1M0-E02 H25	0,050 *0.0020*	0,070 0.0028	0,095 0.0038
N3	RDHT06T1M0-E02 H25	0,050 *0.0020*	0,070 0.0028	0,095 0.0038
N11	RDHT06T1M0-E02 H25	0,050 *0.0020*	0,070 0.0028	0,095 0.0038
S1	RDHW06T1M0-MD02 F40M	0,038 *0.0015*	0,050 0.0020	0,070 0.0028
S2	RDHW06T1M0-MD02 F40M	0,038 *0.0015*	0,050 0.0020	0,070 0.0028
S3	RDHW06T1M0-MD02 F40M	0,036 *0.0014*	0,048 0.0019	0,065 0.0026
S11	RDHW06T1M0-MD02 F40M	0,044 *0.0017*	0,060 0.0024	0,080 0.0032
S12	RDHW06T1M0-MD02 F40M	0,044 *0.0017*	0,060 0.0024	0,080 0.0032
S13	RDHW06T1M0-MD02 F40M	0,038 *0.0015*	0,050 0.0020	0,070 0.0028
H5	RDHW06T1M0-MD02 F15M	0,038 *0.0015*	0,050 0.0020	0,070 0.0028
H8	RDHW06T1M0-MD02 F15M	0,028 *0.0011*	0,038 0.0015	0,050 0.0020
H11	RDHW06T1M0-MD02 F15M	0,038 *0.0015*	0,050 0.0020	0,070 0.0028
H12	RDHW06T1M0-MD02 F15M	0,028 *0.0011*	0,038 0.0015	0,050 0.0020
H21	RDHW06T1M0-MD02 F15M	0,028 *0.0011*	0,038 0.0015	0,050 0.0020

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

335.29 Round 6 – Cutting data v_c = (m/min)/(sf/min)

SMG	F15M			MK2050			F30M			MP3000			F40M			H25		
	20%	10%	5%	20%	10%	5%	20%	10%	5%	20%	10%	5%	20%	10%	5%	20%	10%	5%
P1	305 *1000*	340 *1125*	365 *1200*	330 *1075*	365 *1200*	395 *1300*	270 *890*	295 *970*	320 *1050*	320 *1050*	350 *1150*	380 *1250*	255 *840*	280 *920*	305 *1000*	—	—	—
P2	300 *980*	330 *1075*	355 *1175*	325 *1075*	355 *1175*	385 *1275*	260 *850*	290 *950*	310 *1025*	310 *1025*	345 *1125*	370 *1225*	250 *820*	275 *900*	295 *970*	—	—	—
P3	260 *850*	285 *940*	310 *1025*	280 *920*	310 *1025*	335 *1100*	230 *750*	250 *820*	270 *890*	270 *890*	300 *980*	325 *1075*	215 *710*	240 *790*	260 *850*	—	—	—
P4	230 *750*	250 *820*	275 *900*	250 *820*	275 *900*	295 *970*	200 *660*	220 *720*	240 *790*	240 *790*	260 *850*	285 *940*	190 *620*	210 *690*	230 *750*	—	—	—
P5	220 *720*	240 *790*	260 *850*	235 *770*	260 *850*	285 *940*	190 *620*	210 *690*	230 *750*	230 *750*	250 *820*	275 *900*	180 *590*	200 *660*	220 *720*	—	—	—
P6	245 *800*	275 *900*	295 *970*	265 *870*	295 *970*	320 *1050*	215 *710*	240 *790*	255 *840*	255 *840*	285 *940*	305 *1000*	205 *670*	225 *740*	245 *800*	—	—	—
P7	230 *750*	255 *840*	275 *900*	250 *820*	280 *920*	300 *980*	205 *670*	225 *740*	245 *800*	240 *790*	270 *890*	290 *950*	195 *640*	215 *710*	230 *750*	—	—	—
P8	220 *720*	240 *790*	260 *850*	235 *770*	260 *850*	285 *940*	190 *620*	210 *690*	230 *750*	230 *750*	250 *820*	275 *900*	180 *590*	200 *660*	220 *720*	—	—	—
P11	225 *740*	250 *820*	270 *890*	245 *800*	270 *890*	290 *950*	195 *640*	220 *720*	235 *770*	235 *770*	260 *850*	280 *920*	190 *620*	210 *690*	225 *740*	—	—	—
M1	— —	— —	— —	— —	— —	— —	210 *690*	230 *750*	250 *820*	235 *770*	255 *840*	280 *920*	200 *660*	220 *720*	240 *790*	—	—	—
M2	— —	— —	— —	— —	— —	— —	170 *560*	190 *620*	205 *670*	190 *620*	210 *690*	230 *750*	165 *540*	180 *590*	195 *640*	—	—	—
M3	— —	— —	— —	— —	— —	— —	135 *445*	150 *490*	160 *520*	150 *490*	165 *540*	180 *590*	130 *425*	140 *460*	155 *510*	—	—	—
M4	— —	— —	— —	— —	— —	— —	105 *345*	115 *375*	125 *410*	115 *375*	125 *410*	135 *445*	100 *330*	110 *360*	115 *375*	—	—	—
M5	— —	— —	— —	— —	— —	— —	85 *280*	95 *310*	105 *345*	95 *310*	105 *345*	115 *375*	80 *260*	90 *295*	100 *330*	—	—	—
K1	235 *770*	260 *850*	285 *940*	350 *1150*	385 *1275*	415 *1350*	205 *670*	230 *750*	245 *800*	205 *670*	230 *750*	245 *800*	195 *640*	215 *710*	235 *770*	—	—	—
K2	210 *690*	230 *750*	250 *820*	305 *1000*	335 *1100*	365 *1200*	180 *590*	200 *660*	215 *710*	180 *590*	200 *660*	215 *710*	175 *570*	190 *620*	205 *670*	—	—	—
K3	175 *570*	195 *640*	210 *690*	260 *850*	285 *940*	310 *1025*	155 *510*	170 *560*	185 *610*	155 *510*	170 *560*	185 *610*	145 *475*	160 *520*	175 *570*	—	—	—
K4	170 *560*	185 *610*	200 *660*	250 *820*	270 *890*	295 *970*	145 *475*	160 *520*	175 *570*	145 *475*	160 *520*	175 *570*	140 *460*	155 *510*	165 *540*	—	—	—
K5	100 *330*	110 *360*	120 *395*	150 *490*	165 *540*	180 *590*	90 *295*	100 *330*	105 *345*	90 *295*	100 *330*	105 *345*	85 *280*	95 *310*	100 *330*	—	—	—
K6	150 *490*	160 *520*	175 *570*	220 *720*	240 *790*	260 *850*	130 *425*	140 *460*	155 *510*	130 *425*	140 *460*	155 *510*	125 *410*	135 *445*	145 *475*	—	—	—
K7	130 *425*	145 *475*	155 *510*	190 *620*	210 *690*	230 *750*	115 *375*	125 *410*	135 *445*	115 *375*	125 *410*	135 *445*	110 *360*	120 *395*	130 *425*	—	—	—
N1	— —	— —	— —	— —	— —	— —	1575 *5175*	1750 *5750*	1875 *6150*	1875 *6150*	2075 *6800*	2250 *7375*	1500 *4925*	1650 *5425*	1800 *5900*	1725 *5650*	1900 *6225*	2050 *6725*
N2	— —	— —	— —	— —	— —	— —	640 *2100*	700 *2300*	760 *2500*	760 *2500*	840 *2750*	910 *2975*	610 *2000*	670 *2200*	730 *2400*	700 *2300*	770 *2525*	830 *2725*
N3	— —	— —	— —	— —	— —	— —	425 *1400*	470 *1550*	510 *1675*	510 *1675*	560 *1825*	600 *1975*	405 *1325*	445 *1450*	485 *1600*	465 *1525*	510 *1675*	560 *1825*
N11	— —	— —	— —	— —	— —	— —	485 *1600*	540 *1775*	580 *1900*	580 *1900*	640 *2100*	690 *2275*	465 *1525*	510 *1675*	550 *1800*	530 *1750*	580 *1900*	630 *2075*
S1	— —	— —	— —	— —	— —	— —	48 *155*	55 *180*	55 *180*	55 *180*	60 *195*	65 *215*	46 *150*	50 *165*	55 *180*	—	—	—
S2	— —	— —	— —	— —	— —	— —	39 *130*	43 *140*	46 *150*	43 *140*	47 *155*	50 *165*	37 *120*	41 *135*	44 *145*	—	—	—
S3	— —	— —	— —	— —	— —	— —	34 *110*	37 *120*	40 *130*	37 *120*	41 *135*	44 *145*	32 *105*	35 *115*	38 *125*	—	—	—
S11	— —	— —	— —	— —	— —	— —	70 *230*	75 *245*	80 *260*	75 *245*	85 *280*	90 *295*	65 *215*	70 *230*	80 *260*	—	—	—
S12	— —	— —	— —	— —	— —	— —	48 *155*	55 *180*	55 *180*	65 *215*	70 *230*	75 *245*	55 *180*	60 *195*	65 *215*	—	—	—
S13	— —	— —	— —	— —	— —	— —	27 *90*	30 *100*	33 *110*	36 *120*	40 *130*	43 *140*	31 *100*	35 *115*	37 *120*	—	—	—
H5	46 *150*	50 *165*	55 *180*	— —	— —	— —	40 *130*	45 *150*	48 *155*	40 *130*	45 *150*	48 *155*	39 *130*	43 *140*	46 *150*	—	—	—
H8	48 *155*	50 *165*	55 *180*	— —	— —	— —	42 *140*	46 *150*	50 *165*	42 *140*	46 *150*	50 *165*	40 *130*	44 *145*	47 *155*	—	—	—
H11	60 *195*	65 *215*	70 *230*	— —	— —	— —	50 *165*	55 *180*	60 *195*	50 *165*	55 *180*	60 *195*	49 *160*	55 *180*	60 *195*	—	—	—
H12	55 *180*	60 *195*	65 *215*	— —	— —	— —	49 *160*	55 *180*	60 *195*	49 *160*	55 *180*	60 *195*	46 *150*	50 *165*	55 *180*	—	—	—
H21	48 *155*	50 *165*	55 *180*	— —	— —	— —	42 *140*	46 *150*	50 *165*	42 *140*	46 *150*	50 *165*	40 *130*	44 *145*	47 *155*	—	—	—

335.29 Round 7 – Insert selection – mm/Inch

SMG		f_z		
		20%	10%	5%
P1	RDHW0702M0-MD03 F40M	0,080 *0.0032*	0,10 0.0040	0,14 0.0055
P2	RDHW0702M0-MD03 F40M	0,080 *0.0032*	0,11 0.0044	0,15 0.0060
P3	RDHW0702M0-MD03 F40M	0,075 *0.0030*	0,10 0.0040	0,14 0.0055
P4	RDHW0702M0-MD03 F40M	0,075 *0.0030*	0,10 0.0040	0,14 0.0055
P5	RDHW0702M0-MD03 F40M	0,075 *0.0030*	0,095 0.0038	0,13 0.0050
P6	RDHW0702M0-MD03 F40M	0,070 *0.0028*	0,095 0.0038	0,13 0.0050
P7	RDHW0702M0-MD03 F40M	0,070 *0.0028*	0,095 0.0038	0,13 0.0050
P8	RDHW0702M0-MD03 MP3000	0,075 *0.0030*	0,10 0.0040	0,14 0.0055
P11	RDHW0702M0-MD03 F40M	0,070 *0.0028*	0,095 0.0038	0,13 0.0050
P12	RDHW0702M0-MD03 F40M	0,050 *0.0020*	0,065 0.0026	0,090 0.0036
M1	RDHW0702M0-MD03 F40M	0,080 *0.0032*	0,11 0.0044	0,15 0.0060
M2	RDHW0702M0-MD03 F40M	0,075 *0.0030*	0,095 0.0038	0,13 0.0050
M3	RDHW0702M0-MD03 F40M	0,060 *0.0024*	0,080 0.0032	0,11 0.0044
M4	RDHW0702M0-MD03 F40M	0,050 *0.0020*	0,070 0.0028	0,095 0.0038
M5	RDHW0702M0-MD03 F40M	0,050 *0.0020*	0,070 0.0028	0,095 0.0038
K1	RDHW0702M0-MD03 MP3000	0,080 *0.0032*	0,11 0.0044	0,15 0.0060
K2	RDHW0702M0-MD03 MP3000	0,075 *0.0030*	0,095 0.0038	0,13 0.0050
K3	RDHW0702M0-MD03 MP3000	0,075 *0.0030*	0,095 0.0038	0,13 0.0050
K4	RDHW0702M0-MD03 MP3000	0,075 *0.0030*	0,095 0.0038	0,13 0.0050
K5	RDHW0702M0-MD03 MP3000	0,065 *0.0026*	0,085 0.0034	0,12 0.0048
K6	RDHW0702M0-MD03 MP3000	0,075 *0.0030*	0,095 0.0038	0,13 0.0050
K7	RDHW0702M0-MD03 MP3000	0,065 *0.0026*	0,085 0.0034	0,12 0.0048
N1	RDHW0702M0-MD03 MP3000	0,10 *0.0040*	0,14 0.0055	0,19 0.0075
N2	RDHW0702M0-MD03 MP3000	0,10 *0.0040*	0,14 0.0055	0,19 0.0075
N3	RDHW0702M0-MD03 MP3000	0,10 *0.0040*	0,14 0.0055	0,19 0.0075
N11	RDHW0702M0-MD03 MP3000	0,10 *0.0040*	0,14 0.0055	0,19 0.0075
S1	RDHW0702M0-MD03 F40M	0,050 *0.0020*	0,070 0.0028	0,095 0.0038
S2	RDHW0702M0-MD03 F40M	0,050 *0.0020*	0,070 0.0028	0,095 0.0038
S3	RDHW0702M0-MD03 F40M	0,048 *0.0019*	0,065 0.0026	0,085 0.0034
S11	RDHW0702M0-MD03 F40M	0,060 *0.0024*	0,080 0.0032	0,11 0.0044
S12	RDHW0702M0-MD03 F40M	0,060 *0.0024*	0,080 0.0032	0,11 0.0044
S13	RDHW0702M0-MD03 F40M	0,050 *0.0020*	0,070 0.0028	0,095 0.0038
H5	RDHW0702M0T-MD04 F15M	0,050 *0.0020*	0,065 0.0026	0,090 0.0036
H8	RDHW0702M0T-MD04 F15M	0,038 *0.0015*	0,050 0.0020	0,070 0.0028
H11	RDHW0702M0T-MD04 F15M	0,050 *0.0020*	0,065 0.0026	0,090 0.0036
H12	RDHW0702M0T-MD04 F15M	0,038 *0.0015*	0,050 0.0020	0,070 0.0028
H21	RDHW0702M0T-MD04 F15M	0,038 *0.0015*	0,050 0.0020	0,070 0.0028

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

335.29 Round 7 – Cutting data v_c = (m/min)/(sf/min)

SMG	F15M			MP3000			F40M		
	20%	10%	5%	20%	10%	5%	20%	10%	5%
P1	295 *970*	325 *1075*	355 *1175*	305 *1000*	340 *1125*	370 *1225*	245 *800*	270 *890*	295 *970*
P2	285 *940*	315 *1025*	340 *1125*	295 *970*	325 *1075*	355 *1175*	235 *770*	260 *850*	285 *940*
P3	250 *820*	275 *900*	295 *970*	260 *850*	285 *940*	310 *1025*	205 *670*	230 *750*	245 *800*
P4	220 *720*	240 *790*	260 *850*	225 *740*	250 *820*	270 *890*	180 *590*	200 *660*	215 *710*
P5	210 *690*	230 *750*	250 *820*	215 *710*	240 *790*	260 *850*	175 *570*	195 *640*	210 *690*
P6	235 *770*	260 *850*	285 *940*	245 *800*	270 *890*	295 *970*	195 *640*	215 *710*	235 *770*
P7	225 *740*	245 *800*	265 *870*	235 *770*	255 *840*	280 *920*	185 *610*	205 *670*	220 *720*
P8	210 *690*	230 *750*	250 *820*	215 *710*	240 *790*	260 *850*	175 *570*	190 *620*	205 *670*
P11	215 *710*	240 *790*	260 *850*	225 *740*	250 *820*	270 *890*	180 *590*	200 *660*	215 *710*
P12	— —	— —	— —	140 *460*	155 *510*	170 *560*	110 *360*	125 *410*	135 *445*
M1	— —	— —	— —	220 *720*	245 *800*	265 *870*	190 *620*	210 *690*	230 *750*
M2	— —	— —	— —	180 *590*	200 *660*	220 *720*	155 *510*	175 *570*	190 *620*
M3	— —	— —	— —	145 *475*	160 *520*	170 *560*	125 *410*	135 *445*	150 *490*
M4	— —	— —	— —	110 *360*	120 *395*	130 *425*	95 *310*	105 *345*	115 *375*
M5	— —	— —	— —	90 *295*	100 *330*	110 *360*	80 *260*	85 *280*	95 *310*
K1	225 *740*	250 *820*	270 *890*	200 *660*	215 *710*	235 *770*	190 *620*	205 *670*	225 *740*
K2	200 *660*	220 *720*	240 *790*	175 *570*	195 *640*	210 *690*	165 *540*	185 *610*	200 *660*
K3	165 *540*	185 *610*	200 *660*	145 *475*	165 *540*	175 *570*	140 *460*	155 *510*	170 *560*
K4	160 *520*	180 *590*	195 *640*	140 *460*	155 *510*	170 *560*	135 *445*	150 *490*	160 *520*
K5	95 *310*	110 *360*	115 *375*	85 *280*	95 *310*	100 *330*	80 *260*	90 *295*	95 *310*
K6	140 *460*	155 *510*	170 *560*	125 *410*	135 *445*	150 *490*	115 *375*	130 *425*	140 *460*
K7	125 *410*	140 *460*	150 *490*	110 *360*	120 *395*	130 *425*	105 *345*	115 *375*	125 *410*
N1	— —	— —	— —	1775 *5825*	1950 *6400*	2125 *6975*	1425 *4675*	1550 *5075*	1700 *5575*
N2	— —	— —	— —	720 *2350*	790 *2600*	860 *2825*	580 *1900*	630 *2075*	690 *2275*
N3	— —	— —	— —	480 *1575*	530 *1750*	570 *1875*	385 *1275*	420 *1375*	460 *1500*
N11	— —	— —	— —	550 *1800*	600 *1975*	650 *2125*	440 *1450*	480 *1575*	520 *1700*
S1	— —	— —	— —	50 *165*	55 *180*	60 *195*	44 *145*	49 *160*	55 *180*
S2	— —	— —	— —	41 *135*	45 *150*	49 *160*	36 *120*	39 *130*	42 *140*
S3	— —	— —	— —	36 *120*	39 *130*	43 *140*	31 *100*	34 *110*	37 *120*
S11	— —	— —	— —	70 *230*	80 *260*	85 *280*	60 *195*	70 *230*	75 *245*
S12	— —	— —	— —	60 *195*	65 *215*	75 *245*	50 *165*	60 *195*	65 *215*
S13	— —	— —	— —	35 *115*	38 *125*	42 *140*	30 *100*	33 *110*	36 *120*
H5	45 *150*	49 *160*	55 *180*	39 *130*	43 *140*	47 *155*	37 *120*	41 *135*	45 *150*
H8	46 *150*	50 *165*	55 *180*	40 *130*	45 *150*	48 *155*	39 *130*	43 *140*	46 *150*
H11	55 *180*	65 *215*	70 *230*	50 *165*	55 *180*	60 *195*	47 *155*	50 *165*	55 *180*
H12	55 *180*	60 *195*	65 *215*	47 *155*	50 *165*	55 *180*	45 *150*	49 *160*	55 *180*
H21	46 *150*	50 *165*	55 *180*	40 *130*	45 *150*	48 *155*	39 *130*	43 *140*	46 *150*

335.18/29 Round 8 – Insert selection – mm/Inch

SMG		f_z		
		30%	20%	10%
P1	RDHW0803M0-MD03 F40M	0,065 *0.0026*	0,075 0.0030	0,10 0.0040
P2	RDHW0803M0-MD03 F40M	0,065 *0.0026*	0,075 0.0030	0,10 0.0040
P3	RDHW0803M0-MD03 F40M	0,065 *0.0026*	0,075 0.0030	0,095 0.0038
P4	RDKW0803M0T-MD05 F40M	0,080 *0.0032*	0,090 0.0036	0,12 0.0048
P5	RDKW0803M0T-MD05 F40M	0,075 *0.0030*	0,090 0.0036	0,12 0.0048
P6	RDKW0803M0T-MD05 F40M	0,075 *0.0030*	0,085 0.0034	0,12 0.0048
P7	RDKW0803M0T-MD05 F40M	0,075 *0.0030*	0,085 0.0034	0,12 0.0048
P8	RDKW0803M0T-MD05 MP2501	0,080 *0.0032*	0,090 0.0036	0,12 0.0048
P11	RDKW0803M0T-MD05 F40M	0,075 *0.0030*	0,085 0.0034	0,12 0.0048
P12	RDKW0803M0T-MD05 F40M	0,050 *0.0020*	0,060 0.0024	0,080 0.0032
M1	RDHW0803M0-MD03 F40M	0,065 *0.0026*	0,075 0.0030	0,10 0.0040
M2	RDHW0803M0-MD03 F40M	0,060 *0.0024*	0,070 0.0028	0,095 0.0038
M3	RDHW0803M0-MD03 F40M	0,048 *0.0019*	0,055 0.0022	0,075 0.0030
M4	RDHW0803M0-MD03 F40M	0,042 *0.0017*	0,050 0.0020	0,065 0.0026
M5	RDHW0803M0-MD03 F40M	0,042 *0.0017*	0,050 0.0020	0,065 0.0026
K1	RDKW0803M0T-MD05 MK2050	0,085 *0.0034*	0,095 0.0038	0,13 0.0050
K2	RDKW0803M0T-MD05 MK2050	0,075 *0.0030*	0,090 0.0036	0,12 0.0048
K3	RDKW0803M0T-MD05 MK2050	0,075 *0.0030*	0,090 0.0036	0,12 0.0048
K4	RDKW0803M0T-MD05 MK2050	0,075 *0.0030*	0,090 0.0036	0,12 0.0048
K5	RDKW0803M0T-MD05 MK2050	0,070 *0.0028*	0,080 0.0032	0,11 0.0044
K6	RDKW0803M0T-MD05 MK2050	0,075 *0.0030*	0,090 0.0036	0,12 0.0048
K7	RDKW0803M0T-MD05 MK2050	0,070 *0.0028*	0,080 0.0032	0,11 0.0044
N1	RDHT0803M0-E03 H25	0,065 *0.0026*	0,075 0.0030	0,10 0.0040
N2	RDHT0803M0-E03 H25	0,065 *0.0026*	0,075 0.0030	0,10 0.0040
N3	RDHT0803M0-E03 H25	0,065 *0.0026*	0,075 0.0030	0,10 0.0040
N11	RDHT0803M0-E03 H25	0,065 *0.0026*	0,075 0.0030	0,10 0.0040
S1	RDHW0803M0-MD03 F40M	0,042 *0.0017*	0,050 0.0020	0,065 0.0026
S2	RDHW0803M0-MD03 F40M	0,042 *0.0017*	0,050 0.0020	0,065 0.0026
S3	RDHW0803M0-MD03 F40M	0,040 *0.0016*	0,046 0.0018	0,060 0.0024
S11	RDHW0803M0-MD03 F40M	0,048 *0.0019*	0,055 0.0022	0,075 0.0030
S12	RDHW0803M0-MD03 F40M	0,048 *0.0019*	0,055 0.0022	0,075 0.0030
S13	RDHW0803M0-MD03 F40M	0,042 *0.0017*	0,050 0.0020	0,065 0.0026
H5	RDKW0803M0T-MD05 F15M	0,050 *0.0020*	0,060 0.0024	0,080 0.0032
H8	RDKW0803M0T-MD05 F15M	0,040 *0.0016*	0,046 0.0018	0,060 0.0024
H11	RDKW0803M0T-MD05 F15M	0,050 *0.0020*	0,060 0.0024	0,080 0.0032
H12	RDKW0803M0T-MD05 F15M	0,040 *0.0016*	0,046 0.0018	0,060 0.0024
H21	RDKW0803M0T-MD05 F15M	0,040 *0.0016*	0,046 0.0018	0,060 0.0024

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

335.18/29 Round 8 – Cutting data v_c = (m/min)/(sf/min)

SMG	MH1051			F15M			MK2050			F25M			F30M			MP3000			MS2050		
	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%
P1	360 *1175*	380 *1250*	425 *1400*	260 *850*	275 *900*	305 *1000*	280 *920*	300 *980*	330 *1075*	240 *790*	255 *840*	280 *920*	235 *770*	250 *820*	280 *920*	280 *920*	300 *980*	335 *1100*	— —	— —	— —
P2	350 *1150*	370 *1225*	410 *1350*	255 *840*	270 *890*	300 *980*	275 *900*	290 *950*	325 *1075*	230 *750*	245 *800*	275 *900*	230 *750*	245 *800*	270 *890*	275 *900*	290 *950*	320 *1050*	— —	— —	— —
P3	305 *1000*	325 *1075*	355 *1175*	220 *720*	235 *770*	255 *840*	240 *790*	255 *840*	280 *920*	200 *660*	215 *710*	235 *770*	200 *660*	215 *710*	235 *770*	240 *790*	255 *840*	280 *920*	— —	— —	— —
P4	270 *890*	285 *940*	315 *1025*	195 *640*	205 *670*	230 *750*	210 *690*	225 *740*	250 *820*	180 *590*	190 *620*	210 *690*	175 *570*	190 *620*	205 *670*	210 *690*	225 *740*	245 *800*	— —	— —	— —
P5	255 *840*	275 *900*	305 *1000*	185 *610*	200 *660*	220 *720*	200 *660*	215 *710*	240 *790*	170 *560*	180 *590*	200 *660*	170 *560*	180 *590*	200 *660*	200 *660*	215 *710*	240 *790*	— —	— —	— —
P6	290 *950*	310 *1025*	340 *1125*	210 *690*	225 *740*	245 *800*	225 *740*	240 *790*	265 *870*	190 *620*	205 *670*	225 *740*	190 *620*	205 *670*	225 *740*	225 *740*	245 *800*	265 *870*	— —	— —	— —
P7	270 *890*	290 *950*	320 *1050*	195 *640*	210 *690*	230 *750*	215 *710*	230 *750*	250 *820*	180 *590*	195 *640*	215 *710*	180 *590*	190 *620*	210 *690*	215 *710*	230 *750*	250 *820*	— —	— —	— —
P8	255 *840*	270 *890*	300 *980*	185 *610*	195 *640*	215 *710*	200 *660*	215 *710*	235 *770*	170 *560*	180 *590*	200 *660*	170 *560*	180 *590*	200 *660*	200 *660*	215 *710*	235 *770*	— —	— —	— —
P11	265 *870*	280 *920*	310 *1025*	190 *620*	205 *670*	225 *740*	205 *670*	220 *720*	245 *800*	175 *570*	185 *610*	205 *670*	175 *570*	185 *610*	205 *670*	205 *670*	225 *740*	245 *800*	— —	— —	— —
P12	165 *540*	180 *590*	195 *640*	— —	— —	— —	130 *425*	140 *460*	155 *510*	110 *360*	120 *395*	130 *425*	110 *360*	115 *375*	130 *425*	130 *425*	140 *460*	155 *510*	— —	— —	— —
M1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	185 *610*	200 *660*	215 *710*	205 *670*	220 *720*	240 *790*	— —	— —	— —
M2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	150 *490*	160 *520*	180 *590*	170 *560*	180 *590*	200 *660*	— —	— —	— —
M3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	120 *395*	130 *425*	140 *460*	135 *445*	140 *460*	155 *510*	— —	— —	— —
M4	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	90 *295*	100 *330*	110 *360*	100 *330*	110 *360*	120 *395*	— —	— —	— —
M5	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	75 *245*	80 *260*	90 *295*	85 *280*	90 *295*	100 *330*	— —	— —	— —
K1	375 *1225*	395 *1300*	430 *1400*	200 *660*	215 *710*	235 *770*	295 *970*	315 *1025*	350 *1150*	185 *610*	195 *640*	215 *710*	180 *590*	195 *640*	215 *710*	180 *590*	195 *640*	215 *710*	— —	— —	— —
K2	325 *1075*	345 *1125*	375 *1225*	175 *570*	190 *620*	210 *690*	260 *850*	280 *920*	305 *1000*	160 *520*	175 *570*	190 *620*	160 *520*	170 *560*	190 *620*	160 *520*	170 *560*	190 *620*	— —	— —	— —
K3	275 *900*	295 *970*	320 *1050*	150 *490*	160 *520*	175 *570*	220 *720*	235 *770*	260 *850*	135 *445*	145 *475*	160 *520*	135 *445*	145 *475*	160 *520*	135 *445*	145 *475*	160 *520*	— —	— —	— —
K4	265 *870*	280 *920*	305 *1000*	140 *460*	150 *490*	170 *560*	210 *690*	225 *740*	250 *820*	130 *425*	140 *460*	155 *510*	130 *425*	140 *460*	155 *510*	130 *425*	140 *460*	155 *510*	— —	— —	— —
K5	160 *520*	170 *560*	180 *590*	85 *280*	95 *310*	100 *330*	130 *425*	135 *445*	150 *490*	80 *260*	85 *280*	95 *310*	80 *260*	85 *280*	95 *310*	80 *260*	85 *280*	95 *310*	— —	— —	— —
K6	235 *770*	245 *800*	270 *890*	125 *410*	135 *445*	150 *490*	185 *610*	200 *660*	220 *720*	115 *375*	125 *410*	135 *445*	115 *375*	120 *395*	135 *445*	115 *375*	120 *395*	135 *445*	— —	— —	— —
K7	205 *670*	215 *710*	235 *770*	110 *360*	120 *395*	130 *425*	165 *540*	175 *570*	190 *620*	100 *330*	110 *360*	120 *395*	100 *330*	105 *345*	120 *395*	100 *330*	105 *345*	120 *395*	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	1375 *4500*	1475 *4850*	1625 *5325*	1625 *5325*	1750 *5750*	1925 *6325*	— —	— —	— —
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	560 *1825*	600 *1975*	650 *2125*	660 *2175*	710 *2325*	780 *2550*	— —	— —	— —
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	370 *1225*	395 *1300*	435 *1425*	440 *1450*	475 *1550*	520 *1700*	— —	— —	— —
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	425 *1400*	455 *1500*	495 *1625*	500 *1650*	540 *1775*	590 *1925*	— —	— —	— —
S1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	43 *140*	46 *150*	50 *165*	48 *155*	50 *165*	55 *180*	45 *150*	48 *155*	55 *180*
S2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	35 *115*	37 *120*	40 *130*	38 *125*	41 *135*	45 *150*	36 *120*	39 *130*	42 *140*
S3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	30 *100*	32 *105*	35 *115*	33 *110*	35 *115*	39 *130*	32 *105*	34 *110*	37 *120*
S11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	60 *195*	65 *215*	70 *230*	65 *215*	70 *230*	80 *260*	65 *215*	70 *230*	75 *245*
S12	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	43 *140*	45 *150*	50 *165*	55 *180*	60 *195*	65 *215*	55 *180*	55 *180*	65 *215*
S13	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	25 *80*	26 *85*	29 *95*	32 *105*	35 *115*	38 *125*	31 *100*	33 *110*	36 *120*
H5	85 *280*	90 *295*	100 *330*	40 *130*	43 *140*	47 *155*	— —	— —	— —	— —	— —	— —	36 *120*	39 *130*	43 *140*	36 *120*	39 *130*	43 *140*	— —	— —	— —
H8	85 *280*	90 *295*	95 *310*	42 *140*	44 *145*	49 *160*	— —	— —	— —	— —	— —	— —	38 *125*	40 *130*	44 *145*	38 *125*	40 *130*	44 *145*	— —	— —	— —
H11	110 *360*	115 *375*	125 *410*	50 *165*	55 *180*	60 *195*	— —	— —	— —	— —	— —	— —	46 *150*	49 *160*	55 *180*	46 *150*	49 *160*	55 *180*	— —	— —	— —
H12	100 *330*	105 *345*	110 *360*	48 *155*	50 *165*	55 *180*	80 *260*	85 *280*	95 *310*	— —	— —	— —	44 *145*	46 *150*	50 *165*	44 *145*	46 *150*	50 *165*	— —	— —	— —
H21	85 *280*	90 *295*	95 *310*	42 *140*	44 *145*	49 *160*	— —	— —	— —	— —	— —	— —	38 *125*	40 *130*	44 *145*	38 *125*	40 *130*	44 *145*	— —	— —	— —

335.18/29 Round 8 – Cutting data v_c = (m/min)/(sf/min)

SMG	F40M			H25			MP2501			MS2500			MP3501		
	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%
P1	225 *740*	240 *790*	270 *890*	— —	— —	— —	345 *1125*	355 *1175*	380 *1250*	315 *1025*	330 *1075*	370 *1225*	350 *1150*	360 *1175*	380 *1250*
P2	220 *720*	235 *770*	255 *840*	— —	— —	— —	335 *1100*	345 *1125*	370 *1225*	305 *1000*	325 *1075*	360 *1175*	340 *1125*	350 *1150*	370 *1225*
P3	190 *620*	205 *670*	225 *740*	— —	— —	— —	290 *950*	300 *980*	315 *1025*	265 *870*	280 *920*	310 *1025*	290 *950*	300 *980*	315 *1025*
P4	170 *560*	180 *590*	200 *660*	— —	— —	— —	255 *840*	265 *870*	280 *920*	235 *770*	245 *800*	275 *900*	255 *840*	265 *870*	275 *900*
P5	160 *520*	170 *560*	190 *620*	— —	— —	— —	240 *790*	250 *820*	265 *870*	225 *740*	240 *790*	265 *870*	245 *800*	250 *820*	265 *870*
P6	180 *590*	195 *640*	215 *710*	— —	— —	— —	270 *890*	280 *920*	300 *980*	250 *820*	270 *890*	295 *970*	275 *900*	280 *920*	295 *970*
P7	170 *560*	185 *610*	200 *660*	— —	— —	— —	255 *840*	265 *870*	280 *920*	235 *770*	255 *840*	280 *920*	260 *850*	265 *870*	275 *900*
P8	160 *520*	170 *560*	190 *620*	— —	— —	— —	240 *790*	250 *820*	265 *870*	225 *740*	235 *770*	260 *850*	245 *800*	250 *820*	265 *870*
P11	165 *540*	180 *590*	195 *640*	— —	— —	— —	250 *820*	260 *850*	275 *900*	230 *750*	245 *800*	270 *890*	250 *820*	260 *850*	270 *890*
P12	105 *345*	110 *360*	120 *395*	— —	— —	— —	145 *475*	150 *490*	155 *510*	145 *475*	155 *510*	170 *560*	135 *445*	140 *460*	145 *475*
M1	175 *570*	190 *620*	205 *670*	— —	— —	— —	200 *660*	215 *710*	235 *770*	220 *720*	230 *750*	255 *840*	235 *770*	250 *820*	275 *900*
M2	145 *475*	155 *510*	170 *560*	— —	— —	— —	165 *540*	175 *570*	195 *640*	180 *590*	190 *620*	210 *690*	190 *620*	205 *670*	225 *740*
M3	115 *375*	120 *395*	135 *445*	— —	— —	— —	130 *425*	140 *460*	155 *510*	140 *460*	150 *490*	165 *540*	150 *490*	160 *520*	175 *570*
M4	90 *295*	95 *310*	100 *330*	— —	— —	— —	100 *330*	105 *345*	120 *395*	110 *360*	115 *375*	125 *410*	115 *375*	125 *410*	135 *445*
M5	75 *245*	80 *260*	85 *280*	— —	— —	— —	85 *280*	90 *295*	100 *330*	90 *295*	95 *310*	105 *345*	95 *310*	100 *330*	115 *375*
K1	175 *570*	185 *610*	205 *670*	— —	— —	— —	335 *1100*	350 *1150*	370 *1225*	— —	— —	— —	— —	— —	— —
K2	150 *490*	160 *520*	180 *590*	— —	— —	— —	295 *970*	305 *1000*	320 *1050*	— —	— —	— —	— —	— —	— —
K3	130 *425*	135 *445*	155 *510*	— —	— —	— —	250 *820*	255 *840*	270 *890*	— —	— —	— —	— —	— —	— —
K4	125 *410*	130 *425*	145 *475*	— —	— —	— —	235 *770*	245 *800*	260 *850*	— —	— —	— —	— —	— —	— —
K5	75 *245*	80 *260*	90 *295*	— —	— —	— —	140 *460*	145 *475*	155 *510*	— —	— —	— —	— —	— —	— —
K6	110 *360*	115 *375*	130 *425*	— —	— —	— —	210 *690*	215 *710*	230 *750*	— —	— —	— —	— —	— —	— —
K7	95 *310*	100 *330*	115 *375*	— —	— —	— —	180 *590*	185 *610*	195 *640*	— —	— —	— —	— —	— —	— —
N1	1300 *4275*	1400 *4600*	1550 *5075*	1525 *5000*	1625 *5325*	1800 *5900*	— —	— —	— —	— —	— —	— —	— —	— —	— —
N2	530 *1750*	570 *1875*	620 *2025*	620 *2025*	650 *2125*	720 *2350*	— —	— —	— —	— —	— —	— —	— —	— —	— —
N3	355 *1175*	380 *1250*	415 *1350*	410 *1350*	435 *1425*	480 *1575*	— —	— —	— —	— —	— —	— —	— —	— —	— —
N11	405 *1325*	435 *1425*	475 *1550*	470 *1550*	500 *1650*	550 *1800*	— —	— —	— —	— —	— —	— —	— —	— —	— —
S1	41 *135*	44 *145*	48 *155*	— —	— —	— —	— —	— —	— —	55 *180*	55 *180*	60 *195*	38 *125*	40 *130*	44 *145*
S2	33 *110*	35 *115*	39 *130*	— —	— —	— —	— —	— —	— —	43 *140*	45 *150*	50 *165*	30 *100*	32 *105*	36 *120*
S3	29 *95*	30 *100*	34 *110*	— —	— —	— —	— —	— —	— —	37 *120*	40 *130*	44 *145*	38 *125*	40 *130*	44 *145*
S11	60 *195*	60 *195*	70 *230*	— —	— —	— —	— —	— —	— —	75 *245*	80 *260*	90 *295*	75 *245*	80 *260*	90 *295*
S12	49 *160*	50 *165*	55 *180*	— —	— —	— —	— —	— —	— —	65 *215*	65 *215*	75 *245*	55 *180*	55 *180*	60 *195*
S13	28 *90*	30 *100*	33 *110*	— —	— —	— —	— —	— —	— —	36 *120*	38 *125*	43 *140*	30 *100*	32 *105*	35 *115*
H5	34 *110*	37 *120*	41 *135*	— —	— —	— —	— —	— —	— —	— —	— —	— —	48 *155*	50 *165*	55 *180*
H8	36 *120*	38 *125*	42 *140*	— —	— —	— —	— —	— —	— —	— —	— —	— —	49 *160*	50 *165*	55 *180*
H11	44 *145*	47 *155*	50 *165*	— —	— —	— —	— —	— —	— —	— —	— —	— —	60 *195*	65 *215*	70 *230*
H12	42 *140*	44 *145*	49 *160*	— —	— —	— —	— —	— —	— —	50 *165*	55 *180*	60 *195*	85 *280*	95 *310*	100 *330*
H21	36 *120*	38 *125*	42 *140*	— —	— —	— —	— —	— —	— —	— —	— —	— —	49 *160*	50 *165*	55 *180*

335.18/29 Round 10 – Insert selection – mm/Inch

SMG		f_z		
		30%	20%	10%
P1	RDKT10T3M0T-8-M05 F40M	0,085 *0.0034*	0,095 0.0038	0,13 0.0050
P2	RDKT10T3M0T-8-M05 F40M	0,085 *0.0034*	0,095 0.0038	0,13 0.0050
P3	RDKT10T3M0T-8-M05 F40M	0,080 *0.0032*	0,090 0.0036	0,12 0.0048
P4	RDKT10T3M0T-8-M05 F40M	0,080 *0.0032*	0,090 0.0036	0,12 0.0048
P5	RDKT10T3M0T-8-M05 F40M	0,075 *0.0030*	0,090 0.0036	0,12 0.0048
P6	RDKT10T3M0T-8-M05 F40M	0,075 *0.0030*	0,085 0.0034	0,12 0.0048
P7	RDKW10T3M0T-8-MD06 F40M	0,090 *0.0036*	0,10 0.0040	0,14 0.0055
P8	RDKW10T3M0T-8-MD06 MP2501	0,095 *0.0038*	0,11 0.0044	0,15 0.0060
P11	RDKT10T3M0T-8-M07 F40M	0,11 *0.0044*	0,12 0.0048	0,16 0.0065
P12	RDKT10T3M0T-8-M07 F40M	0,075 *0.0030*	0,085 0.0034	0,11 0.0044
M1	RDKT10T3M0T-8-M05 F40M	0,085 *0.0034*	0,095 0.0038	0,13 0.0050
M2	RDKT10T3M0T-8-M05 F40M	0,075 *0.0030*	0,090 0.0036	0,12 0.0048
M3	RDKT10T3M0T-8-M05 F40M	0,060 *0.0024*	0,070 0.0028	0,095 0.0038
M4	RDKT10T3M0T-8-M05 F40M	0,055 *0.0022*	0,060 0.0024	0,080 0.0032
M5	RDKT10T3M0T-8-M05 F40M	0,055 *0.0022*	0,060 0.0024	0,080 0.0032
K1	RDKW10T3M0T-8-MD06 MK2050	0,10 *0.0040*	0,12 0.0048	0,16 0.0065
K2	RDKW10T3M0T-8-MD06 MK2050	0,090 *0.0036*	0,11 0.0044	0,14 0.0055
K3	RDKW10T3M0T-8-MD06 MK2050	0,090 *0.0036*	0,11 0.0044	0,14 0.0055
K4	RDKW10T3M0T-8-MD06 MK2050	0,090 *0.0036*	0,11 0.0044	0,14 0.0055
K5	RDKW10T3M0T-8-MD06 MK2050	0,085 *0.0034*	0,095 0.0038	0,13 0.0050
K6	RDKW10T3M0T-8-MD06 MK2050	0,090 *0.0036*	0,11 0.0044	0,14 0.0055
K7	RDKW10T3M0T-8-MD06 MK2050	0,085 *0.0034*	0,095 0.0038	0,13 0.0050
N1	RDHT10T3M0-8-E04 H25	0,085 *0.0034*	0,10 0.0040	0,13 0.0050
N2	RDHT10T3M0-8-E04 H25	0,085 *0.0034*	0,10 0.0040	0,13 0.0050
N3	RDHT10T3M0-8-E04 H25	0,085 *0.0034*	0,10 0.0040	0,13 0.0050
N11	RDHT10T3M0-8-E04 H25	0,085 *0.0034*	0,10 0.0040	0,13 0.0050
S1	RDKT10T3M0T-8-M05 F40M	0,055 *0.0022*	0,060 0.0024	0,080 0.0032
S2	RDKT10T3M0T-8-M05 F40M	0,055 *0.0022*	0,060 0.0024	0,080 0.0032
S3	RDKT10T3M0T-8-M05 F40M	0,050 *0.0020*	0,055 0.0022	0,075 0.0030
S11	RDKT10T3M0T-8-M05 F40M	0,060 *0.0024*	0,070 0.0028	0,095 0.0038
S12	RDKT10T3M0T-8-M05 F40M	0,060 *0.0024*	0,070 0.0028	0,095 0.0038
S13	RDKT10T3M0T-8-M05 F40M	0,055 *0.0022*	0,060 0.0024	0,080 0.0032
H5	RDKW10T3M0T-8-MD06 F15M	0,065 *0.0026*	0,070 0.0028	0,095 0.0038
H8	RDKW10T3M0T-8-MD06 F15M	0,048 *0.0019*	0,055 0.0022	0,075 0.0030
H11	RDKW10T3M0T-8-MD06 F15M	0,065 *0.0026*	0,070 0.0028	0,095 0.0038
H12	RDKW10T3M0T-8-MD06 F15M	0,048 *0.0019*	0,055 0.0022	0,075 0.0030
H21	RDKW10T3M0T-8-MD06 F15M	0,048 *0.0019*	0,055 0.0022	0,075 0.0030

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

335.18/29 Round 10 – Cutting data v_c = (m/min)/(sf/min)

SMG	MH1051			F15M			MK2050			MS2050			F40M			H25		
	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%
P1	350 *1150*	370 *1225*	410 *1350*	255 *840*	270 *890*	295 *970*	285 *940*	305 *1000*	340 *1125*	220 *720*	235 *770*	265 *870*	245 *800*	260 *850*	290 *950*	— —	— —	— —
P2	340 *1125*	360 *1175*	400 *1300*	245 *800*	260 *850*	290 *950*	280 *920*	295 *970*	325 *1075*	215 *710*	230 *750*	255 *840*	240 *790*	255 *840*	280 *920*	— —	— —	— —
P3	295 *970*	315 *1025*	345 *1125*	210 *690*	230 *750*	250 *820*	240 *790*	260 *850*	285 *940*	190 *620*	205 *670*	220 *720*	210 *690*	220 *720*	240 *790*	— —	— —	— —
P4	260 *850*	280 *920*	305 *1000*	190 *620*	200 *660*	220 *720*	215 *710*	230 *750*	255 *840*	165 *540*	180 *590*	195 *640*	185 *610*	195 *640*	215 *710*	— —	— —	— —
P5	250 *820*	265 *870*	290 *950*	180 *590*	190 *620*	210 *690*	205 *670*	220 *720*	240 *790*	160 *520*	170 *560*	190 *620*	175 *570*	185 *610*	205 *670*	— —	— —	— —
P6	280 *920*	300 *980*	330 *1075*	205 *670*	215 *710*	240 *790*	230 *750*	245 *800*	270 *890*	180 *590*	190 *620*	215 *710*	195 *640*	210 *690*	230 *750*	— —	— —	— —
P7	265 *870*	280 *920*	315 *1025*	190 *620*	205 *670*	225 *740*	215 *710*	230 *750*	255 *840*	170 *560*	180 *590*	200 *660*	185 *610*	200 *660*	220 *720*	— —	— —	— —
P8	245 *800*	265 *870*	290 *950*	180 *590*	190 *620*	210 *690*	200 *660*	220 *720*	240 *790*	160 *520*	170 *560*	185 *610*	175 *570*	185 *610*	205 *670*	— —	— —	— —
P11	255 *840*	275 *900*	305 *1000*	185 *610*	200 *660*	220 *720*	210 *690*	225 *740*	250 *820*	165 *540*	175 *570*	195 *640*	180 *590*	190 *620*	210 *690*	— —	— —	— —
P12	165 *540*	175 *570*	190 *620*	— —	— —	— —	135 *445*	145 *475*	155 *510*	105 *345*	115 *375*	125 *410*	115 *375*	120 *395*	135 *445*	— —	— —	— —
M1	— —	— —	— —	— —	— —	— —	— —	— —	— —	175 *570*	185 *610*	205 *670*	190 *620*	205 *670*	225 *740*	— —	— —	— —
M2	— —	— —	— —	— —	— —	— —	— —	— —	— —	145 *475*	155 *510*	170 *560*	155 *510*	170 *560*	185 *610*	— —	— —	— —
M3	— —	— —	— —	— —	— —	— —	— —	— —	— —	115 *375*	125 *410*	135 *445*	125 *410*	130 *425*	145 *475*	— —	— —	— —
M4	— —	— —	— —	— —	— —	— —	— —	— —	— —	90 *295*	95 *310*	105 *345*	95 *310*	100 *330*	110 *360*	— —	— —	— —
M5	— —	— —	— —	— —	— —	— —	— —	— —	— —	75 *245*	80 *260*	90 *295*	80 *260*	85 *280*	95 *310*	— —	— —	— —
K1	365 *1200*	385 *1275*	420 *1375*	195 *640*	205 *670*	230 *750*	300 *980*	320 *1050*	350 *1150*	— —	— —	— —	190 *620*	200 *660*	220 *720*	— —	— —	— —
K2	320 *1050*	340 *1125*	370 *1225*	170 *560*	185 *610*	200 *660*	265 *870*	280 *920*	310 *1025*	— —	— —	— —	165 *540*	175 *570*	195 *640*	— —	— —	— —
K3	270 *890*	285 *940*	315 *1025*	145 *475*	155 *510*	170 *560*	225 *740*	240 *790*	265 *870*	— —	— —	— —	140 *460*	150 *490*	165 *540*	— —	— —	— —
K4	260 *850*	275 *900*	300 *980*	140 *460*	145 *475*	160 *520*	215 *710*	225 *740*	250 *820*	— —	— —	— —	135 *445*	145 *475*	160 *520*	— —	— —	— —
K5	155 *510*	165 *540*	180 *590*	85 *280*	90 *295*	100 *330*	130 *425*	140 *460*	155 *510*	— —	— —	— —	80 *260*	85 *280*	95 *310*	— —	— —	— —
K6	230 *750*	240 *790*	265 *870*	120 *395*	130 *425*	145 *475*	190 *620*	200 *660*	220 *720*	— —	— —	— —	120 *395*	125 *410*	140 *460*	— —	— —	— —
K7	200 *660*	210 *690*	230 *750*	110 *360*	115 *375*	125 *410*	165 *540*	180 *590*	195 *640*	— —	— —	— —	105 *345*	110 *360*	120 *395*	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	1425 *4675*	1500 *4925*	1675 *5500*	1450 *4750*	1550 *5075*	1700 *5575*
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	570 *1875*	610 *2000*	670 *2200*	580 *1900*	620 *2025*	680 *2225*
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	380 *1250*	405 *1325*	450 *1475*	390 *1275*	415 *1350*	455 *1500*
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	435 *1425*	460 *1500*	510 *1675*	445 *1450*	475 *1550*	520 *1700*
S1	— —	— —	— —	— —	— —	— —	— —	— —	— —	42 *140*	45 *150*	49 *160*	45 *150*	47 *155*	50 *165*	— —	— —	— —
S2	— —	— —	— —	— —	— —	— —	— —	— —	— —	34 *110*	36 *120*	40 *130*	36 *120*	38 *125*	42 *140*	— —	— —	— —
S3	— —	— —	— —	— —	— —	— —	— —	— —	— —	30 *100*	32 *105*	35 *115*	32 *105*	33 *110*	37 *120*	— —	— —	— —
S11	— —	— —	— —	— —	— —	— —	— —	— —	— —	60 *195*	65 *215*	70 *230*	65 *215*	65 *215*	75 *245*	— —	— —	— —
S12	— —	— —	— —	— —	— —	— —	— —	— —	— —	49 *160*	55 *180*	60 *195*	55 *180*	55 *180*	65 *215*	— —	— —	— —
S13	— —	— —	— —	— —	— —	— —	— —	— —	— —	29 *95*	31 *100*	34 *110*	31 *100*	32 *105*	36 *120*	— —	— —	— —
H5	85 *280*	90 *295*	100 *330*	39 *130*	42 *140*	46 *150*	46 *150*	49 *160*	55 *180*	— —	— —	— —	38 *125*	40 *130*	44 *145*	— —	— —	— —
H8	85 *280*	90 *295*	100 *330*	41 *135*	44 *145*	48 *155*	48 *155*	50 *165*	55 *180*	— —	— —	— —	39 *130*	42 *140*	46 *150*	— —	— —	— —
H11	110 *360*	115 *375*	125 *410*	50 *165*	55 *180*	60 *195*	60 *195*	65 *215*	70 *230*	— —	— —	— —	48 *155*	50 *165*	55 *180*	— —	— —	— —
H12	100 *330*	105 *345*	115 *375*	47 *155*	50 *165*	55 *180*	85 *280*	90 *295*	100 *330*	— —	— —	— —	45 *150*	48 *155*	55 *180*	— —	— —	— —
H21	85 *280*	90 *295*	100 *330*	41 *135*	44 *145*	48 *155*	48 *155*	50 *165*	55 *180*	— —	— —	— —	39 *130*	42 *140*	46 *150*	— —	— —	— —

335.18/29 Round 10 – Cutting data v_c = (m/min)/(sf/min)

SMG	MP1501			MP2501			MS2500			MP3501			MM4500		
	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%
P1	345 *1125*	360 *1175*	385 *1275*	365 *1200*	380 *1250*	410 *1350*	355 *1175*	375 *1225*	415 *1350*	350 *1150*	365 *1200*	385 *1275*	200 *660*	210 *690*	235 *770*
P2	335 *1100*	350 *1150*	370 *1225*	355 *1175*	370 *1225*	395 *1300*	345 *1125*	365 *1200*	405 *1325*	340 *1125*	355 *1175*	375 *1225*	195 *640*	205 *670*	230 *750*
P3	290 *950*	300 *980*	320 *1050*	305 *1000*	320 *1050*	340 *1125*	300 *980*	315 *1025*	350 *1150*	295 *970*	305 *1000*	325 *1075*	170 *560*	180 *590*	195 *640*
P4	255 *840*	265 *870*	285 *940*	270 *890*	285 *940*	300 *980*	265 *870*	280 *920*	310 *1025*	260 *850*	270 *890*	285 *940*	150 *490*	155 *510*	175 *570*
P5	245 *800*	255 *840*	270 *890*	260 *850*	270 *890*	290 *950*	250 *820*	270 *890*	295 *970*	245 *800*	255 *840*	270 *890*	140 *460*	150 *490*	165 *540*
P6	275 *900*	285 *940*	305 *1000*	290 *950*	305 *1000*	325 *1075*	280 *920*	300 *980*	335 *1100*	275 *900*	285 *940*	305 *1000*	160 *520*	170 *560*	190 *620*
P7	260 *850*	270 *890*	285 *940*	275 *900*	285 *940*	305 *1000*	265 *870*	285 *940*	315 *1025*	260 *850*	270 *890*	285 *940*	150 *490*	160 *520*	175 *570*
P8	245 *800*	255 *840*	270 *890*	260 *850*	270 *890*	285 *940*	250 *820*	265 *870*	290 *950*	245 *800*	255 *840*	270 *890*	140 *460*	150 *490*	165 *540*
P11	250 *820*	260 *850*	280 *920*	270 *890*	280 *920*	295 *970*	260 *850*	275 *900*	305 *1000*	255 *840*	265 *870*	280 *920*	145 *475*	155 *510*	170 *560*
P12	150 *490*	155 *510*	160 *520*	160 *520*	165 *540*	175 *570*	165 *540*	175 *570*	195 *640*	145 *475*	150 *490*	160 *520*	90 *295*	100 *330*	110 *360*
M1	— —	— —	— —	205 *670*	215 *710*	240 *790*	245 *800*	260 *850*	290 *950*	210 *690*	225 *740*	250 *820*	165 *540*	175 *570*	195 *640*
M2	— —	— —	— —	170 *560*	180 *590*	195 *640*	200 *660*	215 *710*	235 *770*	175 *570*	185 *610*	205 *670*	135 *445*	145 *475*	160 *520*
M3	— —	— —	— —	135 *445*	145 *475*	155 *510*	160 *520*	170 *560*	190 *620*	135 *445*	145 *475*	160 *520*	105 *345*	115 *375*	125 *410*
M4	— —	— —	— —	100 *330*	110 *360*	120 *395*	125 *410*	130 *425*	145 *475*	105 *345*	110 *360*	125 *410*	85 *280*	90 *295*	95 *310*
M5	— —	— —	— —	85 *280*	90 *295*	100 *330*	100 *330*	110 *360*	120 *395*	90 *295*	95 *310*	105 *345*	70 *230*	75 *245*	80 *260*
K1	340 *1125*	355 *1175*	375 *1225*	360 *1175*	375 *1225*	400 *1300*	270 *890*	290 *950*	320 *1050*	345 *1125*	355 *1175*	380 *1250*	— —	— —	— —
K2	295 *970*	305 *1000*	325 *1075*	315 *1025*	325 *1075*	350 *1150*	240 *790*	255 *840*	280 *920*	300 *980*	310 *1025*	330 *1075*	— —	— —	— —
K3	250 *820*	260 *850*	275 *900*	265 *870*	275 *900*	295 *970*	200 *660*	215 *710*	240 *790*	250 *820*	260 *850*	275 *900*	— —	— —	— —
K4	240 *790*	250 *820*	265 *870*	255 *840*	265 *870*	280 *920*	195 *640*	205 *670*	230 *750*	240 *790*	250 *820*	265 *870*	— —	— —	— —
K5	145 *475*	150 *490*	155 *510*	150 *490*	160 *520*	170 *560*	120 *395*	125 *410*	140 *460*	145 *475*	150 *490*	155 *510*	— —	— —	— —
K6	210 *690*	220 *720*	230 *750*	225 *740*	235 *770*	250 *820*	170 *560*	180 *590*	200 *660*	210 *690*	220 *720*	235 *770*	— —	— —	— —
K7	185 *610*	190 *620*	200 *660*	195 *640*	205 *670*	215 *710*	150 *490*	160 *520*	175 *570*	185 *610*	190 *620*	200 *660*	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
S1	— —	— —	— —	— —	— —	— —	60 *195*	65 *215*	70 *230*	34 *110*	37 *120*	40 *130*	25 *80*	27 *90*	30 *100*
S2	— —	— —	— —	— —	— —	— —	48 *155*	50 *165*	55 *180*	28 *90*	29 *95*	33 *110*	20 *65*	22 *70*	24 *80*
S3	— —	— —	— —	— —	— —	— —	42 *140*	45 *150*	49 *160*	35 *115*	37 *120*	40 *130*	18 *60*	19 *60*	21 *70*
S11	— —	— —	— —	— —	— —	— —	85 *280*	90 *295*	100 *330*	70 *230*	75 *245*	80 *260*	36 *120*	38 *125*	42 *140*
S12	— —	— —	— —	— —	— —	— —	70 *230*	75 *245*	85 *280*	48 *155*	50 *165*	55 *180*	33 *110*	35 *115*	39 *130*
S13	— —	— —	— —	— —	— —	— —	41 *135*	43 *140*	48 *155*	28 *90*	29 *95*	32 *105*	19 *60*	20 *65*	22 *70*
H5	49 *160*	50 *165*	55 *180*	— —	— —	— —	49 *160*	50 *165*	60 *195*	43 *140*	46 *150*	50 *165*	— —	— —	— —
H8	50 *165*	55 *180*	60 *195*	— —	— —	— —	50 *165*	55 *180*	60 *195*	45 *150*	48 *155*	55 *180*	— —	— —	— —
H11	60 *195*	65 *215*	75 *245*	— —	— —	— —	60 *195*	65 *215*	75 *245*	55 *180*	60 *195*	65 *215*	— —	— —	— —
H12	60 *195*	65 *215*	70 *230*	— —	— —	— —	60 *195*	65 *215*	70 *230*	80 *260*	85 *280*	95 *310*	— —	— —	— —
H21	50 *165*	55 *180*	60 *195*	— —	— —	— —	50 *165*	55 *180*	60 *195*	45 *150*	48 *155*	55 *180*	— —	— —	— —

335.18/29 Round 12 – Insert selection – mm/Inch

SMG		f_z		
		30%	20%	10%
P1	RPHT1204M0T-6-ME07 F40M	0,12 *0.0048*	0,14 0.0055	0,18 0.0070
P2	RPHT1204M0T-6-ME07 F40M	0,12 *0.0048*	0,14 0.0055	0,19 0.0075
P3	RPHT1204M0T-6-M08 F40M	0,13 *0.0050*	0,15 0.0060	0,20 0.0080
P4	RPHT1204M0T-6-M08 F40M	0,13 *0.0050*	0,15 0.0060	0,20 0.0080
P5	RPHT1204M0T-6-M08 F40M	0,13 *0.0050*	0,15 0.0060	0,19 0.0075
P6	RPHT1204M0T-6-M08 F40M	0,13 *0.0050*	0,14 0.0055	0,19 0.0075
P7	RPHT1204M0T-6-M08 F40M	0,13 *0.0050*	0,14 0.0055	0,19 0.0075
P8	RPHT1204M0T-6-M08 MP2501	0,13 *0.0050*	0,15 0.0060	0,20 0.0080
P11	RPHT1204M0T-6-M08 F40M	0,13 *0.0050*	0,14 0.0055	0,19 0.0075
P12	RPHT1204M0T-6-M08 F40M	0,085 *0.0034*	0,10 0.0040	0,13 0.0050
M1	RPHT1204M0T-6-ME07 F40M	0,12 *0.0048*	0,14 0.0055	0,19 0.0075
M2	RPHT1204M0T-6-ME07 F40M	0,11 *0.0044*	0,13 0.0050	0,17 0.0065
M3	RPHT1204M0T-6-M08 F40M	0,10 *0.0040*	0,12 0.0048	0,16 0.0065
M4	RPHT1204M0T-6-M08 F40M	0,090 *0.0036*	0,10 0.0040	0,14 0.0055
M5	RPHT1204M0T-6-M08 F40M	0,090 *0.0036*	0,10 0.0040	0,14 0.0055
K1	RPKW1204M0T-6-MD10 MK2050	0,17 *0.0065*	0,20 0.0080	0,26 0.010
K2	RPKW1204M0T-6-MD10 MK2050	0,16 *0.0065*	0,18 0.0070	0,24 0.0095
K3	RPKW1204M0T-6-MD10 MK2050	0,16 *0.0065*	0,18 0.0070	0,24 0.0095
K4	RPKW1204M0T-6-MD10 MK2050	0,16 *0.0065*	0,18 0.0070	0,24 0.0095
K5	RPKW1204M0T-6-MD10 MK2050	0,14 *0.0055*	0,16 0.0065	0,22 0.0085
K6	RPKW1204M0T-6-MD10 MK2050	0,16 *0.0065*	0,18 0.0070	0,24 0.0095
K7	RPKW1204M0T-6-MD10 MK2050	0,14 *0.0055*	0,16 0.0065	0,22 0.0085
N1	RPHT1204M0-6-E05 H25	0,11 *0.0044*	0,13 0.0050	0,17 0.0065
N2	RPHT1204M0-6-E05 H25	0,11 *0.0044*	0,13 0.0050	0,17 0.0065
N3	RPHT1204M0-6-E05 H25	0,11 *0.0044*	0,13 0.0050	0,17 0.0065
N11	RPHT1204M0-6-E05 H25	0,11 *0.0044*	0,13 0.0050	0,17 0.0065
S1	RPHT1204M0T-6-M08 F40M	0,090 *0.0036*	0,10 0.0040	0,14 0.0055
S2	RPHT1204M0T-6-M08 F40M	0,090 *0.0036*	0,10 0.0040	0,14 0.0055
S3	RPHT1204M0T-6-M08 F40M	0,080 *0.0032*	0,095 0.0038	0,13 0.0050
S11	RPHT1204M0T-6-ME07 F40M	0,090 *0.0036*	0,10 0.0040	0,14 0.0055
S12	RPHT1204M0T-6-ME07 F40M	0,090 *0.0036*	0,10 0.0040	0,14 0.0055
S13	RPHT1204M0T-6-M08 F40M	0,090 *0.0036*	0,10 0.0040	0,14 0.0055
H5	RPKW1204M0T-6-MD10 MH1051	0,11 *0.0044*	0,12 0.0048	0,16 0.0065
H8	RPKW1204M0T-6-MD10 MH1051	0,080 *0.0032*	0,095 0.0038	0,13 0.0050
H11	RPHT1204M0T-6-M13 MP3501	0,14 *0.0055*	0,16 0.0065	0,22 0.0085
H12	RPHT1204M0T-4-M08 MP3501	0,065 *0.0026*	0,075 0.0030	0,10 0.0040
H21	RPKW1204M0T-6-MD10 MH1051	0,080 *0.0032*	0,095 0.0038	0,13 0.0050

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

335.18/29 Round 12 – Cutting data v_c = (m/min)/(sf/min)

SMG	MH1051			MK2050			MP3000			MS2050			F40M			H25		
	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%
P1	360 *1175*	380 *1250*	425 *1400*	240 *790*	255 *840*	285 *940*	270 *890*	285 *940*	320 *1050*	240 *790*	255 *840*	290 *950*	220 *720*	235 *770*	260 *850*	— —	— —	— —
P2	350 *1150*	370 *1225*	410 *1350*	235 *770*	250 *820*	275 *900*	265 *870*	280 *920*	310 *1025*	235 *770*	250 *820*	275 *900*	210 *690*	225 *740*	250 *820*	— —	— —	— —
P3	305 *1000*	320 *1050*	355 *1175*	200 *660*	220 *720*	240 *790*	230 *750*	245 *800*	265 *870*	205 *670*	220 *720*	240 *790*	185 *610*	200 *660*	220 *720*	— —	— —	— —
P4	270 *890*	285 *940*	315 *1025*	180 *590*	190 *620*	210 *690*	200 *660*	215 *710*	240 *790*	180 *590*	190 *620*	215 *710*	165 *540*	175 *570*	195 *640*	— —	— —	— —
P5	255 *840*	275 *900*	300 *980*	170 *560*	185 *610*	205 *670*	195 *640*	205 *670*	230 *750*	170 *560*	185 *610*	205 *670*	155 *510*	165 *540*	185 *610*	— —	— —	— —
P6	285 *940*	305 *1000*	340 *1125*	195 *640*	210 *690*	230 *750*	215 *710*	230 *750*	255 *840*	195 *640*	210 *690*	230 *750*	175 *570*	190 *620*	210 *690*	— —	— —	— —
P7	270 *890*	290 *950*	320 *1050*	180 *590*	200 *660*	220 *720*	205 *670*	220 *720*	240 *790*	180 *590*	200 *660*	220 *720*	165 *540*	180 *590*	200 *660*	— —	— —	— —
P8	255 *840*	270 *890*	300 *980*	170 *560*	185 *610*	200 *660*	195 *640*	205 *670*	225 *740*	170 *560*	185 *610*	205 *670*	155 *510*	165 *540*	185 *610*	— —	— —	— —
P11	265 *870*	280 *920*	310 *1025*	175 *570*	195 *640*	210 *690*	200 *660*	210 *690*	235 *770*	175 *570*	190 *620*	210 *690*	160 *520*	175 *570*	190 *620*	— —	— —	— —
P12	165 *540*	180 *590*	195 *640*	115 *375*	125 *410*	135 *445*	125 *410*	135 *445*	150 *490*	115 *375*	120 *395*	135 *445*	105 *345*	110 *360*	125 *410*	— —	— —	— —
M1	— —	— —	— —	— —	— —	— —	195 *640*	210 *690*	230 *750*	190 *620*	200 *660*	220 *720*	170 *560*	185 *610*	200 *660*	— —	— —	— —
M2	— —	— —	— —	— —	— —	— —	160 *520*	175 *570*	190 *620*	155 *510*	165 *540*	185 *610*	140 *460*	150 *490*	170 *560*	— —	— —	— —
M3	— —	— —	— —	— —	— —	— —	130 *425*	135 *445*	150 *490*	125 *410*	130 *425*	145 *475*	115 *375*	120 *395*	135 *445*	— —	— —	— —
M4	— —	— —	— —	— —	— —	— —	100 *330*	105 *345*	115 *375*	95 *310*	105 *345*	115 *375*	85 *280*	95 *310*	100 *330*	— —	— —	— —
M5	— —	— —	— —	— —	— —	— —	80 *260*	85 *280*	95 *310*	80 *260*	85 *280*	95 *310*	75 *245*	80 *260*	85 *280*	— —	— —	— —
K1	375 *1225*	395 *1300*	430 *1400*	250 *820*	270 *890*	295 *970*	175 *570*	185 *610*	205 *670*	— —	— —	— —	170 *560*	180 *590*	200 *660*	— —	— —	— —
K2	325 *1075*	345 *1125*	375 *1225*	220 *720*	235 *770*	265 *870*	155 *510*	165 *540*	180 *590*	— —	— —	— —	150 *490*	160 *520*	175 *570*	— —	— —	— —
K3	275 *900*	290 *950*	320 *1050*	190 *620*	200 *660*	225 *740*	130 *425*	140 *460*	155 *510*	— —	— —	— —	125 *410*	135 *445*	150 *490*	— —	— —	— —
K4	265 *870*	280 *920*	305 *1000*	180 *590*	190 *620*	215 *710*	125 *410*	135 *445*	145 *475*	— —	— —	— —	120 *395*	130 *425*	145 *475*	— —	— —	— —
K5	160 *520*	170 *560*	180 *590*	110 *360*	120 *395*	130 *425*	75 *245*	80 *260*	90 *295*	— —	— —	— —	75 *245*	80 *260*	85 *280*	— —	— —	— —
K6	230 *750*	245 *800*	270 *890*	160 *520*	170 *560*	190 *620*	110 *360*	115 *375*	130 *425*	— —	— —	— —	105 *345*	115 *375*	125 *410*	— —	— —	— —
K7	205 *670*	215 *710*	235 *770*	140 *460*	150 *490*	170 *560*	95 *310*	105 *345*	115 *375*	— —	— —	— —	95 *310*	100 *330*	110 *360*	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	1575 *5175*	1650 *5425*	1850 *6075*	— —	— —	— —	1250 *4100*	1350 *4425*	1475 *4850*	1375 *4500*	1450 *4750*	1625 *5325*
N2	— —	— —	— —	— —	— —	— —	630 *2075*	670 *2200*	740 *2425*	— —	— —	— —	500 *1650*	540 *1775*	600 *1975*	560 *1825*	590 *1925*	650 *2125*
N3	— —	— —	— —	— —	— —	— —	420 *1375*	445 *1450*	495 *1625*	— —	— —	— —	335 *1100*	365 *1200*	395 *1300*	370 *1225*	395 *1300*	435 *1425*
N11	— —	— —	— —	— —	— —	— —	480 *1575*	510 *1675*	570 *1875*	— —	— —	— —	385 *1275*	415 *1350*	455 *1500*	425 *1400*	450 *1475*	500 *1650*
S1	— —	— —	— —	— —	— —	— —	46 *150*	49 *160*	55 *180*	45 *150*	48 *155*	55 *180*	41 *135*	44 *145*	48 *155*	— —	— —	— —
S2	— —	— —	— —	— —	— —	— —	37 *120*	39 *130*	43 *140*	36 *120*	39 *130*	42 *140*	33 *110*	35 *115*	38 *125*	— —	— —	— —
S3	— —	— —	— —	— —	— —	— —	32 *105*	34 *110*	38 *125*	32 *105*	34 *110*	37 *120*	29 *95*	31 *100*	34 *110*	— —	— —	— —
S11	— —	— —	— —	— —	— —	— —	65 *215*	70 *230*	75 *245*	65 *215*	65 *215*	75 *245*	55 *180*	60 *195*	65 *215*	— —	— —	— —
S12	— —	— —	— —	— —	— —	— —	55 *180*	60 *195*	65 *215*	55 *180*	55 *180*	60 *195*	48 *155*	50 *165*	55 *180*	— —	— —	— —
S13	— —	— —	— —	— —	— —	— —	31 *100*	33 *110*	37 *120*	31 *100*	33 *110*	36 *120*	28 *90*	30 *100*	33 *110*	— —	— —	— —
H5	85 *280*	90 *295*	95 *310*	40 *130*	42 *140*	47 *155*	35 *115*	37 *120*	41 *135*	— —	— —	— —	35 *115*	37 *120*	41 *135*	— —	— —	— —
H8	85 *280*	90 *295*	95 *310*	43 *140*	46 *150*	50 *165*	36 *120*	39 *130*	42 *140*	— —	— —	— —	36 *120*	39 *130*	43 *140*	— —	— —	— —
H11	110 *360*	115 *375*	125 *410*	50 *165*	55 *180*	60 *195*	44 *145*	48 *155*	55 *180*	— —	— —	— —	44 *145*	47 *155*	50 *165*	— —	— —	— —
H12	100 *330*	105 *345*	110 *360*	75 *245*	80 *260*	85 *280*	42 *140*	45 *150*	49 *160*	— —	— —	— —	42 *140*	45 *150*	50 *165*	— —	— —	— —
H21	85 *280*	90 *295*	95 *310*	43 *140*	46 *150*	50 *165*	36 *120*	39 *130*	42 *140*	— —	— —	— —	36 *120*	39 *130*	43 *140*	— —	— —	— —

335.18/29 Round 12 – Cutting data v_c = (m/min)/(sf/min)

SMG	MP1501			MP2501			MS2500			MP3501			MM4500		
	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%
P1	325 *1075*	345 *1125*	370 *1225*	370 *1225*	385 *1275*	415 *1350*	315 *1025*	335 *1100*	375 *1225*	335 *1100*	350 *1150*	375 *1225*	175 *570*	190 *620*	210 *690*
P2	320 *1050*	335 *1100*	360 *1175*	360 *1175*	375 *1225*	400 *1300*	305 *1000*	325 *1075*	360 *1175*	325 *1075*	340 *1125*	360 *1175*	170 *560*	185 *610*	200 *660*
P3	275 *900*	295 *970*	315 *1025*	315 *1025*	325 *1075*	350 *1150*	270 *890*	285 *940*	315 *1025*	280 *920*	295 *970*	315 *1025*	150 *490*	160 *520*	180 *590*
P4	245 *800*	260 *850*	275 *900*	275 *900*	285 *940*	305 *1000*	235 *770*	250 *820*	280 *920*	250 *820*	260 *850*	275 *900*	135 *445*	140 *460*	155 *510*
P5	235 *770*	245 *800*	270 *890*	265 *870*	275 *900*	295 *970*	225 *740*	240 *790*	270 *890*	235 *770*	250 *820*	265 *870*	125 *410*	135 *445*	150 *490*
P6	265 *870*	280 *920*	300 *980*	295 *970*	310 *1025*	330 *1075*	255 *840*	275 *900*	300 *980*	265 *870*	280 *920*	300 *980*	140 *460*	155 *510*	170 *560*
P7	250 *820*	265 *870*	285 *940*	280 *920*	295 *970*	310 *1025*	240 *790*	260 *850*	285 *940*	250 *820*	265 *870*	280 *920*	135 *445*	145 *475*	160 *520*
P8	235 *770*	245 *800*	265 *870*	265 *870*	275 *900*	295 *970*	225 *740*	240 *790*	265 *870*	235 *770*	250 *820*	265 *870*	125 *410*	135 *445*	150 *490*
P11	240 *790*	260 *850*	275 *900*	270 *890*	285 *940*	305 *1000*	230 *750*	250 *820*	275 *900*	245 *800*	255 *840*	275 *900*	130 *425*	140 *460*	155 *510*
P12	155 *510*	160 *520*	175 *570*	165 *540*	170 *560*	180 *590*	150 *490*	160 *520*	175 *570*	150 *490*	155 *510*	165 *540*	85 *280*	90 *295*	100 *330*
M1	— —	— —	— —	200 *660*	215 *710*	235 *770*	220 *720*	235 *770*	255 *840*	190 *620*	200 *660*	220 *720*	150 *490*	160 *520*	175 *570*
M2	— —	— —	— —	165 *540*	175 *570*	200 *660*	180 *590*	190 *620*	215 *710*	155 *510*	165 *540*	185 *610*	120 *395*	130 *425*	145 *475*
M3	— —	— —	— —	135 *445*	140 *460*	155 *510*	145 *475*	155 *510*	170 *560*	125 *410*	130 *425*	145 *475*	100 *330*	105 *345*	115 *375*
M4	— —	— —	— —	105 *345*	110 *360*	120 *395*	110 *360*	120 *395*	130 *425*	95 *310*	105 *345*	115 *375*	75 *245*	80 *260*	90 *295*
M5	— —	— —	— —	85 *280*	90 *295*	100 *330*	95 *310*	100 *330*	110 *360*	80 *260*	85 *280*	95 *310*	65 *215*	65 *215*	75 *245*
K1	320 *1050*	340 *1125*	365 *1200*	365 *1200*	380 *1250*	405 *1325*	240 *790*	260 *850*	285 *940*	330 *1075*	345 *1125*	365 *1200*	— —	— —	— —
K2	285 *940*	300 *980*	325 *1075*	320 *1050*	330 *1075*	355 *1175*	215 *710*	230 *750*	255 *840*	285 *940*	300 *980*	320 *1050*	— —	— —	— —
K3	240 *790*	250 *820*	275 *900*	270 *890*	280 *920*	300 *980*	180 *590*	195 *640*	215 *710*	245 *800*	255 *840*	270 *890*	— —	— —	— —
K4	230 *750*	240 *790*	260 *850*	255 *840*	270 *890*	290 *950*	175 *570*	185 *610*	205 *670*	230 *750*	240 *790*	260 *850*	— —	— —	— —
K5	140 *460*	145 *475*	160 *520*	155 *510*	160 *520*	175 *570*	105 *345*	115 *375*	125 *410*	140 *460*	145 *475*	155 *510*	— —	— —	— —
K6	200 *660*	210 *690*	230 *750*	225 *740*	235 *770*	255 *840*	150 *490*	160 *520*	180 *590*	205 *670*	215 *710*	230 *750*	— —	— —	— —
K7	180 *590*	190 *620*	205 *670*	200 *660*	205 *670*	220 *720*	135 *445*	145 *475*	160 *520*	180 *590*	185 *610*	200 *660*	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
S1	— —	— —	— —	— —	— —	— —	55 *180*	60 *195*	65 *215*	31 *100*	34 *110*	37 *120*	23 *75*	25 *80*	27 *90*
S2	— —	— —	— —	— —	— —	— —	44 *145*	47 *155*	50 *165*	25 *80*	27 *90*	30 *100*	19 *60*	20 *65*	22 *70*
S3	— —	— —	— —	— —	— —	— —	39 *130*	41 *135*	45 *150*	32 *105*	34 *110*	37 *120*	16 *50*	17 *55*	19 *60*
S11	— —	— —	— —	— —	— —	— —	75 *245*	80 *260*	90 *295*	65 *215*	65 *215*	75 *245*	32 *105*	34 *110*	38 *125*
S12	— —	— —	— —	— —	— —	— —	65 *215*	70 *230*	75 *245*	44 *145*	46 *150*	50 *165*	30 *100*	32 *105*	35 *115*
S13	— —	— —	— —	— —	— —	— —	37 *120*	40 *130*	44 *145*	25 *80*	27 *90*	30 *100*	17 *55*	19 *60*	20 *65*
H5	44 *145*	47 *155*	50 *165*	— —	— —	— —	45 *150*	48 *155*	55 *180*	40 *130*	42 *140*	47 *155*	— —	— —	— —
H8	48 *155*	50 *165*	55 *180*	— —	— —	— —	47 *155*	50 *165*	55 *180*	42 *140*	44 *145*	49 *160*	— —	— —	— —
H11	55 *180*	60 *195*	65 *215*	— —	— —	— —	55 *180*	60 *195*	65 *215*	50 *165*	55 *180*	60 *195*	— —	— —	— —
H12	55 *180*	60 *195*	65 *215*	— —	— —	— —	55 *180*	60 *195*	65 *215*	75 *245*	80 *260*	90 *295*	— —	— —	— —
H21	48 *155*	50 *165*	55 *180*	— —	— —	— —	47 *155*	50 *165*	55 *180*	42 *140*	44 *145*	49 *160*	— —	— —	— —

335.25 Round 16 – Insert selection – mm/Inch

SMG		f_z		
		30%	20%	10%
P1	RPHT1605M0T-8-ME11 F40M	0,19 *0.0075*	0,22 0.0085	0,28 0.011
P2	RPHT1605M0T-8-ME11 F40M	0,19 *0.0075*	0,22 0.0085	0,30 0.012
P3	RPHT1605M0T-8-ME11 F40M	0,18 *0.0070*	0,20 0.0080	0,28 0.011
P4	RPHT1605M0T-8-M12 F40M	0,19 *0.0075*	0,22 0.0085	0,30 0.012
P5	RPHT1605M0T-8-M12 F40M	0,19 *0.0075*	0,22 0.0085	0,28 0.011
P6	RPHT1605M0T-8-M12 F40M	0,19 *0.0075*	0,22 0.0085	0,28 0.011
P7	RPHT1605M0T-8-M12 F40M	0,19 *0.0075*	0,22 0.0085	0,28 0.011
P8	RPKT1605M0T-8-M12 MP2501	0,20 *0.0080*	0,22 0.0085	0,30 0.012
P11	RPHT1605M0T-8-M12 F40M	0,19 *0.0075*	0,22 0.0085	0,28 0.011
P12	RPHT1605M0T-8-M12 F40M	0,13 *0.0050*	0,15 0.0060	0,20 0.0080
M1	RPHT1605M0T-8-ME11 F40M	0,19 *0.0075*	0,22 0.0085	0,30 0.012
M2	RPHT1605M0T-8-ME11 F40M	0,17 *0.0065*	0,20 0.0080	0,26 0.010
M3	RPHT1605M0T-8-M12 F40M	0,15 *0.0060*	0,17 0.0065	0,24 0.0095
M4	RPHT1605M0T-8-M12 F40M	0,13 *0.0050*	0,15 0.0060	0,20 0.0080
M5	RPHT1605M0T-8-M12 F40M	0,13 *0.0050*	0,15 0.0060	0,20 0.0080
K1	RPKT1605M0T-8-M18 MK2050	0,32 *0.013*	0,36 0.014	0,48 0.019
K2	RPKT1605M0T-8-M18 MK2050	0,28 *0.011*	0,32 0.013	0,44 0.017
K3	RPKT1605M0T-8-M18 MK2050	0,28 *0.011*	0,32 0.013	0,44 0.017
K4	RPKT1605M0T-8-M18 MK2050	0,28 *0.011*	0,32 0.013	0,44 0.017
K5	RPKT1605M0T-8-M18 MK2050	0,25 *0.010*	0,30 0.012	0,38 0.015
K6	RPKT1605M0T-8-M18 MK2050	0,28 *0.011*	0,32 0.013	0,44 0.017
K7	RPKT1605M0T-8-M18 MK2050	0,25 *0.010*	0,30 0.012	0,38 0.015
N1	RPHT1605M0T-8-ME11 F40M	0,24 *0.0095*	0,28 0.011	0,36 0.014
N2	RPHT1605M0T-8-ME11 F40M	0,24 *0.0095*	0,28 0.011	0,36 0.014
N3	RPHT1605M0T-8-ME11 F40M	0,24 *0.0095*	0,28 0.011	0,36 0.014
N11	RPHT1605M0T-8-ME11 F40M	0,24 *0.0095*	0,28 0.011	0,36 0.014
S1	RPHT1605M0T-8-M12 F40M	0,13 *0.0050*	0,15 0.0060	0,20 0.0080
S2	RPHT1605M0T-8-M12 F40M	0,13 *0.0050*	0,15 0.0060	0,20 0.0080
S3	RPHT1605M0T-8-M12 F40M	0,12 *0.0048*	0,14 0.0055	0,19 0.0075
S11	RPHT1605M0T-8-ME11 F40M	0,14 *0.0055*	0,16 0.0065	0,22 0.0085
S12	RPHT1605M0T-8-ME11 F40M	0,14 *0.0055*	0,16 0.0065	0,22 0.0085
H5	RPKW1605M0T-8-MD20 F15M	0,22 *0.0085*	0,24 0.0095	0,32 0.013
H8	RPKW1605M0T-8-MD20 F15M	0,16 *0.0065*	0,19 0.0075	0,25 0.010
H11	RPKW1605M0T-8-MD20 F15M	0,22 *0.0085*	0,24 0.0095	0,32 0.013
H12	RPKW1605M0T-8-MD20 F15M	0,16 *0.0065*	0,19 0.0075	0,25 0.010
H21	RPKW1605M0T-8-MD20 F15M	0,16 *0.0065*	0,19 0.0075	0,25 0.010

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

335.25 Round 16 – Cutting data v_c = (m/min)/(sf/min)

SMG	F15M			MK2050			MP3000			MS2050			F40M		
	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%
P1	170 *560*	180 *590*	205 *670*	215 *710*	230 *750*	255 *840*	205 *670*	220 *720*	245 *800*	215 *710*	230 *750*	260 *850*	185 *610*	195 *640*	220 *720*
P2	165 *540*	175 *570*	195 *640*	205 *670*	220 *720*	245 *800*	200 *660*	215 *710*	235 *770*	210 *690*	225 *740*	250 *820*	180 *590*	190 *620*	210 *690*
P3	145 *475*	155 *510*	170 *560*	180 *590*	195 *640*	215 *710*	175 *570*	185 *610*	205 *670*	185 *610*	200 *660*	215 *710*	155 *510*	170 *560*	185 *610*
P4	130 *425*	135 *445*	150 *490*	160 *520*	170 *560*	190 *620*	155 *510*	165 *540*	185 *610*	160 *520*	175 *570*	190 *620*	140 *460*	150 *490*	165 *540*
P5	125 *410*	130 *425*	145 *475*	155 *510*	165 *540*	185 *610*	150 *490*	160 *520*	175 *570*	155 *510*	165 *540*	185 *610*	135 *445*	140 *460*	155 *510*
P6	140 *460*	150 *490*	165 *540*	175 *570*	185 *610*	205 *670*	165 *540*	180 *590*	195 *640*	175 *570*	185 *610*	210 *690*	150 *490*	160 *520*	180 *590*
P7	130 *425*	140 *460*	155 *510*	165 *540*	175 *570*	195 *640*	160 *520*	170 *560*	185 *610*	165 *540*	175 *570*	195 *640*	140 *460*	150 *490*	170 *560*
P8	125 *410*	130 *425*	145 *475*	150 *490*	165 *540*	180 *590*	145 *475*	155 *510*	175 *570*	155 *510*	165 *540*	180 *590*	130 *425*	140 *460*	155 *510*
P11	125 *410*	135 *445*	150 *490*	160 *520*	170 *560*	190 *620*	155 *510*	165 *540*	180 *590*	160 *520*	170 *560*	190 *620*	135 *445*	145 *475*	165 *540*
P12	— —	— —	— —	105 *345*	110 *360*	125 *410*	100 *330*	110 *360*	120 *395*	105 *345*	110 *360*	125 *410*	90 *295*	95 *310*	105 *345*
M1	— —	— —	— —	— —	— —	— —	150 *490*	160 *520*	175 *570*	170 *560*	180 *590*	200 *660*	145 *475*	155 *510*	170 *560*
M2	— —	— —	— —	— —	— —	— —	125 *410*	135 *445*	145 *475*	140 *460*	150 *490*	165 *540*	120 *395*	130 *425*	140 *460*
M3	— —	— —	— —	— —	— —	— —	100 *330*	110 *360*	120 *395*	115 *375*	120 *395*	135 *445*	95 *310*	105 *345*	115 *375*
M4	— —	— —	— —	— —	— —	— —	80 *260*	85 *280*	95 *310*	90 *295*	95 *310*	105 *345*	75 *245*	80 *260*	90 *295*
M5	— —	— —	— —	— —	— —	— —	65 *215*	70 *230*	80 *260*	75 *245*	80 *260*	85 *280*	65 *215*	65 *215*	75 *245*
K1	130 *425*	140 *460*	155 *510*	220 *720*	240 *790*	265 *870*	130 *425*	140 *460*	155 *510*	— —	— —	— —	145 *475*	150 *490*	170 *560*
K2	115 *375*	125 *410*	140 *460*	200 *660*	215 *710*	235 *770*	120 *395*	125 *410*	140 *460*	— —	— —	— —	125 *410*	135 *445*	150 *490*
K3	100 *330*	105 *345*	120 *395*	170 *560*	180 *590*	200 *660*	100 *330*	110 *360*	120 *395*	— —	— —	— —	105 *345*	115 *375*	125 *410*
K4	95 *310*	100 *330*	115 *375*	160 *520*	175 *570*	190 *620*	95 *310*	105 *345*	115 *375*	— —	— —	— —	100 *330*	110 *360*	120 *395*
K5	60 *195*	65 *215*	70 *230*	100 *330*	105 *345*	115 *375*	60 *195*	60 *195*	70 *230*	— —	— —	— —	60 *195*	65 *215*	75 *245*
K6	85 *280*	90 *295*	100 *330*	140 *460*	155 *510*	170 *560*	85 *280*	90 *295*	100 *330*	— —	— —	— —	90 *295*	95 *310*	105 *345*
K7	75 *245*	80 *260*	90 *295*	125 *410*	135 *445*	150 *490*	75 *245*	80 *260*	90 *295*	— —	— —	— —	80 *260*	85 *280*	95 *310*
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	1050 *3450*	1125 *3700*	1250 *4100*
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	425 *1400*	455 *1500*	510 *1675*
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	285 *940*	305 *1000*	335 *1100*
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	325 *1075*	345 *1125*	385 *1275*
S1	— —	— —	— —	— —	— —	— —	37 *120*	40 *130*	43 *140*	41 *135*	44 *145*	48 *155*	35 *115*	37 *120*	41 *135*
S2	— —	— —	— —	— —	— —	— —	29 *95*	32 *105*	35 *115*	33 *110*	35 *115*	39 *130*	28 *90*	30 *100*	33 *110*
S3	— —	— —	— —	— —	— —	— —	26 *85*	27 *90*	31 *100*	29 *95*	31 *100*	34 *110*	25 *80*	26 *85*	29 *95*
S11	— —	— —	— —	— —	— —	— —	— —	— —	— —	55 *180*	60 *195*	65 *215*	49 *160*	55 *180*	55 *180*
S12	— —	— —	— —	— —	— —	— —	— —	— —	— —	48 *155*	50 *165*	55 *180*	41 *135*	44 *145*	48 *155*
S13	— —	— —	— —	— —	— —	— —	— —	— —	— —	28 *90*	30 *100*	33 *110*	24 *80*	26 *85*	28 *90*
H5	28 *90*	30 *100*	33 *110*	— —	— —	— —	28 *90*	30 *100*	33 *110*	— —	— —	— —	29 *95*	31 *100*	35 *115*
H8	30 *100*	32 *105*	35 *115*	— —	— —	— —	30 *100*	32 *105*	36 *120*	— —	— —	— —	31 *100*	34 *110*	37 *120*
H11	35 *115*	38 *125*	42 *140*	— —	— —	— —	36 *120*	38 *125*	42 *140*	— —	— —	— —	38 *125*	40 *130*	44 *145*
H12	35 *115*	37 *120*	41 *135*	— —	— —	— —	35 *115*	37 *120*	42 *140*	— —	— —	— —	36 *120*	39 *130*	43 *140*
H21	30 *100*	32 *105*	35 *115*	— —	— —	— —	30 *100*	32 *105*	36 *120*	— —	— —	— —	31 *100*	34 *110*	37 *120*

335.25 Round 16 – Cutting data v_c = (m/min)/(sf/min)

SMG	MP1501			MP2501			MS2500			MP3501			MM4500		
	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%
P1	295 *970*	310 *1025*	335 *1100*	325 *1075*	335 *1100*	360 *1175*	285 *940*	305 *1000*	340 *1125*	305 *1000*	320 *1050*	350 *1150*	160 *520*	170 *560*	190 *620*
P2	280 *920*	300 *980*	325 *1075*	315 *1025*	330 *1075*	355 *1175*	275 *900*	295 *970*	325 *1075*	300 *980*	315 *1025*	335 *1100*	155 *510*	165 *540*	180 *590*
P3	245 *800*	260 *850*	280 *920*	270 *890*	285 *940*	310 *1025*	240 *790*	260 *850*	285 *940*	260 *850*	275 *900*	295 *970*	135 *445*	145 *475*	160 *520*
P4	220 *720*	230 *750*	250 *820*	240 *790*	255 *840*	270 *890*	210 *690*	230 *750*	250 *820*	230 *750*	240 *790*	260 *850*	120 *395*	130 *425*	140 *460*
P5	210 *690*	225 *740*	240 *790*	230 *750*	240 *790*	260 *850*	205 *670*	220 *720*	245 *800*	220 *720*	230 *750*	250 *820*	115 *375*	125 *410*	135 *445*
P6	240 *790*	250 *820*	270 *890*	260 *850*	270 *890*	295 *970*	230 *750*	245 *800*	275 *900*	250 *820*	260 *850*	280 *920*	130 *425*	140 *460*	155 *510*
P7	225 *740*	240 *790*	255 *840*	245 *800*	255 *840*	280 *920*	220 *720*	230 *750*	260 *850*	235 *770*	245 *800*	265 *870*	125 *410*	130 *425*	145 *475*
P8	210 *690*	220 *720*	235 *770*	230 *750*	240 *790*	260 *850*	200 *660*	220 *720*	240 *790*	220 *720*	230 *750*	245 *800*	115 *375*	125 *410*	135 *445*
P11	220 *720*	230 *750*	245 *800*	235 *770*	250 *820*	270 *890*	210 *690*	225 *740*	250 *820*	230 *750*	240 *790*	255 *840*	120 *395*	125 *410*	140 *460*
P12	140 *460*	150 *490*	160 *520*	150 *490*	155 *510*	165 *540*	135 *445*	145 *475*	160 *520*	140 *460*	150 *490*	160 *520*	75 *245*	80 *260*	90 *295*
M1	— —	— —	— —	170 *560*	180 *590*	200 *660*	200 *660*	210 *690*	230 *750*	170 *560*	180 *590*	200 *660*	135 *445*	140 *460*	155 *510*
M2	— —	— —	— —	140 *460*	150 *490*	165 *540*	165 *540*	175 *570*	195 *640*	140 *460*	150 *490*	165 *540*	110 *360*	120 *395*	130 *425*
M3	— —	— —	— —	115 *375*	125 *410*	135 *445*	130 *425*	140 *460*	155 *510*	115 *375*	120 *395*	135 *445*	90 *295*	95 *310*	105 *345*
M4	— —	— —	— —	90 *295*	95 *310*	105 *345*	100 *330*	110 *360*	120 *395*	90 *295*	95 *310*	105 *345*	70 *230*	75 *245*	80 *260*
M5	— —	— —	— —	75 *245*	80 *260*	85 *280*	85 *280*	90 *295*	100 *330*	75 *245*	80 *260*	85 *280*	55 *180*	60 *195*	65 *215*
K1	285 *940*	300 *980*	325 *1075*	320 *1050*	330 *1075*	355 *1175*	220 *720*	235 *770*	255 *840*	300 *980*	315 *1025*	340 *1125*	— —	— —	— —
K2	255 *840*	270 *890*	290 *950*	280 *920*	290 *950*	315 *1025*	195 *640*	205 *670*	230 *750*	270 *890*	280 *920*	300 *980*	— —	— —	— —
K3	215 *710*	230 *750*	245 *800*	235 *770*	245 *800*	265 *870*	165 *540*	175 *570*	195 *640*	225 *740*	235 *770*	255 *840*	—	—	—
K4	205 *670*	220 *720*	235 *770*	225 *740*	235 *770*	255 *840*	160 *520*	165 *540*	185 *610*	215 *710*	225 *740*	245 *800*	— —	— —	— —
K5	125 *410*	135 *445*	145 *475*	135 *445*	145 *475*	155 *510*	95 *310*	100 *330*	115 *375*	130 *425*	135 *445*	145 *475*	—	—	—
K6	185 *610*	195 *640*	205 *670*	200 *660*	210 *690*	225 *740*	140 *460*	150 *490*	165 *540*	190 *620*	200 *660*	215 *710*	—	—	—
K7	160 *520*	170 *560*	185 *610*	175 *570*	185 *610*	195 *640*	120 *395*	130 *425*	145 *475*	165 *540*	175 *570*	190 *620*	—	—	—
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
S1	— —	— —	— —	— —	— —	— —	50 *165*	55 *180*	60 *195*	29 *95*	31 *100*	34 *110*	21 *70*	22 *70*	25 *80*
S2	— —	— —	— —	— —	— —	— —	40 *130*	43 *140*	47 *155*	23 *75*	25 *80*	27 *90*	17 *55*	18 *60*	20 *65*
S3	— —	— —	— —	— —	— —	— —	35 *115*	38 *125*	42 *140*	29 *95*	31 *100*	34 *110*	15 *49*	16 *50*	18 *60*
S11	— —	— —	— —	— —	— —	— —	70 *230*	75 *245*	80 *260*	55 *180*	60 *195*	65 *215*	29 *95*	31 *100*	34 *110*
S12	— —	— —	— —	— —	— —	— —	60 *195*	65 *215*	70 *230*	40 *130*	42 *140*	46 *150*	27 *90*	29 *95*	32 *105*
S13	— —	— —	— —	— —	— —	— —	34 *110*	36 *120*	40 *130*	23 *75*	25 *80*	27 *90*	16 *50*	17 *55*	19 *60*
H5	40 *130*	43 *140*	47 *155*	— —	— —	— —	41 *135*	43 *140*	48 *155*	36 *120*	38 *125*	43 *140*	— —	— —	— —
H8	42 *140*	46 *150*	50 *165*	— —	— —	— —	43 *140*	47 *155*	50 *165*	38 *125*	41 *135*	45 *150*	— —	— —	— —
H11	50 *165*	55 *180*	60 *195*	— —	— —	— —	50 *165*	55 *180*	60 *195*	46 *150*	49 *160*	55 *180*	— —	— —	— —
H12	49 *160*	55 *180*	60 *195*	— —	— —	— —	50 *165*	55 *180*	60 *195*	70 *230*	75 *245*	80 *260*	— —	— —	— —
H21	42 *140*	46 *150*	50 *165*	— —	— —	— —	43 *140*	47 *155*	50 *165*	38 *125*	41 *135*	45 *150*	— —	— —	— —

335.25 Round 20 – Insert selection – mm/Inch

SMG		f_z		
		30%	20%	10%
P1	RPKT2006M0T-8-ME12 F40M	0,20 *0.0080*	0,24 0.0095	0,32 0.013
P2	RPKT2006M0T-8-ME12 F40M	0,20 *0.0080*	0,24 0.0095	0,32 0.013
P3	RPKT2006M0T-8-ME12 F40M	0,20 *0.0080*	0,22 0.0085	0,30 0.012
P4	RPKT2006M0T-8-ME12 F40M	0,19 *0.0075*	0,22 0.0085	0,30 0.012
P5	RPKT2006M0T-8-M15 F40M	0,24 *0.0095*	0,28 0.011	0,36 0.014
P6	RPKT2006M0T-8-M15 F40M	0,24 *0.0095*	0,26 0.010	0,36 0.014
P7	RPKT2006M0T-8-M15 F40M	0,24 *0.0095*	0,26 0.010	0,36 0.014
P8	RPKT2006M0T-8-M15 MP2501	0,25 *0.010*	0,28 0.011	0,38 0.015
P11	RPKT2006M0T-8-ME12 F40M	0,19 *0.0075*	0,22 0.0085	0,28 0.011
P12	RPKT2006M0T-8-ME12 F40M	0,13 *0.0050*	0,15 0.0060	0,20 0.0080
M1	RPKT2006M0T-8-ME12 F40M	0,20 *0.0080*	0,24 0.0095	0,32 0.013
M2	RPKT2006M0T-8-ME12 F40M	0,19 *0.0075*	0,22 0.0085	0,30 0.012
M3	RPKT2006M0T-8-ME12 F40M	0,15 *0.0060*	0,17 0.0065	0,24 0.0095
M4	RPKT2006M0T-8-ME12 F40M	0,13 *0.0050*	0,15 0.0060	0,20 0.0080
M5	RPKT2006M0T-8-ME12 F40M	0,13 *0.0050*	0,15 0.0060	0,20 0.0080
K1	RPKT2006M0T-8-M20 MK2050	0,34 *0.013*	0,40 0.016	0,55 0.022
K2	RPKT2006M0T-8-M20 MK2050	0,32 *0.013*	0,36 0.014	0,48 0.019
K3	RPKT2006M0T-8-M20 MK2050	0,32 *0.013*	0,36 0.014	0,48 0.019
K4	RPKT2006M0T-8-M20 MK2050	0,32 *0.013*	0,36 0.014	0,48 0.019
K5	RPKT2006M0T-8-M20 MK2050	0,28 *0.011*	0,32 0.013	0,44 0.017
K6	RPKT2006M0T-8-M20 MK2050	0,32 *0.013*	0,36 0.014	0,48 0.019
K7	RPKT2006M0T-8-M20 MK2050	0,28 *0.011*	0,32 0.013	0,44 0.017
N1	RPKW2006M0-8-MD10 MP3000	0,22 *0.0085*	0,25 0.010	0,34 0.013
N2	RPKW2006M0-8-MD10 MP3000	0,22 *0.0085*	0,25 0.010	0,34 0.013
N3	RPKW2006M0-8-MD10 MP3000	0,22 *0.0085*	0,25 0.010	0,34 0.013
N11	RPKW2006M0-8-MD10 MP3000	0,22 *0.0085*	0,25 0.010	0,34 0.013
S1	RPKT2006M0T-8-ME12 MS2050	0,13 *0.0050*	0,15 0.0060	0,20 0.0080
S2	RPKT2006M0T-8-ME12 MS2050	0,13 *0.0050*	0,15 0.0060	0,20 0.0080
S3	RPKT2006M0T-8-ME12 MS2050	0,12 *0.0048*	0,14 0.0055	0,19 0.0075
S11	RPHT2006M0T-8-M13 MS2050	0,16 *0.0065*	0,19 0.0075	0,25 0.010
S12	RPHT2006M0T-8-M13 MS2050	0,16 *0.0065*	0,19 0.0075	0,25 0.010
S13	RPHT2006M0T-8-M13 MS2050	0,14 *0.0055*	0,17 0.0065	0,22 0.0085
H5	RPKW2006M0T-8-MD22 F15M	0,24 *0.0095*	0,28 0.011	0,36 0.014
H8	RPKW2006M0T-8-MD22 F15M	0,18 *0.0070*	0,20 0.0080	0,28 0.011
H11	RPKW2006M0T-8-MD22 F15M	0,24 *0.0095*	0,28 0.011	0,36 0.014
H12	RPKW2006M0T-8-MD22 F15M	0,18 *0.0070*	0,20 0.0080	0,28 0.011
H21	RPKW2006M0T-8-MD22 F15M	0,18 *0.0070*	0,20 0.0080	0,28 0.011

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

335.25 Round 20 – Cutting data v_c = (m/min)/(sf/min)

SMG	F15M			MK2050			MP3000			MS2050			F40M			MP2050		
	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%
P1	165 *540*	175 *570*	195 *640*	205 *670*	220 *720*	250 *820*	215 *710*	230 *750*	255 *840*	200 *660*	210 *690*	235 *770*	190 *620*	205 *670*	225 *740*	235 *770*	250 *820*	280 *920*
P2	160 *520*	170 *560*	190 *620*	200 *660*	215 *710*	235 *770*	210 *690*	225 *740*	250 *820*	195 *640*	205 *670*	230 *750*	185 *610*	195 *640*	220 *720*	230 *750*	245 *800*	270 *890*
P3	140 *460*	150 *490*	165 *540*	175 *570*	185 *610*	210 *690*	185 *610*	195 *640*	215 *710*	165 *540*	180 *590*	200 *660*	160 *520*	175 *570*	190 *620*	195 *640*	210 *690*	235 *770*
P4	125 *410*	135 *445*	145 *475*	155 *510*	165 *540*	185 *610*	160 *520*	170 *560*	190 *620*	145 *475*	160 *520*	175 *570*	145 *475*	155 *510*	170 *560*	175 *570*	190 *620*	210 *690*
P5	120 *395*	125 *410*	140 *460*	150 *490*	160 *520*	175 *570*	155 *510*	165 *540*	185 *610*	145 *475*	155 *510*	170 *560*	135 *445*	145 *475*	160 *520*	170 *560*	180 *590*	200 *660*
P6	135 *445*	145 *475*	155 *510*	165 *540*	180 *590*	200 *660*	175 *570*	185 *610*	205 *670*	160 *520*	170 *560*	190 *620*	155 *510*	165 *540*	185 *610*	190 *620*	200 *660*	225 *740*
P7	125 *410*	135 *445*	150 *490*	155 *510*	170 *560*	185 *610*	165 *540*	175 *570*	195 *640*	155 *510*	160 *520*	180 *590*	145 *475*	155 *510*	175 *570*	180 *590*	190 *620*	210 *690*
P8	115 *375*	125 *410*	140 *460*	150 *490*	155 *510*	175 *570*	155 *510*	165 *540*	180 *590*	140 *460*	150 *490*	170 *560*	135 *445*	145 *475*	160 *520*	165 *540*	180 *590*	200 *660*
P11	125 *410*	130 *425*	145 *475*	150 *490*	165 *540*	180 *590*	160 *520*	170 *560*	190 *620*	150 *490*	155 *510*	175 *570*	140 *460*	150 *490*	170 *560*	175 *570*	185 *610*	205 *670*
P12	— —	— —	— —	100 *330*	110 *360*	120 *395*	100 *330*	110 *360*	120 *395*	95 *310*	105 *345*	115 *375*	90 *295*	100 *330*	110 *360*	115 *375*	120 *395*	135 *445*
M1	— —	— —	— —	— —	— —	— —	155 *510*	165 *540*	185 *610*	155 *510*	165 *540*	185 *610*	150 *490*	160 *520*	175 *570*	165 *540*	175 *570*	195 *640*
M2	— —	— —	— —	— —	— —	— —	130 *425*	140 *460*	155 *510*	130 *425*	135 *445*	150 *490*	125 *410*	130 *425*	145 *475*	135 *445*	145 *475*	160 *520*
M3	— —	— —	— —	— —	— —	— —	105 *345*	110 *360*	125 *410*	105 *345*	110 *360*	125 *410*	100 *330*	105 *345*	115 *375*	110 *360*	115 *375*	130 *425*
M4	— —	— —	— —	— —	— —	— —	80 *260*	85 *280*	95 *310*	80 *260*	85 *280*	95 *310*	75 *245*	85 *280*	90 *295*	85 *280*	90 *295*	100 *330*
M5	— —	— —	— —	— —	— —	— —	65 *215*	70 *230*	80 *260*	70 *230*	70 *230*	80 *260*	65 *215*	70 *230*	75 *245*	70 *230*	75 *245*	85 *280*
K1	125 *410*	135 *445*	150 *490*	215 *710*	230 *750*	255 *840*	140 *460*	150 *490*	165 *540*	— —	— —	— —	150 *490*	155 *510*	175 *570*	— —	— —	— —
K2	115 *375*	120 *395*	135 *445*	190 *620*	205 *670*	230 *750*	125 *410*	130 *425*	145 *475*	— —	— —	— —	130 *425*	140 *460*	155 *510*	— —	— —	— —
K3	95 *310*	100 *330*	110 *360*	160 *520*	175 *570*	195 *640*	105 *345*	110 *360*	125 *410*	— —	— —	— —	110 *360*	115 *375*	130 *425*	— —	— —	— —
K4	90 *295*	95 *310*	105 *345*	155 *510*	165 *540*	185 *610*	100 *330*	105 *345*	120 *395*	— —	— —	— —	105 *345*	110 *360*	125 *410*	— —	— —	— —
K5	55 *180*	60 *195*	65 *215*	95 *310*	105 *345*	115 *375*	60 *195*	65 *215*	70 *230*	— —	— —	— —	65 *215*	70 *230*	75 *245*	— —	— —	— —
K6	80 *260*	85 *280*	95 *310*	135 *445*	145 *475*	160 *520*	85 *280*	95 *310*	105 *345*	— —	— —	— —	90 *295*	100 *330*	110 *360*	— —	— —	— —
K7	70 *230*	75 *245*	85 *280*	120 *395*	130 *425*	145 *475*	80 *260*	85 *280*	90 *295*	— —	— —	— —	80 *260*	85 *280*	95 *310*	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	1225 *4025*	1325 *4350*	1450 *4750*	— —	— —	— —	— —	— —	— —	— —	— —	— —
N2	— —	— —	— —	— —	— —	— —	495 *1625*	530 *1750*	590 *1925*	— —	— —	— —	— —	— —	— —	— —	— —	— —
N3	— —	— —	— —	— —	— —	— —	330 *1075*	355 *1175*	390 *1275*	— —	— —	— —	— —	— —	— —	— —	— —	— —
N11	— —	— —	— —	— —	— —	— —	380 *1250*	405 *1325*	445 *1450*	— —	— —	— —	— —	— —	— —	— —	— —	— —
S1	— —	— —	— —	— —	— —	— —	38 *125*	40 *130*	44 *145*	38 *125*	40 *130*	45 *150*	36 *120*	39 *130*	43 *140*	42 *140*	44 *145*	49 *160*
S2	— —	— —	— —	— —	— —	— —	30 *100*	32 *105*	36 *120*	31 *100*	32 *105*	36 *120*	29 *95*	31 *100*	34 *110*	34 *110*	35 *115*	39 *130*
S3	— —	— —	— —	— —	— —	— —	27 *90*	28 *90*	31 *100*	27 *90*	29 *95*	32 *105*	26 *85*	27 *90*	30 *100*	29 *95*	31 *100*	35 *115*
S11	— —	— —	— —	— —	— —	— —	50 *165*	55 *180*	60 *195*	55 *180*	55 *180*	60 *195*	50 *165*	55 *180*	60 *195*	60 *195*	60 *195*	70 *230*
S12	— —	— —	— —	— —	— —	— —	44 *145*	47 *155*	50 *165*	45 *150*	47 *155*	50 *165*	42 *140*	45 *150*	50 *165*	40 *130*	43 *140*	47 *155*
S13	— —	— —	— —	— —	— —	— —	26 *85*	27 *90*	30 *100*	26 *85*	27 *90*	30 *100*	25 *80*	26 *85*	29 *95*	23 *75*	25 *80*	27 *90*
H5	27 *90*	29 *95*	32 *105*	34 *110*	37 *120*	41 *135*	29 *95*	31 *100*	34 *110*	— —	— —	— —	30 *100*	32 *105*	36 *120*	— —	— —	— —
H8	29 *95*	31 *100*	34 *110*	37 *120*	40 *130*	44 *145*	30 *100*	32 *105*	35 *115*	— —	— —	— —	32 *105*	35 *115*	38 *125*	— —	— —	— —
H11	34 *110*	36 *120*	41 *135*	44 *145*	47 *155*	55 *180*	36 *120*	39 *130*	43 *140*	— —	— —	— —	39 *130*	41 *135*	46 *150*	43 *140*	46 *150*	50 *165*
H12	34 *110*	36 *120*	40 *130*	65 *215*	70 *230*	75 *245*	35 *115*	38 *125*	41 *135*	— —	— —	— —	37 *120*	40 *130*	44 *145*	70 *230*	75 *245*	85 *280*
H21	29 *95*	31 *100*	34 *110*	37 *120*	40 *130*	44 *145*	30 *100*	32 *105*	35 *115*	— —	— —	— —	32 *105*	35 *115*	38 *125*	36 *120*	39 *130*	43 *140*

335.25 Round 20 – Cutting data v_c = (m/min)/(sf/min)

SMG	MP1501			MP2501			MS2500			MP3501			T25M			MM4500		
	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%
P1	280 *920*	295 *970*	325 *1075*	300 *980*	315 *1025*	340 *1125*	230 *750*	240 *790*	275 *900*	300 *980*	310 *1025*	335 *1100*	210 *690*	225 *740*	245 *800*	145 *475*	155 *510*	175 *570*
P2	275 *900*	290 *950*	310 *1025*	290 *950*	310 *1025*	330 *1075*	220 *720*	235 *770*	260 *850*	290 *950*	305 *1000*	325 *1075*	205 *670*	215 *710*	240 *790*	145 *475*	150 *490*	170 *560*
P3	240 *790*	250 *820*	275 *900*	255 *840*	270 *890*	290 *950*	195 *640*	205 *670*	230 *750*	250 *820*	265 *870*	285 *940*	175 *570*	190 *620*	210 *690*	125 *410*	130 *425*	150 *490*
P4	210 *690*	220 *720*	240 *790*	225 *740*	240 *790*	255 *840*	170 *560*	180 *590*	200 *660*	225 *740*	235 *770*	250 *820*	160 *520*	170 *560*	185 *610*	110 *360*	120 *395*	130 *425*
P5	200 *660*	215 *710*	235 *770*	215 *710*	225 *740*	245 *800*	165 *540*	175 *570*	195 *640*	215 *710*	225 *740*	240 *790*	150 *490*	160 *520*	175 *570*	105 *345*	110 *360*	125 *410*
P6	225 *740*	240 *790*	260 *850*	245 *800*	260 *850*	275 *900*	185 *610*	200 *660*	220 *720*	240 *790*	250 *820*	275 *900*	170 *560*	180 *590*	200 *660*	120 *395*	125 *410*	140 *460*
P7	215 *710*	230 *750*	245 *800*	230 *750*	245 *800*	260 *850*	175 *570*	185 *610*	205 *670*	225 *740*	235 *770*	255 *840*	160 *520*	170 *560*	190 *620*	115 *375*	120 *395*	130 *425*
P8	200 *660*	210 *690*	230 *750*	215 *710*	225 *740*	245 *800*	165 *540*	175 *570*	195 *640*	210 *690*	225 *740*	240 *790*	150 *490*	160 *520*	175 *570*	105 *345*	110 *360*	125 *410*
P11	210 *690*	220 *720*	240 *790*	225 *740*	240 *790*	255 *840*	170 *560*	180 *590*	200 *660*	220 *720*	230 *750*	250 *820*	155 *510*	165 *540*	185 *610*	110 *360*	115 *375*	130 *425*
P12	135 *445*	145 *475*	155 *510*	145 *475*	150 *490*	160 *520*	110 *360*	120 *395*	135 *445*	140 *460*	145 *475*	155 *510*	100 *330*	105 *345*	120 *395*	70 *230*	75 *245*	85 *280*
M1	— —	— —	— —	160 *520*	170 *560*	190 *620*	160 *520*	170 *560*	185 *610*	165 *540*	175 *570*	195 *640*	165 *540*	175 *570*	195 *640*	125 *410*	130 *425*	145 *475*
M2	— —	— —	— —	130 *425*	140 *460*	155 *510*	130 *425*	140 *460*	155 *510*	135 *445*	145 *475*	160 *520*	135 *445*	145 *475*	160 *520*	100 *330*	110 *360*	120 *395*
M3	— —	— —	— —	105 *345*	115 *375*	125 *410*	105 *345*	115 *375*	130 *425*	110 *360*	120 *395*	130 *425*	110 *360*	120 *395*	130 *425*	80 *260*	85 *280*	95 *310*
M4	— —	— —	— —	85 *280*	90 *295*	100 *330*	85 *280*	90 *295*	100 *330*	85 *280*	90 *295*	100 *330*	85 *280*	90 *295*	100 *330*	65 *215*	65 *215*	75 *245*
M5	— —	— —	— —	70 *230*	75 *245*	80 *260*	70 *230*	75 *245*	80 *260*	70 *230*	75 *245*	85 *280*	70 *230*	75 *245*	85 *280*	55 *180*	55 *180*	60 *195*
K1	275 *900*	290 *950*	310 *1025*	295 *970*	310 *1025*	335 *1100*	175 *570*	185 *610*	205 *670*	295 *970*	305 *1000*	330 *1075*	165 *540*	170 *560*	190 *620*	— —	— —	— —
K2	245 *800*	260 *850*	280 *920*	260 *850*	275 *900*	300 *980*	155 *510*	165 *540*	185 *610*	260 *850*	270 *890*	290 *950*	145 *475*	150 *490*	170 *560*	— —	— —	— —
K3	205 *670*	220 *720*	240 *790*	220 *720*	230 *750*	255 *840*	130 *425*	140 *460*	155 *510*	220 *720*	230 *750*	245 *800*	120 *395*	130 *425*	140 *460*	— —	— —	— —
K4	200 *660*	210 *690*	230 *750*	210 *690*	220 *720*	240 *790*	125 *410*	135 *445*	150 *490*	210 *690*	220 *720*	235 *770*	115 *375*	125 *410*	135 *445*	— —	— —	— —
K5	125 *410*	130 *425*	140 *460*	130 *425*	135 *445*	145 *475*	80 *260*	85 *280*	90 *295*	125 *410*	135 *445*	145 *475*	70 *230*	75 *245*	85 *280*	— —	— —	— —
K6	175 *570*	185 *610*	200 *660*	185 *610*	195 *640*	210 *690*	110 *360*	120 *395*	130 *425*	185 *610*	190 *620*	205 *670*	100 *330*	110 *360*	120 *395*	— —	— —	— —
K7	155 *510*	165 *540*	180 *590*	165 *540*	175 *570*	190 *620*	100 *330*	105 *345*	115 *375*	165 *540*	170 *560*	185 *610*	90 *295*	95 *310*	105 *345*	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
S1	— —	— —	— —	— —	— —	— —	41 *135*	44 *145*	48 *155*	28 *90*	30 *100*	33 *110*	— —	— —	— —	20 *65*	21 *70*	23 *75*
S2	— —	— —	— —	— —	— —	— —	33 *110*	35 *115*	39 *130*	22 *70*	24 *80*	26 *85*	— —	— —	— —	16 *50*	17 *55*	18 *60*
S3	— —	— —	— —	— —	— —	— —	29 *95*	31 *100*	34 *110*	28 *90*	30 *100*	33 *110*	— —	— —	— —	14 *46*	15 *49*	16 *50*
S11	— —	— —	— —	— —	— —	— —	55 *180*	60 *195*	70 *230*	55 *180*	60 *195*	65 *215*	— —	— —	— —	27 *90*	29 *95*	32 *105*
S12	— —	— —	— —	— —	— —	— —	48 *155*	50 *165*	55 *180*	38 *125*	41 *135*	45 *150*	— —	— —	— —	25 *80*	27 *90*	30 *100*
S13	— —	— —	— —	— —	— —	— —	28 *90*	30 *100*	33 *110*	22 *70*	24 *80*	26 *85*	— —	— —	— —	15 *49*	15 *49*	17 *55*
H5	38 *125*	41 *135*	46 *150*	— —	— —	— —	33 *110*	36 *120*	40 *130*	35 *115*	37 *120*	41 *135*	— —	— —	— —	— —	— —	— —
H8	41 *135*	44 *145*	49 *160*	— —	— —	— —	36 *120*	38 *125*	43 *140*	37 *120*	40 *130*	44 *145*	— —	— —	— —	— —	— —	— —
H11	49 *160*	50 *165*	60 *195*	— —	— —	— —	42 *140*	45 *150*	50 *165*	44 *145*	47 *155*	50 *165*	— —	— —	— —	— —	— —	— —
H12	48 *155*	50 *165*	55 *180*	— —	— —	— —	42 *140*	45 *150*	50 *165*	65 *215*	70 *230*	80 *260*	— —	— —	— —	— —	— —	— —
H21	41 *135*	44 *145*	49 *160*	— —	— —	— —	36 *120*	38 *125*	43 *140*	37 *120*	40 *130*	44 *145*	— —	— —	— —	— —	— —	— —

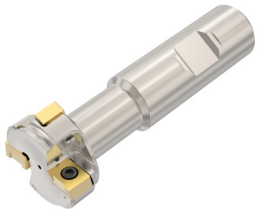


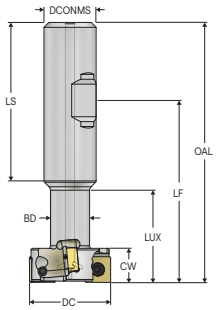
335.16

Free-cutting and reliable disc milling cutter system dedicated for T-shape slotting

– Width of cut 10.91 -21 mm (.387 - .823 inch)
– Cutter range diameter 25-50 mm (0.969 - 1.844 inch)
– Weldon connection, with through coolant capability for reliable chips evacuation
– Economical solution with 4 cutting edges per insert

R335.16 – Metric



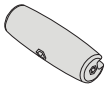


—For insert selection and cutting data recommendations, see page(s) 551–556
—For complete insert programme, see page(s) 878, 910
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCONMS	LF	LS	LUX	OAL	BD	RPMX	Weight	Insert
			mm	mm	mm			mm	mm	mm	mm	mm	mm		kg	
R335.16-1625.3-11.2NA	02980627	Weldon	25,0	10,91	5,87	2	4	16,0	56,0	49,0	28,4	80,0	12,0	24500	0,2	SPMX07..
R335.16-2032.3-14.2NA	02980628	Weldon	32,0	13,91	7,44	2	4	20,0	65,0	52,0	35,4	90,0	16,0	17600	0,2	LNK.08..
R335.16-2540.3-18.2NA	02980629	Weldon	40,0	17,91	9,23	2	5	25,0	73,0	58,0	43,7	105,0	20,0	14600	0,4	LNK.08..
R335.16-3250.3-21.2NA	02980630	Weldon	50,0	21,0	11,18	2	6	32,0	84,0	61,0	55,2	120,0	26,0	9800	0,8	LNK.08..

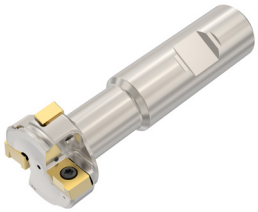
Spare Parts, included in delivery

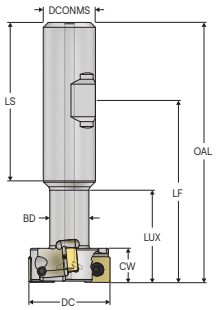
Accessories

For cutter	Insert key	Insert screw	Key (T-handle)	Insert clamping torque	Torque key
					
ø 25	H4B-T07P	C02506-T07P	DOUBLE-T	1.2NM	T00-07P12
ø 32-50	1/4HEX-T09PX50	C73009-T09P	–	2.0NM	T00-09P20

For best result it is recommended to let a stock allowance when machining the T-slot shank passage H = min 20% of the CW at the bottom of the T-slot. H= 0.2 x CW
Torque and fixed keys, see page 944

R335.16 – inch



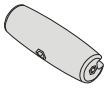


—For insert selection and cutting data recommendations, see page(s) 551–556
—For complete insert programme, see page(s) 878, 910
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCONMS	LF	LS	LUX	OAL	BD	RPMX	Weight	Insert
			inch	inch	inch			inch	inch	inch	inch	inch	inch		lbs	
R335.16-00.97-3-0.39-2NA	02980638	Weldon	0.969	0.387	0.232	2	4	0.750	2.528	2.307	1.063	3.543	0.453	24500	0.440	SPMX06..
R335.16-01.25-3-0.48-2NA	02980639	Weldon	1.249	0.477	0.275	2	4	1.000	2.796	2.539	1.256	3.937	0.656	17600	0.880	LNK.08..
R335.16-01.47-3-0.63-2NA	02980640	Weldon	1.469	0.626	0.330	2	5	1.000	3.190	2.539	1.633	4.331	0.748	14600	0.880	LNK.08..
R335.16-01.84-3-0.83-2NA	02980641	Weldon	1.844	0.823	0.389	2	6	1.250	3.978	2.697	2.264	5.118	1.000	9800	1.760	LNK.08..

Spare Parts, included in delivery

Accessories

For cutter	Insert key	Insert screw	Key (T-handle)	Insert clamping torque	Torque key
					
ø 0.97	H4B-T07P	C02205-T07P	DOUBLE-T	0.9NM	T00-07P09
ø 1.25-1.84	1/4HEX-T09PX50	C73009-T09P	–	2.0NM	T00-09P20

For best result it is recommended to let a stock allowance when machining the T-slot shank passage H = min 20% of the CW at the bottom of the T-slot. H= 0.2 x CW

Torque and fixed keys, see page 944

335.16 - SP06 – Insert selection – mm/Inch

SMG		f_z		
		100%	20%	10%
P1	SPMX060204-75 F40M	0,070 *0.0028*	0,090 0.0036	0,12 0.0048
P2	SPMX060204-75 F40M	0,070 *0.0028*	0,090 0.0036	0,12 0.0048
P3	SPMX060204-75 F40M	0,070 *0.0028*	0,085 0.0034	0,11 0.0044
P4	SPMX060204-75 F40M	0,065 *0.0026*	0,085 0.0034	0,11 0.0044
P5	SPMX060204-75 F40M	0,065 *0.0026*	0,080 0.0032	0,11 0.0044
P6	SPMX060204-75 F40M	0,065 *0.0026*	0,080 0.0032	0,11 0.0044
P7	SPMX060204-75 F40M	0,065 *0.0026*	0,080 0.0032	0,11 0.0044
P8	SPMX060204-75 F40M	0,070 *0.0028*	0,085 0.0034	0,11 0.0044
P11	SPMX060204-75 F40M	0,065 *0.0026*	0,080 0.0032	0,11 0.0044
P12	SPMX060204-75 F40M	0,044 *0.0017*	0,055 0.0022	0,075 0.0030
M1	SPMX060204-75 F40M	0,070 *0.0028*	0,090 0.0036	0,12 0.0048
M2	SPMX060204-75 F40M	0,065 *0.0026*	0,080 0.0032	0,11 0.0044
M3	SPMX060204-75 F40M	0,050 *0.0020*	0,065 0.0026	0,085 0.0034
M4	SPMX060204-75 F40M	0,046 *0.0018*	0,055 0.0022	0,075 0.0030
M5	SPMX060204-75 F40M	0,046 *0.0018*	0,055 0.0022	0,075 0.0030
K1	SPMX060204-75 F40M	0,070 *0.0028*	0,090 0.0036	0,12 0.0048
K2	SPMX060204-75 F40M	0,065 *0.0026*	0,080 0.0032	0,11 0.0044
K3	SPMX060204-75 F40M	0,065 *0.0026*	0,080 0.0032	0,11 0.0044
K4	SPMX060204-75 F40M	0,065 *0.0026*	0,080 0.0032	0,11 0.0044
K5	SPMX060204-75 F40M	0,060 *0.0024*	0,075 0.0030	0,10 0.0040
K6	SPMX060204-75 F40M	0,065 *0.0026*	0,080 0.0032	0,11 0.0044
K7	SPMX060204-75 F40M	0,060 *0.0024*	0,075 0.0030	0,10 0.0040
N1	SPMX060204-75 F40M	0,090 *0.0036*	0,11 0.0044	0,15 0.0060
N2	SPMX060204-75 F40M	0,090 *0.0036*	0,11 0.0044	0,15 0.0060
N3	SPMX060204-75 F40M	0,090 *0.0036*	0,11 0.0044	0,15 0.0060
N11	SPMX060204-75 F40M	0,090 *0.0036*	0,11 0.0044	0,15 0.0060
S1	SPMX060204-75 F40M	0,046 *0.0018*	0,055 0.0022	0,075 0.0030
S2	SPMX060204-75 F40M	0,046 *0.0018*	0,055 0.0022	0,075 0.0030
S3	SPMX060204-75 F40M	0,042 *0.0017*	0,055 0.0022	0,070 0.0028
S11	SPMX060204-75 F40M	0,050 *0.0020*	0,065 0.0026	0,085 0.0034
S12	SPMX060204-75 F40M	0,050 *0.0020*	0,065 0.0026	0,085 0.0034
S13	SPMX060204-75 F40M	0,046 *0.0018*	0,055 0.0022	0,075 0.0030
H5	SPMX060204-75 F40M	0,044 *0.0017*	0,055 0.0022	0,075 0.0030
H8	SPMX060204-75 F40M	0,034 *0.0013*	0,042 0.0017	0,055 0.0022
H11	SPMX060204-75 F40M	0,044 *0.0017*	0,055 0.0022	0,075 0.0030
H12	SPMX060204-75 F40M	0,034 *0.0013*	0,042 0.0017	0,055 0.0022
H21	SPMX060204-75 F40M	0,034 *0.0013*	0,042 0.0017	0,055 0.0022

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

335.16 - SP06 – Cutting data v_c = (m/min)/(sf/min)

SMG	F40M			T25M		
	100%	20%	10%	100%	20%	10%
P1	190 *620*	270 *890*	295 *970*	210 *690*	295 *970*	325 *1075*
P2	185 *610*	260 *850*	290 *950*	205 *670*	290 *950*	320 *1050*
P3	160 *520*	230 *750*	255 *840*	175 *570*	250 *820*	280 *920*
P4	145 *475*	200 *660*	225 *740*	160 *520*	220 *720*	245 *800*
P5	140 *460*	195 *640*	215 *710*	150 *490*	215 *710*	235 *770*
P6	155 *510*	220 *720*	240 *790*	170 *560*	240 *790*	265 *870*
P7	145 *475*	205 *670*	225 *740*	160 *520*	225 *740*	250 *820*
P8	135 *445*	190 *620*	215 *710*	150 *490*	210 *690*	235 *770*
P11	140 *460*	200 *660*	220 *720*	155 *510*	220 *720*	240 *790*
P12	90 *295*	125 *410*	140 *460*	100 *330*	140 *460*	155 *510*
M1	150 *490*	210 *690*	235 *770*	165 *540*	230 *750*	255 *840*
M2	125 *410*	175 *570*	190 *620*	135 *445*	190 *620*	210 *690*
M3	100 *330*	140 *460*	155 *510*	110 *360*	155 *510*	170 *560*
M4	75 *245*	105 *345*	120 *395*	85 *280*	120 *395*	130 *425*
M5	65 *215*	90 *295*	100 *330*	70 *230*	100 *330*	110 *360*
K1	150 *490*	205 *670*	230 *750*	165 *540*	230 *750*	250 *820*
K2	130 *425*	185 *610*	200 *660*	145 *475*	205 *670*	225 *740*
K3	110 *360*	155 *510*	170 *560*	120 *395*	170 *560*	190 *620*
K4	105 *345*	150 *490*	165 *540*	115 *375*	165 *540*	180 *590*
K5	65 *215*	90 *295*	100 *330*	70 *230*	100 *330*	110 *360*
K6	95 *310*	130 *425*	145 *475*	100 *330*	145 *475*	160 *520*
K7	80 *260*	115 *375*	125 *410*	90 *295*	125 *410*	140 *460*
N1	1100 *3600*	1575 *5175*	1725 *5650*	— —	— —	— —
N2	445 *1450*	630 *2075*	700 *2300*	— —	— —	— —
N3	295 *970*	420 *1375*	465 *1525*	— —	— —	— —
N11	340 *1125*	480 *1575*	530 *1750*	— —	— —	— —
S1	36 *120*	50 *165*	55 *180*	— —	— —	— —
S2	29 *95*	40 *130*	44 *145*	— —	— —	— —
S3	25 *80*	35 *115*	39 *130*	— —	— —	— —
S11	50 *165*	70 *230*	80 *260*	— —	— —	— —
S12	42 *140*	60 *195*	65 *215*	— —	— —	— —
S13	24 *80*	34 *110*	38 *125*	— —	— —	— —
H5	30 *100*	42 *140*	46 *150*	— —	— —	— —
H8	32 *105*	44 *145*	49 *160*	— —	— —	— —
H11	38 *125*	55 *180*	60 *195*	— —	— —	— —
H12	37 *120*	50 *165*	55 *180*	— —	— —	— —
H21	32 *105*	44 *145*	49 *160*	— —	— —	— —

335.16 - SP07 – Insert selection – mm/Inch

SMG		f_z		
		100%	20%	10%
P1	SPMX070304-75 F40M	0,085 *0.0034*	0,11 0.0044	0,14 0.0055
P2	SPMX070304-75 F40M	0,085 *0.0034*	0,11 0.0044	0,14 0.0055
P3	SPMX070304-75 F40M	0,080 *0.0032*	0,10 0.0040	0,14 0.0055
P4	SPMX070304-75 F40M	0,080 *0.0032*	0,10 0.0040	0,13 0.0050
P5	SPMX070304-75 F40M	0,080 *0.0032*	0,10 0.0040	0,13 0.0050
P6	SPMX070304-75 F40M	0,075 *0.0030*	0,095 0.0038	0,13 0.0050
P7	SPMX070304-75 F40M	0,075 *0.0030*	0,095 0.0038	0,13 0.0050
P8	SPMX070304-75 F40M	0,080 *0.0032*	0,10 0.0040	0,14 0.0055
P11	SPMX070304-75 F40M	0,075 *0.0030*	0,095 0.0038	0,13 0.0050
P12	SPMX070304-75 F40M	0,055 *0.0022*	0,065 0.0026	0,090 0.0036
M1	SPMX070304-75 F40M	0,085 *0.0034*	0,11 0.0044	0,14 0.0055
M2	SPMX070304-75 F40M	0,080 *0.0032*	0,10 0.0040	0,13 0.0050
M3	SPMX070304-75 F40M	0,060 *0.0024*	0,080 0.0032	0,10 0.0040
M4	SPMX070304-75 F40M	0,055 *0.0022*	0,070 0.0028	0,090 0.0036
M5	SPMX070304-75 F40M	0,055 *0.0022*	0,070 0.0028	0,090 0.0036
K1	SPMX070304-75 F40M	0,085 *0.0034*	0,11 0.0044	0,14 0.0055
K2	SPMX070304-75 F40M	0,080 *0.0032*	0,10 0.0040	0,13 0.0050
K3	SPMX070304-75 F40M	0,080 *0.0032*	0,10 0.0040	0,13 0.0050
K4	SPMX070304-75 F40M	0,080 *0.0032*	0,10 0.0040	0,13 0.0050
K5	SPMX070304-75 F40M	0,070 *0.0028*	0,090 0.0036	0,12 0.0048
K6	SPMX070304-75 F40M	0,080 *0.0032*	0,10 0.0040	0,13 0.0050
K7	SPMX070304-75 F40M	0,070 *0.0028*	0,090 0.0036	0,12 0.0048
N1	SPMX070304-75 F40M	0,11 *0.0044*	0,14 0.0055	0,18 0.0070
N2	SPMX070304-75 F40M	0,11 *0.0044*	0,14 0.0055	0,18 0.0070
N3	SPMX070304-75 F40M	0,11 *0.0044*	0,14 0.0055	0,18 0.0070
N11	SPMX070304-75 F40M	0,11 *0.0044*	0,14 0.0055	0,18 0.0070
S1	SPMX070304-75 F40M	0,055 *0.0022*	0,070 0.0028	0,090 0.0036
S2	SPMX070304-75 F40M	0,055 *0.0022*	0,070 0.0028	0,090 0.0036
S3	SPMX070304-75 F40M	0,050 *0.0020*	0,065 0.0026	0,085 0.0034
S11	SPMX070304-75 F40M	0,060 *0.0024*	0,080 0.0032	0,10 0.0040
S12	SPMX070304-75 F40M	0,060 *0.0024*	0,080 0.0032	0,10 0.0040
S13	SPMX070304-75 F40M	0,055 *0.0022*	0,070 0.0028	0,090 0.0036
H5	SPMX070304-75 F40M	0,055 *0.0022*	0,065 0.0026	0,090 0.0036
H8	SPMX070304-75 F40M	0,040 *0.0016*	0,050 0.0020	0,070 0.0028
H11	SPMX070304-75 F40M	0,055 *0.0022*	0,065 0.0026	0,090 0.0036
H12	SPMX070304-75 F40M	0,040 *0.0016*	0,050 0.0020	0,070 0.0028
H21	SPMX070304-75 F40M	0,040 *0.0016*	0,050 0.0020	0,070 0.0028

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

335.16 - SP07 – Cutting data v_c = (m/min)/(sf/min)

SMG	F40M			T25M		
	100%	20%	10%	100%	20%	10%
P1	175 *570*	250 *820*	275 *900*	195 *640*	275 *900*	305 *1000*
P2	170 *560*	240 *790*	270 *890*	190 *620*	265 *870*	295 *970*
P3	150 *490*	210 *690*	230 *750*	165 *540*	235 *770*	255 *840*
P4	130 *425*	185 *610*	210 *690*	145 *475*	205 *670*	230 *750*
P5	125 *410*	180 *590*	200 *660*	140 *460*	195 *640*	220 *720*
P6	145 *475*	205 *670*	225 *740*	160 *520*	225 *740*	245 *800*
P7	135 *445*	190 *620*	210 *690*	150 *490*	210 *690*	230 *750*
P8	125 *410*	180 *590*	195 *640*	140 *460*	195 *640*	215 *710*
P11	130 *425*	185 *610*	205 *670*	145 *475*	205 *670*	225 *740*
P12	85 *280*	120 *395*	130 *425*	90 *295*	130 *425*	145 *475*
M1	140 *460*	195 *640*	215 *710*	155 *510*	215 *710*	240 *790*
M2	115 *375*	160 *520*	180 *590*	125 *410*	175 *570*	195 *640*
M3	95 *310*	130 *425*	145 *475*	100 *330*	140 *460*	160 *520*
M4	70 *230*	100 *330*	110 *360*	80 *260*	110 *360*	120 *395*
M5	60 *195*	85 *280*	90 *295*	65 *215*	90 *295*	100 *330*
K1	135 *445*	190 *620*	215 *710*	150 *490*	210 *690*	235 *770*
K2	120 *395*	170 *560*	190 *620*	130 *425*	185 *610*	205 *670*
K3	100 *330*	145 *475*	160 *520*	110 *360*	160 *520*	175 *570*
K4	95 *310*	135 *445*	150 *490*	105 *345*	150 *490*	165 *540*
K5	60 *195*	85 *280*	90 *295*	65 *215*	90 *295*	100 *330*
K6	85 *280*	120 *395*	135 *445*	95 *310*	135 *445*	145 *475*
K7	75 *245*	105 *345*	120 *395*	85 *280*	115 *375*	130 *425*
N1	1000 *3275*	1425 *4675*	1600 *5250*	— —	— —	— —
N2	405 *1325*	570 *1875*	640 *2100*	— —	— —	— —
N3	270 *890*	385 *1275*	430 *1400*	— —	— —	— —
N11	310 *1025*	440 *1450*	490 *1600*	— —	— —	— —
S1	33 *110*	46 *150*	50 *165*	— —	— —	— —
S2	27 *90*	37 *120*	41 *135*	— —	— —	— —
S3	23 *75*	33 *110*	36 *120*	— —	— —	— —
S11	47 *155*	65 *215*	75 *245*	— —	— —	— —
S12	39 *130*	55 *180*	60 *195*	— —	— —	— —
S13	23 *75*	32 *105*	35 *115*	— —	— —	— —
H5	28 *90*	39 *130*	43 *140*	— —	— —	— —
H8	30 *100*	41 *135*	45 *150*	— —	— —	— —
H11	35 *115*	50 *165*	55 *180*	— —	— —	— —
H12	34 *110*	48 *155*	55 *180*	— —	— —	— —
H21	30 *100*	41 *135*	45 *150*	— —	— —	— —

335.16 -LNK – Insert selection – mm/Inch

SMG		f_z		
		100%	20%	10%
P1	LNKT080508PPTN-M06 F40M	0,11 *0.0044*	0,14 0.0055	0,19 0.0075
P2	LNKT080508PPTN-M06 F40M	0,11 *0.0044*	0,14 0.0055	0,19 0.0075
P3	LNKT080508PPTN-M06 F40M	0,11 *0.0044*	0,14 0.0055	0,18 0.0070
P4	LNKT080508PPTN-M06 F40M	0,11 *0.0044*	0,13 0.0050	0,18 0.0070
P5	LNKT080508PPTN-M06 F40M	0,10 *0.0040*	0,13 0.0050	0,17 0.0065
P6	LNKT080508PPTN-M06 F40M	0,10 *0.0040*	0,13 0.0050	0,17 0.0065
P7	LNKT080508PPTN-M06 F40M	0,10 *0.0040*	0,13 0.0050	0,17 0.0065
P8	LNKT080508PPTN-M06 MP3000	0,11 *0.0044*	0,14 0.0055	0,18 0.0070
P11	LNKT080508PPTN-M06 F40M	0,10 *0.0040*	0,13 0.0050	0,17 0.0065
P12	LNKT080508PPTN-M06 F40M	0,070 *0.0028*	0,090 0.0036	0,12 0.0048
M1	LNKT080508PPTN-M06 F40M	0,11 *0.0044*	0,14 0.0055	0,19 0.0075
M2	LNKT080508PPTN-M06 F40M	0,10 *0.0040*	0,13 0.0050	0,17 0.0065
M3	LNKT080508PPTN-M06 F40M	0,085 *0.0034*	0,10 0.0040	0,14 0.0055
M4	LNKT080508PPTN-M06 F40M	0,075 *0.0030*	0,090 0.0036	0,12 0.0048
M5	LNKT080508PPTN-M06 F40M	0,075 *0.0030*	0,090 0.0036	0,12 0.0048
K1	LNKT080508PPTN-M06 MK2050	0,11 *0.0044*	0,14 0.0055	0,19 0.0075
K2	LNKT080508PPTN-M06 MK2050	0,10 *0.0040*	0,13 0.0050	0,17 0.0065
K3	LNKT080508PPTN-M06 MK2050	0,10 *0.0040*	0,13 0.0050	0,17 0.0065
K4	LNKT080508PPTN-M06 MK2050	0,10 *0.0040*	0,13 0.0050	0,17 0.0065
K5	LNKT080508PPTN-M06 MK2050	0,095 *0.0038*	0,12 0.0048	0,16 0.0065
K6	LNKT080508PPTN-M06 MK2050	0,10 *0.0040*	0,13 0.0050	0,17 0.0065
K7	LNKT080508PPTN-M06 MK2050	0,095 *0.0038*	0,12 0.0048	0,16 0.0065
N1	LNKT080508PPN-E05 H25	0,13 *0.0050*	0,16 0.0065	0,22 0.0085
N2	LNKT080508PPN-E05 H25	0,13 *0.0050*	0,16 0.0065	0,22 0.0085
N3	LNKT080508PPN-E05 H25	0,13 *0.0050*	0,16 0.0065	0,22 0.0085
N11	LNKT080508PPN-E05 H25	0,13 *0.0050*	0,16 0.0065	0,22 0.0085
S1	LNKT080508PPTN-M06 F40M	0,075 *0.0030*	0,090 0.0036	0,12 0.0048
S2	LNKT080508PPTN-M06 F40M	0,075 *0.0030*	0,090 0.0036	0,12 0.0048
S3	LNKT080508PPTN-M06 F40M	0,070 *0.0028*	0,085 0.0034	0,11 0.0044
S11	LNKT080508PPTN-M06 F40M	0,085 *0.0034*	0,10 0.0040	0,14 0.0055
S12	LNKT080508PPTN-M06 F40M	0,085 *0.0034*	0,10 0.0040	0,14 0.0055
S13	LNKT080508PPTN-M06 F40M	0,075 *0.0030*	0,090 0.0036	0,12 0.0048
H5	LNKT080508PPTN-M06 MP3000	0,070 *0.0028*	0,090 0.0036	0,12 0.0048
H8	LNKT080508PPTN-M06 MP3000	0,055 *0.0022*	0,070 0.0028	0,090 0.0036
H11	LNKT080508PPTN-M06 F40M	0,070 *0.0028*	0,090 0.0036	0,12 0.0048
H12	LNKT080508PPTN-M06 F40M	0,055 *0.0022*	0,070 0.0028	0,090 0.0036
H21	LNKT080508PPTN-M06 MP3000	0,055 *0.0022*	0,070 0.0028	0,090 0.0036

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

335.16 -LNK – Cutting data v_c = (m/min)/(sf/min)

SMG	MK2050			MP3000			F40M			H25			MK1501			MP2501			MP3501		
	100%	20%	10%	100%	20%	10%	100%	20%	10%	100%	20%	10%	100%	20%	10%	100%	20%	10%	100%	20%	10%
P1	200	280	310	190	270	300	155	215	240	—	—	—	—	—	—	285	370	395	260	330	355
	660	*920*	*1025*	*620*	*890*	*980*	*510*	*710*	*790*	—	—	—	—	—	—	*940*	*1225*	*1300*	*850*	*1075*	*1175*
P2	195	275	300	185	265	290	150	210	230	—	—	—	—	—	—	280	360	385	250	320	345
	640	*900*	*980*	*610*	*870*	*950*	*490*	*690*	*750*	—	—	—	—	—	—	*920*	*1175*	*1275*	*820*	*1050*	*1125*
P3	165	235	265	160	225	255	130	180	205	—	—	—	—	—	—	240	310	335	215	275	300
	540	*770*	*870*	*520*	*740*	*840*	*425*	*590*	*670*	—	—	—	—	—	—	*790*	*1025*	*1100*	*710*	*900*	*980*
P4	145	210	230	140	205	225	115	165	180	—	—	—	—	—	—	210	275	295	190	250	265
	475	*690*	*750*	*460*	*670*	*740*	*375*	*540*	*590*	—	—	—	—	—	—	*690*	*900*	*970*	*620*	*820*	*870*
P5	145	200	225	140	195	215	110	155	175	—	—	—	—	—	—	205	260	280	185	235	255
	475	*660*	*740*	*460*	*640*	*710*	*360*	*510*	*570*	—	—	—	—	—	—	*670*	*850*	*920*	*610*	*770*	*840*
P6	160	225	250	155	220	245	125	175	195	—	—	—	—	—	—	230	295	315	210	265	285
	520	*740*	*820*	*510*	*720*	*800*	*410*	*570*	*640*	—	—	—	—	—	—	*750*	*970*	*1025*	*690*	*870*	*940*
P7	155	215	240	145	205	230	115	165	185	—	—	—	—	—	—	220	280	300	195	250	270
	510	*710*	*790*	*475*	*670*	*750*	*375*	*540*	*610*	—	—	—	—	—	—	*720*	*920*	*980*	*640*	*820*	*890*
P8	140	200	220	135	190	215	110	150	170	—	—	—	—	—	—	200	260	280	180	235	250
	460	*660*	*720*	*445*	*620*	*710*	*360*	*490*	*560*	—	—	—	—	—	—	*660*	*850*	*920*	*590*	*770*	*820*
P11	150	210	230	145	200	220	115	160	180	—	—	—	—	—	—	215	270	290	190	245	260
	490	*690*	*750*	*475*	*660*	*720*	*375*	*520*	*590*	—	—	—	—	—	—	*710*	*890*	*950*	*620*	*800*	*850*
P12	95	135	150	90	130	140	75	105	115	—	—	—	—	—	—	135	165	180	120	150	160
	310	*445*	*490*	*295*	*425*	*460*	*245*	*345*	*375*	—	—	—	—	—	—	*445*	*540*	*590*	*395*	*490*	*520*
M1	—	—	—	140	195	215	120	170	185	—	—	—	—	—	—	140	200	220	130	185	205
	—	—	—	*460*	*640*	*710*	*395*	*560*	*610*	—	—	—	—	—	—	*460*	*660*	*720*	*425*	*610*	*670*
M2	—	—	—	115	160	180	100	140	155	—	—	—	—	—	—	120	165	185	110	155	170
	—	—	—	*375*	*520*	*590*	*330*	*460*	*510*	—	—	—	—	—	—	*395*	*540*	*610*	*360*	*510*	*560*
M3	—	—	—	90	130	145	80	115	125	—	—	—	—	—	—	95	135	145	85	125	135
	—	—	—	*295*	*425*	*475*	*260*	*375*	*410*	—	—	—	—	—	—	*310*	*445*	*475*	*280*	*410*	*445*
M4	—	—	—	70	100	110	60	85	95	—	—	—	—	—	—	70	105	115	65	95	105
	—	—	—	*230*	*330*	*360*	*195*	*280*	*310*	—	—	—	—	—	—	*230*	*345*	*375*	*215*	*310*	*345*
M5	—	—	—	60	85	95	50	75	80	—	—	—	—	—	—	60	85	95	55	80	90
	—	—	—	*195*	*280*	*310*	*165*	*245*	*260*	—	—	—	—	—	—	*195*	*280*	*310*	*180*	*260*	*295*
K1	210	295	325	125	175	195	120	165	185	—	—	—	245	470	570	280	360	385	255	325	350
	690	*970*	*1075*	*410*	*570*	*640*	*395*	*540*	*610*	—	—	—	*800*	*1550*	*1875*	*920*	*1175*	*1275*	*840*	*1075*	*1150*
K2	185	260	290	110	155	170	105	150	165	—	—	—	215	410	500	250	315	340	225	285	310
	610	*850*	*950*	*360*	*510*	*560*	*345*	*490*	*540*	—	—	—	*710*	*1350*	*1650*	*820*	*1025*	*1125*	*740*	*940*	*1025*
K3	160	220	245	95	130	145	90	125	140	—	—	—	175	270	310	210	270	290	190	240	260
	520	*720*	*800*	*310*	*425*	*475*	*295*	*410*	*460*	—	—	—	*570*	*890*	*1025*	*690*	*890*	*950*	*620*	*790*	*850*
K4	150	210	235	90	125	140	85	120	135	—	—	—	165	260	295	200	255	275	180	230	250
	490	*690*	*770*	*295*	*410*	*460*	*280*	*395*	*445*	—	—	—	*540*	*850*	*970*	*660*	*840*	*900*	*590*	*750*	*820*
K5	90	130	140	55	75	85	50	70	80	—	—	—	100	155	180	120	155	165	110	140	150
	295	*425*	*460*	*180*	*245*	*280*	*165*	*230*	*260*	—	—	—	*330*	*510*	*590*	*395*	*510*	*540*	*360*	*460*	*490*
K6	135	185	205	80	110	125	75	105	115	—	—	—	145	230	260	180	225	245	160	205	220
	445	*610*	*670*	*260*	*360*	*410*	*245*	*345*	*375*	—	—	—	*475*	*750*	*850*	*590*	*740*	*800*	*520*	*670*	*720*
K7	115	165	180	70	95	110	65	95	100	—	—	—	130	200	230	155	200	210	140	180	190
	375	*540*	*590*	*230*	*310*	*360*	*215*	*310*	*330*	—	—	—	*425*	*660*	*750*	*510*	*660*	*690*	*460*	*590*	*620*
N1	—	—	—	1075	1550	1700	860	1225	1375	900	1275	1400	—	—	—	—	—	—	—	—	—
	—	—	—	*3525*	*5075*	*5575*	*2825*	*4025*	*4500*	*2950*	*4175*	*4600*	—	—	—	—	—	—	—	—	—
N2	—	—	—	430	620	690	345	500	550	365	520	570	—	—	—	—	—	—	—	—	—
	—	—	—	*1400*	*2025*	*2275*	*1125*	*1650*	*1800*	*1200*	*1700*	*1875*	—	—	—	—	—	—	—	—	—
N3	—	—	—	290	415	460	230	330	370	240	345	380	—	—	—	—	—	—	—	—	—
	—	—	—	*950*	*1350*	*1500*	*750*	*1075*	*1225*	*790*	*1125*	*1250*	—	—	—	—	—	—	—	—	—
N11	—	—	—	330	475	530	265	380	420	275	395	435	—	—	—	—	—	—	—	—	—
	—	—	—	*1075*	*1550*	*1750*	*870*	*1250*	*1375*	*900*	*1300*	*1425*	—	—	—	—	—	—	—	—	—
S1	—	—	—	33	47	50	29	41	45	—	—	—	—	—	—	—	—	—	22	31	35
	—	—	—	*110*	*155*	*165*	*95*	*135*	*150*	—	—	—	—	—	—	—	—	—	*70*	*100*	*115*
S2	—	—	—	27	38	42	23	33	36	—	—	—	—	—	—	—	—	—	18	25	28
	—	—	—	*90*	*125*	*140*	*75*	*110*	*120*	—	—	—	—	—	—	—	—	—	*60*	*80*	*90*
S3	—	—	—	23	33	37	20	29	32	—	—	—	—	—	—	—	—	—	22	31	35
	—	—	—	*75*	*110*	*120*	*65*	*95*	*105*	—	—	—	—	—	—	—	—	—	*70*	*100*	*115*
S11	—	—	—	46	65	75	40	55	65	—	—	—	—	—	—	—	—	—	44	65	70
	—	—	—	*150*	*215*	*245*	*130*	*180*	*215*	—	—	—	—	—	—	—	—	—	*145*	*215*	*230*
S12	—	—	—	39	55	60	34	48	55	—	—	—	—	—	—	—	—	—	31	44	48
	—	—	—	*130*	*180*	*195*	*110*	*155*	*180*	—	—	—	—	—	—	—	—	—	*100*	*145*	*155*
S13	—	—	—	23	32	36	20	28	31	—	—	—	—	—	—	—	—	—	18	25	28
	—	—	—	*75*	*105*	*120*	*65*	*90*	*100*	—	—	—	—	—	—	—	—	—	*60*	*80*	*90*
H5	33	46	50	26	36	40	24	34	38	—	—	—	—	—	—	—	—	—	28	39	43
	110	*150*	*165*	*85*	*120*	*130*	*80*	*110*	*125*	—	—	—	—	—	—	—	—	—	*90*	*130*	*140*
H8	35	48	55	27	38	42	26	36	40	—	—	—	—	—	—	—	—	—	30	41	46
	115	*155*	*180*	*90*	*125*	*140*	*85*	*120*	*130*	—	—	—	—	—	—	—	—	—	*100*	*135*	*150*
H11	42	60	65	33	46	50	31	44	48	—	—	—	—	—	—	—	—	—	36	50	55
	140	*195*	*215*	*110*	*150*	*165*	*100*	*145*	*155*	—	—	—	—	—	—	—	—	—	*120*	*165*	*180*
H12	60	85	95	31	44	49	30	42	47	—	—	—	—	—	—	—	—	—	55	75	85
	195	*280*	*310*	*100*	*145*	*160*	*100*	*140*	*155*	—	—	—	—	—	—	—	—	—	*180*	*245*	*280*
H21	35	48	55	27	38	42	26	36	40	—	—	—	—	—	—	—	—	—	30	41	46
	115	*155*	*180*	*90*	*125*	*140*	*85*	*120*	*130*	—	—	—	—	—	—	—	—	—	*100*	*135*	*150*

Code keys metric and inch

R	217	.	21	-	12	25	.	RE	-	LP06	.	4	A
1	2		3		4	5		6		7		8	9

R	217	.	21	-	01.00	0	-	LP06	.	3	A
1	2		3		5	6		7		8	9

1.

R = Right hand rotation
Cx = For Seco-Capto

2.

217 = With shank
220 = For arbor

3.

Cutter system

4. (Not for inch designation)

Connecting diameter

5.

Cutter diameter

6.

Shank type
.RE for Combimaster
.0 for Cylindrical
.3 for Weldon
.3S for Seco Weldon

7.

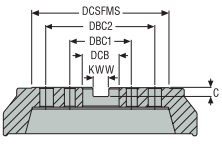
Insert type and size

8.

No. of teeth

9.

A = Through coolant supply
E = Solid carbide shank



Dimensions in mm

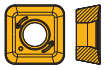
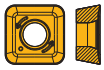
DCB	DCSFMS	DBC1	DBC2	KWW	C
16	30-35	–	–	8,4	5,6
22	42-47	–	–	10,4	6,3
27	48-62	–	–	12,4	7
32	60-90	–	–	14,4	8
40	90-130	66,7	–	16,4	9
60	130-270	101,6	177,8	25,7	14

Dimensions in inch

DCB	DCSFMS	DBC1	DBC2	KWW	C
0.500	*1.181 - 1.378*			*0.258*	*0.165*
0.750	*1.378 - 1.850*	–	–	*0.321*	*0.193*
1.000	*1.803 - 2.441*	–	–	*0.382*	*0.224*
1.250	*2.250 - 3.031*	–	–	*0.508*	*0.287*
1.500	*2.750 - 3.543*	–	–	*0.630*	*0.382*
2.000	*4.331*	–	–	*0.756*	*0.445*
2.500	*5.118 - 6.299 (8.858)*	*4.000*	*(7.000)*	*1.000*	*0.551*

For a more exact DCSFMS and DCB measurement, see each product table.

Selection – Metric

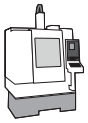
Insert	a_p max	Material suitability									
		P	M	K	N	S	H				
SPKT10 	1,1	■	■	■	□	■	◩	■	◩	■	■
SPKT14 	1,8	■	■	■	□	■	◩	◩	■	■	■
SPKT18 	2,5	■	■	■	□	■	◩	□	■	■	■

1st choice ■

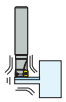
Alternative choice ◩

Possible choice □

High speed machine with low power/torque 

Strong stable machine with rigid connecion 

Not recommended -

Unstable condition suitability 

Ramping ability 

Plunging ability 

Selection – Metric

Insert	No. of cutting edges	Application	Cutter diameter (mm) available with effective number of teeth																									See page
			12	14	16	18	20	25	27	32	35	40	42	50	52	63	66	80	84	88	100	108	125	153	160	188	228	
SPKT10	4									3	3	4	4	5	5	6												573
											4	5	5	6	6	7												
SPKT14	4											3		4	4	5	5	6	6		8		9					578
														5	5	6	6	7										
SPKT18	4															5	5	5			7		8	6	10	8	10	583
																		6										

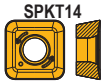
x — x indicates number of teeth (first choice)

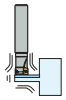
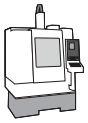
x — x indicates number of teeth

Troubleshooter for unstable fixturing and/or unstable conditions

Basic choice

Selection – Inch

Insert	a_p max	Material suitability									
		P	M	K	N	S	H				
SPKT10 	0.043	■	■	■	□	■	◩	■	◩	■	■
SPKT14 	0.071	■	■	■	□	■	◩	◩	■	■	■
SPKT18 	0.098	■	■	■	□	■	◩	□	■	■	■

1st choice	■	High speed machine with low power/torque		Unstable condition suitability	
Alternative choice	◩	Strong stable machine with rigid connecion		Ramping ability	
Possible choice	□	Not recommended	-	Plunging ability	

Selection – Inch

Insert	No. of cutting edges	Application	Cutter diameter available (inch)/number of teeth													See page
			0.50	0.625	0.75	1.00	1.25	1.50	2.00	2.50	3.00	3.50	4.00	5.00	6.00	
SPKT10	4						3	4	5	6						573
									6	7						
SPKT14	4								4	5	6		8			578
									5	6	7					
SPKT18	4									5	5		7	8	10	583
											6					

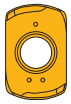
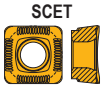
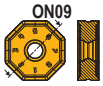
x — x indicates number of teeth (first choice)

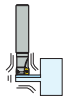
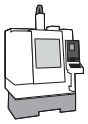
x — x indicates number of teeth

Troubleshooter for unstable fixturing and/or unstable conditions

Basic choice

Selection – Metric

Insert	a_p max	Material suitability									
		P	M	K	N	S	H				
LP05 	0,65	■	■	■	□	■	■	■	□	■	■
LP06 	0,8	■	■	■	■	■	■	■	□	■	■
LP09 	1,8	■	■	■	□	■	□	■	■	■	■
LO06 	0,9	■	◩	■	–	■	■	■	◩	◩	◩
218.19-080 	0,6	■	◩	■	■	◩	■	■	◩	■	■
218.19-100 	0,7	■	◩	■	■	◩	■	■	◩	■	■
218.19-125 	1,0	■	◩	■	■	◩	■	◩	■	■	■
218.19-160 	1,8	■	◩	■	■	◩	□	-	■	■	■
218.21-230 	1,8	■	■	■	-	◩	◩	-	■	□	■
SCET 	1,5	■	■	■	-	■	-	-	■	□	■
ON09 	2,0	■	-	■	-	-	-	-	■	-	-

1st choice	■	High speed machine with low power/torque		Unstable condition suitability	
Alternative choice	◩	Strong stable machine with rigid connecion		Ramping ability	
Possible choice	□	Not recommended	-	Plunging ability	

Selection – Metric

Insert	No. of cutting edges	Application	Cutter diameter (mm) available with effective number of teeth																										See page
			12	14	16	18	20	25	27	32	35	40	42	50	52	63	66	80	84	88	100	108	125	133	160	168	208		
LP05	2				2		3																						596
			2	2	3	3	4																						
LP06	2										4																		603
							2	3	3	4	5	6																	
					2	2	3	4		5	6	7																	
LP09	2									3				5															610
								2		4	4	4	4	6	5	6	6	7											
												5	5	7	7	8	8	9	7		10								
LO06	4											5																	618
							2	3	3	4	5	6																	
								4		5	6	7	7	8	8	9													
218.19-080	3				2																								
218.19-100	3							2																					
							2	3																					
218.19-125	3									2																			638
								2		3	3	4																	
218.19-160	3													3		4													
														4	4	5	5	6	6		7								
										2		3		5	5	6	6	7			9								
218.21-230	6													4		5		6	6		7		9		10				626
												3	3	5	5	6	6	7	8		9								
SCET	4															4	4	5	5		5								632
														4	4	5		6	6		7		6		7				
														5	5	6	6	7			8								
ON09	16																	6			7		8		10				656

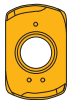
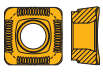
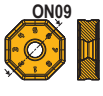
x — x indicates number of teeth (first choice)

x — x indicates number of teeth

Troubleshooter for unstable fixturing and/or unstable conditions

Basic choice

Selection – Inch

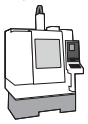
Insert	a_p max	Material suitability									
		P	M	K	N	S	H				
LP05 	0.020	■	■	■	□	■	■	■	□	■	■
LP06 	0.031	■	■	■	■	■	■	■	□	■	■
LP09 	0.071	■	■	■	□	■	□	■	■	■	■
LO06 	0.031	■	◩	■	–	■	■	■	◩	◩	◩
218.19-080 	0.025	■	◩	■	■	◩	■	■	◩	■	■
218.19-100 	0.028	■	◩	■	■	◩	■	■	◩	■	■
218.19-125 	0.039	■	◩	■	■	◩	■	◩	■	■	■
218.19-160 	0.071	■	◩	■	■	◩	□	-	■	■	■
218.21-230 	0.071	■	■	■	-	◩	◩	-	■	□	■
SCET 	0.059	■	■	■	-	■	-	-	■	□	■
ON09 	0.079	■	-	■	-	-	-	-	■	-	-

1st choice ■

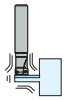
Alternative choice ◩

Possible choice □

High speed machine with low power/torque 

Strong stable machine with rigid connecion 

Not recommended -

Unstable condition suitability 

Ramping ability 

Plunging ability 

Selection – Inch

Insert	No. of cutting edges	Application	Cutter diameter available (inch)/number of teeth													See page
			0.50	0.625	0.75	1.00	1.25	1.50	2.00	2.50	3.00	3.50	4.00	5.00	6.00	
LP05	2			2	3											596
			2	3	4											
LP06	2				2	3	4	6								603
				2	3	4	5	7								
LP09	2						4	5	6	6	6	8	9			610
									7	8	8		10			
LO06	4					3	4	5								618
						4	5	6	8	9						
218.19-080	3			2												638
218.19-100	3				2	3										
218.19-125	3					2	3	4								
218.19-160	3						2	3	3	5	6		7			
									4	6	7		9			
									5							
218.21-230	6							3	4	5	5		7			626
									5	6	6	8	9			
SCET	4									4	5		5			632
									4	6	6		8			
									5	6						
ON09	16										6		7	8	10	656

x — x indicates number of teeth (first choice)

x — x indicates number of teeth

Troubleshooter for unstable fixturing and/or unstable conditions

Basic choice

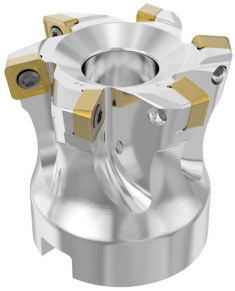


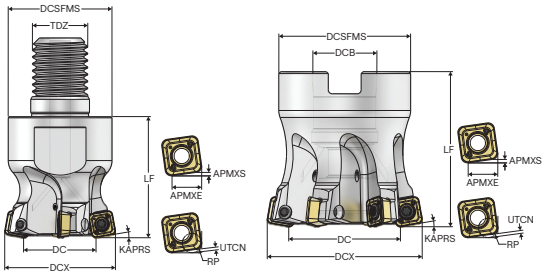
High Feed SP

For challenging ISO P, M and S materials, the Seco High Feed SP features a combination of dedicated cutting geometries and insert grades, as well as optimized lead angles, that combine to boost material removal rates, maximize chip evacuation and extend tool life. Packed with versility, one High Feed SP tool optimizes copy milling, ramping, pocketing, face milling and plunging operations to reduce tooling inventory further. Designed for ease of use, the milling tools provide simple foolproof insert indexing that prevents operator mistakes, unexpected machine downtime and scrapped parts.

– 4 insert sizes, with IC = 07, 10, 14 & 18mm
– 58 items in metric version, Ø20 to Ø228mm
– 31 items in inch version, Ø0.75 to Ø06.00”
– Standard and close pitch
– Well proven SPKT inserts with a range of premium Seco grades optimized for tough materials.

R217/220.21-SP07 – Metric



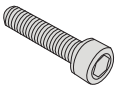


–For insert selection and cutting data recommendations, see page(s) 571-572
–For complete insert programme, see page(s) 908
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ	KAPRS°	LF	RP	UTCN	RMPX°	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm			mm	mm	mm			kg	
R217.21-1020.RE-SP07-3A	10358468	Combimaster	8,5	20,0	3	0,65	5,7	–	18,5	M10	8,0 °	28,0	1,83	0,6	4,57	30200	0,1	SPKT070312
R217.21-1020.RE-SP07-2A	10358503	Combimaster	8,6	20,0	2	0,8	5,7	–	18,5	M10	10,0 °	28,0	1,99	0,6	4,53	30200	0,1	SPKT070312
R217.21-1225.RE-SP07-4A	10358471	Combimaster	13,5	25,0	4	0,65	5,7	–	23,0	M12	8,0 °	30,0	1,83	0,6	2,7	27000	0,1	SPKT070312
R217.21-1225.RE-SP07-3A	10358469	Combimaster	13,6	25,0	3	0,8	5,7	–	23,0	M12	10,0 °	30,0	1,98	0,7	2,69	27000	0,1	SPKT070312
R217.21-1632.RE-SP07-5A	10358473	Combimaster	20,5	32,0	5	0,65	5,7	–	30,0	M16	8,0 °	35,0	1,83	0,6	1,71	23800	0,2	SPKT070312
R217.21-1632.RE-SP07-4A	10358472	Combimaster	20,6	32,0	4	0,8	5,7	–	30,0	M16	10,0 °	35,0	1,99	0,7	1,66	23800	0,2	SPKT070312
R217.21-1635.RE-SP07-5A	10358474	Combimaster	23,6	35,0	5	0,8	5,7	–	30,0	M16	10,0 °	35,0	1,99	0,7	1,52	22800	0,2	SPKT070312
R217.21-2040.RE-SP07-5A	10358475	Combimaster	28,6	40,0	5	0,8	5,7	–	36,5	M20	10,0 °	40,0	1,98	0,7	1,34	21300	0,3	SPKT070312
R217.21-2040.RE-SP07-6A	10358476	Combimaster	28,6	40,0	6	0,8	5,7	–	36,5	M20	10,0 °	40,0	1,98	0,7	1,34	21300	0,3	SPKT070312
R220.21-0040-SP07-6A	10358477	Arbor	28,6	40,0	6	0,8	5,7	16,0	33,0	–	10,0 °	40,0	1,98	0,7	1,34	21300	0,2	SPKT070312

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

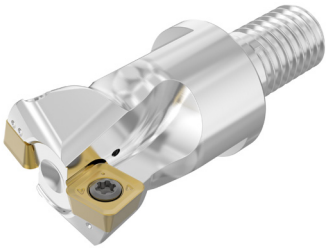
For cutter	Arbor screw	Insert key	Insert screw
			
R217.21-..	–	1/4HEX-T08PX50	C02555-T08P
R220.21-..	220.17-689	1/4HEX-T08PX50	C02555-T08P

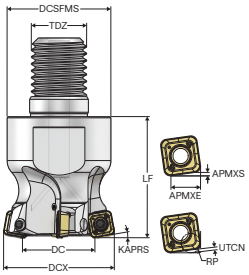
Accessories

For cutter	Adjustable Torque key	Bit holder	Torque key	Torque value
				
R217/220.21-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	T00-08P12	1.2NM

Torque and fixed keys, see page 944

R217/220.21-SP07 – inch





—For insert selection and cutting data recommendations, see page(s) 571-572
—For complete insert programme, see page(s) 908
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCSFMS	TDZ	KAPRS°	LF	RP	UTCN	RMPX°	RPMX	Weight	Insert
			inch	inch		inch	inch	inch			inch	inch	inch			lbs	
R217.21-00.75-10RE-SP07-2A	10358478	Combimaster	0.303	0.750	2	0.031	0.224	0.728	M10	10,0 °	1.102	0.078	0.024	5,15	30900	0.220	SPKT070312
R217.21-01.00-12RE-SP07-4A	10358480	Combimaster	0.547	1.000	4	0.026	0.224	0.906	M12	8,0 °	1.181	0.072	0.024	2,67	26800	0.220	SPKT070312
R217.21-01.00-12RE-SP07-3A	10358479	Combimaster	0.551	1.000	3	0.031	0.224	0.906	M12	10,0 °	1.181	0.078	0.028	2,65	26800	0.220	SPKT070312
R217.21-01.25-16RE-SP07-4A	10358481	Combimaster	0.799	1.250	4	0.031	0.224	1.181	M16	10,0 °	1.378	0.078	0.028	1,7	23800	0.440	SPKT070312
R217.21-01.50-20RE-SP07-5A	10358482	Combimaster	1.051	1.500	5	0.031	0.224	1.437	M20	10,0 °	1.575	0.078	0.028	1,44	21300	0.660	SPKT070312

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.21-..	1/4HEX-T08PX50	C02555-T08P

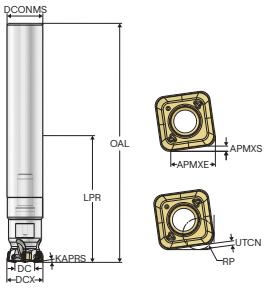
Accessories

For cutter	Adjustable Torque key	Bit holder	Torque key	Torque value
				
R217.21-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	T00-08P12	1.2NM

Torque and fixed keys, see page 944

R217.21-SP07 – Metric





—For insert selection and cutting data recommendations, see page(s) 571-572
—For complete insert programme, see page(s) 908
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	KAPRS°	DCONMS	RP	UTCN	LPR	OAL	RMPX°	RPMX	Weight	Insert
			mm	mm		mm	mm		mm	mm	mm	mm	mm			kg	
R217.21-1820.0R-SP07-3SA	10362253	Cylindrical	8,5	20,0	3	0,65	5,7	8,0 °	18,0	1,83	0,6	98,0	146,0	4,57	30200	0,2	SPKT070312
R217.21-1820.0R-SP07-2SA	10362252	Cylindrical	8,6	20,0	2	0,8	5,7	10,0 °	18,0	1,99	0,6	98,0	146,0	4,53	30200	0,2	SPKT070312
R217.21-2525.0R-SP07-4SA	10362255	Cylindrical	13,5	25,0	4	0,65	5,7	8,0 °	25,0	1,83	0,6	100,0	148,0	2,7	27000	0,6	SPKT070312
R217.21-2525.0R-SP07-3SA	10362254	Cylindrical	13,6	25,0	3	0,8	5,7	10,0 °	25,0	1,98	0,7	100,0	148,0	2,69	27000	0,6	SPKT070312
R217.21-3232.0R-SP07-5SA	10362257	Cylindrical	20,5	32,0	5	0,65	5,7	8,0 °	32,0	1,83	0,6	135,0	195,0	1,71	23800	1,1	SPKT070312
R217.21-3232.0R-SP07-4SA	10362256	Cylindrical	20,6	32,0	4	0,8	5,7	10,0 °	32,0	1,99	0,7	135,0	195,0	1,66	23800	1,1	SPKT070312
R217.21-3235.0R-SP07-5SA	10362258	Cylindrical	23,6	35,0	5	0,8	5,7	10,0 °	32,0	1,99	0,7	135,0	195,0	1,52	22800	1,1	SPKT070312

Spare Parts, included in delivery

For cutter	Cutter body	Extension	Insert key	Insert screw
				
R217.21-1820-2	R217.21-1020.RE-SP07-2A	BD01858221070	1/4HEX-T08PX50	C02555-T08P
R217.21-1820-3	R217.21-1020.RE-SP07-3A	BD01858221070	1/4HEX-T08PX50	C02555-T08P
R217.21-2525-3	R217.21-1225.RE-SP07-3A	BD02558221280	1/4HEX-T08PX50	C02555-T08P
R217.21-2525-4	R217.21-1225.RE-SP07-4A	BD02558221280	1/4HEX-T08PX50	C02555-T08P
R217.21-3232-4	R217.21-1632.RE-SP07-4A	BD032582116100	1/4HEX-T08PX50	C02555-T08P
R217.21--3232-5	R217.21-1632.RE-SP07-5A	BD032582116100	1/4HEX-T08PX50	C02555-T08P
R217.21-3235-5	R217.21-1635.RE-SP07-5A	BD032582116100	1/4HEX-T08PX50	C02555-T08P

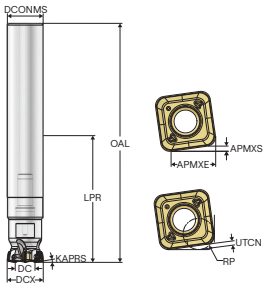
Accessories

For cutter	Adjustable Torque key	Bit holder	Torque key	Torque value
				
R217.21-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	T00-08P12	1.2NM

Torque and fixed keys, see page 944

R217.21-SP07 – inch





—For insert selection and cutting data recommendations, see page(s) 571-572
—For complete insert programme, see page(s) 908
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	KAPRS°	DCONMS	RP	UTCN	LPR	OAL	RMPX°	RPMX	Weight	Insert
			inch	inch		inch	inch		inch	inch	inch	inch	inch			lbs	
R217.21-00.75-0R-SP07-2SA	10362259	Cylindrical	0.303	0.750	2	0.031	0.224	10,0 °	0.750	0.078	0.024	4.102	6.102	5,15	30900	0.660	SPKT070312
R217.21-00.79-0R-SP07-3SA	10368365	Cylindrical	0.335	0.787	3	0.026	0.224	8,0 °	0.750	0.072	0.024	4.102	6.102	4,57	30200	0.880	SPKT070312
R217.21-01.00-0R-SP07-4SA	10362261	Cylindrical	0.547	1.000	4	0.026	0.224	8,0 °	1.000	0.072	0.024	4.433	6.681	2,67	26800	1.540	SPKT070312
R217.21-01.00-0R-SP07-3SA	10362260	Cylindrical	0.551	1.000	3	0.031	0.224	10,0 °	1.000	0.078	0.028	4.433	6.681	2,65	26800	1.320	SPKT070312
R217.21-01.25-0R-SP07-4SA	10362262	Cylindrical	0.799	1.250	4	0.031	0.224	10,0 °	1.250	0.078	0.028	5.630	7.878	1,7	23800	2.430	SPKT070312
R217.21-01.26-0R-SP07-5SA	10368366	Cylindrical	0.807	1.260	5	0.026	0.224	8,0 °	1.250	0.072	0.024	5.630	7.878	1,71	23800	2.430	SPKT070312
R217.21-01.38-0R-SP07-5SA	10368367	Cylindrical	0.929	1.378	5	0.031	0.224	10,0 °	1.250	0.078	0.028	5.630	7.878	1,52	22800	2.430	SPKT070312

Spare Parts, included in delivery

For cutter	Cutter body	Extension	Insert key	Insert screw
				
R217.21-00.75-2	R217.21-00.75-10RE-SP07-2A	BD119582210300	1/4HEX-T08PX50	C02555-T08P
R217.21-00.79-3	R217.21-1020.RE-SP07-3A	BD119582210300	1/4HEX-T08PX50	C02555-T08P
R217.21-01.00-3	R217.21-01.00-12RE-SP07-3A	BD125582212325	1/4HEX-T08PX50	C02555-T08P
R217.21-01.00-4	R217.21-01.00-12RE-SP07-4A	BD125582212325	1/4HEX-T08PX50	C02555-T08P
R217.21-01.25-4	R217.21-01.25-16RE-SP07-4A	BD131582116425	1/4HEX-T08PX50	C02555-T08P
R217.21-01.26-5	R217.21-1632.RE-SP07-5A	BD131582116425	1/4HEX-T08PX50	C02555-T08P
R217.21-01.38-5	R217.21-1635.RE-SP07-5A	BD131582116425	1/4HEX-T08PX50	C02555-T08P

Accessories

For cutter	Adjustable Torque key	Bit holder	Torque key	Torque value
				
R217.21-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	T00-08P12	1.2NM

Torque and fixed keys, see page 944

R220.21-SP07 – Insert selection – mm/Inch

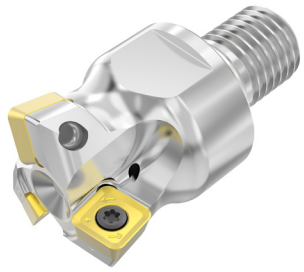
SMG		a_p	f_z		
			100%	70%	30%
P1	SPKT070312TN-M08 MP3501	0,80 *0.032*	0,75 0.030	0,75 0.030	1,0 0.040
P2	SPKT070312TN-M08 MP3501	0,80 *0.032*	0,75 0.030	0,75 0.030	1,0 0.040
P3	SPKT070312TN-M08 MP3501	0,80 *0.032*	0,70 0.028	0,75 0.030	1,0 0.040
P4	SPKT070312TN-M08 MP2501	0,80 *0.032*	0,70 0.028	0,70 0.028	0,95 0.038
P5	SPKT070312TN-M08 MP2501	0,80 *0.032*	0,70 0.028	0,70 0.028	0,95 0.038
P6	SPKT070312TN-M08 MP2501	0,80 *0.032*	0,70 0.028	0,70 0.028	0,95 0.038
P7	SPKT070312TN-M08 MP2501	0,80 *0.032*	0,70 0.028	0,70 0.028	0,95 0.038
P8	SPKT070312TN-M08 MP2501	0,80 *0.032*	0,70 0.028	0,75 0.030	1,0 0.040
P11	SPKT070312TN-ME06 MP2051	0,80 *0.032*	0,70 0.028	0,70 0.028	0,95 0.038
P12	SPKT070312TN-M08 MP2501	0,60 *0.024*	0,46 0.018	0,48 0.019	0,65 0.026
M1	SPKT070312TN-ME06 MS2050	0,80 *0.032*	0,75 0.030	0,75 0.030	1,0 0.040
M2	SPKT070312TN-ME06 MS2050	0,80 *0.032*	0,70 0.028	0,70 0.028	0,95 0.038
M3	SPKT070312TN-ME06 MS2050	0,60 *0.024*	0,55 0.022	0,55 0.022	0,75 0.030
M4	SPKT070312TN-ME06 MP2051	0,60 *0.024*	0,48 0.019	0,50 0.020	0,65 0.026
M5	SPKT070312TN-ME06 MP2051	0,60 *0.024*	0,48 0.019	0,50 0.020	0,65 0.026
K1	SPKT070312TN-M08 MK2050	0,80 *0.032*	0,75 0.030	0,75 0.030	1,0 0.040
K2	SPKT070312TN-M08 MK2050	0,80 *0.032*	0,70 0.028	0,70 0.028	0,95 0.038
K3	SPKT070312TN-M08 MK2050	0,80 *0.032*	0,70 0.028	0,70 0.028	0,95 0.038
K4	SPKT070312TN-M08 MK2050	0,80 *0.032*	0,70 0.028	0,70 0.028	0,95 0.038
K5	SPKT070312TN-M08 MK2050	0,80 *0.032*	0,60 0.024	0,65 0.026	0,85 0.034
K6	SPKT070312TN-M08 MK2050	0,80 *0.032*	0,70 0.028	0,70 0.028	0,95 0.038
K7	SPKT070312TN-M08 MK2050	0,80 *0.032*	0,60 0.024	0,65 0.026	0,85 0.034
S1	SPKT070312TN-ME06 MP2051	0,60 *0.024*	0,48 0.019	0,50 0.020	0,65 0.026
S2	SPKT070312TN-ME06 MP2051	0,60 *0.024*	0,48 0.019	0,50 0.020	0,65 0.026
S3	SPKT070312TN-ME06 MP2051	0,60 *0.024*	0,44 0.017	0,46 0.018	0,60 0.024
S11	SPKT070312TN-ME06 MS2050	0,60 *0.024*	0,55 0.022	0,55 0.022	0,75 0.030
S12	SPKT070312TN-ME06 MS2050	0,60 *0.024*	0,55 0.022	0,55 0.022	0,75 0.030
S13	SPKT070312TN-ME06 MS2050	0,60 *0.024*	0,48 0.019	0,50 0.020	0,65 0.026
H5	SPKT070312TN-MD10 MH1051	0,60 *0.024*	0,46 0.018	0,48 0.019	0,65 0.026
H8	SPKT070312TN-MD10 MH1051	0,60 *0.024*	0,36 0.014	0,36 0.014	0,48 0.019
H11	SPKT070312TN-MD10 MH1051	0,60 *0.024*	0,46 0.018	0,48 0.019	0,65 0.026
H12	SPKT070312TN-MD10 MH1051	0,60 *0.024*	0,36 0.014	0,36 0.014	0,48 0.019

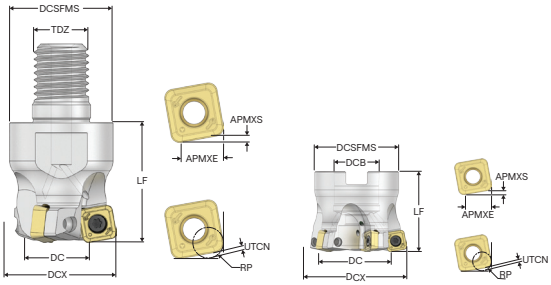
SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R220.21-SP07 – Cutting data v_c = (m/min)/(sf/min)

SMG	MH1051			MK2050			MP3000			MS2050			MP2051			MP1501			MP2501			MP3501		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	—	—	—	290	350	410	260	315	375	260	305	360	260	330	425	395	455	520	405	470	540	360	415	475
	—	—	—	*950*	*1150*	*1350*	*850*	*1025*	*1225*	*850*	*1000*	*1175*	*850*	*1075*	*1400*	*1300*	*1500*	*1700*	*1325*	*1550*	*1775*	*1175*	*1350*	*1550*
P2	—	—	—	285	340	395	255	305	365	255	300	350	255	325	410	385	445	510	395	455	520	350	405	465
	—	—	—	*940*	*1125*	*1300*	*840*	*1000*	*1200*	*840*	*980*	*1150*	*840*	*1075*	*1350*	*1275*	*1450*	*1675*	*1300*	*1500*	*1700*	*1150*	*1325*	*1525*
P3	—	—	—	250	300	350	230	275	325	225	265	305	235	295	370	340	390	445	350	405	455	310	360	405
	—	—	—	*820*	*980*	*1150*	*750*	*900*	*1075*	*740*	*870*	*1000*	*770*	*970*	*1225*	*1125*	*1275*	*1450*	*1150*	*1325*	*1500*	*1025*	*1175*	*1325*
P4	—	—	—	220	265	305	200	240	285	195	235	270	205	260	325	300	345	390	310	355	405	275	315	360
	—	—	—	*720*	*870*	*1000*	*660*	*790*	*940*	*640*	*770*	*890*	*670*	*850*	*1075*	*980*	*1125*	*1275*	*1025*	*1175*	*1325*	*900*	*1025*	*1175*
P5	340	410	500	210	250	300	190	230	280	190	225	265	195	250	325	285	330	380	295	340	395	260	300	350
	1125	*1350*	*1650*	*690*	*820*	*980*	*620*	*750*	*920*	*620*	*740*	*870*	*640*	*820*	*1075*	*940*	*1075*	*1250*	*970*	*1125*	*1300*	*850*	*980*	*1150*
P6	380	460	570	235	285	335	215	260	315	210	250	295	220	280	365	320	370	425	330	380	440	295	340	390
	1250	*1500*	*1875*	*770*	*940*	*1100*	*710*	*850*	*1025*	*690*	*820*	*970*	*720*	*920*	*1200*	*1050*	*1225*	*1400*	*1075*	*1250*	*1450*	*970*	*1125*	*1275*
P7	360	435	530	220	265	315	205	245	295	200	235	280	210	265	340	305	350	405	315	360	415	280	320	370
	1175	*1425*	*1750*	*720*	*870*	*1025*	*670*	*800*	*970*	*660*	*770*	*920*	*690*	*870*	*1125*	*1000*	*1150*	*1325*	*1025*	*1175*	*1350*	*920*	*1050*	*1225*
P8	340	410	485	210	250	290	190	230	270	190	225	255	195	250	310	285	330	375	295	340	385	260	300	340
	1125	*1350*	*1600*	*690*	*820*	*950*	*620*	*750*	*890*	*620*	*740*	*840*	*640*	*820*	*1025*	*940*	*1075*	*1225*	*970*	*1125*	*1275*	*850*	*980*	*1125*
P11	350	420	520	215	260	305	195	235	290	195	230	270	190	260	360	295	340	390	305	350	405	270	310	360
	1150	*1375*	*1700*	*710*	*850*	*1000*	*640*	*770*	*950*	*640*	*750*	*890*	*620*	*850*	*1175*	*970*	*1125*	*1275*	*1000*	*1150*	*1325*	*890*	*1025*	*1175*
P12	260	305	365	140	170	200	140	165	195	130	155	180	155	205	270	195	225	255	205	235	265	180	210	235
	850	*1000*	*1200*	*460*	*560*	*660*	*460*	*540*	*640*	*425*	*510*	*590*	*510*	*670*	*890*	*640*	*740*	*840*	*670*	*770*	*870*	*590*	*690*	*770*
M1	—	—	—	—	—	—	195	230	270	195	235	275	210	285	385	—	—	—	205	250	290	195	230	270
	—	—	—	—	—	—	*640*	*750*	*890*	*640*	*770*	*900*	*690*	*940*	*1275*	—	—	—	*670*	*820*	*950*	*640*	*750*	*890*
M2	—	—	—	—	—	—	160	190	225	160	195	230	180	245	340	—	—	—	170	205	245	160	190	225
	—	—	—	—	—	—	*520*	*620*	*740*	*520*	*640*	*750*	*590*	*800*	*1125*	—	—	—	*560*	*670*	*800*	*520*	*620*	*740*
M3	—	—	—	—	—	—	130	155	180	130	155	185	170	225	300	—	—	—	140	165	195	130	155	180
	—	—	—	—	—	—	*425*	*510*	*590*	*425*	*510*	*610*	*560*	*740*	*980*	—	—	—	*460*	*540*	*640*	*425*	*510*	*590*
M4	—	—	—	—	—	—	100	120	140	100	120	145	135	180	245	—	—	—	105	130	155	100	120	145
	—	—	—	—	—	—	*330*	*395*	*460*	*330*	*395*	*475*	*445*	*590*	*800*	—	—	—	*345*	*425*	*510*	*330*	*395*	*475*
M5	—	—	—	—	—	—	85	100	120	85	100	120	115	150	205	—	—	—	90	105	130	85	100	120
	—	—	—	—	—	—	*280*	*330*	*395*	*280*	*330*	*395*	*375*	*490*	*670*	—	—	—	*295*	*345*	*425*	*280*	*330*	*395*
K1	450	540	660	305	365	430	205	245	285	—	—	—	—	—	—	390	450	510	400	460	530	355	410	465
	1475	*1775*	*2175*	*1000*	*1200*	*1400*	*670*	*800*	*940*	—	—	—	—	—	—	*1275*	*1475*	*1675*	*1300*	*1500*	*1750*	*1175*	*1350*	*1525*
K2	410	495	610	270	325	385	180	215	255	—	—	—	—	—	—	345	400	460	355	410	475	315	365	425
	1350	*1625*	*2000*	*890*	*1075*	*1275*	*590*	*710*	*840*	—	—	—	—	—	—	*1125*	*1300*	*1500*	*1175*	*1350*	*1550*	*1025*	*1200*	*1400*
K3	345	420	520	230	275	325	155	185	215	—	—	—	—	—	—	295	340	390	300	345	400	270	310	360
	1125	*1375*	*1700*	*750*	*900*	*1075*	*510*	*610*	*710*	—	—	—	—	—	—	*970*	*1125*	*1275*	*980*	*1125*	*1300*	*890*	*1025*	*1175*
K4	330	400	490	220	265	310	145	175	205	—	—	—	—	—	—	280	320	370	290	330	385	255	295	340
	1075	*1300*	*1600*	*720*	*870*	*1025*	*475*	*570*	*670*	—	—	—	—	—	—	*920*	*1050*	*1225*	*950*	*1075*	*1275*	*840*	*970*	*1125*
K5	215	260	305	135	165	190	90	110	125	—	—	—	—	—	—	175	205	225	180	210	235	165	185	210
	710	*850*	*1000*	*445*	*540*	*620*	*295*	*360*	*410*	—	—	—	—	—	—	*570*	*670*	*740*	*590*	*690*	*770*	*540*	*610*	*690*
K6	290	350	435	195	230	275	130	155	185	—	—	—	—	—	—	245	285	325	255	290	340	225	260	300
	950	*1150*	*1425*	*640*	*750*	*900*	*425*	*510*	*610*	—	—	—	—	—	—	*800*	*940*	*1075*	*840*	*950*	*1125*	*740*	*850*	*980*
K7	280	335	390	175	210	240	115	140	160	—	—	—	—	—	—	225	260	290	235	270	300	210	240	265
	920	*1100*	*1275*	*570*	*690*	*790*	*375*	*460*	*520*	—	—	—	—	—	—	*740*	*850*	*950*	*770*	*890*	*980*	*690*	*790*	*870*
S1	—	—	—	—	—	—	46	55	65	47	55	65	50	60	75	—	—	—	—	—	—	47	55	65
	—	—	—	—	—	—	*150*	*180*	*215*	*155*	*180*	*215*	*165*	*195*	*245*	—	—	—	—	—	—	*155*	*180*	*215*
S2	—	—	—	—	—	—	37	45	55	38	45	55	41	50	60	—	—	—	—	—	—	38	45	55
	—	—	—	—	—	—	*120*	*150*	*180*	*125*	*150*	*180*	*135*	*165*	*195*	—	—	—	—	—	—	*125*	*150*	*180*
S3	—	—	—	—	—	—	33	39	47	33	40	48	36	44	50	—	—	—	—	—	—	33	39	47
	—	—	—	—	—	—	*110*	*130*	*155*	*110*	*130*	*155*	*120*	*145*	*165*	—	—	—	—	—	—	*110*	*130*	*155*
S11	—	—	—	—	—	—	65	80	90	65	80	90	70	85	100	—	—	—	—	—	—	65	80	90
	—	—	—	—	—	—	*215*	*260*	*295*	*215*	*260*	*295*	*230*	*280*	*330*	—	—	—	—	—	—	*215*	*260*	*295*
S12	—	—	—	—	—	—	45	55	65	46	55	65	50	60	70	—	—	—	—	—	—	45	55	65
	—	—	—	—	—	—	*150*	*180*	*215*	*150*	*180*	*215*	*165*	*195*	*230*	—	—	—	—	—	—	*150*	*180*	*215*
S13	—	—	—	—	—	—	26	31	37	26	32	38	29	35	41	—	—	—	—	—	—	26	31	37
	—	—	—	—	—	—	*85*	*100*	*120*	*85*	*105*	*125*	*95*	*115*	*135*	—	—	—	—	—	—	*85*	*100*	*120*
H5	130	155	190	49	60	70	40	48	55	—	—	—	—	—	—	50	60	70	—	—	—	42	50	60
	425	*510*	*620*	*160*	*195*	*230*	*130*	*155*	*180*	—	—	—	—	—	—	*165*	*195*	*230*	—	—	—	*140*	*165*	*195*
H8	150	180	215	50	65	75	43	50	60	—	—	—	—	—	—	55	65	80	—	—	—	45	55	65
	490	*590*	*710*	*165*	*215*	*245*	*140*	*165*	*195*	—	—	—	—	—	—	*180*	*215*	*260*	—	—	—	*150*	*180*	*215*
H11	170	200	240	60	75	85	50	60	70	—	—	—	100	135	175	65	80	90	—	—	—	55	65	75
	560	*660*	*790*	*195*	*245*	*280*	*165*	*195*	*230*	—	—	—	*330*	*445*	*570*	*215*	*260*	*295*	—	—	—	*180*	*215*	*245*
H12	175	205	250	90	110	130	80	100	115	—	—	—	105	140	185	100	120	140	—	—	—	80	95	115
	570	*670*	*820*	*295*	*360*	*425*	*260*	*330*	*375*	—	—	—	*345*	*460*	*610*	*330*	*395*	*460*	—	—	—	*260*	*310*	*375*

R217/220.21-SP10 – Metric



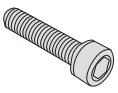


–For insert selection and cutting data recommendations, see page(s) 575-577
–For complete insert programme, see page(s) 908
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCS-FMS	TDZ		LF	RP		OAL	RMPX°	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm		mm	mm	mm	mm	mm			kg	
R217.21-1632.RE-SP10.3A	10097555	Combimaster	15,7	32,0	3	1,1	7,0	–	30,0	M16	–	35,0	2,83	0,9	57,75	4,3	21600	0,2	SPKT10T317
R217.21-1635.RE-SP10.3A	10097557	Combimaster	18,7	35,0	3	1,1	7,0	–	30,0	M16	–	35,0	2,8	0,9	57,75	3,5	20700	0,2	SPKT10T317
R217.21-1635.RE-SP10.4A	10097558	Combimaster	18,7	35,0	4	1,1	7,0	–	30,0	M16	–	35,0	2,8	0,9	57,75	3,5	20700	0,3	SPKT10T317
R217.21-2040.RE-SP10.4A	10097559	Combimaster	23,7	40,0	4	1,1	7,0	–	36,5	M20	–	40,0	2,79	0,9	67,0	2,7	19300	0,4	SPKT10T317
R217.21-2040.RE-SP10.5A	10097560	Combimaster	23,7	40,0	5	1,1	7,0	–	36,5	M20	–	40,0	2,79	0,9	67,0	2,7	19300	0,4	SPKT10T317
R217.21-2042.RE-SP10.4A	10097561	Combimaster	25,7	42,0	4	1,1	7,0	–	36,5	M20	–	40,0	2,8	0,9	67,0	2,5	18800	0,4	SPKT10T317
R217.21-2042.RE-SP10.5A	10097562	Combimaster	25,7	42,0	5	1,1	7,0	–	36,5	M20	–	40,0	2,8	0,9	67,0	2,5	18800	0,4	SPKT10T317
R220.21-0050-SP10.5A	10097563	Arbor	33,7	50,0	5	1,1	7,0	22,0	41,0	–	22,0	40,0	2,8	0,9	–	1,9	17300	0,3	SPKT10T317
R220.21-0050-SP10.6A	10097564	Arbor	33,7	50,0	6	1,1	7,0	22,0	41,0	–	22,0	40,0	2,8	0,9	–	1,9	17300	0,4	SPKT10T317
R220.21-0052-SP10.5A	10097565	Arbor	35,7	52,0	5	1,1	7,0	22,0	49,0	–	22,0	40,0	2,8	0,9	–	1,8	17000	0,4	SPKT10T317
R220.21-0052-SP10.6A	10097566	Arbor	35,7	52,0	6	1,1	7,0	22,0	49,0	–	22,0	40,0	2,8	0,9	–	1,8	17000	0,4	SPKT10T317
R220.21-0063-SP10.6A	10097567	Arbor	46,7	63,0	6	1,1	7,0	22,0	49,0	–	22,0	40,0	2,8	0,9	–	1,3	15800	0,5	SPKT10T317
R220.21-0063-SP10.7A	10097568	Arbor	46,7	63,0	7	1,1	7,0	22,0	49,0	–	22,0	40,0	2,8	0,9	–	1,3	15800	0,6	SPKT10T317

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

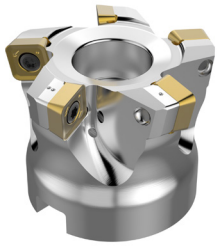
For cutter	Arbor screw	Insert key	Insert screw
			
R217.21-..	–	1/4HEX-T10PX50	C03508-T10P
R217.21-2040-2042-4A	–	1/4HEX-T10PX50	C03509-T10P
R220.21-0050-0052-6A	220.17-692	1/4HEX-T10PX50	C03508-T10P
R220.21-0050-0063	220.17-692	1/4HEX-T10PX50	C03509-T10P

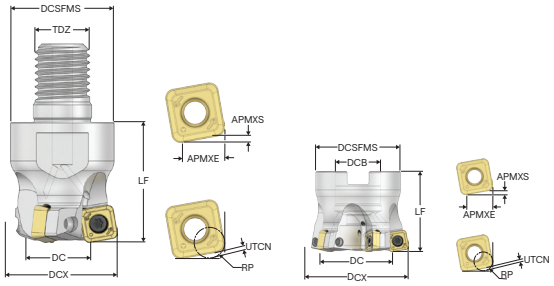
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.21-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30

Torque and fixed keys, see page 944

R217/220.21-SP10 – Inch



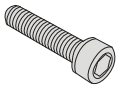


–For insert selection and cutting data recommendations, see page(s) 575–577
–For complete insert programme, see page(s) 908
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ	DCONMS	LF	RP	UTCN	OAL	RMPX°	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch		inch	inch	inch	inch	inch			lbs	
R217.21-01.25.16RE-SP10.3A	10097569	Combimaster	0.606	1.250	3	0.043	0.276	–	1.181	M16	–	1.378	0.111	0.035	2.274	5,6	21600	0.440	SPKT10T317
R217.21-01.50.20RE-SP10.4A	10097571	Combimaster	0.858	1.500	4	0.043	0.276	–	1.437	M20	–	1.575	0.110	0.035	2.638	3,0	19300	0.880	SPKT10T317
R220.21-02.00-SP10.5A	10128666	Arbor	1.358	2.000	5	0.043	0.276	0.750	1.789	–	0.750	1.500	0.110	0.035	–	1,9	17300	0.880	SPKT10T317
R220.21-02.00-SP10.6A	10097573	Arbor	1.358	2.000	6	0.043	0.276	0.750	1.789	–	0.750	1.500	0.110	0.035	–	1,9	17300	0.880	SPKT10T317
R220.21-02.50-SP10.6A	10128667	Arbor	1.858	2.500	6	0.043	0.276	0.750	1.789	–	0.750	1.500	0.110	0.035	–	1,3	15800	1.100	SPKT10T317
R220.21-02.50-SP10.7A	10097574	Arbor	1.858	2.500	7	0.043	0.276	0.750	1.789	–	0.750	1.500	0.110	0.035	–	1,3	15800	1.320	SPKT10T317

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.21-..	–	1/4HEX-T10PX50	C03508-T10P
R220.21-02.00	UC6S3/8UNFX1-1/4	1/4HEX-T10PX50	C03508-T10P
R220.21-02.50	UC6S3/8UNFX1-1/4	1/4HEX-T10PX50	C03509-T10P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.21-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30

Torque and fixed keys, see page 944

R220.21-SP10 – Insert selection – mm/Inch

SMG		a_p	f_z		
			100%	70%	30%
P1	SPKT10T317TN-ME08 MP3501	1,1 *0.044*	0,75 0.030	0,75 0.030	0,95 0.038
P2	SPKT10T317TN-ME08 MP3501	1,1 *0.044*	0,75 0.030	0,75 0.030	0,95 0.038
P3	SPKT10T317TN-ME08 MP2501	1,1 *0.044*	0,75 0.030	0,75 0.030	0,90 0.036
P4	SPKT10T317TN-M10 MP2501	1,1 *0.044*	0,70 0.028	0,70 0.028	0,90 0.036
P5	SPKT10T317TN-M10 MP2501	1,1 *0.044*	0,70 0.028	0,70 0.028	0,90 0.036
P6	SPKT10T317TN-M10 MP2501	1,1 *0.044*	0,70 0.028	0,70 0.028	0,85 0.034
P7	SPKT10T317TN-M10 MP2501	1,1 *0.044*	0,70 0.028	0,70 0.028	0,85 0.034
P8	SPKT10T317TN-M10 MP2501	1,1 *0.044*	0,75 0.030	0,75 0.030	0,90 0.036
P11	SPKT10T317TN-ME08 MP3501	1,1 *0.044*	0,70 0.028	0,70 0.028	0,85 0.034
P12	SPKT10T317TN-M10 MP2501	0,85 *0.034*	0,48 0.019	0,48 0.019	0,60 0.024
M1	SPKT10T317TN-ME08 MS2050	1,1 *0.044*	0,75 0.030	0,75 0.030	0,95 0.038
M2	SPKT10T317TN-ME08 MS2050	1,1 *0.044*	0,70 0.028	0,70 0.028	0,90 0.036
M3	SPKT10T317TN-ME08 MS2050	0,85 *0.034*	0,55 0.022	0,55 0.022	0,70 0.028
M4	SPKT10T317TN-ME08 MP3501	0,85 *0.034*	0,50 0.020	0,50 0.020	0,60 0.024
M5	SPKT10T317TN-ME08 MP3501	0,85 *0.034*	0,50 0.020	0,50 0.020	0,60 0.024
K1	SPKT10T317TN-MD12 MK2050	1,1 *0.044*	0,75 0.030	0,75 0.030	0,95 0.038
K2	SPKT10T317TN-MD12 MK2050	1,1 *0.044*	0,70 0.028	0,70 0.028	0,90 0.036
K3	SPKT10T317TN-MD12 MK2050	1,1 *0.044*	0,70 0.028	0,70 0.028	0,90 0.036
K4	SPKT10T317TN-MD12 MK2050	1,1 *0.044*	0,70 0.028	0,70 0.028	0,90 0.036
K5	SPKT10T317TN-MD12 MK2050	1,1 *0.044*	0,65 0.026	0,65 0.026	0,80 0.032
K6	SPKT10T317TN-MD12 MK2050	1,1 *0.044*	0,70 0.028	0,70 0.028	0,90 0.036
K7	SPKT10T317TN-MD12 MK2050	1,1 *0.044*	0,65 0.026	0,65 0.026	0,80 0.032
S1	SPKT10T317TN-ME08 MP3501	0,85 *0.034*	0,50 0.020	0,50 0.020	0,60 0.024
S2	SPKT10T317TN-ME08 MP3501	0,85 *0.034*	0,50 0.020	0,50 0.020	0,60 0.024
S3	SPKT10T317TN-ME08 MP3501	0,85 *0.034*	0,46 0.018	0,46 0.018	0,55 0.022
S11	SPKT10T317TN-ME08 MS2050	0,85 *0.034*	0,55 0.022	0,55 0.022	0,70 0.028
S12	SPKT10T317TN-ME08 MS2050	0,85 *0.034*	0,55 0.022	0,55 0.022	0,70 0.028
S13	SPKT10T317TN-ME08 MS2050	0,85 *0.034*	0,50 0.020	0,50 0.020	0,60 0.024
H5	SPKT10T317TN-MD12 MH1051	0,85 *0.034*	0,48 0.019	0,48 0.019	0,60 0.024
H8	SPKT10T317TN-MD12 MH1051	0,85 *0.034*	0,36 0.014	0,36 0.014	0,46 0.018
H11	SPKT10T317TN-MD12 MP1501	0,85 *0.034*	0,48 0.019	0,48 0.019	0,60 0.024
H12	SPKT10T317TN-MD12 MP1501	0,85 *0.034*	0,36 0.014	0,36 0.014	0,46 0.018

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R220.21-SP10 – Cutting data v_c = (m/min)/(sf/min)

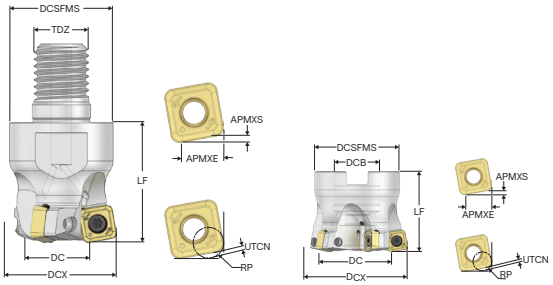
SMG	MH1051			MK2050			MP3000			MS2050			F40M			MP2051			MP2050		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	—	—	—	260	300	360	245	280	355	245	275	340	230	250	300	240	285	395	275	320	385
	—	—	—	*850*	*980*	*1175*	*800*	*920*	*1175*	*800*	*900*	*1125*	*750*	*820*	*980*	*790*	*940*	*1300*	*900*	*1050*	*1275*
P2	—	—	—	250	290	345	240	270	335	240	270	320	225	245	285	235	275	370	270	310	370
	—	—	—	*820*	*950*	*1125*	*790*	*890*	*1100*	*790*	*890*	*1050*	*740*	*800*	*940*	*770*	*900*	*1225*	*890*	*1025*	*1225*
P3	—	—	—	220	255	305	215	245	295	210	240	285	200	215	250	215	255	330	235	275	325
	—	—	—	*720*	*840*	*1000*	*710*	*800*	*970*	*690*	*790*	*940*	*660*	*710*	*820*	*710*	*840*	*1075*	*770*	*900*	*1075*
P4	—	—	—	195	225	270	190	215	270	185	210	255	180	205	245	190	225	305	210	240	290
	—	—	—	*640*	*740*	*890*	*620*	*710*	*890*	*610*	*690*	*840*	*590*	*670*	*800*	*620*	*740*	*1000*	*690*	*790*	*950*
P5	315	360	460	185	215	260	180	205	255	180	200	245	165	180	215	180	215	290	200	230	275
	1025	*1175*	*1500*	*610*	*710*	*850*	*590*	*670*	*840*	*590*	*660*	*800*	*540*	*590*	*710*	*590*	*710*	*950*	*660*	*750*	*900*
P6	355	405	520	210	240	290	200	230	290	200	225	275	185	205	245	205	240	330	225	260	310
	1175	*1325*	*1700*	*690*	*790*	*950*	*660*	*750*	*950*	*660*	*740*	*900*	*610*	*670*	*800*	*670*	*790*	*1075*	*740*	*850*	*1025*
P7	335	380	490	200	230	275	190	215	270	190	215	260	175	195	230	190	225	310	210	245	295
	1100	*1250*	*1600*	*660*	*750*	*900*	*620*	*710*	*890*	*620*	*710*	*850*	*570*	*640*	*750*	*620*	*740*	*1025*	*690*	*800*	*970*
P8	315	360	445	185	215	255	180	205	250	180	200	240	165	180	210	180	215	280	200	230	270
	1025	*1175*	*1450*	*610*	*710*	*840*	*590*	*670*	*820*	*590*	*660*	*790*	*540*	*590*	*690*	*590*	*710*	*920*	*660*	*750*	*890*
P11	325	370	475	190	220	265	185	210	265	185	205	250	170	190	225	175	220	320	205	235	285
	1075	*1225*	*1550*	*620*	*720*	*870*	*610*	*690*	*870*	*610*	*670*	*820*	*560*	*620*	*740*	*570*	*720*	*1050*	*670*	*770*	*940*
P12	245	275	345	125	145	175	135	150	185	125	140	170	120	130	150	145	180	245	135	155	190
	800	*900*	*1125*	*410*	*475*	*570*	*445*	*490*	*610*	*410*	*460*	*560*	*395*	*425*	*490*	*475*	*590*	*800*	*445*	*510*	*620*
M1	—	—	—	—	—	—	180	210	250	185	210	250	165	190	225	190	240	340	195	220	265
	—	—	—	—	—	—	*590*	*690*	*820*	*610*	*690*	*820*	*540*	*620*	*740*	*620*	*790*	*1125*	*640*	*720*	*870*
M2	—	—	—	—	—	—	150	175	210	150	175	210	135	155	190	165	205	305	160	185	220
	—	—	—	—	—	—	*490*	*570*	*690*	*490*	*570*	*690*	*445*	*510*	*620*	*540*	*670*	*1000*	*520*	*610*	*720*
M3	—	—	—	—	—	—	120	140	170	125	145	170	110	130	155	160	195	270	130	150	180
	—	—	—	—	—	—	*395*	*460*	*560*	*410*	*475*	*560*	*360*	*425*	*510*	*520*	*640*	*890*	*425*	*490*	*590*
M4	—	—	—	—	—	—	95	110	135	95	110	135	85	100	120	130	160	225	100	115	140
	—	—	—	—	—	—	*310*	*360*	*445*	*310*	*360*	*445*	*280*	*330*	*395*	*425*	*520*	*740*	*330*	*375*	*460*
M5	—	—	—	—	—	—	80	90	110	80	90	110	70	85	100	105	130	190	85	95	120
	—	—	—	—	—	—	*260*	*295*	*360*	*260*	*295*	*360*	*230*	*280*	*330*	*345*	*425*	*620*	*280*	*310*	*395*
K1	420	480	600	270	315	370	190	220	265	—	—	—	160	185	220	—	—	—	—	—	—
	1375	*1575*	*1975*	*890*	*1025*	*1225*	*620*	*720*	*870*	—	—	—	*520*	*610*	*720*	—	—	—	—	—	—
K2	380	435	560	240	280	335	170	195	235	—	—	—	145	165	200	—	—	—	—	—	—
	1250	*1425*	*1825*	*790*	*920*	*1100*	*560*	*640*	*770*	—	—	—	*475*	*540*	*660*	—	—	—	—	—	—
K3	325	370	475	205	235	285	145	165	200	—	—	—	120	140	170	—	—	—	—	—	—
	1075	*1225*	*1550*	*670*	*770*	*940*	*475*	*540*	*660*	—	—	—	*395*	*460*	*560*	—	—	—	—	—	—
K4	310	350	450	195	225	270	135	160	190	—	—	—	115	135	160	—	—	—	—	—	—
	1025	*1150*	*1475*	*640*	*740*	*890*	*445*	*520*	*620*	—	—	—	*375*	*445*	*520*	—	—	—	—	—	—
K5	205	230	280	120	140	165	85	100	115	—	—	—	75	85	100	—	—	—	—	—	—
	670	*750*	*920*	*395*	*460*	*540*	*280*	*330*	*375*	—	—	—	*245*	*280*	*330*	—	—	—	—	—	—
K6	270	310	400	170	200	240	120	140	170	—	—	—	100	120	145	—	—	—	—	—	—
	890	*1025*	*1300*	*560*	*660*	*790*	*395*	*460*	*560*	—	—	—	*330*	*395*	*475*	—	—	—	—	—	—
K7	260	295	360	155	180	210	110	125	150	—	—	—	95	110	125	—	—	—	—	—	—
	850	*970*	*1175*	*510*	*590*	*690*	*360*	*410*	*490*	—	—	—	*310*	*360*	*410*	—	—	—	—	—	—
S1	—	—	—	—	—	—	44	50	60	45	50	65	40	46	55	49	55	70	49	55	70
	—	—	—	—	—	—	*145*	*165*	*195*	*150*	*165*	*215*	*130*	*150*	*180*	*160*	*180*	*230*	*160*	*180*	*230*
S2	—	—	—	—	—	—	36	41	50	36	42	50	32	37	45	39	45	55	40	46	55
	—	—	—	—	—	—	*120*	*135*	*165*	*120*	*140*	*165*	*105*	*120*	*150*	*130*	*150*	*180*	*130*	*150*	*180*
S3	—	—	—	—	—	—	31	36	44	32	36	44	28	33	40	34	39	48	35	40	49
	—	—	—	—	—	—	*100*	*120*	*145*	*105*	*120*	*145*	*90*	*110*	*130*	*110*	*130*	*155*	*115*	*130*	*160*
S11	—	—	—	—	—	—	60	70	85	65	70	85	55	65	75	70	80	95	70	80	95
	—	—	—	—	—	—	*195*	*230*	*280*	*215*	*230*	*280*	*180*	*215*	*245*	*230*	*260*	*310*	*230*	*260*	*310*
S12	—	—	—	—	—	—	43	49	60	43	50	60	39	45	55	47	55	65	48	55	65
	—	—	—	—	—	—	*140*	*160*	*195*	*140*	*165*	*195*	*130*	*150*	*180*	*155*	*180*	*215*	*155*	*180*	*215*
S13	—	—	—	—	—	—	25	29	35	25	29	35	23	26	32	27	31	38	28	32	39
	—	—	—	—	—	—	*80*	*95*	*115*	*80*	*95*	*115*	*75*	*85*	*105*	*90*	*100*	*125*	*90*	*105*	*130*
H5	125	140	175	—	—	—	38	44	50	—	—	—	34	40	47	—	—	—	—	—	—
	410	*460*	*570*	—	—	—	*125*	*145*	*165*	—	—	—	*110*	*130*	*155*	—	—	—	—	—	—
H8	140	160	200	—	—	—	41	47	55	—	—	—	37	43	50	—	—	—	—	—	—
	460	*520*	*660*	—	—	—	*135*	*155*	*180*	—	—	—	*120*	*140*	*165*	—	—	—	—	—	—
H11	160	180	225	—	—	—	48	55	65	—	—	—	44	50	60	95	115	160	50	60	70
	520	*590*	*740*	—	—	—	*155*	*180*	*215*	—	—	—	*145*	*165*	*195*	*310*	*375*	*520*	*165*	*195*	*230*
H12	165	185	230	80	95	115	80	90	110	—	—	—	65	75	90	100	125	165	85	100	120
	540	*610*	*750*	*260*	*310*	*375*	*260*	*295*	*360*	—	—	—	*215*	*245*	*295*	*330*	*410*	*540*	*280*	*330*	*395*

R220.21-SP10 – Cutting data v_c = (m/min)/(sf/min)

SMG	MP1501			MP2501			MS2500			MP3501			MM4500		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	370 *1225*	415 *1350*	490 *1600*	380 *1250*	425 *1400*	500 *1650*	365 *1200*	405 *1325*	490 *1600*	345 *1125*	380 *1250*	455 *1500*	210 *690*	240 *790*	295 *970*
P2	365 *1200*	400 *1300*	465 *1525*	370 *1225*	410 *1350*	480 *1575*	355 *1175*	395 *1300*	465 *1525*	335 *1100*	370 *1225*	430 *1400*	205 *670*	230 *750*	280 *920*
P3	320 *1050*	355 *1175*	410 *1350*	330 *1075*	365 *1200*	425 *1400*	315 *1025*	350 *1150*	410 *1350*	295 *970*	330 *1075*	380 *1250*	185 *610*	205 *670*	245 *800*
P4	280 *920*	315 *1025*	370 *1225*	290 *950*	320 *1050*	380 *1250*	275 *900*	310 *1025*	370 *1225*	260 *850*	290 *950*	345 *1125*	175 *570*	195 *640*	240 *790*
P5	270 *890*	300 *980*	350 *1150*	275 *900*	305 *1000*	365 *1200*	265 *870*	295 *970*	350 *1150*	250 *820*	275 *900*	330 *1075*	155 *510*	175 *570*	215 *710*
P6	305 *1000*	335 *1100*	395 *1300*	310 *1025*	345 *1125*	410 *1350*	295 *970*	330 *1075*	395 *1300*	280 *920*	310 *1025*	370 *1225*	175 *570*	195 *640*	240 *790*
P7	285 *940*	315 *1025*	375 *1225*	295 *970*	325 *1075*	385 *1275*	280 *920*	315 *1025*	370 *1225*	265 *870*	290 *950*	345 *1125*	165 *540*	185 *610*	225 *740*
P8	270 *890*	300 *980*	345 *1125*	275 *900*	305 *1000*	355 *1175*	265 *870*	295 *970*	345 *1125*	250 *820*	275 *900*	320 *1050*	155 *510*	175 *570*	210 *690*
P11	280 *920*	310 *1025*	365 *1200*	285 *940*	315 *1025*	375 *1225*	275 *900*	305 *1000*	360 *1175*	255 *840*	285 *940*	335 *1100*	160 *520*	180 *590*	220 *720*
P12	185 *610*	205 *670*	240 *790*	195 *640*	215 *710*	245 *800*	185 *610*	205 *670*	240 *790*	175 *570*	195 *640*	225 *740*	110 *360*	125 *410*	145 *475*
M1	— —	— —	— —	195 *640*	225 *740*	265 *870*	210 *690*	245 *800*	290 *950*	185 *610*	210 *690*	250 *820*	140 *460*	165 *540*	195 *640*
M2	— —	— —	— —	160 *520*	185 *610*	225 *740*	175 *570*	200 *660*	245 *800*	150 *490*	175 *570*	210 *690*	120 *395*	135 *445*	165 *540*
M3	— —	— —	— —	130 *425*	150 *490*	180 *590*	145 *475*	165 *540*	195 *640*	125 *410*	145 *475*	170 *560*	95 *310*	110 *360*	130 *425*
M4	— —	— —	— —	100 *330*	115 *375*	145 *475*	110 *360*	125 *410*	155 *510*	95 *310*	110 *360*	135 *445*	75 *245*	85 *280*	105 *345*
M5	— —	— —	— —	85 *280*	100 *330*	120 *395*	90 *295*	105 *345*	130 *425*	80 *260*	90 *295*	110 *360*	60 *195*	70 *230*	85 *280*
K1	365 *1200*	405 *1325*	470 *1550*	375 *1225*	415 *1350*	485 *1600*	235 *770*	270 *890*	320 *1050*	335 *1100*	370 *1225*	435 *1425*	— —	— —	— —
K2	325 *1075*	360 *1175*	425 *1400*	335 *1100*	370 *1225*	440 *1450*	205 *670*	240 *790*	290 *950*	300 *980*	335 *1100*	395 *1300*	— —	— —	— —
K3	275 *900*	305 *1000*	360 *1175*	285 *940*	315 *1025*	370 *1225*	175 *570*	200 *660*	245 *800*	255 *840*	280 *920*	335 *1100*	— —	— —	— —
K4	265 *870*	290 *950*	345 *1125*	270 *890*	300 *980*	355 *1175*	165 *540*	195 *640*	235 *770*	245 *800*	270 *890*	320 *1050*	— —	— —	— —
K5	165 *540*	185 *610*	210 *690*	170 *560*	190 *620*	215 *710*	105 *345*	120 *395*	140 *460*	155 *510*	170 *560*	195 *640*	— —	— —	— —
K6	230 *750*	255 *840*	305 *1000*	240 *790*	265 *870*	315 *1025*	150 *490*	170 *560*	205 *670*	215 *710*	235 *770*	280 *920*	— —	— —	— —
K7	215 *710*	235 *770*	270 *890*	220 *720*	245 *800*	275 *900*	135 *445*	155 *510*	180 *590*	200 *660*	220 *720*	250 *820*	— —	— —	— —
S1	— —	— —	— —	— —	— —	— —	55 *180*	60 *195*	75 *245*	45 *150*	50 *165*	65 *215*	23 *75*	26 *85*	32 *105*
S2	— —	— —	— —	— —	— —	— —	43 *140*	50 *165*	60 *195*	36 *120*	42 *140*	50 *165*	18 *60*	21 *70*	26 *85*
S3	— —	— —	— —	— —	— —	— —	38 *125*	44 *145*	55 *180*	32 *105*	36 *120*	44 *145*	16 *50*	18 *60*	22 *70*
S11	— —	— —	— —	— —	— —	— —	75 *245*	85 *280*	105 *345*	65 *215*	70 *230*	85 *280*	32 *105*	37 *120*	44 *145*
S12	— —	— —	— —	— —	— —	— —	50 *165*	60 *195*	70 *230*	43 *140*	50 *165*	60 *195*	29 *95*	34 *110*	40 *130*
S13	— —	— —	— —	— —	— —	— —	30 *100*	35 *115*	43 *140*	25 *80*	29 *95*	35 *115*	17 *55*	20 *65*	24 *80*
H5	48 *155*	55 *180*	65 *215*	— —	— —	— —	45 *150*	50 *165*	60 *195*	40 *130*	46 *150*	55 *180*	— —	— —	— —
H8	50 *165*	60 *195*	70 *230*	— —	— —	— —	48 *155*	55 *180*	65 *215*	43 *140*	50 *165*	60 *195*	— —	— —	— —
H11	60 *195*	70 *230*	85 *280*	— —	— —	— —	55 *180*	65 *215*	80 *260*	50 *165*	60 *195*	70 *230*	— —	— —	— —
H12	95 *310*	110 *360*	130 *425*	— —	— —	— —	95 *310*	110 *360*	130 *425*	75 *245*	90 *295*	105 *345*	— —	— —	— —

R217/220.21-SP14 – Metric



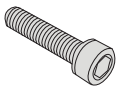


—For insert selection and cutting data recommendations, see page(s) 580–582
—For complete insert programme, see page(s) 908
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCS-FMS	TDZ		LF	RP		OAL	RMPX°	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm		mm	mm	mm	mm	mm			kg	
R217.21-2040.RE-SP14.3A	10135958	Combimaster	17,0	40,0	3	1,8	10,0	–	36,5	M20	–	45,0	4,06	1,4	72,0	2,9	11900	0,4	SPKT140523
R220.21-0050-SP14.4A	10068147	Arbor	27,1	50,0	4	1,8	10,0	22,0	41,0	–	22,0	40,0	4,02	1,4	–	3,5	10700	0,3	SPKT140523
R220.21-0050-SP14.5A	10068148	Arbor	27,1	50,0	5	1,8	10,0	22,0	41,0	–	22,0	40,0	4,04	1,4	–	1,8	10700	0,3	SPKT140523
R220.21-0052-SP14.4A	10068149	Arbor	29,1	52,0	4	1,8	10,0	22,0	49,0	–	22,0	40,0	4,02	1,4	–	3,2	10500	0,4	SPKT140523
R220.21-0052-SP14.5A	10101535	Arbor	29,1	52,0	5	1,8	10,0	22,0	49,0	–	22,0	40,0	4,02	1,4	–	3,2	10500	0,4	SPKT140523
R220.21-0063-SP14.5A	10068150	Arbor	40,1	63,0	5	1,8	10,0	27,0	49,0	–	27,0	50,0	4,01	1,4	–	2,3	9600	0,5	SPKT140523
R220.21-0063-SP14.6A	10068151	Arbor	40,1	63,0	6	1,8	10,0	27,0	49,0	–	27,0	50,0	4,01	1,4	–	2,3	9600	0,6	SPKT140523
R220.21-0066-SP14.5A	10068152	Arbor	43,0	66,0	5	1,8	10,0	27,0	61,0	–	27,0	50,0	4,02	1,4	–	2,1	9400	0,8	SPKT140523
R220.21-0066-SP14.6A	10101540	Arbor	43,0	66,0	6	1,8	10,0	27,0	61,0	–	27,0	50,0	4,02	1,4	–	2,1	9400	0,8	SPKT140523
R220.21-0080-SP14.6A	10068154	Arbor	57,0	80,0	6	1,8	10,0	27,0	61,0	–	27,0	50,0	4,01	1,41	–	1,6	8500	1,0	SPKT140523
R220.21-0080-SP14.7A	10068155	Arbor	57,0	80,0	7	1,8	10,0	27,0	61,0	–	27,0	50,0	4,01	1,4	–	1,6	8500	1,1	SPKT140523
R220.21-0084-SP14.6A	10068156	Arbor	61,0	84,0	6	1,8	10,0	32,0	79,0	–	32,0	50,0	4,01	1,4	–	1,5	8300	1,3	SPKT140523
R220.21-0100-SP14.8A	10068157	Arbor	77,0	100,0	8	1,8	10,0	32,0	79,0	–	32,0	50,0	4,01	1,4	–	1,2	7600	1,7	SPKT140523
R220.21-0125-SP14.9A	10132522	Arbor	102,0	125,0	9	1,8	10,0	40,0	90,0	–	40,0	63,0	4,0	1,4	–	0,9	6800	3,1	SPKT140523

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.21-..	–	1/4HEX-T20PX50	C45011-T20P
R220.21-0050-0052	220.17-692M	1/4HEX-T20PX50	C45011-T20P
R220.21-0063	MC6S12X40	1/4HEX-T20PX50	C45011-T20P
R220.21-0066	MC6S12X40	1/4HEX-T20PX50	C45011-T20P
R220.21-0080	MC6S12X40	1/4HEX-T20PX50	C45011-T20P
R220.21-0084-0100	MLC6S16X35	1/4HEX-T20PX50	C45011-T20P
R220.21-0084-0100	MLC6S16X35	1/4HEX-T20PX90	C45011-T20P
R220.21-0125	MC6S20X50	1/4HEX-T20PX90	C45011-T20P

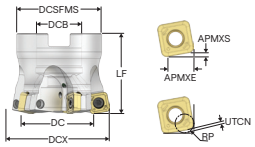
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.21-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R220.21-SP14 – inch

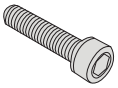




—For insert selection and cutting data recommendations, see page(s) 580–582
—For complete insert programme, see page(s) 908
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCSFMS	DCONMS	LF	RP	UTCN	RMPX°	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch	inch	inch	inch	inch			lbs	
R220.21-02.00-SP14.4A	10068158	Arbor	1.098	2.000	4	0.071	0.394	0.750	1.789	0.750	1.500	0.158	0.056	3,3	10700	0.880	SPKT140523
R220.21-02.00-SP14.5A	10068159	Arbor	1.098	2.000	5	0.071	0.394	0.750	1.789	0.750	1.500	0.158	0.056	3,3	10700	0.880	SPKT140523
R220.21-02.50-SP14.5A	10068160	Arbor	1.594	2.500	5	0.071	0.394	0.750	1.789	0.750	1.500	0.158	0.056	2,2	9600	1.100	SPKT140523
R220.21-02.50-SP14.6A	10068161	Arbor	1.594	2.500	6	0.071	0.394	0.750	1.789	0.750	1.500	0.158	0.056	2,2	9600	1.100	SPKT140523
R220.21-03.00-SP14.6A	10068162	Arbor	2.094	3.000	6	0.071	0.394	1.000	2.289	1.000	2.000	0.158	0.056	1,7	8500	1.980	SPKT140523
R220.21-03.00-SP14.7A	10068163	Arbor	2.094	3.000	7	0.071	0.394	1.000	2.289	1.000	2.000	0.158	0.056	1,7	8500	2.200	SPKT140523
R220.21-04.00-SP14.8A	10068164	Arbor	3.094	4.000	8	0.071	0.394	1.500	3.539	1.500	2.000	0.158	0.055	1,2	7600	4.190	SPKT140523

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R220.21-02.00-02.50	UC6S3/8UNFX1-1/4	1/4HEX-T20PX50	C45011-T20P
R220.21-03.00	UC6S1/2UNFX1-1/2	1/4HEX-T20PX50	C45011-T20P
R220.21-04.00	ULC6S3/4UNFX11/2	1/4HEX-T20PX90	C45011-T20P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R220.21-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R220.21-SP14 – Insert selection – mm/Inch

SMG		a_p	f_z		
			100%	70%	30%
P1	SPKT140523TN-ME10 MP3501	1,8 *0.070*	1,3 0.050	1,3 0.050	1,5 0.060
P2	SPKT140523TN-ME10 MP3501	1,8 *0.070*	1,3 0.050	1,3 0.050	1,5 0.060
P3	SPKT140523TN-ME10 MP2501	1,8 *0.070*	1,2 0.048	1,2 0.048	1,5 0.060
P4	SPKT140523TN-M14 MP2501	1,8 *0.070*	1,2 0.048	1,2 0.048	1,4 0.055
P5	SPKT140523TN-M14 MP2501	1,8 *0.070*	1,2 0.048	1,2 0.048	1,4 0.055
P6	SPKT140523TN-M14 MP2501	1,8 *0.070*	1,2 0.048	1,2 0.048	1,4 0.055
P7	SPKT140523TN-M14 MP2501	1,8 *0.070*	1,2 0.048	1,2 0.048	1,4 0.055
P8	SPKT140523TN-M14 MP2501	1,8 *0.070*	1,2 0.048	1,2 0.048	1,5 0.060
P11	SPKT140523TN-ME10 MP3501	1,8 *0.070*	1,2 0.048	1,2 0.048	1,4 0.055
P12	SPKT140523TN-M14 MP2501	1,4 *0.055*	0,80 0.032	0,80 0.032	0,95 0.038
M1	SPKT140523TN-ME10 MS2050	1,8 *0.070*	1,3 0.050	1,3 0.050	1,5 0.060
M2	SPKT140523TN-ME10 MS2050	1,8 *0.070*	1,2 0.048	1,2 0.048	1,4 0.055
M3	SPKT140523TN-ME10 MS2050	1,4 *0.055*	0,95 0.038	0,95 0.038	1,1 0.044
M4	SPKT140523TN-ME10 MP3501	1,4 *0.055*	0,80 0.032	0,80 0.032	0,95 0.038
M5	SPKT140523TN-ME10 MP3501	1,4 *0.055*	0,80 0.032	0,80 0.032	0,95 0.038
K1	SPKT140523TN-MD16 MK2050	1,8 *0.070*	1,3 0.050	1,3 0.050	1,5 0.060
K2	SPKT140523TN-MD16 MK2050	1,8 *0.070*	1,2 0.048	1,2 0.048	1,4 0.055
K3	SPKT140523TN-MD16 MK2050	1,8 *0.070*	1,2 0.048	1,2 0.048	1,4 0.055
K4	SPKT140523TN-MD16 MK2050	1,8 *0.070*	1,2 0.048	1,2 0.048	1,4 0.055
K5	SPKT140523TN-MD16 MK2050	1,8 *0.070*	1,1 0.044	1,1 0.044	1,3 0.050
K6	SPKT140523TN-MD16 MK2050	1,8 *0.070*	1,2 0.048	1,2 0.048	1,4 0.055
K7	SPKT140523TN-MD16 MK2050	1,8 *0.070*	1,1 0.044	1,1 0.044	1,3 0.050
S1	SPKT140523TN-ME10 MP3501	1,4 *0.055*	0,80 0.032	0,80 0.032	0,95 0.038
S2	SPKT140523TN-ME10 MP3501	1,4 *0.055*	0,80 0.032	0,80 0.032	0,95 0.038
S3	SPKT140523TN-ME10 MP3501	1,4 *0.055*	0,75 0.030	0,75 0.030	0,90 0.036
S11	SPKT140523TN-ME10 MS2050	1,4 *0.055*	0,95 0.038	0,95 0.038	1,1 0.044
S12	SPKT140523TN-ME10 MS2050	1,4 *0.055*	0,95 0.038	0,95 0.038	1,1 0.044
S13	SPKT140523TN-ME10 MS2050	1,4 *0.055*	0,80 0.032	0,80 0.032	0,95 0.038
H5	SPKT140523TN-MD16 MH1051	1,4 *0.055*	0,80 0.032	0,80 0.032	0,95 0.038
H8	SPKT140523TN-MD16 MH1051	1,4 *0.055*	0,60 0.024	0,60 0.024	0,70 0.028
H11	SPKT140523TN-MD16 MP1501	1,4 *0.055*	0,80 0.032	0,80 0.032	0,95 0.038
H12	SPKT140523TN-MD16 MP1501	1,4 *0.055*	0,60 0.024	0,60 0.024	0,70 0.028

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

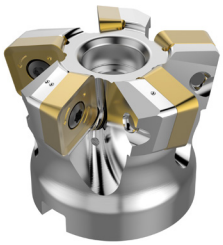
R220.21-SP14 – Cutting data v_c = (m/min)/(sf/min)

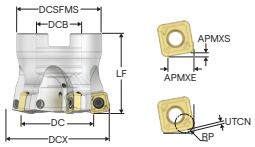
SMG	MH1051			MK2050			MP3000			MS2050			F40M			MP2051			MP2050		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	—	—	—	260	305	370	245	280	360	245	280	345	230	255	305	235	285	400	280	325	395
	—	—	—	*850*	*1000*	*1225*	*800*	*920*	*1175*	*800*	*920*	*1125*	*750*	*840*	*1000*	*770*	*940*	*1300*	*920*	*1075*	*1300*
P2	—	—	—	255	295	350	235	275	335	240	275	325	225	245	290	225	275	370	270	315	375
	—	—	—	*840*	*970*	*1150*	*770*	*900*	*1100*	*790*	*900*	*1075*	*740*	*800*	*950*	*740*	*900*	*1225*	*890*	*1025*	*1225*
P3	—	—	—	225	260	310	215	245	300	215	245	290	200	220	255	210	255	335	240	280	330
	—	—	—	*740*	*850*	*1025*	*710*	*800*	*980*	*710*	*800*	*950*	*660*	*720*	*840*	*690*	*840*	*1100*	*790*	*920*	*1075*
P4	—	—	—	195	230	270	190	220	265	185	215	255	180	205	240	185	225	295	210	245	290
	—	—	—	*640*	*750*	*890*	*620*	*720*	*870*	*610*	*710*	*840*	*590*	*670*	*790*	*610*	*740*	*970*	*690*	*800*	*950*
P5	315	365	470	190	220	265	180	210	260	180	205	250	165	185	220	180	215	295	200	235	285
	1025	*1200*	*1550*	*620*	*720*	*870*	*590*	*690*	*850*	*590*	*670*	*820*	*540*	*610*	*720*	*590*	*710*	*970*	*660*	*770*	*940*
P6	355	410	530	210	245	300	200	235	295	200	230	280	190	210	250	200	240	330	225	265	320
	1175	*1350*	*1750*	*690*	*800*	*980*	*660*	*770*	*970*	*660*	*750*	*920*	*620*	*690*	*820*	*660*	*790*	*1075*	*740*	*870*	*1050*
P7	335	390	495	200	235	280	190	220	275	190	220	265	175	195	235	190	230	315	215	250	300
	1100	*1275*	*1625*	*660*	*770*	*920*	*620*	*720*	*900*	*620*	*720*	*870*	*570*	*640*	*770*	*620*	*750*	*1025*	*710*	*820*	*980*
P8	315	365	450	190	220	260	180	210	250	180	205	240	165	185	215	180	215	280	200	235	275
	1025	*1200*	*1475*	*620*	*720*	*850*	*590*	*690*	*820*	*590*	*670*	*790*	*540*	*610*	*710*	*590*	*710*	*920*	*660*	*770*	*900*
P11	325	375	485	195	225	275	185	215	270	185	210	255	170	190	225	170	220	325	205	240	290
	1075	*1225*	*1600*	*640*	*740*	*900*	*610*	*710*	*890*	*610*	*690*	*840*	*560*	*620*	*740*	*560*	*720*	*1075*	*670*	*790*	*950*
P12	240	275	350	130	150	180	135	150	185	125	145	170	120	130	155	140	180	250	135	160	190
	790	*900*	*1150*	*425*	*490*	*590*	*445*	*490*	*610*	*410*	*475*	*560*	*395*	*425*	*510*	*460*	*590*	*820*	*445*	*520*	*620*
M1	—	—	—	—	—	—	180	215	255	185	215	255	165	195	230	185	240	340	195	225	270
	—	—	—	—	—	—	*590*	*710*	*840*	*610*	*710*	*840*	*540*	*640*	*750*	*610*	*790*	*1125*	*640*	*740*	*890*
M2	—	—	—	—	—	—	150	175	215	155	180	215	140	160	195	165	210	310	160	190	225
	—	—	—	—	—	—	*490*	*570*	*710*	*510*	*590*	*710*	*460*	*520*	*640*	*540*	*690*	*1025*	*520*	*620*	*740*
M3	—	—	—	—	—	—	120	140	175	125	145	175	110	130	160	155	195	280	130	150	185
	—	—	—	—	—	—	*395*	*460*	*570*	*410*	*475*	*570*	*360*	*425*	*520*	*510*	*640*	*920*	*425*	*490*	*610*
M4	—	—	—	—	—	—	95	110	135	95	110	135	85	100	120	125	160	225	100	115	140
	—	—	—	—	—	—	*310*	*360*	*445*	*310*	*360*	*445*	*280*	*330*	*395*	*410*	*520*	*740*	*330*	*375*	*460*
M5	—	—	—	—	—	—	80	90	110	80	95	115	70	85	100	105	130	185	85	100	120
	—	—	—	—	—	—	*260*	*295*	*360*	*260*	*310*	*375*	*230*	*280*	*330*	*345*	*425*	*610*	*280*	*330*	*395*
K1	415	485	600	275	320	380	195	225	270	—	—	—	165	190	225	—	—	—	—	—	—
	1350	*1600*	*1975*	*900*	*1050*	*1250*	*640*	*740*	*890*	—	—	—	*540*	*620*	*740*	—	—	—	—	—	—
K2	380	445	570	245	285	345	170	200	240	—	—	—	145	170	205	—	—	—	—	—	—
	1250	*1450*	*1875*	*800*	*940*	*1125*	*560*	*660*	*790*	—	—	—	*475*	*560*	*670*	—	—	—	—	—	—
K3	320	375	480	205	240	290	145	170	205	—	—	—	125	145	175	—	—	—	—	—	—
	1050	*1225*	*1575*	*670*	*790*	*950*	*475*	*560*	*670*	—	—	—	*410*	*475*	*570*	—	—	—	—	—	—
K4	310	360	460	195	230	275	140	160	195	—	—	—	115	135	165	—	—	—	—	—	—
	1025	*1175*	*1500*	*640*	*750*	*900*	*460*	*520*	*640*	—	—	—	*375*	*445*	*540*	—	—	—	—	—	—
K5	195	225	285	120	140	170	85	100	120	—	—	—	70	85	100	—	—	—	—	—	—
	640	*740*	*940*	*395*	*460*	*560*	*280*	*330*	*395*	—	—	—	*230*	*280*	*330*	—	—	—	—	—	—
K6	270	315	405	175	200	245	120	145	170	—	—	—	105	120	145	—	—	—	—	—	—
	890	*1025*	*1325*	*570*	*660*	*800*	*395*	*475*	*560*	—	—	—	*345*	*395*	*475*	—	—	—	—	—	—
K7	250	290	365	155	180	215	110	125	150	—	—	—	90	105	130	—	—	—	—	—	—
	820	*950*	*1200*	*510*	*590*	*710*	*360*	*410*	*490*	—	—	—	*295*	*345*	*425*	—	—	—	—	—	—
S1	—	—	—	—	—	—	44	50	60	45	50	65	40	47	55	49	55	70	49	55	70
	—	—	—	—	—	—	*145*	*165*	*195*	*150*	*165*	*215*	*130*	*155*	*180*	*160*	*180*	*230*	*160*	*180*	*230*
S2	—	—	—	—	—	—	36	41	50	36	42	50	33	38	46	39	45	55	40	46	55
	—	—	—	—	—	—	*120*	*135*	*165*	*120*	*140*	*165*	*110*	*125*	*150*	*130*	*150*	*180*	*130*	*150*	*180*
S3	—	—	—	—	—	—	31	37	45	32	38	45	29	34	41	34	41	49	35	41	50
	—	—	—	—	—	—	*100*	*120*	*150*	*105*	*125*	*150*	*95*	*110*	*135*	*110*	*135*	*160*	*115*	*135*	*165*
S11	—	—	—	—	—	—	60	70	90	65	75	90	55	65	80	70	80	95	70	80	100
	—	—	—	—	—	—	*195*	*230*	*295*	*215*	*245*	*295*	*180*	*215*	*260*	*230*	*260*	*310*	*230*	*260*	*330*
S12	—	—	—	—	—	—	43	50	60	44	50	60	39	45	55	47	55	65	48	55	70
	—	—	—	—	—	—	*140*	*165*	*195*	*145*	*165*	*195*	*130*	*150*	*180*	*155*	*180*	*215*	*155*	*180*	*230*
S13	—	—	—	—	—	—	25	29	35	25	29	36	23	26	32	27	32	39	28	32	39
	—	—	—	—	—	—	*80*	*95*	*115*	*80*	*95*	*120*	*75*	*85*	*105*	*90*	*105*	*130*	*90*	*105*	*130*
H5	125	140	180	—	—	—	38	44	55	—	—	—	35	40	48	—	—	—	—	—	—
	410	*460*	*590*	—	—	—	*125*	*145*	*180*	—	—	—	*115*	*130*	*155*	—	—	—	—	—	—
H8	145	165	200	—	—	—	41	48	55	—	—	—	37	43	50	—	—	—	—	—	—
	475	*540*	*660*	—	—	—	*135*	*155*	*180*	—	—	—	*120*	*140*	*165*	—	—	—	—	—	—
H11	160	180	225	—	—	—	49	55	70	—	—	—	44	50	60	95	115	165	50	60	75
	520	*590*	*740*	—	—	—	*160*	*180*	*230*	—	—	—	*145*	*165*	*195*	*310*	*375*	*540*	*165*	*195*	*245*
H12	165	190	230	85	95	115	80	90	110	—	—	—	65	80	95	100	125	165	90	100	120
	540	*620*	*750*	*280*	*310*	*375*	*260*	*295*	*360*	—	—	—	*215*	*260*	*310*	*330*	*410*	*540*	*295*	*330*	*395*

R220.21-SP14 – Cutting data v_c = (m/min)/(sf/min)

SMG	MP1501			MP2501			MS2500			MP3501			MM4500		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	375 *1225*	420 *1375*	500 *1650*	385 *1275*	430 *1400*	510 *1675*	365 *1200*	415 *1350*	495 *1625*	345 *1125*	385 *1275*	460 *1500*	210 *690*	240 *790*	300 *980*
P2	365 *1200*	410 *1350*	475 *1550*	375 *1225*	420 *1375*	485 *1600*	355 *1175*	400 *1300*	470 *1550*	335 *1100*	375 *1225*	440 *1450*	205 *670*	235 *770*	285 *940*
P3	325 *1075*	365 *1200*	415 *1350*	330 *1075*	370 *1225*	430 *1400*	315 *1025*	360 *1175*	415 *1350*	300 *980*	335 *1100*	385 *1275*	185 *610*	210 *690*	250 *820*
P4	285 *940*	320 *1050*	370 *1225*	290 *950*	325 *1075*	380 *1250*	280 *920*	315 *1025*	365 *1200*	260 *850*	295 *970*	340 *1125*	175 *570*	200 *660*	240 *790*
P5	270 *890*	305 *1000*	360 *1175*	280 *920*	315 *1025*	370 *1225*	265 *870*	300 *980*	360 *1175*	250 *820*	280 *920*	335 *1100*	155 *510*	175 *570*	215 *710*
P6	305 *1000*	340 *1125*	405 *1325*	315 *1025*	350 *1150*	415 *1350*	300 *980*	340 *1125*	400 *1300*	280 *920*	315 *1025*	375 *1225*	175 *570*	200 *660*	245 *800*
P7	290 *950*	325 *1075*	380 *1250*	295 *970*	330 *1075*	390 *1275*	280 *920*	320 *1050*	380 *1250*	265 *870*	295 *970*	355 *1175*	165 *540*	190 *620*	230 *750*
P8	270 *890*	305 *1000*	350 *1150*	280 *920*	315 *1025*	360 *1175*	265 *870*	300 *980*	350 *1150*	250 *820*	280 *920*	325 *1075*	155 *510*	175 *570*	210 *690*
P11	280 *920*	315 *1025*	370 *1225*	285 *940*	320 *1050*	380 *1250*	275 *900*	310 *1025*	370 *1225*	260 *850*	290 *950*	345 *1125*	160 *520*	185 *610*	225 *740*
P12	185 *610*	210 *690*	245 *800*	195 *640*	215 *710*	250 *820*	185 *610*	205 *670*	245 *800*	175 *570*	195 *640*	230 *750*	110 *360*	125 *410*	150 *490*
M1	— —	— —	— —	195 *640*	230 *750*	270 *890*	215 *710*	250 *820*	295 *970*	185 *610*	215 *710*	255 *840*	145 *475*	165 *540*	200 *660*
M2	— —	— —	— —	165 *540*	190 *620*	230 *750*	175 *570*	205 *670*	250 *820*	155 *510*	180 *590*	215 *710*	120 *395*	140 *460*	165 *540*
M3	— —	— —	— —	130 *425*	155 *510*	185 *610*	145 *475*	165 *540*	200 *660*	125 *410*	145 *475*	175 *570*	95 *310*	110 *360*	135 *445*
M4	— —	— —	— —	100 *330*	120 *395*	145 *475*	110 *360*	130 *425*	155 *510*	95 *310*	110 *360*	135 *445*	75 *245*	85 *280*	105 *345*
M5	— —	— —	— —	85 *280*	100 *330*	120 *395*	90 *295*	105 *345*	130 *425*	80 *260*	95 *310*	115 *375*	60 *195*	70 *230*	90 *295*
K1	365 *1200*	410 *1350*	480 *1575*	375 *1225*	420 *1375*	490 *1600*	235 *770*	275 *900*	325 *1075*	335 *1100*	380 *1250*	440 *1450*	— —	— —	— —
K2	330 *1075*	370 *1225*	435 *1425*	335 *1100*	380 *1250*	450 *1475*	210 *690*	245 *800*	295 *970*	305 *1000*	340 *1125*	405 *1325*	— —	— —	— —
K3	280 *920*	310 *1025*	370 *1225*	285 *940*	320 *1050*	380 *1250*	175 *570*	205 *670*	250 *820*	255 *840*	285 *940*	340 *1125*	— —	— —	— —
K4	265 *870*	300 *980*	350 *1150*	270 *890*	305 *1000*	360 *1175*	170 *560*	195 *640*	240 *790*	245 *800*	275 *900*	325 *1075*	— —	— —	— —
K5	165 *540*	185 *610*	215 *710*	170 *560*	190 *620*	220 *720*	105 *345*	120 *395*	145 *475*	150 *490*	170 *560*	200 *660*	— —	— —	— —
K6	235 *770*	260 *850*	310 *1025*	240 *790*	270 *890*	320 *1050*	150 *490*	175 *570*	210 *690*	215 *710*	240 *790*	285 *940*	— —	— —	— —
K7	210 *690*	235 *770*	275 *900*	215 *710*	240 *790*	285 *940*	130 *425*	155 *510*	185 *610*	195 *640*	215 *710*	255 *840*	— —	— —	— —
S1	— —	— —	— —	— —	— —	— —	55 *180*	65 *215*	75 *245*	45 *150*	50 *165*	65 *215*	23 *75*	26 *85*	32 *105*
S2	— —	— —	— —	— —	— —	— —	44 *145*	50 *165*	60 *195*	36 *120*	42 *140*	50 *165*	18 *60*	21 *70*	26 *85*
S3	— —	— —	— —	— —	— —	— —	38 *125*	45 *150*	55 *180*	32 *105*	38 *125*	45 *150*	16 *50*	19 *60*	23 *75*
S11	— —	— —	— —	— —	— —	— —	75 *245*	90 *295*	105 *345*	65 *215*	75 *245*	90 *295*	32 *105*	37 *120*	45 *150*
S12	— —	— —	— —	— —	— —	— —	50 *165*	60 *195*	75 *245*	44 *145*	50 *165*	60 *195*	29 *95*	34 *110*	42 *140*
S13	— —	— —	— —	— —	— —	— —	30 *100*	35 *115*	43 *140*	25 *80*	29 *95*	36 *120*	17 *55*	20 *65*	24 *80*
H5	49 *160*	55 *180*	70 *230*	— —	— —	— —	45 *150*	50 *165*	65 *215*	40 *130*	47 *155*	55 *180*	— —	— —	— —
H8	55 *180*	60 *195*	75 *245*	— —	— —	— —	49 *160*	55 *180*	65 *215*	44 *145*	50 *165*	60 *195*	— —	— —	— —
H11	60 *195*	70 *230*	85 *280*	— —	— —	— —	55 *180*	65 *215*	80 *260*	50 *165*	60 *195*	70 *230*	— —	— —	— —
H12	95 *310*	110 *360*	130 *425*	— —	— —	— —	95 *310*	110 *360*	135 *445*	80 *260*	90 *295*	110 *360*	— —	— —	— —

R220.21-SP18 – Metric

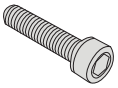
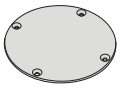




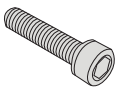
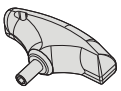
—For insert selection and cutting data recommendations, see page(s) 586-588
—For complete insert programme, see page(s) 908
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCSFMS	DCONMS	LF	RP	UTCN	RMPX°	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm	mm	mm	mm	mm			kg	
R220.21-0063-SP18.5A	10097579	Arbor	33,7	63,0	5	2,5	14,0	22,0	49,0	22,0	50,0	5,41	1,9	2,4	5800	0,6	SPKT180630
R220.21-0066-SP18.5A	10097580	Arbor	36,7	66,0	5	2,5	14,0	27,0	61,0	27,0	55,0	5,4	1,9	3,4	5700	0,8	SPKT180630
R220.21-0080-SP18.5A	10097581	Arbor	50,7	80,0	5	2,5	14,0	27,0	61,0	27,0	50,0	5,4	1,9	2,4	5100	1,0	SPKT180630
R220.21-0080-SP18.6A	10097582	Arbor	50,7	80,0	6	2,5	14,0	27,0	61,0	27,0	50,0	5,4	1,9	2,4	5100	1,0	SPKT180630
R220.21-0100-SP18.7A	10097583	Arbor	70,7	100,0	7	2,5	14,0	32,0	79,0	32,0	50,0	5,39	1,9	1,7	4500	1,6	SPKT180630
R220.21-0125-SP18.8A	10097584	Arbor	95,6	125,0	8	2,5	14,0	40,0	90,0	40,0	63,0	5,39	1,9	1,2	4000	3,1	SPKT180630
R220.21-8160-SP18.10A	10097585	Arbor	130,6	160,0	10	2,5	14,0	40,0	90,0	40,0	63,0	5,39	1,9	0,9	3600	3,9	SPKT180630

Spare Parts, included in delivery

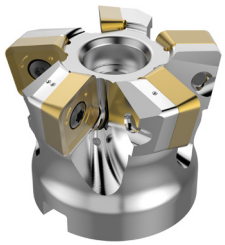
For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R220.21-0063	MLC6S10X45	1/4HEX-T20PX50	C05013-T20P	–	–
R220.21-0066	MLC6S12X50	1/4HEX-T20PX50	C05013-T20P	–	–
R220.21-0080	MC6S12X40	1/4HEX-T20PX50	C05013-T20P	–	–
R220.21-0100	MLC6S16X35	1/4HEX-T20PX90	C05013-T20P	–	–
R220.21-0125	MC6S20X50	1/4HEX-T20PX90	C05013-T20P	–	–
R220.21-8160	–	1/4HEX-T20PX90	C05013-T20P	SC160-53	MF6S4X10

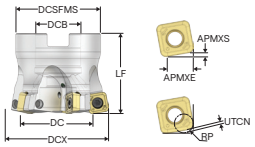
Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.21-0063-0125	1/4HEX-T-HANDLE-5.0-14.0NM	–	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.21-8160	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R220.21-SP18 – inch

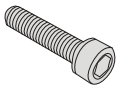




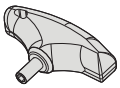
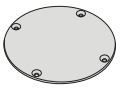
–For insert selection and cutting data recommendations, see page(s) 586–588
–For complete insert programme, see page(s) 908
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCSFMS	DCONMS	LF	RP	UTCN	RMPX°	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch	inch	inch	inch	inch			lbs	
R220.21-02.50-SP18.5A	10097586	Arbor	1.346	2.500	5	0.098	0.551	0.750	1.789	0.750	2.000	0.213	0.075	3,7	5800	1.320	SPKT180630
R220.21-03.00-SP18.5A	10128670	Arbor	1.846	3.000	5	0.098	0.551	1.000	2.289	1.000	2.000	0.213	0.075	2,6	5100	1.760	SPKT180630
R220.21-03.00-SP18.6A	10097587	Arbor	1.846	3.000	6	0.098	0.551	1.000	2.289	1.000	2.000	0.213	0.075	2,6	5100	1.980	SPKT180630
R220.21-04.00-SP18.7A	10097588	Arbor	2.846	4.000	7	0.098	0.551	1.500	3.539	1.500	2.000	0.212	0.075	1,7	4500	3.750	SPKT180630
R220.21-05.00-SP18.8A	10097589	Arbor	3.843	5.000	8	0.098	0.551	1.500	3.539	1.500	2.500	0.212	0.075	1,2	4000	6.610	SPKT180630
R220.21-06.00-SP18.10A	10097590	Arbor	4.843	6.000	10	0.098	0.551	2.000	4.909	2.000	2.500	0.212	0.075	1,0	3700	8.600	SPKT180630

Spare Parts, included in delivery

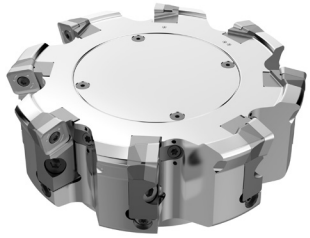
For cutter	Arbor screw	Insert key	Insert screw
			
R220.21-02.50	UC6S3/8UNFX11/2	1/4HEX-T20PX50	C05013-T20P
R220.21-03.00	UC6S1/2UNFX1-1/2	1/4HEX-T20PX50	C05013-T20P
R220.21-04.00	ULC6S3/4UNFX11/2	1/4HEX-T20PX90	C05013-T20P
R220.21-05.00	UC6S3/4UNFX2	1/4HEX-T20PX90	C05013-T20P
R220.21-06.00	–	1/4HEX-T20PX90	C05013-T20P

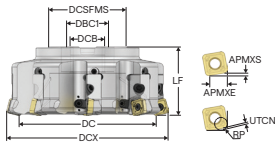
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Lid	Lid Screw	Torque key
						
R220.21-02.50-05.00	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	5.0NM	–	–	T00-20P50
R220.21-06.00	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	5.0NM	SC-160-90	MF6S4X10	T00-20P50

Torque and fixed keys, see page 944

R220.21-SP18CA – Metric

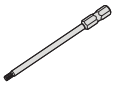
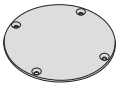




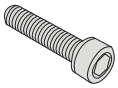
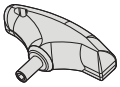
—For insert selection and cutting data recommendations, see page(s) 589–594
—For complete insert programme, see page(s) 908
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCSFMS	DCONMS	LF	RP	UTCN	RMPX°	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm	mm	mm	mm	mm			kg	
R220.21-0153-SP18HF-6CA	10135928	Arbor	123,8	153,0	6	2,9	14,0	40,0	90,0	40,0	80,0	5,79	2,1	0,8	3700	6,1	SPKT180630
R220.21-0153-SP18MF-6CA	10135931	Arbor	124,5	153,0	6	4,1	14,0	40,0	90,0	40,0	80,0	6,99	2,6	0,7	3700	6,1	SPKT180630
R220.21-8188-SP18HF-8CA	10135929	Arbor	158,8	188,0	8	2,9	14,0	40,0	90,0	40,0	80,0	5,79	2,1	0,6	3300	8,2	SPKT180630
R220.21-8188-SP18MF-8CA	10135932	Arbor	159,5	188,0	8	4,1	14,0	40,0	90,0	40,0	80,0	6,99	2,6	0,5	3300	8,2	SPKT180630
R220.21-8228-SP18HF-10CA	10135930	Arbor	198,7	228,0	10	2,9	14,0	60,0	130,0	60,0	80,0	5,79	2,1	0,5	3000	11,3	SPKT180630
R220.21-8228-SP18MF-10CA	10135933	Arbor	199,5	228,0	10	4,1	14,0	60,0	130,0	60,0	80,0	6,99	2,6	0,4	3000	12,2	SPKT180630

Spare Parts, included in delivery

For cutter	Adjustment unit	Arbor screw	Basic body	Cassette	Cassette screw	Insert key	Insert screw	Lid	Lid screw	Wedge clamp	Wedge screw
											
R220.21-0153HF	AU1114T-T15P	MC6S20X70	B-R220.21/29I-0153-6CA	SP18HF-R	FS98030	1/4HEX-T20PX90	C05013-T20P	–	–	CW0810	LD8020-T25P
R220.21-0153MF	AU1114T-T15P	MC6S20X70	B-R220.21/29I-0153-6CA	SP18MF-R	FS98030	1/4HEX-T20PX90	C05013-T20P	–	–	CW0810	LD8020-T25P
R220.21-8188HF	AU1114T-T15P	–	B-R220.21/29I-8188-8CA	SP18HF-R	FS98030	1/4HEX-T20PX90	C05013-T20P	SC-160-90	MF6S4X10	CW0810	LD8020-T25P
R220.21-8188MF	AU1114T-T15P	–	B-R220.21/29I-8188-8CA	SP18MF-R	FS98030	1/4HEX-T20PX90	C05013-T20P	SC-160-90	MF6S4X10	CW0810	LD8020-T25P
R220.21-8228HF	AU1114T-T15P	–	B-R220.21/29I-8228-10CA	SP18HF-R	FS98030	1/4HEX-T20PX90	C05013-T20P	SC-200-90	MF6S4X10	CW0810	LD8020-T25P
R220.21-8228MF	AU1114T-T15P	–	B-R220.21/29I-8228-10CA	SP18MF-R	FS98030	1/4HEX-T20PX90	C05013-T20P	SC-200-90	MF6S4X10	CW0810	LD8020-T25P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Setting key	Wedge key
					
R220.21-0153	1/4HEX-T-HANDLE-5.0-14.0NM	–	1/4HEX-T-HANDLE	1/4HEX-T15PX50	1/4HEX-T25PX50
R220.21-8188	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	1/4HEX-T-HANDLE	1/4HEX-T15PX50	1/4HEX-T25PX50
R220.21-8228	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	1/4HEX-T-HANDLE	1/4HEX-T15PX50	1/4HEX-T25PX50

Torque and fixed keys, see page 944

R220.21-SP18 – Insert selection – mm/Inch

SMG		a_p	f_z		
			100%	70%	30%
P1	SPKT180630TN-ME10 MP3501	2,5 *0.10*	1,2 0.048	1,2 0.048	1,4 0.055
P2	SPKT180630TN-ME10 MP3501	2,5 *0.10*	1,2 0.048	1,2 0.048	1,4 0.055
P3	SPKT180630TN-ME10 MP2501	2,5 *0.10*	1,2 0.048	1,2 0.048	1,4 0.055
P4	SPKT180630TN-M14 MP2501	2,5 *0.10*	1,1 0.044	1,1 0.044	1,3 0.050
P5	SPKT180630TN-M14 MP2501	2,5 *0.10*	1,1 0.044	1,1 0.044	1,3 0.050
P6	SPKT180630TN-M14 MP2501	2,5 *0.10*	1,1 0.044	1,1 0.044	1,3 0.050
P7	SPKT180630TN-M14 MP2501	2,5 *0.10*	1,1 0.044	1,1 0.044	1,3 0.050
P8	SPKT180630TN-M14 MP2501	2,5 *0.10*	1,2 0.048	1,2 0.048	1,4 0.055
P11	SPKT180630TN-ME10 MP3501	2,5 *0.10*	1,1 0.044	1,1 0.044	1,3 0.050
P12	SPKT180630TN-M14 MP2501	2,0 *0.075*	0,75 0.030	0,75 0.030	0,85 0.034
M1	SPKT180630TN-ME10 MS2050	2,5 *0.10*	1,2 0.048	1,2 0.048	1,4 0.055
M2	SPKT180630TN-ME10 MS2050	2,5 *0.10*	1,1 0.044	1,1 0.044	1,3 0.050
M3	SPKT180630TN-ME10 MS2050	2,0 *0.075*	0,90 0.036	0,90 0.036	1,0 0.040
M4	SPKT180630TN-ME10 MP3501	2,0 *0.075*	0,80 0.032	0,80 0.032	0,90 0.036
M5	SPKT180630TN-ME10 MP3501	2,0 *0.075*	0,80 0.032	0,80 0.032	0,90 0.036
K1	SPKT180630TN-MD16 MK2050	2,5 *0.10*	1,2 0.048	1,2 0.048	1,4 0.055
K2	SPKT180630TN-MD16 MK2050	2,5 *0.10*	1,1 0.044	1,1 0.044	1,3 0.050
K3	SPKT180630TN-MD16 MK2050	2,5 *0.10*	1,1 0.044	1,1 0.044	1,3 0.050
K4	SPKT180630TN-MD16 MK2050	2,5 *0.10*	1,1 0.044	1,1 0.044	1,3 0.050
K5	SPKT180630TN-MD16 MK2050	2,5 *0.10*	1,0 0.040	1,0 0.040	1,2 0.048
K6	SPKT180630TN-MD16 MK2050	2,5 *0.10*	1,1 0.044	1,1 0.044	1,3 0.050
K7	SPKT180630TN-MD16 MK2050	2,5 *0.10*	1,0 0.040	1,0 0.040	1,2 0.048
S1	SPKT180630TN-ME10 MP3501	2,0 *0.075*	0,80 0.032	0,80 0.032	0,90 0.036
S2	SPKT180630TN-ME10 MP3501	2,0 *0.075*	0,80 0.032	0,80 0.032	0,90 0.036
S3	SPKT180630TN-ME10 MP3501	2,0 *0.075*	0,70 0.028	0,70 0.028	0,85 0.034
S11	SPKT180630TN-ME10 MS2050	2,0 *0.075*	0,90 0.036	0,90 0.036	1,0 0.040
S12	SPKT180630TN-ME10 MS2050	2,0 *0.075*	0,90 0.036	0,90 0.036	1,0 0.040
S13	SPKT180630TN-ME10 MS2050	2,0 *0.075*	0,80 0.032	0,80 0.032	0,90 0.036
H5	SPKT180630TN-MD16 MH1051	2,0 *0.075*	0,75 0.030	0,75 0.030	0,85 0.034
H8	SPKT180630TN-MD16 MH1051	2,0 *0.075*	0,60 0.024	0,60 0.024	0,65 0.026
H11	SPKT180630TN-MD16 MP1501	2,0 *0.075*	0,75 0.030	0,75 0.030	0,85 0.034
H12	SPKT180630TN-MD16 MP1501	2,0 *0.075*	0,60 0.024	0,60 0.024	0,65 0.026

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R220.21-SP18 – Cutting data v_c = (m/min)/(sf/min)

SMG	MH1051			MK2050			MP3000			MS2050			F40M			MP2051		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	—	—	—	250	285	345	230	260	330	230	255	315	215	235	280	220	255	360
	—	—	—	*820*	*940*	*1125*	*750*	*850*	*1075*	*750*	*840*	*1025*	*710*	*770*	*920*	*720*	*840*	*1175*
P2	—	—	—	240	275	335	225	255	320	220	250	305	210	230	275	215	250	350
	—	—	—	*790*	*900*	*1100*	*740*	*840*	*1050*	*720*	*820*	*1000*	*690*	*750*	*900*	*710*	*820*	*1150*
P3	—	—	—	215	245	295	205	230	285	200	225	270	190	205	245	200	235	320
	—	—	—	*710*	*800*	*970*	*670*	*750*	*940*	*660*	*740*	*890*	*620*	*670*	*800*	*660*	*770*	*1050*
P4	—	—	—	190	215	260	180	200	255	175	195	240	175	190	230	175	205	280
	—	—	—	*620*	*710*	*850*	*590*	*660*	*840*	*570*	*640*	*790*	*570*	*620*	*750*	*570*	*670*	*920*
P5	300	340	430	180	205	245	170	195	240	165	190	225	160	170	205	170	195	270
	980	*1125*	*1400*	*590*	*670*	*800*	*560*	*640*	*790*	*540*	*620*	*740*	*520*	*560*	*670*	*560*	*640*	*890*
P6	335	380	485	200	230	280	190	215	270	190	210	255	180	195	230	190	220	300
	1100	*1250*	*1600*	*660*	*750*	*920*	*620*	*710*	*890*	*620*	*690*	*840*	*590*	*640*	*750*	*620*	*720*	*980*
P7	320	360	455	190	220	260	180	205	255	175	200	240	170	185	215	180	210	285
	1050	*1175*	*1500*	*620*	*720*	*850*	*590*	*670*	*840*	*570*	*660*	*790*	*560*	*610*	*710*	*590*	*690*	*940*
P8	300	340	430	180	205	245	170	195	240	165	190	225	160	170	205	170	195	270
	980	*1125*	*1400*	*590*	*670*	*800*	*560*	*640*	*790*	*540*	*620*	*740*	*520*	*560*	*670*	*560*	*640*	*890*
P11	310	350	445	185	210	255	175	200	250	170	195	235	165	175	210	160	200	295
	1025	*1150*	*1450*	*610*	*690*	*840*	*570*	*660*	*820*	*560*	*640*	*770*	*540*	*570*	*690*	*520*	*660*	*970*
P12	230	255	330	120	140	170	125	140	180	120	130	160	115	120	145	135	160	235
	750	*840*	*1075*	*395*	*460*	*560*	*410*	*460*	*590*	*395*	*425*	*520*	*375*	*395*	*475*	*445*	*520*	*770*
M1	—	—	—	—	—	—	175	200	240	175	200	240	155	180	215	175	215	320
	—	—	—	—	—	—	*570*	*660*	*790*	*570*	*660*	*790*	*510*	*590*	*710*	*570*	*710*	*1050*
M2	—	—	—	—	—	—	145	165	200	145	165	200	130	150	180	155	190	280
	—	—	—	—	—	—	*475*	*540*	*660*	*475*	*540*	*660*	*425*	*490*	*590*	*510*	*620*	*920*
M3	—	—	—	—	—	—	115	130	165	115	130	165	105	120	150	140	170	260
	—	—	—	—	—	—	*375*	*425*	*540*	*375*	*425*	*540*	*345*	*395*	*490*	*460*	*560*	*850*
M4	—	—	—	—	—	—	90	105	125	90	105	125	85	95	115	120	150	210
	—	—	—	—	—	—	*295*	*345*	*410*	*295*	*345*	*410*	*280*	*310*	*375*	*395*	*490*	*690*
M5	—	—	—	—	—	—	75	85	105	75	85	105	70	80	95	100	125	175
	—	—	—	—	—	—	*245*	*280*	*345*	*245*	*280*	*345*	*230*	*260*	*310*	*330*	*410*	*570*
K1	395	445	580	260	300	360	185	210	255	—	—	—	155	175	215	—	—	—
	1300	*1450*	*1900*	*850*	*980*	*1175*	*610*	*690*	*840*	—	—	—	*510*	*570*	*710*	—	—	—
K2	365	410	520	230	265	320	165	190	225	—	—	—	140	160	190	—	—	—
	1200	*1350*	*1700*	*750*	*870*	*1050*	*540*	*620*	*740*	—	—	—	*460*	*520*	*620*	—	—	—
K3	305	345	440	195	225	270	140	160	190	—	—	—	115	135	160	—	—	—
	1000	*1125*	*1450*	*640*	*740*	*890*	*460*	*520*	*620*	—	—	—	*375*	*445*	*520*	—	—	—
K4	295	330	420	190	215	260	135	150	180	—	—	—	110	130	155	—	—	—
	970	*1075*	*1375*	*620*	*710*	*850*	*445*	*490*	*590*	—	—	—	*360*	*425*	*510*	—	—	—
K5	185	210	275	115	130	160	80	95	115	—	—	—	70	80	95	—	—	—
	610	*690*	*900*	*375*	*425*	*520*	*260*	*310*	*375*	—	—	—	*230*	*260*	*310*	—	—	—
K6	260	290	370	165	190	230	115	135	160	—	—	—	100	110	135	—	—	—
	850	*950*	*1225*	*540*	*620*	*750*	*375*	*445*	*520*	—	—	—	*330*	*360*	*445*	—	—	—
K7	240	270	355	150	170	205	105	120	145	—	—	—	85	100	125	—	—	—
	790	*890*	*1175*	*490*	*560*	*670*	*345*	*395*	*475*	—	—	—	*280*	*330*	*410*	—	—	—
S1	—	—	—	—	—	—	43	49	60	43	49	60	39	44	55	47	55	65
	—	—	—	—	—	—	*140*	*160*	*195*	*140*	*160*	*195*	*130*	*145*	*180*	*155*	*180*	*215*
S2	—	—	—	—	—	—	35	39	48	34	39	48	31	36	43	38	43	50
	—	—	—	—	—	—	*115*	*130*	*155*	*110*	*130*	*155*	*100*	*120*	*140*	*125*	*140*	*165*
S3	—	—	—	—	—	—	30	35	42	30	34	42	28	31	38	33	38	46
	—	—	—	—	—	—	*100*	*115*	*140*	*100*	*110*	*140*	*90*	*100*	*125*	*110*	*125*	*150*
S11	—	—	—	—	—	—	60	65	85	60	65	85	55	60	75	65	75	90
	—	—	—	—	—	—	*195*	*215*	*280*	*195*	*215*	*280*	*180*	*195*	*245*	*215*	*245*	*295*
S12	—	—	—	—	—	—	41	46	55	40	46	55	37	42	50	44	50	65
	—	—	—	—	—	—	*135*	*150*	*180*	*130*	*150*	*180*	*120*	*140*	*165*	*145*	*165*	*215*
S13	—	—	—	—	—	—	24	27	33	24	27	33	22	25	30	26	30	36
	—	—	—	—	—	—	*80*	*90*	*110*	*80*	*90*	*110*	*70*	*80*	*100*	*85*	*100*	*120*
H5	115	130	170	—	—	—	36	41	50	—	—	—	33	37	46	—	—	—
	375	*425*	*560*	—	—	—	*120*	*135*	*165*	—	—	—	*110*	*120*	*150*	—	—	—
H8	135	155	190	—	—	—	40	45	55	—	—	—	36	41	49	—	—	—
	445	*510*	*620*	—	—	—	*130*	*150*	*180*	—	—	—	*120*	*135*	*160*	—	—	—
H11	150	165	215	—	—	—	46	55	65	—	—	—	42	47	60	85	105	155
	490	*540*	*710*	—	—	—	*150*	*180*	*215*	—	—	—	*140*	*155*	*195*	*280*	*345*	*510*
H12	160	180	220	80	90	110	75	85	105	—	—	—	65	75	90	95	115	160
	520	*590*	*720*	*260*	*295*	*360*	*245*	*280*	*345*	—	—	—	*215*	*245*	*295*	*310*	*375*	*520*

R220.21-SP18 – Cutting data v_c = (m/min)/(sf/min)

SMG	MP2050			MP1501			MP2501			MS2500			MP3501		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	260 *850*	295 *970*	360 *1175*	355 *1175*	390 *1275*	465 *1525*	360 *1175*	400 *1300*	475 *1550*	345 *1125*	385 *1275*	460 *1500*	325 *1075*	360 *1175*	430 *1400*
P2	255 *840*	290 *950*	350 *1150*	345 *1125*	380 *1250*	450 *1475*	350 *1150*	385 *1275*	460 *1500*	335 *1100*	375 *1225*	445 *1450*	315 *1025*	350 *1150*	415 *1350*
P3	225 *740*	255 *840*	310 *1025*	310 *1025*	340 *1125*	400 *1300*	315 *1025*	345 *1125*	410 *1350*	300 *980*	335 *1100*	395 *1300*	285 *940*	310 *1025*	370 *1225*
P4	195 *640*	225 *740*	270 *890*	270 *890*	300 *980*	350 *1150*	275 *900*	305 *1000*	360 *1175*	265 *870*	295 *970*	345 *1125*	250 *820*	275 *900*	325 *1075*
P5	190 *620*	215 *710*	260 *850*	260 *850*	285 *940*	335 *1100*	265 *870*	290 *950*	345 *1125*	255 *840*	280 *920*	330 *1075*	240 *790*	260 *850*	310 *1025*
P6	210 *690*	240 *790*	290 *950*	290 *950*	320 *1050*	375 *1225*	295 *970*	325 *1075*	385 *1275*	285 *940*	315 *1025*	370 *1225*	270 *890*	295 *970*	350 *1150*
P7	200 *660*	230 *750*	275 *900*	275 *900*	305 *1000*	355 *1175*	280 *920*	310 *1025*	365 *1200*	270 *890*	295 *970*	350 *1150*	255 *840*	280 *920*	330 *1075*
P8	190 *620*	215 *710*	260 *850*	260 *850*	285 *940*	335 *1100*	265 *870*	290 *950*	345 *1125*	255 *840*	280 *920*	330 *1075*	240 *790*	260 *850*	310 *1025*
P11	195 *640*	220 *720*	265 *870*	265 *870*	295 *970*	345 *1125*	270 *890*	300 *980*	355 *1175*	260 *850*	290 *950*	340 *1125*	245 *800*	270 *890*	320 *1050*
P12	125 *410*	145 *475*	180 *590*	180 *590*	195 *640*	230 *750*	185 *610*	200 *660*	240 *790*	175 *570*	190 *620*	230 *750*	165 *540*	180 *590*	220 *720*
M1	180 *590*	205 *670*	250 *820*	— —	— —	— —	185 *610*	210 *690*	255 *840*	200 *660*	230 *750*	280 *920*	175 *570*	200 *660*	245 *800*
M2	150 *490*	170 *560*	205 *670*	— —	— —	— —	155 *510*	175 *570*	210 *690*	165 *540*	190 *620*	230 *750*	145 *475*	170 *560*	200 *660*
M3	120 *395*	135 *445*	170 *560*	— —	— —	— —	125 *410*	140 *460*	175 *570*	135 *445*	155 *510*	190 *620*	120 *395*	135 *445*	165 *540*
M4	95 *310*	110 *360*	130 *425*	— —	— —	— —	100 *330*	110 *360*	135 *445*	105 *345*	120 *395*	145 *475*	95 *310*	105 *345*	130 *425*
M5	80 *260*	90 *295*	110 *360*	— —	— —	— —	80 *260*	95 *310*	115 *375*	90 *295*	100 *330*	125 *410*	80 *260*	90 *295*	105 *345*
K1	— —	— —	— —	350 *1150*	385 *1275*	455 *1500*	355 *1175*	390 *1275*	465 *1525*	225 *740*	255 *840*	310 *1025*	320 *1050*	350 *1150*	420 *1375*
K2	— —	— —	— —	315 *1025*	345 *1125*	405 *1325*	320 *1050*	350 *1150*	415 *1350*	200 *660*	225 *740*	275 *900*	290 *950*	315 *1025*	375 *1225*
K3	— —	— —	— —	265 *870*	290 *950*	345 *1125*	270 *890*	295 *970*	350 *1150*	170 *560*	190 *620*	230 *750*	245 *800*	270 *890*	320 *1050*
K4	— —	— —	— —	255 *840*	280 *920*	330 *1075*	260 *850*	285 *940*	335 *1100*	160 *520*	185 *610*	220 *720*	235 *770*	255 *840*	305 *1000*
K5	— —	— —	— —	155 *510*	170 *560*	205 *670*	160 *520*	175 *570*	210 *690*	100 *330*	115 *375*	140 *460*	145 *475*	160 *520*	195 *640*
K6	— —	— —	— —	225 *740*	245 *800*	290 *950*	225 *740*	250 *820*	295 *970*	140 *460*	160 *520*	195 *640*	205 *670*	225 *740*	270 *890*
K7	— —	— —	— —	200 *660*	220 *720*	265 *870*	205 *670*	225 *740*	270 *890*	125 *410*	145 *475*	175 *570*	185 *610*	205 *670*	245 *800*
S1	47 *155*	55 *180*	65 *215*	— —	— —	— —	— —	— —	— —	50 *165*	60 *195*	70 *230*	44 *145*	50 *165*	60 *195*
S2	38 *125*	43 *140*	50 *165*	— —	— —	— —	— —	— —	— —	42 *140*	48 *155*	60 *195*	35 *115*	40 *130*	48 *155*
S3	33 *110*	38 *125*	46 *150*	— —	— —	— —	— —	— —	— —	37 *120*	42 *140*	50 *165*	31 *100*	35 *115*	42 *140*
S11	65 *215*	75 *245*	90 *295*	— —	— —	— —	— —	— —	— —	70 *230*	80 *260*	100 *330*	60 *195*	70 *230*	85 *280*
S12	44 *145*	50 *165*	65 *215*	— —	— —	— —	— —	— —	— —	49 *160*	55 *180*	70 *230*	41 *135*	47 *155*	60 *195*
S13	26 *85*	30 *100*	36 *120*	— —	— —	— —	— —	— —	— —	29 *95*	33 *110*	40 *130*	25 *80*	28 *90*	34 *110*
H5	— —	— —	— —	46 *150*	55 *180*	65 *215*	— —	— —	— —	42 *140*	48 *155*	60 *195*	38 *125*	44 *145*	55 *180*
H8	— —	— —	— —	50 *165*	60 *195*	70 *230*	— —	— —	— —	46 *150*	55 *180*	65 *215*	42 *140*	48 *155*	60 *195*
H11	49 *160*	55 *180*	70 *230*	60 *195*	65 *215*	85 *280*	— —	— —	— —	55 *180*	60 *195*	75 *245*	49 *160*	55 *180*	70 *230*
H12	85 *280*	95 *310*	115 *375*	90 *295*	105 *345*	125 *410*	— —	— —	— —	90 *295*	105 *345*	125 *410*	75 *245*	85 *280*	105 *345*

R220.21-SP18HF-CA – Insert selection – Metric/ Inch

SMG		a_p	f_z		
			100%	70%	30%
P1	SPKT180630TN-ME10 MP3501	3,0 *0.11*	1,0 0.040	1,0 0.040	1,1 0.044
P2	SPKT180630TN-ME10 MP3501	3,0 *0.11*	1,0 0.040	1,0 0.040	1,1 0.044
P3	SPKT180630TN-ME10 MP2501	3,0 *0.11*	0,95 0.038	0,95 0.038	1,1 0.044
P4	SPKT180630TN-M14 MP2501	3,0 *0.11*	0,95 0.038	0,95 0.038	1,1 0.044
P5	SPKT180630TN-M14 MP2501	3,0 *0.11*	0,95 0.038	0,95 0.038	1,0 0.040
P6	SPKT180630TN-M14 MP2501	3,0 *0.11*	0,90 0.036	0,90 0.036	1,0 0.040
P7	SPKT180630TN-M14 MP2501	3,0 *0.11*	0,90 0.036	0,90 0.036	1,0 0.040
P8	SPKT180630TN-M14 MP2501	3,0 *0.11*	0,95 0.038	0,95 0.038	1,1 0.044
P11	SPKT180630TN-ME10 MP3501	3,0 *0.11*	0,90 0.036	0,90 0.036	1,0 0.040
P12	SPKT180630TN-M14 MP2501	2,5 *0.090*	0,65 0.026	0,65 0.026	0,70 0.028
M1	SPKT180630TN-ME10 MS2050	3,0 *0.11*	1,0 0.040	1,0 0.040	1,1 0.044
M2	SPKT180630TN-ME10 MS2050	3,0 *0.11*	0,95 0.038	0,95 0.038	1,0 0.040
M3	SPKT180630TN-ME10 MS2050	2,5 *0.090*	0,75 0.030	0,75 0.030	0,85 0.034
M4	SPKT180630TN-ME10 MP3501	2,5 *0.090*	0,65 0.026	0,65 0.026	0,70 0.028
M5	SPKT180630TN-ME10 MP3501	2,5 *0.090*	0,65 0.026	0,65 0.026	0,70 0.028
K1	SPKT180630TN-MD16 MK2050	3,0 *0.11*	1,0 0.040	1,0 0.040	1,1 0.044
K2	SPKT180630TN-MD16 MK2050	3,0 *0.11*	0,95 0.038	0,95 0.038	1,0 0.040
K3	SPKT180630TN-MD16 MK2050	3,0 *0.11*	0,95 0.038	0,95 0.038	1,0 0.040
K4	SPKT180630TN-MD16 MK2050	3,0 *0.11*	0,95 0.038	0,95 0.038	1,0 0.040
K5	SPKT180630TN-MD16 MK2050	3,0 *0.11*	0,85 0.034	0,85 0.034	0,95 0.038
K6	SPKT180630TN-MD16 MK2050	3,0 *0.11*	0,95 0.038	0,95 0.038	1,0 0.040
K7	SPKT180630TN-MD16 MK2050	3,0 *0.11*	0,85 0.034	0,85 0.034	0,95 0.038
S1	SPKT180630TN-ME10 MP3501	2,5 *0.090*	0,65 0.026	0,65 0.026	0,70 0.028
S2	SPKT180630TN-ME10 MP3501	2,5 *0.090*	0,65 0.026	0,65 0.026	0,70 0.028
S3	SPKT180630TN-ME10 MP3501	2,5 *0.090*	0,60 0.024	0,60 0.024	0,65 0.026
S11	SPKT180630TN-ME10 MS2050	2,5 *0.090*	0,75 0.030	0,75 0.030	0,85 0.034
S12	SPKT180630TN-ME10 MS2050	2,5 *0.090*	0,75 0.030	0,75 0.030	0,85 0.034
S13	SPKT180630TN-ME10 MS2050	2,5 *0.090*	0,65 0.026	0,65 0.026	0,70 0.028
H5	SPKT180630TN-MD16 MH1051	2,5 *0.090*	0,65 0.026	0,65 0.026	0,70 0.028
H8	SPKT180630TN-MD16 MH1051	2,5 *0.090*	0,48 0.019	0,48 0.019	0,55 0.022
H11	SPKT180630TN-MD16 MP1501	2,5 *0.090*	0,65 0.026	0,65 0.026	0,70 0.028
H12	SPKT180630TN-MD16 MP1501	2,5 *0.090*	0,48 0.019	0,48 0.019	0,55 0.022

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R220.21-SP18HF-CA – Cutting data v_c = (m/min)/(sf/min)

SMG	MH1051			MK2050			MP3000			MS2050			F40M			MP2051		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	—	—	—	230	255	315	215	235	305	215	235	295	200	210	260	210	225	330
	—	—	—	*750*	*840*	*1025*	*710*	*770*	*1000*	*710*	*770*	*970*	*660*	*690*	*850*	*690*	*740*	*1075*
P2	—	—	—	225	250	295	210	225	280	210	230	275	195	205	240	200	220	300
	—	—	—	*740*	*820*	*970*	*690*	*740*	*920*	*690*	*750*	*900*	*640*	*670*	*790*	*660*	*720*	*980*
P3	—	—	—	195	215	265	180	195	255	180	195	245	170	175	215	175	190	280
	—	—	—	*640*	*710*	*870*	*590*	*640*	*840*	*590*	*640*	*800*	*560*	*570*	*710*	*570*	*620*	*920*
P4	—	—	—	175	190	230	165	175	225	165	180	215	160	170	205	160	175	245
	—	—	—	*570*	*620*	*750*	*540*	*570*	*740*	*540*	*590*	*710*	*520*	*560*	*670*	*520*	*570*	*800*
P5	275	295	380	165	185	220	155	170	215	155	170	205	145	155	180	155	170	235
	900	*970*	*1250*	*540*	*610*	*720*	*510*	*560*	*710*	*510*	*560*	*670*	*475*	*510*	*590*	*510*	*560*	*770*
P6	310	335	455	185	205	255	175	190	250	175	190	240	165	170	215	175	190	280
	1025	*1100*	*1500*	*610*	*670*	*840*	*570*	*620*	*820*	*570*	*620*	*790*	*540*	*560*	*710*	*570*	*620*	*920*
P7	290	315	430	175	195	240	165	180	240	165	180	225	155	160	200	165	180	265
	950	*1025*	*1400*	*570*	*640*	*790*	*540*	*590*	*790*	*540*	*590*	*740*	*510*	*520*	*660*	*540*	*590*	*870*
P8	265	285	380	160	180	220	150	165	215	155	165	205	140	150	180	145	160	235
	870	*940*	*1250*	*520*	*590*	*720*	*490*	*540*	*710*	*510*	*540*	*670*	*460*	*490*	*590*	*475*	*520*	*770*
P11	285	305	415	170	190	235	160	175	230	160	175	220	150	155	195	150	170	275
	940	*1000*	*1350*	*560*	*620*	*770*	*520*	*570*	*750*	*520*	*570*	*720*	*490*	*510*	*640*	*490*	*560*	*900*
P12	210	230	295	115	125	155	115	125	160	110	120	150	105	110	130	125	140	210
	690	*750*	*970*	*375*	*410*	*510*	*375*	*410*	*520*	*360*	*395*	*490*	*345*	*360*	*425*	*410*	*460*	*690*
M1	—	—	—	—	—	—	160	180	215	165	180	215	145	160	195	165	190	275
	—	—	—	—	—	—	*520*	*590*	*710*	*540*	*590*	*710*	*475*	*520*	*640*	*540*	*620*	*900*
M2	—	—	—	—	—	—	135	145	175	135	150	180	120	135	160	140	160	240
	—	—	—	—	—	—	*445*	*475*	*570*	*445*	*490*	*590*	*395*	*445*	*520*	*460*	*520*	*790*
M3	—	—	—	—	—	—	110	120	145	110	120	150	100	110	130	135	155	225
	—	—	—	—	—	—	*360*	*395*	*475*	*360*	*395*	*490*	*330*	*360*	*425*	*445*	*510*	*740*
M4	—	—	—	—	—	—	85	95	115	85	95	115	75	85	105	115	130	185
	—	—	—	—	—	—	*280*	*310*	*375*	*280*	*310*	*375*	*245*	*280*	*345*	*375*	*425*	*610*
M5	—	—	—	—	—	—	70	80	95	70	80	95	65	70	85	95	110	155
	—	—	—	—	—	—	*230*	*260*	*310*	*230*	*260*	*310*	*215*	*230*	*280*	*310*	*360*	*510*
K1	370	400	500	240	270	320	170	190	225	—	—	—	145	160	190	—	—	—
	1225	*1300*	*1650*	*790*	*890*	*1050*	*560*	*620*	*740*	—	—	—	*475*	*520*	*620*	—	—	—
K2	335	360	460	215	235	285	150	165	200	—	—	—	125	140	170	—	—	—
	1100	*1175*	*1500*	*710*	*770*	*940*	*490*	*540*	*660*	—	—	—	*410*	*460*	*560*	—	—	—
K3	280	305	390	180	200	240	130	140	170	—	—	—	105	120	145	—	—	—
	920	*1000*	*1275*	*590*	*660*	*790*	*425*	*460*	*560*	—	—	—	*345*	*395*	*475*	—	—	—
K4	270	290	370	175	190	230	120	135	165	—	—	—	100	115	135	—	—	—
	890	*950*	*1225*	*570*	*620*	*750*	*395*	*445*	*540*	—	—	—	*330*	*375*	*445*	—	—	—
K5	170	185	240	105	120	145	75	85	100	—	—	—	65	70	85	—	—	—
	560	*610*	*790*	*345*	*395*	*475*	*245*	*280*	*330*	—	—	—	*215*	*230*	*280*	—	—	—
K6	235	255	330	150	170	205	105	120	145	—	—	—	90	100	120	—	—	—
	770	*840*	*1075*	*490*	*560*	*670*	*345*	*395*	*475*	—	—	—	*295*	*330*	*395*	—	—	—
K7	220	240	310	135	150	185	95	105	130	—	—	—	80	90	110	—	—	—
	720	*790*	*1025*	*445*	*490*	*610*	*310*	*345*	*425*	—	—	—	*260*	*295*	*360*	—	—	—
S1	—	—	—	—	—	—	40	44	55	40	45	55	36	40	48	43	48	60
	—	—	—	—	—	—	*130*	*145*	*180*	*130*	*150*	*180*	*120*	*130*	*155*	*140*	*155*	*195*
S2	—	—	—	—	—	—	32	35	43	33	36	43	29	32	39	35	39	47
	—	—	—	—	—	—	*105*	*115*	*140*	*110*	*120*	*140*	*95*	*105*	*130*	*115*	*130*	*155*
S3	—	—	—	—	—	—	28	31	38	29	32	38	26	28	34	31	34	41
	—	—	—	—	—	—	*90*	*100*	*125*	*95*	*105*	*125*	*85*	*90*	*110*	*100*	*110*	*135*
S11	—	—	—	—	—	—	55	60	75	55	60	75	50	55	65	60	65	80
	—	—	—	—	—	—	*180*	*195*	*245*	*180*	*195*	*245*	*165*	*180*	*215*	*195*	*215*	*260*
S12	—	—	—	—	—	—	38	42	50	39	43	50	34	38	46	42	46	55
	—	—	—	—	—	—	*125*	*140*	*165*	*130*	*140*	*165*	*110*	*125*	*150*	*140*	*150*	*180*
S13	—	—	—	—	—	—	22	25	30	23	25	30	20	22	27	24	27	33
	—	—	—	—	—	—	*70*	*80*	*100*	*75*	*80*	*100*	*65*	*70*	*90*	*80*	*90*	*110*
H5	110	115	150	—	—	—	34	37	46	—	—	—	30	33	41	—	—	—
	360	*375*	*490*	—	—	—	*110*	*120*	*150*	—	—	—	*100*	*110*	*135*	—	—	—
H8	125	135	170	—	—	—	36	40	49	—	—	—	33	36	44	—	—	—
	410	*445*	*560*	—	—	—	*120*	*130*	*160*	—	—	—	*110*	*120*	*145*	—	—	—
H11	140	150	195	—	—	—	43	47	60	—	—	—	38	43	50	80	90	135
	460	*490*	*640*	—	—	—	*140*	*155*	*195*	—	—	—	*125*	*140*	*165*	*260*	*295*	*445*
H12	145	155	195	70	80	100	70	75	95	—	—	—	60	65	80	85	100	140
	475	*510*	*640*	*230*	*260*	*330*	*230*	*245*	*310*	—	—	—	*195*	*215*	*260*	*280*	*330*	*460*

R220.21-SP18HF-CA – Cutting data v_c = (m/min)/(sf/min)

SMG	MP2050			MP1501			MP2501			MS2500			MP3501		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	240 *790*	265 *870*	330 *1075*	330 *1075*	355 *1175*	425 *1400*	335 *1100*	360 *1175*	435 *1425*	320 *1050*	345 *1125*	420 *1375*	305 *1000*	325 *1075*	395 *1300*
P2	235 *770*	260 *850*	310 *1025*	325 *1075*	345 *1125*	400 *1300*	330 *1075*	350 *1150*	410 *1350*	315 *1025*	335 *1100*	395 *1300*	295 *970*	315 *1025*	370 *1225*
P3	200 *660*	225 *740*	275 *900*	280 *920*	295 *970*	360 *1175*	280 *920*	300 *980*	365 *1200*	270 *890*	290 *950*	355 *1175*	255 *840*	270 *890*	330 *1075*
P4	180 *590*	200 *660*	240 *790*	250 *820*	265 *870*	315 *1025*	255 *840*	270 *890*	320 *1050*	245 *800*	260 *850*	310 *1025*	230 *750*	245 *800*	290 *950*
P5	175 *570*	190 *620*	230 *750*	240 *790*	255 *840*	300 *980*	245 *800*	260 *850*	305 *1000*	230 *750*	250 *820*	295 *970*	220 *720*	235 *770*	280 *920*
P6	195 *640*	215 *710*	270 *890*	265 *870*	285 *940*	350 *1150*	270 *890*	290 *950*	355 *1175*	260 *850*	280 *920*	345 *1125*	245 *800*	260 *850*	325 *1075*
P7	185 *610*	205 *670*	255 *840*	250 *820*	270 *890*	330 *1075*	255 *840*	275 *900*	335 *1100*	245 *800*	265 *870*	325 *1075*	230 *750*	245 *800*	305 *1000*
P8	170 *560*	190 *620*	230 *750*	235 *770*	250 *820*	300 *980*	235 *770*	255 *840*	305 *1000*	225 *740*	245 *800*	295 *970*	215 *710*	225 *740*	280 *920*
P11	180 *590*	195 *640*	245 *800*	245 *800*	260 *850*	320 *1050*	250 *820*	265 *870*	325 *1075*	240 *790*	255 *840*	315 *1025*	225 *740*	240 *790*	295 *970*
P12	120 *395*	130 *425*	160 *520*	165 *540*	175 *570*	210 *690*	170 *560*	180 *590*	215 *710*	160 *520*	175 *570*	210 *690*	155 *510*	165 *540*	195 *640*
M1	170 *560*	185 *610*	225 *740*	— —	— —	— —	175 *570*	190 *620*	230 *750*	185 *610*	205 *670*	245 *800*	165 *540*	180 *590*	215 *710*
M2	140 *460*	155 *510*	185 *610*	— —	— —	— —	140 *460*	155 *510*	190 *620*	155 *510*	170 *560*	205 *670*	135 *445*	150 *490*	180 *590*
M3	115 *375*	125 *410*	150 *490*	— —	— —	— —	115 *375*	130 *425*	155 *510*	125 *410*	140 *460*	170 *560*	110 *360*	120 *395*	150 *490*
M4	90 *295*	100 *330*	120 *395*	— —	— —	— —	90 *295*	100 *330*	120 *395*	100 *330*	110 *360*	130 *425*	85 *280*	95 *310*	115 *375*
M5	75 *245*	80 *260*	100 *330*	— —	— —	— —	75 *245*	85 *280*	100 *330*	80 *260*	90 *295*	110 *360*	70 *230*	80 *260*	95 *310*
K1	— —	— —	— —	325 *1075*	345 *1125*	405 *1325*	330 *1075*	350 *1150*	415 *1350*	205 *670*	230 *750*	275 *900*	300 *980*	315 *1025*	375 *1225*
K2	— —	— —	— —	290 *950*	305 *1000*	365 *1200*	295 *970*	310 *1025*	370 *1225*	180 *590*	200 *660*	245 *800*	265 *870*	280 *920*	335 *1100*
K3	— —	— —	— —	245 *800*	260 *850*	310 *1025*	250 *820*	265 *870*	315 *1025*	155 *510*	170 *560*	205 *670*	225 *740*	240 *790*	285 *940*
K4	— —	— —	— —	235 *770*	250 *820*	295 *970*	235 *770*	250 *820*	300 *980*	145 *475*	165 *540*	195 *640*	215 *710*	230 *750*	270 *890*
K5	— —	— —	— —	145 *475*	155 *510*	185 *610*	150 *490*	155 *510*	190 *620*	90 *295*	100 *330*	125 *410*	135 *445*	140 *460*	170 *560*
K6	— —	— —	— —	205 *670*	220 *720*	260 *850*	210 *690*	220 *720*	265 *870*	130 *425*	145 *475*	175 *570*	190 *620*	200 *660*	240 *790*
K7	— —	— —	— —	185 *610*	200 *660*	235 *770*	190 *620*	200 *660*	240 *790*	115 *375*	130 *425*	155 *510*	170 *560*	180 *590*	220 *720*
S1	43 *140*	48 *155*	60 *195*	— —	— —	— —	— —	— —	— —	48 *155*	55 *180*	65 *215*	40 *130*	45 *150*	55 *180*
S2	35 *115*	39 *130*	47 *155*	— —	— —	— —	— —	— —	— —	39 *130*	43 *140*	50 *165*	33 *110*	36 *120*	43 *140*
S3	31 *100*	34 *110*	41 *135*	— —	— —	— —	— —	— —	— —	34 *110*	38 *125*	45 *150*	29 *95*	32 *105*	38 *125*
S11	60 *195*	65 *215*	80 *260*	— —	— —	— —	— —	— —	— —	65 *215*	75 *245*	90 *295*	55 *180*	60 *195*	75 *245*
S12	42 *140*	46 *150*	55 *180*	— —	— —	— —	— —	— —	— —	46 *150*	50 *165*	60 *195*	39 *130*	43 *140*	50 *165*
S13	24 *80*	27 *90*	33 *110*	— —	— —	— —	— —	— —	— —	27 *90*	30 *100*	36 *120*	23 *75*	25 *80*	30 *100*
H5	— —	— —	— —	43 *140*	47 *155*	60 *195*	— —	— —	— —	39 *130*	44 *145*	55 *180*	35 *115*	39 *130*	48 *155*
H8	— —	— —	— —	46 *150*	50 *165*	60 *195*	— —	— —	— —	42 *140*	47 *155*	55 *180*	38 *125*	42 *140*	50 *165*
H11	45 *150*	50 *165*	60 *195*	55 *180*	60 *195*	75 *245*	— —	— —	— —	50 *165*	55 *180*	70 *230*	45 *150*	50 *165*	60 *195*
H12	75 *245*	85 *280*	100 *330*	85 *280*	90 *295*	110 *360*	— —	— —	— —	85 *280*	95 *310*	115 *375*	70 *230*	75 *245*	95 *310*

R220.21-SP18MF-CA – Insert selection – Metric/ Inch

SMG		a_p	f_z		
			100%	70%	30%
P1	SPKT180630TN-ME10 MP3501	4,0 *0.16*	0,75 0.030	0,75 0.030	0,80 0.032
P2	SPKT180630TN-ME10 MP3501	4,0 *0.16*	0,75 0.030	0,75 0.030	0,85 0.034
P3	SPKT180630TN-ME10 MP2501	4,0 *0.16*	0,70 0.028	0,70 0.028	0,80 0.032
P4	SPKT180630TN-M14 MP2501	4,0 *0.16*	0,70 0.028	0,70 0.028	0,80 0.030
P5	SPKT180630TN-M14 MP2501	4,0 *0.16*	0,70 0.028	0,70 0.028	0,75 0.030
P6	SPKT180630TN-M14 MP2501	4,0 *0.16*	0,70 0.028	0,70 0.028	0,75 0.030
P7	SPKT180630TN-M14 MP2501	4,0 *0.16*	0,70 0.028	0,70 0.028	0,75 0.030
P8	SPKT180630TN-M14 MP2501	4,0 *0.16*	0,70 0.028	0,70 0.028	0,80 0.032
P11	SPKT180630TN-ME10 MP3501	4,0 *0.16*	0,70 0.028	0,70 0.028	0,75 0.030
P12	SPKT180630TN-M14 MP2501	3,0 *0.12*	0,46 0.018	0,46 0.018	0,50 0.020
M1	SPKT180630TN-ME10 MS2050	4,0 *0.16*	0,75 0.030	0,75 0.030	0,85 0.034
M2	SPKT180630TN-ME10 MS2050	4,0 *0.16*	0,70 0.028	0,70 0.028	0,75 0.030
M3	SPKT180630TN-ME10 MS2050	3,0 *0.12*	0,55 0.022	0,55 0.022	0,60 0.024
M4	SPKT180630TN-ME10 MP3501	3,0 *0.12*	0,48 0.019	0,48 0.019	0,55 0.022
M5	SPKT180630TN-ME10 MP3501	3,0 *0.12*	0,48 0.019	0,48 0.019	0,55 0.022
K1	SPKT180630TN-MD16 MK2050	4,0 *0.16*	0,75 0.030	0,75 0.030	0,85 0.034
K2	SPKT180630TN-MD16 MK2050	4,0 *0.16*	0,70 0.028	0,70 0.028	0,75 0.030
K3	SPKT180630TN-MD16 MK2050	4,0 *0.16*	0,70 0.028	0,70 0.028	0,75 0.030
K4	SPKT180630TN-MD16 MK2050	4,0 *0.16*	0,70 0.028	0,70 0.028	0,75 0.030
K5	SPKT180630TN-MD16 MK2050	4,0 *0.16*	0,60 0.024	0,60 0.024	0,70 0.028
K6	SPKT180630TN-MD16 MK2050	4,0 *0.16*	0,70 0.028	0,70 0.028	0,75 0.030
K7	SPKT180630TN-MD16 MK2050	4,0 *0.16*	0,60 0.024	0,60 0.024	0,70 0.028
S1	SPKT180630TN-ME10 MP3501	3,0 *0.12*	0,48 0.019	0,48 0.019	0,55 0.022
S2	SPKT180630TN-ME10 MP3501	3,0 *0.12*	0,48 0.019	0,48 0.019	0,55 0.022
S3	SPKT180630TN-ME10 MP3501	3,0 *0.12*	0,44 0.017	0,44 0.017	0,50 0.020
S11	SPKT180630TN-ME10 MS2050	3,0 *0.12*	0,55 0.022	0,55 0.022	0,60 0.024
S12	SPKT180630TN-ME10 MS2050	3,0 *0.12*	0,55 0.022	0,55 0.022	0,60 0.024
S13	SPKT180630TN-ME10 MS2050	3,0 *0.12*	0,48 0.019	0,48 0.019	0,55 0.022
H5	SPKT180630TN-MD16 MH1051	3,0 *0.12*	0,46 0.018	0,46 0.018	0,50 0.020
H8	SPKT180630TN-MD16 MH1051	3,0 *0.12*	0,36 0.014	0,36 0.014	0,40 0.016
H11	SPKT180630TN-MD16 MP1501	3,0 *0.12*	0,46 0.018	0,46 0.018	0,50 0.020
H12	SPKT180630TN-MD16 MP1501	3,0 *0.12*	0,36 0.014	0,36 0.014	0,40 0.016

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R220.21-SP18MF-CA – Cutting data v_c = (m/min)/(sf/min)

SMG	MH1051			MK2050			MP3000			MS2050			F40M			MP2051		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	—	—	—	225	250	310	210	225	300	210	230	290	195	205	255	195	215	325
	—	—	—	*740*	*820*	*1025*	*690*	*740*	*980*	*690*	*750*	*950*	*640*	*670*	*840*	*640*	*710*	*1075*
P2	—	—	—	220	240	295	200	220	280	205	220	275	190	200	240	190	205	300
	—	—	—	*720*	*790*	*970*	*660*	*720*	*920*	*670*	*720*	*900*	*620*	*660*	*790*	*620*	*670*	*980*
P3	—	—	—	195	215	260	180	195	250	185	200	240	170	180	215	175	190	270
	—	—	—	*640*	*710*	*850*	*590*	*640*	*820*	*610*	*660*	*790*	*560*	*590*	*710*	*570*	*620*	*890*
P4	—	—	—	170	190	235	160	170	230	160	175	220	155	165	205	155	170	250
	—	—	—	*560*	*620*	*770*	*520*	*560*	*750*	*520*	*570*	*720*	*510*	*540*	*670*	*510*	*560*	*820*
P5	280	300	390	165	185	225	160	170	215	160	170	210	150	155	185	160	175	240
	920	*980*	*1275*	*540*	*610*	*740*	*520*	*560*	*710*	*520*	*560*	*690*	*490*	*510*	*610*	*520*	*570*	*790*
P6	315	340	435	185	205	250	180	195	245	180	195	235	165	175	205	180	195	270
	1025	*1125*	*1425*	*610*	*670*	*820*	*590*	*640*	*800*	*590*	*640*	*770*	*540*	*570*	*670*	*590*	*640*	*890*
P7	300	320	410	175	195	235	170	180	230	170	180	220	155	165	195	170	185	255
	980	*1050*	*1350*	*570*	*640*	*770*	*560*	*590*	*750*	*560*	*590*	*720*	*510*	*540*	*640*	*560*	*610*	*840*
P8	265	285	375	160	180	220	155	165	210	155	165	205	140	150	180	150	160	230
	870	*940*	*1225*	*520*	*590*	*720*	*510*	*540*	*690*	*510*	*540*	*670*	*460*	*490*	*590*	*490*	*520*	*750*
P11	290	310	400	170	190	230	165	175	225	165	175	215	150	160	190	155	175	260
	950	*1025*	*1300*	*560*	*620*	*750*	*540*	*570*	*740*	*540*	*570*	*710*	*490*	*520*	*620*	*510*	*570*	*850*
P12	210	230	295	110	125	150	115	125	160	110	120	145	105	110	130	125	140	205
	690	*750*	*970*	*360*	*410*	*490*	*375*	*410*	*520*	*360*	*395*	*475*	*345*	*360*	*425*	*410*	*460*	*670*
M1	—	—	—	—	—	—	160	175	210	160	175	215	145	160	190	155	175	270
	—	—	—	—	—	—	*520*	*570*	*690*	*520*	*570*	*710*	*475*	*520*	*620*	*510*	*570*	*890*
M2	—	—	—	—	—	—	135	150	180	135	150	180	120	135	160	145	165	245
	—	—	—	—	—	—	*445*	*490*	*590*	*445*	*490*	*590*	*395*	*445*	*520*	*475*	*540*	*800*
M3	—	—	—	—	—	—	105	120	145	110	120	150	95	105	130	130	150	225
	—	—	—	—	—	—	*345*	*395*	*475*	*360*	*395*	*490*	*310*	*345*	*425*	*425*	*490*	*740*
M4	—	—	—	—	—	—	85	95	110	85	95	115	75	85	100	110	125	180
	—	—	—	—	—	—	*280*	*310*	*360*	*280*	*310*	*375*	*245*	*280*	*330*	*360*	*410*	*590*
M5	—	—	—	—	—	—	70	75	95	70	80	95	65	70	85	90	105	150
	—	—	—	—	—	—	*230*	*245*	*310*	*230*	*260*	*310*	*215*	*230*	*280*	*295*	*345*	*490*
K1	355	380	500	235	260	320	165	185	225	—	—	—	140	155	190	—	—	—
	1175	*1250*	*1650*	*770*	*850*	*1050*	*540*	*610*	*740*	—	—	—	*460*	*510*	*620*	—	—	—
K2	340	365	470	215	240	290	150	170	205	—	—	—	130	140	170	—	—	—
	1125	*1200*	*1550*	*710*	*790*	*950*	*490*	*560*	*670*	—	—	—	*425*	*460*	*560*	—	—	—
K3	290	310	400	180	200	245	130	140	170	—	—	—	110	120	145	—	—	—
	950	*1025*	*1300*	*590*	*660*	*800*	*425*	*460*	*560*	—	—	—	*360*	*395*	*475*	—	—	—
K4	275	295	380	175	190	230	125	135	165	—	—	—	105	115	140	—	—	—
	900	*970*	*1250*	*570*	*620*	*750*	*410*	*445*	*540*	—	—	—	*345*	*375*	*460*	—	—	—
K5	170	185	235	105	115	140	75	85	100	—	—	—	65	70	85	—	—	—
	560	*610*	*770*	*345*	*375*	*460*	*245*	*280*	*330*	—	—	—	*215*	*230*	*280*	—	—	—
K6	240	260	335	155	170	205	110	120	145	—	—	—	90	100	120	—	—	—
	790	*850*	*1100*	*510*	*560*	*670*	*360*	*395*	*475*	—	—	—	*295*	*330*	*395*	—	—	—
K7	220	240	300	135	150	180	95	105	130	—	—	—	80	90	105	—	—	—
	720	*790*	*980*	*445*	*490*	*590*	*310*	*345*	*425*	—	—	—	*260*	*295*	*345*	—	—	—
S1	—	—	—	—	—	—	39	43	50	40	44	55	35	39	47	43	47	55
	—	—	—	—	—	—	*130*	*140*	*165*	*130*	*145*	*180*	*115*	*130*	*155*	*140*	*155*	*180*
S2	—	—	—	—	—	—	32	35	42	32	35	43	29	32	38	34	38	46
	—	—	—	—	—	—	*105*	*115*	*140*	*105*	*115*	*140*	*95*	*105*	*125*	*110*	*125*	*150*
S3	—	—	—	—	—	—	28	31	38	28	31	38	25	28	34	30	34	41
	—	—	—	—	—	—	*90*	*100*	*125*	*90*	*100*	*125*	*80*	*90*	*110*	*100*	*110*	*135*
S11	—	—	—	—	—	—	55	60	75	55	60	75	49	55	65	60	65	80
	—	—	—	—	—	—	*180*	*195*	*245*	*180*	*195*	*245*	*160*	*180*	*215*	*195*	*215*	*260*
S12	—	—	—	—	—	—	38	41	50	38	42	50	34	38	46	41	45	55
	—	—	—	—	—	—	*125*	*135*	*165*	*125*	*140*	*165*	*110*	*125*	*150*	*135*	*150*	*180*
S13	—	—	—	—	—	—	22	24	29	22	25	30	20	22	27	24	27	32
	—	—	—	—	—	—	*70*	*80*	*95*	*70*	*80*	*100*	*65*	*70*	*90*	*80*	*90*	*105*
H5	110	115	150	—	—	—	34	37	46	—	—	—	30	33	41	—	—	—
	360	*375*	*490*	—	—	—	*110*	*120*	*150*	—	—	—	*100*	*110*	*135*	—	—	—
H8	125	135	165	—	—	—	36	40	48	—	—	—	32	36	43	—	—	—
	410	*445*	*540*	—	—	—	*120*	*130*	*155*	—	—	—	*105*	*120*	*140*	—	—	—
H11	140	150	190	—	—	—	43	47	60	—	—	—	38	43	50	80	90	135
	460	*490*	*620*	—	—	—	*140*	*155*	*195*	—	—	—	*125*	*140*	*165*	*260*	*295*	*445*
H12	145	155	195	70	80	95	70	75	95	—	—	—	60	65	80	85	100	140
	475	*510*	*640*	*230*	*260*	*310*	*230*	*245*	*310*	—	—	—	*195*	*215*	*260*	*280*	*330*	*460*

R220.21-SP18MF-CA – Cutting data v_c = (m/min)/(sf/min)

SMG	MP2050			MP1501			MP2501			MS2500			MP3501		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	235 *770*	260 *850*	325 *1075*	320 *1050*	345 *1125*	420 *1375*	330 *1075*	350 *1150*	430 *1400*	315 *1025*	335 *1100*	415 *1350*	295 *970*	315 *1025*	390 *1275*
P2	230 *750*	255 *840*	310 *1025*	315 *1025*	335 *1100*	400 *1300*	320 *1050*	340 *1125*	410 *1350*	305 *1000*	325 *1075*	395 *1300*	290 *950*	305 *1000*	370 *1225*
P3	200 *660*	225 *740*	270 *890*	280 *920*	295 *970*	350 *1150*	285 *940*	300 *980*	360 *1175*	270 *890*	290 *950*	350 *1150*	255 *840*	270 *890*	325 *1075*
P4	180 *590*	195 *640*	245 *800*	245 *800*	260 *850*	320 *1050*	250 *820*	265 *870*	325 *1075*	240 *790*	255 *840*	315 *1025*	225 *740*	240 *790*	295 *970*
P5	175 *570*	195 *640*	235 *770*	240 *790*	255 *840*	305 *1000*	245 *800*	260 *850*	310 *1025*	235 *770*	250 *820*	300 *980*	220 *720*	235 *770*	280 *920*
P6	195 *640*	215 *710*	260 *850*	270 *890*	290 *950*	340 *1125*	275 *900*	295 *970*	350 *1150*	265 *870*	280 *920*	335 *1100*	250 *820*	265 *870*	315 *1025*
P7	185 *610*	205 *670*	245 *800*	255 *840*	270 *890*	320 *1050*	260 *850*	275 *900*	330 *1075*	250 *820*	265 *870*	315 *1025*	235 *770*	250 *820*	300 *980*
P8	170 *560*	190 *620*	230 *750*	235 *770*	250 *820*	295 *970*	240 *790*	255 *840*	305 *1000*	225 *740*	245 *800*	290 *950*	215 *710*	230 *750*	275 *900*
P11	180 *590*	200 *660*	240 *790*	250 *820*	265 *870*	310 *1025*	255 *840*	270 *890*	320 *1050*	240 *790*	260 *850*	310 *1025*	230 *750*	245 *800*	290 *950*
P12	120 *395*	130 *425*	160 *520*	165 *540*	175 *570*	210 *690*	170 *560*	180 *590*	215 *710*	160 *520*	175 *570*	205 *670*	155 *510*	165 *540*	195 *640*
M1	165 *540*	180 *590*	220 *720*	— —	— —	— —	170 *560*	185 *610*	225 *740*	185 *610*	200 *660*	245 *800*	160 *520*	175 *570*	215 *710*
M2	140 *460*	155 *510*	185 *610*	— —	— —	— —	145 *475*	160 *520*	190 *620*	155 *510*	170 *560*	205 *670*	135 *445*	150 *490*	180 *590*
M3	110 *360*	125 *410*	150 *490*	— —	— —	— —	115 *375*	125 *410*	155 *510*	125 *410*	135 *445*	170 *560*	110 *360*	120 *395*	150 *490*
M4	90 *295*	95 *310*	115 *375*	— —	— —	— —	90 *295*	100 *330*	120 *395*	95 *310*	110 *360*	130 *425*	85 *280*	95 *310*	115 *375*
M5	75 *245*	80 *260*	95 *310*	— —	— —	— —	75 *245*	85 *280*	100 *330*	80 *260*	90 *295*	110 *360*	70 *230*	80 *260*	95 *310*
K1	— —	— —	— —	315 *1025*	335 *1100*	405 *1325*	320 *1050*	340 *1125*	410 *1350*	200 *660*	225 *740*	270 *890*	290 *950*	305 *1000*	375 *1225*
K2	— —	— —	— —	290 *950*	310 *1025*	365 *1200*	295 *970*	315 *1025*	375 *1225*	185 *610*	205 *670*	245 *800*	270 *890*	285 *940*	340 *1125*
K3	— —	— —	— —	245 *800*	265 *870*	310 *1025*	250 *820*	265 *870*	315 *1025*	155 *510*	170 *560*	210 *690*	225 *740*	240 *790*	290 *950*
K4	— —	— —	— —	235 *770*	250 *820*	295 *970*	240 *790*	255 *840*	305 *1000*	150 *490*	165 *540*	200 *660*	215 *710*	230 *750*	275 *900*
K5	— —	— —	— —	145 *475*	155 *510*	180 *590*	145 *475*	155 *510*	185 *610*	90 *295*	100 *330*	120 *395*	135 *445*	140 *460*	170 *560*
K6	— —	— —	— —	205 *670*	220 *720*	260 *850*	210 *690*	225 *740*	265 *870*	130 *425*	145 *475*	175 *570*	190 *620*	205 *670*	240 *790*
K7	— —	— —	— —	185 *610*	195 *640*	230 *750*	190 *620*	200 *660*	235 *770*	115 *375*	130 *425*	155 *510*	170 *560*	180 *590*	215 *710*
S1	43 *140*	47 *155*	55 *180*	— —	— —	— —	— —	— —	— —	48 *155*	55 *180*	65 *215*	40 *130*	44 *145*	55 *180*
S2	34 *110*	38 *125*	46 *150*	— —	— —	— —	— —	— —	— —	38 *125*	42 *140*	50 *165*	32 *105*	35 *115*	43 *140*
S3	30 *100*	34 *110*	41 *135*	— —	— —	— —	— —	— —	— —	34 *110*	37 *120*	46 *150*	28 *90*	31 *100*	38 *125*
S11	60 *195*	65 *215*	80 *260*	— —	— —	— —	— —	— —	— —	65 *215*	75 *245*	90 *295*	55 *180*	60 *195*	75 *245*
S12	41 *135*	45 *150*	55 *180*	— —	— —	— —	— —	— —	— —	46 *150*	50 *165*	60 *195*	38 *125*	42 *140*	50 *165*
S13	24 *80*	27 *90*	32 *105*	— —	— —	— —	— —	— —	— —	27 *90*	30 *100*	36 *120*	22 *70*	25 *80*	30 *100*
H5	— —	— —	— —	43 *140*	47 *155*	60 *195*	— —	— —	— —	39 *130*	43 *140*	55 *180*	35 *115*	39 *130*	48 *155*
H8	— —	— —	— —	46 *150*	50 *165*	60 *195*	— —	— —	— —	42 *140*	47 *155*	55 *180*	38 *125*	42 *140*	50 *165*
H11	45 *150*	50 *165*	60 *195*	55 *180*	60 *195*	75 *245*	— —	— —	— —	50 *165*	55 *180*	70 *230*	45 *150*	50 *165*	60 *195*
H12	75 *245*	85 *280*	100 *330*	80 *260*	90 *295*	110 *360*	— —	— —	— —	85 *280*	95 *310*	110 *360*	70 *230*	75 *245*	90 *295*



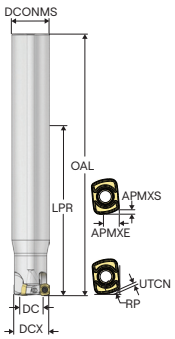
R217/220.21 High Feed 2

Highfeed 2 for LP05/06/09 insert types, 2-cutting edge, single sided positive inserts.
The inserts have modern geometries that provide the lowest possible cutting forces in all materials. These low forces lead to superior tool life.

- Cutter range 12-100 mm (.5 - 4 inch)
- Max depths of cut by insert type: LP05/0.65 mm, LP06/0.8 mm, LP09/1.8 mm
- First choice for ISO M & S materials in small-to-medium size machines
- Excellent solution for plunge milling

R217.21-LP05 – Metric





—For insert selection and cutting data recommendations, see page(s) 600-602
—For complete insert programme, see page(s) 880
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCONMS	RP	UTCN	LUX	LPR	OAL	RMPX°	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm	mm	mm	mm	mm			kg	
R217.21-1012.0-LP05.2A	02952509	Cylindrical	5,4	12,0	2	0,65	3,5	10,0	1,5	0,32	60,0	60,0	100,0	3,9	45000	0,1	LP..05T210
R217.21-1214.0-LP05.2A	02881032	Cylindrical	7,4	14,0	2	0,65	3,5	12,0	1,5	0,32	75,0	75,0	120,0	3,5	42000	0,1	LP..05T210
R217.21-1416.0-LP05.2A	02881033	Cylindrical	9,4	16,0	2	0,65	3,5	14,0	1,5	0,32	105,0	105,0	150,0	3,0	39000	0,2	LP..05T210
R217.21-1618.0-LP05.3A	02881034	Cylindrical	11,4	18,0	3	0,65	3,5	16,0	1,5	0,32	112,0	112,0	160,0	2,2	37000	0,3	LP..05T210
R217.21-1820.0-LP05.3A	02881035	Cylindrical	13,4	20,0	3	0,65	3,5	18,0	1,5	0,32	110,0	112,0	160,0	1,9	35000	0,4	LP..05T210

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.21-1012	1/4HEX-T06PX50	C02005-T06P
R217.21-1214-1820	1/4HEX-T06PX50	C02053-T06P

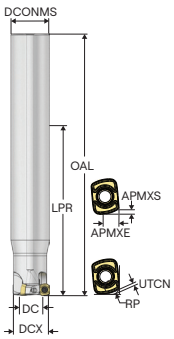
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.21-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.5NM	T00-06P05

Torque and fixed keys, see page 944

R217.21-LP05 – inch





—For insert selection and cutting data recommendations, see page(s) 600-602
—For complete insert programme, see page(s) 880
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCONMS	RP	UTCN	LUX	LPR	OAL	RMPX°	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch	inch	inch	inch	inch			lbs	
R217.21-0.500.0-LP05.2A	02881043	Cylindrical	0.240	0.500	2	0.026	0.138	0.500	0.059	0.013	0.609	3.228	5.000	5,4	45000	0.440	LP..05T210
R217.21-0.625.0-LP05.2A	02881044	Cylindrical	0.362	0.625	2	0.026	0.138	0.625	0.059	0.013	0.979	4.016	6.000	3,0	39000	0.440	LP..05T210

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.21-0.500	1/4HEX-T06PX50	C02005-T06P
R217.21-0.625-0.750	1/4HEX-T06PX50	C02053-T06P

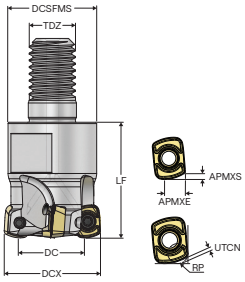
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.21-0.500	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.5NM	T00-06P05
R217.21-0.625-0.750	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.5NM	T00-06P05

Torque and fixed keys, see page 944

R217.21-LP05 – Metric





—For insert selection and cutting data recommendations, see page(s) 600-602
—For complete insert programme, see page(s) 880
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCSFMS	TDZ	LF	RP	UTCN	OAL	RMPX°	RPMX	Weight	Insert
			mm	mm		mm	mm	mm		mm	mm	mm	mm			kg	
R217.21-0612.RE-LP05.2A	02952506	Combimaster	5,4	12,0	2	0,65	3,5	11,0	M6	18,0	1,5	0,32	31,5	3,9	45000	0,1	LP..05T210
R217.21-0812.RE-LP05.2A	02952507	Combimaster	5,4	12,0	2	0,65	3,5	13,5	M8	20,0	1,5	0,32	37,75	3,9	45000	0,1	LP..05T210
R217.21-0614.RE-LP05.2A	02881029	Combimaster	7,4	14,0	2	0,65	3,5	11,0	M6	18,0	1,5	0,32	31,5	3,5	42000	0,1	LP..05T210
R217.21-0814.RE-LP05.2A	02952508	Combimaster	7,4	14,0	2	0,65	3,5	13,5	M8	20,0	1,5	0,32	37,75	3,5	42000	0,1	LP..05T210
R217.21-0816.RE-LP05.3A	02881030	Combimaster	9,4	16,0	3	0,65	3,5	13,5	M8	20,0	1,5	0,32	37,75	3,0	39000	0,1	LP..05T210
R217.21-1020.RE-LP05.4A	02881031	Combimaster	13,4	20,0	4	0,65	3,5	18,5	M10	23,0	1,5	0,32	41,75	1,9	35000	0,1	LP..05T210

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.21-.. Ø12	1/4HEX-T06PX50	C02005-T06P
R217.21-.. Ø14-20	1/4HEX-T06PX50	C02053-T06P

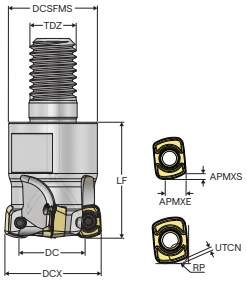
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.21-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.5NM	T00-06P05

Torque and fixed keys, see page 944

R217.21-LP05 – inch





—For insert selection and cutting data recommendations, see page(s) 600-602
—For complete insert programme, see page(s) 880
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCSFMS	TDZ	LF	RP	UTCN	OAL	RMPX°	RPMX	Weight	Insert
			inch	inch		inch	inch	inch		inch	inch	inch	inch			lbs	
R217.21-0.50006RELP05.2A	02881039	Combimaster	0.240	0.500	2	0.026	0.138	0.433	M6	0.709	0.059	0.013	1.240	3,9	45000	0.220	LP..05T210
R217.21-0.62508RELP05.3A	02881040	Combimaster	0.362	0.625	3	0.026	0.138	0.531	M8	0.787	0.059	0.013	1.486	3,0	39000	0.220	LP..05T210

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.21-0.500-00.625	1/4HEX-T06PX50	C02005-T06P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.21-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.5NM	T00-06P05

Torque and fixed keys, see page 944

R217.21-LP05 – Insert selection – mm/Inch

SMG		a_p	f_z		
			100%	70%	30%
P1	LPHT05T210TR-ME04 MP3501	0,60 *0.024*	0,44 0.017	0,44 0.017	0,55 0.022
P2	LPHT05T210TR-ME04 MP3501	0,60 *0.024*	0,44 0.017	0,44 0.017	0,55 0.022
P3	LPKT05T210TR-M05 MP2501	0,60 *0.024*	0,55 0.022	0,55 0.022	0,65 0.026
P4	LPKT05T210TR-M05 MP2501	0,60 *0.024*	0,50 0.020	0,50 0.020	0,65 0.026
P5	LPKT05T210TR-M05 MP2501	0,60 *0.024*	0,50 0.020	0,50 0.020	0,65 0.026
P6	LPKT05T210TR-M05 MP2501	0,60 *0.024*	0,50 0.020	0,50 0.020	0,60 0.024
P7	LPKT05T210TR-M05 MP2501	0,60 *0.024*	0,50 0.020	0,50 0.020	0,60 0.024
P8	LPKT05T210TR-M05 MP2501	0,60 *0.024*	0,55 0.022	0,55 0.022	0,65 0.026
P11	LPHT05T210TR-ME04 MP3501	0,60 *0.024*	0,40 0.016	0,40 0.016	0,48 0.020
P12	LPKT05T210TR-M05 MP2501	0,46 *0.018*	0,40 0.016	0,40 0.016	0,48 0.019
M1	LPHT05T210TR-ME04 MS2050	0,60 *0.024*	0,44 0.017	0,44 0.017	0,55 0.022
M2	LPHT05T210TR-ME04 MS2050	0,60 *0.024*	0,40 0.016	0,40 0.016	0,50 0.020
M3	LPHT05T210TR-ME04 MS2050	0,46 *0.018*	0,38 0.015	0,38 0.015	0,46 0.018
M4	LPHT05T210TR-ME04 MP3501	0,36 *0.014*	0,34 0.013	0,34 0.013	0,42 0.017
M5	LPHT05T210TR-ME04 MP3501	0,36 *0.014*	0,34 0.013	0,34 0.013	0,42 0.017
K1	LPKW05T210TR-MD05 MP2501	0,60 *0.024*	0,55 0.022	0,55 0.022	0,70 0.028
K2	LPKW05T210TR-MD05 MP2501	0,60 *0.024*	0,50 0.020	0,50 0.020	0,65 0.026
K3	LPKW05T210TR-MD05 MP2501	0,60 *0.024*	0,50 0.020	0,50 0.020	0,65 0.026
K4	LPKW05T210TR-MD05 MP2501	0,60 *0.024*	0,50 0.020	0,50 0.020	0,65 0.026
K5	LPKW05T210TR-MD05 MP2501	0,60 *0.024*	0,46 0.018	0,46 0.018	0,55 0.022
K6	LPKW05T210TR-MD05 MP2501	0,60 *0.024*	0,50 0.020	0,50 0.020	0,65 0.026
K7	LPKW05T210TR-MD05 MP2501	0,60 *0.024*	0,46 0.018	0,46 0.018	0,55 0.022
S1	LPHT05T210TR-ME04 MP3501	0,36 *0.014*	0,34 0.013	0,34 0.013	0,42 0.017
S2	LPHT05T210TR-ME04 MP3501	0,36 *0.014*	0,34 0.013	0,34 0.013	0,42 0.017
S3	LPHT05T210TR-ME04 MP3501	0,36 *0.014*	0,32 0.013	0,32 0.013	0,38 0.015
S11	LPHT05T210TR-ME04 MS2050	0,40 *0.016*	0,40 0.016	0,40 0.016	0,48 0.019
S12	LPHT05T210TR-ME04 MS2050	0,40 *0.016*	0,40 0.016	0,40 0.016	0,48 0.019
S13	LPHT05T210TR-ME04 MS2050	0,36 *0.014*	0,34 0.013	0,34 0.013	0,42 0.017
H5	LPKW05T210TR-MD05 MH1051	0,36 *0.014*	0,36 0.014	0,36 0.014	0,44 0.017
H8	LPKW05T210TR-MD05 MH1051	0,32 *0.013*	0,28 0.011	0,28 0.011	0,34 0.013
H11	LPKW05T210TR-MD05 MP3000	0,36 *0.014*	0,36 0.014	0,36 0.014	0,44 0.017
H12	LPKW05T210TR-MD05 MP3000	0,32 *0.013*	0,28 0.011	0,28 0.011	0,34 0.013

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217.21-LP05 – Cutting data v_c = (m/min)/(sf/min)

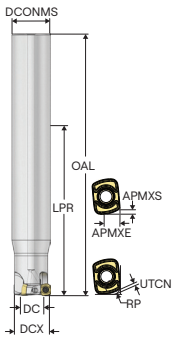
SMG	MH1051			MP3000			MS2050			F40M			MP2051		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	—	—	—	325	380	445	340	390	450	295	330	375	400	470	550
	—	—	—	*1075*	*1250*	*1450*	*1125*	*1275*	*1475*	*970*	*1075*	*1225*	*1300*	*1550*	*1800*
P2	—	—	—	315	370	430	330	380	435	290	325	365	390	460	540
	—	—	—	*1025*	*1225*	*1400*	*1075*	*1250*	*1425*	*950*	*1075*	*1200*	*1275*	*1500*	*1775*
P3	—	—	—	275	320	380	290	330	385	250	280	320	335	395	475
	—	—	—	*900*	*1050*	*1250*	*950*	*1075*	*1275*	*820*	*920*	*1050*	*1100*	*1300*	*1550*
P4	—	—	—	250	290	335	255	290	340	230	260	295	310	360	420
	—	—	—	*820*	*950*	*1100*	*840*	*950*	*1125*	*750*	*850*	*970*	*1025*	*1175*	*1375*
P5	445	520	610	235	275	320	245	280	320	215	240	270	295	345	400
	1450	*1700*	*2000*	*770*	*900*	*1050*	*800*	*920*	*1050*	*710*	*790*	*890*	*970*	*1125*	*1300*
P6	500	590	700	265	310	365	275	315	360	240	270	310	330	390	455
	1650	*1925*	*2300*	*870*	*1025*	*1200*	*900*	*1025*	*1175*	*790*	*890*	*1025*	*1075*	*1275*	*1500*
P7	470	550	660	250	295	345	260	300	340	230	255	290	315	365	430
	1550	*1800*	*2175*	*820*	*970*	*1125*	*850*	*980*	*1125*	*750*	*840*	*950*	*1025*	*1200*	*1400*
P8	425	500	610	230	270	320	240	280	320	210	235	270	280	330	400
	1400	*1650*	*2000*	*750*	*890*	*1050*	*790*	*920*	*1050*	*690*	*770*	*890*	*920*	*1075*	*1300*
P11	455	540	650	245	285	335	250	290	330	220	250	280	280	370	480
	1500	*1775*	*2125*	*800*	*940*	*1100*	*820*	*950*	*1075*	*720*	*820*	*920*	*920*	*1225*	*1575*
P12	305	360	420	160	185	210	160	185	210	145	160	180	185	240	295
	1000	*1175*	*1375*	*520*	*610*	*690*	*520*	*610*	*690*	*475*	*520*	*590*	*610*	*790*	*970*
M1	—	—	—	210	250	290	240	280	330	200	235	275	320	420	530
	—	—	—	*690*	*820*	*950*	*790*	*920*	*1075*	*660*	*770*	*900*	*1050*	*1375*	*1750*
M2	—	—	—	175	210	240	195	235	270	165	195	225	270	350	445
	—	—	—	*570*	*690*	*790*	*640*	*770*	*890*	*540*	*640*	*740*	*890*	*1150*	*1450*
M3	—	—	—	140	165	195	160	185	215	130	155	185	220	285	360
	—	—	—	*460*	*540*	*640*	*520*	*610*	*710*	*425*	*510*	*610*	*720*	*940*	*1175*
M4	—	—	—	110	130	150	120	140	165	100	120	140	170	220	270
	—	—	—	*360*	*425*	*490*	*395*	*460*	*540*	*330*	*395*	*460*	*560*	*720*	*890*
M5	—	—	—	90	105	125	100	120	140	85	100	115	140	180	225
	—	—	—	*295*	*345*	*410*	*330*	*395*	*460*	*280*	*330*	*375*	*460*	*590*	*740*
K1	590	700	830	225	265	310	—	—	—	195	230	270	—	—	—
	1925	*2300*	*2725*	*740*	*870*	*1025*	—	—	—	*640*	*750*	*890*	—	—	—
K2	540	630	740	200	235	275	—	—	—	170	205	235	—	—	—
	1775	*2075*	*2425*	*660*	*770*	*900*	—	—	—	*560*	*670*	*770*	—	—	—
K3	455	530	620	170	200	230	—	—	—	145	175	200	—	—	—
	1500	*1750*	*2025*	*560*	*660*	*750*	—	—	—	*475*	*570*	*660*	—	—	—
K4	435	510	600	160	190	220	—	—	—	140	165	190	—	—	—
	1425	*1675*	*1975*	*520*	*620*	*720*	—	—	—	*460*	*540*	*620*	—	—	—
K5	265	315	375	100	115	135	—	—	—	85	100	120	—	—	—
	870	*1025*	*1225*	*330*	*375*	*445*	—	—	—	*280*	*330*	*395*	—	—	—
K6	380	450	520	140	170	195	—	—	—	125	145	170	—	—	—
	1250	*1475*	*1700*	*460*	*560*	*640*	—	—	—	*410*	*475*	*560*	—	—	—
K7	340	400	480	125	150	175	—	—	—	110	130	150	—	—	—
	1125	*1300*	*1575*	*410*	*490*	*570*	—	—	—	*360*	*425*	*490*	—	—	—
S1	—	—	—	50	60	70	55	65	80	48	55	65	60	65	80
	—	—	—	*165*	*195*	*230*	*180*	*215*	*260*	*155*	*180*	*215*	*195*	*215*	*260*
S2	—	—	—	41	48	55	46	55	65	39	45	55	46	55	65
	—	—	—	*135*	*155*	*180*	*150*	*180*	*215*	*130*	*150*	*180*	*150*	*180*	*215*
S3	—	—	—	36	42	50	40	47	55	34	39	46	40	47	55
	—	—	—	*120*	*140*	*165*	*130*	*155*	*180*	*110*	*130*	*150*	*130*	*155*	*180*
S11	—	—	—	70	85	100	80	95	110	65	80	90	80	95	110
	—	—	—	*230*	*280*	*330*	*260*	*310*	*360*	*215*	*260*	*295*	*260*	*310*	*360*
S12	—	—	—	49	60	70	55	65	75	46	55	65	55	65	75
	—	—	—	*160*	*195*	*230*	*180*	*215*	*245*	*150*	*180*	*215*	*180*	*215*	*245*
S13	—	—	—	29	34	39	32	37	44	27	31	37	32	38	44
	—	—	—	*95*	*110*	*130*	*105*	*120*	*145*	*90*	*100*	*120*	*105*	*125*	*145*
H5	165	190	225	45	50	60	—	—	—	41	48	55	—	—	—
	540	*620*	*740*	*150*	*165*	*195*	—	—	—	*135*	*155*	*180*	—	—	—
H8	180	205	230	48	55	65	—	—	—	45	50	60	—	—	—
	590	*670*	*750*	*155*	*180*	*215*	—	—	—	*150*	*165*	*195*	—	—	—
H11	210	245	285	55	65	80	—	—	—	55	60	75	120	155	185
	690	*800*	*940*	*180*	*215*	*260*	—	—	—	*180*	*195*	*245*	*395*	*510*	*610*
H12	205	235	270	90	105	125	—	—	—	80	95	110	105	135	160
	670	*770*	*890*	*295*	*345*	*410*	—	—	—	*260*	*310*	*360*	*345*	*445*	*520*

R217.21-LP05 – Cutting data v_c = (m/min)/(sf/min)

SMG	MP2050			MP2501			MS2500			MP3501		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	325 *1075*	385 *1275*	450 *1475*	470 *1550*	530 *1750*	600 *1975*	450 *1475*	510 *1675*	580 *1900*	460 *1500*	520 *1700*	580 *1900*
P2	320 *1050*	375 *1225*	440 *1450*	460 *1500*	520 *1700*	580 *1900*	440 *1450*	500 *1650*	560 *1825*	450 *1475*	510 *1675*	570 *1875*
P3	275 *900*	325 *1075*	385 *1275*	395 *1300*	445 *1450*	510 *1675*	375 *1225*	430 *1400*	490 *1600*	390 *1275*	440 *1450*	495 *1625*
P4	245 *800*	290 *950*	340 *1125*	355 *1175*	400 *1300*	445 *1450*	340 *1125*	385 *1275*	430 *1400*	345 *1125*	385 *1275*	435 *1425*
P5	235 *770*	280 *920*	325 *1075*	340 *1125*	385 *1275*	425 *1400*	325 *1075*	370 *1225*	410 *1350*	330 *1075*	375 *1225*	415 *1350*
P6	265 *870*	315 *1025*	370 *1225*	380 *1250*	430 *1400*	485 *1600*	365 *1200*	415 *1350*	470 *1550*	370 *1225*	420 *1375*	465 *1525*
P7	250 *820*	295 *970*	350 *1150*	360 *1175*	405 *1325*	460 *1500*	345 *1125*	390 *1275*	440 *1450*	350 *1150*	395 *1300*	440 *1450*
P8	230 *750*	270 *890*	325 *1075*	330 *1075*	375 *1225*	425 *1400*	315 *1025*	360 *1175*	410 *1350*	330 *1075*	370 *1225*	415 *1350*
P11	240 *790*	285 *940*	340 *1125*	350 *1150*	395 *1300*	445 *1450*	335 *1100*	380 *1250*	430 *1400*	340 *1125*	385 *1275*	425 *1400*
P12	155 *510*	185 *610*	215 *710*	220 *720*	245 *800*	275 *900*	210 *690*	240 *790*	265 *870*	210 *690*	235 *770*	260 *850*
M1	230 *750*	270 *890*	315 *1025*	235 *770*	275 *900*	320 *1050*	255 *840*	300 *980*	350 *1150*	240 *790*	280 *920*	330 *1075*
M2	190 *620*	225 *740*	260 *850*	195 *640*	230 *750*	265 *870*	210 *690*	250 *820*	285 *940*	195 *640*	235 *770*	270 *890*
M3	150 *490*	180 *590*	210 *690*	155 *510*	185 *610*	215 *710*	170 *560*	200 *660*	235 *770*	160 *520*	185 *610*	215 *710*
M4	120 *395*	135 *445*	160 *520*	120 *395*	140 *460*	165 *540*	130 *425*	155 *510*	180 *590*	120 *395*	140 *460*	165 *540*
M5	100 *330*	115 *375*	135 *445*	100 *330*	115 *375*	140 *460*	110 *360*	125 *410*	150 *490*	100 *330*	120 *395*	140 *460*
K1	— —	— —	— —	465 *1525*	520 *1700*	580 *1900*	280 *920*	330 *1075*	385 *1275*	455 *1500*	510 *1675*	570 *1875*
K2	— —	— —	— —	410 *1350*	465 *1525*	510 *1675*	250 *820*	295 *970*	340 *1125*	400 *1300*	450 *1475*	500 *1650*
K3	— —	— —	— —	345 *1125*	390 *1275*	435 *1425*	210 *690*	250 *820*	290 *950*	340 *1125*	380 *1250*	425 *1400*
K4	— —	— —	— —	330 *1075*	375 *1225*	415 *1350*	200 *660*	240 *790*	275 *900*	325 *1075*	365 *1200*	405 *1325*
K5	— —	— —	— —	200 *660*	225 *740*	255 *840*	120 *395*	145 *475*	170 *560*	195 *640*	220 *720*	245 *800*
K6	— —	— —	— —	290 *950*	330 *1075*	365 *1200*	175 *570*	210 *690*	240 *790*	285 *940*	320 *1050*	355 *1175*
K7	— —	— —	— —	255 *840*	290 *950*	325 *1075*	155 *510*	185 *610*	220 *720*	250 *820*	280 *920*	315 *1025*
S1	60 *195*	65 *215*	80 *260*	— —	— —	— —	65 *215*	75 *245*	85 *280*	55 *180*	65 *215*	80 *260*
S2	46 *150*	55 *180*	65 *215*	— —	— —	— —	50 *165*	60 *195*	70 *230*	46 *150*	55 *180*	65 *215*
S3	40 *130*	47 *155*	55 *180*	— —	— —	— —	45 *150*	50 *165*	60 *195*	40 *130*	47 *155*	55 *180*
S11	80 *260*	95 *310*	110 *360*	— —	— —	— —	90 *295*	105 *345*	125 *410*	80 *260*	95 *310*	110 *360*
S12	55 *180*	65 *215*	75 *245*	— —	— —	— —	60 *195*	70 *230*	85 *280*	55 *180*	65 *215*	75 *245*
S13	32 *105*	38 *125*	44 *145*	— —	— —	— —	36 *120*	42 *140*	49 *160*	32 *105*	37 *120*	44 *145*
H5	— —	— —	— —	— —	— —	— —	55 *180*	65 *215*	75 *245*	50 *165*	60 *195*	70 *230*
H8	— —	— —	— —	— —	— —	— —	60 *195*	65 *215*	80 *260*	55 *180*	65 *215*	75 *245*
H11	60 *195*	70 *230*	85 *280*	— —	— —	— —	70 *230*	80 *260*	95 *310*	65 *215*	75 *245*	90 *295*
H12	105 *345*	120 *395*	140 *460*	— —	— —	— —	115 *375*	135 *445*	155 *510*	100 *330*	115 *375*	135 *445*

R217.21-LP06 – Metric





—For insert selection and cutting data recommendations, see page(s) 607-609
—For complete insert programme, see page(s) 880
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCONMS	RP	UTCN	LUX	LPR	OAL	RMPX°	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm	mm	mm	mm	mm			kg	
R217.21-1416.0-LP06.2A	02789713	Cylindrical	7,5	16,0	2	0,8	4,5	14,0	1,8	0,45	102,0	102,0	150,0	5,0	39000	0,2	LP..060310
R217.21-1618.0-LP06.2A	02789715	Cylindrical	9,5	18,0	2	0,8	4,5	16,0	1,8	0,45	112,0	112,0	160,0	3,5	37000	0,3	LP..060310
R217.21-1820.0-LP06.2A	02789717	Cylindrical	11,6	20,0	2	0,8	4,5	18,0	1,8	0,45	110,0	110,0	160,0	3,0	35000	0,4	LP..060310
R217.21-2525.0-LP06.3A	02789720	Cylindrical	16,5	25,0	3	0,8	4,5	25,0	1,8	0,45	40,0	124,0	180,0	2,0	30000	0,7	LP..060310
R217.21-2527.0-LP06.3A	02789722	Cylindrical	18,5	27,0	3	0,8	4,5	25,0	1,8	0,45	194,0	194,0	250,0	1,5	30000	0,9	LP..060310
R217.21-3232.0-LP06.4A	02789725	Cylindrical	23,5	32,0	4	0,8	4,5	32,0	1,8	0,45	40,0	140,0	200,0	1,5	27000	1,3	LP..060310
R217.21-3235.0-LP06.4A	02789729	Cylindrical	26,5	35,0	4	0,8	4,5	32,0	1,8	0,45	190,0	190,0	250,0	1,2	26000	1,5	LP..060310

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.21-1416-1820	1/4HEX-T08PX50	C02555-T08P
R217.21-2525-3235	1/4HEX-T08PX50	C02506-T08P

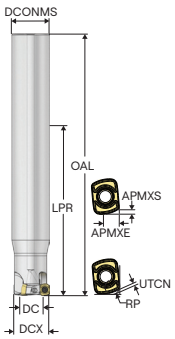
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.21-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12

Torque and fixed keys, see page 944

R217.21-LP06 – inch





—For insert selection and cutting data recommendations, see page(s) 607–609
—For complete insert programme, see page(s) 880
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCONMS	RP	UTCN	LUX	LPR	OAL	RMPX°	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch	inch	inch	inch	inch			lbs	
R217.21-00.625.0-LP06.2A	02789777	Cylindrical	0.290	0.625	2	0.030	0.177	0.625	0.071	0.018	4.016	4.000	6.000	5,0	39000	0.660	LP..060310
R217.21-0.75.0-LP06.2A	02789778	Cylindrical	0.410	0.750	2	0.030	0.177	0.750	0.071	0.018	4.331	4.400	6.500	3,0	35000	0.660	LP..060310
R217.21-1.25.0-LP06.4A	02789785	Cylindrical	0.659	1.250	4	0.030	0.177	1.250	0.071	0.018	5.512	5.500	8.000	1,5	27000	2.650	LP..060310
R217.21-1.00.0-LP06.3A	02789782	Cylindrical	0.660	1.000	3	0.030	0.177	1.000	0.071	0.018	5.217	4.800	7.000	2,0	30000	1.540	LP..060310

Spare Parts, included in delivery

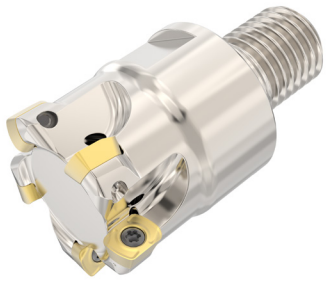
For cutter	Insert key	Insert screw
		
R217.21-0.625-0.750	1/4HEX-T08PX50	C02555-T08P
R217.21-1.00-1.50	1/4HEX-T08PX50	C02506-T08P

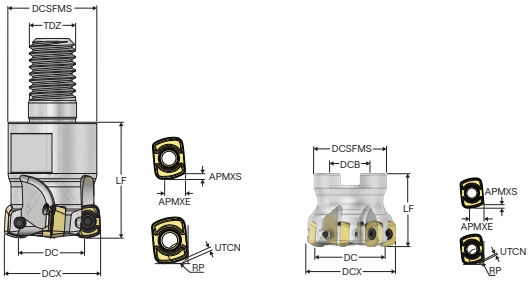
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.21-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12

Torque and fixed keys, see page 944

R217/220.21-LP06 – Metric



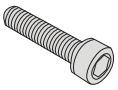


–For insert selection and cutting data recommendations, see page(s) 607-609
–For complete insert programme, see page(s) 880
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCS-FMS	TDZ		LF	RP		OAL	RMPX°	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm		mm	mm	mm	mm	mm			kg	
R217.21-0816.RE-LP06.2A	02789697	Combimaster	7,5	16,0	2	0,8	4,5	–	13,5	M8	–	20,0	1,8	0,45	37,75	5,0	39000	0,1	LP..060310
R217.21-1020.RE-LP06.2A	02789700	Combimaster	11,5	20,0	2	0,8	4,5	–	18,5	M10	–	28,0	1,8	0,45	46,75	3,0	35000	0,1	LP..060310
R217.21-1020.RE-LP06.3A	02789701	Combimaster	11,5	20,0	3	0,8	4,5	–	18,5	M10	–	28,0	1,8	0,45	46,75	3,0	35000	0,1	LP..060310
R217.21-1225.RE-LP06.3A	02789702	Combimaster	16,5	25,0	3	0,8	4,5	–	23,0	M12	–	30,0	1,8	0,45	51,75	2,0	30000	0,2	LP..060310
R217.21-1225.RE-LP06.4A	02789705	Combimaster	16,5	25,0	4	0,8	4,5	–	23,0	M12	–	30,0	1,8	0,45	51,75	2,0	30000	0,1	LP..060310
R217.21-1632.RE-LP06.5A	02789708	Combimaster	23,5	32,0	5	0,8	4,5	–	30,0	M16	–	35,0	1,8	0,45	57,75	1,5	27000	0,2	LP..060310
R217.21-1635.RE-LP06.5A	02789711	Combimaster	26,5	35,0	5	0,8	4,5	–	30,0	M16	–	35,0	1,8	0,45	57,75	1,5	26000	0,2	LP..060310
R217.21-2040.RE-LP06.7A	02928084	Combimaster	31,5	40,0	7	0,8	4,5	–	36,5	M20	–	40,0	1,8	0,45	67,0	0,9	24000	0,4	LP..060310
R220.21-0035-LP06.6A	02789734	Arbor	26,5	35,0	6	0,8	4,5	16,0	32,0	–	16,0	35,0	1,8	0,45	–	1,29	26000	0,2	LP..060310
R220.21-0040-LP06.6A	02892228	Arbor	31,5	40,0	6	0,8	4,5	16,0	32,0	–	16,0	40,0	1,8	0,45	–	0,9	24000	0,3	LP..060310

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.21-0816-1020	–	1/4HEX-T08PX50	C02555-T08P
R217.21-1225-2040	–	1/4HEX-T08PX50	C02506-T08P
R220.21-..	220.17-689	1/4HEX-T08PX50	C02506-T08P

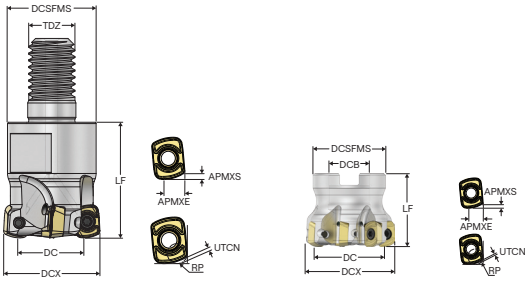
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.21-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12

Torque and fixed keys, see page 944

R217/220.21-LP06 – inch



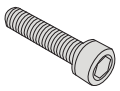


—For insert selection and cutting data recommendations, see page(s) 607–609
—For complete insert programme, see page(s) 880
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ	DCONMS	LF	RP	UTCN	OAL	RMPX°	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch		inch	inch	inch	inch	inch			lbs	
R217.21-0.62508RELP06.2A	02789772	Combimaster	0.290	0.625	2	0.031	0.177	–	0.531	M8	–	0.787	0.071	0.018	1.486	5,0	39000	0.040	LP..060310
R217.21-0.7510RELP06.3A	02789773	Combimaster	0.409	0.750	3	0.031	0.177	–	0.728	M10	–	1.102	0.071	0.018	1.841	3,0	35000	0.220	LP..060310
R217.21-1.0012RELP06.3A	02789774	Combimaster	0.660	1.000	3	0.031	0.177	–	0.906	M12	–	1.181	0.071	0.018	2.037	2,0	30000	0.440	LP..060310
R217.21-1.0012RELP06.4A	02789775	Combimaster	0.660	1.000	4	0.031	0.177	–	0.906	M12	–	1.181	0.071	0.018	2.037	2,0	30000	0.440	LP..060310
R217.21-1.2516RELP06.5A	02789776	Combimaster	0.909	1.250	5	0.031	0.177	–	1.181	M16	–	1.378	0.071	0.018	2.274	1,2	27000	0.660	LP..060310
R217.21-01.50-20RE-LP06.7A	02928069	Combimaster	1.181	1.500	7	0.031	0.177	–	1.437	M20	–	1.575	0.071	0.018	2.638	0,9	24000	0.880	LP..060310
R220.21-1.50-LP06-6A	02892229	Arbor	1.165	1.500	6	0.031	0.177	0.500	1.260	–	0.500	1.500	0.071	0.018	–	1,0	25000	0.440	LP..060310

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.21-0.625-0.750	–	1/4HEX-T08PX50	C02555-T08P
R217.21-1.00-1.50	–	1/4HEX-T08PX50	C02506-T08P
R220.21-..	UC6S1/4UNFX1	1/4HEX-T08PX50	C02506-T08P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.21-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12

Torque and fixed keys, see page 944

R217/220.21-LP06 – Insert selection – mm/Inch

SMG		a_p	f_z		
			100%	70%	30%
P1	LPHT060310TR-M06 MP3501	0,70 *0.028*	0,70 0.028	0,70 0.028	0,85 0.034
P2	LPHT060310TR-M06 MP3501	0,70 *0.028*	0,70 0.028	0,70 0.028	0,85 0.034
P3	LPHT060310TR-M06 MP2501	0,70 *0.028*	0,65 0.026	0,65 0.026	0,80 0.032
P4	LPHT060310TR-M06 MP2501	0,70 *0.028*	0,65 0.026	0,65 0.026	0,80 0.032
P5	LPHT060310TR-M06 MP2501	0,70 *0.028*	0,65 0.026	0,65 0.026	0,80 0.032
P6	LPHT060310TR-M06 MP2501	0,70 *0.028*	0,65 0.026	0,65 0.026	0,75 0.030
P7	LPHT060310TR-M06 MP2501	0,70 *0.028*	0,65 0.026	0,65 0.026	0,75 0.030
P8	LPHT060310TR-M06 MP2501	0,70 *0.028*	0,65 0.026	0,65 0.026	0,80 0.032
P11	LPHT060310TR-M06 MP3501	0,70 *0.028*	0,65 0.026	0,65 0.026	0,75 0.030
P12	LPHT060310TR-M06 MP2501	0,60 *0.024*	0,46 0.018	0,46 0.018	0,55 0.022
M1	LPHT060310TR-ME05 MS2050	0,70 *0.028*	0,60 0.024	0,60 0.024	0,70 0.028
M2	LPHT060310TR-ME05 MS2050	0,70 *0.028*	0,55 0.022	0,55 0.022	0,65 0.026
M3	LPHT060310TR-ME05 MS2050	0,60 *0.024*	0,44 0.017	0,44 0.017	0,55 0.022
M4	LPHT060310TR-M06 MP3501	0,44 *0.017*	0,50 0.020	0,50 0.020	0,60 0.024
M5	LPHT060310TR-M06 MP3501	0,44 *0.017*	0,50 0.020	0,50 0.020	0,60 0.024
K1	LPHW060310TR-D06 MP3000	0,70 *0.028*	0,70 0.028	0,70 0.028	0,85 0.034
K2	LPHW060310TR-D06 MP3000	0,70 *0.028*	0,65 0.026	0,65 0.026	0,80 0.032
K3	LPHW060310TR-D06 MP3000	0,70 *0.028*	0,65 0.026	0,65 0.026	0,80 0.032
K4	LPHW060310TR-D06 MP3000	0,70 *0.028*	0,65 0.026	0,65 0.026	0,80 0.032
K5	LPHW060310TR-D06 MP3000	0,70 *0.028*	0,55 0.022	0,55 0.022	0,70 0.028
K6	LPHW060310TR-D06 MP3000	0,70 *0.028*	0,65 0.026	0,65 0.026	0,80 0.032
K7	LPHW060310TR-D06 MP3000	0,70 *0.028*	0,55 0.022	0,55 0.022	0,70 0.028
N1	LPHT060310ER-E05 H25	0,70 *0.028*	0,75 0.030	0,75 0.030	0,90 0.036
N2	LPHT060310ER-E05 H25	0,70 *0.028*	0,75 0.030	0,75 0.030	0,90 0.036
N3	LPHT060310ER-E05 H25	0,70 *0.028*	0,75 0.030	0,75 0.030	0,90 0.036
N11	LPHT060310ER-E05 H25	0,70 *0.028*	0,75 0.030	0,75 0.030	0,90 0.036
S1	LPHT060310TR-M06 MP3501	0,44 *0.017*	0,50 0.020	0,50 0.020	0,60 0.024
S2	LPHT060310TR-M06 MP3501	0,44 *0.017*	0,50 0.020	0,50 0.020	0,60 0.024
S3	LPHT060310TR-M06 MP3501	0,44 *0.017*	0,48 0.019	0,48 0.019	0,60 0.024
S11	LPHT060310TR-ME05 MS2050	0,50 *0.020*	0,50 0.020	0,50 0.020	0,60 0.024
S12	LPHT060310TR-ME05 MS2050	0,50 *0.020*	0,50 0.020	0,50 0.020	0,60 0.024
S13	LPHT060310TR-ME05 MS2050	0,44 *0.017*	0,44 0.017	0,44 0.017	0,50 0.020
H5	LPHW060310TR-D06 MH1051	0,44 *0.017*	0,44 0.017	0,44 0.017	0,50 0.020
H8	LPHW060310TR-D06 MH1051	0,40 *0.016*	0,34 0.013	0,34 0.013	0,40 0.016
H11	LPHW060310TR-D06 MP3000	0,44 *0.017*	0,44 0.017	0,44 0.017	0,50 0.020
H12	LPHW060310TR-D06 MP3000	0,40 *0.016*	0,34 0.013	0,34 0.013	0,40 0.016

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.21-LP06 – Cutting data v_c = (m/min)/(sf/min)

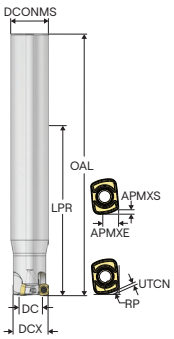
SMG	MH1051			MK2050			MP3000			MS2050			F40M			MP2051			MP2050		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	—	—	—	295	335	405	350	395	470	270	305	365	260	285	335	335	385	485	295	335	405
	—	—	—	*970*	*1100*	*1325*	*1150*	*1300*	*1550*	*890*	*1000*	*1200*	*850*	*940*	*1100*	*1100*	*1275*	*1600*	*970*	*1100*	*1325*
P2	—	—	—	285	330	395	330	375	450	265	295	355	255	275	325	325	375	475	285	325	395
	—	—	—	*940*	*1075*	*1300*	*1075*	*1225*	*1475*	*870*	*970*	*1175*	*840*	*900*	*1075*	*1075*	*1225*	*1550*	*940*	*1075*	*1300*
P3	—	—	—	250	290	345	295	330	395	235	260	310	225	245	285	295	335	420	250	285	345
	—	—	—	*820*	*950*	*1125*	*970*	*1075*	*1300*	*770*	*850*	*1025*	*740*	*800*	*940*	*970*	*1100*	*1375*	*820*	*940*	*1125*
P4	—	—	—	220	255	305	260	290	350	205	230	275	200	225	265	260	295	370	220	255	305
	—	—	—	*720*	*840*	*1000*	*850*	*950*	*1150*	*670*	*750*	*900*	*660*	*740*	*870*	*850*	*970*	*1225*	*720*	*840*	*1000*
P5	380	430	530	210	240	290	245	280	340	195	220	260	190	205	240	250	280	350	210	240	290
	1250	*1400*	*1750*	*690*	*790*	*950*	*800*	*920*	*1125*	*640*	*720*	*850*	*620*	*670*	*790*	*820*	*920*	*1150*	*690*	*790*	*950*
P6	425	485	600	235	270	325	285	325	380	220	245	295	215	230	270	280	315	395	235	270	325
	1400	*1600*	*1975*	*770*	*890*	*1075*	*940*	*1075*	*1250*	*720*	*800*	*970*	*710*	*750*	*890*	*920*	*1025*	*1300*	*770*	*890*	*1075*
P7	400	455	560	225	255	305	270	305	360	210	235	275	200	220	255	260	300	375	225	255	305
	1300	*1500*	*1825*	*740*	*840*	*1000*	*890*	*1000*	*1175*	*690*	*770*	*900*	*660*	*720*	*840*	*850*	*980*	*1225*	*740*	*840*	*1000*
P8	380	430	530	210	240	290	245	280	330	195	220	260	190	205	240	250	280	350	210	240	290
	1250	*1400*	*1750*	*690*	*790*	*950*	*800*	*920*	*1075*	*640*	*720*	*850*	*620*	*670*	*790*	*820*	*920*	*1150*	*690*	*790*	*950*
P11	390	445	550	215	250	300	260	295	350	200	225	270	195	210	245	240	295	405	215	250	300
	1275	*1450*	*1800*	*710*	*820*	*980*	*850*	*970*	*1150*	*660*	*740*	*890*	*640*	*690*	*800*	*790*	*970*	*1325*	*710*	*820*	*980*
P12	275	310	380	145	165	195	170	190	220	135	150	180	130	145	165	170	210	270	145	165	195
	900	*1025*	*1250*	*475*	*540*	*640*	*560*	*620*	*720*	*445*	*490*	*590*	*425*	*475*	*540*	*560*	*690*	*890*	*475*	*540*	*640*
M1	—	—	—	—	—	—	220	255	305	195	225	270	175	205	245	270	335	460	205	235	280
	—	—	—	—	—	—	*720*	*840*	*1000*	*640*	*740*	*890*	*570*	*670*	*800*	*890*	*1100*	*1500*	*670*	*770*	*920*
M2	—	—	—	—	—	—	185	210	255	160	185	220	145	170	200	225	280	385	170	195	230
	—	—	—	—	—	—	*610*	*690*	*840*	*520*	*610*	*720*	*475*	*560*	*660*	*740*	*920*	*1275*	*560*	*640*	*750*
M3	—	—	—	—	—	—	150	170	205	130	150	180	120	135	165	195	245	320	135	155	190
	—	—	—	—	—	—	*490*	*560*	*670*	*425*	*490*	*590*	*395*	*445*	*540*	*640*	*800*	*1050*	*445*	*510*	*620*
M4	—	—	—	—	—	—	115	130	160	100	115	140	95	105	125	155	190	245	105	120	145
	—	—	—	—	—	—	*375*	*425*	*520*	*330*	*375*	*460*	*310*	*345*	*410*	*510*	*620*	*800*	*345*	*395*	*475*
M5	—	—	—	—	—	—	100	110	130	85	95	115	75	85	105	130	155	205	90	100	120
	—	—	—	—	—	—	*330*	*360*	*425*	*280*	*310*	*375*	*245*	*280*	*345*	*425*	*510*	*670*	*295*	*330*	*395*
K1	510	580	720	310	355	425	235	270	320	—	—	—	175	200	240	—	—	—	—	—	—
	1675	*1900*	*2350*	*1025*	*1175*	*1400*	*770*	*890*	*1050*	—	—	—	*570*	*660*	*790*	—	—	—	—	—	—
K2	460	520	640	275	315	375	210	240	290	—	—	—	155	175	210	—	—	—	—	—	—
	1500	*1700*	*2100*	*900*	*1025*	*1225*	*690*	*790*	*950*	—	—	—	*510*	*570*	*690*	—	—	—	—	—	—
K3	390	440	540	230	265	315	175	200	245	—	—	—	130	150	180	—	—	—	—	—	—
	1275	*1450*	*1775*	*750*	*870*	*1025*	*570*	*660*	*800*	—	—	—	*425*	*490*	*590*	—	—	—	—	—	—
K4	370	420	520	220	255	305	170	195	235	—	—	—	125	145	170	—	—	—	—	—	—
	1225	*1375*	*1700*	*720*	*840*	*1000*	*560*	*640*	*770*	—	—	—	*410*	*475*	*560*	—	—	—	—	—	—
K5	240	270	330	135	155	185	105	120	140	—	—	—	75	90	105	—	—	—	—	—	—
	790	*890*	*1075*	*445*	*510*	*610*	*345*	*395*	*460*	—	—	—	*245*	*295*	*345*	—	—	—	—	—	—
K6	325	370	460	195	225	265	150	170	205	—	—	—	110	125	150	—	—	—	—	—	—
	1075	*1225*	*1500*	*640*	*740*	*870*	*490*	*560*	*670*	—	—	—	*360*	*410*	*490*	—	—	—	—	—	—
K7	305	345	420	175	200	240	135	155	180	—	—	—	100	115	135	—	—	—	—	—	—
	1000	*1125*	*1375*	*570*	*660*	*790*	*445*	*510*	*590*	—	—	—	*330*	*375*	*445*	—	—	—	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	1275	1475	1775	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*4175*	*4850*	*5825*	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	520	590	720	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*1700*	*1925*	*2350*	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	345	395	480	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*1125*	*1300*	*1575*	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	395	455	550	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*1300*	*1500*	*1800*	—	—	—	—	—	—
S1	—	—	—	—	—	—	55	60	75	48	55	65	43	49	60	50	60	70	50	60	70
	—	—	—	—	—	—	*180*	*195*	*245*	*155*	*180*	*215*	*140*	*160*	*195*	*165*	*195*	*230*	*165*	*195*	*230*
S2	—	—	—	—	—	—	44	50	60	38	43	50	35	39	47	42	47	55	42	47	55
	—	—	—	—	—	—	*145*	*165*	*195*	*125*	*140*	*165*	*115*	*130*	*155*	*140*	*155*	*180*	*140*	*155*	*180*
S3	—	—	—	—	—	—	38	44	50	34	38	46	31	35	42	37	42	50	37	42	50
	—	—	—	—	—	—	*125*	*145*	*165*	*110*	*125*	*150*	*100*	*115*	*140*	*120*	*140*	*165*	*120*	*140*	*165*
S11	—	—	—	—	—	—	—	—	—	65	75	90	60	70	85	75	85	100	75	85	100
	—	—	—	—	—	—	—	—	—	*215*	*245*	*295*	*195*	*230*	*280*	*245*	*280*	*330*	*245*	*280*	*330*
S12	—	—	—	—	—	—	—	—	—	46	55	65	42	48	55	50	60	70	50	60	70
	—	—	—	—	—	—	—	—	—	*150*	*180*	*215*	*140*	*155*	*180*	*165*	*195*	*230*	*165*	*195*	*230*
S13	—	—	—	—	—	—	—	—	—	27	30	36	24	27	33	29	33	40	29	33	40
	—	—	—	—	—	—	—	—	—	*90*	*100*	*120*	*80*	*90*	*110*	*95*	*110*	*130*	*95*	*110*	*130*
H5	150	170	205	50	60	70	48	55	65	—	—	—	38	44	50	—	—	—	—	—	—
	490	*560*	*670*	*165*	*195*	*230*	*155*	*180*	*215*	—	—	—	*125*	*145*	*165*	—	—	—	—	—	—
H8	165	185	215	55	65	75	50	60	70	—	—	—	41	47	55	—	—	—	—	—	—
	540	*610*	*710*	*180*	*215*	*245*	*165*	*195*	*230*	—	—	—	*135*	*155*	*180*	—	—	—	—	—	—
H11	195	215	260	65	75	90	60	70	80	—	—	—	49	55	65	115	145	175	55	65	75
	640	*710*	*850*	*215*	*245*	*295*	*195*	*230*	*260*	—	—	—	*160*	*180*	*215*	*375*	*475*	*570*	*180*	*215*	*245*
H12	190	215	250	95	110	130	100	115	130	—	—	—	75	85	100	105	130	155	95	110	125
	620	*710*	*820*	*310*	*360*	*425*	*330*	*375*	*425*	—	—	—	*245*	*280*	*330*	*345*	*425*	*510*	*310*	*360*	*410*

R217/220.21-LP06 – Cutting data v_c = (m/min)/(sf/min)

SMG	H25			MP2501			MS2500			MP3501			MM4500		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	—	—	—	420	465	540	405	445	520	380	415	485	265	300	345
	—	—	—	*1375*	*1525*	*1775*	*1325*	*1450*	*1700*	*1250*	*1350*	*1600*	*870*	*980*	*1125*
P2	—	—	—	410	450	520	395	435	510	370	405	470	255	285	330
	—	—	—	*1350*	*1475*	*1700*	*1300*	*1425*	*1675*	*1225*	*1325*	*1550*	*840*	*940*	*1075*
P3	—	—	—	360	400	460	345	380	445	325	355	410	225	250	290
	—	—	—	*1175*	*1300*	*1500*	*1125*	*1250*	*1450*	*1075*	*1175*	*1350*	*740*	*820*	*950*
P4	—	—	—	320	350	405	305	335	390	285	315	365	210	240	275
	—	—	—	*1050*	*1150*	*1325*	*1000*	*1100*	*1275*	*940*	*1025*	*1200*	*690*	*790*	*900*
P5	—	—	—	305	335	385	290	320	370	270	300	345	185	210	245
	—	—	—	*1000*	*1100*	*1275*	*950*	*1050*	*1225*	*890*	*980*	*1125*	*610*	*690*	*800*
P6	—	—	—	340	375	435	325	360	420	305	335	390	215	240	275
	—	—	—	*1125*	*1225*	*1425*	*1075*	*1175*	*1375*	*1000*	*1100*	*1275*	*710*	*790*	*900*
P7	—	—	—	320	355	410	305	340	395	290	315	365	205	230	260
	—	—	—	*1050*	*1175*	*1350*	*1000*	*1125*	*1300*	*950*	*1025*	*1200*	*670*	*750*	*850*
P8	—	—	—	305	335	385	290	320	370	270	300	345	185	210	245
	—	—	—	*1000*	*1100*	*1275*	*950*	*1050*	*1225*	*890*	*980*	*1125*	*610*	*690*	*800*
P11	—	—	—	315	345	395	300	330	385	280	310	355	195	220	255
	—	—	—	*1025*	*1125*	*1300*	*980*	*1075*	*1275*	*920*	*1025*	*1175*	*640*	*720*	*840*
P12	—	—	—	205	225	255	195	215	245	185	200	230	120	135	155
	—	—	—	*670*	*740*	*840*	*640*	*710*	*800*	*610*	*660*	*750*	*395*	*445*	*510*
M1	—	—	—	210	240	290	225	260	315	195	225	270	165	190	225
	—	—	—	*690*	*790*	*950*	*740*	*850*	*1025*	*640*	*740*	*890*	*540*	*620*	*740*
M2	—	—	—	170	200	235	185	215	255	160	185	220	135	155	190
	—	—	—	*560*	*660*	*770*	*610*	*710*	*840*	*520*	*610*	*720*	*445*	*510*	*620*
M3	—	—	—	140	160	195	150	175	210	130	150	180	110	125	150
	—	—	—	*460*	*520*	*640*	*490*	*570*	*690*	*425*	*490*	*590*	*360*	*410*	*490*
M4	—	—	—	110	125	150	120	135	160	100	115	140	85	100	115
	—	—	—	*360*	*410*	*490*	*395*	*445*	*520*	*330*	*375*	*460*	*280*	*330*	*375*
M5	—	—	—	90	100	125	100	110	135	85	95	115	75	80	100
	—	—	—	*295*	*330*	*410*	*330*	*360*	*445*	*280*	*310*	*375*	*245*	*260*	*330*
K1	—	—	—	415	455	530	250	290	345	370	410	475	—	—	—
	—	—	—	*1350*	*1500*	*1750*	*820*	*950*	*1125*	*1225*	*1350*	*1550*	—	—	—
K2	—	—	—	365	405	465	220	255	305	330	360	420	—	—	—
	—	—	—	*1200*	*1325*	*1525*	*720*	*840*	*1000*	*1075*	*1175*	*1375*	—	—	—
K3	—	—	—	310	340	395	190	215	260	280	305	355	—	—	—
	—	—	—	*1025*	*1125*	*1300*	*620*	*710*	*850*	*920*	*1000*	*1175*	—	—	—
K4	—	—	—	295	325	375	180	205	245	265	290	340	—	—	—
	—	—	—	*970*	*1075*	*1225*	*590*	*670*	*800*	*870*	*950*	*1125*	—	—	—
K5	—	—	—	185	205	230	110	130	150	165	180	210	—	—	—
	—	—	—	*610*	*670*	*750*	*360*	*425*	*490*	*540*	*590*	*690*	—	—	—
K6	—	—	—	260	290	330	160	180	215	235	260	300	—	—	—
	—	—	—	*850*	*950*	*1075*	*520*	*590*	*710*	*770*	*850*	*980*	—	—	—
K7	—	—	—	235	260	295	145	165	195	210	235	265	—	—	—
	—	—	—	*770*	*850*	*970*	*475*	*540*	*640*	*690*	*770*	*870*	—	—	—
N1	1325	1525	1825	—	—	—	—	—	—	—	—	—	—	—	—
	4350	*5000*	*6000*	—	—	—	—	—	—	—	—	—	—	—	—
N2	540	620	740	—	—	—	—	—	—	—	—	—	—	—	—
	1775	*2025*	*2425*	—	—	—	—	—	—	—	—	—	—	—	—
N3	360	410	495	—	—	—	—	—	—	—	—	—	—	—	—
	1175	*1350*	*1625*	—	—	—	—	—	—	—	—	—	—	—	—
N11	410	470	570	—	—	—	—	—	—	—	—	—	—	—	—
	1350	*1550*	*1875*	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	60	65	80	48	55	65	27	30	36
	—	—	—	—	—	—	*195*	*215*	*260*	*155*	*180*	*215*	*90*	*100*	*120*
S2	—	—	—	—	—	—	47	55	65	38	43	50	21	24	29
	—	—	—	—	—	—	*155*	*180*	*215*	*125*	*140*	*165*	*70*	*80*	*95*
S3	—	—	—	—	—	—	41	47	55	34	38	46	19	21	25
	—	—	—	—	—	—	*135*	*155*	*180*	*110*	*125*	*150*	*60*	*70*	*80*
S11	—	—	—	—	—	—	80	95	110	65	75	90	37	42	50
	—	—	—	—	—	—	*260*	*310*	*360*	*215*	*245*	*295*	*120*	*140*	*165*
S12	—	—	—	—	—	—	55	65	75	46	55	65	34	39	47
	—	—	—	—	—	—	*180*	*215*	*245*	*150*	*180*	*215*	*110*	*130*	*155*
S13	—	—	—	—	—	—	33	37	44	27	30	36	20	23	27
	—	—	—	—	—	—	*110*	*120*	*145*	*90*	*100*	*120*	*65*	*75*	*90*
H5	—	—	—	—	—	—	50	55	70	44	50	60	—	—	—
	—	—	—	—	—	—	*165*	*180*	*230*	*145*	*165*	*195*	—	—	—
H8	—	—	—	—	—	—	55	60	70	47	55	65	—	—	—
	—	—	—	—	—	—	*180*	*195*	*230*	*155*	*180*	*215*	—	—	—
H11	—	—	—	—	—	—	65	70	85	55	65	75	—	—	—
	—	—	—	—	—	—	*215*	*230*	*280*	*180*	*215*	*245*	—	—	—
H12	—	—	—	—	—	—	105	120	140	85	95	115	—	—	—
	—	—	—	—	—	—	*345*	*395*	*460*	*280*	*310*	*375*	—	—	—

R217.21-LP09 – inch





—For insert selection and cutting data recommendations, see page(s) 614-616
—For complete insert programme, see page(s) 880
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCONMS	RP	UTCN	LUX	LPR	OAL	RMPX°	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch	inch	inch	inch	inch			lbs	
R217.21-01.25-0-LP09-4A	03212900	Cylindrical	0.744	1.250	4	0.071	0.287	1.250	0.137	0.028	1.870	5.719	8.000	4,9	31200	2.430	LP..09T420
R217.21-01.50-0-LP09-5A	03212901	Cylindrical	0.992	1.500	5	0.071	0.287	1.500	0.137	0.028	1.870	5.313	8.000	3,4	28500	3.530	LP..09T420

Spare Parts, included in delivery

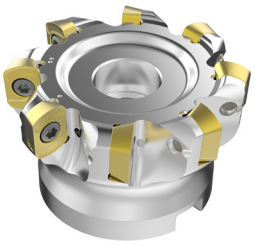
For cutter	Insert key	Insert screw
		
R217.21-..	1/4HEX-T15PX50	C04009-T15P

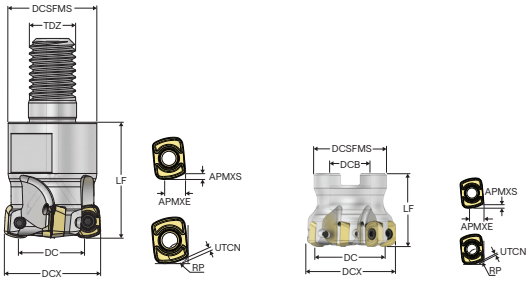
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.21-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

R217/220.21-LP09 – Metric

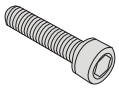




—For insert selection and cutting data recommendations, see page(s) 614-616
—For complete insert programme, see page(s) 880
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCS-FMS	TDZ		LF	RP		OAL	RMPX°	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm		mm	mm	mm	mm	mm			kg	
R217.21-1225.RE-LP09.2A	03212883	Combimaster	12,0	25,0	2	1,8	7,3	–	23,0	M12	–	35,0	3,49	0,7	56,75	8,8	35200	0,2	LP..09T420
R217.21-1632.RE-LP09.3A	03212884	Combimaster	19,1	32,0	3	1,8	7,3	–	30,0	M16	–	35,0	3,45	0,7	57,75	4,8	31100	0,2	LP..09T420
R217.21-1632.RE-LP09.4A	03212885	Combimaster	19,1	32,0	4	1,8	7,3	–	30,0	M16	–	35,0	3,47	0,7	57,75	4,8	31100	0,3	LP..09T420
R217.21-1635.RE-LP09.4A	03212886	Combimaster	22,1	35,0	4	1,8	7,3	–	30,0	M16	–	35,0	3,47	0,7	57,75	4,0	29700	0,2	LP..09T420
R217.21-2040.RE-LP09.5A	03212887	Combimaster	27,0	40,0	5	1,8	7,3	–	36,5	M20	–	40,0	3,48	0,7	67,0	3,2	27800	0,4	LP..09T420
R217.21-2042.RE-LP09.5A	03212888	Combimaster	28,9	42,0	5	1,8	7,3	–	36,5	M20	–	40,0	3,48	0,7	67,0	2,9	27100	0,4	LP..09T420
R220.21-0040-LP09.4A	03212889	Arbor	27,5	40,0	4	1,8	7,3	16,0	32,0	–	16,0	40,0	3,46	0,7	–	3,2	27800	0,3	LP..09T420
R220.21-0050-LP09.5A	03212890	Arbor	37,0	50,0	5	1,8	7,3	22,0	40,0	–	22,0	40,0	3,45	0,7	–	2,2	24800	0,3	LP..09T420
R220.21-0050-LP09.6A	03212891	Arbor	37,0	50,0	6	1,8	7,3	22,0	40,0	–	22,0	40,0	3,45	0,7	–	2,2	24800	0,3	LP..09T420
R220.21-0050-LP09.7A	03212892	Arbor	37,1	50,0	7	1,8	7,3	22,0	40,0	–	22,0	40,0	3,47	0,7	–	2,2	24800	0,3	LP..09T420
R220.21-0052-LP09.5A	03252422	Arbor	39,0	51,98	5	1,8	7,3	22,0	49,0	–	22,0	40,0	3,45	0,7	–	2,1	24400	0,5	LP..09T420
R220.21-0052-LP09.7A	03212893	Arbor	39,1	51,98	7	1,8	7,3	22,0	48,0	–	22,0	40,0	3,47	0,7	–	2,1	24400	0,4	LP..09T420
R220.21-0063-LP09.6A	03212894	Arbor	50,0	63,0	6	1,8	7,3	22,0	48,0	–	22,0	40,0	3,45	0,7	–	2,7	22100	0,5	LP..09T420
R220.21-0063-LP09.6A-27	03317247	Arbor	50,0	63,0	6	1,8	7,3	27,0	61,0	–	27,0	50,0	3,45	0,7	–	2,7	22100	0,8	LP..09T420
R220.21-0063-LP09.8A	03212895	Arbor	50,1	63,0	8	1,8	7,3	22,0	48,0	–	22,0	40,0	3,47	0,7	–	1,6	22100	0,5	LP..09T420
R220.21-0063-LP09.8A-27	03317248	Arbor	50,1	63,0	8	1,8	7,3	27,0	61,0	–	27,0	50,0	3,47	0,7	–	1,6	22100	0,8	LP..09T420
R220.21-0066-LP09.6A	03252423	Arbor	53,1	66,0	6	1,8	7,3	27,0	61,0	–	27,0	50,0	3,47	0,7	–	1,5	21600	0,8	LP..09T420
R220.21-0066-LP09.8A	03212896	Arbor	53,1	66,0	8	1,8	7,3	27,0	60,0	–	27,0	50,0	3,47	0,7	–	1,5	21600	0,8	LP..09T420
R220.21-0080-LP09.7A	03212897	Arbor	67,0	80,0	7	1,8	7,3	27,0	60,0	–	27,0	50,0	3,45	0,7	–	1,1	19600	1,0	LP..09T420
R220.21-0080-LP09.9A	03212898	Arbor	67,0	80,0	9	1,8	7,3	27,0	60,0	–	27,0	50,0	3,45	0,7	–	1,1	19600	1,0	LP..09T420
R220.21-0084-LP09.7A	03252424	Arbor	71,0	84,0	7	1,8	7,3	32,0	79,0	–	32,0	50,0	3,44	0,7	–	1,1	18600	1,4	LP..09T420
R220.21-0100-LP09.10A	03212899	Arbor	87,0	100,0	10	1,8	7,3	32,0	78,0	–	32,0	50,0	3,44	0,7	–	0,8	17600	1,7	LP..09T420

Spare Parts, included in delivery

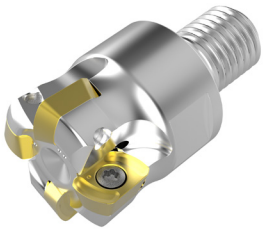
For cutter	Arbor screw	Insert key	Insert screw
			
R217.21-..	–	1/4HEX-T15PX50	C04009-T15P
R220.21-0040	MC6S8X30	1/4HEX-T15PX50	C04009-T15P
R220.21-0050-0063	220.17-692	1/4HEX-T15PX50	C04009-T15P
R220.21-0063-6A	220.17-692	1/4HEX-T15PX50	C04011-T15P
R220.21-0063-6A-27	MC6S12X40	1/4HEX-T15PX50	C04011-T15P
R220.21-0063-8A-27	MC6S12X40	1/4HEX-T15PX50	C04009-T15P
R220.21-0066	MC6S12X35	1/4HEX-T15PX50	C04009-T15P
R220.21-0080	MC6S12X35	1/4HEX-T15PX50	C04011-T15P
R220.21-0084	MLC6S16X35	1/4HEX-T15PX50	C04009-T15P
R220.21-0100	MLC6S16X35	1/4HEX-T15PX90	C04011-T15P

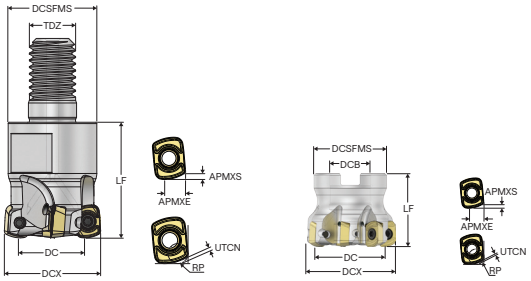
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.21-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

R217/220.21-LP09 – Inch

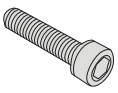




—For insert selection and cutting data recommendations, see page(s) 614-616
—For complete insert programme, see page(s) 880
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ	DCONMS	LF	RP	UTCN	OAL	RMPX°	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch		inch	inch	inch	inch	inch			lbs	
R217.21-01.25-16RE-LP09-4A	03212902	Combimaster	0.7441	1.250	4	0.071	0.287	–	1.181	M16	–	1.378	0.137	0.028	2.274	4,9	31100	0.660	LP..09T420
R220.21-02.00-LP09-6A	03212903	Arbor	1.4882	000	6	0.071	0.287	0.750	1.750	–	0.750	1.500	0.136	0.028	–	2,2	24600	0.880	LP..09T420
R220.21-02.00-LP09-7A	03212904	Arbor	1.4922	000	7	0.071	0.287	0.750	1.750	–	0.750	1.500	0.137	0.028	–	2,2	24600	0.880	LP..09T420
R220.21-02.50-LP09-6A	03212905	Arbor	1.9882	500	6	0.071	0.287	0.750	1.750	–	0.750	1.500	0.136	0.028	–	1,6	22000	1.320	LP..09T420
R220.21-03.00-LP09-6A	03212907	Arbor	2.4883	000	6	0.071	0.287	1.000	2.250	–	1.000	2.000	0.136	0.028	–	1,2	19600	2.200	LP..09T420
R220.21-03.00-LP09-8A	03212908	Arbor	2.4883	000	8	0.071	0.287	1.000	2.250	–	1.000	2.000	0.136	0.028	–	1,2	20100	2.200	LP..09T420

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.21-..	–	1/4HEX-T15PX50	C04009-T15P
R220.21-02.00-02.50	UC6S3/8UNFX1-1/4	1/4HEX-T15PX50	C04009-T15P
R220.21-03.00	UC6S1/2UNFX1-1/2	1/4HEX-T15PX50	C04011-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.21-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

R217/220.21-LP09 – Insert selection – mm/Inch

SMG		a_p	f_z		
			100%	70%	30%
P1	LPKT09T420TR-M13 MP3501	1,6 *0.065*	1,1 0.044	1,1 0.044	1,3 0.050
P2	LPKT09T420TR-M13 MP3501	1,6 *0.065*	1,1 0.044	1,1 0.044	1,3 0.050
P3	LPKT09T420TR-M13 MP2501	1,6 *0.065*	1,0 0.040	1,0 0.040	1,3 0.050
P4	LPKT09T420TR-M13 MP2501	1,6 *0.065*	1,0 0.040	1,0 0.040	1,2 0.048
P5	LPKT09T420TR-M13 MP2501	1,6 *0.065*	1,0 0.040	1,0 0.040	1,2 0.048
P6	LPKT09T420TR-M13 MP2501	1,6 *0.065*	1,0 0.040	1,0 0.040	1,2 0.048
P7	LPKT09T420TR-M13 MP2501	1,6 *0.065*	1,0 0.040	1,0 0.040	1,2 0.048
P8	LPKT09T420TR-M13 MP2501	1,6 *0.065*	1,0 0.040	1,0 0.040	1,3 0.050
P11	LPKT09T420TR-M13 MP3501	1,6 *0.065*	1,0 0.040	1,0 0.040	1,2 0.048
P12	LPKT09T420TR-M13 MP2501	1,3 *0.050*	0,75 0.030	0,75 0.030	0,90 0.036
M1	LPKT09T420TR-ME08 MS2050	1,6 *0.065*	0,70 0.028	0,70 0.028	0,80 0.032
M2	LPKT09T420TR-ME08 MS2050	1,6 *0.065*	0,60 0.024	0,60 0.024	0,75 0.030
M3	LPKT09T420TR-ME08 MS2050	1,3 *0.050*	0,55 0.022	0,55 0.022	0,65 0.026
M4	LPKT09T420TR-M13 MP3501	0,95 *0.038*	0,90 0.036	0,90 0.036	1,1 0.044
M5	LPKT09T420TR-M13 MP3501	0,95 *0.038*	0,90 0.036	0,90 0.036	1,1 0.044
K1	LPKW09T420TR-D15 MK2050	1,6 *0.065*	1,3 0.050	1,3 0.050	1,5 0.060
K2	LPKW09T420TR-D15 MK2050	1,6 *0.065*	1,2 0.048	1,2 0.048	1,4 0.055
K3	LPKW09T420TR-D15 MK2050	1,6 *0.065*	1,2 0.048	1,2 0.048	1,4 0.055
K4	LPKW09T420TR-D15 MK2050	1,6 *0.065*	1,2 0.048	1,2 0.048	1,4 0.055
K5	LPKW09T420TR-D15 MK2050	1,6 *0.065*	1,0 0.040	1,0 0.040	1,3 0.050
K6	LPKW09T420TR-D15 MK2050	1,6 *0.065*	1,2 0.048	1,2 0.048	1,4 0.055
K7	LPKW09T420TR-D15 MK2050	1,6 *0.065*	1,0 0.040	1,0 0.040	1,3 0.050
N1	LPHT09T420R-E08 H25	1,6 *0.065*	0,85 0.034	0,85 0.034	1,0 0.040
N2	LPHT09T420R-E08 H25	1,6 *0.065*	0,85 0.034	0,85 0.034	1,0 0.040
N3	LPHT09T420R-E08 H25	1,6 *0.065*	0,85 0.034	0,85 0.034	1,0 0.040
N11	LPHT09T420R-E08 H25	1,6 *0.065*	0,85 0.034	0,85 0.034	1,0 0.040
S1	LPKT09T420TR-M13 MP3501	0,95 *0.038*	0,90 0.036	0,90 0.036	1,1 0.044
S2	LPKT09T420TR-M13 MP3501	0,95 *0.038*	0,90 0.036	0,90 0.036	1,1 0.044
S3	LPKT09T420TR-M13 MP3501	0,95 *0.038*	0,85 0.034	0,85 0.034	1,0 0.040
S11	LPKT09T420TR-ME08 MS2050	1,1 *0.044*	0,60 0.024	0,60 0.024	0,70 0.028
S12	LPKT09T420TR-ME08 MS2050	1,1 *0.044*	0,60 0.024	0,60 0.024	0,70 0.028
S13	LPKT09T420TR-ME08 MS2050	0,95 *0.038*	0,55 0.022	0,55 0.022	0,65 0.026
H5	LPKW09T420TR-D15 MH1051	1,0 *0.040*	0,85 0.034	0,85 0.034	1,0 0.040
H8	LPKW09T420TR-D15 MH1051	0,90 *0.036*	0,70 0.028	0,70 0.028	0,80 0.032
H11	LPKW09T420TR-D15 MP3000	1,0 *0.040*	0,85 0.034	0,85 0.034	1,0 0.040
H12	LPKW09T420TR-D15 MP3000	0,90 *0.036*	0,70 0.028	0,70 0.028	0,80 0.032

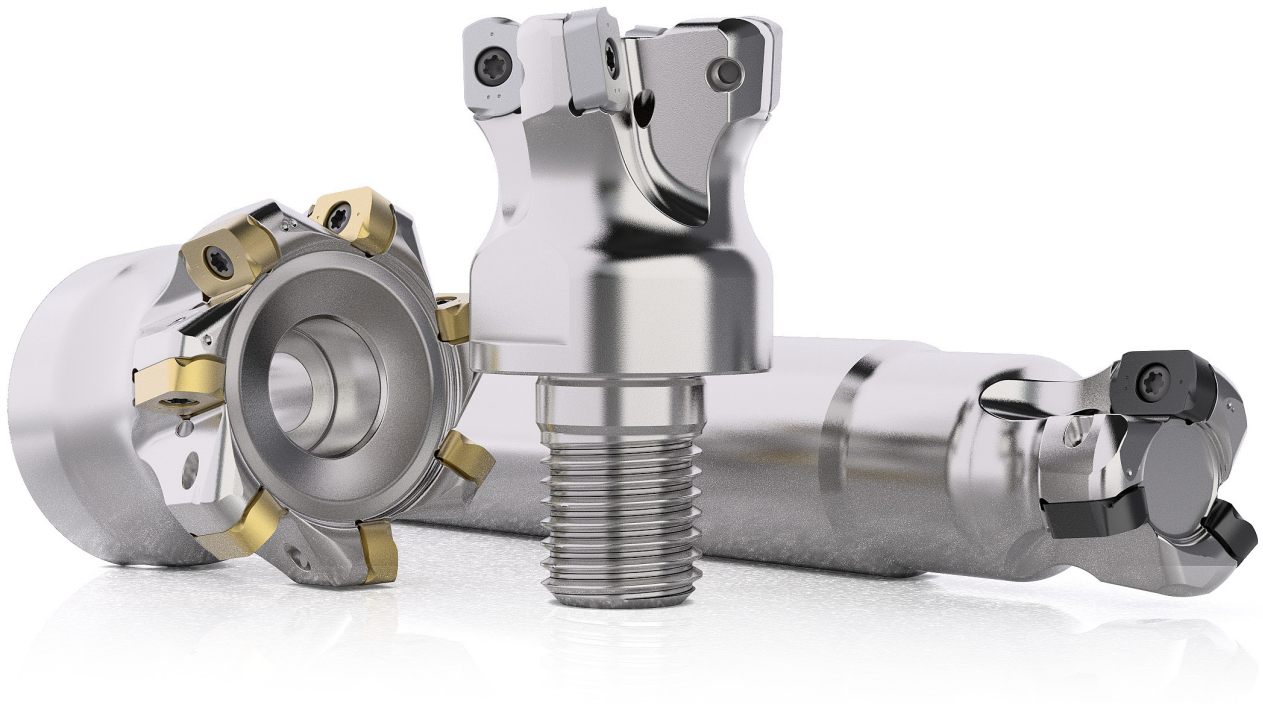
SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.21-LP09 – Cutting data v_c = (m/min)/(sf/min)

SMG	MH1051			MK2050			MP3000			F40M			MS2050			MP2051			MP2050		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	—	—	—	215	250	295	180	205	255	190	210	250	260	300	355	165	205	295	235	275	330
	—	—	—	*710*	*820*	*970*	*590*	*670*	*840*	*620*	*690*	*820*	*850*	*980*	*1175*	*540*	*670*	*970*	*770*	*900*	*1075*
P2	—	—	—	200	235	285	165	190	250	185	205	245	245	285	345	160	200	285	230	265	320
	—	—	—	*660*	*770*	*940*	*540*	*620*	*820*	*610*	*670*	*800*	*800*	*940*	*1125*	*520*	*660*	*940*	*750*	*870*	*1050*
P3	—	—	—	180	210	245	150	175	215	165	185	210	220	250	305	155	190	245	205	235	275
	—	—	—	*590*	*690*	*800*	*490*	*570*	*710*	*540*	*610*	*690*	*720*	*820*	*1000*	*510*	*620*	*800*	*670*	*770*	*900*
P4	—	—	—	155	185	220	130	155	195	155	175	205	195	220	265	135	170	235	180	210	250
	—	—	—	*510*	*610*	*720*	*425*	*510*	*640*	*510*	*570*	*670*	*640*	*720*	*870*	*445*	*560*	*770*	*590*	*690*	*820*
P5	215	250	330	150	175	210	125	145	190	140	155	180	190	220	255	130	160	225	170	200	240
	710	*820*	*1075*	*490*	*570*	*690*	*410*	*475*	*620*	*460*	*510*	*590*	*620*	*720*	*840*	*425*	*520*	*740*	*560*	*660*	*790*
P6	255	300	370	175	200	235	150	175	210	155	175	205	215	245	285	145	180	250	190	225	270
	840	*980*	*1225*	*570*	*660*	*770*	*490*	*570*	*690*	*510*	*570*	*670*	*710*	*800*	*940*	*475*	*590*	*820*	*620*	*740*	*890*
P7	245	280	345	165	190	225	140	165	200	145	165	195	200	230	270	140	170	235	180	210	255
	800	*920*	*1125*	*540*	*620*	*740*	*460*	*540*	*660*	*475*	*540*	*640*	*660*	*750*	*890*	*460*	*560*	*770*	*590*	*690*	*840*
P8	215	250	310	150	175	205	125	145	180	140	155	175	185	210	255	130	160	205	170	200	230
	710	*820*	*1025*	*490*	*570*	*670*	*410*	*475*	*590*	*460*	*510*	*570*	*610*	*690*	*840*	*425*	*520*	*670*	*560*	*660*	*750*
P11	235	275	340	160	185	220	135	160	195	145	160	190	195	225	260	125	160	240	175	205	245
	770	*900*	*1125*	*520*	*610*	*720*	*445*	*520*	*640*	*475*	*520*	*620*	*640*	*740*	*850*	*410*	*520*	*790*	*570*	*670*	*800*
P12	180	200	260	105	120	145	100	115	145	100	110	130	130	150	175	110	135	195	120	135	165
	590	*660*	*850*	*345*	*395*	*475*	*330*	*375*	*475*	*330*	*360*	*425*	*425*	*490*	*570*	*360*	*445*	*640*	*395*	*445*	*540*
M1	—	—	—	—	—	—	—	—	—	140	165	200	190	220	265	130	170	255	165	190	230
	—	—	—	—	—	—	—	—	—	*460*	*540*	*660*	*620*	*720*	*870*	*425*	*560*	*840*	*540*	*620*	*750*
M2	—	—	—	—	—	—	—	—	—	120	140	165	160	185	220	120	150	225	135	160	190
	—	—	—	—	—	—	—	—	—	*395*	*460*	*540*	*520*	*610*	*720*	*395*	*490*	*740*	*445*	*520*	*620*
M3	—	—	—	—	—	—	—	—	—	95	115	135	130	145	180	115	145	210	110	130	155
	—	—	—	—	—	—	—	—	—	*310*	*375*	*445*	*425*	*475*	*590*	*375*	*475*	*690*	*360*	*425*	*510*
M4	—	—	—	—	—	—	—	—	—	75	90	105	100	115	140	100	125	175	90	100	120
	—	—	—	—	—	—	—	—	—	*245*	*295*	*345*	*330*	*375*	*460*	*330*	*410*	*570*	*295*	*330*	*395*
M5	—	—	—	—	—	—	—	—	—	65	75	90	85	95	115	85	100	145	75	85	100
	—	—	—	—	—	—	—	—	—	*215*	*245*	*295*	*280*	*310*	*375*	*280*	*330*	*475*	*245*	*280*	*330*
K1	280	330	435	215	255	310	155	180	220	140	165	195	—	—	—	—	—	—	—	—	—
	920	*1075*	*1425*	*710*	*840*	*1025*	*510*	*590*	*720*	*460*	*540*	*640*	—	—	—	—	—	—	—	—	—
K2	260	300	395	195	225	275	135	160	195	125	145	175	—	—	—	—	—	—	—	—	—
	850	*980*	*1300*	*640*	*740*	*900*	*445*	*520*	*640*	*410*	*475*	*570*	—	—	—	—	—	—	—	—	—
K3	220	255	335	165	190	230	115	135	165	105	125	150	—	—	—	—	—	—	—	—	—
	720	*840*	*1100*	*540*	*620*	*750*	*375*	*445*	*540*	*345*	*410*	*490*	—	—	—	—	—	—	—	—	—
K4	210	245	320	155	180	220	110	130	155	100	120	140	—	—	—	—	—	—	—	—	—
	690	*800*	*1050*	*510*	*590*	*720*	*360*	*425*	*510*	*330*	*395*	*460*	—	—	—	—	—	—	—	—	—
K5	145	165	200	100	115	135	70	80	95	60	75	85	—	—	—	—	—	—	—	—	—
	475	*540*	*660*	*330*	*375*	*445*	*230*	*260*	*310*	*195*	*245*	*280*	—	—	—	—	—	—	—	—	—
K6	185	215	280	140	160	195	95	115	135	90	105	125	—	—	—	—	—	—	—	—	—
	610	*710*	*920*	*460*	*520*	*640*	*310*	*375*	*445*	*295*	*345*	*410*	—	—	—	—	—	—	—	—	—
K7	185	215	255	125	150	170	90	105	120	80	95	110	—	—	—	—	—	—	—	—	—
	610	*710*	*840*	*410*	*490*	*560*	*295*	*345*	*395*	*260*	*310*	*360*	—	—	—	—	—	—	—	—	—
N1	—	—	—	—	—	—	—	—	—	1025	1175	1425	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	*3375*	*3850*	*4675*	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	410	480	570	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	*1350*	*1575*	*1875*	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	275	320	380	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	*900*	*1050*	*1250*	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	315	365	435	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	*1025*	*1200*	*1425*	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	36	41	49	47	55	65	43	49	60	43	49	60
	—	—	—	—	—	—	—	—	—	*120*	*135*	*160*	*155*	*180*	*215*	*140*	*160*	*195*	*140*	*160*	*195*
S2	—	—	—	—	—	—	—	—	—	29	33	40	38	44	50	35	40	48	35	40	48
	—	—	—	—	—	—	—	—	—	*95*	*110*	*130*	*125*	*145*	*165*	*115*	*130*	*155*	*115*	*130*	*155*
S3	—	—	—	—	—	—	—	—	—	25	29	35	33	38	46	30	35	42	30	35	42
	—	—	—	—	—	—	—	—	—	*80*	*95*	*115*	*110*	*125*	*150*	*100*	*115*	*140*	*100*	*115*	*140*
S11	—	—	—	—	—	—	—	—	—	49	55	70	65	75	90	60	70	85	60	70	85
	—	—	—	—	—	—	—	—	—	*160*	*180*	*230*	*215*	*245*	*295*	*195*	*230*	*280*	*195*	*230*	*280*
S12	—	—	—	—	—	—	—	—	—	34	39	48	45	50	60	41	47	55	41	47	55
	—	—	—	—	—	—	—	—	—	*110*	*130*	*155*	*150*	*165*	*195*	*135*	*155*	*180*	*135*	*155*	*180*
S13	—	—	—	—	—	—	—	—	—	20	23	28	26	31	36	24	28	33	24	28	33
	—	—	—	—	—	—	—	—	—	*65*	*75*	*90*	*85*	*100*	*120*	*80*	*90*	*110*	*80*	*90*	*110*
H5	100	115	145	38	43	50	33	38	45	31	36	43	—	—	—	—	—	—	—	—	—
	330	*375*	*475*	*125*	*140*	*165*	*110*	*125*	*150*	*100*	*120*	*140*	—	—	—	—	—	—	—	—	—
H8	115	130	160	—	—	—	35	41	49	34	39	46	—	—	—	—	—	—	—	—	—
	375	*425*	*520*	—	—	—	*115*	*135*	*160*	*110*	*130*	*150*	—	—	—	—	—	—	—	—	—
H11	130	145	185	—	—	—	42	48	60	40	46	55	—	—	—	80	100	140	47	55	65
	425	*475*	*610*	—	—	—	*140*	*155*	*195*	*130*	*150*	*180*	—	—	—	*260*	*330*	*460*	*155*	*180*	*215*
H12	135	150	190	70	80	95	70	80	95	60	70	85	—	—	—	90	110	145	80	90	110
	445	*490*	*620*	*230*	*260*	*310*	*230*	*260*	*310*	*195*	*230*	*280*	—	—	—	*295*	*360*	*475*	*260*	*295*	*360*

R217/220.21-LP09 – Cutting data v_c = (m/min)/(sf/min)

SMG	H25			MP1501			MP2501			MS2500			MP3501			MM4500		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	—	—	—	330	370	440	320	355	425	305	345	415	280	315	375	230	265	315
	—	—	—	*1075*	*1225*	*1450*	*1050*	*1175*	*1400*	*1000*	*1125*	*1350*	*920*	*1025*	*1225*	*750*	*870*	*1025*
P2	—	—	—	320	360	430	310	345	415	295	335	400	270	305	365	220	250	305
	—	—	—	*1050*	*1175*	*1400*	*1025*	*1125*	*1350*	*970*	*1100*	*1300*	*890*	*1000*	*1200*	*720*	*820*	*1000*
P3	—	—	—	290	325	370	280	310	355	265	300	345	245	275	315	195	220	270
	—	—	—	*950*	*1075*	*1225*	*920*	*1025*	*1175*	*870*	*980*	*1125*	*800*	*900*	*1025*	*640*	*720*	*890*
P4	—	—	—	255	285	335	245	275	325	235	265	315	215	240	290	185	210	255
	—	—	—	*840*	*940*	*1100*	*800*	*900*	*1075*	*770*	*870*	*1025*	*710*	*790*	*950*	*610*	*690*	*840*
P5	—	—	—	245	270	320	235	260	310	225	255	300	205	230	275	170	195	225
	—	—	—	*800*	*890*	*1050*	*770*	*850*	*1025*	*740*	*840*	*980*	*670*	*750*	*900*	*560*	*640*	*740*
P6	—	—	—	270	305	360	265	295	350	250	285	340	230	260	310	190	215	255
	—	—	—	*890*	*1000*	*1175*	*870*	*970*	*1150*	*820*	*940*	*1125*	*750*	*850*	*1025*	*620*	*710*	*840*
P7	—	—	—	255	290	340	250	280	330	235	270	320	220	245	290	180	205	240
	—	—	—	*840*	*950*	*1125*	*820*	*920*	*1075*	*770*	*890*	*1050*	*720*	*800*	*950*	*590*	*670*	*790*
P8	—	—	—	245	270	310	235	260	300	225	255	290	205	230	265	165	185	225
	—	—	—	*800*	*890*	*1025*	*770*	*850*	*980*	*740*	*840*	*950*	*670*	*750*	*870*	*540*	*610*	*740*
P11	—	—	—	250	280	330	240	270	320	230	260	310	210	240	285	175	200	230
	—	—	—	*820*	*920*	*1075*	*790*	*890*	*1050*	*750*	*850*	*1025*	*690*	*790*	*940*	*570*	*660*	*750*
P12	—	—	—	170	190	220	170	185	215	160	175	210	150	165	195	115	130	155
	—	—	—	*560*	*620*	*720*	*560*	*610*	*710*	*520*	*570*	*690*	*490*	*540*	*640*	*375*	*425*	*510*
M1	—	—	—	—	—	—	170	195	235	180	210	255	155	180	220	145	170	210
	—	—	—	—	—	—	*560*	*640*	*770*	*590*	*690*	*840*	*510*	*590*	*720*	*475*	*560*	*690*
M2	—	—	—	—	—	—	140	165	195	150	175	210	130	150	180	125	145	170
	—	—	—	—	—	—	*460*	*540*	*640*	*490*	*570*	*690*	*425*	*490*	*590*	*410*	*475*	*560*
M3	—	—	—	—	—	—	115	135	160	125	145	175	105	125	150	100	115	140
	—	—	—	—	—	—	*375*	*445*	*520*	*410*	*475*	*570*	*345*	*410*	*490*	*330*	*375*	*460*
M4	—	—	—	—	—	—	90	105	125	100	110	135	85	95	115	80	90	110
	—	—	—	—	—	—	*295*	*345*	*410*	*330*	*360*	*445*	*280*	*310*	*375*	*260*	*295*	*360*
M5	—	—	—	—	—	—	75	85	105	80	95	110	70	80	95	65	75	90
	—	—	—	—	—	—	*245*	*280*	*345*	*260*	*310*	*360*	*230*	*260*	*310*	*215*	*245*	*295*
K1	—	—	—	325	365	435	310	350	420	200	235	285	275	310	370	—	—	—
	—	—	—	*1075*	*1200*	*1425*	*1025*	*1150*	*1375*	*660*	*770*	*940*	*900*	*1025*	*1225*	—	—	—
K2	—	—	—	295	330	390	285	315	375	180	210	250	250	280	330	—	—	—
	—	—	—	*970*	*1075*	*1275*	*940*	*1025*	*1225*	*590*	*690*	*820*	*820*	*920*	*1075*	—	—	—
K3	—	—	—	250	280	330	240	270	320	150	180	215	210	235	280	—	—	—
	—	—	—	*820*	*920*	*1075*	*790*	*890*	*1050*	*490*	*590*	*710*	*690*	*770*	*920*	—	—	—
K4	—	—	—	235	265	315	230	255	305	145	170	205	200	225	270	—	—	—
	—	—	—	*770*	*870*	*1025*	*750*	*840*	*1000*	*475*	*560*	*670*	*660*	*740*	*890*	—	—	—
K5	—	—	—	145	165	195	145	160	185	90	105	125	125	140	165	—	—	—
	—	—	—	*475*	*540*	*640*	*475*	*520*	*610*	*295*	*345*	*410*	*410*	*460*	*540*	—	—	—
K6	—	—	—	210	235	275	200	225	265	130	150	180	175	200	235	—	—	—
	—	—	—	*690*	*770*	*900*	*660*	*740*	*870*	*425*	*490*	*590*	*570*	*660*	*770*	—	—	—
K7	—	—	—	190	210	245	185	205	240	115	135	160	160	180	210	—	—	—
	—	—	—	*620*	*690*	*800*	*610*	*670*	*790*	*375*	*445*	*520*	*520*	*590*	*690*	—	—	—
N1	1225	1425	1725	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	4025	*4675*	*5650*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	495	580	690	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1625	*1900*	*2275*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	330	385	460	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1075	*1275*	*1500*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	375	440	530	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1225	*1450*	*1750*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	48	55	65	39	45	55	24	28	33
	—	—	—	—	—	—	—	—	—	*155*	*180*	*215*	*130*	*150*	*180*	*80*	*90*	*110*
S2	—	—	—	—	—	—	—	—	—	39	44	55	32	36	44	19	23	27
	—	—	—	—	—	—	—	—	—	*130*	*145*	*180*	*105*	*120*	*145*	*60*	*75*	*90*
S3	—	—	—	—	—	—	—	—	—	34	39	47	28	32	38	17	20	24
	—	—	—	—	—	—	—	—	—	*110*	*130*	*155*	*90*	*105*	*125*	*55*	*65*	*80*
S11	—	—	—	—	—	—	—	—	—	65	75	90	55	60	75	33	39	46
	—	—	—	—	—	—	—	—	—	*215*	*245*	*295*	*180*	*195*	*245*	*110*	*130*	*150*
S12	—	—	—	—	—	—	—	—	—	46	55	65	38	43	50	31	36	42
	—	—	—	—	—	—	—	—	—	*150*	*180*	*215*	*125*	*140*	*165*	*100*	*120*	*140*
S13	—	—	—	—	—	—	—	—	—	27	31	37	22	25	30	18	21	25
	—	—	—	—	—	—	—	—	—	*90*	*100*	*120*	*70*	*80*	*100*	*60*	*70*	*80*
H5	—	—	—	47	55	65	—	—	—	41	47	55	36	42	49	—	—	—
	—	—	—	*155*	*180*	*215*	—	—	—	*135*	*155*	*180*	*120*	*140*	*160*	—	—	—
H8	—	—	—	50	60	70	—	—	—	44	50	60	39	45	55	—	—	—
	—	—	—	*165*	*195*	*230*	—	—	—	*145*	*165*	*195*	*130*	*150*	*180*	—	—	—
H11	—	—	—	60	70	80	—	—	—	50	60	70	46	55	65	—	—	—
	—	—	—	*195*	*230*	*260*	—	—	—	*165*	*195*	*230*	*150*	*180*	*215*	—	—	—
H12	—	—	—	90	105	125	—	—	—	90	100	120	70	80	95	—	—	—
	—	—	—	*295*	*345*	*410*	—	—	—	*295*	*330*	*395*	*230*	*260*	*310*	—	—	—



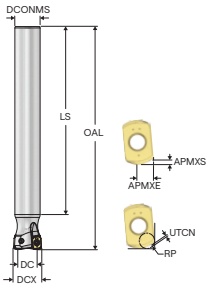
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—For complete insert programme, see page(s) 874
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCONMS	RP	UTCN	LUX	LPR	OAL	RMPX°	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm	mm	mm	mm	mm			kg	
R217.21-1820.0-LO06.2A	02952673	Cylindrical	13,3	20,0	2	0,9	2,5	18,0	1,8	0,38	110,0	110,0	160,0	1,0	23400	0,4	LOH.060310
R217.21-2525.0-LO06.3A	02828469	Cylindrical	18,3	25,0	3	0,9	2,5	25,0	1,8	0,38	39,5	124,0	180,0	0,8	20900	0,7	LOH.060310
R217.21-2527.0-LO06.3A	02828470	Cylindrical	20,3	27,0	3	0,9	2,5	25,0	1,8	0,38	140,0	140,0	200,0	0,7	20100	0,8	LOH.060310
R217.21-3232.0-LO06.4A	02828474	Cylindrical	25,3	32,0	4	0,9	2,5	32,0	1,8	0,38	39,5	140,0	200,0	0,5	18500	1,2	LOH.060310

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.21-..	1/4HEX-T08PX50	C02508-T08P

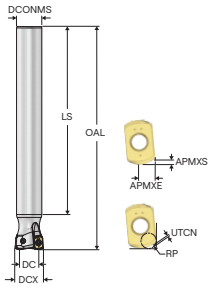
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.21-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12

Torque and fixed keys, see page 944

R217.21-LO06 – inch





—For insert selection and cutting data recommendations, see page(s) 622–624
—For complete insert programme, see page(s) 874
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCONMS	RP	UTCN	LUX	LPR	OAL	RMPX°	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch	inch	inch	inch	inch			lbs	
R217.21-1.00.0-LO06.3A	02842018	Cylindrical	0.736	1.000	3	0.035	0.098	1.000	0.071	0.015	1.480	4.882	7.000	0,7	20700	1.540	LOH.060310
R217.21-1.25.0-LO06.4A	02842021	Cylindrical	0.984	1.250	4	0.035	0.098	1.250	0.071	0.015	1.480	5.512	8.000	0,5	18600	2.650	LOH.060310

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.21..	1/4HEX-T08PX50	C02508-T08P

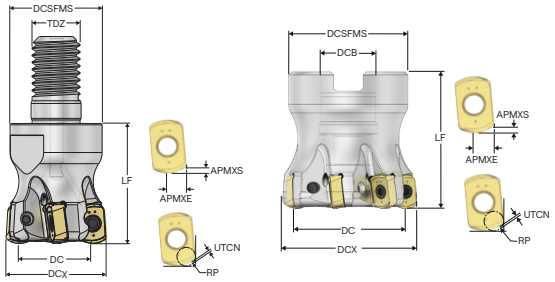
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.21-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12

Torque and fixed keys, see page 944

R217/220.21-LO06 – Metric



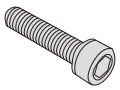


—For insert selection and cutting data recommendations, see page(s) 622–624
—For complete insert programme, see page(s) 874
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCS-FMS	TDZ		LF	RP		OAL	RMPX°	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm		mm	mm	mm	mm	mm			kg	
R217.21-1020.RE-LO06.2A	03020137	Combimaster	13,3	20,0	2	0,9	2,5	–	18,5	M10	–	28,0	1,8	0,38	46,75	1,0	23400	0,1	LOH.060310
R217.21-1225.RE-LO06.3A	03020140	Combimaster	18,3	25,0	3	0,9	2,5	–	23,0	M12	–	30,0	1,8	0,38	51,75	0,8	20900	0,2	LOH.060310
R217.21-1225.RE-LO06.4A	02828468	Combimaster	18,3	25,0	4	0,9	2,5	–	23,0	M12	–	30,0	1,8	0,38	51,75	0,8	20900	0,1	LOH.060310
R217.21-1632.RE-LO06.4A	02927092	Combimaster	25,3	32,0	4	0,9	2,5	–	30,0	M16	–	35,0	1,8	0,38	57,75	0,5	18500	0,2	LOH.060310
R217.21-1632.RE-LO06.5A	02828471	Combimaster	25,3	32,0	5	0,9	2,5	–	30,0	M16	–	35,0	1,8	0,38	57,75	0,5	18500	0,2	LOH.060310
R217.21-1635.RE-LO06.5A	02828472	Combimaster	28,3	35,0	5	0,9	2,5	–	30,0	M16	–	35,0	1,8	0,38	57,75	0,5	17700	0,3	LOH.060310
R217.21-2040.RE-LO06.6A	02991177	Combimaster	33,0	40,0	6	0,9	2,5	–	36,5	M20	–	40,0	1,8	0,38	67,0	0,4	16500	0,4	LOH.060310
R217.21-1640.RE-LO06.5A	02828478	Combimaster	33,3	40,0	5	0,9	2,5	–	30,0	M16	–	35,0	1,8	0,38	57,75	0,4	16500	0,3	LOH.060310
R220.21-0035-LO06.6A	02952739	Arbor	28,3	35,0	6	0,9	2,5	16,0	32,0	–	16,0	35,0	1,8	0,38	–	0,5	17700	0,2	LOH.060310
R220.21-0040-LO06.7A	02927090	Arbor	33,3	40,0	7	0,9	2,5	16,0	35,0	–	16,0	40,0	1,8	0,38	–	0,4	16500	0,3	LOH.060310
R220.21-0042-LO06.7A	02828477	Arbor	35,3	42,0	7	0,9	2,5	16,0	35,0	–	16,0	40,0	1,8	0,38	–	0,4	16100	0,3	LOH.060310
R220.21-0050-LO06.8A	02927091	Arbor	43,3	50,0	8	0,9	2,5	22,0	42,0	–	22,0	40,0	1,8	0,38	–	0,3	14800	0,4	LOH.060310
R220.21-0052-LO06.8A	02952735	Arbor	45,3	52,0	8	0,9	2,5	22,0	42,0	–	22,0	40,0	1,8	0,38	–	0,3	14500	0,4	LOH.060310
R220.21-0063-LO06.9A	02952736	Arbor	56,3	63,0	9	0,9	2,5	22,0	47,0	–	22,0	40,0	1,8	0,38	–	0,25	13100	0,6	LOH.060310

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

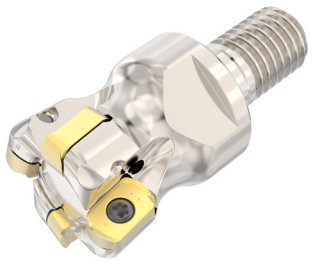
For cutter	Arbor screw	Insert key	Insert screw
			
R217.21-..	–	1/4HEX-T08PX50	C02508-T08P
R220.21- Ø35	TCEI0825	1/4HEX-T08PX50	C02508-T08P
R220.21- Ø40-42	220.17-689	1/4HEX-T08PX50	C02508-T08P
R220.21- Ø50-63	220.17-692	1/4HEX-T08PX50	C02508-T08P

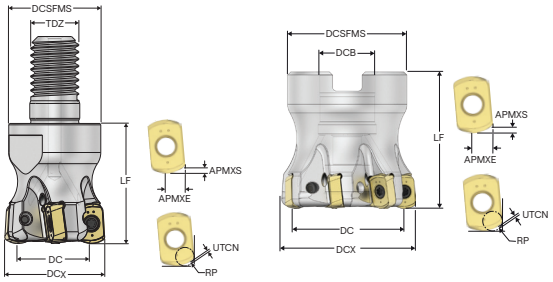
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.21-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12

Torque and fixed keys, see page 944

R217/220.21-LO06 – inch



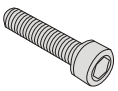


—For insert selection and cutting data recommendations, see page(s) 622–624
—For complete insert programme, see page(s) 874
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ	DCONMS	LF	RP	UTCN	OAL	RMPX°	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch		inch	inch	inch	inch	inch			lbs	
R217.21-1.0012RELO06.4A	02842017	Combimaster	0.736	1.000	4	0.035	0.098	–	0.906	M12	–	1.181	0.071	0.015	2.037	0,7	20700	0.440	LOH.060310
R217.21-1.5016RELO06.5A	02952695	Combimaster	1.236	1.500	5	0.035	0.098	–	1.181	M16	–	1.378	0.071	0.015	2.274	0,4	16900	0.440	LOH.060310
R217.21-01.50-20RE-LO06.6A	03002406	Combimaster	1.299	1.500	6	0.035	0.098	–	1.437	M20	–	1.575	0.071	0.015	2.638	0,4	16900	0.660	LOH.060310
R220.21-2.00-LO06.8A	02952697	Arbor	1.736	2.000	8	0.035	0.098	0.750	1.654	–	0.750	1.500	0.071	0.015	–	0,3	14700	0.880	LOH.060310

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.21-..	–	1/4HEX-T08PX50	C02508-T08P
R220.21-2.00-2.50	UC6S3/8UNFX1	1/4HEX-T08PX50	C02508-T08P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.21-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12

Torque and fixed keys, see page 944

R217/220.21-LO06 – Insert selection – mm/Inch

SMG		a_p	f_z		
			100%	70%	30%
P1	LOHT060310TR-M07 MP3501	0,80 *0.032*	0,60 0.024	0,60 0.024	0,70 0.028
P2	LOHT060310TR-M07 MP3501	0,80 *0.032*	0,60 0.024	0,60 0.024	0,70 0.028
P3	LOHT060310TR-M07 MP2501	0,80 *0.032*	0,60 0.024	0,60 0.024	0,65 0.026
P4	LOHT060310TR-M07 MP2501	0,80 *0.032*	0,55 0.022	0,55 0.022	0,65 0.026
P5	LOHT060310TR-M07 MP2501	0,80 *0.032*	0,55 0.022	0,55 0.022	0,65 0.026
P6	LOHT060310TR-M07 MP2501	0,80 *0.032*	0,55 0.022	0,55 0.022	0,65 0.026
P7	LOHT060310TR-M07 MP2501	0,80 *0.032*	0,55 0.022	0,55 0.022	0,65 0.026
P8	LOHT060310TR-M07 MP2501	0,80 *0.032*	0,60 0.024	0,60 0.024	0,65 0.026
P11	LOHT060310TR-M07 MP3501	0,80 *0.032*	0,55 0.022	0,55 0.022	0,65 0.026
P12	LOHT060310TR-M07 MP2501	0,65 *0.026*	0,42 0.017	0,42 0.017	0,48 0.019
M1	LOHT060310TR-ME06 MS2050	0,80 *0.032*	0,55 0.022	0,55 0.022	0,60 0.024
M2	LOHT060310TR-ME06 MS2050	0,80 *0.032*	0,48 0.019	0,48 0.019	0,55 0.022
M3	LOHT060310TR-ME06 MS2050	0,65 *0.026*	0,44 0.017	0,44 0.017	0,48 0.019
M4	LOHT060310TR-ME06 MP3501	0,48 *0.019*	0,44 0.017	0,44 0.017	0,50 0.020
M5	LOHT060310TR-ME06 MP3501	0,48 *0.019*	0,44 0.017	0,44 0.017	0,50 0.020
K1	LOHT060310TR-MD07 MK2050	0,80 *0.032*	0,60 0.024	0,60 0.024	0,70 0.028
K2	LOHT060310TR-MD07 MK2050	0,80 *0.032*	0,55 0.022	0,55 0.022	0,65 0.026
K3	LOHT060310TR-MD07 MK2050	0,80 *0.032*	0,55 0.022	0,55 0.022	0,65 0.026
K4	LOHT060310TR-MD07 MK2050	0,80 *0.032*	0,55 0.022	0,55 0.022	0,65 0.026
K5	LOHT060310TR-MD07 MK2050	0,80 *0.032*	0,50 0.020	0,50 0.020	0,55 0.022
K6	LOHT060310TR-MD07 MK2050	0,80 *0.032*	0,55 0.022	0,55 0.022	0,65 0.026
K7	LOHT060310TR-MD07 MK2050	0,80 *0.032*	0,50 0.020	0,50 0.020	0,55 0.022
S1	LOHT060310TR-ME06 MP3501	0,48 *0.019*	0,44 0.017	0,44 0.017	0,50 0.020
S2	LOHT060310TR-ME06 MP3501	0,48 *0.019*	0,44 0.017	0,44 0.017	0,50 0.020
S3	LOHT060310TR-ME06 MP3501	0,48 *0.019*	0,42 0.017	0,42 0.017	0,46 0.018
S11	LOHT060310TR-ME06 MS2050	0,55 *0.022*	0,46 0.018	0,46 0.018	0,55 0.022
S12	LOHT060310TR-ME06 MS2050	0,55 *0.022*	0,46 0.018	0,46 0.018	0,55 0.022
S13	LOHT060310TR-ME06 MS2050	0,48 *0.019*	0,44 0.017	0,44 0.017	0,50 0.020
H5	LOHW060310TR-D07 MH1051	0,50 *0.020*	0,42 0.017	0,42 0.017	0,48 0.019
H8	LOHW060310TR-D07 MH1051	0,44 *0.017*	0,36 0.014	0,36 0.014	0,40 0.016
H11	LOHT060310TR-MD07 MP1501	0,50 *0.020*	0,42 0.017	0,42 0.017	0,48 0.019
H12	LOHT060310TR-MD07 MP1501	0,44 *0.017*	0,36 0.014	0,36 0.014	0,40 0.016

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.21-LO06 – Cutting data v_c = (m/min)/(sf/min)

SMG	MH1051			MK2050			MP3000			MS2050			F40M			MP2051		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	—	—	—	250	280	335	255	285	345	270	300	365	240	255	300	300	335	430
	—	—	—	*820*	*920*	*1100*	*840*	*940*	*1125*	*890*	*980*	*1200*	*790*	*840*	*980*	*980*	*1100*	*1400*
P2	—	—	—	240	270	325	250	275	335	265	290	355	235	250	290	290	325	415
	—	—	—	*790*	*890*	*1075*	*820*	*900*	*1100*	*870*	*950*	*1175*	*770*	*820*	*950*	*950*	*1075*	*1350*
P3	—	—	—	205	235	285	215	235	300	235	260	305	200	215	260	250	280	375
	—	—	—	*670*	*770*	*940*	*710*	*770*	*980*	*770*	*850*	*1000*	*660*	*710*	*850*	*820*	*920*	*1225*
P4	—	—	—	185	205	250	190	210	260	205	230	275	180	200	240	220	245	330
	—	—	—	*610*	*670*	*820*	*620*	*690*	*850*	*670*	*750*	*900*	*590*	*660*	*790*	*720*	*800*	*1075*
P5	320	355	440	180	200	240	185	205	250	200	220	260	175	185	215	225	250	315
	1050	*1175*	*1450*	*590*	*660*	*790*	*610*	*670*	*820*	*660*	*720*	*850*	*570*	*610*	*710*	*740*	*820*	*1025*
P6	360	400	495	200	225	270	210	235	280	225	250	295	195	210	245	250	280	350
	1175	*1300*	*1625*	*660*	*740*	*890*	*690*	*770*	*920*	*740*	*820*	*970*	*640*	*690*	*800*	*820*	*920*	*1150*
P7	340	380	465	190	215	255	200	220	265	210	235	280	185	200	230	235	265	330
	1125	*1250*	*1525*	*620*	*710*	*840*	*660*	*720*	*870*	*690*	*770*	*920*	*610*	*660*	*750*	*770*	*870*	*1075*
P8	310	340	440	175	195	240	180	200	250	195	220	255	170	180	215	210	235	315
	1025	*1125*	*1450*	*570*	*640*	*790*	*590*	*660*	*820*	*640*	*720*	*840*	*560*	*590*	*710*	*690*	*770*	*1025*
P11	330	365	450	185	205	245	195	215	260	205	225	270	180	195	225	215	260	355
	1075	*1200*	*1475*	*610*	*670*	*800*	*640*	*710*	*850*	*670*	*740*	*890*	*590*	*640*	*740*	*710*	*850*	*1175*
P12	235	255	310	120	135	160	130	145	170	135	150	175	120	130	150	155	185	245
	770	*840*	*1025*	*395*	*445*	*520*	*425*	*475*	*560*	*445*	*490*	*570*	*395*	*425*	*490*	*510*	*610*	*800*
M1	—	—	—	—	—	—	175	195	235	195	220	265	165	185	220	240	285	400
	—	—	—	—	—	—	*570*	*640*	*770*	*640*	*720*	*870*	*540*	*610*	*720*	*790*	*940*	*1300*
M2	—	—	—	—	—	—	145	160	195	165	185	220	135	155	185	205	245	335
	—	—	—	—	—	—	*475*	*520*	*640*	*540*	*610*	*720*	*445*	*510*	*610*	*670*	*800*	*1100*
M3	—	—	—	—	—	—	115	130	155	130	150	175	110	125	145	175	210	280
	—	—	—	—	—	—	*375*	*425*	*510*	*425*	*490*	*570*	*360*	*410*	*475*	*570*	*690*	*920*
M4	—	—	—	—	—	—	90	100	120	105	115	140	85	95	115	140	170	225
	—	—	—	—	—	—	*295*	*330*	*395*	*345*	*375*	*460*	*280*	*310*	*375*	*460*	*560*	*740*
M5	—	—	—	—	—	—	75	85	100	85	95	115	70	80	95	120	140	185
	—	—	—	—	—	—	*245*	*280*	*330*	*280*	*310*	*375*	*230*	*260*	*310*	*395*	*460*	*610*
K1	430	475	590	260	295	350	185	205	245	—	—	—	160	180	220	—	—	—
	1400	*1550*	*1925*	*850*	*970*	*1150*	*610*	*670*	*800*	—	—	—	*520*	*590*	*720*	—	—	—
K2	390	430	530	230	260	310	165	185	220	—	—	—	145	160	195	—	—	—
	1275	*1400*	*1750*	*750*	*850*	*1025*	*540*	*610*	*720*	—	—	—	*475*	*520*	*640*	—	—	—
K3	330	365	450	195	220	260	140	155	185	—	—	—	120	135	165	—	—	—
	1075	*1200*	*1475*	*640*	*720*	*850*	*460*	*510*	*610*	—	—	—	*395*	*445*	*540*	—	—	—
K4	315	350	430	185	210	250	130	150	175	—	—	—	115	130	155	—	—	—
	1025	*1150*	*1400*	*610*	*690*	*820*	*425*	*490*	*570*	—	—	—	*375*	*425*	*510*	—	—	—
K5	195	220	265	115	130	150	80	90	110	—	—	—	70	80	95	—	—	—
	640	*720*	*870*	*375*	*425*	*490*	*260*	*295*	*360*	—	—	—	*230*	*260*	*310*	—	—	—
K6	275	305	380	165	185	220	115	130	155	—	—	—	100	115	135	—	—	—
	900	*1000*	*1250*	*540*	*610*	*720*	*375*	*425*	*510*	—	—	—	*330*	*375*	*445*	—	—	—
K7	250	280	340	145	165	195	105	115	140	—	—	—	90	100	120	—	—	—
	820	*920*	*1125*	*475*	*540*	*640*	*345*	*375*	*460*	—	—	—	*295*	*330*	*395*	—	—	—
S1	—	—	—	—	—	—	42	47	55	48	55	65	40	45	55	48	55	65
	—	—	—	—	—	—	*140*	*155*	*180*	*155*	*180*	*215*	*130*	*150*	*180*	*155*	*180*	*215*
S2	—	—	—	—	—	—	34	38	45	39	43	50	32	36	43	39	43	50
	—	—	—	—	—	—	*110*	*125*	*150*	*130*	*140*	*165*	*105*	*120*	*140*	*130*	*140*	*165*
S3	—	—	—	—	—	—	30	33	40	34	38	45	28	32	38	34	38	46
	—	—	—	—	—	—	*100*	*110*	*130*	*110*	*125*	*150*	*90*	*105*	*125*	*110*	*125*	*150*
S11	—	—	—	—	—	—	60	65	80	65	75	90	55	65	75	65	75	90
	—	—	—	—	—	—	*195*	*215*	*260*	*215*	*245*	*295*	*180*	*215*	*245*	*215*	*245*	*295*
S12	—	—	—	—	—	—	41	46	55	46	50	60	38	44	50	46	55	65
	—	—	—	—	—	—	*135*	*150*	*180*	*150*	*165*	*195*	*125*	*145*	*165*	*150*	*180*	*215*
S13	—	—	—	—	—	—	24	26	32	27	30	36	23	25	30	27	30	36
	—	—	—	—	—	—	*80*	*85*	*105*	*90*	*100*	*120*	*75*	*80*	*100*	*90*	*100*	*120*
H5	125	140	170	—	—	—	37	42	50	—	—	—	35	39	47	—	—	—
	410	*460*	*560*	—	—	—	*120*	*140*	*165*	—	—	—	*115*	*130*	*155*	—	—	—
H8	140	150	180	—	—	—	40	44	55	—	—	—	37	42	50	—	—	—
	460	*490*	*590*	—	—	—	*130*	*145*	*180*	—	—	—	*120*	*140*	*165*	—	—	—
H11	160	180	215	—	—	—	47	55	65	—	—	—	45	50	60	105	130	165
	520	*590*	*710*	—	—	—	*155*	*180*	*215*	—	—	—	*150*	*165*	*195*	*345*	*425*	*540*
H12	160	175	210	80	90	105	75	85	100	—	—	—	65	75	90	100	125	155
	520	*570*	*690*	*260*	*295*	*345*	*245*	*280*	*330*	—	—	—	*215*	*245*	*295*	*330*	*410*	*510*

R217/220.21-LO06 – Cutting data v_c = (m/min)/(sf/min)

SMG	MP2050			MP2501			MS2500			MP2501			MP3501		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	270 *890*	305 *1000*	365 *1200*	390 *1275*	425 *1400*	490 *1600*	375 *1225*	405 *1325*	475 *1550*	390 *1275*	425 *1400*	490 *1600*	350 *1150*	380 *1250*	440 *1450*
P2	265 *870*	300 *980*	355 *1175*	380 *1250*	410 *1350*	480 *1575*	365 *1200*	395 *1300*	460 *1500*	380 *1250*	410 *1350*	480 *1575*	340 *1125*	370 *1225*	430 *1400*
P3	230 *750*	255 *840*	315 *1025*	325 *1075*	355 *1175*	420 *1375*	315 *1025*	340 *1125*	405 *1325*	325 *1075*	355 *1175*	420 *1375*	290 *950*	315 *1025*	375 *1225*
P4	200 *660*	225 *740*	275 *900*	290 *950*	310 *1025*	370 *1225*	275 *900*	300 *980*	355 *1175*	290 *950*	310 *1025*	370 *1225*	255 *840*	280 *920*	330 *1075*
P5	195 *640*	220 *720*	265 *870*	285 *940*	305 *1000*	355 *1175*	270 *890*	295 *970*	340 *1125*	285 *940*	305 *1000*	355 *1175*	255 *840*	275 *900*	315 *1025*
P6	220 *720*	250 *820*	295 *970*	315 *1025*	345 *1125*	395 *1300*	305 *1000*	330 *1075*	385 *1275*	315 *1025*	345 *1125*	395 *1300*	285 *940*	305 *1000*	355 *1175*
P7	210 *690*	235 *770*	280 *920*	300 *980*	325 *1075*	375 *1225*	285 *940*	310 *1025*	360 *1175*	300 *980*	325 *1075*	375 *1225*	270 *890*	290 *950*	335 *1100*
P8	190 *620*	215 *710*	265 *870*	275 *900*	300 *980*	355 *1175*	265 *870*	285 *940*	340 *1125*	275 *900*	300 *980*	355 *1175*	245 *800*	265 *870*	315 *1025*
P11	200 *660*	225 *740*	270 *890*	290 *950*	315 *1025*	365 *1200*	280 *920*	305 *1000*	350 *1150*	290 *950*	315 *1025*	365 *1200*	260 *850*	280 *920*	325 *1075*
P12	130 *425*	145 *475*	175 *570*	190 *620*	205 *670*	235 *770*	180 *590*	195 *640*	225 *740*	190 *620*	205 *670*	235 *770*	170 *560*	185 *610*	210 *690*
M1	190 *620*	215 *710*	255 *840*	195 *640*	220 *720*	260 *850*	210 *690*	235 *770*	285 *940*	195 *640*	220 *720*	260 *850*	180 *590*	205 *670*	245 *800*
M2	155 *510*	175 *570*	210 *690*	160 *520*	180 *590*	215 *710*	175 *570*	195 *640*	235 *770*	160 *520*	180 *590*	215 *710*	150 *490*	170 *560*	200 *660*
M3	125 *410*	140 *460*	170 *560*	130 *425*	145 *475*	175 *570*	140 *460*	160 *520*	190 *620*	130 *425*	145 *475*	175 *570*	120 *395*	135 *445*	160 *520*
M4	100 *330*	110 *360*	130 *425*	100 *330*	115 *375*	135 *445*	110 *360*	125 *410*	145 *475*	100 *330*	115 *375*	135 *445*	95 *310*	105 *345*	125 *410*
M5	85 *280*	90 *295*	110 *360*	85 *280*	95 *310*	115 *375*	90 *295*	100 *330*	125 *410*	85 *280*	95 *310*	115 *375*	80 *260*	90 *295*	105 *345*
K1	— —	— —	— —	385 *1275*	415 *1350*	485 *1600*	235 *770*	260 *850*	315 *1025*	385 *1275*	415 *1350*	485 *1600*	345 *1125*	370 *1225*	430 *1400*
K2	— —	— —	— —	340 *1125*	370 *1225*	425 *1400*	205 *670*	235 *770*	280 *920*	340 *1125*	370 *1225*	425 *1400*	305 *1000*	330 *1075*	385 *1275*
K3	— —	— —	— —	290 *950*	315 *1025*	360 *1175*	175 *570*	195 *640*	235 *770*	290 *950*	315 *1025*	360 *1175*	260 *850*	280 *920*	325 *1075*
K4	— —	— —	— —	275 *900*	300 *980*	345 *1125*	165 *540*	190 *620*	225 *740*	275 *900*	300 *980*	345 *1125*	245 *800*	265 *870*	310 *1025*
K5	— —	— —	— —	170 *560*	185 *610*	210 *690*	100 *330*	115 *375*	135 *445*	170 *560*	185 *610*	210 *690*	150 *490*	165 *540*	190 *620*
K6	— —	— —	— —	245 *800*	265 *870*	305 *1000*	145 *475*	165 *540*	200 *660*	245 *800*	265 *870*	305 *1000*	220 *720*	235 *770*	270 *890*
K7	— —	— —	— —	215 *710*	235 *770*	270 *890*	130 *425*	145 *475*	175 *570*	215 *710*	235 *770*	270 *890*	195 *640*	210 *690*	240 *790*
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
S1	48 *155*	55 *180*	65 *215*	— —	— —	— —	55 *180*	60 *195*	70 *230*	— —	— —	— —	44 *145*	49 *160*	60 *195*
S2	39 *130*	43 *140*	50 *165*	— —	— —	— —	43 *140*	48 *155*	60 *195*	— —	— —	— —	36 *120*	40 *130*	47 *155*
S3	34 *110*	38 *125*	46 *150*	— —	— —	— —	38 *125*	43 *140*	50 *165*	— —	— —	— —	31 *100*	35 *115*	42 *140*
S11	65 *215*	75 *245*	90 *295*	— —	— —	— —	75 *245*	85 *280*	100 *330*	— —	— —	— —	60 *195*	70 *230*	80 *260*
S12	46 *150*	55 *180*	65 *215*	— —	— —	— —	50 *165*	60 *195*	70 *230*	— —	— —	— —	42 *140*	48 *155*	55 *180*
S13	27 *90*	30 *100*	36 *120*	— —	— —	— —	30 *100*	34 *110*	40 *130*	— —	— —	— —	25 *80*	28 *90*	33 *110*
H5	— —	— —	— —	— —	— —	— —	46 *150*	50 *165*	60 *195*	— —	— —	— —	40 *130*	45 *150*	55 *180*
H8	— —	— —	— —	— —	— —	— —	49 *160*	55 *180*	65 *215*	— —	— —	— —	43 *140*	48 *155*	55 *180*
H11	50 *165*	60 *195*	70 *230*	— —	— —	— —	60 *195*	65 *215*	80 *260*	— —	— —	— —	50 *165*	60 *195*	70 *230*
H12	85 *280*	95 *310*	115 *375*	— —	— —	— —	95 *310*	110 *360*	130 *425*	— —	— —	— —	75 *245*	85 *280*	100 *330*



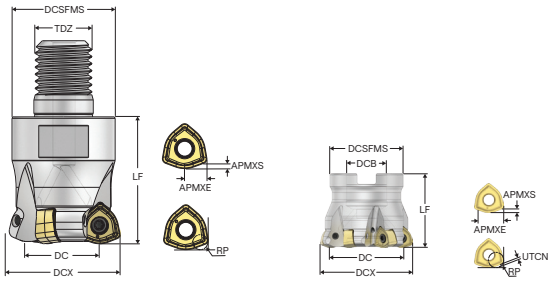
R217/220.21 High Feed 6

High feed 6, for 218.21 insert type, 6-cutting edge, double sided inserts.
This familly consists of shell end mill bodies with fixed pockets and very strong negative inserts with six cutting edges.

- Cutter range 40-160 mm (1.5 - 6 inch)
- Max depth of cut 1.8 mm
- First choice for ISO P & K materials for medium-size machines

R217/220.21-R230 – Metric

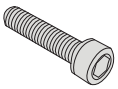
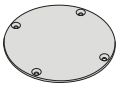




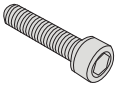
—For insert selection and cutting data recommendations, see page(s) 628–630
—For complete insert programme, see page(s) 931
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCS-FMS	TDZ		LF	RP		OAL	RMPX°	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm		mm	mm	mm	mm	mm			kg	
R217.21-2040.RE-R230.3A	03136708	Combimaster	25,6	40,0	3	1,8	10,0	–	36,5	M20	–	45,0	3,32	0,88	72,0	1,4	12100	0,4	218.21-230
R220.21-0050-R230.4A	02826551	Arbor	35,6	50,0	4	1,8	10,0	22,0	42,0	–	22,0	40,0	3,32	0,83	–	0,9	12100	0,4	218.21-230
R220.21-0050-R230.5A	02826550	Arbor	35,6	50,0	5	1,8	10,0	22,0	42,0	–	22,0	40,0	3,32	0,83	–	0,9	12100	0,4	218.21-230
R220.21-0052-R230.5A	02826552	Arbor	37,6	52,0	5	1,8	10,0	22,0	42,0	–	22,0	40,0	3,32	0,83	–	0,9	11900	0,4	218.21-230
R220.21-0063-R230.5A	02826553	Arbor	48,3	63,0	5	1,8	10,0	27,0	50,0	–	27,0	50,0	3,32	0,83	–	0,6	10800	0,6	218.21-230
R220.21-0063-R230.6A	02826554	Arbor	48,3	63,0	6	1,8	10,0	27,0	50,0	–	27,0	50,0	3,32	0,83	–	0,6	10800	0,6	218.21-230
R220.21-0066-R230.6A	02826555	Arbor	51,3	66,0	6	1,8	10,0	27,0	62,0	–	27,0	50,0	3,32	0,83	–	0,6	10600	0,9	218.21-230
R220.21-0080-R230.6A	02826556	Arbor	65,6	80,0	6	1,8	10,0	27,0	62,0	–	27,0	50,0	3,32	0,87	–	0,4	9600	1,1	218.21-230
R220.21-0080-R230.7A	02826557	Arbor	65,6	80,0	7	1,8	10,0	27,0	62,0	–	27,0	50,0	3,32	0,87	–	0,4	9600	1,1	218.21-230
R220.21-0084-R230.8A	02826558	Arbor	69,6	84,0	8	1,8	10,0	32,0	77,0	–	32,0	50,0	3,32	0,87	–	0,4	9400	1,4	218.21-230
R220.21-0100-R230.7A	02950391	Arbor	85,6	100,0	7	1,8	10,0	32,0	77,0	–	32,0	50,0	3,3	0,89	–	0,3	8600	1,6	218.21-230
R220.21-0100-R230.9A	02826559	Arbor	85,6	100,0	9	1,8	10,0	32,0	77,0	–	32,0	50,0	3,32	0,89	–	0,3	8600	1,6	218.21-230
R220.21-0125-R230.9A	02826560	Arbor	110,2	125,0	9	1,8	10,0	40,0	90,0	–	40,0	63,0	3,32	0,88	–	0,2	7700	2,9	218.21-230
R220.21-8160-R230.10A	02826561	Arbor	145,2	160,0	10	1,8	10,0	40,0	90,0	–	40,0	63,0	3,32	0,89	–	0,1	6800	4,0	218.21-230

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R217.21-2040	–	1/4HEX-T15PX50	C04011-T15P	–	–
R220.21-0050	220.17-692	1/4HEX-T15PX50	C04011-T15P	–	–
R220.21-0063-0066	MC6S12X35	1/4HEX-T15PX50	C04011-T15P	–	–
R220.21-0080	MC6S12X35	1/4HEX-T15PX50	C04011-T15P	–	–
R220.21-0084-0100	MLC6S16X35	1/4HEX-T15PX50	C04011-T15P	–	–
R220.21-0084-0100	MLC6S16X35	1/4HEX-T15PX90	C04011-T15P	–	–
R220.21-0125	MLC6S20X40	1/4HEX-T15PX90	C04011-T15P	–	–
R220.21-8160	–	1/4HEX-T15PX90	C04011-T15P	SC160-53	MF6S4X10

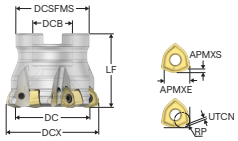
Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R217/220.21-2040-0125	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R220.21-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

R220.21-R230 – inch

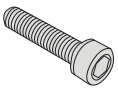




—For insert selection and cutting data recommendations, see page(s) 628-630
—For complete insert programme, see page(s) 931
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCSFMS	DCONMS	LF	RP	UTCN	RMPX°	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch	inch	inch	inch	inch			lbs	
R220.21-02.00-R230.4A	02842027	Arbor	1.421	2.000	4	0.071	0.394	0.750	1.654	0.750	1.575	0.131	0.033	0,9	12100	0.660	218.21-230
R220.21-02.00-R230.5A	02842026	Arbor	1.421	2.000	5	0.071	0.394	0.750	1.654	0.750	1.575	0.131	0.033	0,9	12100	0.880	218.21-230
R220.21-02.50-R230.5A	02842028	Arbor	1.921	2.500	5	0.071	0.394	0.750	1.850	0.750	1.575	0.131	0.035	0,6	9600	1.100	218.21-230
R220.21-02.50-R230.6A	02842029	Arbor	1.921	2.500	6	0.071	0.394	0.750	1.850	0.750	1.575	0.131	0.035	0,6	9600	1.100	218.21-230
R220.21-03.00-R230.5A	02842030	Arbor	2.429	2.996	5	0.071	0.394	1.000	2.441	1.000	1.969	0.131	0.034	0,5	9800	1.980	218.21-230
R220.21-03.00-R230.6A	02842031	Arbor	2.429	2.996	6	0.071	0.394	1.000	2.441	1.000	1.969	0.131	0.034	0,5	9800	2.200	218.21-230
R220.21-04.00-R230.7A	03067226	Arbor	3.433	4.000	7	0.071	0.394	1.500	3.543	1.500	1.969	0.130	0.035	0,3	8500	3.970	218.21-230

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R220.21-02.00-02.50	UC6S3/8UNFX1-1/4	1/4HEX-T15PX50	C04011-T15P
R220.21-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T15PX50	C04011-T15P
R220.21-04.00	ULC6S3/4UNFX11/2	1/4HEX-T15PX90	C04011-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R220.21-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

R217/220.21-R230 – Insert selection – mm/Inch

SMG		a_p	f_z		
			100%	70%	30%
P1	218.21-230TR-06-M15 MP3501	1,6 *0.065*	1,3 0.050	1,3 0.050	1,5 0.060
P2	218.21-230TR-06-M15 MP3501	1,6 *0.065*	1,3 0.050	1,3 0.050	1,5 0.060
P3	218.21-230TR-06-M15 MP2501	1,6 *0.065*	1,2 0.048	1,2 0.048	1,4 0.055
P4	218.21-230TR-06-M15 MP2501	1,6 *0.065*	1,2 0.048	1,2 0.048	1,4 0.055
P5	218.21-230TR-06-M15 MP2501	1,6 *0.065*	1,2 0.048	1,2 0.048	1,4 0.055
P6	218.21-230TR-06-M15 MP2501	1,6 *0.065*	1,2 0.048	1,2 0.048	1,4 0.055
P7	218.21-230TR-06-M15 MP2501	1,6 *0.065*	1,2 0.048	1,2 0.048	1,4 0.055
P8	218.21-230TR-06-M15 MP2501	1,6 *0.065*	1,2 0.048	1,2 0.048	1,4 0.055
P11	218.21-230TR-06-M15 MP3501	1,6 *0.065*	1,2 0.048	1,2 0.048	1,4 0.055
P12	218.21-230TR-06-M15 MP2501	1,3 *0.050*	0,85 0.034	0,85 0.034	0,95 0.038
M1	218.21-230TR-06-ME13 MS2050	1,6 *0.065*	1,1 0.044	1,1 0.044	1,3 0.050
M2	218.21-230TR-06-ME13 MS2050	1,6 *0.065*	1,0 0.040	1,0 0.040	1,2 0.048
M3	218.21-230TR-06-ME13 MS2050	1,3 *0.050*	0,85 0.034	0,85 0.034	1,0 0.040
M4	218.21-230TR-06-M15 MP3501	0,95 *0.038*	1,0 0.040	1,0 0.040	1,1 0.044
M5	218.21-230TR-06-M15 MP3501	0,95 *0.038*	1,0 0.040	1,0 0.040	1,1 0.044
K1	218.21-230TR-06-MD17 MK2050	1,6 *0.065*	1,5 0.060	1,5 0.060	1,7 0.065
K2	218.21-230TR-06-MD17 MK2050	1,6 *0.065*	1,4 0.055	1,4 0.055	1,6 0.065
K3	218.21-230TR-06-MD17 MK2050	1,6 *0.065*	1,4 0.055	1,4 0.055	1,6 0.065
K4	218.21-230TR-06-MD17 MK2050	1,6 *0.065*	1,4 0.055	1,4 0.055	1,6 0.065
K5	218.21-230TR-06-MD17 MK2050	1,6 *0.065*	1,2 0.048	1,2 0.048	1,4 0.055
K6	218.21-230TR-06-MD17 MK2050	1,6 *0.065*	1,4 0.055	1,4 0.055	1,6 0.065
K7	218.21-230TR-06-MD17 MK2050	1,6 *0.065*	1,2 0.048	1,2 0.048	1,4 0.055
S1	218.21-230TR-06-M15 MP3501	0,95 *0.038*	1,0 0.040	1,0 0.040	1,1 0.044
S2	218.21-230TR-06-M15 MP3501	0,95 *0.038*	1,0 0.040	1,0 0.040	1,1 0.044
S3	218.21-230TR-06-M15 MP3501	0,95 *0.038*	0,90 0.036	0,90 0.036	1,0 0.040
S11	218.21-230TR-06-ME13 MS2050	1,1 *0.044*	0,95 0.038	0,95 0.038	1,1 0.044
S12	218.21-230TR-06-ME13 MS2050	1,1 *0.044*	0,95 0.038	0,95 0.038	1,1 0.044
S13	218.21-230TR-06-ME13 MS2050	0,95 *0.038*	0,85 0.034	0,85 0.034	0,95 0.038
H5	218.21-230TR-06-MD17 MP3000	1,0 *0.040*	0,95 0.038	0,95 0.038	1,1 0.044
H8	218.21-230TR-06-MD17 MP3000	0,90 *0.036*	0,75 0.030	0,75 0.030	0,85 0.034
H11	218.21-230TR-06-MD17 MP1501	1,0 *0.040*	0,95 0.038	0,95 0.038	1,1 0.044
H12	218.21-230TR-06-MD17 MP1501	0,90 *0.036*	0,75 0.030	0,75 0.030	0,85 0.034

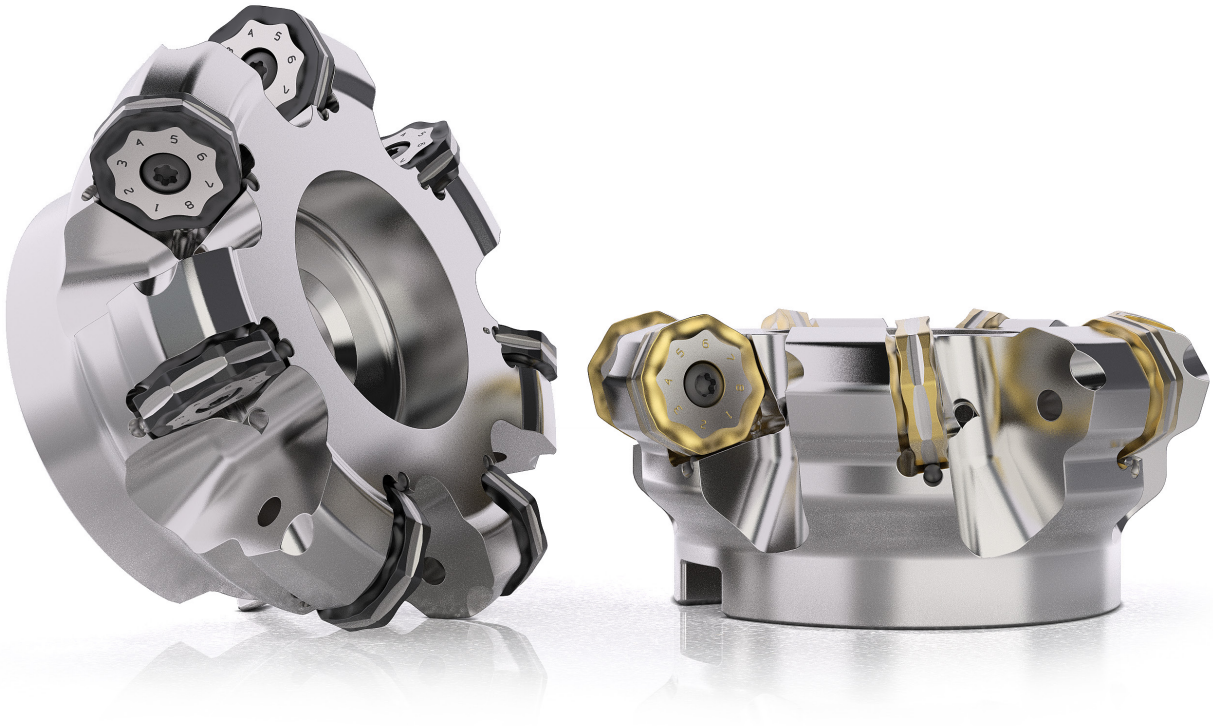
SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.21-R230 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK2050			MP3000			MS2050			F40M			MP2050		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	190 *620*	215 *710*	260 *850*	150 *490*	165 *540*	220 *720*	200 *660*	225 *740*	270 *890*	165 *540*	180 *590*	220 *720*	215 *710*	240 *790*	295 *970*
P2	185 *610*	210 *690*	255 *840*	145 *475*	160 *520*	215 *710*	195 *640*	215 *710*	265 *870*	160 *520*	175 *570*	215 *710*	205 *670*	235 *770*	285 *940*
P3	160 *520*	185 *610*	225 *740*	130 *425*	145 *475*	190 *620*	165 *540*	185 *610*	235 *770*	145 *475*	155 *510*	190 *620*	185 *610*	210 *690*	250 *820*
P4	140 *460*	160 *520*	195 *640*	115 *375*	130 *425*	170 *560*	155 *510*	170 *560*	205 *670*	135 *445*	150 *490*	180 *590*	160 *520*	185 *610*	220 *720*
P5	140 *460*	160 *520*	190 *620*	115 *375*	130 *425*	160 *520*	145 *475*	165 *540*	200 *660*	120 *395*	130 *425*	160 *520*	155 *510*	175 *570*	210 *690*
P6	155 *510*	180 *590*	215 *710*	130 *425*	145 *475*	190 *620*	165 *540*	185 *610*	220 *720*	135 *445*	150 *490*	180 *590*	175 *570*	195 *640*	240 *790*
P7	150 *490*	170 *560*	205 *670*	125 *410*	140 *460*	180 *590*	155 *510*	175 *570*	210 *690*	130 *425*	140 *460*	170 *560*	165 *540*	185 *610*	225 *740*
P8	135 *445*	155 *510*	190 *620*	110 *360*	125 *410*	160 *520*	140 *460*	155 *510*	200 *660*	120 *395*	130 *425*	160 *520*	155 *510*	175 *570*	210 *690*
P11	145 *475*	165 *540*	200 *660*	120 *395*	135 *445*	175 *570*	150 *490*	170 *560*	205 *670*	125 *410*	135 *445*	165 *540*	160 *520*	180 *590*	220 *720*
P12	95 *310*	110 *360*	130 *425*	90 *295*	100 *330*	125 *410*	105 *345*	115 *375*	140 *460*	90 *295*	95 *310*	115 *375*	105 *345*	120 *395*	145 *475*
M1	— —	— —	— —	130 *425*	150 *490*	185 *610*	155 *510*	175 *570*	210 *690*	130 *425*	145 *475*	180 *590*	150 *490*	170 *560*	205 *670*
M2	— —	— —	— —	110 *360*	125 *410*	150 *490*	130 *425*	145 *475*	175 *570*	105 *345*	120 *395*	145 *475*	125 *410*	140 *460*	170 *560*
M3	— —	— —	— —	90 *295*	105 *345*	125 *410*	105 *345*	120 *395*	145 *475*	90 *295*	100 *330*	120 *395*	100 *330*	115 *375*	140 *460*
M4	— —	— —	— —	70 *230*	80 *260*	100 *330*	80 *260*	90 *295*	110 *360*	70 *230*	75 *245*	95 *310*	80 *260*	90 *295*	110 *360*
M5	— —	— —	— —	60 *195*	65 *215*	80 *260*	70 *230*	75 *245*	95 *310*	55 *180*	65 *215*	80 *260*	65 *215*	75 *245*	90 *295*
K1	200 *660*	225 *740*	275 *900*	140 *460*	160 *520*	195 *640*	— —	— —	— —	125 *410*	145 *475*	175 *570*	— —	— —	— —
K2	180 *590*	205 *670*	245 *800*	125 *410*	145 *475*	170 *560*	— —	— —	— —	115 *375*	130 *425*	155 *510*	— —	— —	— —
K3	155 *510*	175 *570*	205 *670*	110 *360*	120 *395*	145 *475*	— —	— —	— —	95 *310*	110 *360*	130 *425*	— —	— —	— —
K4	145 *475*	165 *540*	195 *640*	105 *345*	115 *375*	140 *460*	— —	— —	— —	90 *295*	105 *345*	125 *410*	— —	— —	— —
K5	90 *295*	100 *330*	120 *395*	65 *215*	70 *230*	85 *280*	— —	— —	— —	55 *180*	65 *215*	80 *260*	— —	— —	— —
K6	130 *425*	145 *475*	175 *570*	90 *295*	105 *345*	120 *395*	— —	— —	— —	80 *260*	90 *295*	110 *360*	— —	— —	— —
K7	115 *375*	130 *425*	155 *510*	80 *260*	90 *295*	110 *360*	— —	— —	— —	70 *230*	80 *260*	100 *330*	— —	— —	— —
S1	— —	— —	— —	33 *110*	37 *120*	46 *150*	38 *125*	43 *140*	50 *165*	32 *105*	36 *120*	44 *145*	38 *125*	43 *140*	55 *180*
S2	— —	— —	— —	27 *90*	30 *100*	37 *120*	31 *100*	35 *115*	42 *140*	26 *85*	29 *95*	35 *115*	31 *100*	35 *115*	43 *140*
S3	— —	— —	— —	24 *80*	26 *85*	33 *110*	27 *90*	30 *100*	37 *120*	23 *75*	26 *85*	31 *100*	28 *90*	31 *100*	37 *120*
S11	— —	— —	— —	46 *150*	50 *165*	65 *215*	55 *180*	60 *195*	70 *230*	44 *145*	50 *165*	60 *195*	55 *180*	60 *195*	75 *245*
S12	— —	— —	— —	32 *105*	36 *120*	44 *145*	37 *120*	41 *135*	50 *165*	30 *100*	35 *115*	43 *140*	37 *120*	42 *140*	50 *165*
S13	— —	— —	— —	19 *60*	21 *70*	26 *85*	21 *70*	24 *80*	29 *95*	18 *60*	20 *65*	25 *80*	22 *70*	24 *80*	30 *100*
H5	— —	— —	— —	30 *100*	34 *110*	40 *130*	— —	— —	— —	29 *95*	32 *105*	38 *125*	— —	— —	— —
H8	— —	— —	— —	32 *105*	36 *120*	44 *145*	— —	— —	— —	31 *100*	35 *115*	42 *140*	— —	— —	— —
H11	— —	— —	— —	38 *125*	43 *140*	50 *165*	— —	— —	— —	36 *120*	41 *135*	49 *160*	43 *140*	48 *155*	55 *180*
H12	65 *215*	70 *230*	90 *295*	60 *195*	70 *230*	85 *280*	— —	— —	— —	55 *180*	60 *195*	75 *245*	70 *230*	80 *260*	100 *330*

R217/220.21-R230 – Cutting data v_c = (m/min)/(sf/min)

SMG	MP1501			MP2501			MS2500			MP3501			MM4500		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	255 *840*	280 *920*	345 *1125*	285 *940*	310 *1025*	375 *1225*	270 *890*	300 *980*	365 *1200*	250 *820*	270 *890*	330 *1075*	170 *560*	190 *620*	235 *770*
P2	250 *820*	275 *900*	335 *1100*	275 *900*	300 *980*	365 *1200*	265 *870*	290 *950*	355 *1175*	240 *790*	265 *870*	320 *1050*	165 *540*	185 *610*	230 *750*
P3	220 *720*	245 *800*	295 *970*	245 *800*	270 *890*	325 *1075*	235 *770*	260 *850*	315 *1025*	215 *710*	235 *770*	285 *940*	145 *475*	160 *520*	205 *670*
P4	195 *640*	215 *710*	260 *850*	220 *720*	240 *790*	285 *940*	210 *690*	230 *750*	275 *900*	190 *620*	210 *690*	250 *820*	145 *475*	160 *520*	195 *640*
P5	195 *640*	210 *690*	250 *820*	210 *690*	225 *740*	275 *900*	200 *660*	220 *720*	265 *870*	180 *590*	200 *660*	240 *790*	125 *410*	140 *460*	170 *560*
P6	215 *710*	240 *790*	285 *940*	235 *770*	255 *840*	305 *1000*	225 *740*	245 *800*	295 *970*	205 *670*	225 *740*	270 *890*	145 *475*	160 *520*	195 *640*
P7	205 *670*	225 *740*	270 *890*	220 *720*	240 *790*	290 *950*	210 *690*	230 *750*	280 *920*	195 *640*	210 *690*	255 *840*	135 *445*	150 *490*	185 *610*
P8	185 *610*	205 *670*	250 *820*	210 *690*	225 *740*	275 *900*	200 *660*	220 *720*	265 *870*	180 *590*	200 *660*	240 *790*	120 *395*	135 *445*	170 *560*
P11	200 *660*	220 *720*	265 *870*	215 *710*	235 *770*	280 *920*	205 *670*	225 *740*	270 *890*	190 *620*	205 *670*	250 *820*	130 *425*	145 *475*	175 *570*
P12	140 *460*	150 *490*	175 *570*	150 *490*	165 *540*	195 *640*	145 *475*	155 *510*	190 *620*	135 *445*	145 *475*	175 *570*	90 *295*	100 *330*	125 *410*
M1	— —	— —	— —	150 *490*	175 *570*	210 *690*	165 *540*	185 *610*	230 *750*	140 *460*	160 *520*	195 *640*	120 *395*	140 *460*	165 *540*
M2	— —	— —	— —	125 *410*	145 *475*	175 *570*	135 *445*	155 *510*	190 *620*	120 *395*	135 *445*	160 *520*	100 *330*	115 *375*	135 *445*
M3	— —	— —	— —	105 *345*	115 *375*	145 *475*	115 *375*	125 *410*	155 *510*	95 *310*	110 *360*	135 *445*	80 *260*	95 *310*	115 *375*
M4	— —	— —	— —	80 *260*	90 *295*	110 *360*	90 *295*	100 *330*	120 *395*	75 *245*	85 *280*	105 *345*	65 *215*	70 *230*	90 *295*
M5	— —	— —	— —	65 *215*	75 *245*	95 *310*	75 *245*	80 *260*	100 *330*	65 *215*	70 *230*	85 *280*	55 *180*	60 *195*	75 *245*
K1	250 *820*	275 *900*	340 *1125*	280 *920*	305 *1000*	370 *1225*	180 *590*	205 *670*	250 *820*	245 *800*	265 *870*	325 *1075*	— —	— —	— —
K2	235 *770*	255 *840*	300 *980*	250 *820*	275 *900*	330 *1075*	165 *540*	185 *610*	225 *740*	220 *720*	240 *790*	290 *950*	— —	— —	— —
K3	200 *660*	215 *710*	255 *840*	215 *710*	230 *750*	280 *920*	140 *460*	155 *510*	190 *620*	185 *610*	205 *670*	245 *800*	— —	— —	— —
K4	190 *620*	205 *670*	245 *800*	205 *670*	220 *720*	265 *870*	130 *425*	150 *490*	180 *590*	180 *590*	195 *640*	235 *770*	— —	— —	— —
K5	115 *375*	130 *425*	155 *510*	125 *410*	140 *460*	170 *560*	80 *260*	90 *295*	115 *375*	110 *360*	120 *395*	150 *490*	— —	— —	— —
K6	165 *540*	180 *590*	215 *710*	180 *590*	195 *640*	235 *770*	115 *375*	130 *425*	160 *520*	155 *510*	170 *560*	205 *670*	— —	— —	— —
K7	150 *490*	165 *540*	195 *640*	160 *520*	175 *570*	215 *710*	105 *345*	115 *375*	145 *475*	140 *460*	155 *510*	190 *620*	— —	— —	— —
S1	— —	— —	— —	— —	— —	— —	43 *140*	48 *155*	60 *195*	35 *115*	40 *130*	48 *155*	20 *65*	22 *70*	27 *90*
S2	— —	— —	— —	— —	— —	— —	34 *110*	39 *130*	48 *155*	28 *90*	32 *105*	39 *130*	16 *50*	18 *60*	22 *70*
S3	— —	— —	— —	— —	— —	— —	31 *100*	35 *115*	42 *140*	25 *80*	28 *90*	34 *110*	14 *46*	16 *50*	19 *60*
S11	— —	— —	— —	— —	— —	— —	60 *195*	70 *230*	85 *280*	48 *155*	55 *180*	70 *230*	27 *90*	31 *100*	37 *120*
S12	— —	— —	— —	— —	— —	— —	41 *135*	47 *155*	55 *180*	33 *110*	39 *130*	47 *155*	25 *80*	28 *90*	34 *110*
S13	— —	— —	— —	— —	— —	— —	24 *80*	27 *90*	33 *110*	20 *65*	22 *70*	27 *90*	15 *49*	17 *55*	20 *65*
H5	38 *125*	43 *140*	50 *165*	— —	— —	— —	37 *120*	42 *140*	50 *165*	33 *110*	37 *120*	44 *145*	— —	— —	— —
H8	41 *135*	46 *150*	55 *180*	— —	— —	— —	40 *130*	45 *150*	55 *180*	35 *115*	40 *130*	48 *155*	— —	— —	— —
H11	48 *155*	55 *180*	65 *215*	— —	— —	— —	47 *155*	55 *180*	65 *215*	42 *140*	47 *155*	55 *180*	— —	— —	— —
H12	75 *245*	80 *260*	100 *330*	— —	— —	— —	80 *260*	90 *295*	110 *360*	65 *215*	70 *230*	85 *280*	— —	— —	— —



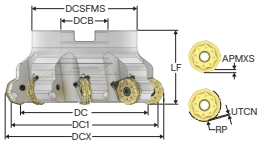
R220.21 (ON09) High Feed

High feed double octomill insert cutters. ON09 inserts have 16 cutting edges, making them the most cost-effective choice for face milling applications using a high feed strategy.
HSS pins securely position inserts in the fixed pockets of the cutter and decrease the time required for indexing.

- Cutter range 80-160 mm (3 - 6 inch)
- Max depth of cut 2 mm (.078 inch)
- Facing applications only

R220.21-ON09 – Metric

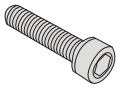




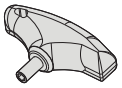
—For insert selection and cutting data recommendations, see page(s) 634–635
—For complete insert programme, see page(s) 884
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCSFMS	LF	RP	UTCN	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm	mm	mm	mm		kg	
R220.21-0080-ON09-6A	02848781	Arbor	65,35	89,9	6	2,0	7,0	27,0	62,0	50,0	10,28	0,85	4400	1,0	ON..09
R220.21-0100-ON09-7A	02848782	Arbor	85,35	109,9	7	2,0	7,0	32,0	77,0	50,0	10,28	0,85	3900	1,5	ON..09
R220.21-0125-ON09-8A	02848783	Arbor	110,35	134,9	8	2,0	7,0	40,0	90,0	63,0	10,28	0,85	3500	2,9	ON..09
R220.21-8160-ON09-10	02848784	Arbor	145,35	169,9	10	2,0	7,0	40,0	90,0	63,0	10,28	0,85	3100	4,2	ON..09

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R220.21-0080	MC6S12X35	1/4HEX-T20PX50	C05013-T20P
R220.21-0100-0125	–	1/4HEX-T20PX90	C05013-T20P
R220.21-8160	–	1/4HEX-T20PX90	C05013-T20P

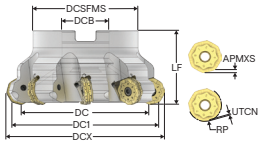
Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.21-0080-0125	1/4HEX-T-HANDLE-5.0-14.0NM	–	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.21-0080-0125	1/4HEX-T-HANDLE-5.0-14.0NM	5803216	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.21-0080-0125	1/4HEX-T-HANDLE-5.0-14.0NM	5804020	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.21-8160	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R220.21-ON09 – inch

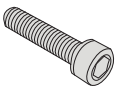




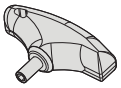
—For insert selection and cutting data recommendations, see page(s) 634-635
—For complete insert programme, see page(s) 884
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCSFMS	LF	RP	UTCN	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch	inch	inch	inch		lbs	
R220.21-03.00-ON09-6A	02848785	Arbor	2.423	3.389	6	0.079	0.276	1.000	2.441	1.969	0.405	0.033	4400	1.980	ON..09
R220.21-06.00-ON09-10	02848788	Arbor	5.423	6.389	10	0.079	0.276	2.000	4.331	2.480	0.405	0.033	3200	8.380	ON..09

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R220.21-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T20PX50	C05013-T20P
R220.21-06.00	–	1/4HEX-T20PX90	C05013-T20P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.21-03.00	1/4HEX-T-HANDLE-5.0-14.0NM	–	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R220.21-06.00	1/4HEX-T-HANDLE-5.0-14.0NM	58215080	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R220.21-ON09 – Insert selection – mm/Inch

SMG		a_p	f_z	
			70%	30%
P1	ONMU090512TN-ME16 MP3501	2,0 *0.080*	0,75 0.030	0,85 0.034
P2	ONMU090512TN-ME16 MP3501	2,0 *0.080*	0,75 0.030	0,85 0.034
P3	ONMU090512TN-ME16 MP2501	2,0 *0.080*	0,70 0.028	0,80 0.032
P4	ONMU090512TN-ME16 MP2501	2,0 *0.080*	0,70 0.028	0,80 0.032
P5	ONMU090512TN-ME16 MP2501	2,0 *0.080*	0,70 0.028	0,80 0.032
P6	ONMU090512TN-ME16 MP2501	2,0 *0.080*	0,70 0.028	0,75 0.030
P7	ONMU090512TN-ME16 MP2501	2,0 *0.080*	0,70 0.028	0,75 0.030
P8	ONMU090512TN-ME16 MP2501	2,0 *0.080*	0,70 0.028	0,80 0.032
P11	ONMU090512TN-ME16 MP3501	2,0 *0.080*	0,70 0.028	0,75 0.030
P12	ONMU090512TN-ME16 MP3501	1,6 *0.060*	0,46 0.018	0,50 0.020
M1	ONMU090512TN-ME16 MS2050	2,0 *0.080*	0,75 0.030	0,85 0.034
M2	ONMU090512TN-ME16 MS2050	2,0 *0.080*	0,70 0.028	0,80 0.032
M3	ONMU090512TN-ME16 MS2050	1,6 *0.060*	0,55 0.022	0,60 0.024
M4	ONMU090512TN-ME16 MP3501	1,6 *0.060*	0,48 0.019	0,55 0.022
M5	ONMU090512TN-ME16 MP3501	1,6 *0.060*	0,48 0.019	0,55 0.022
K1	ONMU090512TN-M30 MK1501	2,0 *0.080*	1,4 0.055	1,6 0.065
K2	ONMU090512TN-M30 MK1501	2,0 *0.080*	1,3 0.050	1,4 0.055
K3	ONMU090512TN-M30 MK1501	2,0 *0.080*	1,3 0.050	1,4 0.055
K4	ONMU090512TN-M30 MK1501	2,0 *0.080*	1,3 0.050	1,4 0.055
K5	ONMU090512TN-M30 MK1501	2,0 *0.080*	1,1 0.044	1,3 0.050
K6	ONMU090512TN-M30 MK1501	2,0 *0.080*	1,3 0.050	1,4 0.055
K7	ONMU090512TN-M30 MK1501	2,0 *0.080*	1,1 0.044	1,3 0.050
S1	ONMU090512TN-ME16 MP2051	1,6 *0.060*	0,48 0.019	0,55 0.022
S2	ONMU090512TN-ME16 MP2051	1,6 *0.060*	0,48 0.019	0,55 0.022
S3	ONMU090512TN-ME16 MP2051	1,6 *0.060*	0,44 0.017	0,50 0.020
S11	ONMU090512TN-ME16 MS2050	1,6 *0.060*	0,55 0.022	0,60 0.024
S12	ONMU090512TN-ME16 MS2050	1,6 *0.060*	0,55 0.022	0,60 0.024
S13	ONMU090512TN-ME16 MS2050	1,6 *0.060*	0,48 0.019	0,55 0.022
H5	ONMU090512TN-M30 MP1501	1,6 *0.060*	0,85 0.034	0,95 0.038
H8	ONMU090512TN-M30 MP1501	1,6 *0.060*	0,65 0.026	0,75 0.030

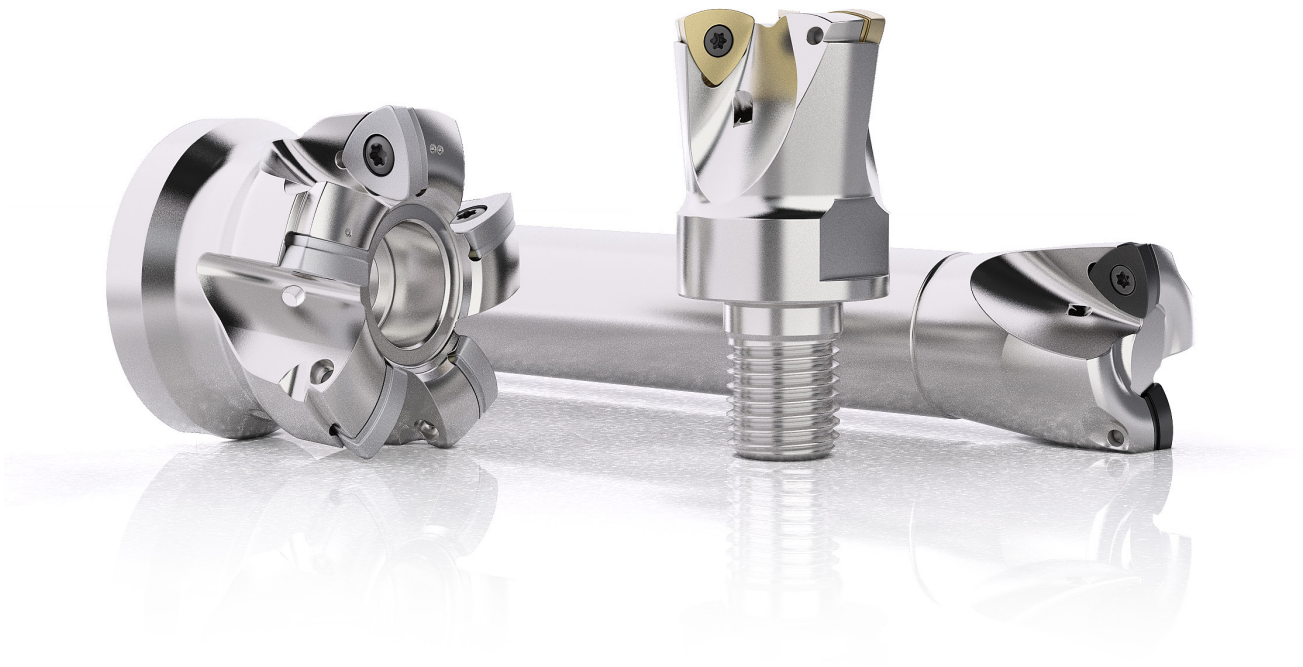
SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R220.21-ON09 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK2050			MP3000			MS2050			F40M			MP2051			MP2050			MK1501		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	270 *890*	305 *1000*	370 *1225*	265 *870*	290 *950*	370 *1225*	245 *800*	270 *890*	325 *1075*	230 *750*	245 *800*	295 *970*	260 *850*	290 *950*	400 *1300*	270 *890*	305 *1000*	370 *1225*	— —	—	—
P2	265 *870*	295 *970*	360 *1175*	255 *840*	285 *940*	360 *1175*	235 *770*	260 *850*	320 *1050*	225 *740*	240 *790*	290 *950*	250 *820*	280 *920*	390 *1275*	265 *870*	295 *970*	360 *1175*	— —	—	—
P3	230 *750*	260 *850*	315 *1025*	230 *750*	255 *840*	320 *1050*	210 *690*	230 *750*	280 *920*	200 *660*	215 *710*	255 *840*	230 *750*	255 *840*	350 *1150*	230 *750*	260 *850*	315 *1025*	— —	—	—
P4	205 *670*	230 *750*	280 *920*	200 *660*	225 *740*	280 *920*	185 *610*	205 *670*	245 *800*	180 *590*	200 *660*	235 *770*	200 *660*	225 *740*	310 *1025*	205 *670*	230 *750*	280 *920*	— —	—	—
P5	195 *640*	220 *720*	270 *890*	200 *660*	220 *720*	275 *900*	175 *570*	195 *640*	240 *790*	175 *570*	185 *610*	220 *720*	195 *640*	215 *710*	305 *1000*	195 *640*	220 *720*	270 *890*	— —	—	—
P6	225 *740*	250 *820*	305 *1000*	225 *740*	250 *820*	310 *1025*	205 *670*	225 *740*	270 *890*	195 *640*	210 *690*	245 *800*	230 *750*	260 *850*	345 *1125*	225 *740*	250 *820*	305 *1000*	— —	—	—
P7	210 *690*	240 *790*	285 *940*	215 *710*	235 *770*	290 *950*	190 *620*	210 *690*	255 *840*	185 *610*	195 *640*	230 *750*	220 *720*	245 *800*	325 *1075*	210 *690*	240 *790*	285 *940*	— —	—	—
P8	195 *640*	220 *720*	265 *870*	195 *640*	215 *710*	270 *890*	175 *570*	195 *640*	235 *770*	170 *560*	180 *590*	215 *710*	195 *640*	215 *710*	295 *970*	195 *640*	220 *720*	265 *870*	— —	—	—
P11	205 *670*	230 *750*	280 *920*	205 *670*	230 *750*	285 *940*	185 *610*	205 *670*	250 *820*	180 *590*	190 *620*	225 *740*	200 *660*	235 *770*	340 *1125*	205 *670*	230 *750*	280 *920*	— —	—	—
P12	135 *445*	150 *490*	185 *610*	140 *460*	155 *510*	195 *640*	125 *410*	135 *445*	165 *540*	120 *395*	130 *425*	155 *510*	150 *490*	180 *590*	250 *820*	135 *445*	150 *490*	185 *610*	— —	—	—
M1	— —	—	—	190 *620*	215 *710*	260 *850*	180 *590*	205 *670*	245 *800*	165 *540*	185 *610*	225 *740*	205 *670*	245 *800*	365 *1200*	190 *620*	210 *690*	260 *850*	— —	—	—
M2	— —	—	—	160 *520*	180 *590*	215 *710*	150 *490*	165 *540*	205 *670*	140 *460*	155 *510*	185 *610*	175 *570*	210 *690*	325 *1075*	155 *510*	175 *570*	215 *710*	— —	—	—
M3	— —	—	—	125 *410*	145 *475*	175 *570*	120 *395*	135 *445*	165 *540*	110 *360*	125 *410*	150 *490*	165 *540*	195 *640*	280 *920*	125 *410*	140 *460*	175 *570*	— —	—	—
M4	— —	—	—	100 *330*	110 *360*	135 *445*	95 *310*	105 *345*	130 *425*	85 *280*	95 *310*	115 *375*	135 *445*	160 *520*	220 *720*	100 *330*	110 *360*	135 *445*	— —	—	—
M5	— —	—	—	85 *280*	95 *310*	115 *375*	80 *260*	90 *295*	105 *345*	70 *230*	80 *260*	95 *310*	110 *360*	135 *445*	185 *610*	80 *260*	95 *310*	110 *360*	— —	—	—
K1	285 *940*	320 *1050*	390 *1275*	200 *660*	225 *740*	275 *900*	— —	—	—	160 *520*	180 *590*	220 *720*	—	—	—	—	—	—	305 *1000*	415 *1350*	580 *1900*
K2	250 *820*	285 *940*	350 *1150*	180 *590*	205 *670*	245 *800*	— —	—	—	145 *475*	165 *540*	200 *660*	—	—	—	—	—	—	270 *890*	365 *1200*	510 *1675*
K3	215 *710*	240 *790*	295 *970*	155 *510*	175 *570*	210 *690*	— —	—	—	125 *410*	140 *460*	165 *540*	—	—	—	—	—	—	195 *640*	235 *770*	305 *1000*
K4	205 *670*	230 *750*	285 *940*	145 *475*	165 *540*	200 *660*	— —	—	—	120 *395*	130 *425*	160 *520*	—	—	—	—	—	—	185 *610*	220 *720*	290 *950*
K5	125 *410*	145 *475*	170 *560*	90 *295*	100 *330*	120 *395*	— —	—	—	70 *230*	80 *260*	95 *310*	—	—	—	—	—	—	115 *375*	140 *460*	175 *570*
K6	180 *590*	200 *660*	250 *820*	130 *425*	145 *475*	175 *570*	— —	—	—	105 *345*	115 *375*	140 *460*	—	—	—	—	—	—	160 *520*	195 *640*	255 *840*
K7	165 *540*	185 *610*	220 *720*	115 *375*	130 *425*	155 *510*	— —	—	—	90 *295*	105 *345*	125 *410*	—	—	—	—	—	—	150 *490*	180 *590*	225 *740*

R220.21-ON09 – Cutting data v_c = (m/min)/(sf/min)

SMG	MP1501			MP2501			MS2500			MP3501			MM4500		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	395 *1300*	425 *1400*	510 *1675*	385 *1275*	415 *1350*	495 *1625*	365 *1200*	400 *1300*	475 *1550*	340 *1125*	365 *1200*	440 *1450*	235 *770*	260 *850*	315 *1025*
P2	385 *1275*	415 *1350*	490 *1600*	375 *1225*	405 *1325*	480 *1575*	355 *1175*	390 *1275*	465 *1525*	330 *1075*	360 *1175*	430 *1400*	230 *750*	255 *840*	305 *1000*
P3	340 *1125*	365 *1200*	430 *1400*	330 *1075*	355 *1175*	420 *1375*	315 *1025*	345 *1125*	405 *1325*	295 *970*	315 *1025*	375 *1225*	205 *670*	225 *740*	265 *870*
P4	300 *980*	325 *1075*	380 *1250*	290 *950*	315 *1025*	370 *1225*	275 *900*	300 *980*	360 *1175*	260 *850*	280 *920*	330 *1075*	195 *640*	215 *710*	255 *840*
P5	285 *940*	310 *1025*	370 *1225*	275 *900*	300 *980*	360 *1175*	265 *870*	290 *950*	350 *1150*	245 *800*	265 *870*	325 *1075*	175 *570*	195 *640*	225 *740*
P6	325 *1075*	355 *1175*	415 *1350*	320 *1050*	345 *1125*	405 *1325*	305 *1000*	335 *1100*	390 *1275*	285 *940*	310 *1025*	365 *1200*	195 *640*	215 *710*	255 *840*
P7	310 *1025*	335 *1100*	390 *1275*	300 *980*	325 *1075*	385 *1275*	290 *950*	315 *1025*	370 *1225*	270 *890*	290 *950*	345 *1125*	185 *610*	205 *670*	240 *790*
P8	285 *940*	310 *1025*	365 *1200*	275 *900*	300 *980*	355 *1175*	265 *870*	290 *950*	340 *1125*	245 *800*	265 *870*	315 *1025*	170 *560*	190 *620*	220 *720*
P11	300 *980*	325 *1075*	380 *1250*	295 *970*	315 *1025*	375 *1225*	280 *920*	305 *1000*	360 *1175*	260 *850*	280 *920*	335 *1100*	180 *590*	200 *660*	235 *770*
P12	195 *640*	210 *690*	250 *820*	190 *620*	210 *690*	245 *800*	185 *610*	200 *660*	235 *770*	170 *560*	185 *610*	220 *720*	115 *375*	125 *410*	145 *475*
M1	— —	— —	— —	195 *640*	215 *710*	265 *870*	210 *690*	235 *770*	285 *940*	180 *590*	205 *670*	245 *800*	150 *490*	170 *560*	205 *670*
M2	— —	— —	— —	160 *520*	180 *590*	220 *720*	175 *570*	195 *640*	240 *790*	150 *490*	165 *540*	205 *670*	125 *410*	145 *475*	170 *560*
M3	— —	— —	— —	130 *425*	145 *475*	180 *590*	140 *460*	160 *520*	195 *640*	120 *395*	135 *445*	165 *540*	100 *330*	115 *375*	140 *460*
M4	— —	— —	— —	100 *330*	115 *375*	140 *460*	110 *360*	125 *410*	150 *490*	95 *310*	105 *345*	130 *425*	80 *260*	90 *295*	110 *360*
M5	— —	— —	— —	85 *280*	95 *310*	115 *375*	90 *295*	105 *345*	125 *410*	80 *260*	90 *295*	105 *345*	65 *215*	75 *245*	90 *295*
K1	385 *1275*	420 *1375*	495 *1625*	375 *1225*	405 *1325*	485 *1600*	230 *750*	260 *850*	315 *1025*	335 *1100*	360 *1175*	430 *1400*	— —	— —	— —
K2	345 *1125*	370 *1225*	445 *1450*	335 *1100*	360 *1175*	440 *1450*	205 *670*	230 *750*	285 *940*	300 *980*	320 *1050*	390 *1275*	— —	— —	— —
K3	290 *950*	315 *1025*	380 *1250*	285 *940*	305 *1000*	370 *1225*	175 *570*	195 *640*	240 *790*	250 *820*	270 *890*	330 *1075*	— —	— —	— —
K4	275 *900*	300 *980*	360 *1175*	270 *890*	295 *970*	355 *1175*	165 *540*	185 *610*	230 *750*	240 *790*	260 *850*	315 *1025*	— —	— —	— —
K5	175 *570*	190 *620*	220 *720*	170 *560*	185 *610*	215 *710*	105 *345*	115 *375*	140 *460*	150 *490*	165 *540*	190 *620*	— —	— —	— —
K6	245 *800*	265 *870*	320 *1050*	240 *790*	260 *850*	310 *1025*	145 *475*	165 *540*	205 *670*	210 *690*	230 *750*	280 *920*	— —	— —	— —
K7	225 *740*	240 *790*	280 *920*	220 *720*	235 *770*	275 *900*	130 *425*	150 *490*	180 *590*	195 *640*	210 *690*	245 *800*	— —	— —	— —



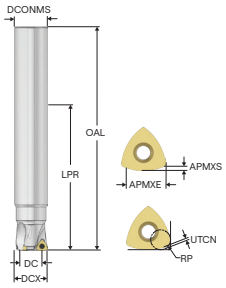
R217/220.21 High Feed

High feed mills for general purpose applications, 3-cutting edge, single sided inserts.
218.19 insert range include a wide selection of cutting geometries and grades for many different materials.

- Cutter range 16-100 mm (.625-4 inch)
- Suitable for long overhangs and/or unstable conditions
- Small-to-medium sized CNC machines with high rpms and high feed rates
- Also works for machines that run lower rpms and feed rates

R217.21 – Metric





—For insert selection and cutting data recommendations, see page(s) 644-654
—For complete insert programme, see page(s) 929
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCONMS	RP	UTCN	LUX	LPR	OAL	RMPX°	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm	mm	mm	mm	mm			kg	
R217.21-1416.0-R080.2A	02554443	Cylindrical	9,25	16,0	2	0,63	5,0	14,0	1,0	0,39	105,0	105,0	150,0	6,1	53400	0,2	218.19-080
R217.21-1820.0-R100.2A	02554439	Cylindrical	11,4	20,0	2	0,74	7,0	18,0	1,47	0,45	110,0	110,0	160,0	5,7	32600	0,3	218.19-100
R217.21-2025.0-R100.2A	02616308	Cylindrical	16,46	25,0	2	0,74	7,0	20,0	1,47	0,45	120,0	120,0	170,0	3,48	29100	0,4	218.19-100
R217.21-2525.0-R100.3A	02616320	Cylindrical	16,46	25,0	3	0,74	7,0	25,0	1,47	0,45	114,0	114,0	170,0	3,48	29100	0,6	218.19-100
R217.21-2532.0-R125.2A	02616323	Cylindrical	21,16	32,0	2	1,0	9,0	25,0	1,74	0,61	140,0	140,0	195,0	3,67	19700	0,7	218.19-125
R217.21-3232.0-R125.3A	02616325	Cylindrical	21,16	32,0	3	1,0	9,0	32,0	1,74	0,61	39,5	135,0	195,0	3,67	19700	1,2	218.19-125

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.21-R080	1/4HEX-T07PX50	C02205-T07P
R217.21-R100	1/4HEX-T08PX50	C02506-T08P
R217.21-R125	1/4HEX-T09PX50	C03007-T09P

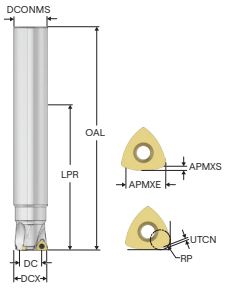
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.21-R080	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09
R217.21-R100	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12
R217.21-R125	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20

Torque and fixed keys, see page 944

R217.21 – inch





—For insert selection and cutting data recommendations, see page(s) 644-654
—For complete insert programme, see page(s) 929
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCONMS	RP	UTCN	LUX	LPR	OAL	RMPX°	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch	inch	inch	inch	inch			lbs	
R217.21-0.750-0-R100.2HA	02548132	Cylindrical	0.357	0.750	2	0.043	0.276	0.750	0.071	0.024	1.250	4.000	6.500	4,5	32600	0.880	218.19-100
R217.21-0.750-0-R100.2A	02559353	Cylindrical	0.410	0.750	2	0.029	0.276	0.750	0.058	0.018	4.531	4.531	6.500	6,45	32600	0.880	218.19-100
R217.21-1.25-0-R160.2HA	02553730	Cylindrical	0.583	1.250	2	0.080	0.433	1.250	0.121	0.041	5.217	5.220	7.500	3,37	16200	2.200	218.19-160
R217.21-1.50-0-R160.3HA	02553733	Cylindrical	0.591	1.500	3	0.080	0.433	1.500	0.120	0.041	2.087	5.310	8.000	3,09	17600	3.530	218.19-160
R217.21-1.00-0-R100.3A	02559354	Cylindrical	0.660	1.000	3	0.029	0.276	1.000	0.058	0.018	4.795	4.795	7.000	3,38	29100	1.320	218.19-100
R217.21-1.25-0-R125.3A	02553726	Cylindrical	0.823	1.250	3	0.039	0.354	1.250	0.069	0.024	1.575	5.138	7.500	3,73	19700	2.430	218.19-125

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.21-R100	1/4HEX-T08PX50	C02506-T08P
R217.21-R125	1/4HEX-T09PX50	C03007-T09P
R217.21-R160	1/4HEX-T15PX50	C03510-T15P

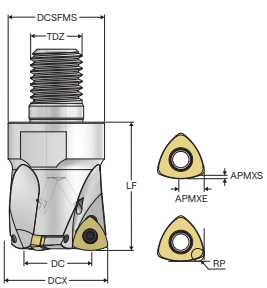
Accessories

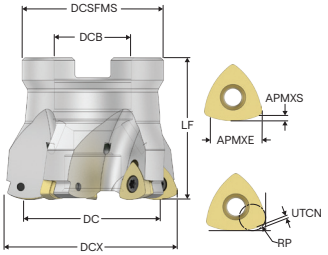
For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.21-R100	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12
R217.21-R125	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20
R217.21-R160	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-15P30

Torque and fixed keys, see page 944

R217/220.21 – Metric





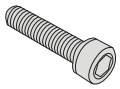


–For insert selection and cutting data recommendations, see page(s) 644-654
–For complete insert programme, see page(s) 929
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCS-FMS	TDZ		LF	RP		OAL	RMPX°	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm		mm	mm	mm	mm	mm			kg	
R217.21-0816.RE-R080.2	00030707	Combimaster	9,25	16,0	2	0,6	5,0	–	13,5	M8	–	23,0	1,0	0,39	40,75	6,1	53400	0,1	218.19-080
R217.21-1020.RE-R100.2HA	02546332	Combimaster	10,44	20,0	2	1,0	7,0	–	18,5	M10	–	28,0	1,7	0,55	46,75	4,32	32600	0,1	218.19-100
R217.21-1020.RE-R100.2A	00030708	Combimaster	11,45	20,0	2	0,7	7,0	–	18,5	M10	–	28,0	1,47	0,45	46,75	5,71	32600	0,1	218.19-100
R217.21-1225.RE-R125.2HA	02502370	Combimaster	12,36	25,0	2	1,5	9,0	–	23,0	M12	–	35,0	2,18	0,8	56,75	4,25	29100	0,1	218.19-125
R217.21-1632.RE-R160.2HA	02546333	Combimaster	16,09	32,0	2	1,8	11,0	–	30,0	M16	–	40,0	2,87	0,97	62,75	3,76	16200	0,2	218.19-160
R217.21-1225.RE-R100.3A	00030710	Combimaster	16,46	25,0	3	0,7	7,0	–	23,0	M12	–	35,0	1,47	0,45	56,75	3,48	29100	0,1	218.19-100
R217.21-1632.RE-R125.3A	00030714	Combimaster	21,21	32,0	3	1,0	9,0	–	30,0	M16	–	40,0	1,74	0,61	62,75	3,7	19700	0,2	218.19-125
R217.21-1640.RE-R160.3HA	02546335	Combimaster	23,99	40,0	3	1,8	11,0	–	30,0	M16	–	40,0	2,87	0,97	62,75	2,18	14500	0,3	218.19-160
R217.21-1635.RE-R125.3A	00030715	Combimaster	24,16	35,0	3	1,0	9,0	–	30,0	M16	–	40,0	1,74	0,61	62,75	3,1	18800	0,2	218.19-125
R217.21-1640.RE-R125.4A	00039503	Combimaster	29,25	40,0	4	1,0	9,0	–	30,0	M16	–	40,0	1,74	0,61	62,75	2,47	17600	0,3	218.19-125
R220.21-0040-R125.4A	00030717	Arbor	29,2	40,0	4	1,0	9,0	16,0	35,0	–	16,0	40,0	1,75	0,61	–	2,47	17600	0,2	218.19-125
R220.21-0042-R125.4A	00030720	Arbor	31,2	42,0	4	1,0	9,0	16,0	35,0	–	16,0	40,0	1,75	0,61	–	2,28	17200	0,2	218.19-125
R220.21-0050-R160.5A	03136664	Arbor	33,7	50,0	5	1,8	11,0	22,0	47,0	–	22,0	40,0	3,01	1,03	–	0,9	12900	0,3	218.19-160
R220.21-0050-R160.4A	00030723	Arbor	34,17	50,0	4	1,8	11,0	22,0	47,0	–	22,0	40,0	2,85	0,97	–	1,47	12900	0,3	218.19-160
R220.21-0052-R160.5A	03136665	Arbor	35,7	52,0	5	1,8	11,0	22,0	47,0	–	22,0	40,0	3,03	1,03	–	0,8	12700	0,4	218.19-160
R220.21-0052-R160.4A	02425827	Arbor	36,19	52,0	4	1,8	11,0	22,0	47,0	–	22,0	40,0	2,85	0,97	–	1,38	12700	0,4	218.19-160
R220.21-0063-R160.4A	00030724	Arbor	47,2	63,0	4	1,8	11,0	27,0	50,0	–	27,0	50,0	2,85	0,97	–	1,0	11500	0,6	218.19-160
R220.21-0063-R160.5A	00030726	Arbor	47,2	63,0	5	1,8	11,0	27,0	50,0	–	27,0	50,0	2,85	0,97	–	1,0	11500	0,5	218.19-160
R220.21-0063-R160.6A	03136666	Arbor	47,9	63,0	6	1,8	11,0	27,0	50,0	–	27,0	50,0	3,0	0,98	–	0,6	11500	0,6	218.19-160
R220.21-0066-R160.5A	02409011	Arbor	50,21	66,0	5	1,8	11,0	27,0	50,0	–	27,0	50,0	2,85	0,97	–	0,95	11200	0,5	218.19-160
R220.21-0066-R160.6A	03136667	Arbor	50,9	66,0	6	1,8	11,0	27,0	62,0	–	27,0	50,0	3,0	1,05	–	0,5	11200	0,8	218.19-160
R220.21-0080-R160.7A	03136668	Arbor	63,6	80,0	7	1,8	11,0	27,0	62,0	–	27,0	50,0	3,0	1,04	–	0,4	10200	1,0	218.19-160
R220.21-0080-R160.6A	02530950	Arbor	64,15	80,0	6	1,8	11,0	27,0	62,0	–	27,0	50,0	2,85	0,97	–	0,73	10200	0,9	218.19-160
R220.21-0084-R160.6A	02969095	Arbor	68,0	84,0	6	1,8	11,0	32,0	77,0	–	32,0	50,0	2,85	0,97	–	0,7	10000	1,3	218.19-160
R220.21-0100-R160.9A	03136671	Arbor	83,6	100,0	9	1,8	11,0	32,0	77,0	–	32,0	50,0	3,0	1,03	–	0,3	9700	1,8	218.19-160
R220.21-0100-R160.7A	02530946	Arbor	84,13	100,0	7	1,8	11,0	32,0	77,0	–	32,0	50,0	2,85	0,97	–	0,54	9700	1,6	218.19-160

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

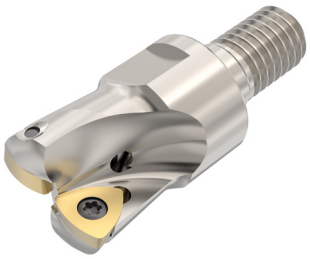
For cutter	Arbor screw	Insert key	Insert screw
			
R217.21-R080	–	1/4HEX-T07PX50	C02205-T07P
R217.21-R100	–	1/4HEX-T08PX50	C02506-T08P
R217.21-R125	–	1/4HEX-T09PX50	C03007-T09P
R217.21-R160	–	1/4HEX-T15PX50	C03510-T15P
R220.21-0040-0042	220.17-689	1/4HEX-T09PX50	C03007-T09P
R220.21-0050-0052	220.17-692	1/4HEX-T15PX50	C03510-T15P
R220.21-0063	MC6S12X35	1/4HEX-T15PX50	C03510-T15P
R220.21-0080	MC6S12X35	1/4HEX-T15PX50	C03510-T15P
R220.21-0084	950E1645	1/4HEX-T15PX50	C03510-T15P
R220.21-0100	MC6S16X35	1/4HEX-T15PX90	C03510-T15P
R220.21-0100.9A	950E1645	1/4HEX-T15PX90	C03510-T15P

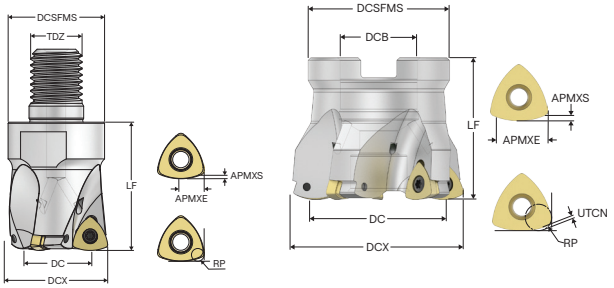
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.21-R080	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09
R217.21-R100	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12
R217.21-R125	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20
R217.21-R160	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-15P30
R220.21-0040-0042	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20
R220.21-0050-0100	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-15P30

Torque and fixed keys, see page 944

R217/220.21 – Inch



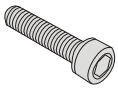


–For insert selection and cutting data recommendations, see page(s) 644-654
–For complete insert programme, see page(s) 929
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCSFMS	TDZ	DCONMS	LF	RP	UTCN	OAL	RMPX°	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch		inch	inch	inch	inch	inch			lbs	
R217.21-0.75RE-R100.2HA	02548133	Combimaster	0.357	0.750	2	0.043	0.276	–	0.728	M10	–	1.100	0.071	0.024	1.838	4,5	32600	0.220	218.19-100
R217.21-0.7510RER100.2A	00098320	Combimaster	0.414	0.750	2	0.028	0.276	–	0.728	M10	–	1.100	0.058	0.017	1.838	6,45	32600	0.220	218.19-100
R217.21-1.25RE-R160.2HA	02548129	Combimaster	0.543	1.250	2	0.079	0.433	–	1.181	M16	–	1.600	0.121	0.041	2.496	3,37	16200	0.660	218.19-160
R217.21-1.0012RER100.3A	00098330	Combimaster	0.663	1.000	3	0.028	0.276	–	0.906	M12	–	1.400	0.058	0.018	2.256	3,38	29100	0.220	218.19-100
R217.21-1.50RE-R160.3HA	02548130	Combimaster	0.791	1.498	3	0.079	0.433	–	1.181	M16	–	1.600	0.121	0.041	2.496	1,96	14500	0.660	218.19-160
R217.21-1.2516RER125.3A	00098351	Combimaster	0.823	1.250	3	0.039	0.354	–	1.181	M16	–	1.600	0.069	0.024	2.496	3,73	19700	0.660	218.19-125
R217.21-1.5016RER125.4A	02435615	Combimaster	1.002	1.500	4	0.059	0.354	–	1.181	M16	–	1.600	0.086	0.031	2.496	1,69	17600	0.660	218.19-125
R220.21-1.50-R125.4A	00098850	Arbor	1.002	1.500	4	0.060	0.354	0.500	1.378	–	0.500	1.600	0.087	0.032	–	1,69	17600	0.440	218.19-125
R220.21-02.00-R160.5A	02789050	Arbor	1.327	2.000	5	0.079	0.433	0.750	1.850	–	0.750	1.600	0.119	0.041	–	1,17	12900	0.660	218.19-160
R220.21-02.00-R160.4A	00098952	Arbor	1.346	2.000	4	0.079	0.433	0.750	1.850	–	0.750	1.600	0.119	0.041	–	1,17	12900	0.880	218.19-160
R220.21-02.50-R160.6A	02825654	Arbor	1.827	2.500	6	0.079	0.433	0.750	2.350	–	0.750	2.000	0.119	0.041	–	0,83	11500	1.540	218.19-160
R220.21-02.50-R160.5A	00099029	Arbor	1.843	2.500	5	0.079	0.433	0.750	2.350	–	0.750	2.000	0.119	0.041	–	0,83	11500	1.320	218.19-160
R220.21-03.00-R160.6A	02427189	Arbor	2.280	3.000	6	0.098	0.433	1.000	2.441	–	1.000	2.000	0.138	0.047	–	0,39	10200	1.980	218.19-160
R220.21-03.00-R160.7A	02828389	Arbor	2.348	3.000	7	0.079	0.433	1.000	2.441	–	1.000	2.000	0.119	0.041	–	0,39	10200	2.430	218.19-160
R220.21-04.00-R160.7A	02427191	Arbor	3.286	4.000	7	0.098	0.433	1.500	3.543	–	1.500	2.000	0.138	0.047	–	0,27	9100	4.190	218.19-160
R220.21-04.00-R160.9A	02810684	Arbor	3.348	4.000	9	0.083	0.433	1.500	3.543	–	1.500	2.000	0.119	0.041	–	0,27	9100	4.630	218.19-160

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.21-0.75/1.00/0.75HA	–	1/4HEX-T08PX50	C02506-T08P
R217.21-1.25/1.50/1.00HA	–	1/4HEX-T09PX50	C03007-T09P
R217.21-1.25HA/1.50HA	–	1/4HEX-T15PX50	C03510-T15P
R220.21-01.50	UC6S1/4UNFX1	1/4HEX-T09PX50	C03007-T09P
R220.21-02.00	UC6S3/8UNFX1	1/4HEX-T15PX50	C03510-T15P
R220.21-02.00.5A	UC6S3/8UNFX1	1/4HEX-T15PX50	C03508-T15P
R220.21-02.50	UC6S3/8UNFX11/2	1/4HEX-T15PX50	C03510-T15P
R220.21-02.50.5A	UC6S3/8UNFX11/2	1/4HEX-T15PX50	C03508-T15P
R220.21-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T15PX50	C03510-T15P
R220.21-03.00.7A	UC6S1/2UNFX1-1/4	1/4HEX-T15PX50	–
R220.21-04.00	UC6S3/4UNFX1-1/4	1/4HEX-T15PX50	C03510-T15P
R220.21-04.00.9A	UC6S3/4UNFX1-1/4	1/4HEX-T15PX90	C03508-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.21-0.75 / 1.00 / 0.75HA	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12
R217.21-1.25-1.50	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20
R217.21-1.25HA-1.50HA	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-15P30
R220.21-01.50	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20
R220.21-02.00-04.00	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-15P30

Torque and fixed keys, see page 944

R217.21-080 – Insert selection – mm/Inch

SMG		a_p	f_z		
			100%	70%	30%
P1	218.19-080T-M04 MP2501	0,55 *0.022*	0,50 0.020	0,50 0.020	0,65 0.026
P2	218.19-080T-M04 MP2501	0,55 *0.022*	0,50 0.020	0,50 0.020	0,65 0.026
P3	218.19-080T-M04 MP2501	0,55 *0.022*	0,48 0.019	0,48 0.019	0,60 0.026
P4	218.19-080T-M04 MP2501	0,55 *0.022*	0,48 0.019	0,48 0.019	0,60 0.024
P5	218.19-080T-M04 MP2501	0,55 *0.022*	0,46 0.018	0,46 0.018	0,60 0.024
P6	218.19-080T-M04 MP2501	0,55 *0.022*	0,46 0.018	0,46 0.018	0,60 0.024
P7	218.19-080T-M04 MP2501	0,55 *0.022*	0,46 0.018	0,46 0.018	0,60 0.024
P8	218.19-080T-M04 MP2501	0,55 *0.022*	0,48 0.019	0,48 0.019	0,60 0.026
P11	218.19-080T-M04 F40M	0,55 *0.022*	0,46 0.018	0,46 0.018	0,60 0.024
P12	218.19-080T-M04 MP2501	0,44 *0.017*	0,34 0.013	0,34 0.013	0,42 0.017
M1	218.19-080T-M04 F40M	0,55 *0.022*	0,50 0.020	0,50 0.020	0,65 0.026
M2	218.19-080T-M04 F40M	0,55 *0.022*	0,46 0.018	0,46 0.018	0,60 0.024
M3	218.19-080T-M04 F40M	0,44 *0.017*	0,40 0.016	0,40 0.016	0,50 0.020
M4	218.19-080T-M04 F40M	0,32 *0.013*	0,34 0.013	0,34 0.013	0,42 0.017
M5	218.19-080T-M04 F40M	0,32 *0.013*	0,34 0.013	0,34 0.013	0,42 0.017
K1	218.19-080T-MD04 F15M	0,55 *0.022*	0,50 0.020	0,50 0.020	0,65 0.026
K2	218.19-080T-MD04 F15M	0,55 *0.022*	0,46 0.018	0,46 0.018	0,60 0.024
K3	218.19-080T-MD04 F15M	0,55 *0.022*	0,46 0.018	0,46 0.018	0,60 0.024
K4	218.19-080T-MD04 F15M	0,55 *0.022*	0,46 0.018	0,46 0.018	0,60 0.024
K5	218.19-080T-MD04 F15M	0,55 *0.022*	0,42 0.017	0,42 0.017	0,55 0.022
K6	218.19-080T-MD04 F15M	0,55 *0.022*	0,46 0.018	0,46 0.018	0,60 0.024
K7	218.19-080T-MD04 F15M	0,55 *0.022*	0,42 0.017	0,42 0.017	0,55 0.022
S1	218.19-080T-M04 F40M	0,32 *0.013*	0,34 0.013	0,34 0.013	0,42 0.017
S2	218.19-080T-M04 F40M	0,32 *0.013*	0,34 0.013	0,34 0.013	0,42 0.017
S3	218.19-080T-M04 F40M	0,32 *0.013*	0,32 0.013	0,32 0.013	0,40 0.016
S11	218.19-080T-M04 F40M	0,38 *0.015*	0,40 0.016	0,40 0.016	0,50 0.020
S12	218.19-080T-M04 F40M	0,38 *0.015*	0,40 0.016	0,40 0.016	0,50 0.020
S13	218.19-080T-M04 F40M	0,32 *0.013*	0,34 0.013	0,34 0.013	0,42 0.017
H5	218.19-080T-MD04 F15M	0,34 *0.013*	0,30 0.012	0,30 0.012	0,36 0.014
H8	218.19-080T-MD04 F15M	0,30 *0.012*	0,22 0.0085	0,22 0.0085	0,28 0.011
H11	218.19-080T-MD04 F15M	0,34 *0.013*	0,30 0.012	0,30 0.012	0,36 0.014
H12	218.19-080T-MD04 F15M	0,30 *0.012*	0,22 0.0085	0,22 0.0085	0,28 0.011

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217.21-080 – Cutting data v_c = (m/min)/(sf/min)

SMG	F15M			F30M			F40M			MP2501			MS2500		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	310 *1025*	380 *1250*	440 *1450*	285 *940*	350 *1150*	405 *1325*	270 *890*	330 *1075*	385 *1275*	510 *1675*	580 *1900*	640 *2100*	375 *1225*	455 *1500*	520 *1700*
P2	305 *1000*	360 *1175*	420 *1375*	280 *920*	330 *1075*	385 *1275*	265 *870*	315 *1025*	365 *1200*	490 *1600*	560 *1825*	620 *2025*	365 *1200*	430 *1400*	500 *1650*
P3	260 *850*	315 *1025*	365 *1200*	240 *790*	290 *950*	335 *1100*	230 *750*	280 *920*	320 *1050*	425 *1400*	485 *1600*	540 *1775*	310 *1025*	380 *1250*	440 *1450*
P4	230 *750*	280 *920*	325 *1075*	215 *710*	260 *850*	295 *970*	205 *670*	245 *800*	285 *940*	375 *1225*	430 *1400*	475 *1550*	280 *920*	340 *1125*	385 *1275*
P5	220 *720*	270 *890*	315 *1025*	205 *670*	250 *820*	290 *950*	195 *640*	235 *770*	275 *900*	360 *1175*	410 *1350*	455 *1500*	265 *870*	325 *1075*	375 *1225*
P6	250 *820*	300 *980*	350 *1150*	230 *750*	280 *920*	325 *1075*	215 *710*	265 *870*	310 *1025*	405 *1325*	460 *1500*	510 *1675*	300 *980*	365 *1200*	425 *1400*
P7	235 *770*	285 *940*	335 *1100*	215 *710*	260 *850*	305 *1000*	205 *670*	250 *820*	290 *950*	380 *1250*	435 *1425*	485 *1600*	280 *920*	340 *1125*	400 *1300*
P8	220 *720*	265 *870*	310 *1025*	200 *660*	245 *800*	285 *940*	190 *620*	235 *770*	270 *890*	355 *1175*	410 *1350*	450 *1475*	265 *870*	320 *1050*	370 *1225*
P11	230 *750*	275 *900*	325 *1075*	210 *690*	255 *840*	295 *970*	200 *660*	245 *800*	285 *940*	370 *1225*	425 *1400*	470 *1550*	275 *900*	330 *1075*	390 *1275*
P12	— —	— —	— —	135 *445*	165 *540*	190 *620*	130 *425*	155 *510*	180 *590*	230 *750*	260 *850*	285 *940*	180 *590*	215 *710*	245 *800*
M1	— —	— —	— —	225 *740*	265 *870*	310 *1025*	215 *710*	255 *840*	295 *970*	250 *820*	300 *980*	350 *1150*	260 *850*	310 *1025*	360 *1175*
M2	— —	— —	— —	185 *610*	225 *740*	260 *850*	175 *570*	210 *690*	245 *800*	205 *670*	250 *820*	290 *950*	210 *690*	260 *850*	300 *980*
M3	— —	— —	— —	150 *490*	180 *590*	205 *670*	140 *460*	170 *560*	200 *660*	165 *540*	200 *660*	235 *770*	175 *570*	205 *670*	240 *790*
M4	— —	— —	— —	120 *395*	140 *460*	160 *520*	110 *360*	130 *425*	150 *490*	130 *425*	155 *510*	180 *590*	135 *445*	160 *520*	185 *610*
M5	— —	— —	— —	100 *330*	115 *375*	135 *445*	95 *310*	110 *360*	125 *410*	110 *360*	130 *425*	150 *490*	115 *375*	135 *445*	155 *510*
K1	240 *790*	285 *940*	330 *1075*	220 *720*	260 *850*	305 *1000*	210 *690*	250 *820*	290 *950*	495 *1625*	560 *1825*	620 *2025*	— —	— —	— —
K2	210 *690*	255 *840*	300 *980*	195 *640*	235 *770*	275 *900*	185 *610*	225 *740*	260 *850*	435 *1425*	500 *1650*	550 *1800*	— —	— —	— —
K3	180 *590*	215 *710*	250 *820*	165 *540*	200 *660*	230 *750*	155 *510*	190 *620*	220 *720*	365 *1200*	420 *1375*	465 *1525*	— —	— —	— —
K4	170 *560*	205 *670*	240 *790*	155 *510*	190 *620*	220 *720*	150 *490*	180 *590*	210 *690*	350 *1150*	400 *1300*	445 *1450*	— —	— —	— —
K5	105 *345*	125 *410*	145 *475*	95 *310*	115 *375*	135 *445*	90 *295*	110 *360*	130 *425*	215 *710*	245 *800*	270 *890*	— —	— —	— —
K6	150 *490*	180 *590*	210 *690*	135 *445*	165 *540*	195 *640*	130 *425*	160 *520*	185 *610*	310 *1025*	355 *1175*	395 *1300*	— —	— —	— —
K7	135 *445*	160 *520*	185 *610*	125 *410*	150 *490*	170 *560*	115 *375*	140 *460*	165 *540*	275 *900*	315 *1025*	345 *1125*	— —	— —	— —
N1	— —	— —	— —	1625 *5325*	2000 *6550*	2300 *7550*	1550 *5075*	1900 *6225*	2200 *7225*	— —	— —	— —	— —	— —	— —
N2	— —	— —	— —	660 *2175*	800 *2625*	930 *3050*	630 *2075*	770 *2525*	880 *2875*	— —	— —	— —	— —	— —	— —
N3	— —	— —	— —	440 *1450*	540 *1775*	620 *2025*	420 *1375*	510 *1675*	590 *1925*	— —	— —	— —	— —	— —	— —
N11	— —	— —	— —	500 *1650*	610 *2000*	710 *2325*	480 *1575*	580 *1900*	670 *2200*	— —	— —	— —	— —	— —	— —
S1	— —	— —	— —	— —	— —	— —	50 *165*	60 *195*	70 *230*	— —	— —	— —	65 *215*	80 *260*	90 *295*
S2	— —	— —	— —	— —	— —	— —	42 *140*	50 *165*	55 *180*	— —	— —	— —	55 *180*	65 *215*	75 *245*
S3	— —	— —	— —	— —	— —	— —	37 *120*	44 *145*	50 *165*	— —	— —	— —	47 *155*	55 *180*	65 *215*
S11	— —	— —	— —	— —	— —	— —	75 *245*	85 *280*	100 *330*	— —	— —	— —	95 *310*	110 *360*	130 *425*
S12	— —	— —	— —	— —	— —	— —	50 *165*	60 *195*	70 *230*	— —	— —	— —	65 *215*	75 *245*	90 *295*
S13	— —	— —	— —	— —	— —	— —	29 *95*	35 *115*	40 *130*	— —	— —	— —	37 *120*	44 *145*	50 *165*
H5	50 *165*	60 *195*	70 *230*	48 *155*	55 *180*	65 *215*	— —	— —	— —	— —	— —	— —	— —	— —	— —
H8	55 *180*	65 *215*	75 *245*	50 *165*	60 *195*	70 *230*	— —	— —	— —	— —	— —	— —	— —	— —	— —
H11	65 *215*	80 *260*	90 *295*	60 *195*	70 *230*	85 *280*	— —	— —	— —	— —	— —	— —	— —	— —	— —
H12	100 *330*	115 *375*	135 *445*	90 *295*	110 *360*	125 *410*	— —	— —	— —	— —	— —	— —	120 *395*	140 *460*	160 *520*

R217.21-100 – Insert selection – mm/Inch

SMG		a_p	f_z		
			100%	70%	30%
P1	218.19-100T-M06 MP3501	0,65 *0.026*	0,80 0.032	0,80 0.032	1,0 0.040
P2	218.19-100T-M06 MP3501	0,65 *0.026*	0,80 0.032	0,80 0.032	1,1 0.044
P3	218.19-100T-M06 MP2501	0,65 *0.026*	0,75 0.030	0,80 0.032	1,0 0.040
P4	218.19-100T-M06 MP2501	0,65 *0.026*	0,75 0.030	0,75 0.030	1,0 0.040
P5	218.19-100T-M06 MP2501	0,65 *0.026*	0,75 0.030	0,75 0.030	0,95 0.038
P6	218.19-100T-M06 MP2501	0,65 *0.026*	0,75 0.030	0,75 0.030	0,95 0.038
P7	218.19-100T-M06 MP2501	0,65 *0.026*	0,75 0.030	0,75 0.030	0,95 0.038
P8	218.19-100T-M06 MP2501	0,65 *0.026*	0,75 0.030	0,80 0.032	1,0 0.040
P11	218.19-100T-M06 MP3501	0,65 *0.026*	0,75 0.030	0,75 0.030	0,95 0.038
P12	218.19-100T-M06 MP2501	0,50 *0.020*	0,50 0.020	0,50 0.020	0,65 0.026
M1	218.19-100T-M06 MS2050	0,65 *0.026*	0,80 0.032	0,80 0.032	1,1 0.044
M2	218.19-100T-M06 MS2050	0,65 *0.026*	0,75 0.030	0,75 0.030	0,95 0.038
M3	218.19-100T-M06 MS2050	0,50 *0.020*	0,60 0.024	0,60 0.024	0,75 0.030
M4	218.19-100T-M06 MP3501	0,38 *0.015*	0,50 0.020	0,50 0.020	0,65 0.026
M5	218.19-100T-M06 MP3501	0,38 *0.015*	0,50 0.020	0,50 0.020	0,65 0.026
K1	218.19-100T-MD08 MP2501	0,65 *0.026*	1,1 0.044	1,1 0.044	1,4 0.055
K2	218.19-100T-MD08 MP2501	0,65 *0.026*	1,0 0.040	1,0 0.040	1,3 0.050
K3	218.19-100T-MD08 MP2501	0,65 *0.026*	1,0 0.040	1,0 0.040	1,3 0.050
K4	218.19-100T-MD08 MP2501	0,65 *0.026*	1,0 0.040	1,0 0.040	1,3 0.050
K5	218.19-100T-MD08 MP2501	0,65 *0.026*	0,90 0.036	0,90 0.036	1,2 0.048
K6	218.19-100T-MD08 MP2501	0,65 *0.026*	1,0 0.040	1,0 0.040	1,3 0.050
K7	218.19-100T-MD08 MP2501	0,65 *0.026*	0,90 0.036	0,90 0.036	1,2 0.048
S1	218.19-100T-M06 MS2500	0,38 *0.015*	0,50 0.020	0,50 0.020	0,65 0.026
S2	218.19-100T-M06 MS2500	0,38 *0.015*	0,50 0.020	0,50 0.020	0,65 0.026
S3	218.19-100T-M06 MS2500	0,38 *0.015*	0,48 0.019	0,48 0.019	0,60 0.024
S11	218.19-100T-M06 MS2050	0,44 *0.017*	0,60 0.024	0,60 0.024	0,75 0.030
S12	218.19-100T-M06 MS2050	0,44 *0.017*	0,60 0.024	0,60 0.024	0,75 0.030
S13	218.19-100T-M06 MS2050	0,38 *0.015*	0,50 0.020	0,50 0.020	0,65 0.026
H5	218.19-100T-MD08 MH1000	0,40 *0.016*	0,60 0.024	0,60 0.024	0,70 0.030
H8	218.19-100T-MD08 MH1000	0,34 *0.013*	0,44 0.017	0,44 0.017	0,55 0.022
H11	218.19-100T-M06 MP3000	0,40 *0.016*	0,44 0.017	0,44 0.017	0,55 0.022
H12	218.19-100T-M06 MP3000	0,34 *0.013*	0,34 0.013	0,34 0.013	0,40 0.017

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217.21-100 – Cutting data v_c = (m/min)/(sf/min)

SMG	MH1000			F15M			F25M			F30M			MP3000		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	—	—	—	245	290	345	225	265	320	250	295	345	295	350	410
	—	—	—	*800*	*950*	*1125*	*740*	*870*	*1050*	*820*	*970*	*1125*	*970*	*1150*	*1350*
P2	—	—	—	240	285	340	220	260	310	240	285	335	285	340	395
	—	—	—	*790*	*940*	*1125*	*720*	*850*	*1025*	*790*	*940*	*1100*	*940*	*1125*	*1300*
P3	—	—	—	210	250	290	195	230	265	210	250	290	250	295	345
	—	—	—	*690*	*820*	*950*	*640*	*750*	*870*	*690*	*820*	*950*	*820*	*970*	*1125*
P4	—	—	—	185	220	260	170	200	240	185	220	260	220	260	310
	—	—	—	*610*	*720*	*850*	*560*	*660*	*790*	*610*	*720*	*850*	*720*	*850*	*1025*
P5	215	255	300	180	210	250	165	195	230	175	210	250	210	250	295
	710	*840*	*980*	*590*	*690*	*820*	*540*	*640*	*750*	*570*	*690*	*820*	*690*	*820*	*970*
P6	245	290	340	205	240	280	185	220	255	200	235	280	235	280	330
	800	*950*	*1125*	*670*	*790*	*920*	*610*	*720*	*840*	*660*	*770*	*920*	*770*	*920*	*1075*
P7	230	275	320	190	225	265	175	205	245	190	220	265	225	265	315
	750	*900*	*1050*	*620*	*740*	*870*	*570*	*670*	*800*	*620*	*720*	*870*	*740*	*870*	*1025*
P8	215	255	295	180	210	245	165	195	225	175	210	245	210	250	290
	710	*840*	*970*	*590*	*690*	*800*	*540*	*640*	*740*	*570*	*690*	*800*	*690*	*820*	*950*
P11	225	265	310	185	220	255	170	200	235	185	215	255	215	255	305
	740	*870*	*1025*	*610*	*720*	*840*	*560*	*660*	*770*	*610*	*710*	*840*	*710*	*840*	*1000*
P12	150	175	205	—	—	—	115	130	155	125	145	165	145	170	195
	490	*570*	*670*	—	—	—	*375*	*425*	*510*	*410*	*475*	*540*	*475*	*560*	*640*
M1	—	—	—	—	—	—	—	—	—	195	230	270	215	255	295
	—	—	—	—	—	—	—	—	—	*640*	*750*	*890*	*710*	*840*	*970*
M2	—	—	—	—	—	—	—	—	—	160	190	225	175	210	245
	—	—	—	—	—	—	—	—	—	*520*	*620*	*740*	*570*	*690*	*800*
M3	—	—	—	—	—	—	—	—	—	135	155	180	145	170	200
	—	—	—	—	—	—	—	—	—	*445*	*510*	*590*	*475*	*560*	*660*
M4	—	—	—	—	—	—	—	—	—	105	120	140	115	135	155
	—	—	—	—	—	—	—	—	—	*345*	*395*	*460*	*375*	*445*	*510*
M5	—	—	—	—	—	—	—	—	—	90	100	115	95	110	130
	—	—	—	—	—	—	—	—	—	*295*	*330*	*375*	*310*	*360*	*425*
K1	230	270	325	190	225	265	175	205	245	190	225	265	225	270	315
	750	*890*	*1075*	*620*	*740*	*870*	*570*	*670*	*800*	*620*	*740*	*870*	*740*	*890*	*1025*
K2	205	240	285	170	200	235	155	185	215	170	200	235	200	235	280
	670	*790*	*940*	*560*	*660*	*770*	*510*	*610*	*710*	*560*	*660*	*770*	*660*	*770*	*920*
K3	175	205	240	145	170	200	130	155	185	145	170	200	170	200	235
	570	*670*	*790*	*475*	*560*	*660*	*425*	*510*	*610*	*475*	*560*	*660*	*560*	*660*	*770*
K4	165	195	230	135	160	190	125	150	175	135	160	190	160	190	225
	540	*640*	*750*	*445*	*520*	*620*	*410*	*490*	*570*	*445*	*520*	*620*	*520*	*620*	*740*
K5	100	120	140	85	100	115	75	90	105	85	100	115	100	120	140
	330	*395*	*460*	*280*	*330*	*375*	*245*	*295*	*345*	*280*	*330*	*375*	*330*	*395*	*460*
K6	145	170	205	120	140	170	110	130	155	120	140	170	145	170	200
	475	*560*	*670*	*395*	*460*	*560*	*360*	*425*	*510*	*395*	*460*	*560*	*475*	*560*	*660*
K7	130	155	180	105	125	150	100	115	135	110	125	150	130	150	180
	425	*510*	*590*	*345*	*410*	*490*	*330*	*375*	*445*	*360*	*410*	*490*	*425*	*490*	*590*
N1	—	—	—	—	—	—	—	—	—	1425	1675	1950	—	—	—
	—	—	—	—	—	—	—	—	—	*4675*	*5500*	*6400*	—	—	—
N2	—	—	—	—	—	—	—	—	—	570	680	790	—	—	—
	—	—	—	—	—	—	—	—	—	*1875*	*2225*	*2600*	—	—	—
N3	—	—	—	—	—	—	—	—	—	380	450	520	—	—	—
	—	—	—	—	—	—	—	—	—	*1250*	*1475*	*1700*	—	—	—
N11	—	—	—	—	—	—	—	—	—	435	520	600	—	—	—
	—	—	—	—	—	—	—	—	—	*1425*	*1700*	*1975*	—	—	—
S1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
H5	55	60	75	44	50	60	—	—	—	43	50	60	48	55	65
	180	*195*	*245*	*145*	*165*	*195*	—	—	—	*140*	*165*	*195*	*155*	*180*	*215*
H8	55	65	75	47	55	65	—	—	—	46	55	60	50	60	70
	180	*215*	*245*	*155*	*180*	*215*	—	—	—	*150*	*180*	*195*	*165*	*195*	*230*
H11	65	80	95	55	65	75	—	—	—	55	65	75	60	70	85
	215	*260*	*310*	*180*	*215*	*245*	—	—	—	*180*	*215*	*245*	*195*	*230*	*280*
H12	100	120	140	85	100	115	—	—	—	85	95	110	100	115	135
	330	*395*	*460*	*280*	*330*	*375*	—	—	—	*280*	*310*	*360*	*330*	*375*	*445*

R217.21-100 – Cutting data v_c = (m/min)/(sf/min)

SMG	MS2050			F40M			MP2501			MS2500			MP3501		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	285 *940*	330 *1075*	380 *1250*	275 *900*	305 *1000*	345 *1125*	440 *1450*	495 *1625*	560 *1825*	420 *1375*	480 *1575*	540 *1775*	395 *1300*	445 *1450*	510 *1675*
P2	275 *900*	320 *1050*	370 *1225*	265 *870*	295 *970*	340 *1125*	430 *1400*	485 *1600*	550 *1800*	410 *1350*	465 *1525*	530 *1750*	385 *1275*	435 *1425*	490 *1600*
P3	245 *800*	280 *920*	325 *1075*	235 *770*	260 *850*	295 *970*	375 *1225*	425 *1400*	480 *1575*	360 *1175*	410 *1350*	460 *1500*	335 *1100*	380 *1250*	430 *1400*
P4	215 *710*	245 *800*	290 *950*	210 *690*	240 *790*	280 *920*	330 *1075*	375 *1225*	425 *1400*	315 *1025*	360 *1175*	410 *1350*	295 *970*	335 *1100*	385 *1275*
P5	205 *670*	235 *770*	275 *900*	195 *640*	220 *720*	255 *840*	315 *1025*	355 *1175*	405 *1325*	300 *980*	345 *1125*	395 *1300*	285 *940*	320 *1050*	365 *1200*
P6	230 *750*	265 *870*	310 *1025*	220 *720*	245 *800*	285 *940*	355 *1175*	400 *1300*	455 *1500*	340 *1125*	385 *1275*	440 *1450*	320 *1050*	360 *1175*	410 *1350*
P7	215 *710*	250 *820*	295 *970*	210 *690*	235 *770*	270 *890*	335 *1100*	380 *1250*	430 *1400*	320 *1050*	365 *1200*	415 *1350*	300 *980*	340 *1125*	385 *1275*
P8	205 *670*	235 *770*	270 *890*	195 *640*	220 *720*	250 *820*	315 *1025*	355 *1175*	400 *1300*	300 *980*	345 *1125*	390 *1275*	285 *940*	320 *1050*	360 *1175*
P11	210 *690*	245 *800*	285 *940*	205 *670*	225 *740*	260 *850*	325 *1075*	365 *1200*	420 *1375*	310 *1025*	355 *1175*	405 *1325*	290 *950*	330 *1075*	375 *1225*
P12	145 *475*	165 *540*	185 *610*	140 *460*	155 *510*	170 *560*	215 *710*	240 *790*	265 *870*	205 *670*	230 *750*	255 *840*	195 *640*	215 *710*	240 *790*
M1	205 *670*	240 *790*	280 *920*	185 *610*	220 *720*	255 *840*	220 *720*	260 *850*	300 *980*	235 *770*	280 *920*	330 *1075*	205 *670*	240 *790*	280 *920*
M2	165 *540*	200 *660*	235 *770*	150 *490*	180 *590*	215 *710*	180 *590*	210 *690*	250 *820*	195 *640*	230 *750*	270 *890*	165 *540*	200 *660*	235 *770*
M3	140 *460*	160 *520*	190 *620*	125 *410*	150 *490*	170 *560*	150 *490*	175 *570*	200 *660*	160 *520*	190 *620*	220 *720*	140 *460*	160 *520*	190 *620*
M4	110 *360*	125 *410*	145 *475*	100 *330*	115 *375*	135 *445*	120 *395*	135 *445*	160 *520*	130 *425*	145 *475*	170 *560*	110 *360*	125 *410*	145 *475*
M5	90 *295*	105 *345*	125 *410*	85 *280*	95 *310*	110 *360*	100 *330*	115 *375*	130 *425*	105 *345*	125 *410*	145 *475*	90 *295*	105 *345*	125 *410*
K1	— —	— —	— —	180 *590*	215 *710*	250 *820*	435 *1425*	490 *1600*	550 *1800*	260 *850*	310 *1025*	365 *1200*	390 *1275*	435 *1425*	495 *1625*
K2	— —	— —	— —	160 *520*	190 *620*	225 *740*	380 *1250*	430 *1400*	490 *1600*	230 *750*	275 *900*	325 *1075*	345 *1125*	385 *1275*	440 *1450*
K3	— —	— —	— —	135 *445*	160 *520*	190 *620*	325 *1075*	365 *1200*	415 *1350*	195 *640*	230 *750*	275 *900*	290 *950*	325 *1075*	375 *1225*
K4	— —	— —	— —	130 *425*	155 *510*	180 *590*	310 *1025*	350 *1150*	395 *1300*	185 *610*	220 *720*	260 *850*	275 *900*	310 *1025*	355 *1175*
K5	— —	— —	— —	80 *260*	95 *310*	110 *360*	190 *620*	215 *710*	240 *790*	115 *375*	135 *445*	160 *520*	170 *560*	195 *640*	220 *720*
K6	— —	— —	— —	115 *375*	135 *445*	160 *520*	270 *890*	305 *1000*	350 *1150*	165 *540*	195 *640*	230 *750*	245 *800*	275 *900*	315 *1025*
K7	— —	— —	— —	105 *345*	120 *395*	140 *460*	245 *800*	275 *900*	310 *1025*	150 *490*	175 *570*	205 *670*	220 *720*	245 *800*	280 *920*
N1	— —	— —	— —	1350 *4425*	1600 *5250*	1850 *6075*	— —	— —	— —	— —	— —	— —	— —	— —	— —
N2	— —	— —	— —	550 *1800*	640 *2100*	750 *2450*	— —	— —	— —	— —	— —	— —	— —	— —	— —
N3	— —	— —	— —	365 *1200*	430 *1400*	500 *1650*	— —	— —	— —	— —	— —	— —	— —	— —	— —
N11	— —	— —	— —	415 *1350*	490 *1600*	570 *1875*	— —	— —	— —	— —	— —	— —	— —	— —	— —
S1	50 *165*	60 *195*	70 *230*	47 *155*	55 *180*	60 *195*	— —	— —	— —	65 *215*	70 *230*	85 *280*	50 *165*	60 *195*	70 *230*
S2	41 *135*	47 *155*	55 *180*	38 *125*	43 *140*	50 *165*	— —	— —	— —	50 *165*	60 *195*	65 *215*	41 *135*	47 *155*	55 *180*
S3	37 *120*	42 *140*	49 *160*	33 *110*	38 *125*	44 *145*	— —	— —	— —	44 *145*	50 *165*	60 *195*	37 *120*	42 *140*	49 *160*
S11	70 *230*	85 *280*	95 *310*	65 *215*	75 *245*	85 *280*	— —	— —	— —	85 *280*	100 *330*	115 *375*	70 *230*	85 *280*	95 *310*
S12	50 *165*	55 *180*	65 *215*	45 *150*	50 *165*	60 *195*	— —	— —	— —	60 *195*	70 *230*	80 *260*	50 *165*	55 *180*	65 *215*
S13	29 *95*	33 *110*	39 *130*	26 *85*	30 *100*	35 *115*	— —	— —	— —	35 *115*	40 *130*	47 *155*	29 *95*	33 *110*	39 *130*
H5	— —	— —	— —	41 *135*	48 *155*	55 *180*	— —	— —	— —	— —	— —	— —	— —	— —	— —
H8	— —	— —	— —	44 *145*	50 *165*	60 *195*	— —	— —	— —	— —	— —	— —	— —	— —	— —
H11	— —	— —	— —	50 *165*	60 *195*	70 *230*	— —	— —	— —	— —	— —	— —	— —	— —	— —
H12	— —	— —	— —	80 *260*	90 *295*	105 *345*	— —	— —	— —	— —	— —	— —	— —	— —	— —

R217/220.21-125 – Insert selection – mm/Inch

SMG		a_p	f_z		
			100%	70%	30%
P1	218.19-125T-T3-M07 MP3501	0,90 *0.036*	0,90 0.036	0,90 0.036	1,1 0.044
P2	218.19-125T-T3-M07 MP3501	0,90 *0.036*	0,90 0.036	0,90 0.036	1,1 0.044
P3	218.19-125T-T3-M07 MP2501	0,90 *0.036*	0,85 0.034	0,85 0.034	1,0 0.040
P4	218.19-125T-T3-M07 MP2501	0,90 *0.036*	0,85 0.034	0,85 0.034	1,0 0.040
P5	218.19-125T-T3-M07 MP2501	0,90 *0.036*	0,80 0.032	0,80 0.032	1,0 0.040
P6	218.19-125T-T3-M07 MP2501	0,90 *0.036*	0,80 0.032	0,80 0.032	1,0 0.040
P7	218.19-125T-T3-M07 MP2501	0,90 *0.036*	0,80 0.032	0,80 0.032	1,0 0.040
P8	218.19-125T-T3-M07 MP2501	0,90 *0.036*	0,85 0.034	0,85 0.034	1,0 0.040
P11	218.19-125T-T3-M07 MP3501	0,90 *0.036*	0,80 0.032	0,80 0.032	1,0 0.040
P12	218.19-125T-T3-M07 MP2501	0,70 *0.028*	0,60 0.024	0,60 0.024	0,70 0.028
M1	218.19-125T-T3-M07 MS2050	0,90 *0.036*	0,90 0.036	0,90 0.036	1,1 0.044
M2	218.19-125T-T3-M07 MS2050	0,90 *0.036*	0,80 0.032	0,80 0.032	1,0 0.040
M3	218.19-125T-T3-M07 MS2050	0,70 *0.028*	0,70 0.028	0,70 0.028	0,85 0.034
M4	218.19-125T-T3-M07 MP3501	0,55 *0.022*	0,60 0.024	0,60 0.024	0,70 0.028
M5	218.19-125T-T3-M07 MP3501	0,55 *0.022*	0,60 0.024	0,60 0.024	0,70 0.028
K1	218.19-125T-T3-MD08 MP3000	0,90 *0.036*	1,0 0.040	1,0 0.040	1,3 0.050
K2	218.19-125T-T3-MD08 MP3000	0,90 *0.036*	0,95 0.038	0,95 0.038	1,1 0.048
K3	218.19-125T-T3-MD08 MP3000	0,90 *0.036*	0,95 0.038	0,95 0.038	1,1 0.048
K4	218.19-125T-T3-MD08 MP3000	0,90 *0.036*	0,95 0.038	0,95 0.038	1,1 0.048
K5	218.19-125T-T3-MD08 MP3000	0,90 *0.036*	0,85 0.034	0,85 0.034	1,0 0.040
K6	218.19-125T-T3-MD08 MP3000	0,90 *0.036*	0,95 0.038	0,95 0.038	1,1 0.048
K7	218.19-125T-T3-MD08 MP3000	0,90 *0.036*	0,85 0.034	0,85 0.034	1,0 0.040
S1	218.19-125T-T3-M07 MP3501	0,55 *0.022*	0,60 0.024	0,60 0.024	0,70 0.028
S2	218.19-125T-T3-M07 MP3501	0,55 *0.022*	0,60 0.024	0,60 0.024	0,70 0.028
S3	218.19-125T-T3-M07 MP3501	0,55 *0.022*	0,55 0.022	0,55 0.022	0,65 0.026
S11	218.19-125T-T3-M07 MS2050	0,65 *0.026*	0,70 0.028	0,70 0.028	0,85 0.034
S12	218.19-125T-T3-M07 MS2050	0,65 *0.026*	0,70 0.028	0,70 0.028	0,85 0.034
S13	218.19-125T-T3-M07 MS2050	0,55 *0.022*	0,60 0.024	0,60 0.024	0,70 0.028
H5	218.19-125T-T3-MD10 MH1000	0,55 *0.022*	0,75 0.030	0,75 0.030	0,85 0.034
H8	218.19-125T-T3-MD10 MH1000	0,50 *0.020*	0,55 0.022	0,55 0.022	0,65 0.026
H11	218.19-125T-T3-MD08 MP3000	0,55 *0.022*	0,60 0.024	0,60 0.024	0,70 0.028
H12	218.19-125T-T3-MD08 MP3000	0,50 *0.020*	0,44 0.017	0,44 0.017	0,55 0.022

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.21-125 – Cutting data v_c = (m/min)/(sf/min)

SMG	MH1000			F15M			F25M			F30M			MP3000			MS2050		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	—	—	—	225	260	310	205	235	285	235	270	330	295	340	425	265	300	365
	—	—	—	*740*	*850*	*1025*	*670*	*770*	*940*	*770*	*890*	*1075*	*970*	*1125*	*1400*	*870*	*980*	*1200*
P2	—	—	—	215	250	305	200	230	280	230	265	310	290	330	395	260	295	345
	—	—	—	*710*	*820*	*1000*	*660*	*750*	*920*	*750*	*870*	*1025*	*950*	*1075*	*1300*	*850*	*970*	*1125*
P3	—	—	—	190	220	265	175	205	245	200	230	275	255	290	355	225	255	305
	—	—	—	*620*	*720*	*870*	*570*	*670*	*800*	*660*	*750*	*900*	*840*	*950*	*1175*	*740*	*840*	*1000*
P4	—	—	—	170	195	235	155	180	215	175	205	245	225	255	310	200	225	270
	—	—	—	*560*	*640*	*770*	*510*	*590*	*710*	*570*	*670*	*800*	*740*	*840*	*1025*	*660*	*740*	*890*
P5	195	225	270	160	185	225	150	170	205	170	200	235	220	250	305	195	220	260
	640	*740*	*890*	*520*	*610*	*740*	*490*	*560*	*670*	*560*	*660*	*770*	*720*	*820*	*1000*	*640*	*720*	*850*
P6	225	260	305	185	215	250	170	195	230	190	220	265	245	280	340	220	250	295
	740	*850*	*1000*	*610*	*710*	*820*	*560*	*640*	*750*	*620*	*720*	*870*	*800*	*920*	*1125*	*720*	*820*	*970*
P7	210	245	285	175	205	235	160	185	215	180	210	250	235	265	320	205	235	275
	690	*800*	*940*	*570*	*670*	*770*	*520*	*610*	*710*	*590*	*690*	*820*	*770*	*870*	*1050*	*670*	*770*	*900*
P8	195	225	270	160	185	225	150	170	205	170	195	230	215	245	300	190	215	255
	640	*740*	*890*	*520*	*610*	*740*	*490*	*560*	*670*	*560*	*640*	*750*	*710*	*800*	*980*	*620*	*710*	*840*
P11	205	240	280	170	195	230	155	180	210	175	205	240	225	260	315	200	225	270
	670	*790*	*920*	*560*	*640*	*750*	*510*	*590*	*690*	*570*	*670*	*790*	*740*	*850*	*1025*	*660*	*740*	*890*
P12	135	155	185	—	—	—	105	120	140	115	135	160	155	175	210	135	150	180
	445	*510*	*610*	—	—	—	*345*	*395*	*460*	*375*	*445*	*520*	*510*	*570*	*690*	*445*	*490*	*590*
M1	—	—	—	—	—	—	—	—	—	185	215	250	205	235	280	195	225	265
	—	—	—	—	—	—	—	—	—	*610*	*710*	*820*	*670*	*770*	*920*	*640*	*740*	*870*
M2	—	—	—	—	—	—	—	—	—	155	180	210	170	195	235	160	185	220
	—	—	—	—	—	—	—	—	—	*510*	*590*	*690*	*560*	*640*	*770*	*520*	*610*	*720*
M3	—	—	—	—	—	—	—	—	—	125	145	170	140	160	190	130	150	180
	—	—	—	—	—	—	—	—	—	*410*	*475*	*560*	*460*	*520*	*620*	*425*	*490*	*590*
M4	—	—	—	—	—	—	—	—	—	100	115	130	110	125	145	105	120	140
	—	—	—	—	—	—	—	—	—	*330*	*375*	*425*	*360*	*410*	*475*	*345*	*395*	*460*
M5	—	—	—	—	—	—	—	—	—	85	95	110	95	105	120	90	100	115
	—	—	—	—	—	—	—	—	—	*280*	*310*	*360*	*310*	*345*	*395*	*295*	*330*	*375*
K1	210	240	290	170	200	240	160	180	220	180	210	245	215	250	295	—	—	—
	690	*790*	*950*	*560*	*660*	*790*	*520*	*590*	*720*	*590*	*690*	*800*	*710*	*820*	*970*	—	—	—
K2	185	215	255	155	175	210	140	160	195	160	190	225	195	225	265	—	—	—
	610	*710*	*840*	*510*	*570*	*690*	*460*	*520*	*640*	*520*	*620*	*740*	*640*	*740*	*870*	—	—	—
K3	155	180	215	130	150	180	120	135	165	135	160	190	165	190	225	—	—	—
	510	*590*	*710*	*425*	*490*	*590*	*395*	*445*	*540*	*445*	*520*	*620*	*540*	*620*	*740*	—	—	—
K4	150	175	205	125	145	170	115	130	155	130	150	180	155	180	215	—	—	—
	490	*570*	*670*	*410*	*475*	*560*	*375*	*425*	*510*	*425*	*490*	*590*	*510*	*590*	*710*	—	—	—
K5	95	110	130	80	90	105	70	80	100	80	90	110	95	110	130	—	—	—
	310	*360*	*425*	*260*	*295*	*345*	*230*	*260*	*330*	*260*	*295*	*360*	*310*	*360*	*425*	—	—	—
K6	130	150	185	110	125	150	100	115	140	115	135	160	135	160	190	—	—	—
	425	*490*	*610*	*360*	*410*	*490*	*330*	*375*	*460*	*375*	*445*	*520*	*445*	*520*	*620*	—	—	—
K7	120	140	165	100	115	135	90	105	125	100	120	140	120	140	170	—	—	—
	395	*460*	*540*	*330*	*375*	*445*	*295*	*345*	*410*	*330*	*395*	*460*	*395*	*460*	*560*	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	47	55	60	50	60	70	49	55	65
	—	—	—	—	—	—	—	—	—	*155*	*180*	*195*	*165*	*195*	*230*	*160*	*180*	*215*
S2	—	—	—	—	—	—	—	—	—	38	43	49	42	47	55	40	45	50
	—	—	—	—	—	—	—	—	—	*125*	*140*	*160*	*140*	*155*	*180*	*130*	*150*	*165*
S3	—	—	—	—	—	—	—	—	—	33	37	43	36	41	48	34	39	45
	—	—	—	—	—	—	—	—	—	*110*	*120*	*140*	*120*	*135*	*155*	*110*	*130*	*150*
S11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	65	75	90
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*215*	*245*	*295*
S12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	47	55	65
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*155*	*180*	*215*
S13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28	31	36
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*90*	*100*	*120*
H5	48	55	65	40	46	55	—	—	—	41	47	55	46	55	60	—	—	—
	155	*180*	*215*	*130*	*150*	*180*	—	—	—	*135*	*155*	*180*	*150*	*180*	*195*	—	—	—
H8	55	60	70	44	50	60	—	—	—	44	50	60	49	55	65	—	—	—
	180	*195*	*230*	*145*	*165*	*195*	—	—	—	*145*	*165*	*195*	*160*	*180*	*215*	—	—	—
H11	60	70	85	50	60	70	—	—	—	55	60	70	60	65	80	—	—	—
	195	*230*	*280*	*165*	*195*	*230*	—	—	—	*180*	*195*	*230*	*195*	*215*	*260*	—	—	—
H12	95	110	125	80	90	105	—	—	—	80	90	105	95	105	125	—	—	—
	310	*360*	*410*	*260*	*295*	*345*	—	—	—	*260*	*295*	*345*	*310*	*345*	*410*	—	—	—

R217/220.21-125 – Cutting data v_c = (m/min)/(sf/min)

SMG	F40M			MP1501			MP2501			MS2500			MP3501			MM4500		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	255 *840*	280 *920*	330 *1075*	350 *1150*	385 *1275*	455 *1500*	415 *1350*	460 *1500*	540 *1775*	395 *1300*	440 *1450*	520 *1700*	370 *1225*	410 *1350*	485 *1600*	235 *770*	265 *870*	325 *1075*
P2	245 *800*	270 *890*	310 *1025*	340 *1125*	375 *1225*	445 *1450*	405 *1325*	450 *1475*	510 *1675*	385 *1275*	430 *1400*	495 *1625*	360 *1175*	400 *1300*	460 *1500*	230 *750*	260 *850*	305 *1000*
P3	220 *720*	240 *790*	280 *920*	300 *980*	335 *1100*	390 *1275*	355 *1175*	395 *1300*	455 *1500*	340 *1125*	380 *1250*	440 *1450*	315 *1025*	350 *1150*	405 *1325*	200 *660*	230 *750*	270 *890*
P4	195 *640*	220 *720*	260 *850*	265 *870*	295 *970*	345 *1125*	310 *1025*	345 *1125*	400 *1300*	300 *980*	330 *1075*	385 *1275*	280 *920*	310 *1025*	360 *1175*	190 *620*	215 *710*	255 *840*
P5	185 *610*	205 *670*	240 *790*	250 *820*	280 *920*	330 *1075*	305 *1000*	335 *1100*	390 *1275*	290 *950*	325 *1075*	375 *1225*	270 *890*	300 *980*	345 *1125*	175 *570*	195 *640*	230 *750*
P6	210 *690*	230 *750*	265 *870*	290 *950*	325 *1075*	370 *1225*	340 *1125*	380 *1250*	435 *1425*	325 *1075*	365 *1200*	420 *1375*	305 *1000*	340 *1125*	390 *1275*	195 *640*	220 *720*	260 *850*
P7	200 *660*	220 *720*	250 *820*	275 *900*	305 *1000*	350 *1150*	320 *1050*	355 *1175*	410 *1350*	305 *1000*	345 *1125*	395 *1300*	285 *940*	320 *1050*	370 *1225*	185 *610*	205 *670*	245 *800*
P8	185 *610*	200 *660*	235 *770*	250 *820*	280 *920*	330 *1075*	295 *970*	330 *1075*	380 *1250*	285 *940*	315 *1025*	370 *1225*	265 *870*	295 *970*	340 *1125*	170 *560*	190 *620*	225 *740*
P11	195 *640*	210 *690*	245 *800*	270 *890*	300 *980*	340 *1125*	310 *1025*	345 *1125*	400 *1300*	300 *980*	335 *1100*	385 *1275*	280 *920*	310 *1025*	360 *1175*	180 *590*	200 *660*	235 *770*
P12	130 *425*	140 *460*	165 *540*	180 *590*	195 *640*	225 *740*	205 *670*	225 *740*	255 *840*	195 *640*	215 *710*	250 *820*	185 *610*	205 *670*	230 *750*	115 *375*	130 *425*	150 *490*
M1	175 *570*	205 *670*	240 *790*	— —	— —	— —	205 *670*	240 *790*	285 *940*	225 *740*	260 *850*	305 *1000*	195 *640*	225 *740*	265 *870*	150 *490*	175 *570*	205 *670*
M2	145 *475*	170 *560*	200 *660*	— —	— —	— —	175 *570*	200 *660*	240 *790*	185 *610*	215 *710*	260 *850*	160 *520*	185 *610*	220 *720*	125 *410*	145 *475*	175 *570*
M3	120 *395*	135 *445*	160 *520*	— —	— —	— —	140 *460*	160 *520*	190 *620*	155 *510*	175 *570*	205 *670*	130 *425*	150 *490*	180 *590*	105 *345*	120 *395*	140 *460*
M4	95 *310*	110 *360*	125 *410*	— —	— —	— —	115 *375*	130 *425*	150 *490*	125 *410*	140 *460*	160 *520*	105 *345*	120 *395*	140 *460*	85 *280*	95 *310*	110 *360*
M5	80 *260*	90 *295*	105 *345*	— —	— —	— —	95 *310*	105 *345*	125 *410*	105 *345*	115 *375*	135 *445*	90 *295*	100 *330*	115 *375*	70 *230*	80 *260*	90 *295*
K1	170 *560*	200 *660*	235 *770*	340 *1125*	380 *1250*	450 *1475*	405 *1325*	450 *1475*	520 *1700*	250 *820*	285 *940*	340 *1125*	365 *1200*	405 *1325*	465 *1525*	— —	— —	— —
K2	155 *510*	180 *590*	215 *710*	305 *1000*	340 *1125*	400 *1300*	365 *1200*	405 *1325*	470 *1550*	220 *720*	255 *840*	305 *1000*	330 *1075*	365 *1200*	420 *1375*	— —	— —	— —
K3	130 *425*	150 *490*	180 *590*	260 *850*	285 *940*	335 *1100*	310 *1025*	345 *1125*	395 *1300*	190 *620*	220 *720*	260 *850*	275 *900*	310 *1025*	355 *1175*	— —	— —	— —
K4	125 *410*	145 *475*	170 *560*	245 *800*	275 *900*	320 *1050*	295 *970*	330 *1075*	380 *1250*	180 *590*	210 *690*	245 *800*	265 *870*	295 *970*	340 *1125*	— —	— —	— —
K5	75 *245*	85 *280*	105 *345*	155 *510*	175 *570*	200 *660*	180 *590*	200 *660*	230 *750*	110 *360*	125 *410*	150 *490*	160 *520*	180 *590*	210 *690*	— —	— —	— —
K6	110 *360*	125 *410*	150 *490*	215 *710*	240 *790*	285 *940*	260 *850*	290 *950*	335 *1100*	160 *520*	185 *610*	220 *720*	235 *770*	260 *850*	300 *980*	— —	— —	— —
K7	95 *310*	110 *360*	135 *445*	200 *660*	220 *720*	255 *840*	230 *750*	255 *840*	295 *970*	140 *460*	160 *520*	195 *640*	205 *670*	230 *750*	265 *870*	— —	— —	— —
N1	1275 *4175*	1475 *4850*	1725 *5650*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N2	520 *1700*	600 *1975*	700 *2300*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N3	345 *1125*	400 *1300*	465 *1525*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N11	395 *1300*	455 *1500*	530 *1750*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
S1	45 *150*	50 *165*	60 *195*	— —	— —	— —	— —	— —	— —	60 *195*	70 *230*	80 *260*	49 *160*	55 *180*	65 *215*	25 *80*	29 *95*	33 *110*
S2	36 *120*	41 *135*	47 *155*	— —	— —	— —	— —	— —	— —	48 *155*	55 *180*	65 *215*	40 *130*	45 *150*	50 *165*	20 *65*	23 *75*	27 *90*
S3	31 *100*	35 *115*	41 *135*	— —	— —	— —	— —	— —	— —	42 *140*	47 *155*	55 *180*	34 *110*	39 *130*	45 *150*	18 *60*	20 *65*	23 *75*
S11	60 *195*	70 *230*	80 *260*	— —	— —	— —	— —	— —	— —	80 *260*	95 *310*	110 *360*	65 *215*	75 *245*	90 *295*	35 *115*	39 *130*	47 *155*
S12	42 *140*	48 *155*	55 *180*	— —	— —	— —	— —	— —	— —	55 *180*	65 *215*	75 *245*	47 *155*	55 *180*	65 *215*	32 *105*	36 *120*	43 *140*
S13	25 *80*	28 *90*	33 *110*	— —	— —	— —	— —	— —	— —	34 *110*	38 *125*	44 *145*	28 *90*	31 *100*	36 *120*	19 *60*	21 *70*	25 *80*
H5	39 *130*	45 *150*	55 *180*	50 *165*	55 *180*	70 *230*	— —	— —	— —	50 *165*	60 *195*	70 *230*	45 *150*	50 *165*	60 *195*	— —	— —	— —
H8	42 *140*	48 *155*	55 *180*	55 *180*	60 *195*	70 *230*	— —	— —	— —	55 *180*	60 *195*	75 *245*	48 *155*	55 *180*	65 *215*	— —	— —	— —
H11	50 *165*	60 *195*	70 *230*	65 *215*	70 *230*	85 *280*	— —	— —	— —	65 *215*	75 *245*	90 *295*	60 *195*	65 *215*	80 *260*	— —	— —	— —
H12	75 *245*	85 *280*	100 *330*	95 *310*	110 *360*	130 *425*	— —	— —	— —	110 *360*	125 *410*	145 *475*	85 *280*	100 *330*	115 *375*	— —	— —	— —

R217/220.21-160 – Insert selection – mm/Inch

SMG		a_p	f_z		
			100%	70%	30%
P1	218.19-160T-04-M08 MP3501	1,6 *0.065*	0,85 0.034	0,85 0.034	1,0 0.040
P2	218.19-160T-04-M08 MP3501	1,6 *0.065*	0,85 0.034	0,85 0.034	1,0 0.040
P3	218.19-160T-04-M11 MP2501	1,6 *0.065*	1,1 0.044	1,1 0.044	1,3 0.050
P4	218.19-160T-04-M11 MP2501	1,6 *0.065*	1,1 0.044	1,1 0.044	1,3 0.050
P5	218.19-160T-04-M11 MP2501	1,6 *0.065*	1,1 0.044	1,1 0.044	1,3 0.050
P6	218.19-160T-04-M11 MP2501	1,6 *0.065*	1,1 0.044	1,1 0.044	1,3 0.050
P7	218.19-160T-04-M11 MP2501	1,6 *0.065*	1,1 0.044	1,1 0.044	1,3 0.050
P8	218.19-160T-04-M11 MP2501	1,6 *0.065*	1,1 0.044	1,1 0.044	1,3 0.050
P11	218.19-160T-04-M08 MP3501	1,6 *0.065*	0,75 0.030	0,75 0.030	0,95 0.038
P12	218.19-160T-04-M11 MP2501	1,3 *0.050*	0,85 0.034	0,85 0.034	1,0 0.040
M1	218.19-160T-04-M08 MS2050	1,6 *0.065*	0,85 0.034	0,85 0.034	1,0 0.040
M2	218.19-160T-04-M08 MS2050	1,6 *0.065*	0,80 0.032	0,80 0.032	0,95 0.038
M3	218.19-160T-04-M08 MS2050	1,3 *0.050*	0,70 0.028	0,70 0.028	0,85 0.034
M4	218.19-160T-04-M08 MP3501	0,95 *0.038*	0,70 0.028	0,70 0.028	0,80 0.032
M5	218.19-160T-04-M08 MP3501	0,95 *0.038*	0,70 0.028	0,70 0.028	0,80 0.032
K1	218.19-160T-04-MD11 MK2050	1,6 *0.065*	1,2 0.048	1,2 0.048	1,4 0.055
K2	218.19-160T-04-MD11 MK2050	1,6 *0.065*	1,1 0.044	1,1 0.044	1,3 0.050
K3	218.19-160T-04-MD11 MK2050	1,6 *0.065*	1,1 0.044	1,1 0.044	1,3 0.050
K4	218.19-160T-04-MD11 MK2050	1,6 *0.065*	1,1 0.044	1,1 0.044	1,3 0.050
K5	218.19-160T-04-MD11 MK2050	1,6 *0.065*	0,95 0.038	0,95 0.038	1,2 0.048
K6	218.19-160T-04-MD11 MK2050	1,6 *0.065*	1,1 0.044	1,1 0.044	1,3 0.050
K7	218.19-160T-04-MD11 MK2050	1,6 *0.065*	0,95 0.038	0,95 0.038	1,2 0.048
N1	218.19-160-04-E07 H25	1,6 *0.065*	0,95 0.038	0,95 0.038	1,2 0.044
N2	218.19-160-04-E07 H25	1,6 *0.065*	0,95 0.038	0,95 0.038	1,2 0.044
N3	218.19-160-04-E07 H25	1,6 *0.065*	0,95 0.038	0,95 0.038	1,2 0.044
N11	218.19-160-04-E07 H25	1,6 *0.065*	0,95 0.038	0,95 0.038	1,2 0.044
S1	218.19-160T-04-M08 MS2500	0,95 *0.038*	0,70 0.028	0,70 0.028	0,80 0.032
S2	218.19-160T-04-M08 MS2500	0,95 *0.038*	0,70 0.028	0,70 0.028	0,80 0.032
S3	218.19-160T-04-M08 MS2500	0,95 *0.038*	0,65 0.026	0,65 0.026	0,75 0.030
S11	218.19-160T-04-M08 MS2050	1,1 *0.044*	0,75 0.030	0,75 0.030	0,90 0.036
S12	218.19-160T-04-M08 MS2050	1,1 *0.044*	0,75 0.030	0,75 0.030	0,90 0.036
S13	218.19-160T-04-M08 MS2050	0,95 *0.038*	0,70 0.028	0,70 0.028	0,80 0.032
H5	218.19-160T-04-MD11 MH1000	1,0 *0.040*	0,80 0.032	0,80 0.032	0,95 0.038
H8	218.19-160T-04-MD11 MH1000	0,90 *0.036*	0,60 0.024	0,60 0.024	0,70 0.028
H11	218.19-160T-04-MD09 MP3000	1,0 *0.040*	0,65 0.026	0,65 0.026	0,75 0.030
H12	218.19-160T-04-MD09 MP3000	0,90 *0.036*	0,50 0.020	0,50 0.020	0,60 0.024

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.21-160 – Cutting data v_c = (m/min)/(sf/min)

SMG	MH1000			F15M			MK2050			F25M			F30M			MP3000			MS2050		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	—	—	—	215	255	305	235	275	330	235	280	335	225	265	320	245	285	340	255	290	350
	—	—	—	*710*	*840*	*1000*	*770*	*900*	*1075*	*770*	*920*	*1100*	*740*	*870*	*1050*	*800*	*940*	*1125*	*840*	*950*	*1150*
P2	—	—	—	210	245	300	230	265	320	230	270	325	220	260	310	230	270	335	245	285	340
	—	—	—	*690*	*800*	*980*	*750*	*870*	*1050*	*750*	*890*	*1075*	*720*	*850*	*1025*	*750*	*890*	*1100*	*800*	*940*	*1125*
P3	—	—	—	185	220	255	200	235	275	205	240	280	195	225	265	210	245	300	215	250	295
	—	—	—	*610*	*720*	*840*	*660*	*770*	*900*	*670*	*790*	*920*	*640*	*740*	*870*	*690*	*800*	*980*	*710*	*820*	*970*
P4	—	—	—	165	190	230	180	210	250	180	210	250	170	200	240	185	215	265	190	220	265
	—	—	—	*540*	*620*	*750*	*590*	*690*	*820*	*590*	*690*	*820*	*560*	*660*	*790*	*610*	*710*	*870*	*620*	*720*	*870*
P5	190	220	265	155	185	220	170	200	240	170	200	240	165	190	230	175	205	250	185	210	250
	620	*720*	*870*	*510*	*610*	*720*	*560*	*660*	*790*	*560*	*660*	*790*	*540*	*620*	*750*	*570*	*670*	*820*	*610*	*690*	*820*
P6	210	250	300	175	205	245	190	225	270	190	225	270	185	215	255	200	230	280	205	235	280
	690	*820*	*980*	*570*	*670*	*800*	*620*	*740*	*890*	*620*	*740*	*890*	*610*	*710*	*840*	*660*	*750*	*920*	*670*	*770*	*920*
P7	200	235	280	165	195	235	180	210	255	180	210	255	170	200	240	190	220	265	195	225	265
	660	*770*	*920*	*540*	*640*	*770*	*590*	*690*	*840*	*590*	*690*	*840*	*560*	*660*	*790*	*620*	*720*	*870*	*640*	*740*	*870*
P8	190	220	260	155	185	215	170	200	235	170	200	235	165	190	225	175	205	250	185	210	245
	620	*720*	*850*	*510*	*610*	*710*	*560*	*660*	*770*	*560*	*660*	*770*	*540*	*620*	*740*	*570*	*670*	*820*	*610*	*690*	*800*
P11	195	230	275	160	190	225	175	205	245	175	205	245	165	195	235	180	210	260	190	215	260
	640	*750*	*900*	*520*	*620*	*740*	*570*	*670*	*800*	*570*	*670*	*800*	*540*	*640*	*770*	*590*	*690*	*850*	*620*	*710*	*850*
P12	130	150	180	—	—	—	115	135	165	115	135	160	110	130	155	130	150	180	130	150	175
	425	*490*	*590*	—	—	—	*375*	*445*	*540*	*375*	*445*	*520*	*360*	*425*	*510*	*425*	*490*	*590*	*425*	*490*	*570*
M1	—	—	—	—	—	—	—	—	—	—	—	—	180	210	250	175	205	245	185	220	260
	—	—	—	—	—	—	—	—	—	—	—	—	*590*	*690*	*820*	*570*	*670*	*800*	*610*	*720*	*850*
M2	—	—	—	—	—	—	—	—	—	—	—	—	145	170	205	145	170	200	155	180	215
	—	—	—	—	—	—	—	—	—	—	—	—	*475*	*560*	*670*	*475*	*560*	*660*	*510*	*590*	*710*
M3	—	—	—	—	—	—	—	—	—	—	—	—	120	140	165	120	140	165	125	145	175
	—	—	—	—	—	—	—	—	—	—	—	—	*395*	*460*	*540*	*395*	*460*	*540*	*410*	*475*	*570*
M4	—	—	—	—	—	—	—	—	—	—	—	—	95	110	130	95	105	130	100	115	135
	—	—	—	—	—	—	—	—	—	—	—	—	*310*	*360*	*425*	*310*	*345*	*425*	*330*	*375*	*445*
M5	—	—	—	—	—	—	—	—	—	—	—	—	80	90	110	75	90	105	80	95	115
	—	—	—	—	—	—	—	—	—	—	—	—	*260*	*295*	*360*	*245*	*295*	*345*	*260*	*310*	*375*
K1	200	235	285	165	195	235	245	290	350	185	215	260	175	205	245	185	215	260	—	—	—
	660	*770*	*940*	*540*	*640*	*770*	*800*	*950*	*1150*	*610*	*710*	*850*	*570*	*670*	*800*	*610*	*710*	*850*	—	—	—
K2	180	210	255	150	175	210	220	255	310	160	190	225	155	180	215	165	195	230	—	—	—
	590	*690*	*840*	*490*	*570*	*690*	*720*	*840*	*1025*	*520*	*620*	*740*	*510*	*590*	*710*	*540*	*640*	*750*	—	—	—
K3	150	180	215	125	145	175	185	215	260	135	160	190	130	155	185	140	165	195	—	—	—
	490	*590*	*710*	*410*	*475*	*570*	*610*	*710*	*850*	*445*	*520*	*620*	*425*	*510*	*610*	*460*	*540*	*640*	—	—	—
K4	145	170	205	120	140	170	175	210	250	130	155	185	125	145	175	135	155	185	—	—	—
	475	*560*	*670*	*395*	*460*	*560*	*570*	*690*	*820*	*425*	*510*	*610*	*410*	*475*	*570*	*445*	*510*	*610*	—	—	—
K5	90	105	125	75	85	105	110	125	150	80	95	115	75	90	105	80	95	115	—	—	—
	295	*345*	*410*	*245*	*280*	*345*	*360*	*410*	*490*	*260*	*310*	*375*	*245*	*295*	*345*	*260*	*310*	*375*	—	—	—
K6	130	150	180	105	125	150	155	185	220	115	135	160	110	130	155	115	140	165	—	—	—
	425	*490*	*590*	*345*	*410*	*490*	*510*	*610*	*720*	*375*	*445*	*520*	*360*	*425*	*510*	*375*	*460*	*540*	—	—	—
K7	115	135	160	95	110	130	140	165	195	105	120	145	100	115	135	105	125	150	—	—	—
	375	*445*	*520*	*310*	*360*	*425*	*460*	*540*	*640*	*345*	*395*	*475*	*330*	*375*	*445*	*345*	*410*	*490*	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1375	1600	1900	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*4500*	*5250*	*6225*	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	550	650	770	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*1800*	*2125*	*2525*	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	370	435	510	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*1225*	*1425*	*1675*	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	420	495	580	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*1375*	*1625*	*1900*	—	—	—
S1	—	—	—	—	—	—	—	—	—	—	—	—	44	50	60	43	50	60	46	55	65
	—	—	—	—	—	—	—	—	—	—	—	—	*145*	*165*	*195*	*140*	*165*	*195*	*150*	*180*	*215*
S2	—	—	—	—	—	—	—	—	—	—	—	—	35	41	49	35	40	48	37	43	50
	—	—	—	—	—	—	—	—	—	—	—	—	*115*	*135*	*160*	*115*	*130*	*155*	*120*	*140*	*165*
S3	—	—	—	—	—	—	—	—	—	—	—	—	31	36	43	31	36	42	32	38	45
	—	—	—	—	—	—	—	—	—	—	—	—	*100*	*120*	*140*	*100*	*120*	*140*	*105*	*125*	*150*
S11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	60	70	85	65	75	90
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*195*	*230*	*280*	*215*	*245*	*295*
S12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	42	48	60	44	50	60
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*140*	*155*	*195*	*145*	*165*	*195*
S13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	24	28	34	26	30	36
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*80*	*90*	*110*	*85*	*100*	*120*
H5	45	50	60	37	43	50	—	—	—	40	46	55	38	44	50	39	45	55	—	—	—
	150	*165*	*195*	*120*	*140*	*165*	—	—	—	*130*	*150*	*180*	*125*	*145*	*165*	*130*	*150*	*180*	—	—	—
H8	48	55	65	40	46	55	—	—	—	43	50	60	41	48	55	42	48	55	—	—	—
	155	*180*	*215*	*130*	*150*	*180*	—	—	—	*140*	*165*	*195*	*135*	*155*	*180*	*140*	*155*	*180*	—	—	—
H11	55	65	80	48	55	65	—	—	—	50	60	70	48	55	65	49	55	65	—	—	—
	180	*215*	*260*	*155*	*180*	*215*	—	—	—	*165*	*195*	*230*	*155*	*180*	*215*	*160*	*180*	*215*	—	—	—
H12	85	100	120	70	85	100	80	90	105	75	90	105	75	85	100	80	95	110	—	—	—
	280	*330*	*395*	*230*	*280*	*330*	*260*	*295*	*345*	*245*	*295*	*345*	*245*	*280*	*330*	*260*	*310*	*360*	—	—	—

R217/220.21-160 – Cutting data v_c = (m/min)/(sf/min)

SMG	F40M			MP2050			MP1501			MP2501			MS2500			MP3501			MM4500		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	240	270	315	280	330	395	370	415	495	360	405	480	380	430	510	355	400	470	225	260	310
	790	*890*	*1025*	*920*	*1075*	*1300*	*1225*	*1350*	*1625*	*1175*	*1325*	*1575*	*1250*	*1400*	*1675*	*1175*	*1300*	*1550*	*740*	*850*	*1025*
P2	235	260	310	270	320	385	360	405	480	350	390	470	370	420	495	345	390	455	220	250	300
	770	*850*	*1025*	*890*	*1050*	*1275*	*1175*	*1325*	*1575*	*1150*	*1275*	*1550*	*1225*	*1375*	*1625*	*1125*	*1275*	*1500*	*720*	*820*	*980*
P3	210	230	265	240	280	330	320	360	415	310	350	405	325	370	425	305	340	390	195	220	260
	690	*750*	*870*	*790*	*920*	*1075*	*1050*	*1175*	*1350*	*1025*	*1150*	*1325*	*1075*	*1225*	*1400*	*1000*	*1125*	*1275*	*640*	*720*	*850*
P4	190	215	255	210	245	295	285	320	375	275	310	365	285	325	380	270	300	350	185	210	250
	620	*710*	*840*	*690*	*800*	*970*	*940*	*1050*	*1225*	*900*	*1025*	*1200*	*940*	*1075*	*1250*	*890*	*980*	*1150*	*610*	*690*	*820*
P5	175	195	225	200	235	280	270	305	360	260	295	350	275	310	360	255	285	335	160	185	220
	570	*640*	*740*	*660*	*770*	*920*	*890*	*1000*	*1175*	*850*	*970*	*1150*	*900*	*1025*	*1175*	*840*	*940*	*1100*	*520*	*610*	*720*
P6	195	220	255	225	265	315	305	340	400	295	330	390	310	350	405	285	320	375	180	210	250
	640	*720*	*840*	*740*	*870*	*1025*	*1000*	*1125*	*1300*	*970*	*1075*	*1275*	*1025*	*1150*	*1325*	*940*	*1050*	*1225*	*590*	*690*	*820*
P7	185	205	240	215	250	300	285	325	380	275	310	370	290	330	385	270	305	355	170	195	235
	610	*670*	*790*	*710*	*820*	*980*	*940*	*1075*	*1250*	*900*	*1025*	*1225*	*950*	*1075*	*1275*	*890*	*1000*	*1175*	*560*	*640*	*770*
P8	175	195	225	200	235	275	270	305	350	260	295	340	275	310	355	255	285	330	160	185	220
	570	*640*	*740*	*660*	*770*	*900*	*890*	*1000*	*1150*	*850*	*970*	*1125*	*900*	*1025*	*1175*	*840*	*940*	*1075*	*520*	*610*	*720*
P11	180	200	235	205	240	290	280	315	370	270	305	360	280	320	375	265	295	345	165	190	230
	590	*660*	*770*	*670*	*790*	*950*	*920*	*1025*	*1225*	*890*	*1000*	*1175*	*920*	*1050*	*1225*	*870*	*970*	*1125*	*540*	*620*	*750*
P12	125	140	160	135	160	190	190	210	245	185	205	240	190	215	245	175	200	225	110	130	150
	410	*460*	*520*	*445*	*520*	*620*	*620*	*690*	*800*	*610*	*670*	*790*	*620*	*710*	*800*	*570*	*660*	*740*	*360*	*425*	*490*
M1	170	200	240	195	230	275	—	—	—	185	215	260	215	255	305	185	220	260	145	170	205
	560	*660*	*790*	*640*	*750*	*900*	—	—	—	*610*	*710*	*850*	*710*	*840*	*1000*	*610*	*720*	*850*	*475*	*560*	*670*
M2	140	165	195	160	190	225	—	—	—	155	180	215	180	210	250	155	180	215	120	140	170
	460	*540*	*640*	*520*	*620*	*740*	—	—	—	*510*	*590*	*710*	*590*	*690*	*820*	*510*	*590*	*710*	*395*	*460*	*560*
M3	115	130	155	130	150	180	—	—	—	125	145	175	145	170	200	125	145	175	100	115	135
	375	*425*	*510*	*425*	*490*	*590*	—	—	—	*410*	*475*	*570*	*475*	*560*	*660*	*410*	*475*	*570*	*330*	*375*	*445*
M4	90	105	125	105	120	140	—	—	—	100	115	140	115	130	160	100	115	135	75	90	105
	295	*345*	*410*	*345*	*395*	*460*	—	—	—	*330*	*375*	*460*	*375*	*425*	*520*	*330*	*375*	*445*	*245*	*295*	*345*
M5	75	85	105	85	100	120	—	—	—	80	95	115	95	110	130	80	95	115	65	75	90
	245	*280*	*345*	*280*	*330*	*395*	—	—	—	*260*	*310*	*375*	*310*	*360*	*425*	*260*	*310*	*375*	*215*	*245*	*295*
K1	165	195	235	—	—	—	365	410	485	350	395	475	240	280	335	350	390	460	—	—	—
	540	*640*	*770*	—	—	—	*1200*	*1350*	*1600*	*1150*	*1300*	*1550*	*790*	*920*	*1100*	*1150*	*1275*	*1500*	—	—	—
K2	145	170	205	—	—	—	325	370	435	315	355	420	210	250	295	310	345	405	—	—	—
	475	*560*	*670*	—	—	—	*1075*	*1225*	*1425*	*1025*	*1175*	*1375*	*690*	*820*	*970*	*1025*	*1125*	*1325*	—	—	—
K3	125	145	175	—	—	—	275	310	365	270	300	355	180	210	250	260	295	345	—	—	—
	410	*475*	*570*	—	—	—	*900*	*1025*	*1200*	*890*	*980*	*1175*	*590*	*690*	*820*	*850*	*970*	*1125*	—	—	—
K4	120	140	165	—	—	—	265	295	350	255	290	340	170	200	240	250	280	325	—	—	—
	395	*460*	*540*	—	—	—	*870*	*970*	*1150*	*840*	*950*	*1125*	*560*	*660*	*790*	*820*	*920*	*1075*	—	—	—
K5	75	85	100	—	—	—	165	185	215	160	180	210	105	125	145	155	175	200	—	—	—
	245	*280*	*330*	—	—	—	*540*	*610*	*710*	*520*	*590*	*690*	*345*	*410*	*475*	*510*	*570*	*660*	—	—	—
K6	105	125	145	—	—	—	230	260	310	225	255	300	150	175	210	220	245	290	—	—	—
	345	*410*	*475*	—	—	—	*750*	*850*	*1025*	*740*	*840*	*980*	*490*	*570*	*690*	*720*	*800*	*950*	—	—	—
K7	95	110	130	—	—	—	210	235	275	205	230	265	135	160	190	200	225	260	—	—	—
	310	*360*	*425*	—	—	—	*690*	*770*	*900*	*670*	*750*	*870*	*445*	*520*	*620*	*660*	*740*	*850*	—	—	—
N1	1225	1425	1700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	4025	*4675*	*5575*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	490	570	690	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1600	*1875*	*2275*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	325	385	460	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1075	*1275*	*1500*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	375	440	530	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1225	*1450*	*1750*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	42	48	60	50	60	70	—	—	—	—	—	—	55	65	75	46	55	65	24	27	33
	140	*155*	*195*	*165*	*195*	*230*	—	—	—	—	—	—	*180*	*215*	*245*	*150*	*180*	*215*	*80*	*90*	*110*
S2	33	39	46	40	47	55	—	—	—	—	—	—	45	50	60	37	43	50	19	22	26
	110	*130*	*150*	*130*	*155*	*180*	—	—	—	—	—	—	*150*	*165*	*195*	*120*	*140*	*165*	*60*	*70*	*85*
S3	29	34	41	36	41	49	—	—	—	—	—	—	39	46	55	32	38	45	17	19	23
	95	*110*	*135*	*120*	*135*	*160*	—	—	—	—	—	—	*130*	*150*	*180*	*105*	*125*	*150*	*55*	*60*	*75*
S11	60	65	80	70	80	95	—	—	—	—	—	—	75	90	105	65	75	90	33	38	45
	195	*215*	*260*	*230*	*260*	*310*	—	—	—	—	—	—	*245*	*295*	*345*	*215*	*245*	*295*	*110*	*125*	*150*
S12	40	46	55	48	55	65	—	—	—	—	—	—	55	60	75	44	50	60	30	35	42
	130	*150*	*180*	*155*	*180*	*215*	—	—	—	—	—	—	*180*	*195*	*245*	*145*	*165*	*195*	*100*	*115*	*140*
S13	23	27	32	28	33	39	—	—	—	—	—	—	31	36	43	26	30	36	18	20	24
	75	*90*	*105*	*90*	*110*	*130*	—	—	—	—	—	—	*100*	*120*	*140*	*85*	*100*	*120*	*60*	*65*	*80*
H5	36	42	50	—	—	—	50	60	70	—	—	—	47	55	65	42	48	55	—	—	—
	120	*140*	*165*	—	—	—	*165*	*195*	*230*	—	—	—	*155*	*180*	*215*	*140*	*155*	*180*	—	—	—
H8	39	45	55	—	—	—	55	65	75	—	—	—	50	60	70	45	50	60	—	—	—
	130	*150*	*180*	—	—	—	*180*	*215*	*245*	—	—	—	*165*	*195*	*230*	*150*	*165*	*195*	—	—	—
H11	46	55	65	55	60	75	65	75	90	—	—	—	60	70	85	55	60	75	—	—	—
	150	*180*	*215*	*180*	*195*	*245*	*215*	*245*	*295*	—	—	—	*195*	*230*	*280*	*180*	*195*	*245*	—	—	—
H12	70	80	95	90	105	125	100	115	135	—	—	—	100	115	135	80	95	110	—	—	—
	230	*260*	*310*	*295*	*345*	*410*	*330*	*375*	*445*	—	—	—	*330*	*375*	*445*	*260*	*310*	*360*	—	—	—

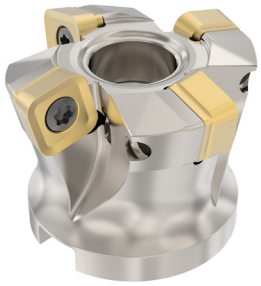


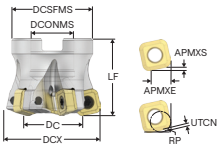
R220.21 (SC12) High Feed

High feed mills for high-torque machines, for SCET12 inserts, 4-cutting edge, single sided. These cutter bodies with fixed pockets are optimised for strong horizontal machines. SCET120630T is our 6.35-mm thick insert range with a corner radius of 3.0 mm.

- Cutter range 50-160 mm (2 - 4 inch)
- Max depth of cut 1,5 mm (.059 inch)
- Heavy roughing operations
- Large, powerful machines

R220.21-SC – Metric

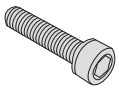




–For insert selection and cutting data recommendations, see page(s) 657–658
–For complete insert programme, see page(s) 892
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCSFMS	DCONMS	LF	RP	UTCN	RMPX°	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm	mm	mm	mm	mm			kg	
R220.21-0050-SC12.4A	02600275	Arbor	31,0	50,0	4	1,5	9,0	22,0	42,0	22,0	40,0	4,4	1,1	2,3	10700	0,3	SC.T1206
R220.21-0050-SC12.5A	03136672	Arbor	31,0	50,0	5	1,5	9,0	22,0	42,0	22,0	40,0	4,4	1,1	2,1	10700	0,3	SC.T1206
R220.21-0052-SC12.4A	02585965	Arbor	33,0	52,0	4	1,5	9,0	22,0	42,0	22,0	40,0	4,4	1,1	2,2	10500	0,3	SC.T1206
R220.21-0052-SC12.5A	03138188	Arbor	33,0	52,0	5	1,5	9,0	22,0	47,0	22,0	40,0	4,5	1,1	2,0	10500	0,4	SC.T1206
R220.21-0063-SC12.5A	02682416	Arbor	44,0	63,0	5	1,5	9,0	27,0	50,0	27,0	50,0	4,4	1,1	0,9	9600	0,6	SC.T1206
R220.21-0080-SC12.5A	02585971	Arbor	61,0	80,0	5	1,5	9,0	27,0	62,0	27,0	50,0	4,4	1,1	0,8	8500	0,9	SC.T1206
R220.21-0080-SC12.6A	02682419	Arbor	61,0	80,0	6	1,5	9,0	27,0	62,0	27,0	50,0	4,4	1,1	0,8	8500	1,0	SC.T1206
R220.21-0080-SC12.7A	03136674	Arbor	61,1	80,0	7	1,5	9,0	27,0	62,0	27,0	50,0	4,4	1,2	0,8	8500	1,1	SC.T1206
R220.21-0100-SC12.5A	02585973	Arbor	81,0	100,0	5	1,5	9,0	32,0	77,0	32,0	50,0	4,4	1,1	0,75	7600	1,6	SC.T1206
R220.21-0100-SC12.7A	02682422	Arbor	81,0	100,0	7	1,5	9,0	32,0	77,0	32,0	50,0	4,4	1,1	0,75	7600	1,6	SC.T1206
R220.21-0125-SC12.6A	02585974	Arbor	106,0	125,0	6	1,5	9,0	40,0	90,0	40,0	63,0	4,4	1,1	0,7	6800	2,5	SC.T1206
R220.21-8160-SC12.7	02585975	Arbor	141,0	160,0	7	1,5	9,0	40,0	90,0	40,0	63,0	4,4	1,1	0,7	6000	3,6	SC.T1206

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R220.21-0050-0052	220.17-692M	1/4HEX-T20PX50	C45011-T20P
R220.21-0063-0066	MC6S12X35	1/4HEX-T20PX50	C45011-T20P
R220.21-0080	MC6S12X35	1/4HEX-T20PX50	C45011-T20P
R220.21-0100	MLC6S16X35	1/4HEX-T20PX90	C45011-T20P
R220.21-0125	–	1/4HEX-T20PX90	C45011-T20P
R220.21-8160	–	1/4HEX-T20PX90	C45011-T20P

Accessories

For cutter	Adjustable Torque key	Adjustable Torque key 2	Arbor screw	Bit holder	Insert clamping torque	Torque key
						
R220.21-0050-0125	1/4HEX-S-HANDLE-0.8-5.0NM	–	–	1/4HEX-S-HANDLE	5.0NM	T00-20P50
R220.21-0050-0125	1/4HEX-S-HANDLE-0.8-5.0NM	–	5804020	1/4HEX-S-HANDLE	5.0NM	T00-20P50
R220.21-8160	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	1/4HEX-T-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R220.21-SC12 – Insert selection – mm/Inch

SMG		a_p	f_z		
			100%	70%	30%
P1	SCET120630T-M14 MP3501	1,5 *0.060*	0,95 0.038	0,95 0.038	1,1 0.044
P2	SCET120630T-M14 MP3501	1,5 *0.060*	0,95 0.038	0,95 0.038	1,1 0.044
P3	SCET120630T-M14 MP2501	1,5 *0.060*	0,90 0.036	0,90 0.036	1,1 0.044
P4	SCET120630T-M14 MP2501	1,5 *0.060*	0,90 0.036	0,90 0.036	1,1 0.044
P5	SCET120630T-M14 MP2501	1,5 *0.060*	0,85 0.034	0,85 0.034	1,0 0.040
P6	SCET120630T-M14 MP2501	1,5 *0.060*	0,85 0.034	0,85 0.034	1,0 0.040
P7	SCET120630T-M14 MP2501	1,5 *0.060*	0,85 0.034	0,85 0.034	1,0 0.040
P8	SCET120630T-M14 MP2501	1,5 *0.060*	0,90 0.036	0,90 0.036	1,1 0.044
P11	SCET120630T-M14 MP3501	1,5 *0.060*	0,85 0.034	0,85 0.034	1,0 0.040
P12	SCET120630T-M14 MP2501	1,5 *0.060*	0,60 0.024	0,60 0.024	0,70 0.028
M1	SCET120630T-M14 MS2050	1,5 *0.060*	0,95 0.038	0,95 0.038	1,1 0.044
M2	SCET120630T-M14 MS2050	1,5 *0.060*	0,85 0.034	0,85 0.034	1,0 0.040
M3	SCET120630T-M14 MS2050	1,5 *0.060*	0,70 0.028	0,70 0.028	0,85 0.034
M4	SCET120630T-M14 MP3501	1,5 *0.060*	0,60 0.024	0,60 0.024	0,75 0.030
M5	SCET120630T-M14 MP3501	1,5 *0.060*	0,60 0.024	0,60 0.024	0,75 0.030
K1	SCET120630T-MD16 MP1501	1,5 *0.060*	1,1 0.044	1,1 0.044	1,3 0.050
K2	SCET120630T-MD16 MP1501	1,5 *0.060*	1,0 0.040	1,0 0.040	1,2 0.048
K3	SCET120630T-MD16 MP1501	1,5 *0.060*	1,0 0.040	1,0 0.040	1,2 0.048
K4	SCET120630T-MD16 MP1501	1,5 *0.060*	1,0 0.040	1,0 0.040	1,2 0.048
K5	SCET120630T-MD16 MP1501	1,5 *0.060*	0,90 0.036	0,90 0.036	1,1 0.044
K6	SCET120630T-MD16 MP1501	1,5 *0.060*	1,0 0.040	1,0 0.040	1,2 0.048
K7	SCET120630T-MD16 MP1501	1,5 *0.060*	0,90 0.036	0,90 0.036	1,1 0.044
S1	SCET120630T-M14 MS2500	1,5 *0.060*	0,60 0.024	0,60 0.024	0,75 0.030
S2	SCET120630T-M14 MS2500	1,5 *0.060*	0,60 0.024	0,60 0.024	0,75 0.030
S3	SCET120630T-M14 MS2500	1,5 *0.060*	0,55 0.022	0,55 0.022	0,70 0.028
S11	SCET120630T-M14 MS2050	1,5 *0.060*	0,70 0.028	0,70 0.028	0,85 0.034
S12	SCET120630T-M14 MS2050	1,5 *0.060*	0,70 0.028	0,70 0.028	0,85 0.034
S13	SCET120630T-M14 MS2050	1,5 *0.060*	0,60 0.024	0,60 0.024	0,75 0.030
H5	SCET120630T-MD16 MP3501	1,5 *0.060*	0,70 0.028	0,70 0.028	0,80 0.032
H8	SCET120630T-MD16 MP3501	1,5 *0.060*	0,50 0.020	0,50 0.020	0,60 0.024
H11	SCET120630T-MD16 MP1501	1,5 *0.060*	0,70 0.028	0,70 0.028	0,80 0.032
H12	SCET120630T-MD16 MP1501	1,5 *0.060*	0,50 0.020	0,50 0.020	0,60 0.024

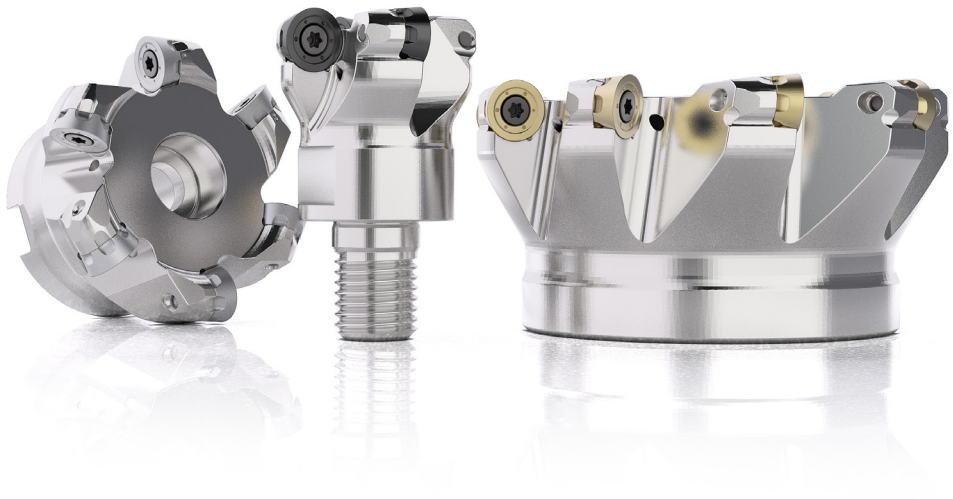
SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R220.21-SC12 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK2050			MP3000			MS2050			F40M		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	275 *900*	320 *1050*	390 *1275*	275 *900*	310 *1025*	395 *1300*	250 *820*	280 *920*	345 *1125*	240 *790*	260 *850*	315 *1025*
P2	265 *870*	305 *1000*	370 *1225*	260 *850*	295 *970*	370 *1225*	240 *790*	270 *890*	325 *1075*	230 *750*	245 *800*	295 *970*
P3	230 *750*	265 *870*	330 *1075*	230 *750*	260 *850*	330 *1075*	210 *690*	235 *770*	290 *950*	200 *660*	220 *720*	265 *870*
P4	210 *690*	240 *790*	290 *950*	210 *690*	235 *770*	290 *950*	190 *620*	210 *690*	255 *840*	185 *610*	205 *670*	245 *800*
P5	200 *660*	230 *750*	285 *940*	200 *660*	225 *740*	290 *950*	180 *590*	205 *670*	255 *840*	170 *560*	185 *610*	230 *750*
P6	225 *740*	255 *840*	320 *1050*	225 *740*	255 *840*	325 *1075*	200 *660*	225 *740*	285 *940*	195 *640*	210 *690*	255 *840*
P7	210 *690*	240 *790*	300 *980*	210 *690*	240 *790*	310 *1025*	190 *620*	215 *710*	270 *890*	180 *590*	200 *660*	245 *800*
P8	195 *640*	225 *740*	275 *900*	195 *640*	220 *720*	280 *920*	175 *570*	200 *660*	245 *800*	170 *560*	185 *610*	220 *720*
P11	205 *670*	235 *770*	290 *950*	205 *670*	230 *750*	300 *980*	185 *610*	210 *690*	260 *850*	175 *570*	195 *640*	235 *770*
P12	135 *445*	155 *510*	190 *620*	145 *475*	160 *520*	200 *660*	125 *410*	140 *460*	170 *560*	120 *395*	130 *425*	155 *510*
M1	— —	— —	— —	190 *620*	220 *720*	265 *870*	180 *590*	210 *690*	255 *840*	165 *540*	190 *620*	230 *750*
M2	— —	— —	— —	160 *520*	185 *610*	230 *750*	150 *490*	175 *570*	215 *710*	135 *445*	160 *520*	195 *640*
M3	— —	— —	— —	130 *425*	145 *475*	180 *590*	120 *395*	135 *445*	170 *560*	110 *360*	125 *410*	155 *510*
M4	— —	— —	— —	100 *330*	115 *375*	140 *460*	95 *310*	105 *345*	135 *445*	85 *280*	95 *310*	120 *395*
M5	— —	— —	— —	85 *280*	95 *310*	115 *375*	80 *260*	90 *295*	110 *360*	70 *230*	80 *260*	100 *330*
K1	285 *940*	330 *1075*	400 *1300*	200 *660*	230 *750*	285 *940*	— —	— —	— —	160 *520*	185 *610*	225 *740*
K2	255 *840*	295 *970*	365 *1200*	180 *590*	210 *690*	260 *850*	— —	— —	— —	145 *475*	165 *540*	205 *670*
K3	215 *710*	250 *820*	310 *1025*	155 *510*	175 *570*	220 *720*	— —	— —	— —	125 *410*	140 *460*	175 *570*
K4	205 *670*	240 *790*	295 *970*	145 *475*	170 *560*	210 *690*	— —	— —	— —	115 *375*	135 *445*	165 *540*
K5	130 *425*	145 *475*	180 *590*	90 *295*	105 *345*	125 *410*	— —	— —	— —	70 *230*	85 *280*	100 *330*
K6	185 *610*	210 *690*	260 *850*	130 *425*	150 *490*	185 *610*	— —	— —	— —	105 *345*	120 *395*	145 *475*
K7	165 *540*	190 *620*	230 *750*	115 *375*	135 *445*	160 *520*	— —	— —	— —	90 *295*	105 *345*	130 *425*
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	1175 *3850*	1350 *4425*	1675 *5500*
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	475 *1550*	550 *1800*	670 *2200*
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	320 *1050*	365 *1200*	450 *1475*
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	365 *1200*	415 *1350*	510 *1675*
S1	— —	— —	— —	46 *150*	55 *180*	65 *215*	44 *145*	50 *165*	60 *195*	40 *130*	45 *150*	55 *180*
S2	— —	— —	— —	37 *120*	42 *140*	55 *180*	35 *115*	40 *130*	50 *165*	32 *105*	37 *120*	45 *150*
S3	— —	— —	— —	33 *110*	37 *120*	46 *150*	31 *100*	36 *120*	44 *145*	28 *90*	32 *105*	40 *130*
S11	— —	— —	— —	— —	— —	— —	60 *195*	70 *230*	85 *280*	55 *180*	65 *215*	80 *260*
S12	— —	— —	— —	— —	— —	— —	42 *140*	48 *155*	60 *195*	38 *125*	44 *145*	55 *180*
S13	— —	— —	— —	— —	— —	— —	25 *80*	28 *90*	35 *115*	23 *75*	26 *85*	32 *105*
H5	46 *150*	50 *165*	65 *215*	40 *130*	46 *150*	55 *180*	— —	— —	— —	34 *110*	39 *130*	48 *155*
H8	49 *160*	55 *180*	70 *230*	43 *140*	49 *160*	60 *195*	— —	— —	— —	36 *120*	41 *135*	50 *165*
H11	60 *195*	65 *215*	80 *260*	50 *165*	60 *195*	70 *230*	— —	— —	— —	44 *145*	50 *165*	60 *195*
H12	85 *280*	95 *310*	120 *395*	80 *260*	95 *310*	115 *375*	— —	— —	— —	65 *215*	75 *245*	90 *295*
H21	49 *160*	55 *180*	70 *230*	43 *140*	49 *160*	60 *195*	— —	— —	— —	36 *120*	41 *135*	50 *165*

R220.21-SC12 – Cutting data v_c = (m/min)/(sf/min)

SMG	MP1501			MP2501			MS2500			MP3501		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	385 *1275*	425 *1400*	500 *1650*	370 *1225*	410 *1350*	490 *1600*	375 *1225*	415 *1350*	500 *1650*	350 *1150*	385 *1275*	465 *1525*
P2	375 *1225*	410 *1350*	490 *1600*	365 *1200*	400 *1300*	480 *1575*	360 *1175*	400 *1300*	475 *1550*	335 *1100*	370 *1225*	440 *1450*
P3	320 *1050*	355 *1175*	435 *1425*	310 *1025*	345 *1125*	425 *1400*	315 *1025*	350 *1150*	420 *1375*	295 *970*	325 *1075*	390 *1275*
P4	295 *970*	325 *1075*	380 *1250*	285 *940*	315 *1025*	375 *1225*	285 *940*	315 *1025*	370 *1225*	265 *870*	290 *950*	345 *1125*
P5	280 *920*	310 *1025*	365 *1200*	270 *890*	300 *980*	355 *1175*	270 *890*	300 *980*	365 *1200*	250 *820*	275 *900*	340 *1125*
P6	315 *1025*	345 *1125*	410 *1350*	305 *1000*	335 *1100*	400 *1300*	305 *1000*	335 *1100*	410 *1350*	285 *940*	310 *1025*	380 *1250*
P7	295 *970*	325 *1075*	385 *1275*	290 *950*	315 *1025*	375 *1225*	285 *940*	315 *1025*	385 *1275*	265 *870*	295 *970*	360 *1175*
P8	270 *890*	300 *980*	365 *1200*	260 *850*	290 *950*	355 *1175*	265 *870*	295 *970*	355 *1175*	245 *800*	270 *890*	325 *1075*
P11	290 *950*	315 *1025*	375 *1225*	280 *920*	310 *1025*	365 *1200*	280 *920*	310 *1025*	375 *1225*	260 *850*	285 *940*	350 *1150*
P12	190 *620*	205 *670*	245 *800*	185 *610*	200 *660*	240 *790*	185 *610*	205 *670*	240 *790*	175 *570*	190 *620*	225 *740*
M1	— —	— —	— —	190 *620*	215 *710*	265 *870*	210 *690*	240 *790*	295 *970*	180 *590*	210 *690*	255 *840*
M2	— —	— —	— —	155 *510*	180 *590*	220 *720*	175 *570*	200 *660*	250 *820*	150 *490*	175 *570*	215 *710*
M3	— —	— —	— —	125 *410*	140 *460*	180 *590*	140 *460*	160 *520*	200 *660*	120 *395*	135 *445*	170 *560*
M4	— —	— —	— —	95 *310*	110 *360*	140 *460*	110 *360*	125 *410*	155 *510*	95 *310*	105 *345*	135 *445*
M5	— —	— —	— —	80 *260*	90 *295*	115 *375*	90 *295*	105 *345*	130 *425*	80 *260*	90 *295*	110 *360*
K1	375 *1225*	415 *1350*	495 *1625*	365 *1200*	405 *1325*	485 *1600*	235 *770*	270 *890*	325 *1075*	335 *1100*	370 *1225*	445 *1450*
K2	340 *1125*	375 *1225*	440 *1450*	330 *1075*	360 *1175*	430 *1400*	210 *690*	240 *790*	300 *980*	305 *1000*	335 *1100*	410 *1350*
K3	285 *940*	315 *1025*	375 *1225*	280 *920*	305 *1000*	365 *1200*	175 *570*	205 *670*	255 *840*	260 *850*	285 *940*	345 *1125*
K4	275 *900*	300 *980*	355 *1175*	265 *870*	295 *970*	350 *1150*	170 *560*	195 *640*	240 *790*	245 *800*	270 *890*	330 *1075*
K5	165 *540*	185 *610*	220 *720*	160 *520*	180 *590*	215 *710*	105 *345*	120 *395*	145 *475*	155 *510*	170 *560*	200 *660*
K6	240 *790*	265 *870*	315 *1025*	235 *770*	260 *850*	305 *1000*	150 *490*	170 *560*	210 *690*	215 *710*	240 *790*	290 *950*
K7	210 *690*	240 *790*	280 *920*	205 *670*	230 *750*	275 *900*	135 *445*	155 *510*	185 *610*	195 *640*	215 *710*	255 *840*
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
S1	— —	— —	— —	— —	— —	— —	55 *180*	60 *195*	75 *245*	44 *145*	50 *165*	60 *195*
S2	— —	— —	— —	— —	— —	— —	43 *140*	49 *160*	60 *195*	35 *115*	40 *130*	50 *165*
S3	— —	— —	— —	— —	— —	— —	38 *125*	43 *140*	55 *180*	31 *100*	36 *120*	44 *145*
S11	— —	— —	— —	— —	— —	— —	75 *245*	85 *280*	105 *345*	60 *195*	70 *230*	85 *280*
S12	— —	— —	— —	— —	— —	— —	50 *165*	60 *195*	75 *245*	42 *140*	48 *155*	60 *195*
S13	— —	— —	— —	— —	— —	— —	30 *100*	34 *110*	42 *140*	25 *80*	28 *90*	35 *115*
H5	49 *160*	55 *180*	70 *230*	— —	— —	— —	45 *150*	50 *165*	65 *215*	40 *130*	45 *150*	55 *180*
H8	50 *165*	60 *195*	75 *245*	— —	— —	— —	47 *155*	55 *180*	65 *215*	42 *140*	48 *155*	60 *195*
H11	65 *215*	70 *230*	90 *295*	— —	— —	— —	55 *180*	65 *215*	80 *260*	50 *165*	55 *180*	70 *230*
H12	95 *310*	105 *345*	135 *445*	— —	— —	— —	95 *310*	105 *345*	135 *445*	75 *245*	85 *280*	105 *345*
H21	50 *165*	60 *195*	75 *245*	— —	— —	— —	47 *155*	55 *180*	65 *215*	42 *140*	48 *155*	60 *195*

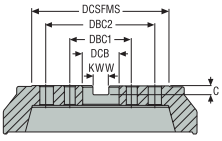


Code keys metric and inch

R	217	.	29	-	16	16	.	0	-	04	.	2	.	140	A
1	2		3		4	5		6		7		8		9	10

R	217	.	29I	-	01.00	-	0	-	06	.	2	A
1	2		3		4		6		7		8	9

1.	2.	3.
R = Right hand rotation Cx = For Seco-Capto	217 = With shank 220 = For arbor	Cutter system
4.	**5. (Not for inch designation)**	**6.**
Shank diameter (connecting thread diameter for Combimaster)	Outer cutting diameter/ball nose type = cutting diameter	Shank type RE = Combimaster 0. = Cylindrical 3. = Weldon
7.	**8.**	**9.**
Max. axial cutting depth	No. of teeth	Setting length (for the shank for combimaster)
10.		
A = Through coolant supply E = Solid carbide shank		



Dimensions in mm

DCB	DCSFMS	DBC1	DBC2	KWW	C
16	30-35	–	–	8,4	5,6
22	42-47	–	–	10,4	6,3
27	48-62	–	–	12,4	7
32	60-90	–	–	14,4	8
40	90-130	66,7	–	16,4	9
60	130-270	101,6	177,8	25,7	14

Dimensions in inch

DCB	DCSFMS	DBC1	DBC2	KWW	C
0.500	*1.181 - 1.378*			*0.258*	*0.165*
0.750	*1.378 - 1.850*	–	–	*0.321*	*0.193*
1.000	*1.803 - 2.441*	–	–	*0.382*	*0.224*
1.250	*2.250 - 3.031*	–	–	*0.508*	*0.287*
1.500	*2.750 - 3.543*	–	–	*0.630*	*0.382*
2.000	*4.331*	–	–	*0.756*	*0.445*
2.500	*5.118 - 6.299 (8.858)*	*4.000*	*(7.000)*	*1.000*	*0.551*

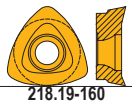
For a more exact DCSFMS and DCB measurement, see each product table.

Selection – Metric

Cutter	Insert	Material suitability P	M	K	N	S	H	Corner radius (mm)				No. of cutting edges	Diameters (mm) available and max depth of cut (mm) 12	16	20	25	30	32	40	50	See page
R218.20	218.20-060	■	■	■	◩	■	-	6,0	■	□	◩	2	10								730, 731
	218.20-080	■	■	■	◩	■	◩	8,0	■	◩	◩	2		14							
	218.20-100	■	■	■	◩	■	◩	10,0	■	■	◩	2			18						
	218.20-125	■	■	■	◩	■	◩	12,5	■	■	◩	2				22					
	218.20-150	■	■	■	◩	■	◩	15,0	◩	■	◩	2					27				
	218.20-160	■	■	■	◩	■	◩	16,0	◩	■	◩	2						28			
	218.20-200	■	■	■	◩	■	-	20,0	□	■	◩	2							35		
	218.20-250	■	■	■	◩	■	-	25,0	□	■	◩	2								44	
R218.20 long cutting edge	218.20-150 / SPMT10	■	■	■	◩	■	◩	15,0	◩	■	◩	2/4					44				
	218.20-160 / SPMT10	■	■	■	◩	■	◩	16,0	◩	■	◩	2/4						54			
	218.20-200 / SC..12	■	■	■	◩	■	-	20,0	□	■	◩	2/4							60		
	218.20-250 / SC..12	■	■	■	◩	■	-	25,0	□	■	◩	2/4								70	

1st choice	■	High speed machine with low power/torque	x indicates the maximum depth of cut
Alternative choice	◩	Strong stable machine with rigid connecion	x
Possible choice	□	Unstable condition suitability	
Not recommended	-		

Selection – Metric

Cutter	Insert	Material suitability P	M	K	N	S	H	Corner radius (mm)				No. of cutting edges	Diameters (mm) available and max depth of cut (mm) 16	20	25	30	32	40	50	See page
R218.19	218.19-080/SPMX06 	■	◩	■	◩	■	◩	8,0	■	◩	■	3/4	12 17							760
	218.19-100/SPMX07 	■	◩	■	◩	■	◩	10,0	■	■	■	3/4		16 21						
	218.19-125/SPMX09 	■	◩	■	◩	■	◩	16,0	■	■	■	3/4			26					
	218.19-160/SPMT10 	■	◩	■	◩	■	◩	16,0	◩	■	■	3/4					31 38			
R218.19 HFA	218.19-125 	■	■	■	◩	■	◩	12,5	■	■	■	3			12					762
	218.19-160 	■	■	■	◩	■	◩	16,0	◩	■	■	3					16			
	218.19-200 	■	■	■	◩	■	□	20,0	□	■	■	3						20		

1st choice	■	High speed machine with low power/torque	
Alternative choice	◩	Strong stable machine with rigid connecion	
Possible choice	□	Unstable condition suitability	
Not recommended	-		

x indicates the maximum depth of cut: x

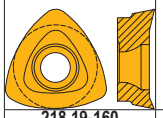
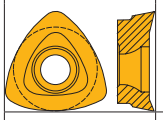
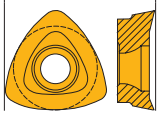
Selection – inch

Cutter	Insert	Material suitability P	M	K	N	S	H	Corner radius (inch)				No. of cutting edges	Diameters (inch) available and max depth of cut (inch) 0.50	0.63	0.75	1.00	1.25	1.50	2.00	See page
R218.20	218.20-0.250 	■	■	■	◩	■	-	0.250	■	□	◩	2	0.433							730, 731
	218.20-080 	■	■	■	◩	■	◩	0.315	■	◩	◩	2			0.669					
	218.20-0.375 	■	■	■	◩	■	◩	0.375	■	■	◩	2					1.102			
	218.20-125 	■	■	■	◩	■	◩	0.492	■	■	◩	2							1.732	
	218.20-160 	■	■	■	◩	■	◩	0.630	◩	■	◩	2					2.126			
	218.20-0.750 	■	■	■	◩	■	◩	0.750	◩	■	◩	2							2.756	
	218.20-250 	■	■	■	◩	■	-		□	■	◩	2		0.551						
R218.20 long cutting edge	218.20-125 / SPMT10 	■	■	■	◩	■	◩	0.630	◩	■	◩	2/4				0.866				
	218.20-160 / SPMT10 	■	■	■	◩	■	◩		◩	■	◩	2/4						1.339		
	218.20-0.750 / SC..12 	■	■	■	◩	■	-	0.750	□	■	◩	2/4				1.772				
	218.20-250 / SC..12 	■	■	■	◩	■	-	0.984	□	■	◩	2/4						2.362		

1st choice	■	High speed machine with low power/torque	
Alternative choice	◩	Strong stable machine with rigid connecion	
Possible choice	□	Unstable condition suitability	
Not recommended	-		

x indicates the maximum depth of cut x

Selection – Inch

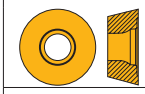
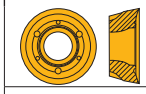
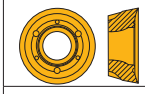
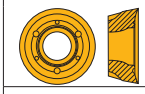
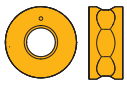
Cutter	Insert	Material suitability						Corner radius (inch)				No. of cutting edges	Diameters (inch) available and max depth of cut (inch)							See page
		P	M	K	N	S	H						0.50	0.63	0.75	1.00	1.25	1.50	2.00	
R218.19	218.19-100/SPMX07 	■	◩	■	◩	■	◩	0.394	■	■	■	3/4			0.835					760
	218.19-125/SPMX09 	■	◩	■	◩	■	◩	0.492	■	■	■	3/4				1.063				
R218.19 HFA	218.19-125 	■	■	■	◩	■	◩		■	■	■	3								762
	218.19-160 	■	■	■	◩	■	◩		◩	■	■	3								
	218.19-200 	■	■	■	◩	■	□		□	■	■	3								

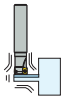
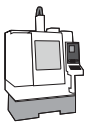
1st choice	■	High speed machine with low power/torque
Alternative choice	◩	Strong stable machine with rigid connecion
Possible choice	□	Unstable condition suitability
Not recommended	-	



x indicates the maximum depth of cut	x

Selection – Metric

Insert	a_p max	a_p rec.	Material suitability									
			P	M	K	N	S	H				
Round 5 	2,5	1	■	◩	■	□	■	■	■	◩	■	□
Round 6 	3	1	■	■	■	■	◩	■	■	◩	■	□
Round 7 	3,5	1,5	■	◩	■	■	◩	■	■	◩	■	□
Round 8 	4	1,5	■	■	■	■	■	■	■	◩	■	◩
Round 10 	5	2	■	■	■	■	■	■	■	■	■	◩
Round 12 	6	3	■	■	■	■	■	■	□	■	■	◩
Round 16 	8	5	■	■	■	-	■	◩	-	■	■	◩
Round 20 	10	6	■	■	■	-	■	□	-	■	■	◩
Round 12 R217/220.28 	6	3	■	■	■	□	■	◩	□	■	□	◩

1st choice	■	High speed machine with low power/torque		Unstable condition suitability	
Alternative choice	□	Strong stable machine with rigid connecion		Ramping ability	
Possible choice	◩	Not recommended	-	Plunging ability	

a_p max = Maximum depth of cut possible
a_p rec. = Recommended depth of cut for optimal result

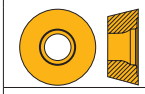
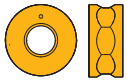
Selection – Metric

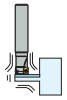
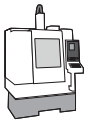
Insert	Applica-tion	Cutter diameter available (mm)/number of teeth																													See page
		10	12	15	16	20	25	27	32	35	40	42	44	50	52	63	66	80	84	92	100	112	125	137	153	160	188	200	228	250	
Round 5		2	3	4		5																									672
Round 6			2		3	4	5		6	7	8																				676
Round 7					3	4	5																								681
Round 8						2	3							5																	684
					2	3	4		5		6			7																	
Round 10											4			4		6															689
							2		4		5	5																			
					1	2	3	3	5	5	6	6		6	7	8															
Round 12										3	3		4	4	4	5		6	6			7		8							696
														5	5	6	6	7		7											
							2		3	4	4	5		6		7		8			9		11									
Round 16																4	5	5	5		6		6			7					705, 706
									2		3			4	4	5/6	6	7			8		10			10					
Round 20																4		5			5		6		6	7	8		10		714
											2			3		5	5	6			7		8					9		10	
Round 12														5	5	6	7	8			10										722
R217/220.28									3		4			6		8					12										

x	x indicates number of teeth (first choice)
x	x indicates number of teeth

	Coarse pitch-troubleshooter for unstable conditions and long overhang
	Normal pitch-alternative choice
	Close pitch-basic choice for productivity

Selection – Inch

Insert	a_p max	a_p rec.	Material suitability									
			P	M	K	N	S	H				
Round 5 	0.059	0.039	■	◩	■	□	■	■	■	◩	■	□
Round 6 	0.118	0.04	■	■	■	■	◩	■	■	◩	■	□
Round 7 	0.138	0.059	■	◩	■	■	◩	■	■	◩	■	□
Round 8 	0.158	0.059	■	■	■	■	■	■	■	◩	■	◩
Round 10 	0.197	0.079	■	■	■	■	■	■	■	■	■	◩
Round 12 	0.236	0.118	■	■	■	■	■	■	□	■	■	◩
Round 16 	0.315	0.197	■	■	■	-	■	◩	-	■	■	◩
Round 19 	0.374	0.160	■	■	■	-	■	□	-	■	■	◩
Round 20 	0.394	0.236	■	■	■	-	■	□	-	■	■	◩
Round 12 R217/220.28 	0.236	0.118	■	■	■	□	■	◩	□	■	□	◩

1st choice	■	High speed machine with low power/torque		Unstable condition suitability	
Alternative choice	□	Strong stable machine with rigid connecion		Ramping ability	
Possible choice	◩	Not recommended	-	Plunging ability	

a_p max = Maximum depth of cut possible
a_p rec. = Recommended depth of cut for optimal result

Selection – Inch

Insert	Applica-tion	Cutter diameter available (inch)/number of teeth										See page
		0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00	6.00	
Round 5												672
Round 6		4	5	6								676
Round 7												681
Round 8												684
Round 10			3	4	5	6						689
Round 12			2	3	4	(4/5)	(6/7)	(6/7)	(7/9)		8	696
Round 16						4	5	6	7			705, 706
Round 19							4	6	5 5	7 9		714 714
Round 20							4	5				714
Round 12 R217/220.28				3	4	(5/6)	7	8	(10/12)			722

x x indicates number of teeth (first choice)

x x indicates number of teeth

Coarse pitch-troubleshooter for unstable conditions and long overhang

Normal pitch-alternative choice

Close pitch-basic choice for productivity

Selection – Metric

Cutter	Insert	Material suitability P	M	K	N	S	H	Corner radius (mm)				No. of cutting edges	Diameters (mm) available and max depth of cut (mm) 16								See page
R217/220.97	R217/220.97-XP08 				■			0,4/0,8/ 1,6/2,0/ 2,4/3,1	■	■	■	2	2	2/3	3/4							780
	R217/220.97-XP12 				■			0,4/0,8/ 2,0/2,4/ 3,1/4,0	■	■	■	2			2	2/3	3	4				784
	R217/220.97-VP22 				■			0,5/0,8/ 1,6/2,0/ 2,4/3,1/ 4,0/4,8/6,3		■	■	2				2	2	2/3	3/4	4	5	788

1st choice	■	High speed machine with low power/torque	
Alternative choice	◩	Strong stable machine with rigid connecion	
Possible choice	□	Unstable condition suitability	
Not recommended	-		

x indicates the maximum depth of cut: x

Selection – inch

Cutter	Insert	Material suitability P	M	K	N	S	H	Corner radius (inch)				No. of cutting edges	Diameters (inch) available and max depth of cut (inch) 0.63	0.08	1.00	1.25	1.50	2.00	2.50	3.00	4.00	See page
R217/220.97	R217/220.97-XP08 				■			0.016/0.031/ 0.063/0.079/ 0.094/0.122	■	■	■	2	2	2	3							780
	R217/220.97-XP12 				■			0.016/0.031/ 0.079/0.094/ 0.122/0.157	■	■	■	2				2	2	(2/3)	4	4	5	784
	R217/220.97-VP22 				■			0.020/0.031/ 0.063/0.079/ 0.094/0.122/		■	■	2			2	3	3	(3/4)				788

1st choice	■	High speed machine with low power/torque	
Alternative choice	◩	Strong stable machine with rigid connecion	
Possible choice	□	Unstable condition suitability	
Not recommended	-		

x indicates the maximum depth of cut: x



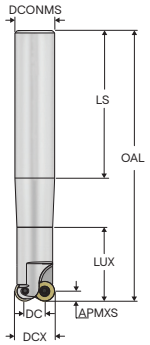
R217/220.29 Round insert cutters

Our comprehensive range of round insert cutters, R217/220.29, is ideal for semi-finishing and roughing in all copy milling applications and materials.

- Insert size 05, cutter range 10-20mm
- Insert size 06, cutter range 12-40mm (0.75 - 1.25 inch)
- Insert size 07, cutter range 16-25mm
- Insert size 08, cutter range 16-50mm
- Insert size 3/4, cutter range (2.5 - 5 inch)
- Insert size 10, cutter range 16-63mm (1 - 2.0 inch)
- Insert size 12, cutter range 25-137mm (1 - 6 inch)
- Insert size 16, cutter range 32-160mm (2.0 - 4.0 inch)
- Insert size 20, cutter range 25-250mm (2 - 3 inch)

R217.29-025 – Metric





—For insert selection and cutting data recommendations, see page(s) 674–675
—For complete insert programme, see page(s) 886
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCONMS	LS	LUX	LPR	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm	mm	mm		mm	mm		kg	
R217.29-1010.0-025.2.090E	02495669	Cylindrical	5,0	10,0	2	2,5	10,0	100,0	30,0	90,0	130,0	25,0	15,0	18,0	75000	0,2	RDHW0501

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.29-..	1/4HEX-T06PX50	C02035-T06P

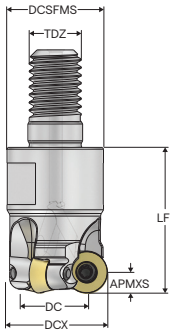
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.29-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.5NM	T00-06P05

Torque and fixed keys, see page 944

R217.29-025 – Metric





—For insert selection and cutting data recommendations, see page(s) 674-675
—For complete insert programme, see page(s) 886
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCSFMS	TDZ	LF	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm		mm	mm		mm	mm		kg	
R217.29-0612.RE-025.3A	02642920	Combimaster	7,0	12,0	3	2,5	11,0	M6	18,0	31,5	13,9	19,0	22,0	65000	0,1	RDHW0501
R217.29-0812.RE-025.3A	02495672	Combimaster	7,0	12,0	3	2,5	13,5	M8	20,0	37,75	13,9	19,0	22,0	65000	0,1	RDHW0501
R217.29-0815.RE-025.4A	02495675	Combimaster	10,0	15,0	4	2,5	13,5	M8	20,0	37,75	8,4	25,0	28,0	60000	0,1	RDHW0501
R217.29-1020.RE-025.5A	02643352	Combimaster	15,0	20,0	5	2,5	18,0	M10	23,0	41,75	5,0	35,0	38,0	50000	0,1	RDHW0501

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.29-..	1/4HEX-T06PX50	C02035-T06P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.29-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.5NM	T00-06P05

Torque and fixed keys, see page 944

R217.29-025 – Insert selection – mm/Inch

SMG		a_p	f_z			
			100%	70%	30%	10%
P1	RDHW0501M0-MD01 F40M	1,0 *0.040*	0,095 0.0038	0,095 0.0038	0,11 0.0044	0,18 0.0070
P2	RDHW0501M0-MD01 F40M	1,0 *0.040*	0,095 0.0038	0,095 0.0038	0,11 0.0044	0,18 0.0070
P3	RDHW0501M0-MD01 F40M	1,0 *0.040*	0,090 0.0036	0,090 0.0036	0,11 0.0044	0,17 0.0065
P4	RDHW0501M0-MD01 MP3000	1,0 *0.040*	0,090 0.0036	0,090 0.0036	0,10 0.0040	0,17 0.0065
P5	RDHW0501M0-MD01 MP3000	1,0 *0.040*	0,090 0.0036	0,090 0.0036	0,10 0.0040	0,16 0.0065
P6	RDHW0501M0-MD01 MP3000	1,0 *0.040*	0,085 0.0034	0,085 0.0034	0,10 0.0040	0,16 0.0065
P7	RDHW0501M0-MD01 MP3000	1,0 *0.040*	0,085 0.0034	0,085 0.0034	0,10 0.0040	0,16 0.0065
P8	RDHW0501M0-MD01 MP3000	1,0 *0.040*	0,090 0.0036	0,090 0.0036	0,11 0.0044	0,17 0.0065
P11	RDHW0501M0-MD01 MP3000	1,0 *0.040*	0,085 0.0034	0,085 0.0034	0,10 0.0040	0,16 0.0065
P12	RDHW0501M0-MD01 MP3000	0,80 *0.032*	0,065 0.0026	0,065 0.0026	0,075 0.0030	0,12 0.0048
M1	RDHW0501M0-MD01 F40M	1,0 *0.040*	0,095 0.0038	0,095 0.0038	0,11 0.0044	0,18 0.0070
M2	RDHW0501M0-MD01 F40M	1,0 *0.040*	0,090 0.0036	0,090 0.0036	0,10 0.0040	0,16 0.0065
M3	RDHW0501M0-MD01 F40M	0,80 *0.032*	0,080 0.0032	0,080 0.0032	0,090 0.0036	0,14 0.0055
M4	RDHW0501M0-MD01 F40M	0,60 *0.024*	0,080 0.0032	0,080 0.0032	0,090 0.0036	0,14 0.0055
M5	RDHW0501M0-MD01 F40M	0,60 *0.024*	0,080 0.0032	0,080 0.0032	0,090 0.0036	0,14 0.0055
K1	RDHW0501M0-MD01 MP3000	1,0 *0.040*	0,095 0.0038	0,095 0.0038	0,11 0.0044	0,18 0.0070
K2	RDHW0501M0-MD01 MP3000	1,0 *0.040*	0,090 0.0036	0,090 0.0036	0,10 0.0040	0,16 0.0065
K3	RDHW0501M0-MD01 MP3000	1,0 *0.040*	0,090 0.0036	0,090 0.0036	0,10 0.0040	0,16 0.0065
K4	RDHW0501M0-MD01 MP3000	1,0 *0.040*	0,090 0.0036	0,090 0.0036	0,10 0.0040	0,16 0.0065
K5	RDHW0501M0-MD01 MP3000	1,0 *0.040*	0,080 0.0032	0,080 0.0032	0,090 0.0036	0,15 0.0060
K6	RDHW0501M0-MD01 MP3000	1,0 *0.040*	0,090 0.0036	0,090 0.0036	0,10 0.0040	0,16 0.0065
K7	RDHW0501M0-MD01 MP3000	1,0 *0.040*	0,080 0.0032	0,080 0.0032	0,090 0.0036	0,15 0.0060
N1	RDHW0501M0-MD01 F40M	1,0 *0.040*	0,12 0.0048	0,12 0.0048	0,14 0.0055	0,22 0.0085
N2	RDHW0501M0-MD01 F40M	1,0 *0.040*	0,12 0.0048	0,12 0.0048	0,14 0.0055	0,22 0.0085
N3	RDHW0501M0-MD01 F40M	1,0 *0.040*	0,12 0.0048	0,12 0.0048	0,14 0.0055	0,22 0.0085
N11	RDHW0501M0-MD01 F40M	1,0 *0.040*	0,12 0.0048	0,12 0.0048	0,14 0.0055	0,22 0.0085
S1	RDHW0501M0-MD01 F40M	0,60 *0.024*	0,080 0.0032	0,080 0.0032	0,090 0.0036	0,14 0.0055
S2	RDHW0501M0-MD01 F40M	0,60 *0.024*	0,080 0.0032	0,080 0.0032	0,090 0.0036	0,14 0.0055
S3	RDHW0501M0-MD01 F40M	0,60 *0.024*	0,075 0.0030	0,075 0.0030	0,085 0.0034	0,13 0.0050
S11	RDHW0501M0-MD01 F40M	0,70 *0.028*	0,085 0.0034	0,085 0.0034	0,095 0.0038	0,15 0.0060
S12	RDHW0501M0-MD01 F40M	0,70 *0.028*	0,085 0.0034	0,085 0.0034	0,095 0.0038	0,15 0.0060
S13	RDHW0501M0-MD01 F40M	0,60 *0.024*	0,080 0.0032	0,080 0.0032	0,090 0.0036	0,14 0.0055
H5	RDHW0501M0-MD01 MP3000	0,80 *0.032*	0,065 0.0026	0,065 0.0026	0,075 0.0030	0,12 0.0048
H8	RDHW0501M0-MD01 MP3000	0,70 *0.028*	0,055 0.0022	0,055 0.0022	0,065 0.0026	0,10 0.0040
H11	RDHW0501M0-MD01 MP3000	0,80 *0.032*	0,065 0.0026	0,065 0.0026	0,075 0.0030	0,12 0.0048
H12	RDHW0501M0-MD01 F40M	0,70 *0.028*	0,055 0.0022	0,055 0.0022	0,065 0.0026	0,10 0.0040
H21	RDHW0501M0-MD01 MP3000	0,70 *0.028*	0,055 0.0022	0,055 0.0022	0,065 0.0026	0,10 0.0040

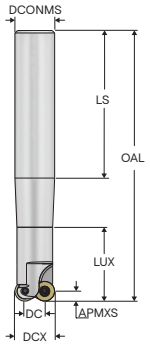
SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217.29-025 – Cutting data v_c = (m/min)/(sf/min)

SMG	MP3000				F40M			
	100%	70%	30%	10%	100%	70%	30%	10%
P1	390 *1275*	440 *1450*	490 *1600*	550 *1800*	340 *1125*	370 *1225*	410 *1350*	445 *1450*
P2	380 *1250*	430 *1400*	475 *1550*	530 *1750*	335 *1100*	360 *1175*	400 *1300*	435 *1425*
P3	325 *1075*	370 *1225*	410 *1350*	455 *1500*	290 *950*	315 *1025*	345 *1125*	375 *1225*
P4	285 *940*	325 *1075*	360 *1175*	400 *1300*	255 *840*	280 *920*	315 *1025*	345 *1125*
P5	275 *900*	310 *1025*	345 *1125*	385 *1275*	245 *800*	265 *870*	290 *950*	315 *1025*
P6	310 *1025*	350 *1150*	385 *1275*	425 *1400*	275 *900*	300 *980*	325 *1075*	355 *1175*
P7	290 *950*	330 *1075*	365 *1200*	405 *1325*	260 *850*	280 *920*	310 *1025*	335 *1100*
P8	275 *900*	310 *1025*	345 *1125*	385 *1275*	240 *790*	265 *870*	290 *950*	315 *1025*
P11	285 *940*	320 *1050*	355 *1175*	390 *1275*	250 *820*	275 *900*	300 *980*	325 *1075*
P12	160 *520*	185 *610*	195 *640*	215 *710*	155 *510*	165 *540*	180 *590*	195 *640*
M1	260 *850*	300 *980*	355 *1175*	410 *1350*	225 *740*	260 *850*	305 *1000*	355 *1175*
M2	215 *710*	250 *820*	290 *950*	335 *1100*	185 *610*	215 *710*	250 *820*	290 *950*
M3	170 *560*	195 *640*	230 *750*	265 *870*	145 *475*	165 *540*	200 *660*	230 *750*
M4	130 *425*	150 *490*	175 *570*	205 *670*	110 *360*	125 *410*	150 *490*	175 *570*
M5	105 *345*	125 *410*	145 *475*	170 *560*	95 *310*	105 *345*	125 *410*	145 *475*
K1	275 *900*	320 *1050*	375 *1225*	435 *1425*	220 *720*	255 *840*	300 *980*	350 *1150*
K2	245 *800*	280 *920*	330 *1075*	385 *1275*	195 *640*	225 *740*	265 *870*	305 *1000*
K3	205 *670*	240 *790*	280 *920*	325 *1075*	165 *540*	190 *620*	225 *740*	260 *850*
K4	195 *640*	225 *740*	265 *870*	310 *1025*	160 *520*	180 *590*	215 *710*	245 *800*
K5	120 *395*	135 *445*	160 *520*	190 *620*	95 *310*	110 *360*	130 *425*	150 *490*
K6	175 *570*	200 *660*	235 *770*	270 *890*	140 *460*	160 *520*	190 *620*	220 *720*
K7	150 *490*	175 *570*	205 *670*	240 *790*	120 *395*	140 *460*	165 *540*	195 *640*
N1	2075 *6800*	2400 *7875*	2850 *9350*	3300 *10825*	1675 *5500*	1925 *6325*	2275 *7475*	2650 *8700*
N2	840 *2750*	970 *3175*	1150 *3775*	1325 *4350*	670 *2200*	780 *2550*	920 *3025*	1075 *3525*
N3	560 *1825*	650 *2125*	760 *2500*	890 *2925*	450 *1475*	520 *1700*	610 *2000*	710 *2325*
N11	640 *2100*	740 *2425*	870 *2850*	1025 *3375*	510 *1675*	590 *1925*	700 *2300*	810 *2650*
S1	60 *195*	70 *230*	80 *260*	95 *310*	50 *165*	60 *195*	70 *230*	80 *260*
S2	48 *155*	55 *180*	65 *215*	75 *245*	42 *140*	48 *155*	55 *180*	65 *215*
S3	42 *140*	48 *155*	55 *180*	65 *215*	36 *120*	42 *140*	49 *160*	60 *195*
S11	85 *280*	100 *330*	115 *375*	135 *445*	75 *245*	85 *280*	100 *330*	115 *375*
S12	60 *195*	70 *230*	80 *260*	95 *310*	50 *165*	60 *195*	70 *230*	80 *260*
S13	34 *110*	39 *130*	46 *150*	55 *180*	29 *95*	33 *110*	39 *130*	46 *150*
H5	50 *165*	60 *195*	70 *230*	80 *260*	44 *145*	50 *165*	60 *195*	70 *230*
H8	55 *180*	60 *195*	70 *230*	85 *280*	46 *150*	50 *165*	60 *195*	70 *230*
H11	65 *215*	75 *245*	90 *295*	105 *345*	55 *180*	65 *215*	75 *245*	90 *295*
H12	100 *330*	115 *375*	140 *460*	160 *520*	80 *260*	95 *310*	110 *360*	130 *425*

R217.29-03 – Metric





—For insert selection and cutting data recommendations, see page(s) 679–680
—For complete insert programme, see page(s) 886
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCONMS	LS	LUX	LPR	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm	mm	mm		mm	mm		kg	
R217.29-1612.0-03.2.050	02427364	Cylindrical	6,0	12,0	2	3,0	16,0	60,0	20,0	50,0	110,0	25,0	18,0	22,0	32000	0,2	RD..06T1
R217.29-1212.0-03.2.070E	02427368	Cylindrical	6,0	12,0	2	3,0	12,0	80,0	50,0	70,0	130,0	25,0	18,0	22,0	32000	0,2	RD..06T1
R217.29-2016.0-03.3.070	02427371	Cylindrical	10,0	16,0	3	3,0	20,0	60,0	30,0	70,0	130,0	15,62	26,0	30,0	28800	0,3	RD..06T1
R217.29-1616.0-03.3.100E	02427379	Cylindrical	10,0	16,0	3	3,0	16,0	140,0	50,0	100,0	160,0	15,62	26,0	30,0	28800	0,5	RD..06T1
R217.29-1620.0-03.4.100E	02427381	Cylindrical	14,0	20,0	4	3,0	16,0	140,0	100,0	100,0	160,0	9,84	34,0	38,0	25600	0,5	RD..06T1

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.29- ø12-16	1/4HEX-T07PX50	C02204-T07P
R217.29- ø20-32	1/4HEX-T07PX50	C02245-T07P

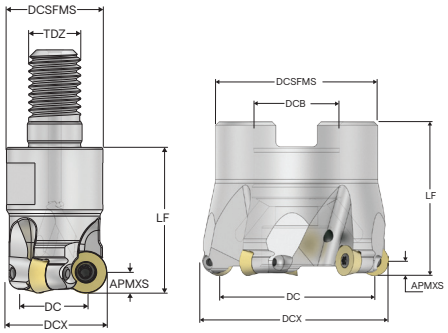
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.29-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09

Torque and fixed keys, see page 944

R217/220.29-03 – Metric



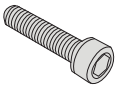


—For insert selection and cutting data recommendations, see page(s) 679–680
—For complete insert programme, see page(s) 886
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCB	DCSFMS	TDZ	DCONMS	LF	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm	mm		mm	mm	mm		mm	mm		kg	
R217.29-0816.RE-03.3	02435540	Combimaster	10,0	16,0	3	3,0	–	13,5	M8	–	23,0	40,75	15,62	26,0	30,0	28800	0,1	RD..06T1
R217.29-1020.RE-03.4A	02427383	Combimaster	14,0	20,0	4	3,0	–	18,5	M10	–	28,0	46,75	9,84	34,0	38,0	25600	0,1	RD..06T1
R217.29-1225.RE-03.5A	02427386	Combimaster	19,0	25,0	5	3,0	–	23,0	M12	–	28,0	49,75	6,76	44,0	48,0	23200	0,2	RD..06T1
R217.29-1632.RE-03.6A	02427388	Combimaster	26,0	32,0	6	3,0	–	30,0	M16	–	28,0	50,75	4,7	58,0	62,0	20000	0,2	RD..06T1
R217.29-1635.RE-03.7A	02427389	Combimaster	29,0	35,0	7	3,0	–	30,0	M16	–	28,0	50,75	4,16	64,0	68,0	19200	0,2	RD..06T1
R220.29-0040-03.8A	02427391	Arbor	34,0	40,0	8	3,0	16,0	35,0	–	16,0	35,0	–	3,49	74,0	78,0	17600	0,3	RD..06T1

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.29- ø16	–	1/4HEX-T07PX50	C02204-T07P
R217.29- ø20-32	–	1/4HEX-T07PX50	C02245-T07P
R220.29-0040	220.17-689	1/4HEX-T07PX50	C02245-T07P

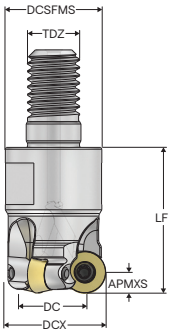
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.29-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09

Torque and fixed keys, see page 944

R217.29-03 – Inch





—For insert selection and cutting data recommendations, see page(s) 679–680
—For complete insert programme, see page(s) 886
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCSFMS	TDZ	LF	OAL	RMPX°	C min	C max	RPMX	Weight	Insert
			inch	inch		inch	inch		inch	inch		inch	inch		lbs	
R217.29-0.75-10RE-03.4A	00096942	Combimaster	0.514	0.750	4	0.118	0.728	M10	1.100	1.838	9,84	1.264	1.421	25600	0.220	RD..06T1
R217.29-1.00-12RE-03.5A	00096943	Combimaster	0.764	1.000	5	0.118	0.906	M12	1.100	1.956	6,76	1.764	1.921	23200	0.220	RD..06T1
R217.29-1.25-16RE-03.6A	00096944	Combimaster	1.014	1.250	6	0.118	1.181	M16	1.100	1.996	4,7	2.264	2.421	20000	0.440	RD..06T1

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.29-00.750	1/4HEX-T07PX50	C02204-T07P
R217.29-01.00-01.25	1/4HEX-T07PX50	C02245-T07P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.29-00.750	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09
R217.29-01.00-01.25	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09

Torque and fixed keys, see page 944

R217/220.29-03 – Insert selection – mm/Inch

SMG		a_p	f_z			
			100%	70%	30%	10%
P1	RDHT06T1M0-E02 F40M	1,2 *0.048*	0,065 0.0026	0,065 0.0026	0,075 0.0030	0,12 0.0048
P2	RDHT06T1M0-E02 F40M	1,2 *0.048*	0,065 0.0026	0,065 0.0026	0,075 0.0030	0,12 0.0048
P3	RDHT06T1M0-E02 F40M	1,2 *0.048*	0,060 0.0024	0,060 0.0024	0,070 0.0028	0,11 0.0044
P4	RDHW06T1M0-MD02 F40M	1,2 *0.048*	0,090 0.0036	0,090 0.0036	0,11 0.0044	0,17 0.0065
P5	RDHW06T1M0-MD02 F40M	1,2 *0.048*	0,090 0.0036	0,090 0.0036	0,10 0.0040	0,17 0.0065
P6	RDHW06T1M0-MD02 MP3000	1,2 *0.048*	0,085 0.0034	0,085 0.0034	0,10 0.0040	0,16 0.0065
P7	RDHW06T1M0-MD02 MP3000	1,2 *0.048*	0,085 0.0034	0,085 0.0034	0,10 0.0040	0,16 0.0065
P8	RDHW06T1M0-MD02 MP3000	1,2 *0.048*	0,090 0.0036	0,090 0.0036	0,11 0.0044	0,17 0.0065
P11	RDHW06T1M0-MD02 MP3000	1,2 *0.048*	0,085 0.0034	0,085 0.0034	0,10 0.0040	0,16 0.0065
P12	RDHW06T1M0-MD02 MP3000	0,95 *0.038*	0,065 0.0026	0,065 0.0026	0,080 0.0032	0,12 0.0048
M1	RDHT06T1M0-E02 F40M	1,2 *0.048*	0,065 0.0026	0,065 0.0026	0,075 0.0030	0,12 0.0048
M2	RDHT06T1M0-E02 F40M	1,2 *0.048*	0,060 0.0024	0,060 0.0024	0,070 0.0028	0,11 0.0044
M3	RDHT06T1M0-E02 F40M	0,95 *0.038*	0,050 0.0020	0,050 0.0020	0,060 0.0024	0,095 0.0040
M4	RDHT06T1M0-E02 F40M	0,70 *0.028*	0,055 0.0022	0,055 0.0022	0,060 0.0024	0,10 0.0040
M5	RDHT06T1M0-E02 F40M	0,70 *0.028*	0,055 0.0022	0,055 0.0022	0,060 0.0024	0,10 0.0040
K1	RDHW06T1M0-MD02 MK2050	1,2 *0.048*	0,095 0.0038	0,095 0.0038	0,11 0.0044	0,18 0.0070
K2	RDHW06T1M0-MD02 MK2050	1,2 *0.048*	0,090 0.0036	0,090 0.0036	0,10 0.0040	0,17 0.0065
K3	RDHW06T1M0-MD02 MK2050	1,2 *0.048*	0,090 0.0036	0,090 0.0036	0,10 0.0040	0,17 0.0065
K4	RDHW06T1M0-MD02 MK2050	1,2 *0.048*	0,090 0.0036	0,090 0.0036	0,10 0.0040	0,17 0.0065
K5	RDHW06T1M0-MD02 MK2050	1,2 *0.048*	0,080 0.0032	0,080 0.0032	0,095 0.0038	0,15 0.0060
K6	RDHW06T1M0-MD02 MK2050	1,2 *0.048*	0,090 0.0036	0,090 0.0036	0,10 0.0040	0,17 0.0065
K7	RDHW06T1M0-MD02 MK2050	1,2 *0.048*	0,080 0.0032	0,080 0.0032	0,095 0.0038	0,15 0.0060
N1	RDHT06T1M0-E02 H25	1,2 *0.048*	0,080 0.0032	0,080 0.0032	0,095 0.0038	0,16 0.0060
N2	RDHT06T1M0-E02 H25	1,2 *0.048*	0,080 0.0032	0,080 0.0032	0,095 0.0038	0,16 0.0060
N3	RDHT06T1M0-E02 H25	1,2 *0.048*	0,080 0.0032	0,080 0.0032	0,095 0.0038	0,16 0.0060
N11	RDHT06T1M0-E02 H25	1,2 *0.048*	0,080 0.0032	0,080 0.0032	0,095 0.0038	0,16 0.0060
S1	RDHW06T1M0-MD02 F40M	0,70 *0.028*	0,080 0.0032	0,080 0.0032	0,095 0.0038	0,15 0.0060
S2	RDHW06T1M0-MD02 F40M	0,70 *0.028*	0,080 0.0032	0,080 0.0032	0,095 0.0038	0,15 0.0060
S3	RDHW06T1M0-MD02 F40M	0,70 *0.028*	0,075 0.0030	0,075 0.0030	0,085 0.0034	0,14 0.0055
S11	RDHW06T1M0-MD02 F40M	0,85 *0.034*	0,080 0.0032	0,080 0.0032	0,095 0.0038	0,15 0.0060
S12	RDHW06T1M0-MD02 F40M	0,85 *0.034*	0,080 0.0032	0,080 0.0032	0,095 0.0038	0,15 0.0060
S13	RDHW06T1M0-MD02 F40M	0,70 *0.028*	0,080 0.0032	0,080 0.0032	0,095 0.0038	0,15 0.0060
H5	RDHW06T1M0-MD02 F15M	0,95 *0.038*	0,065 0.0026	0,065 0.0026	0,080 0.0032	0,12 0.0048
H8	RDHW06T1M0-MD02 F15M	0,85 *0.034*	0,055 0.0022	0,055 0.0022	0,065 0.0026	0,10 0.0040
H11	RDHW06T1M0-MD02 F15M	0,95 *0.038*	0,065 0.0026	0,065 0.0026	0,080 0.0032	0,12 0.0048
H12	RDHW06T1M0-MD02 F40M	0,85 *0.034*	0,055 0.0022	0,055 0.0022	0,065 0.0026	0,10 0.0040

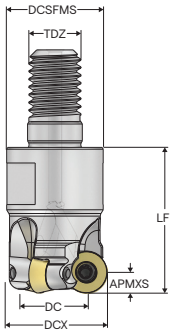
SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.29-03 – Cutting data v_c = (m/min)/(sf/min)

SMG	F15M				MK2050				F30M				MP3000				F40M				H25			
	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%
P1	330 *1075*	380 *1250*	445 *1450*	530 *1750*	360 *1175*	410 *1350*	485 *1600*	570 *1875*	290 *950*	330 *1075*	390 *1275*	460 *1500*	375 *1225*	425 *1400*	470 *1550*	530 *1750*	330 *1075*	355 *1175*	395 *1300*	435 *1425*	— —	— —	— —	— —
P2	325 *1075*	370 *1225*	435 *1425*	510 *1675*	350 *1150*	400 *1300*	470 *1550*	560 *1825*	285 *940*	320 *1050*	380 *1250*	450 *1475*	365 *1200*	415 *1350*	460 *1500*	510 *1675*	320 *1050*	345 *1125*	385 *1275*	420 *1375*	— —	— —	— —	— —
P3	280 *920*	320 *1050*	380 *1250*	440 *1450*	305 *1000*	345 *1125*	410 *1350*	480 *1575*	245 *800*	280 *920*	330 *1075*	385 *1275*	315 *1025*	355 *1175*	395 *1300*	440 *1450*	280 *920*	300 *980*	330 *1075*	360 *1175*	— —	— —	— —	— —
P4	250 *820*	280 *920*	335 *1100*	395 *1300*	270 *890*	305 *1000*	360 *1175*	425 *1400*	215 *710*	245 *800*	290 *950*	345 *1125*	280 *920*	315 *1025*	345 *1125*	385 *1275*	245 *800*	270 *890*	300 *980*	335 *1100*	— —	— —	— —	— —
P5	240 *790*	270 *890*	320 *1050*	375 *1225*	260 *850*	295 *970*	350 *1150*	405 *1325*	210 *690*	240 *790*	280 *920*	330 *1075*	265 *870*	300 *980*	330 *1075*	370 *1225*	235 *770*	255 *840*	280 *920*	305 *1000*	— —	— —	— —	— —
P6	270 *890*	305 *1000*	360 *1175*	420 *1375*	290 *950*	330 *1075*	390 *1275*	455 *1500*	235 *770*	265 *870*	315 *1025*	370 *1225*	300 *980*	335 *1100*	370 *1225*	415 *1350*	265 *870*	285 *940*	315 *1025*	345 *1125*	— —	— —	— —	— —
P7	255 *840*	290 *950*	340 *1125*	400 *1300*	275 *900*	310 *1025*	370 *1225*	430 *1400*	220 *720*	250 *820*	300 *980*	350 *1150*	280 *920*	315 *1025*	350 *1150*	390 *1275*	250 *820*	270 *890*	295 *970*	325 *1075*	— —	— —	— —	— —
P8	235 *770*	270 *890*	320 *1050*	370 *1225*	255 *840*	290 *950*	345 *1125*	400 *1300*	205 *670*	235 *770*	280 *920*	325 *1075*	265 *870*	300 *980*	330 *1075*	370 *1225*	235 *770*	255 *840*	280 *920*	305 *1000*	— —	— —	— —	— —
P11	245 *800*	280 *920*	330 *1075*	385 *1275*	265 *870*	305 *1000*	360 *1175*	420 *1375*	215 *710*	245 *800*	290 *950*	340 *1125*	275 *900*	310 *1025*	340 *1125*	380 *1250*	245 *800*	260 *850*	290 *950*	315 *1025*	— —	— —	— —	— —
P12	— —	— —	— —	— —	165 *540*	190 *620*	220 *720*	260 *850*	135 *445*	155 *510*	180 *590*	210 *690*	155 *510*	175 *570*	190 *620*	210 *690*	150 *490*	160 *520*	170 *560*	185 *610*	— —	— —	— —	— —
M1	— —	— —	— —	— —	— —	— —	— —	— —	230 *750*	260 *850*	305 *1000*	360 *1175*	250 *820*	285 *940*	340 *1125*	400 *1300*	215 *710*	245 *800*	295 *970*	345 *1125*	— —	— —	— —	— —
M2	— —	— —	— —	— —	— —	— —	— —	— —	190 *620*	215 *710*	255 *840*	295 *970*	210 *690*	235 *770*	280 *920*	325 *1075*	180 *590*	205 *670*	240 *790*	280 *920*	— —	— —	— —	— —
M3	— —	— —	— —	— —	— —	— —	— —	— —	150 *490*	170 *560*	200 *660*	230 *750*	165 *540*	185 *610*	220 *720*	255 *840*	140 *460*	160 *520*	190 *620*	220 *720*	— —	— —	— —	— —
M4	— —	— —	— —	— —	— —	— —	— —	— —	115 *375*	130 *425*	150 *490*	180 *590*	125 *410*	140 *460*	170 *560*	195 *640*	110 *360*	120 *395*	145 *475*	170 *560*	— —	— —	— —	— —
M5	— —	— —	— —	— —	— —	— —	— —	— —	95 *310*	105 *345*	125 *410*	150 *490*	105 *345*	120 *395*	140 *460*	165 *540*	90 *295*	100 *330*	120 *395*	140 *460*	— —	— —	— —	— —
K1	255 *840*	290 *950*	345 *1125*	405 *1325*	380 *1250*	430 *1400*	510 *1675*	600 *1975*	225 *740*	255 *840*	300 *980*	355 *1175*	265 *870*	305 *1000*	360 *1175*	425 *1400*	215 *710*	245 *800*	290 *950*	340 *1125*	— —	— —	— —	— —
K2	225 *740*	260 *850*	305 *1000*	355 *1175*	335 *1100*	380 *1250*	450 *1475*	530 *1750*	200 *660*	225 *740*	265 *870*	310 *1025*	235 *770*	270 *890*	320 *1050*	370 *1225*	190 *620*	215 *710*	255 *840*	295 *970*	— —	— —	— —	— —
K3	190 *620*	220 *720*	260 *850*	300 *980*	285 *940*	320 *1050*	380 *1250*	445 *1450*	170 *560*	190 *620*	225 *740*	265 *870*	200 *660*	230 *750*	270 *890*	315 *1025*	160 *520*	180 *590*	215 *710*	250 *820*	— —	— —	— —	— —
K4	185 *610*	210 *690*	245 *800*	290 *950*	270 *890*	310 *1025*	365 *1200*	425 *1400*	160 *520*	185 *610*	215 *710*	250 *820*	190 *620*	215 *710*	255 *840*	300 *980*	155 *510*	175 *570*	205 *670*	240 *790*	— —	— —	— —	— —
K5	110 *360*	125 *410*	150 *490*	175 *570*	165 *540*	185 *610*	220 *720*	255 *840*	95 *310*	110 *360*	130 *425*	150 *490*	115 *375*	130 *425*	155 *510*	180 *590*	90 *295*	105 *345*	125 *410*	145 *475*	— —	— —	— —	— —
K6	160 *520*	185 *610*	215 *710*	255 *840*	240 *790*	270 *890*	320 *1050*	375 *1225*	140 *460*	160 *520*	190 *620*	220 *720*	170 *560*	190 *620*	225 *740*	265 *870*	135 *445*	155 *510*	180 *590*	210 *690*	— —	— —	— —	— —
K7	140 *460*	160 *520*	190 *620*	225 *740*	210 *690*	235 *770*	280 *920*	330 *1075*	125 *410*	140 *460*	165 *540*	195 *640*	145 *475*	165 *540*	195 *640*	230 *750*	120 *395*	135 *445*	160 *520*	185 *610*	— —	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	1700 *5575*	1925 *6325*	2275 *7475*	2675 *8775*	2025 *6650*	2300 *7550*	2725 *8950*	3200 *10500*	1625 *5325*	1825 *6000*	2175 *7125*	2550 *8375*	1875 *6150*	2150 *7050*	2525 *8275*	2975 *9750*
N2	— —	— —	— —	— —	— —	— —	— —	— —	680 *2225*	780 *2550*	920 *3025*	1075 *3525*	810 *2650*	930 *3050*	1100 *3600*	1300 *4275*	650 *2125*	740 *2425*	880 *2875*	1025 *3375*	760 *2500*	870 *2850*	1025 *3375*	1200 *3925*
N3	— —	— —	— —	— —	— —	— —	— —	— —	455 *1500*	520 *1700*	620 *2025*	720 *2350*	540 *1775*	620 *2025*	730 *2400*	860 *2825*	435 *1425*	495 *1625*	590 *1925*	690 *2275*	510 *1675*	580 *1900*	680 *2225*	800 *2625*
N11	— —	— —	— —	— —	— —	— —	— —	— —	520 *1700*	590 *1925*	700 *2300*	830 *2725*	620 *2025*	710 *2325*	840 *2750*	980 *3225*	495 *1625*	560 *1825*	670 *2200*	790 *2600*	580 *1900*	660 *2175*	780 *2550*	910 *2975*
S1	— —	— —	— —	— —	— —	— —	— —	— —	55 *180*	60 *195*	70 *230*	85 *280*	60 *195*	65 *215*	80 *260*	90 *295*	50 *165*	55 *180*	65 *215*	80 *260*	— —	— —	— —	— —
S2	— —	— —	— —	— —	— —	— —	— —	— —	43 *140*	48 *155*	55 *180*	65 *215*	47 *155*	55 *180*	65 *215*	75 *245*	41 *135*	46 *150*	55 *180*	65 *215*	— —	— —	— —	— —
S3	— —	— —	— —	— —	— —	— —	— —	— —	37 *120*	42 *140*	50 *165*	60 *195*	41 *135*	46 *150*	55 *180*	65 *215*	35 *115*	40 *130*	47 *155*	55 *180*	— —	— —	— —	— —
S11	— —	— —	— —	— —	— —	— —	— —	— —	75 *245*	85 *280*	100 *330*	115 *375*	80 *260*	95 *310*	110 *360*	130 *425*	70 *230*	80 *260*	95 *310*	110 *360*	— —	— —	— —	— —
S12	— —	— —	— —	— —	— —	— —	— —	— —	43 *140*	49 *160*	60 *195*	70 *230*	55 *180*	65 *215*	75 *245*	90 *295*	49 *160*	55 *180*	65 *215*	75 *245*	— —	— —	— —	— —
S13	— —	— —	— —	— —	— —	— —	— —	— —	25 *80*	28 *90*	33 *110*	39 *130*	33 *110*	37 *120*	44 *145*	50 *165*	28 *90*	32 *105*	38 *125*	44 *145*	— —	— —	— —	— —
H5	50 *165*	60 *195*	70 *230*	80 *260*	— —	— —	— —	— —	45 *150*	50 *165*	60 *195*	70 *230*	50 *165*	55 *180*	65 *215*	80 *260*	43 *140*	49 *160*	55 *180*	65 *215*	— —	— —	— —	— —
H8	55 *180*	60 *195*	70 *230*	80 *260*	— —	— —	— —	— —	46 *150*	55 *180*	60 *195*	70 *230*	50 *165*	60 *195*	70 *230*	80 *260*	44 *145*	50 *165*	60 *195*	70 *230*	— —	— —	— —	— —
H11	65 *215*	75 *245*	85 *280*	100 *330*	— —	— —	— —	— —	55 *180*	65 *215*	75 *245*	90 *295*	65 *215*	70 *230*	85 *280*	100 *330*	55 *180*	60 *195*	70 *230*	85 *280*	— —	— —	— —	— —
H12	95 *310*	110 *360*	125 *410*	150 *490*	105 *345*	115 *375*	135 *445*	160 *520*	85 *280*	95 *310*	110 *360*	130 *425*	100 *330*	110 *360*	130 *425*	155 *510*	80 *260*	90 *295*	105 *345*	125 *410*	— —	— —	— —	— —

R217.29-035 – Metric





—For insert selection and cutting data recommendations, see page(s) [XXX]-[XXX]
—For complete insert programme, see page(s) [XXX]
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCSFMS	TDZ	LF	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm		mm	mm		mm	mm		kg	
R217.29-0816.RE-035.3A	02643410	Combimaster	9,0	16,0	3	3,5	13,5	M8	20,0	37,75	17,8	25,0	30,0	48000	0,1	RDHW0702
R217.29-1020.RE-035.4A	02495678	Combimaster	13,0	20,0	4	3,5	18,5	M10	23,0	41,75	10,4	33,0	38,0	44000	0,1	RDHW0702
R217.29-1225.RE-035.5A	02643411	Combimaster	18,0	25,0	5	3,5	23,0	M12	28,0	49,75	6,9	43,0	48,0	35000	0,2	RDHW0702

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.29-..	1/4HEX-T07PX50	C02545-T07P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.29-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09

Torque and fixed keys, see page [XXX]

R217.29-035 – Insert selection – mm/Inch

SMG		a_p	f_z			
			100%	70%	30%	10%
P1	RDHW0702M0-MD03 F40M	1,4 *0.055*	0,13 0.0050	0,13 0.0050	0,15 0.0060	0,25 0.010
P2	RDHW0702M0-MD03 F40M	1,4 *0.055*	0,13 0.0050	0,13 0.0050	0,16 0.0065	0,25 0.010
P3	RDHW0702M0-MD03 F40M	1,4 *0.055*	0,12 0.0048	0,12 0.0048	0,15 0.0060	0,24 0.0095
P4	RDHW0702M0-MD03 MP3000	1,4 *0.055*	0,12 0.0048	0,12 0.0048	0,14 0.0055	0,24 0.0095
P5	RDHW0702M0-MD03 MP3000	1,4 *0.055*	0,12 0.0048	0,12 0.0048	0,14 0.0055	0,22 0.0085
P6	RDHW0702M0-MD03 MP3000	1,4 *0.055*	0,12 0.0048	0,12 0.0048	0,14 0.0055	0,22 0.0085
P7	RDHW0702M0-MD03 MP3000	1,4 *0.055*	0,12 0.0048	0,12 0.0048	0,14 0.0055	0,22 0.0085
P8	RDHW0702M0-MD03 MP3000	1,4 *0.055*	0,12 0.0048	0,12 0.0048	0,15 0.0060	0,24 0.0095
P11	RDHW0702M0-MD03 MP3000	1,4 *0.055*	0,12 0.0048	0,12 0.0048	0,14 0.0055	0,22 0.0085
P12	RDHW0702M0-MD03 MP3000	1,1 *0.044*	0,090 0.0036	0,090 0.0036	0,11 0.0044	0,17 0.0065
M1	RDHW0702M0-MD03 F40M	1,4 *0.055*	0,13 0.0050	0,13 0.0050	0,16 0.0065	0,25 0.010
M2	RDHW0702M0-MD03 F40M	1,4 *0.055*	0,12 0.0048	0,12 0.0048	0,14 0.0055	0,22 0.0085
M3	RDHW0702M0-MD03 F40M	1,1 *0.044*	0,10 0.0040	0,10 0.0040	0,13 0.0050	0,20 0.0080
M4	RDHW0702M0-MD03 F40M	0,85 *0.034*	0,10 0.0040	0,10 0.0040	0,12 0.0048	0,20 0.0080
M5	RDHW0702M0-MD03 F40M	0,85 *0.034*	0,10 0.0040	0,10 0.0040	0,12 0.0048	0,20 0.0080
K1	RDHW0702M0T-MD04 F15M	1,4 *0.055*	0,13 0.0050	0,13 0.0050	0,16 0.0065	0,25 0.010
K2	RDHW0702M0T-MD04 F15M	1,4 *0.055*	0,12 0.0048	0,12 0.0048	0,14 0.0055	0,22 0.0085
K3	RDHW0702M0T-MD04 F15M	1,4 *0.055*	0,12 0.0048	0,12 0.0048	0,14 0.0055	0,22 0.0085
K4	RDHW0702M0T-MD04 F15M	1,4 *0.055*	0,12 0.0048	0,12 0.0048	0,14 0.0055	0,22 0.0085
K5	RDHW0702M0T-MD04 F15M	1,4 *0.055*	0,11 0.0044	0,11 0.0044	0,13 0.0050	0,20 0.0080
K6	RDHW0702M0T-MD04 F15M	1,4 *0.055*	0,12 0.0048	0,12 0.0048	0,14 0.0055	0,22 0.0085
K7	RDHW0702M0T-MD04 F15M	1,4 *0.055*	0,11 0.0044	0,11 0.0044	0,13 0.0050	0,20 0.0080
S1	RDHW0702M0-MD03 F40M	0,85 *0.034*	0,10 0.0040	0,10 0.0040	0,12 0.0048	0,20 0.0080
S2	RDHW0702M0-MD03 F40M	0,85 *0.034*	0,10 0.0040	0,10 0.0040	0,12 0.0048	0,20 0.0080
S3	RDHW0702M0-MD03 F40M	0,85 *0.034*	0,095 0.0038	0,095 0.0038	0,11 0.0044	0,18 0.0070
S11	RDHW0702M0-MD03 F40M	1,0 *0.040*	0,11 0.0044	0,11 0.0044	0,13 0.0050	0,20 0.0080
S12	RDHW0702M0-MD03 F40M	1,0 *0.040*	0,11 0.0044	0,11 0.0044	0,13 0.0050	0,20 0.0080
S13	RDHW0702M0-MD03 F40M	0,85 *0.034*	0,10 0.0040	0,10 0.0040	0,12 0.0048	0,20 0.0080
H5	RDHW0702M0T-MD04 F15M	1,1 *0.044*	0,090 0.0036	0,090 0.0036	0,11 0.0044	0,17 0.0065
H8	RDHW0702M0T-MD04 F15M	1,0 *0.040*	0,070 0.0028	0,070 0.0028	0,085 0.0034	0,14 0.0055
H11	RDHW0702M0T-MD04 F15M	1,1 *0.044*	0,090 0.0036	0,090 0.0036	0,11 0.0044	0,17 0.0065
H12	RDHW0702M0T-MD04 F15M	1,0 *0.040*	0,070 0.0028	0,070 0.0028	0,085 0.0034	0,14 0.0055

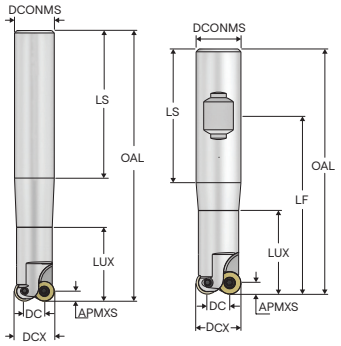
SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217.29-035 – Cutting data v_c = (m/min)/(sf/min)

SMG	F15M				MP3000				F40M			
	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%
P1	325 *1075*	380 *1250*	450 *1475*	520 *1700*	380 *1250*	440 *1450*	495 *1625*	560 *1825*	325 *1075*	360 *1175*	400 *1300*	435 *1425*
P2	315 *1025*	370 *1225*	440 *1450*	510 *1675*	370 *1225*	430 *1400*	485 *1600*	540 *1775*	315 *1025*	350 *1150*	390 *1275*	425 *1400*
P3	275 *900*	325 *1075*	385 *1275*	445 *1450*	320 *1050*	370 *1225*	415 *1350*	470 *1550*	275 *900*	305 *1000*	340 *1125*	370 *1225*
P4	240 *790*	285 *940*	340 *1125*	390 *1275*	285 *940*	330 *1075*	370 *1225*	410 *1350*	245 *800*	275 *900*	310 *1025*	340 *1125*
P5	230 *750*	275 *900*	320 *1050*	375 *1225*	270 *890*	315 *1025*	350 *1150*	395 *1300*	230 *750*	255 *840*	285 *940*	310 *1025*
P6	265 *870*	315 *1025*	360 *1175*	425 *1400*	305 *1000*	355 *1175*	395 *1300*	440 *1450*	265 *870*	295 *970*	320 *1050*	350 *1150*
P7	250 *820*	295 *970*	340 *1125*	400 *1300*	290 *950*	335 *1100*	370 *1225*	415 *1350*	250 *820*	275 *900*	300 *980*	330 *1075*
P8	230 *750*	275 *900*	320 *1050*	375 *1225*	270 *890*	315 *1025*	350 *1150*	395 *1300*	230 *750*	255 *840*	285 *940*	310 *1025*
P11	240 *790*	285 *940*	330 *1075*	390 *1275*	280 *920*	325 *1075*	360 *1175*	405 *1325*	245 *800*	270 *890*	295 *970*	320 *1050*
P12	— —	— —	— —	— —	165 *540*	190 *620*	210 *690*	230 *750*	150 *490*	165 *540*	180 *590*	195 *640*
M1	— —	— —	— —	— —	245 *800*	290 *950*	340 *1125*	395 *1300*	210 *690*	250 *820*	295 *970*	340 *1125*
M2	— —	— —	— —	— —	200 *660*	240 *790*	280 *920*	330 *1075*	175 *570*	205 *670*	240 *790*	285 *940*
M3	— —	— —	— —	— —	165 *540*	190 *620*	220 *720*	260 *850*	140 *460*	165 *540*	190 *620*	225 *740*
M4	— —	— —	— —	— —	125 *410*	145 *475*	170 *560*	200 *660*	110 *360*	125 *410*	145 *475*	170 *560*
M5	— —	— —	— —	— —	105 *345*	120 *395*	140 *460*	165 *540*	90 *295*	105 *345*	125 *410*	145 *475*
K1	250 *820*	295 *970*	350 *1150*	405 *1325*	260 *850*	305 *1000*	360 *1175*	420 *1375*	210 *690*	245 *800*	290 *950*	335 *1100*
K2	220 *720*	260 *850*	305 *1000*	360 *1175*	230 *750*	270 *890*	320 *1050*	370 *1225*	185 *610*	215 *710*	255 *840*	300 *980*
K3	185 *610*	220 *720*	260 *850*	305 *1000*	195 *640*	230 *750*	270 *890*	315 *1025*	155 *510*	185 *610*	215 *710*	250 *820*
K4	175 *570*	210 *690*	245 *800*	290 *950*	185 *610*	220 *720*	260 *850*	300 *980*	150 *490*	175 *570*	205 *670*	240 *790*
K5	110 *360*	130 *425*	150 *490*	175 *570*	115 *375*	135 *445*	155 *510*	180 *590*	90 *295*	110 *360*	125 *410*	145 *475*
K6	155 *510*	185 *610*	220 *720*	255 *840*	165 *540*	195 *640*	225 *740*	265 *870*	130 *425*	155 *510*	180 *590*	210 *690*
K7	140 *460*	165 *540*	190 *620*	225 *740*	145 *475*	175 *570*	200 *660*	230 *750*	115 *375*	140 *460*	160 *520*	185 *610*
S1	— —	— —	— —	— —	60 *195*	70 *230*	80 *260*	95 *310*	50 *165*	60 *195*	70 *230*	80 *260*
S2	— —	— —	— —	— —	47 *155*	55 *180*	65 *215*	75 *245*	40 *130*	47 *155*	55 *180*	65 *215*
S3	— —	— —	— —	— —	41 *135*	48 *155*	55 *180*	65 *215*	35 *115*	41 *135*	48 *155*	55 *180*
S11	— —	— —	— —	— —	80 *260*	95 *310*	115 *375*	130 *425*	70 *230*	85 *280*	95 *310*	115 *375*
S12	— —	— —	— —	— —	55 *180*	65 *215*	80 *260*	90 *295*	49 *160*	55 *180*	65 *215*	80 *260*
S13	— —	— —	— —	— —	33 *110*	38 *125*	45 *150*	50 *165*	28 *90*	33 *110*	39 *130*	45 *150*
H5	50 *165*	60 *195*	70 *230*	80 *260*	49 *160*	60 *195*	70 *230*	80 *260*	42 *140*	49 *160*	60 *195*	65 *215*
H8	55 *180*	60 *195*	75 *245*	85 *280*	50 *165*	60 *195*	70 *230*	80 *260*	44 *145*	50 *165*	60 *195*	70 *230*
H11	65 *215*	75 *245*	90 *295*	105 *345*	65 *215*	75 *245*	85 *280*	100 *330*	55 *180*	65 *215*	75 *245*	85 *280*
H12	95 *310*	110 *360*	130 *425*	150 *490*	100 *330*	115 *375*	135 *445*	155 *510*	80 *260*	95 *310*	110 *360*	125 *410*

R217.29-04 – Metric





—For insert selection and cutting data recommendations, see page(s) 686-688
—For complete insert programme, see page(s) 886
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCONMS	LF	LS	LUX	LPR	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm	mm	mm	mm		mm	mm		kg	
R217.29-1616.3-04.2.040	00040302	Weldon	8,0	16,0	2	4,0	16,0	64,0	48,0	38,0	40,0	88,0	25,0	24,0	30,0	36200	0,2	RD..0803
R217.29-1616.0-04.2.050	00040299	Cylindrical	8,0	16,0	2	4,0	16,0	–	60,0	50,0	50,0	110,0	25,0	24,0	30,0	36200	0,2	RD..0803
R217.29-1616.0-04.2.100E	00040300	Cylindrical	8,0	16,0	2	4,0	16,0	–	95,0	100,0	100,0	160,0	25,0	24,0	30,0	36200	0,5	RD..0803

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.69-..Ø16	1/4HEX-T08PX50	C02505-T08P

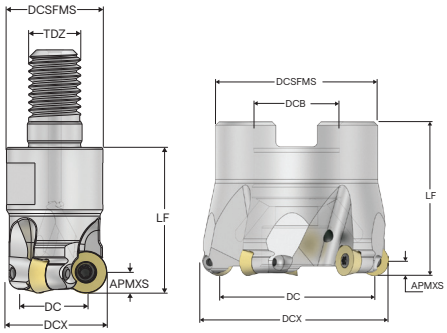
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.29-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12

Torque and fixed keys, see page 944

R217/220.29-04 – Metric



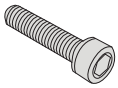


—For insert selection and cutting data recommendations, see page(s) 686-688
—For complete insert programme, see page(s) 886
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCB	DCSFMS	TDZ	DCONMS	LF	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm	mm		mm	mm	mm		mm	mm		kg	
R217.29-0816.RE-04.2	00047266	Combimaster	8,0	16,0	2	4,0	–	13,5	M8	–	23,0	40,75	25,0	24,0	30,0	36200	0,1	RD..0803
R217.29-1020.RE-04.2A	00040294	Combimaster	12,0	20,0	2	4,0	–	18,5	M10	–	28,0	46,75	16,43	32,0	38,0	32400	0,1	RD..0803
R217.29-1020.RE-04.3A	00040062	Combimaster	12,0	20,0	3	4,0	–	18,5	M10	–	28,0	46,75	16,43	32,0	38,0	32400	0,1	RD..0803
R217.29-1225.RE-04.3A	02410817	Combimaster	17,0	25,0	3	4,0	–	23,0	M12	–	30,0	51,75	10,01	42,0	48,0	29000	0,2	RD..0803
R217.29-1225.RE-04.4A	00040297	Combimaster	17,0	25,0	4	4,0	–	23,0	M12	–	30,0	51,75	10,01	42,0	48,0	29000	0,1	RD..0803
R217.29-1632.RE-04.5A	02410823	Combimaster	24,0	32,0	5	4,0	–	30,0	M16	–	40,0	62,75	6,51	56,0	62,0	26100	0,2	RD..0803
R217.29-1640.RE-04.6A	00040303	Combimaster	32,0	40,0	6	4,0	–	30,0	M16	–	40,0	62,75	4,66	72,0	78,0	23300	0,3	RD..0803
R220.29-0050-04.5A	02410828	Arbor	42,0	50,0	5	4,0	22,0	42,0	–	22,0	40,0	–	3,44	92,0	98,0	17300	0,3	RD..0803
R220.29-0050-04.7A	02410829	Arbor	42,0	50,0	7	4,0	22,0	42,0	–	22,0	40,0	–	3,44	92,0	98,0	17300	0,4	RD..0803

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.29-..Ø20-40	–	1/4HEX-T08PX50	C02506-T08P
R217.69-..Ø16	–	1/4HEX-T08PX50	C02505-T08P
R220.29-..0050	220.17-692	1/4HEX-T08PX50	C02506-T08P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.29-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12

Torque and fixed keys, see page 944

R217/220.29-04 – Insert selection – mm/Inch

SMG		a_p	f_z			
			100%	70%	30%	10%
P1	RDKW0803M0T-MD05 MP2501	1,6 *0.065*	0,16 0.0065	0,16 0.0065	0,18 0.0070	0,28 0.011
P2	RDKW0803M0T-MD05 MP2501	1,6 *0.065*	0,16 0.0065	0,16 0.0065	0,18 0.0070	0,28 0.011
P3	RDKW0803M0T-MD05 MP2501	1,6 *0.065*	0,15 0.0060	0,15 0.0060	0,17 0.0065	0,28 0.011
P4	RDKW0803M0T-MD05 MP2501	1,6 *0.065*	0,15 0.0060	0,15 0.0060	0,17 0.0065	0,26 0.010
P5	RDKW0803M0T-MD05 MP2501	1,6 *0.065*	0,15 0.0060	0,15 0.0060	0,17 0.0065	0,26 0.010
P6	RDKW0803M0T-MD05 MP2501	1,6 *0.065*	0,14 0.0055	0,14 0.0055	0,16 0.0065	0,26 0.010
P7	RDKW0803M0T-MD05 MP2501	1,6 *0.065*	0,14 0.0055	0,14 0.0055	0,16 0.0065	0,26 0.010
P8	RDKW0803M0T-MD05 MP2501	1,6 *0.065*	0,15 0.0060	0,15 0.0060	0,17 0.0065	0,28 0.011
P11	RDKW0803M0T-MD05 MP2501	1,6 *0.065*	0,14 0.0055	0,14 0.0055	0,16 0.0065	0,26 0.010
P12	RDKW0803M0T-MD05 MP2501	1,3 *0.050*	0,11 0.0044	0,11 0.0044	0,12 0.0048	0,19 0.0075
M1	RDHT0803M0-E03 MP3501	1,6 *0.065*	0,095 0.0038	0,095 0.0038	0,11 0.0044	0,17 0.0065
M2	RDHT0803M0-E03 MP3501	1,6 *0.065*	0,090 0.0036	0,090 0.0036	0,10 0.0040	0,16 0.0065
M3	RDHT0803M0-E03 MP3501	1,3 *0.050*	0,075 0.0030	0,075 0.0030	0,085 0.0034	0,13 0.0050
M4	RDHT0803M0-E03 MP3501	0,95 *0.038*	0,080 0.0032	0,080 0.0032	0,090 0.0036	0,14 0.0055
M5	RDHT0803M0-E03 MP3501	0,95 *0.038*	0,080 0.0032	0,080 0.0032	0,090 0.0036	0,14 0.0055
K1	RDKW0803M0T-MD05 MK2050	1,6 *0.065*	0,16 0.0065	0,16 0.0065	0,18 0.0070	0,28 0.011
K2	RDKW0803M0T-MD05 MK2050	1,6 *0.065*	0,15 0.0060	0,15 0.0060	0,17 0.0065	0,26 0.010
K3	RDKW0803M0T-MD05 MK2050	1,6 *0.065*	0,15 0.0060	0,15 0.0060	0,17 0.0065	0,26 0.010
K4	RDKW0803M0T-MD05 MK2050	1,6 *0.065*	0,15 0.0060	0,15 0.0060	0,17 0.0065	0,26 0.010
K5	RDKW0803M0T-MD05 MK2050	1,6 *0.065*	0,13 0.0050	0,13 0.0050	0,15 0.0060	0,24 0.0095
K6	RDKW0803M0T-MD05 MK2050	1,6 *0.065*	0,15 0.0060	0,15 0.0060	0,17 0.0065	0,26 0.010
K7	RDKW0803M0T-MD05 MK2050	1,6 *0.065*	0,13 0.0050	0,13 0.0050	0,15 0.0060	0,24 0.0095
N1	RDHT0803M0-E03 H25	1,6 *0.065*	0,12 0.0048	0,12 0.0048	0,14 0.0055	0,22 0.0085
N2	RDHT0803M0-E03 H25	1,6 *0.065*	0,12 0.0048	0,12 0.0048	0,14 0.0055	0,22 0.0085
N3	RDHT0803M0-E03 H25	1,6 *0.065*	0,12 0.0048	0,12 0.0048	0,14 0.0055	0,22 0.0085
N11	RDHT0803M0-E03 H25	1,6 *0.065*	0,12 0.0048	0,12 0.0048	0,14 0.0055	0,22 0.0085
S1	RDHW0803M0-MD03 F40M	0,95 *0.038*	0,11 0.0044	0,11 0.0044	0,12 0.0048	0,19 0.0075
S2	RDHW0803M0-MD03 F40M	0,95 *0.038*	0,11 0.0044	0,11 0.0044	0,12 0.0048	0,19 0.0075
S3	RDHW0803M0-MD03 F40M	0,95 *0.038*	0,10 0.0040	0,10 0.0040	0,11 0.0044	0,17 0.0065
S11	RDHW0803M0-MD03 MS2050	1,1 *0.044*	0,11 0.0044	0,11 0.0044	0,13 0.0050	0,20 0.0080
S12	RDHW0803M0-MD03 MS2050	1,1 *0.044*	0,11 0.0044	0,11 0.0044	0,13 0.0050	0,20 0.0080
S13	RDHW0803M0-MD03 MS2050	0,95 *0.038*	0,11 0.0044	0,11 0.0044	0,12 0.0048	0,19 0.0075
H5	RDKW0803M0T-MD05 MH1051	1,3 *0.050*	0,11 0.0044	0,11 0.0044	0,12 0.0048	0,19 0.0075
H8	RDKW0803M0T-MD05 MH1051	1,1 *0.044*	0,090 0.0036	0,090 0.0036	0,10 0.0040	0,16 0.0065
H11	RDKW0803M0T-MD05 F15M	1,3 *0.050*	0,11 0.0044	0,11 0.0044	0,12 0.0048	0,19 0.0075
H12	RDKW0803M0T-MD05 F15M	1,1 *0.044*	0,090 0.0036	0,090 0.0036	0,10 0.0040	0,16 0.0065

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.29-04 – Cutting data v_c = (m/min)/(sf/min)

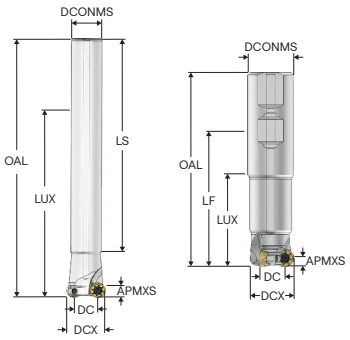
SMG	MH1051				F15M				MK2050				F25M				F30M				MP3000			
	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%
P1	—	—	—	—	300	340	410	485	325	370	440	520	275	310	375	440	275	310	375	440	370	415	475	540
	—	—	—	—	*980*	*1125*	*1350*	*1600*	*1075*	*1225*	*1450*	*1700*	*900*	*1025*	*1225*	*1450*	*900*	*1025*	*1225*	*1450*	*1225*	*1350*	*1550*	*1775*
P2	—	—	—	—	295	330	400	470	320	360	430	510	270	305	365	430	270	305	365	430	360	405	465	530
	—	—	—	—	*970*	*1075*	*1300*	*1550*	*1050*	*1175*	*1400*	*1675*	*890*	*1000*	*1200*	*1400*	*890*	*1000*	*1200*	*1400*	*1175*	*1325*	*1525*	*1750*
P3	—	—	—	—	255	290	345	405	280	315	375	440	235	265	320	370	235	265	320	375	315	350	400	450
	—	—	—	—	*840*	*950*	*1125*	*1325*	*920*	*1025*	*1225*	*1450*	*770*	*870*	*1050*	*1225*	*770*	*870*	*1050*	*1225*	*1025*	*1150*	*1300*	*1475*
P4	—	—	—	—	225	255	305	355	245	275	330	385	205	235	280	325	205	235	280	330	275	310	350	400
	—	—	—	—	*740*	*840*	*1000*	*1175*	*800*	*900*	*1075*	*1275*	*670*	*770*	*920*	*1075*	*670*	*770*	*920*	*1075*	*900*	*1025*	*1150*	*1300*
P5	500	560	670	780	215	245	290	345	235	265	315	375	195	225	265	320	200	225	265	315	265	295	335	380
	1650	*1825*	*2200*	*2550*	*710*	*800*	*950*	*1125*	*770*	*870*	*1025*	*1225*	*640*	*740*	*870*	*1050*	*660*	*740*	*870*	*1025*	*870*	*970*	*1100*	*1250*
P6	570	640	750	870	245	275	325	390	265	300	355	420	225	255	300	355	220	250	300	355	295	330	375	425
	1875	*2100*	*2450*	*2850*	*800*	*900*	*1075*	*1275*	*870*	*980*	*1175*	*1375*	*740*	*840*	*980*	*1175*	*720*	*820*	*980*	*1175*	*970*	*1075*	*1225*	*1400*
P7	540	600	710	830	230	260	310	365	250	285	335	400	215	240	285	335	210	235	285	335	280	315	355	400
	1775	*1975*	*2325*	*2725*	*750*	*850*	*1025*	*1200*	*820*	*940*	*1100*	*1300*	*710*	*790*	*940*	*1100*	*690*	*770*	*940*	*1100*	*920*	*1025*	*1175*	*1300*
P8	500	560	670	770	215	245	290	340	235	265	315	370	195	225	265	310	200	225	265	315	265	295	335	380
	1650	*1825*	*2200*	*2525*	*710*	*800*	*950*	*1125*	*770*	*870*	*1025*	*1225*	*640*	*740*	*870*	*1025*	*660*	*740*	*870*	*1025*	*870*	*970*	*1100*	*1250*
P11	520	580	690	800	225	255	300	355	245	275	325	385	205	235	275	325	205	230	275	325	270	305	345	390
	1700	*1900*	*2275*	*2625*	*740*	*840*	*980*	*1175*	*800*	*900*	*1075*	*1275*	*670*	*770*	*900*	*1075*	*670*	*750*	*900*	*1075*	*890*	*1000*	*1125*	*1275*
P12	330	370	430	490	—	—	—	—	155	175	210	245	130	150	175	205	130	145	175	205	165	185	200	225
	1075	*1225*	*1400*	*1600*	—	—	—	—	*510*	*570*	*690*	*800*	*425*	*490*	*570*	*670*	*425*	*475*	*570*	*670*	*540*	*610*	*660*	*740*
M1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	215	245	295	345	240	270	325	380
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*710*	*800*	*970*	*1125*	*790*	*890*	*1075*	*1250*
M2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	180	200	240	280	195	220	265	310
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*590*	*660*	*790*	*920*	*640*	*720*	*870*	*1025*
M3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	145	160	190	225	160	180	210	250
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*475*	*520*	*620*	*740*	*520*	*590*	*690*	*820*
M4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	110	120	145	170	120	135	165	190
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*360*	*395*	*475*	*560*	*395*	*445*	*540*	*620*
M5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90	100	125	145	100	115	135	160
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*295*	*330*	*410*	*475*	*330*	*375*	*445*	*520*
K1	680	760	920	1075	230	260	315	370	345	385	465	550	215	240	290	340	215	240	290	340	255	285	345	405
	2225	*2500*	*3025*	*3525*	*750*	*850*	*1025*	*1225*	*1125*	*1275*	*1525*	*1800*	*710*	*790*	*950*	*1125*	*710*	*790*	*950*	*1125*	*840*	*940*	*1125*	*1325*
K2	600	670	810	940	205	230	275	330	300	340	410	485	185	210	255	300	190	210	255	295	225	255	300	355
	1975	*2200*	*2650*	*3075*	*670*	*750*	*900*	*1075*	*980*	*1125*	*1350*	*1600*	*610*	*690*	*840*	*980*	*620*	*690*	*840*	*970*	*740*	*840*	*980*	*1175*
K3	510	570	680	800	175	195	235	280	255	290	345	410	160	180	215	255	160	180	215	250	190	215	255	300
	1675	*1875*	*2225*	*2625*	*570*	*640*	*770*	*920*	*840*	*950*	*1125*	*1350*	*520*	*590*	*710*	*840*	*520*	*590*	*710*	*820*	*620*	*710*	*840*	*980*
K4	490	540	650	760	165	185	225	265	245	275	330	390	150	170	205	245	150	170	205	240	180	205	245	285
	1600	*1775*	*2125*	*2500*	*540*	*610*	*740*	*870*	*800*	*900*	*1075*	*1275*	*490*	*560*	*670*	*800*	*490*	*560*	*670*	*790*	*590*	*670*	*800*	*940*
K5	300	335	400	455	100	115	135	160	150	170	200	235	95	105	125	145	95	105	125	145	110	125	150	175
	980	*1100*	*1300*	*1500*	*330*	*375*	*445*	*520*	*490*	*560*	*660*	*770*	*310*	*345*	*410*	*475*	*310*	*345*	*410*	*475*	*360*	*410*	*490*	*570*
K6	430	480	570	670	145	165	195	235	215	240	290	345	135	150	180	215	135	150	180	210	160	180	215	250
	1400	*1575*	*1875*	*2200*	*475*	*540*	*640*	*770*	*710*	*790*	*950*	*1125*	*445*	*490*	*590*	*710*	*445*	*490*	*590*	*690*	*520*	*590*	*710*	*820*
K7	385	430	510	580	130	145	175	205	190	215	260	300	120	135	160	190	120	135	160	185	145	160	190	225
	1275	*1400*	*1675*	*1900*	*425*	*475*	*570*	*670*	*620*	*710*	*850*	*980*	*395*	*445*	*520*	*620*	*395*	*445*	*520*	*610*	*475*	*520*	*620*	*740*
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1600	1825	2150	2525	1925	2150	2550	3000
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*5250*	*6000*	*7050*	*8275*	*6325*	*7050*	*8375*	*9850*
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	650	730	870	1025	770	870	1025	1225
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*2125*	*2400*	*2850*	*3375*	*2525*	*2850*	*3375*	*4025*
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	435	490	580	680	520	580	690	810
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*1425*	*1600*	*1900*	*2225*	*1700*	*1900*	*2275*	*2650*
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	495	560	660	780	590	670	790	930
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*1625*	*1825*	*2175*	*2550*	*1925*	*2200*	*2600*	*3050*
S1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	50	55	70	80	55	65	75	90
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*165*	*180*	*230*	*260*	*180*	*215*	*245*	*295*
S2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	41	46	55	65	45	50	60	70
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*135*	*150*	*180*	*215*	*150*	*165*	*195*	*230*
S3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	36	40	48	55	40	45	55	60
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*120*	*130*	*155*	*180*	*130*	*150*	*180*	*195*
S11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	70	80	95	115	80	90	105	125
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*230*	*260*	*310*	*375*	*260*	*295*	*345*	*410*
S12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	42	47	55	65	55	60	75	85
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*140*	*155*	*180*	*215*	*180*	*195*	*245*	*280*
S13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	24	27	32	37	32	36	43	50
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*80*	*90*	*105*	*120*	*105*	*120*	*140*	*165*
H5	170	190	220	250	47	55	65	75	—	—	—	—	—	—	—	—	43	49	60	70	48	55	65	75
	560	*620*	*720*	*820*	*155*	*180*	*215*	*245*	—	—	—	—	—	—	—	—	*140*	*160*	*195*	*230*	*155*	*180*	*215*	*245*
H8	175	195	225	250	50	55	65	80	—	—	—	—	—	—	—	—	45	50	60	70	50	55	65	80
	570	*640*	*740*	*820*	*165*	*180*	*215*	*260*	—	—	—	—	—	—	—	—	*150*	*165*	*195*	*230*	*165*	*180*	*215*	*260*
H11	215	240	280	320	60	70	80	95	—	—	—	—	—	—	—	—	55	60	75	85	60	70	80	95
	710	*790*	*920*	*1050*	*195*	*230*	*260*	*310*	—	—	—	—	—	—	—	—	*180*	*195*	*245*	*280*	*195*	*230*	*260*	*310*
H12	205	230	260	295	90	100	120	140	95	110	130	150	—	—	—	—	80	90	110	125	95	110	130	150
	670	*750*	*850*	*970*	*295*	*330*	*395*	*460*	*310*	*360*	*425*	*490*	—	—	—	—	*260*	*295*	*360*	*410*	*310*	*360*	*425*	*490*

R217/220.29-04 – Cutting data v_c = (m/min)/(sf/min)

SMG	MS2050				F40M				H25				MS2500				MP3501			
	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%
P1	—	—	—	—	305	325	370	410	—	—	—	—	440	480	540	600	495	540	590	640
	—	—	—	—	*1000*	*1075*	*1225*	*1350*	—	—	—	—	*1450*	*1575*	*1775*	*1975*	*1625*	*1775*	*1925*	*2100*
P2	—	—	—	—	295	315	360	400	—	—	—	—	425	465	530	590	485	530	570	630
	—	—	—	—	*970*	*1025*	*1175*	*1300*	—	—	—	—	*1400*	*1525*	*1750*	*1925*	*1600*	*1750*	*1875*	*2075*
P3	—	—	—	—	260	275	315	345	—	—	—	—	370	405	455	500	415	455	490	540
	—	—	—	—	*850*	*900*	*1025*	*1125*	—	—	—	—	*1225*	*1325*	*1500*	*1650*	*1350*	*1500*	*1600*	*1775*
P4	—	—	—	—	230	250	285	320	—	—	—	—	325	355	400	445	365	400	430	470
	—	—	—	—	*750*	*820*	*940*	*1050*	—	—	—	—	*1075*	*1175*	*1300*	*1450*	*1200*	*1300*	*1400*	*1550*
P5	—	—	—	—	215	230	265	295	—	—	—	—	310	340	380	425	350	380	410	445
	—	—	—	—	*710*	*750*	*870*	*970*	—	—	—	—	*1025*	*1125*	*1250*	*1400*	*1150*	*1250*	*1350*	*1450*
P6	—	—	—	—	245	265	295	330	—	—	—	—	350	385	430	475	390	430	465	500
	—	—	—	—	*800*	*870*	*970*	*1075*	—	—	—	—	*1150*	*1275*	*1400*	*1550*	*1275*	*1400*	*1525*	*1650*
P7	—	—	—	—	235	250	280	310	—	—	—	—	330	365	405	450	370	405	435	475
	—	—	—	—	*770*	*820*	*920*	*1025*	—	—	—	—	*1075*	*1200*	*1325*	*1475*	*1225*	*1325*	*1425*	*1550*
P8	—	—	—	—	215	230	265	290	—	—	—	—	310	340	380	425	350	380	410	450
	—	—	—	—	*710*	*750*	*870*	*950*	—	—	—	—	*1025*	*1125*	*1250*	*1400*	*1150*	*1250*	*1350*	*1475*
P11	—	—	—	—	225	245	270	305	—	—	—	—	325	355	395	440	360	395	425	460
	—	—	—	—	*740*	*800*	*890*	*1000*	—	—	—	—	*1075*	*1175*	*1300*	*1450*	*1175*	*1300*	*1400*	*1500*
P12	—	—	—	—	140	155	170	185	—	—	—	—	195	215	235	255	210	225	240	260
	—	—	—	—	*460*	*510*	*560*	*610*	—	—	—	—	*640*	*710*	*770*	*840*	*690*	*740*	*790*	*850*
M1	—	—	—	—	195	220	265	315	—	—	—	—	250	285	340	405	280	315	370	435
	—	—	—	—	*640*	*720*	*870*	*1025*	—	—	—	—	*820*	*940*	*1125*	*1325*	*920*	*1025*	*1225*	*1425*
M2	—	—	—	—	160	180	220	260	—	—	—	—	205	235	280	335	230	260	305	360
	—	—	—	—	*520*	*590*	*720*	*850*	—	—	—	—	*670*	*770*	*920*	*1100*	*750*	*850*	*1000*	*1175*
M3	—	—	—	—	130	145	175	205	—	—	—	—	165	185	225	260	180	205	240	285
	—	—	—	—	*425*	*475*	*570*	*670*	—	—	—	—	*540*	*610*	*740*	*850*	*590*	*670*	*790*	*940*
M4	—	—	—	—	100	115	135	155	—	—	—	—	130	145	170	200	140	155	185	215
	—	—	—	—	*330*	*375*	*445*	*510*	—	—	—	—	*425*	*475*	*560*	*660*	*460*	*510*	*610*	*710*
M5	—	—	—	—	85	95	110	130	—	—	—	—	105	120	140	165	115	130	155	180
	—	—	—	—	*280*	*310*	*360*	*425*	—	—	—	—	*345*	*395*	*460*	*540*	*375*	*425*	*510*	*590*
K1	—	—	—	—	195	220	260	310	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	*640*	*720*	*850*	*1025*	—	—	—	—	—	—	—	—	—	—	—	—
K2	—	—	—	—	170	190	230	275	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	*560*	*620*	*750*	*900*	—	—	—	—	—	—	—	—	—	—	—	—
K3	—	—	—	—	145	165	195	230	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	*475*	*540*	*640*	*750*	—	—	—	—	—	—	—	—	—	—	—	—
K4	—	—	—	—	140	155	185	220	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	*460*	*510*	*610*	*720*	—	—	—	—	—	—	—	—	—	—	—	—
K5	—	—	—	—	85	95	115	135	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	*280*	*310*	*375*	*445*	—	—	—	—	—	—	—	—	—	—	—	—
K6	—	—	—	—	120	135	165	195	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	*395*	*445*	*540*	*640*	—	—	—	—	—	—	—	—	—	—	—	—
K7	—	—	—	—	110	120	145	170	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	*360*	*395*	*475*	*560*	—	—	—	—	—	—	—	—	—	—	—	—
N1	—	—	—	—	1450	1625	1975	2300	1775	2025	2400	2825	—	—	—	—	—	—	—	—
	—	—	—	—	*4750*	*5325*	*6475*	*7550*	*5825*	*6650*	*7875*	*9275*	—	—	—	—	—	—	—	—
N2	—	—	—	—	590	660	800	920	720	810	970	1150	—	—	—	—	—	—	—	—
	—	—	—	—	*1925*	*2175*	*2625*	*3025*	*2350*	*2650*	*3175*	*3775*	—	—	—	—	—	—	—	—
N3	—	—	—	—	390	440	530	620	480	540	650	760	—	—	—	—	—	—	—	—
	—	—	—	—	*1275*	*1450*	*1750*	*2025*	*1575*	*1775*	*2125*	*2500*	—	—	—	—	—	—	—	—
N11	—	—	—	—	445	500	610	700	550	620	740	870	—	—	—	—	—	—	—	—
	—	—	—	—	*1450*	*1650*	*2000*	*2300*	*1800*	*2025*	*2425*	*2850*	—	—	—	—	—	—	—	—
S1	55	60	70	85	47	55	60	75	—	—	—	—	65	70	85	100	65	75	85	100
	180	*195*	*230*	*280*	*155*	*180*	*195*	*245*	—	—	—	—	*215*	*230*	*280*	*330*	*215*	*245*	*280*	*330*
S2	43	48	60	65	38	42	50	60	—	—	—	—	50	55	65	80	50	60	70	80
	140	*155*	*195*	*215*	*125*	*140*	*165*	*195*	—	—	—	—	*165*	*180*	*215*	*260*	*165*	*195*	*230*	*260*
S3	38	42	50	60	33	37	44	50	—	—	—	—	44	50	60	70	45	50	60	70
	125	*140*	*165*	*195*	*110*	*120*	*145*	*165*	—	—	—	—	*145*	*165*	*195*	*230*	*150*	*165*	*195*	*230*
S11	75	85	100	120	65	75	90	105	—	—	—	—	90	100	120	140	90	105	120	145
	245	*280*	*330*	*395*	*215*	*245*	*295*	*345*	—	—	—	—	*295*	*330*	*395*	*460*	*295*	*345*	*395*	*475*
S12	50	60	70	85	45	50	60	70	—	—	—	—	60	70	80	95	65	70	85	100
	165	*195*	*230*	*280*	*150*	*165*	*195*	*230*	—	—	—	—	*195*	*230*	*260*	*310*	*215*	*230*	*280*	*330*
S13	30	34	40	47	26	30	35	41	—	—	—	—	35	40	47	55	36	41	48	55
	100	*110*	*130*	*155*	*85*	*100*	*115*	*135*	—	—	—	—	*115*	*130*	*155*	*180*	*120*	*135*	*155*	*180*
H5	—	—	—	—	39	45	55	60	—	—	—	—	—	—	—	—	55	65	75	90
	—	—	—	—	*130*	*150*	*180*	*195*	—	—	—	—	—	—	—	—	*180*	*215*	*245*	*295*
H8	—	—	—	—	42	47	55	65	—	—	—	—	—	—	—	—	60	65	80	90
	—	—	—	—	*140*	*155*	*180*	*215*	—	—	—	—	—	—	—	—	*195*	*215*	*260*	*295*
H11	—	—	—	—	50	55	70	80	—	—	—	—	—	—	—	—	75	80	95	115
	—	—	—	—	*165*	*180*	*230*	*260*	—	—	—	—	—	—	—	—	*245*	*260*	*310*	*375*
H12	—	—	—	—	75	85	100	115	—	—	—	—	105	120	145	170	105	120	140	165
	—	—	—	—	*245*	*280*	*330*	*375*	—	—	—	—	*345*	*395*	*475*	*560*	*345*	*395*	*460*	*540*

R217.29I-05 – Metric





—For insert selection and cutting data recommendations, see page(s) 693-695
—For complete insert programme, see page(s) 886
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCONMS	LF	LS	LUX	LPR	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm	mm	mm	mm		mm	mm		kg	
R217.29I-2520.3-05.2.070A	03278800	Weldon	10,0	20,0	2	5,0	25,0	94,0	55,5	70,0	70,0	125,5	25,0	30,0	38,0	27400	0,4	RD..10T3
R217.29I-2525.3-05.3.050A	03278801	Weldon	15,0	25,0	3	5,0	25,0	74,0	55,5	50,0	50,0	105,5	14,4	40,0	48,0	24400	0,4	RD..10T3
R217.29I-3232.3-05.4.060A	03278802	Weldon	22,0	32,0	4	5,0	32,0	84,0	59,5	60,0	60,0	119,5	8,7	54,0	62,0	21600	0,7	RD..10T3
R217.29I-2016.0-05.1.100A	03278796	Cylindrical	5,9	16,0	1	5,0	20,0	–	90,0	60,0	100,0	150,0	6,9	21,8	30,0	29900	0,4	RD..10T3
R217.29I-1620.0-05.2.112E	03278795	Cylindrical	10,0	20,0	2	5,0	16,0	–	140,0	112,0	112,0	160,0	25,0	30,0	38,0	27400	0,5	RD..10T3
R217.29I-2025.0-05.2.120A	03278797	Cylindrical	15,0	25,0	2	5,0	20,0	–	140,0	120,0	120,0	170,0	14,5	40,0	48,0	24400	0,4	RD..10T3
R217.29I-2525.0-05.3.124A	03278798	Cylindrical	15,0	25,0	3	5,0	25,0	–	130,0	50,1	124,0	180,0	13,8	40,0	48,0	24400	0,7	RD..10T3

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.29I-2016-2520	1/4HEX-T09PX50	C03006-T09P
R217.29I-2025-3232	1/4HEX-T09PX50	C03007-T09P

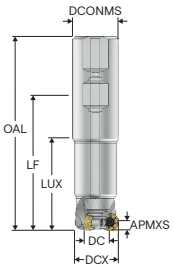
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.29I-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20

Torque and fixed keys, see page 944

R217.29I-05 – inch





—For insert selection and cutting data recommendations, see page(s) 693-695
—For complete insert programme, see page(s) 886
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCONMS	LF	LS	LUX	LPR	OAL	RMPX°	C min	C max	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch	inch	inch	inch		inch	inch		lbs	
R217.29I-01.00-3-05.3A	03278812	Weldon	0.608	1.000	3	0.197	1.000	4.139	2.280	3.000	3.000	5.280	13,8	1.610	1.921	24400	1.100	RD..10T3

Spare Parts, included in delivery

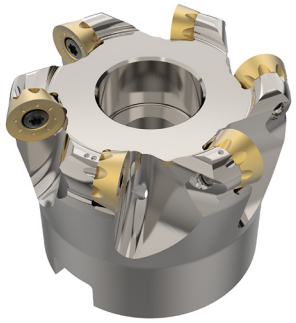
For cutter	Insert key	Insert screw
		
R217.29I-..	1/4HEX-T09PX50	C03007-T09P

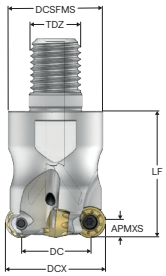
Accessories

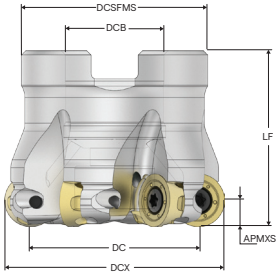
For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.29I-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20

Torque and fixed keys, see page 944

R217/220.29I-05 – Metric





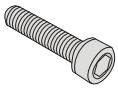


–For insert selection and cutting data recommendations, see page(s) 693-695
–For complete insert programme, see page(s) 886
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCB	DCSFMS	TDZ	DCONMS	LF	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm	mm		mm	mm	mm		mm	mm		kg	
R217.29I-1020.RE-05.2A	03278781	Combimaster	10,0	20,0	2	5,0	–	18,5	M10	–	28,0	46,75	25,0	30,0	38,0	27400	0,1	RD..10T3
R217.29I-1225.RE-05.3A	03278782	Combimaster	15,0	25,0	3	5,0	–	23,0	M12	–	30,0	51,75	13,8	40,0	48,0	24400	0,2	RD..10T3
R217.29I-1232.RE-05.4A	03278783	Combimaster	22,0	32,0	4	5,0	–	23,0	M12	–	30,0	51,75	8,0	54,0	62,0	21600	0,2	RD..10T3
R217.29I-1632.RE-05.4A	03278784	Combimaster	22,0	32,0	4	5,0	–	30,0	M16	–	40,0	62,75	8,8	54,0	62,0	21600	0,3	RD..10T3
R217.29I-1632.RE-05.5A	03278785	Combimaster	22,2	32,0	5	5,0	–	30,0	M16	–	40,0	62,75	4,1	54,4	62,0	21600	0,3	RD..10T3
R217.29I-1635.RE-05.5A	03278786	Combimaster	25,1	35,0	5	5,0	–	30,0	M16	–	40,0	62,75	7,5	60,2	68,0	15600	0,3	RD..10T3
R217.29I-1640.RE-05.4A	03278787	Combimaster	30,0	40,0	4	5,0	–	30,0	M16	–	40,0	62,75	5,5	70,0	78,0	19300	0,3	RD..10T3
R217.29I-1640.RE-05.5A	03278788	Combimaster	30,0	40,0	5	5,0	–	30,0	M16	–	40,0	62,75	5,5	70,0	78,0	19300	0,3	RD..10T3
R217.29I-2040.RE-05.6A	03278791	Combimaster	30,2	40,0	6	5,0	–	36,5	M20	–	40,0	67,0	5,9	70,4	78,0	19300	0,4	RD..10T3
R217.29I-1642.RE-05.5A	03278789	Combimaster	32,0	42,0	5	5,0	–	30,0	M16	–	40,0	62,75	5,6	74,0	82,0	18800	0,3	RD..10T3
R217.29I-1642.RE-05.6A	03278790	Combimaster	32,0	42,0	6	5,0	–	30,0	M16	–	40,0	62,75	6,0	74,0	82,0	18800	0,3	RD..10T3
R220.29I-0040-05.5A	03278803	Arbor	30,0	40,0	5	5,0	16,0	33,0	–	16,0	40,0	–	7,3	70,0	78,0	19300	0,3	RD..10T3
R220.29I-0050-05.4A	03278804	Arbor	40,0	50,0	4	5,0	22,0	41,0	–	22,0	40,0	–	4,3	90,0	98,0	17300	0,4	RD..10T3
R220.29I-0050-05.6A	03278805	Arbor	40,0	50,0	6	5,0	22,0	41,0	–	22,0	40,0	–	4,3	90,0	98,0	17300	0,4	RD..10T3
R220.29I-0052-05.7A	03278806	Arbor	42,1	52,0	7	5,0	22,0	41,0	–	22,0	40,0	–	4,3	94,2	102,0	17000	0,4	RD..10T3
R220.29I-0063-05.6A	03278807	Arbor	53,0	63,0	6	5,0	22,0	49,0	–	22,0	40,0	–	3,1	116,0	124,0	15800	0,6	RD..10T3
R220.29I-0063-05.8A	03278808	Arbor	53,0	63,0	8	5,0	22,0	49,0	–	22,0	40,0	–	3,9	116,0	124,0	15800	0,6	RD..10T3

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.29I-1020	–	1/4HEX-T09PX50	C03006-T09P
R217.29I-1225-2042	–	1/4HEX-T09PX50	C03007-T09P
R220.29I-0040	220.17-689	1/4HEX-T09PX50	C03007-T09P
R220.29I-0050-0063	220.17-692	1/4HEX-T09PX50	C03007-T09P

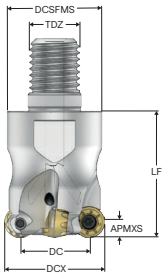
Accessories

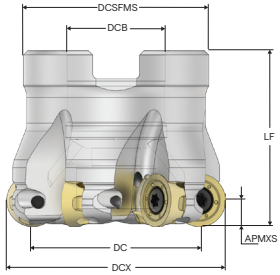
For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.29I-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20

Torque and fixed keys, see page 944

R217/220.29I-05 – inch





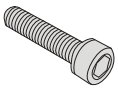


—For insert selection and cutting data recommendations, see page(s) 693-695
—For complete insert programme, see page(s) 886
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCB	DCSFMS	TDZ	DCONMS	LF	OAL	RMPX°	C min	C max	RPMX	Weight	Insert
			inch	inch		inch	inch	inch		inch	inch	inch		inch	inch		lbs	
R217.29I-1.00-12RE-05.3A	03278809	Combimaster	0.608	1.000	3	0.197	–	0.906	M12	–	1.181	2.037	13,3	1.610	1.921	24400	0.440	RD..10T3
R217.29I-1.25-16RE-05.4A	03278810	Combimaster	0.856	1.250	4	0.197	–	1.181	M16	–	1.575	2.470	8,9	2.106	2.421	21600	0.440	RD..10T3
R217.29I-1.50-16RE-05.5A	03278811	Combimaster	1.106	1.500	5	0.197	–	1.181	M16	–	1.575	2.470	6,0	2.606	2.921	19300	0.660	RD..10T3
R220.29I-01.50-05.5A	03278813	Arbor	1.106	1.500	5	0.197	0.500	1.339	–	0.500	1.500	–	6,5	2.606	2.921	14000	0.660	RD..10T3
R220.29I-02.00-05.6A	03278814	Arbor	1.606	2.000	6	0.197	0.750	1.614	–	0.750	1.500	–	4,2	3.606	3.921	12500	0.880	RD..10T3

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.29I-..	–	1/4HEX-T09PX50	C03007-T09P
R220.29I-01.50	UC6S1/4UNFX1	1/4HEX-T09PX50	C03007-T09P
R220.29I-02.00	UC6S3/8UNFX1	1/4HEX-T09PX50	C03007-T09P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.29I-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20

Torque and fixed keys, see page 944

R217/220.29I-05 – Insert selection – mm/Inch

SMG		a_p	f_z			
			100%	70%	30%	10%
P1	RDKT10T3M0T-6-M05 MP2501	2,0 *0.080*	0,16 0.0065	0,16 0.0065	0,18 0.0070	0,28 0.011
P2	RDKT10T3M0T-6-M05 MP2501	2,0 *0.080*	0,16 0.0065	0,16 0.0065	0,18 0.0070	0,30 0.012
P3	RDKT10T3M0T-6-M05 MP2501	2,0 *0.080*	0,15 0.0060	0,15 0.0060	0,17 0.0065	0,28 0.011
P4	RDKT10T3M0T-8-M07 MP2501	2,0 *0.080*	0,20 0.0080	0,20 0.0080	0,24 0.0095	0,38 0.015
P5	RDKT10T3M0T-8-M07 MP2501	2,0 *0.080*	0,20 0.0080	0,20 0.0080	0,24 0.0095	0,38 0.014
P6	RDKT10T3M0T-8-M07 MP2501	2,0 *0.080*	0,20 0.0080	0,20 0.0080	0,24 0.0095	0,36 0.014
P7	RDKW10T3M0T-8-MD06 MP1501	2,0 *0.080*	0,17 0.0065	0,17 0.0065	0,20 0.0080	0,32 0.013
P8	RDKW10T3M0T-8-MD06 MP1501	2,0 *0.080*	0,18 0.0070	0,18 0.0070	0,20 0.0080	0,32 0.013
P11	RDKW10T3M0T-8-MD06 MP1501	2,0 *0.080*	0,17 0.0065	0,17 0.0065	0,20 0.0080	0,32 0.013
P12	RDKW10T3M0T-8-MD06 MP1501	1,6 *0.065*	0,13 0.0050	0,13 0.0050	0,15 0.0060	0,24 0.0095
M1	RDHT10T3M0T-8-M11 MS2050	2,0 *0.080*	0,36 0.014	0,36 0.014	0,40 0.016	0,65 0.026
M2	RDHT10T3M0T-8-M11 MS2050	2,0 *0.080*	0,32 0.013	0,32 0.013	0,36 0.014	0,60 0.024
M3	RDHT10T3M0T-8-M11 MS2050	1,6 *0.065*	0,28 0.011	0,28 0.011	0,32 0.013	0,50 0.020
M4	RDHT10T3M0T-8-M11 MS2050	1,2 *0.048*	0,30 0.012	0,30 0.012	0,34 0.013	0,50 0.020
M5	RDHT10T3M0T-8-M11 MS2050	1,2 *0.048*	0,30 0.012	0,30 0.012	0,34 0.013	0,50 0.020
K1	RDKW10T3M0T-8-MD06 MK2050	2,0 *0.080*	0,19 0.0075	0,19 0.0075	0,22 0.0085	0,34 0.013
K2	RDKW10T3M0T-8-MD06 MK2050	2,0 *0.080*	0,18 0.0070	0,18 0.0070	0,20 0.0080	0,32 0.013
K3	RDKW10T3M0T-8-MD06 MK2050	2,0 *0.080*	0,18 0.0070	0,18 0.0070	0,20 0.0080	0,32 0.013
K4	RDKW10T3M0T-8-MD06 MK2050	2,0 *0.080*	0,18 0.0070	0,18 0.0070	0,20 0.0080	0,32 0.013
K5	RDKW10T3M0T-8-MD06 MK2050	2,0 *0.080*	0,16 0.0065	0,16 0.0065	0,18 0.0070	0,28 0.011
K6	RDKW10T3M0T-8-MD06 MK2050	2,0 *0.080*	0,18 0.0070	0,18 0.0070	0,20 0.0080	0,32 0.013
K7	RDKW10T3M0T-8-MD06 MK2050	2,0 *0.080*	0,16 0.0065	0,16 0.0065	0,18 0.0070	0,28 0.011
N1	RDHT10T3M0-8-E04 H25	2,0 *0.080*	0,16 0.0065	0,16 0.0065	0,19 0.0075	0,30 0.012
N2	RDHT10T3M0-8-E04 H25	2,0 *0.080*	0,16 0.0065	0,16 0.0065	0,19 0.0075	0,30 0.012
N3	RDHT10T3M0-8-E04 H25	2,0 *0.080*	0,16 0.0065	0,16 0.0065	0,19 0.0075	0,30 0.012
N11	RDHT10T3M0-8-E04 H25	2,0 *0.080*	0,16 0.0065	0,16 0.0065	0,19 0.0075	0,30 0.012
S1	RDKT10T3M0T-8-M07 MS2500	1,2 *0.048*	0,19 0.0075	0,19 0.0075	0,22 0.0085	0,34 0.013
S2	RDKT10T3M0T-8-M07 MS2500	1,2 *0.048*	0,19 0.0075	0,19 0.0075	0,22 0.0085	0,34 0.013
S3	RDKT10T3M0T-6-M05 MS2500	1,2 *0.048*	0,12 0.0048	0,12 0.0048	0,14 0.0055	0,22 0.0085
S11	RDHT10T3M0T-8-M11 MS2050	1,4 *0.055*	0,30 0.012	0,30 0.012	0,36 0.014	0,55 0.022
S12	RDHT10T3M0T-8-M11 MS2050	1,4 *0.055*	0,30 0.012	0,30 0.012	0,36 0.014	0,55 0.022
S13	RDHT10T3M0T-8-M11 MS2050	1,2 *0.048*	0,30 0.012	0,30 0.012	0,34 0.013	0,50 0.020
H5	RDKW10T3M0T-8-MD06 MH1051	1,6 *0.065*	0,13 0.0050	0,13 0.0050	0,15 0.0060	0,24 0.0095
H8	RDKW10T3M0T-8-MD06 MH1051	1,4 *0.055*	0,11 0.0044	0,11 0.0044	0,12 0.0048	0,19 0.0075
H11	RDHW10T3M0T-8-MD06 MH1000	1,6 *0.065*	0,13 0.0050	0,13 0.0050	0,15 0.0060	0,24 0.0095
H12	RDHW10T3M0T-8-MD06 MH1000	1,4 *0.055*	0,11 0.0044	0,11 0.0044	0,12 0.0048	0,19 0.0075

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.29I-05 – Cutting data v_c = (m/min)/(sf/min)

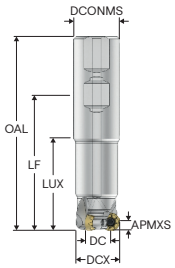
SMG	MH1051				F15M				MK2050				F25M				MP3000				MS2050				F40M				MP2051			
	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%
P1	—	—	—	—	290	325	395	460	310	355	425	500	265	300	360	425	345	385	455	520	345	385	445	510	335	365	415	460	475	520	580	630
	—	—	—	—	*950*	*1075*	*1300*	*1500*	*1025*	*1175*	*1400*	*1650*	*870*	*980*	*1175*	*1400*	*1125*	*1275*	*1500*	*1700*	*1125*	*1275*	*1450*	*1675*	*1100*	*1200*	*1350*	*1500*	*1550*	*1700*	*1900*	*2075*
P2	—	—	—	—	280	320	380	450	305	345	410	485	255	290	350	410	335	375	440	510	335	375	435	495	330	355	405	445	460	510	570	610
	—	—	—	—	*920*	*1050*	*1250*	*1475*	*1000*	*1125*	*1350*	*1600*	*840*	*950*	*1150*	*1350*	*1100*	*1225*	*1450*	*1675*	*1100*	*1225*	*1425*	*1625*	*1075*	*1175*	*1325*	*1450*	*1500*	*1675*	*1875*	*2000*
P3	—	—	—	—	245	280	330	390	265	300	360	425	225	255	305	360	290	325	380	440	295	325	375	430	285	310	350	390	400	440	485	520
	—	—	—	—	*800*	*920*	*1075*	*1275*	*870*	*980*	*1175*	*1400*	*740*	*840*	*1000*	*1175*	*950*	*1075*	*1250*	*1450*	*970*	*1075*	*1225*	*1400*	*940*	*1025*	*1150*	*1275*	*1300*	*1450*	*1600*	*1700*
P4	—	—	—	—	215	245	295	345	235	265	320	370	195	225	270	315	255	285	340	385	260	285	335	380	255	280	320	360	355	390	425	455
	—	—	—	—	*710*	*800*	*970*	*1125*	*770*	*870*	*1050*	*1225*	*640*	*740*	*890*	*1025*	*840*	*940*	*1125*	*1275*	*850*	*940*	*1100*	*1250*	*840*	*920*	*1050*	*1175*	*1175*	*1275*	*1400*	*1500*
P5	480	540	640	750	210	235	280	330	225	255	305	360	190	215	260	305	250	280	325	370	245	275	320	360	240	260	295	325	340	370	410	435
	1575	*1775*	*2100*	*2450*	*690*	*770*	*920*	*1075*	*740*	*840*	*1000*	*1175*	*620*	*710*	*850*	*1000*	*820*	*920*	*1075*	*1225*	*800*	*900*	*1050*	*1175*	*790*	*850*	*970*	*1075*	*1125*	*1225*	*1350*	*1425*
P6	540	600	720	840	235	265	315	370	255	290	340	405	215	245	290	340	280	310	365	415	280	310	360	405	275	295	330	370	385	420	460	490
	1775	*1975*	*2350*	*2750*	*770*	*870*	*1025*	*1225*	*840*	*950*	*1125*	*1325*	*710*	*800*	*950*	*1125*	*920*	*1025*	*1200*	*1350*	*920*	*1025*	*1175*	*1325*	*900*	*970*	*1075*	*1225*	*1275*	*1375*	*1500*	*1600*
P7	510	570	680	790	220	250	300	350	240	270	325	380	200	230	275	320	265	295	340	395	265	295	340	385	260	280	315	345	360	395	430	465
	1675	*1875*	*2225*	*2600*	*720*	*820*	*980*	*1150*	*790*	*890*	*1075*	*1250*	*660*	*750*	*900*	*1050*	*870*	*970*	*1125*	*1300*	*870*	*970*	*1125*	*1275*	*850*	*920*	*1025*	*1125*	*1175*	*1300*	*1400*	*1525*
P8	470	530	630	740	205	235	280	330	220	255	300	355	190	215	255	300	245	275	320	370	245	275	315	360	240	260	290	325	340	370	410	435
	1550	*1750*	*2075*	*2425*	*670*	*770*	*920*	*1075*	*720*	*840*	*980*	*1175*	*620*	*710*	*840*	*980*	*800*	*900*	*1050*	*1225*	*800*	*900*	*1025*	*1175*	*790*	*850*	*950*	*1075*	*1125*	*1225*	*1350*	*1425*
P11	495	550	660	770	215	245	290	340	230	265	315	370	195	225	265	310	255	285	335	380	260	285	330	375	250	270	305	335	310	390	470	580
	1625	*1800*	*2175*	*2525*	*710*	*800*	*950*	*1125*	*750*	*870*	*1025*	*1225*	*640*	*740*	*870*	*1025*	*840*	*940*	*1100*	*1250*	*850*	*940*	*1075*	*1225*	*820*	*890*	*1000*	*1100*	*1025*	*1275*	*1550*	*1900*
P12	320	360	420	485	—	—	—	—	150	170	200	235	125	145	170	200	160	180	205	230	160	180	205	230	160	170	190	205	175	220	250	305
	1050	*1175*	*1375*	*1600*	—	—	—	—	*490*	*560*	*660*	*770*	*410*	*475*	*560*	*660*	*520*	*590*	*670*	*750*	*520*	*590*	*670*	*750*	*520*	*560*	*620*	*670*	*570*	*720*	*820*	*1000*
M1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	220	250	295	350	240	275	330	385	220	250	300	350	365	450	560	690
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*720*	*820*	*970*	*1150*	*790*	*900*	*1075*	*1275*	*720*	*820*	*980*	*1150*	*1200*	*1475*	*1825*	*2275*
M2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	180	205	245	290	200	225	270	320	180	205	245	290	295	365	445	550
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*590*	*670*	*800*	*950*	*660*	*740*	*890*	*1050*	*590*	*670*	*800*	*950*	*970*	*1200*	*1450*	*1800*
M3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	145	165	195	230	160	180	215	255	145	165	195	230	225	280	325	395
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*475*	*540*	*640*	*750*	*520*	*590*	*710*	*840*	*475*	*540*	*640*	*750*	*740*	*920*	*1075*	*1300*
M4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	110	125	150	175	125	140	165	195	110	125	150	175	165	205	235	280
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*360*	*410*	*490*	*570*	*410*	*460*	*540*	*640*	*360*	*410*	*490*	*570*	*540*	*670*	*770*	*920*
M5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90	105	125	145	100	115	135	160	95	105	125	145	135	170	200	235
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*295*	*345*	*410*	*475*	*330*	*375*	*445*	*520*	*310*	*345*	*410*	*475*	*445*	*560*	*660*	*770*
K1	640	720	870	1025	220	250	300	355	325	370	445	530	205	230	275	325	230	265	315	370	—	—	—	—	215	245	295	345	—	—	—	—
	2100	*2350*	*2850*	*3375*	*720*	*820*	*980*	*1175*	*1075*	*1225*	*1450*	*1750*	*670*	*750*	*900*	*1075*	*750*	*870*	*1025*	*1225*	—	—	—	—	*710*	*800*	*970*	*1125*	—	—	—	—
K2	580	650	770	900	200	225	265	315	290	330	395	465	180	205	245	290	205	235	280	325	—	—	—	—	190	215	260	305	—	—	—	—
	1900	*2125*	*2525*	*2950*	*660*	*740*	*870*	*1025*	*950*	*1075*	*1300*	*1525*	*590*	*670*	*800*	*950*	*670*	*770*	*920*	*1075*	—	—	—	—	*620*	*710*	*850*	*1000*	—	—	—	—
K3	490	550	650	760	165	190	225	265	245	280	335	390	155	175	205	245	175	200	235	275	—	—	—	—	160	185	220	260	—	—	—	—
	1600	*1800*	*2125*	*2500*	*540*	*620*	*740*	*870*	*800*	*920*	*1100*	*1275*	*510*	*570*	*670*	*800*	*570*	*660*	*770*	*900*	—	—	—	—	*520*	*610*	*720*	*850*	—	—	—	—
K4	465	520	620	730	160	180	215	255	235	270	320	375	145	165	200	235	165	190	225	265	—	—	—	—	155	175	210	245	—	—	—	—
	1525	*1700*	*2025*	*2400*	*520*	*590*	*710*	*840*	*770*	*890*	*1050*	*1225*	*475*	*540*	*660*	*770*	*540*	*620*	*740*	*870*	—	—	—	—	*510*	*570*	*690*	*800*	—	—	—	—
K5	285	320	385	440	95	110	130	155	140	160	195	225	90	100	120	140	100	115	135	160	—	—	—	—	95	105	130	150	—	—	—	—
	940	*1050*	*1275*	*1450*	*310*	*360*	*425*	*510*	*460*	*520*	*640*	*740*	*295*	*330*	*395*	*460*	*330*	*375*	*445*	*520*	—	—	—	—	*310*	*345*	*425*	*490*	—	—	—	—
K6	410	460	550	640	140	160	190	225	205	235	280	330	130	145	175	205	145	165	200	235	—	—	—	—	135	155	185	215	—	—	—	—
	1350	*1500*	*1800*	*2100*	*460*	*520*	*620*	*740*	*670*	*770*	*920*	*1075*	*425*	*475*	*570*	*670*	*475*	*540*	*660*	*770*	—	—	—	—	*445*	*510*	*610*	*710*	—	—	—	—
K7	365	410	490	570	125	140	170	195	180	205	250	290	115	130	155	180	130	145	175	205	—	—	—	—	120	135	165	190	—	—	—	—
	1200	*1350*	*1600*	*1875*	*410*	*460*	*560*	*640*	*590*	*670*	*820*	*950*	*375*	*425*	*510*	*590*	*425*	*475*	*570*	*670*	—	—	—	—	*395*	*445*	*540*	*620*	—	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1725	1950	2350	2750	—	—	—	—	1625	1825	2225	2575	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*5650*	*6400*	*7700*	*9025*	—	—	—	—	*5325*	*6000*	*7300*	*8450*	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	700	790	950	1100	—	—	—	—	650	740	900	1050	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*2300*	*2600*	*3125*	*3600*	—	—	—	—	*2125*	*2425*	*2950*	*3450*	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	465	530	630	740	—	—	—	—	435	495	600	700	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*1525*	*1750*	*2075*	*2425*	—	—	—	—	*1425*	*1625*	*1975*	*2300*	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	530	600	720	850	—	—	—	—	495	570	680	790	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*1750*	*1975*	*2350*	*2800*	—	—	—	—	*1625*	*1875*	*2225*	*2600*	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	50	60	70	85	55	65	75	90	50	60	70	85	65	70	85	100
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*165*	*195*	*230*	*280*	*180*	*215*	*245*	*295*	*165*	*195*	*230*	*280*	*215*	*230*	*280*	*330*
S2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	42	47	55	65	46	50	60	75	42	47	55	65	50	55	70	80
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*140*	*155*	*180*	*215*	*150*	*165*	*195*	*245*	*140*	*155*	*180*	*215*	*165*	*180*	*230*	*260*
S3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	36	41	49	60	40	46	55	65	37	42	49	60	44	50	60	70
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*120*	*135*	*160*	*195*	*130*	*150*	*180*	*215*	*120*	*140*	*160*	*195*	*145*	*165*	*195*	*230*
S11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	75	80	100	115	80	90	110	130	75	85	100	115	90	100	120	140
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*245*	*260*	*330*	*375*	*260*	*295*	*360*	*425*	*245*	*280*	*330*	*375*	*295*	*330*	*395*	*460*
S12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	50	55	70	80	55	65	75	90	50	55	70	80	60	70	85	95
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*165*	*180*	*230*	*260*	*180*	*215*	*245*	*295*	*165*	*180*	*230*	*260*	*195*	*230*	*280*	*310*
S13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	29	33	39	46	32	36	43	50	29	33	39	46	35	40	47	55
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*95*	*110*	*130*	*150*	*105*	*120*	*140*	*165*	*95*	*110*	*130*	*150*	*115*	*130*	*155*	*180*
H5	165	185	215	250	46	50	60	75	—	—	—	—	—	—	—	—	44	50	60	70	—	—	—	—	44	50	60	70	—	—	—	—
	540	*610*	*710*	*820*	*150*	*165*	*195*	*245*	—	—	—	—	—	—	—	—	*145*	*165*	*195*	*230*	—	—	—	—	*145*	*165*	*195*	*230*	—	—	—	—
H8	170	190	220	250	48	55	65	75	—	—	—	—	—	—	—	—	47	55	65	75	—	—	—	—	46	50	60	75	—	—	—	—
	560	*620*	*720*	*820*	*155*	*180*	*215*	*245*	—	—	—	—	—	—	—	—	*155*	*180*	*215*	*245*	—	—	—	—	*150*	*165*	*195*	*245*	—	—	—	—
H11	210	235	275	315	60	65	80	90	—	—	—	—	—	—	—	—	55	65	75	90	—	—	—	—	55	65	75	90	115	145	165	200
	690	*770*	*900*	*1025*	*195*	*215*	*260*	*295*	—	—	—	—	—	—	—	—	*180*	*215*	*245*	*295*	—	—	—	—	*180*	*215*	*245*	*295*	*375*	*475*	*540*	*660*
H12	200	225	260	295	85	95	115	135	95	105	125	145	—	—	—	—	90	100	120	140	—	—	—	—	85	95	110	130	95	120	130	145
	660	*740*	*850*	*970*	*280*	*310*	*375*	*445*	*310*	*345*	*410*	*475*	—	—	—	—	*295*	*330*	*395*	*460*	—	—	—	—	*280*	*310*	*360*	*425*	*310*	*395*	*425*	*475*

R217/220.29I-05 – Cutting data v_c = (m/min)/(sf/min)

SMG	MP2050				H25				MP1501				MP2501				MS2500				MP3501				MM4500			
	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%
P1	360	410	495	580	—	—	—	—	450	490	550	610	465	510	580	650	485	540	600	670	460	500	570	620	285	320	355	400
	1175	*1350*	*1625*	*1900*	—	—	—	—	*1475*	*1600*	*1800*	*2000*	*1525*	*1675*	*1900*	*2125*	*1600*	*1775*	*1975*	*2200*	*1500*	*1650*	*1875*	*2025*	*940*	*1050*	*1175*	*1300*
P2	355	400	480	560	—	—	—	—	435	475	540	600	455	495	560	620	475	520	590	650	450	490	550	610	275	310	345	390
	1175	*1300*	*1575*	*1825*	—	—	—	—	*1425*	*1550*	*1775*	*1975*	*1500*	*1625*	*1825*	*2025*	*1550*	*1700*	*1925*	*2125*	*1475*	*1600*	*1800*	*2000*	*900*	*1025*	*1125*	*1275*
P3	310	350	415	495	—	—	—	—	380	415	465	520	390	425	485	540	410	455	510	560	390	425	475	520	240	270	300	330
	1025	*1150*	*1350*	*1625*	—	—	—	—	*1250*	*1350*	*1525*	*1700*	*1275*	*1400*	*1600*	*1775*	*1350*	*1500*	*1675*	*1825*	*1275*	*1400*	*1550*	*1700*	*790*	*890*	*980*	*1075*
P4	270	310	370	435	—	—	—	—	335	365	410	455	350	380	430	480	365	400	450	495	345	375	420	460	225	255	285	315
	890	*1025*	*1225*	*1425*	—	—	—	—	*1100*	*1200*	*1350*	*1500*	*1150*	*1250*	*1400*	*1575*	*1200*	*1300*	*1475*	*1625*	*1125*	*1225*	*1375*	*1500*	*740*	*840*	*940*	*1025*
P5	260	295	355	415	—	—	—	—	320	350	395	435	335	365	415	460	345	380	425	475	325	360	400	440	200	225	250	280
	850	*970*	*1175*	*1350*	—	—	—	—	*1050*	*1150*	*1300*	*1425*	*1100*	*1200*	*1350*	*1500*	*1125*	*1250*	*1400*	*1550*	*1075*	*1175*	*1300*	*1450*	*660*	*740*	*820*	*920*
P6	295	335	395	465	—	—	—	—	360	395	440	490	375	410	465	520	390	430	480	530	370	405	450	495	225	255	280	315
	970	*1100*	*1300*	*1525*	—	—	—	—	*1175*	*1300*	*1450*	*1600*	*1225*	*1350*	*1525*	*1700*	*1275*	*1400*	*1575*	*1750*	*1225*	*1325*	*1475*	*1625*	*740*	*840*	*920*	*1025*
P7	280	315	375	440	—	—	—	—	340	370	415	460	355	385	440	485	370	405	455	500	350	380	425	470	215	240	265	295
	920	*1025*	*1225*	*1450*	—	—	—	—	*1125*	*1225*	*1350*	*1500*	*1175*	*1275*	*1450*	*1600*	*1225*	*1325*	*1500*	*1650*	*1150*	*1250*	*1400*	*1550*	*710*	*790*	*870*	*970*
P8	260	295	350	415	—	—	—	—	320	350	390	435	325	360	410	455	345	380	425	475	325	360	400	440	200	225	250	280
	850	*970*	*1150*	*1350*	—	—	—	—	*1050*	*1150*	*1275*	*1425*	*1075*	*1175*	*1350*	*1500*	*1125*	*1250*	*1400*	*1550*	*1075*	*1175*	*1300*	*1450*	*660*	*740*	*820*	*920*
P11	270	310	365	430	—	—	—	—	330	360	405	450	345	375	430	475	360	395	440	490	340	370	410	455	205	230	255	285
	890	*1025*	*1200*	*1400*	—	—	—	—	*1075*	*1175*	*1325*	*1475*	*1125*	*1225*	*1400*	*1550*	*1175*	*1300*	*1450*	*1600*	*1125*	*1225*	*1350*	*1500*	*670*	*750*	*840*	*940*
P12	170	195	235	270	—	—	—	—	205	220	245	270	215	235	260	285	215	240	260	285	205	225	245	265	120	135	145	160
	560	*640*	*770*	*890*	—	—	—	—	*670*	*720*	*800*	*890*	*710*	*770*	*850*	*940*	*710*	*790*	*850*	*940*	*670*	*740*	*800*	*870*	*395*	*445*	*475*	*520*
M1	255	290	345	405	—	—	—	—	—	—	—	—	230	265	310	365	280	320	385	450	240	275	330	385	190	215	260	305
	840	*950*	*1125*	*1325*	—	—	—	—	—	—	—	—	*750*	*870*	*1025*	*1200*	*920*	*1050*	*1275*	*1475*	*790*	*900*	*1075*	*1275*	*620*	*710*	*850*	*1000*
M2	205	235	285	335	—	—	—	—	—	—	—	—	190	220	265	305	230	260	315	370	200	225	270	320	155	175	210	250
	670	*770*	*940*	*1100*	—	—	—	—	—	—	—	—	*620*	*720*	*870*	*1000*	*750*	*850*	*1025*	*1225*	*660*	*740*	*890*	*1050*	*510*	*570*	*690*	*820*
M3	165	190	225	265	—	—	—	—	—	—	—	—	155	175	210	245	185	210	250	295	160	180	215	255	125	140	170	200
	540	*620*	*740*	*870*	—	—	—	—	—	—	—	—	*510*	*570*	*690*	*800*	*610*	*690*	*820*	*970*	*520*	*590*	*710*	*840*	*410*	*460*	*560*	*660*
M4	130	145	170	205	—	—	—	—	—	—	—	—	120	135	160	190	145	160	190	225	125	140	165	195	95	110	130	155
	425	*475*	*560*	*670*	—	—	—	—	—	—	—	—	*395*	*445*	*520*	*620*	*475*	*520*	*620*	*740*	*410*	*460*	*540*	*640*	*310*	*360*	*425*	*510*
M5	105	120	145	170	—	—	—	—	—	—	—	—	100	110	135	155	120	135	160	190	100	115	135	160	80	90	110	125
	345	*395*	*475*	*560*	—	—	—	—	—	—	—	—	*330*	*360*	*445*	*510*	*395*	*445*	*520*	*620*	*330*	*375*	*445*	*520*	*260*	*295*	*360*	*410*
K1	—	—	—	—	—	—	—	—	440	480	540	600	455	500	560	630	310	355	425	495	450	495	560	610	—	—	—	—
	—	—	—	—	—	—	—	—	*1450*	*1575*	*1775*	*1975*	*1500*	*1650*	*1825*	*2075*	*1025*	*1175*	*1400*	*1625*	*1475*	*1625*	*1825*	*2000*	—	—	—	—
K2	—	—	—	—	—	—	—	—	390	425	475	530	405	440	500	560	275	310	375	440	395	435	485	530	—	—	—	—
	—	—	—	—	—	—	—	—	*1275*	*1400*	*1550*	*1750*	*1325*	*1450*	*1650*	*1825*	*900*	*1025*	*1225*	*1450*	*1300*	*1425*	*1600*	*1750*	—	—	—	—
K3	—	—	—	—	—	—	—	—	330	360	400	445	340	375	425	470	230	265	315	370	335	365	410	450	—	—	—	—
	—	—	—	—	—	—	—	—	*1075*	*1175*	*1300*	*1450*	*1125*	*1225*	*1400*	*1550*	*750*	*870*	*1025*	*1225*	*1100*	*1200*	*1350*	*1475*	—	—	—	—
K4	—	—	—	—	—	—	—	—	315	345	385	425	325	355	405	450	220	250	300	355	320	350	390	430	—	—	—	—
	—	—	—	—	—	—	—	—	*1025*	*1125*	*1275*	*1400*	*1075*	*1175*	*1325*	*1475*	*720*	*820*	*980*	*1175*	*1050*	*1150*	*1275*	*1400*	—	—	—	—
K5	—	—	—	—	—	—	—	—	190	205	230	255	200	215	245	270	135	155	185	215	195	210	235	255	—	—	—	—
	—	—	—	—	—	—	—	—	*620*	*670*	*750*	*840*	*660*	*710*	*800*	*890*	*445*	*510*	*610*	*710*	*640*	*690*	*770*	*840*	—	—	—	—
K6	—	—	—	—	—	—	—	—	275	300	340	375	285	315	360	395	195	220	265	310	280	310	345	380	—	—	—	—
	—	—	—	—	—	—	—	—	*900*	*980*	*1125*	*1225*	*940*	*1025*	*1175*	*1300*	*640*	*720*	*870*	*1025*	*920*	*1025*	*1125*	*1250*	—	—	—	—
K7	—	—	—	—	—	—	—	—	240	265	295	325	255	275	310	345	175	200	235	275	245	270	300	330	—	—	—	—
	—	—	—	—	—	—	—	—	*790*	*870*	*970*	*1075*	*840*	*900*	*1025*	*1125*	*570*	*660*	*770*	*900*	*800*	*890*	*980*	*1075*	—	—	—	—
N1	—	—	—	—	1675	1900	2250	2650	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	*5500*	*6225*	*7375*	*8700*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	670	760	910	1075	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	*2200*	*2500*	*2975*	*3525*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	450	510	600	720	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	*1475*	*1675*	*1975*	*2350*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	510	580	690	820	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	*1675*	*1900*	*2275*	*2700*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	65	70	85	100	—	—	—	—	—	—	—	—	—	—	—	—	70	80	95	110	55	65	75	90	29	33	39	47
	215	*230*	*280*	*330*	—	—	—	—	—	—	—	—	—	—	—	—	*230*	*260*	*310*	*360*	*180*	*215*	*245*	*295*	*95*	*110*	*130*	*155*
S2	50	55	70	80	—	—	—	—	—	—	—	—	—	—	—	—	55	65	75	90	46	50	60	75	24	27	32	38
	165	*180*	*230*	*260*	—	—	—	—	—	—	—	—	—	—	—	—	*180*	*215*	*245*	*295*	*150*	*165*	*195*	*245*	*80*	*90*	*105*	*125*
S3	44	50	60	70	—	—	—	—	—	—	—	—	—	—	—	—	49	55	65	80	40	46	55	65	21	24	28	33
	145	*165*	*195*	*230*	—	—	—	—	—	—	—	—	—	—	—	—	*160*	*180*	*215*	*260*	*130*	*150*	*180*	*215*	*70*	*80*	*90*	*110*
S11	90	100	120	140	—	—	—	—	—	—	—	—	—	—	—	—	100	110	135	155	80	90	110	130	41	47	55	65
	295	*330*	*395*	*460*	—	—	—	—	—	—	—	—	—	—	—	—	*330*	*360*	*445*	*510*	*260*	*295*	*360*	*425*	*135*	*155*	*180*	*215*
S12	60	70	85	95	—	—	—	—	—	—	—	—	—	—	—	—	70	75	90	110	55	65	75	90	38	43	50	60
	195	*230*	*280*	*310*	—	—	—	—	—	—	—	—	—	—	—	—	*230*	*245*	*295*	*360*	*180*	*215*	*245*	*295*	*125*	*140*	*165*	*195*
S13	35	40	47	55	—	—	—	—	—	—	—	—	—	—	—	—	39	44	55	60	32	36	43	50	22	25	30	35
	115	*130*	*155*	*180*	—	—	—	—	—	—	—	—	—	—	—	—	*130*	*145*	*180*	*195*	*105*	*120*	*140*	*165*	*70*	*80*	*100*	*115*
H5	—	—	—	—	—	—	—	—	55	65	75	90	—	—	—	—	55	65	75	90	50	60	70	80	—	—	—	—
	—	—	—	—	—	—	—	—	*180*	*215*	*245*	*295*	—	—	—	—	*180*	*215*	*245*	*295*	*165*	*195*	*230*	*260*	—	—	—	—
H8	—	—	—	—	—	—	—	—	60	65	80	95	—	—	—	—	60	70	80	95	55	60	70	85	—	—	—	—
	—	—	—	—	—	—	—	—	*195*	*215*	*260*	*310*	—	—	—	—	*195*	*230*	*260*	*310*	*180*	*195*	*230*	*280*	—	—	—	—
H11	65	75	90	105	—	—	—	—	70	80	100	115	—	—	—	—	75	85	100	115	65	75	85	100	—	—	—	—
	215	*245*	*295*	*345*	—	—	—	—	*230*	*260*	*330*	*375*	—	—	—	—	*245*	*280*	*330*	*375*	*215*	*245*	*280*	*330*	—	—	—	—
H12	105	120	145	170	—	—	—	—	105	120	145	170	—	—	—	—	120	135	160	190	95	110	130	150	—	—	—	—
	345	*395*	*475*	*560*	—	—	—	—	*345*	*395*	*475*	*560*	—	—	—	—	*395*	*445*	*520*	*620*	*310*	*360*	*425*	*490*	—	—	—	—

R217.29I-06 – Metric





—For insert selection and cutting data recommendations, see page(s) 702-704
—For complete insert programme, see page(s) 889
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCONMS	LF	LS	LUX	LPR	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm	mm	mm	mm		mm	mm		kg	
R217.29I-2525.3-06.2.050A	02949613	Weldon	13,0	25,0	2	6,0	25,0	74,0	46,0	21,6	50,5	106,0	13,0	38,0	48,0	17700	0,4	RP..1204
R217.29I-3232.3-06.3.060A	02949614	Weldon	20,0	32,0	3	6,0	32,0	84,0	60,0	26,6	60,5	120,0	7,0	52,0	62,0	15600	0,7	RP..1204
R217.29I-3240.3-06-055.4A	03024047	Weldon	28,0	40,0	4	6,0	32,0	79,0	60,0	55,0	55,0	115,0	8,0	68,0	78,0	14000	0,7	RP..1204
R217.29I-3240.3-06.4.075A	02949615	Weldon	28,0	40,0	4	6,0	32,0	99,0	60,0	72,0	75,5	135,0	8,0	68,0	78,0	14000	0,8	RP..1204

Center coolant hole possibility by removning centre screw

Spare Parts, included in delivery

For cutter	Centre screw	Insert key	Insert screw	Key	Screw
					
R217.29I-.. Ø25	–	1/4HEX-T15PX50	C03508-T15P	1/4HEX-T05PX50	SX2035-T05P
R217.29I-.. Ø32-40	–	1/4HEX-T15PX50	C03509-T15P	1/4HEX-T05PX50	SX2035-T05P
R217.29I-.. Ø32-40-4A	SH3040	1/4HEX-T15PX50	C03509-T15P	1/4HEX-T05PX50	SX2035-T05P

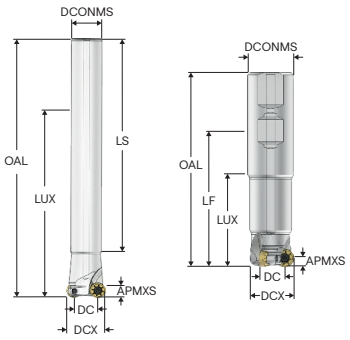
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.29-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-15P30

Torque and fixed keys, see page 944

R217.29I-06 – inch





—For insert selection and cutting data recommendations, see page(s) 702-704
—For complete insert programme, see page(s) 889
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCONMS	LF	LS	LUX	LPR	OAL	RMPX°	C min	C max	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch	inch	inch	inch		inch	inch		lbs	
R217.29I-01.00-3F-06.2A	02949640	Weldon	0.528	1.000	2	0.236	1.000	4.639	3.280	2.500	2.500	5.780	12,0	1.528	1.921	17700	1.100	RP..1204
R217.29I-01.00-0-06.2A	02949638	Cylindrical	0.528	1.000	2	0.236	1.000	–	4.008	2.480	4.295	6.500	12,0	1.528	1.921	17700	1.540	RP..1204

Center coolant hole possibility by removning centre screw

Spare Parts, included in delivery

For cutter	Insert key	Insert screw	Key	Screw
				
R217.29I-..	1/4HEX-T15PX50	C03508-T15P	1/4HEX-T05PX50	SX2035-T05P

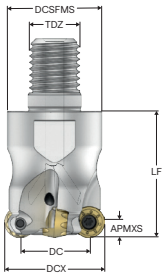
Accessories

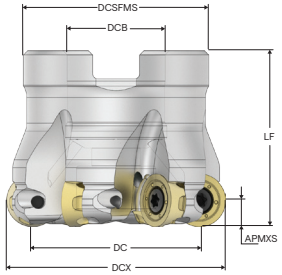
For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.29I-01.00	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-15P30

Torque and fixed keys, see page 944

R217/220.29I-06 – Metric



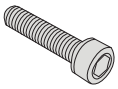




–For insert selection and cutting data recommendations, see page(s) 702-704
–For complete insert programme, see page(s) 889
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCB	DCSFMS	TDZ	DCONMS	LF	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm	mm		mm	mm	mm		mm	mm		kg	
R217.29I-1225.RE-06.2A	02949605	Combimaster	13,0	25,0	2	6,0	–	23,0	M12	–	35,0	56,75	13,0	38,0	48,0	17700	0,2	RP..1204
R217.29I-1632.RE-06.3A	02949607	Combimaster	20,0	32,0	3	6,0	–	30,0	M16	–	40,0	62,75	7,0	52,0	62,0	15600	0,2	RP..1204
R217.29I-1635.RE-06.3A	02949608	Combimaster	23,0	35,0	3	6,0	–	30,0	M16	–	40,0	62,75	10,0	58,0	68,0	15000	0,3	RP..1204
R217.29I-1635.RE-06.4A	02949609	Combimaster	23,0	35,0	4	6,0	–	30,0	M16	–	40,0	62,75	6,0	58,0	68,0	15000	0,3	RP..1204
R217.29I-1640.RE-06.4A	02949611	Combimaster	28,0	40,0	4	6,0	–	30,0	M16	–	40,0	62,75	8,0	68,0	78,0	14000	0,3	RP..1204
R217.29I-2040.RE06.4A	02928079	Combimaster	28,0	40,0	4	6,0	–	36,5	M20	–	45,0	72,0	8,0	68,0	78,0	14000	0,4	RP..1204
R217.29I-1642.RE-06.5A	02949612	Combimaster	30,0	42,0	5	6,0	–	30,0	M16	–	40,0	62,75	4,0	72,0	82,0	13600	0,3	RP..1204
R217.29I-2042.RE-06.5A	02991174	Combimaster	30,0	42,0	5	6,0	–	36,5	M20	–	45,0	72,0	4,2	72,0	82,0	13600	0,4	RP..1204
R220.29I-0040-06.4A	02949616	Arbor	28,0	40,0	4	6,0	16,0	35,0	–	16,0	40,0	–	8,0	68,0	78,0	14000	0,3	RP..1204
R220.29I-0044-06.4A	03002205	Arbor	32,0	44,0	4	6,0	16,0	35,0	–	16,0	40,0	–	7,9	76,0	86,0	13300	0,3	RP..1204
R220.29I-0050-06.4A	02949617	Arbor	38,0	50,0	4	6,0	22,0	42,0	–	22,0	40,0	–	5,5	88,0	98,0	12500	0,3	RP..1204
R220.29I-0050-06.5A	02949618	Arbor	38,0	50,0	5	6,0	22,0	42,0	–	22,0	40,0	–	5,5	88,0	98,0	12500	0,4	RP..1204
R220.29I-0050-06.6A	03203202	Arbor	38,0	50,0	6	6,0	22,0	42,0	–	22,0	40,0	–	5,0	88,0	98,0	12500	0,4	RP..1204
R220.29I-0052-06.4A	02949619	Arbor	40,0	52,0	4	6,0	22,0	42,0	–	22,0	40,0	–	5,0	92,0	102,0	12300	0,4	RP..1204
R220.29I-0052-06.5A	02949620	Arbor	40,0	52,0	5	6,0	22,0	42,0	–	22,0	40,0	–	5,0	92,0	102,0	12300	0,4	RP..1204
R220.29I-0063-06.5A	02949621	Arbor	51,0	63,0	5	6,0	22,0	47,0	–	22,0	40,0	–	4,0	114,0	124,0	11200	0,5	RP..1204
R220.29I-0063-06.6A	02949622	Arbor	51,0	63,0	6	6,0	22,0	47,0	–	22,0	40,0	–	4,0	114,0	124,0	11200	0,6	RP..1204
R220.29I-0063-06.7A	02949623	Arbor	51,0	63,0	7	6,0	22,0	47,0	–	22,0	40,0	–	3,0	114,0	124,0	11200	0,5	RP..1204
R220.29I-0066-06.6A	02949624	Arbor	54,0	66,0	6	6,0	27,0	50,0	–	27,0	50,0	–	3,5	120,0	130,0	10900	0,7	RP..1204
R220.29I-0080-06.6A	02949625	Arbor	68,0	80,0	6	6,0	27,0	62,0	–	27,0	50,0	–	3,0	148,0	158,0	10000	1,1	RP..1204
R220.29I-0080-06.7A	02949626	Arbor	68,0	80,0	7	6,0	27,0	62,0	–	27,0	50,0	–	3,0	148,0	158,0	10000	1,1	RP..1204
R220.29I-0080-06.8A	02949627	Arbor	68,0	80,0	8	6,0	27,0	62,0	–	27,0	50,0	–	2,0	148,0	158,0	10000	1,1	RP..1204
R220.29I-0084-06.6A	02969096	Arbor	72,0	84,0	6	6,0	32,0	77,0	–	32,0	50,0	–	2,5	156,0	166,0	9500	1,4	RP..1204
R220.29I-0092-06.7A	02949628	Arbor	80,0	92,0	7	6,0	32,0	77,0	–	32,0	50,0	–	2,5	172,0	182,0	9200	1,5	RP..1204
R220.29I-0100-06.9A	02949629	Arbor	88,0	100,0	9	6,0	32,0	77,0	–	32,0	50,0	–	2,0	188,0	198,0	8800	1,6	RP..1204
R220.29I-0112-06.7A	02949630	Arbor	100,0	112,0	7	6,0	32,0	77,0	–	32,0	63,0	–	1,5	212,0	222,0	8400	1,9	RP..1204
R220.29I-0125-06.11A	02949631	Arbor	113,0	125,0	11	6,0	40,0	90,0	–	40,0	63,0	–	1,5	238,0	248,0	8000	3,3	RP..1204
R220.29I-0137-06.8A	02949632	Arbor	125,0	137,0	8	6,0	40,0	90,0	–	40,0	63,0	–	1,5	262,0	272,0	7600	4,0	RP..1204

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Key	Screw
					
R217.29I-25/35-4A/42	–	1/4HEX-T15PX50	C03508-T15P	1/4HEX-T05PX50	SX2035-T05P
R217.29I-32/35-3A/40	–	1/4HEX-T15PX50	C03509-T15P	1/4HEX-T05PX50	SX2035-T05P
R220.29I-.. Ø125-137	MC6S20X50	1/4HEX-T15PX90	C03509-T15P	1/4HEX-T05PX50	SX2035-T05P
R220.29I-.. Ø40-44	220.17-689	1/4HEX-T15PX50	C03509-T15P	1/4HEX-T05PX50	SX2035-T05P
R220.29I-.. Ø50-52	220.17-692	1/4HEX-T15PX50	C03509-T15P	1/4HEX-T05PX50	SX2035-T05P
R220.29I-.. Ø50-6A	220.17-692	1/4HEX-T15PX50	C03508-T15P	1/4HEX-T05PX50	SX2035-T05P
R220.29I-.. Ø63	220.17-692	1/4HEX-T15PX50	C03509-T15P	1/4HEX-T05PX50	SX2035-T05P
R220.29I-.. Ø66-80	MC6S12X35	1/4HEX-T15PX50	C03509-T15P	1/4HEX-T05PX50	SX2035-T05P
R220.29I-.. Ø84-112	950E1645	1/4HEX-T15PX50	C03509-T15P	1/4HEX-T05PX50	SX2035-T05P
R220.29I-.. Ø84-112	950E1645	1/4HEX-T15PX90	C03509-T15P	1/4HEX-T05PX50	SX2035-T05P

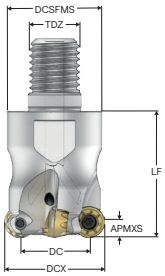
Accessories

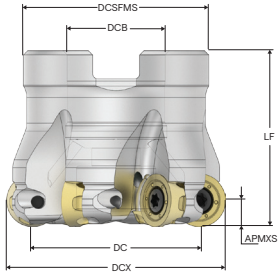
For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.29-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-15P30

Torque and fixed keys, see page 944

R217/220.29I-06 – Inch







–For insert selection and cutting data recommendations, see page(s) 702-704
–For complete insert programme, see page(s) 889
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCB	DCSFMS	TDZ	DCONMS	LF	OAL	RMPX°	C min	C max	RPMX	Weight	Insert
			inch	inch		inch	inch	inch		inch	inch	inch		inch	inch		lbs	
R217.29I-01.00-12RE-06.2A	02949633	Combimaster	0.528	1.000	2	0.236	–	0.906	M12	–	1.378	2.234	12,0	1.528	1.921	17700	0.440	RP..1204
R217.29I-01.25-12RE-06.3A	02949635	Combimaster	0.778	1.250	3	0.236	–	0.906	M12	–	1.575	2.431	7,0	2.028	2.421	15600	0.440	RP..1204
R217.29I-01.25-16RE-06.3A	02949634	Combimaster	0.778	1.250	3	0.236	–	1.181	M16	–	1.575	2.470	7,0	2.028	2.421	15600	0.660	RP..1204
R217.29I-01.50-16RE-06.3A	02949636	Combimaster	1.028	1.500	3	0.236	–	1.181	M16	–	1.575	2.470	8,5	2.528	2.921	14000	0.660	RP..1204
R217.29I-01.50-16RE-06.4A	02949637	Combimaster	1.028	1.500	4	0.236	–	1.181	M16	–	1.575	2.470	8,5	2.528	2.921	14000	0.660	RP..1204
R217.29I-01.50-20RE-06.4A	03002402	Combimaster	1.028	1.500	4	0.236	–	1.437	M20	–	1.575	2.638	8,5	2.528	2.921	14000	0.660	RP..1204
R220.29I-02.00-06.4A	02949642	Arbor	1.528	2.000	4	0.236	0.750	1.654	–	0.750	1.500	–	6,5	3.528	3.921	12500	0.660	RP..1204
R220.29I-02.00-06.5A	02949643	Arbor	1.528	2.000	5	0.236	0.750	1.654	–	0.750	1.500	–	6,5	3.528	3.921	12500	0.880	RP..1204
R220.29I-02.00-06.6A	03279243	Arbor	1.535	2.000	6	0.236	0.750	1.654	–	0.750	1.500	–	5,0	3.535	3.921	12500	0.660	RP..1204
R220.29I-02.50-06.6A	02949644	Arbor	2.028	2.500	6	0.236	0.750	1.850	–	0.750	1.500	–	4,6	4.528	4.921	11200	1.100	RP..1204
R220.29I-02.50-06.7A	02949645	Arbor	2.028	2.500	7	0.236	0.750	1.850	–	0.750	1.500	–	4,6	4.528	4.921	11200	1.100	RP..1204
R220.29I-03.00-06.6A	02949647	Arbor	2.528	3.000	6	0.236	1.000	2.441	–	1.000	2.000	–	3,0	5.528	5.921	10000	2.430	RP..1204
R220.29I-03.00-06.7A	02949648	Arbor	2.528	3.000	7	0.236	1.000	2.441	–	1.000	2.000	–	3,0	5.528	5.921	10000	2.430	RP..1204
R220.29I-04.00-06.7A	02949649	Arbor	3.528	4.000	7	0.236	1.500	3.543	–	1.500	2.000	–	2,0	7.528	7.921	8800	4.410	RP..1204
R220.29I-06.00-06.8	02949652	Arbor	5.528	6.000	8	0.236	2.000	4.331	–	2.000	2.000	–	1,2	11.528	11.921	7600	6.830	RP..1204

Spare Parts, included in delivery

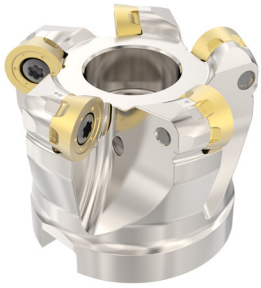
For cutter	Arbor screw	Insert key	Insert screw	Key	Screw
R217.29I-01.00	–	1/4HEX-T15PX50	C03508-T15P	1/4HEX-T05PX50	SX2035-T05P
R217.29I-01.25-01.50	–	1/4HEX-T15PX50	C03509-T15P	1/4HEX-T05PX50	SX2035-T05P
R220.29I-02.00-02.50	UC6S3/8UNFX1	1/4HEX-T15PX50	C03509-T15P	1/4HEX-T05PX50	SX2035-T05P
R220.29I-02.00-02.50	UC6S3/8UNFX1-1/4	1/4HEX-T15PX50	C03509-T15P	1/4HEX-T05PX50	SX2035-T05P
R220.29I-02.00-6A	UC6S3/8UNFX1	1/4HEX-T15PX50	C03508-T15P	1/4HEX-T05PX50	SX2035-T05P
R220.29I-03.00	UC6S1/2UNFX1-1/2	1/4HEX-T15PX50	C03509-T15P	1/4HEX-T05PX50	SX2035-T05P
R220.29I-04.00	ULC6S3/4UNFX11/2	1/4HEX-T15PX90	C03509-T15P	1/4HEX-T05PX50	SX2035-T05P
R220.29I-06.00	–	1/4HEX-T15PX90	C03509-T15P	1/4HEX-T05PX50	SX2035-T05P

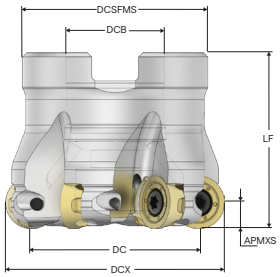
Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
R217/220.29-01.00-04.00	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	3.0NM	T00-15P30
R220.29I-06.00	1/4HEX-S-HANDLE-0.8-5.0NM	58215080	1/4HEX-S-HANDLE	3.0NM	T00-15P30

Torque and fixed keys, see page 944

R220.29B-06 – For blade machining – Metric



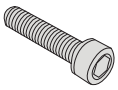


—For insert selection and cutting data recommendations, see page(s) 702-704
—For complete insert programme, see page(s) 889
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCB	DCSFMS	DCONMS	LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm	mm		mm	mm		kg	
R220.29B-0040-06.4A	03007485	Arbor	28,0	40,0	4	6,0	16,0	35,0	16,0	40,0	5,0	68,0	78,0	14000	0,2	RP..1204
R220.29B-0050-06.5A	03007486	Arbor	38,0	50,0	5	6,0	22,0	42,0	22,0	40,0	5,0	88,0	98,0	12500	0,3	RP..1204
R220.29B-0052-06.5A	03007487	Arbor	38,0	52,0	5	6,0	22,0	42,0	22,0	40,0	5,0	90,0	102,0	12300	0,3	RP..1204
R220.29B-0063-06.6A	03074236	Arbor	51,0	63,0	6	6,0	22,0	47,0	22,0	40,0	4,0	114,0	124,0	11200	0,5	RP..1204
R220.29B-0063-06.7A	03074237	Arbor	51,0	63,0	7	6,0	22,0	47,0	22,0	40,0	4,0	114,0	124,0	11200	0,5	RP..1204

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Key	Screw
					
R220.29-0040	220.17-689	1/4HEX-T15PX50	C03509-T15P	1/4HEX-T05PX50	SX2035-T05P
R220.29-0050-0063	220.17-692	1/4HEX-T15PX50	C03509-T15P	1/4HEX-T05PX50	SX2035-T05P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R220.29-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-15P30

Torque and fixed keys, see page 944

R217/220.29-06 – Insert selection – mm/Inch

SMG		a_p	f_z			
			100%	70%	30%	10%
P1	RPHT1204M0T-6-M08 MP2501	2,5 *0.10*	0,25 0.010	0,25 0.010	0,28 0.011	0,46 0.018
P2	RPHT1204M0T-6-M08 MP2501	2,5 *0.10*	0,25 0.010	0,25 0.010	0,30 0.012	0,46 0.018
P3	RPHT1204M0T-6-M08 MP2501	2,5 *0.10*	0,24 0.0095	0,24 0.0095	0,28 0.011	0,44 0.017
P4	RPKT1204M0T-6-M15 MP2501	2,5 *0.10*	0,44 0.017	0,44 0.017	0,50 0.020	0,80 0.032
P5	RPKT1204M0T-6-M15 MP2501	2,5 *0.10*	0,44 0.017	0,44 0.017	0,50 0.020	0,80 0.032
P6	RPKT1204M0T-6-M15 MP2501	2,5 *0.10*	0,42 0.017	0,42 0.017	0,50 0.020	0,80 0.032
P7	RPKT1204M0T-6-M15 MP2501	2,5 *0.10*	0,42 0.017	0,42 0.017	0,50 0.020	0,80 0.032
P8	RPHT1204M0T-6-M13 MS2500	2,5 *0.10*	0,38 0.015	0,38 0.015	0,46 0.018	0,70 0.028
P11	RPHT1204M0T-6-M13 MS2500	2,5 *0.10*	0,36 0.014	0,36 0.014	0,42 0.017	0,70 0.028
P12	RPHT1204M0T-4-M13 MS2500	1,9 *0.075*	0,28 0.011	0,28 0.011	0,34 0.013	0,55 0.022
M1	RPHT1204M0T-6-ME07 MS2050	2,5 *0.10*	0,22 0.0085	0,22 0.0085	0,26 0.010	0,40 0.016
M2	RPHT1204M0T-6-ME07 MS2050	2,5 *0.10*	0,20 0.0080	0,20 0.0080	0,24 0.0095	0,36 0.014
M3	RPHT1204M0T-6-ME07 MS2050	1,9 *0.075*	0,18 0.0070	0,18 0.0070	0,22 0.0085	0,34 0.013
M4	RPHT1204M0T-6-M08 MP3501	1,4 *0.055*	0,22 0.0085	0,22 0.0085	0,24 0.0095	0,38 0.015
M5	RPHT1204M0T-6-M08 MP3501	1,4 *0.055*	0,22 0.0085	0,22 0.0085	0,24 0.0095	0,38 0.015
K1	RPKT1204M0T-6-M15 MK2050	2,5 *0.10*	0,48 0.019	0,48 0.019	0,55 0.022	0,90 0.036
K2	RPKT1204M0T-6-M15 MK2050	2,5 *0.10*	0,44 0.017	0,44 0.017	0,50 0.020	0,80 0.032
K3	RPKT1204M0T-6-M15 MK2050	2,5 *0.10*	0,44 0.017	0,44 0.017	0,50 0.020	0,80 0.032
K4	RPKT1204M0T-6-M15 MK2050	2,5 *0.10*	0,44 0.017	0,44 0.017	0,50 0.020	0,80 0.032
K5	RPKT1204M0T-6-M15 MK2050	2,5 *0.10*	0,38 0.015	0,38 0.015	0,46 0.018	0,70 0.028
K6	RPKT1204M0T-6-M15 MK2050	2,5 *0.10*	0,44 0.017	0,44 0.017	0,50 0.020	0,80 0.032
K7	RPKT1204M0T-6-M15 MK2050	2,5 *0.10*	0,38 0.015	0,38 0.015	0,46 0.018	0,70 0.028
N1	RPHT1204M0-6-E05 H25	2,5 *0.10*	0,20 0.0080	0,20 0.0080	0,24 0.0095	0,36 0.014
N2	RPHT1204M0-6-E05 H25	2,5 *0.10*	0,20 0.0080	0,20 0.0080	0,24 0.0095	0,36 0.014
N3	RPHT1204M0-6-E05 H25	2,5 *0.10*	0,20 0.0080	0,20 0.0080	0,24 0.0095	0,36 0.014
N11	RPHT1204M0-6-E05 H25	2,5 *0.10*	0,20 0.0080	0,20 0.0080	0,24 0.0095	0,36 0.014
S1	RPHT1204M0T-6-M13 MS2500	1,4 *0.055*	0,34 0.013	0,34 0.013	0,40 0.016	0,65 0.026
S2	RPHT1204M0T-6-M13 MS2500	1,4 *0.055*	0,34 0.013	0,34 0.013	0,40 0.016	0,65 0.026
S3	RPHT1204M0T-6-M13 MS2500	1,4 *0.055*	0,32 0.013	0,32 0.013	0,36 0.014	0,60 0.024
S11	RPHT1204M0T-6-M13 MS2050	1,7 *0.065*	0,36 0.014	0,36 0.014	0,40 0.016	0,65 0.026
S12	RPHT1204M0T-6-M13 MS2050	1,7 *0.065*	0,36 0.014	0,36 0.014	0,40 0.016	0,65 0.026
S13	RPHT1204M0T-6-M13 MS2050	1,4 *0.055*	0,34 0.013	0,34 0.013	0,40 0.016	0,65 0.026
H5	RPKW1204M0T-6-MD10 MH1051	1,9 *0.075*	0,22 0.0085	0,22 0.0085	0,26 0.010	0,40 0.016
H8	RPKW1204M0T-6-MD10 MH1051	1,7 *0.065*	0,18 0.0070	0,18 0.0070	0,20 0.0080	0,32 0.013
H11	RPKW1204M0T-6-MD10 MH1051	1,9 *0.075*	0,22 0.0085	0,22 0.0085	0,26 0.010	0,40 0.016
H12	RPHT1204M0T-6-M13 MP3501	1,7 *0.065*	0,24 0.0095	0,24 0.0095	0,26 0.010	0,42 0.017

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

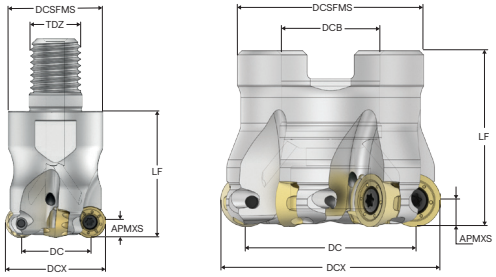
R217/220.29-06 – Cutting data v_c = (m/min)/(sf/min)

SMG	MH1051				MK2050				MP3000				MS2050				F40M				MP2051				MP2050			
	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%
P1	—	—	—	—	275	315	380	440	360	410	470	540	255	290	345	400	315	345	395	440	290	335	445	540	280	325	390	455
	—	—	—	—	*900*	*1025*	*1250*	*1450*	*1175*	*1350*	*1550*	*1775*	*840*	*950*	*1125*	*1300*	*1025*	*1125*	*1300*	*1450*	*950*	*1100*	*1450*	*1775*	*920*	*1075*	*1275*	*1500*
P2	—	—	—	—	265	300	360	430	350	395	455	520	250	280	340	390	310	335	385	430	280	325	430	520	275	315	380	445
	—	—	—	—	*870*	*980*	*1175*	*1400*	*1150*	*1300*	*1500*	*1700*	*820*	*920*	*1125*	*1275*	*1025*	*1100*	*1275*	*1400*	*920*	*1075*	*1400*	*1700*	*900*	*1025*	*1250*	*1450*
P3	—	—	—	—	230	265	315	375	305	345	395	450	220	245	295	345	275	295	340	375	255	290	385	470	240	275	330	395
	—	—	—	—	*750*	*870*	*1025*	*1225*	*1000*	*1125*	*1300*	*1475*	*720*	*800*	*970*	*1125*	*900*	*970*	*1125*	*1225*	*840*	*950*	*1275*	*1550*	*790*	*900*	*1075*	*1300*
P4	—	—	—	—	205	235	285	330	265	300	350	395	195	215	260	305	240	270	310	350	225	255	340	410	210	240	290	345
	—	—	—	—	*670*	*770*	*940*	*1075*	*870*	*980*	*1150*	*1300*	*640*	*710*	*850*	*1000*	*790*	*890*	*1025*	*1150*	*740*	*840*	*1125*	*1350*	*690*	*790*	*950*	*1125*
P5	390	440	540	640	200	225	270	320	260	290	335	380	185	205	255	290	230	250	285	315	215	245	330	395	200	230	285	330
	1275	*1450*	*1775*	*2100*	*660*	*740*	*890*	*1050*	*850*	*950*	*1100*	*1250*	*610*	*670*	*840*	*950*	*750*	*820*	*940*	*1025*	*710*	*800*	*1075*	*1300*	*660*	*750*	*940*	*1075*
P6	435	495	610	720	220	255	305	355	290	330	375	425	210	240	285	325	255	280	320	355	250	285	375	440	230	265	315	370
	1425	*1625*	*2000*	*2350*	*720*	*840*	*1000*	*1175*	*950*	*1075*	*1225*	*1400*	*690*	*790*	*940*	*1075*	*840*	*920*	*1050*	*1175*	*820*	*940*	*1225*	*1450*	*750*	*870*	*1025*	*1225*
P7	410	465	580	680	210	240	290	335	275	310	355	405	200	225	270	310	245	265	300	335	235	270	350	415	215	250	300	350
	1350	*1525*	*1900*	*2225*	*690*	*790*	*950*	*1100*	*900*	*1025*	*1175*	*1325*	*660*	*740*	*890*	*1025*	*800*	*870*	*980*	*1100*	*770*	*890*	*1150*	*1350*	*710*	*820*	*980*	*1150*
P8	375	425	530	630	195	220	265	315	255	290	330	380	185	205	250	290	230	250	285	315	215	245	320	395	200	230	280	330
	1225	*1400*	*1750*	*2075*	*640*	*720*	*870*	*1025*	*840*	*950*	*1075*	*1250*	*610*	*670*	*820*	*950*	*750*	*820*	*940*	*1025*	*710*	*800*	*1050*	*1300*	*660*	*750*	*920*	*1075*
P11	400	455	560	660	205	235	280	330	265	300	345	390	195	220	260	300	235	255	295	325	215	265	375	490	210	240	290	340
	1300	*1500*	*1825*	*2175*	*670*	*770*	*920*	*1075*	*870*	*980*	*1125*	*1275*	*640*	*720*	*850*	*980*	*770*	*840*	*970*	*1075*	*710*	*870*	*1225*	*1600*	*690*	*790*	*950*	*1125*
P12	280	315	380	445	135	150	185	215	165	185	205	230	130	145	175	195	155	165	190	205	160	200	265	335	140	160	190	220
	920	*1025*	*1250*	*1450*	*445*	*490*	*610*	*710*	*540*	*610*	*670*	*750*	*425*	*475*	*570*	*640*	*510*	*540*	*620*	*670*	*520*	*660*	*870*	*1100*	*460*	*520*	*620*	*720*
M1	—	—	—	—	—	—	—	—	225	260	310	365	190	215	260	305	210	240	285	335	230	285	415	540	195	225	270	320
	—	—	—	—	—	—	—	—	*740*	*850*	*1025*	*1200*	*620*	*710*	*850*	*1000*	*690*	*790*	*940*	*1100*	*750*	*940*	*1350*	*1775*	*640*	*740*	*890*	*1050*
M2	—	—	—	—	—	—	—	—	190	220	260	305	155	175	215	250	170	200	235	275	195	240	360	465	160	185	225	265
	—	—	—	—	—	—	—	—	*620*	*720*	*850*	*1000*	*510*	*570*	*710*	*820*	*560*	*660*	*770*	*900*	*640*	*790*	*1175*	*1525*	*520*	*610*	*740*	*870*
M3	—	—	—	—	—	—	—	—	150	175	205	240	125	145	175	205	140	160	190	220	180	220	300	395	130	150	180	215
	—	—	—	—	—	—	—	—	*490*	*570*	*670*	*790*	*410*	*475*	*570*	*670*	*460*	*520*	*620*	*720*	*590*	*720*	*980*	*1300*	*425*	*490*	*590*	*710*
M4	—	—	—	—	—	—	—	—	115	135	155	185	100	110	135	160	105	120	145	175	145	175	240	310	105	120	140	165
	—	—	—	—	—	—	—	—	*375*	*445*	*510*	*610*	*330*	*360*	*445*	*520*	*345*	*395*	*475*	*570*	*475*	*570*	*790*	*1025*	*345*	*395*	*460*	*540*
M5	—	—	—	—	—	—	—	—	95	110	130	155	80	95	115	135	90	100	120	145	120	150	200	260	85	100	120	140
	—	—	—	—	—	—	—	—	*310*	*360*	*425*	*510*	*260*	*310*	*375*	*445*	*295*	*330*	*395*	*475*	*395*	*490*	*660*	*850*	*280*	*330*	*395*	*460*
K1	510	570	720	860	285	325	390	465	240	275	330	385	—	—	—	—	205	235	280	330	—	—	—	—	—	—	—	—
	1675	*1875*	*2350*	*2825*	*940*	*1075*	*1275*	*1525*	*790*	*900*	*1075*	*1275*	—	—	—	—	*670*	*770*	*920*	*1075*	—	—	—	—	—	—	—	—
K2	470	530	660	770	255	295	350	410	215	250	295	345	—	—	—	—	180	210	250	290	—	—	—	—	—	—	—	—
	1550	*1750*	*2175*	*2525*	*840*	*970*	*1150*	*1350*	*710*	*820*	*970*	*1125*	—	—	—	—	*590*	*690*	*820*	*950*	—	—	—	—	—	—	—	—
K3	400	450	560	650	215	250	295	350	180	210	250	295	—	—	—	—	155	175	210	245	—	—	—	—	—	—	—	—
	1300	*1475*	*1825*	*2125*	*710*	*820*	*970*	*1150*	*590*	*690*	*820*	*970*	—	—	—	—	*510*	*570*	*690*	*800*	—	—	—	—	—	—	—	—
K4	380	430	530	630	205	235	285	330	175	200	235	280	—	—	—	—	145	170	200	235	—	—	—	—	—	—	—	—
	1250	*1400*	*1750*	*2075*	*670*	*770*	*940*	*1075*	*570*	*660*	*770*	*920*	—	—	—	—	*475*	*560*	*660*	*770*	—	—	—	—	—	—	—	—
K5	235	265	330	385	125	145	175	205	105	120	145	170	—	—	—	—	90	105	125	145	—	—	—	—	—	—	—	—
	770	*870*	*1075*	*1275*	*410*	*475*	*570*	*670*	*345*	*395*	*475*	*560*	—	—	—	—	*295*	*345*	*410*	*475*	—	—	—	—	—	—	—	—
K6	335	380	470	550	180	210	250	295	155	175	210	245	—	—	—	—	130	150	175	205	—	—	—	—	—	—	—	—
	1100	*1250*	*1550*	*1800*	*590*	*690*	*820*	*970*	*510*	*570*	*690*	*800*	—	—	—	—	*425*	*490*	*570*	*670*	—	—	—	—	—	—	—	—
K7	300	340	425	495	160	185	225	260	135	155	185	215	—	—	—	—	115	130	155	185	—	—	—	—	—	—	—	—
	980	*1125*	*1400*	*1625*	*520*	*610*	*740*	*850*	*445*	*510*	*610*	*710*	—	—	—	—	*375*	*425*	*510*	*610*	—	—	—	—	—	—	—	—
N1	—	—	—	—	—	—	—	—	1800	2075	2475	2900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	*5900*	*6800*	*8125*	*9525*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	730	840	1000	1175	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	*2400*	*2750*	*3275*	*3850*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	485	560	660	780	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	*1600*	*1825*	*2175*	*2550*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	560	640	760	890	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	*1825*	*2100*	*2500*	*2925*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	55	60	75	85	46	50	65	75	50	55	70	80	50	60	70	80	50	60	70	80
	—	—	—	—	—	—	—	—	*180*	*195*	*245*	*280*	*150*	*165*	*215*	*245*	*165*	*180*	*230*	*260*	*165*	*195*	*230*	*260*	*165*	*195*	*230*	*260*
S2	—	—	—	—	—	—	—	—	44	50	60	70	37	42	50	60	40	46	55	65	41	46	55	65	41	46	55	65
	—	—	—	—	—	—	—	—	*145*	*165*	*195*	*230*	*120*	*140*	*165*	*195*	*130*	*150*	*180*	*215*	*135*	*150*	*180*	*215*	*135*	*150*	*180*	*215*
S3	—	—	—	—	—	—	—	—	38	44	50	60	33	37	45	50	35	40	48	55	36	41	49	55	36	41	49	55
	—	—	—	—	—	—	—	—	*125*	*145*	*165*	*195*	*110*	*120*	*150*	*165*	*115*	*130*	*155*	*180*	*120*	*135*	*160*	*180*	*120*	*135*	*160*	*180*
S11	—	—	—	—	—	—	—	—	75	85	105	120	65	75	90	105	70	80	95	110	70	80	95	115	70	80	95	115
	—	—	—	—	—	—	—	—	*245*	*280*	*345*	*395*	*215*	*245*	*295*	*345*	*230*	*260*	*310*	*360*	*230*	*260*	*310*	*375*	*230*	*260*	*310*	*375*
S12	—	—	—	—	—	—	—	—	55	60	70	85	44	50	60	70	49	55	65	80	49	55	65	80	49	55	65	80
	—	—	—	—	—	—	—	—	*180*	*195*	*230*	*280*	*145*	*165*	*195*	*230*	*160*	*180*	*215*	*260*	*160*	*180*	*215*	*260*	*160*	*180*	*215*	*260*
S13	—	—	—	—	—	—	—	—	31	35	41	48	26	30	36	42	28	32	38	45	28	32	39	46	28	32	39	46
	—	—	—	—	—	—	—	—	*100*	*115*	*135*	*155*	*85*	*100*	*120*	*140*	*90*	*105*	*125*	*150*	*90*	*105*	*130*	*150*	*90*	*105*	*130*	*150*
H5	140	160	195	230	—	—	—	—	46	55	65	75	—	—	—	—	42	48	60	70	—	—	—	—	—	—	—	—
	460	*520*	*640*	*750*	—	—	—	—	*150*	*180*	*215*	*245*	—	—	—	—	*140*	*155*	*195*	*230*	—	—	—	—	—	—	—	—
H8	155	175	210	240	—	—	—	—	49	55	65	75	—	—	—	—	45	50	60	70	—	—	—	—	—	—	—	—
	510	*570*	*690*	*790*	—	—	—	—	*160*	*180*	*215*	*245*	—	—	—	—	*150*	*165*	*195*	*230*	—	—	—	—	—	—	—	—
H11	180	205	250	290	—	—	—	—	60	70	80	95	—	—	—	—	55	60	75	85	105	130	175	220	55	60	75	85
	590	*670*	*820*	*950*	—	—	—	—	*195*	*230*	*260*	*310*	—	—	—	—	*180*	*195*	*245*	*280*	*345*	*425*	*570*	*720*	*180*	*195*	*245*	*280*
H12	180	205	240	280	85	95	115	135	95	105	125	145	—	—	—	—	80	90	110	130	105	130	170	210	90	100	120	140
	590	*670*	*790*	*920*	*280*	*310*	*375*	*445*	*310*	*345*	*410*	*475*	—	—	—	—	*260*	*295*	*360*	*425*	*345*	*425*	*560*	*690*	*295*	*330*	*395*	*460*

R217/220.29-06 – Cutting data v_c = (m/min)/(sf/min)

SMG	H25				MP1501				MP2501				MS2500				MP3501				MM4500			
	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%
P1	—	—	—	—	390	430	500	570	380	420	495	560	385	425	500	570	360	395	465	530	265	300	350	400
	—	—	—	—	*1275*	*1400*	*1650*	*1875*	*1250*	*1375*	*1625*	*1825*	*1275*	*1400*	*1650*	*1875*	*1175*	*1300*	*1525*	*1750*	*870*	*980*	*1150*	*1300*
P2	—	—	—	—	380	420	490	550	370	405	480	540	375	415	490	560	350	385	450	510	260	290	340	385
	—	—	—	—	*1250*	*1375*	*1600*	*1800*	*1225*	*1325*	*1575*	*1775*	*1225*	*1350*	*1600*	*1825*	*1150*	*1275*	*1475*	*1675*	*850*	*950*	*1125*	*1275*
P3	—	—	—	—	330	365	430	485	325	355	420	475	330	365	430	490	305	335	395	450	225	255	295	335
	—	—	—	—	*1075*	*1200*	*1400*	*1600*	*1075*	*1175*	*1375*	*1550*	*1075*	*1200*	*1400*	*1600*	*1000*	*1100*	*1300*	*1475*	*740*	*840*	*970*	*1100*
P4	—	—	—	—	295	320	380	430	285	315	370	420	290	320	375	430	270	295	350	400	215	240	280	320
	—	—	—	—	*970*	*1050*	*1250*	*1400*	*940*	*1025*	*1225*	*1375*	*950*	*1050*	*1225*	*1400*	*890*	*970*	*1150*	*1300*	*710*	*790*	*920*	*1050*
P5	—	—	—	—	285	315	365	410	275	305	360	400	275	305	365	410	260	285	340	380	195	215	250	280
	—	—	—	—	*940*	*1025*	*1200*	*1350*	*900*	*1000*	*1175*	*1300*	*900*	*1000*	*1200*	*1350*	*850*	*940*	*1125*	*1250*	*640*	*710*	*820*	*920*
P6	—	—	—	—	320	350	410	460	310	340	400	450	315	350	410	460	295	325	380	425	215	245	280	315
	—	—	—	—	*1050*	*1150*	*1350*	*1500*	*1025*	*1125*	*1300*	*1475*	*1025*	*1150*	*1350*	*1500*	*970*	*1075*	*1250*	*1400*	*710*	*800*	*920*	*1025*
P7	—	—	—	—	300	330	390	435	295	325	380	425	300	330	385	435	280	305	360	400	205	230	265	300
	—	—	—	—	*980*	*1075*	*1275*	*1425*	*970*	*1075*	*1250*	*1400*	*980*	*1075*	*1275*	*1425*	*920*	*1000*	*1175*	*1300*	*670*	*750*	*870*	*980*
P8	—	—	—	—	280	310	360	410	270	300	355	400	275	305	360	410	260	285	335	380	190	215	245	280
	—	—	—	—	*920*	*1025*	*1175*	*1350*	*890*	*980*	*1175*	*1300*	*900*	*1000*	*1175*	*1350*	*850*	*940*	*1100*	*1250*	*620*	*710*	*800*	*920*
P11	—	—	—	—	290	320	375	420	285	315	370	415	290	320	375	425	270	300	350	390	200	225	255	290
	—	—	—	—	*950*	*1050*	*1225*	*1375*	*940*	*1025*	*1225*	*1350*	*950*	*1050*	*1225*	*1400*	*890*	*980*	*1150*	*1275*	*660*	*740*	*840*	*950*
P12	—	—	—	—	195	210	245	275	190	205	245	270	190	210	245	270	180	200	230	250	120	140	155	170
	—	—	—	—	*640*	*690*	*800*	*900*	*620*	*670*	*800*	*890*	*620*	*690*	*800*	*890*	*590*	*660*	*750*	*820*	*395*	*460*	*510*	*560*
M1	—	—	—	—	—	—	—	—	190	220	265	310	220	250	300	355	190	215	260	305	170	195	230	270
	—	—	—	—	—	—	—	—	*620*	*720*	*870*	*1025*	*720*	*820*	*980*	*1175*	*620*	*710*	*850*	*1000*	*560*	*640*	*750*	*890*
M2	—	—	—	—	—	—	—	—	160	180	220	255	180	205	250	295	155	175	215	250	140	160	195	225
	—	—	—	—	—	—	—	—	*520*	*590*	*720*	*840*	*590*	*670*	*820*	*970*	*510*	*570*	*710*	*820*	*460*	*520*	*640*	*740*
M3	—	—	—	—	—	—	—	—	130	145	180	210	145	170	200	240	125	145	175	205	115	130	155	185
	—	—	—	—	—	—	—	—	*425*	*475*	*590*	*690*	*475*	*560*	*660*	*790*	*410*	*475*	*570*	*670*	*375*	*425*	*510*	*610*
M4	—	—	—	—	—	—	—	—	100	115	140	165	115	130	155	185	100	110	135	160	85	100	120	140
	—	—	—	—	—	—	—	—	*330*	*375*	*460*	*540*	*375*	*425*	*510*	*610*	*330*	*360*	*445*	*520*	*280*	*330*	*395*	*460*
M5	—	—	—	—	—	—	—	—	85	95	115	135	95	110	130	155	85	95	115	135	70	80	100	115
	—	—	—	—	—	—	—	—	*280*	*310*	*375*	*445*	*310*	*360*	*425*	*510*	*280*	*310*	*375*	*445*	*230*	*260*	*330*	*375*
K1	—	—	—	—	385	420	495	560	375	410	485	550	240	275	335	390	355	390	455	520	—	—	—	—
	—	—	—	—	*1275*	*1375*	*1625*	*1825*	*1225*	*1350*	*1600*	*1800*	*790*	*900*	*1100*	*1275*	*1175*	*1275*	*1500*	*1700*	—	—	—	—
K2	—	—	—	—	345	380	445	495	335	370	435	485	215	245	300	350	310	345	410	460	—	—	—	—
	—	—	—	—	*1125*	*1250*	*1450*	*1625*	*1100*	*1225*	*1425*	*1600*	*710*	*800*	*980*	*1150*	*1025*	*1125*	*1350*	*1500*	—	—	—	—
K3	—	—	—	—	290	320	375	420	285	310	365	410	180	205	250	295	265	290	345	390	—	—	—	—
	—	—	—	—	*950*	*1050*	*1225*	*1375*	*940*	*1025*	*1200*	*1350*	*590*	*670*	*820*	*970*	*870*	*950*	*1125*	*1275*	—	—	—	—
K4	—	—	—	—	275	305	355	400	270	300	350	390	170	195	240	280	250	275	330	370	—	—	—	—
	—	—	—	—	*900*	*1000*	*1175*	*1300*	*890*	*980*	*1150*	*1275*	*560*	*640*	*790*	*920*	*820*	*900*	*1075*	*1225*	—	—	—	—
K5	—	—	—	—	170	190	220	250	165	185	215	245	105	120	145	170	155	170	200	225	—	—	—	—
	—	—	—	—	*560*	*620*	*720*	*820*	*540*	*610*	*710*	*800*	*345*	*395*	*475*	*560*	*510*	*560*	*660*	*740*	—	—	—	—
K6	—	—	—	—	245	270	315	355	240	260	310	345	150	175	210	250	220	245	290	325	—	—	—	—
	—	—	—	—	*800*	*890*	*1025*	*1175*	*790*	*850*	*1025*	*1125*	*490*	*570*	*690*	*820*	*720*	*800*	*950*	*1075*	—	—	—	—
K7	—	—	—	—	220	240	280	320	215	235	275	315	135	155	185	220	200	220	255	290	—	—	—	—
	—	—	—	—	*720*	*790*	*920*	*1050*	*710*	*770*	*900*	*1025*	*445*	*510*	*610*	*720*	*660*	*720*	*840*	*950*	—	—	—	—
N1	1575	1800	2150	2525	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	5175	*5900*	*7050*	*8275*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	640	730	870	1025	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	2100	*2400*	*2850*	*3375*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	425	490	580	680	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1400	*1600*	*1900*	*2225*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	485	560	660	780	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1600	*1825*	*2175*	*2550*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	—	—	—	55	65	75	90	46	50	65	75	27	30	36	43
	—	—	—	—	—	—	—	—	—	—	—	—	*180*	*215*	*245*	*295*	*150*	*165*	*215*	*245*	*90*	*100*	*120*	*140*
S2	—	—	—	—	—	—	—	—	—	—	—	—	45	50	60	75	37	42	50	60	21	24	29	34
	—	—	—	—	—	—	—	—	—	—	—	—	*150*	*165*	*195*	*245*	*120*	*140*	*165*	*195*	*70*	*80*	*95*	*110*
S3	—	—	—	—	—	—	—	—	—	—	—	—	40	45	55	65	33	37	45	50	19	21	26	30
	—	—	—	—	—	—	—	—	—	—	—	—	*130*	*150*	*180*	*215*	*110*	*120*	*150*	*165*	*60*	*70*	*85*	*100*
S11	—	—	—	—	—	—	—	—	—	—	—	—	80	90	105	125	65	75	90	105	37	43	50	60
	—	—	—	—	—	—	—	—	—	—	—	—	*260*	*295*	*345*	*410*	*215*	*245*	*295*	*345*	*120*	*140*	*165*	*195*
S12	—	—	—	—	—	—	—	—	—	—	—	—	55	60	75	85	44	50	60	70	35	39	48	55
	—	—	—	—	—	—	—	—	—	—	—	—	*180*	*195*	*245*	*280*	*145*	*165*	*195*	*230*	*115*	*130*	*155*	*180*
S13	—	—	—	—	—	—	—	—	—	—	—	—	32	36	43	50	26	30	36	42	20	23	27	32
	—	—	—	—	—	—	—	—	—	—	—	—	*105*	*120*	*140*	*165*	*85*	*100*	*120*	*140*	*65*	*75*	*90*	*105*
H5	—	—	—	—	50	55	70	80	—	—	—	—	46	55	65	75	41	47	55	65	—	—	—	—
	—	—	—	—	*165*	*180*	*230*	*260*	—	—	—	—	*150*	*180*	*215*	*245*	*135*	*155*	*180*	*215*	—	—	—	—
H8	—	—	—	—	55	60	75	90	—	—	—	—	49	55	70	80	43	49	60	70	—	—	—	—
	—	—	—	—	*180*	*195*	*245*	*295*	—	—	—	—	*160*	*180*	*230*	*260*	*140*	*160*	*195*	*230*	—	—	—	—
H11	—	—	—	—	65	75	90	105	—	—	—	—	60	65	80	95	50	60	70	85	—	—	—	—
	—	—	—	—	*215*	*245*	*295*	*345*	—	—	—	—	*195*	*215*	*260*	*310*	*165*	*195*	*230*	*280*	—	—	—	—
H12	—	—	—	—	100	110	135	160	—	—	—	—	95	110	135	160	80	90	110	125	—	—	—	—
	—	—	—	—	*330*	*360*	*445*	*520*	—	—	—	—	*310*	*360*	*445*	*520*	*260*	*295*	*360*	*410*	—	—	—	—

R217/220.29I-08 – Metric

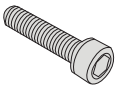
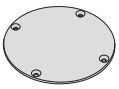


—For insert selection and cutting data recommendations, see page(s) 708-710
—For complete insert programme, see page(s) 891
—For ISO attribute explanation, see page 16

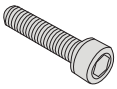
Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCB	DCSFMS	TDZ	DCONMS	LF	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm	mm		mm	mm	mm		mm	mm		kg	
R217.29I-1632.RE-08.2A	03278975	Combimaster	15,9	32,0	2	8,0	–	30,0	M16	–	40,0	62,75	17,8	47,8	62,0	12200	0,3	RP..1605
R217.29I-1640.RE-08.3A	03278976	Combimaster	24,2	40,0	3	8,0	–	30,0	M16	–	40,0	62,75	2,4	64,4	78,0	10900	0,3	RP..1605
R217.29I-2040.RE-08.3A	03278977	Combimaster	24,2	40,0	3	8,0	–	36,5	M20	–	40,0	67,0	2,4	64,4	78,0	10900	0,3	RP..1605
R220.29I-0050-08.4A	03278978	Arbor	34,2	50,0	4	8,0	22,0	41,0	–	22,0	50,0	–	4,8	84,4	98,0	9700	0,4	RP..1605
R220.29I-0052-08.4A	03278979	Arbor	36,2	52,0	4	8,0	22,0	41,0	–	22,0	50,0	–	5,7	88,4	102,0	9600	0,4	RP..1605
R220.29I-0063-08.4A	03278980	Arbor	47,1	63,0	4	8,0	22,0	49,0	–	22,0	50,0	–	7,5	110,2	124,0	8700	0,6	RP..1605
R220.29I-0063-08.5A	03278981	Arbor	47,1	63,0	5	8,0	22,0	49,0	–	22,0	50,0	–	7,1	110,2	124,0	8700	0,7	RP..1605
R220.29I-0063-08.6A	03278982	Arbor	47,1	63,0	6	8,0	22,0	49,0	–	22,0	50,0	–	7,1	110,2	124,0	8700	0,6	RP..1605
R220.29I-0066-08.6A	03278984	Arbor	50,0	66,0	6	8,0	27,0	61,0	–	27,0	50,0	–	6,7	116,0	130,0	8400	0,8	RP..1605
R220.29I-0066-08.5A	03278983	Arbor	50,1	66,0	5	8,0	27,0	61,0	–	27,0	50,0	–	6,9	116,2	130,0	8400	0,8	RP..1605
R220.29I-0080-08.5A	03278985	Arbor	64,1	80,0	5	8,0	27,0	61,0	–	27,0	50,0	–	5,0	144,2	158,0	7700	1,1	RP..1605
R220.29I-0080-08.7A	03278986	Arbor	64,1	80,0	7	8,0	27,0	61,0	–	27,0	50,0	–	5,0	144,2	158,0	7700	1,1	RP..1605
R220.29I-0084-08.5A	03278987	Arbor	68,1	84,0	5	8,0	32,0	79,0	–	32,0	50,0	–	4,6	152,2	166,0	7500	1,4	RP..1605
R220.29I-0100-08.6MA	03278992	Arbor	84,1	100,0	6	8,0	32,0	79,0	–	32,0	50,0	–	3,8	184,2	198,0	6800	1,7	RP..1605
R220.29I-0100-08.8A	03278988	Arbor	84,1	100,0	8	8,0	32,0	79,0	–	32,0	50,0	–	3,7	184,2	198,0	6800	1,7	RP..1605
R220.29I-0125-08.6MA	03278991	Arbor	109,1	125,0	6	8,0	40,0	90,0	–	40,0	63,0	–	2,8	234,2	248,0	6100	3,1	RP..1605
R220.29I-0125-08.10A	03278989	Arbor	109,1	125,0	10	8,0	40,0	90,0	–	40,0	63,0	–	2,8	234,2	248,0	6100	3,2	RP..1605
R220.29I-8160-08.7MA	03278993	Arbor	143,1	160,0	7	8,0	40,0	90,0	–	40,0	63,0	–	2,2	302,2	318,0	5400	4,2	RP..1605
R220.29I-8160-08.10A	03278990	Arbor	144,1	160,0	10	8,0	40,0	90,0	–	40,0	63,0	–	2,1	304,2	318,0	5400	4,2	RP..1605

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

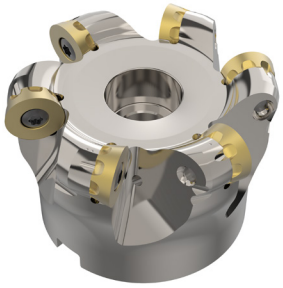
For cutter	Arbor screw	Insert key	Insert screw	Insert shim	Key	Lid	Lid screw	Shim key	Shim screw	Stop screw
										
R217.29I-1632-2040	–	1/4HEX-T20PX50	C05010-T20P	–	1/4HEX-T05PX50	–	–	–	–	SX2035-T05P
R220.29I-0050-0052	220.17-692M	1/4HEX-T20PX50	C05013-T20P	–	1/4HEX-T05PX50	–	–	–	–	SX2035-T05P
R220.29I-0063	MC6S10X40	1/4HEX-T20PX50	C05013-T20P	–	1/4HEX-T05PX50	–	–	–	–	SX2035-T05P
R220.29I-0066-0080	MC6S12X40	1/4HEX-T20PX50	C05013-T20P	–	1/4HEX-T05PX50	–	–	–	–	SX2035-T05P
R220.29I-0084	950E1645	1/4HEX-T20PX50	C05013-T20P	–	1/4HEX-T05PX50	–	–	–	–	SX2035-T05P
R220.29I-0100	950E1645	1/4HEX-T20PX90	C05013-T20P	–	1/4HEX-T05PX50	–	–	–	–	SX2035-T05P
R220.29I-0100MA	950E1645	1/4HEX-T20PX90	C05018-T20P	SRP1604IM0	1/4HEX-T05PX50	–	–	1/4HEX-H5.0X50	CA5010	SX2035-T05P
R220.29I-0125	MC6S20X50	1/4HEX-T20PX90	C05013-T20P	–	1/4HEX-T05PX50	–	–	–	–	SX2035-T05P
R220.29I-0125MA	MC6S20X50	1/4HEX-T20PX90	C05018-T20P	SRP1604IM0	1/4HEX-T05PX50	–	–	1/4HEX-H5.0X50	CA5010	SX2035-T05P
R220.29I-8160	–	1/4HEX-T20PX90	C05013-T20P	–	1/4HEX-T05PX50	SC160-53	MF6S4X10	–	–	SX2035-T05P
R220.29I-8160MA	–	1/4HEX-T20PX90	C05018-T20P	SRP1604IM0	1/4HEX-T05PX50	SC160-53	MF6S4X10	1/4HEX-H5.0X50	CA5010	SX2035-T05P

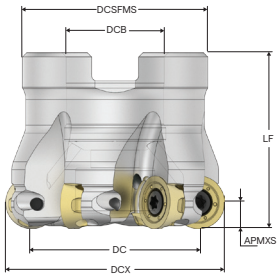
Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R217/220.29I-1632-0125	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	5.0NM	T00-20P50
R220.29I-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	1/4HEX-S-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R220.29I-08 – Inch

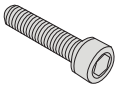




—For insert selection and cutting data recommendations, see page(s) 708-710
—For complete insert programme, see page(s) 891
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCB	DCSFMS	DCONMS	LF	RMPX°	C min	C max	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch	inch		inch	inch		lbs	
R220.29I-02.00-08.4A	03278994	Arbor	1.379	2.000	4	0.315	0.750	1.614	0.750	2.000	2,7	3.388	3.921	9600	0.880	RP..1605
R220.29I-02.50-08.5A	03278995	Arbor	1.876	2.500	5	0.315	0.750	1.811	0.750	2.000	7,0	4.382	4.921	8700	1.540	RP..1605
R220.29I-03.00-08.6A	03278996	Arbor	2.376	3.000	6	0.315	1.000	2.402	1.000	2.000	5,3	5.381	5.921	7700	2.200	RP..1605
R220.29I-04.00-08.7A	03278997	Arbor	3.375	4.000	7	0.315	1.500	3.504	1.500	2.500	3,6	7.380	7.921	6800	5.510	RP..1605

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Key	Stop screw
					
R220.29I-02.00-02.50	UC6S3/8UNFX11/2	1/4HEX-T20PX50	C05013-T20P	1/4HEX-T05PX50	SX2035-T05P
R220.29I-03.00	UC6S1/2UNFX1-1/2	1/4HEX-T20PX50	C05013-T20P	1/4HEX-T05PX50	SX2035-T05P
R220.29I-04.00	UC6S3/4UNFX1-1/4	1/4HEX-T20PX90	C05013-T20P	1/4HEX-T05PX50	SX2035-T05P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R220.29I-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R217/220.29I-08 – Insert selection – Metric/ Inch

SMG		a_p	f_z			
			100%	70%	30%	10%
P1	RPKT1605M0T-8-M12 MP2501	3,0 *0.12*	0,38 0.015	0,38 0.015	0,46 0.018	0,75 0.030
P2	RPKT1605M0T-8-M12 MP2501	3,0 *0.12*	0,40 0.016	0,40 0.016	0,48 0.019	0,75 0.030
P3	RPKT1605M0T-8-M12 MP2501	3,0 *0.12*	0,38 0.015	0,38 0.015	0,44 0.017	0,70 0.028
P4	RPKT1605M0T-8-M12 MP2501	3,0 *0.12*	0,36 0.014	0,36 0.014	0,44 0.017	0,70 0.028
P5	RPKT1605M0T-8-M12 MP2501	3,0 *0.12*	0,36 0.014	0,36 0.014	0,42 0.017	0,70 0.028
P6	RPKT1605M0T-8-M18 MS2500	3,0 *0.12*	0,55 0.022	0,55 0.022	0,65 0.026	1,0 0.040
P7	RPKT1605M0T-6-M18 MS2500	3,0 *0.12*	0,55 0.022	0,55 0.022	0,65 0.026	1,0 0.040
P8	RPKT1605M0T-6-M18 MS2500	3,0 *0.12*	0,55 0.022	0,55 0.022	0,65 0.026	1,1 0.044
P11	RPKT1605M0T-6-M18 MS2500	3,0 *0.12*	0,55 0.022	0,55 0.022	0,65 0.026	1,0 0.040
P12	RPKT1605M0T-6-M18 MS2500	2,5 *0.10*	0,40 0.016	0,40 0.016	0,48 0.019	0,75 0.030
M1	RPHT1605M0T-8-M12 MS2050	3,0 *0.12*	0,40 0.016	0,40 0.016	0,48 0.019	0,75 0.030
M2	RPHT1605M0T-8-M12 MS2050	3,0 *0.12*	0,36 0.014	0,36 0.014	0,42 0.017	0,70 0.028
M3	RPHT1605M0T-8-M12 MS2050	2,5 *0.10*	0,32 0.013	0,32 0.013	0,38 0.015	0,60 0.024
M4	RPKT1605M0T-8-M12 MP3501	1,9 *0.075*	0,32 0.013	0,32 0.013	0,38 0.015	0,60 0.024
M5	RPKT1605M0T-8-M12 MP3501	1,9 *0.075*	0,32 0.013	0,32 0.013	0,38 0.015	0,60 0.024
K1	RPKT1605M0T-8-M18 MK2050	3,0 *0.12*	0,60 0.024	0,60 0.024	0,70 0.028	1,2 0.048
K2	RPKT1605M0T-8-M18 MK2050	3,0 *0.12*	0,55 0.022	0,55 0.022	0,65 0.026	1,0 0.040
K3	RPKT1605M0T-8-M18 MK2050	3,0 *0.12*	0,55 0.022	0,55 0.022	0,65 0.026	1,0 0.040
K4	RPKT1605M0T-8-M18 MK2050	3,0 *0.12*	0,55 0.022	0,55 0.022	0,65 0.026	1,0 0.040
K5	RPKT1605M0T-8-M18 MK2050	3,0 *0.12*	0,48 0.019	0,48 0.019	0,60 0.024	0,95 0.038
K6	RPKT1605M0T-8-M18 MK2050	3,0 *0.12*	0,55 0.022	0,55 0.022	0,65 0.026	1,0 0.040
K7	RPKT1605M0T-8-M18 MK2050	3,0 *0.12*	0,48 0.019	0,48 0.019	0,60 0.024	0,95 0.038
N1	RPHT1605M0T-8-ME11 F40M	— —	— —	— —	— —	— —
N2	RPHT1605M0T-8-ME11 F40M	— —	— —	— —	— —	— —
N3	RPHT1605M0T-8-ME11 F40M	— —	— —	— —	— —	— —
N11	RPHT1605M0T-8-ME11 F40M	— —	— —	— —	— —	— —
S1	RPKT1605M0T-8-M12 MS2500	1,9 *0.075*	0,32 0.013	0,32 0.013	0,38 0.015	0,60 0.024
S2	RPKT1605M0T-8-M12 MS2500	1,9 *0.075*	0,32 0.013	0,32 0.013	0,38 0.015	0,60 0.024
S3	RPKT1605M0T-8-M12 MS2500	1,9 *0.075*	0,30 0.012	0,30 0.012	0,34 0.013	0,55 0.022
S11	RPHT1605M0T-8-M12 MS2050	2,5 *0.10*	0,32 0.013	0,32 0.013	0,38 0.015	0,60 0.024
S12	RPHT1605M0T-8-M12 MS2050	2,5 *0.10*	0,32 0.013	0,32 0.013	0,38 0.015	0,60 0.024
S13	RPHT1605M0T-8-M12 MS2050	1,9 *0.075*	0,32 0.013	0,32 0.013	0,38 0.015	0,60 0.024
H5	RPKW1605M0T-8-MD20 F15M	2,5 *0.10*	0,44 0.017	0,44 0.017	0,55 0.022	0,85 0.034
H8	RPKW1605M0T-8-MD20 F15M	2,5 *0.10*	0,34 0.013	0,34 0.013	0,40 0.016	0,65 0.026
H11	RPKW1605M0T-8-MD20 F15M	2,5 *0.10*	0,44 0.017	0,44 0.017	0,55 0.022	0,85 0.034
H12	RPKW1605M0T-8-MD20 F15M	2,5 *0.10*	0,34 0.013	0,34 0.013	0,40 0.016	0,65 0.026

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

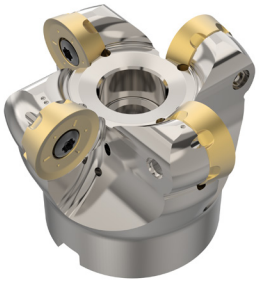
R217/220.29I-08 – Cutting data v_c = (m/min)/(sf/min)

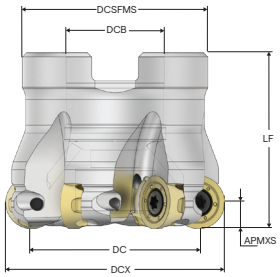
SMG	F15M				MK2050				MP3000				MS2050				F40M				MP2051				MP2050			
	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%
P1	205	240	285	335	255	295	355	420	235	270	340	405	270	310	365	420	260	285	330	370	315	375	480	560	295	340	410	475
	670	*790*	*940*	*1100*	*840*	*970*	*1175*	*1375*	*770*	*890*	*1125*	*1325*	*890*	*1025*	*1200*	*1375*	*850*	*940*	*1075*	*1225*	*1025*	*1225*	*1575*	*1825*	*970*	*1125*	*1350*	*1550*
P2	200	235	280	325	245	290	345	410	225	265	330	395	255	295	350	405	245	270	315	360	295	350	455	550	280	330	390	460
	660	*770*	*920*	*1075*	*800*	*950*	*1125*	*1350*	*740*	*870*	*1075*	*1300*	*840*	*970*	*1150*	*1325*	*800*	*890*	*1025*	*1175*	*970*	*1150*	*1500*	*1800*	*920*	*1075*	*1275*	*1500*
P3	175	205	245	285	220	255	305	360	205	240	300	350	225	260	310	360	215	240	285	320	265	315	415	490	245	285	350	405
	570	*670*	*800*	*940*	*720*	*840*	*1000*	*1175*	*670*	*790*	*980*	*1150*	*740*	*850*	*1025*	*1175*	*710*	*790*	*940*	*1050*	*870*	*1025*	*1350*	*1600*	*800*	*940*	*1150*	*1325*
P4	155	180	215	250	195	225	270	315	180	210	260	310	205	230	275	315	200	225	265	300	245	285	365	430	220	255	305	360
	510	*590*	*710*	*820*	*640*	*740*	*890*	*1025*	*590*	*690*	*850*	*1025*	*670*	*750*	*900*	*1025*	*660*	*740*	*870*	*980*	*800*	*940*	*1200*	*1400*	*720*	*840*	*1000*	*1175*
P5	150	175	205	245	185	215	260	300	175	200	250	295	195	220	265	300	185	205	240	265	230	275	350	410	210	245	290	345
	490	*570*	*670*	*800*	*610*	*710*	*850*	*980*	*570*	*660*	*820*	*970*	*640*	*720*	*870*	*980*	*610*	*670*	*790*	*870*	*750*	*900*	*1150*	*1350*	*690*	*800*	*950*	*1125*
P6	165	195	235	275	205	240	290	345	195	225	280	340	215	250	295	340	210	230	270	300	260	305	390	465	235	275	330	385
	540	*640*	*770*	*900*	*670*	*790*	*950*	*1125*	*640*	*740*	*920*	*1125*	*710*	*820*	*970*	*1125*	*690*	*750*	*890*	*980*	*850*	*1000*	*1275*	*1525*	*770*	*900*	*1075*	*1275*
P7	155	185	220	260	195	230	275	325	185	210	265	320	205	235	280	320	195	220	255	285	245	290	370	435	220	260	310	365
	510	*610*	*720*	*850*	*640*	*750*	*900*	*1075*	*610*	*690*	*870*	*1050*	*670*	*770*	*920*	*1050*	*640*	*720*	*840*	*940*	*800*	*950*	*1225*	*1425*	*720*	*850*	*1025*	*1200*
P8	150	175	205	240	185	215	260	300	175	200	250	295	190	215	265	300	180	200	240	265	225	265	350	410	205	240	290	345
	490	*570*	*670*	*790*	*610*	*710*	*850*	*980*	*570*	*660*	*820*	*970*	*620*	*710*	*870*	*980*	*590*	*660*	*790*	*870*	*740*	*870*	*1150*	*1350*	*670*	*790*	*950*	*1125*
P11	155	180	215	250	190	220	265	315	180	205	260	315	200	230	270	310	190	210	245	275	225	290	400	520	215	250	300	355
	510	*590*	*710*	*820*	*620*	*720*	*870*	*1025*	*590*	*670*	*850*	*1025*	*660*	*750*	*890*	*1025*	*620*	*690*	*800*	*900*	*740*	*950*	*1300*	*1700*	*710*	*820*	*980*	*1175*
P12	—	—	—	—	125	150	180	210	130	150	185	215	135	155	180	205	130	145	165	185	170	215	280	355	145	165	200	235
	—	—	—	—	*410*	*490*	*590*	*690*	*425*	*490*	*610*	*710*	*445*	*510*	*590*	*670*	*425*	*475*	*540*	*610*	*560*	*710*	*920*	*1175*	*475*	*540*	*660*	*770*
M1	—	—	—	—	—	—	—	—	180	205	250	295	190	225	270	315	175	205	245	285	245	310	440	580	200	235	280	330
	—	—	—	—	—	—	—	—	*590*	*670*	*820*	*970*	*620*	*740*	*890*	*1025*	*570*	*670*	*800*	*940*	*800*	*1025*	*1450*	*1900*	*660*	*770*	*920*	*1075*
M2	—	—	—	—	—	—	—	—	150	175	205	240	160	185	225	260	145	170	205	240	215	275	380	495	170	195	235	275
	—	—	—	—	—	—	—	—	*490*	*570*	*670*	*790*	*520*	*610*	*740*	*850*	*475*	*560*	*670*	*790*	*710*	*900*	*1250*	*1625*	*560*	*640*	*770*	*900*
M3	—	—	—	—	—	—	—	—	120	140	170	200	130	150	180	210	120	135	165	195	185	235	325	415	135	160	190	220
	—	—	—	—	—	—	—	—	*395*	*460*	*560*	*660*	*425*	*490*	*590*	*690*	*395*	*445*	*540*	*640*	*610*	*770*	*1075*	*1350*	*445*	*520*	*620*	*720*
M4	—	—	—	—	—	—	—	—	95	110	135	160	100	115	140	165	90	105	130	150	150	190	250	325	105	120	145	175
	—	—	—	—	—	—	—	—	*310*	*360*	*445*	*520*	*330*	*375*	*460*	*540*	*295*	*345*	*425*	*490*	*490*	*620*	*820*	*1075*	*345*	*395*	*475*	*570*
M5	—	—	—	—	—	—	—	—	80	90	110	130	85	95	115	140	75	90	105	125	125	155	210	270	90	100	125	145
	—	—	—	—	—	—	—	—	*260*	*295*	*360*	*425*	*280*	*310*	*375*	*460*	*245*	*295*	*345*	*410*	*410*	*510*	*690*	*890*	*295*	*330*	*410*	*475*
K1	160	185	220	260	265	310	375	440	190	220	265	310	—	—	—	—	170	200	240	280	—	—	—	—	—	—	—	—
	520	*610*	*720*	*850*	*870*	*1025*	*1225*	*1450*	*620*	*720*	*870*	*1025*	—	—	—	—	*560*	*660*	*790*	*920*	—	—	—	—	—	—	—	—
K2	140	165	195	235	240	280	335	390	170	195	235	275	—	—	—	—	155	180	215	250	—	—	—	—	—	—	—	—
	460	*540*	*640*	*770*	*790*	*920*	*1100*	*1275*	*560*	*640*	*770*	*900*	—	—	—	—	*510*	*590*	*710*	*820*	—	—	—	—	—	—	—	—
K3	120	140	165	195	200	235	280	330	140	165	200	235	—	—	—	—	130	150	180	210	—	—	—	—	—	—	—	—
	395	*460*	*540*	*640*	*660*	*770*	*920*	*1075*	*460*	*540*	*660*	*770*	—	—	—	—	*425*	*490*	*590*	*690*	—	—	—	—	—	—	—	—
K4	115	135	160	190	190	225	270	315	135	160	190	220	—	—	—	—	125	145	175	205	—	—	—	—	—	—	—	—
	375	*445*	*520*	*620*	*620*	*740*	*890*	*1025*	*445*	*520*	*620*	*720*	—	—	—	—	*410*	*475*	*570*	*670*	—	—	—	—	—	—	—	—
K5	70	80	95	115	120	140	165	195	85	100	120	140	—	—	—	—	75	90	105	125	—	—	—	—	—	—	—	—
	230	*260*	*310*	*375*	*395*	*460*	*540*	*640*	*280*	*330*	*395*	*460*	—	—	—	—	*245*	*295*	*345*	*410*	—	—	—	—	—	—	—	—
K6	100	115	140	165	170	200	235	275	120	140	165	195	—	—	—	—	110	130	150	180	—	—	—	—	—	—	—	—
	330	*375*	*460*	*540*	*560*	*660*	*770*	*900*	*395*	*460*	*540*	*640*	—	—	—	—	*360*	*425*	*490*	*590*	—	—	—	—	—	—	—	—
K7	90	105	125	145	155	180	215	250	110	125	150	175	—	—	—	—	100	115	135	160	—	—	—	—	—	—	—	—
	295	*345*	*410*	*475*	*510*	*590*	*710*	*820*	*360*	*410*	*490*	*570*	—	—	—	—	*330*	*375*	*445*	*520*	—	—	—	—	—	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1275	1475	1775	2100	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*4175*	*4850*	*5825*	*6900*	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	510	600	720	840	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*1675*	*1975*	*2350*	*2750*	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	340	400	475	560	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*1125*	*1300*	*1550*	*1825*	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	390	455	540	640	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*1275*	*1500*	*1775*	*2100*	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	44	50	60	75	47	55	65	75	43	50	60	70	50	60	70	85	50	60	70	85
	—	—	—	—	—	—	—	—	*145*	*165*	*195*	*245*	*155*	*180*	*215*	*245*	*140*	*165*	*195*	*230*	*165*	*195*	*230*	*280*	*165*	*195*	*230*	*280*
S2	—	—	—	—	—	—	—	—	36	41	50	60	38	44	55	60	35	40	48	55	42	48	60	70	42	48	60	70
	—	—	—	—	—	—	—	—	*120*	*135*	*165*	*195*	*125*	*145*	*180*	*195*	*115*	*130*	*155*	*180*	*140*	*155*	*195*	*230*	*140*	*155*	*195*	*230*
S3	—	—	—	—	—	—	—	—	32	36	44	50	33	39	46	55	30	35	42	49	37	42	50	60	37	42	50	60
	—	—	—	—	—	—	—	—	*105*	*120*	*145*	*165*	*110*	*130*	*150*	*180*	*100*	*115*	*140*	*160*	*120*	*140*	*165*	*195*	*120*	*140*	*165*	*195*
S11	—	—	—	—	—	—	—	—	—	—	—	—	65	75	90	105	60	70	85	95	70	85	100	115	70	85	100	115
	—	—	—	—	—	—	—	—	—	—	—	—	*215*	*245*	*295*	*345*	*195*	*230*	*280*	*310*	*230*	*280*	*330*	*375*	*230*	*280*	*330*	*375*
S12	—	—	—	—	—	—	—	—	—	—	—	—	45	55	65	75	41	48	60	65	50	60	70	80	50	60	70	80
	—	—	—	—	—	—	—	—	—	—	—	—	*150*	*180*	*215*	*245*	*135*	*155*	*195*	*215*	*165*	*195*	*230*	*260*	*165*	*195*	*230*	*260*
S13	—	—	—	—	—	—	—	—	—	—	—	—	27	31	37	43	24	28	34	39	29	34	41	48	29	34	41	48
	—	—	—	—	—	—	—	—	—	—	—	—	*90*	*100*	*120*	*140*	*80*	*90*	*110*	*130*	*95*	*110*	*135*	*155*	*95*	*110*	*135*	*155*
H5	34	40	48	55	44	50	60	70	38	44	55	60	—	—	—	—	37	43	50	60	—	—	—	—	—	—	—	—
	110	*130*	*155*	*180*	*145*	*165*	*195*	*230*	*125*	*145*	*180*	*195*	—	—	—	—	*120*	*140*	*165*	*195*	—	—	—	—	—	—	—	—
H8	37	43	50	60	47	55	65	75	41	48	55	65	—	—	—	—	39	46	55	65	—	—	—	—	—	—	—	—
	120	*140*	*165*	*195*	*155*	*180*	*215*	*245*	*135*	*155*	*180*	*215*	—	—	—	—	*130*	*150*	*180*	*215*	—	—	—	—	—	—	—	—
H11	43	50	60	70	55	65	80	90	48	55	70	80	—	—	—	—	47	55	65	75	110	140	180	230	55	65	75	90
	140	*165*	*195*	*230*	*180*	*215*	*260*	*295*	*155*	*180*	*230*	*260*	—	—	—	—	*155*	*180*	*215*	*245*	*360*	*460*	*590*	*750*	*180*	*215*	*245*	*295*
H12	65	75	90	105	85	95	115	135	80	90	110	130	—	—	—	—	70	80	100	115	110	140	175	215	90	105	125	145
	215	*245*	*295*	*345*	*280*	*310*	*375*	*445*	*260*	*295*	*360*	*425*	—	—	—	—	*230*	*260*	*330*	*375*	*360*	*460*	*570*	*710*	*295*	*345*	*410*	*475*

R217/220.29I-08 – Cutting data v_c = (m/min)/(sf/min)

SMG	MP1501				MP2501				MS2500				MP3501				MM4500			
	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%
P1	365 *1200*	405 *1325*	480 *1575*	550 *1800*	350 *1150*	395 *1300*	465 *1525*	530 *1750*	335 *1100*	380 *1250*	450 *1475*	520 *1700*	310 *1025*	345 *1125*	410 *1350*	475 *1550*	240 *790*	275 *900*	325 *1075*	370 *1225*
P2	355 *1175*	395 *1300*	465 *1525*	530 *1750*	340 *1125*	385 *1275*	455 *1500*	520 *1700*	325 *1075*	370 *1225*	440 *1450*	500 *1650*	300 *980*	340 *1125*	400 *1300*	460 *1500*	230 *750*	260 *850*	310 *1025*	360 *1175*
P3	315 *1025*	355 *1175*	415 *1350*	470 *1550*	305 *1000*	340 *1125*	405 *1325*	455 *1500*	290 *950*	330 *1075*	390 *1275*	445 *1450*	270 *890*	305 *1000*	360 *1175*	405 *1325*	200 *660*	230 *750*	275 *900*	315 *1025*
P4	280 *920*	310 *1025*	365 *1200*	410 *1350*	270 *890*	300 *980*	355 *1175*	400 *1300*	255 *840*	290 *950*	345 *1125*	390 *1275*	240 *790*	265 *870*	315 *1025*	355 *1175*	195 *640*	220 *720*	265 *870*	300 *980*
P5	265 *870*	295 *970*	350 *1150*	395 *1300*	255 *840*	290 *950*	340 *1125*	385 *1275*	245 *800*	275 *900*	330 *1075*	375 *1225*	225 *740*	255 *840*	300 *980*	340 *1125*	170 *560*	195 *640*	230 *750*	265 *870*
P6	295 *970*	335 *1100*	390 *1275*	450 *1475*	290 *950*	325 *1075*	380 *1250*	440 *1450*	275 *900*	310 *1025*	370 *1225*	425 *1400*	255 *840*	285 *940*	340 *1125*	390 *1275*	195 *640*	220 *720*	260 *850*	300 *980*
P7	280 *920*	315 *1025*	370 *1225*	425 *1400*	270 *890*	305 *1000*	360 *1175*	415 *1350*	260 *850*	295 *970*	345 *1125*	405 *1325*	240 *790*	270 *890*	320 *1050*	370 *1225*	180 *590*	210 *690*	245 *800*	280 *920*
P8	265 *870*	295 *970*	350 *1150*	395 *1300*	255 *840*	290 *950*	340 *1125*	385 *1275*	245 *800*	275 *900*	330 *1075*	375 *1225*	225 *740*	255 *840*	300 *980*	340 *1125*	170 *560*	190 *620*	230 *750*	265 *870*
P11	275 *900*	305 *1000*	360 *1175*	415 *1350*	265 *870*	295 *970*	350 *1150*	405 *1325*	255 *840*	285 *940*	335 *1100*	390 *1275*	235 *770*	260 *850*	310 *1025*	360 *1175*	175 *570*	200 *660*	240 *790*	275 *900*
P12	185 *610*	210 *690*	240 *790*	270 *890*	185 *610*	205 *670*	235 *770*	265 *870*	175 *570*	195 *640*	230 *750*	260 *850*	165 *540*	180 *590*	210 *690*	240 *790*	115 *375*	135 *445*	155 *510*	175 *570*
M1	— —	— —	— —	— —	180 *590*	210 *690*	255 *840*	300 *980*	195 *640*	230 *750*	275 *900*	325 *1075*	170 *560*	195 *640*	235 *770*	280 *920*	150 *490*	175 *570*	210 *690*	250 *820*
M2	— —	— —	— —	— —	150 *490*	175 *570*	210 *690*	245 *800*	165 *540*	190 *620*	230 *750*	265 *870*	140 *460*	165 *540*	195 *640*	230 *750*	125 *410*	145 *475*	175 *570*	205 *670*
M3	— —	— —	— —	— —	125 *410*	145 *475*	175 *570*	205 *670*	135 *445*	155 *510*	190 *620*	220 *720*	115 *375*	135 *445*	165 *540*	190 *620*	100 *330*	120 *395*	145 *475*	165 *540*
M4	— —	— —	— —	— —	95 *310*	110 *360*	135 *445*	160 *520*	105 *345*	120 *395*	145 *475*	175 *570*	90 *295*	105 *345*	125 *410*	150 *490*	80 *260*	90 *295*	110 *360*	130 *425*
M5	— —	— —	— —	— —	80 *260*	95 *310*	115 *375*	135 *445*	85 *280*	100 *330*	120 *395*	145 *475*	75 *245*	85 *280*	105 *345*	125 *410*	65 *215*	75 *245*	90 *295*	110 *360*
K1	355 *1175*	400 *1300*	470 *1550*	540 *1775*	345 *1125*	385 *1275*	455 *1500*	520 *1700*	215 *710*	255 *840*	305 *1000*	360 *1175*	305 *1000*	340 *1125*	405 *1325*	465 *1525*	— —	— —	— —	— —
K2	320 *1050*	360 *1175*	420 *1375*	475 *1550*	310 *1025*	350 *1150*	410 *1350*	465 *1525*	195 *640*	225 *740*	270 *890*	315 *1025*	275 *900*	310 *1025*	365 *1200*	410 *1350*	— —	— —	— —	— —
K3	270 *890*	305 *1000*	355 *1175*	400 *1300*	265 *870*	295 *970*	345 *1125*	390 *1275*	165 *540*	190 *620*	230 *750*	270 *890*	235 *770*	260 *850*	310 *1025*	350 *1150*	— —	— —	— —	— —
K4	260 *850*	290 *950*	340 *1125*	385 *1275*	250 *820*	280 *920*	330 *1075*	375 *1225*	155 *510*	180 *590*	220 *720*	255 *840*	220 *720*	250 *820*	295 *970*	335 *1100*	— —	— —	— —	— —
K5	160 *520*	180 *590*	210 *690*	240 *790*	160 *520*	175 *570*	205 *670*	235 *770*	95 *310*	115 *375*	135 *445*	160 *520*	140 *460*	155 *510*	185 *610*	205 *670*	— —	— —	— —	— —
K6	230 *750*	255 *840*	300 *980*	340 *1125*	220 *720*	250 *820*	290 *950*	330 *1075*	140 *460*	160 *520*	195 *640*	225 *740*	195 *640*	220 *720*	260 *850*	295 *970*	— —	— —	— —	— —
K7	210 *690*	235 *770*	270 *890*	305 *1000*	200 *660*	225 *740*	265 *870*	300 *980*	125 *410*	145 *475*	175 *570*	205 *670*	180 *590*	200 *660*	235 *770*	265 *870*	— —	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
S1	— —	— —	— —	— —	— —	— —	— —	— —	50 *165*	60 *195*	70 *230*	85 *280*	42 *140*	48 *155*	60 *195*	70 *230*	24 *80*	28 *90*	34 *110*	40 *130*
S2	— —	— —	— —	— —	— —	— —	— —	— —	41 *135*	48 *155*	60 *195*	70 *230*	34 *110*	39 *130*	47 *155*	55 *180*	20 *65*	23 *75*	27 *90*	32 *105*
S3	— —	— —	— —	— —	— —	— —	— —	— —	36 *120*	42 *140*	50 *165*	60 *195*	30 *100*	35 *115*	42 *140*	48 *155*	17 *55*	20 *65*	24 *80*	28 *90*
S11	— —	— —	— —	— —	— —	— —	— —	— —	70 *230*	80 *260*	100 *330*	115 *375*	60 *195*	70 *230*	80 *260*	95 *310*	34 *110*	39 *130*	47 *155*	55 *180*
S12	— —	— —	— —	— —	— —	— —	— —	— —	49 *160*	55 *180*	70 *230*	80 *260*	40 *130*	47 *155*	55 *180*	65 *215*	31 *100*	36 *120*	44 *145*	50 *165*
S13	— —	— —	— —	— —	— —	— —	— —	— —	29 *95*	33 *110*	40 *130*	48 *155*	24 *80*	27 *90*	33 *110*	39 *130*	18 *60*	21 *70*	25 *80*	30 *100*
H5	48 *155*	55 *180*	70 *230*	80 *260*	— —	— —	— —	— —	42 *140*	49 *160*	60 *195*	70 *230*	37 *120*	43 *140*	50 *165*	60 *195*	— —	— —	— —	— —
H8	55 *180*	60 *195*	70 *230*	85 *280*	— —	— —	— —	— —	46 *150*	55 *180*	65 *215*	75 *245*	41 *135*	47 *155*	55 *180*	65 *215*	— —	— —	— —	— —
H11	60 *195*	70 *230*	85 *280*	100 *330*	— —	— —	— —	— —	55 *180*	65 *215*	75 *245*	90 *295*	48 *155*	55 *180*	65 *215*	80 *260*	— —	— —	— —	— —
H12	95 *310*	110 *360*	130 *425*	155 *510*	— —	— —	— —	— —	90 *295*	105 *345*	125 *410*	150 *490*	75 *245*	85 *280*	100 *330*	120 *395*	— —	— —	— —	— —

R220.29I-38 – Inch



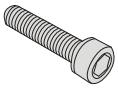


—For insert selection and cutting data recommendations, see page(s) 712–713
—For complete insert programme, see page(s) 891
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCB	DCSFMS	DCONMS	LF	RMPX°	C min	C max	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch	inch		inch	inch		lbs	
R220.29I-02.50-38-04A	10005910	Arbor	1.756	2.500	4	0.374	0.750	1.789	0.750	2.000	10,39	4.256	4.921	5800	1.320	RP..1906
R220.29I-03.00-38-06A	10005911	Arbor	2.256	3.000	6	0.374	1.000	2.289	1.000	2.000	7,69	5.256	5.921	5100	1.980	RP..1906
R220.29I-04.00-38-05A	10005912	Arbor	3.256	4.000	5	0.374	1.500	3.539	1.500	2.500	5,06	7.256	7.921	4500	5.070	RP..1906
R220.29I-04.00-38-06A	10005913	Arbor	3.256	4.000	6	0.374	1.500	3.539	1.500	2.500	5,06	7.256	7.921	4500	5.070	RP..1906
R220.29I-05.00-38-07A	10005914	Arbor	4.256	5.000	7	0.374	1.500	3.539	1.500	2.500	3,76	9.256	9.921	4000	6.830	RP..1906
R220.29I-05.00-38-09A	10005915	Arbor	4.256	5.000	9	0.374	1.500	3.539	1.500	2.500	3,76	9.256	9.921	4000	6.610	RP..1906

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Coolant screw	Insert key	Insert screw	Key
					
R220.29I-02.50	UC6S3/8UNFX11/2	SX2035-T05P	1/4HEX-T20PX50	C05013-T20P	1/4HEX-T05PX50
R220.29I-03.00	UC6S1/2UNFX1-1/2	SX2035-T05P	1/4HEX-T20PX50	C05013-T20P	1/4HEX-T05PX50
R220.29I-04.00-05.00	UC6S3/4UNFX1-1/4	SX2035-T05P	1/4HEX-T20PX90	C05013-T20P	1/4HEX-T05PX50

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R220.29I-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R217.29I-025 – Insert selection – Metric/ Inch

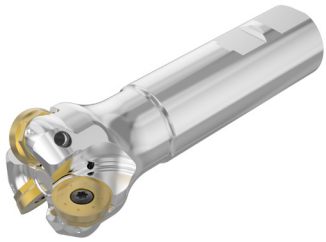
SMG		a_p	f_z			
			100%	30%	10%	5%
P1	RPHT190600T-6-M13 T350M	4,0 *0.16*	0,60 0.024	0,60 0.024	0,90 0.036	1,3 0.050
P2	RPHT190600T-6-M13 T350M	4,0 *0.16*	0,60 0.024	0,60 0.024	0,90 0.036	1,3 0.050
P3	RPHT190600T-6-M13 T350M	4,0 *0.16*	0,55 0.022	0,60 0.024	0,85 0.034	1,2 0.048
P4	RPHT190600T-6-M13 MS2500	4,0 *0.16*	0,55 0.022	0,60 0.024	0,85 0.034	1,2 0.048
P5	RPHT190600T-6-M13 MS2500	4,0 *0.16*	0,55 0.022	0,55 0.022	0,85 0.034	1,2 0.048
P6	RPHT190600T-6-M13 MS2500	4,0 *0.16*	0,55 0.022	0,55 0.022	0,80 0.032	1,2 0.048
P7	RPHT190600T-6-M13 MS2500	4,0 *0.16*	0,55 0.022	0,55 0.022	0,80 0.032	1,2 0.048
P8	RPHT190600T-6-M13 MS2500	4,0 *0.16*	0,55 0.022	0,60 0.024	0,85 0.034	1,2 0.048
P11	RPHT190600T-6-M13 MS2500	4,0 *0.16*	0,55 0.022	0,55 0.022	0,80 0.032	1,2 0.048
P12	RPHT190600T-6-M13 MS2500	3,0 *0.12*	0,42 0.017	0,40 0.016	0,55 0.022	0,80 0.032
M1	RPHT190600T-6-M13 F40M	4,0 *0.16*	0,60 0.024	0,60 0.024	0,90 0.036	1,3 0.050
M2	RPHT190600T-6-M13 F40M	4,0 *0.16*	0,55 0.022	0,55 0.022	0,85 0.034	1,2 0.048
M3	RPHT190600T-6-M13 F40M	3,0 *0.12*	0,50 0.020	0,48 0.019	0,65 0.026	0,95 0.038
M4	RPHT190600T-6-M13 F40M	2,5 *0.10*	0,48 0.019	0,50 0.020	0,60 0.024	0,80 0.032
M5	RPHT190600T-6-M13 F40M	2,5 *0.10*	0,48 0.019	0,50 0.020	0,60 0.024	0,80 0.032
S1	RPHT190600T-6-M13 MS2500	2,5 *0.10*	0,48 0.019	0,50 0.020	0,60 0.024	0,80 0.032
S2	RPHT190600T-6-M13 MS2500	2,5 *0.10*	0,48 0.019	0,50 0.020	0,60 0.024	0,80 0.032
S3	RPHT190600T-6-M13 MS2500	2,5 *0.10*	0,44 0.017	0,46 0.018	0,55 0.022	0,75 0.030
S11	RPHT190600T-6-M13 MS2050	2,5 *0.10*	0,55 0.022	0,50 0.020	0,65 0.026	0,95 0.038
S12	RPHT190600T-6-M13 MS2050	2,5 *0.10*	0,55 0.022	0,50 0.020	0,65 0.026	0,95 0.038
S13	RPHT190600T-6-M13 MS2050	2,5 *0.10*	0,48 0.019	0,50 0.020	0,60 0.024	0,80 0.032

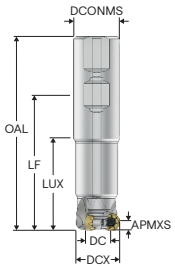
SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.29I-025 – Cutting data v_c = (m/min)/(sf/min)

SMG	T350M				F40M				MS2050				MS2500			
	100%	30%	10%	5%	100%	30%	10%	5%	100%	30%	10%	5%	100%	30%	10%	5%
P1	215 *710*	305 *1000*	355 *1175*	370 *1225*	190 *620*	265 *870*	310 *1025*	320 *1050*	205 *670*	290 *950*	340 *1125*	355 *1175*	270 *890*	380 *1250*	445 *1450*	465 *1525*
P2	210 *690*	295 *970*	345 *1125*	360 *1175*	185 *610*	260 *850*	300 *980*	315 *1025*	200 *660*	285 *940*	330 *1075*	345 *1125*	265 *870*	370 *1225*	435 *1425*	450 *1475*
P3	185 *610*	255 *840*	305 *1000*	320 *1050*	160 *520*	220 *720*	265 *870*	275 *900*	180 *590*	245 *800*	290 *950*	305 *1000*	235 *770*	320 *1050*	380 *1250*	400 *1300*
P4	165 *540*	225 *740*	270 *890*	280 *920*	145 *475*	195 *640*	235 *770*	245 *800*	155 *510*	215 *710*	255 *840*	270 *890*	205 *670*	280 *920*	335 *1100*	350 *1150*
P5	155 *510*	220 *720*	255 *840*	265 *870*	135 *445*	190 *620*	220 *720*	230 *750*	150 *490*	210 *690*	245 *800*	255 *840*	195 *640*	275 *900*	320 *1050*	335 *1100*
P6	175 *570*	250 *820*	290 *950*	300 *980*	155 *510*	215 *710*	255 *840*	260 *850*	170 *560*	235 *770*	280 *920*	285 *940*	220 *720*	310 *1025*	365 *1200*	375 *1225*
P7	165 *540*	235 *770*	275 *900*	285 *940*	145 *475*	205 *670*	240 *790*	245 *800*	160 *520*	225 *740*	265 *870*	270 *890*	210 *690*	295 *970*	345 *1125*	355 *1175*
P8	155 *510*	215 *710*	255 *840*	265 *870*	135 *445*	185 *610*	220 *720*	230 *750*	150 *490*	205 *670*	245 *800*	255 *840*	195 *640*	270 *890*	320 *1050*	335 *1100*
P11	160 *520*	225 *740*	270 *890*	275 *900*	140 *460*	200 *660*	235 *770*	240 *790*	155 *510*	215 *710*	255 *840*	265 *870*	200 *660*	285 *940*	335 *1100*	345 *1125*
P12	110 *360*	150 *490*	175 *570*	185 *610*	95 *310*	130 *425*	155 *510*	160 *520*	105 *345*	145 *475*	170 *560*	175 *570*	135 *445*	190 *620*	220 *720*	230 *750*
M1	160 *520*	230 *750*	265 *870*	280 *920*	145 *475*	210 *690*	245 *800*	250 *820*	160 *520*	230 *750*	265 *870*	275 *900*	190 *620*	265 *870*	310 *1025*	325 *1075*
M2	135 *445*	190 *620*	220 *720*	230 *750*	120 *395*	175 *570*	200 *660*	210 *690*	135 *445*	190 *620*	220 *720*	230 *750*	155 *510*	220 *720*	255 *840*	270 *890*
M3	110 *360*	155 *510*	180 *590*	190 *620*	100 *330*	140 *460*	165 *540*	170 *560*	110 *360*	155 *510*	180 *590*	190 *620*	130 *425*	180 *590*	210 *690*	220 *720*
M4	150 *490*	210 *690*	245 *800*	260 *850*	80 *260*	110 *360*	125 *410*	135 *445*	85 *280*	120 *395*	140 *460*	150 *490*	100 *330*	140 *460*	165 *540*	175 *570*
M5	150 *490*	210 *690*	245 *800*	260 *850*	65 *215*	90 *295*	105 *345*	115 *375*	70 *230*	100 *330*	115 *375*	125 *410*	85 *280*	115 *375*	135 *445*	145 *475*
S1	41 *135*	55 *180*	65 *215*	70 *230*	37 *120*	50 *165*	60 *195*	65 *215*	41 *135*	55 *180*	65 *215*	70 *230*	49 *160*	70 *230*	80 *260*	85 *280*
S2	33 *110*	45 *150*	55 *180*	55 *180*	30 *100*	41 *135*	48 *155*	50 *165*	33 *110*	45 *150*	55 *180*	55 *180*	40 *130*	55 *180*	65 *215*	70 *230*
S3	29 *95*	40 *130*	47 *155*	49 *160*	26 *85*	36 *120*	42 *140*	45 *150*	29 *95*	40 *130*	47 *155*	49 *160*	35 *115*	48 *155*	55 *180*	60 *195*
S11	55 *180*	80 *260*	90 *295*	95 *310*	50 *165*	70 *230*	85 *280*	85 *280*	55 *180*	80 *260*	90 *295*	95 *310*	70 *230*	95 *310*	110 *360*	115 *375*
S12	39 *130*	55 *180*	65 *215*	65 *215*	35 *115*	49 *160*	60 *195*	60 *195*	39 *130*	55 *180*	65 *215*	65 *215*	47 *155*	65 *215*	80 *260*	80 *260*
S13	23 *75*	31 *100*	37 *120*	39 *130*	21 *70*	29 *95*	33 *110*	36 *120*	23 *75*	31 *100*	37 *120*	39 *130*	28 *90*	38 *125*	45 *150*	48 *155*

R217.29I-10 – Metric





—For insert selection and cutting data recommendations, see page(s) 719-721
—For complete insert programme, see page(s) 891
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCONMS	LF	LS	LUX	LPR	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm	mm	mm	mm		mm	mm		kg	
R217.29I-3250.3-10.3.080A	10295636	Weldon	30,0	50,0	3	10,0	32,0	104,0	86,5	78,5	78,5	139,5	9,57	80,0	98,0	7800	0,9	RP..2006

Spare Parts, included in delivery

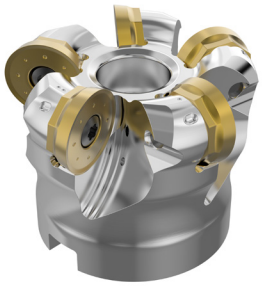
For cutter	Insert key	Insert screw
		
	1/4HEX-T20PX50	C05013-T20P

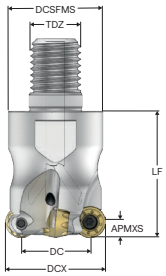
Accessories

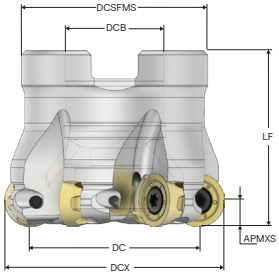
For cutter	Adjustable Torque key	Insert clamping torque	Key	Stop screw	Torque key
					
	1/4HEX-T-HANDLE-5.0-14.0NM	5.0NM	1/4HEX-T05PX50	SX2035-T05P	T00-20P50

Torque and fixed keys, see page 944

R220.29I-10 – Metric





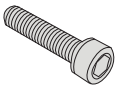
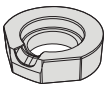
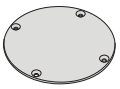


—For insert selection and cutting data recommendations, see page(s) 719-721
—For complete insert programme, see page(s) 891
—For ISO attribute explanation, see page 16

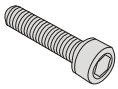
Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DHUB	DCSFMS	TDZ	DCONMS	LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm		mm	mm		mm	mm		kg	
R217.29I-1640.RE-10-2A	10254927	Combimaster	20,0	40,0	2	10,0	10,0	–	30,0	M16	–	40,0	15,57	60,0	78,0	8800	0,2	RP..2006
R217.29I-2050.RE-10-3A	10254928	Combimaster	30,0	50,0	3	10,0	10,0	–	36,5	M20	–	45,0	9,57	80,0	98,0	7800	0,4	RP..2006
R220.29I-0063-10-4A	10254929	Arbor	43,0	63,0	4	10,0	10,0	50,0	49,0	–	22,0	50,0	5,65	106,0	124,0	7000	0,6	RP..2006
R220.29I-0063-10-5A	10254930	Arbor	43,0	63,0	5	10,0	10,0	50,0	49,0	–	22,0	50,0	5,65	106,0	124,0	7000	0,6	RP..2006
R220.29I-0066-10-5A	10254931	Arbor	46,0	66,0	5	10,0	10,0	62,0	61,0	–	27,0	50,0	7,6	112,0	130,0	6800	0,7	RP..2006
R220.29I-0080-10-5A	10254932	Arbor	60,0	80,0	5	10,0	10,0	62,0	61,0	–	27,0	50,0	5,55	140,0	158,0	6200	0,9	RP..2006
R220.29I-0080-10-6A	10254933	Arbor	60,0	80,0	6	10,0	10,0	62,0	61,0	–	27,0	50,0	5,55	140,0	158,0	6200	0,9	RP..2006
R220.29I-0100-10-5MA	10254934	Arbor	80,0	100,0	5	10,0	10,0	80,0	79,0	–	32,0	50,0	4,0	180,0	198,0	5500	1,6	RP..2006
R220.29I-0100-10-7A	10254935	Arbor	80,0	100,0	7	10,0	10,0	80,0	79,0	–	32,0	50,0	4,0	180,0	198,0	5500	1,6	RP..2006
R220.29I-0125-10-6MA	10254936	Arbor	105,0	125,0	6	10,0	10,0	91,0	90,0	–	40,0	63,0	2,97	230,0	248,0	4900	2,9	RP..2006
R220.29I-0125-10-8A	10254937	Arbor	105,0	125,0	8	10,0	10,0	91,0	90,0	–	40,0	63,0	2,97	230,0	248,0	4900	2,9	RP..2006
R220.29I-8160-10-7MA	10254938	Arbor	140,0	160,0	7	10,0	10,0	120,0	90,0	–	40,0	63,0	2,18	300,0	318,0	4400	4,3	RP..2006
R220.29I-8200-10-9MA	10254939	Arbor	180,0	200,0	9	10,0	10,0	160,0	130,0	–	60,0	63,0	1,67	380,0	398,0	3900	5,5	RP..2006
R220.29I-8250-10-10MA	10254942	Arbor	230,0	250,0	10	10,0	10,0	210,0	130,0	–	60,0	63,0	1,29	480,0	498,0	3500	4,4	RP..2006

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

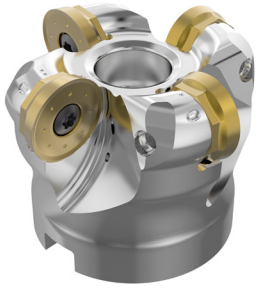
For cutter	Arbor screw	Insert key	Insert screw	Insert shim	Lid	Lid screw	Shim key	Shim screw
								
R217.29I	–	1/4HEX-T20PX50	C05013-T20P	–	–	–	–	–
R220.29I-0100	MLC6S16X35	1/4HEX-T20PX90	C05013-T20P	–	–	–	–	–
R220.29I-0100MA	MLC6S16X35	1/4HEX-T20PX90	C05018-T20P	SRP2004IM0	–	–	1/4HEX-H5.0X50	CA5010
R220.29I-0125	MLC6S20X40	1/4HEX-T20PX90	C05013-T20P	–	–	–	–	–
R220.29I-0125MA	MLC6S20X40	1/4HEX-T20PX90	C05018-T20P	SRP2004IM0	–	–	1/4HEX-H5.0X50	CA5010
R220.29I-063	MC6S10X40	1/4HEX-T20PX50	C05013-T20P	–	–	–	–	–
R220.29I-066	MC6S12X40	1/4HEX-T20PX50	C05013-T20P	–	–	–	–	–
R220.29I-080	MC6S12X35	1/4HEX-T20PX50	C05013-T20P	–	–	–	–	–
R220.29I-8160	–	1/4HEX-T20PX90	C05018-T20P	SRP2004IM0	SC160-53	MF6S4X10	1/4HEX-H5.0X50	CA5010
R220.29I-8200	–	1/4HEX-T20PX90	C05018-T20P	SRP2004IM0	SC-200-90	MF6S4X10	1/4HEX-H5.0X50	CA5010
R220.29I-8250	–	1/4HEX-T20PX90	C05018-T20P	SRP2004IM0	SC-250-90	MF6S4X10	1/4HEX-H5.0X50	CA5010

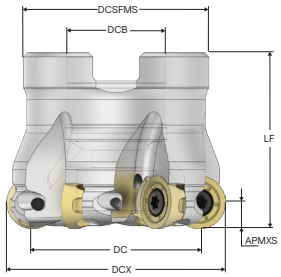
Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque	Key	Stop screw	Torque key
						
R217.29I	1/4HEX-T-HANDLE-5.0-14.0NM	–	5.0NM	1/4HEX-T05PX50	SX2035-T05P	T00-20P50
R220.29I-063-0125	1/4HEX-T-HANDLE-5.0-14.0NM	–	5.0NM	1/4HEX-T05PX50	SX2035-T05P	T00-20P50
R220.29I-8160	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	5.0NM	1/4HEX-T05PX50	SX2035-T05P	T00-20P50
R220.29I-8200-8250	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	5.0NM	1/4HEX-T05PX50	SX2035-T05P	T00-20P50

Torque and fixed keys, see page 944

R220.29I-10 – Inch



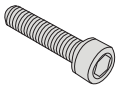


—For insert selection and cutting data recommendations, see page(s) 719-721
—For complete insert programme, see page(s) 891
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCB	DHUB	DCSFMS	DCONMS	LF	RMPX°	C min	C max	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch	inch	inch		inch	inch		lbs	
R220.29I-02.50-10-4A	10254940	Arbor	1.713	2.500	4	0.394	0.750	1.829	1.789	0.750	2.000	5,8	4.213	4.921	7000	1.320	RP..2006
R220.29I-03.00-10-5A	10254941	Arbor	2.213	3.000	5	0.394	1.000	2.329	2.289	1.000	2.000	5,99	5.213	5.921	6300	1.760	RP..2006

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

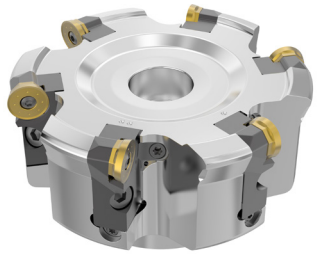
For cutter	Arbor screw	Insert key	Insert screw
			
R220.29I-02.50	UC6S3/8UNFX11/2	1/4HEX-T20PX50	C05013-T20P
R220.29I-03.00	UC6S1/2UNFX1-1/2	1/4HEX-T20PX50	C05013-T20P

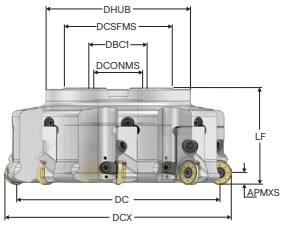
Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Key	Stop screw	Torque key
					
R220.29I-02.50	1/4HEX-T-HANDLE-5.0-14.0NM	5.0NM	1/4HEX-T05PX50	SX2035-T05P	T00-20P50
R220.29I-03.00	1/4HEX-T-HANDLE-5.0-14.0NM	5.0NM	1/4HEX-T05PX50	SX2035-T05P	T00-20P50

Torque and fixed keys, see page 944

R220.29I-10-CA – Metric



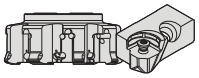
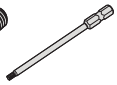
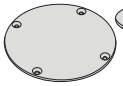


—For insert selection and cutting data recommendations, see page(s) 719-721
—For complete insert programme, see page(s) 891
—For ISO attribute explanation, see page 16

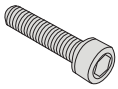
Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCB	DHUB	DCSFMS	DCONMS	LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm	mm	mm		mm	mm		kg	
R220.29I-0153-10-6CA	10254943	Arbor	133,0	153,0	6	10,0	40,0	91,0	90,0	40,0	80,0	1,83	286,0	304,0	4500	6,9	RP..2006
R220.29I-8188-10-8CA	10254944	Arbor	168,0	188,0	8	10,0	40,0	120,0	90,0	40,0	80,0	1,43	356,0	374,0	4000	8,2	RP..2006
R220.29I-8228-10-10CA	10254945	Arbor	208,0	228,0	10	10,0	60,0	164,0	130,0	60,0	80,0	1,15	436,0	454,0	3700	13,5	RP..2006

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Adjustment unit	Arbor screw	Basic body	Cassette	Cassette screw	Insert key	Insert screw	Lid	Lid screw	Setting key	Wedge clamp	Wedge key	Wedge screw
													
R220.29I-0153	AU1114T-T15P	MC6S20X70	B-R220.21/29I-0153-6CA	RP20ZR-R	FS98030	1/4HEX-T20PX90	C05013-T20P	–	–	1/4HEX-T15PX50	CW0810	1/4HEX-T25PX50	LD8020-T25P
R220.29I-8188	AU1114T-T15P	–	B-R220.21/29I-8188-8CA	RP20ZR-R	FS98030	1/4HEX-T20PX90	C05013-T20P	SC-160-90	MF6S4X10	1/4HEX-T15PX50	CW0810	1/4HEX-T25PX50	LD8020-T25P
R220.29I-8228	AU1114T-T15P	–	B-R220.21/29I-8228-10CA	RP20ZR-R	FS98030	1/4HEX-T20PX90	C05013-T20P	SC-200-90	MF6S4X10	1/4HEX-T15PX50	CW0810	1/4HEX-T25PX50	LD8020-T25P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque	Key	Stop screw	Torque key
						
R220.29I-0153	1/4HEX-T-HANDLE-5.0-14.0NM	–	5.0NM	1/4HEX-T05PX50	SX2035-T05P	T00-20P50
R220.29I-8188	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	5.0NM	1/4HEX-T05PX50	SX2035-T05P	T00-20P50
R220.29I-8228	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	5.0NM	1/4HEX-T05PX50	SX2035-T05P	T00-20P50

Torque and fixed keys, see page 944

R217/220.29-10 – Insert selection – mm/Inch

SMG		a_p	f_z			
			100%	70%	30%	10%
P1	RPKT2006M0T-8-ME12 MP2501	4,0 *0.16*	0,38 0.015	0,38 0.015	0,44 0.017	0,70 0.028
P2	RPKT2006M0T-8-ME12 MP2501	4,0 *0.16*	0,38 0.015	0,38 0.015	0,46 0.018	0,70 0.028
P3	RPKT2006M0T-8-ME12 MP2501	4,0 *0.16*	0,36 0.014	0,36 0.014	0,42 0.017	0,70 0.028
P4	RPKT2006M0T-8-M15 MP2501	4,0 *0.16*	0,44 0.017	0,44 0.017	0,50 0.020	0,85 0.034
P5	RPKT2006M0T-8-M15 MP2501	4,0 *0.16*	0,44 0.017	0,44 0.017	0,50 0.020	0,80 0.032
P6	RPKT2006M0T-8-M20 MP1501	4,0 *0.16*	0,60 0.024	0,60 0.024	0,70 0.028	1,1 0.044
P7	RPKT2006M0T-8-M20 MP1501	4,0 *0.16*	0,60 0.024	0,60 0.024	0,70 0.028	1,1 0.044
P8	RPKT2006M0T-8-M20 MP2501	4,0 *0.16*	0,60 0.024	0,60 0.024	0,70 0.028	1,1 0.044
P11	RPKT2006M0T-8-ME12 MP3501	4,0 *0.16*	0,34 0.013	0,34 0.013	0,40 0.016	0,65 0.026
P12	RPKT2006M0T-8-M20 MP1501	3,0 *0.12*	0,46 0.018	0,46 0.018	0,55 0.022	0,85 0.034
M1	RPHT2006M0T-8-M13 MS2050	4,0 *0.16*	0,42 0.017	0,42 0.017	0,48 0.019	0,80 0.032
M2	RPHT2006M0T-8-M13 MS2050	4,0 *0.16*	0,38 0.015	0,38 0.015	0,44 0.017	0,70 0.028
M3	RPHT2006M0T-8-M13 MS2050	3,0 *0.12*	0,34 0.013	0,34 0.013	0,40 0.016	0,65 0.026
M4	RPKT2006M0T-8-ME12 MP3501	2,5 *0.10*	0,30 0.012	0,30 0.012	0,36 0.014	0,55 0.022
M5	RPKT2006M0T-8-ME12 MP3501	2,5 *0.10*	0,30 0.012	0,30 0.012	0,36 0.014	0,55 0.022
K1	RPKT2006M0T-8-M20 MK2050	4,0 *0.16*	0,65 0.026	0,65 0.026	0,75 0.030	1,2 0.048
K2	RPKT2006M0T-8-M20 MK2050	4,0 *0.16*	0,60 0.024	0,60 0.024	0,70 0.028	1,1 0.044
K3	RPKT2006M0T-8-M20 MK2050	4,0 *0.16*	0,60 0.024	0,60 0.024	0,70 0.028	1,1 0.044
K4	RPKT2006M0T-8-M20 MK2050	4,0 *0.16*	0,60 0.024	0,60 0.024	0,70 0.028	1,1 0.044
K5	RPKT2006M0T-8-M20 MK2050	4,0 *0.16*	0,55 0.022	0,55 0.022	0,60 0.024	1,0 0.040
K6	RPKT2006M0T-8-M20 MK2050	4,0 *0.16*	0,60 0.024	0,60 0.024	0,70 0.028	1,1 0.044
K7	RPKT2006M0T-8-M20 MK2050	4,0 *0.16*	0,55 0.022	0,55 0.022	0,60 0.024	1,0 0.040
S1	RPKT2006M0T-8-ME12 MP3501	2,5 *0.10*	0,30 0.012	0,30 0.012	0,36 0.014	0,55 0.022
S2	RPKT2006M0T-8-ME12 MP3501	2,5 *0.10*	0,30 0.012	0,30 0.012	0,36 0.014	0,55 0.022
S3	RPKT2006M0T-8-ME12 MP3501	2,5 *0.10*	0,28 0.011	0,28 0.011	0,34 0.013	0,50 0.020
S11	RPKT2006M0T-8-ME12 MS2050	3,0 *0.12*	0,32 0.013	0,32 0.013	0,38 0.015	0,60 0.024
S12	RPKT2006M0T-8-ME12 MS2050	3,0 *0.12*	0,32 0.013	0,32 0.013	0,38 0.015	0,60 0.024
S13	RPKT2006M0T-8-ME12 MS2050	2,5 *0.10*	0,30 0.012	0,30 0.012	0,36 0.014	0,55 0.022
H5	RPKW2006M0T-8-MD22 MP1501	3,0 *0.12*	0,50 0.020	0,50 0.020	0,60 0.024	0,90 0.036
H8	RPKW2006M0T-8-MD22 MP1501	3,0 *0.12*	0,38 0.015	0,38 0.015	0,44 0.017	0,70 0.028
H11	RPKW2006M0T-8-MD22 MP1501	3,0 *0.12*	0,50 0.020	0,50 0.020	0,60 0.024	0,90 0.036
H12	RPKW2006M0T-8-MD22 MP1501	3,0 *0.12*	0,38 0.015	0,38 0.015	0,44 0.017	0,70 0.028

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.29-10 – Cutting data v_c = (m/min)/(sf/min)

SMG	F15M				MK2050				MP3000				MS2050				F40M				MP2051				MP2050			
	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%
P1	195	220	275	320	240	275	340	400	285	320	400	465	260	290	345	400	260	280	335	370	315	360	480	570	285	325	385	455
	640	*720*	*900*	*1050*	*790*	*900*	*1125*	*1300*	*940*	*1050*	*1300*	*1525*	*850*	*950*	*1125*	*1300*	*850*	*920*	*1100*	*1225*	*1025*	*1175*	*1575*	*1875*	*940*	*1075*	*1275*	*1500*
P2	190	215	260	310	235	270	330	385	275	315	385	445	245	275	335	390	250	275	325	360	305	350	470	550	270	310	375	440
	620	*710*	*850*	*1025*	*770*	*890*	*1075*	*1275*	*900*	*1025*	*1275*	*1450*	*800*	*900*	*1100*	*1275*	*820*	*900*	*1075*	*1175*	*1000*	*1150*	*1550*	*1800*	*890*	*1025*	*1225*	*1450*
P3	165	190	230	270	205	235	285	340	245	275	335	395	215	245	295	345	220	240	285	320	275	315	415	495	235	270	330	390
	540	*620*	*750*	*890*	*670*	*770*	*940*	*1125*	*800*	*900*	*1100*	*1300*	*710*	*800*	*970*	*1125*	*720*	*790*	*940*	*1050*	*900*	*1025*	*1350*	*1625*	*770*	*890*	*1075*	*1275*
P4	145	170	200	240	180	210	255	300	215	245	300	350	195	220	260	300	200	220	265	305	240	275	365	435	210	245	290	345
	475	*560*	*660*	*790*	*590*	*690*	*840*	*980*	*710*	*800*	*980*	*1150*	*640*	*720*	*850*	*980*	*660*	*720*	*870*	*1000*	*790*	*900*	*1200*	*1425*	*690*	*800*	*950*	*1125*
P5	140	160	200	230	175	200	245	285	205	235	285	330	185	210	250	290	190	210	240	270	240	275	350	415	200	230	280	330
	460	*520*	*660*	*750*	*570*	*660*	*800*	*940*	*670*	*770*	*940*	*1075*	*610*	*690*	*820*	*950*	*620*	*690*	*790*	*890*	*790*	*900*	*1150*	*1350*	*660*	*750*	*920*	*1075*
P6	155	180	220	260	200	230	275	325	240	270	320	380	210	235	285	325	215	235	270	305	270	310	390	470	225	260	315	370
	510	*590*	*720*	*850*	*660*	*750*	*900*	*1075*	*790*	*890*	*1050*	*1250*	*690*	*770*	*940*	*1075*	*710*	*770*	*890*	*1000*	*890*	*1025*	*1275*	*1550*	*740*	*850*	*1025*	*1225*
P7	150	170	210	245	190	215	260	310	225	255	305	355	195	220	265	305	200	220	255	285	255	290	370	440	215	245	300	345
	490	*560*	*690*	*800*	*620*	*710*	*850*	*1025*	*740*	*840*	*1000*	*1175*	*640*	*720*	*870*	*1000*	*660*	*720*	*840*	*940*	*840*	*950*	*1225*	*1450*	*710*	*800*	*980*	*1125*
P8	140	160	195	230	175	200	240	285	205	235	280	330	180	205	250	290	185	205	240	270	230	265	350	415	200	230	275	330
	460	*520*	*640*	*750*	*570*	*660*	*790*	*940*	*670*	*770*	*920*	*1075*	*590*	*670*	*820*	*950*	*610*	*670*	*790*	*890*	*750*	*870*	*1150*	*1350*	*660*	*750*	*900*	*1075*
P11	145	165	205	240	185	210	255	300	220	245	295	345	190	215	260	295	195	215	250	280	230	290	400	520	210	240	290	335
	475	*540*	*670*	*790*	*610*	*690*	*840*	*980*	*720*	*800*	*970*	*1125*	*620*	*710*	*850*	*970*	*640*	*710*	*820*	*920*	*750*	*950*	*1300*	*1700*	*690*	*790*	*950*	*1100*
P12	—	—	—	—	120	140	165	200	145	165	195	220	130	145	175	200	130	140	165	185	165	205	275	355	135	155	190	225
	—	—	—	—	*395*	*460*	*540*	*660*	*475*	*540*	*640*	*720*	*425*	*475*	*570*	*660*	*425*	*460*	*540*	*610*	*540*	*670*	*900*	*1175*	*445*	*510*	*620*	*740*
M1	—	—	—	—	—	—	—	—	190	220	265	305	185	215	260	300	180	205	250	290	250	310	450	580	195	225	270	315
	—	—	—	—	—	—	—	—	*620*	*720*	*870*	*1000*	*610*	*710*	*850*	*980*	*590*	*670*	*820*	*950*	*820*	*1025*	*1475*	*1900*	*640*	*740*	*890*	*1025*
M2	—	—	—	—	—	—	—	—	155	180	215	255	155	175	215	250	150	170	205	240	220	275	375	495	160	185	225	260
	—	—	—	—	—	—	—	—	*510*	*590*	*710*	*840*	*510*	*570*	*710*	*820*	*490*	*560*	*670*	*790*	*720*	*900*	*1225*	*1625*	*520*	*610*	*740*	*850*
M3	—	—	—	—	—	—	—	—	130	145	175	205	125	145	175	205	120	140	165	195	190	235	320	415	135	150	180	215
	—	—	—	—	—	—	—	—	*425*	*475*	*570*	*670*	*410*	*475*	*570*	*670*	*395*	*460*	*540*	*640*	*620*	*770*	*1050*	*1350*	*445*	*490*	*590*	*710*
M4	—	—	—	—	—	—	—	—	100	115	135	160	100	110	135	160	95	110	130	150	155	190	255	325	100	115	140	165
	—	—	—	—	—	—	—	—	*330*	*375*	*445*	*520*	*330*	*360*	*445*	*520*	*310*	*360*	*425*	*490*	*510*	*620*	*840*	*1075*	*330*	*375*	*460*	*540*
M5	—	—	—	—	—	—	—	—	80	95	115	135	80	95	110	130	80	90	110	125	130	160	215	270	85	95	115	140
	—	—	—	—	—	—	—	—	*260*	*310*	*375*	*445*	*260*	*310*	*360*	*425*	*260*	*295*	*360*	*410*	*425*	*520*	*710*	*890*	*280*	*310*	*375*	*460*
K1	150	170	205	245	250	290	355	420	200	230	280	325	—	—	—	—	175	200	245	285	—	—	—	—	—	—	—	—
	490	*560*	*670*	*800*	*820*	*950*	*1175*	*1375*	*660*	*750*	*920*	*1075*	—	—	—	—	*570*	*660*	*800*	*940*	—	—	—	—	—	—	—	—
K2	135	150	190	220	225	255	320	370	175	205	245	290	—	—	—	—	155	180	215	255	—	—	—	—	—	—	—	—
	445	*490*	*620*	*720*	*740*	*840*	*1050*	*1225*	*570*	*670*	*800*	*950*	—	—	—	—	*510*	*590*	*710*	*840*	—	—	—	—	—	—	—	—
K3	115	130	160	185	190	220	270	310	150	170	210	245	—	—	—	—	135	155	180	215	—	—	—	—	—	—	—	—
	375	*425*	*520*	*610*	*620*	*720*	*890*	*1025*	*490*	*560*	*690*	*800*	—	—	—	—	*445*	*510*	*590*	*710*	—	—	—	—	—	—	—	—
K4	105	125	150	180	180	210	255	300	145	165	200	235	—	—	—	—	125	145	175	205	—	—	—	—	—	—	—	—
	345	*410*	*490*	*590*	*590*	*690*	*840*	*980*	*475*	*540*	*660*	*770*	—	—	—	—	*410*	*475*	*570*	*670*	—	—	—	—	—	—	—	—
K5	70	80	95	110	115	130	160	185	90	100	120	140	—	—	—	—	75	90	105	125	—	—	—	—	—	—	—	—
	230	*260*	*310*	*360*	*375*	*425*	*520*	*610*	*295*	*330*	*395*	*460*	—	—	—	—	*245*	*295*	*345*	*410*	—	—	—	—	—	—	—	—
K6	95	110	135	155	160	185	225	260	125	145	175	205	—	—	—	—	110	130	155	180	—	—	—	—	—	—	—	—
	310	*360*	*445*	*510*	*520*	*610*	*740*	*850*	*410*	*475*	*570*	*670*	—	—	—	—	*360*	*425*	*510*	*590*	—	—	—	—	—	—	—	—
K7	85	100	120	140	145	170	200	235	115	130	155	180	—	—	—	—	100	115	135	160	—	—	—	—	—	—	—	—
	280	*330*	*395*	*460*	*475*	*560*	*660*	*770*	*375*	*425*	*510*	*590*	—	—	—	—	*330*	*375*	*445*	*520*	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	46	55	65	75	46	50	65	75	44	50	60	70	55	60	75	85	50	55	70	80
	—	—	—	—	—	—	—	—	*150*	*180*	*215*	*245*	*150*	*165*	*215*	*245*	*145*	*165*	*195*	*230*	*180*	*195*	*245*	*280*	*165*	*180*	*230*	*260*
S2	—	—	—	—	—	—	—	—	37	42	50	60	37	42	50	60	35	40	49	55	43	49	60	70	40	46	55	65
	—	—	—	—	—	—	—	—	*120*	*140*	*165*	*195*	*120*	*140*	*165*	*195*	*115*	*130*	*160*	*180*	*140*	*160*	*195*	*230*	*130*	*150*	*180*	*215*
S3	—	—	—	—	—	—	—	—	33	37	45	55	32	37	44	55	31	35	43	50	38	43	50	60	35	40	48	60
	—	—	—	—	—	—	—	—	*110*	*120*	*150*	*180*	*105*	*120*	*145*	*180*	*100*	*115*	*140*	*165*	*125*	*140*	*165*	*195*	*115*	*130*	*155*	*195*
S11	—	—	—	—	—	—	—	—	65	75	90	105	65	75	85	105	60	70	85	100	75	85	100	120	70	80	95	115
	—	—	—	—	—	—	—	—	*215*	*245*	*295*	*345*	*215*	*245*	*280*	*345*	*195*	*230*	*280*	*330*	*245*	*280*	*330*	*395*	*230*	*260*	*310*	*375*
S12	—	—	—	—	—	—	—	—	45	50	60	75	44	50	60	70	42	48	60	70	50	60	70	80	49	55	65	80
	—	—	—	—	—	—	—	—	*150*	*165*	*195*	*245*	*145*	*165*	*195*	*230*	*140*	*155*	*195*	*230*	*165*	*195*	*230*	*260*	*160*	*180*	*215*	*260*
S13	—	—	—	—	—	—	—	—	26	30	36	42	26	29	35	42	25	28	34	40	30	34	41	48	28	32	39	46
	—	—	—	—	—	—	—	—	*85*	*100*	*120*	*140*	*85*	*95*	*115*	*140*	*80*	*90*	*110*	*130*	*100*	*110*	*135*	*155*	*90*	*105*	*130*	*150*
H5	32	37	45	55	41	47	55	70	40	46	55	65	—	—	—	—	37	42	50	60	—	—	—	—	—	—	—	—
	105	*120*	*150*	*180*	*135*	*155*	*180*	*230*	*130*	*150*	*180*	*215*	—	—	—	—	*120*	*140*	*165*	*195*	—	—	—	—	—	—	—	—
H8	35	40	49	55	45	50	60	75	42	49	55	65	—	—	—	—	40	46	55	65	—	—	—	—	—	—	—	—
	115	*130*	*160*	*180*	*150*	*165*	*195*	*245*	*140*	*160*	*180*	*215*	—	—	—	—	*130*	*150*	*180*	*215*	—	—	—	—	—	—	—	—
H11	41	47	55	70	55	60	75	85	50	60	70	80	—	—	—	—	47	55	65	75	110	135	180	230	50	60	75	85
	135	*155*	*180*	*230*	*180*	*195*	*245*	*280*	*165*	*195*	*230*	*260*	—	—	—	—	*155*	*180*	*215*	*245*	*360*	*445*	*590*	*750*	*165*	*195*	*245*	*280*
H12	65	70	85	100	80	90	105	125	80	95	110	130	—	—	—	—	70	80	100	115	110	140	175	215	90	100	120	140
	215	*230*	*280*	*330*	*260*	*295*	*345*	*410*	*260*	*310*	*360*	*425*	—	—	—	—	*230*	*260*	*330*	*375*	*360*	*460*	*570*	*710*	*295*	*330*	*395*	*460*

R217/220.29-10 – Cutting data v_c = (m/min)/(sf/min)

SMG	MP1501				MP2501				MS2500				MP3501				T25M				MM4500			
	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%
P1	340 *1125*	375 *1225*	455 *1500*	520 *1700*	375 *1225*	410 *1350*	490 *1600*	560 *1825*	315 *1025*	345 *1125*	430 *1400*	490 *1600*	375 *1225*	415 *1350*	490 *1600*	550 *1800*	250 *820*	285 *940*	350 *1150*	405 *1325*	230 *750*	255 *840*	305 *1000*	355 *1175*
P2	330 *1075*	365 *1200*	445 *1450*	500 *1650*	365 *1200*	400 *1300*	475 *1550*	540 *1775*	305 *1000*	335 *1100*	415 *1350*	475 *1550*	365 *1200*	405 *1325*	480 *1575*	530 *1750*	245 *800*	280 *920*	340 *1125*	395 *1300*	220 *720*	245 *800*	300 *980*	345 *1125*
P3	295 *970*	325 *1075*	380 *1250*	445 *1450*	320 *1050*	350 *1150*	415 *1350*	475 *1550*	270 *890*	300 *980*	360 *1175*	420 *1375*	320 *1050*	355 *1175*	420 *1375*	475 *1550*	215 *710*	245 *800*	295 *970*	350 *1150*	190 *620*	215 *710*	260 *850*	305 *1000*
P4	260 *850*	285 *940*	350 *1150*	390 *1275*	285 *940*	315 *1025*	375 *1225*	415 *1350*	240 *790*	265 *870*	325 *1075*	370 *1225*	285 *940*	310 *1025*	370 *1225*	415 *1350*	190 *620*	215 *710*	260 *850*	305 *1000*	185 *610*	210 *690*	250 *820*	290 *950*
P5	245 *800*	275 *900*	330 *1075*	370 *1225*	275 *900*	300 *980*	355 *1175*	405 *1325*	230 *750*	255 *840*	310 *1025*	350 *1150*	275 *900*	305 *1000*	350 *1150*	395 *1300*	180 *590*	210 *690*	250 *820*	295 *970*	165 *540*	185 *610*	225 *740*	255 *840*
P6	290 *950*	320 *1050*	375 *1225*	425 *1400*	305 *1000*	335 *1100*	400 *1300*	455 *1500*	265 *870*	295 *970*	350 *1150*	405 *1325*	310 *1025*	340 *1125*	395 *1300*	445 *1450*	205 *670*	235 *770*	280 *920*	330 *1075*	185 *610*	205 *670*	250 *820*	285 *940*
P7	270 *890*	300 *980*	350 *1150*	405 *1325*	290 *950*	320 *1050*	375 *1225*	430 *1400*	250 *820*	280 *920*	330 *1075*	380 *1250*	295 *970*	320 *1050*	375 *1225*	420 *1375*	195 *640*	220 *720*	265 *870*	310 *1025*	175 *570*	195 *640*	235 *770*	270 *890*
P8	245 *800*	275 *900*	320 *1050*	370 *1225*	270 *890*	295 *970*	350 *1150*	400 *1300*	230 *750*	255 *840*	300 *980*	350 *1150*	270 *890*	300 *980*	350 *1150*	395 *1300*	180 *590*	205 *670*	250 *820*	295 *970*	160 *520*	180 *590*	220 *720*	255 *840*
P11	265 *870*	290 *950*	340 *1125*	390 *1275*	280 *920*	310 *1025*	365 *1200*	420 *1375*	245 *800*	270 *890*	320 *1050*	370 *1225*	285 *940*	315 *1025*	360 *1175*	410 *1350*	190 *620*	215 *710*	255 *840*	300 *980*	170 *560*	190 *620*	230 *750*	265 *870*
P12	175 *570*	195 *640*	225 *740*	260 *850*	190 *620*	210 *690*	240 *790*	270 *890*	165 *540*	180 *590*	215 *710*	245 *800*	185 *610*	205 *670*	235 *770*	265 *870*	120 *395*	140 *460*	170 *560*	200 *660*	115 *375*	125 *410*	150 *490*	170 *560*
M1	— —	— —	— —	— —	190 *620*	215 *710*	265 *870*	305 *1000*	185 *610*	210 *690*	260 *850*	305 *1000*	195 *640*	225 *740*	275 *900*	320 *1050*	195 *640*	225 *740*	275 *900*	320 *1050*	145 *475*	165 *540*	200 *660*	235 *770*
M2	— —	— —	— —	— —	155 *510*	180 *590*	220 *720*	260 *850*	155 *510*	175 *570*	220 *720*	255 *840*	165 *540*	190 *620*	225 *740*	265 *870*	165 *540*	190 *620*	225 *740*	265 *870*	120 *395*	140 *460*	170 *560*	195 *640*
M3	— —	— —	— —	— —	130 *425*	145 *475*	180 *590*	210 *690*	125 *410*	145 *475*	180 *590*	210 *690*	135 *445*	150 *490*	180 *590*	215 *710*	135 *445*	150 *490*	180 *590*	215 *710*	100 *330*	115 *375*	135 *445*	160 *520*
M4	— —	— —	— —	— —	100 *330*	115 *375*	140 *460*	160 *520*	100 *330*	115 *375*	140 *460*	160 *520*	105 *345*	120 *395*	145 *475*	165 *540*	105 *345*	120 *395*	145 *475*	165 *540*	75 *245*	85 *280*	105 *345*	125 *410*
M5	— —	— —	— —	— —	85 *280*	95 *310*	115 *375*	135 *445*	85 *280*	95 *310*	115 *375*	135 *445*	85 *280*	100 *330*	120 *395*	140 *460*	85 *280*	100 *330*	120 *395*	140 *460*	65 *215*	75 *245*	90 *295*	105 *345*
K1	335 *1100*	370 *1225*	450 *1475*	510 *1675*	365 *1200*	405 *1325*	480 *1575*	540 *1775*	205 *670*	235 *770*	290 *950*	340 *1125*	370 *1225*	410 *1350*	480 *1575*	540 *1775*	195 *640*	220 *720*	270 *890*	315 *1025*	— —	— —	— —	— —
K2	300 *980*	330 *1075*	400 *1300*	450 *1475*	330 *1075*	365 *1200*	430 *1400*	495 *1625*	185 *610*	210 *690*	260 *850*	300 *980*	335 *1100*	370 *1225*	425 *1400*	480 *1575*	175 *570*	200 *660*	235 *770*	280 *920*	— —	— —	— —	— —
K3	255 *840*	280 *920*	340 *1125*	380 *1250*	280 *920*	305 *1000*	365 *1200*	415 *1350*	155 *510*	175 *570*	220 *720*	255 *840*	285 *940*	310 *1025*	360 *1175*	405 *1325*	145 *475*	170 *560*	200 *660*	235 *770*	— —	— —	— —	— —
K4	240 *790*	265 *870*	325 *1075*	365 *1200*	265 *870*	295 *970*	350 *1150*	400 *1300*	150 *490*	170 *560*	210 *690*	240 *790*	270 *890*	295 *970*	345 *1125*	390 *1275*	140 *460*	160 *520*	190 *620*	225 *740*	— —	— —	— —	— —
K5	155 *510*	170 *560*	200 *660*	225 *740*	165 *540*	180 *590*	215 *710*	245 *800*	95 *310*	105 *345*	130 *425*	150 *490*	165 *540*	180 *590*	210 *690*	240 *790*	85 *280*	95 *310*	120 *395*	140 *460*	— —	— —	— —	— —
K6	215 *710*	235 *770*	285 *940*	320 *1050*	235 *770*	260 *850*	305 *1000*	350 *1150*	130 *425*	150 *490*	185 *610*	215 *710*	240 *790*	260 *850*	305 *1000*	340 *1125*	125 *410*	140 *460*	170 *560*	200 *660*	— —	— —	— —	— —
K7	200 *660*	220 *720*	255 *840*	290 *950*	210 *690*	230 *750*	275 *900*	310 *1025*	120 *395*	135 *445*	165 *540*	190 *620*	210 *690*	230 *750*	270 *890*	305 *1000*	110 *360*	125 *410*	150 *490*	180 *590*	— —	— —	— —	— —
S1	— —	— —	— —	— —	— —	— —	— —	— —	49 *160*	55 *180*	70 *230*	80 *260*	48 *155*	55 *180*	65 *215*	80 *260*	— —	— —	— —	— —	23 *75*	27 *90*	32 *105*	38 *125*
S2	— —	— —	— —	— —	— —	— —	— —	— —	40 *130*	45 *150*	55 *180*	65 *215*	39 *130*	44 *145*	55 *180*	65 *215*	— —	— —	— —	— —	19 *60*	21 *70*	26 *85*	31 *100*
S3	— —	— —	— —	— —	— —	— —	— —	— —	35 *115*	39 *130*	48 *155*	55 *180*	34 *110*	39 *130*	47 *155*	55 *180*	— —	— —	— —	— —	17 *55*	19 *60*	23 *75*	27 *90*
S11	— —	— —	— —	— —	— —	— —	— —	— —	65 *215*	75 *245*	95 *310*	110 *360*	65 *215*	75 *245*	95 *310*	110 *360*	— —	— —	— —	— —	33 *110*	38 *125*	45 *150*	55 *180*
S12	— —	— —	— —	— —	— —	— —	— —	— —	46 *150*	55 *180*	65 *215*	75 *245*	46 *150*	55 *180*	65 *215*	75 *245*	— —	— —	— —	— —	30 *100*	35 *115*	41 *135*	49 *160*
S13	— —	— —	— —	— —	— —	— —	— —	— —	28 *90*	31 *100*	38 *125*	44 *145*	27 *90*	31 *100*	38 *125*	44 *145*	— —	— —	— —	— —	18 *60*	20 *65*	24 *80*	28 *90*
H5	46 *150*	50 *165*	65 *215*	75 *245*	— —	— —	— —	— —	40 *130*	46 *150*	55 *180*	65 *215*	42 *140*	48 *155*	60 *195*	70 *230*	— —	— —	— —	— —	— —	— —	— —	— —
H8	50 *165*	55 *180*	70 *230*	80 *260*	— —	— —	— —	— —	44 *145*	50 *165*	60 *195*	70 *230*	46 *150*	55 *180*	60 *195*	75 *245*	— —	— —	— —	— —	— —	— —	— —	— —
H11	60 *195*	65 *215*	80 *260*	95 *310*	— —	— —	— —	— —	50 *165*	60 *195*	70 *230*	85 *280*	55 *180*	60 *195*	75 *245*	85 *280*	— —	— —	— —	— —	— —	— —	— —	— —
H12	90 *295*	105 *345*	125 *410*	145 *475*	— —	— —	— —	— —	85 *280*	100 *330*	120 *395*	140 *460*	85 *280*	95 *310*	110 *360*	130 *425*	— —	— —	— —	— —	— —	— —	— —	— —



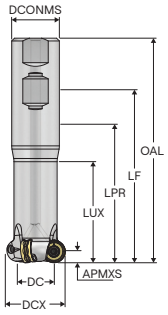
R217/220.28 Round insert cutters

Our range of double-sided round inserts in size 12 and cutters, R217/220.28, is ideal for light copy milling applications, face milling, slot milling and side milling in all workpiece materials.

- Cutter range 32-100 mm (1.25 - 4 inch)
- Max depth of cut 6 mm (.236 inch)
- Recommended slotting depth of cut 3 mm (.118 inch)
- Up to 16 cutting edges

R217/220.28-06 – Inch





—For insert selection and cutting data recommendations, see page(s) 725, 726-727
—For complete insert programme, see page(s) 887
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCONMS	LF	LS	LUX	LPR	OAL	RMPX°	C min	C max	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch	inch	inch	inch		inch	inch		lbs	
R217.28-01.25-3-06-3A	03092089	Weldon	0.780	1.250	3	0.236	1.000	3.642	2.280	2.578	2.504	4.783	0,4	2.030	2.421	15600	1.100	RNMU1204

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.28-..	1/4HEX-T15PX50	C04009-T15P

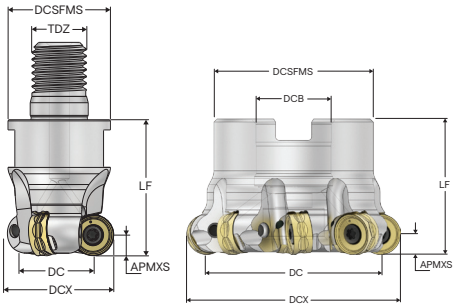
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.28-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

R220.28-06 – Metric

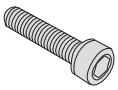




—For insert selection and cutting data recommendations, see page(s) 725, 726-727
—For complete insert programme, see page(s) 887
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCB	DCSFMS	TDZ	DCONMS	LF	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm	mm		mm	mm	mm		mm	mm		kg	
R217.28-1632.RE-06.3A	03092078	Combimaster	20,1	32,0	3	6,0	–	30,0	M16	–	40,0	62,75	0,4	52,1	62,0	15600	0,3	RNMU1204
R220.28-0040-06.4A	03092080	Arbor	28,0	40,0	4	6,0	16,0	35,0	–	16,0	40,0	–	0,54	68,0	78,0	14000	0,3	RNMU1204
R220.28-0050-06.5A	03092081	Arbor	38,0	50,0	5	6,0	22,0	42,0	–	22,0	40,0	–	0,62	88,0	98,0	12500	0,3	RNMU1204
R220.28-0050-06.6A	03092082	Arbor	38,0	50,0	6	6,0	22,0	42,0	–	22,0	40,0	–	0,62	88,0	98,0	12500	0,4	RNMU1204
R220.28-0052-06.5A	03092083	Arbor	40,0	52,0	5	6,0	22,0	47,0	–	22,0	40,0	–	0,6	92,0	102,0	12300	0,4	RNMU1204
R220.28-0063-06.6A	03092084	Arbor	51,0	63,0	6	6,0	22,0	47,0	–	22,0	40,0	–	0,47	114,0	124,0	11200	0,5	RNMU1204
R220.28-0063-06.8A	03092086	Arbor	51,0	63,0	8	6,0	22,0	47,0	–	22,0	40,0	–	0,47	114,0	124,0	10000	0,5	RNMU1204
R220.28-0066-06.7A	03092087	Arbor	54,0	66,0	7	6,0	27,0	62,0	–	27,0	50,0	–	0,45	120,0	130,0	10900	0,9	RNMU1204
R220.28-0080-06.8A	03092088	Arbor	67,9	80,0	8	6,0	27,0	62,0	–	27,0	50,0	–	0,53	147,9	158,0	10000	1,1	RNMU1204

Spare Parts, included in delivery

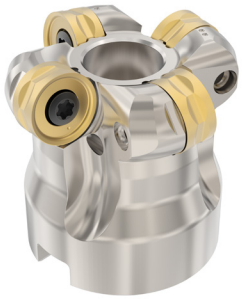
For cutter	Arbor screw	Insert key	Insert screw
			
R217.28-..	–	1/4HEX-T15PX50	C04009-T15P
R220.28-0040-0063	220.17-692	1/4HEX-T15PX50	C04009-T15P
R220.28-0066	MC6S12X40	1/4HEX-T15PX50	C04009-T15P
R220.28-0080	MC6S12X40	1/4HEX-T15PX50	C04009-T15P

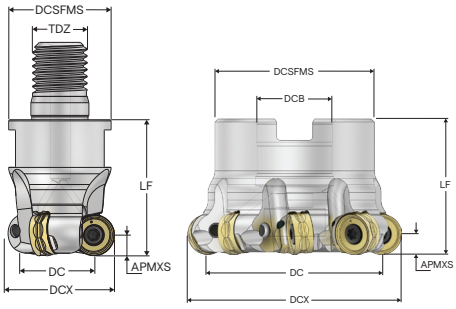
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.28-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

R220.28-06 – inch

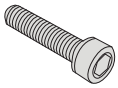




—For insert selection and cutting data recommendations, see page(s) 725, 726-727
—For complete insert programme, see page(s) 887
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCB	DCSFMS	DCONMS	LF	RMPX°	C min	C max	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch	inch		inch	inch		lbs	
R220.28-02.00-06-5A	03092092	Arbor	1.528	2.000	5	0.236	0.750	1.654	0.750	1.500	0,61	3.528	3.921	12500	0.660	RNMU1204
R220.28-02.00-06-6A	03092093	Arbor	1.528	2.000	6	0.236	0.750	1.654	0.750	1.500	0,61	3.528	3.921	12500	0.660	RNMU1204
R220.28-02.50-06-7A	03092094	Arbor	2.028	2.500	7	0.236	0.750	1.850	0.750	1.500	0,47	4.528	4.921	11200	1.100	RNMU1204
R220.28-04.00-06-12A	03137204	Arbor	3.528	4.000	12	0.236	1.500	3.543	1.500	2.000	0,11	7.528	7.921	8800	3.970	RNMU1204

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R220.28-02.00-02.50	UC6S3/8UNFX1-1/4	1/4HEX-T15PX50	C04009-T15P
R220.28-04.00	ULC6S3/4UNFX11/2	1/4HEX-T15PX90	C04009-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R220.28-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

R217/220.28 – Insert selection – mm/Inch

SMG		a_p	f_z			
			100%	70%	30%	10%
P1	RNMU1204M0-ME10 MP3501	2,5 *0.10*	0,30 0.012	0,30 0.012	0,34 0.013	0,55 0.022
P2	RNMU1204M0-ME10 MP3501	2,5 *0.10*	0,30 0.012	0,30 0.012	0,36 0.014	0,55 0.022
P3	RNMU1204M0-ME10 MP3501	2,5 *0.10*	0,30 0.012	0,30 0.012	0,34 0.013	0,55 0.022
P4	RNMU1204M0T-M10 MP2501	2,5 *0.10*	0,28 0.011	0,28 0.011	0,32 0.013	0,50 0.020
P5	RNMU1204M0T-M10 MP2501	2,5 *0.10*	0,28 0.011	0,28 0.011	0,32 0.013	0,50 0.020
P6	RNMU1204M0T-M10 MP2501	2,5 *0.10*	0,28 0.011	0,28 0.011	0,32 0.013	0,50 0.020
P7	RNMU1204M0T-M10 MP2501	2,5 *0.10*	0,28 0.011	0,28 0.011	0,32 0.013	0,50 0.020
P8	RNMU1204M0T-M10 MP2050	2,5 *0.10*	0,30 0.012	0,30 0.012	0,34 0.013	0,55 0.022
P11	RNMU1204M0T-M10 MP2050	2,5 *0.10*	0,28 0.011	0,28 0.011	0,32 0.013	0,50 0.020
P12	RNMU1204M0T-M10 MS2500	1,9 *0.075*	0,22 0.0085	0,22 0.0085	0,25 0.010	0,40 0.016
M1	RNMU1204M0-ME10 MS2050	2,5 *0.10*	0,30 0.012	0,30 0.012	0,36 0.014	0,55 0.022
M2	RNMU1204M0-ME10 MS2050	2,5 *0.10*	0,28 0.011	0,28 0.011	0,32 0.013	0,50 0.020
M3	RNMU1204M0-ME10 MS2050	1,9 *0.075*	0,26 0.010	0,26 0.010	0,30 0.012	0,46 0.018
M4	RNMU1204M0T-M10 MP3501	1,4 *0.055*	0,26 0.010	0,26 0.010	0,30 0.012	0,48 0.019
M5	RNMU1204M0T-M10 MP3501	1,4 *0.055*	0,26 0.010	0,26 0.010	0,30 0.012	0,48 0.019
K1	RNMU1204M0T-M10 MK2050	2,5 *0.10*	0,30 0.012	0,30 0.012	0,36 0.014	0,55 0.022
K2	RNMU1204M0T-M10 MK2050	2,5 *0.10*	0,28 0.011	0,28 0.011	0,32 0.013	0,50 0.020
K3	RNMU1204M0T-M10 MK2050	2,5 *0.10*	0,28 0.011	0,28 0.011	0,32 0.013	0,50 0.020
K4	RNMU1204M0T-M10 MK2050	2,5 *0.10*	0,28 0.011	0,28 0.011	0,32 0.013	0,50 0.020
K5	RNMU1204M0T-M10 MK2050	2,5 *0.10*	0,25 0.010	0,25 0.010	0,30 0.012	0,46 0.018
K6	RNMU1204M0T-M10 MK2050	2,5 *0.10*	0,28 0.011	0,28 0.011	0,32 0.013	0,50 0.020
K7	RNMU1204M0T-M10 MK2050	2,5 *0.10*	0,25 0.010	0,25 0.010	0,30 0.012	0,46 0.018
N1	RNMU1204M0-ME10 F40M	2,5 *0.10*	0,40 0.016	0,40 0.016	0,46 0.018	0,70 0.028
N2	RNMU1204M0-ME10 F40M	2,5 *0.10*	0,40 0.016	0,40 0.016	0,46 0.018	0,70 0.028
N3	RNMU1204M0-ME10 F40M	2,5 *0.10*	0,40 0.016	0,40 0.016	0,46 0.018	0,70 0.028
N11	RNMU1204M0-ME10 F40M	2,5 *0.10*	0,40 0.016	0,40 0.016	0,46 0.018	0,70 0.028
S1	RNMU1204M0T-M10 MS2500	1,4 *0.055*	0,26 0.010	0,26 0.010	0,30 0.012	0,48 0.019
S2	RNMU1204M0T-M10 MS2500	1,4 *0.055*	0,26 0.010	0,26 0.010	0,30 0.012	0,48 0.019
S3	RNMU1204M0T-M10 MS2500	1,4 *0.055*	0,25 0.010	0,25 0.010	0,28 0.011	0,44 0.017
S11	RNMU1204M0-ME10 MS2050	1,7 *0.065*	0,28 0.011	0,28 0.011	0,32 0.013	0,48 0.019
S12	RNMU1204M0-ME10 MS2050	1,7 *0.065*	0,28 0.011	0,28 0.011	0,32 0.013	0,48 0.019
S13	RNMU1204M0-ME10 MS2050	1,4 *0.055*	0,26 0.010	0,26 0.010	0,30 0.012	0,48 0.019
H5	RNMU1204M0T-M10 MP3501	1,9 *0.075*	0,22 0.0085	0,22 0.0085	0,25 0.010	0,40 0.016
H8	RNMU1204M0T-M10 MP3501	1,7 *0.065*	0,18 0.0070	0,18 0.0070	0,20 0.0080	0,32 0.013
H11	RNMU1204M0T-M10 MP3501	1,9 *0.075*	0,22 0.0085	0,22 0.0085	0,25 0.010	0,40 0.016
H12	RNMU1204M0T-M10 MP3501	1,7 *0.065*	0,18 0.0070	0,18 0.0070	0,20 0.0080	0,32 0.013

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.28 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK2050				MS2050				F40M				MP2051			
P1	100%285	70%325	30%390	10%460	100%265	70%295	30%350	10%405	100%255	70%275	30%320	10%360	100%335	70%375	30%470	10%560
P1	940 *275*	1075 *310*	1275 *380*	1500 *445*	870 *255*	970 *280*	1150 *340*	1325 *395*	840 *245*	900 *260*	1050 *310*	1175 *350*	1100 *310*	1225 *350*	1550 *460*	1825 *540*
P2	900 *240*	1025 *270*	1250 *330*	1450 *390*	840 *225*	920 *245*	1125 *300*	1300 *345*	800 *215*	850 *230*	1025 *275*	1150 *305*	1025 *280*	1150 *315*	1500 *405*	1775 *470*
P3	790 *215*	890 *245*	1075 *290*	1275 *345*	740 *200*	800 *225*	980 *265*	1125 *305*	710 *200*	750 *215*	900 *255*	1000 *290*	920 *255*	1025 *285*	1325 *355*	1550 *415*
P4	710 *205*	800 *235*	950 *280*	1125 *330*	660 *190*	740 *215*	870 *250*	1000 *295*	660 *185*	710 *200*	840 *230*	950 *260*	840 *245*	940 *275*	1175 *340*	1350 *400*
P5	670 *230*	770 *260*	920 *315*	1075 *370*	620 *215*	710 *240*	820 *285*	970 *330*	610 *210*	660 *225*	750 *260*	850 *295*	800 *275*	900 *310*	1125 *380*	1300 *450*
P6	750 *220*	850 *245*	1025 *295*	1225 *350*	710 *205*	790 *225*	940 *265*	1075 *310*	690 *195*	740 *210*	850 *245*	970 *280*	900 *260*	1025 *290*	1250 *360*	1475 *425*
P7	720 *200*	800 *230*	970 *280*	1150 *325*	670 *190*	740 *210*	870 *250*	1025 *290*	640 *180*	690 *195*	800 *230*	920 *260*	850 *235*	950 *265*	1175 *340*	1400 *395*
P8	660 *210*	750 *240*	920 *285*	1075 *340*	620 *200*	690 *220*	820 *260*	950 *300*	590 *190*	640 *205*	750 *240*	850 *270*	770 *235*	870 *290*	1125 *390*	1300 *510*
P11	690 *140*	790 *155*	940 *190*	1125 *220*	660 *130*	720 *145*	850 *170*	980 *195*	620 *130*	670 *135*	790 *160*	890 *175*	770 *165*	950 *200*	1275 *260*	1675 *325*
P12	460	510	620	720	425 *185*	475 *210*	560 *260*	640 *305*	425 *170*	445 *190*	520 *235*	570 *275*	540 *255*	660 *310*	850 *445*	1075 *580*
M1	—	—	—	—	610 *155*	690 *180*	850 *215*	1000 *250*	560 *145*	620 *160*	770 *195*	900 *230*	840 *225*	1025 *275*	1450 *370*	1900 *485*
M2	—	—	—	—	510 *125*	590 *145*	710 *170*	820 *205*	475 *115*	520 *130*	640 *155*	750 *185*	740 *190*	900 *230*	1225 *305*	1600 *395*
M3	—	—	—	—	410 *100*	475 *110*	560 *135*	670 *160*	375 *90*	425 *100*	510 *120*	610 *145*	620 *150*	750 *185*	1000 *235*	1300 *300*
M4	—	—	—	—	330 *80*	360 *95*	445 *110*	520 *130*	295 *75*	330 *85*	395 *100*	475 *120*	490 *125*	610 *150*	770 *200*	980 *250*
M5	— *295*	— *335*	— *410*	— *480*	260 —	310 —	360 —	425 —	245 *165*	280 *190*	330 *230*	395 *270*	410 —	490 —	660 —	820 —
K1	970 *265*	1100 *300*	1350 *360*	1575 *430*	— —	— —	— —	— —	540 *150*	620 *170*	750 *205*	890 *240*	— —	— —	— —	— —
K2	870 *225*	980 *255*	1175 *305*	1400 *365*	— —	— —	— —	— —	490 *125*	560 *145*	670 *170*	790 *205*	— —	— —	— —	— —
K3	740 *215*	840 *245*	1000 *290*	1200 *345*	— —	— —	— —	— —	410 *120*	475 *140*	560 *165*	670 *195*	— —	— —	— —	— —
K4	710 *130*	800 *150*	950 *180*	1125 *210*	— —	— —	— —	— —	395 *75*	460 *85*	540 *100*	640 *120*	— —	— —	— —	— —
K5	425 *190*	490 *215*	590 *255*	690 *305*	— —	— —	— —	— —	245 *105*	280 *120*	330 *145*	395 *170*	— —	— —	— —	— —
K6	620 *170*	710 *190*	840 *230*	1000 *270*	— —	— —	— —	— —	345 *95*	395 *110*	475 *130*	560 *155*	— —	— —	— —	— —
K7	560 —	620 —	750 —	890 —	— —	— —	— —	— —	310 *1225*	360 *1400*	425 *1700*	510 *2025*	— —	— —	— —	— —
N1	—	—	—	—	—	—	—	—	4025 *500*	4600 *560*	5575 *690*	6650 *820*	—	—	—	—
N2	—	—	—	—	—	—	—	—	1650 *335*	1825 *375*	2275 *460*	2700 *540*	—	—	—	—
N3	—	—	—	—	—	—	—	—	1100 *380*	1225 *430*	1500 *520*	1775 *620*	—	—	—	—
N11	— —	— —	— —	— —	— *46*	— *50*	— *65*	— *75*	1250 *42*	1400 *47*	1700 *55*	2025 *65*	— *50*	— *55*	— *70*	— *80*
S1	—	—	—	—	150 *37*	165 *42*	215 *50*	245 *60*	140 *34*	155 *38*	180 *46*	215 *55*	165 *41*	180 *46*	230 *55*	260 *65*
S2	—	—	—	—	120 *33*	140 *37*	165 *45*	195 *50*	110 *30*	125 *34*	150 *41*	180 *47*	135 *36*	150 *40*	180 *49*	215 *55*
S3	—	—	—	—	110 *65*	120 *70*	150 *85*	165 *105*	100 *60*	110 *65*	135 *80*	155 *95*	120 *70*	130 *80*	160 *95*	180 *115*
S11	—	—	—	—	215 *44*	230 *50*	280 *60*	345 *70*	195 *40*	215 *45*	260 *55*	310 *65*	230 *48*	260 *55*	310 *65*	375 *80*
S12	—	—	—	—	145 *26*	165 *29*	195 *35*	230 *41*	130 *24*	150 *27*	180 *32*	215 *38*	155 *28*	180 *32*	215 *39*	260 *45*
S13	— *47*	— *55*	— *65*	— *75*	85 —	95 —	115 —	135 —	80 *35*	90 *40*	105 *48*	125 *55*	90 —	105 —	130 —	150 —
H5	155 *50*	180 *55*	215 *70*	245 *80*	— —	— —	— —	— —	115 *38*	130 *43*	155 *50*	180 *60*	— —	— —	— —	— —
H8	165 *60*	180 *70*	230 *80*	260 *95*	— —	— —	— —	— —	125 *45*	140 *50*	165 *60*	195 *70*	— *105*	— *130*	— *170*	— *210*
H11	195 *90*	230 *100*	260 *120*	310 *140*	— —	— —	— —	— —	150 *70*	165 *75*	195 *90*	230 *105*	345 *100*	425 *125*	560 *155*	690 *190*
	295	330	395	460	—	—	—	—	230	245	295	345	330	410	510	620

R217/220.28 – Cutting data v_c = (m/min)/(sf/min)

SMG	MP2050				MP2501				MS2500				MP3501			
	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%
P1	285 *940*	325 *1075*	390 *1275*	455 *1500*	415 *1350*	450 *1475*	520 *1700*	580 *1900*	395 *1300*	430 *1400*	500 *1650*	570 *1875*	370 *1225*	400 *1300*	465 *1525*	530 *1750*
P2	275 *900*	310 *1025*	380 *1250*	445 *1450*	395 *1300*	430 *1400*	500 *1650*	570 *1875*	375 *1225*	410 *1350*	485 *1600*	550 *1800*	350 *1150*	385 *1275*	455 *1500*	510 *1675*
P3	240 *790*	270 *890*	330 *1075*	390 *1275*	345 *1125*	375 *1225*	440 *1450*	495 *1625*	330 *1075*	360 *1175*	425 *1400*	480 *1575*	310 *1025*	335 *1100*	395 *1300*	445 *1450*
P4	215 *710*	245 *800*	290 *950*	340 *1125*	310 *1025*	340 *1125*	390 *1275*	435 *1425*	295 *970*	325 *1075*	375 *1225*	425 *1400*	280 *920*	305 *1000*	350 *1150*	390 *1275*
P5	205 *670*	235 *770*	280 *920*	330 *1075*	295 *970*	325 *1075*	370 *1225*	420 *1375*	285 *940*	310 *1025*	360 *1175*	410 *1350*	265 *870*	290 *950*	335 *1100*	380 *1250*
P6	230 *750*	260 *850*	310 *1025*	370 *1225*	335 *1100*	365 *1200*	415 *1350*	470 *1550*	320 *1050*	350 *1150*	400 *1300*	460 *1500*	300 *980*	325 *1075*	375 *1225*	425 *1400*
P7	220 *720*	245 *800*	295 *970*	350 *1150*	315 *1025*	340 *1125*	395 *1300*	445 *1450*	300 *980*	330 *1075*	380 *1250*	430 *1400*	280 *920*	305 *1000*	355 *1175*	400 *1300*
P8	200 *660*	230 *750*	280 *920*	325 *1075*	290 *950*	315 *1025*	370 *1225*	415 *1350*	280 *920*	305 *1000*	360 *1175*	405 *1325*	260 *850*	285 *940*	335 *1100*	375 *1225*
P11	210 *690*	240 *790*	285 *940*	340 *1125*	305 *1000*	330 *1075*	380 *1250*	430 *1400*	290 *950*	320 *1050*	370 *1225*	420 *1375*	275 *900*	300 *980*	345 *1125*	390 *1275*
P12	140 *460*	155 *510*	190 *620*	220 *720*	195 *640*	215 *710*	245 *800*	270 *890*	190 *620*	205 *670*	235 *770*	260 *850*	180 *590*	195 *640*	220 *720*	245 *800*
M1	195 *640*	220 *720*	270 *890*	320 *1050*	200 *660*	225 *740*	275 *900*	325 *1075*	220 *720*	245 *800*	300 *980*	355 *1175*	185 *610*	210 *690*	260 *850*	305 *1000*
M2	165 *540*	185 *610*	225 *740*	265 *870*	170 *560*	190 *620*	230 *750*	270 *890*	185 *610*	205 *670*	245 *800*	295 *970*	155 *510*	180 *590*	215 *710*	250 *820*
M3	135 *445*	150 *490*	180 *590*	215 *710*	135 *445*	155 *510*	185 *610*	220 *720*	150 *490*	165 *540*	200 *660*	235 *770*	125 *410*	145 *475*	170 *560*	205 *670*
M4	105 *345*	115 *375*	140 *460*	165 *540*	105 *345*	120 *395*	145 *475*	170 *560*	115 *375*	130 *425*	155 *510*	185 *610*	100 *330*	110 *360*	135 *445*	160 *520*
M5	85 *280*	95 *310*	115 *375*	140 *460*	90 *295*	100 *330*	120 *395*	140 *460*	95 *310*	110 *360*	130 *425*	155 *510*	80 *260*	95 *310*	110 *360*	130 *425*
K1	— —	— —	— —	— —	400 *1300*	435 *1425*	510 *1675*	570 *1875*	240 *790*	270 *890*	330 *1075*	390 *1275*	355 *1175*	385 *1275*	455 *1500*	520 *1700*
K2	— —	— —	— —	— —	360 *1175*	390 *1275*	450 *1475*	510 *1675*	215 *710*	245 *800*	295 *970*	350 *1150*	320 *1050*	350 *1150*	405 *1325*	455 *1500*
K3	— —	— —	— —	— —	305 *1000*	330 *1075*	380 *1250*	430 *1400*	185 *610*	210 *690*	250 *820*	295 *970*	270 *890*	295 *970*	340 *1125*	385 *1275*
K4	— —	— —	— —	— —	290 *950*	315 *1025*	365 *1200*	410 *1350*	175 *570*	200 *660*	235 *770*	280 *920*	260 *850*	285 *940*	325 *1075*	370 *1225*
K5	— —	— —	— —	— —	180 *590*	195 *640*	220 *720*	250 *820*	105 *345*	120 *395*	145 *475*	170 *560*	160 *520*	175 *570*	200 *660*	225 *740*
K6	— —	— —	— —	— —	255 *840*	280 *920*	320 *1050*	360 *1175*	155 *510*	175 *570*	210 *690*	250 *820*	230 *750*	250 *820*	285 *940*	325 *1075*
K7	— —	— —	— —	— —	230 *750*	250 *820*	285 *940*	320 *1050*	140 *460*	155 *510*	185 *610*	220 *720*	205 *670*	225 *740*	255 *840*	285 *940*
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
S1	50 *165*	55 *180*	70 *230*	80 *260*	— —	— —	— —	— —	55 *180*	65 *215*	75 *245*	90 *295*	46 *150*	50 *165*	65 *215*	75 *245*
S2	41 *135*	46 *150*	55 *180*	65 *215*	— —	— —	— —	— —	45 *150*	50 *165*	60 *195*	70 *230*	37 *120*	42 *140*	50 *165*	60 *195*
S3	36 *120*	40 *130*	49 *160*	55 *180*	— —	— —	— —	— —	40 *130*	45 *150*	55 *180*	65 *215*	33 *110*	37 *120*	45 *150*	50 *165*
S11	70 *230*	80 *260*	95 *310*	115 *375*	— —	— —	— —	— —	80 *260*	90 *295*	105 *345*	125 *410*	65 *215*	70 *230*	85 *280*	105 *345*
S12	48 *155*	55 *180*	65 *215*	80 *260*	— —	— —	— —	— —	55 *180*	60 *195*	75 *245*	85 *280*	44 *145*	50 *165*	60 *195*	70 *230*
S13	28 *90*	32 *105*	39 *130*	45 *150*	— —	— —	— —	— —	32 *105*	36 *120*	43 *140*	50 *165*	26 *85*	29 *95*	35 *115*	41 *135*
H5	— —	— —	— —	— —	— —	— —	— —	— —	46 *150*	50 *165*	60 *195*	75 *245*	41 *135*	46 *150*	55 *180*	65 *215*
H8	— —	— —	— —	— —	— —	— —	— —	— —	49 *160*	55 *180*	65 *215*	75 *245*	43 *140*	49 *160*	60 *195*	70 *230*
H11	55 *180*	60 *195*	70 *230*	85 *280*	— —	— —	— —	— —	60 *195*	65 *215*	80 *260*	95 *310*	50 *165*	60 *195*	70 *230*	80 *260*
H12	90 *295*	100 *330*	120 *395*	140 *460*	— —	— —	— —	— —	95 *310*	110 *360*	130 *425*	155 *510*	80 *260*	90 *295*	105 *345*	120 *395*



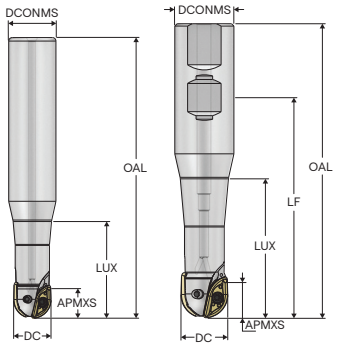
R218.20/19/24 Ballnose

We offer a variety of highly productive ballnose cutters for all materials and applications, ranging from general purpose to segment-oriented tools. The ballnose cutter is designed to deliver higher performance and better reliability in copy milling applications.

- Ballnose K=1, 3-cutting edge, cutter range 16-40 mm (0.75 - 1 inch)
- Ballnose K=2, 2-cutting edge, cutter range 12-50 mm (0.5 - 2 inch)
- Tapered Ballnose, 2-cutting edge, cutter range 16 mm

R218.20 – Metric





—For insert selection and cutting data recommendations, see page(s) 738–759
—For complete insert programme, see page(s) 908, 930
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS		LF	LS	LUX	LPR	OAL	RMPX°	RPMX	Weight	218.20	SPM.
			mm		mm	mm	mm	mm	mm	mm	mm			kg		
R218.20-2520.3-18.070A	00031654	Weldon	20,0	2	18,0	25,0	93,94	56,0	54,0	70,0	126,0	45,0	20200	0,4	-100(2)	–
R218.20-2525.3-22.060A	00038464	Weldon	25,0	2	22,0	25,0	83,96	60,0	56,0	60,0	116,0	45,0	16900	0,4	-125(2)	–
R218.20-2525.3-22.080A	00031897	Weldon	25,0	2	22,0	25,0	103,96	60,0	75,5	80,0	136,0	45,0	16900	0,5	-125(2)	–
R218.20-3230.3-45.100A	00032046	Weldon	30,0	2	44,0	32,0	123,93	70,0	71,0	100,0	160,0	45,0	12500	0,8	-150(2)	SPMT10(2)
R218.20-3232.3-28.070A	00032245	Weldon	32,0	2	28,0	32,0	93,92	60,0	68,0	70,0	130,0	45,0	10900	0,7	-160(2)	–
R218.20-3232.3-28.100A	00030731	Weldon	32,0	2	28,0	32,0	123,92	70,0	89,0	100,0	160,0	45,0	10900	0,9	-160(2)	–
R218.20-3232.3-54.100A	00030733	Weldon	32,0	2	54,0	32,0	123,92	70,0	89,0	100,0	160,0	45,0	10900	0,8	-160(2)	SPMT10(3)
R218.20-1612.0-10.112A	02627903	Cylindrical	12,0	2	10,0	16,0	–	120,0	25,0	112,0	160,0	45,0	30000	0,3	-060(2)	–
R218.20-2016.0-14.070A	02722506	Cylindrical	16,0	2	14,0	20,0	–	70,0	36,0	70,0	120,0	45,0	28500	0,3	-080(2)	–
R218.20-1616.0-14.105E	00031596	Cylindrical	16,0	2	14,0	16,0	–	115,0	49,0	117,0	165,0	45,0	28500	0,5	-080(2)	–
R218.20-2520.0-18.120A	00031701	Cylindrical	20,0	2	18,0	25,0	–	104,0	54,0	120,0	176,0	45,0	20200	0,6	-100(2)	–
R218.20-3225.0-22.160A	00031940	Cylindrical	25,0	2	22,0	32,0	–	130,0	68,0	160,0	220,0	45,0	16900	1,1	-125(2)	–
R218.20-3230.0-26.160A	00032027	Cylindrical	30,0	2	27,0	32,0	–	130,0	73,0	160,0	220,0	45,0	12500	1,1	-150(2)	–
R218.20-3232.0-28.160A	00030730	Cylindrical	32,0	2	28,0	32,0	–	130,0	90,0	160,0	220,0	45,0	10900	1,2	-160(2)	–

Spare Parts, included in delivery

For cutter	Insert key	Insert screw centre	Insert screw periph
			
R218.20.. Ø16	1/4HEX-T08PX50	C02506-T08P	–
R218.20.. Ø20	1/4HEX-T09PX50	C03007-T09P	–
R218.20.. Ø25-30	1/4HEX-T15PX50	C04009-T15P	–
R218.20.. Ø30-100A	1/4HEX-T15PX50	C04009-T15P	C03508-T15P
R218.20.. Ø32	1/4HEX-T15PX50	C04011-T15P	–
R218.20.. Ø32-100A	1/4HEX-T15PX50	C04011-T15P	C03508-T15P
R218.20-1612	1/4HEX-T06PX50	C01805-T06P	–

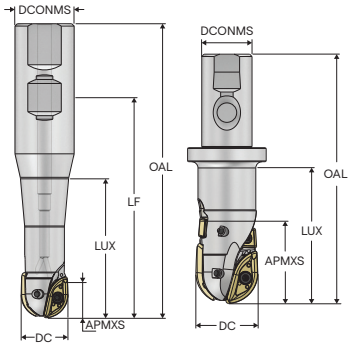
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Insert clamping torque 2	Torque key	Torque key 2
						
R218.20.. Ø16	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	–	T00-08P12	–
R218.20.. Ø20	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	–	T00-09P20	–
R218.20.. Ø25-32	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	–	T00-15P35	–
R218.20.. Ø30-32-100A	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	3.0NM	T00-15P35	T00-15P30
R218.20-1612	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.5NM	–	T00-06P05	–

Torque and fixed keys, see page 944

R218.20 – Metric





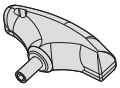
—For insert selection and cutting data recommendations, see page(s) 738–759
—For complete insert programme, see page(s) 892, 930
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCSFMS		LF	LS	LUX	LPR	OAL	RMPX°	RPMX	Weight	218.20	SCET
			mm		mm	mm	mm	mm	mm	mm	mm	mm			kg		
R218.20-5050.3-70.150	00032677	Weldon	50,0	2	70,0	–	50,0	184,87	80,0	149,0	149,87	229,87	45,0	3700	2,7	-250(2)	SC..12 (3)
R218.20-3240.3S-60.100	00032440	Seco-Weldon	40,0	2	60,0	50,0	32,0	–	59,5	89,0	99,9	159,4	45,0	7200	1,1	-200(2)	SC..12 (3)
R218.20-3250.3S-70.100	00032627	Seco-Weldon	50,0	2	70,0	50,0	32,0	–	59,5	91,0	99,87	159,37	45,0	3700	1,3	-250(2)	SC..12 (3)

Spare Parts, included in delivery

For cutter	Insert key	Insert screw centre	Insert screw periph	Key periphery
				
R218.20.. Ø40	1/4HEX-T20PX50	C05013-T20P	C45011-T20P	–
R218.20.. Ø50	1/4HEX-T25PX50	C06018-T25P	C45011-T20P	1/4HEX-T20PX50

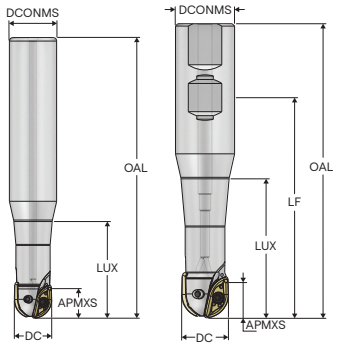
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R218.20.. Ø40	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R218.20.. Ø50	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	5.0NM	T00T-25P80

Torque and fixed keys, see page 944

R218.20 – inch





—For insert selection and cutting data recommendations, see page(s) 738-759
—For complete insert programme, see page(s) 908, 930
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCONMS	LF	LS	LUX	LPR	OAL	RMPX°	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch	inch			lbs	
R218.20-0.500.3-11-060A	02687514	Weldon	0.500	2	0.433	0.750	3.313	2.362	0.827	2.362	4.331	45,0	30000	0.440	218.20-0.250
R218.20-0.625.3-14-050A	02740373	Weldon	0.625	2	0.551	0.625	2.919	2.299	1.500	1.969	3.874	45,0	28500	0.440	218.20-080
R218.20-0.750.3-17-070A	00040022	Weldon	0.750	2	0.669	1.000	3.895	2.280	2.000	2.831	5.035	45,0	20200	0.880	218.20-0.375
R218.20-01.00.3-22-070A	00040024	Weldon	1.000	2	0.866	1.000	3.896	2.362	2.000	2.756	5.039	45,0	16900	1.100	218.20-125
R218.20-01.25.3-28-100A	00040025	Weldon	1.250	2	1.102	1.250	5.073	2.673	3.500	3.937	6.213	45,0	10900	1.540	218.20-160
R218.20-01.50.3-34-100A	00040027	Weldon	1.500	2	1.339	1.500	5.435	3.083	3.500	3.870	6.626	45,0	7200	2.650	218.20-0.750
R218.20-0.500.0-11-111A	02687512	Cylindrical	0.500	2	0.433	0.625	–	4.724	1.142	4.408	6.298	45,0	30000	0.660	218.20-0.250
R218.20-0.625.0-14-070A	02740370	Cylindrical	0.625	2	0.551	0.750	–	2.819	1.398	2.756	4.785	45,0	28500	0.660	218.20-080
R218.20-0.750.0-17-120A	00040031	Cylindrical	0.750	2	0.669	1.000	–	4.248	2.087	4.797	7.002	45,0	20200	1.320	218.20-0.375
R218.20-01.00.0-22-160A	00040032	Cylindrical	1.000	2	0.866	1.250	–	4.996	2.795	6.215	8.577	45,0	16900	2.200	218.20-125

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R218.20-0.500	1/4HEX-T06PX50	C02052-T06P
R218.20-0.625	1/4HEX-T08PX50	C02506-T08P
R218.20-0.750	1/4HEX-T09PX50	C03006-T09P
R218.20-01.00	1/4HEX-T15PX50	C04009-T15P
R218.20-01.25	1/4HEX-T15PX50	C04011-T15P
R218.20-01.50	1/4HEX-T20PX50	C05013-T20P

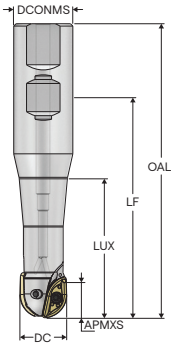
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R218.20-0.500	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.5NM	T00-06P05
R218.20-0.625	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12
R218.20-0.750	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20
R218.20-01.00-01.25	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R218.20-01.50	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R218.20 – inch





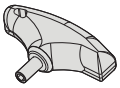
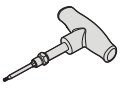
—For insert selection and cutting data recommendations, see page(s) 738–759
—For complete insert programme, see page(s) 892, 930
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCONMS	LF	LS	LUX	LPR	OAL	RMPX°	RPMX	Weight	218.20	SCET
			inch		inch	inch	inch	inch	inch	inch	inch			lbs		
R218.20-02.00.3-70-120A	02740375	Weldon	2.000	2	2.756	2.000	6.124	3.243	4.705	4.818	7.967	45,0	3700	5.730	-250.R (2)	SC..12 (3)

Spare Parts, included in delivery

For cutter	Insert key	Insert screw centre	Insert screw periph	Key periphery
				
R218.20-02.00	1/4HEX-T25PX50	C06018-T25P	C45011-T20P	1/4HEX-T20PX50

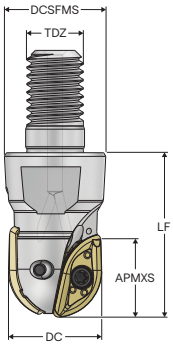
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R218.20-02.00	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	8.0NM	T00T-25P80

Torque and fixed keys, see page 944

R218.20 – Metric





—For insert selection and cutting data recommendations, see page(s) 738-759
—For complete insert programme, see page(s) 930
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCSFMS	TDZ	LF	OAL	RMPX°	RPMX	Weight	Insert
			mm		mm	mm		mm	mm			kg	
R218.20-0612.RE-10A	02731891	Combimaster	12,0	2	10,0	11,0	M6	20,0	33,5	45,0	30000	0,1	218.20-060
R218.20-0812.RE-10A	02627909	Combimaster	12,0	2	10,0	13,5	M8	23,0	40,75	45,0	30000	0,1	218.20-060
R218.20-0816.RE-14A	02742691	Combimaster	16,0	2	14,0	13,5	M8	23,0	40,75	45,0	28500	0,1	218.20-080
R218.20-1016.RE-14A	00031585	Combimaster	16,0	2	14,0	18,0	M10	28,0	46,75	45,0	28500	0,1	218.20-080
R218.20-1020.RE-18A	00039896	Combimaster	20,0	2	18,0	18,0	M10	28,0	46,75	45,0	20200	0,1	218.20-100
R218.20-1220.RE-18A	00031619	Combimaster	20,0	2	18,0	21,5	M12	35,0	56,75	45,0	20200	0,1	218.20-100
R218.20-1225.RE-22A	00031777	Combimaster	25,0	2	22,0	21,5	M12	35,0	56,75	45,0	16900	0,2	218.20-125
R218.20-1630.RE-26A	00032025	Combimaster	30,0	2	27,0	28,5	M16	40,0	62,75	45,0	12500	0,2	218.20-150
R218.20-1632.RE-28A	00030728	Combimaster	32,0	2	28,0	28,5	M16	40,0	62,75	45,0	10900	0,2	218.20-160
R218.20-1640.RE-35A	00032409	Combimaster	40,0	2	35,0	34,0	M16	50,0	72,75	45,0	7200	0,3	218.20-200
R218.20-2040.RE-35A	02928081	Combimaster	40,0	2	35,0	36,5	M20	55,0	82,0	45,0	7200	0,4	218.20-200
R218.20-2050.RE-44A	02928082	Combimaster	50,0	2	44,0	36,5	M20	65,0	92,0	45,0	5000	0,5	218.20-250

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R218.20-0612-0812	1/4HEX-T06PX50	C01805-T06P
R218.20-0816-1016	1/4HEX-T08PX50	C02506-T08P
R218.20-1020-1220	1/4HEX-T09PX50	C03007-T09P
R218.20-1225-1630	1/4HEX-T15PX50	C04009-T15P
R218.20-1632	1/4HEX-T15PX50	C04011-T15P
R218.20-1640-2040	1/4HEX-T20PX50	C05013-T20P
R218.20-2050	1/4HEX-T25PX50	C06018-T25P

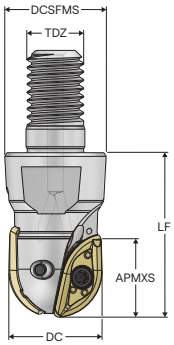
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R218.20-0612-0812	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.5NM	T00-06P05
R218.20-0816-1016	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	1.2NM	T00-08P12
R218.20-1020-1220	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20
R218.20-1225-1632	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R218.20-1640-2040	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	5.0NM	T00-20P50
R218.20-2050	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	8.0NM	T00T-25P80

Torque and fixed keys, see page 944

R218.20 – inch





—For insert selection and cutting data recommendations, see page(s) 738-759
—For complete insert programme, see page(s) 930
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCSFMS	TDZ	LF	OAL	RMPX°	RPMX	Weight	Insert
			inch		inch	inch		inch	inch			lbs	
R218.20-0.500-06RE-11A	02687515	Combimaster	0.500	2	0.433	0.433	M6	0.787	1.319	45,0	30000	0.220	218.20-0.250
R218.20-0.500-08RE-11A	02687516	Combimaster	0.500	2	0.433	0.531	M8	0.906	1.604	45,0	28500	0.220	218.20-0.250
R218.20-0.750-10RE-17A	02428548	Combimaster	0.750	2	0.669	0.728	M10	1.102	1.841	45,0	20200	0.220	218.20-0.375
R218.20-01.00-12RE-22A	00040018	Combimaster	1.000	2	0.866	0.846	M12	1.378	2.234	45,0	16900	0.440	218.20-125
R218.20-01.25-16RE-28A	00040019	Combimaster	1.250	2	1.102	1.122	M16	1.575	2.470	45,0	10900	0.220	218.20-160
R218.20-01.50-16RE-34A	00040020	Combimaster	1.500	2	1.339	1.339	M16	1.969	2.864	45,0	7200	0.660	218.20-0.750
R218.20-02.00-20RE-44A	02928066	Combimaster	2.000	2	1.732	1.437	M20	2.559	3.622	45,0	5000	1.100	218.20-250

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R218.20-0.500	1/4HEX-T06PX50	C02052-T06P
R218.20-0.750	1/4HEX-T09PX50	C03006-T09P
R218.20-01.00	1/4HEX-T15PX50	C04009-T15P
R218.20-01.25	1/4HEX-T15PX50	C04011-T15P
R218.20-01.50	1/4HEX-T20PX50	C05013-T20P
R218.20-02.00	1/4HEX-T25PX50	C06018-T25P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R218.20-0.500	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.5NM	T00-06P05
R218.20-0.750	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20
R218.20-01.00-01.25	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R218.20-01.50	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	5.0NM	T00-20P50
R218.20-02.00	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T-HANDLE	8.0NM	T00T-25P80

Torque and fixed keys, see page 944

R218.20-0.250 – Insert selection – mm/Inch

SMG		a_p	f_z				
			100%	70%	30%	10%	5%
P1	218.20-0.250ER-M03 F40M	7,0 *0.28*	0,044 0.0017	0,044 0.0017	0,048 0.0019	0,075 0.0030	0,10 0.0040
P2	218.20-0.250ER-M03 F40M	7,0 *0.28*	0,044 0.0017	0,044 0.0017	0,048 0.0019	0,075 0.0030	0,10 0.0040
P3	218.20-0.250ER-M03 F40M	7,0 *0.28*	0,042 0.0017	0,042 0.0017	0,046 0.0018	0,070 0.0028	0,095 0.0038
P4	218.20-0.250ER-M03 F40M	7,0 *0.28*	0,042 0.0017	0,042 0.0017	0,046 0.0017	0,070 0.0028	0,095 0.0038
P5	218.20-0.250ER-M03 F40M	7,0 *0.28*	0,040 0.0016	0,040 0.0016	0,044 0.0017	0,065 0.0026	0,095 0.0038
P6	218.20-0.250ER-M03 F40M	7,0 *0.28*	0,040 0.0016	0,040 0.0016	0,044 0.0017	0,065 0.0026	0,095 0.0036
P7	218.20-0.250ER-M03 F40M	7,0 *0.28*	0,040 0.0016	0,040 0.0016	0,044 0.0017	0,065 0.0026	0,095 0.0036
P8	218.20-0.250ER-M03 F40M	7,0 *0.28*	0,042 0.0017	0,042 0.0017	0,046 0.0018	0,070 0.0028	0,095 0.0038
P11	218.20-0.250ER-M03 F40M	7,0 *0.28*	0,040 0.0016	0,040 0.0016	0,044 0.0017	0,065 0.0026	0,095 0.0036
P12	218.20-0.250ER-M03 F40M	5,0 *0.20*	0,030 0.0012	0,030 0.0012	0,032 0.0013	0,046 0.0018	0,065 0.0026
M1	218.20-0.250ER-ME03 F40M	7,0 *0.28*	0,044 0.0017	0,044 0.0017	0,048 0.0019	0,075 0.0030	0,10 0.0040
M2	218.20-0.250ER-ME03 F40M	7,0 *0.28*	0,040 0.0016	0,040 0.0016	0,044 0.0017	0,065 0.0026	0,095 0.0038
M3	218.20-0.250ER-ME03 F40M	5,0 *0.20*	0,034 0.0013	0,034 0.0013	0,036 0.0014	0,055 0.0022	0,075 0.0030
M4	218.20-0.250ER-ME03 F40M	4,0 *0.16*	0,032 0.0013	0,032 0.0013	0,034 0.0013	0,048 0.0019	0,065 0.0026
M5	218.20-0.250ER-ME03 F40M	4,0 *0.16*	0,032 0.0013	0,032 0.0013	0,034 0.0013	0,048 0.0019	0,065 0.0026
K1	218.20-0.250ER-M03 F40M	7,0 *0.28*	0,044 0.0017	0,044 0.0017	0,048 0.0019	0,075 0.0030	0,10 0.0040
K2	218.20-0.250ER-M03 F40M	7,0 *0.28*	0,040 0.0016	0,040 0.0016	0,044 0.0017	0,065 0.0026	0,095 0.0038
K3	218.20-0.250ER-M03 F40M	7,0 *0.28*	0,040 0.0016	0,040 0.0016	0,044 0.0017	0,065 0.0026	0,095 0.0038
K4	218.20-0.250ER-M03 F40M	7,0 *0.28*	0,040 0.0016	0,040 0.0016	0,044 0.0017	0,065 0.0026	0,095 0.0038
K5	218.20-0.250ER-M03 F40M	7,0 *0.28*	0,036 0.0014	0,036 0.0014	0,040 0.0016	0,060 0.0024	0,085 0.0034
K6	218.20-0.250ER-M03 F40M	7,0 *0.28*	0,040 0.0016	0,040 0.0016	0,044 0.0017	0,065 0.0026	0,095 0.0038
K7	218.20-0.250ER-M03 F40M	7,0 *0.28*	0,036 0.0014	0,036 0.0014	0,040 0.0016	0,060 0.0024	0,085 0.0034
N1	218.20-0.250ER-ME03 F40M	7,0 *0.28*	0,055 0.0022	0,055 0.0022	0,060 0.0024	0,095 0.0038	0,13 0.0050
N2	218.20-0.250ER-ME03 F40M	7,0 *0.28*	0,055 0.0022	0,055 0.0022	0,060 0.0024	0,095 0.0038	0,13 0.0050
N3	218.20-0.250ER-ME03 F40M	7,0 *0.28*	0,055 0.0022	0,055 0.0022	0,060 0.0024	0,095 0.0038	0,13 0.0050
N11	218.20-0.250ER-ME03 F40M	7,0 *0.28*	0,055 0.0022	0,055 0.0022	0,060 0.0024	0,095 0.0038	0,13 0.0050
S1	218.20-0.250ER-ME03 F40M	4,0 *0.16*	0,032 0.0013	0,032 0.0013	0,034 0.0013	0,048 0.0019	0,065 0.0026
S2	218.20-0.250ER-ME03 F40M	4,0 *0.16*	0,032 0.0013	0,032 0.0013	0,034 0.0013	0,048 0.0019	0,065 0.0026
S3	218.20-0.250ER-ME03 F40M	4,0 *0.16*	0,030 0.0012	0,030 0.0012	0,030 0.0012	0,046 0.0018	0,060 0.0024
S11	218.20-0.250ER-ME03 F40M	4,5 *0.18*	0,036 0.0014	0,036 0.0014	0,038 0.0015	0,055 0.0022	0,075 0.0030
S12	218.20-0.250ER-ME03 F40M	4,5 *0.18*	0,036 0.0014	0,036 0.0014	0,038 0.0015	0,055 0.0022	0,075 0.0030
S13	218.20-0.250ER-ME03 F40M	4,0 *0.16*	0,032 0.0013	0,032 0.0013	0,034 0.0013	0,048 0.0019	0,065 0.0026
H5	218.20-0.250ER-M03 F40M	5,0 *0.20*	0,030 0.0012	0,030 0.0012	0,032 0.0013	0,046 0.0018	0,065 0.0026
H8	218.20-0.250ER-M03 F40M	4,5 *0.18*	0,024 0.00095	0,024 0.00095	0,024 0.00095	0,036 0.0014	0,050 0.0020
H11	218.20-0.250ER-M03 F40M	5,0 *0.20*	0,030 0.0012	0,030 0.0012	0,032 0.0013	0,046 0.0018	0,065 0.0026
H12	218.20-0.250ER-M03 F40M	4,5 *0.18*	0,024 0.00095	0,024 0.00095	0,024 0.00095	0,036 0.0014	0,050 0.0020

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R218.20-0.250 – Cutting data v_c = (m/min)/(sf/min)

SMG	F40M				
	100%	70%	30%	10%	5%
P1	335 *1100*	355 *1175*	390 *1275*	420 *1375*	440 *1450*
P2	325 *1075*	345 *1125*	380 *1250*	410 *1350*	430 *1400*
P3	280 *920*	300 *980*	325 *1075*	355 *1175*	370 *1225*
P4	250 *820*	265 *870*	295 *970*	325 *1075*	345 *1125*
P5	240 *790*	250 *820*	275 *900*	295 *970*	310 *1025*
P6	265 *870*	280 *920*	305 *1000*	335 *1100*	350 *1150*
P7	250 *820*	265 *870*	290 *950*	315 *1025*	330 *1075*
P8	235 *770*	250 *820*	275 *900*	295 *970*	310 *1025*
P11	245 *800*	260 *850*	280 *920*	305 *1000*	320 *1050*
P12	155 *510*	165 *540*	170 *560*	175 *570*	185 *610*
M1	225 *740*	245 *800*	295 *970*	345 *1125*	375 *1225*
M2	185 *610*	205 *670*	240 *790*	280 *920*	305 *1000*
M3	155 *510*	170 *560*	195 *640*	220 *720*	240 *790*
M4	125 *410*	130 *425*	150 *490*	165 *540*	180 *590*
M5	105 *345*	110 *360*	125 *410*	140 *460*	150 *490*
K1	220 *720*	245 *800*	290 *950*	335 *1100*	370 *1225*
K2	195 *640*	215 *710*	255 *840*	300 *980*	320 *1050*
K3	165 *540*	180 *590*	215 *710*	250 *820*	270 *890*
K4	160 *520*	175 *570*	205 *670*	240 *790*	260 *850*
K5	95 *310*	105 *345*	125 *410*	145 *475*	155 *510*
K6	140 *460*	150 *490*	180 *590*	210 *690*	230 *750*
K7	120 *395*	135 *445*	160 *520*	185 *610*	200 *660*
N1	1700 *5575*	1850 *6075*	2200 *7225*	2575 *8450*	2800 *9175*
N2	680 *2225*	740 *2425*	890 *2925*	1025 *3375*	1125 *3700*
N3	455 *1500*	495 *1625*	590 *1925*	690 *2275*	750 *2450*
N11	520 *1700*	570 *1875*	680 *2225*	790 *2600*	860 *2825*
S1	60 *195*	60 *195*	70 *230*	80 *260*	85 *280*
S2	46 *150*	49 *160*	55 *180*	65 *215*	70 *230*
S3	40 *130*	43 *140*	48 *155*	55 *180*	60 *195*
S11	80 *260*	85 *280*	100 *330*	110 *360*	120 *395*
S12	55 *180*	60 *195*	70 *230*	75 *245*	85 *280*
S13	32 *105*	34 *110*	39 *130*	44 *145*	48 *155*
H5	47 *155*	50 *165*	60 *195*	65 *215*	70 *230*
H8	49 *160*	50 *165*	60 *195*	70 *230*	75 *245*
H11	60 *195*	65 *215*	75 *245*	85 *280*	90 *295*
H12	90 *295*	95 *310*	105 *345*	120 *395*	130 *425*

R218.20-0.375 – Insert selection – mm/Inch

SMG		a_p	f_z				
			100%	70%	30%	10%	5%
P1	218.20-0.375ER-M05 F40M	10,0 *0.40*	0,075 0.0030	0,075 0.0030	0,080 0.0032	0,12 0.0048	0,17 0.0065
P2	218.20-0.375ER-M05 F40M	10,0 *0.40*	0,075 0.0030	0,075 0.0030	0,080 0.0032	0,12 0.0048	0,17 0.0065
P3	218.20-0.375ER-M05 F40M	10,0 *0.40*	0,070 0.0028	0,070 0.0028	0,075 0.0030	0,12 0.0048	0,16 0.0065
P4	218.20-0.375ER-M05 F40M	10,0 *0.40*	0,070 0.0028	0,070 0.0028	0,075 0.0030	0,11 0.0048	0,16 0.0065
P5	218.20-0.375ER-M05 F40M	10,0 *0.40*	0,070 0.0028	0,070 0.0028	0,075 0.0030	0,11 0.0044	0,16 0.0065
P6	218.20-0.375ER-M05 F40M	10,0 *0.40*	0,070 0.0028	0,070 0.0028	0,075 0.0030	0,11 0.0044	0,15 0.0060
P7	218.20-0.375ER-M05 F40M	10,0 *0.40*	0,070 0.0028	0,070 0.0028	0,075 0.0030	0,11 0.0044	0,15 0.0060
P8	218.20-0.375ER-M05 F40M	10,0 *0.40*	0,070 0.0028	0,070 0.0028	0,075 0.0030	0,12 0.0048	0,16 0.0065
P11	218.20-0.375ER-M05 F40M	10,0 *0.40*	0,070 0.0028	0,070 0.0028	0,075 0.0030	0,11 0.0044	0,15 0.0060
P12	218.20-0.375ER-M05 F40M	8,0 *0.32*	0,048 0.0019	0,048 0.0019	0,050 0.0020	0,080 0.0030	0,11 0.0044
M1	218.20-0.375ER-ME05 MS2050	10,0 *0.40*	0,075 0.0030	0,075 0.0030	0,080 0.0032	0,12 0.0048	0,17 0.0065
M2	218.20-0.375ER-ME05 MS2050	10,0 *0.40*	0,070 0.0028	0,070 0.0028	0,075 0.0030	0,11 0.0044	0,16 0.0065
M3	218.20-0.375ER-ME05 MS2050	8,0 *0.32*	0,055 0.0022	0,055 0.0022	0,060 0.0024	0,090 0.0036	0,13 0.0050
M4	218.20-0.375ER-ME05 F40M	6,0 *0.24*	0,055 0.0022	0,055 0.0022	0,055 0.0022	0,080 0.0032	0,11 0.0044
M5	218.20-0.375ER-ME05 F40M	6,0 *0.24*	0,055 0.0022	0,055 0.0022	0,055 0.0022	0,080 0.0032	0,11 0.0044
K1	218.20-0.375ER-M05 F40M	10,0 *0.40*	0,075 0.0030	0,075 0.0030	0,080 0.0032	0,12 0.0048	0,17 0.0065
K2	218.20-0.375ER-M05 F40M	10,0 *0.40*	0,070 0.0028	0,070 0.0028	0,075 0.0030	0,11 0.0044	0,16 0.0065
K3	218.20-0.375ER-M05 F40M	10,0 *0.40*	0,070 0.0028	0,070 0.0028	0,075 0.0030	0,11 0.0044	0,16 0.0065
K4	218.20-0.375ER-M05 F40M	10,0 *0.40*	0,070 0.0028	0,070 0.0028	0,075 0.0030	0,11 0.0044	0,16 0.0065
K5	218.20-0.375ER-M05 F40M	10,0 *0.40*	0,060 0.0024	0,060 0.0024	0,065 0.0026	0,10 0.0040	0,14 0.0055
K6	218.20-0.375ER-M05 F40M	10,0 *0.40*	0,070 0.0028	0,070 0.0028	0,075 0.0030	0,11 0.0044	0,16 0.0065
K7	218.20-0.375ER-M05 F40M	10,0 *0.40*	0,060 0.0024	0,060 0.0024	0,065 0.0026	0,10 0.0040	0,14 0.0055
N1	218.20-0.375ER-ME05 F40M	10,0 *0.40*	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
N2	218.20-0.375ER-ME05 F40M	10,0 *0.40*	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
N3	218.20-0.375ER-ME05 F40M	10,0 *0.40*	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
N11	218.20-0.375ER-ME05 F40M	10,0 *0.40*	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
S1	218.20-0.375ER-ME05 F40M	6,0 *0.24*	0,055 0.0022	0,055 0.0022	0,055 0.0022	0,080 0.0032	0,11 0.0044
S2	218.20-0.375ER-ME05 F40M	6,0 *0.24*	0,055 0.0022	0,055 0.0022	0,055 0.0022	0,080 0.0032	0,11 0.0044
S3	218.20-0.375ER-ME05 F40M	6,0 *0.24*	0,050 0.0020	0,050 0.0020	0,050 0.0020	0,075 0.0030	0,10 0.0040
S11	218.20-0.375ER-ME05 MS2050	7,0 *0.28*	0,060 0.0024	0,060 0.0024	0,060 0.0024	0,090 0.0036	0,13 0.0050
S12	218.20-0.375ER-ME05 MS2050	7,0 *0.28*	0,060 0.0024	0,060 0.0024	0,060 0.0024	0,090 0.0036	0,13 0.0050
S13	218.20-0.375ER-ME05 MS2050	6,0 *0.24*	0,055 0.0022	0,055 0.0022	0,055 0.0022	0,080 0.0032	0,11 0.0044
H5	218.20-0.375ER-M05 F40M	8,0 *0.32*	0,048 0.0019	0,048 0.0019	0,050 0.0020	0,080 0.0030	0,11 0.0044
H8	218.20-0.375ER-M05 F40M	7,0 *0.28*	0,038 0.0015	0,038 0.0015	0,040 0.0016	0,060 0.0024	0,080 0.0032
H11	218.20-0.375ER-M05 F40M	8,0 *0.32*	0,048 0.0019	0,048 0.0019	0,050 0.0020	0,080 0.0030	0,11 0.0044
H12	218.20-0.375ER-M05 F40M	7,0 *0.28*	0,038 0.0015	0,038 0.0015	0,040 0.0016	0,060 0.0024	0,080 0.0032

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R218.20-0.375 – Cutting data v_c = (m/min)/(sf/min)

SMG	F25M					MS2050					F40M				
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%
P1	280 *920*	305 *1000*	370 *1225*	435 *1425*	475 *1550*	335 *1100*	355 *1175*	415 *1350*	470 *1550*	500 *1650*	310 *1025*	320 *1050*	365 *1200*	405 *1325*	425 *1400*
P2	275 *900*	300 *980*	360 *1175*	425 *1400*	460 *1500*	325 *1075*	345 *1125*	400 *1300*	455 *1500*	485 *1600*	300 *980*	315 *1025*	355 *1175*	390 *1275*	410 *1350*
P3	240 *790*	260 *850*	315 *1025*	365 *1200*	400 *1300*	285 *940*	305 *1000*	350 *1150*	390 *1275*	420 *1375*	260 *850*	275 *900*	310 *1025*	335 *1100*	355 *1175*
P4	210 *690*	230 *750*	275 *900*	320 *1050*	355 *1175*	250 *820*	265 *870*	305 *1000*	345 *1125*	370 *1225*	230 *750*	245 *800*	280 *920*	310 *1025*	330 *1075*
P5	200 *660*	220 *720*	265 *870*	310 *1025*	335 *1100*	240 *790*	255 *840*	295 *970*	335 *1100*	355 *1175*	220 *720*	230 *750*	260 *850*	285 *940*	300 *980*
P6	225 *740*	245 *800*	295 *970*	350 *1150*	385 *1275*	270 *890*	285 *940*	330 *1075*	375 *1225*	400 *1300*	245 *800*	260 *850*	290 *950*	320 *1050*	340 *1125*
P7	215 *710*	230 *750*	280 *920*	330 *1075*	360 *1175*	255 *840*	270 *890*	310 *1025*	355 *1175*	375 *1225*	235 *770*	245 *800*	275 *900*	305 *1000*	320 *1050*
P8	200 *660*	220 *720*	265 *870*	305 *1000*	335 *1100*	240 *790*	255 *840*	295 *970*	330 *1075*	355 *1175*	220 *720*	230 *750*	260 *850*	285 *940*	300 *980*
P11	205 *670*	225 *740*	270 *890*	320 *1050*	350 *1150*	245 *800*	260 *850*	300 *980*	340 *1125*	365 *1200*	225 *740*	235 *770*	265 *870*	295 *970*	310 *1025*
P12	140 *460*	150 *490*	170 *560*	200 *660*	220 *720*	160 *520*	170 *560*	185 *610*	205 *670*	220 *720*	150 *490*	155 *510*	160 *520*	175 *570*	185 *610*
M1	— —	— —	— —	— —	— —	235 *770*	255 *840*	305 *1000*	360 *1175*	395 *1300*	200 *660*	220 *720*	265 *870*	310 *1025*	335 *1100*
M2	— —	— —	— —	— —	— —	190 *620*	210 *690*	250 *820*	295 *970*	320 *1050*	165 *540*	180 *590*	215 *710*	255 *840*	275 *900*
M3	— —	— —	— —	— —	— —	165 *540*	175 *570*	200 *660*	235 *770*	255 *840*	140 *460*	150 *490*	170 *560*	200 *660*	220 *720*
M4	— —	— —	— —	— —	— —	130 *425*	135 *445*	160 *520*	180 *590*	195 *640*	110 *360*	115 *375*	135 *445*	155 *510*	170 *560*
M5	— —	— —	— —	— —	— —	110 *360*	115 *375*	130 *425*	150 *490*	165 *540*	95 *310*	95 *310*	115 *375*	130 *425*	140 *460*
K1	220 *720*	235 *770*	285 *940*	335 *1100*	365 *1200*	— —	— —	— —	— —	— —	200 *660*	215 *710*	260 *850*	305 *1000*	330 *1075*
K2	190 *620*	210 *690*	250 *820*	295 *970*	320 *1050*	— —	— —	— —	— —	— —	175 *570*	190 *620*	225 *740*	270 *890*	290 *950*
K3	160 *520*	175 *570*	210 *690*	250 *820*	270 *890*	— —	— —	— —	— —	— —	145 *475*	160 *520*	190 *620*	230 *750*	245 *800*
K4	155 *510*	170 *560*	200 *660*	240 *790*	260 *850*	— —	— —	— —	— —	— —	140 *460*	155 *510*	185 *610*	215 *710*	235 *770*
K5	95 *310*	105 *345*	125 *410*	145 *475*	155 *510*	— —	— —	— —	— —	— —	85 *280*	95 *310*	110 *360*	130 *425*	145 *475*
K6	135 *445*	150 *490*	180 *590*	210 *690*	230 *750*	— —	— —	— —	— —	— —	125 *410*	135 *445*	160 *520*	190 *620*	205 *670*
K7	120 *395*	130 *425*	160 *520*	185 *610*	200 *660*	— —	— —	— —	— —	— —	110 *360*	120 *395*	145 *475*	170 *560*	185 *610*
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	1500 *4925*	1600 *5250*	1950 *6400*	2275 *7475*	2500 *8200*
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	600 *1975*	650 *2125*	790 *2600*	920 *3025*	1000 *3275*
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	400 *1300*	435 *1425*	530 *1750*	610 *2000*	670 *2200*
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	460 *1500*	495 *1625*	600 *1975*	700 *2300*	770 *2525*
S1	— —	— —	— —	— —	— —	60 *195*	65 *215*	75 *245*	85 *280*	90 *295*	50 *165*	55 *180*	65 *215*	70 *230*	80 *260*
S2	— —	— —	— —	— —	— —	49 *160*	50 *165*	60 *195*	65 *215*	75 *245*	42 *140*	44 *145*	50 *165*	60 *195*	65 *215*
S3	— —	— —	— —	— —	— —	43 *140*	44 *145*	50 *165*	60 *195*	65 *215*	37 *120*	38 *125*	44 *145*	50 *165*	55 *180*
S11	— —	— —	— —	— —	— —	85 *280*	90 *295*	105 *345*	120 *395*	130 *425*	70 *230*	75 *245*	90 *295*	100 *330*	110 *360*
S12	— —	— —	— —	— —	— —	60 *195*	60 *195*	70 *230*	80 *260*	90 *295*	50 *165*	55 *180*	60 *195*	70 *230*	75 *245*
S13	— —	— —	— —	— —	— —	34 *110*	36 *120*	41 *135*	47 *155*	50 *165*	29 *95*	31 *100*	35 *115*	40 *130*	44 *145*
H5	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	42 *140*	45 *150*	50 *165*	60 *195*	65 *215*
H8	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	45 *150*	47 *155*	55 *180*	65 *215*	70 *230*
H11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	55 *180*	60 *195*	65 *215*	75 *245*	85 *280*
H12	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	80 *260*	85 *280*	100 *330*	115 *375*	125 *410*

R218.20-0.750 – Insert selection – mm/Inch

SMG		a_p	f_z				
			100%	70%	30%	10%	5%
P1	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,15 0.0060	0,15 0.0060	0,16 0.0065	0,24 0.0095	0,34 0.013
P2	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,15 0.0060	0,15 0.0060	0,16 0.0065	0,25 0.010	0,34 0.013
P3	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,24 0.0095	0,32 0.013
P4	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,22 0.0085	0,32 0.013
P5	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,22 0.0085	0,32 0.013
P6	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,22 0.0085	0,30 0.012
P7	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,22 0.0085	0,30 0.012
P8	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,24 0.0095	0,32 0.013
P11	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,22 0.0085	0,30 0.012
P12	218.20-0.750ER-ME10 F40M	16,0 *0.65*	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
M1	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,15 0.0060	0,15 0.0060	0,16 0.0065	0,25 0.010	0,34 0.013
M2	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,22 0.0085	0,32 0.013
M3	218.20-0.750ER-ME10 F40M	16,0 *0.65*	0,11 0.0044	0,11 0.0044	0,12 0.0048	0,18 0.0070	0,25 0.010
M4	218.20-0.750ER-ME10 F40M	12,0 *0.48*	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,16 0.0065	0,22 0.0085
M5	218.20-0.750ER-ME10 F40M	12,0 *0.48*	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,16 0.0065	0,22 0.0085
K1	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,15 0.0060	0,15 0.0060	0,16 0.0065	0,25 0.010	0,34 0.013
K2	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,22 0.0085	0,32 0.013
K3	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,22 0.0085	0,32 0.013
K4	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,22 0.0085	0,32 0.013
K5	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,12 0.0048	0,12 0.0048	0,13 0.0050	0,20 0.0080	0,28 0.011
K6	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,22 0.0085	0,32 0.013
K7	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,12 0.0048	0,12 0.0048	0,13 0.0050	0,20 0.0080	0,28 0.011
N1	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,19 0.0075	0,19 0.0075	0,20 0.0080	0,32 0.013	0,44 0.017
N2	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,19 0.0075	0,19 0.0075	0,20 0.0080	0,32 0.013	0,44 0.017
N3	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,19 0.0075	0,19 0.0075	0,20 0.0080	0,32 0.013	0,44 0.017
N11	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,19 0.0075	0,19 0.0075	0,20 0.0080	0,32 0.013	0,44 0.017
S1	218.20-0.750ER-ME10 F40M	12,0 *0.48*	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,16 0.0065	0,22 0.0085
S2	218.20-0.750ER-ME10 F40M	12,0 *0.48*	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,16 0.0065	0,22 0.0085
S3	218.20-0.750ER-ME10 F40M	12,0 *0.48*	0,10 0.0040	0,10 0.0040	0,10 0.0040	0,15 0.0060	0,20 0.0080
S11	218.20-0.750ER-ME10 F40M	14,0 *0.55*	0,12 0.0048	0,12 0.0048	0,12 0.0048	0,18 0.0070	0,25 0.010
S12	218.20-0.750ER-ME10 F40M	14,0 *0.55*	0,12 0.0048	0,12 0.0048	0,12 0.0048	0,18 0.0070	0,25 0.010
S13	218.20-0.750ER-ME10 F40M	12,0 *0.48*	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,16 0.0065	0,22 0.0085
H5	218.20-0.750ER-ME10 F40M	16,0 *0.65*	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
H8	218.20-0.750ER-ME10 F40M	14,0 *0.55*	0,075 0.0030	0,075 0.0030	0,080 0.0032	0,12 0.0048	0,16 0.0065
H11	218.20-0.750ER-ME10 F40M	16,0 *0.65*	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
H12	218.20-0.750ER-ME10 F40M	14,0 *0.55*	0,075 0.0030	0,075 0.0030	0,080 0.0032	0,12 0.0048	0,16 0.0065

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R218.20-0.750 – Cutting data v_c = (m/min)/(sf/min)

SMG	F40M					MM4500				
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%
P1	265 *870*	275 *900*	320 *1050*	365 *1200*	380 *1250*	220 *720*	235 *770*	280 *920*	320 *1050*	340 *1125*
P2	260 *850*	265 *870*	315 *1025*	350 *1150*	370 *1225*	215 *710*	230 *750*	270 *890*	310 *1025*	335 *1100*
P3	225 *740*	235 *770*	275 *900*	305 *1000*	325 *1075*	190 *620*	200 *660*	235 *770*	265 *870*	290 *950*
P4	200 *660*	210 *690*	250 *820*	285 *940*	305 *1000*	180 *590*	190 *620*	225 *740*	255 *840*	275 *900*
P5	190 *620*	195 *640*	230 *750*	260 *850*	275 *900*	160 *520*	170 *560*	200 *660*	225 *740*	240 *790*
P6	215 *710*	220 *720*	260 *850*	295 *970*	310 *1025*	180 *590*	190 *620*	220 *720*	255 *840*	275 *900*
P7	200 *660*	210 *690*	245 *800*	275 *900*	295 *970*	170 *560*	180 *590*	210 *690*	240 *790*	255 *840*
P8	190 *620*	195 *640*	230 *750*	255 *840*	275 *900*	160 *520*	170 *560*	200 *660*	225 *740*	240 *790*
P11	195 *640*	205 *670*	235 *770*	270 *890*	285 *940*	165 *540*	175 *570*	205 *670*	235 *770*	250 *820*
P12	135 *445*	140 *460*	155 *510*	170 *560*	180 *590*	105 *345*	110 *360*	125 *410*	135 *445*	145 *475*
M1	175 *570*	190 *620*	230 *750*	270 *890*	295 *970*	140 *460*	155 *510*	185 *610*	220 *720*	240 *790*
M2	145 *475*	155 *510*	190 *620*	225 *740*	245 *800*	115 *375*	125 *410*	155 *510*	185 *610*	195 *640*
M3	125 *410*	130 *425*	155 *510*	180 *590*	195 *640*	100 *330*	105 *345*	125 *410*	145 *475*	160 *520*
M4	100 *330*	105 *345*	120 *395*	140 *460*	150 *490*	80 *260*	85 *280*	100 *330*	115 *375*	125 *410*
M5	85 *280*	85 *280*	100 *330*	115 *375*	125 *410*	65 *215*	70 *230*	80 *260*	95 *310*	100 *330*
K1	170 *560*	185 *610*	225 *740*	265 *870*	290 *950*	— —	— —	— —	— —	— —
K2	150 *490*	165 *540*	200 *660*	240 *790*	255 *840*	— —	— —	— —	— —	— —
K3	130 *425*	140 *460*	170 *560*	200 *660*	215 *710*	— —	— —	— —	— —	— —
K4	120 *395*	130 *425*	160 *520*	190 *620*	205 *670*	— —	— —	— —	— —	— —
K5	75 *245*	80 *260*	100 *330*	115 *375*	125 *410*	— —	— —	— —	— —	— —
K6	110 *360*	115 *375*	140 *460*	170 *560*	180 *590*	— —	— —	— —	— —	— —
K7	95 *310*	105 *345*	125 *410*	150 *490*	165 *540*	— —	— —	— —	— —	— —
N1	1275 *4175*	1375 *4500*	1675 *5500*	1975 *6475*	2150 *7050*	— —	— —	— —	— —	— —
N2	510 *1675*	550 *1800*	680 *2225*	800 *2625*	870 *2850*	— —	— —	— —	— —	— —
N3	345 *1125*	370 *1225*	455 *1500*	530 *1750*	580 *1900*	— —	— —	— —	— —	— —
N11	390 *1275*	420 *1375*	520 *1700*	610 *2000*	660 *2175*	— —	— —	— —	— —	— —
S1	46 *150*	49 *160*	55 *180*	65 *215*	70 *230*	25 *80*	26 *85*	30 *100*	34 *110*	38 *125*
S2	37 *120*	39 *130*	45 *150*	50 *165*	55 *180*	20 *65*	21 *70*	24 *80*	28 *90*	30 *100*
S3	33 *110*	34 *110*	40 *130*	45 *150*	50 *165*	18 *60*	18 *60*	21 *70*	24 *80*	27 *90*
S11	65 *215*	65 *215*	80 *260*	90 *295*	100 *330*	34 *110*	35 *115*	42 *140*	48 *155*	55 *180*
S12	44 *145*	46 *150*	55 *180*	65 *215*	70 *230*	31 *100*	33 *110*	39 *130*	45 *150*	49 *160*
S13	26 *85*	28 *90*	32 *105*	36 *120*	40 *130*	19 *60*	20 *65*	23 *75*	26 *85*	28 *90*
H5	38 *125*	40 *130*	47 *155*	55 *180*	60 *195*	— —	— —	— —	— —	— —
H8	41 *135*	43 *140*	50 *165*	60 *195*	65 *215*	— —	— —	— —	— —	— —
H11	48 *155*	50 *165*	60 *195*	70 *230*	75 *245*	— —	— —	— —	— —	— —
H12	75 *245*	75 *245*	90 *295*	105 *345*	115 *375*	— —	— —	— —	— —	— —

R218.20-060 – Insert selection – mm/Inch

SMG		a_p	f_z				
			100%	70%	30%	10%	5%
P1	218.20-060ER-ME03 F40M	6,0 *0.24*	0,044 0.0017	0,044 0.0017	0,048 0.0019	0,075 0.0030	0,10 0.0040
P2	218.20-060ER-ME03 F40M	6,0 *0.24*	0,046 0.0018	0,046 0.0018	0,050 0.0020	0,075 0.0030	0,10 0.0040
P3	218.20-060ER-ME03 F40M	6,0 *0.24*	0,044 0.0017	0,044 0.0017	0,046 0.0018	0,070 0.0028	0,10 0.0040
P4	218.20-060ER-ME03 F40M	6,0 *0.24*	0,042 0.0017	0,042 0.0017	0,046 0.0018	0,070 0.0028	0,095 0.0038
P5	218.20-060ER-ME03 F40M	6,0 *0.24*	0,042 0.0017	0,042 0.0017	0,044 0.0017	0,070 0.0028	0,095 0.0038
P6	218.20-060ER-ME03 F40M	6,0 *0.24*	0,042 0.0017	0,042 0.0017	0,044 0.0017	0,065 0.0026	0,095 0.0038
P7	218.20-060ER-ME03 F40M	6,0 *0.24*	0,042 0.0017	0,042 0.0017	0,044 0.0017	0,065 0.0026	0,095 0.0038
P8	218.20-060ER-ME03 F40M	6,0 *0.24*	0,044 0.0017	0,044 0.0017	0,046 0.0018	0,070 0.0028	0,10 0.0040
P11	218.20-060ER-ME03 F40M	6,0 *0.24*	0,042 0.0017	0,042 0.0017	0,044 0.0017	0,065 0.0026	0,095 0.0038
P12	218.20-060ER-ME03 F40M	5,0 *0.20*	0,030 0.0012	0,030 0.0012	0,030 0.0012	0,046 0.0018	0,065 0.0026
M1	218.20-060ER-ME03 MS2050	6,0 *0.24*	0,046 0.0018	0,046 0.0018	0,050 0.0020	0,075 0.0030	0,10 0.0040
M2	218.20-060ER-ME03 MS2050	6,0 *0.24*	0,042 0.0017	0,042 0.0017	0,044 0.0017	0,070 0.0028	0,095 0.0038
M3	218.20-060ER-ME03 MS2050	5,0 *0.20*	0,034 0.0013	0,034 0.0013	0,036 0.0014	0,055 0.0022	0,075 0.0030
M4	218.20-060ER-ME03 F40M	3,5 *0.14*	0,032 0.0013	0,032 0.0013	0,034 0.0013	0,048 0.0019	0,065 0.0026
M5	218.20-060ER-ME03 F40M	3,5 *0.14*	0,032 0.0013	0,032 0.0013	0,034 0.0013	0,048 0.0019	0,065 0.0026
K1	218.20-060ER-ME03 F40M	6,0 *0.24*	0,046 0.0018	0,046 0.0018	0,050 0.0020	0,075 0.0030	0,10 0.0040
K2	218.20-060ER-ME03 F40M	6,0 *0.24*	0,042 0.0017	0,042 0.0017	0,044 0.0017	0,070 0.0028	0,095 0.0038
K3	218.20-060ER-ME03 F40M	6,0 *0.24*	0,042 0.0017	0,042 0.0017	0,044 0.0017	0,070 0.0028	0,095 0.0038
K4	218.20-060ER-ME03 F40M	6,0 *0.24*	0,042 0.0017	0,042 0.0017	0,044 0.0017	0,070 0.0028	0,095 0.0038
K5	218.20-060ER-ME03 F40M	6,0 *0.24*	0,038 0.0015	0,038 0.0015	0,040 0.0016	0,060 0.0024	0,085 0.0034
K6	218.20-060ER-ME03 F40M	6,0 *0.24*	0,042 0.0017	0,042 0.0017	0,044 0.0017	0,070 0.0028	0,095 0.0038
K7	218.20-060ER-ME03 F40M	6,0 *0.24*	0,038 0.0015	0,038 0.0015	0,040 0.0016	0,060 0.0024	0,085 0.0034
N1	218.20-060ER-ME03 F40M	6,0 *0.24*	0,060 0.0024	0,060 0.0024	0,060 0.0026	0,095 0.0038	0,13 0.0050
N2	218.20-060ER-ME03 F40M	6,0 *0.24*	0,060 0.0024	0,060 0.0024	0,060 0.0026	0,095 0.0038	0,13 0.0050
N3	218.20-060ER-ME03 F40M	6,0 *0.24*	0,060 0.0024	0,060 0.0024	0,060 0.0026	0,095 0.0038	0,13 0.0050
N11	218.20-060ER-ME03 F40M	6,0 *0.24*	0,060 0.0024	0,060 0.0024	0,060 0.0026	0,095 0.0038	0,13 0.0050
S1	218.20-060ER-ME03 F40M	3,5 *0.14*	0,032 0.0013	0,032 0.0013	0,034 0.0013	0,048 0.0019	0,065 0.0026
S2	218.20-060ER-ME03 F40M	3,5 *0.14*	0,032 0.0013	0,032 0.0013	0,034 0.0013	0,048 0.0019	0,065 0.0026
S3	218.20-060ER-ME03 F40M	3,5 *0.14*	0,030 0.0012	0,030 0.0012	0,030 0.0012	0,046 0.0018	0,060 0.0024
S11	218.20-060ER-ME03 MS2050	4,0 *0.16*	0,036 0.0014	0,036 0.0014	0,038 0.0015	0,055 0.0022	0,075 0.0030
S12	218.20-060ER-ME03 MS2050	4,0 *0.16*	0,036 0.0014	0,036 0.0014	0,038 0.0015	0,055 0.0022	0,075 0.0030
S13	218.20-060ER-ME03 MS2050	3,5 *0.14*	0,032 0.0013	0,032 0.0013	0,034 0.0013	0,048 0.0019	0,065 0.0026
H5	218.20-060ER-ME03 F40M	5,0 *0.20*	0,030 0.0012	0,030 0.0012	0,030 0.0012	0,046 0.0018	0,065 0.0026
H8	218.20-060ER-ME03 F40M	4,0 *0.16*	0,024 0.00095	0,024 0.00095	0,024 0.00095	0,036 0.0014	0,050 0.0020
H11	218.20-060ER-ME03 F40M	5,0 *0.20*	0,030 0.0012	0,030 0.0012	0,030 0.0012	0,046 0.0018	0,065 0.0026
H12	218.20-060ER-ME03 F40M	4,0 *0.16*	0,024 0.00095	0,024 0.00095	0,024 0.00095	0,036 0.0014	0,050 0.0020

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R218.20-060 – Cutting data v_c = (m/min)/(sf/min)

SMG	MS2050					F40M				
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%
P1	365 *1200*	390 *1275*	440 *1450*	490 *1600*	520 *1700*	355 *1175*	375 *1225*	410 *1350*	445 *1450*	470 *1550*
P2	355 *1175*	380 *1250*	425 *1400*	480 *1575*	510 *1675*	345 *1125*	365 *1200*	400 *1300*	435 *1425*	455 *1500*
P3	305 *1000*	330 *1075*	370 *1225*	410 *1350*	440 *1450*	300 *980*	315 *1025*	345 *1125*	375 *1225*	395 *1300*
P4	270 *890*	290 *950*	325 *1075*	360 *1175*	385 *1275*	265 *870*	280 *920*	310 *1025*	345 *1125*	365 *1200*
P5	260 *850*	275 *900*	310 *1025*	345 *1125*	370 *1225*	250 *820*	265 *870*	290 *950*	315 *1025*	330 *1075*
P6	290 *950*	310 *1025*	350 *1150*	390 *1275*	415 *1350*	280 *920*	300 *980*	325 *1075*	355 *1175*	370 *1225*
P7	275 *900*	295 *970*	330 *1075*	365 *1200*	390 *1275*	265 *870*	280 *920*	305 *1000*	335 *1100*	350 *1150*
P8	255 *840*	275 *900*	310 *1025*	345 *1125*	370 *1225*	250 *820*	265 *870*	290 *950*	315 *1025*	330 *1075*
P11	265 *870*	285 *940*	320 *1050*	355 *1175*	380 *1250*	260 *850*	275 *900*	300 *980*	325 *1075*	340 *1125*
P12	165 *540*	175 *570*	185 *610*	205 *670*	220 *720*	160 *520*	170 *560*	175 *570*	185 *610*	195 *640*
M1	265 *870*	285 *940*	340 *1125*	400 *1300*	440 *1450*	240 *790*	260 *850*	310 *1025*	365 *1200*	400 *1300*
M2	215 *710*	235 *770*	280 *920*	325 *1075*	355 *1175*	195 *640*	215 *710*	255 *840*	295 *970*	325 *1075*
M3	175 *570*	190 *620*	220 *720*	255 *840*	280 *920*	160 *520*	175 *570*	200 *660*	235 *770*	255 *840*
M4	140 *460*	150 *490*	170 *560*	195 *640*	215 *710*	130 *425*	135 *445*	155 *510*	175 *570*	195 *640*
M5	120 *395*	125 *410*	145 *475*	165 *540*	180 *590*	110 *360*	110 *360*	130 *425*	150 *490*	160 *520*
K1	— —	— —	— —	— —	— —	235 *770*	255 *840*	305 *1000*	355 *1175*	390 *1275*
K2	— —	— —	— —	— —	— —	205 *670*	225 *740*	270 *890*	310 *1025*	340 *1125*
K3	— —	— —	— —	— —	— —	175 *570*	190 *620*	225 *740*	265 *870*	290 *950*
K4	— —	— —	— —	— —	— —	165 *540*	180 *590*	215 *710*	250 *820*	275 *900*
K5	— —	— —	— —	— —	— —	100 *330*	110 *360*	130 *425*	155 *510*	165 *540*
K6	— —	— —	— —	— —	— —	145 *475*	160 *520*	190 *620*	220 *720*	245 *800*
K7	— —	— —	— —	— —	— —	130 *425*	140 *460*	165 *540*	195 *640*	215 *710*
N1	— —	— —	— —	— —	— —	1775 *5825*	1925 *6325*	2325 *7625*	2725 *8950*	2975 *9750*
N2	— —	— —	— —	— —	— —	720 *2350*	780 *2550*	940 *3075*	1100 *3600*	1200 *3925*
N3	— —	— —	— —	— —	— —	475 *1550*	520 *1700*	630 *2075*	730 *2400*	800 *2625*
N11	— —	— —	— —	— —	— —	550 *1800*	590 *1925*	720 *2350*	840 *2750*	920 *3025*
S1	65 *215*	70 *230*	80 *260*	90 *295*	100 *330*	60 *195*	65 *215*	75 *245*	85 *280*	90 *295*
S2	55 *180*	55 *180*	65 *215*	75 *245*	80 *260*	49 *160*	50 *165*	60 *195*	65 *215*	75 *245*
S3	46 *150*	48 *155*	55 *180*	65 *215*	70 *230*	42 *140*	44 *145*	50 *165*	60 *195*	65 *215*
S11	95 *310*	95 *310*	115 *375*	130 *425*	140 *460*	85 *280*	90 *295*	105 *345*	120 *395*	130 *425*
S12	65 *215*	65 *215*	80 *260*	90 *295*	100 *330*	60 *195*	60 *195*	70 *230*	80 *260*	90 *295*
S13	37 *120*	39 *130*	45 *150*	50 *165*	55 *180*	34 *110*	35 *115*	41 *135*	47 *155*	50 *165*
H5	— —	— —	— —	— —	— —	48 *155*	50 *165*	60 *195*	70 *230*	75 *245*
H8	— —	— —	— —	— —	— —	50 *165*	55 *180*	65 *215*	70 *230*	80 *260*
H11	— —	— —	— —	— —	— —	60 *195*	65 *215*	75 *245*	90 *295*	95 *310*
H12	— —	— —	— —	— —	— —	90 *295*	100 *330*	115 *375*	130 *425*	140 *460*

R218.20-080 – Insert selection – mm/Inch

SMG		a_p	f_z				
			100%	70%	30%	10%	5%
P1	218.20-080ER-M04 F40M	8,0 *0.32*	0,10 0.0040	0,10 0.0040	0,11 0.0044	0,17 0.0065	0,24 0.0095
P2	218.20-080ER-M04 F40M	8,0 *0.32*	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,18 0.0065	0,25 0.0095
P3	218.20-080ER-M04 F40M	8,0 *0.32*	0,10 0.0040	0,10 0.0040	0,11 0.0044	0,17 0.0065	0,24 0.0095
P4	218.20-080ER-M04 F40M	8,0 *0.32*	0,10 0.0040	0,10 0.0040	0,11 0.0044	0,16 0.0065	0,22 0.0085
P5	218.20-080ER-M04 F40M	8,0 *0.32*	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
P6	218.20-080ER-M04 F40M	8,0 *0.32*	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
P7	218.20-080ER-M04 F40M	8,0 *0.32*	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
P8	218.20-080ER-M04 F40M	8,0 *0.32*	0,10 0.0040	0,10 0.0040	0,11 0.0044	0,17 0.0065	0,24 0.0095
P11	218.20-080ER-M04 F40M	8,0 *0.32*	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
P12	218.20-080ER-M04 F40M	7,0 *0.28*	0,065 0.0026	0,065 0.0026	0,070 0.0028	0,11 0.0044	0,15 0.0060
M1	218.20-080ER-ME04 MS2050	8,0 *0.32*	0,060 0.0024	0,060 0.0024	0,065 0.0026	0,10 0.0040	0,14 0.0055
M2	218.20-080ER-ME04 MS2050	8,0 *0.32*	0,055 0.0022	0,055 0.0022	0,060 0.0024	0,090 0.0036	0,13 0.0050
M3	218.20-080ER-ME04 MS2050	7,0 *0.28*	0,046 0.0018	0,046 0.0018	0,048 0.0019	0,075 0.0030	0,10 0.0040
M4	218.20-080ER-ME04 MP3501	5,0 *0.20*	0,042 0.0017	0,042 0.0017	0,044 0.0017	0,065 0.0026	0,090 0.0036
M5	218.20-080ER-ME04 MP3501	5,0 *0.20*	0,042 0.0017	0,042 0.0017	0,044 0.0017	0,065 0.0026	0,090 0.0036
K1	218.20-080ER-M04 F40M	8,0 *0.32*	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,18 0.0065	0,25 0.0095
K2	218.20-080ER-M04 F40M	8,0 *0.32*	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
K3	218.20-080ER-M04 F40M	8,0 *0.32*	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
K4	218.20-080ER-M04 F40M	8,0 *0.32*	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
K5	218.20-080ER-M04 F40M	8,0 *0.32*	0,085 0.0034	0,085 0.0034	0,095 0.0038	0,14 0.0055	0,20 0.0080
K6	218.20-080ER-M04 F40M	8,0 *0.32*	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
K7	218.20-080ER-M04 F40M	8,0 *0.32*	0,085 0.0034	0,085 0.0034	0,095 0.0038	0,14 0.0055	0,20 0.0080
N1	218.20-080ER-ME04 F40M	8,0 *0.32*	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,22 0.0085	0,32 0.013
N2	218.20-080ER-ME04 F40M	8,0 *0.32*	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,22 0.0085	0,32 0.013
N3	218.20-080ER-ME04 F40M	8,0 *0.32*	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,22 0.0085	0,32 0.013
N11	218.20-080ER-ME04 F40M	8,0 *0.32*	0,14 0.0055	0,14 0.0055	0,15 0.0060	0,22 0.0085	0,32 0.013
S1	218.20-080ER-ME04 MP3501	5,0 *0.20*	0,042 0.0017	0,042 0.0017	0,044 0.0017	0,065 0.0026	0,090 0.0036
S2	218.20-080ER-ME04 MP3501	5,0 *0.20*	0,042 0.0017	0,042 0.0017	0,044 0.0017	0,065 0.0026	0,090 0.0036
S3	218.20-080ER-ME04 MP3501	5,0 *0.20*	0,040 0.0016	0,040 0.0016	0,040 0.0016	0,060 0.0024	0,085 0.0034
S11	218.20-080ER-ME04 MS2050	6,0 *0.24*	0,046 0.0018	0,046 0.0018	0,050 0.0020	0,075 0.0030	0,10 0.0040
S12	218.20-080ER-ME04 MS2050	6,0 *0.24*	0,046 0.0018	0,046 0.0018	0,050 0.0020	0,075 0.0030	0,10 0.0040
S13	218.20-080ER-ME04 MS2050	5,0 *0.20*	0,042 0.0017	0,042 0.0017	0,044 0.0017	0,065 0.0026	0,090 0.0036
H5	218.20-080ER-M04 F40M	7,0 *0.28*	0,065 0.0026	0,065 0.0026	0,070 0.0028	0,11 0.0044	0,15 0.0060
H8	218.20-080ER-M04 F40M	6,0 *0.24*	0,055 0.0022	0,055 0.0022	0,055 0.0022	0,085 0.0034	0,12 0.0048
H11	218.20-080ER-M04 F40M	7,0 *0.28*	0,065 0.0026	0,065 0.0026	0,070 0.0028	0,11 0.0044	0,15 0.0060
H12	218.20-080ER-M04 F40M	6,0 *0.24*	0,055 0.0022	0,055 0.0022	0,055 0.0022	0,085 0.0034	0,12 0.0048

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R218.20-080 – Cutting data v_c = (m/min)/(sf/min)

SMG	F25M					MS2050					F40M					MP3501					MM4500				
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%
P1	265 *870*	285 *940*	345 *1125*	405 *1325*	440 *1450*	335 *1100*	360 *1175*	410 *1350*	460 *1500*	490 *1600*	290 *950*	300 *980*	345 *1125*	380 *1250*	400 *1300*	420 *1375*	450 *1475*	490 *1600*	530 *1750*	560 *1825*	240 *790*	260 *850*	295 *970*	330 *1075*	355 *1175*
P2	250 *820*	270 *890*	335 *1100*	390 *1275*	425 *1400*	330 *1075*	350 *1150*	400 *1300*	450 *1475*	480 *1575*	275 *900*	285 *940*	335 *1100*	370 *1225*	390 *1275*	410 *1350*	435 *1425*	475 *1550*	520 *1700*	550 *1800*	235 *770*	255 *840*	285 *940*	325 *1075*	345 *1125*
P3	220 *720*	240 *790*	290 *950*	340 *1125*	370 *1225*	280 *920*	300 *980*	345 *1125*	385 *1275*	415 *1350*	245 *800*	255 *840*	290 *950*	320 *1050*	335 *1100*	350 *1150*	375 *1225*	410 *1350*	445 *1450*	470 *1550*	200 *660*	220 *720*	245 *800*	280 *920*	300 *980*
P4	195 *640*	210 *690*	255 *840*	305 *1000*	330 *1075*	250 *820*	270 *890*	305 *1000*	340 *1125*	365 *1200*	215 *710*	225 *740*	260 *850*	300 *980*	320 *1050*	310 *1025*	330 *1075*	360 *1175*	390 *1275*	415 *1350*	195 *640*	210 *690*	235 *770*	265 *870*	280 *920*
P5	190 *620*	205 *670*	245 *800*	290 *950*	315 *1025*	240 *790*	255 *840*	290 *950*	325 *1075*	350 *1150*	205 *670*	215 *710*	245 *800*	270 *890*	285 *940*	295 *970*	315 *1025*	345 *1125*	375 *1225*	395 *1300*	170 *560*	185 *610*	205 *670*	230 *750*	250 *820*
P6	210 *690*	230 *750*	280 *920*	325 *1075*	355 *1175*	270 *890*	285 *940*	325 *1075*	365 *1200*	390 *1275*	235 *770*	240 *790*	275 *900*	305 *1000*	325 *1075*	330 *1075*	355 *1175*	385 *1275*	420 *1375*	440 *1450*	190 *620*	205 *670*	230 *750*	260 *850*	280 *920*
P7	200 *660*	215 *710*	260 *850*	305 *1000*	335 *1100*	255 *840*	270 *890*	310 *1025*	345 *1125*	370 *1225*	220 *720*	230 *750*	260 *850*	290 *950*	305 *1000*	315 *1025*	335 *1100*	365 *1200*	395 *1300*	415 *1350*	180 *590*	195 *640*	220 *720*	245 *800*	265 *870*
P8	185 *610*	200 *660*	240 *790*	285 *940*	310 *1025*	235 *770*	255 *840*	290 *950*	325 *1075*	350 *1150*	205 *670*	210 *690*	240 *790*	270 *890*	285 *940*	295 *970*	315 *1025*	345 *1125*	375 *1225*	395 *1300*	170 *560*	185 *610*	205 *670*	235 *770*	250 *820*
P11	195 *640*	210 *690*	255 *840*	300 *980*	325 *1075*	245 *800*	265 *870*	300 *980*	335 *1100*	360 *1175*	215 *710*	220 *720*	255 *840*	280 *920*	295 *970*	305 *1000*	325 *1075*	355 *1175*	385 *1275*	405 *1325*	175 *570*	190 *620*	215 *710*	240 *790*	255 *840*
P12	125 *410*	135 *445*	160 *520*	190 *620*	205 *670*	155 *510*	165 *540*	180 *590*	200 *660*	210 *690*	140 *460*	145 *475*	160 *520*	175 *570*	180 *590*	180 *590*	190 *620*	200 *660*	215 *710*	225 *740*	105 *345*	115 *375*	120 *395*	135 *445*	140 *460*
M1	— —	— —	— —	— —	— —	240 *790*	260 *850*	310 *1025*	365 *1200*	395 *1300*	185 *610*	200 *660*	245 *800*	285 *940*	310 *1025*	240 *790*	260 *850*	310 *1025*	365 *1200*	395 *1300*	160 *520*	170 *560*	210 *690*	245 *800*	270 *890*
M2	— —	— —	— —	— —	— —	195 *640*	210 *690*	255 *840*	300 *980*	325 *1075*	155 *510*	165 *540*	200 *660*	235 *770*	260 *850*	195 *640*	210 *690*	255 *840*	300 *980*	325 *1075*	135 *445*	145 *475*	175 *570*	205 *670*	225 *740*
M3	— —	— —	— —	— —	— —	160 *520*	170 *560*	200 *660*	235 *770*	255 *840*	125 *410*	135 *445*	160 *520*	190 *620*	205 *670*	160 *520*	170 *560*	200 *660*	235 *770*	255 *840*	110 *360*	120 *395*	140 *460*	160 *520*	175 *570*
M4	— —	— —	— —	— —	— —	130 *425*	135 *445*	155 *510*	180 *590*	195 *640*	105 *345*	110 *360*	125 *410*	145 *475*	160 *520*	130 *425*	135 *445*	155 *510*	180 *590*	195 *640*	90 *295*	95 *310*	110 *360*	125 *410*	135 *445*
M5	— —	— —	— —	— —	— —	110 *360*	115 *375*	130 *425*	150 *490*	165 *540*	85 *280*	90 *295*	105 *345*	120 *395*	135 *445*	110 *360*	115 *375*	130 *425*	150 *490*	165 *540*	75 *245*	80 *260*	90 *295*	105 *345*	115 *375*
K1	200 *660*	215 *710*	265 *870*	310 *1025*	335 *1100*	— —	— —	— —	— —	— —	180 *590*	195 *640*	240 *790*	280 *920*	305 *1000*	415 *1350*	440 *1450*	480 *1575*	530 *1750*	550 *1800*	— —	— —	— —	— —	— —
K2	180 *590*	195 *640*	235 *770*	275 *900*	300 *980*	— —	— —	— —	— —	— —	165 *540*	175 *570*	215 *710*	250 *820*	275 *900*	360 *1175*	385 *1275*	415 *1350*	450 *1475*	480 *1575*	— —	— —	— —	— —	— —
K3	150 *490*	165 *540*	200 *660*	230 *750*	255 *840*	— —	— —	— —	— —	— —	140 *460*	150 *490*	180 *590*	210 *690*	230 *750*	305 *1000*	325 *1075*	350 *1150*	380 *1250*	405 *1325*	— —	— —	— —	— —	— —
K4	145 *475*	155 *510*	190 *620*	220 *720*	240 *790*	— —	— —	— —	— —	— —	130 *425*	140 *460*	170 *560*	200 *660*	220 *720*	290 *950*	310 *1025*	335 *1100*	365 *1200*	385 *1275*	— —	— —	— —	— —	— —
K5	90 *295*	95 *310*	115 *375*	135 *445*	145 *475*	— —	— —	— —	— —	— —	80 *260*	85 *280*	105 *345*	125 *410*	135 *445*	170 *560*	185 *610*	200 *660*	215 *710*	225 *740*	— —	— —	— —	— —	— —
K6	130 *425*	140 *460*	165 *540*	195 *640*	215 *710*	— —	— —	— —	— —	— —	115 *375*	125 *410*	150 *490*	180 *590*	195 *640*	255 *840*	270 *890*	295 *970*	320 *1050*	340 *1125*	— —	— —	— —	— —	— —
K7	115 *375*	120 *395*	145 *475*	175 *570*	190 *620*	— —	— —	— —	— —	— —	105 *345*	110 *360*	135 *445*	160 *520*	170 *560*	220 *720*	235 *770*	255 *840*	275 *900*	290 *950*	— —	— —	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	1350 *4425*	1450 *4750*	1775 *5825*	2125 *6975*	2300 *7550*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	550 *1800*	590 *1925*	720 *2350*	860 *2825*	920 *3025*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	365 *1200*	395 *1300*	480 *1575*	570 *1875*	620 *2025*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	415 *1350*	450 *1475*	550 *1800*	650 *2125*	700 *2300*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
S1	— —	— —	— —	— —	— —	60 *195*	65 *215*	75 *245*	85 *280*	90 *295*	48 *155*	50 *165*	60 *195*	70 *230*	75 *245*	60 *195*	65 *215*	75 *245*	85 *280*	90 *295*	27 *90*	29 *95*	33 *110*	38 *125*	42 *140*
S2	— —	— —	— —	— —	— —	49 *160*	50 *165*	60 *195*	65 *215*	75 *245*	39 *130*	41 *135*	47 *155*	55 *180*	60 *195*	49 *160*	50 *165*	60 *195*	65 *215*	75 *245*	22 *70*	23 *75*	27 *90*	31 *100*	34 *110*
S3	— —	— —	— —	— —	— —	42 *140*	44 *145*	50 *165*	60 *195*	65 *215*	34 *110*	36 *120*	41 *135*	48 *155*	50 *165*	42 *140*	44 *145*	50 *165*	60 *195*	65 *215*	19 *60*	20 *65*	23 *75*	27 *90*	30 *100*
S11	— —	— —	— —	— —	— —	85 *280*	90 *295*	100 *330*	120 *395*	130 *425*	65 *215*	70 *230*	80 *260*	95 *310*	105 *345*	85 *280*	90 *295*	100 *330*	120 *395*	130 *425*	38 *125*	40 *130*	46 *150*	55 *180*	60 *195*
S12	— —	— —	— —	— —	— —	60 *195*	60 *195*	70 *230*	85 *280*	90 *295*	46 *150*	49 *160*	55 *180*	65 *215*	70 *230*	60 *195*	60 *195*	70 *230*	85 *280*	90 *295*	35 *115*	37 *120*	42 *140*	50 *165*	55 *180*
S13	— —	— —	— —	— —	— —	34 *110*	36 *120*	41 *135*	47 *155*	50 *165*	27 *90*	28 *90*	33 *110*	38 *125*	42 *140*	34 *110*	36 *120*	41 *135*	47 *155*	50 *165*	21 *70*	21 *70*	25 *80*	29 *95*	31 *100*
H5	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	38 *125*	41 *135*	49 *160*	55 *180*	60 *195*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
H8	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	42 *140*	44 *145*	50 *165*	60 *195*	65 *215*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
H11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	49 *160*	55 *180*	60 *195*	75 *245*	80 *260*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
H12	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	75 *245*	80 *260*	90 *295*	110 *360*	120 *395*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —

R218.20-100 – Insert selection – mm/Inch

SMG		a_p	f_z				
			100%	70%	30%	10%	5%
P1	218.20-100ER-M05 F40M	11,0 *0.44*	0,10 0.0040	0,10 0.0040	0,11 0.0044	0,17 0.0065	0,24 0.0095
P2	218.20-100ER-M05 F40M	11,0 *0.44*	0,10 0.0040	0,10 0.0040	0,11 0.0044	0,17 0.0065	0,24 0.0095
P3	218.20-100ER-M05 F40M	11,0 *0.44*	0,10 0.0040	0,10 0.0040	0,11 0.0044	0,16 0.0065	0,22 0.0085
P4	218.20-100ER-M05 F40M	11,0 *0.44*	0,095 0.0038	0,095 0.0038	0,11 0.0044	0,16 0.0065	0,22 0.0085
P5	218.20-100ER-M05 F40M	11,0 *0.44*	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
P6	218.20-100ER-M05 F40M	11,0 *0.44*	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
P7	218.20-100ER-M05 F40M	11,0 *0.44*	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
P8	218.20-100ER-M05 F40M	11,0 *0.44*	0,10 0.0040	0,10 0.0040	0,11 0.0044	0,16 0.0065	0,22 0.0085
P11	218.20-100ER-M05 F40M	11,0 *0.44*	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
P12	218.20-100ER-M05 F40M	9,0 *0.36*	0,065 0.0026	0,065 0.0026	0,070 0.0028	0,11 0.0044	0,15 0.0060
M1	218.20-100ER-ME05 MS2050	11,0 *0.44*	0,075 0.0030	0,075 0.0030	0,080 0.0032	0,12 0.0048	0,17 0.0065
M2	218.20-100ER-ME05 MS2050	11,0 *0.44*	0,070 0.0028	0,070 0.0028	0,075 0.0030	0,11 0.0044	0,16 0.0065
M3	218.20-100ER-ME05 MS2050	9,0 *0.36*	0,055 0.0022	0,055 0.0022	0,060 0.0024	0,090 0.0036	0,13 0.0050
M4	218.20-100ER-ME05 F40M	6,0 *0.24*	0,075 0.0030	0,075 0.0030	0,075 0.0030	0,11 0.0044	0,16 0.0065
M5	218.20-100ER-ME05 F40M	6,0 *0.24*	0,075 0.0030	0,075 0.0030	0,075 0.0030	0,11 0.0044	0,16 0.0065
K1	218.20-100ER-M05 F40M	11,0 *0.44*	0,10 0.0040	0,10 0.0040	0,11 0.0044	0,17 0.0065	0,24 0.0095
K2	218.20-100ER-M05 F40M	11,0 *0.44*	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
K3	218.20-100ER-M05 F40M	11,0 *0.44*	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
K4	218.20-100ER-M05 F40M	11,0 *0.44*	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
K5	218.20-100ER-M05 F40M	11,0 *0.44*	0,085 0.0034	0,085 0.0034	0,095 0.0038	0,14 0.0055	0,20 0.0080
K6	218.20-100ER-M05 F40M	11,0 *0.44*	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
K7	218.20-100ER-M05 F40M	11,0 *0.44*	0,085 0.0034	0,085 0.0034	0,095 0.0038	0,14 0.0055	0,20 0.0080
N1	218.20-100ER-ME05 F40M	11,0 *0.44*	0,13 0.0050	0,13 0.0050	0,14 0.0055	0,22 0.0085	0,32 0.013
N2	218.20-100ER-ME05 F40M	11,0 *0.44*	0,13 0.0050	0,13 0.0050	0,14 0.0055	0,22 0.0085	0,32 0.013
N3	218.20-100ER-ME05 F40M	11,0 *0.44*	0,13 0.0050	0,13 0.0050	0,14 0.0055	0,22 0.0085	0,32 0.013
N11	218.20-100ER-ME05 F40M	11,0 *0.44*	0,13 0.0050	0,13 0.0050	0,14 0.0055	0,22 0.0085	0,32 0.013
S1	218.20-100ER-ME05 F40M	6,0 *0.24*	0,075 0.0030	0,075 0.0030	0,075 0.0030	0,11 0.0044	0,16 0.0065
S2	218.20-100ER-ME05 F40M	6,0 *0.24*	0,075 0.0030	0,075 0.0030	0,075 0.0030	0,11 0.0044	0,16 0.0065
S3	218.20-100ER-ME05 F40M	6,0 *0.24*	0,070 0.0028	0,070 0.0028	0,070 0.0028	0,11 0.0044	0,15 0.0060
S11	218.20-100ER-ME05 MS2050	8,0 *0.32*	0,060 0.0024	0,060 0.0024	0,060 0.0024	0,090 0.0036	0,13 0.0050
S12	218.20-100ER-ME05 MS2050	8,0 *0.32*	0,060 0.0024	0,060 0.0024	0,060 0.0024	0,090 0.0036	0,13 0.0050
S13	218.20-100ER-ME05 MS2050	6,0 *0.24*	0,055 0.0022	0,055 0.0022	0,055 0.0022	0,080 0.0032	0,11 0.0044
H5	218.20-100ER-M05 F40M	9,0 *0.36*	0,065 0.0026	0,065 0.0026	0,070 0.0028	0,11 0.0044	0,15 0.0060
H8	218.20-100ER-M05 F40M	8,0 *0.32*	0,055 0.0022	0,055 0.0022	0,055 0.0022	0,085 0.0034	0,12 0.0048
H11	218.20-100ER-M05 F40M	9,0 *0.36*	0,065 0.0026	0,065 0.0026	0,070 0.0028	0,11 0.0044	0,15 0.0060
H12	218.20-100ER-M05 F40M	8,0 *0.32*	0,055 0.0022	0,055 0.0022	0,055 0.0022	0,085 0.0034	0,12 0.0048

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R218.20-100 – Cutting data v_c = (m/min)/(sf/min)

SMG	F25M					MS2050					F40M					MM4500				
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%
P1	260 *850*	280 *920*	340 *1125*	400 *1300*	430 *1400*	310 *1025*	335 *1100*	385 *1275*	440 *1450*	465 *1525*	285 *940*	295 *970*	340 *1125*	375 *1225*	395 *1300*	240 *790*	260 *850*	290 *950*	330 *1075*	350 *1150*
P2	255 *840*	275 *900*	330 *1075*	390 *1275*	420 *1375*	305 *1000*	325 *1075*	375 *1225*	425 *1400*	455 *1500*	275 *900*	290 *950*	330 *1075*	365 *1200*	385 *1275*	230 *750*	250 *820*	285 *940*	320 *1050*	340 *1125*
P3	215 *710*	235 *770*	285 *940*	340 *1125*	370 *1225*	265 *870*	280 *920*	325 *1075*	365 *1200*	390 *1275*	240 *790*	250 *820*	285 *940*	320 *1050*	335 *1100*	200 *660*	215 *710*	245 *800*	275 *900*	290 *950*
P4	195 *640*	210 *690*	250 *820*	300 *980*	325 *1075*	235 *770*	250 *820*	285 *940*	325 *1075*	345 *1125*	215 *710*	225 *740*	255 *840*	295 *970*	310 *1025*	190 *620*	205 *670*	230 *750*	260 *850*	280 *920*
P5	185 *610*	200 *660*	245 *800*	285 *940*	310 *1025*	220 *720*	235 *770*	275 *900*	310 *1025*	330 *1075*	205 *670*	210 *690*	245 *800*	265 *870*	280 *920*	170 *560*	185 *610*	205 *670*	230 *750*	245 *800*
P6	205 *670*	225 *740*	275 *900*	320 *1050*	350 *1150*	250 *820*	270 *890*	305 *1000*	350 *1150*	370 *1225*	225 *740*	235 *770*	270 *890*	300 *980*	315 *1025*	190 *620*	205 *670*	230 *750*	260 *850*	275 *900*
P7	195 *640*	215 *710*	260 *850*	300 *980*	330 *1075*	240 *790*	255 *840*	290 *950*	330 *1075*	350 *1150*	215 *710*	225 *740*	255 *840*	285 *940*	300 *980*	180 *590*	195 *640*	215 *710*	245 *800*	260 *850*
P8	185 *610*	200 *660*	240 *790*	285 *940*	310 *1025*	220 *720*	235 *770*	275 *900*	310 *1025*	330 *1075*	200 *660*	210 *690*	240 *790*	265 *870*	280 *920*	165 *540*	180 *590*	205 *670*	230 *750*	245 *800*
P11	190 *620*	205 *670*	250 *820*	295 *970*	320 *1050*	230 *750*	245 *800*	280 *920*	320 *1050*	340 *1125*	210 *690*	215 *710*	250 *820*	275 *900*	290 *950*	175 *570*	190 *620*	210 *690*	235 *770*	255 *840*
P12	130 *425*	140 *460*	165 *540*	185 *610*	205 *670*	150 *490*	160 *520*	175 *570*	195 *640*	205 *670*	140 *460*	145 *475*	160 *520*	170 *560*	180 *590*	105 *345*	115 *375*	120 *395*	130 *425*	140 *460*
M1	— —	— —	— —	— —	— —	220 *720*	240 *790*	285 *940*	340 *1125*	365 *1200*	185 *610*	200 *660*	240 *790*	285 *940*	310 *1025*	160 *520*	175 *570*	210 *690*	245 *800*	265 *870*
M2	— —	— —	— —	— —	— —	180 *590*	195 *640*	235 *770*	280 *920*	300 *980*	150 *490*	165 *540*	200 *660*	235 *770*	255 *840*	130 *425*	140 *460*	170 *560*	200 *660*	220 *720*
M3	— —	— —	— —	— —	— —	150 *490*	165 *540*	190 *620*	220 *720*	240 *790*	125 *410*	135 *445*	160 *520*	185 *610*	205 *670*	110 *360*	120 *395*	140 *460*	160 *520*	175 *570*
M4	— —	— —	— —	— —	— —	125 *410*	130 *425*	150 *490*	165 *540*	180 *590*	105 *345*	110 *360*	125 *410*	145 *475*	155 *510*	90 *295*	95 *310*	110 *360*	125 *410*	135 *445*
M5	— —	— —	— —	— —	— —	105 *345*	110 *360*	125 *410*	140 *460*	150 *490*	90 *295*	90 *295*	105 *345*	120 *395*	130 *425*	75 *245*	80 *260*	90 *295*	105 *345*	110 *360*
K1	200 *660*	215 *710*	260 *850*	305 *1000*	335 *1100*	— —	— —	— —	— —	— —	180 *590*	195 *640*	235 *770*	280 *920*	305 *1000*	— —	— —	— —	— —	— —
K2	175 *570*	190 *620*	230 *750*	270 *890*	295 *970*	— —	— —	— —	— —	— —	160 *520*	175 *570*	210 *690*	245 *800*	270 *890*	— —	— —	— —	— —	— —
K3	150 *490*	160 *520*	195 *640*	230 *750*	250 *820*	— —	— —	— —	— —	— —	135 *445*	145 *475*	180 *590*	210 *690*	225 *740*	— —	— —	— —	— —	— —
K4	140 *460*	155 *510*	185 *610*	220 *720*	240 *790*	— —	— —	— —	— —	— —	130 *425*	140 *460*	170 *560*	200 *660*	215 *710*	— —	— —	— —	— —	— —
K5	85 *280*	95 *310*	110 *360*	135 *445*	145 *475*	— —	— —	— —	— —	— —	80 *260*	85 *280*	100 *330*	120 *395*	130 *425*	— —	— —	— —	— —	— —
K6	125 *410*	135 *445*	165 *540*	190 *620*	210 *690*	— —	— —	— —	— —	— —	115 *375*	125 *410*	150 *490*	175 *570*	190 *620*	— —	— —	— —	— —	— —
K7	110 *360*	120 *395*	145 *475*	170 *560*	185 *610*	— —	— —	— —	— —	— —	100 *330*	110 *360*	130 *425*	155 *510*	170 *560*	— —	— —	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	1350 *4425*	1450 *4750*	1775 *5825*	2075 *6800*	2250 *7375*	— —	— —	— —	— —	— —
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	550 *1800*	590 *1925*	720 *2350*	840 *2750*	910 *2975*	— —	— —	— —	— —	— —
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	365 *1200*	395 *1300*	480 *1575*	560 *1825*	600 *1975*	— —	— —	— —	— —	— —
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	415 *1350*	450 *1475*	550 *1800*	640 *2100*	690 *2275*	— —	— —	— —	— —	— —
S1	— —	— —	— —	— —	— —	55 *180*	60 *195*	70 *230*	80 *260*	85 *280*	49 *160*	50 *165*	60 *195*	65 *215*	75 *245*	28 *90*	29 *95*	33 *110*	38 *125*	41 *135*
S2	— —	— —	— —	— —	— —	46 *150*	49 *160*	55 *180*	65 *215*	70 *230*	40 *130*	41 *135*	48 *155*	55 *180*	60 *195*	22 *70*	23 *75*	27 *90*	30 *100*	33 *110*
S3	— —	— —	— —	— —	— —	40 *130*	42 *140*	49 *160*	55 *180*	60 *195*	35 *115*	36 *120*	42 *140*	47 *155*	50 *165*	20 *65*	20 *65*	23 *75*	27 *90*	29 *95*
S11	— —	— —	— —	— —	— —	75 *245*	85 *280*	95 *310*	110 *360*	120 *395*	65 *215*	70 *230*	80 *260*	95 *310*	105 *345*	37 *120*	40 *130*	46 *150*	55 *180*	60 *195*
S12	— —	— —	— —	— —	— —	55 *180*	55 *180*	65 *215*	75 *245*	85 *280*	46 *150*	49 *160*	55 *180*	65 *215*	70 *230*	35 *115*	37 *120*	42 *140*	49 *160*	55 *180*
S13	— —	— —	— —	— —	— —	32 *105*	34 *110*	39 *130*	44 *145*	48 *155*	28 *90*	28 *90*	33 *110*	38 *125*	41 *135*	21 *70*	21 *70*	25 *80*	28 *90*	31 *100*
H5	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	39 *130*	42 *140*	49 *160*	55 *180*	60 *195*	— —	— —	— —	— —	— —
H8	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	41 *135*	44 *145*	50 *165*	60 *195*	65 *215*	— —	— —	— —	— —	— —
H11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	50 *165*	55 *180*	60 *195*	70 *230*	80 *260*	— —	— —	— —	— —	— —
H12	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	75 *245*	80 *260*	90 *295*	105 *345*	115 *375*	— —	— —	— —	— —	— —

R218.20-125 – Insert selection – mm/Inch

SMG		a_p	f_z				
			100%	70%	30%	10%	5%
P1	218.20-125ER-M07 F40M	13,0 *0.50*	0,10 0.0040	0,10 0.0040	0,11 0.0044	0,17 0.0065	0,24 0.0095
P2	218.20-125ER-M07 F40M	13,0 *0.50*	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,17 0.0065	0,24 0.0095
P3	218.20-125ER-M07 F40M	13,0 *0.50*	0,10 0.0040	0,10 0.0040	0,11 0.0044	0,16 0.0065	0,22 0.0085
P4	218.20-125ER-M07 F40M	13,0 *0.50*	0,10 0.0040	0,10 0.0040	0,11 0.0044	0,16 0.0065	0,22 0.0085
P5	218.20-125ER-M07 F40M	13,0 *0.50*	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
P6	218.20-125ER-M07 F40M	13,0 *0.50*	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
P7	218.20-125ER-M07 F40M	13,0 *0.50*	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
P8	218.20-125ER-M07 F40M	13,0 *0.50*	0,10 0.0040	0,10 0.0040	0,11 0.0044	0,16 0.0065	0,22 0.0085
P11	218.20-125ER-M07 F40M	13,0 *0.50*	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
P12	218.20-125ER-M07 F40M	11,0 *0.44*	0,065 0.0026	0,065 0.0026	0,070 0.0028	0,11 0.0044	0,15 0.0060
M1	218.20-125ER-ME07 MS2050	13,0 *0.50*	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,17 0.0065	0,24 0.0095
M2	218.20-125ER-ME07 MS2050	13,0 *0.50*	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
M3	218.20-125ER-ME07 MS2050	11,0 *0.44*	0,080 0.0032	0,080 0.0032	0,085 0.0034	0,13 0.0050	0,18 0.0070
M4	218.20-125ER-ME07 F40M	8,0 *0.32*	0,075 0.0030	0,075 0.0030	0,075 0.0030	0,11 0.0044	0,16 0.0065
M5	218.20-125ER-ME07 F40M	8,0 *0.32*	0,075 0.0030	0,075 0.0030	0,075 0.0030	0,11 0.0044	0,16 0.0065
K1	218.20-125ER-M07 F40M	13,0 *0.50*	0,11 0.0044	0,11 0.0044	0,11 0.0044	0,17 0.0065	0,24 0.0095
K2	218.20-125ER-M07 F40M	13,0 *0.50*	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
K3	218.20-125ER-M07 F40M	13,0 *0.50*	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
K4	218.20-125ER-M07 F40M	13,0 *0.50*	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
K5	218.20-125ER-M07 F40M	13,0 *0.50*	0,085 0.0034	0,085 0.0034	0,095 0.0038	0,14 0.0055	0,20 0.0080
K6	218.20-125ER-M07 F40M	13,0 *0.50*	0,095 0.0038	0,095 0.0038	0,10 0.0040	0,16 0.0065	0,22 0.0085
K7	218.20-125ER-M07 F40M	13,0 *0.50*	0,085 0.0034	0,085 0.0034	0,095 0.0038	0,14 0.0055	0,20 0.0080
N1	218.20-125ER-ME07 F40M	13,0 *0.50*	0,13 0.0050	0,13 0.0050	0,15 0.0060	0,22 0.0085	0,30 0.012
N2	218.20-125ER-ME07 F40M	13,0 *0.50*	0,13 0.0050	0,13 0.0050	0,15 0.0060	0,22 0.0085	0,30 0.012
N3	218.20-125ER-ME07 F40M	13,0 *0.50*	0,13 0.0050	0,13 0.0050	0,15 0.0060	0,22 0.0085	0,30 0.012
N11	218.20-125ER-ME07 F40M	13,0 *0.50*	0,13 0.0050	0,13 0.0050	0,15 0.0060	0,22 0.0085	0,30 0.012
S1	218.20-125ER-ME07 F40M	8,0 *0.32*	0,075 0.0030	0,075 0.0030	0,075 0.0030	0,11 0.0044	0,16 0.0065
S2	218.20-125ER-ME07 F40M	8,0 *0.32*	0,075 0.0030	0,075 0.0030	0,075 0.0030	0,11 0.0044	0,16 0.0065
S3	218.20-125ER-ME07 F40M	8,0 *0.32*	0,070 0.0028	0,070 0.0028	0,070 0.0028	0,11 0.0044	0,14 0.0060
S11	218.20-125ER-ME07 MS2050	9,0 *0.36*	0,085 0.0034	0,085 0.0034	0,085 0.0034	0,13 0.0050	0,18 0.0070
S12	218.20-125ER-ME07 MS2050	9,0 *0.36*	0,085 0.0034	0,085 0.0034	0,085 0.0034	0,13 0.0050	0,18 0.0070
S13	218.20-125ER-ME07 MS2050	8,0 *0.32*	0,075 0.0030	0,075 0.0030	0,075 0.0030	0,11 0.0044	0,16 0.0065
H5	218.20-125ER-M07 F40M	11,0 *0.44*	0,065 0.0026	0,065 0.0026	0,070 0.0028	0,11 0.0044	0,15 0.0060
H8	218.20-125ER-M07 F40M	9,0 *0.36*	0,055 0.0022	0,055 0.0022	0,055 0.0022	0,085 0.0034	0,12 0.0048
H11	218.20-125ER-M07 F40M	11,0 *0.44*	0,065 0.0026	0,065 0.0026	0,070 0.0028	0,11 0.0044	0,15 0.0060
H12	218.20-125ER-M07 F40M	9,0 *0.36*	0,055 0.0022	0,055 0.0022	0,055 0.0022	0,085 0.0034	0,12 0.0048

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R218.20-125 – Cutting data v_c = (m/min)/(sf/min)

SMG	F25M					MS2050					F40M					MM4500				
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%
P1	260 *850*	285 *940*	340 *1125*	400 *1300*	435 *1425*	315 *1025*	335 *1100*	395 *1300*	450 *1475*	480 *1575*	285 *940*	300 *980*	340 *1125*	380 *1250*	400 *1300*	255 *840*	280 *920*	315 *1025*	355 *1175*	380 *1250*
P2	250 *820*	270 *890*	330 *1075*	390 *1275*	425 *1400*	300 *980*	320 *1050*	380 *1250*	435 *1425*	465 *1525*	275 *900*	285 *940*	330 *1075*	370 *1225*	385 *1275*	250 *820*	270 *890*	305 *1000*	345 *1125*	370 *1225*
P3	220 *720*	235 *770*	285 *940*	340 *1125*	370 *1225*	265 *870*	280 *920*	330 *1075*	380 *1250*	405 *1325*	240 *790*	250 *820*	285 *940*	320 *1050*	340 *1125*	215 *710*	235 *770*	265 *870*	295 *970*	315 *1025*
P4	195 *640*	210 *690*	250 *820*	300 *980*	325 *1075*	235 *770*	250 *820*	290 *950*	335 *1100*	360 *1175*	215 *710*	225 *740*	260 *850*	295 *970*	315 *1025*	205 *670*	225 *740*	250 *820*	280 *920*	300 *980*
P5	185 *610*	200 *660*	245 *800*	285 *940*	315 *1025*	225 *740*	240 *790*	280 *920*	320 *1050*	340 *1125*	205 *670*	215 *710*	245 *800*	270 *890*	285 *940*	180 *590*	195 *640*	220 *720*	250 *820*	265 *870*
P6	210 *690*	225 *740*	275 *900*	320 *1050*	350 *1150*	255 *840*	270 *890*	315 *1025*	360 *1175*	385 *1275*	230 *750*	240 *790*	275 *900*	300 *980*	320 *1050*	205 *670*	220 *720*	250 *820*	280 *920*	300 *980*
P7	200 *660*	215 *710*	260 *850*	305 *1000*	330 *1075*	240 *790*	255 *840*	300 *980*	335 *1100*	360 *1175*	215 *710*	225 *740*	260 *850*	285 *940*	300 *980*	190 *620*	210 *690*	235 *770*	265 *870*	280 *920*
P8	185 *610*	200 *660*	240 *790*	285 *940*	315 *1025*	225 *740*	235 *770*	275 *900*	320 *1050*	340 *1125*	200 *660*	210 *690*	240 *790*	270 *890*	285 *940*	180 *590*	195 *640*	220 *720*	250 *820*	265 *870*
P11	190 *620*	210 *690*	250 *820*	295 *970*	320 *1050*	230 *750*	245 *800*	290 *950*	330 *1075*	350 *1150*	210 *690*	220 *720*	250 *820*	275 *900*	295 *970*	185 *610*	205 *670*	225 *740*	255 *840*	275 *900*
P12	130 *425*	140 *460*	165 *540*	185 *610*	205 *670*	155 *510*	165 *540*	185 *610*	200 *660*	215 *710*	140 *460*	145 *475*	160 *520*	170 *560*	180 *590*	110 *360*	120 *395*	130 *425*	140 *460*	150 *490*
M1	— —	— —	— —	— —	— —	215 *710*	235 *770*	285 *940*	340 *1125*	370 *1225*	185 *610*	195 *640*	245 *800*	285 *940*	310 *1025*	170 *560*	185 *610*	225 *740*	265 *870*	290 *950*
M2	— —	— —	— —	— —	— —	180 *590*	195 *640*	235 *770*	275 *900*	305 *1000*	155 *510*	165 *540*	200 *660*	235 *770*	255 *840*	140 *460*	155 *510*	185 *610*	215 *710*	235 *770*
M3	— —	— —	— —	— —	— —	150 *490*	160 *520*	190 *620*	220 *720*	245 *800*	125 *410*	135 *445*	160 *520*	185 *610*	205 *670*	120 *395*	125 *410*	150 *490*	175 *570*	190 *620*
M4	— —	— —	— —	— —	— —	120 *395*	130 *425*	150 *490*	170 *560*	185 *610*	105 *345*	110 *360*	125 *410*	145 *475*	155 *510*	95 *310*	100 *330*	115 *375*	135 *445*	145 *475*
M5	— —	— —	— —	— —	— —	100 *330*	105 *345*	125 *410*	140 *460*	155 *510*	85 *280*	90 *295*	105 *345*	120 *395*	130 *425*	80 *260*	85 *280*	100 *330*	110 *360*	120 *395*
K1	195 *640*	215 *710*	265 *870*	310 *1025*	335 *1100*	— —	— —	— —	— —	— —	180 *590*	195 *640*	240 *790*	280 *920*	305 *1000*	— —	— —	— —	— —	— —
K2	175 *570*	190 *620*	230 *750*	270 *890*	295 *970*	— —	— —	— —	— —	— —	160 *520*	175 *570*	210 *690*	245 *800*	270 *890*	— —	— —	— —	— —	— —
K3	150 *490*	160 *520*	195 *640*	230 *750*	250 *820*	— —	— —	— —	— —	— —	135 *445*	145 *475*	180 *590*	210 *690*	230 *750*	— —	— —	— —	— —	— —
K4	145 *475*	155 *510*	190 *620*	220 *720*	240 *790*	— —	— —	— —	— —	— —	130 *425*	140 *460*	170 *560*	200 *660*	220 *720*	— —	— —	— —	— —	— —
K5	85 *280*	95 *310*	115 *375*	135 *445*	145 *475*	— —	— —	— —	— —	— —	80 *260*	85 *280*	105 *345*	120 *395*	130 *425*	— —	— —	— —	— —	— —
K6	125 *410*	135 *445*	165 *540*	195 *640*	210 *690*	— —	— —	— —	— —	— —	115 *375*	125 *410*	150 *490*	175 *570*	190 *620*	— —	— —	— —	— —	— —
K7	110 *360*	120 *395*	145 *475*	170 *560*	185 *610*	— —	— —	— —	— —	— —	100 *330*	110 *360*	130 *425*	155 *510*	170 *560*	— —	— —	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	1375 *4500*	1475 *4850*	1750 *5750*	2100 *6900*	2300 *7550*	— —	— —	— —	— —	— —
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	550 *1800*	590 *1925*	710 *2325*	850 *2800*	930 *3050*	— —	— —	— —	— —	— —
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	365 *1200*	395 *1300*	475 *1550*	560 *1825*	620 *2025*	— —	— —	— —	— —	— —
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	420 *1375*	450 *1475*	540 *1775*	650 *2125*	710 *2325*	— —	— —	— —	— —	— —
S1	— —	— —	— —	— —	— —	55 *180*	60 *195*	70 *230*	80 *260*	85 *280*	48 *155*	50 *165*	60 *195*	65 *215*	75 *245*	29 *95*	31 *100*	36 *120*	41 *135*	45 *150*
S2	— —	— —	— —	— —	— —	46 *150*	48 *155*	55 *180*	65 *215*	70 *230*	39 *130*	41 *135*	47 *155*	55 *180*	60 *195*	24 *80*	25 *80*	29 *95*	33 *110*	36 *120*
S3	— —	— —	— —	— —	— —	40 *130*	42 *140*	49 *160*	55 *180*	60 *195*	34 *110*	36 *120*	41 *135*	47 *155*	50 *165*	21 *70*	22 *70*	25 *80*	29 *95*	31 *100*
S11	— —	— —	— —	— —	— —	80 *260*	85 *280*	95 *310*	110 *360*	125 *410*	65 *215*	70 *230*	80 *260*	95 *310*	105 *345*	40 *130*	43 *140*	50 *165*	55 *180*	65 *215*
S12	— —	— —	— —	— —	— —	55 *180*	55 *180*	65 *215*	75 *245*	85 *280*	46 *150*	48 *155*	55 *180*	65 *215*	70 *230*	37 *120*	39 *130*	46 *150*	55 *180*	60 *195*
S13	— —	— —	— —	— —	— —	32 *105*	34 *110*	39 *130*	45 *150*	49 *160*	27 *90*	28 *90*	33 *110*	38 *125*	41 *135*	22 *70*	23 *75*	27 *90*	31 *100*	34 *110*
H5	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	39 *130*	42 *140*	49 *160*	55 *180*	60 *195*	— —	— —	— —	— —	— —
H8	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	42 *140*	44 *145*	50 *165*	60 *195*	65 *215*	— —	— —	— —	— —	— —
H11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	50 *165*	55 *180*	65 *215*	70 *230*	80 *260*	— —	— —	— —	— —	— —
H12	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	75 *245*	80 *260*	90 *295*	105 *345*	115 *375*	— —	— —	— —	— —	— —

R218.20-150 – Insert selection – mm/Inch

SMG			a_p	f_z				
				100%	70%	30%	10%	5%
P1	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,24 0.0095	0,34 0.013
P2	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,14 *0.0055*	0,14 *0.0055*	0,16 *0.0065*	0,24 0.0095	0,34 0.013
P3	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,22 0.0085	0,32 0.013
P4	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,13 *0.0050*	0,13 *0.0050*	0,15 *0.0060*	0,22 0.0085	0,32 0.013
P5	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
P6	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
P7	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
P8	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,22 0.0085	0,32 0.013
P11	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
P12	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	21,0 *0.85*	0,090 *0.0036*	0,090 *0.0036*	0,10 *0.0040*	0,15 0.0060	0,20 0.0080
M1	218.20-150ER-ME07 MS2050	SPMT100408T-M08 F40M	26,0 *1.0*	0,10 *0.0040*	0,10 *0.0040*	0,11 *0.0044*	0,17 0.0065	0,24 0.0095
M2	218.20-150ER-ME07 MS2050	SPMT100408T-M08 F40M	26,0 *1.0*	0,090 *0.0036*	0,090 *0.0036*	0,10 *0.0040*	0,15 0.0060	0,22 0.0085
M3	218.20-150ER-ME07 MS2050	SPMT100408T-M08 F40M	21,0 *0.85*	0,075 *0.0030*	0,075 *0.0030*	0,080 *0.0032*	0,12 0.0048	0,17 0.0065
M4	218.20-150ER-ME07 F40M	SPMT100408T-M08 F40M	16,0 *0.65*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 0.0065	0,22 0.0085
M5	218.20-150ER-ME07 F40M	SPMT100408T-M08 F40M	16,0 *0.65*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 0.0065	0,22 0.0085
K1	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,14 *0.0055*	0,14 *0.0055*	0,16 *0.0065*	0,24 0.0095	0,34 0.013
K2	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
K3	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
K4	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
K5	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,12 *0.0048*	0,12 *0.0048*	0,13 *0.0050*	0,20 0.0080	0,28 0.011
K6	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
K7	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,12 *0.0048*	0,12 *0.0048*	0,13 *0.0050*	0,20 0.0080	0,28 0.011
N1	218.20-150ER-ME07 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,44 0.017
N2	218.20-150ER-ME07 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,44 0.017
N3	218.20-150ER-ME07 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,44 0.017
N11	218.20-150ER-ME07 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,44 0.017
S1	218.20-150ER-ME07 F40M	SPMT100408T-M08 F40M	16,0 *0.65*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 0.0065	0,22 0.0085
S2	218.20-150ER-ME07 F40M	SPMT100408T-M08 F40M	16,0 *0.65*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 0.0065	0,22 0.0085
S3	218.20-150ER-ME07 F40M	SPMT100408T-M08 F40M	16,0 *0.65*	0,090 *0.0036*	0,090 *0.0036*	0,095 *0.0038*	0,15 0.0060	0,20 0.0080
S11	218.20-150ER-ME07 MS2050	SPMT100408T-M08 F40M	18,0 *0.70*	0,075 *0.0030*	0,075 *0.0030*	0,080 *0.0032*	0,13 0.0050	0,17 0.0065
S12	218.20-150ER-ME07 MS2050	SPMT100408T-M08 F40M	18,0 *0.70*	0,075 *0.0030*	0,075 *0.0030*	0,080 *0.0032*	0,13 0.0050	0,17 0.0065
S13	218.20-150ER-ME07 MS2050	SPMT100408T-M08 F40M	16,0 *0.65*	0,065 *0.0026*	0,065 *0.0026*	0,070 *0.0028*	0,11 0.0044	0,15 0.0060
H5	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	21,0 *0.85*	0,090 *0.0036*	0,090 *0.0036*	0,10 *0.0040*	0,15 0.0060	0,20 0.0080
H8	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	18,0 *0.70*	0,070 *0.0028*	0,070 *0.0028*	0,075 *0.0030*	0,12 0.0048	0,16 0.0065
H11	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	21,0 *0.85*	0,090 *0.0036*	0,090 *0.0036*	0,10 *0.0040*	0,15 0.0060	0,20 0.0080
H12	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	18,0 *0.70*	0,070 *0.0028*	0,070 *0.0028*	0,075 *0.0030*	0,12 0.0048	0,16 0.0065

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R218.20-150 – Cutting data v_c = (m/min)/(sf/min)

SMG	MS2050					F40M					MM4500				
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%
P1	305 *1000*	320 *1050*	375 *1225*	430 *1400*	460 *1500*	250 *820*	255 *840*	300 *980*	340 *1125*	360 *1175*	220 *720*	235 *770*	280 *920*	320 *1050*	340 *1125*
P2	290 *950*	305 *1000*	365 *1200*	420 *1375*	445 *1450*	240 *790*	250 *820*	295 *970*	330 *1075*	350 *1150*	215 *710*	230 *750*	270 *890*	310 *1025*	330 *1075*
P3	255 *840*	270 *890*	315 *1025*	365 *1200*	390 *1275*	210 *690*	220 *720*	255 *840*	285 *940*	305 *1000*	190 *620*	200 *660*	235 *770*	265 *870*	285 *940*
P4	225 *740*	235 *770*	280 *920*	320 *1050*	345 *1125*	190 *620*	200 *660*	235 *770*	265 *870*	285 *940*	180 *590*	190 *620*	225 *740*	255 *840*	275 *900*
P5	215 *710*	230 *750*	270 *890*	305 *1000*	325 *1075*	180 *590*	185 *610*	215 *710*	245 *800*	255 *840*	160 *520*	170 *560*	195 *640*	225 *740*	240 *790*
P6	240 *790*	260 *850*	305 *1000*	345 *1125*	365 *1200*	200 *660*	205 *670*	245 *800*	275 *900*	285 *940*	175 *570*	190 *620*	220 *720*	255 *840*	270 *890*
P7	230 *750*	245 *800*	285 *940*	325 *1075*	345 *1125*	190 *620*	195 *640*	230 *750*	260 *850*	270 *890*	165 *540*	180 *590*	210 *690*	240 *790*	255 *840*
P8	215 *710*	225 *740*	265 *870*	305 *1000*	325 *1075*	180 *590*	185 *610*	215 *710*	240 *790*	255 *840*	160 *520*	170 *560*	195 *640*	225 *740*	240 *790*
P11	220 *720*	235 *770*	280 *920*	315 *1025*	335 *1100*	185 *610*	190 *620*	220 *720*	250 *820*	265 *870*	160 *520*	175 *570*	205 *670*	230 *750*	250 *820*
P12	145 *475*	155 *510*	175 *570*	195 *640*	205 *670*	130 *425*	130 *425*	145 *475*	160 *520*	170 *560*	105 *345*	110 *360*	125 *410*	135 *445*	145 *475*
M1	205 *670*	225 *740*	275 *900*	325 *1075*	350 *1150*	165 *540*	175 *570*	215 *710*	255 *840*	280 *920*	140 *460*	150 *490*	185 *610*	220 *720*	240 *790*
M2	175 *570*	185 *610*	225 *740*	265 *870*	290 *950*	135 *445*	145 *475*	175 *570*	210 *690*	230 *750*	115 *375*	125 *410*	155 *510*	185 *610*	195 *640*
M3	145 *475*	155 *510*	180 *590*	210 *690*	235 *770*	115 *375*	125 *410*	145 *475*	170 *560*	185 *610*	100 *330*	105 *345*	125 *410*	145 *475*	160 *520*
M4	115 *375*	125 *410*	140 *460*	165 *540*	180 *590*	95 *310*	100 *330*	115 *375*	130 *425*	140 *460*	80 *260*	85 *280*	100 *330*	110 *360*	120 *395*
M5	100 *330*	105 *345*	120 *395*	135 *445*	150 *490*	80 *260*	85 *280*	95 *310*	110 *360*	120 *395*	70 *230*	70 *230*	85 *280*	95 *310*	100 *330*
K1	— —	— —	— —	— —	— —	160 *520*	175 *570*	210 *690*	250 *820*	275 *900*	— —	— —	— —	— —	— —
K2	— —	— —	— —	— —	— —	140 *460*	155 *510*	185 *610*	225 *740*	240 *790*	— —	— —	— —	— —	— —
K3	— —	— —	— —	— —	— —	120 *395*	130 *425*	160 *520*	190 *620*	205 *670*	— —	— —	— —	— —	— —
K4	— —	— —	— —	— —	— —	115 *375*	125 *410*	150 *490*	180 *590*	195 *640*	— —	— —	— —	— —	— —
K5	— —	— —	— —	— —	— —	70 *230*	75 *245*	95 *310*	110 *360*	120 *395*	— —	— —	— —	— —	— —
K6	— —	— —	— —	— —	— —	100 *330*	110 *360*	135 *445*	160 *520*	170 *560*	— —	— —	— —	— —	— —
K7	— —	— —	— —	— —	— —	90 *295*	100 *330*	120 *395*	140 *460*	155 *510*	— —	— —	— —	— —	— —
N1	— —	— —	— —	— —	— —	1200 *3925*	1275 *4175*	1575 *5175*	1850 *6075*	2025 *6650*	— —	— —	— —	— —	— —
N2	— —	— —	— —	— —	— —	480 *1575*	520 *1700*	640 *2100*	750 *2450*	820 *2700*	— —	— —	— —	— —	— —
N3	— —	— —	— —	— —	— —	320 *1050*	345 *1125*	425 *1400*	500 *1650*	540 *1775*	— —	— —	— —	— —	— —
N11	— —	— —	— —	— —	— —	365 *1200*	395 *1300*	485 *1600*	570 *1875*	620 *2025*	— —	— —	— —	— —	— —
S1	55 *180*	55 *180*	65 *215*	75 *245*	85 *280*	44 *145*	46 *150*	55 *180*	60 *195*	65 *215*	25 *80*	26 *85*	30 *100*	34 *110*	37 *120*
S2	44 *145*	46 *150*	55 *180*	60 *195*	65 *215*	36 *120*	37 *120*	43 *140*	49 *160*	55 *180*	20 *65*	21 *70*	24 *80*	28 *90*	30 *100*
S3	38 *125*	40 *130*	47 *155*	55 *180*	60 *195*	31 *100*	32 *105*	38 *125*	43 *140*	47 *155*	18 *60*	18 *60*	21 *70*	24 *80*	26 *85*
S11	75 *245*	80 *260*	90 *295*	105 *345*	120 *395*	60 *195*	60 *195*	75 *245*	85 *280*	95 *310*	34 *110*	35 *115*	41 *135*	48 *155*	55 *180*
S12	55 *180*	55 *180*	65 *215*	75 *245*	80 *260*	41 *135*	43 *140*	50 *165*	60 *195*	65 *215*	31 *100*	33 *110*	38 *125*	45 *150*	49 *160*
S13	31 *100*	32 *105*	37 *120*	43 *140*	47 *155*	25 *80*	26 *85*	30 *100*	34 *110*	37 *120*	19 *60*	20 *65*	23 *75*	26 *85*	28 *90*
H5	— —	— —	— —	— —	— —	35 *115*	38 *125*	44 *145*	50 *165*	55 *180*	— —	— —	— —	— —	— —
H8	— —	— —	— —	— —	— —	39 *130*	40 *130*	47 *155*	55 *180*	60 *195*	— —	— —	— —	— —	— —
H11	— —	— —	— —	— —	— —	45 *150*	48 *155*	55 *180*	65 *215*	70 *230*	— —	— —	— —	— —	— —
H12	— —	— —	— —	— —	— —	70 *230*	70 *230*	85 *280*	95 *310*	105 *345*	— —	— —	— —	— —	— —

R218.20-160 – Insert selection – mm/Inch

SMG			a_p	f_z				
				100%	70%	30%	10%	5%
P1	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 *1.3*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,24 0.0095	0,32 0.013
P2	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 *1.3*	0,14 *0.0055*	0,14 *0.0055*	0,16 *0.0065*	0,24 0.0095	0,34 0.013
P3	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 *1.3*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,22 0.0085	0,32 0.013
P4	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 *1.3*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
P5	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 *1.3*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
P6	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 *1.3*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
P7	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 *1.3*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
P8	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 *1.3*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,22 0.0085	0,32 0.013
P11	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 *1.3*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
P12	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,090 *0.0036*	0,090 *0.0036*	0,095 *0.0038*	0,15 0.0060	0,20 0.0080
M1	218.20-160ER-ME08 MS2050	SPMT100408T-M08 F40M	32,0 *1.3*	0,11 *0.0044*	0,11 *0.0044*	0,12 *0.0048*	0,19 0.0075	0,26 0.010
M2	218.20-160ER-ME08 MS2050	SPMT100408T-M08 F40M	32,0 *1.3*	0,10 *0.0040*	0,10 *0.0040*	0,11 *0.0044*	0,17 0.0065	0,24 0.0095
M3	218.20-160ER-ME08 MS2050	SPMT100408T-M08 F40M	26,0 *1.0*	0,085 *0.0034*	0,085 *0.0034*	0,090 *0.0036*	0,14 0.0055	0,19 0.0075
M4	218.20-160ER-ME08 F40M	SPMT100408T-M08 F40M	19,0 *0.75*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 0.0065	0,22 0.0085
M5	218.20-160ER-ME08 F40M	SPMT100408T-M08 F40M	19,0 *0.75*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 0.0065	0,22 0.0085
K1	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 *1.3*	0,14 *0.0055*	0,14 *0.0055*	0,16 *0.0065*	0,24 0.0095	0,34 0.013
K2	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 *1.3*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
K3	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 *1.3*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
K4	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 *1.3*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
K5	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 *1.3*	0,12 *0.0048*	0,12 *0.0048*	0,13 *0.0050*	0,20 0.0080	0,28 0.011
K6	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 *1.3*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
K7	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 *1.3*	0,12 *0.0048*	0,12 *0.0048*	0,13 *0.0050*	0,20 0.0080	0,28 0.011
N1	218.20-160ER-ME08 F40M	SPMT100408T-M08 F40M	32,0 *1.3*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,42 0.017
N2	218.20-160ER-ME08 F40M	SPMT100408T-M08 F40M	32,0 *1.3*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,42 0.017
N3	218.20-160ER-ME08 F40M	SPMT100408T-M08 F40M	32,0 *1.3*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,42 0.017
N11	218.20-160ER-ME08 F40M	SPMT100408T-M08 F40M	32,0 *1.3*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,42 0.017
S1	218.20-160ER-ME08 F40M	SPMT100408T-M08 F40M	19,0 *0.75*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 0.0065	0,22 0.0085
S2	218.20-160ER-ME08 F40M	SPMT100408T-M08 F40M	19,0 *0.75*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 0.0065	0,22 0.0085
S3	218.20-160ER-ME08 F40M	SPMT100408T-M08 F40M	19,0 *0.75*	0,085 *0.0034*	0,085 *0.0034*	0,095 *0.0038*	0,15 0.0055	0,20 0.0080
S11	218.20-160ER-ME08 MS2050	SPMT100408T-M08 F40M	23,0 *0.90*	0,085 *0.0034*	0,085 *0.0034*	0,090 *0.0036*	0,14 0.0055	0,20 0.0080
S12	218.20-160ER-ME08 MS2050	SPMT100408T-M08 F40M	23,0 *0.90*	0,085 *0.0034*	0,085 *0.0034*	0,090 *0.0036*	0,14 0.0055	0,20 0.0080
S13	218.20-160ER-ME08 MS2050	SPMT100408T-M08 F40M	19,0 *0.75*	0,075 *0.0030*	0,075 *0.0030*	0,080 *0.0032*	0,12 0.0048	0,17 0.0065
H5	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,090 *0.0036*	0,090 *0.0036*	0,095 *0.0038*	0,15 0.0060	0,20 0.0080
H8	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	23,0 *0.90*	0,070 *0.0028*	0,070 *0.0028*	0,075 *0.0030*	0,11 0.0044	0,16 0.0065
H11	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,090 *0.0036*	0,090 *0.0036*	0,095 *0.0038*	0,15 0.0060	0,20 0.0080
H12	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	23,0 *0.90*	0,070 *0.0028*	0,070 *0.0028*	0,075 *0.0030*	0,11 0.0044	0,16 0.0065

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R218.20-160 – Cutting data v_c = (m/min)/(sf/min)

SMG	F25M					MS2050					F40M					MM4500				
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%
P1	230 *750*	250 *820*	300 *980*	360 *1175*	390 *1275*	290 *950*	305 *1000*	365 *1200*	420 *1375*	445 *1450*	250 *820*	255 *840*	300 *980*	340 *1125*	360 *1175*	235 *770*	250 *820*	295 *970*	340 *1125*	365 *1200*
P2	225 *740*	240 *790*	295 *970*	345 *1125*	380 *1250*	280 *920*	300 *980*	355 *1175*	405 *1325*	435 *1425*	240 *790*	250 *820*	295 *970*	330 *1075*	350 *1150*	230 *750*	245 *800*	285 *940*	330 *1075*	355 *1175*
P3	195 *640*	210 *690*	260 *850*	300 *980*	330 *1075*	250 *820*	265 *870*	310 *1025*	355 *1175*	380 *1250*	215 *710*	220 *720*	255 *840*	285 *940*	305 *1000*	200 *660*	215 *710*	250 *820*	285 *940*	305 *1000*
P4	170 *560*	185 *610*	225 *740*	265 *870*	290 *950*	220 *720*	230 *750*	275 *900*	315 *1025*	335 *1100*	190 *620*	200 *660*	235 *770*	265 *870*	285 *940*	190 *620*	205 *670*	235 *770*	270 *890*	290 *950*
P5	165 *540*	180 *590*	215 *710*	260 *850*	280 *920*	210 *690*	220 *720*	260 *850*	300 *980*	320 *1050*	180 *590*	185 *610*	215 *710*	245 *800*	255 *840*	170 *560*	180 *590*	210 *690*	240 *790*	255 *840*
P6	185 *610*	200 *660*	245 *800*	290 *950*	315 *1025*	235 *770*	250 *820*	295 *970*	335 *1100*	360 *1175*	200 *660*	205 *670*	245 *800*	275 *900*	290 *950*	190 *620*	200 *660*	235 *770*	270 *890*	290 *950*
P7	175 *570*	190 *620*	230 *750*	275 *900*	295 *970*	220 *720*	235 *770*	275 *900*	320 *1050*	340 *1125*	190 *620*	195 *640*	230 *750*	260 *850*	270 *890*	180 *590*	190 *620*	220 *720*	255 *840*	270 *890*
P8	165 *540*	180 *590*	215 *710*	255 *840*	280 *920*	210 *690*	220 *720*	260 *850*	295 *970*	320 *1050*	180 *590*	185 *610*	215 *710*	240 *790*	255 *840*	170 *560*	180 *590*	210 *690*	240 *790*	255 *840*
P11	170 *560*	185 *610*	225 *740*	265 *870*	285 *940*	215 *710*	230 *750*	270 *890*	310 *1025*	330 *1075*	185 *610*	190 *620*	225 *740*	250 *820*	265 *870*	175 *570*	185 *610*	215 *710*	245 *800*	265 *870*
P12	120 *395*	125 *410*	145 *475*	170 *560*	185 *610*	145 *475*	155 *510*	170 *560*	195 *640*	205 *670*	130 *425*	130 *425*	145 *475*	160 *520*	170 *560*	110 *360*	120 *395*	130 *425*	145 *475*	155 *510*
M1	— —	— —	— —	— —	— —	205 *670*	220 *720*	265 *870*	315 *1025*	340 *1125*	165 *540*	175 *570*	215 *710*	255 *840*	280 *920*	150 *490*	160 *520*	200 *660*	235 *770*	255 *840*
M2	— —	— —	— —	— —	— —	165 *540*	180 *590*	220 *720*	260 *850*	280 *920*	135 *445*	145 *475*	175 *570*	210 *690*	230 *750*	125 *410*	135 *445*	160 *520*	195 *640*	210 *690*
M3	— —	— —	— —	— —	— —	145 *475*	150 *490*	180 *590*	210 *690*	225 *740*	115 *375*	125 *410*	145 *475*	170 *560*	185 *610*	105 *345*	115 *375*	135 *445*	155 *510*	170 *560*
M4	— —	— —	— —	— —	— —	115 *375*	120 *395*	140 *460*	160 *520*	175 *570*	95 *310*	100 *330*	115 *375*	130 *425*	140 *460*	85 *280*	90 *295*	105 *345*	120 *395*	130 *425*
M5	— —	— —	— —	— —	— —	95 *310*	100 *330*	115 *375*	130 *425*	145 *475*	80 *260*	80 *260*	95 *310*	110 *360*	120 *395*	70 *230*	75 *245*	85 *280*	100 *330*	110 *360*
K1	175 *570*	190 *620*	235 *770*	275 *900*	300 *980*	— —	— —	— —	— —	— —	160 *520*	175 *570*	210 *690*	250 *820*	275 *900*	— —	— —	— —	— —	— —
K2	155 *510*	170 *560*	205 *670*	245 *800*	265 *870*	— —	— —	— —	— —	— —	140 *460*	155 *510*	185 *610*	225 *740*	240 *790*	— —	— —	— —	— —	— —
K3	130 *425*	145 *475*	175 *570*	210 *690*	225 *740*	— —	— —	— —	— —	— —	120 *395*	130 *425*	160 *520*	190 *620*	205 *670*	— —	— —	— —	— —	— —
K4	125 *410*	135 *445*	165 *540*	200 *660*	215 *710*	— —	— —	— —	— —	— —	115 *375*	125 *410*	150 *490*	180 *590*	195 *640*	— —	— —	— —	— —	— —
K5	80 *260*	85 *280*	100 *330*	120 *395*	130 *425*	— —	— —	— —	— —	— —	70 *230*	75 *245*	95 *310*	110 *360*	120 *395*	— —	— —	— —	— —	— —
K6	110 *360*	120 *395*	145 *475*	175 *570*	190 *620*	— —	— —	— —	— —	— —	100 *330*	110 *360*	135 *445*	160 *520*	170 *560*	— —	— —	— —	— —	— —
K7	100 *330*	110 *360*	130 *425*	155 *510*	170 *560*	— —	— —	— —	— —	— —	90 *295*	100 *330*	120 *395*	140 *460*	155 *510*	— —	— —	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	1200 *3925*	1275 *4175*	1575 *5175*	1850 *6075*	2025 *6650*	— —	— —	— —	— —	— —
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	480 *1575*	520 *1700*	640 *2100*	750 *2450*	820 *2700*	— —	— —	— —	— —	— —
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	320 *1050*	345 *1125*	425 *1400*	500 *1650*	540 *1775*	— —	— —	— —	— —	— —
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	365 *1200*	395 *1300*	485 *1600*	570 *1875*	620 *2025*	— —	— —	— —	— —	— —
S1	— —	— —	— —	— —	— —	55 *180*	55 *180*	65 *215*	75 *245*	80 *260*	44 *145*	46 *150*	55 *180*	60 *195*	65 *215*	26 *85*	28 *90*	32 *105*	36 *120*	40 *130*
S2	— —	— —	— —	— —	— —	43 *140*	45 *150*	55 *180*	60 *195*	65 *215*	35 *115*	37 *120*	43 *140*	49 *160*	55 *180*	21 *70*	22 *70*	26 *85*	29 *95*	32 *105*
S3	— —	— —	— —	— —	— —	38 *125*	40 *130*	46 *150*	50 *165*	55 *180*	31 *100*	32 *105*	38 *125*	43 *140*	47 *155*	19 *60*	19 *60*	23 *75*	26 *85*	28 *90*
S11	— —	— —	— —	— —	— —	75 *245*	80 *260*	90 *295*	105 *345*	115 *375*	60 *195*	65 *215*	75 *245*	85 *280*	95 *310*	36 *120*	38 *125*	45 *150*	50 *165*	55 *180*
S12	— —	— —	— —	— —	— —	50 *165*	55 *180*	65 *215*	75 *245*	80 *260*	41 *135*	44 *145*	50 *165*	60 *195*	65 *215*	33 *110*	35 *115*	41 *135*	47 *155*	50 *165*
S13	— —	— —	— —	— —	— —	30 *100*	31 *100*	37 *120*	42 *140*	46 *150*	25 *80*	26 *85*	30 *100*	34 *110*	37 *120*	20 *65*	21 *70*	24 *80*	27 *90*	30 *100*
H5	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	35 *115*	38 *125*	44 *145*	50 *165*	55 *180*	— —	— —	— —	— —	— —
H8	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	38 *125*	41 *135*	47 *155*	55 *180*	60 *195*	— —	— —	— —	— —	— —
H11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	45 *150*	48 *155*	55 *180*	65 *215*	70 *230*	— —	— —	— —	— —	— —
H12	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	70 *230*	75 *245*	85 *280*	95 *310*	105 *345*	— —	— —	— —	— —	— —

R218.20-200 – Insert selection – mm/Inch

SMG			a_p	f_z				
				100%	70%	30%	10%	5%
P1	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0 *1.4*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,34 0.013	0,46 0.018
P2	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0 *1.4*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,34 0.013	0,48 0.019
P3	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0 *1.4*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,32 0.013	0,44 0.017
P4	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0 *1.4*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,32 0.013	0,44 0.017
P5	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0 *1.4*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,42 0.017
P6	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0 *1.4*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,42 0.017
P7	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0 *1.4*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,42 0.017
P8	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0 *1.4*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,32 0.013	0,44 0.017
P11	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0 *1.4*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,42 0.017
P12	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	29,0 *1.1*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
M1	218.20-200ER-ME10 MS2050	SCET120612T-ME10 MS2050	36,0 *1.4*	0,14 *0.0055*	0,14 *0.0055*	0,16 *0.0065*	0,24 0.0095	0,34 0.013
M2	218.20-200ER-ME10 MS2050	SCET120612T-ME10 MS2050	36,0 *1.4*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
M3	218.20-200ER-ME10 MS2050	SCET120612T-ME10 MS2050	29,0 *1.1*	0,11 *0.0044*	0,11 *0.0044*	0,12 *0.0048*	0,18 0.0070	0,24 0.0095
M4	218.20-200ER-ME10 F40M	SCET120612T-ME10 F40M	22,0 *0.85*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
M5	218.20-200ER-ME10 F40M	SCET120612T-ME10 F40M	22,0 *0.85*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
K1	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0 *1.4*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,34 0.013	0,48 0.019
K2	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0 *1.4*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,42 0.017
K3	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0 *1.4*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,42 0.017
K4	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0 *1.4*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,42 0.017
K5	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0 *1.4*	0,16 *0.0065*	0,16 *0.0065*	0,18 *0.0070*	0,28 0.011	0,38 0.015
K6	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0 *1.4*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,42 0.017
K7	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0 *1.4*	0,16 *0.0065*	0,16 *0.0065*	0,18 *0.0070*	0,28 0.011	0,38 0.015
N1	218.20-200ER-ME10 F40M	SCET120612T-M14 HX	36,0 *1.4*	0,26 *0.010*	0,26 *0.010*	0,28 *0.011*	0,44 0.017	0,60 0.024
N2	218.20-200ER-ME10 F40M	SCET120612T-M14 HX	36,0 *1.4*	0,26 *0.010*	0,26 *0.010*	0,28 *0.011*	0,44 0.017	0,60 0.024
N3	218.20-200ER-ME10 F40M	SCET120612T-M14 HX	36,0 *1.4*	0,26 *0.010*	0,26 *0.010*	0,28 *0.011*	0,44 0.017	0,60 0.024
N11	218.20-200ER-ME10 F40M	SCET120612T-M14 HX	36,0 *1.4*	0,26 *0.010*	0,26 *0.010*	0,28 *0.011*	0,44 0.017	0,60 0.024
S1	218.20-200ER-ME10 F40M	SCET120612T-M14 F40M	22,0 *0.85*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
S2	218.20-200ER-ME10 F40M	SCET120612T-M14 F40M	22,0 *0.85*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
S3	218.20-200ER-ME10 F40M	SCET120612T-M14 F40M	22,0 *0.85*	0,12 *0.0048*	0,12 *0.0048*	0,13 *0.0050*	0,20 0.0080	0,28 0.011
S11	218.20-200ER-ME10 MS2050	SCET120612T-ME10 MS2050	25,0 *1.0*	0,11 *0.0044*	0,11 *0.0044*	0,12 *0.0048*	0,18 0.0070	0,25 0.010
S12	218.20-200ER-ME10 MS2050	SCET120612T-ME10 MS2050	25,0 *1.0*	0,11 *0.0044*	0,11 *0.0044*	0,12 *0.0048*	0,18 0.0070	0,25 0.010
S13	218.20-200ER-ME10 MS2050	SCET120612T-ME10 MS2050	22,0 *0.85*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 0.0065	0,22 0.0085
H5	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	29,0 *1.1*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
H8	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	25,0 *1.0*	0,095 *0.0038*	0,095 *0.0038*	0,11 *0.0044*	0,16 0.0065	0,22 0.0085
H11	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	29,0 *1.1*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
H12	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	25,0 *1.0*	0,095 *0.0038*	0,095 *0.0038*	0,11 *0.0044*	0,16 0.0065	0,22 0.0085

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R218.20-200 – Cutting data v_c = (m/min)/(sf/min)

SMG	MS2050					F40M					MM4500				
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%
P1	275 *900*	290 *950*	345 *1125*	400 *1300*	430 *1400*	225 *740*	230 *750*	275 *900*	310 *1025*	325 *1075*	220 *720*	230 *750*	280 *920*	320 *1050*	345 *1125*
P2	265 *870*	280 *920*	340 *1125*	390 *1275*	420 *1375*	210 *690*	215 *710*	265 *870*	300 *980*	315 *1025*	205 *670*	215 *710*	270 *890*	315 *1025*	335 *1100*
P3	235 *770*	245 *800*	295 *970*	335 *1100*	365 *1200*	190 *620*	195 *640*	230 *750*	265 *870*	275 *900*	185 *610*	195 *640*	235 *770*	275 *900*	290 *950*
P4	205 *670*	215 *710*	260 *850*	305 *1000*	320 *1050*	170 *560*	175 *570*	210 *690*	245 *800*	265 *870*	175 *570*	185 *610*	220 *720*	260 *850*	280 *920*
P5	195 *640*	210 *690*	250 *820*	290 *950*	305 *1000*	160 *520*	165 *540*	200 *660*	220 *720*	235 *770*	155 *510*	165 *540*	200 *660*	230 *750*	245 *800*
P6	220 *720*	235 *770*	280 *920*	325 *1075*	350 *1150*	180 *590*	185 *610*	225 *740*	250 *820*	265 *870*	175 *570*	185 *610*	225 *740*	255 *840*	280 *920*
P7	210 *690*	220 *720*	265 *870*	305 *1000*	330 *1075*	170 *560*	175 *570*	210 *690*	235 *770*	250 *820*	165 *540*	175 *570*	210 *690*	245 *800*	260 *850*
P8	195 *640*	210 *690*	250 *820*	285 *940*	305 *1000*	160 *520*	165 *540*	195 *640*	220 *720*	235 *770*	155 *510*	165 *540*	195 *640*	230 *750*	245 *800*
P11	200 *660*	215 *710*	255 *840*	295 *970*	320 *1050*	165 *540*	170 *560*	205 *670*	230 *750*	245 *800*	160 *520*	170 *560*	205 *670*	235 *770*	255 *840*
P12	140 *460*	145 *475*	165 *540*	190 *620*	200 *660*	115 *375*	120 *395*	135 *445*	150 *490*	160 *520*	110 *360*	115 *375*	130 *425*	145 *475*	155 *510*
M1	190 *620*	205 *670*	255 *840*	300 *980*	325 *1075*	150 *490*	160 *520*	200 *660*	235 *770*	255 *840*	135 *445*	145 *475*	180 *590*	215 *710*	235 *770*
M2	160 *520*	170 *560*	210 *690*	250 *820*	265 *870*	125 *410*	135 *445*	165 *540*	195 *640*	210 *690*	115 *375*	125 *410*	150 *490*	175 *570*	195 *640*
M3	135 *445*	145 *475*	170 *560*	200 *660*	215 *710*	105 *345*	115 *375*	135 *445*	155 *510*	170 *560*	95 *310*	105 *345*	120 *395*	145 *475*	155 *510*
M4	110 *360*	115 *375*	135 *445*	150 *490*	165 *540*	85 *280*	90 *295*	105 *345*	120 *395*	135 *445*	80 *260*	80 *260*	95 *310*	110 *360*	120 *395*
M5	90 *295*	95 *310*	110 *360*	125 *410*	140 *460*	70 *230*	75 *245*	90 *295*	100 *330*	110 *360*	65 *215*	70 *230*	80 *260*	95 *310*	100 *330*
K1	— —	— —	— —	— —	— —	145 *475*	155 *510*	195 *640*	230 *750*	250 *820*	— —	— —	— —	— —	— —
K2	— —	— —	— —	— —	— —	130 *425*	140 *460*	175 *570*	205 *670*	220 *720*	— —	— —	— —	— —	— —
K3	— —	— —	— —	— —	— —	110 *360*	120 *395*	145 *475*	170 *560*	190 *620*	— —	— —	— —	— —	— —
K4	— —	— —	— —	— —	— —	105 *345*	115 *375*	140 *460*	165 *540*	180 *590*	— —	— —	— —	— —	— —
K5	— —	— —	— —	— —	— —	65 *215*	70 *230*	85 *280*	100 *330*	110 *360*	— —	— —	— —	— —	— —
K6	— —	— —	— —	— —	— —	95 *310*	100 *330*	125 *410*	145 *475*	160 *520*	— —	— —	— —	— —	— —
K7	— —	— —	— —	— —	— —	85 *280*	90 *295*	110 *360*	130 *425*	140 *460*	— —	— —	— —	— —	— —
N1	— —	— —	— —	— —	— —	1100 *3600*	1175 *3850*	1450 *4750*	1700 *5575*	1850 *6075*	— —	— —	— —	— —	— —
N2	— —	— —	— —	— —	— —	440 *1450*	470 *1550*	580 *1900*	690 *2275*	750 *2450*	— —	— —	— —	— —	— —
N3	— —	— —	— —	— —	— —	295 *970*	315 *1025*	385 *1275*	455 *1500*	500 *1650*	— —	— —	— —	— —	— —
N11	— —	— —	— —	— —	— —	335 *1100*	360 *1175*	445 *1450*	520 *1700*	570 *1875*	— —	— —	— —	— —	— —
S1	50 *165*	55 *180*	60 *195*	70 *230*	80 *260*	40 *130*	42 *140*	49 *160*	55 *180*	60 *195*	24 *80*	25 *80*	30 *100*	34 *110*	37 *120*
S2	41 *135*	43 *140*	50 *165*	55 *180*	65 *215*	32 *105*	33 *110*	40 *130*	46 *150*	50 *165*	20 *65*	20 *65*	24 *80*	27 *90*	30 *100*
S3	36 *120*	38 *125*	44 *145*	50 *165*	55 *180*	28 *90*	30 *100*	35 *115*	40 *130*	44 *145*	17 *55*	18 *60*	21 *70*	24 *80*	26 *85*
S11	70 *230*	75 *245*	85 *280*	100 *330*	110 *360*	55 *180*	60 *195*	70 *230*	80 *260*	85 *280*	33 *110*	35 *115*	41 *135*	48 *155*	50 *165*
S12	48 *155*	50 *165*	60 *195*	70 *230*	75 *245*	38 *125*	40 *130*	47 *155*	55 *180*	60 *195*	31 *100*	32 *105*	38 *125*	44 *145*	47 *155*
S13	29 *95*	30 *100*	35 *115*	40 *130*	44 *145*	23 *75*	23 *75*	28 *90*	32 *105*	35 *115*	18 *60*	19 *60*	22 *70*	26 *85*	28 *90*
H5	— —	— —	— —	— —	— —	32 *105*	34 *110*	41 *135*	48 *155*	50 *165*	— —	— —	— —	— —	— —
H8	— —	— —	— —	— —	— —	35 *115*	37 *120*	44 *145*	50 *165*	55 *180*	— —	— —	— —	— —	— —
H11	— —	— —	— —	— —	— —	41 *135*	44 *145*	50 *165*	60 *195*	65 *215*	— —	— —	— —	— —	— —
H12	— —	— —	— —	— —	— —	65 *215*	65 *215*	80 *260*	90 *295*	100 *330*	— —	— —	— —	— —	— —

R218.20-250 – Insert selection – mm/Inch

SMG			a_p	f_z				
				100%	70%	30%	10%	5%
P1	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 *1.7*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,34 0.013	0,46 0.018
P2	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 *1.7*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,34 0.013	0,46 0.019
P3	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 *1.7*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,32 0.013	0,44 0.017
P4	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 *1.7*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,32 0.013	0,44 0.017
P5	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 *1.7*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,42 0.017
P6	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 *1.7*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,42 0.017
P7	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 *1.7*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,42 0.017
P8	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 *1.7*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,32 0.013	0,44 0.017
P11	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 *1.7*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,42 0.017
P12	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	34,0 *1.3*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
M1	218.20-250ER-ME12 MS2050	SCET120612T-ME10 MS2050	42,0 *1.7*	0,17 *0.0065*	0,17 *0.0065*	0,19 *0.0075*	0,28 0.011	0,40 0.016
M2	218.20-250ER-ME12 MS2050	SCET120612T-ME10 MS2050	42,0 *1.7*	0,16 *0.0065*	0,16 *0.0065*	0,17 *0.0065*	0,26 0.010	0,36 0.014
M3	218.20-250ER-ME12 MS2050	SCET120612T-ME10 MS2050	34,0 *1.3*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
M4	218.20-250ER-ME12 F40M	SCET120612T-ME10 F40M	25,0 *1.0*	0,12 *0.0048*	0,12 *0.0048*	0,12 *0.0048*	0,19 0.0075	0,26 0.010
M5	218.20-250ER-ME12 F40M	SCET120612T-ME10 F40M	25,0 *1.0*	0,12 *0.0048*	0,12 *0.0048*	0,12 *0.0048*	0,19 0.0075	0,26 0.010
K1	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 *1.7*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,34 0.013	0,46 0.019
K2	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 *1.7*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,42 0.017
K3	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 *1.7*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,42 0.017
K4	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 *1.7*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,42 0.017
K5	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 *1.7*	0,16 *0.0065*	0,16 *0.0065*	0,18 *0.0070*	0,28 0.011	0,38 0.015
K6	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 *1.7*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,42 0.017
K7	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 *1.7*	0,16 *0.0065*	0,16 *0.0065*	0,18 *0.0070*	0,28 0.011	0,38 0.015
N1	218.20-250ER-ME12 F40M	SCET120612T-M14 HX	42,0 *1.7*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 0.014	0,50 0.020
N2	218.20-250ER-ME12 F40M	SCET120612T-M14 HX	42,0 *1.7*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 0.014	0,50 0.020
N3	218.20-250ER-ME12 F40M	SCET120612T-M14 HX	42,0 *1.7*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 0.014	0,50 0.020
N11	218.20-250ER-ME12 F40M	SCET120612T-M14 HX	42,0 *1.7*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 0.014	0,50 0.020
S1	218.20-250ER-ME12 F40M	SCET120612T-ME10 F40M	25,0 *1.0*	0,12 *0.0048*	0,12 *0.0048*	0,12 *0.0048*	0,19 0.0075	0,26 0.010
S2	218.20-250ER-ME12 F40M	SCET120612T-ME10 F40M	25,0 *1.0*	0,12 *0.0048*	0,12 *0.0048*	0,12 *0.0048*	0,19 0.0075	0,26 0.010
S3	218.20-250ER-ME12 F40M	SCET120612T-ME10 F40M	25,0 *1.0*	0,11 *0.0044*	0,11 *0.0044*	0,12 *0.0048*	0,18 0.0070	0,24 0.0095
S11	218.20-250ER-ME12 MS2050	SCET120612T-ME10 MS2050	29,0 *1.1*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
S12	218.20-250ER-ME12 MS2050	SCET120612T-ME10 MS2050	29,0 *1.1*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
S13	218.20-250ER-ME12 MS2050	SCET120612T-ME10 MS2050	25,0 *1.0*	0,12 *0.0048*	0,12 *0.0048*	0,12 *0.0048*	0,19 0.0075	0,26 0.010
H5	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	34,0 *1.3*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
H8	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	29,0 *1.1*	0,10 *0.0040*	0,10 *0.0040*	0,11 *0.0044*	0,16 0.0065	0,22 0.0085
H11	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	34,0 *1.3*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
H12	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	29,0 *1.1*	0,10 *0.0040*	0,10 *0.0040*	0,11 *0.0044*	0,16 0.0065	0,22 0.0085

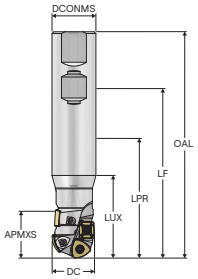
SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R218.20-250 – Cutting data v_c = (m/min)/(sf/min)

SMG	MS2050					F40M					MM4500				
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%
P1	230 *750*	245 *800*	300 *980*	350 *1150*	370 *1225*	195 *640*	205 *670*	245 *800*	275 *900*	295 *970*	205 *670*	220 *720*	265 *870*	305 *1000*	325 *1075*
P2	225 *740*	240 *790*	290 *950*	340 *1125*	360 *1175*	190 *620*	200 *660*	235 *770*	270 *890*	285 *940*	200 *660*	215 *710*	255 *840*	295 *970*	315 *1025*
P3	200 *660*	210 *690*	255 *840*	295 *970*	315 *1025*	170 *560*	175 *570*	210 *690*	235 *770*	250 *820*	175 *570*	185 *610*	220 *720*	255 *840*	275 *900*
P4	175 *570*	185 *610*	225 *740*	265 *870*	280 *920*	150 *490*	160 *520*	195 *640*	220 *720*	235 *770*	165 *540*	180 *590*	215 *710*	245 *800*	260 *850*
P5	165 *540*	180 *590*	215 *710*	250 *820*	270 *890*	145 *475*	150 *490*	180 *590*	205 *670*	215 *710*	145 *475*	155 *510*	190 *620*	215 *710*	230 *750*
P6	185 *610*	200 *660*	245 *800*	280 *920*	300 *980*	165 *540*	170 *560*	200 *660*	230 *750*	240 *790*	165 *540*	175 *570*	210 *690*	245 *800*	260 *850*
P7	175 *570*	190 *620*	230 *750*	265 *870*	285 *940*	155 *510*	160 *520*	190 *620*	215 *710*	225 *740*	155 *510*	165 *540*	200 *660*	230 *750*	245 *800*
P8	165 *540*	180 *590*	215 *710*	245 *800*	265 *870*	140 *460*	145 *475*	180 *590*	200 *660*	210 *690*	145 *475*	155 *510*	185 *610*	215 *710*	230 *750*
P11	170 *560*	185 *610*	225 *740*	260 *850*	275 *900*	150 *490*	155 *510*	185 *610*	210 *690*	220 *720*	150 *490*	160 *520*	195 *640*	225 *740*	240 *790*
P12	115 *375*	125 *410*	145 *475*	165 *540*	175 *570*	100 *330*	105 *345*	120 *395*	140 *460*	145 *475*	95 *310*	105 *345*	120 *395*	135 *445*	145 *475*
M1	165 *540*	180 *590*	220 *720*	260 *850*	280 *920*	135 *445*	145 *475*	180 *590*	210 *690*	230 *750*	130 *425*	140 *460*	170 *560*	205 *670*	220 *720*
M2	135 *445*	150 *490*	180 *590*	215 *710*	235 *770*	110 *360*	120 *395*	150 *490*	175 *570*	190 *620*	105 *345*	115 *375*	140 *460*	170 *560*	185 *610*
M3	110 *360*	120 *395*	145 *475*	170 *560*	185 *610*	90 *295*	100 *330*	120 *395*	140 *460*	155 *510*	90 *295*	95 *310*	115 *375*	135 *445*	145 *475*
M4	95 *310*	100 *330*	115 *375*	135 *445*	145 *475*	75 *245*	80 *260*	95 *310*	110 *360*	120 *395*	75 *245*	80 *260*	90 *295*	105 *345*	115 *375*
M5	75 *245*	85 *280*	95 *310*	110 *360*	120 *395*	65 *215*	70 *230*	80 *260*	90 *295*	100 *330*	60 *195*	65 *215*	75 *245*	90 *295*	95 *310*
K1	— —	— —	— —	— —	— —	135 *445*	145 *475*	175 *570*	210 *690*	225 *740*	— —	— —	— —	— —	— —
K2	— —	— —	— —	— —	— —	120 *395*	130 *425*	155 *510*	185 *610*	200 *660*	— —	— —	— —	— —	— —
K3	— —	— —	— —	— —	— —	100 *330*	110 *360*	135 *445*	160 *520*	170 *560*	— —	— —	— —	— —	— —
K4	— —	— —	— —	— —	— —	95 *310*	105 *345*	125 *410*	150 *490*	165 *540*	— —	— —	— —	— —	— —
K5	— —	— —	— —	— —	— —	60 *195*	65 *215*	80 *260*	90 *295*	100 *330*	— —	— —	— —	— —	— —
K6	— —	— —	— —	— —	— —	85 *280*	90 *295*	110 *360*	135 *445*	145 *475*	— —	— —	— —	— —	— —
K7	— —	— —	— —	— —	— —	75 *245*	80 *260*	100 *330*	115 *375*	130 *425*	— —	— —	— —	— —	— —
N1	— —	— —	— —	— —	— —	970 *3175*	1050 *3450*	1300 *4275*	1525 *5000*	1675 *5500*	— —	— —	— —	— —	— —
N2	— —	— —	— —	— —	— —	390 *1275*	425 *1400*	520 *1700*	620 *2025*	670 *2200*	— —	— —	— —	— —	— —
N3	— —	— —	— —	— —	— —	260 *850*	280 *920*	350 *1150*	410 *1350*	450 *1475*	— —	— —	— —	— —	— —
N11	— —	— —	— —	— —	— —	295 *970*	320 *1050*	400 *1300*	470 *1550*	510 *1675*	— —	— —	— —	— —	— —
S1	43 *140*	47 *155*	55 *180*	65 *215*	70 *230*	36 *120*	38 *125*	44 *145*	50 *165*	55 *180*	22 *70*	24 *80*	28 *90*	32 *105*	35 *115*
S2	35 *115*	38 *125*	43 *140*	50 *165*	55 *180*	29 *95*	31 *100*	36 *120*	41 *135*	45 *150*	18 *60*	19 *60*	22 *70*	26 *85*	28 *90*
S3	31 *100*	32 *105*	38 *125*	44 *145*	48 *155*	25 *80*	27 *90*	31 *100*	36 *120*	39 *130*	16 *50*	17 *55*	19 *60*	23 *75*	25 *80*
S11	60 *195*	65 *215*	75 *245*	85 *280*	95 *310*	48 *155*	50 *165*	60 *195*	70 *230*	80 *260*	30 *100*	32 *105*	38 *125*	44 *145*	48 *155*
S12	40 *130*	43 *140*	50 *165*	60 *195*	65 *215*	33 *110*	36 *120*	42 *140*	50 *165*	55 *180*	28 *90*	30 *100*	35 *115*	41 *135*	45 *150*
S13	24 *80*	26 *85*	30 *100*	35 *115*	38 *125*	20 *65*	22 *70*	25 *80*	29 *95*	31 *100*	17 *55*	18 *60*	21 *70*	24 *80*	26 *85*
H5	— —	— —	— —	— —	— —	28 *90*	31 *100*	37 *120*	44 *145*	48 *155*	— —	— —	— —	— —	— —
H8	— —	— —	— —	— —	— —	31 *100*	34 *110*	40 *130*	46 *150*	50 *165*	— —	— —	— —	— —	— —
H11	— —	— —	— —	— —	— —	36 *120*	39 *130*	47 *155*	55 *180*	60 *195*	— —	— —	— —	— —	— —
H12	— —	— —	— —	— —	— —	55 *180*	60 *195*	70 *230*	85 *280*	90 *295*	— —	— —	— —	— —	— —

R218.19 – Metric





—For insert selection and cutting data recommendations, see page(s) 763-775
—For complete insert programme, see page(s) 908, 929
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCONMS	LF	LS	LUX	LPR	OAL	RPMX	Weight	218.20	SPMT
			mm		mm	mm	mm	mm	mm	mm	mm		kg		
R218.19-2016.3-17.050A	75069117	Weldon	16,0	1	17,5	20,0	75,0	60,0	31,0	50,0	100,0	41600	0,3	-080(2)	-0602(2)
R218.19-2520.3-21.069A	75069118	Weldon	20,0	1	21,6	25,0	93,0	82,5	31,0	69,0	125,0	26200	0,4	-100(2)	-0703(2)
R218.19-2525.3-26.074HA	75069119	Weldon	25,0	1	26,6	25,0	98,0	82,5	46,0	74,0	130,0	21700	0,5	-125(2)	-0903(2)
R218.19-3232.3-30.070HA	75069120	Weldon	32,0	1	31,2	32,0	94,0	82,5	46,0	70,0	130,0	14800	0,7	-160(2)	–

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R218.19-2016	1/4HEX-T07PX50	C02205-T07P
R218.19-2520	1/4HEX-T07PX50	C02506-T07P
R218.19-2525	1/4HEX-T09PX50	C03006-T09P
R218.19-3232	1/4HEX-T15PX50	C03508-T15P

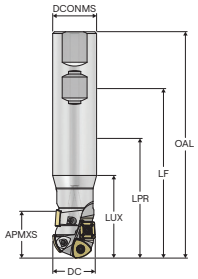
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R218.19-2016	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09
R218.19-2520	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09
R218.19-2525	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20
R218.19-3232	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-15P30

Torque and fixed keys, see page 944

R218.19 – inch





—For insert selection and cutting data recommendations, see page(s) 763-775
—For complete insert programme, see page(s) 908, 929
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCONMS	LF	LS	LUX	LPR	OAL	RPMX	Weight	218.20	SPMX
			inch		inch	inch	inch	inch	inch	inch	inch		lbs		
R218.19-00.75-3-21M	00087573	Weldon	0.750	1	0.835	0.750	3.015	2.583	1.425	2.047	4.031	26200	0.660	100 (2)	0703 (2)
R218.19-01.00-3-26H	00087575	Weldon	1.000	1	1.063	1.000	3.889	2.835	2.173	2.835	5.031	21700	1.100	125 (2)	0903 (2)

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R218.19-00.75	1/4HEX-T07PX50	C02506-T07P
R218.19-01.00	1/4HEX-T09PX50	C03006-T09P

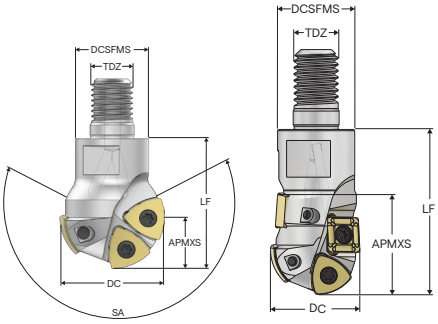
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R218.19-00.750	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09
R218.19-01.00	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20

Torque and fixed keys, see page 944

R218.19 – Metric





—For insert selection and cutting data recommendations, see page(s) 763-775
—For complete insert programme, see page(s) 908, 929
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCSFMS	TDZ	LF	OAL	RPMX	Weight	218.19	SPMX	SPMT
			mm		mm	mm		mm	mm		kg			
R218.19-0816.RE-12A	02644033	Combimaster	16,0	1	12,0	13,5	M8	23,0	40,75	41600	0,1	-080(2)	-0602	–
R218.19-1020.RE-16A	02644034	Combimaster	20,0	1	16,0	18,0	M10	28,0	46,75	26200	0,1	-100(2)	-0703	–
R218.19-1220.RE-21A	75077649	Combimaster	20,0	1	21,6	21,0	M12	45,0	66,75	26200	0,2	-100(2)	-0703(2)	–
R218.19-1225.RE-14HFA	75094633	Combimaster	25,0	1	12,5	21,0	M12	40,0	61,75	21700	0,2	-125(3)	–	–
R218.19-1225.RE-26HA	75094632	Combimaster	25,0	1	26,6	21,0	M12	45,0	66,75	21700	0,2	-125(2)	-0903(2)	–
R218.19-1632.RE-18HFA	75094580	Combimaster	32,0	1	16,0	28,0	M16	40,0	62,75	14800	0,2	-160(3)	–	–
R218.19-1632.RE-36HA	75077650	Combimaster	32,0	1	38,6	28,0	M16	55,0	77,75	14800	0,3	-160(2)	–	-1004(3)
R218.19-1640.RE-25HFA	00089918	Combimaster	40,0	1	20,0	28,0	M16	50,0	72,75	10400	0,3	-200(3)	–	–

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R218.19-0816	1/4HEX-T07PX50	C02205-T07P
R218.19-1020	1/4HEX-T07PX50	C02506-T07P
R218.19-1220	1/4HEX-T07PX50	C02506-T07P
R218.19-1225	1/4HEX-T09PX50	C03006-T09P
R218.19-1632	1/4HEX-T15PX50	C03508-T15P
R218.19-1640	1/4HEX-T20PX50	C45011-T20P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R218.19-0816-1220	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09
R218.19-1225	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20
R218.19-1632	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-15P30
R218.19-1640	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R218.19-080 – Insert selection – mm/Inch

SMG			a_p	f_z				
				100%	70%	30%	10%	5%
P1	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,15 *0.0060*	0,15 *0.0060*	0,16 *0.0065*	0,25 0.010	0,36 0.014
P2	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,15 *0.0060*	0,15 *0.0060*	0,17 *0.0065*	0,26 0.010	0,36 0.014
P3	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,14 *0.0055*	0,14 *0.0055*	0,16 *0.0065*	0,24 0.0095	0,34 0.013
P4	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,24 0.0095	0,34 0.013
P5	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,24 0.0095	0,34 0.013
P6	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,24 0.0095	0,32 0.013
P7	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,24 0.0095	0,32 0.013
P8	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,14 *0.0055*	0,14 *0.0055*	0,16 *0.0065*	0,24 0.0095	0,34 0.013
P11	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,24 0.0095	0,32 0.013
P12	218.19-080T-M04 F40M	SPMX060204-75 F40M	9,0 *0.36*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 0.0065	0,22 0.0085
M1	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,15 *0.0060*	0,15 *0.0060*	0,17 *0.0065*	0,26 0.010	0,36 0.014
M2	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,24 0.0095	0,34 0.013
M3	218.19-080T-M04 F40M	SPMX060204-75 F40M	9,0 *0.36*	0,11 *0.0044*	0,11 *0.0044*	0,12 *0.0048*	0,19 0.0075	0,26 0.010
M4	218.19-080T-M04 F40M	SPMX060204-75 F40M	6,0 *0.24*	0,11 *0.0044*	0,11 *0.0044*	0,11 *0.0044*	0,17 0.0065	0,24 0.0095
M5	218.19-080T-M04 F40M	SPMX060204-75 F40M	6,0 *0.24*	0,11 *0.0044*	0,11 *0.0044*	0,11 *0.0044*	0,17 0.0065	0,24 0.0095
K1	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,15 *0.0060*	0,15 *0.0060*	0,17 *0.0065*	0,26 0.010	0,36 0.014
K2	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,24 0.0095	0,34 0.013
K3	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,24 0.0095	0,34 0.013
K4	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,24 0.0095	0,34 0.013
K5	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,12 *0.0048*	0,12 *0.0048*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
K6	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,24 0.0095	0,34 0.013
K7	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,12 *0.0048*	0,12 *0.0048*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
N1	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,19 *0.0075*	0,19 *0.0075*	0,22 *0.0085*	0,34 0.013	0,48 0.019
N2	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,19 *0.0075*	0,19 *0.0075*	0,22 *0.0085*	0,34 0.013	0,48 0.019
N3	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,19 *0.0075*	0,19 *0.0075*	0,22 *0.0085*	0,34 0.013	0,48 0.019
N11	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,19 *0.0075*	0,19 *0.0075*	0,22 *0.0085*	0,34 0.013	0,48 0.019
S1	218.19-080T-M04 F40M	SPMX060204-75 F40M	6,0 *0.24*	0,11 *0.0044*	0,11 *0.0044*	0,11 *0.0044*	0,17 0.0065	0,24 0.0095
S2	218.19-080T-M04 F40M	SPMX060204-75 F40M	6,0 *0.24*	0,11 *0.0044*	0,11 *0.0044*	0,11 *0.0044*	0,17 0.0065	0,24 0.0095
S3	218.19-080T-M04 F40M	SPMX060204-75 F40M	6,0 *0.24*	0,10 *0.0040*	0,10 *0.0040*	0,10 *0.0040*	0,16 0.0065	0,22 0.0085
S11	218.19-080T-M04 F40M	SPMX060204-75 F40M	8,0 *0.32*	0,12 *0.0048*	0,12 *0.0048*	0,12 *0.0048*	0,19 0.0075	0,26 0.010
S12	218.19-080T-M04 F40M	SPMX060204-75 F40M	8,0 *0.32*	0,12 *0.0048*	0,12 *0.0048*	0,12 *0.0048*	0,19 0.0075	0,26 0.010
S13	218.19-080T-M04 F40M	SPMX060204-75 F40M	6,0 *0.24*	0,11 *0.0044*	0,11 *0.0044*	0,11 *0.0044*	0,17 0.0065	0,24 0.0095
H5	218.19-080T-M04 F40M	SPMX060204-75 F40M	7,0 *0.28*	0,090 *0.0036*	0,090 *0.0036*	0,095 *0.0038*	0,14 0.0055	0,20 0.0080
H8	218.19-080T-M04 F40M	SPMX060204-75 F40M	6,0 *0.24*	0,070 *0.0028*	0,070 *0.0028*	0,075 *0.0030*	0,11 0.0044	0,15 0.0060
H11	218.19-080T-M04 F40M	SPMX060204-75 F40M	7,0 *0.28*	0,090 *0.0036*	0,090 *0.0036*	0,095 *0.0038*	0,14 0.0055	0,20 0.0080
H12	218.19-080T-M04 F40M	SPMX060204-75 F40M	6,0 *0.24*	0,070 *0.0028*	0,070 *0.0028*	0,075 *0.0030*	0,11 0.0044	0,15 0.0060

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R218.19-080 – Cutting data v_c = (m/min)/(sf/min)

SMG	F15M					F30M					F40M					MP2501					MS2500				
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%
P1	235	260	315	370	400	220	240	290	340	370	245	255	305	340	355	390	410	480	540	560	350	375	440	495	520
	770	*850*	*1025*	*1225*	*1300*	*720*	*790*	*950*	*1125*	*1225*	*800*	*840*	*1000*	*1125*	*1175*	*1275*	*1350*	*1575*	*1775*	*1825*	*1150*	*1225*	*1450*	*1625*	*1700*
P2	230	250	300	360	390	210	230	280	330	360	240	250	290	325	345	380	400	460	520	550	345	365	420	480	510
	750	*820*	*980*	*1175*	*1275*	*690*	*750*	*920*	*1075*	*1175*	*790*	*820*	*950*	*1075*	*1125*	*1250*	*1300*	*1500*	*1700*	*1800*	*1125*	*1200*	*1375*	*1575*	*1675*
P3	200	220	265	315	340	185	205	245	290	310	210	220	255	285	300	330	350	400	455	475	300	320	365	415	440
	660	*720*	*870*	*1025*	*1125*	*610*	*670*	*800*	*950*	*1025*	*690*	*720*	*840*	*940*	*980*	*1075*	*1150*	*1300*	*1500*	*1550*	*980*	*1050*	*1200*	*1350*	*1450*
P4	180	195	235	275	300	165	180	220	255	275	190	200	235	265	285	290	310	355	400	420	265	280	325	365	390
	590	*640*	*770*	*900*	*980*	*540*	*590*	*720*	*840*	*900*	*620*	*660*	*770*	*870*	*940*	*950*	*1025*	*1175*	*1300*	*1375*	*870*	*920*	*1075*	*1200*	*1275*
P5	170	185	225	265	285	155	170	210	245	265	175	185	215	240	255	280	295	340	380	400	250	270	310	350	370
	560	*610*	*740*	*870*	*940*	*510*	*560*	*690*	*800*	*870*	*570*	*610*	*710*	*790*	*840*	*920*	*970*	*1125*	*1250*	*1300*	*820*	*890*	*1025*	*1150*	*1225*
P6	190	210	255	295	325	175	190	235	275	300	200	205	245	270	290	310	330	385	425	455	285	300	350	395	420
	620	*690*	*840*	*970*	*1075*	*570*	*620*	*770*	*900*	*980*	*660*	*670*	*800*	*890*	*950*	*1025*	*1075*	*1275*	*1400*	*1500*	*940*	*980*	*1150*	*1300*	*1375*
P7	180	195	240	280	305	165	180	220	260	285	190	195	230	255	270	295	310	360	405	430	265	285	330	370	395
	590	*640*	*790*	*920*	*1000*	*540*	*590*	*720*	*850*	*940*	*620*	*640*	*750*	*840*	*890*	*970*	*1025*	*1175*	*1325*	*1400*	*870*	*940*	*1075*	*1225*	*1300*
P8	170	185	220	265	285	155	170	205	245	265	175	185	215	240	255	280	295	335	380	400	250	270	310	350	370
	560	*610*	*720*	*870*	*940*	*510*	*560*	*670*	*800*	*870*	*570*	*610*	*710*	*790*	*840*	*920*	*970*	*1100*	*1250*	*1300*	*820*	*890*	*1025*	*1150*	*1225*
P11	175	190	230	270	300	160	175	215	250	275	180	190	225	250	265	285	305	350	390	415	260	275	320	360	385
	570	*620*	*750*	*890*	*980*	*520*	*570*	*710*	*820*	*900*	*590*	*620*	*740*	*820*	*870*	*940*	*1000*	*1150*	*1275*	*1350*	*850*	*900*	*1050*	*1175*	*1275*
P12	—	—	—	—	—	110	120	140	165	175	125	130	145	165	170	190	200	220	245	255	170	180	205	225	235
	—	—	—	—	—	*360*	*395*	*460*	*540*	*570*	*410*	*425*	*475*	*540*	*560*	*620*	*660*	*720*	*800*	*840*	*560*	*590*	*670*	*740*	*770*
M1	—	—	—	—	—	170	185	225	265	290	165	180	215	255	275	190	210	250	300	325	200	215	260	310	335
	—	—	—	—	—	*560*	*610*	*740*	*870*	*950*	*540*	*590*	*710*	*840*	*900*	*620*	*690*	*820*	*980*	*1075*	*660*	*710*	*850*	*1025*	*1100*
M2	—	—	—	—	—	140	155	185	220	235	135	145	180	210	225	160	175	210	245	265	165	180	215	255	275
	—	—	—	—	—	*460*	*510*	*610*	*720*	*770*	*445*	*475*	*590*	*690*	*740*	*520*	*570*	*690*	*800*	*870*	*540*	*590*	*710*	*840*	*900*
M3	—	—	—	—	—	120	130	155	180	190	115	125	145	170	185	135	145	170	200	215	140	150	175	210	220
	—	—	—	—	—	*395*	*425*	*510*	*590*	*620*	*375*	*410*	*475*	*560*	*610*	*445*	*475*	*560*	*660*	*710*	*460*	*490*	*570*	*690*	*720*
M4	—	—	—	—	—	100	105	120	140	150	95	100	115	135	140	115	120	135	155	170	115	120	140	160	175
	—	—	—	—	—	*330*	*345*	*395*	*460*	*490*	*310*	*330*	*375*	*445*	*460*	*375*	*395*	*445*	*510*	*560*	*375*	*395*	*460*	*520*	*570*
M5	—	—	—	—	—	85	90	100	115	125	80	85	95	110	120	95	100	110	130	140	95	100	115	135	145
	—	—	—	—	—	*280*	*295*	*330*	*375*	*410*	*260*	*280*	*310*	*360*	*395*	*310*	*330*	*360*	*425*	*460*	*310*	*330*	*375*	*445*	*475*
K1	185	200	240	285	310	170	185	220	260	285	160	175	210	250	270	380	405	465	520	550	—	—	—	—	—
	610	*660*	*790*	*940*	*1025*	*560*	*610*	*720*	*850*	*940*	*520*	*570*	*690*	*820*	*890*	*1250*	*1325*	*1525*	*1700*	*1800*	—	—	—	—	—
K2	160	175	215	250	270	150	160	200	230	250	140	155	190	220	235	335	355	410	460	485	—	—	—	—	—
	520	*570*	*710*	*820*	*890*	*490*	*520*	*660*	*750*	*820*	*460*	*510*	*620*	*720*	*770*	*1100*	*1175*	*1350*	*1500*	*1600*	—	—	—	—	—
K3	135	150	180	210	230	125	135	165	195	210	120	130	160	185	200	285	300	350	390	410	—	—	—	—	—
	445	*490*	*590*	*690*	*750*	*410*	*445*	*540*	*640*	*690*	*395*	*425*	*520*	*610*	*660*	*940*	*980*	*1150*	*1275*	*1350*	—	—	—	—	—
K4	130	140	175	205	220	120	130	160	185	200	115	125	150	180	190	270	285	335	370	390	—	—	—	—	—
	425	*460*	*570*	*670*	*720*	*395*	*425*	*520*	*610*	*660*	*375*	*410*	*490*	*590*	*620*	*890*	*940*	*1100*	*1225*	*1275*	—	—	—	—	—
K5	80	90	105	125	135	75	80	95	115	125	70	75	90	110	120	165	175	200	225	240	—	—	—	—	—
	260	*295*	*345*	*410*	*445*	*245*	*260*	*310*	*375*	*410*	*230*	*245*	*295*	*360*	*395*	*540*	*570*	*660*	*740*	*790*	—	—	—	—	—
K6	115	125	150	180	190	105	115	140	165	175	100	110	135	155	170	240	255	295	325	345	—	—	—	—	—
	375	*410*	*490*	*590*	*620*	*345*	*375*	*460*	*540*	*570*	*330*	*360*	*445*	*510*	*560*	*790*	*840*	*970*	*1075*	*1125*	—	—	—	—	—
K7	105	115	135	160	170	95	105	125	145	160	90	100	120	140	150	215	225	255	285	305	—	—	—	—	—
	345	*375*	*445*	*520*	*560*	*310*	*345*	*410*	*475*	*520*	*295*	*330*	*395*	*460*	*490*	*710*	*740*	*840*	*940*	*1000*	—	—	—	—	—
N1	—	—	—	—	—	1250	1350	1625	1925	2075	1175	1300	1550	1825	1975	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	*4100*	*4425*	*5325*	*6325*	*6800*	*3850*	*4275*	*5075*	*6000*	*6475*	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	500	550	660	780	840	480	520	620	740	800	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	*1650*	*1800*	*2175*	*2550*	*2750*	*1575*	*1700*	*2025*	*2425*	*2625*	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	335	365	435	520	560	320	345	415	495	530	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	*1100*	*1200*	*1425*	*1700*	*1825*	*1050*	*1125*	*1350*	*1625*	*1750*	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	385	415	500	590	640	365	395	475	560	610	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	*1275*	*1350*	*1650*	*1925*	*2100*	*1200*	*1300*	*1550*	*1825*	*2000*	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	—	45	47	55	60	65	—	—	—	—	—	55	60	70	80	85
	—	—	—	—	—	—	—	—	—	—	*150*	*155*	*180*	*195*	*215*	—	—	—	—	—	*180*	*195*	*230*	*260*	*280*
S2	—	—	—	—	—	—	—	—	—	—	36	38	43	50	55	—	—	—	—	—	46	48	55	65	70
	—	—	—	—	—	—	—	—	—	—	*120*	*125*	*140*	*165*	*180*	—	—	—	—	—	*150*	*155*	*180*	*215*	*230*
S3	—	—	—	—	—	—	—	—	—	—	32	33	38	44	47	—	—	—	—	—	40	42	48	55	60
	—	—	—	—	—	—	—	—	—	—	*105*	*110*	*125*	*145*	*155*	—	—	—	—	—	*130*	*140*	*155*	*180*	*195*
S11	—	—	—	—	—	—	—	—	—	—	60	65	75	85	95	—	—	—	—	—	75	80	95	110	120
	—	—	—	—	—	—	—	—	—	—	*195*	*215*	*245*	*280*	*310*	—	—	—	—	—	*245*	*260*	*310*	*360*	*395*
S12	—	—	—	—	—	—	—	—	—	—	40	44	50	60	65	—	—	—	—	—	50	55	65	75	85
	—	—	—	—	—	—	—	—	—	—	*130*	*145*	*165*	*195*	*215*	—	—	—	—	—	*165*	*180*	*215*	*245*	*280*
S13	—	—	—	—	—	—	—	—	—	—	25	26	30	35	37	—	—	—	—	—	32	34	38	44	47
	—	—	—	—	—	—	—	—	—	—	*80*	*85*	*100*	*115*	*120*	—	—	—	—	—	*105*	*110*	*125*	*145*	*155*
H5	43	46	55	65	70	40	42	50	60	65	38	40	49	60	65	—	—	—	—	—	—	—	—	—	—
	140	*150*	*180*	*215*	*230*	*130*	*140*	*165*	*195*	*215*	*125*	*130*	*160*	*195*	*215*	—	—	—	—	—	—	—	—	—	—
H8	47	50	60	70	75	43	46	55	65	70	41	44	55	60	65	—	—	—	—	—	—	—	—	—	—
	155	*165*	*195*	*230*	*245*	*140*	*150*	*180*	*215*	*230*	*135*	*145*	*180*	*195*	*215*	—	—	—	—	—	—	—	—	—	—
H11	55	60	70	85	90	50	55	65	80	85	48	50	60	75	80	—	—	—	—	—	—	—	—	—	—
	180	*195*	*230*	*280*	*295*	*165*	*180*	*215*	*260*	*280*	*155*	*165*	*195*	*245*	*260*	—	—	—	—	—	—	—	—	—	—
H12	85	90	105	125	135	80	85	100	115	125	75	80	95	110	120	—	—	—	—	—	100	105	130	150	165
	280	*295*	*345*	*410*	*445*	*260*	*280*	*330*	*375*	*410*	*245*	*260*	*310*	*360*	*395*	—	—	—	—	—	*330*	*345*	*425*	*490*	*540*

R218.19-100 – Insert selection – mm/Inch

SMG			a_p	f_z				
				100%	70%	30%	10%	5%
P1	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,36 0.014	0,50 0.020
P2	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 0.014	0,50 0.020
P3	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,34 0.013	0,48 0.019
P4	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,34 0.013	0,48 0.019
P5	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,19 *0.0075*	0,19 *0.0075*	0,22 *0.0085*	0,32 0.013	0,46 0.018
P6	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,32 0.013	0,46 0.018
P7	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,32 0.013	0,46 0.018
P8	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,34 0.013	0,48 0.019
P11	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,32 0.013	0,46 0.018
P12	218.19-100T-M06 F40M	SPMX070304-75 F40M	16,0 *0.65*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,32 0.013
M1	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 0.014	0,50 0.020
M2	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,19 *0.0075*	0,19 *0.0075*	0,22 *0.0085*	0,32 0.013	0,46 0.018
M3	218.19-100T-M06 F40M	SPMX070304-75 F40M	16,0 *0.65*	0,16 *0.0065*	0,16 *0.0065*	0,17 *0.0065*	0,26 0.010	0,38 0.015
M4	218.19-100T-M06 F40M	SPMX070304-75 F40M	12,0 *0.48*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,24 0.0095	0,32 0.013
M5	218.19-100T-M06 F40M	SPMX070304-75 F40M	12,0 *0.48*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,24 0.0095	0,32 0.013
K1	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 0.014	0,50 0.020
K2	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,19 *0.0075*	0,19 *0.0075*	0,22 *0.0085*	0,32 0.013	0,46 0.018
K3	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,19 *0.0075*	0,19 *0.0075*	0,22 *0.0085*	0,32 0.013	0,46 0.018
K4	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,19 *0.0075*	0,19 *0.0075*	0,22 *0.0085*	0,32 0.013	0,46 0.018
K5	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,17 *0.0065*	0,17 *0.0065*	0,19 *0.0075*	0,30 0.012	0,42 0.017
K6	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,19 *0.0075*	0,19 *0.0075*	0,22 *0.0085*	0,32 0.013	0,46 0.018
K7	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,17 *0.0065*	0,17 *0.0065*	0,19 *0.0075*	0,30 0.012	0,42 0.017
N1	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,28 *0.011*	0,28 *0.011*	0,30 *0.012*	0,46 0.018	0,65 0.026
N2	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,28 *0.011*	0,28 *0.011*	0,30 *0.012*	0,46 0.018	0,65 0.026
N3	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,28 *0.011*	0,28 *0.011*	0,30 *0.012*	0,46 0.018	0,65 0.026
N11	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,28 *0.011*	0,28 *0.011*	0,30 *0.012*	0,46 0.018	0,65 0.026
S1	218.19-100T-M06 F40M	SPMX070304-75 F40M	12,0 *0.48*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,24 0.0095	0,32 0.013
S2	218.19-100T-M06 F40M	SPMX070304-75 F40M	12,0 *0.48*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,24 0.0095	0,32 0.013
S3	218.19-100T-M06 F40M	SPMX070304-75 F40M	12,0 *0.48*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
S11	218.19-100T-M06 F40M	SPMX070304-75 F40M	14,0 *0.55*	0,16 *0.0065*	0,16 *0.0065*	0,17 *0.0065*	0,26 0.010	0,38 0.015
S12	218.19-100T-M06 F40M	SPMX070304-75 F40M	14,0 *0.55*	0,16 *0.0065*	0,16 *0.0065*	0,17 *0.0065*	0,26 0.010	0,38 0.015
S13	218.19-100T-M06 F40M	SPMX070304-75 F40M	12,0 *0.48*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,24 0.0095	0,32 0.013
H5	218.19-100T-M06 F40M	SPMX070304-75 F40M	12,0 *0.48*	0,12 *0.0048*	0,12 *0.0048*	0,13 *0.0050*	0,20 0.0080	0,28 0.011
H8	218.19-100T-M06 F40M	SPMX070304-75 F40M	11,0 *0.44*	0,090 *0.0036*	0,090 *0.0036*	0,10 *0.0040*	0,15 0.0060	0,20 0.0080
H11	218.19-100T-M06 F40M	SPMX070304-75 F40M	12,0 *0.48*	0,12 *0.0048*	0,12 *0.0048*	0,13 *0.0050*	0,20 0.0080	0,28 0.011
H12	218.19-100T-M06 F40M	SPMX070304-75 F40M	11,0 *0.44*	0,090 *0.0036*	0,090 *0.0036*	0,10 *0.0040*	0,15 0.0060	0,20 0.0080

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R218.19-100 – Cutting data v_c = (m/min)/(sf/min)

SMG	MH1000					F15M					F25M					F30M					MP3000				
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%
P1	—	—	—	—	—	195	210	260	305	330	180	195	240	280	300	195	210	260	310	335	245	260	330	395	430
	—	—	—	—	—	*640*	*690*	*850*	*1000*	*1075*	*590*	*640*	*790*	*920*	*980*	*640*	*690*	*850*	*1025*	*1100*	*800*	*850*	*1075*	*1300*	*1400*
P2	—	—	—	—	—	190	205	250	295	320	175	190	230	270	290	190	205	250	300	325	240	255	320	385	415
	—	—	—	—	—	*620*	*670*	*820*	*970*	*1050*	*570*	*620*	*750*	*890*	*950*	*620*	*670*	*820*	*980*	*1075*	*790*	*840*	*1050*	*1275*	*1350*
P3	—	—	—	—	—	165	175	220	260	280	150	160	200	240	255	165	180	220	265	280	215	230	285	340	360
	—	—	—	—	—	*540*	*570*	*720*	*850*	*920*	*490*	*520*	*660*	*790*	*840*	*540*	*590*	*720*	*870*	*920*	*710*	*750*	*940*	*1125*	*1175*
P4	—	—	—	—	—	145	160	195	230	245	135	145	175	210	225	145	160	195	230	250	190	200	255	300	320
	—	—	—	—	—	*475*	*520*	*640*	*750*	*800*	*445*	*475*	*570*	*690*	*740*	*475*	*520*	*640*	*750*	*820*	*620*	*660*	*840*	*980*	*1050*
P5	170	185	225	270	285	140	155	190	220	235	130	140	170	205	215	140	155	185	220	240	180	195	240	285	305
	560	*610*	*740*	*890*	*940*	*460*	*510*	*620*	*720*	*770*	*425*	*460*	*560*	*670*	*710*	*460*	*510*	*610*	*720*	*790*	*590*	*640*	*790*	*940*	*1000*
P6	190	205	255	300	320	160	170	210	250	265	145	155	195	230	245	160	175	210	250	270	210	220	270	325	350
	620	*670*	*840*	*980*	*1050*	*520*	*560*	*690*	*820*	*870*	*475*	*510*	*640*	*750*	*800*	*520*	*570*	*690*	*820*	*890*	*690*	*720*	*890*	*1075*	*1150*
P7	180	195	240	285	300	150	160	200	235	250	135	150	185	215	230	150	165	200	240	255	195	210	255	310	330
	590	*640*	*790*	*940*	*980*	*490*	*520*	*660*	*770*	*820*	*445*	*490*	*610*	*710*	*750*	*490*	*540*	*660*	*790*	*840*	*640*	*690*	*840*	*1025*	*1075*
P8	165	180	225	265	285	135	150	185	220	235	125	135	170	200	215	140	155	185	220	235	180	195	240	285	300
	540	*590*	*740*	*870*	*940*	*445*	*490*	*610*	*720*	*770*	*410*	*445*	*560*	*660*	*710*	*460*	*510*	*610*	*720*	*770*	*590*	*640*	*790*	*940*	*980*
P11	175	190	235	275	295	145	155	195	230	245	135	145	180	210	225	145	160	190	230	250	190	205	250	300	320
	570	*620*	*770*	*900*	*970*	*475*	*510*	*640*	*750*	*800*	*445*	*475*	*590*	*690*	*740*	*475*	*520*	*620*	*750*	*820*	*620*	*670*	*820*	*980*	*1050*
P12	120	130	155	180	195	—	—	—	—	—	90	100	115	140	150	95	105	125	150	160	130	140	170	195	210
	395	*425*	*510*	*590*	*640*	—	—	—	—	—	*295*	*330*	*375*	*460*	*490*	*310*	*345*	*410*	*490*	*520*	*425*	*460*	*560*	*640*	*690*
M1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	150	165	205	240	260	170	185	225	265	290
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*490*	*540*	*670*	*790*	*850*	*560*	*610*	*740*	*870*	*950*
M2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	125	140	170	200	215	140	150	185	220	235
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*410*	*460*	*560*	*660*	*710*	*460*	*490*	*610*	*720*	*770*
M3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	105	115	140	165	175	115	125	155	180	190
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*345*	*375*	*460*	*540*	*570*	*375*	*410*	*510*	*590*	*620*
M4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90	95	110	125	135	100	105	125	140	150
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*295*	*310*	*360*	*410*	*445*	*330*	*345*	*410*	*460*	*490*
M5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	75	80	95	105	115	80	85	100	115	125
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*245*	*260*	*310*	*345*	*375*	*260*	*280*	*330*	*375*	*410*
K1	180	195	240	280	305	150	165	200	235	255	140	150	180	215	230	150	165	200	240	260	180	195	235	285	305
	590	*640*	*790*	*920*	*1000*	*490*	*540*	*660*	*770*	*840*	*460*	*490*	*590*	*710*	*750*	*490*	*540*	*660*	*790*	*850*	*590*	*640*	*770*	*940*	*1000*
K2	160	175	215	255	270	135	145	180	210	225	120	135	165	195	205	135	145	175	210	225	160	175	210	250	270
	520	*570*	*710*	*840*	*890*	*445*	*475*	*590*	*690*	*740*	*395*	*445*	*540*	*640*	*670*	*445*	*475*	*570*	*690*	*740*	*520*	*570*	*690*	*820*	*890*
K3	135	150	185	215	230	115	125	150	180	190	105	110	140	165	175	115	125	150	175	190	135	145	180	210	230
	445	*490*	*610*	*710*	*750*	*375*	*410*	*490*	*590*	*620*	*345*	*360*	*460*	*540*	*570*	*375*	*410*	*490*	*570*	*620*	*445*	*475*	*590*	*690*	*750*
K4	130	140	175	205	220	110	115	145	170	180	100	105	130	155	165	110	115	145	170	185	130	140	170	200	215
	425	*460*	*570*	*670*	*720*	*360*	*375*	*475*	*560*	*590*	*330*	*345*	*425*	*510*	*540*	*360*	*375*	*475*	*560*	*610*	*425*	*460*	*560*	*660*	*710*
K5	80	85	105	125	135	65	70	90	105	115	60	65	80	95	105	65	70	90	105	115	80	85	105	125	135
	260	*280*	*345*	*410*	*445*	*215*	*230*	*295*	*345*	*375*	*195*	*215*	*260*	*310*	*345*	*215*	*230*	*295*	*345*	*375*	*260*	*280*	*345*	*410*	*445*
K6	115	125	155	180	195	95	105	125	150	160	85	95	115	135	145	95	105	125	150	160	115	125	150	175	190
	375	*410*	*510*	*590*	*640*	*310*	*345*	*410*	*490*	*520*	*280*	*310*	*375*	*445*	*475*	*310*	*345*	*410*	*490*	*520*	*375*	*410*	*490*	*570*	*620*
K7	100	110	135	160	175	85	90	110	135	145	75	85	105	120	135	85	90	115	135	145	100	110	135	160	170
	330	*360*	*445*	*520*	*570*	*280*	*295*	*360*	*445*	*475*	*245*	*280*	*345*	*395*	*445*	*280*	*295*	*375*	*445*	*475*	*330*	*360*	*445*	*520*	*560*
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1100	1200	1475	1725	1875	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*3600*	*3925*	*4850*	*5650*	*6150*	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	445	480	590	700	760	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*1450*	*1575*	*1925*	*2300*	*2500*	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	295	320	395	465	510	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*970*	*1050*	*1300*	*1525*	*1675*	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	340	365	455	530	580	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*1125*	*1200*	*1500*	*1750*	*1900*	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
H5	45	48	60	70	75	37	39	48	55	60	—	—	—	—	—	37	39	47	55	60	41	44	55	60	70
	150	*155*	*195*	*230*	*245*	*120*	*130*	*155*	*180*	*195*	—	—	—	—	—	*120*	*130*	*155*	*180*	*195*	*135*	*145*	*180*	*195*	*230*
H8	49	50	60	75	80	40	43	50	60	65	—	—	—	—	—	40	42	50	60	65	44	47	55	65	70
	160	*165*	*195*	*245*	*260*	*130*	*140*	*165*	*195*	*215*	—	—	—	—	—	*130*	*140*	*165*	*195*	*215*	*145*	*155*	*180*	*215*	*230*
H11	55	60	75	90	95	47	50	60	75	80	—	—	—	—	—	47	50	60	70	80	50	55	65	80	85
	180	*195*	*245*	*295*	*310*	*155*	*165*	*195*	*245*	*260*	—	—	—	—	—	*155*	*165*	*195*	*230*	*260*	*165*	*180*	*215*	*260*	*280*
H12	85	90	110	130	145	70	75	95	110	120	—	—	—	—	—	70	75	90	105	115	85	90	110	125	140
	280	*295*	*360*	*425*	*475*	*230*	*245*	*310*	*360*	*395*	—	—	—	—	—	*230*	*245*	*295*	*345*	*375*	*280*	*295*	*360*	*410*	*460*

R218.19-100 – Cutting data v_c = (m/min)/(sf/min)

SMG	MS2050					F40M					MP2501					MS2500					MP3501				
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%
P1	220 *720*	235 *770*	285 *940*	335 *1100*	360 *1175*	210 *690*	220 *720*	260 *850*	300 *980*	320 *1050*	345 *1125*	360 *1175*	430 *1400*	495 *1625*	520 *1700*	330 *1075*	345 *1125*	415 *1350*	480 *1575*	510 *1675*	305 *1000*	320 *1050*	385 *1275*	440 *1450*	470 *1550*
P2	215 *710*	230 *750*	280 *920*	330 *1075*	355 *1175*	205 *670*	215 *710*	255 *840*	295 *970*	310 *1025*	335 *1100*	350 *1150*	420 *1375*	480 *1575*	510 *1675*	320 *1050*	335 *1100*	405 *1325*	465 *1525*	495 *1625*	300 *980*	315 *1025*	375 *1225*	430 *1400*	455 *1500*
P3	190 *620*	205 *670*	245 *800*	290 *950*	305 *1000*	185 *610*	190 *620*	225 *740*	255 *840*	265 *870*	300 *980*	315 *1025*	370 *1225*	420 *1375*	440 *1450*	285 *940*	300 *980*	355 *1175*	405 *1325*	425 *1400*	265 *870*	280 *920*	330 *1075*	375 *1225*	390 *1275*
P4	170 *560*	180 *590*	220 *720*	255 *840*	270 *890*	165 *540*	175 *570*	210 *690*	240 *790*	255 *840*	260 *850*	275 *900*	325 *1075*	370 *1225*	390 *1275*	250 *820*	265 *870*	315 *1025*	360 *1175*	380 *1250*	235 *770*	245 *800*	290 *950*	330 *1075*	350 *1150*
P5	160 *520*	170 *560*	210 *690*	240 *790*	260 *850*	155 *510*	160 *520*	190 *620*	215 *710*	225 *740*	250 *820*	265 *870*	310 *1025*	350 *1150*	370 *1225*	240 *790*	250 *820*	300 *980*	340 *1125*	360 *1175*	225 *740*	235 *770*	280 *920*	315 *1025*	335 *1100*
P6	185 *610*	195 *640*	235 *770*	275 *900*	295 *970*	175 *570*	185 *610*	215 *710*	245 *800*	260 *850*	285 *940*	300 *980*	350 *1150*	400 *1300*	420 *1375*	275 *900*	290 *950*	335 *1100*	390 *1275*	410 *1350*	255 *840*	270 *890*	310 *1025*	360 *1175*	380 *1250*
P7	175 *570*	185 *610*	220 *720*	260 *850*	275 *900*	165 *540*	175 *570*	200 *660*	235 *770*	245 *800*	270 *890*	285 *940*	330 *1075*	380 *1250*	400 *1300*	255 *840*	270 *890*	315 *1025*	365 *1200*	385 *1275*	240 *790*	255 *840*	295 *970*	340 *1125*	355 *1175*
P8	160 *520*	170 *560*	210 *690*	240 *790*	255 *840*	155 *510*	160 *520*	190 *620*	215 *710*	225 *740*	250 *820*	265 *870*	310 *1025*	350 *1150*	370 *1225*	240 *790*	250 *820*	300 *980*	340 *1125*	360 *1175*	225 *740*	235 *770*	280 *920*	315 *1025*	330 *1075*
P11	170 *560*	180 *590*	215 *710*	255 *840*	270 *890*	160 *520*	170 *560*	195 *640*	225 *740*	235 *770*	260 *850*	275 *900*	320 *1050*	370 *1225*	385 *1275*	250 *820*	265 *870*	310 *1025*	355 *1175*	375 *1225*	235 *770*	245 *800*	285 *940*	330 *1075*	345 *1125*
P12	115 *375*	120 *395*	145 *475*	165 *540*	175 *570*	110 *360*	115 *375*	135 *445*	150 *490*	155 *510*	175 *570*	180 *590*	210 *690*	235 *770*	245 *800*	165 *540*	175 *570*	200 *660*	225 *740*	240 *790*	155 *510*	165 *540*	185 *610*	210 *690*	220 *720*
M1	160 *520*	175 *570*	210 *690*	255 *840*	275 *900*	145 *475*	160 *520*	195 *640*	230 *750*	250 *820*	170 *560*	185 *610*	230 *750*	270 *890*	295 *970*	185 *610*	200 *660*	245 *800*	295 *970*	320 *1050*	160 *520*	175 *570*	210 *690*	255 *840*	275 *900*
M2	135 *445*	145 *475*	175 *570*	210 *690*	225 *740*	120 *395*	130 *425*	160 *520*	190 *620*	205 *670*	140 *460*	155 *510*	190 *620*	225 *740*	240 *790*	155 *510*	170 *560*	205 *670*	240 *790*	260 *850*	135 *445*	145 *475*	175 *570*	210 *690*	225 *740*
M3	110 *360*	120 *395*	145 *475*	170 *560*	180 *590*	100 *330*	110 *360*	130 *425*	155 *510*	165 *540*	120 *395*	130 *425*	155 *510*	185 *610*	195 *640*	130 *425*	140 *460*	170 *560*	200 *660*	210 *690*	110 *360*	120 *395*	145 *475*	170 *560*	180 *590*
M4	90 *295*	100 *330*	115 *375*	130 *425*	145 *475*	85 *280*	90 *295*	105 *345*	120 *395*	130 *425*	100 *330*	105 *345*	125 *410*	140 *460*	155 *510*	110 *360*	115 *375*	135 *445*	155 *510*	165 *540*	90 *295*	100 *330*	115 *375*	130 *425*	145 *475*
M5	75 *245*	80 *260*	95 *310*	110 *360*	120 *395*	70 *230*	75 *245*	90 *295*	100 *330*	110 *360*	85 *280*	90 *295*	105 *345*	120 *395*	130 *425*	90 *295*	95 *310*	115 *375*	130 *425*	140 *460*	75 *245*	80 *260*	95 *310*	110 *360*	120 *395*
K1	— —	— —	— —	— —	— —	145 *475*	155 *510*	190 *620*	225 *740*	245 *800*	340 *1125*	355 *1175*	420 *1375*	485 *1600*	510 *1675*	205 *670*	225 *740*	275 *900*	325 *1075*	355 *1175*	300 *980*	315 *1025*	380 *1250*	435 *1425*	460 *1500*
K2	— —	— —	— —	— —	— —	125 *410*	140 *460*	170 *560*	200 *660*	215 *710*	305 *1000*	320 *1050*	375 *1225*	425 *1400*	450 *1475*	185 *610*	200 *660*	245 *800*	285 *940*	310 *1025*	270 *890*	285 *940*	335 *1100*	380 *1250*	405 *1325*
K3	— —	— —	— —	— —	— —	110 *360*	115 *375*	145 *475*	170 *560*	180 *590*	255 *840*	270 *890*	315 *1025*	360 *1175*	380 *1250*	155 *510*	170 *560*	205 *670*	245 *800*	260 *850*	230 *750*	240 *790*	285 *940*	325 *1075*	340 *1125*
K4	— —	— —	— —	— —	— —	105 *345*	110 *360*	135 *445*	160 *520*	175 *570*	245 *800*	255 *840*	305 *1000*	345 *1125*	365 *1200*	150 *490*	160 *520*	195 *640*	230 *750*	250 *820*	220 *720*	230 *750*	270 *890*	310 *1025*	325 *1075*
K5	— —	— —	— —	— —	— —	65 *215*	70 *230*	85 *280*	100 *330*	105 *345*	150 *490*	160 *520*	185 *610*	210 *690*	225 *740*	90 *295*	100 *330*	120 *395*	145 *475*	155 *510*	135 *445*	140 *460*	170 *560*	190 *620*	200 *660*
K6	— —	— —	— —	— —	— —	90 *295*	100 *330*	120 *395*	140 *460*	155 *510*	215 *710*	225 *740*	265 *870*	305 *1000*	320 *1050*	130 *425*	140 *460*	175 *570*	205 *670*	220 *720*	195 *640*	200 *660*	240 *790*	270 *890*	285 *940*
K7	— —	— —	— —	— —	— —	80 *260*	90 *295*	110 *360*	125 *410*	140 *460*	190 *620*	205 *670*	240 *790*	270 *890*	285 *940*	115 *375*	125 *410*	155 *510*	185 *610*	200 *660*	170 *560*	180 *590*	215 *710*	245 *800*	255 *840*
N1	— —	— —	— —	— —	— —	1050 *3450*	1125 *3700*	1400 *4600*	1650 *5425*	1800 *5900*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N2	— —	— —	— —	— —	— —	420 *1375*	455 *1500*	570 *1875*	660 *2175*	730 *2400*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N3	— —	— —	— —	— —	— —	280 *920*	305 *1000*	375 *1225*	445 *1450*	485 *1600*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N11	— —	— —	— —	— —	— —	320 *1050*	350 *1150*	430 *1400*	510 *1675*	550 *1800*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
S1	43 *140*	46 *150*	55 *180*	60 *195*	65 *215*	39 *130*	42 *140*	49 *160*	55 *180*	60 *195*	— —	— —	— —	— —	— —	55 *180*	55 *180*	65 *215*	75 *245*	80 *260*	43 *140*	46 *150*	55 *180*	60 *195*	65 *215*
S2	35 *115*	37 *120*	44 *145*	50 *165*	55 *180*	32 *105*	34 *110*	40 *130*	45 *150*	49 *160*	— —	— —	— —	— —	— —	42 *140*	45 *150*	55 *180*	60 *195*	65 *215*	35 *115*	37 *120*	44 *145*	50 *165*	55 *180*
S3	31 *100*	33 *110*	38 *125*	44 *145*	47 *155*	28 *90*	30 *100*	35 *115*	40 *130*	43 *140*	— —	— —	— —	— —	— —	37 *120*	40 *130*	47 *155*	55 *180*	55 *180*	31 *100*	33 *110*	38 *125*	44 *145*	47 *155*
S11	60 *195*	65 *215*	75 *245*	85 *280*	90 *295*	55 *180*	60 *195*	70 *230*	80 *260*	85 *280*	— —	— —	— —	— —	— —	70 *230*	80 *260*	90 *295*	105 *345*	110 *360*	60 *195*	65 *215*	75 *245*	85 *280*	90 *295*
S12	41 *135*	44 *145*	50 *165*	60 *195*	65 *215*	37 *120*	40 *130*	47 *155*	55 *180*	60 *195*	— —	— —	— —	— —	— —	50 *165*	55 *180*	65 *215*	75 *245*	80 *260*	41 *135*	44 *145*	50 *165*	60 *195*	65 *215*
S13	24 *80*	26 *85*	31 *100*	35 *115*	38 *125*	22 *70*	24 *80*	28 *90*	31 *100*	34 *110*	— —	— —	— —	— —	— —	30 *100*	32 *105*	37 *120*	42 *140*	46 *150*	24 *80*	26 *85*	31 *100*	35 *115*	38 *125*
H5	— —	— —	— —	— —	— —	35 *115*	37 *120*	45 *150*	55 *180*	60 *195*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
H8	— —	— —	— —	— —	— —	38 *125*	40 *130*	49 *160*	55 *180*	60 *195*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
H11	— —	— —	— —	— —	— —	44 *145*	48 *155*	55 *180*	70 *230*	75 *245*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
H12	— —	— —	— —	— —	— —	70 *230*	70 *230*	90 *295*	100 *330*	110 *360*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —

R218.19-125 – Insert selection – mm/Inch

SMG			a_p	f_z				
				100%	70%	30%	10%	5%
P1	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,22 *0.0085*	0,22 *0.0085*	0,25 *0.010*	0,38 0.015	0,55 0.022
P2	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,22 *0.0085*	0,22 *0.0085*	0,25 *0.010*	0,38 0.015	0,55 0.022
P3	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 0.014	0,50 0.020
P4	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 0.014	0,50 0.020
P5	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,36 0.014	0,50 0.020
P6	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,34 0.013	0,50 0.019
P7	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,34 0.013	0,50 0.019
P8	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 0.014	0,50 0.020
P11	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,34 0.013	0,50 0.019
P12	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	19,0 *0.75*	0,14 *0.0055*	0,14 *0.0055*	0,16 *0.0065*	0,24 0.0095	0,34 0.013
M1	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,22 *0.0085*	0,22 *0.0085*	0,25 *0.010*	0,38 0.015	0,55 0.022
M2	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,36 0.014	0,50 0.020
M3	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	19,0 *0.75*	0,17 *0.0065*	0,17 *0.0065*	0,18 *0.0070*	0,28 0.011	0,40 0.016
M4	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	14,0 *0.55*	0,15 *0.0060*	0,15 *0.0060*	0,16 *0.0065*	0,25 0.010	0,36 0.014
M5	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	14,0 *0.55*	0,15 *0.0060*	0,15 *0.0060*	0,16 *0.0065*	0,25 0.010	0,36 0.014
K1	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,22 *0.0085*	0,22 *0.0085*	0,25 *0.010*	0,38 0.015	0,55 0.022
K2	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,36 0.014	0,50 0.020
K3	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,36 0.014	0,50 0.020
K4	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,36 0.014	0,50 0.020
K5	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,32 0.013	0,44 0.017
K6	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,36 0.014	0,50 0.020
K7	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,32 0.013	0,44 0.017
N1	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,30 *0.012*	0,30 *0.012*	0,32 *0.013*	0,50 0.020	0,70 0.028
N2	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,30 *0.012*	0,30 *0.012*	0,32 *0.013*	0,50 0.020	0,70 0.028
N3	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,30 *0.012*	0,30 *0.012*	0,32 *0.013*	0,50 0.020	0,70 0.028
N11	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,30 *0.012*	0,30 *0.012*	0,32 *0.013*	0,50 0.020	0,70 0.028
S1	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	14,0 *0.55*	0,15 *0.0060*	0,15 *0.0060*	0,16 *0.0065*	0,25 0.010	0,36 0.014
S2	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	14,0 *0.55*	0,15 *0.0060*	0,15 *0.0060*	0,16 *0.0065*	0,25 0.010	0,36 0.014
S3	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	14,0 *0.55*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,24 0.0095	0,32 0.013
S11	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	17,0 *0.65*	0,17 *0.0065*	0,17 *0.0065*	0,19 *0.0075*	0,28 0.011	0,40 0.016
S12	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	17,0 *0.65*	0,17 *0.0065*	0,17 *0.0065*	0,19 *0.0075*	0,28 0.011	0,40 0.016
S13	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	14,0 *0.55*	0,15 *0.0060*	0,15 *0.0060*	0,16 *0.0065*	0,25 0.010	0,36 0.014
H5	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	15,0 *0.60*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
H8	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	13,0 *0.50*	0,10 *0.0040*	0,10 *0.0040*	0,11 *0.0044*	0,16 0.0065	0,22 0.0085
H11	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	15,0 *0.60*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
H12	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	13,0 *0.50*	0,10 *0.0040*	0,10 *0.0040*	0,11 *0.0044*	0,16 0.0065	0,22 0.0085

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R218.19-125 – Cutting data v_c = (m/min)/(sf/min)

SMG	MH1000					F15M					F25M					F30M					MP3000					MS2050				
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%
P1	—	—	—	—	—	180	195	240	285	300	165	180	220	260	275	190	210	250	300	320	240	255	315	380	405	215	230	275	325	345
	—	—	—	—	—	*590*	*640*	*790*	*940*	*980*	*540*	*590*	*720*	*850*	*900*	*620*	*690*	*820*	*980*	*1050*	*790*	*840*	*1025*	*1250*	*1325*	*710*	*750*	*900*	*1075*	*1125*
P2	—	—	—	—	—	175	190	230	275	295	160	175	210	255	270	185	200	245	290	315	235	245	310	370	390	210	225	270	320	335
	—	—	—	—	—	*570*	*620*	*750*	*900*	*970*	*520*	*570*	*690*	*840*	*890*	*610*	*660*	*800*	*950*	*1025*	*770*	*800*	*1025*	*1225*	*1275*	*690*	*740*	*890*	*1050*	*1100*
P3	—	—	—	—	—	155	165	205	245	260	140	155	185	225	235	160	175	215	255	275	200	210	270	325	350	180	190	235	280	300
	—	—	—	—	—	*510*	*540*	*670*	*800*	*850*	*460*	*510*	*610*	*740*	*770*	*520*	*570*	*710*	*840*	*900*	*660*	*690*	*890*	*1075*	*1150*	*590*	*620*	*770*	*920*	*980*
P4	—	—	—	—	—	135	145	180	215	230	125	135	165	200	210	140	155	190	225	245	175	185	240	285	310	160	170	210	245	265
	—	—	—	—	—	*445*	*475*	*590*	*710*	*750*	*410*	*445*	*540*	*660*	*690*	*460*	*510*	*620*	*740*	*800*	*570*	*610*	*790*	*940*	*1025*	*520*	*560*	*690*	*800*	*870*
P5	155	170	210	250	270	130	140	175	205	225	120	130	160	190	205	140	150	185	215	235	175	185	235	275	295	160	170	205	235	250
	510	*560*	*690*	*820*	*890*	*425*	*460*	*570*	*670*	*740*	*395*	*425*	*520*	*620*	*670*	*460*	*490*	*610*	*710*	*770*	*570*	*610*	*770*	*900*	*970*	*520*	*560*	*670*	*770*	*820*
P6	175	190	235	280	300	145	155	195	230	250	135	145	180	210	230	155	170	205	245	260	200	210	265	315	330	175	190	230	270	280
	570	*620*	*770*	*920*	*980*	*475*	*510*	*640*	*750*	*820*	*445*	*475*	*590*	*690*	*750*	*510*	*560*	*670*	*800*	*850*	*660*	*690*	*870*	*1025*	*1075*	*570*	*620*	*750*	*890*	*920*
P7	165	180	225	265	285	135	150	185	220	235	125	135	170	200	215	145	160	195	230	245	185	200	250	295	315	165	180	215	255	265
	540	*590*	*740*	*870*	*940*	*445*	*490*	*610*	*720*	*770*	*410*	*445*	*560*	*660*	*710*	*475*	*520*	*640*	*750*	*800*	*610*	*660*	*820*	*970*	*1025*	*540*	*590*	*710*	*840*	*870*
P8	155	170	205	250	265	130	140	170	205	220	120	130	155	190	200	135	145	180	215	235	170	180	225	275	295	150	160	200	235	250
	510	*560*	*670*	*820*	*870*	*425*	*460*	*560*	*670*	*720*	*395*	*425*	*510*	*620*	*660*	*445*	*475*	*590*	*710*	*770*	*560*	*590*	*740*	*900*	*970*	*490*	*520*	*660*	*770*	*820*
P11	160	175	215	255	275	135	145	180	210	230	120	130	165	195	210	145	155	190	225	240	180	195	245	290	305	160	175	210	245	260
	520	*570*	*710*	*840*	*900*	*445*	*475*	*590*	*690*	*750*	*395*	*425*	*540*	*640*	*690*	*475*	*510*	*620*	*740*	*790*	*590*	*640*	*800*	*950*	*1000*	*520*	*570*	*690*	*800*	*850*
P12	110	120	145	170	185	—	—	—	—	—	85	90	110	130	140	95	105	125	145	160	130	135	165	190	205	110	120	140	160	170
	360	*395*	*475*	*560*	*610*	—	—	—	—	—	*280*	*295*	*360*	*425*	*460*	*310*	*345*	*410*	*475*	*520*	*425*	*445*	*540*	*620*	*670*	*360*	*395*	*460*	*520*	*560*
M1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	150	165	200	235	250	165	180	220	260	280	155	170	205	245	265
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*490*	*540*	*660*	*770*	*820*	*540*	*590*	*720*	*850*	*920*	*510*	*560*	*670*	*800*	*870*
M2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	125	135	165	195	210	140	150	185	215	230	130	140	175	200	220
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*410*	*445*	*540*	*640*	*690*	*460*	*490*	*610*	*710*	*750*	*425*	*460*	*570*	*660*	*720*
M3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	100	110	135	160	170	110	120	150	175	190	105	115	140	165	180
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*330*	*360*	*445*	*520*	*560*	*360*	*395*	*490*	*570*	*620*	*345*	*375*	*460*	*540*	*590*
M4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	85	90	105	125	135	90	100	115	135	145	85	95	110	130	140
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*280*	*295*	*345*	*410*	*445*	*295*	*330*	*375*	*445*	*475*	*280*	*310*	*360*	*425*	*460*
M5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	70	75	90	100	110	75	80	95	115	125	75	80	90	105	115
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*230*	*245*	*295*	*330*	*360*	*245*	*260*	*310*	*375*	*410*	*245*	*260*	*295*	*345*	*375*
K1	165	180	220	265	280	140	150	185	220	235	125	135	170	200	215	150	160	195	230	250	175	190	230	275	295	—	—	—	—	—
	540	*590*	*720*	*870*	*920*	*460*	*490*	*610*	*720*	*770*	*410*	*445*	*560*	*660*	*710*	*490*	*520*	*640*	*750*	*820*	*570*	*620*	*750*	*900*	*970*	—	—	—	—	—
K2	150	160	200	235	255	125	135	165	195	210	110	120	150	180	195	130	145	175	205	220	155	170	210	240	265	—	—	—	—	—
	490	*520*	*660*	*770*	*840*	*410*	*445*	*540*	*640*	*690*	*360*	*395*	*490*	*590*	*640*	*425*	*475*	*570*	*670*	*720*	*510*	*560*	*690*	*790*	*870*	—	—	—	—	—
K3	125	135	170	200	215	105	110	140	165	180	95	105	130	150	165	110	120	150	170	185	135	145	175	205	220	—	—	—	—	—
	410	*445*	*560*	*660*	*710*	*345*	*360*	*460*	*540*	*590*	*310*	*345*	*425*	*490*	*540*	*360*	*395*	*490*	*560*	*610*	*445*	*475*	*570*	*670*	*720*	—	—	—	—	—
K4	120	130	160	190	205	100	105	135	160	170	90	100	120	145	155	105	115	140	165	180	125	140	170	195	210	—	—	—	—	—
	395	*425*	*520*	*620*	*670*	*330*	*345*	*445*	*520*	*560*	*295*	*330*	*395*	*475*	*510*	*345*	*375*	*460*	*540*	*590*	*410*	*460*	*560*	*640*	*690*	—	—	—	—	—
K5	75	80	100	115	125	60	65	80	95	105	55	60	75	90	95	65	70	85	100	110	75	85	105	120	130	—	—	—	—	—
	245	*260*	*330*	*375*	*410*	*195*	*215*	*260*	*310*	*345*	*180*	*195*	*245*	*295*	*310*	*215*	*230*	*280*	*330*	*360*	*245*	*280*	*345*	*395*	*425*	—	—	—	—	—
K6	105	115	140	170	180	85	95	115	140	150	80	85	110	125	140	95	100	125	145	155	110	120	150	175	185	—	—	—	—	—
	345	*375*	*460*	*560*	*590*	*280*	*310*	*375*	*460*	*490*	*260*	*280*	*360*	*410*	*460*	*310*	*330*	*410*	*475*	*510*	*360*	*395*	*490*	*570*	*610*	—	—	—	—	—
K7	95	105	125	150	160	80	85	105	125	135	75	80	95	115	120	80	90	110	130	140	100	105	130	155	170	—	—	—	—	—
	310	*345*	*410*	*490*	*520*	*260*	*280*	*345*	*410*	*445*	*245*	*260*	*310*	*375*	*395*	*260*	*295*	*360*	*425*	*460*	*330*	*345*	*425*	*510*	*560*	—	—	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	39	41	49	55	60	43	46	55	65	70	41	43	50	60	65
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*130*	*135*	*160*	*180*	*195*	*140*	*150*	*180*	*215*	*230*	*135*	*140*	*165*	*195*	*215*
S2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	31	33	40	46	50	35	37	44	50	55	33	35	41	48	55
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*100*	*110*	*130*	*150*	*165*	*115*	*120*	*145*	*165*	*180*	*110*	*115*	*135*	*155*	*180*
S3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28	29	35	41	44	30	32	38	45	49	29	31	36	43	46
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*90*	*95*	*115*	*135*	*145*	*100*	*105*	*125*	*150*	*160*	*95*	*100*	*120*	*140*	*150*
S11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	55	60	70	85	90
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*180*	*195*	*230*	*280*	*295*
S12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	38	41	50	60	60
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*125*	*135*	*165*	*195*	*195*
S13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23	24	29	34	37
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*75*	*80*	*95*	*110*	*120*
H5	39	42	50	60	65	32	35	43	50	55	—	—	—	—	—	33	36	44	50	55	37	40	49	60	65	—	—	—	—	—
	130	*140*	*165*	*195*	*215*	*105*	*115*	*140*	*165*	*180*	—	—	—	—	—	*110*	*120*	*145*	*165*	*180*	*120*	*130*	*160*	*195*	*215*	—	—	—	—	—
H8	44	47	55	65	70	36	39	47	55	60	—	—	—	—	—	37	40	47	55	60	41	45	55	60	65	—	—	—	—	—
	145	*155*	*180*	*215*	*230*	*120*	*130*	*155*	*180*	*195*	—	—	—	—	—	*120*	*130*	*155*	*180*	*195*	*135*	*150*	*180*	*195*	*215*	—	—	—	—	—
H11	50	55	65	80	85	41	45	55	65	70	—	—	—	—	—	42	46	55	65	70	47	50	60	75	80	—	—	—	—	—
	165	*180*	*215*	*260*	*280*	*135*	*150*	*180*	*215*	*230*	—	—	—	—	—	*140*	*150*	*180*	*215*	*230*	*155*	*165*	*195*	*245*	*260*	—	—	—	—	—
H12	80	85	100	115	130	65	70	85	95	105	—	—	—	—	—	65	70	85	100	110	80	85	100	120	130	—	—	—	—	—
	260	*280*	*330*	*375*	*425*	*215*	*230*	*280*	*310*	*345*	—	—	—	—	—	*215*	*230*	*280*	*330*	*360*	*260*	*280*	*330*	*395*	*425*	—	—	—	—	—

R218.19-125 – Cutting data v_c = (m/min)/(sf/min)

SMG	F40M					MP1501					MP2501					MS2500					MP3501					MM4500				
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%
P1	205	215	255	290	300	280	290	355	405	420	340	355	420	480	500	325	340	405	465	490	300	315	375	430	450	190	200	245	290	305
	670	*710*	*840*	*950*	*980*	*920*	*950*	*1175*	*1325*	*1375*	*1125*	*1175*	*1375*	*1575*	*1650*	*1075*	*1125*	*1325*	*1525*	*1600*	*980*	*1025*	*1225*	*1400*	*1475*	*620*	*660*	*800*	*950*	*1000*
P2	200	205	245	280	295	270	280	340	395	410	330	345	405	465	490	315	330	395	455	475	295	305	365	415	440	185	195	240	280	300
	660	*670*	*800*	*920*	*970*	*890*	*920*	*1125*	*1300*	*1350*	*1075*	*1125*	*1325*	*1525*	*1600*	*1025*	*1075*	*1300*	*1500*	*1550*	*970*	*1000*	*1200*	*1350*	*1450*	*610*	*640*	*790*	*920*	*980*
P3	175	180	215	245	260	240	250	300	350	360	285	295	355	410	435	270	285	340	395	420	250	265	315	365	390	160	170	210	245	265
	570	*590*	*710*	*800*	*850*	*790*	*820*	*980*	*1150*	*1175*	*940*	*970*	*1175*	*1350*	*1425*	*890*	*940*	*1125*	*1300*	*1375*	*820*	*870*	*1025*	*1200*	*1275*	*520*	*560*	*690*	*800*	*870*
P4	155	165	200	235	250	210	220	270	310	320	250	260	310	360	380	240	250	300	350	370	220	230	280	320	340	150	160	200	235	250
	510	*540*	*660*	*770*	*820*	*690*	*720*	*890*	*1025*	*1050*	*820*	*850*	*1025*	*1175*	*1250*	*790*	*820*	*980*	*1150*	*1225*	*720*	*750*	*920*	*1050*	*1125*	*490*	*520*	*660*	*770*	*820*
P5	150	155	185	210	220	200	210	255	295	310	245	260	305	345	365	235	250	295	335	355	220	230	275	305	325	140	150	180	205	220
	490	*510*	*610*	*690*	*720*	*660*	*690*	*840*	*970*	*1025*	*800*	*850*	*1000*	*1125*	*1200*	*770*	*820*	*970*	*1100*	*1175*	*720*	*750*	*900*	*1000*	*1075*	*460*	*490*	*590*	*670*	*720*
P6	170	175	210	240	245	225	235	290	330	350	275	290	345	390	410	265	280	330	380	400	245	260	310	350	365	155	165	205	235	250
	560	*570*	*690*	*790*	*800*	*740*	*770*	*950*	*1075*	*1150*	*900*	*950*	*1125*	*1275*	*1350*	*870*	*920*	*1075*	*1250*	*1300*	*800*	*850*	*1025*	*1150*	*1200*	*510*	*540*	*670*	*770*	*820*
P7	160	165	200	225	235	215	225	270	310	330	260	275	325	370	385	250	265	315	360	375	235	245	290	330	345	150	155	190	225	235
	520	*540*	*660*	*740*	*770*	*710*	*740*	*890*	*1025*	*1075*	*850*	*900*	*1075*	*1225*	*1275*	*820*	*870*	*1025*	*1175*	*1225*	*770*	*800*	*950*	*1075*	*1125*	*490*	*510*	*620*	*740*	*770*
P8	145	150	180	210	220	200	210	250	295	305	240	250	300	345	365	225	240	290	335	355	210	220	265	305	325	135	140	175	205	220
	475	*490*	*590*	*690*	*720*	*660*	*690*	*820*	*970*	*1000*	*790*	*820*	*980*	*1125*	*1200*	*740*	*790*	*950*	*1100*	*1175*	*690*	*720*	*870*	*1000*	*1075*	*445*	*460*	*570*	*670*	*720*
P11	155	160	195	220	225	205	215	265	300	320	255	265	315	360	375	240	255	305	350	365	225	235	280	320	335	145	155	185	215	230
	510	*520*	*640*	*720*	*740*	*670*	*710*	*870*	*980*	*1050*	*840*	*870*	*1025*	*1175*	*1225*	*790*	*840*	*1000*	*1150*	*1200*	*740*	*770*	*920*	*1050*	*1100*	*475*	*510*	*610*	*710*	*750*
P12	105	110	130	145	150	145	150	180	200	210	170	180	205	230	240	160	170	195	225	235	150	160	185	205	220	95	105	120	140	145
	345	*360*	*425*	*475*	*490*	*475*	*490*	*590*	*660*	*690*	*560*	*590*	*670*	*750*	*790*	*520*	*560*	*640*	*740*	*770*	*490*	*520*	*610*	*670*	*720*	*310*	*345*	*395*	*460*	*475*
M1	145	155	190	225	240	—	—	—	—	—	170	185	220	265	285	185	200	240	285	305	155	170	205	245	265	125	135	160	195	205
	475	*510*	*620*	*740*	*790*	—	—	—	—	—	*560*	*610*	*720*	*870*	*940*	*610*	*660*	*790*	*940*	*1000*	*510*	*560*	*670*	*800*	*870*	*410*	*445*	*520*	*640*	*670*
M2	120	130	160	185	200	—	—	—	—	—	140	155	185	215	235	150	165	200	235	255	130	140	175	200	220	105	110	135	160	170
	395	*425*	*520*	*610*	*660*	—	—	—	—	—	*460*	*510*	*610*	*710*	*770*	*490*	*540*	*660*	*770*	*840*	*425*	*460*	*570*	*660*	*720*	*345*	*360*	*445*	*520*	*560*
M3	95	105	130	150	160	—	—	—	—	—	115	125	150	180	190	125	135	165	195	210	105	115	140	165	180	85	90	110	130	140
	310	*345*	*425*	*490*	*520*	—	—	—	—	—	*375*	*410*	*490*	*590*	*620*	*410*	*445*	*540*	*640*	*690*	*345*	*375*	*460*	*540*	*590*	*280*	*295*	*360*	*425*	*460*
M4	80	85	100	115	125	—	—	—	—	—	95	100	120	140	150	100	110	130	150	165	85	95	110	130	140	70	75	85	100	110
	260	*280*	*330*	*375*	*410*	—	—	—	—	—	*310*	*330*	*395*	*460*	*490*	*330*	*360*	*425*	*490*	*540*	*280*	*310*	*360*	*425*	*460*	*230*	*245*	*280*	*330*	*360*
M5	65	70	85	95	105	—	—	—	—	—	80	85	100	115	125	85	90	105	125	135	75	80	90	105	115	55	60	70	85	90
	215	*230*	*280*	*310*	*345*	—	—	—	—	—	*260*	*280*	*330*	*375*	*410*	*280*	*295*	*345*	*410*	*445*	*245*	*260*	*295*	*345*	*375*	*180*	*195*	*230*	*280*	*295*
K1	140	155	185	220	235	275	285	345	395	415	330	350	410	470	495	200	220	265	315	340	295	310	365	420	440	—	—	—	—	—
	460	*510*	*610*	*720*	*770*	*900*	*940*	*1125*	*1300*	*1350*	*1075*	*1150*	*1350*	*1550*	*1625*	*660*	*720*	*870*	*1025*	*1125*	*970*	*1025*	*1200*	*1375*	*1450*	—	—	—	—	—
K2	125	135	165	195	210	245	255	310	355	375	300	310	370	415	440	180	195	240	280	305	265	280	330	370	395	—	—	—	—	—
	410	*445*	*540*	*640*	*690*	*800*	*840*	*1025*	*1175*	*1225*	*980*	*1025*	*1225*	*1350*	*1450*	*590*	*640*	*790*	*920*	*1000*	*870*	*920*	*1075*	*1225*	*1300*	—	—	—	—	—
K3	105	115	140	165	180	205	215	265	300	320	250	265	315	350	375	155	165	205	235	255	225	235	280	315	335	—	—	—	—	—
	345	*375*	*460*	*540*	*590*	*670*	*710*	*870*	*980*	*1050*	*820*	*870*	*1025*	*1150*	*1225*	*510*	*540*	*670*	*770*	*840*	*740*	*770*	*920*	*1025*	*1100*	—	—	—	—	—
K4	100	110	135	155	170	195	205	250	285	305	240	250	300	335	355	145	160	195	225	245	215	225	270	300	320	—	—	—	—	—
	330	*360*	*445*	*510*	*560*	*640*	*670*	*820*	*940*	*1000*	*790*	*820*	*980*	*1100*	*1175*	*475*	*520*	*640*	*740*	*800*	*710*	*740*	*890*	*980*	*1050*	—	—	—	—	—
K5	60	65	80	95	105	125	130	155	175	185	145	155	185	205	220	90	95	120	140	150	130	135	165	185	195	—	—	—	—	—
	195	*215*	*260*	*310*	*345*	*410*	*425*	*510*	*570*	*610*	*475*	*510*	*610*	*670*	*720*	*295*	*310*	*395*	*460*	*490*	*425*	*445*	*540*	*610*	*640*	—	—	—	—	—
K6	90	95	120	140	150	175	180	220	255	270	210	220	265	295	315	130	140	170	200	215	190	200	235	265	280	—	—	—	—	—
	295	*310*	*395*	*460*	*490*	*570*	*590*	*720*	*840*	*890*	*690*	*720*	*870*	*970*	*1025*	*425*	*460*	*560*	*660*	*710*	*620*	*660*	*770*	*870*	*920*	—	—	—	—	—
K7	80	85	105	125	135	160	165	195	225	240	185	195	235	265	280	115	125	150	180	195	165	175	210	235	250	—	—	—	—	—
	260	*280*	*345*	*410*	*445*	*520*	*540*	*640*	*740*	*790*	*610*	*640*	*770*	*870*	*920*	*375*	*410*	*490*	*590*	*640*	*540*	*570*	*690*	*770*	*820*	—	—	—	—	—
N1	1000	1100	1350	1600	1725	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	3275	*3600*	*4425*	*5250*	*5650*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	405	440	550	650	700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1325	*1450*	*1800*	*2125*	*2300*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	270	295	365	430	465	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	890	*970*	*1200*	*1400*	*1525*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	310	335	415	490	530	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1025	*1100*	*1350*	*1600*	*1750*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	37	39	47	55	60	—	—	—	—	—	—	—	—	—	—	50	55	65	75	80	41	43	50	60	65	21	22	26	31	34
	120	*130*	*155*	*180*	*195*	—	—	—	—	—	—	—	—	—	—	*165*	*180*	*215*	*245*	*260*	*135*	*140*	*165*	*195*	*215*	*70*	*70*	*85*	*100*	*110*
S2	30	32	38	44	48	—	—	—	—	—	—	—	—	—	—	40	43	50	60	65	33	35	41	48	55	17	18	21	25	27
	100	*105*	*125*	*145*	*155*	—	—	—	—	—	—	—	—	—	—	*130*	*140*	*165*	*195*	*215*	*110*	*115*	*135*	*155*	*180*	*55*	*60*	*70*	*80*	*90*
S3	26	28	33	39	42	—	—	—	—	—	—	—	—	—	—	35	37	44	50	55	29	31	36	43	46	15	16	19	22	24
	85	*90*	*110*	*130*	*140*	—	—	—	—	—	—	—	—	—	—	*115*	*120*	*145*	*165*	*180*	*95*	*100*	*120*	*140*	*150*	*49*	*50*	*60*	*70*	*80*
S11	49	55	65	75	80	—	—	—	—	—	—	—	—	—	—	65	70	85	100	110	55	60	70	85	90	28	30	37	43	46
	160	*180*	*215*	*245*	*260*	—	—	—	—	—	—	—	—	—	—	*215*	*230*	*280*	*330*	*360*	*180*	*195*	*230*	*280*	*295*	*90*	*100*	*120*	*140*	*150*
S12	34	37	45	55	55	—	—	—	—	—	—	—	—	—	—	46	50	60	70	75	38	41	50	60	60	26	28	34	40	43
	110	*120*	*150*	*180*	*180*	—	—	—	—	—	—	—	—	—	—	*150*	*165*	*195*	*230*	*245*	*125*	*135*	*165*	*195*	*195*	*85*	*90*	*110*	*130*	*140*
S13	21	22	26	31	33	—	—	—	—	—	—	—	—	—	—	28	30	35	41	45	23	24	29	34	37	16	17	20	23	25
	70	*70*	*85*	*100*	*110*	—	—	—	—	—	—	—	—	—	—	*90*	*100*	*115*	*135*	*150*	*75*	*80*	*95*	*110*	*120*	*50*	*55*	*65*	*75*	*80*
H5	32	35	42	49	55	40	44	55	65	70	—	—	—	—	—	41	45	55	65	70	37	40	48	55	60	—	—	—	—	—
	105	*115*	*140*	*160*	*180*	*130*	*145*	*180*	*215*	*230*	—	—	—	—	—	*135*	*150*	*180*	*215*	*230*	*120*	*130*	*155*	*180*	*195*	—	—	—	—	—
H8	35	38	45	55	60	45	48	60	65	75	—	—	—	—	—	46	50	60	70	75	41	44	50	60	65	—	—	—	—	—
	115	*125*	*150*	*180*	*195*	*150*	*155*	*195*	*215*	*245*	—	—	—	—	—	*150*	*165*	*195*	*230*	*245*	*135*	*145*	*165*	*195*	*215*	—	—	—	—	—
H11	40	44	55	65	70	50	55	65	80	85	—	—	—	—	—	55	55	70	80	90	47	50	60	70	80	—	—	—	—	—
	130	*145*	*180*	*215*	*230*	*165*	*180*	*215*	*260*	*280*	—	—	—	—	—	*180*	*180*	*230*	*260*	*295*	*155*	*165*	*195*	*230*	*260*	—	—	—	—	—
H12	65	70	80	95	105	80	85	105	120	130	—	—	—	—	—	90	100	115	135	150	75	80	95	110	120	—	—	—	—	—
	215	*230*	*260*	*310*	*345*	*260*	*280*	*345*	*395*	*425*	—	—	—	—	—	*295*	*330*	*375*	*445*	*490*	*245*	*260*	*310*	*360*	*395*	—	—	—	—	—

R218.19-160 – Insert selection – mm/Inch

SMG			a_p	f_z				
				100%	70%	30%	10%	5%
P1	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,22 *0.0085*	0,22 *0.0085*	0,25 *0.010*	0,38 0.015	0,55 0.022
P2	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,24 *0.0095*	0,24 *0.0095*	0,26 *0.010*	0,40 0.016	0,55 0.022
P3	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,38 0.015	0,50 0.020
P4	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 0.014	0,50 0.020
P5	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 0.014	0,50 0.020
P6	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 0.014	0,50 0.020
P7	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 0.014	0,50 0.020
P8	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,38 0.015	0,50 0.020
P11	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 0.014	0,50 0.020
P12	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	22,0 *0.85*	0,15 *0.0060*	0,15 *0.0060*	0,16 *0.0065*	0,25 0.010	0,34 0.013
M1	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,24 *0.0095*	0,24 *0.0095*	0,26 *0.010*	0,40 0.016	0,55 0.022
M2	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 0.014	0,50 0.020
M3	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	22,0 *0.85*	0,17 *0.0065*	0,17 *0.0065*	0,19 *0.0075*	0,30 0.012	0,40 0.016
M4	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	17,0 *0.65*	0,16 *0.0065*	0,16 *0.0065*	0,17 *0.0065*	0,26 0.010	0,36 0.014
M5	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	17,0 *0.65*	0,16 *0.0065*	0,16 *0.0065*	0,17 *0.0065*	0,26 0.010	0,36 0.014
K1	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,24 *0.0095*	0,24 *0.0095*	0,26 *0.010*	0,40 0.016	0,55 0.022
K2	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 0.014	0,50 0.020
K3	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 0.014	0,50 0.020
K4	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 0.014	0,50 0.020
K5	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,32 0.013	0,46 0.018
K6	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 0.014	0,50 0.020
K7	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,32 0.013	0,46 0.018
N1	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,30 *0.012*	0,30 *0.012*	0,32 *0.013*	0,50 0.020	0,70 0.028
N2	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,30 *0.012*	0,30 *0.012*	0,32 *0.013*	0,50 0.020	0,70 0.028
N3	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,30 *0.012*	0,30 *0.012*	0,32 *0.013*	0,50 0.020	0,70 0.028
N11	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,30 *0.012*	0,30 *0.012*	0,32 *0.013*	0,50 0.020	0,70 0.028
S1	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	17,0 *0.65*	0,16 *0.0065*	0,16 *0.0065*	0,17 *0.0065*	0,26 0.010	0,36 0.014
S2	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	17,0 *0.65*	0,16 *0.0065*	0,16 *0.0065*	0,17 *0.0065*	0,26 0.010	0,36 0.014
S3	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	17,0 *0.65*	0,15 *0.0060*	0,15 *0.0060*	0,16 *0.0065*	0,24 0.0095	0,34 0.013
S11	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	20,0 *0.80*	0,17 *0.0065*	0,17 *0.0065*	0,19 *0.0075*	0,30 0.012	0,40 0.016
S12	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	20,0 *0.80*	0,17 *0.0065*	0,17 *0.0065*	0,19 *0.0075*	0,30 0.012	0,40 0.016
S13	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	17,0 *0.65*	0,16 *0.0065*	0,16 *0.0065*	0,17 *0.0065*	0,26 0.010	0,36 0.014
H5	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	18,0 *0.70*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
H8	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	15,0 *0.60*	0,10 *0.0040*	0,10 *0.0040*	0,11 *0.0044*	0,17 0.0065	0,24 0.0095
H11	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	18,0 *0.70*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
H12	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	15,0 *0.60*	0,10 *0.0040*	0,10 *0.0040*	0,11 *0.0044*	0,17 0.0065	0,24 0.0095

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R218.19-160 – Cutting data v_c = (m/min)/(sf/min)

SMG	MH1000					F15M					MK2050					F25M					F30M					MP3000					MS2050				
		70%	30%	10%	5%		70%	30%	10%	5%		70%	30%	10%	5%		70%	30%	10%	5%		70%	30%	10%	5%		70%	30%	10%	5%		70%	30%	10%	5%
P1	—	—	—	—	—	175	190	240	280	305	190	205	255	300	330	195	215	260	310	330	190	205	245	295	315	235	245	310	370	395	210	225	270	320	340
	—	—	—	—	—	*570*	*620*	*790*	*920*	*1000*	*620*	*670*	*840*	*980*	*1075*	*640*	*710*	*850*	*1025*	*1075*	*620*	*670*	*800*	*970*	*1025*	*770*	*800*	*1025*	*1225*	*1300*	*690*	*740*	*890*	*1050*	*1125*
P2	—	—	—	—	—	170	185	225	270	295	185	200	245	295	320	185	200	250	295	320	180	195	240	280	305	215	230	300	355	385	200	210	265	305	330
	—	—	—	—	—	*560*	*610*	*740*	*890*	*970*	*610*	*660*	*800*	*970*	*1050*	*610*	*660*	*820*	*970*	*1050*	*590*	*640*	*790*	*920*	*1000*	*710*	*750*	*980*	*1175*	*1275*	*660*	*690*	*870*	*1000*	*1075*
P3	—	—	—	—	—	150	165	200	240	255	165	175	215	260	275	165	180	220	260	285	155	170	210	245	270	195	205	265	310	345	175	190	230	270	295
	—	—	—	—	—	*490*	*540*	*660*	*790*	*840*	*540*	*570*	*710*	*850*	*900*	*540*	*590*	*720*	*850*	*940*	*510*	*560*	*690*	*800*	*890*	*640*	*670*	*870*	*1025*	*1125*	*570*	*620*	*750*	*890*	*970*
P4	—	—	—	—	—	135	145	180	210	230	145	155	195	230	250	145	160	195	230	250	140	150	185	220	240	170	180	230	280	305	155	165	205	240	260
	—	—	—	—	—	*445*	*475*	*590*	*690*	*750*	*475*	*510*	*640*	*750*	*820*	*475*	*520*	*640*	*750*	*820*	*460*	*490*	*610*	*720*	*790*	*560*	*590*	*750*	*920*	*1000*	*510*	*540*	*670*	*790*	*850*
P5	155	165	205	245	265	125	135	170	200	220	135	150	185	220	235	140	150	185	220	240	130	145	175	210	230	165	175	220	270	290	150	160	195	230	245
	510	*540*	*670*	*800*	*870*	*410*	*445*	*560*	*660*	*720*	*445*	*490*	*610*	*720*	*770*	*460*	*490*	*610*	*720*	*790*	*425*	*475*	*570*	*690*	*750*	*540*	*570*	*720*	*890*	*950*	*490*	*520*	*640*	*750*	*800*
P6	175	190	230	280	295	145	160	190	230	245	160	170	210	250	265	155	170	215	250	270	150	160	205	235	255	185	195	260	300	325	165	175	225	260	275
	570	*620*	*750*	*920*	*970*	*475*	*520*	*620*	*750*	*800*	*520*	*560*	*690*	*820*	*870*	*510*	*560*	*710*	*820*	*890*	*490*	*520*	*670*	*770*	*840*	*610*	*640*	*850*	*980*	*1075*	*540*	*570*	*740*	*850*	*900*
P7	165	180	220	260	280	140	150	180	215	230	150	160	195	235	250	145	160	200	235	255	140	150	190	225	240	175	185	245	285	305	155	165	215	245	260
	540	*590*	*720*	*850*	*920*	*460*	*490*	*590*	*710*	*750*	*490*	*520*	*640*	*770*	*820*	*475*	*520*	*660*	*770*	*840*	*460*	*490*	*620*	*740*	*790*	*570*	*610*	*800*	*940*	*1000*	*510*	*540*	*710*	*800*	*850*
P8	155	165	200	245	260	125	135	165	200	215	135	150	180	220	230	140	150	185	215	240	130	145	175	205	230	165	175	220	260	290	150	160	195	225	245
	510	*540*	*660*	*800*	*850*	*410*	*445*	*540*	*660*	*710*	*445*	*490*	*590*	*720*	*750*	*460*	*490*	*610*	*710*	*790*	*425*	*475*	*570*	*670*	*750*	*540*	*570*	*720*	*850*	*950*	*490*	*520*	*640*	*740*	*800*
P11	160	175	210	255	270	135	145	175	210	225	145	155	190	230	245	145	155	195	225	245	135	150	185	215	235	170	180	240	275	300	155	160	205	235	255
	520	*570*	*690*	*840*	*890*	*445*	*475*	*570*	*690*	*740*	*475*	*510*	*620*	*750*	*800*	*475*	*510*	*640*	*740*	*800*	*445*	*490*	*610*	*710*	*770*	*560*	*590*	*790*	*900*	*980*	*510*	*520*	*670*	*770*	*840*
P12	110	115	140	170	185	—	—	—	—	—	95	105	125	150	165	100	105	125	150	160	95	100	120	145	155	125	135	160	190	200	110	115	135	160	170
	360	*375*	*460*	*560*	*610*	—	—	—	—	—	*310*	*345*	*410*	*490*	*540*	*330*	*345*	*410*	*490*	*520*	*310*	*330*	*395*	*475*	*510*	*410*	*445*	*520*	*620*	*660*	*360*	*375*	*445*	*520*	*560*
M1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	145	155	195	225	245	160	170	215	250	275	150	165	205	240	260
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*475*	*510*	*640*	*740*	*800*	*520*	*560*	*710*	*820*	*900*	*490*	*540*	*670*	*790*	*850*
M2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	120	130	160	190	205	130	145	175	210	225	125	135	165	200	215
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*395*	*425*	*520*	*620*	*670*	*425*	*475*	*570*	*690*	*740*	*410*	*445*	*540*	*660*	*710*
M3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	100	110	130	155	165	110	120	145	170	185	105	115	135	165	175
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*330*	*360*	*425*	*510*	*540*	*360*	*395*	*475*	*560*	*610*	*345*	*375*	*445*	*540*	*570*
M4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	80	85	105	120	130	90	95	115	135	145	85	90	110	125	140
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*260*	*280*	*345*	*395*	*425*	*295*	*310*	*375*	*445*	*475*	*280*	*295*	*360*	*410*	*460*
M5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	65	70	85	100	110	75	80	95	110	120	70	75	90	105	115
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*215*	*230*	*280*	*330*	*360*	*245*	*260*	*310*	*360*	*395*	*230*	*245*	*295*	*345*	*375*
K1	165	175	215	260	285	135	145	180	215	235	200	215	265	315	345	150	160	200	235	255	140	155	190	225	245	170	180	225	265	290	—	—	—	—	—
	540	*570*	*710*	*850*	*940*	*445*	*475*	*590*	*710*	*770*	*660*	*710*	*870*	*1025*	*1125*	*490*	*520*	*660*	*770*	*840*	*460*	*510*	*620*	*740*	*800*	*560*	*590*	*740*	*870*	*950*	—	—	—	—	—
K2	145	155	195	230	250	120	130	160	190	205	180	190	240	285	305	130	145	175	210	225	125	135	165	200	215	150	160	200	240	260	—	—	—	—	—
	475	*510*	*640*	*750*	*820*	*395*	*425*	*520*	*620*	*670*	*590*	*620*	*790*	*940*	*1000*	*425*	*475*	*570*	*690*	*740*	*410*	*445*	*540*	*660*	*710*	*490*	*520*	*660*	*790*	*850*	—	—	—	—	—
K3	125	135	165	195	210	100	110	135	160	175	150	165	200	240	260	110	120	150	175	190	105	115	140	170	185	125	135	170	200	220	—	—	—	—	—
	410	*445*	*540*	*640*	*690*	*330*	*360*	*445*	*520*	*570*	*490*	*540*	*660*	*790*	*850*	*360*	*395*	*490*	*570*	*620*	*345*	*375*	*460*	*560*	*610*	*410*	*445*	*560*	*660*	*720*	—	—	—	—	—
K4	115	125	160	185	200	95	105	130	155	165	145	155	195	230	245	105	115	140	170	185	100	110	135	160	175	120	130	160	190	210	—	—	—	—	—
	375	*410*	*520*	*610*	*660*	*310*	*345*	*425*	*510*	*540*	*475*	*510*	*640*	*750*	*800*	*345*	*375*	*460*	*560*	*610*	*330*	*360*	*445*	*520*	*570*	*395*	*425*	*520*	*620*	*690*	—	—	—	—	—
K5	75	80	100	115	125	60	65	80	95	105	90	95	120	140	155	65	70	90	105	115	65	70	85	100	110	75	80	100	120	130	—	—	—	—	—
	245	*260*	*330*	*375*	*410*	*195*	*215*	*260*	*310*	*345*	*295*	*310*	*395*	*460*	*510*	*215*	*230*	*295*	*345*	*375*	*215*	*230*	*280*	*330*	*360*	*245*	*260*	*330*	*395*	*425*	—	—	—	—	—
K6	105	110	140	165	180	85	95	115	135	150	125	135	170	200	220	95	100	125	150	160	90	95	120	140	155	105	115	140	170	185	—	—	—	—	—
	345	*360*	*460*	*540*	*590*	*280*	*310*	*375*	*445*	*490*	*410*	*445*	*560*	*660*	*720*	*310*	*330*	*410*	*490*	*520*	*295*	*310*	*395*	*460*	*510*	*345*	*375*	*460*	*560*	*610*	—	—	—	—	—
K7	95	100	125	150	160	80	85	105	125	135	115	125	155	180	200	85	90	115	135	145	80	90	110	125	140	95	105	130	150	165	—	—	—	—	—
	310	*330*	*410*	*490*	*520*	*260*	*280*	*345*	*410*	*445*	*375*	*410*	*510*	*590*	*660*	*280*	*295*	*375*	*445*	*475*	*260*	*295*	*360*	*410*	*460*	*310*	*345*	*425*	*490*	*540*	—	—	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	37	40	48	55	60	41	44	55	60	70	39	42	50	60	65
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*120*	*130*	*155*	*180*	*195*	*135*	*145*	*180*	*195*	*230*	*130*	*140*	*165*	*195*	*215*
S2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	30	32	39	45	49	33	36	43	50	55	31	34	41	48	50
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*100*	*105*	*130*	*150*	*160*	*110*	*120*	*140*	*165*	*180*	*100*	*110*	*135*	*155*	*165*
S3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	26	28	34	40	43	29	31	38	44	48	28	30	36	41	45
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*85*	*90*	*110*	*130*	*140*	*95*	*100*	*125*	*145*	*155*	*90*	*100*	*120*	*135*	*150*
S11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	55	60	70	85	90
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*180*	*195*	*230*	*280*	*295*
S12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	37	40	48	55	60
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*120*	*130*	*155*	*180*	*195*
S13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	22	24	28	33	36
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*70*	*80*	*90*	*110*	*120*
H5	38	42	50	60	65	32	35	42	49	55	—	—	—	—	—	34	37	45	55	55	32	35	43	50	55	36	39	48	55	60	—	—	—	—	—
	125	*140*	*165*	*195*	*215*	*105*	*115*	*140*	*160*	*180*	—	—	—	—	—	*110*	*120*	*150*	*180*	*180*	*105*	*115*	*140*	*165*	*180*	*120*	*130*	*155*	*180*	*195*	—	—	—	—	—
H8	42	45	55	65	70	34	37	45	55	55	—	—	—	—	—	37	40	48	55	60	35	38	46	55	60	39	43	50	60	65	—	—	—	—	—
	140	*150*	*180*	*215*	*230*	*110*	*120*	*150*	*180*	*180*	—	—	—	—	—	*120*	*130*	*155*	*180*	*195*	*115*	*125*	*150*	*180*	*195*	*130*	*140*	*165*	*195*	*215*	—	—	—	—	—
H11	49	55	65	75	85	40	44	55	65	70	—	—	—	—	—	43	47	55	65	75	41	45	55	65	70	46	50	60	70	75	—	—	—	—	—
	160	*180*	*215*	*245*	*280*	*130*	*145*	*180*	*215*	*230*	—	—	—	—	—	*140*	*155*	*180*	*215*	*245*	*135*	*150*	*180*	*215*	*230*	*150*	*165*	*195*	*230*	*245*	—	—	—	—	—
H12	75	80	100	115	125	60	65	80	95	105	65	75	90	105	110	65	70	85	100	110	65	70	80	95	105	75	80	100	115	125	—	—	—	—	—
	245	*260*	*330*	*375*	*410*	*195*	*215*	*260*	*310*	*345*	*215*	*245*	*295*	*345*	*360*	*215*	*230*	*280*	*330*	*360*	*215*	*230*	*260*	*310*	*345*	*245*	*260*	*330*	*375*	*410*	—	—	—	—	—

R218.19-160 – Cutting data v_c = (m/min)/(sf/min)

SMG	F40M					MP2050					MP1501					MP2501					MS2500					MP3501					MM4500				
		70%	30%	10%	5%		70%	30%	10%	5%		70%	30%	10%	5%		70%	30%	10%	5%		70%	30%	10%	5%		70%	30%	10%	5%		70%	30%	10%	5%
P1	200	210	245	285	295	230	250	305	365	390	305	315	390	440	470	295	305	380	430	460	280	295	365	415	445	295	310	365	420	440	185	200	240	285	300
	660	*690*	*800*	*940*	*970*	*750*	*820*	*1000*	*1200*	*1275*	*1000*	*1025*	*1275*	*1450*	*1550*	*970*	*1000*	*1250*	*1400*	*1500*	*920*	*970*	*1200*	*1350*	*1450*	*970*	*1025*	*1200*	*1375*	*1450*	*610*	*660*	*790*	*940*	*980*
P2	190	195	240	270	285	220	240	295	350	380	295	310	370	430	460	285	295	360	415	445	270	285	345	405	435	275	290	355	405	430	175	185	235	270	295
	620	*640*	*790*	*890*	*940*	*720*	*790*	*970*	*1150*	*1250*	*970*	*1025*	*1225*	*1400*	*1500*	*940*	*970*	*1175*	*1350*	*1450*	*890*	*940*	*1125*	*1325*	*1425*	*900*	*950*	*1175*	*1325*	*1400*	*570*	*610*	*770*	*890*	*970*
P3	170	175	210	235	255	195	210	260	305	335	260	275	325	380	395	250	265	315	370	385	240	255	305	360	375	245	260	310	355	380	155	165	205	240	260
	560	*570*	*690*	*770*	*840*	*640*	*690*	*850*	*1000*	*1100*	*850*	*900*	*1075*	*1250*	*1300*	*820*	*870*	*1025*	*1225*	*1275*	*790*	*840*	*1000*	*1175*	*1225*	*800*	*850*	*1025*	*1175*	*1250*	*510*	*540*	*670*	*790*	*850*
P4	155	160	195	230	245	170	185	230	270	295	230	240	295	335	355	220	230	285	325	345	215	225	275	320	340	215	225	275	315	335	150	160	195	230	245
	510	*520*	*640*	*750*	*800*	*560*	*610*	*750*	*890*	*970*	*750*	*790*	*970*	*1100*	*1175*	*720*	*750*	*940*	*1075*	*1125*	*710*	*740*	*900*	*1050*	*1125*	*710*	*740*	*900*	*1025*	*1100*	*490*	*520*	*640*	*750*	*800*
P5	140	145	175	205	215	165	175	220	260	280	220	230	280	320	340	210	220	275	315	330	205	210	265	305	325	210	215	260	300	320	130	140	170	205	220
	460	*475*	*570*	*670*	*710*	*540*	*570*	*720*	*850*	*920*	*720*	*750*	*920*	*1050*	*1125*	*690*	*720*	*900*	*1025*	*1075*	*670*	*690*	*870*	*1000*	*1075*	*690*	*710*	*850*	*980*	*1050*	*425*	*460*	*560*	*670*	*720*
P6	160	165	205	230	240	185	200	250	290	315	255	265	315	365	385	245	255	305	355	370	235	245	295	345	365	235	245	300	340	360	150	155	200	230	245
	520	*540*	*670*	*750*	*790*	*610*	*660*	*820*	*950*	*1025*	*840*	*870*	*1025*	*1200*	*1275*	*800*	*840*	*1000*	*1175*	*1225*	*770*	*800*	*970*	*1125*	*1200*	*770*	*800*	*980*	*1125*	*1175*	*490*	*510*	*660*	*750*	*800*
P7	150	155	195	215	230	175	190	235	275	300	240	250	300	345	360	230	240	290	335	350	220	230	280	325	345	220	230	285	320	340	140	145	190	215	230
	490	*510*	*640*	*710*	*750*	*570*	*620*	*770*	*900*	*980*	*790*	*820*	*980*	*1125*	*1175*	*750*	*790*	*950*	*1100*	*1150*	*720*	*750*	*920*	*1075*	*1125*	*720*	*750*	*940*	*1050*	*1125*	*460*	*475*	*620*	*710*	*750*
P8	140	145	175	200	215	165	175	220	255	280	220	230	275	320	335	210	220	265	315	325	205	210	255	305	315	210	215	260	295	320	130	140	170	200	220
	460	*475*	*570*	*660*	*710*	*540*	*570*	*720*	*840*	*920*	*720*	*750*	*900*	*1050*	*1100*	*690*	*720*	*870*	*1025*	*1075*	*670*	*690*	*840*	*1000*	*1025*	*690*	*710*	*850*	*970*	*1050*	*425*	*460*	*560*	*660*	*720*
P11	145	150	190	210	220	170	180	230	270	290	230	245	290	335	350	225	235	280	325	340	215	225	270	315	335	215	225	275	310	330	135	145	185	210	225
	475	*490*	*620*	*690*	*720*	*560*	*590*	*750*	*890*	*950*	*750*	*800*	*950*	*1100*	*1150*	*740*	*770*	*920*	*1075*	*1125*	*710*	*740*	*890*	*1025*	*1100*	*710*	*740*	*900*	*1025*	*1075*	*445*	*475*	*610*	*690*	*740*
P12	105	110	125	140	150	115	125	150	180	190	160	165	195	220	235	155	160	190	215	230	145	155	185	210	225	150	155	180	205	215	95	100	120	135	145
	345	*360*	*410*	*460*	*490*	*375*	*410*	*490*	*590*	*620*	*520*	*540*	*640*	*720*	*770*	*510*	*520*	*620*	*710*	*750*	*475*	*510*	*610*	*690*	*740*	*490*	*510*	*590*	*670*	*710*	*310*	*330*	*395*	*445*	*475*
M1	135	150	185	215	235	155	170	215	250	270	—	—	—	—	—	150	165	200	240	260	165	180	215	260	285	150	165	205	240	260	120	130	160	185	205
	445	*490*	*610*	*710*	*770*	*510*	*560*	*710*	*820*	*890*	—	—	—	—	—	*490*	*540*	*660*	*790*	*850*	*540*	*590*	*710*	*850*	*940*	*490*	*540*	*670*	*790*	*850*	*395*	*425*	*520*	*610*	*670*
M2	115	125	150	180	195	130	140	175	210	225	—	—	—	—	—	125	135	170	200	215	135	145	185	215	235	125	135	165	200	215	100	105	130	155	170
	375	*410*	*490*	*590*	*640*	*425*	*460*	*570*	*690*	*740*	—	—	—	—	—	*410*	*445*	*560*	*660*	*710*	*445*	*475*	*610*	*710*	*770*	*410*	*445*	*540*	*660*	*710*	*330*	*345*	*425*	*510*	*560*
M3	95	105	125	150	160	110	120	145	170	185	—	—	—	—	—	105	115	140	165	175	115	125	150	175	195	105	115	135	165	175	80	90	105	130	135
	310	*345*	*410*	*490*	*520*	*360*	*395*	*475*	*560*	*610*	—	—	—	—	—	*345*	*375*	*460*	*540*	*570*	*375*	*410*	*490*	*570*	*640*	*345*	*375*	*445*	*540*	*570*	*260*	*295*	*345*	*425*	*445*
M4	75	80	100	115	125	85	95	115	130	145	—	—	—	—	—	85	90	110	130	140	90	100	120	140	150	85	90	110	125	140	65	70	85	100	110
	245	*260*	*330*	*375*	*410*	*280*	*310*	*375*	*425*	*475*	—	—	—	—	—	*280*	*295*	*360*	*425*	*460*	*295*	*330*	*395*	*460*	*490*	*280*	*295*	*360*	*410*	*460*	*215*	*230*	*280*	*330*	*360*
M5	65	70	80	95	105	75	80	95	110	120	—	—	—	—	—	70	75	90	105	115	75	85	100	115	125	70	75	90	105	115	55	60	70	85	90
	215	*230*	*260*	*310*	*345*	*245*	*260*	*310*	*360*	*395*	—	—	—	—	—	*230*	*245*	*295*	*345*	*375*	*245*	*280*	*330*	*375*	*410*	*230*	*245*	*295*	*345*	*375*	*180*	*195*	*230*	*280*	*295*
K1	135	145	180	215	230	—	—	—	—	—	300	310	375	435	465	285	300	360	420	450	180	195	240	285	315	280	290	360	405	435	—	—	—	—	—
	445	*475*	*590*	*710*	*750*	—	—	—	—	—	*980*	*1025*	*1225*	*1425*	*1525*	*940*	*980*	*1175*	*1375*	*1475*	*590*	*640*	*790*	*940*	*1025*	*920*	*950*	*1175*	*1325*	*1425*	—	—	—	—	—
K2	120	130	160	190	205	—	—	—	—	—	265	275	340	390	410	255	265	330	380	400	160	175	215	255	275	250	260	315	365	385	—	—	—	—	—
	395	*425*	*520*	*620*	*670*	—	—	—	—	—	*870*	*900*	*1125*	*1275*	*1350*	*840*	*870*	*1075*	*1250*	*1300*	*520*	*570*	*710*	*840*	*900*	*820*	*850*	*1025*	*1200*	*1275*	—	—	—	—	—
K3	100	110	135	160	175	—	—	—	—	—	225	235	285	330	350	215	225	280	320	340	135	145	185	215	235	210	220	265	310	330	—	—	—	—	—
	330	*360*	*445*	*520*	*570*	—	—	—	—	—	*740*	*770*	*940*	*1075*	*1150*	*710*	*740*	*920*	*1050*	*1125*	*445*	*475*	*610*	*710*	*770*	*690*	*720*	*870*	*1025*	*1075*	—	—	—	—	—
K4	95	105	130	155	165	—	—	—	—	—	215	225	275	315	335	205	215	265	305	325	130	140	175	205	225	205	210	255	295	315	—	—	—	—	—
	310	*345*	*425*	*510*	*540*	—	—	—	—	—	*710*	*740*	*900*	*1025*	*1100*	*670*	*710*	*870*	*1000*	*1075*	*425*	*460*	*570*	*670*	*740*	*670*	*690*	*840*	*970*	*1025*	—	—	—	—	—
K5	60	65	80	95	105	—	—	—	—	—	135	140	170	195	210	130	135	165	190	205	80	90	110	130	140	130	135	160	180	195	—	—	—	—	—
	195	*215*	*260*	*310*	*345*	—	—	—	—	—	*445*	*460*	*560*	*640*	*690*	*425*	*445*	*540*	*620*	*670*	*260*	*295*	*360*	*425*	*460*	*425*	*445*	*520*	*590*	*640*	—	—	—	—	—
K6	85	90	115	135	145	—	—	—	—	—	190	195	240	275	295	185	190	235	270	285	115	125	155	180	195	180	185	225	260	275	—	—	—	—	—
	280	*295*	*375*	*445*	*475*	—	—	—	—	—	*620*	*640*	*790*	*900*	*970*	*610*	*620*	*770*	*890*	*940*	*375*	*410*	*510*	*590*	*640*	*590*	*610*	*740*	*850*	*900*	—	—	—	—	—
K7	75	85	105	120	130	—	—	—	—	—	175	180	220	250	265	170	175	215	245	260	105	115	140	165	180	165	170	205	230	245	—	—	—	—	—
	245	*280*	*345*	*395*	*425*	—	—	—	—	—	*570*	*590*	*720*	*820*	*870*	*560*	*570*	*710*	*800*	*850*	*345*	*375*	*460*	*540*	*590*	*540*	*560*	*670*	*750*	*800*	—	—	—	—	—
N1	990	1075	1325	1575	1700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	3250	*3525*	*4350*	*5175*	*5575*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	400	430	540	630	690	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1300	*1400*	*1775*	*2075*	*2275*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	265	285	355	425	455	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	870	*940*	*1175*	*1400*	*1500*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	305	330	410	485	520	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1000	*1075*	*1350*	*1600*	*1700*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	35	38	46	55	60	43	46	55	65	70	—	—	—	—	—	—	—	—	—	—	45	49	60	70	75	39	42	50	60	65	20	22	26	30	33
	115	*125*	*150*	*180*	*195*	*140*	*150*	*180*	*215*	*230*	—	—	—	—	—	—	—	—	—	—	*150*	*160*	*195*	*230*	*245*	*130*	*140*	*165*	*195*	*215*	*65*	*70*	*85*	*100*	*110*
S2	28	31	37	43	47	34	37	45	50	55	—	—	—	—	—	—	—	—	—	—	36	39	47	55	60	31	34	41	48	50	16	17	21	24	27
	90	*100*	*120*	*140*	*155*	*110*	*120*	*150*	*165*	*180*	—	—	—	—	—	—	—	—	—	—	*120*	*130*	*155*	*180*	*195*	*100*	*110*	*135*	*155*	*165*	*50*	*55*	*70*	*80*	*90*
S3	25	27	32	38	41	30	33	39	45	50	—	—	—	—	—	—	—	—	—	—	32	34	42	48	50	28	30	36	41	45	14	15	18	21	23
	80	*90*	*105*	*125*	*135*	*100*	*110*	*130*	*150*	*165*	—	—	—	—	—	—	—	—	—	—	*105*	*110*	*140*	*155*	*165*	*90*	*100*	*120*	*135*	*150*	*46*	*49*	*60*	*70*	*75*
S11	48	55	65	75	80	60	65	75	90	95	—	—	—	—	—	—	—	—	—	—	60	65	80	95	100	55	60	70	85	90	27	30	36	42	46
	155	*180*	*215*	*245*	*260*	*195*	*215*	*245*	*295*	*310*	—	—	—	—	—	—	—	—	—	—	*195*	*215*	*260*	*310*	*330*	*180*	*195*	*230*	*280*	*295*	*90*	*100*	*120*	*140*	*150*
S12	34	36	44	50	55	40	44	55	65	65	—	—	—	—	—	—	—	—	—	—	42	45	55	65	70	37	40	48	55	60	25	27	33	39	42
	110	*120*	*145*	*165*	*180*	*130*	*145*	*180*	*215*	*215*	—	—	—	—	—	—	—	—	—	—	*140*	*150*	*180*	*215*	*230*	*120*	*130*	*155*	*180*	*195*	*80*	*90*	*110*	*130*	*140*
S13	20	21	26	30	33	24	26	31	36	40	—	—	—	—	—	—	—	—	—	—	25	27	33	38	41	22	24	28	33	36	15	16	19	23	25
	65	*70*	*85*	*100*	*110*	*80*	*85*	*100*	*120*	*130*	—	—	—	—	—	—	—	—	—	—	*80*	*90*	*110*	*125*	*135*	*70*	*80*	*90*	*110*	*120*	*49*	*50*	*60*	*75*	*80*
H5	31	33	41	48	50	—	—	—	—	—	44	48	60	70	75	—	—	—	—	—	38	42	50	60	65	35	38	47	55	60	—	—	—	—	—
	100	*110*	*135*	*155*	*165*	—	—	—	—	—	*145*	*155*	*195*	*230*	*245*	—	—	—	—	—	*125*	*140*	*165*	*195*	*215*	*115*	*125*	*155*	*180*	*195*	—	—	—	—	—
H8	34	37	44	50	55	—	—	—	—	—	48	50	60	75	80	—	—	—	—	—	42	45	55	65	70	39	42	50	60	65	—	—	—	—	—
	110	*120*	*145*	*165*	*180*	—	—	—	—	—	*155*	*165*	*195*	*245*	*260*	—	—	—	—	—	*140*	*150*	*180*	*215*	*230*	*130*	*140*	*165*	*195*	*215*	—	—	—	—	—
H11	39	43	50	60	65	46	50	60	70	75	55	60	75	85	95	—	—	—	—	—	49	55	65	75	85	45	49	60	70	75	—	—	—	—	—
	130	*140*	*165*	*195*	*215*	*150*	*165*	*195*	*230*	*245*	*180*	*195*	*245*	*280*	*310*	—	—	—	—	—	*160*	*180*	*215*	*245*	*280*	*150*	*160*	*195*	*230*	*245*	—	—	—	—	—
H12	60	65	80	95	100	80	85	100	120	130	85	95	110	135	145	—	—	—	—	—	85	90	110	130	140	70	75	90	105	115	—	—	—	—	—
	195	*215*	*260*	*310*	*330*	*260*	*280*	*330*	*395*	*425*	*280*	*310*	*360*	*445*	*475*	—	—	—	—	—	*280*	*295*	*360*	*425*	*460*	*230*	*245*	*295*	*345*	*375*	—	—	—	—	—

R218.19-200 – Insert selection – mm/Inch

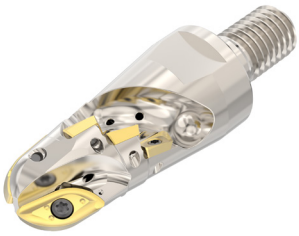
SMG		a_p	f_z				
			100%	70%	30%	10%	5%
P1	218.19-200T-05-M10 F40M	18,0 *0.70*	0,28 0.011	0,28 0.011	0,30 0.012	0,44 0.017	0,60 0.024
P2	218.19-200T-05-M10 F40M	18,0 *0.70*	0,28 0.011	0,28 0.011	0,30 0.012	0,46 0.018	0,65 0.026
P3	218.19-200T-05-M10 F40M	18,0 *0.70*	0,26 0.010	0,26 0.010	0,28 0.011	0,42 0.017	0,60 0.024
P4	218.19-200T-05-M10 F40M	18,0 *0.70*	0,26 0.010	0,26 0.010	0,28 0.011	0,42 0.017	0,60 0.024
P5	218.19-200T-05-M10 F40M	18,0 *0.70*	0,25 0.010	0,25 0.010	0,26 0.010	0,40 0.016	0,55 0.022
P6	218.19-200T-05-M10 F40M	18,0 *0.70*	0,25 0.010	0,25 0.010	0,26 0.010	0,40 0.016	0,55 0.022
P7	218.19-200T-05-M10 F40M	18,0 *0.70*	0,25 0.010	0,25 0.010	0,26 0.010	0,40 0.016	0,55 0.022
P8	218.19-200T-05-M10 F40M	18,0 *0.70*	0,26 0.010	0,26 0.010	0,28 0.011	0,42 0.017	0,60 0.024
P11	218.19-200T-05-M10 F40M	18,0 *0.70*	0,25 0.010	0,25 0.010	0,26 0.010	0,40 0.016	0,55 0.022
P12	218.19-200T-05-M10 F40M	14,0 *0.55*	0,18 0.0070	0,18 0.0070	0,19 0.0075	0,28 0.011	0,38 0.015
M1	218.19-200T-05-M10 F40M	18,0 *0.70*	0,28 0.011	0,28 0.011	0,30 0.012	0,46 0.018	0,65 0.026
M2	218.19-200T-05-M10 F40M	18,0 *0.70*	0,25 0.010	0,25 0.010	0,26 0.010	0,40 0.016	0,55 0.022
M3	218.19-200T-05-M10 F40M	14,0 *0.55*	0,22 0.0085	0,22 0.0085	0,22 0.0085	0,34 0.013	0,46 0.018
M4	218.19-200T-05-M10 F40M	11,0 *0.44*	0,19 0.0075	0,19 0.0075	0,20 0.0080	0,30 0.012	0,40 0.016
M5	218.19-200T-05-M10 F40M	11,0 *0.44*	0,19 0.0075	0,19 0.0075	0,20 0.0080	0,30 0.012	0,40 0.016
K1	218.19-200T-05-M10 F40M	18,0 *0.70*	0,28 0.011	0,28 0.011	0,30 0.012	0,46 0.018	0,65 0.026
K2	218.19-200T-05-M10 F40M	18,0 *0.70*	0,25 0.010	0,25 0.010	0,26 0.010	0,40 0.016	0,55 0.022
K3	218.19-200T-05-M10 F40M	18,0 *0.70*	0,25 0.010	0,25 0.010	0,26 0.010	0,40 0.016	0,55 0.022
K4	218.19-200T-05-M10 F40M	18,0 *0.70*	0,25 0.010	0,25 0.010	0,26 0.010	0,40 0.016	0,55 0.022
K5	218.19-200T-05-M10 F40M	18,0 *0.70*	0,22 0.0085	0,22 0.0085	0,24 0.0095	0,36 0.014	0,50 0.020
K6	218.19-200T-05-M10 F40M	18,0 *0.70*	0,25 0.010	0,25 0.010	0,26 0.010	0,40 0.016	0,55 0.022
K7	218.19-200T-05-M10 F40M	18,0 *0.70*	0,22 0.0085	0,22 0.0085	0,24 0.0095	0,36 0.014	0,50 0.020
N1	218.19-200T-05-M10 F40M	18,0 *0.70*	0,36 0.014	0,36 0.014	0,38 0.015	0,60 0.024	0,80 0.032
N2	218.19-200T-05-M10 F40M	18,0 *0.70*	0,36 0.014	0,36 0.014	0,38 0.015	0,60 0.024	0,80 0.032
N3	218.19-200T-05-M10 F40M	18,0 *0.70*	0,36 0.014	0,36 0.014	0,38 0.015	0,60 0.024	0,80 0.032
N11	218.19-200T-05-M10 F40M	18,0 *0.70*	0,36 0.014	0,36 0.014	0,38 0.015	0,60 0.024	0,80 0.032
S1	218.19-200T-05-M10 F40M	11,0 *0.44*	0,19 0.0075	0,19 0.0075	0,20 0.0080	0,30 0.012	0,40 0.016
S2	218.19-200T-05-M10 F40M	11,0 *0.44*	0,19 0.0075	0,19 0.0075	0,20 0.0080	0,30 0.012	0,40 0.016
S3	218.19-200T-05-M10 F40M	11,0 *0.44*	0,18 0.0070	0,18 0.0070	0,19 0.0075	0,28 0.011	0,38 0.015
S11	218.19-200T-05-M10 F40M	13,0 *0.50*	0,22 0.0085	0,22 0.0085	0,22 0.0085	0,34 0.013	0,46 0.018
S12	218.19-200T-05-M10 F40M	13,0 *0.50*	0,22 0.0085	0,22 0.0085	0,22 0.0085	0,34 0.013	0,46 0.018
S13	218.19-200T-05-M10 F40M	11,0 *0.44*	0,19 0.0075	0,19 0.0075	0,20 0.0080	0,30 0.012	0,40 0.016
H5	218.19-200T-05-M10 F40M	11,0 *0.44*	0,16 0.0065	0,16 0.0065	0,17 0.0065	0,25 0.010	0,34 0.013
H8	218.19-200T-05-M10 F40M	10,0 *0.40*	0,13 0.0050	0,13 0.0050	0,13 0.0050	0,19 0.0075	0,26 0.010
H11	218.19-200T-05-M10 F40M	11,0 *0.44*	0,16 0.0065	0,16 0.0065	0,17 0.0065	0,25 0.010	0,34 0.013
H12	218.19-200T-05-M10 F40M	10,0 *0.40*	0,13 0.0050	0,13 0.0050	0,13 0.0050	0,19 0.0075	0,26 0.010

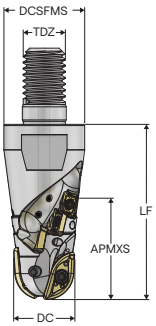
SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R218.19-200 – Cutting data v_c = (m/min)/(sf/min)

SMG	F25M					F40M				
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%
P1	215 *710*	230 *750*	285 *940*	340 *1125*	375 *1225*	225 *740*	225 *740*	275 *900*	315 *1025*	340 *1125*
P2	210 *690*	225 *740*	275 *900*	330 *1075*	360 *1175*	215 *710*	220 *720*	265 *870*	305 *1000*	320 *1050*
P3	185 *610*	200 *660*	245 *800*	290 *950*	315 *1025*	195 *640*	195 *640*	235 *770*	270 *890*	285 *940*
P4	165 *540*	175 *570*	215 *710*	255 *840*	280 *920*	175 *570*	180 *590*	220 *720*	255 *840*	270 *890*
P5	160 *520*	170 *560*	210 *690*	250 *820*	270 *890*	165 *540*	165 *540*	205 *670*	230 *750*	245 *800*
P6	180 *590*	190 *620*	235 *770*	280 *920*	305 *1000*	185 *610*	190 *620*	230 *750*	260 *850*	275 *900*
P7	170 *560*	180 *590*	220 *720*	260 *850*	290 *950*	175 *570*	175 *570*	215 *710*	245 *800*	260 *850*
P8	155 *510*	165 *540*	205 *670*	245 *800*	265 *870*	160 *520*	165 *540*	200 *660*	225 *740*	240 *790*
P11	165 *540*	175 *570*	215 *710*	255 *840*	280 *920*	170 *560*	170 *560*	210 *690*	240 *790*	255 *840*
P12	115 *375*	115 *375*	140 *460*	170 *560*	185 *610*	120 *395*	120 *395*	140 *460*	160 *520*	170 *560*
M1	— —	— —	— —	— —	— —	155 *510*	165 *540*	205 *670*	240 *790*	260 *850*
M2	— —	— —	— —	— —	— —	130 *425*	140 *460*	170 *560*	205 *670*	225 *740*
M3	— —	— —	— —	— —	— —	110 *360*	115 *375*	140 *460*	165 *540*	180 *590*
M4	— —	— —	— —	— —	— —	90 *295*	90 *295*	110 *360*	130 *425*	140 *460*
M5	— —	— —	— —	— —	— —	75 *245*	75 *245*	95 *310*	110 *360*	115 *375*
K1	170 *560*	180 *590*	220 *720*	260 *850*	285 *940*	150 *490*	160 *520*	200 *660*	235 *770*	260 *850*
K2	150 *490*	160 *520*	200 *660*	235 *770*	260 *850*	135 *445*	145 *475*	180 *590*	215 *710*	235 *770*
K3	125 *410*	135 *445*	170 *560*	200 *660*	220 *720*	115 *375*	125 *410*	155 *510*	180 *590*	200 *660*
K4	120 *395*	130 *425*	160 *520*	190 *620*	210 *690*	110 *360*	115 *375*	145 *475*	175 *570*	190 *620*
K5	75 *245*	80 *260*	100 *330*	115 *375*	130 *425*	70 *230*	75 *245*	90 *295*	105 *345*	115 *375*
K6	105 *345*	115 *375*	140 *460*	165 *540*	185 *610*	95 *310*	105 *345*	130 *425*	150 *490*	165 *540*
K7	95 *310*	100 *330*	125 *410*	150 *490*	165 *540*	85 *280*	95 *310*	115 *375*	135 *445*	150 *490*
N1	— —	— —	— —	— —	— —	1100 *3600*	1175 *3850*	1450 *4750*	1775 *5825*	1925 *6325*
N2	— —	— —	— —	— —	— —	450 *1475*	475 *1550*	590 *1925*	720 *2350*	770 *2525*
N3	— —	— —	— —	— —	— —	300 *980*	315 *1025*	395 *1300*	475 *1550*	520 *1700*
N11	— —	— —	— —	— —	— —	340 *1125*	360 *1175*	450 *1475*	550 *1800*	590 *1925*
S1	— —	— —	— —	— —	— —	42 *140*	43 *140*	50 *165*	60 *195*	65 *215*
S2	— —	— —	— —	— —	— —	34 *110*	35 *115*	42 *140*	49 *160*	55 *180*
S3	— —	— —	— —	— —	— —	30 *100*	30 *100*	37 *120*	43 *140*	47 *155*
S11	— —	— —	— —	— —	— —	55 *180*	60 *195*	70 *230*	85 *280*	90 *295*
S12	— —	— —	— —	— —	— —	39 *130*	40 *130*	49 *160*	60 *195*	65 *215*
S13	— —	— —	— —	— —	— —	24 *80*	24 *80*	29 *95*	34 *110*	37 *120*
H5	41 *135*	42 *140*	50 *165*	60 *195*	65 *215*	37 *120*	38 *125*	46 *150*	55 *180*	60 *195*
H8	43 *140*	44 *145*	55 *180*	65 *215*	70 *230*	39 *130*	40 *130*	49 *160*	60 *195*	65 *215*
H11	50 *165*	55 *180*	65 *215*	75 *245*	85 *280*	47 *155*	48 *155*	60 *195*	70 *230*	75 *245*
H12	80 *260*	80 *260*	95 *310*	115 *375*	125 *410*	70 *230*	70 *230*	90 *295*	105 *345*	115 *375*

R218.24 – Metric





—For insert selection and cutting data recommendations, see page(s) 777-778
—For complete insert programme, see page(s) 917-918, 919, 930
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCSFMS	TDZ	LF	OAL	RPMX	Weight	218.20	XO.X
			mm		mm	mm		mm	mm		kg		
R218.24-12R080.RE-028-06.2A	02735924	Combimaster	15,92	2	28,0	23,0	M12	50,0	71,75	18000	0,2	R080 (2)	06 (8)

Spare Parts, included in delivery

For cutter	Insert key	Insert screw centre	Insert screw periph	Key periphery
				
R218.24-080	1/4HEX-T08PX50	C02506-T08P	C01804-T06P	1/4HEX-T06PX50

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R218.24-080	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.5NM	T00-08P12

Torque and fixed keys, see page 944

R218.24-080 – Insert selection – mm/Inch

SMG			f_z				
			100%	70%	30%	10%	5%
P1	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,10 *0.0040*	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*	0,24 0.0095
P2	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,10 *0.0040*	0,10 *0.0040*	0,11 *0.0044*	0,18 *0.0070*	0,25 0.010
P3	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,095 *0.0038*	0,095 *0.0038*	0,11 *0.0044*	0,17 *0.0065*	0,24 0.0095
P4	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*	0,22 0.0085
P5	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,090 *0.0036*	0,090 *0.0036*	0,10 *0.0040*	0,16 *0.0065*	0,22 0.0085
P6	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,090 *0.0036*	0,090 *0.0036*	0,10 *0.0040*	0,16 *0.0065*	0,22 0.0085
P7	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,090 *0.0036*	0,090 *0.0036*	0,10 *0.0040*	0,16 *0.0065*	0,22 0.0085
P8	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,095 *0.0038*	0,095 *0.0038*	0,11 *0.0044*	0,17 *0.0065*	0,24 0.0095
P11	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,090 *0.0036*	0,090 *0.0036*	0,10 *0.0040*	0,16 *0.0065*	0,22 0.0085
P12	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,065 *0.0026*	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*	0,15 0.0060
M1	218.20-080ER-ME04 MS2050	XOMX060204R-M05 MS2050	0,055 *0.0022*	0,055 *0.0022*	0,065 *0.0026*	0,10 *0.0040*	0,14 0.0055
M2	218.20-080ER-ME04 MS2050	XOMX060204R-M05 MS2050	0,050 *0.0020*	0,050 *0.0020*	0,060 *0.0024*	0,090 *0.0036*	0,13 0.0050
M3	218.20-080ER-ME04 MS2050	XOMX060204R-M05 MS2050	0,042 *0.0017*	0,042 *0.0017*	0,046 *0.0018*	0,075 *0.0030*	0,10 0.0040
M4	218.20-080ER-ME04 F40M	XOMX060204R-M05 F40M	0,065 *0.0026*	0,065 *0.0026*	0,075 *0.0030*	0,11 *0.0044*	0,16 0.0065
M5	218.20-080ER-ME04 F40M	XOMX060204R-M05 F40M	0,065 *0.0026*	0,065 *0.0026*	0,075 *0.0030*	0,11 *0.0044*	0,16 0.0065
K1	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,10 *0.0040*	0,10 *0.0040*	0,11 *0.0044*	0,18 *0.0070*	0,25 0.010
K2	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,090 *0.0036*	0,090 *0.0036*	0,10 *0.0040*	0,16 *0.0065*	0,22 0.0085
K3	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,090 *0.0036*	0,090 *0.0036*	0,10 *0.0040*	0,16 *0.0065*	0,22 0.0085
K4	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,090 *0.0036*	0,090 *0.0036*	0,10 *0.0040*	0,16 *0.0065*	0,22 0.0085
K5	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,080 *0.0032*	0,080 *0.0032*	0,090 *0.0036*	0,14 *0.0055*	0,20 0.0080
K6	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,090 *0.0036*	0,090 *0.0036*	0,10 *0.0040*	0,16 *0.0065*	0,22 0.0085
K7	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,080 *0.0032*	0,080 *0.0032*	0,090 *0.0036*	0,14 *0.0055*	0,20 0.0080
N1	218.20-080ER-ME04 F40M	XOEX060204FR-E03 F40M	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*	0,32 0.013
N2	218.20-080ER-ME04 F40M	XOEX060204FR-E03 F40M	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*	0,32 0.013
N3	218.20-080ER-ME04 F40M	XOEX060204FR-E03 F40M	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*	0,32 0.013
N11	218.20-080ER-ME04 F40M	XOEX060204FR-E03 F40M	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*	0,32 0.013
S1	218.20-080ER-ME04 F40M	XOMX060204R-M05 F40M	0,065 *0.0026*	0,065 *0.0026*	0,075 *0.0030*	0,11 *0.0044*	0,16 0.0065
S2	218.20-080ER-ME04 F40M	XOMX060204R-M05 F40M	0,065 *0.0026*	0,065 *0.0026*	0,075 *0.0030*	0,11 *0.0044*	0,16 0.0065
S3	218.20-080ER-ME04 F40M	XOMX060204R-M05 F40M	0,060 *0.0024*	0,060 *0.0024*	0,070 *0.0028*	0,11 *0.0044*	0,15 0.0060
S11	218.20-080ER-ME04 MS2050	XOMX060204R-M05 MS2050	0,042 *0.0017*	0,042 *0.0017*	0,048 *0.0019*	0,075 *0.0030*	0,10 0.0040
S12	218.20-080ER-ME04 MS2050	XOMX060204R-M05 MS2050	0,042 *0.0017*	0,042 *0.0017*	0,048 *0.0019*	0,075 *0.0030*	0,10 0.0040
S13	218.20-080ER-ME04 MS2050	XOMX060204R-M05 MS2050	0,038 *0.0015*	0,038 *0.0015*	0,042 *0.0017*	0,065 *0.0026*	0,090 0.0036
H5	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,065 *0.0026*	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*	0,15 0.0060
H8	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,048 *0.0019*	0,048 *0.0019*	0,055 *0.0022*	0,085 *0.0034*	0,12 0.0048
H11	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,065 *0.0026*	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*	0,15 0.0060
H12	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,048 *0.0019*	0,048 *0.0019*	0,055 *0.0022*	0,085 *0.0034*	0,12 0.0048

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R218.24-080 – Cutting data v_c = (m/min)/(sf/min)

SMG	F25M					MS2050					F40M					MP3501					MM4500				
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%
P1	235	260	315	370	395	305	335	380	430	450	255	270	315	350	365	390	425	460	510	530	220	245	280	315	330
	770	*850*	*1025*	*1225*	*1300*	*1000*	*1100*	*1250*	*1400*	*1475*	*840*	*890*	*1025*	*1150*	*1200*	*1275*	*1400*	*1500*	*1675*	*1750*	*720*	*800*	*920*	*1025*	*1075*
P2	230	255	305	360	385	300	330	370	420	440	250	265	305	335	350	380	410	450	495	510	215	240	270	305	325
	750	*840*	*1000*	*1175*	*1275*	*980*	*1075*	*1225*	*1375*	*1450*	*820*	*870*	*1000*	*1100*	*1150*	*1250*	*1350*	*1475*	*1625*	*1675*	*710*	*790*	*890*	*1000*	*1075*
P3	200	220	265	310	330	255	280	320	360	380	215	230	265	295	305	325	355	385	425	440	185	205	235	265	280
	660	*720*	*870*	*1025*	*1075*	*840*	*920*	*1050*	*1175*	*1250*	*710*	*750*	*870*	*970*	*1000*	*1075*	*1175*	*1275*	*1400*	*1450*	*610*	*670*	*770*	*870*	*920*
P4	175	195	240	280	300	225	250	285	320	335	190	210	245	275	290	285	310	340	375	390	175	195	220	250	265
	570	*640*	*790*	*920*	*980*	*740*	*820*	*940*	*1050*	*1100*	*620*	*690*	*800*	*900*	*950*	*940*	*1025*	*1125*	*1225*	*1275*	*570*	*640*	*720*	*820*	*870*
P5	170	190	225	265	285	220	240	270	305	320	185	195	225	250	260	275	300	325	355	370	155	175	195	220	235
	560	*620*	*740*	*870*	*940*	*720*	*790*	*890*	*1000*	*1050*	*610*	*640*	*740*	*820*	*850*	*900*	*980*	*1075*	*1175*	*1225*	*510*	*570*	*640*	*720*	*770*
P6	190	215	255	300	320	245	270	305	345	360	210	220	255	280	295	310	335	365	400	415	175	195	220	250	260
	620	*710*	*840*	*980*	*1050*	*800*	*890*	*1000*	*1125*	*1175*	*690*	*720*	*840*	*920*	*970*	*1025*	*1100*	*1200*	*1300*	*1350*	*570*	*640*	*720*	*820*	*850*
P7	180	200	240	280	300	230	255	285	325	340	195	210	240	265	275	290	315	345	375	395	165	185	210	235	245
	590	*660*	*790*	*920*	*980*	*750*	*840*	*940*	*1075*	*1125*	*640*	*690*	*790*	*870*	*900*	*950*	*1025*	*1125*	*1225*	*1300*	*540*	*610*	*690*	*770*	*800*
P8	165	185	220	260	280	215	235	270	305	320	180	195	220	245	255	275	300	325	355	370	155	175	195	220	235
	540	*610*	*720*	*850*	*920*	*710*	*770*	*890*	*1000*	*1050*	*590*	*640*	*720*	*800*	*840*	*900*	*980*	*1075*	*1175*	*1225*	*510*	*570*	*640*	*720*	*770*
P11	175	195	235	275	295	225	245	280	315	330	190	205	230	255	270	285	310	335	365	380	160	180	200	230	240
	570	*640*	*770*	*900*	*970*	*740*	*800*	*920*	*1025*	*1075*	*620*	*670*	*750*	*840*	*890*	*940*	*1025*	*1100*	*1200*	*1250*	*520*	*590*	*660*	*750*	*790*
P12	110	125	150	175	185	135	150	170	190	195	120	130	145	160	165	165	180	190	205	215	95	105	115	130	135
	360	*410*	*490*	*570*	*610*	*445*	*490*	*560*	*620*	*640*	*395*	*425*	*475*	*520*	*540*	*540*	*590*	*620*	*670*	*710*	*310*	*345*	*375*	*425*	*445*
M1	—	—	—	—	—	215	245	285	335	360	165	185	225	260	280	215	245	285	335	360	145	160	195	225	240
	—	—	—	—	—	*710*	*800*	*940*	*1100*	*1175*	*540*	*610*	*740*	*850*	*920*	*710*	*800*	*940*	*1100*	*1175*	*475*	*520*	*640*	*740*	*790*
M2	—	—	—	—	—	180	200	235	275	295	140	155	185	215	235	180	200	235	275	295	120	135	160	190	200
	—	—	—	—	—	*590*	*660*	*770*	*900*	*970*	*460*	*510*	*610*	*710*	*770*	*590*	*660*	*770*	*900*	*970*	*395*	*445*	*520*	*620*	*660*
M3	—	—	—	—	—	140	155	185	215	235	110	125	150	175	185	140	155	185	215	235	95	105	130	150	160
	—	—	—	—	—	*460*	*510*	*610*	*710*	*770*	*360*	*410*	*490*	*570*	*610*	*460*	*510*	*610*	*710*	*770*	*310*	*345*	*425*	*490*	*520*
M4	—	—	—	—	—	110	120	140	165	180	85	95	115	135	140	110	120	140	165	180	75	85	100	115	125
	—	—	—	—	—	*360*	*395*	*460*	*540*	*590*	*280*	*310*	*375*	*445*	*460*	*360*	*395*	*460*	*540*	*590*	*245*	*280*	*330*	*375*	*410*
M5	—	—	—	—	—	90	100	120	140	150	70	80	95	110	120	90	100	120	140	150	60	70	80	95	100
	—	—	—	—	—	*295*	*330*	*395*	*460*	*490*	*230*	*260*	*310*	*360*	*395*	*295*	*330*	*395*	*460*	*490*	*195*	*230*	*260*	*310*	*330*
K1	180	200	245	285	305	—	—	—	—	—	165	185	220	260	275	385	415	455	500	520	—	—	—	—	—
	590	*660*	*800*	*940*	*1000*	—	—	—	—	—	*540*	*610*	*720*	*850*	*900*	*1275*	*1350*	*1500*	*1650*	*1700*	—	—	—	—	—
K2	160	180	215	250	270	—	—	—	—	—	145	165	195	230	245	330	360	395	430	450	—	—	—	—	—
	520	*590*	*710*	*820*	*890*	—	—	—	—	—	*475*	*540*	*640*	*750*	*800*	*1075*	*1175*	*1300*	*1400*	*1475*	—	—	—	—	—
K3	135	150	185	215	230	—	—	—	—	—	125	140	165	195	210	280	305	335	365	380	—	—	—	—	—
	445	*490*	*610*	*710*	*750*	—	—	—	—	—	*410*	*460*	*540*	*640*	*690*	*920*	*1000*	*1100*	*1200*	*1250*	—	—	—	—	—
K4	130	145	175	205	220	—	—	—	—	—	120	130	160	185	200	270	290	320	345	360	—	—	—	—	—
	425	*475*	*570*	*670*	*720*	—	—	—	—	—	*395*	*425*	*520*	*610*	*660*	*890*	*950*	*1050*	*1125*	*1175*	—	—	—	—	—
K5	80	90	105	125	135	—	—	—	—	—	70	80	95	115	120	160	175	190	205	215	—	—	—	—	—
	260	*295*	*345*	*410*	*445*	—	—	—	—	—	*230*	*260*	*310*	*375*	*395*	*520*	*570*	*620*	*670*	*710*	—	—	—	—	—
K6	115	130	155	180	190	—	—	—	—	—	105	115	140	165	175	235	260	280	305	320	—	—	—	—	—
	375	*425*	*510*	*590*	*620*	—	—	—	—	—	*345*	*375*	*460*	*540*	*570*	*770*	*850*	*920*	*1000*	*1050*	—	—	—	—	—
K7	100	115	135	160	170	—	—	—	—	—	90	105	125	145	155	205	225	240	260	270	—	—	—	—	—
	330	*375*	*445*	*520*	*560*	—	—	—	—	—	*295*	*345*	*410*	*475*	*510*	*670*	*740*	*790*	*850*	*890*	—	—	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	1225	1350	1650	1950	2050	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	*4025*	*4425*	*5425*	*6400*	*6725*	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	490	550	670	780	830	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	*1600*	*1800*	*2200*	*2550*	*2725*	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	325	365	445	520	550	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	*1075*	*1200*	*1450*	*1700*	*1800*	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	375	415	510	600	630	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	*1225*	*1350*	*1675*	*1975*	*2075*	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	50	55	65	80	85	40	45	55	65	65	50	55	65	80	85	23	25	30	35	38
	—	—	—	—	—	*165*	*180*	*215*	*260*	*280*	*130*	*150*	*180*	*215*	*215*	*165*	*180*	*215*	*260*	*280*	*75*	*80*	*100*	*115*	*125*
S2	—	—	—	—	—	40	45	55	60	65	32	36	43	50	55	40	45	55	60	65	18	20	24	29	30
	—	—	—	—	—	*130*	*150*	*180*	*195*	*215*	*105*	*120*	*140*	*165*	*180*	*130*	*150*	*180*	*195*	*215*	*60*	*65*	*80*	*95*	*100*
S3	—	—	—	—	—	35	39	47	55	60	28	32	38	44	47	35	40	47	55	60	16	18	21	25	27
	—	—	—	—	—	*115*	*130*	*155*	*180*	*195*	*90*	*105*	*125*	*145*	*155*	*115*	*130*	*155*	*180*	*195*	*50*	*60*	*70*	*80*	*90*
S11	—	—	—	—	—	70	80	95	110	120	55	60	75	90	95	70	80	95	110	120	32	35	42	50	55
	—	—	—	—	—	*230*	*260*	*310*	*360*	*395*	*180*	*195*	*245*	*295*	*310*	*230*	*260*	*310*	*360*	*395*	*105*	*115*	*140*	*165*	*180*
S12	—	—	—	—	—	49	55	65	75	80	39	43	50	60	65	49	55	65	75	80	29	33	39	46	49
	—	—	—	—	—	*160*	*180*	*215*	*245*	*260*	*130*	*140*	*165*	*195*	*215*	*160*	*180*	*215*	*245*	*260*	*95*	*110*	*130*	*150*	*160*
S13	—	—	—	—	—	28	31	37	44	47	23	25	30	35	37	28	31	37	44	47	17	19	23	27	28
	—	—	—	—	—	*90*	*100*	*120*	*145*	*155*	*75*	*80*	*100*	*115*	*120*	*90*	*100*	*120*	*145*	*155*	*55*	*60*	*75*	*90*	*90*
H5	—	—	—	—	—	—	—	—	—	—	33	38	45	55	55	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	*110*	*125*	*150*	*180*	*180*	—	—	—	—	—	—	—	—	—	—
H8	—	—	—	—	—	—	—	—	—	—	36	40	47	55	60	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	*120*	*130*	*155*	*180*	*195*	—	—	—	—	—	—	—	—	—	—
H11	—	—	—	—	—	—	—	—	—	—	43	48	55	65	70	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	*140*	*155*	*180*	*215*	*230*	—	—	—	—	—	—	—	—	—	—
H12	—	—	—	—	—	—	—	—	—	—	65	70	85	100	105	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	*215*	*230*	*280*	*330*	*345*	—	—	—	—	—	—	—	—	—	—



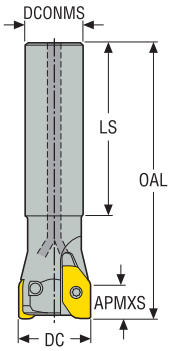
R217/220.97

Aluminium routers high productivity cutters are designed to provide optimal performance in slotting, square shoulder milling and pocketing operations in aluminum. These tools are specifically optimized to achieve high speed and high metal removal rates in aluminum.

– Cutter range 16-100mm (0.625 - 4 inch)
– Available in cylindrical, combimaster or for arbor mounting

R217.97-X08 – Metric





—For insert selection and cutting data recommendations, see page(s) 792
—For complete insert programme, see page(s) 926
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCONMS	LS	LUX	LPR	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm		mm	mm		kg	
R217.97-1616.0-X08.2A	03245364	Cylindrical	16,0	2	8,0	16,0	67,0	32,49	52,0	100,0	11,0	26,4	30,0	40000	0,2	XPKX0803
R217.97-2020.0-X08.2A	03245365	Cylindrical	20,0	2	8,0	20,0	79,0		70,0	120,0	7,2	34,4	38,0	40000	0,3	XPKX0803
R217.97-2525.0-X08.3A	03245366	Cylindrical	25,0	3	8,0	25,0	99,0		94,0	150,0	5,0	44,4	48,0	40000	0,6	XPKX0803

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.97-1616-2020	1/4HEX-T07PX50	C02505-T07P
R217.97-2525	1/4HEX-T07PX50	C02506-T07P

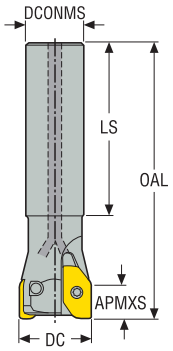
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.97-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09

Torque and fixed keys, see page 944

R217.97-X08 – inch





—For insert selection and cutting data recommendations, see page(s) 792
—For complete insert programme, see page(s) 926
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCONMS	LS	LUX	LPR	OAL	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch		inch	inch		lbs	
R217.97-0.62-0-X08.2A	03245370	Cylindrical	0.625	2	0.315	0.625	2.638	1.279	2.165	3.937	11,2	1.028	1.171	40000	0.440	XPKX0803
R217.97-0.75-0-X08.2A	03245371	Cylindrical	0.750	2	0.315	0.750	3.110	1.594	2.756	4.724	7,8	1.280	1.421	40000	0.660	XPKX0803
R217.97-1.00-0-X08.3A	03245372	Cylindrical	1.000	3	0.315	1.000	3.898	1.988	3.701	5.906	4,9	1.780	1.921	40000	1.320	XPKX0803

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.97-0.62-0.75	1/4HEX-T07PX50	C02505-T07P
R217.97-1.00	1/4HEX-T07PX50	C02506-T07P

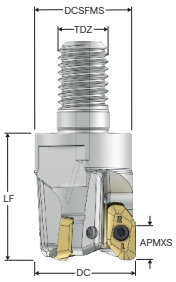
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.97-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09

Torque and fixed keys, see page 944

R217.97-X08 – Metric





—For insert selection and cutting data recommendations, see page(s) 792
—For complete insert programme, see page(s) 926
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCSFMS	TDZ	LF	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm		mm	mm		mm	mm		kg	
R217.97-0816.RE-X08.2A	03245589	Combimaster	16,0	2	8,0	13,5	M8	23,0	–	11,0	26,4	30,0	40000	0,1	XPKX0803
R217.97-1020.RE-X08.2A	03245362	Combimaster	20,0	2	8,0	18,5	M10	28,0	120,0	7,2	34,4	38,0	40000	0,1	XPKX0803
R217.97-1020.RE-X08.3A	03308725	Combimaster	20,0	3	8,0	18,5	M10	28,0	120,0	7,2	34,4	38,0	40000	0,1	XPKX0803
R217.97-1225.RE-X08.3A	03245363	Combimaster	25,0	3	8,0	23,0	M12	30,0	150,0	5,0	44,4	48,0	40000	0,2	XPKX0803
R217.97-1225.RE-X08.4A	03308726	Combimaster	25,0	4	8,0	23,0	M12	30,0	150,0	5,0	44,4	48,0	40000	0,2	XPKX0803

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.97-0816-1020	1/4HEX-T07PX50	C02505-T07P
R217.97-1225	1/4HEX-T07PX50	C02506-T07P

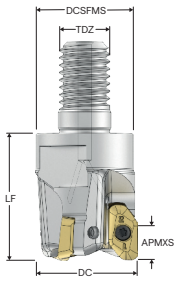
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.97-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09

Torque and fixed keys, see page 944

R217.97-X08 – inch





—For insert selection and cutting data recommendations, see page(s) 792
—For complete insert programme, see page(s) 926
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCSFMS	TDZ	LF	OAL	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch		inch	inch		inch	inch		lbs	
R217.97-0.62-08RE-X08.2A	03245367	Combimaster	0.625	2	0.315	0.531	M8	0.906	–	11,2	1.028	1.171	40000	0.220	XPKX0803
R217.97-0.75-10RE-X08.2A	03245368	Combimaster	0.750	2	0.315	0.728	M10	1.102	4.724	7,8	1.280	1.421	40000	0.220	XPKX0803
R217.97-1.00-12RE-X08.3A	03245369	Combimaster	1.000	3	0.315	0.906	M12	1.181	5.906	4,9	1.780	1.921	40000	0.220	XPKX0803

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.97-0.62-0.75	1/4HEX-T07PX50	C02505-T07P
R217.97-1.00	1/4HEX-T07PX50	C02506-T07P

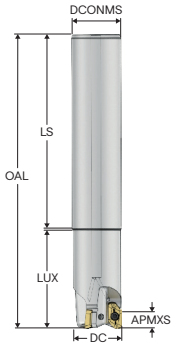
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.97-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09

Torque and fixed keys, see page 944

R217.97-X12 – Metric





—For insert selection and cutting data recommendations, see page(s) 793
—For complete insert programme, see page(s) 926
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCONMS	LS	LUX	LPR	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm		mm	mm		kg	
R217.97-2525.0-X12.2A	02450300	Cylindrical	25,0	2	12,0	25,0	95,0	54,5	94,0	150,0	10,0	40,0	49,0	40000	0,6	XPKX12T3
R217.97-3232.0-X12.2A	02450301	Cylindrical	32,0	2	12,0	32,0	85,0	64,5	90,0	150,0	8,0	54,0	63,0	40000	0,9	XPKX12T3
R217.97-3232.0-X12.3A	02450302	Cylindrical	32,0	3	12,0	32,0	85,0	64,5	90,0	150,0	8,0	54,0	63,0	40000	0,9	XPKX12T3

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.97-..Ø25	1/4HEX-T10PX50	C03508-T10P
R217.97-..Ø32	1/4HEX-T10PX50	C03509-T10P

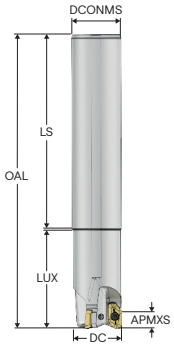
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.97-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30

Torque and fixed keys, see page 944

R217.97-X12 – inch





—For insert selection and cutting data recommendations, see page(s) 793
—For complete insert programme, see page(s) 926
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCONMS	LS	LUX	LPR	OAL	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch		inch	inch		lbs	
R217.97-01.00-0-12.2A	02450377	Cylindrical	1.000	2	0.472	1.000	3.799	2.165	3.795	6.000	10,0	1.606	1.961	40000	1.320	XPKX12T3

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.97-01.00	1/4HEX-T10PX50	C03508-T10P

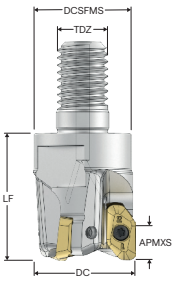
Accessories

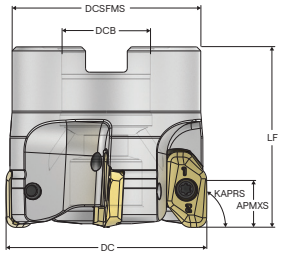
For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.97-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30

Torque and fixed keys, see page 944

R217/220.97-X12 – Metric





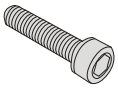


–For insert selection and cutting data recommendations, see page(s) 793
–For complete insert programme, see page(s) 926
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCB	DCSFMS	TDZ	DCONMS	LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm		mm	mm		mm	mm		kg	
R217.97-1225.RE-X12.2A	02449582	Combimaster	25,0	2	12,0	–	23,0	M12	–	30,0	10,0	40,0	49,0	40000	0,1	XPKX12T3
R217.97-1632.RE-X12.2A	02450297	Combimaster	32,0	2	12,0	–	30,0	M16	–	40,0	8,0	54,0	63,0	40000	0,3	XPKX12T3
R217.97-1632.RE-X12.3A	02450299	Combimaster	32,0	3	12,0	–	30,0	M16	–	40,0	8,0	54,0	63,0	40000	0,2	XPKX12T3
R217.97-1640.RE-X12.3A	02486599	Combimaster	40,0	3	12,0	–	30,0	M16	–	40,0	6,0	70,0	79,0	35000	0,3	XPKX12T3
R217.97-2040.RE-X12.3A	02928076	Combimaster	40,0	3	12,0	–	36,5	M20	–	40,0	6,0	70,0	79,0	35000	0,4	XPKX12T3
R220.97-0050-X12.4A	02450306	Arbor	50,0	4	12,0	22,0	47,0	–	22,0	45,0	5,0	90,0	99,0	30000	0,4	XPKX12T3

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

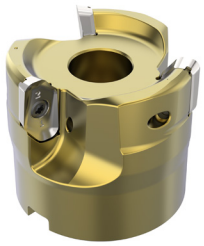
For cutter	Arbor screw	Insert key	Insert screw
			
R217.97-.. Ø25	–	1/4HEX-T10PX50	C03508-T10P
R217.97-.. Ø32-40	–	1/4HEX-T10PX50	C03509-T10P
R220.97-0050	220.17-692	1/4HEX-T10PX50	C03509-T10P

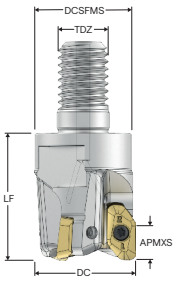
Accessories

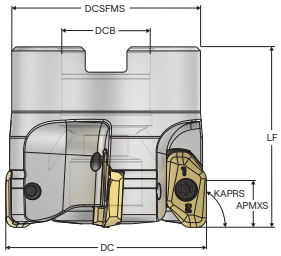
For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.97-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30

Torque and fixed keys, see page 944

R217/220.97-X12 – inch





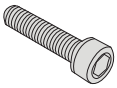


—For insert selection and cutting data recommendations, see page(s) 793
—For complete insert programme, see page(s) 926
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCB	DCSFMS	TDZ	DCONMS	LF	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch		inch	inch		inch	inch		lbs	
R217.97-1.00-12RE-12.2A	02450374	Combimaster	1.000	2	0.472	–	0.906	M12	–	1.181	10,0	1.606	1.961	40000	0.440	XPKX12T3
R217.97-1.25-16RE-12.3A	02450376	Combimaster	1.250	3	0.472	–	1.181	M16	–	1.575	8,0	2.106	2.461	40000	0.440	XPKX12T3
R217.97-01.50-20RE-12.3A	02928061	Combimaster	1.500	3	0.472	–	1.437	M20	–	1.575	6,0	2.606	2.961	35000	0.880	XPKX12T3
R217.97-1.50-16RE-12.3A	02520346	Combimaster	1.500	3	0.472	–	1.181	M16	–	1.575	6,0	2.606	2.961	35000	0.660	XPKX12T3
R220.97-02.00-12.3A	02534482	Arbor	2.000	3	0.472	0.750	1.850	–	0.750	1.772	5,0	3.606	3.961	30000	0.880	XPKX12T3
R220.97-02.00-12.4A	02450395	Arbor	2.000	4	0.472	0.750	1.850	–	0.750	1.772	5,0	3.606	3.961	30000	1.100	XPKX12T3

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.97-01.00	–	1/4HEX-T10PX50	C03508-T10P
R217.97-01.25-01.50	–	1/4HEX-T10PX50	C03509-T10P
R220.97-..	UC6S3/8UNFX1	1/4HEX-T10PX50	C03509-T10P

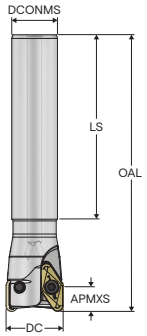
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.97-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30

Torque and fixed keys, see page 944

R217.97-V22 – Metric





—For insert selection and cutting data recommendations, see page(s) 794
—For complete insert programme, see page(s) 911
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCONMS	LS	LUX	LPR	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm		mm	mm		kg	
R217.97-2532.0-V22.2A	00035425	Cylindrical	32,0	2	14,0	25,0	75,0	64,0	64,0	120,0	15,0	56,0	62,0	40000	0,5	VPGX2206
R217.97-3240.0-V22.2A	00035427	Cylindrical	40,0	2	14,0	32,0	105,0	90,0	90,0	150,0	10,0	72,0	78,0	35000	0,9	VPGX2206

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.97-..	1/4HEX-T20PX50	C05010-T20P

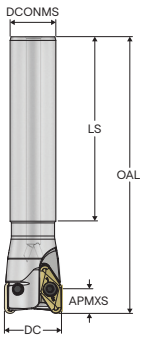
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.97-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R217.97-V22 – inch





—For insert selection and cutting data recommendations, see page(s) 794
—For complete insert programme, see page(s) 911
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCONMS	LS	LUX	LPR	OAL	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch		inch	inch		lbs	
R217.97-01.25-0-V22.2A	00054103	Cylindrical	1.250	2	0.551	1.000	4.000	3.795	3.795	6.000	10,0	2.185	2.421	40000	1.320	VPGX2206
R217.97-01.50-0-V22.2A	00054181	Cylindrical	1.500	2	0.551	1.250	4.000	3.638	3.638	6.000	10,0	2.685	2.921	35000	1.980	VPGX2206

Spare Parts, included in delivery

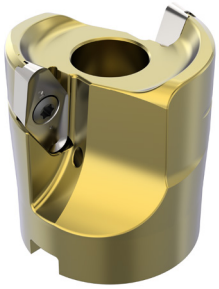
For cutter	Insert key	Insert screw
		
R217.97-..	1/4HEX-T20PX50	C05010-T20P

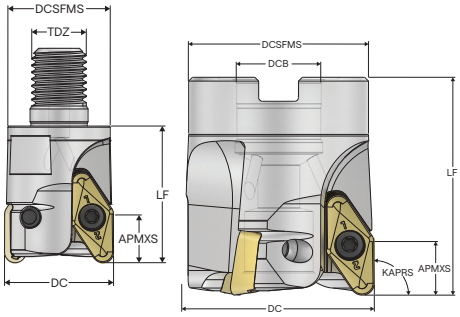
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.97-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R217/220.97-V22 – Metric



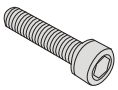


–For insert selection and cutting data recommendations, see page(s) 794
–For complete insert programme, see page(s) 911
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCB	DCSFMS	TDZ	DCONMS	LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm		mm	mm		mm	mm		kg	
R217.97-1632.RE-V22.2A	00035424	Combimaster	32,0	2	14,0	–	30,0	M16	–	40,0	15,0	56,0	62,0	40000	0,2	VPGX2206
R217.97-1640.RE-V22.2A	00035426	Combimaster	40,0	2	14,0	–	30,0	M16	–	40,0	10,0	72,0	78,0	35000	0,3	VPGX2206
R217.97-2040.RE-V22.2A	02928075	Combimaster	40,0	2	14,0	–	36,5	M20	–	45,0	10,0	72,0	78,0	35000	0,4	VPGX2206
R220.97-0050-V22.2A	00035392	Arbor	50,0	2	14,0	22,0	47,0	–	22,0	57,0	8,0	92,0	98,0	30000	0,6	VPGX2206
R220.97-0050-V22.3A	00035393	Arbor	50,0	3	14,0	22,0	47,0	–	22,0	57,0	8,0	92,0	98,0	30000	0,5	VPGX2206
R220.97-0063-V22.3A	00035394	Arbor	63,0	3	14,0	27,0	50,0	–	–	57,0	6,0	116,0	125,0	27000	0,7	VPGX2206
R220.97-0063-V22.4A	00035395	Arbor	63,0	4	14,0	27,0	50,0	–	–	57,0	6,0	116,0	125,0	27000	0,7	VPGX2206
R220.97-0080-V22.4A	00035396	Arbor	80,0	4	14,0	32,0	60,0	–	32,0	57,0	5,0	152,0	158,0	25000	1,1	VPGX2206
R220.97-0100-V22.5A	00035397	Arbor	100,0	5	14,0	32,0	77,0	–	32,0	57,0	4,0	192,0	198,0	22000	1,9	VPGX2206

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.97-1632-1640	–	1/4HEX-T20PX50	C05010-T20P
R217.97-2040	–	1/4HEX-T20PX50	C05010-T20P
R220.97-0050	MC6S10X40	1/4HEX-T20PX50	C05010-T20P
R220.97-0063	MC6S12X35	1/4HEX-T20PX50	C05013-T20P
R220.97-0080	MC6S16X40	1/4HEX-T20PX50	C05013-T20P
R220.97-0100	MC6S16X40	1/4HEX-T20PX90	C05013-T20P

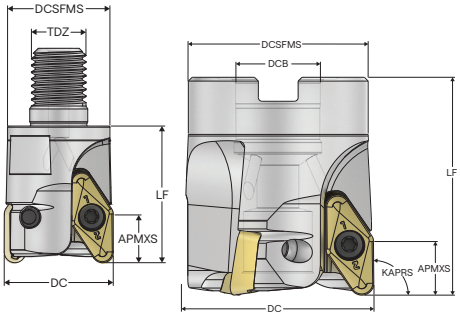
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.97-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R217/220.97-V22 – inch



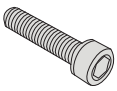


—For insert selection and cutting data recommendations, see page(s) 794
—For complete insert programme, see page(s) 911
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCB	DCSFMS	TDZ	DCONMS	LF	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch		inch	inch		inch	inch		lbs	
R217.97-1.25-16REV22.2A	00054077	Combimaster	1.250	2	0.551	–	1.181	M16	–	1.600	10,0	2.185	2.421	40000	0.660	VPGX2206
R217.97-1.50-16REV22.2A	00054146	Combimaster	1.500	2	0.551	–	1.181	M16	–	1.600	10,0	2.685	2.921	35000	0.660	VPGX2206
R220.97-02.00-V22.2A	00054269	Arbor	2.000	2	0.551	0.750	1.850	–	0.750	2.250	8,0	3.685	3.921	30000	1.320	VPGX2206
R220.97-02.00-V22.3A	00054587	Arbor	2.000	3	0.551	0.750	1.850	–	0.750	2.250	8,0	3.685	3.921	30000	1.320	VPGX2206
R220.97-02.50-V22.4A	00055249	Arbor	2.500	4	0.551	1.000	2.047	–	1.000	2.250	6,0	4.685	4.921	27000	1.760	VPGX2206
R220.97-03.00-V22.4A	00050756	Arbor	3.000	4	0.551	1.000	2.441	–	1.000	2.250	5,0	5.685	5.921	25000	2.430	VPGX2206
R220.97-04.00-V22.5A	00050828	Arbor	4.000	5	0.551	1.500	3.543	–	–	2.250	4,0	7.685	7.921	22000	4.850	VPGX2206

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.97-..	–	1/4HEX-T20PX50	C05010-T20P
R220.97-02.00	UC6S3/8UNFX11/2	1/4HEX-T20PX50	C05010-T20P
R220.97-02.50-03.00	UC6S1/2UNFX1-1/2	1/4HEX-T20PX50	C05013-T20P
R220.97-04.00	UC6S3/4UNFX1-1/4	1/4HEX-T20PX90	C05013-T20P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.97-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R217.97-X08 – Insert selection – mm/Inch

SMG		a_p	f_z				
			100%	70%	30%	10%	5%
N1	XPKX080304PDER-E06 H25	4,0 *0.16*	0,18 0.0070	0,18 0.0070	0,20 0.0080	0,32 0.013	0,44 0.017
N2	XPKX080304PDER-E06 H25	4,0 *0.16*	0,18 0.0070	0,18 0.0070	0,20 0.0080	0,32 0.013	0,44 0.017
N3	XPKX080304PDER-E06 H25	4,0 *0.16*	0,18 0.0070	0,18 0.0070	0,20 0.0080	0,32 0.013	0,44 0.017
N11	XPKX080304PDER-E06 H25	4,0 *0.16*	0,18 0.0070	0,18 0.0070	0,20 0.0080	0,32 0.013	0,44 0.017

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217.97-X08 – Cutting data v_c = (m/min)/(sf/min)

SMG	H25				
	100%	70%	30%	10%	5%
N1	2025 *6650*	2200 *7225*	2675 *8775*	3175 *10425*	3400 *11150*
N2	510 *1675*	560 *1825*	680 *2225*	800 *2625*	860 *2825*
N3	340 *1125*	370 *1225*	450 *1475*	540 *1775*	570 *1875*
N11	390 *1275*	425 *1400*	510 *1675*	610 *2000*	650 *2125*

R217/220.97-X12 – Insert selection – mm/Inch

SMG		a_p	f_z				
			100%	70%	30%	10%	5%
N1	XPKX12T304PDER-E08 H25	6,0 *0.24*	0,20 0.0080	0,20 0.0080	0,22 0.0085	0,34 0.013	0,48 0.019
N2	XPKX12T304PDER-E08 H25	6,0 *0.24*	0,20 0.0080	0,20 0.0080	0,22 0.0085	0,34 0.013	0,48 0.019
N3	XPKX12T304PDER-E08 H25	6,0 *0.24*	0,20 0.0080	0,20 0.0080	0,22 0.0085	0,34 0.013	0,48 0.019
N11	XPKX12T304PDER-E08 H25	6,0 *0.24*	0,20 0.0080	0,20 0.0080	0,22 0.0085	0,34 0.013	0,48 0.019

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.97-X12 – Cutting data v_c = (m/min)/(sf/min)

SMG	H25				
	100%	70%	30%	10%	5%
N1	1900 *6225*	2075 *6800*	2525 *8275*	3000 *9850*	3225 *10575*
N2	480 *1575*	520 *1700*	640 *2100*	760 *2500*	820 *2700*
N3	320 *1050*	350 *1150*	425 *1400*	500 *1650*	540 *1775*
N11	365 *1200*	400 *1300*	485 *1600*	580 *1900*	620 *2025*

R217/220.97-V22 – Insert selection – mm/Inch

SMG		a_p	f_z				
			100%	70%	30%	10%	5%
N1	VPGX220605ER-E10 H25	7,0 *0.28*	0,22 0.0085	0,22 0.0085	0,24 0.0095	0,36 0.014	0,50 0.020
N2	VPGX220605ER-E10 H25	7,0 *0.28*	0,22 0.0085	0,22 0.0085	0,24 0.0095	0,36 0.014	0,50 0.020
N3	VPGX220605ER-E10 H25	7,0 *0.28*	0,22 0.0085	0,22 0.0085	0,24 0.0095	0,36 0.014	0,50 0.020
N11	VPGX220605ER-E10 H25	7,0 *0.28*	0,22 0.0085	0,22 0.0085	0,24 0.0095	0,36 0.014	0,50 0.020

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.97-V22 – Cutting data v_c = (m/min)/(sf/min)

SMG	H15					H25				
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%
N1	1925 *6325*	2075 *6800*	2550 *8375*	3050 *10000*	3300 *10825*	1925 *6325*	2075 *6800*	2550 *8375*	3050 *10000*	3300 *10825*
N2	485 *1600*	530 *1750*	650 *2125*	770 *2525*	840 *2750*	485 *1600*	530 *1750*	650 *2125*	770 *2525*	840 *2750*
N3	325 *1075*	350 *1150*	430 *1400*	510 *1675*	560 *1825*	325 *1075*	350 *1150*	430 *1400*	510 *1675*	560 *1825*
N11	370 *1225*	400 *1300*	490 *1600*	590 *1925*	640 *2100*	370 *1225*	400 *1300*	490 *1600*	590 *1925*	640 *2100*

Code keys metric and inch

R	217	.	79	-	18	20	.	0	-	10	A
1	2		3		4	5		6		7	8

R	217	.	79	-	01.50	-	3	-	08	3	A
1	2		3		4		5		6	7	8

1.

R = Right hand rotation
Cx = For Seco-Capto

2.

217 = With shank
220 = For arbor

3.

Cutter system

4.

Shank diameter
(connecting thread diameter for Combimaster)

5. (Not for inch designation)

Cutter diameter

6.

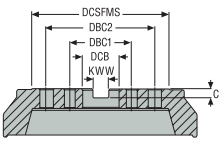
Shank type
RE = Combimaster
0. = Cylindrical
3. = Weldon

7.

Insert size

8.

A = With through coolant supply



Dimensions in mm

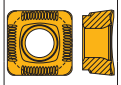
DCB	DCSFMS	DBC1	DBC2	KWW	C
16	30-35	–	–	8,4	5,6
22	42-47	–	–	10,4	6,3
27	48-62	–	–	12,4	7
32	60-90	–	–	14,4	8
40	90-130	66,7	–	16,4	9
60	130-270	101,6	177,8	25,7	14

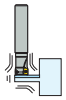
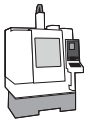
Dimensions in inch

DCB	DCSFMS	DBC1	DBC2	KWW	C
0.500	*1.181 - 1.378*			*0.258*	*0.165*
0.750	*1.378 - 1.850*	–	–	*0.321*	*0.193*
1.000	*1.803 - 2.441*	–	–	*0.382*	*0.224*
1.250	*2.250 - 3.031*	–	–	*0.508*	*0.287*
1.500	*2.750 - 3.543*	–	–	*0.630*	*0.382*
2.000	*4.331*	–	–	*0.756*	*0.445*
2.500	*5.118 - 6.299 (8.858)*	*4.000*	*(7.000)*	*1.000*	*0.551*

For a more exact DCSFMS and DCB measurement, see each product table.

Selection – Metric

Insert	a_p max	Material suitability								
		P	M	K	N	S	H			
XO06 	3,0	■	■	■	■	■	□	■	◩	■
XO10 	6,0	■	■	■	■	■	□	■	■	■
XO12 	7,0	■	■	■	■	■	□	◩	■	■
SCET 	11,0 20,0 30,0 40,0	■	■	■	■	■	□	-	■	◩
XNEX08..L 	7,0	■	■	■	■	■	□	■	■	■

1st choice	■	High speed machine with low power/torque 		Unstable condition suitability 	
Alternative choice	◩	Strong stable machine with rigid connecion 		Ramping ability 	
Possible choice	□	Not recommended	-	Plunging ability 	

Selection – Metric

Insert	No. of cutting edges	Application	Cutter diameter (mm) available with effective number of teeth												See page
			12	16	20	25	32	40	50	63	80	100	125	160	
XO.X06	2		2	3											806
			3	4											
XO.X10	2				2										809
						3	4	5							
XO.X12	2						2	3	4						816
						2	3	4		5					
SCET12	4						2	3	4	5	6	7	8		823
												4			
													4		
														4	
XNEX08	6							3	4	5	6	7			801
									5	6	7	9			

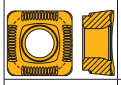
x — x indicates number of teeth (first choice)

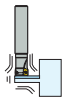
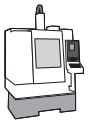
x — x indicates number of teeth

Troubleshooter for unstable fixturing and/or unstable conditions

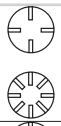
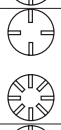
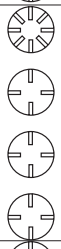
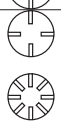
Basic choice

Selection – Inch

Insert	a_p max	Material suitability								
		P	M	K	N	S	H			
XO10 	0.236	■	■	■	■	■	□	■	■	■
XO12 	0.276	■	■	■	■	■	□	◩	■	■
SCET 	0.433	■	■	■	■	■	□	-	■	◩
XNEX08..L 	0.276	■	■	■	■	■	□	■	■	■

1st choice	■	High speed machine with low power/torque 		Unstable condition suitability 	
Alternative choice	◩	Strong stable machine with rigid connecion 		Ramping ability 	
Possible choice	□	Not recommended	-	Plunging ability 	

Selection – Inch

Insert	No. of cutting edges	Application	Cutter diameter (inch) available with effective number of teeth								See page
			0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	
XO.X10	2		2								809
XO.X12	2			2							816
SCET12	4				2	3	4	5	6	7	823
XNEX08	6					3	4	6	7	9	801

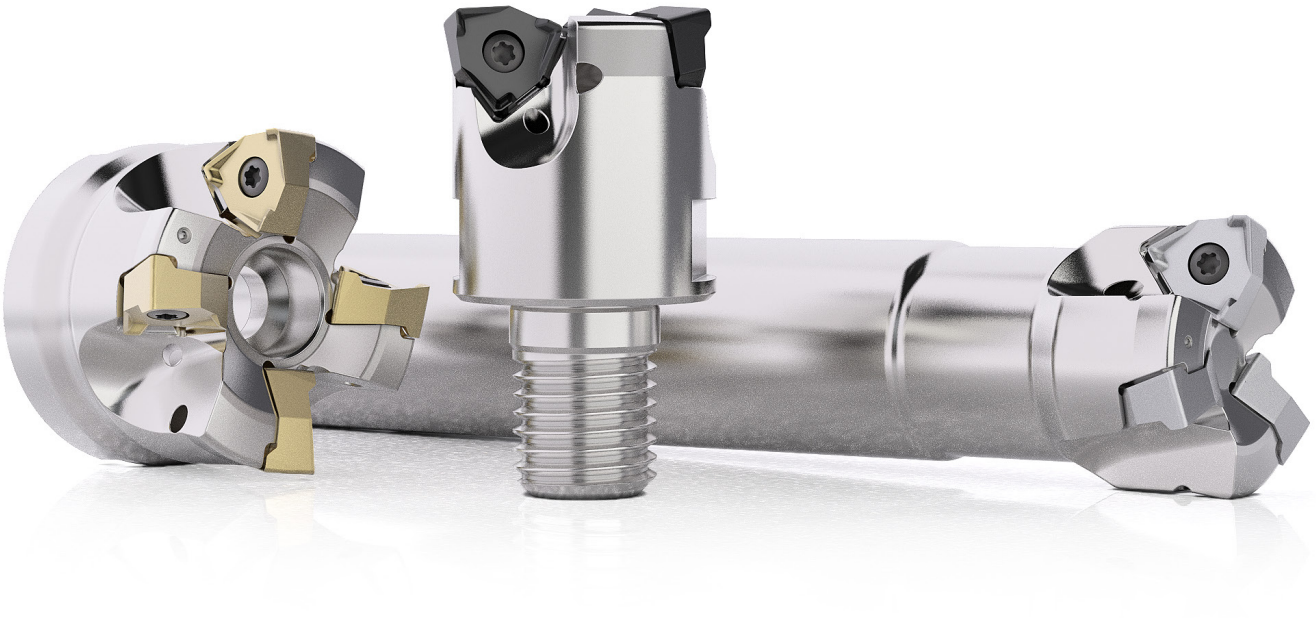
x	x indicates number of teeth (first choice)
x	x indicates number of teeth



Troubleshooter for unstable fixturing and/or unstable conditions



Basic choice



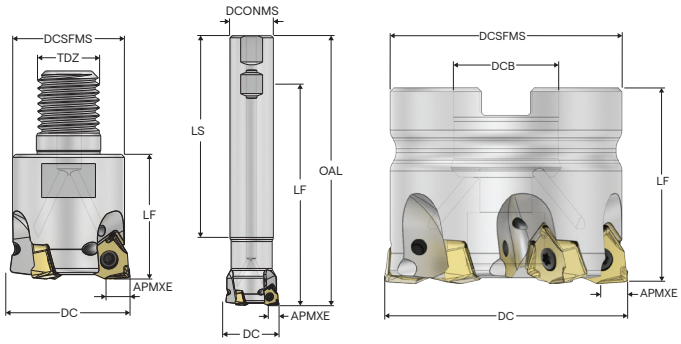
Square 6 Plunge mill

The Plunge Square 6 cutters are equipt with double sided inserts, means 6 cutting edges.

– Cutter range: 40-100 mm (1.5 - 3 inch)
– Max radial depth of cut 7 mm (.275 inch)
– Insert corner radii range 0.8-1.6 mm (.031 - .063 inch)

R217/220.79-08 – Metric





—For insert selection and cutting data recommendations, see page(s) 803-804
—For complete insert programme, see page(s) 912
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXE	DCB	DCSFMS	TDZ	DCONMS	LF	LUX	LPR	OAL	RPMX	Weight	Insert
			mm		mm	mm	mm		mm	mm	mm	mm	mm		kg	
R217.79-3240.3-08-3A	03058304	Weldon	40,0	3	7,0	–	–	–	32,0	164,0	140,0	140,0	200,0	11800	1,3	XNEX08..L
R217.79-2040.RE-08-3A	03058302	Combimaster	40,0	3	7,0	–	36,5	M20	–	40,0	–	–	–	11800	0,3	XNEX08..L
R220.79-0050-08-4A	03058315	Arbor	50,0	4	7,0	22,0	48,0	–	–	40,0	–	–	–	10600	0,3	XNEX08..L
R220.79-0050-08-5A	03058316	Arbor	50,0	5	7,0	22,0	48,0	–	–	40,0	–	–	–	10600	0,3	XNEX08..L
R220.79-0063-08-6A	03058318	Arbor	63,0	6	7,0	27,0	60,0	–	–	50,0	–	–	–	9400	0,7	XNEX08..L
R220.79-0080-08-7A	03058320	Arbor	80,0	7	7,0	27,0	62,0	–	–	50,0	–	–	–	8400	1,1	XNEX08..L

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
220.79-Ø50	220.17-696	1/4HEX-T15PX50	C04011-T15P
220.79-Ø63	MC6S12X35	1/4HEX-T15PX50	C04011-T15P
R217.79-.. Ø40	–	1/4HEX-T15PX50	C04011-T15P
R220.79- Ø80	–	1/4HEX-T15PX50	C04011-T15P

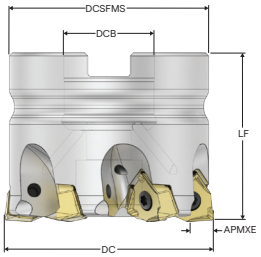
Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R217/220.79-..	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	3.5NM	T00-15P35
R217/220.79-..	1/4HEX-S-HANDLE-0.8-5.0NM	5802712	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

R220.79-08 – Inch

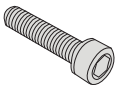




—For insert selection and cutting data recommendations, see page(s) 803-804
—For complete insert programme, see page(s) 912
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXE	DCB	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch	inch	inch	inch		lbs	
R220.79-02.50-08-6A	03058349	Arbor	2.500	6	0.276	1.000	2.250	1.969	9400	1.980	XNEX08..L

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.79-02.50-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T15PX50	C04011-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.79-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	T00-15P35

Torque and fixed keys, see page 944

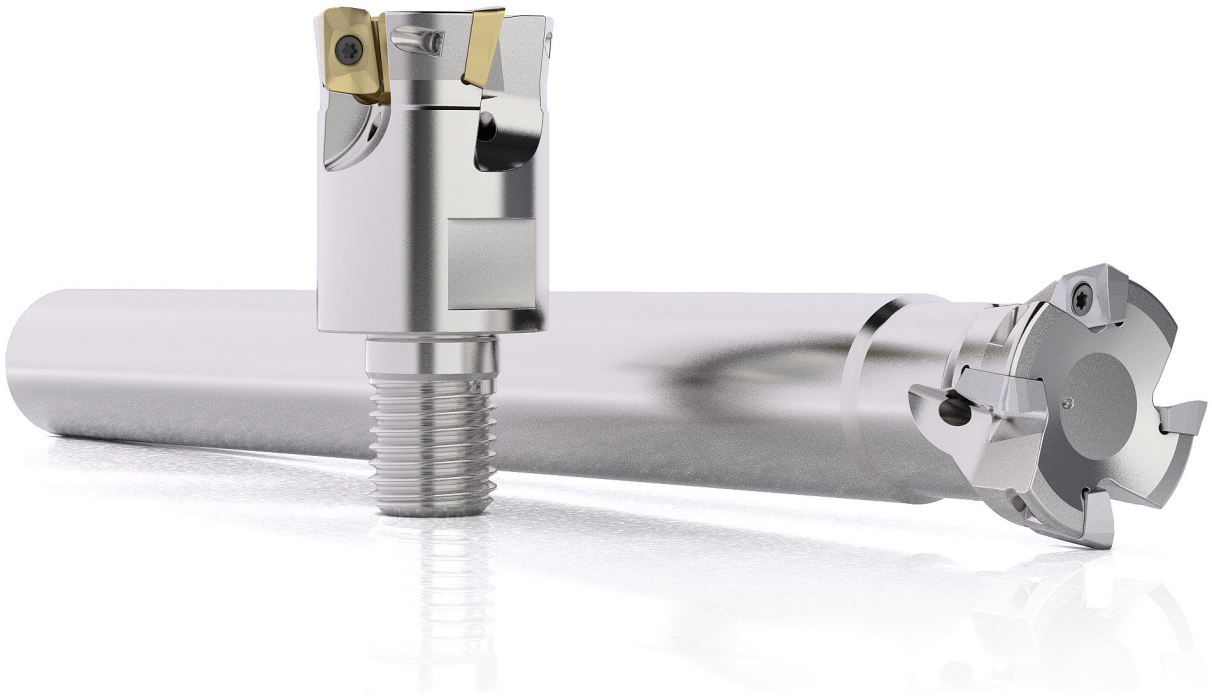
R217/220.79-08 – Insert selection – mm/Inch

SMG		f_z	a_{so}			
			100%	70%	50%	30%
P1	XNEX080608TL-M13 F40M	0,18 *0.0070*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
P2	XNEX080608TL-M13 F40M	0,19 *0.0075*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
P3	XNEX080608TL-M13 MP2501	0,18 *0.0070*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
P4	XNEX080608TL-M13 MP2501	0,17 *0.0065*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
P5	XNEX080608TL-M13 MP2501	0,17 *0.0065*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
P6	XNEX080608TL-M13 MP2501	0,17 *0.0065*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
P7	XNEX080608TL-M13 MP2501	0,17 *0.0065*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
P8	XNEX080608TL-M13 MP2501	0,18 *0.0070*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
P11	XNEX080608TL-M13 MP3501	0,17 *0.0065*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
P12	XNEX080608TL-M13 MP2501	0,11 *0.0044*	4,0 0.16	4,0 0.16	4,0 0.16	4,5 0.18
M1	XNEX080608TL-M13 F40M	0,19 *0.0075*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
M2	XNEX080608TL-M13 F40M	0,17 *0.0065*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
M3	XNEX080608TL-M13 F40M	0,14 *0.0055*	4,0 0.16	4,0 0.16	4,0 0.16	4,5 0.18
M4	XNEX080608TL-M13 MP3501	0,12 *0.0048*	3,0 0.12	3,0 0.12	3,0 0.12	3,5 0.14
M5	XNEX080608TL-M13 MP3501	0,12 *0.0048*	3,0 0.12	3,0 0.12	3,0 0.12	3,5 0.14
K1	XNEX080608TL-M13 MP2501	0,19 *0.0075*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
K2	XNEX080608TL-M13 MP2501	0,17 *0.0065*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
K3	XNEX080608TL-M13 MP2501	0,17 *0.0065*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
K4	XNEX080608TL-M13 MP2501	0,17 *0.0065*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
K5	XNEX080608TL-M13 MP2501	0,15 *0.0060*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
K6	XNEX080608TL-M13 MP2501	0,17 *0.0065*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
K7	XNEX080608TL-M13 MP2501	0,15 *0.0060*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
S1	XNEX080608TL-M13 MP3501	0,12 *0.0048*	3,0 0.12	3,0 0.12	3,0 0.12	3,5 0.14
S2	XNEX080608TL-M13 MP3501	0,12 *0.0048*	3,0 0.12	3,0 0.12	3,0 0.12	3,5 0.14
S3	XNEX080608TL-M13 MP3501	0,11 *0.0044*	3,0 0.12	3,0 0.12	3,0 0.12	3,5 0.14
S11	XNEX080608TL-M13 MS2050	0,14 *0.0055*	3,5 0.14	3,5 0.14	3,5 0.14	4,0 0.16
S12	XNEX080608TL-M13 MS2050	0,14 *0.0055*	3,5 0.14	3,5 0.14	3,5 0.14	4,0 0.16
S13	XNEX080608TL-M13 MS2050	0,12 *0.0048*	3,0 0.12	3,0 0.12	3,0 0.12	3,5 0.14
H5	XNEX080608TL-M13 MP3501	0,11 *0.0044*	4,0 0.16	4,0 0.16	4,0 0.16	4,5 0.18
H8	XNEX080608TL-M13 MP3501	0,090 *0.0036*	3,5 0.14	3,5 0.14	3,5 0.14	4,0 0.16
H11	XNEX080608TL-M13 MP3501	0,11 *0.0044*	4,0 0.16	4,0 0.16	4,0 0.16	4,5 0.18
H12	XNEX080608TL-M13 MP3501	0,090 *0.0036*	3,5 0.14	3,5 0.14	3,5 0.14	4,0 0.16

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.79-08 – Cutting data v_c = (m/min)/(sf/min)

SMG	MS2050				F40M				MP2501				MP3501			
	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%
P1	190 *620*	210 *690*	225 *740*	240 *790*	180 *590*	195 *640*	205 *670*	215 *710*	305 *1000*	330 *1075*	345 *1125*	365 *1200*	270 *890*	290 *950*	305 *1000*	320 *1050*
P2	180 *590*	200 *660*	210 *690*	225 *740*	170 *560*	185 *610*	190 *620*	200 *660*	290 *950*	315 *1025*	330 *1075*	345 *1125*	255 *840*	275 *900*	290 *950*	305 *1000*
P3	160 *520*	175 *570*	185 *610*	200 *660*	150 *490*	165 *540*	170 *560*	180 *590*	255 *840*	275 *900*	290 *950*	305 *1000*	225 *740*	245 *800*	255 *840*	270 *890*
P4	145 *475*	160 *520*	170 *560*	180 *590*	145 *475*	155 *510*	165 *540*	175 *570*	230 *750*	250 *820*	260 *850*	275 *900*	205 *670*	220 *720*	230 *750*	245 *800*
P5	140 *460*	155 *510*	160 *520*	170 *560*	130 *425*	140 *460*	145 *475*	155 *510*	220 *720*	240 *790*	250 *820*	265 *870*	195 *640*	210 *690*	220 *720*	235 *770*
P6	155 *510*	170 *560*	180 *590*	195 *640*	145 *475*	160 *520*	165 *540*	175 *570*	245 *800*	270 *890*	280 *920*	295 *970*	220 *720*	235 *770*	250 *820*	260 *850*
P7	145 *475*	160 *520*	170 *560*	180 *590*	140 *460*	150 *490*	155 *510*	165 *540*	235 *770*	255 *840*	265 *870*	280 *920*	205 *670*	225 *740*	235 *770*	245 *800*
P8	135 *445*	150 *490*	155 *510*	170 *560*	125 *410*	135 *445*	145 *475*	150 *490*	215 *710*	235 *770*	245 *800*	255 *840*	190 *620*	205 *670*	215 *710*	225 *740*
P11	145 *475*	160 *520*	165 *540*	175 *570*	135 *445*	145 *475*	150 *490*	160 *520*	225 *740*	245 *800*	255 *840*	270 *890*	200 *660*	215 *710*	225 *740*	240 *790*
P12	100 *330*	110 *360*	120 *395*	125 *410*	100 *330*	105 *345*	110 *360*	115 *375*	160 *520*	175 *570*	180 *590*	190 *620*	140 *460*	155 *510*	160 *520*	170 *560*
M1	145 *475*	160 *520*	170 *560*	185 *610*	130 *425*	145 *475*	155 *510*	165 *540*	155 *510*	175 *570*	185 *610*	195 *640*	145 *475*	160 *520*	170 *560*	185 *610*
M2	120 *395*	135 *445*	145 *475*	155 *510*	110 *360*	125 *410*	130 *425*	140 *460*	130 *425*	145 *475*	155 *510*	165 *540*	120 *395*	135 *445*	145 *475*	155 *510*
M3	100 *330*	110 *360*	115 *375*	125 *410*	90 *295*	100 *330*	105 *345*	115 *375*	105 *345*	120 *395*	125 *410*	135 *445*	100 *330*	110 *360*	115 *375*	125 *410*
M4	80 *260*	90 *295*	95 *310*	100 *330*	70 *230*	80 *260*	85 *280*	90 *295*	85 *280*	95 *310*	100 *330*	105 *345*	80 *260*	90 *295*	95 *310*	100 *330*
M5	65 *215*	75 *245*	75 *245*	85 *280*	60 *195*	65 *215*	70 *230*	75 *245*	70 *230*	80 *260*	85 *280*	90 *295*	65 *215*	75 *245*	75 *245*	85 *280*
K1	— —	— —	— —	— —	130 *425*	145 *475*	155 *510*	165 *540*	290 *950*	315 *1025*	330 *1075*	350 *1150*	255 *840*	280 *920*	290 *950*	310 *1025*
K2	— —	— —	— —	— —	115 *375*	130 *425*	135 *445*	145 *475*	265 *870*	290 *950*	300 *980*	320 *1050*	235 *770*	255 *840*	265 *870*	280 *920*
K3	— —	— —	— —	— —	100 *330*	110 *360*	115 *375*	125 *410*	225 *740*	245 *800*	255 *840*	270 *890*	200 *660*	215 *710*	225 *740*	240 *790*
K4	— —	— —	— —	— —	95 *310*	105 *345*	110 *360*	120 *395*	215 *710*	235 *770*	245 *800*	255 *840*	190 *620*	205 *670*	215 *710*	225 *740*
K5	— —	— —	— —	— —	60 *195*	65 *215*	70 *230*	75 *245*	135 *445*	145 *475*	155 *510*	160 *520*	120 *395*	130 *425*	135 *445*	145 *475*
K6	— —	— —	— —	— —	85 *280*	90 *295*	100 *330*	105 *345*	190 *620*	205 *670*	215 *710*	225 *740*	165 *540*	180 *590*	190 *620*	200 *660*
K7	— —	— —	— —	— —	75 *245*	85 *280*	90 *295*	95 *310*	175 *570*	190 *620*	195 *640*	205 *670*	155 *510*	165 *540*	175 *570*	185 *610*
S1	37 *120*	41 *135*	43 *140*	47 *155*	33 *110*	37 *120*	39 *130*	42 *140*	— —	— —	— —	— —	37 *120*	41 *135*	43 *140*	47 *155*
S2	29 *95*	33 *110*	35 *115*	38 *125*	27 *90*	30 *100*	32 *105*	34 *110*	— —	— —	— —	— —	29 *95*	33 *110*	35 *115*	38 *125*
S3	26 *85*	29 *95*	31 *100*	33 *110*	24 *80*	26 *85*	28 *90*	30 *100*	— —	— —	— —	— —	26 *85*	29 *95*	31 *100*	33 *110*
S11	50 *165*	55 *180*	60 *195*	65 *215*	46 *150*	50 *165*	55 *180*	60 *195*	— —	— —	— —	— —	50 *165*	55 *180*	60 *195*	65 *215*
S12	35 *115*	39 *130*	41 *135*	44 *145*	32 *105*	35 *115*	37 *120*	40 *130*	— —	— —	— —	— —	35 *115*	39 *130*	41 *135*	44 *145*
S13	21 *70*	23 *75*	24 *80*	26 *85*	19 *60*	21 *70*	22 *70*	24 *80*	— —	— —	— —	— —	21 *70*	23 *75*	24 *80*	26 *85*
H5	— —	— —	— —	— —	29 *95*	32 *105*	34 *110*	36 *120*	— —	— —	— —	— —	33 *110*	37 *120*	39 *130*	42 *140*
H8	— —	— —	— —	— —	30 *100*	34 *110*	36 *120*	39 *130*	— —	— —	— —	— —	35 *115*	39 *130*	41 *135*	44 *145*
H11	— —	— —	— —	— —	36 *120*	41 *135*	43 *140*	46 *150*	— —	— —	— —	— —	42 *140*	47 *155*	49 *160*	55 *180*
H12	— —	— —	— —	— —	55 *180*	60 *195*	65 *215*	70 *230*	— —	— —	— —	— —	65 *215*	70 *230*	75 *245*	80 *260*

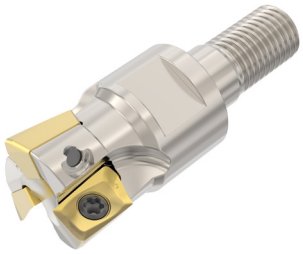


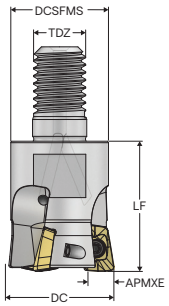
Turbo Plunge mill

Turbo Plunge mills can be used for both up-copying and down-copying in an axial feed direction, such as in deep cavities for mold tools. All cutters in this family incorporate internal coolant to optimize chip evacuation.

– Insert size 06, cutter range 12-16 mm
– Insert size 10, cutter range 20-32 mm (0.75 - 1 inch)
– Insert size 12, cutter range 25-63 mm (1 inch)

R217.79-06 – Metric





—For insert selection and cutting data recommendations, see page(s) 807–808
—For complete insert programme, see page(s) 917
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXE	DCSFMS	TDZ	LF	RPMX	Weight	Insert
			mm		mm	mm		mm		kg	
R217.79-0612.RE-06.3AN	02705857	Combimaster	12,0	3	3,0	11,0	M6	18,0	32000	0,1	XO..06
R217.79-0816.RE-06.3AN	02705859	Combimaster	16,0	3	3,0	13,5	M8	20,0	28000	0,1	XO..06

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.79-..	1/4HEX-T06PX50	C01804-T06P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.79-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.5NM	T00-06P05

Torque and fixed keys, see page 944

R217.79-06 – Insert selection – mm/Inch

SMG		f_z	a_{so}			
			100%	70%	50%	30%
P1	XOMX060204R-M05 F40M	0,070 *0.0028*	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10
P2	XOMX060204R-M05 F40M	0,070 *0.0028*	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10
P3	XOMX060204R-M05 F40M	0,070 *0.0028*	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10
P4	XOMX060204R-M05 F40M	0,065 *0.0026*	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10
P5	XOMX060204R-M05 F40M	0,065 *0.0026*	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10
P6	XOMX060204R-M05 F40M	0,065 *0.0026*	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10
P7	XOMX060204R-M05 F40M	0,065 *0.0026*	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10
P8	XOMX060204R-M05 F40M	0,070 *0.0028*	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10
P11	XOMX060204R-M05 MP3000	0,065 *0.0026*	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10
P12	XOMX060204R-M05 MP3000	0,044 *0.0017*	1,7 0.065	1,7 0.065	1,7 0.065	2,0 0.080
M1	XOMX060204R-M05 F40M	0,070 *0.0028*	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10
M2	XOMX060204R-M05 F40M	0,065 *0.0026*	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10
M3	XOMX060204R-M05 F40M	0,050 *0.0020*	1,7 0.065	1,7 0.065	1,7 0.065	2,0 0.080
M4	XOMX060204R-M05 F40M	0,046 *0.0018*	1,3 0.050	1,3 0.050	1,3 0.050	1,4 0.055
M5	XOMX060204R-M05 F40M	0,046 *0.0018*	1,3 0.050	1,3 0.050	1,3 0.050	1,4 0.055
K1	XOMX060204R-M05 MP3000	0,070 *0.0028*	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10
K2	XOMX060204R-M05 MP3000	0,065 *0.0026*	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10
K3	XOMX060204R-M05 MP3000	0,065 *0.0026*	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10
K4	XOMX060204R-M05 MP3000	0,065 *0.0026*	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10
K5	XOMX060204R-M05 MP3000	0,060 *0.0024*	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10
K6	XOMX060204R-M05 MP3000	0,065 *0.0026*	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10
K7	XOMX060204R-M05 MP3000	0,060 *0.0024*	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10
N1	XOEX060204FR-E03 H15	0,075 *0.0030*	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10
N2	XOEX060204FR-E03 H15	0,075 *0.0030*	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10
N3	XOEX060204FR-E03 H15	0,075 *0.0030*	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10
N11	XOEX060204FR-E03 H15	0,075 *0.0030*	2,0 0.080	2,0 0.080	2,0 0.080	2,5 0.10
S1	XOMX060204R-M05 F40M	0,046 *0.0018*	1,3 0.050	1,3 0.050	1,3 0.050	1,4 0.055
S2	XOMX060204R-M05 F40M	0,046 *0.0018*	1,3 0.050	1,3 0.050	1,3 0.050	1,4 0.055
S3	XOMX060204R-M05 F40M	0,042 *0.0017*	1,3 0.050	1,3 0.050	1,3 0.050	1,4 0.055
S11	XOMX060204R-M05 MS2050	0,050 *0.0020*	1,5 0.060	1,5 0.060	1,5 0.060	1,7 0.065
S12	XOMX060204R-M05 MS2050	0,050 *0.0020*	1,5 0.060	1,5 0.060	1,5 0.060	1,7 0.065
S13	XOMX060204R-M05 MS2050	0,046 *0.0018*	1,3 0.050	1,3 0.050	1,3 0.050	1,4 0.055
H5	XOMX060204R-M05 MP3000	0,044 *0.0017*	1,7 0.065	1,7 0.065	1,7 0.065	2,0 0.080
H8	XOMX060204R-M05 MP3000	0,034 *0.0013*	1,5 0.060	1,5 0.060	1,5 0.060	1,7 0.065
H11	XOMX060204R-M05 MP3000	0,044 *0.0017*	1,7 0.065	1,7 0.065	1,7 0.065	2,0 0.080
H12	XOMX060204R-M05 MP3000	0,034 *0.0013*	1,5 0.060	1,5 0.060	1,5 0.060	1,7 0.065

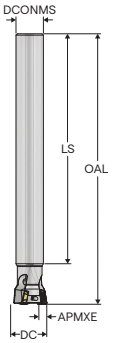
SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217.79-06 – Cutting data v_c = (m/min)/(sf/min)

SMG	MH1051				F15M				F30M				MP3000				MS2050				F40M				H15				MM4500			
	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%
P1	—	—	—	—	—	—	—	—	240	270	285	300	325	360	380	400	280	310	325	340	275	295	305	315	—	—	—	—	245	270	280	295
	—	—	—	—	—	—	—	—	*790*	*890*	*940*	*980*	*1075*	*1175*	*1250*	*1300*	*920*	*1025*	*1075*	*1125*	*900*	*970*	*1000*	*1025*	—	—	—	—	*800*	*890*	*920*	*970*
P2	—	—	—	—	—	—	—	—	235	260	275	295	315	350	370	390	275	300	315	330	265	285	295	310	—	—	—	—	240	260	275	290
	—	—	—	—	—	—	—	—	*770*	*850*	*900*	*970*	*1025*	*1150*	*1225*	*1275*	*900*	*980*	*1025*	*1075*	*870*	*940*	*970*	*1025*	—	—	—	—	*790*	*850*	*900*	*950*
P3	—	—	—	—	—	—	—	—	205	225	240	255	270	300	315	335	235	260	270	285	230	245	255	265	—	—	—	—	205	225	235	250
	—	—	—	—	—	—	—	—	*670*	*740*	*790*	*840*	*890*	*980*	*1025*	*1100*	*770*	*850*	*890*	*940*	*750*	*800*	*840*	*870*	—	—	—	—	*670*	*740*	*770*	*820*
P4	—	—	—	—	—	—	—	—	180	200	215	225	245	270	285	300	215	235	245	255	210	225	235	250	—	—	—	—	200	220	230	240
	—	—	—	—	—	—	—	—	*590*	*660*	*710*	*740*	*800*	*890*	*940*	*980*	*710*	*770*	*800*	*840*	*690*	*740*	*770*	*820*	—	—	—	—	*660*	*720*	*750*	*790*
P5	440	490	510	550	—	—	—	—	175	195	205	215	235	260	270	290	205	220	235	245	195	210	220	230	—	—	—	—	175	190	200	210
	1450	*1600*	*1675*	*1800*	—	—	—	—	*570*	*640*	*670*	*710*	*770*	*850*	*890*	*950*	*670*	*720*	*770*	*800*	*640*	*690*	*720*	*750*	—	—	—	—	*570*	*620*	*660*	*690*
P6	495	550	580	610	—	—	—	—	195	215	230	245	265	290	305	325	230	250	260	275	220	240	245	255	—	—	—	—	195	215	225	240
	1625	*1800*	*1900*	*2000*	—	—	—	—	*640*	*710*	*750*	*800*	*870*	*950*	*1000*	*1075*	*750*	*820*	*850*	*900*	*720*	*790*	*800*	*840*	—	—	—	—	*640*	*710*	*740*	*790*
P7	465	520	550	580	—	—	—	—	185	205	215	230	250	275	290	305	215	235	245	260	210	225	235	240	—	—	—	—	185	205	215	225
	1525	*1700*	*1800*	*1900*	—	—	—	—	*610*	*670*	*710*	*750*	*820*	*900*	*950*	*1000*	*710*	*770*	*800*	*850*	*690*	*740*	*770*	*790*	—	—	—	—	*610*	*670*	*710*	*740*
P8	425	475	500	530	—	—	—	—	170	190	200	215	230	255	265	280	200	220	230	240	195	205	215	225	—	—	—	—	175	190	200	210
	1400	*1550*	*1650*	*1750*	—	—	—	—	*560*	*620*	*660*	*710*	*750*	*840*	*870*	*920*	*660*	*720*	*750*	*790*	*640*	*670*	*710*	*740*	—	—	—	—	*570*	*620*	*660*	*690*
P11	455	500	530	560	—	—	—	—	180	200	210	225	240	265	280	295	210	230	240	250	205	220	225	235	—	—	—	—	180	200	205	220
	1500	*1650*	*1750*	*1825*	—	—	—	—	*590*	*660*	*690*	*740*	*790*	*870*	*920*	*970*	*690*	*750*	*790*	*820*	*670*	*720*	*740*	*770*	—	—	—	—	*590*	*660*	*670*	*720*
P12	310	340	360	380	—	—	—	—	115	130	135	145	160	175	185	195	135	150	155	165	135	145	150	155	—	—	—	—	110	120	130	135
	1025	*1125*	*1175*	*1250*	—	—	—	—	*375*	*425*	*445*	*475*	*520*	*570*	*610*	*640*	*445*	*490*	*510*	*540*	*445*	*475*	*490*	*510*	—	—	—	—	*360*	*395*	*425*	*445*
M1	—	—	—	—	—	—	—	—	190	210	225	235	210	235	245	260	200	220	235	250	180	200	210	225	—	—	—	—	155	175	185	195
	—	—	—	—	—	—	—	—	*620*	*690*	*740*	*770*	*690*	*770*	*800*	*850*	*660*	*720*	*770*	*820*	*590*	*660*	*690*	*740*	—	—	—	—	*510*	*570*	*610*	*640*
M2	—	—	—	—	—	—	—	—	155	175	185	195	175	190	205	215	165	180	190	205	150	165	175	185	—	—	—	—	130	145	150	160
	—	—	—	—	—	—	—	—	*510*	*570*	*610*	*640*	*570*	*620*	*670*	*710*	*540*	*590*	*620*	*670*	*490*	*540*	*570*	*610*	—	—	—	—	*425*	*475*	*490*	*520*
M3	—	—	—	—	—	—	—	—	125	140	150	160	140	155	165	175	135	150	155	170	120	135	145	150	—	—	—	—	105	115	125	130
	—	—	—	—	—	—	—	—	*410*	*460*	*490*	*520*	*460*	*510*	*540*	*570*	*445*	*490*	*510*	*560*	*395*	*445*	*475*	*490*	—	—	—	—	*345*	*375*	*410*	*425*
M4	—	—	—	—	—	—	—	—	100	110	115	125	110	120	130	135	105	115	120	130	95	105	110	120	—	—	—	—	80	90	95	100
	—	—	—	—	—	—	—	—	*330*	*360*	*375*	*410*	*360*	*395*	*425*	*445*	*345*	*375*	*395*	*425*	*310*	*345*	*360*	*395*	—	—	—	—	*260*	*295*	*310*	*330*
M5	—	—	—	—	—	—	—	—	80	90	95	105	90	100	105	115	85	95	100	110	80	85	90	100	—	—	—	—	65	75	80	85
	—	—	—	—	—	—	—	—	*260*	*295*	*310*	*345*	*295*	*330*	*345*	*375*	*280*	*310*	*330*	*360*	*260*	*280*	*295*	*330*	—	—	—	—	*215*	*245*	*260*	*280*
K1	600	660	700	740	215	235	250	265	185	205	220	235	220	245	260	275	—	—	—	—	180	200	210	220	—	—	—	—	—	—	—	—
	1975	*2175*	*2300*	*2425*	*710*	*770*	*820*	*870*	*610*	*670*	*720*	*770*	*720*	*800*	*850*	*900*	—	—	—	—	*590*	*660*	*690*	*720*	—	—	—	—	—	—	—	—
K2	530	590	620	660	190	210	220	235	165	185	195	205	195	220	230	245	—	—	—	—	155	175	185	195	—	—	—	—	—	—	—	—
	1750	*1925*	*2025*	*2175*	*620*	*690*	*720*	*770*	*540*	*610*	*640*	*670*	*640*	*720*	*750*	*800*	—	—	—	—	*510*	*570*	*610*	*640*	—	—	—	—	—	—	—	—
K3	450	500	530	560	160	175	185	200	140	155	165	175	165	185	195	205	—	—	—	—	135	150	155	165	—	—	—	—	—	—	—	—
	1475	*1650*	*1750*	*1825*	*520*	*570*	*610*	*660*	*460*	*510*	*540*	*570*	*540*	*610*	*640*	*670*	—	—	—	—	*445*	*490*	*510*	*540*	—	—	—	—	—	—	—	—
K4	430	475	500	530	150	170	180	190	135	150	155	165	160	175	185	200	—	—	—	—	125	140	150	160	—	—	—	—	—	—	—	—
	1400	*1550*	*1650*	*1750*	*490*	*560*	*590*	*620*	*445*	*490*	*510*	*540*	*520*	*570*	*610*	*660*	—	—	—	—	*410*	*460*	*490*	*520*	—	—	—	—	—	—	—	—
K5	265	290	310	325	90	105	110	115	80	90	95	100	95	105	115	120	—	—	—	—	75	85	90	95	—	—	—	—	—	—	—	—
	870	*950*	*1025*	*1075*	*295*	*345*	*360*	*375*	*260*	*295*	*310*	*330*	*310*	*345*	*375*	*395*	—	—	—	—	*245*	*280*	*295*	*310*	—	—	—	—	—	—	—	—
K6	380	420	445	470	135	150	155	165	115	130	140	145	140	155	165	175	—	—	—	—	110	125	130	140	—	—	—	—	—	—	—	—
	1250	*1375*	*1450*	*1550*	*445*	*490*	*510*	*540*	*375*	*425*	*460*	*475*	*460*	*510*	*540*	*570*	—	—	—	—	*360*	*410*	*425*	*460*	—	—	—	—	—	—	—	—
K7	340	375	395	420	120	130	140	150	105	115	120	130	125	135	145	155	—	—	—	—	100	110	115	125	—	—	—	—	—	—	—	—
	1125	*1225*	*1300*	*1375*	*395*	*425*	*460*	*490*	*345*	*375*	*395*	*425*	*410*	*445*	*475*	*510*	—	—	—	—	*330*	*360*	*375*	*410*	—	—	—	—	—	—	—	—
N1	—	—	—	—	1575	1750	1850	1975	1375	1525	1625	1725	—	—	—	—	—	—	—	—	1325	1450	1550	1650	1400	1550	1650	1750	—	—	—	—
	—	—	—	—	*5175*	*5750*	*6075*	*6475*	*4500*	*5000*	*5325*	*5650*	—	—	—	—	—	—	—	—	*4350*	*4750*	*5075*	*5425*	*4600*	*5075*	*5425*	*5750*	—	—	—	—
N2	—	—	—	—	640	710	750	800	560	620	660	700	—	—	—	—	—	—	—	—	530	590	620	660	560	630	660	700	—	—	—	—
	—	—	—	—	*2100*	*2325*	*2450*	*2625*	*1825*	*2025*	*2175*	*2300*	—	—	—	—	—	—	—	—	*1750*	*1925*	*2025*	*2175*	*1825*	*2075*	*2175*	*2300*	—	—	—	—
N3	—	—	—	—	425	470	500	530	370	415	435	465	—	—	—	—	—	—	—	—	355	395	415	440	375	420	440	470	—	—	—	—
	—	—	—	—	*1400*	*1550*	*1650*	*1750*	*1225*	*1350*	*1425*	*1525*	—	—	—	—	—	—	—	—	*1175*	*1300*	*1350*	*1450*	*1225*	*1375*	*1450*	*1550*	—	—	—	—
N11	—	—	—	—	485	540	570	610	425	470	500	530	—	—	—	—	—	—	—	—	405	450	475	510	430	480	510	540	—	—	—	—
	—	—	—	—	*1600*	*1775*	*1875*	*2000*	*1400*	*1550*	*1650*	*1750*	—	—	—	—	—	—	—	—	*1325*	*1475*	*1550*	*1675*	*1400*	*1575*	*1675*	*1775*	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	48	55	55	60	44	49	50	55	—	—	—	—	25	27	29	31
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*155*	*180*	*180*	*195*	*145*	*160*	*165*	*180*	—	—	—	—	*80*	*90*	*95*	*100*
S2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	39	43	45	49	35	39	41	44	—	—	—	—	20	22	23	25
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*130*	*140*	*150*	*160*	*115*	*130*	*135*	*145*	—	—	—	—	*65*	*70*	*75*	*80*
S3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	34	38	40	43	31	34	36	39	—	—	—	—	17	19	21	22
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*110*	*125*	*130*	*140*	*100*	*110*	*120*	*130*	—	—	—	—	*55*	*60*	*70*	*70*
S11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	70	75	80	85	60	70	70	80	—	—	—	—	35	39	41	44
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*230*	*245*	*260*	*280*	*195*	*230*	*230*	*260*	—	—	—	—	*115*	*130*	*135*	*145*
S12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	47	50	55	60	43	47	50	55	—	—	—	—	32	36	38	40
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*155*	*165*	*180*	*195*	*140*	*155*	*165*	*180*	—	—	—	—	*105*	*120*	*125*	*130*
S13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	27	30	32	34	24	27	29	31	—	—	—	—	18	21	22	23
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*90*	*100*	*105*	*110*	*80*	*90*	*95*	*100*	—	—	—	—	*60*	*70*	*70*	*75*
H5	160	175	185	195	—	—	—	—	39	43	45	48	43	48	50	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	520	*570*	*610*	*640*	—	—	—	—	*130*	*140*	*150*	*155*	*140*	*155*	*165*	*180*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
H8	170	185	195	210	—	—	—	—	41	46	48	50	46	50	55	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	560	*610*	*640*	*690*	—	—	—	—	*135*	*150*	*155*	*165*	*150*	*165*	*180*	*180*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
H11	200	220	235	250	—	—	—	—	49	55	60	60	55	60	65	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	660	*720*	*770*	*820*	—	—	—	—	*160*	*180*	*195*	*195*	*180*	*195*	*215*	*230*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
H12	195	215	230	240	—	—	—	—	75	80	85	90	85	95	105	110	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	640	*710*	*750*	*790*	—	—	—	—	*245*	*260*	*280*	*295*	*280*	*310*	*345*	*360*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

R217.79-10 – Metric





—For insert selection and cutting data recommendations, see page(s) 813-815
—For complete insert programme, see page(s) 918, 919
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXE	DCONMS	LUX	LPR	OAL	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm		kg	
R217.79-1820.0-10-2A	02842051	Cylindrical	20,0	2	6,0	18,0	112,0	112,0	160,0	29000	0,3	XO.X10T3
R217.79-2025.0-10-3A	02842052	Cylindrical	25,0	3	6,0	20,0	150,0	150,0	200,0	26000	0,4	XO.X10T3
R217.79-2532.0-10-4A	02842053	Cylindrical	32,0	4	6,0	25,0	190,0	190,0	250,0	22900	0,9	XO.X10T3

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.79-..	1/4HEX-T07PX50	C02506-T07P

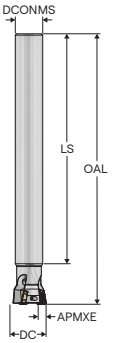
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.79-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09

Torque and fixed keys, see page 944

R217.79-10 – inch





—For insert selection and cutting data recommendations, see page(s) 813–815
—For complete insert programme, see page(s) 918, 919
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXE	DCONMS	LUX	LPR	OAL	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch		lbs	
R217.79-00.75-0-10-2A	02844106	Cylindrical	0.750	2	0.236	0.625	4.724	4.724	6.299	29000	0.440	XO.X10T3
R217.79-01.00-0-10-3A	02844107	Cylindrical	1.000	3	0.236	0.750	5.906	5.906	7.874	15000	1.100	XO.X10T3

Spare Parts, included in delivery

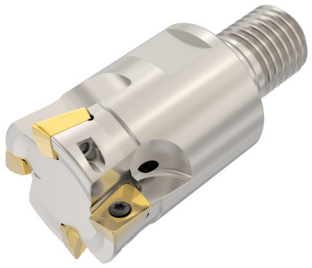
For cutter	Insert key	Insert screw
		
R217.79-..	1/4HEX-T07PX50	C02506-T07P

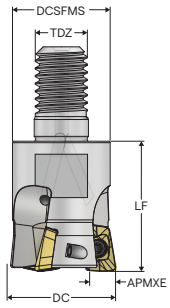
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.79-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09

Torque and fixed keys, see page 944

R217.79-10 – Metric





—For insert selection and cutting data recommendations, see page(s) 813-815
—For complete insert programme, see page(s) 918, 919
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXE	DCSFMS	TDZ	LF	RPMX	Weight	Insert
			mm		mm	mm		mm		kg	
R217.79-1020.RE-10-2A	02842054	Combimaster	20,0	2	6,0	18,0	M10	28,0	29000	0,1	XO.X10T3
R217.79-1225.RE-10-3A	02842056	Combimaster	25,0	3	6,0	22,5	M12	30,0	26000	0,1	XO.X10T3
R217.79-1632.RE-10-4A	02842057	Combimaster	32,0	4	6,0	29,0	M16	40,0	22900	0,2	XO.X10T3
R217.79-1640.RE-10-5A	02842058	Combimaster	40,0	5	6,0	30,0	M16	40,0	15000	0,3	XO.X10T3

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

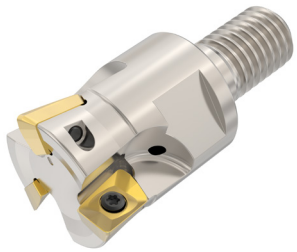
For cutter	Insert key	Insert screw
		
R217.79-..	1/4HEX-T07PX50	C02506-T07P

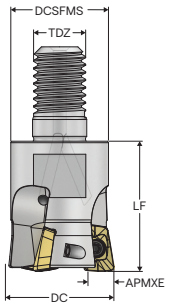
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.79-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09

Torque and fixed keys, see page 944

R217.79-10 – inch





—For insert selection and cutting data recommendations, see page(s) 813–815
—For complete insert programme, see page(s) 918, 919
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXE	DCSFMS	TDZ	LF	RPMX	Weight	Insert
			inch		inch	inch		inch		lbs	
R217.79-1.00-12RE-10.3A	02844109	Combimaster	1.000	3	0.236	0.886	M12	1.181	15000	0.220	XO.X10T3

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.79-..	1/4HEX-T07PX50	C02506-T07P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.79-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09

Torque and fixed keys, see page 944

R217.79-10 – Insert selection – Metric/ Inch

SMG		f_z	a_{so}			
			100%	70%	50%	30%
P1	XOMX10T308TR-ME07 F40M	0,10 *0.0040*	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20
P2	XOMX10T308TR-ME07 F40M	0,10 *0.0040*	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20
P3	XOMX10T308TR-ME07 MP2501	0,095 *0.0038*	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20
P4	XOMX10T308TR-ME07 MP2501	0,095 *0.0038*	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20
P5	XOMX10T308TR-M09 MP2501	0,12 *0.0048*	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20
P6	XOMX10T308TR-M09 MP2501	0,12 *0.0048*	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20
P7	XOMX10T308TR-M09 MP2501	0,12 *0.0048*	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20
P8	XOMX10T308TR-M09 MP2501	0,12 *0.0048*	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20
P11	XOMX10T308TR-M09 MP3501	0,12 *0.0048*	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20
P12	XOMX10T308TR-M09 MS2500	0,080 *0.0032*	3,5 0.14	3,5 0.14	3,5 0.14	4,0 0.16
M1	XOEX10T308R-M06 F40M	0,085 *0.0034*	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20
M2	XOEX10T308R-M06 F40M	0,080 *0.0032*	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20
M3	XOEX10T308R-M06 F40M	0,060 *0.0024*	3,5 0.14	3,5 0.14	3,5 0.14	4,0 0.16
M4	XOEX10T308R-M06 MS2050	0,055 *0.0022*	2,5 0.10	2,5 0.10	2,5 0.10	3,0 0.12
M5	XOEX10T308R-M06 MS2050	0,055 *0.0022*	2,5 0.10	2,5 0.10	2,5 0.10	3,0 0.12
K1	XOMX10T308TR-M09 MK1501	0,13 *0.0050*	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20
K2	XOMX10T308TR-M09 MK1501	0,12 *0.0048*	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20
K3	XOMX10T308TR-M09 MK1501	0,12 *0.0048*	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20
K4	XOMX10T308TR-M09 MK1501	0,12 *0.0048*	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20
K5	XOMX10T308TR-M09 MK1501	0,11 *0.0044*	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20
K6	XOMX10T308TR-M09 MK1501	0,12 *0.0048*	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20
K7	XOMX10T308TR-M09 MK2050	0,11 *0.0044*	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20
N1	XOEX10T308FR-E05 H15	0,090 *0.0036*	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20
N2	XOEX10T308FR-E05 H15	0,090 *0.0036*	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20
N3	XOEX10T308FR-E05 H15	0,090 *0.0036*	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20
N11	XOEX10T308FR-E05 H15	0,090 *0.0036*	4,0 0.16	4,0 0.16	4,0 0.16	5,0 0.20
S1	XOEX10T308R-M06 F40M	0,055 *0.0022*	2,5 0.10	2,5 0.10	2,5 0.10	3,0 0.12
S2	XOEX10T308R-M06 F40M	0,055 *0.0022*	2,5 0.10	2,5 0.10	2,5 0.10	3,0 0.12
S3	XOEX10T308R-M06 F40M	0,050 *0.0020*	2,5 0.10	2,5 0.10	2,5 0.10	3,0 0.12
S11	XOEX10T308R-M06 MS2050	0,060 *0.0024*	3,0 0.12	3,0 0.12	3,0 0.12	3,5 0.14
S12	XOEX10T308R-M06 MS2050	0,060 *0.0024*	3,0 0.12	3,0 0.12	3,0 0.12	3,5 0.14
S13	XOEX10T308R-M06 MS2050	0,055 *0.0022*	2,5 0.10	2,5 0.10	2,5 0.10	3,0 0.12
H5	XOMX10T308TR-M09 MH1051	0,080 *0.0032*	3,5 0.14	3,5 0.14	3,5 0.14	4,0 0.16
H8	XOMX10T308TR-M09 MH1051	0,060 *0.0024*	3,0 0.12	3,0 0.12	3,0 0.12	3,5 0.14
H11	XOMX10T308TR-M09 MP1501	0,080 *0.0032*	3,5 0.14	3,5 0.14	3,5 0.14	4,0 0.16
H12	XOMX10T308TR-M09 MP1501	0,060 *0.0024*	3,0 0.12	3,0 0.12	3,0 0.12	3,5 0.14

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217.79-10 – Cutting data v_c = (m/min)/(sf/min)

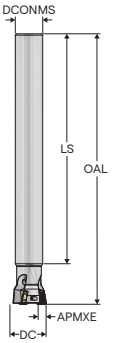
SMG	MH1051				MK2050				MP3000				MS2050				F40M				MP2051				MP2050				H15			
	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%
P1	—	—	—	—	240	265	280	300	235	260	275	295	260	290	300	320	205	220	230	240	330	365	390	415	280	310	330	350	—	—	—	—
	—	—	—	—	*790*	*870*	*920*	*980*	*770*	*850*	*900*	*970*	*850*	*950*	*980*	*1050*	*670*	*720*	*750*	*790*	*1075*	*1200*	*1275*	*1350*	*920*	*1025*	*1075*	*1150*	—	—	—	—
P2	—	—	—	—	235	260	275	290	230	255	270	285	255	280	295	310	200	215	225	235	320	355	380	405	275	305	320	340	—	—	—	—
	—	—	—	—	*770*	*850*	*900*	*950*	*750*	*840*	*890*	*940*	*840*	*920*	*970*	*1025*	*660*	*710*	*740*	*770*	*1050*	*1175*	*1250*	*1325*	*900*	*1000*	*1050*	*1125*	—	—	—	—
P3	—	—	—	—	205	230	245	260	205	230	240	255	225	245	260	270	180	190	200	210	285	320	335	360	240	265	280	300	—	—	—	—
	—	—	—	—	*670*	*750*	*800*	*850*	*670*	*750*	*790*	*840*	*740*	*800*	*850*	*890*	*590*	*620*	*660*	*690*	*940*	*1050*	*1100*	*1175*	*790*	*870*	*920*	*980*	—	—	—	—
P4	—	—	—	—	180	200	215	225	180	200	210	225	195	215	225	240	160	175	185	195	250	280	295	315	210	235	250	265	—	—	—	—
	—	—	—	—	*590*	*660*	*710*	*740*	*590*	*660*	*690*	*740*	*640*	*710*	*740*	*790*	*520*	*570*	*610*	*640*	*820*	*920*	*970*	*1025*	*690*	*770*	*820*	*870*	—	—	—	—
P5	310	340	360	385	175	195	205	215	175	190	200	215	190	205	215	230	150	160	170	175	240	270	285	300	200	225	235	250	—	—	—	—
	1025	*1125*	*1175*	*1275*	*570*	*640*	*670*	*710*	*570*	*620*	*660*	*710*	*620*	*670*	*710*	*750*	*490*	*520*	*560*	*570*	*790*	*890*	*940*	*980*	*660*	*740*	*770*	*820*	—	—	—	—
P6	345	385	405	435	195	215	230	245	195	215	225	240	215	235	250	260	170	180	190	195	280	310	330	350	230	255	270	285	—	—	—	—
	1125	*1275*	*1325*	*1425*	*640*	*710*	*750*	*800*	*640*	*710*	*740*	*790*	*710*	*770*	*820*	*850*	*560*	*590*	*620*	*640*	*920*	*1025*	*1075*	*1150*	*750*	*840*	*890*	*940*	—	—	—	—
P7	325	365	385	410	185	205	215	230	185	205	215	230	205	225	235	245	160	170	180	185	265	295	310	330	215	240	255	270	—	—	—	—
	1075	*1200*	*1275*	*1350*	*610*	*670*	*710*	*750*	*610*	*670*	*710*	*750*	*670*	*740*	*770*	*800*	*520*	*560*	*590*	*610*	*870*	*970*	*1025*	*1075*	*710*	*790*	*840*	*890*	—	—	—	—
P8	310	340	360	385	175	195	205	215	175	190	200	215	190	205	215	230	150	160	170	175	240	270	285	300	200	225	235	250	—	—	—	—
	1025	*1125*	*1175*	*1275*	*570*	*640*	*670*	*710*	*570*	*620*	*660*	*710*	*620*	*670*	*710*	*750*	*490*	*520*	*560*	*570*	*790*	*890*	*940*	*980*	*660*	*740*	*770*	*820*	—	—	—	—
P11	315	350	375	395	180	200	210	225	180	195	210	220	200	215	230	240	155	165	175	180	240	285	310	340	210	235	250	265	—	—	—	—
	1025	*1150*	*1225*	*1300*	*590*	*660*	*690*	*740*	*590*	*640*	*690*	*720*	*660*	*710*	*750*	*790*	*510*	*540*	*570*	*590*	*790*	*940*	*1025*	*1125*	*690*	*770*	*820*	*870*	—	—	—	—
P12	235	260	275	295	120	130	140	150	125	140	150	160	130	140	145	155	105	115	120	125	160	190	205	230	135	150	160	170	—	—	—	—
	770	*850*	*900*	*970*	*395*	*425*	*460*	*490*	*410*	*460*	*490*	*520*	*425*	*460*	*475*	*510*	*345*	*375*	*395*	*410*	*520*	*620*	*670*	*750*	*445*	*490*	*520*	*560*	—	—	—	—
M1	—	—	—	—	—	—	—	—	170	185	200	210	185	210	220	235	145	160	170	180	260	310	340	375	195	220	230	245	—	—	—	—
	—	—	—	—	—	—	—	—	*560*	*610*	*660*	*690*	*610*	*690*	*720*	*770*	*475*	*520*	*560*	*590*	*850*	*1025*	*1125*	*1225*	*640*	*720*	*750*	*800*	—	—	—	—
M2	—	—	—	—	—	—	—	—	140	155	165	175	155	170	180	190	120	135	140	150	220	260	285	315	160	180	190	200	—	—	—	—
	—	—	—	—	—	—	—	—	*460*	*510*	*540*	*570*	*510*	*560*	*590*	*620*	*395*	*445*	*460*	*490*	*720*	*850*	*940*	*1025*	*520*	*590*	*620*	*660*	—	—	—	—
M3	—	—	—	—	—	—	—	—	115	125	135	145	125	140	150	160	100	110	115	125	190	225	245	275	135	150	155	165	—	—	—	—
	—	—	—	—	—	—	—	—	*375*	*410*	*445*	*475*	*410*	*460*	*490*	*520*	*330*	*360*	*375*	*410*	*620*	*740*	*800*	*900*	*445*	*490*	*510*	*540*	—	—	—	—
M4	—	—	—	—	—	—	—	—	90	100	105	115	100	110	115	125	80	85	90	100	150	175	190	215	100	115	120	130	—	—	—	—
	—	—	—	—	—	—	—	—	*295*	*330*	*345*	*375*	*330*	*360*	*375*	*410*	*260*	*280*	*295*	*330*	*490*	*570*	*620*	*710*	*330*	*375*	*395*	*425*	—	—	—	—
M5	—	—	—	—	—	—	—	—	75	85	90	95	80	90	95	105	65	70	75	80	125	145	160	180	85	95	100	110	—	—	—	—
	—	—	—	—	—	—	—	—	*245*	*280*	*295*	*310*	*260*	*295*	*310*	*345*	*215*	*230*	*245*	*260*	*410*	*475*	*520*	*590*	*280*	*310*	*330*	*360*	—	—	—	—
K1	410	455	480	510	250	280	295	315	180	200	210	225	—	—	—	—	140	160	170	180	—	—	—	—	—	—	—	—	—	—	—	—
	1350	*1500*	*1575*	*1675*	*820*	*920*	*970*	*1025*	*590*	*660*	*690*	*740*	—	—	—	—	*460*	*520*	*560*	*590*	—	—	—	—	—	—	—	—	—	—	—	—
K2	370	415	440	465	225	250	265	280	160	175	185	200	—	—	—	—	125	140	150	160	—	—	—	—	—	—	—	—	—	—	—	—
	1225	*1350*	*1450*	*1525*	*740*	*820*	*870*	*920*	*520*	*570*	*610*	*660*	—	—	—	—	*410*	*460*	*490*	*520*	—	—	—	—	—	—	—	—	—	—	—	—
K3	315	350	370	395	190	210	225	235	135	150	155	165	—	—	—	—	105	120	125	135	—	—	—	—	—	—	—	—	—	—	—	—
	1025	*1150*	*1225*	*1300*	*620*	*690*	*740*	*770*	*445*	*490*	*510*	*540*	—	—	—	—	*345*	*395*	*410*	*445*	—	—	—	—	—	—	—	—	—	—	—	—
K4	300	335	355	375	180	200	215	225	130	140	150	160	—	—	—	—	100	115	120	130	—	—	—	—	—	—	—	—	—	—	—	—
	980	*1100*	*1175*	*1225*	*590*	*660*	*710*	*740*	*425*	*460*	*490*	*520*	—	—	—	—	*330*	*375*	*395*	*425*	—	—	—	—	—	—	—	—	—	—	—	—
K5	190	210	220	235	110	125	130	140	80	85	90	100	—	—	—	—	60	70	75	80	—	—	—	—	—	—	—	—	—	—	—	—
	620	*690*	*720*	*770*	*360*	*410*	*425*	*460*	*260*	*280*	*295*	*330*	—	—	—	—	*195*	*230*	*245*	*260*	—	—	—	—	—	—	—	—	—	—	—	—
K6	265	295	310	330	160	175	190	200	115	125	130	140	—	—	—	—	90	100	105	115	—	—	—	—	—	—	—	—	—	—	—	—
	870	*970*	*1025*	*1075*	*520*	*570*	*620*	*660*	*375*	*410*	*425*	*460*	—	—	—	—	*295*	*330*	*345*	*375*	—	—	—	—	—	—	—	—	—	—	—	—
K7	240	270	285	300	140	160	165	175	100	110	120	125	—	—	—	—	80	90	95	100	—	—	—	—	—	—	—	—	—	—	—	—
	790	*890*	*940*	*980*	*460*	*520*	*540*	*570*	*330*	*360*	*395*	*410*	—	—	—	—	*260*	*295*	*310*	*330*	—	—	—	—	—	—	—	—	—	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1050	1175	1250	1325	—	—	—	—	—	—	—	—	1300	1450	1525	1625
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*3450*	*3850*	*4100*	*4350*	—	—	—	—	—	—	—	—	*4275*	*4750*	*5000*	*5325*
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	425	475	500	530	—	—	—	—	—	—	—	—	520	580	610	650
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*1400*	*1550*	*1650*	*1750*	—	—	—	—	—	—	—	—	*1700*	*1900*	*2000*	*2125*
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	285	315	335	355	—	—	—	—	—	—	—	—	350	390	410	435
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*940*	*1025*	*1100*	*1175*	—	—	—	—	—	—	—	—	*1150*	*1275*	*1350*	*1425*
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	325	360	380	405	—	—	—	—	—	—	—	—	400	445	470	495
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*1075*	*1175*	*1250*	*1325*	—	—	—	—	—	—	—	—	*1300*	*1450*	*1550*	*1625*
S1	—	—	—	—	—	—	—	—	42	47	50	55	46	50	55	60	36	41	43	46	50	55	60	65	50	55	60	65	—	—	—	—
	—	—	—	—	—	—	—	—	*140*	*155*	*165*	*180*	*150*	*165*	*180*	*195*	*120*	*135*	*140*	*150*	*165*	*180*	*195*	*215*	*165*	*180*	*195*	*215*	—	—	—	—
S2	—	—	—	—	—	—	—	—	34	38	40	43	37	41	43	46	29	33	35	37	40	45	47	50	40	45	47	50	—	—	—	—
	—	—	—	—	—	—	—	—	*110*	*125*	*130*	*140*	*120*	*135*	*140*	*150*	*95*	*110*	*115*	*120*	*130*	*150*	*155*	*165*	*130*	*150*	*155*	*165*	—	—	—	—
S3	—	—	—	—	—	—	—	—	30	33	35	38	32	36	38	41	26	29	30	32	35	40	42	45	35	40	42	45	—	—	—	—
	—	—	—	—	—	—	—	—	*100*	*110*	*115*	*125*	*105*	*120*	*125*	*135*	*85*	*95*	*100*	*105*	*115*	*130*	*140*	*150*	*115*	*130*	*140*	*150*	—	—	—	—
S11	—	—	—	—	—	—	—	—	—	—	—	—	65	70	75	80	50	55	60	65	70	80	85	90	70	80	85	90	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*215*	*230*	*245*	*260*	*165*	*180*	*195*	*215*	*230*	*260*	*280*	*295*	*230*	*260*	*280*	*295*	—	—	—	—
S12	—	—	—	—	—	—	—	—	—	—	—	—	44	50	50	55	35	39	41	44	49	55	55	60	49	55	55	60	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*145*	*165*	*165*	*180*	*115*	*130*	*135*	*145*	*160*	*180*	*180*	*195*	*160*	*180*	*180*	*195*	—	—	—	—
S13	—	—	—	—	—	—	—	—	—	—	—	—	26	29	30	32	20	23	24	26	28	31	33	35	28	31	33	35	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*85*	*95*	*100*	*105*	*65*	*75*	*80*	*85*	*90*	*100*	*110*	*115*	*90*	*100*	*110*	*115*	—	—	—	—
H5	120	135	140	150	41	45	48	50	36	40	42	45	—	—	—	—	30	34	36	38	—	—	—	—	—	—	—	—	—	—	—	—
	395	*445*	*460*	*490*	*135*	*150*	*155*	*165*	*120*	*130*	*140*	*150*	—	—	—	—	*100*	*110*	*120*	*125*	—	—	—	—	—	—	—	—	—	—	—	—
H8	135	150	160	170	44	49	50	55	38	43	45	48	—	—	—	—	33	37	39	41	—	—	—	—	—	—	—	—	—	—	—	—
	445	*490*	*520*	*560*	*145*	*160*	*165*	*180*	*125*	*140*	*150*	*155*	—	—	—	—	*110*	*120*	*130*	*135*	—	—	—	—	—	—	—	—	—	—	—	—
H11	155	170	180	190	50	60	60	65	45	50	55	55	—	—	—	—	39	43	46	49	105	125	135	150	50	55	60	65	—	—	—	—
	510	*560*	*590*	*620*	*165*	*195*	*195*	*215*	*150*	*165*	*180*	*180*	—	—	—	—	*130*	*140*	*150*	*160*	*345*	*410*	*445*	*490*	*165*	*180*	*195*	*215*	—	—	—	—
H12	160	175	185	200	75	85	90	95	75	80	85	95	—	—	—	—	60	65	70	75	100	120	130	145	85	95	105	110	—	—	—	—
	520	*570*	*610*	*660*	*245*	*280*	*295*	*310*	*245*	*260*	*280*	*310*	—	—	—	—	*195*	*215*	*230*	*245*	*330*	*395*	*425*	*475*	*280*	*310*	*345*	*360*	—	—	—	—

R217.79-10 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK1501				MP1501				MP2501				MS2500				MP3501				MM4500			
	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%
P1	—	—	—	—	350	380	395	415	340	370	385	405	325	355	370	390	300	330	340	360	190	210	220	235
	—	—	—	—	*1150*	*1250*	*1300*	*1350*	*1125*	*1225*	*1275*	*1325*	*1075*	*1175*	*1225*	*1275*	*980*	*1075*	*1125*	*1175*	*620*	*690*	*720*	*770*
P2	—	—	—	—	340	370	385	405	330	360	375	390	315	345	360	380	295	320	335	350	185	205	215	225
	—	—	—	—	*1125*	*1225*	*1275*	*1325*	*1075*	*1175*	*1225*	*1275*	*1025*	*1125*	*1175*	*1250*	*970*	*1050*	*1100*	*1150*	*610*	*670*	*710*	*740*
P3	—	—	—	—	300	325	340	355	295	320	330	350	280	305	320	335	260	285	295	310	165	180	190	200
	—	—	—	—	*980*	*1075*	*1125*	*1175*	*970*	*1050*	*1075*	*1150*	*920*	*1000*	*1050*	*1100*	*850*	*940*	*970*	*1025*	*540*	*590*	*620*	*660*
P4	—	—	—	—	265	285	300	315	260	280	290	305	245	270	280	295	230	250	260	270	155	175	180	190
	—	—	—	—	*870*	*940*	*980*	*1025*	*850*	*920*	*950*	*1000*	*800*	*890*	*920*	*970*	*750*	*820*	*850*	*890*	*510*	*570*	*590*	*620*
P5	—	—	—	—	255	275	285	300	245	265	280	290	235	255	270	280	220	240	250	260	140	155	160	170
	—	—	—	—	*840*	*900*	*940*	*980*	*800*	*870*	*920*	*950*	*770*	*840*	*890*	*920*	*720*	*790*	*820*	*850*	*460*	*510*	*520*	*560*
P6	—	—	—	—	285	310	320	335	275	300	315	330	265	290	300	315	245	265	280	290	155	170	180	190
	—	—	—	—	*940*	*1025*	*1050*	*1100*	*900*	*980*	*1025*	*1075*	*870*	*950*	*980*	*1025*	*800*	*870*	*920*	*950*	*510*	*560*	*590*	*620*
P7	—	—	—	—	270	290	305	315	260	285	295	310	250	270	285	300	235	250	265	275	145	160	170	180
	—	—	—	—	*890*	*950*	*1000*	*1025*	*850*	*940*	*970*	*1025*	*820*	*890*	*940*	*980*	*770*	*820*	*870*	*900*	*475*	*520*	*560*	*590*
P8	—	—	—	—	255	275	285	300	245	265	280	290	235	255	270	280	220	240	250	260	140	155	160	170
	—	—	—	—	*840*	*900*	*940*	*980*	*800*	*870*	*920*	*950*	*770*	*840*	*890*	*920*	*720*	*790*	*820*	*850*	*460*	*510*	*520*	*560*
P11	—	—	—	—	260	280	295	310	255	275	285	300	245	265	275	290	225	245	255	270	145	155	165	175
	—	—	—	—	*850*	*920*	*970*	*1025*	*840*	*900*	*940*	*980*	*800*	*870*	*900*	*950*	*740*	*800*	*840*	*890*	*475*	*510*	*540*	*570*
P12	—	—	—	—	175	190	195	205	170	185	195	205	165	180	185	195	155	165	175	180	100	105	115	120
	—	—	—	—	*570*	*620*	*640*	*670*	*560*	*610*	*640*	*670*	*540*	*590*	*610*	*640*	*510*	*540*	*570*	*590*	*330*	*345*	*375*	*395*
M1	—	—	—	—	—	—	—	—	170	190	200	215	185	205	220	230	160	175	190	200	125	140	145	155
	—	—	—	—	—	—	—	—	*560*	*620*	*660*	*710*	*610*	*670*	*720*	*750*	*520*	*570*	*620*	*660*	*410*	*460*	*475*	*510*
M2	—	—	—	—	—	—	—	—	140	160	165	175	155	170	180	190	130	145	155	165	105	115	120	130
	—	—	—	—	—	—	—	—	*460*	*520*	*540*	*570*	*510*	*560*	*590*	*620*	*425*	*475*	*510*	*540*	*345*	*375*	*395*	*425*
M3	—	—	—	—	—	—	—	—	115	130	135	145	125	140	150	160	110	120	125	135	85	95	100	105
	—	—	—	—	—	—	—	—	*375*	*425*	*445*	*475*	*410*	*460*	*490*	*520*	*360*	*395*	*410*	*445*	*280*	*310*	*330*	*345*
M4	—	—	—	—	—	—	—	—	90	105	110	115	100	110	120	125	85	95	100	110	65	75	80	85
	—	—	—	—	—	—	—	—	*295*	*345*	*360*	*375*	*330*	*360*	*395*	*410*	*280*	*310*	*330*	*360*	*215*	*245*	*260*	*280*
M5	—	—	—	—	—	—	—	—	75	85	90	95	85	95	100	105	70	80	85	90	55	65	65	70
	—	—	—	—	—	—	—	—	*245*	*280*	*295*	*310*	*280*	*310*	*330*	*345*	*230*	*260*	*280*	*295*	*180*	*215*	*215*	*230*
K1	305	385	435	500	345	370	390	405	335	360	380	395	205	230	240	255	295	320	335	350	—	—	—	—
	1000	*1275*	*1425*	*1650*	*1125*	*1225*	*1275*	*1325*	*1100*	*1175*	*1250*	*1300*	*670*	*750*	*790*	*840*	*970*	*1050*	*1100*	*1150*	—	—	—	—
K2	270	340	385	435	305	330	345	360	300	325	335	355	180	205	215	230	265	290	300	315	—	—	—	—
	890	*1125*	*1275*	*1425*	*1000*	*1075*	*1125*	*1175*	*980*	*1075*	*1100*	*1175*	*590*	*670*	*710*	*750*	*870*	*950*	*980*	*1025*	—	—	—	—
K3	205	240	260	285	260	280	295	305	255	275	285	300	155	170	180	195	225	245	255	265	—	—	—	—
	670	*790*	*850*	*940*	*850*	*920*	*970*	*1000*	*840*	*900*	*940*	*980*	*510*	*560*	*590*	*640*	*740*	*800*	*840*	*870*	—	—	—	—
K4	195	230	250	270	245	270	280	295	240	260	270	285	145	165	175	185	215	230	245	255	—	—	—	—
	640	*750*	*820*	*890*	*800*	*890*	*920*	*970*	*790*	*850*	*890*	*940*	*475*	*540*	*570*	*610*	*710*	*750*	*800*	*840*	—	—	—	—
K5	120	140	150	165	150	165	170	180	150	160	165	175	90	100	105	110	130	145	150	155	—	—	—	—
	395	*460*	*490*	*540*	*490*	*540*	*560*	*590*	*490*	*520*	*540*	*570*	*295*	*330*	*345*	*360*	*425*	*475*	*490*	*510*	—	—	—	—
K6	175	205	220	240	220	235	245	260	215	230	240	250	130	145	155	160	190	205	215	225	—	—	—	—
	570	*670*	*720*	*790*	*720*	*770*	*800*	*850*	*710*	*750*	*790*	*820*	*425*	*475*	*510*	*520*	*620*	*670*	*710*	*740*	—	—	—	—
K7	155	180	195	210	195	210	220	230	190	205	215	225	115	130	135	145	170	185	190	200	—	—	—	—
	510	*590*	*640*	*690*	*640*	*690*	*720*	*750*	*620*	*670*	*710*	*740*	*375*	*425*	*445*	*475*	*560*	*610*	*620*	*660*	—	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	—	—	—	49	55	60	60	40	45	47	50	21	23	24	26
	—	—	—	—	—	—	—	—	—	—	—	—	*160*	*180*	*195*	*195*	*130*	*150*	*155*	*165*	*70*	*75*	*80*	*85*
S2	—	—	—	—	—	—	—	—	—	—	—	—	39	44	46	50	32	36	38	41	17	18	20	21
	—	—	—	—	—	—	—	—	—	—	—	—	*130*	*145*	*150*	*165*	*105*	*120*	*125*	*135*	*55*	*60*	*65*	*70*
S3	—	—	—	—	—	—	—	—	—	—	—	—	34	38	41	44	28	32	33	36	15	16	17	18
	—	—	—	—	—	—	—	—	—	—	—	—	*110*	*125*	*135*	*145*	*90*	*105*	*110*	*120*	*49*	*50*	*55*	*60*
S11	—	—	—	—	—	—	—	—	—	—	—	—	65	75	80	85	55	60	65	70	28	31	33	36
	—	—	—	—	—	—	—	—	—	—	—	—	*215*	*245*	*260*	*280*	*180*	*195*	*215*	*230*	*90*	*100*	*110*	*120*
S12	—	—	—	—	—	—	—	—	—	—	—	—	46	50	55	60	38	42	45	48	26	29	31	33
	—	—	—	—	—	—	—	—	—	—	—	—	*150*	*165*	*180*	*195*	*125*	*140*	*150*	*155*	*85*	*95*	*100*	*110*
S13	—	—	—	—	—	—	—	—	—	—	—	—	27	31	32	35	23	25	27	28	15	17	18	19
	—	—	—	—	—	—	—	—	—	—	—	—	*90*	*100*	*105*	*115*	*75*	*80*	*90*	*90*	*49*	*55*	*60*	*60*
H5	—	—	—	—	45	50	55	55	—	—	—	—	39	44	46	50	35	39	41	44	—	—	—	—
	—	—	—	—	*150*	*165*	*180*	*180*	—	—	—	—	*130*	*145*	*150*	*165*	*115*	*130*	*135*	*145*	—	—	—	—
H8	—	—	—	—	49	55	60	60	—	—	—	—	43	48	50	55	38	42	45	48	—	—	—	—
	—	—	—	—	*160*	*180*	*195*	*195*	—	—	—	—	*140*	*155*	*165*	*180*	*125*	*140*	*150*	*155*	—	—	—	—
H11	—	—	—	—	60	65	70	70	—	—	—	—	50	55	60	65	44	50	50	55	—	—	—	—
	—	—	—	—	*195*	*215*	*230*	*230*	—	—	—	—	*165*	*180*	*195*	*215*	*145*	*165*	*165*	*180*	—	—	—	—
H12	—	—	—	—	90	100	105	110	—	—	—	—	85	95	100	105	70	75	80	85	—	—	—	—
	—	—	—	—	*295*	*330*	*345*	*360*	—	—	—	—	*280*	*310*	*330*	*345*	*230*	*245*	*260*	*280*	—	—	—	—

R217.79-XO12 – Metric





—For insert selection and cutting data recommendations, see page(s) 819–821
—For complete insert programme, see page(s) 920, 921
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXE	DCONMS	LUX	LPR	OAL	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm		kg	
R217.79-2025.0-XO12-2AN	02732332	Cylindrical	25,0	2	7,0	20,0	150,0	150,0	200,0	20800	0,4	XO..1204
R217.79-2532.0-XO12-3AN	02732333	Cylindrical	32,0	3	7,0	25,0	194,0	194,0	250,0	18400	0,9	XO..1204

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.79-..	1/4HEX-T10PX50	C03507-T10P

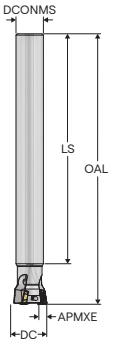
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.79-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30

Torque and fixed keys, see page 944

R217.79-XO12 – inch





—For insert selection and cutting data recommendations, see page(s) 819-821
—For complete insert programme, see page(s) 920, 921
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXE	DCONMS	LF	LUX	LPR	OAL	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch		lbs	
R217.79-1.00.3-XO.2A	00097192	Weldon	1.000	2	0.276	0.750	6.858	5.906	5.906	7.874	20800	1.100	XO..1204

Spare Parts, included in delivery

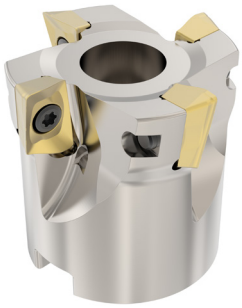
For cutter	Insert key	Insert screw
		
R217.79-..	1/4HEX-T10PX50	C03507-T10P

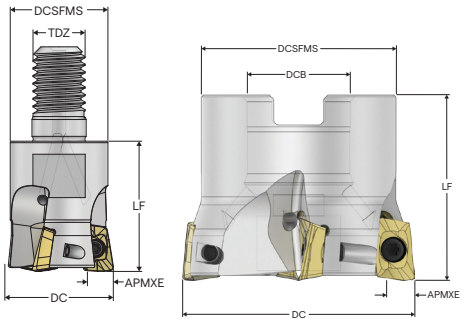
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.79-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30

Torque and fixed keys, see page 944

R217/220.79-XO12 – Metric



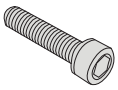


—For insert selection and cutting data recommendations, see page(s) 819–821
—For complete insert programme, see page(s) 920, 921
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXE	DCB	DCSFMS	TDZ	LF	RPMX	Weight	Insert
			mm		mm	mm	mm		mm		kg	
R217.79-1225.RE-XO12-2AN	02732338	Combimaster	25,0	2	7,0	–	23,0	M12	30,0	20800	0,1	XO..1204
R217.79-1632.RE-XO12-3AN	02732344	Combimaster	32,0	3	7,0	–	30,0	M16	40,0	18400	0,2	XO..1204
R220.79-0040-XO12-4AN	02732351	Arbor	40,0	4	7,0	16,0	35,0	–	40,0	16400	0,3	XO..1204
R220.79-0050-XO12-4AN	02732353	Arbor	50,0	4	7,0	22,0	42,0	–	40,0	14800	0,4	XO..1204
R220.79-0063-XO12-5AN	02732354	Arbor	63,0	5	7,0	22,0	47,0	–	40,0	13200	0,6	XO..1204

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.79-..	–	1/4HEX-T10PX50	C03507-T10P
R220.79-0040	MC6S8X30	1/4HEX-T10PX50	C03509-T10P
R220.79-0050-0063	220.17-692	1/4HEX-T10PX50	C03509-T10P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.79-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-10P30

Torque and fixed keys, see page 944

R217/220.79-XO12 – Insert selection – mm/Inch

SMG		f_z	a_{so}			
			100%	70%	50%	30%
P1	XOMX120408TR-ME08 F40M	0,11 *0.0044*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
P2	XOMX120408TR-ME08 F40M	0,11 *0.0044*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
P3	XOMX120408TR-M12 MP2501	0,16 *0.0065*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
P4	XOMX120408TR-M12 MP2501	0,16 *0.0065*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
P5	XOMX120408TR-M12 MP2501	0,16 *0.0065*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
P6	XOMX120408TR-M12 MP2501	0,15 *0.0060*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
P7	XOMX120408TR-M12 MP2501	0,15 *0.0060*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
P8	XOMX120408TR-M12 MP2501	0,16 *0.0065*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
P11	XOMX120408TR-M12 MP3501	0,15 *0.0060*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
P12	XOEX120408R-M07 MS2500	0,080 *0.0032*	4,0 0.16	4,0 0.16	4,0 0.16	4,5 0.18
M1	XOEX120408R-M07 F40M	0,13 *0.0050*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
M2	XOEX120408R-M07 F40M	0,12 *0.0048*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
M3	XOEX120408R-M07 F40M	0,095 *0.0038*	4,0 0.16	4,0 0.16	4,0 0.16	4,5 0.18
M4	XOEX120408R-M07 MS2050	0,080 *0.0032*	3,0 0.12	3,0 0.12	3,0 0.12	3,5 0.14
M5	XOEX120408R-M07 MS2050	0,080 *0.0032*	3,0 0.12	3,0 0.12	3,0 0.12	3,5 0.14
K1	XOMX120408TR-M12 MK1501	0,17 *0.0065*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
K2	XOMX120408TR-M12 MK1501	0,16 *0.0065*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
K3	XOMX120408TR-M12 MK2050	0,16 *0.0065*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
K4	XOMX120408TR-M12 MK2050	0,16 *0.0065*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
K5	XOMX120408TR-MD13 MK2050	0,15 *0.0060*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
K6	XOMX120408TR-MD13 MK2050	0,17 *0.0065*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
K7	XOMX120408TR-MD13 MK2050	0,15 *0.0060*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
N1	XOEX120408FR-E06 H15	0,13 *0.0050*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
N2	XOEX120408FR-E06 H15	0,13 *0.0050*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
N3	XOEX120408FR-E06 H15	0,13 *0.0050*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
N11	XOEX120408FR-E06 H15	0,13 *0.0050*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
S1	XOEX120408R-M07 MP3501	0,080 *0.0032*	3,0 0.12	3,0 0.12	3,0 0.12	3,5 0.14
S2	XOEX120408R-M07 MP3501	0,080 *0.0032*	3,0 0.12	3,0 0.12	3,0 0.12	3,5 0.14
S3	XOEX120408R-M07 MP3501	0,075 *0.0030*	3,0 0.12	3,0 0.12	3,0 0.12	3,5 0.14
S11	XOEX120408R-M07 MS2050	0,095 *0.0038*	3,5 0.14	3,5 0.14	3,5 0.14	4,0 0.16
S12	XOEX120408R-M07 MS2050	0,095 *0.0038*	3,5 0.14	3,5 0.14	3,5 0.14	4,0 0.16
S13	XOEX120408R-M07 MS2050	0,080 *0.0032*	3,0 0.12	3,0 0.12	3,0 0.12	3,5 0.14
H5	XOMX120408TR-MD13 MH1051	0,11 *0.0044*	4,0 0.16	4,0 0.16	4,0 0.16	4,5 0.18
H8	XOMX120408TR-MD13 MH1051	0,090 *0.0036*	3,5 0.14	3,5 0.14	3,5 0.14	4,0 0.16
H11	XOMX120408TR-MD13 MP1501	0,11 *0.0044*	4,0 0.16	4,0 0.16	4,0 0.16	4,5 0.18
H12	XOMX120408TR-MD13 MP1501	0,090 *0.0036*	3,5 0.14	3,5 0.14	3,5 0.14	4,0 0.16

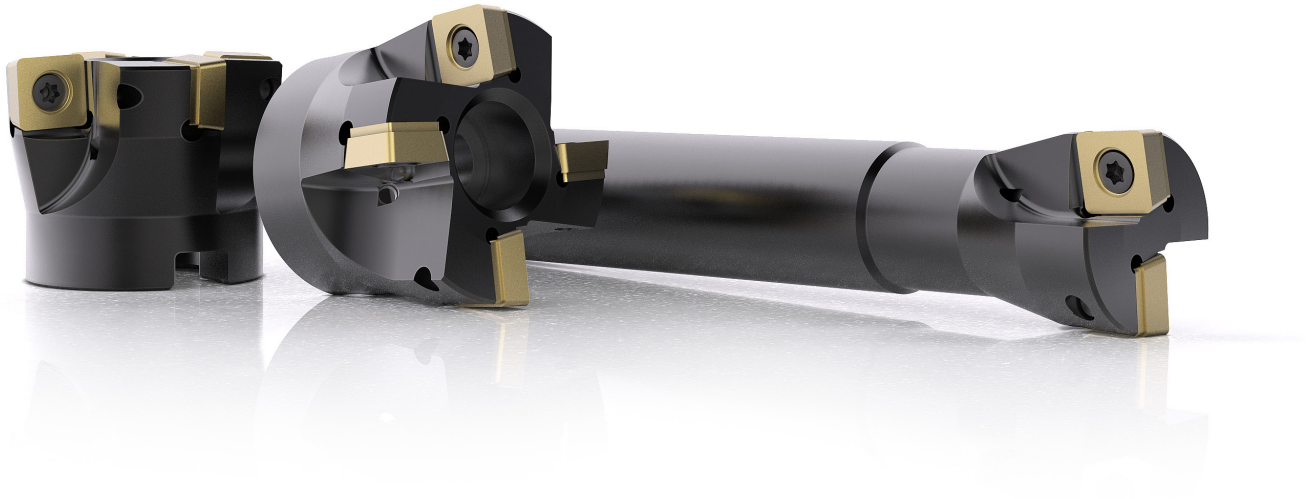
SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.79-XO12 – Cutting data v_c = (m/min)/(sf/min)

SMG	MH1051				MK2050				F30M				MP3000				MS2050				F40M				MP2051				MP2050			
	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%
M1	—	—	—	—	—	—	—	—	—	—	—	—	150	170	180	190	170	190	200	210	160	180	190	205	240	285	315	350	175	195	210	220
	—	—	—	—	—	—	—	—	—	—	—	—	*490*	*560*	*590*	*620*	*560*	*620*	*660*	*690*	*520*	*590*	*620*	*670*	*790*	*940*	*1025*	*1150*	*570*	*640*	*690*	*720*
M2	—	—	—	—	—	—	—	—	—	—	—	—	125	140	150	160	140	155	165	175	135	150	160	170	210	250	270	305	145	165	175	185
	—	—	—	—	—	—	—	—	—	—	—	—	*410*	*460*	*490*	*520*	*460*	*510*	*540*	*570*	*445*	*490*	*520*	*560*	*690*	*820*	*890*	*1000*	*475*	*540*	*570*	*610*
M3	—	—	—	—	—	—	—	—	—	—	—	—	105	115	120	130	115	130	135	145	110	120	125	135	175	210	230	260	120	135	140	150
	—	—	—	—	—	—	—	—	—	—	—	—	*345*	*375*	*395*	*425*	*375*	*425*	*445*	*475*	*360*	*395*	*410*	*445*	*570*	*690*	*750*	*850*	*395*	*445*	*460*	*490*
M4	—	—	—	—	—	—	—	—	—	—	—	—	80	90	95	105	90	100	105	115	85	95	100	105	145	170	185	210	95	105	110	120
	—	—	—	—	—	—	—	—	—	—	—	—	*260*	*295*	*310*	*345*	*295*	*330*	*345*	*375*	*280*	*310*	*330*	*345*	*475*	*560*	*610*	*690*	*310*	*345*	*360*	*395*
M5	—	—	—	—	—	—	—	—	—	—	—	—	70	75	80	85	75	85	90	95	70	80	85	90	120	140	155	175	80	90	95	100
	—	—	—	—	—	—	—	—	—	—	—	—	*230*	*245*	*260*	*280*	*245*	*280*	*295*	*310*	*230*	*260*	*280*	*295*	*395*	*460*	*510*	*570*	*260*	*295*	*310*	*330*
K1	320	360	380	410	225	255	270	285	120	135	140	150	160	180	190	200	—	—	—	—	160	175	185	200	—	—	—	—	—	—	—	—
	1050	*1175*	*1250*	*1350*	*740*	*840*	*890*	*940*	*395*	*445*	*460*	*490*	*520*	*590*	*620*	*660*	—	—	—	—	*520*	*570*	*610*	*660*	—	—	—	—	—	—	—	—
K2	300	335	355	380	205	230	240	255	105	120	125	135	145	160	170	180	—	—	—	—	140	160	165	180	—	—	—	—	—	—	—	—
	980	*1100*	*1175*	*1250*	*670*	*750*	*790*	*840*	*345*	*395*	*410*	*445*	*475*	*520*	*560*	*590*	—	—	—	—	*460*	*520*	*540*	*590*	—	—	—	—	—	—	—	—
K3	255	285	300	325	175	195	205	220	90	100	105	115	120	135	145	155	—	—	—	—	120	135	140	150	—	—	—	—	—	—	—	—
	840	*940*	*980*	*1075*	*570*	*640*	*670*	*720*	*295*	*330*	*345*	*375*	*395*	*445*	*475*	*510*	—	—	—	—	*395*	*445*	*460*	*490*	—	—	—	—	—	—	—	—
K4	245	270	290	310	165	185	195	210	85	95	100	110	115	130	135	145	—	—	—	—	115	130	135	145	—	—	—	—	—	—	—	—
	800	*890*	*950*	*1025*	*540*	*610*	*640*	*690*	*280*	*310*	*330*	*360*	*375*	*425*	*445*	*475*	—	—	—	—	*375*	*425*	*445*	*475*	—	—	—	—	—	—	—	—
K5	160	175	185	200	100	115	120	130	55	60	65	65	70	80	85	90	—	—	—	—	70	75	80	85	—	—	—	—	—	—	—	—
	520	*570*	*610*	*660*	*330*	*375*	*395*	*425*	*180*	*195*	*215*	*215*	*230*	*260*	*280*	*295*	—	—	—	—	*230*	*245*	*260*	*280*	—	—	—	—	—	—	—	—
K6	215	240	255	270	145	160	170	185	75	85	90	95	105	115	120	130	—	—	—	—	100	110	120	125	—	—	—	—	—	—	—	—
	710	*790*	*840*	*890*	*475*	*520*	*560*	*610*	*245*	*280*	*295*	*310*	*345*	*375*	*395*	*425*	—	—	—	—	*330*	*360*	*395*	*410*	—	—	—	—	—	—	—	—
K7	200	225	240	255	130	145	155	165	70	75	80	85	90	105	110	115	—	—	—	—	90	100	105	110	—	—	—	—	—	—	—	—
	660	*740*	*790*	*840*	*425*	*475*	*510*	*540*	*230*	*245*	*260*	*280*	*295*	*345*	*360*	*375*	—	—	—	—	*295*	*330*	*345*	*360*	—	—	—	—	—	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	1175	1300	1375	1475	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*3850*	*4275*	*4500*	*4850*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	470	530	560	600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*1550*	*1750*	*1825*	*1975*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	315	350	370	395	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*1025*	*1150*	*1225*	*1300*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	360	400	425	455	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*1175*	*1300*	*1400*	*1500*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	30	34	36	39	38	43	45	49	42	47	50	55	39	44	46	50	49	55	60	60	46	50	55	60
	—	—	—	—	—	—	—	—	*100*	*110*	*120*	*130*	*125*	*140*	*150*	*160*	*140*	*155*	*165*	*180*	*130*	*145*	*150*	*165*	*160*	*180*	*195*	*195*	*150*	*165*	*180*	*195*
S2	—	—	—	—	—	—	—	—	25	27	29	31	31	34	36	39	34	38	40	43	32	35	37	40	40	44	47	50	37	42	44	47
	—	—	—	—	—	—	—	—	*80*	*90*	*95*	*100*	*100*	*110*	*120*	*130*	*110*	*125*	*130*	*140*	*105*	*115*	*120*	*130*	*130*	*145*	*155*	*165*	*120*	*140*	*145*	*155*
S3	—	—	—	—	—	—	—	—	22	24	26	28	27	30	32	35	30	33	35	38	28	31	33	35	35	39	41	44	33	37	39	42
	—	—	—	—	—	—	—	—	*70*	*80*	*85*	*90*	*90*	*100*	*105*	*115*	*100*	*110*	*115*	*125*	*90*	*100*	*110*	*115*	*115*	*130*	*135*	*145*	*110*	*120*	*130*	*140*
S11	—	—	—	—	—	—	—	—	—	—	—	—	55	60	60	65	60	65	70	75	55	60	65	70	70	75	80	85	65	70	75	80
	—	—	—	—	—	—	—	—	—	—	—	—	*180*	*195*	*195*	*215*	*195*	*215*	*230*	*245*	*180*	*195*	*215*	*230*	*230*	*245*	*260*	*280*	*215*	*230*	*245*	*260*
S12	—	—	—	—	—	—	—	—	—	—	—	—	36	41	43	46	40	45	48	50	38	42	45	48	47	55	55	60	44	49	50	55
	—	—	—	—	—	—	—	—	—	—	—	—	*120*	*135*	*140*	*150*	*130*	*150*	*155*	*165*	*125*	*140*	*150*	*155*	*155*	*180*	*180*	*195*	*145*	*160*	*165*	*180*
S13	—	—	—	—	—	—	—	—	—	—	—	—	22	24	25	27	24	27	28	30	22	25	26	28	28	31	33	35	26	29	31	33
	—	—	—	—	—	—	—	—	—	—	—	—	*70*	*80*	*80*	*90*	*80*	*90*	*90*	*100*	*70*	*80*	*85*	*90*	*90*	*100*	*110*	*115*	*85*	*95*	*100*	*110*
H5	105	115	120	130	—	—	—	—	26	29	31	33	33	37	39	42	—	—	—	—	33	37	39	42	—	—	—	—	—	—	—	—
	345	*375*	*395*	*425*	—	—	—	—	*85*	*95*	*100*	*110*	*110*	*120*	*130*	*140*	—	—	—	—	*110*	*120*	*130*	*140*	—	—	—	—	—	—	—	—
H8	115	130	135	145	—	—	—	—	28	31	33	36	35	39	42	45	—	—	—	—	36	40	42	45	—	—	—	—	—	—	—	—
	375	*425*	*445*	*475*	—	—	—	—	*90*	*100*	*110*	*120*	*115*	*130*	*140*	*150*	—	—	—	—	*120*	*130*	*140*	*150*	—	—	—	—	—	—	—	—
H11	130	145	155	165	—	—	—	—	33	37	39	42	42	47	50	55	—	—	—	—	43	48	50	55	105	125	135	150	48	55	55	60
	425	*475*	*510*	*540*	—	—	—	—	*110*	*120*	*130*	*140*	*140*	*155*	*165*	*180*	—	—	—	—	*140*	*155*	*165*	*180*	*345*	*410*	*445*	*490*	*155*	*180*	*180*	*195*
H12	135	150	160	170	70	80	85	90	50	55	60	65	65	75	80	85	—	—	—	—	65	70	75	80	100	120	130	145	80	90	95	105
	445	*490*	*520*	*560*	*230*	*260*	*280*	*295*	*165*	*180*	*195*	*215*	*215*	*245*	*260*	*280*	—	—	—	—	*215*	*230*	*245*	*260*	*330*	*395*	*425*	*475*	*260*	*295*	*310*	*345*

R217/220.79-XO12 – Cutting data v_c = (m/min)/(sf/min)

SMG	H15				MK1501				MP1501				MP2501				MS2500				MP3501				MM4500			
	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%
P1	—	—	—	—	—	—	—	—	310	335	355	370	300	325	340	360	345	375	390	415	320	345	360	380	200	220	235	250
	—	—	—	—	—	—	—	—	*1025*	*1100*	*1175*	*1225*	*980*	*1075*	*1125*	*1175*	*1125*	*1225*	*1275*	*1350*	*1050*	*1125*	*1175*	*1250*	*660*	*720*	*770*	*820*
P2	—	—	—	—	—	—	—	—	300	330	345	360	290	315	330	350	335	365	380	400	310	335	350	370	195	215	225	240
	—	—	—	—	—	—	—	—	*980*	*1075*	*1125*	*1175*	*950*	*1025*	*1075*	*1150*	*1100*	*1200*	*1250*	*1300*	*1025*	*1100*	*1150*	*1225*	*640*	*710*	*740*	*790*
P3	—	—	—	—	—	—	—	—	265	290	305	320	260	280	295	310	295	325	340	355	275	300	315	330	175	190	200	215
	—	—	—	—	—	—	—	—	*870*	*950*	*1000*	*1050*	*850*	*920*	*970*	*1025*	*970*	*1075*	*1125*	*1175*	*900*	*980*	*1025*	*1075*	*570*	*620*	*660*	*710*
P4	—	—	—	—	—	—	—	—	235	255	265	280	225	245	260	270	260	285	300	315	245	265	275	290	165	185	195	205
	—	—	—	—	—	—	—	—	*770*	*840*	*870*	*920*	*740*	*800*	*850*	*890*	*850*	*940*	*980*	*1025*	*800*	*870*	*900*	*950*	*540*	*610*	*640*	*670*
P5	—	—	—	—	—	—	—	—	225	245	255	270	215	235	245	260	250	270	285	300	230	250	265	275	145	160	170	180
	—	—	—	—	—	—	—	—	*740*	*800*	*840*	*890*	*710*	*770*	*800*	*850*	*820*	*890*	*940*	*980*	*750*	*820*	*870*	*900*	*475*	*520*	*560*	*590*
P6	—	—	—	—	—	—	—	—	260	280	295	310	250	270	285	300	280	305	320	335	260	285	295	310	165	180	190	205
	—	—	—	—	—	—	—	—	*850*	*920*	*970*	*1025*	*820*	*890*	*940*	*980*	*920*	*1000*	*1050*	*1100*	*850*	*940*	*970*	*1025*	*540*	*590*	*620*	*670*
P7	—	—	—	—	—	—	—	—	245	265	275	290	235	255	270	280	265	290	300	315	245	265	280	295	155	170	180	190
	—	—	—	—	—	—	—	—	*800*	*870*	*900*	*950*	*770*	*840*	*890*	*920*	*870*	*950*	*980*	*1025*	*800*	*870*	*920*	*970*	*510*	*560*	*590*	*620*
P8	—	—	—	—	—	—	—	—	225	245	255	270	215	235	245	260	250	270	285	300	230	250	265	275	145	160	170	180
	—	—	—	—	—	—	—	—	*740*	*800*	*840*	*890*	*710*	*770*	*800*	*850*	*820*	*890*	*940*	*980*	*750*	*820*	*870*	*900*	*475*	*520*	*560*	*590*
P11	—	—	—	—	—	—	—	—	235	255	270	285	230	250	260	275	255	280	295	310	240	260	270	285	150	165	175	185
	—	—	—	—	—	—	—	—	*770*	*840*	*890*	*940*	*750*	*820*	*850*	*900*	*840*	*920*	*970*	*1025*	*790*	*850*	*890*	*940*	*490*	*540*	*570*	*610*
P12	—	—	—	—	—	—	—	—	155	170	180	185	155	165	175	185	175	190	195	210	165	175	185	195	105	115	120	125
	—	—	—	—	—	—	—	—	*510*	*560*	*590*	*610*	*510*	*540*	*570*	*610*	*570*	*620*	*640*	*690*	*540*	*570*	*610*	*640*	*345*	*375*	*395*	*410*
M1	—	—	—	—	—	—	—	—	—	—	—	—	155	175	185	195	195	220	230	245	170	190	200	210	130	150	155	165
	—	—	—	—	—	—	—	—	—	—	—	—	*510*	*570*	*610*	*640*	*640*	*720*	*750*	*800*	*560*	*620*	*660*	*690*	*425*	*490*	*510*	*540*
M2	—	—	—	—	—	—	—	—	—	—	—	—	130	140	150	160	165	180	190	205	140	155	165	175	110	120	130	140
	—	—	—	—	—	—	—	—	—	—	—	—	*425*	*460*	*490*	*520*	*540*	*590*	*620*	*670*	*460*	*510*	*540*	*570*	*360*	*395*	*425*	*460*
M3	—	—	—	—	—	—	—	—	—	—	—	—	105	120	125	135	135	150	160	170	115	130	135	145	90	100	105	115
	—	—	—	—	—	—	—	—	—	—	—	—	*345*	*395*	*410*	*445*	*445*	*490*	*520*	*560*	*375*	*425*	*445*	*475*	*295*	*330*	*345*	*375*
M4	—	—	—	—	—	—	—	—	—	—	—	—	85	95	100	105	105	120	125	135	90	100	105	115	70	80	85	90
	—	—	—	—	—	—	—	—	—	—	—	—	*280*	*310*	*330*	*345*	*345*	*395*	*410*	*445*	*295*	*330*	*345*	*375*	*230*	*260*	*280*	*295*
M5	—	—	—	—	—	—	—	—	—	—	—	—	70	75	80	90	90	100	105	110	75	85	90	95	60	65	70	75
	—	—	—	—	—	—	—	—	—	—	—	—	*230*	*245*	*260*	*295*	*295*	*330*	*345*	*360*	*245*	*280*	*295*	*310*	*195*	*215*	*230*	*245*
K1	—	—	—	—	285	365	415	480	305	330	345	365	295	320	335	355	215	240	255	275	315	340	355	375	—	—	—	—
	—	—	—	—	*940*	*1200*	*1350*	*1575*	*1000*	*1075*	*1125*	*1200*	*970*	*1050*	*1100*	*1175*	*710*	*790*	*840*	*900*	*1025*	*1125*	*1175*	*1225*	—	—	—	—
K2	—	—	—	—	255	325	370	425	270	295	310	325	260	285	300	315	195	215	225	245	280	305	320	335	—	—	—	—
	—	—	—	—	*840*	*1075*	*1225*	*1400*	*890*	*970*	*1025*	*1075*	*850*	*940*	*980*	*1025*	*640*	*710*	*740*	*800*	*920*	*1000*	*1050*	*1100*	—	—	—	—
K3	—	—	—	—	190	225	240	265	230	250	260	275	220	240	250	265	165	180	190	205	240	260	270	285	—	—	—	—
	—	—	—	—	*620*	*740*	*790*	*870*	*750*	*820*	*850*	*900*	*720*	*790*	*820*	*870*	*540*	*590*	*620*	*670*	*790*	*850*	*890*	*940*	—	—	—	—
K4	—	—	—	—	180	210	230	255	220	240	250	260	210	230	240	255	155	175	185	195	225	245	255	270	—	—	—	—
	—	—	—	—	*590*	*690*	*750*	*840*	*720*	*790*	*820*	*850*	*690*	*750*	*790*	*840*	*510*	*570*	*610*	*640*	*740*	*800*	*840*	*890*	—	—	—	—
K5	—	—	—	—	110	130	140	155	135	150	155	165	135	145	150	160	95	105	110	120	140	150	160	165	—	—	—	—
	—	—	—	—	*360*	*425*	*460*	*510*	*445*	*490*	*510*	*540*	*445*	*475*	*490*	*520*	*310*	*345*	*360*	*395*	*460*	*490*	*520*	*540*	—	—	—	—
K6	—	—	—	—	160	185	205	225	195	210	220	230	185	205	210	225	135	155	160	175	200	215	225	240	—	—	—	—
	—	—	—	—	*520*	*610*	*670*	*740*	*640*	*690*	*720*	*750*	*610*	*670*	*690*	*740*	*445*	*510*	*520*	*570*	*660*	*710*	*740*	*790*	—	—	—	—
K7	—	—	—	—	145	170	180	200	175	190	200	210	170	185	195	205	120	135	145	155	180	195	200	210	—	—	—	—
	—	—	—	—	*475*	*560*	*590*	*660*	*570*	*620*	*660*	*690*	*560*	*610*	*640*	*670*	*395*	*445*	*475*	*510*	*590*	*640*	*660*	*690*	—	—	—	—
N1	1200	1325	1400	1500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	3925	*4350*	*4600*	*4925*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	480	540	570	600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1575	*1775*	*1875*	*1975*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	320	355	375	405	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1050	*1175*	*1225*	*1325*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	365	410	430	460	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1200	*1350*	*1400*	*1500*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	50	60	60	65	42	47	50	55	22	24	26	28
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*165*	*195*	*195*	*215*	*140*	*155*	*165*	*180*	*70*	*80*	*85*	*90*
S2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	42	46	49	55	34	38	40	43	18	20	21	22
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*140*	*150*	*160*	*180*	*110*	*125*	*130*	*140*	*60*	*65*	*70*	*70*
S3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	36	41	43	46	30	33	35	38	15	17	18	20
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*120*	*135*	*140*	*150*	*100*	*110*	*115*	*125*	*49*	*55*	*60*	*65*
S11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	70	80	85	90	60	65	70	75	30	33	35	38
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*230*	*260*	*280*	*295*	*195*	*215*	*230*	*245*	*100*	*110*	*115*	*125*
S12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	49	55	60	60	40	45	48	50	28	31	33	35
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*160*	*180*	*195*	*195*	*130*	*150*	*155*	*165*	*90*	*100*	*110*	*115*
S13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	29	32	34	37	24	27	28	30	16	18	19	21
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*95*	*105*	*110*	*120*	*80*	*90*	*90*	*100*	*50*	*60*	*60*	*70*
H5	—	—	—	—	—	—	—	—	41	46	48	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	*135*	*150*	*155*	*165*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
H8	—	—	—	—	—	—	—	—	45	50	55	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	*150*	*165*	*180*	*180*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
H11	—	—	—	—	—	—	—	—	50	60	60	65	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	*165*	*195*	*195*	*215*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
H12	—	—	—	—	—	—	—	—	80	90	95	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	*260*	*295*	*310*	*330*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—



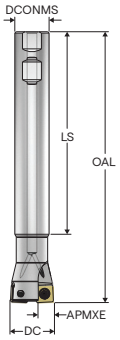
R217/220.79-12

The R217/220.79 for SCET12 inserts are strong and robust plunge mill.

– Cutter range 32-160 mm (1.25 - 6 inch)
– Max radial depth of cut: 11 mm (.433 inch)
– Insert corner radii range 1.2-3.1 mm (.047 - .122 inch)

R217.79-SC..12 – Metric





—For insert selection and cutting data recommendations, see page(s) 828–829
—For complete insert programme, see page(s) 892
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXE	DCONMS	LF	LUX	LPR	OAL	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm		kg	
R217.79-2532.3-12A	00097786	Weldon	32,0	2	11,0	25,0	168,0	144,0	144,0	200,0	12100	0,7	SC..1206
R217.79-3240.3-12A	00097787	Weldon	40,0	3	11,0	32,0	164,0	140,0	140,0	200,0	10800	1,2	SC..1206

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.79-..	1/4HEX-T20PX50	C45011-T20P

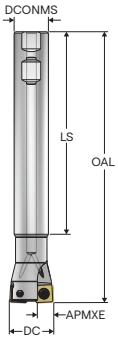
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.79-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R217.79-SC..12 – inch





—For insert selection and cutting data recommendations, see page(s) 828–829
—For complete insert programme, see page(s) 892
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXE	DCONMS	LF	LUX	LPR	OAL	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch		lbs	
R217.79-01.25-3-12A	00057587	Weldon	1.250	2	0.433	1.000	7.874	5.669	5.669	7.874	12100	1.760	SC..1206
R217.79-01.50-3-12A	00057588	Weldon	1.500	3	0.433	1.250	6.756	5.512	5.512	7.874	10800	2.430	SC..1206

Spare Parts, included in delivery

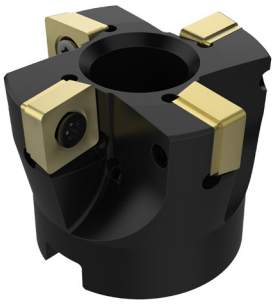
For cutter	Insert key	Insert screw
		
R217.79-..	1/4HEX-T20PX50	C45011-T20P

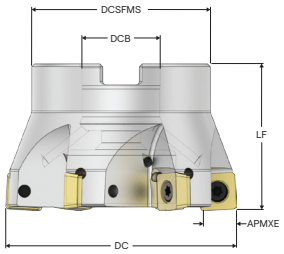
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217.79-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R220.79-SC..12 – Metric

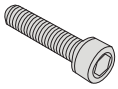




–For insert selection and cutting data recommendations, see page(s) 828–829
–For complete insert programme, see page(s) 892
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXE	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm	mm	mm	mm		kg	
R220.79-0050-12A	00030330	Arbor	50,0	4	11,0	22,0	42,0	40,0	9700	0,2	SC..1206
R220.79-0063-12A	00030331	Arbor	63,0	5	11,0	22,0	47,0	40,0	8600	0,5	SC..1206
R220.79-0080-12A	00030332	Arbor	80,0	6	11,0	27,0	62,0	50,0	7600	0,9	SC..1206
R220.79-0100-12A	00030335	Arbor	100,0	7	11,0	32,0	77,0	50,0	7000	1,6	SC..1206
R220.79-0125-12	00069980	Arbor	125,0	8	11,0	40,0	90,0	63,0	6300	3,0	SC..1206

Spare Parts, included in delivery

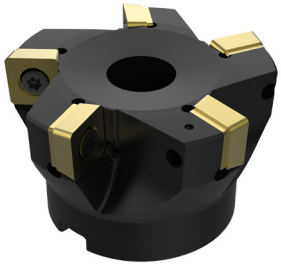
For cutter	Arbor screw	Insert key	Insert screw
			
R220.79-0050-0063	220.17-692	1/4HEX-T20PX50	C45011-T20P
R220.79-0080	–	1/4HEX-T20PX50	C45011-T20P
R220.79-0100-0125	–	1/4HEX-T20PX90	C45011-T20P

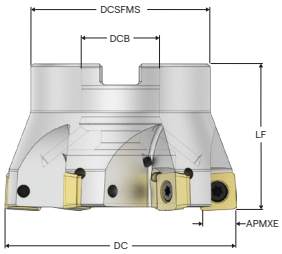
Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.79-..	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	5.0NM	T00-20P50
R220.79-..	1/4HEX-S-HANDLE-0.8-5.0NM	5804020	1/4HEX-S-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R220.79-SC..12 – inch

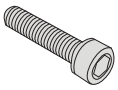




—For insert selection and cutting data recommendations, see page(s) 828–829
—For complete insert programme, see page(s) 892
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXE	DCB	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch	inch	inch	inch		lbs	
R220.79-02.00-12A	00039776	Arbor	2.000	4	0.433	0.750	1.850	1.500	9700	0.880	SC..1206
R220.79-02.50-12A	00039777	Arbor	2.500	5	0.433	0.750	1.850	1.500	8600	1.320	SC..1206
R220.79-03.00-12A	00039778	Arbor	3.000	6	0.433	1.000	2.441	2.000	7600	2.650	SC..1206

Spare Parts, included in delivery

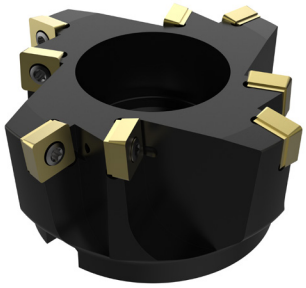
For cutter	Arbor screw	Insert key	Insert screw
			
R220.79-02.00-02.50	UC6S3/8UNFX1	1/4HEX-T20PX50	C45011-T20P
R220.79-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T20PX50	C45011-T20P

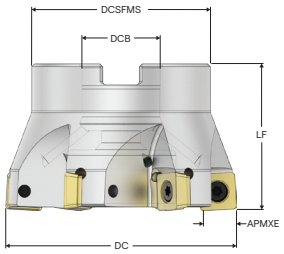
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R220.79-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R220.79-SC..12 – Metric

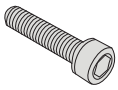
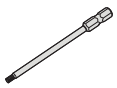




–For insert selection and cutting data recommendations, see page(s) 828-829
–For complete insert programme, see page(s) 892
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXE	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm	mm	mm	mm		kg	
R220.79-0100-20	00045683	Arbor	100,0	4	20,0	32,0	77,0	50,0	7000	1,3	SC..1206
R220.79-0125-30	00091797	Arbor	125,0	4	30,0	40,0	90,0	63,0	6300	2,8	SC..1206
R220.79-8160-40	00094578	Arbor	160,0	4	40,0	40,0	90,0	64,0	5600	4,1	SC..1206

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R220.79-0100	–	1/4HEX-T20PX90	C45011-T20P
R220.79-0125	MC6S20X40	1/4HEX-T20PX90	C45011-T20P
R220.79-8160	–	1/4HEX-T20PX90	C45011-T20P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.79-0100-0125	1/4HEX-S-HANDLE-0.8-5.0NM	5803216	1/4HEX-S-HANDLE	5.0NM	T00-20P50
R220.79-0100-0125	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	5.0NM	T00-20P50
R220.79-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	1/4HEX-S-HANDLE	5.0NM	T00-20P50

Torque and fixed keys, see page 944

R217/220.79-12 – Insert selection – mm/Inch

SMG		f_z	a_{so}			
			100%	70%	50%	30%
P1	SCET120612T-M14 MP3501	0,20 *0.0080*	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
P2	SCET120612T-M14 MP3501	0,20 *0.0080*	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
P3	SCET120612T-M14 MP2501	0,19 *0.0075*	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
P4	SCET120612T-M14 MP2501	0,19 *0.0075*	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
P5	SCET120612T-M14 MP2501	0,18 *0.0070*	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
P6	SCET120612T-M14 MP2501	0,18 *0.0070*	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
P7	SCET120612T-M14 MP2501	0,18 *0.0070*	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
P8	SCET120612T-M14 MP2501	0,19 *0.0075*	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
P11	SCET120612T-M14 MP3501	0,18 *0.0070*	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
P12	SCET120612T-M14 MP2501	0,12 *0.0048*	6,0 0.24	6,0 0.24	6,0 0.24	7,0 0.28
M1	SCET120612T-M14 MS2050	0,20 *0.0080*	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
M2	SCET120612T-M14 MS2050	0,18 *0.0070*	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
M3	SCET120612T-M14 MS2050	0,15 *0.0060*	6,0 0.24	6,0 0.24	6,0 0.24	7,0 0.28
M4	SCET120612T-M14 MP3501	0,13 *0.0050*	4,5 0.18	4,5 0.18	4,5 0.18	5,0 0.20
M5	SCET120612T-M14 MP3501	0,13 *0.0050*	4,5 0.18	4,5 0.18	4,5 0.18	5,0 0.20
K1	SCET120612T-M14 MK1501	0,20 *0.0080*	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
K2	SCET120612T-M14 MK1501	0,18 *0.0070*	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
K3	SCET120612T-M14 MP2501	0,18 *0.0070*	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
K4	SCET120612T-M14 MP2501	0,18 *0.0070*	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
K5	SCET120612T-M14 MP2501	0,16 *0.0065*	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
K6	SCET120612T-M14 MP2501	0,18 *0.0070*	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
K7	SCET120612T-M14 MP2501	0,16 *0.0065*	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
N1	SCET120612T-M14 F40M	0,25 *0.010*	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
N2	SCET120612T-M14 F40M	0,25 *0.010*	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
N3	SCET120612T-M14 F40M	0,25 *0.010*	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
N11	SCET120612T-M14 F40M	0,25 *0.010*	8,0 0.32	8,0 0.32	8,0 0.32	9,0 0.36
S1	SCET120612T-M14 MP3501	0,13 *0.0050*	4,5 0.18	4,5 0.18	4,5 0.18	5,0 0.20
S2	SCET120612T-M14 MP3501	0,13 *0.0050*	4,5 0.18	4,5 0.18	4,5 0.18	5,0 0.20
S3	SCET120612T-M14 MP3501	0,12 *0.0048*	4,5 0.18	4,5 0.18	4,5 0.18	5,0 0.20
S11	SCET120612T-M14 MS2050	0,15 *0.0060*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
S12	SCET120612T-M14 MS2050	0,15 *0.0060*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
S13	SCET120612T-M14 MS2050	0,13 *0.0050*	4,5 0.18	4,5 0.18	4,5 0.18	5,0 0.20
H5	SCET120612T-M14 MP3501	0,12 *0.0048*	6,0 0.24	6,0 0.24	6,0 0.24	7,0 0.28
H8	SCET120612T-M14 MP3501	0,095 *0.0038*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24
H11	SCET120612T-M14 MP3501	0,12 *0.0048*	6,0 0.24	6,0 0.24	6,0 0.24	7,0 0.28
H12	SCET120612T-M14 MP3501	0,095 *0.0038*	5,0 0.20	5,0 0.20	5,0 0.20	6,0 0.24

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.79-12 – Cutting data v_c = (m/min)/(sf/min)

SMG	MS2050				F40M				HX				MK1501				MP2501				MP3501				T25M			
	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%
P1	185	205	215	230	170	185	195	205	135	150	155	170	—	—	—	—	290	315	330	350	255	280	290	310	185	205	215	230
	610	*670*	*710*	*750*	*560*	*610*	*640*	*670*	*445*	*490*	*510*	*560*	—	—	—	—	*950*	*1025*	*1075*	*1150*	*840*	*920*	*950*	*1025*	*610*	*670*	*710*	*750*
P2	180	200	210	225	165	180	190	200	130	145	155	165	—	—	—	—	285	310	325	340	250	270	285	300	180	200	210	225
	590	*660*	*690*	*740*	*540*	*590*	*620*	*660*	*425*	*475*	*510*	*540*	—	—	—	—	*940*	*1025*	*1075*	*1125*	*820*	*890*	*940*	*980*	*590*	*660*	*690*	*740*
P3	160	175	185	195	150	160	165	175	115	125	135	145	—	—	—	—	250	275	285	300	220	240	250	265	155	175	185	195
	520	*570*	*610*	*640*	*490*	*520*	*540*	*570*	*375*	*410*	*445*	*475*	—	—	—	—	*820*	*900*	*940*	*980*	*720*	*790*	*820*	*870*	*510*	*570*	*610*	*640*
P4	140	155	160	175	135	150	160	165	100	110	120	125	—	—	—	—	220	240	250	265	195	210	220	235	140	155	160	175
	460	*510*	*520*	*570*	*445*	*490*	*520*	*540*	*330*	*360*	*395*	*410*	—	—	—	—	*720*	*790*	*820*	*870*	*640*	*690*	*720*	*770*	*460*	*510*	*520*	*570*
P5	135	150	160	170	130	140	145	150	95	110	115	125	—	—	—	—	215	235	245	260	190	205	215	230	135	150	160	170
	445	*490*	*520*	*560*	*425*	*460*	*475*	*490*	*310*	*360*	*375*	*410*	—	—	—	—	*710*	*770*	*800*	*850*	*620*	*670*	*710*	*750*	*445*	*490*	*520*	*560*
P6	155	170	180	190	145	155	160	170	110	120	130	140	—	—	—	—	245	265	275	290	215	230	245	255	150	170	175	190
	510	*560*	*590*	*620*	*475*	*510*	*520*	*560*	*360*	*395*	*425*	*460*	—	—	—	—	*800*	*870*	*900*	*950*	*710*	*750*	*800*	*840*	*490*	*560*	*570*	*620*
P7	145	160	170	180	135	145	155	160	105	115	120	130	—	—	—	—	230	250	260	275	200	220	230	240	140	160	165	180
	475	*520*	*560*	*590*	*445*	*475*	*510*	*520*	*345*	*375*	*395*	*425*	—	—	—	—	*750*	*820*	*850*	*900*	*660*	*720*	*750*	*790*	*460*	*520*	*540*	*590*
P8	135	145	155	165	125	135	140	145	95	105	115	120	—	—	—	—	210	230	240	255	185	200	210	220	130	145	155	165
	445	*475*	*510*	*540*	*410*	*445*	*460*	*475*	*310*	*345*	*375*	*395*	—	—	—	—	*690*	*750*	*790*	*840*	*610*	*660*	*690*	*720*	*425*	*475*	*510*	*540*
P11	140	155	165	175	130	140	150	155	100	110	120	125	—	—	—	—	220	240	255	265	195	215	225	235	140	155	160	175
	460	*510*	*540*	*570*	*425*	*460*	*490*	*510*	*330*	*360*	*395*	*410*	—	—	—	—	*720*	*790*	*840*	*870*	*640*	*710*	*740*	*770*	*460*	*510*	*520*	*570*
P12	100	110	115	125	95	105	105	110	70	75	80	85	—	—	—	—	155	170	180	185	140	150	160	165	95	105	110	120
	330	*360*	*375*	*410*	*310*	*345*	*345*	*360*	*230*	*245*	*260*	*280*	—	—	—	—	*510*	*560*	*590*	*610*	*460*	*490*	*520*	*540*	*310*	*345*	*360*	*395*
M1	145	160	170	180	130	145	155	165	—	—	—	—	—	—	—	—	155	170	180	195	145	160	170	180	145	160	170	180
	475	*520*	*560*	*590*	*425*	*475*	*510*	*540*	—	—	—	—	—	—	—	—	*510*	*560*	*590*	*640*	*475*	*520*	*560*	*590*	*475*	*520*	*560*	*590*
M2	120	135	140	150	110	120	130	140	—	—	—	—	—	—	—	—	130	145	150	165	120	135	140	150	120	135	140	150
	395	*445*	*460*	*490*	*360*	*395*	*425*	*460*	—	—	—	—	—	—	—	—	*425*	*475*	*490*	*540*	*395*	*445*	*460*	*490*	*395*	*445*	*460*	*490*
M3	100	110	115	125	90	100	105	115	—	—	—	—	—	—	—	—	105	120	125	135	100	110	115	125	100	110	115	125
	330	*360*	*375*	*410*	*295*	*330*	*345*	*375*	—	—	—	—	—	—	—	—	*345*	*395*	*410*	*445*	*330*	*360*	*375*	*410*	*330*	*360*	*375*	*410*
M4	80	85	90	100	70	80	85	90	—	—	—	—	—	—	—	—	85	95	100	105	80	85	90	100	80	85	90	100
	260	*280*	*295*	*330*	*230*	*260*	*280*	*295*	—	—	—	—	—	—	—	—	*280*	*310*	*330*	*345*	*260*	*280*	*295*	*330*	*260*	*280*	*295*	*330*
M5	65	70	75	80	60	65	70	75	—	—	—	—	—	—	—	—	70	75	80	90	65	70	75	80	65	70	75	80
	215	*230*	*245*	*260*	*195*	*215*	*230*	*245*	—	—	—	—	—	—	—	—	*230*	*245*	*260*	*295*	*215*	*230*	*245*	*260*	*215*	*230*	*245*	*260*
K1	—	—	—	—	130	145	150	160	120	135	145	155	290	370	420	490	285	310	325	345	250	275	285	300	140	160	165	180
	—	—	—	—	*425*	*475*	*490*	*520*	*395*	*445*	*475*	*510*	*950*	*1225*	*1375*	*1600*	*940*	*1025*	*1075*	*1125*	*820*	*900*	*940*	*980*	*460*	*520*	*540*	*590*
K2	—	—	—	—	115	130	135	145	110	120	130	140	260	330	375	435	260	285	295	315	230	250	260	275	125	140	150	160
	—	—	—	—	*375*	*425*	*445*	*475*	*360*	*395*	*425*	*460*	*850*	*1075*	*1225*	*1425*	*850*	*940*	*970*	*1025*	*750*	*820*	*850*	*900*	*410*	*460*	*490*	*520*
K3	—	—	—	—	100	110	115	125	—	—	—	—	190	225	245	270	220	240	250	265	195	210	220	235	110	120	125	135
	—	—	—	—	*330*	*360*	*375*	*410*	—	—	—	—	*620*	*740*	*800*	*890*	*720*	*790*	*820*	*870*	*640*	*690*	*720*	*770*	*360*	*395*	*410*	*445*
K4	—	—	—	—	95	105	110	120	—	—	—	—	180	215	230	255	210	230	240	255	185	200	210	225	105	115	120	130
	—	—	—	—	*310*	*345*	*360*	*395*	—	—	—	—	*590*	*710*	*750*	*840*	*690*	*750*	*790*	*840*	*610*	*660*	*690*	*740*	*345*	*375*	*395*	*425*
K5	—	—	—	—	60	65	70	75	—	—	—	—	110	130	145	160	135	145	150	160	115	125	135	140	65	70	75	80
	—	—	—	—	*195*	*215*	*230*	*245*	—	—	—	—	*360*	*425*	*475*	*520*	*445*	*475*	*490*	*520*	*375*	*410*	*445*	*460*	*215*	*230*	*245*	*260*
K6	—	—	—	—	80	90	95	105	—	—	—	—	160	190	205	225	185	200	210	225	165	180	185	195	90	100	105	115
	—	—	—	—	*260*	*295*	*310*	*345*	—	—	—	—	*520*	*620*	*670*	*740*	*610*	*660*	*690*	*740*	*540*	*590*	*610*	*640*	*295*	*330*	*345*	*375*
K7	—	—	—	—	75	80	85	95	—	—	—	—	145	170	185	200	170	185	195	205	150	165	170	180	80	90	95	105
	—	—	—	—	*245*	*260*	*280*	*310*	—	—	—	—	*475*	*560*	*610*	*660*	*560*	*610*	*640*	*670*	*490*	*540*	*560*	*590*	*260*	*295*	*310*	*345*
N1	—	—	—	—	940	1050	1100	1175	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	*3075*	*3450*	*3600*	*3850*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	380	420	445	480	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	*1250*	*1375*	*1450*	*1575*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	255	280	300	320	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	*840*	*920*	*980*	*1050*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	290	320	340	365	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	*950*	*1050*	*1125*	*1200*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	36	40	43	46	33	37	39	42	—	—	—	—	—	—	—	—	—	—	—	—	36	40	43	46	—	—	—	—
	120	*130*	*140*	*150*	*110*	*120*	*130*	*140*	—	—	—	—	—	—	—	—	—	—	—	—	*120*	*130*	*140*	*150*	—	—	—	—
S2	29	33	34	37	27	30	31	34	—	—	—	—	—	—	—	—	—	—	—	—	29	33	34	37	—	—	—	—
	95	*110*	*110*	*120*	*90*	*100*	*100*	*110*	—	—	—	—	—	—	—	—	—	—	—	—	*95*	*110*	*110*	*120*	—	—	—	—
S3	26	29	30	33	23	26	28	30	—	—	—	—	—	—	—	—	—	—	—	—	26	29	30	33	—	—	—	—
	85	*95*	*100*	*110*	*75*	*85*	*90*	*100*	—	—	—	—	—	—	—	—	—	—	—	—	*85*	*95*	*100*	*110*	—	—	—	—
S11	50	55	60	65	45	50	55	55	—	—	—	—	—	—	—	—	—	—	—	—	50	55	60	65	—	—	—	—
	165	*180*	*195*	*215*	*150*	*165*	*180*	*180*	—	—	—	—	—	—	—	—	—	—	—	—	*165*	*180*	*195*	*215*	—	—	—	—
S12	35	39	41	44	31	35	37	40	—	—	—	—	—	—	—	—	—	—	—	—	35	39	41	44	—	—	—	—
	115	*130*	*135*	*145*	*100*	*115*	*120*	*130*	—	—	—	—	—	—	—	—	—	—	—	—	*115*	*130*	*135*	*145*	—	—	—	—
S13	20	23	24	26	19	21	22	24	—	—	—	—	—	—	—	—	—	—	—	—	20	23	24	26	—	—	—	—
	65	*75*	*80*	*85*	*60*	*70*	*70*	*80*	—	—	—	—	—	—	—	—	—	—	—	—	*65*	*75*	*80*	*85*	—	—	—	—
H5	—	—	—	—	28	31	33	36	23	25	27	29	—	—	—	—	—	—	—	—	32	36	38	41	—	—	—	—
	—	—	—	—	*90*	*100*	*110*	*120*	*75*	*80*	*90*	*95*	—	—	—	—	—	—	—	—	*105*	*120*	*125*	*135*	—	—	—	—
H8	—	—	—	—	30	34	36	38	24	27	29	31	—	—	—	—	—	—	—	—	35	39	41	44	—	—	—	—
	—	—	—	—	*100*	*110*	*120*	*125*	*80*	*90*	*95*	*100*	—	—	—	—	—	—	—	—	*115*	*130*	*135*	*145*	—	—	—	—
H11	—	—	—	—	36	40	42	45	29	32	34	36	—	—	—	—	—	—	—	—	41	46	49	50	—	—	—	—
	—	—	—	—	*120*	*130*	*140*	*150*	*95*	*105*	*110*	*120*	—	—	—	—	—	—	—	—	*135*	*150*	*160*	*165*	—	—	—	—
H12	—	—	—	—	55	60	65	70	44	49	50	55	—	—	—	—	—	—	—	—	65	70	75	80	—	—	—	—
	—	—	—	—	*180*	*195*	*215*	*230*	*145*	*160*	*165*	*180*	—	—	—	—	—	—	—	—	*215*	*230*	*245*	*260*	—	—	—	—



Chamfer Mills

Turbo 12, R217/220.49-XO12 Chamfer mills, for XOMX12 inserts with 2 cutting edges and is available in many different grades for most common workpiece materials

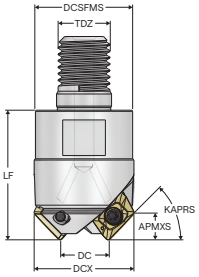
– Chamfer angle 30°, 45°, 60° and 75°
– Max. depth of cut 31 mm (1.22 inch) with the 75° milling cutter
– Front chamfering
– Available in combimaster, Seco-Capto or for arbor mounting

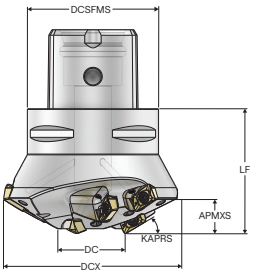
R215/220.49 Chamfer mills for SPMX06/09/12 insert types, 4-cutting edges, single sided positive inserts.

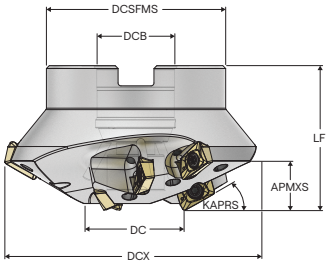
– Chamfer angle 45° and 60°
– Front and back chamfering
– Available in Weldon and Arbor mounting

R217/220.49-XO12 – Metric







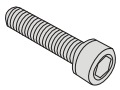
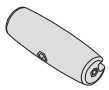


–For insert selection and cutting data recommendations, see page(s) 833–835
–For complete insert programme, see page(s) 920, 921
–For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	KAPRS°	DC	DCX	ZEFP	APMXS	DCB	DCSFMS	TDZ	DCONMS	LF	OAL	RPMX	Weight	Insert
				mm	mm		mm	mm	mm		mm	mm	mm		kg	
C6-R217.49-032-15-XO12-30.3A	02669613	Seco-Capto	30,0 °	32,0	88,8	3	15,9	–	63,0	–	63,0	60,0	98,0	10900	1,6	XO.X1204
C6-R217.49-032-22-XO12-45.3A	02669615	Seco-Capto	45,0 °	32,0	76,4	3	22,5	–	63,0	–	63,0	60,0	98,0	11800	1,4	XO.X1204
C6-R217.49-032-28-XO12-60.3A	02669616	Seco-Capto	60,0 °	32,0	64,0	3	28,0	–	63,0	–	63,0	60,0	98,0	12900	1,3	XO.X1204
C5-R217.49-032-42-XO12-75.3A	02669617	Seco-Capto	75,0 °	32,0	54,1	3	42,5	–	50,0	–	50,0	70,0	100,0	14100	0,8	XO.X1204
R217.49-1616.RE-XO12-45.2A	02669571	Combimaster	45,0 °	16,0	30,8	2	8,0	–	30,0	M16	–	40,0	–	18600	0,3	XO.X1204
R217.49-1216.RE-XO12-60.2A	02669572	Combimaster	60,0 °	16,0	27,0	2	9,0	–	23,0	M12	–	30,0	–	20100	0,2	XO.X1204
R217.49-1620.RE-XO12-30.3A	02669573	Combimaster	30,0 °	20,0	39,8	3	5,5	–	30,0	M16	–	40,0	–	16400	0,3	XO.X1204
R217.49-1620.RE-XO12-45.3A	02669574	Combimaster	45,0 °	20,0	34,8	3	7,7	–	30,0	M16	–	40,0	–	17400	0,3	XO.X1204
R217.49-1620.RE-XO12-60.3A	02669575	Combimaster	60,0 °	20,0	30,5	3	9,0	–	30,0	M16	–	40,0	–	18400	0,3	XO.X1204
R217.49-1220.RE-XO12-75.2A	02669576	Combimaster	75,0 °	20,0	25,4	2	11,0	–	23,0	M12	–	30,0	–	20500	0,2	XO.X1204
R220.49-0035-15-XO12-30.3A	02669634	Arbor	30,0 °	35,0	91,9	3	15,9	27,0	62,0	–	27,0	50,0	–	10700	1,1	XO.X1204
R220.49-0035-22-XO12-45.3A	02669637	Arbor	45,0 °	35,0	79,4	3	22,5	27,0	62,0	–	27,0	50,0	–	11600	0,9	XO.X1204
R220.49-0035-28-XO12-60.3A	02669638	Arbor	60,0 °	35,0	67,0	3	28,0	27,0	62,0	–	27,0	50,0	–	12600	0,7	XO.X1204
R220.49-0035-31-XO12-75.3A	02669639	Arbor	75,0 °	35,0	51,5	3	31,0	22,0	47,0	–	22,0	50,0	–	14400	0,4	XO.X1204

Modification of the cutter body needed for radii > 2,4 mm

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Key (T-handle)
				
Cx-R217.49 Ø 32 30/45/60/75°	–	H4B-T10P	C03509-T10P	DOUBLE-T
R217.49 Ø 16 45/60°	–	H4B-T10P	C03507-T10P	DOUBLE-T
R217.49 Ø 20 30/45°	–	H4B-T10P	C03509-T10P	DOUBLE-T
R217.49 Ø 20 60/75°	–	H4B-T10P	C03507-T10P	DOUBLE-T
R220.49-... 30/45/60°	MC6S12X35	H4B-T10P	C03509-T10P	DOUBLE-T
R220.49-...75°	MC6S10X40	H4B-T10P	C03509-T10P	DOUBLE-T

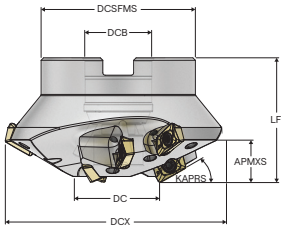
Accessories

For cutter	Insert clamping torque	Torque key
		
R217/220.49-..	3.0NM	T00-10P30

Torque and fixed keys, see page 944

R217/220.49-XO12 – inch



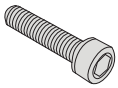
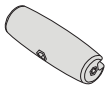


—For insert selection and cutting data recommendations, see page(s) 833–835
—For complete insert programme, see page(s) 920, 921
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	KAPRS°	DC	DCX	ZEFP	APMXS	DCB	DCSFMS	DCONMS	LF	RPMX	Weight	Insert
				inch	inch		inch	inch	inch	inch	inch		lbs	
R220.49-01.38-15-XO12-30.3A	02670045	Arbor	30,0 °	1.378	3.618	3	0.626	1.000	2.441	1.000	1.969	14400	2.430	XO.X1204
R220.49-01.38-22-XO12-45.3A	02670048	Arbor	45,0 °	1.378	3.126	3	0.886	1.000	2.441	1.000	1.969	14400	1.980	XO.X1204
R220.49-01.38-28-XO12-60.3A	02670049	Arbor	60,0 °	1.378	2.638	3	1.110	1.000	2.441	1.000	1.969	14400	1.320	XO.X1204
R220.49-01.38-31-XO12-75.3A	02670051	Arbor	75,0 °	1.378	2.028	3	1.244	0.750	1.850	0.750	1.969	14400	1.100	XO.X1204

Modification of the cutter body needed for radii > 0.094 in

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Key (T-handle)
				
R220.49-... 30/45/60°	UC6S1/2UNFX1-1/2	H4B-T10P	C03509-T10P	DOUBLE-T
R220.49-...75°	UC6S3/8UNFX11/2	H4B-T10P	C03509-T10P	DOUBLE-T

Accessories

For cutter	Insert clamping torque	Torque key
		
R217/220.49-..	3.0NM	T00-10P30

Torque and fixed keys, see page 944

R217/220.49-XO12 – Insert selection – mm/Inch

SMG		f_z		
		50%	30%	10%
P1	XOMX120408TR-ME08 F40M	0,17 *0.0065*	0,20 0.0080	0,32 0.013
P2	XOMX120408TR-ME08 F40M	0,17 *0.0065*	0,20 0.0080	0,32 0.013
P3	XOMX120408TR-M12 MP2501	0,24 *0.0095*	0,28 0.011	0,46 0.018
P4	XOMX120408TR-M12 MP2501	0,24 *0.0095*	0,28 0.011	0,46 0.018
P5	XOMX120408TR-M12 MP2501	0,24 *0.0095*	0,28 0.011	0,44 0.017
P6	XOMX120408TR-M12 MP2501	0,24 *0.0095*	0,28 0.011	0,44 0.017
P7	XOMX120408TR-M12 MP2501	0,24 *0.0095*	0,28 0.011	0,44 0.017
P8	XOMX120408TR-M12 MP2501	0,24 *0.0095*	0,28 0.011	0,46 0.018
P11	XOMX120408TR-M12 MP3501	0,24 *0.0095*	0,28 0.011	0,44 0.017
P12	XOEX120408R-M07 MS2500	0,12 *0.0048*	0,14 0.0055	0,22 0.0085
M1	XOEX120408R-M07 F40M	0,19 *0.0075*	0,22 0.0085	0,36 0.014
M2	XOEX120408R-M07 F40M	0,18 *0.0070*	0,20 0.0080	0,34 0.013
M3	XOEX120408R-M07 F40M	0,14 *0.0055*	0,16 0.0065	0,26 0.010
M4	XOEX120408R-M07 MS2050	0,12 *0.0048*	0,14 0.0055	0,22 0.0085
M5	XOEX120408R-M07 MS2050	0,12 *0.0048*	0,14 0.0055	0,22 0.0085
K1	XOMX120408TR-M12 MK1501	0,26 *0.010*	0,30 0.012	0,48 0.019
K2	XOMX120408TR-M12 MK1501	0,24 *0.0095*	0,28 0.011	0,44 0.017
K3	XOMX120408TR-M12 MK2050	0,24 *0.0095*	0,28 0.011	0,44 0.017
K4	XOMX120408TR-M12 MK2050	0,24 *0.0095*	0,28 0.011	0,44 0.017
K5	XOMX120408TR-M12 MK2050	0,22 *0.0085*	0,25 0.010	0,40 0.016
K6	XOMX120408TR-M12 MK2050	0,24 *0.0095*	0,28 0.011	0,44 0.017
K7	XOMX120408TR-M12 MK2050	0,22 *0.0085*	0,25 0.010	0,40 0.016
N1	XOEX120408FR-E06 H15	0,19 *0.0075*	0,22 0.0085	0,36 0.014
N2	XOEX120408FR-E06 H15	0,19 *0.0075*	0,22 0.0085	0,36 0.014
N3	XOEX120408FR-E06 H15	0,19 *0.0075*	0,22 0.0085	0,36 0.014
N11	XOEX120408FR-E06 H15	0,19 *0.0075*	0,22 0.0085	0,36 0.014
S1	XOEX120408R-M07 F40M	0,12 *0.0048*	0,14 0.0055	0,22 0.0085
S2	XOEX120408R-M07 F40M	0,12 *0.0048*	0,14 0.0055	0,22 0.0085
S3	XOEX120408R-M07 F40M	0,11 *0.0044*	0,13 0.0050	0,20 0.0080
S11	XOEX120408R-M07 MS2050	0,14 *0.0055*	0,16 0.0065	0,25 0.010
S12	XOEX120408R-M07 MS2050	0,14 *0.0055*	0,16 0.0065	0,25 0.010
S13	XOEX120408R-M07 MS2050	0,12 *0.0048*	0,14 0.0055	0,22 0.0085
H5	XOMX120408TR-M12 MP3000	0,16 *0.0065*	0,18 0.0070	0,30 0.012
H8	XOMX120408TR-M12 MP3000	0,12 *0.0048*	0,14 0.0055	0,22 0.0085
H11	XOMX120408TR-MD13 MP1501	0,17 *0.0065*	0,20 0.0080	0,32 0.013
H12	XOMX120408TR-M12 MP1501	0,12 *0.0048*	0,14 0.0055	0,22 0.0085
H21	XOMX120408TR-M12 MP1501	0,12 *0.0048*	0,14 0.0055	0,22 0.0085

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

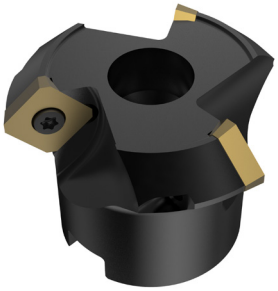
R217/220.49-XO12 – Cutting data v_c = (m/min)/(sf/min)

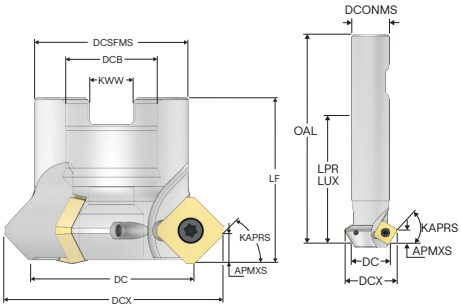
SMG	MH1051			MK2050			MP3000			MS2050			F40M			MP2051			MP2050			H15		
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%
P1	—	—	—	315	355	430	395	440	520	340	375	440	315	345	395	500	540	630	370	415	495	—	—	—
	—	—	—	*1025*	*1175*	*1400*	*1300*	*1450*	*1700*	*1125*	*1225*	*1450*	*1025*	*1125*	*1300*	*1650*	*1775*	*2075*	*1225*	*1350*	*1625*	—	—	—
P2	—	—	—	310	345	410	375	430	500	325	365	425	300	335	375	470	530	620	355	400	480	—	—	—
	—	—	—	*1025*	*1125*	*1350*	*1225*	*1400*	*1650*	*1075*	*1200*	*1400*	*980*	*1100*	*1225*	*1550*	*1750*	*2025*	*1175*	*1300*	*1575*	—	—	—
P3	—	—	—	270	305	360	330	370	440	285	315	370	265	285	330	420	465	530	310	345	415	—	—	—
	—	—	—	*890*	*1000*	*1175*	*1075*	*1225*	*1450*	*940*	*1025*	*1225*	*870*	*940*	*1075*	*1375*	*1525*	*1750*	*1025*	*1125*	*1350*	—	—	—
P4	—	—	—	235	265	320	290	330	395	250	280	330	245	270	315	370	410	470	275	310	375	—	—	—
	—	—	—	*770*	*870*	*1050*	*950*	*1075*	*1300*	*820*	*920*	*1075*	*800*	*890*	*1025*	*1225*	*1350*	*1550*	*900*	*1025*	*1225*	—	—	—
P5	420	490	590	230	255	305	285	315	380	245	270	315	230	245	285	355	390	450	270	295	360	—	—	—
	1375	*1600*	*1925*	*750*	*840*	*1000*	*940*	*1025*	*1250*	*800*	*890*	*1025*	*750*	*800*	*940*	*1175*	*1275*	*1475*	*890*	*970*	*1175*	—	—	—
P6	475	550	670	260	285	345	320	355	425	275	300	355	255	275	320	400	435	500	300	335	400	—	—	—
	1550	*1800*	*2200*	*850*	*940*	*1125*	*1050*	*1175*	*1400*	*900*	*980*	*1175*	*840*	*900*	*1050*	*1300*	*1425*	*1650*	*980*	*1100*	*1300*	—	—	—
P7	445	520	630	245	270	325	305	335	400	260	285	335	240	260	300	380	410	475	285	315	380	—	—	—
	1450	*1700*	*2075*	*800*	*890*	*1075*	*1000*	*1100*	*1300*	*850*	*940*	*1100*	*790*	*850*	*980*	*1250*	*1350*	*1550*	*940*	*1025*	*1250*	—	—	—
P8	410	465	580	225	255	300	280	310	370	240	265	310	220	240	275	350	390	450	260	290	350	—	—	—
	1350	*1525*	*1900*	*740*	*840*	*980*	*920*	*1025*	*1225*	*790*	*870*	*1025*	*720*	*790*	*900*	*1150*	*1275*	*1475*	*850*	*950*	*1150*	—	—	—
P11	435	500	610	240	260	315	295	325	390	255	275	325	235	255	290	390	450	590	275	305	370	—	—	—
	1425	*1650*	*2000*	*790*	*850*	*1025*	*970*	*1075*	*1275*	*840*	*900*	*1075*	*770*	*840*	*950*	*1275*	*1475*	*1925*	*900*	*1000*	*1225*	—	—	—
P12	310	345	425	155	170	210	190	210	250	160	180	210	150	165	190	235	270	345	175	195	240	—	—	—
	1025	*1125*	*1400*	*510*	*560*	*690*	*620*	*690*	*820*	*520*	*590*	*690*	*490*	*540*	*620*	*770*	*890*	*1125*	*570*	*640*	*790*	—	—	—
M1	—	—	—	—	—	—	255	290	345	245	275	325	220	250	295	435	520	680	255	290	340	—	—	—
	—	—	—	—	—	—	*840*	*950*	*1125*	*800*	*900*	*1075*	*720*	*820*	*970*	*1425*	*1700*	*2225*	*840*	*950*	*1125*	—	—	—
M2	—	—	—	—	—	—	215	240	290	205	225	275	185	205	250	370	430	560	215	235	285	—	—	—
	—	—	—	—	—	—	*710*	*790*	*950*	*670*	*740*	*900*	*610*	*670*	*820*	*1225*	*1400*	*1825*	*710*	*770*	*940*	—	—	—
M3	—	—	—	—	—	—	170	190	230	160	180	220	145	165	200	290	330	430	170	190	230	—	—	—
	—	—	—	—	—	—	*560*	*620*	*750*	*520*	*590*	*720*	*475*	*540*	*660*	*950*	*1075*	*1400*	*560*	*620*	*750*	—	—	—
M4	—	—	—	—	—	—	130	145	175	125	140	170	115	125	155	215	240	315	130	145	175	—	—	—
	—	—	—	—	—	—	*425*	*475*	*570*	*410*	*460*	*560*	*375*	*410*	*510*	*710*	*790*	*1025*	*425*	*475*	*570*	—	—	—
M5	—	—	—	—	—	—	110	120	150	105	115	140	95	105	125	180	200	260	110	120	145	—	—	—
	—	—	—	—	—	—	*360*	*395*	*490*	*345*	*375*	*460*	*310*	*345*	*410*	*590*	*660*	*850*	*360*	*395*	*475*	—	—	—
K1	550	650	780	330	375	440	270	305	365	—	—	—	215	245	290	—	—	—	—	—	—	—	—	—
	1800	*2125*	*2550*	*1075*	*1225*	*1450*	*890*	*1000*	*1200*	—	—	—	*710*	*800*	*950*	—	—	—	—	—	—	—	—	—
K2	510	590	720	300	330	395	245	270	325	—	—	—	195	215	260	—	—	—	—	—	—	—	—	—
	1675	*1925*	*2350*	*980*	*1075*	*1300*	*800*	*890*	*1075*	—	—	—	*640*	*710*	*850*	—	—	—	—	—	—	—	—	—
K3	430	500	610	255	280	335	205	230	275	—	—	—	165	185	220	—	—	—	—	—	—	—	—	—
	1400	*1650*	*2000*	*840*	*920*	*1100*	*670*	*750*	*900*	—	—	—	*540*	*610*	*720*	—	—	—	—	—	—	—	—	—
K4	410	475	580	240	265	320	200	220	265	—	—	—	160	175	210	—	—	—	—	—	—	—	—	—
	1350	*1550*	*1900*	*790*	*870*	*1050*	*660*	*720*	*870*	—	—	—	*520*	*570*	*690*	—	—	—	—	—	—	—	—	—
K5	260	300	355	145	165	200	120	135	160	—	—	—	95	105	130	—	—	—	—	—	—	—	—	—
	850	*980*	*1175*	*475*	*540*	*660*	*395*	*445*	*520*	—	—	—	*310*	*345*	*425*	—	—	—	—	—	—	—	—	—
K6	365	420	510	210	235	285	175	195	235	—	—	—	140	155	185	—	—	—	—	—	—	—	—	—
	1200	*1375*	*1675*	*690*	*770*	*940*	*570*	*640*	*770*	—	—	—	*460*	*510*	*610*	—	—	—	—	—	—	—	—	—
K7	335	385	455	185	210	255	155	170	205	—	—	—	125	135	165	—	—	—	—	—	—	—	—	—
	1100	*1275*	*1500*	*610*	*690*	*840*	*510*	*560*	*670*	—	—	—	*410*	*445*	*540*	—	—	—	—	—	—	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	1625	1800	2150	—	—	—	—	—	—	1750	1925	2325
	—	—	—	—	—	—	—	—	—	—	—	—	*5325*	*5900*	*7050*	—	—	—	—	—	—	*5750*	*6325*	*7625*
N2	—	—	—	—	—	—	—	—	—	—	—	—	650	720	870	—	—	—	—	—	—	700	780	940
	—	—	—	—	—	—	—	—	—	—	—	—	*2125*	*2350*	*2850*	—	—	—	—	—	—	*2300*	*2550*	*3075*
N3	—	—	—	—	—	—	—	—	—	—	—	—	435	480	580	—	—	—	—	—	—	470	520	630
	—	—	—	—	—	—	—	—	—	—	—	—	*1425*	*1575*	*1900*	—	—	—	—	—	—	*1550*	*1700*	*2075*
N11	—	—	—	—	—	—	—	—	—	—	—	—	500	550	660	—	—	—	—	—	—	540	600	720
	—	—	—	—	—	—	—	—	—	—	—	—	*1650*	*1800*	*2175*	—	—	—	—	—	—	*1775*	*1975*	*2350*
S1	—	—	—	—	—	—	—	—	—	60	65	80	55	60	70	70	75	90	65	70	85	—	—	—
	—	—	—	—	—	—	—	—	—	*195*	*215*	*260*	*180*	*195*	*230*	*230*	*245*	*295*	*215*	*230*	*280*	—	—	—
S2	—	—	—	—	—	—	—	—	—	47	50	65	42	47	55	55	60	75	50	55	70	—	—	—
	—	—	—	—	—	—	—	—	—	*155*	*165*	*215*	*140*	*155*	*180*	*180*	*195*	*245*	*165*	*180*	*230*	—	—	—
S3	—	—	—	—	—	—	—	—	—	41	46	55	37	41	50	47	55	65	45	50	60	—	—	—
	—	—	—	—	—	—	—	—	—	*135*	*150*	*180*	*120*	*135*	*165*	*155*	*180*	*215*	*150*	*165*	*195*	—	—	—
S11	—	—	—	—	—	—	—	—	—	80	90	110	75	85	100	95	105	130	90	100	120	—	—	—
	—	—	—	—	—	—	—	—	—	*260*	*295*	*360*	*245*	*280*	*330*	*310*	*345*	*425*	*295*	*330*	*395*	—	—	—
S12	—	—	—	—	—	—	—	—	—	55	65	75	50	55	70	65	75	90	60	70	85	—	—	—
	—	—	—	—	—	—	—	—	—	*180*	*215*	*245*	*165*	*180*	*230*	*215*	*245*	*295*	*195*	*230*	*280*	—	—	—
S13	—	—	—	—	—	—	—	—	—	33	36	44	30	33	40	38	42	50	36	40	48	—	—	—
	—	—	—	—	—	—	—	—	—	*110*	*120*	*145*	*100*	*110*	*130*	*125*	*140*	*165*	*120*	*130*	*155*	—	—	—
H5	160	180	220	55	60	70	55	60	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	520	*590*	*720*	*180*	*195*	*230*	*180*	*195*	*230*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
H8	175	200	240	55	60	75	55	60	75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	570	*660*	*790*	*180*	*195*	*245*	*180*	*195*	*245*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
H11	200	225	275	65	75	90	65	75	90	—	—	—	—	—	—	155	175	225	65	75	90	—	—	—
	660	*740*	*900*	*215*	*245*	*295*	*215*	*245*	*295*	—	—	—	—	—	—	*510*	*570*	*740*	*215*	*245*	*295*	—	—	—
H12	200	230	275	95	110	130	105	120	145	—	—	—	—	—	—	135	150	190	110	125	150	—	—	—
	660	*750*	*900*	*310*	*360*	*425*	*345*	*395*	*475*	—	—	—	—	—	—	*445*	*490*	*620*	*360*	*410*	*490*	—	—	—
H21	175	200	240	55	60	75	—	—	—	—	—	—	—	—	—	115	115	125	55	60	75	—	—	—
	570	*660*	*790*	*180*	*195*	*245*	—	—	—	—	—	—	—	—	—	*375*	*375*	*410*	*180*	*195*	*245*	—	—	—

R217/220.49-XO12 – Cutting data v_c = (m/min)/(sf/min)

SMG	MK1501			MP1501			MP2501			MS2500			MP3501			MM4500		
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%
P1	—	—	—	440	485	560	430	475	550	490	530	610	385	425	490	300	325	385
	—	—	—	*1450*	*1600*	*1825*	*1400*	*1550*	*1800*	*1600*	*1750*	*2000*	*1275*	*1400*	*1600*	*980*	*1075*	*1275*
P2	—	—	—	430	470	540	420	465	530	465	520	590	375	415	470	285	320	370
	—	—	—	*1400*	*1550*	*1775*	*1375*	*1525*	*1750*	*1525*	*1700*	*1925*	*1225*	*1350*	*1550*	*940*	*1050*	*1225*
P3	—	—	—	375	410	470	365	405	460	410	445	510	330	360	410	250	275	320
	—	—	—	*1225*	*1350*	*1550*	*1200*	*1325*	*1500*	*1350*	*1450*	*1675*	*1075*	*1175*	*1350*	*820*	*900*	*1050*
P4	—	—	—	330	365	420	325	355	410	360	400	460	290	320	370	240	265	310
	—	—	—	*1075*	*1200*	*1375*	*1075*	*1175*	*1350*	*1175*	*1300*	*1500*	*950*	*1050*	*1225*	*790*	*870*	*1025*
P5	—	—	—	320	345	400	315	340	395	350	380	440	280	305	355	215	235	275
	—	—	—	*1050*	*1125*	*1300*	*1025*	*1125*	*1300*	*1150*	*1250*	*1450*	*920*	*1000*	*1175*	*710*	*770*	*900*
P6	—	—	—	360	390	450	355	380	440	395	425	495	315	340	395	240	260	305
	—	—	—	*1175*	*1275*	*1475*	*1175*	*1250*	*1450*	*1300*	*1400*	*1625*	*1025*	*1125*	*1300*	*790*	*850*	*1000*
P7	—	—	—	340	365	425	335	360	415	370	405	465	300	320	375	225	245	290
	—	—	—	*1125*	*1200*	*1400*	*1100*	*1175*	*1350*	*1225*	*1325*	*1525*	*980*	*1050*	*1225*	*740*	*800*	*950*
P8	—	—	—	315	345	395	310	340	385	345	375	430	275	305	345	210	230	270
	—	—	—	*1025*	*1125*	*1300*	*1025*	*1125*	*1275*	*1125*	*1225*	*1400*	*900*	*1000*	*1125*	*690*	*750*	*890*
P11	—	—	—	330	355	415	325	350	405	360	390	455	290	315	365	220	240	280
	—	—	—	*1075*	*1175*	*1350*	*1075*	*1150*	*1325*	*1175*	*1275*	*1500*	*950*	*1025*	*1200*	*720*	*790*	*920*
P12	—	—	—	210	230	265	210	225	260	225	245	280	185	200	235	135	145	170
	—	—	—	*690*	*750*	*870*	*690*	*740*	*850*	*740*	*800*	*920*	*610*	*660*	*770*	*445*	*475*	*560*
M1	—	—	—	—	—	—	225	255	300	280	320	380	210	235	280	190	215	255
	—	—	—	—	—	—	*740*	*840*	*980*	*920*	*1050*	*1250*	*690*	*770*	*920*	*620*	*710*	*840*
M2	—	—	—	—	—	—	190	210	250	240	265	320	175	195	235	160	180	215
	—	—	—	—	—	—	*620*	*690*	*820*	*790*	*870*	*1050*	*570*	*640*	*770*	*520*	*590*	*710*
M3	—	—	—	—	—	—	150	170	205	185	210	255	140	155	190	125	140	170
	—	—	—	—	—	—	*490*	*560*	*670*	*610*	*690*	*840*	*460*	*510*	*620*	*410*	*460*	*560*
M4	—	—	—	—	—	—	115	130	160	145	160	195	105	120	150	95	110	130
	—	—	—	—	—	—	*375*	*425*	*520*	*475*	*520*	*640*	*345*	*395*	*490*	*310*	*360*	*425*
M5	—	—	—	—	—	—	95	105	135	120	135	165	90	100	125	80	90	110
	—	—	—	—	—	—	*310*	*345*	*445*	*395*	*445*	*540*	*295*	*330*	*410*	*260*	*295*	*360*
K1	500	610	860	430	475	540	420	465	530	310	355	420	375	420	475	—	—	—
	1650	*2000*	*2825*	*1400*	*1550*	*1775*	*1375*	*1525*	*1750*	*1025*	*1175*	*1375*	*1225*	*1375*	*1550*	—	—	—
K2	445	530	760	390	420	485	380	410	475	280	310	375	340	370	425	—	—	—
	1450	*1750*	*2500*	*1275*	*1375*	*1600*	*1250*	*1350*	*1550*	*920*	*1025*	*1225*	*1125*	*1225*	*1400*	—	—	—
K3	300	340	435	330	355	410	320	350	405	240	265	320	290	310	360	—	—	—
	980	*1125*	*1425*	*1075*	*1175*	*1350*	*1050*	*1150*	*1325*	*790*	*870*	*1050*	*950*	*1025*	*1175*	—	—	—
K4	285	325	415	315	340	390	305	330	385	230	250	305	275	295	345	—	—	—
	940	*1075*	*1350*	*1025*	*1125*	*1275*	*1000*	*1075*	*1275*	*750*	*820*	*1000*	*900*	*970*	*1125*	—	—	—
K5	175	200	255	190	205	240	185	205	235	140	155	185	165	185	215	—	—	—
	570	*660*	*840*	*620*	*670*	*790*	*610*	*670*	*770*	*460*	*510*	*610*	*540*	*610*	*710*	—	—	—
K6	250	285	365	275	300	345	270	295	340	200	220	270	240	260	305	—	—	—
	820	*940*	*1200*	*900*	*980*	*1125*	*890*	*970*	*1125*	*660*	*720*	*890*	*790*	*850*	*1000*	—	—	—
K7	220	255	330	245	265	310	240	260	305	180	195	240	215	235	275	—	—	—
	720	*840*	*1075*	*800*	*870*	*1025*	*790*	*850*	*1000*	*590*	*640*	*790*	*710*	*770*	*900*	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	70	80	95	49	55	70	30	33	40
	—	—	—	—	—	—	—	—	—	*230*	*260*	*310*	*160*	*180*	*230*	*100*	*110*	*130*
S2	—	—	—	—	—	—	—	—	—	55	65	75	40	45	55	24	27	32
	—	—	—	—	—	—	—	—	—	*180*	*215*	*245*	*130*	*150*	*180*	*80*	*90*	*105*
S3	—	—	—	—	—	—	—	—	—	50	55	70	35	40	49	21	23	29
	—	—	—	—	—	—	—	—	—	*165*	*180*	*230*	*115*	*130*	*160*	*70*	*75*	*95*
S11	—	—	—	—	—	—	—	—	—	100	110	135	70	80	95	42	47	55
	—	—	—	—	—	—	—	—	—	*330*	*360*	*445*	*230*	*260*	*310*	*140*	*155*	*180*
S12	—	—	—	—	—	—	—	—	—	70	75	95	49	55	65	38	43	55
	—	—	—	—	—	—	—	—	—	*230*	*245*	*310*	*160*	*180*	*215*	*125*	*140*	*180*
S13	—	—	—	—	—	—	—	—	—	40	44	55	28	31	39	22	25	30
	—	—	—	—	—	—	—	—	—	*130*	*145*	*180*	*90*	*100*	*130*	*70*	*80*	*100*
H5	—	—	—	60	65	80	—	—	—	—	—	—	45	50	60	—	—	—
	—	—	—	*195*	*215*	*260*	—	—	—	—	—	—	*150*	*165*	*195*	—	—	—
H8	—	—	—	60	70	85	—	—	—	—	—	—	48	55	65	—	—	—
	—	—	—	*195*	*230*	*280*	—	—	—	—	—	—	*155*	*180*	*215*	—	—	—
H11	—	—	—	75	80	100	—	—	—	—	—	—	55	65	80	—	—	—
	—	—	—	*245*	*260*	*330*	—	—	—	—	—	—	*180*	*215*	*260*	—	—	—
H12	—	—	—	110	125	150	—	—	—	—	—	—	85	95	115	—	—	—
	—	—	—	*360*	*410*	*490*	—	—	—	—	—	—	*280*	*310*	*375*	—	—	—
H21	—	—	—	60	70	85	—	—	—	—	—	—	48	55	65	—	—	—
	—	—	—	*195*	*230*	*280*	—	—	—	—	—	—	*155*	*180*	*215*	—	—	—

R215.39/49 - R220.49 – Metric





—For insert selection and cutting data recommendations, see page(s) 838–839
—For complete insert programme, see page(s) 910
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	KAPRS°	DC	DCX	ZEFP	APMXS	DCB	DCSFMS	DCONMS	LF	LUX	LPR	OAL	RPMX	Weight	Insert
				mm	mm		mm	mm	mm	mm	mm	mm	mm	mm		kg	
R215.49-1609.3-06	75002621	Weldon	45,0 °	9,0	16,0	1	4,0	–	–	16,0	–	32,0	32,0	80,0	55600	0,2	SPMX0602
R215.49-2016.3-09	75002622	Weldon	45,0 °	16,0	26,0	2	5,0	–	–	20,0	–	60,0	60,0	110,0	27200	0,3	SPMX0903
R215.39-2020.3-09	75002620	Weldon	60,0 °	20,0	27,0	2	6,5	–	–	20,0	–	60,0	60,0	110,0	24300	0,3	SPMX0903
R215.49-3225.3-12	75002623	Weldon	45,0 °	25,0	39,0	2	7,0	–	–	32,0	–	70,0	70,0	130,0	16900	0,7	SPMX12T3
R220.49-0040-12	75012896	Arbor	45,0 °	40,0	54,0	3	7,0	22,0	37,0	22,0	40,0	–	–	–	13400	0,3	SPMX12T3

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R215.39-09	–	1/4HEX-T09PX50	C03007-T09P
R215.49-06	–	1/4HEX-T07PX50	C02205-T07P
R215.49-09	–	1/4HEX-T09PX50	C03007-T09P
R215.49-12	–	1/4HEX-T15PX50	C03510-T15P
R220.49-12	220.17-691	1/4HEX-T15PX50	C03508-T15P

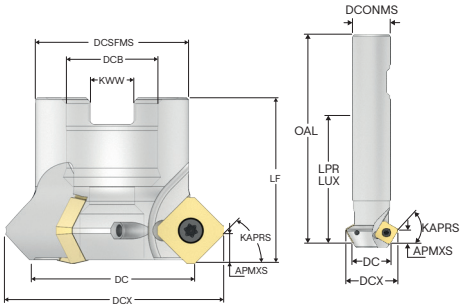
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R215.39-09	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20
R215.49-06	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09
R215.49-09	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20
R215.49-12	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-15P30
R220.49-12	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-15P30

Torque and fixed keys, see page 944

R215.39/49 - R220.49 – inch





—For insert selection and cutting data recommendations, see page(s) 838-839
—For complete insert programme, see page(s) 910
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	KAPRS°	DC	DCX	ZEFP	APMXS	DCB	DCSFMS	DCONMS	LF	LUX	LPR	OAL	RPMX	Weight	Insert
				inch	inch		inch	inch	inch	inch	inch	inch	inch	inch		lbs	
R215.49-00.375-3	00070083	Weldon	45,0 °	0.392	0.647	1	0.157	–	–	0.625	–	1.240	1.240	3.150	55600	0.220	SPMX0602
R215.49-00.625-3	00072168	Weldon	45,0 °	0.625	1.039	2	0.236	–	–	0.750	–	2.362	2.362	4.331	27200	0.660	SPMX0903
R215.39-00.750-3	00070080	Weldon	60,0 °	0.750	1.043	2	0.236	–	–	0.750	–	2.362	2.362	4.331	24300	0.660	SPMX0903
R215.49-01.00-3	00070081	Weldon	45,0 °	1.000	1.551	2	0.276	–	–	1.000	–	2.913	2.913	5.118	16900	1.320	SPMX12T3
R220.49-01.50	00070079	Arbor	45,0 °	1.500	2.047	3	0.276	0.750	1.575	0.750	1.575	–	–	–	13400	0.660	SPMX12T3

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R215.39-00.750	–	1/4HEX-T09PX50	C03007-T09P
R215.49.00.375	–	1/4HEX-T07PX50	C02205-T07P
R215.49.00.625	–	1/4HEX-T09PX50	C03007-T09P
R215-49.01.00	–	1/4HEX-T15PX50	C03510-T15P
R220.49-01.50	220.17-695	1/4HEX-T15PX50	C03508-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R215-49.00.375	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09
R215-49.00.625-00.750	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20
R215-49.01.00-01.50	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-15P30

Torque and fixed keys, see page 944

R217/220.49-SPMX06/09/12 – Insert selection – mm/Inch

SMG		a_p	f_z		
			50%	30%	10%
P1	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,28 0.011	0,32 0.013	0,50 0.020
P2	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,30 0.012	0,32 0.013	0,50 0.020
P3	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,28 0.011	0,30 0.012	0,48 0.019
P4	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,26 0.010	0,30 0.012	0,48 0.019
P5	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,26 0.010	0,30 0.012	0,46 0.018
P6	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,26 0.010	0,30 0.012	0,46 0.018
P7	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,26 0.010	0,30 0.012	0,46 0.018
P8	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,28 0.011	0,30 0.012	0,48 0.019
P11	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,26 0.010	0,30 0.012	0,46 0.018
P12	SPMX 06/09/12-75 F40M	3,5 *0.14*	0,18 0.0070	0,20 0.0080	0,32 0.013
M1	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,30 0.012	0,32 0.013	0,50 0.020
M2	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,26 0.010	0,30 0.012	0,46 0.018
M3	SPMX 06/09/12-75 F40M	3,5 *0.14*	0,22 0.0085	0,24 0.0095	0,38 0.015
M4	SPMX 06/09/12-75 F40M	2,5 *0.10*	0,20 0.0080	0,22 0.0085	0,32 0.013
M5	SPMX 06/09/12-75 F40M	2,5 *0.10*	0,20 0.0080	0,22 0.0085	0,32 0.013
K1	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,30 0.012	0,32 0.013	0,50 0.020
K2	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,26 0.010	0,30 0.012	0,46 0.018
K3	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,26 0.010	0,30 0.012	0,46 0.018
K4	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,26 0.010	0,30 0.012	0,46 0.018
K5	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,24 0.0095	0,26 0.010	0,42 0.017
K6	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,26 0.010	0,30 0.012	0,46 0.018
K7	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,24 0.0095	0,26 0.010	0,42 0.017
N1	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,36 0.014	0,42 0.017	0,65 0.026
N2	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,36 0.014	0,42 0.017	0,65 0.026
N3	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,36 0.014	0,42 0.017	0,65 0.026
N11	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,36 0.014	0,42 0.017	0,65 0.026
S1	SPMX 06/09/12-75 F40M	2,5 *0.10*	0,20 0.0080	0,22 0.0085	0,32 0.013
S2	SPMX 06/09/12-75 F40M	2,5 *0.10*	0,20 0.0080	0,22 0.0085	0,32 0.013
S3	SPMX 06/09/12-75 F40M	2,5 *0.10*	0,19 0.0075	0,20 0.0080	0,30 0.012
S11	SPMX 06/09/12-75 F40M	3,0 *0.12*	0,22 0.0085	0,25 0.010	0,38 0.015
S12	SPMX 06/09/12-75 F40M	3,0 *0.12*	0,22 0.0085	0,25 0.010	0,38 0.015
S13	SPMX 06/09/12-75 F40M	2,5 *0.10*	0,20 0.0080	0,22 0.0085	0,32 0.013

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.49-SPMX06/09/12 – Cutting data v_c = (m/min)/(sf/min)

SMG	F40M		
	50%	30%	10%
P1	275 *900*	300 *980*	355 *1175*
P2	265 *870*	290 *950*	345 *1125*
P3	230 *750*	255 *840*	300 *980*
P4	205 *670*	225 *740*	265 *870*
P5	195 *640*	220 *720*	260 *850*
P6	220 *720*	250 *820*	290 *950*
P7	210 *690*	235 *770*	275 *900*
P8	195 *640*	215 *710*	255 *840*
P11	200 *660*	225 *740*	265 *870*
P12	135 *445*	145 *475*	175 *570*
M1	215 *710*	235 *770*	280 *920*
M2	175 *570*	200 *660*	230 *750*
M3	145 *475*	155 *510*	190 *620*
M4	110 *360*	120 *395*	145 *475*
M5	90 *295*	100 *330*	120 *395*
K1	210 *690*	230 *750*	275 *900*
K2	185 *610*	210 *690*	245 *800*
K3	160 *520*	175 *570*	205 *670*
K4	150 *490*	170 *560*	200 *660*
K5	90 *295*	105 *345*	120 *395*
K6	135 *445*	150 *490*	175 *570*
K7	120 *395*	130 *425*	155 *510*
N1	1525 *5000*	1700 *5575*	2000 *6550*
N2	620 *2025*	690 *2275*	810 *2650*
N3	410 *1350*	460 *1500*	540 *1775*
N11	470 *1550*	520 *1700*	620 *2025*
S1	50 *165*	55 *180*	70 *230*
S2	41 *135*	46 *150*	55 *180*
S3	36 *120*	40 *130*	48 *155*
S11	70 *230*	80 *260*	95 *310*
S12	50 *165*	55 *180*	65 *215*
S13	29 *95*	32 *105*	38 *125*



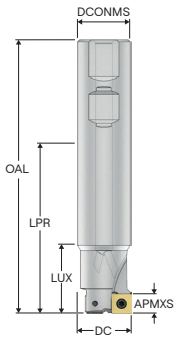
R417.19 Spot Facing

Seco spot facing mills are cutters for milling spot faces of blind and countersunk holes. Key benefits include smooth cutting, reduced spindle bearing wear via a highly balanced tool and high security through a center-lock clamping system, all engineered in an economical solution.

– Strong SPMX inserts, available in many different grades for most workpiece materials
– Inserts with 4 cutting edges
– Cutter range metric, Ø 18-42mm (Imperial Ø 0.625-1.620 inch)

R417.19-SPMX – Metric





—For insert selection and cutting data recommendations, see page(s) 843–845
—For complete insert programme, see page(s) 910
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCONMS	LUX	LPR	OAL	RMPX°	RPMX	Weight	Center insert	Peripheral insert
			mm		mm	mm	mm	mm	mm	mm			kg		
R417.19-2018.3-06A	00070768	Weldon	18,0	1	5,0	9,0	20,0	20,0	60,0	110,0	45,0	39200	0,2	0602AP (1)	060204 (1)
R417.19-2020.3-07A	00012939	Weldon	20,0	1	7,0	10,0	20,0	28,0	70,0	120,0	45,0	26200	0,3	0703AP (1)	070304 (1)
R417.19-2022.3-07A	02201611	Weldon	22,0	1	7,0	11,0	20,0	70,0	70,0	120,0	45,0	25000	0,3	0703AP (1)	070304 (1)
R417.19-2524.3-07A	02201606	Weldon	24,0	1	7,0	12,0	25,0	31,0	74,0	130,0	45,0	24000	0,5	0703AP (1)	070304 (1)
R417.19-2526.3-09A	00070772	Weldon	26,0	1	8,0	13,0	25,0	74,0	74,0	130,0	45,0	21200	0,5	0903AP (1)	090304 (1)
R417.19-2530.3-09A	02201604	Weldon	30,0	1	8,0	15,0	25,0	74,0	74,0	130,0	45,0	19800	0,5	0903AP (1)	090304 (1)
R417.19-3232.3-09A	02201607	Weldon	32,0	1	8,0	16,0	32,0	38,0	70,0	130,0	45,0	19200	0,8	0903AP (1)	090304 (1)
R417.19-3236.3-12A	02201608	Weldon	36,0	1	11,0	18,0	32,0	70,0	70,0	130,0	45,0	12600	0,7	12T3AP (1)	12T308 (1)
R417.19-3238.3-12A	02448870	Weldon	38,0	1	11,0	19,0	32,0	70,0	70,0	130,0	45,0	12300	0,7	12T3AP (1)	12T308 (1)
R417.19-3242.3-12A	02448871	Weldon	42,0	1	11,0	21,0	32,0	70,0	70,0	130,0	45,0	12000	0,7	12T3AP (1)	12T308 (1)

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R417.19-06A	1/4HEX-T07PX50	C02205-T07P
R417.19-07A	1/4HEX-T07PX50	C02506-T07P
R417.19-09A	1/4HEX-T09PX50	C03007-T09P
R417.19-12A	1/4HEX-T15PX50	C03510-T15P

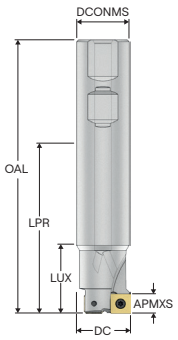
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R417.19-06A	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09
R417.19-07A	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09
R417.19-09A	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20
R417.19-12A	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-15P30

Torque and fixed keys, see page 944

R417.19-SPMX – inch





—For insert selection and cutting data recommendations, see page(s) 843-845
—For complete insert programme, see page(s) 910
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCONMS	LF	LUX	LPR	OAL	RMPX°	RPMX	Weight	Center insert	Peripheral insert
			inch		inch	inch	inch	inch	inch	inch	inch			lbs		
R417.19-00.62-3	75072193	Weldon	0.625	1	0.197	0.276	0.750	1.732	0.787	1.732	3.740	45,0	49100	0.440	0602AP (1)	060204 (1)
R417.19-00.750-3	75072183	Weldon	0.750	1	0.197	0.276	0.750	2.323	1.181	2.323	4.331	45,0	32500	0.660	0602AP (1)	060204 (1)
R417.19-00.81-3	75054856	Weldon	0.812	1	0.276	0.276	0.750	2.717	2.717	2.717	4.724	45,0	26200	0.660	0703AP (1)	070304 (1)
R417.19-01.00-3	75072173	Weldon	1.000	1	0.315	0.472	1.000	2.874	1.575	2.874	5.118	45,0	22500	1.100	0903AP (1)	090304 (1)
R417.19-01.18-3	75054857	Weldon	1.181	1	0.315	0.472	1.000	2.874	2.874	2.874	5.118	45,0	21200	1.320	0903AP (1)	090304 (1)
R417.19-01.37-3	75054858	Weldon	1.375	1	0.433	0.472	1.250	2.874	2.874	2.874	5.118	45,0	12600	1.760	12T3AP (1)	12T308 (1)
R417.19-01.62-3	75054859	Weldon	1.620	1	0.433	0.472	1.250	2.874	2.874	2.874	5.118	45,0	12000	1.980	12T3AP (1)	12T308 (1)

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R417.19-00.625-00.750	1/4HEX-T07PX50	C02205-T07P
R417.19-00.812	1/4HEX-T07PX50	C02506-T07P
R417.19-01.00-01.18	1/4HEX-T09PX50	C03007-T09P
R417.19-01.37-01.62	1/4HEX-T15PX50	C03510-T15P

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R417.19-00.625-00.750	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09
R417.19-00.812	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	0.9NM	T00-07P09
R417.19-01.00-01.18	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	2.0NM	T00-09P20
R417.19-01.37-01.62	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.0NM	T00-15P30

Torque and fixed keys, see page 944

R417.19-SPMX06/07 – Insert selection – mm/Inch

SMG		f_z		
		100%	30%	10%
P1	SPMX 06/07-75 F40M	0,080 *0.0032*	0,085 0.0034	0,13 0.0050
P2	SPMX 06/07-75 F40M	0,080 *0.0032*	0,090 0.0036	0,13 0.0050
P3	SPMX 06/07-75 F40M	0,075 *0.0030*	0,085 0.0034	0,13 0.0050
P4	SPMX 06/07-75 F40M	0,075 *0.0030*	0,080 0.0032	0,12 0.0048
P5	SPMX 06/07-75 F40M	0,075 *0.0030*	0,080 0.0032	0,12 0.0048
P6	SPMX 06/07-75 F40M	0,070 *0.0028*	0,080 0.0032	0,12 0.0048
P7	SPMX 06/07-75 F40M	0,070 *0.0028*	0,080 0.0032	0,12 0.0048
P8	SPMX 06/07-75 F40M	0,075 *0.0030*	0,085 0.0034	0,13 0.0050
P11	SPMX 06/07-75 F40M	0,070 *0.0028*	0,080 0.0032	0,12 0.0048
P12	SPMX 06/07-75 F40M	0,050 *0.0020*	0,055 0.0022	0,085 0.0034
M1	SPMX 06/07-75 F40M	0,080 *0.0032*	0,090 0.0036	0,13 0.0050
M2	SPMX 06/07-75 F40M	0,075 *0.0030*	0,080 0.0032	0,12 0.0048
M3	SPMX 06/07-75 F40M	0,060 *0.0024*	0,065 0.0026	0,10 0.0040
M4	SPMX 06/07-75 F40M	0,050 *0.0020*	0,055 0.0022	0,085 0.0034
M5	SPMX 06/07-75 F40M	0,050 *0.0020*	0,055 0.0022	0,085 0.0034
K1	SPMX 06/07-75 F40M	0,080 *0.0032*	0,090 0.0036	0,13 0.0050
K2	SPMX 06/07-75 F40M	0,075 *0.0030*	0,080 0.0032	0,12 0.0048
K3	SPMX 06/07-75 F40M	0,075 *0.0030*	0,080 0.0032	0,12 0.0048
K4	SPMX 06/07-75 F40M	0,075 *0.0030*	0,080 0.0032	0,12 0.0048
K5	SPMX 06/07-75 F40M	0,065 *0.0026*	0,070 0.0028	0,11 0.0044
K6	SPMX 06/07-75 F40M	0,075 *0.0030*	0,080 0.0032	0,12 0.0048
K7	SPMX 06/07-75 F40M	0,065 *0.0026*	0,070 0.0028	0,11 0.0044

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R417.19-SPMX09/12 – Insert selection – mm/Inch

SMG		f_z		
		100%	30%	10%
P1	SPMX 09/12-75 F40M	0,12 *0.0048*	0,13 0.0050	0,20 0.0080
P2	SPMX 09/12-75 F40M	0,12 *0.0048*	0,13 0.0050	0,20 0.0080
P3	SPMX 09/12-75 F40M	0,11 *0.0044*	0,12 0.0048	0,19 0.0075
P4	SPMX 09/12-75 F40M	0,11 *0.0044*	0,12 0.0048	0,19 0.0075
P5	SPMX 09/12-75 F40M	0,11 *0.0044*	0,12 0.0048	0,18 0.0070
P6	SPMX 09/12-75 F40M	0,11 *0.0044*	0,12 0.0048	0,18 0.0070
P7	SPMX 09/12-75 F40M	0,11 *0.0044*	0,12 0.0048	0,18 0.0070
P8	SPMX 09/12-75 F40M	0,11 *0.0044*	0,12 0.0048	0,19 0.0075
P11	SPMX 09/12-75 F40M	0,11 *0.0044*	0,12 0.0048	0,18 0.0070
P12	SPMX 09/12-75 F40M	0,075 *0.0030*	0,080 0.0032	0,12 0.0048
M1	SPMX 09/12-75 F40M	0,12 *0.0048*	0,13 0.0050	0,20 0.0080
M2	SPMX 09/12-75 F40M	0,11 *0.0044*	0,12 0.0048	0,18 0.0070
M3	SPMX 09/12-75 F40M	0,085 *0.0034*	0,095 0.0038	0,15 0.0060
M4	SPMX 09/12-75 F40M	0,075 *0.0030*	0,085 0.0034	0,13 0.0050
M5	SPMX 09/12-75 F40M	0,075 *0.0030*	0,085 0.0034	0,13 0.0050
K1	SPMX 09/12-75 F40M	0,12 *0.0048*	0,13 0.0050	0,20 0.0080
K2	SPMX 09/12-75 F40M	0,11 *0.0044*	0,12 0.0048	0,18 0.0070
K3	SPMX 09/12-75 F40M	0,11 *0.0044*	0,12 0.0048	0,18 0.0070
K4	SPMX 09/12-75 F40M	0,11 *0.0044*	0,12 0.0048	0,18 0.0070
K5	SPMX 09/12-75 F40M	0,10 *0.0040*	0,11 0.0044	0,16 0.0065
K6	SPMX 09/12-75 F40M	0,11 *0.0044*	0,12 0.0048	0,18 0.0070
K7	SPMX 09/12-75 F40M	0,10 *0.0040*	0,11 0.0044	0,16 0.0065

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R417.19-SPMX06/07/09/12 – Cutting data v_c = (m/min)/(sf/min)

SMG	F40M		
	100%	30%	10%
P1	195 *640*	225 *740*	240 *790*
P2	195 *640*	220 *720*	240 *790*
P3	180 *590*	205 *670*	225 *740*
P4	170 *560*	195 *640*	215 *710*
P5	165 *540*	190 *620*	210 *690*
P6	175 *570*	205 *670*	220 *720*
P7	170 *560*	195 *640*	215 *710*
P8	165 *540*	190 *620*	205 *670*
P11	165 *540*	195 *640*	210 *690*
P12	120 *395*	150 *490*	165 *540*
M1	170 *560*	200 *660*	215 *710*
M2	150 *490*	180 *590*	200 *660*
M3	130 *425*	160 *520*	175 *570*
M4	105 *345*	135 *445*	150 *490*
M5	90 *295*	115 *375*	130 *425*
K1	170 *560*	200 *660*	215 *710*
K2	160 *520*	185 *610*	205 *670*
K3	140 *460*	170 *560*	185 *610*
K4	135 *445*	165 *540*	180 *590*
K5	90 *295*	115 *375*	130 *425*
K6	125 *410*	150 *490*	170 *560*
K7	110 *360*	140 *460*	155 *510*

Introduction

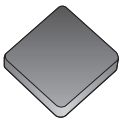
Polycrystalline Cubic Boron Nitride (PCBN) is a material which is sintered at extremely high pressure and high temperature into a wear-resistant material with properties close to those of diamond. Due to the hot hardness, oxidation resistance and fracture toughness of the material, inserts made of PCBN have excellent edge strength and long tool life when machining hard ferrous materials and pearlitic grey cast iron.

Secomax™ PCBN inserts are suitable for machining:

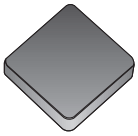
- Hardened steel (including hard-facing alloys)
- Pearlitic grey cast iron
- Chilled and white cast iron
- Manganese steel
- Cemented carbide
- Powder Metallurgy (PM) alloys

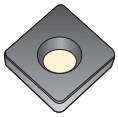
For more information including a comprehensive guide to understanding and applying PCBN successfully, please ask your sales representative for the Secomax™ PCBN, Technical Guide (available in English).

Selection of insert type



- Solid insert
- According to the geometry, two sides can be used.
- Grades: CBN200, CBN300, CBN300P, CBN500, CBN600

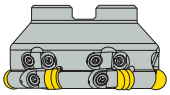




- CBN layer sintered on to carbide. One side is usable.
- Grades: CBN200

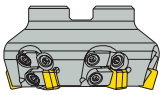
Cutters for PCBN inserts

Face milling cutter type R217/220.70



- Cutter especially developed for CBN inserts, 2 insert sizes.
- Maximum cutting depth 3 mm DC = 20-63 mm and maximum cutting depth 4,5 mm DC = 63-200 mm (DC = 125-200 mm fitted with wiper insert).
- Inserts for finishing: RNGN060300E (E = honed) RNGN/RNMN090300E
- Inserts for roughing: RNGN/RNMN060300S (S = chamfered and honed) RNGN/RNMN090300S
- Wiper insert: SNEX120312ZZ
- The relation between cutting depth and number of usable cutting edges (per side).

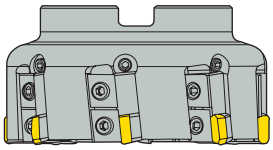
Face milling cutter type 220.74



- Cutter especially developed for CBN inserts, maximum cutting depth 8,0 mm D = 63-200 mm. (D = 125-200 mm fitted with wiper insert).
- Inserts for finishing: SNEN0903ENE-M06 (E = honed) SNMN090308E SNMN090312E
- Inserts for roughing: SNEN0903ENS-M08 (S = chamfered and honed) SNMN090308S SNMN090312S SNMN090316S
- Wiper insert: SNEX120312ZZ

D.O.C a_p (mm)	D.O.C a_p (inch)	RN.. 060300	RN.. 090300	D.O.C a_p (mm)	D.O.C a_p (inch)	RN.. 060300	RNMN 090300
0,1	.004	20	24	1,2	.048	5	7
0,15	.006	16	20	1,5	.060	5	6
0,2	.008	14	17	1,8	.072	4	5
0,25	.010	12	15	2,0	.080	4	5
0,3	.012	11	14	2,5	.100	3	4
0,4	.016	10	12	3,0	.120	3	4
0,5	.020	8	10	3,5	.140	–	4
0,8	.032	7	8	4,0	.160	–	3
1,0	.040	6	7	4,5	.200	–	–

Square shoulder and slot milling cutter type R220.68



- Insert with corner chamfernfor finishing operations: TNGN1604PNE
- Insert with corner chamfer for roughing operations: TNGN1604PNS
- Insert with corner radius for roughing operations: TNGN1604PRS

Inserts for standard milling cutters

Face milling cutters



- For roughing
- SEEX09T3AFTN-D09-LF
- SEEX1204AFTN-D16-LF
- R220.53

Face milling cutters



- For roughing
- ONEW05
- Octomill R217/220.48

Face milling cutters



- For roughing
- SEEN1203AFTN-D16
- R220.13

Face milling cutters



- For finishing
- SEEX1203AETN-MD13-LF
- R220.30

Wiper insert for high quality surface finish



- SEEX1204ZZTN-D16-LF

Disc milling cutter



- RDHW0803M0S-01030-LF
- R335.25/R335.18

High feed milling cutter



- 218.19-100T-MD08-LF

Copy milling cutter



- RDHW0803M0S-01030-LF
- R217/220.29

Cutting speed recommendations are in the cutting data table.
Feed rate recommendations are in the cutting data table.
Formulae for cutting data calculation are on page 935

PCBN, Finishing a_p < 0,5 mm/Inch

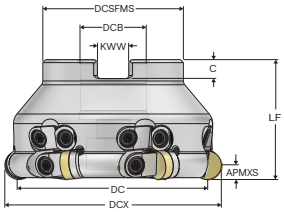
SMG	CBN200		CBN300		CBN500	
	v_c	f_z	v_c	f_z	v_c	f_z
K1	700 — 1900 —	0,050 — 0,20 —	700 — 1700 —	0,050 — 0,20 —	700 — 1700 —	0,050 — 0,20 —
H3	110 — 350 —	0,050 — 0,20 —	— —	— —	— —	— —
H5	200 — 320 —	0,050 — 0,20 —	— —	— —	— —	— —
H7	200 — 300 —	0,050 — 0,20 —	— —	— —	— —	— —
H8	170 — 250 —	0,050 — 0,20 —	— —	— —	— —	— —
H11	— —	— —	— —	— —	— —	— —
H21	120 — 220 —	0,050 — 0,20 —	— —	— —	130 — 230 —	0,050 — 0,20 —
H31	120 — 220 —	0,050 — 0,20 —	— —	— —	100 — 270 —	0,050 — 0,20 —
PM1	180 — 400 —	0,050 — 0,20 —	— —	— —	— —	— —
PM2	150 — 300 —	0,050 — 0,20 —	— —	— —	— —	— —
PM3	— —	— —	— —	— —	— —	— —
HF1	— —	— —	— —	— —	— —	— —
HF2	— —	— —	— —	— —	— —	— —

PCBN, Roughing a_p 0,5-3,0 mm/Inch

SMG	CBN200		CBN300		CBN500	
	v_c	f_z	v_c	f_z	v_c	f_z
K1	700 — 1700 —	0,050 — 0,20 —	700 — 1700 —	0,050 — 0,20 —	700 — 1700 —	0,050 — 0,20 —
H3	— —	— —	— —	— —	— —	— —
H5	— —	— —	— —	— —	— —	— —
H7	— —	— —	— —	— —	— —	— —
H8	— —	— —	— —	— —	— —	— —
H11	— —	— —	— —	— —	— —	— —
H21	120 — 220 —	0,050 — 0,20 —	— —	— —	130 — 230 —	0,050 — 0,20 —
H31	120 — 220 —	0,050 — 0,20 —	— —	— —	100 — 270 —	0,050 — 0,20 —
PM1	180 — 400 —	0,050 — 0,20 —	— —	— —	— —	— —
PM2	150 — 300 —	0,050 — 0,20 —	— —	— —	— —	— —
PM3	— —	— —	— —	— —	— —	— —
HF1	150 — 240 —	0,050 — 0,20 —	— —	— —	150 — 250 —	0,050 — 0,20 —
HF2	120 — 300 —	0,050 — 0,20 —	— —	— —	120 — 300 —	0,050 — 0,20 —

220.70-06/09 – Metric

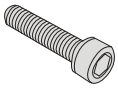




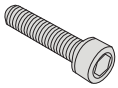
—For insert selection and cutting data recommendations, see page(s) 849
—For complete insert programme, see page(s) 857
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm		kg	
R220.70-0063-09-6	00023749	Arbor	63,0	6	4,5	72,5	22,0	47,0	40,0	10200	0,8	RN..09
R220.70-0080-09-6	00023750	Arbor	80,0	6	4,5	589,5	27,0	62,0	50,0	9100	1,4	RN..09
R220.70-0100-09-8	00023751	Arbor	100,0	8	4,5	109,5	32,0	77,0	50,0	8100	2,0	RN..09
R220.70-8160-09-10	00023753	Arbor	160,0	10	4,5	169,5	40,0	90,0	63,0	6400	5,7	RN..09/SNEX12

Spare Parts, included in delivery

For cutter	Anvil	Anvil screw	Arbor screw	Gauge screw	Insert key	Insert shim	Insert wedge	Setting gauge	Setting wedge	Shim screw	Wedge	Wedge screw
												
R220.70-0063	–	–	220.17-692	LD6019-T15P	1/4HEX-T15PX50	117.10-620	–	AS6011F	–	174.10-652-T07P	CW0608M	LD6018T-T15P
R220.70-0080	–	–	–	LD6019-T15P	1/4HEX-T15PX50	117.10-620	–	AS6011F	–	174.10-652-T07P	CW0608M	LD6018T-T15P
R220.70-0100	–	–	–	LD6019-T15P	1/4HEX-T15PX50	117.10-620	–	AS6011F	–	174.10-652-T07P	CW0608M	LD6018T-T15P
R220.70-8160	268-621	F94009-T09P	–	LD6019-T15P	1/4HEX-T15PX50	117.10-620	CW0608S	AS6011F	AS6011	174.10-652-T07P	CW0608M	LD6018T-T15P

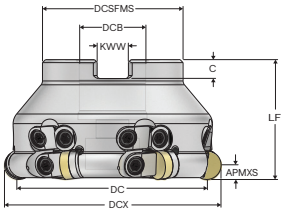
Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Shim key	Torque key
						
R220.70-0063-0100	1/4HEX-S-HANDLE-0.8-5.0NM	–	1/4HEX-S-HANDLE	3.5NM	1/4HEX-T07PX50	T00-15P35
R220.70-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	1/4HEX-S-HANDLE	3.5NM	1/4HEX-T07PX50	T00-15P35

Torque and fixed keys, see page 944

220.70-06/09 – inch





—For insert selection and cutting data recommendations, see page(s) 849
—For complete insert programme, see page(s) 857
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch		lbs	
R220.70-03.00-09-6	00059852	Arbor	3.150	6	0.177	3.520	1.000	2.441	2.382	15900	3.530	RN..09

Spare Parts, included in delivery

For cutter	Gauge screw	Insert key	Insert shim	Setting gauge	Shim screw	Wedge	Wedge screw
							
R220.70-03.00	LD6019-T15P	1/4HEX-T15PX50	117.10-620	AS6011F	174.10-652-T07P	CW0608M	LD6018T-T15P

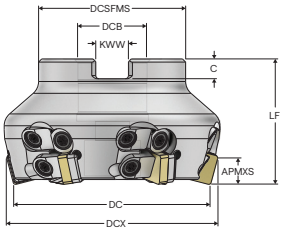
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Shim key	Torque key
					
R220.70-03.00	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	1/4HEX-T07PX50	T00-15P35

Torque and fixed keys, see page 944

220.74-09 – Metric

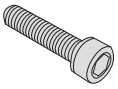




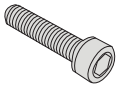
—For insert selection and cutting data recommendations, see page(s) 849
—For complete insert programme, see page(s) 859-858
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
*Wiper insert			mm		mm	mm	mm	mm	mm		kg	
R220.74-0063-09-6	00023743	Arbor	63,0	6	8,0	65,3	22,0	47,0	40,0	10200	0,8	SN..09..
R220.74-0080-09-6	00023744	Arbor	80,0	6	8,0	82,3	27,0	62,0	50,0	9100	1,4	SN..09..
R220.74-0100-09-8	00023745	Arbor	100,0	8	8,0	102,3	32,0	77,0	50,0	8100	2,1	SN..09..
R220.74-8160-09-10	00023747	Arbor	160,0	10	8,0	162,3	40,0	90,0	63,0	6400	6,2	SN..09/SNEX12*
R220.74-8200-09-12	00023748	Arbor	200,0	12	8,0	202,3	60,0	130,0	63,0	5700	9,0	SN..09/SNEX12*

Spare Parts, included in delivery

For cutter	Anvil	Anvil screw	Arbor screw	Insert key	Insert shim	Setting gauge	Setting screw	Shim screw	Wedge	Wedge screw
										
R220.74-0063	–	–	220.17-692	1/4HEX-T15PX50	174.10-620	AS6011	LD6019-T15P	174.10-652-T07P	CW0608M	LD6018T-T15P
R220.74-0080	–	–	–	1/4HEX-T15PX50	174.10-620	AS6011	LD6019-T15P	174.10-652-T07P	CW0608M	LD6018T-T15P
R220.74-0100	–	–	–	1/4HEX-T15PX50	174.10-620	AS6011	LD6019-T15P	174.10-652-T07P	CW0608M	LD6018T-T15P
R220.74-8160	–	–	–	1/4HEX-T15PX50	174.10-620	AS6011	LD6019-T15P	174.10-652-T07P	CW0608M	LD6018T-T15P
R220.74-8200	268-621	F94009-T09P	–	1/4HEX-T15PX50	174.10-620	AS6011	LD6019-T15P	174.10-652-T07P	CW0608M	LD6018T-T15P

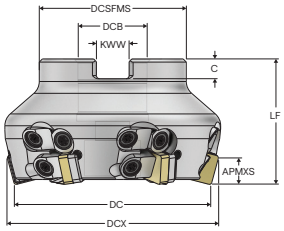
Accessories

For cutter	Adjustable Torque key	Anvil Key	Arbor screw	Bit holder	Insert clamping torque	Shim key	Torque key
							
R220.74-0063-0100	1/4HEX-S-HANDLE-0.8-5.0NM	–	–	1/4HEX-S-HANDLE	3.5NM	1/4HEX-T07PX50	T00-15P35
R220.74-8160	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-T09PX50	MC6S12X40	1/4HEX-S-HANDLE	3.5NM	1/4HEX-T07PX50	T00-15P35
R220.74-8200	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-T09PX50	–	1/4HEX-S-HANDLE	3.5NM	1/4HEX-T07PX50	T00-15P35

Torque and fixed keys, see page 944

220.74-09 – inch





—For insert selection and cutting data recommendations, see page(s) 849
—For complete insert programme, see page(s) 859–858
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch		lbs	
R220.74-04.00-09-8	00059859	Arbor	4.028	8	0.315	4.028	1.500	3.543	2.374	8100	5.290	SN..09
R220.74-05.00-09-8	00059860	Arbor	5.008	8	0.315	5.012	1.500	3.543	2.374	7200	8.600	SN..09 / SNEX12*
R220.74-06.00-09-10	00059861	Arbor	6.299	10	0.315	6.390	2.000	4.331	2.374	6400	13.670	SN..09 / SNEX12*

Spare Parts, included in delivery

For cutter	Anvil	Anvil screw	Insert key	Insert shim	Setting gauge	Setting screw	Shim screw	Wedge	Wedge screw
									
R220.74-04.00	–	–	1/4HEX-T15PX50	174.10-620	AS6011	LD6019-T15P	174.10-652-T07P	CW0608M	LD6018T-T15P
R220.74-05.00	268-621	F94009-T09P	1/4HEX-T15PX50	174.10-620	AS6011	LD6019-T15P	174.10-652-T07P	CW0608M	LD6018T-T15P
R220.74-06.00	268-621	F94009-T09P	1/4HEX-T15PX50	174.10-620	AS6011	LD6019-T15P	174.10-652-T07P	CW0608M	LD6018T-T15P

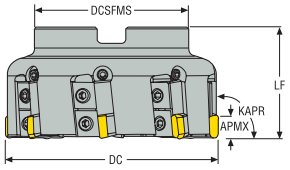
Accessories

For cutter	Adjustable Torque key	Anvil Key	Arbor screw	Bit holder	Insert clamping torque	Shim key	Torque key
							
R220.74-04.00	1/4HEX-S-HANDLE-0.8-5.0NM	–	–	1/4HEX-S-HANDLE	3.5NM	1/4HEX-T07PX50	T00-15P35
R220.74-05.00	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-T09PX50	–	1/4HEX-S-HANDLE	3.5NM	1/4HEX-T07PX50	T00-15P35
R220.74-06.00	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-T09PX50	58215080	1/4HEX-S-HANDLE	3.5NM	1/4HEX-T07PX50	T00-15P35

Torque and fixed keys, see page 944

R220.68-T11C/T16C – Metric

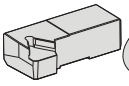
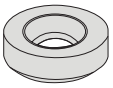




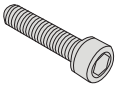
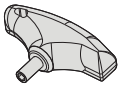
—For insert selection and cutting data recommendations, see page(s) 849
—For complete insert programme, see page(s) 860
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCB	DCSFMS	DCONMS	LF	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm		kg	
R220.68-0063-T11C-4	02600204	Arbor	63,0	4	5,0	22,0	47,0	22,0	63,0	20600	1,1	TNGN1103..
R220.68-0063-T16C-4	00063814	Arbor	63,0	4	14,0	22,0	47,0	22,0	63,0	12000	1,1	TNGN1604..
R220.68-0080-T11C-5	02600206	Arbor	80,0	5	5,0	27,0	62,0	27,0	63,0	16700	1,7	TNGN1103..
R220.68-0080-T16C-5	00063812	Arbor	80,0	5	14,0	27,0	62,0	27,0	63,0	9600	1,9	TNGN1604..
R220.68-0100-T11C-6	02600207	Arbor	100,0	6	5,0	32,0	77,0	32,0	63,0	13400	2,7	TNGN1103..
R220.68-0125-T11C-8	02600208	Arbor	125,0	8	5,0	40,0	90,0	40,0	63,0	10400	3,4	TNGN1103..
R220.68-0125-T16C-8	00063815	Arbor	125,0	8	14,0	40,0	90,0	40,0	63,0	6100	3,4	TNGN1604..
R220.68-8160-T11C-10	02600209	Arbor	160,0	10	5,0	40,0	90,0	40,0	63,0	8400	5,6	TNGN1103..
R220.68-8160-T16C-10	00063813	Arbor	160,0	10	14,0	40,0	90,0	40,0	63,0	4800	5,9	TNGN1604..

Spare Parts, included in delivery

For cutter	Adjustment unit	Arbor screw	Cassette	Circlip	Insert wedge	Ring	Setting key	Wedge clamp	Wedge key	Wedge screw
										
R220.68-0063-T11C	AU1114T-T15P	220.17-696	TN11PR	SGH22SMS1582	L257.9-120-T11	220.13-113	1/4HEX-T15PX50	L257.9-120M	1/4HEX-T25PX50	LD8020-T25P
R220.68-0063-T16C	AU1114T-T15P	220.17-696	TN16PR	SGH22SMS1582	L257.9-120-T16	220.13-113	1/4HEX-T15PX50	L257.9-120M	1/4HEX-T25PX50	LD8020-T25P
R220.68-0080-T11C	AU1114T-T15P	MC6S12X40	TN11PR	–	L257.9-120-T11	–	1/4HEX-T15PX50	L257.9-120M	1/4HEX-T25PX50	LD8020-T25P
R220.68-0080-T16C	AU1114T-T15P	MC6S12X40	TN16PR	–	L257.9-120-T16	–	1/4HEX-T15PX50	L257.9-120M	1/4HEX-T25PX50	LD8020-T25P
R220.68-0100-T11C	AU1114T-T15P	MC6S16X35	TN11PR	–	L257.9-120-T11	–	1/4HEX-T15PX50	L257.9-120M	1/4HEX-T25PX50	LD8020-T25P
R220.68-0125-T11C	AU1114T-T15P	–	TN11PR	–	L257.9-120-T11	–	1/4HEX-T15PX50	L257.9-120M	1/4HEX-T25PX50	LD8020-T25P
R220.68-0125-T16C	AU1114T-T15P	–	TN16PR	–	L257.9-120-T16	–	1/4HEX-T15PX50	L257.9-120M	1/4HEX-T25PX50	LD8020-T25P
R220.68-8160-T11C	AU1114T-T15P	–	TN11PR	–	L257.9-120-T11	–	1/4HEX-T15PX50	L257.9-120M	1/4HEX-T25PX50	LD8020-T25P
R220.68-8160-T16C	AU1114T-T15P	–	TN16PR	–	L257.9-120-T16	–	1/4HEX-T15PX50	L257.9-120M	1/4HEX-T25PX50	LD8020-T25P

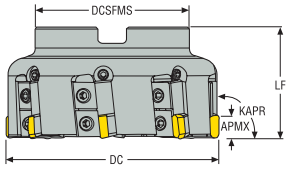
Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.68-0063-0125-T11C	1/4HEX-T-HANDLE-5.0-14.0NM	–	1/4HEX-T-HANDLE	6.0NM	T00T-25P60
R220.68-0063-0125-T16C	1/4HEX-T-HANDLE-5.0-14.0NM	–	1/4HEX-T-HANDLE	6.0NM	T00T-25P60
R220.68-8160-T11C	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	1/4HEX-T-HANDLE	6.0NM	T00T-25P60
R220.68-8160-T16C	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	1/4HEX-T-HANDLE	6.0NM	T00T-25P60

Torque and fixed keys, see page 944

R220.68-T11C – Inch

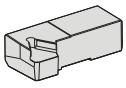




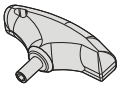
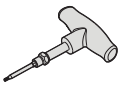
—For insert selection and cutting data recommendations, see page(s) 849
—For complete insert programme, see page(s) 860
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCB	DCSFMS	DCONMS	LF	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch		lbs	
R220.68-02.50-T11C-4	02611344	Arbor	2.500	4	0.197	0.750	1.850	0.750	2.480	20600	2.430	TN..11
R220.68-03.00-T11C-5	02611345	Arbor	3.000	5	0.197	1.000	2.441	1.000	2.480	9600	3.970	TN..11
R220.68-04.00-T11C-6	02611346	Arbor	4.000	6	0.197	1.500	3.031	1.500	2.480	7600	5.730	TN..11
R220.68-05.00-T11C-8	02611347	Arbor	5.000	8	0.197	1.500	3.543	1.500	2.480	6100	7.500	TN..11
R220.68-06.00-T11C-10	02611348	Arbor	6.000	10	0.197	2.000	4.331	2.000	2.480	4800	12.350	TN..11

Spare Parts, included in delivery

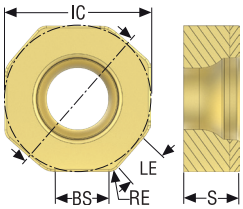
For cutter	Adjustment unit	Arbor screw	Cassette	Circlip	Insert wedge	Ring	Setting key	Wedge clamp	Wedge key	Wedge screw
										
R220.68-02.50	AU1114T-T15P	220.17-695	TN11PR	SGH19SMS1582	L257.9-120-T11	220.13-114	1/4HEX-T15PX50	L257.9-120M	1/4HEX-T25PX50	LD8020-T25P
R220.68-03.00	AU1114T-T15P	UC6S1/2UNFX1-1/4	TN11PR	–	L257.9-120-T11	–	1/4HEX-T15PX50	L257.9-120M	1/4HEX-T25PX50	LD8020-T25P
R220.68-04.00	AU1114T-T15P	UF6S3/4UNFX2	TN11PR	–	L257.9-120-T11	–	1/4HEX-T15PX50	L257.9-120M	1/4HEX-T25PX50	LD8020-T25P
R220.68-05.00	AU1114T-T15P	UF6S3/4UNFX2	TN11PR	–	L257.9-120-T11	–	1/4HEX-T15PX50	L257.9-120M	1/4HEX-T25PX50	LD8020-T25P
R220.68-06.00	AU1114T-T15P	–	TN11PR	–	L257.9-120-T11	–	1/4HEX-T15PX50	L257.9-120M	1/4HEX-T25PX50	LD8020-T25P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Bit holder	Insert clamping torque	Torque key
					
R220.68-02.50-05.00	1/4HEX-T-HANDLE-5.0-14.0NM	–	1/4HEX-T-HANDLE	6.0NM	T00T-25P60
R220.68-06.00	1/4HEX-T-HANDLE-5.0-14.0NM	58215080	1/4HEX-T-HANDLE	6.0NM	T00T-25P60

Torque and fixed keys, see page 944

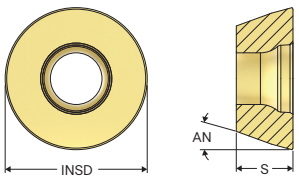
ONEW05





Designation	RE	BS	LE	IC	S	GAN	Grades CBN					
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		CBN200	CBN300	CBN300P	CBN400C	CBN500	CBN600
ONEW050410ANSN-02020-LF	1,0 *0.039*	0,3 *0.012*	3,6 *0.142*	12,0 *0.472*	4,427 *0.174*	0,0 °	■					

RDHW

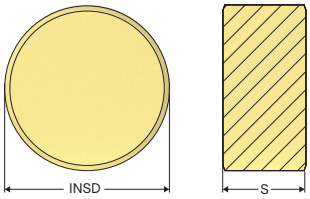


RDHW-LF



Designation	INSD	S	AN°	Grades CBN					
	mm *Inch*	mm *Inch*		CBN200	CBN300	CBN300P	CBN400C	CBN500	CBN600
RDHW0803M0S-01030-LF	8,0 *0.315*	3,18 *0.125*	15,0	■					
RDHW10T3M0S-01030-8-LF	10,0 *0.394*	3,97 *0.156*	15,0	■					

RN.N-LF06/09/12



RNGN



RNGN-LF

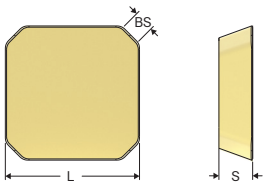


RNMN



Designation	INSD	S	Grades CBN					
	mm *Inch*	mm *Inch*	CBN200	CBN300	CBN300P	CBN400C	CBN500	CBN600
RNGN060300S-02020-LF	6,35 *0.250*	3,18 *0.125*	■					
RNGN090300S-02020-LF	9,52 *0.375*	3,18 *0.125*	■					
RNGN120400S-02020-LF	12,7 *0.500*	4,76 *0.187*	■					
RNGN060300S	6,35 *0.250*	3,18 *0.125*	■					
RNGN090300S	9,52 *0.375*	3,18 *0.125*	■					
RNMN060300S	6,35 *0.250*	3,18 *0.125*		■	■			
RNMN060300S-02020P	6,35 *0.250*	3,18 *0.125*						■
RNMN090300E	9,52 *0.375*	3,18 *0.125*		■		■		
RNMN090300S	9,52 *0.375*	3,18 *0.125*		■	■			
RNMN090300S-02020	9,52 *0.375*	3,18 *0.125*				■	■	
RNMN090300S-02020P	9,52 *0.375*	3,18 *0.125*						■

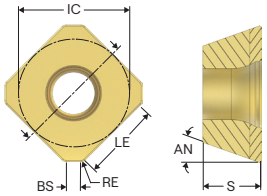
SEE.12





Designation	RE	BS	L	S	GAN	Grades CBN					
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		CBN200	CBN300	CBN300P	CBN400C	CBN500	CBN600
SEEN1203AFTN-D16	1,0 *0.039*	1,5 *0.059*	12,7 *0.500*	3,18 *0.125*	0,0 °		■				

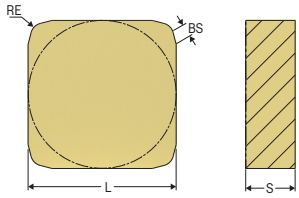
SEEX





Designation	RE	BS	LE	IC	S	AN°	Grades CBN					
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		CBN200	CBN300	CBN300P	CBN400C	CBN500	CBN600
SEEX09T3AFTN-D09-LF	0,5 *0.020*	1,25 *0.049*	2,86 *0.113*	9,52 *0.375*	3,97 *0.156*	20,0	■					
SEEX1203AETN-MD13-LF	1,0 *0.039*	8,0 *0.315*	2,2 *0.087*	12,7 *0.500*	3,18 *0.125*	20,0	■					
SEEX1204AFTN-D16-LF	1,1 *0.043*	1,6 *0.063*	3,81 *0.150*	12,7 *0.500*	4,76 *0.187*	20,0	■					
SEEX1204ZZTN-D16-LF	1,0 *0.039*	7,53 *0.296*	3,81 *0.150*	12,7 *0.500*	4,76 *0.187*	20,0	■					

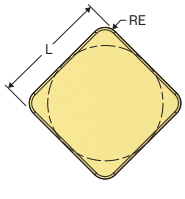
SNEN





Designation	RE	BS	L	S	GAN	Grades CBN					
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		CBN200	CBN300	CBN300P	CBN400C	CBN500	CBN600
SNEN0903ENE-M06	0,8 *0.031*	0,9 *0.035*	9,52 *0.375*	3,18 *0.125*	0,0 °	■					
SNEN0903ENS-M08	0,8 *0.031*	0,9 *0.035*	9,52 *0.375*	3,18 *0.125*	0,0 °	■					

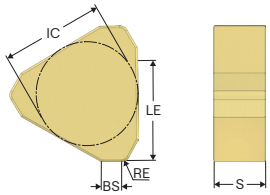
SN..06/09/SNEX12





					Grades					
Designation	**RE**	**L**	**S**	**GAN**	**CBN**					
	mm *Inch*	mm *Inch*	mm *Inch*		CBN200	CBN300	CBN300P	CBN400C	CBN500	CBN600
SNMN060308E	0,8 *0.031*	6,35 *0.250*	3,18 *0.125*	0,0 °				■		
SNMN060308S	0,8 *0.031*	6,35 *0.250*	3,18 *0.125*	0,0 °		■				
SNMN090308E	0,8 *0.031*	9,525 *0.375*	3,18 *0.125*	0,0 °		■				
SNMN090308S	0,8 *0.031*	9,525 *0.375*	3,18 *0.125*	0,0 °		■				
SNMN090312S	1,2 *0.047*	9,525 *0.375*	3,18 *0.125*	0,0 °		■	■			
SNMN090312S-02020P	1,2 *0.047*	9,525 *0.375*	3,18 *0.125*							■
SNMN090316S	1,6 *0.063*	9,525 *0.375*	3,18 *0.125*	0,0 °		■				
SNGN090308E	0,8 *0.031*	9,525 *0.375*	3,18 *0.125*	0,0 °	■					
SNGN090308S	0,8 *0.031*	9,525 *0.375*	3,18 *0.125*	0,0 °	■					
SNGN090312S	1,2 *0.047*	9,525 *0.375*	3,18 *0.125*	0,0 °	■					
SNGN090316S	1,6 *0.063*	9,525 *0.375*	3,18 *0.125*	0,0 °	■					
SNEX120312ZZ	1,2 *0.047*	12,7 *0.500*	3,18 *0.125*	0,0 °	■					

TNGN

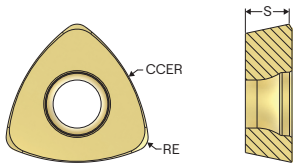


TNGN



Designation	RE	BS	LE	IC	S	Grades CBN					
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	CBN200	CBN300	CBN300P	CBN400C	CBN500	CBN600
TNGN1103PNE	0,8 *0.031*	1,0 *0.039*	3,3 *0.130*	6,35 *0.250*	3,18 *0.125*	■					
TNGN1103PNS	0,8 *0.031*	1,0 *0.039*	3,3 *0.130*	6,35 *0.250*	3,18 *0.125*	■					
TNGN1103PRS	1,2 *0.047*	1,0 *0.039*	3,3 *0.130*	6,35 *0.250*	3,18 *0.125*	■					
TNGN1604PNE	0,8 *0.031*	1,9 *0.075*	4,95 *0.195*	9,52 *0.375*	4,76 *0.187*	■					
TNGN1604PNS	0,8 *0.031*	1,9 *0.075*	4,95 *0.195*	9,52 *0.375*	4,76 *0.187*	■					
TNGN1604PRS	1,2 *0.047*	1,3 *0.051*	4,95 *0.195*	9,52 *0.375*	4,76 *0.187*	■					

218.19





Designation	RE	CCER	S	GAN	Grades CBN					
	mm *Inch*	mm *Inch*	mm *Inch*		CBN200	CBN300	CBN300P	CBN400C	CBN500	CBN600
218.19-100T-MD08-LF	0,8 *0.031*	10,0 *0.394*	2,81 *0.111*	0,0 °	■					

Introduction

Application areas

Secomax ceramics include a range of products developed to meet the manufacturing industries ever increasing demands on productivity and product performance.

The inserts are die-pressed and sintered by a HIP process using very fine and pure raw materials with fine microstructure to reach excellent material properties. All surfaces are then ground ensuring a product with superior dimensions and tolerances.

This comes together in a product with outstanding features:

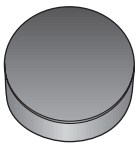
– high thermal shock resistance

– optimised fracture toughness

– excellent wear resistance

– high product quality

CS300



Format:
Solid.

Composition:
Sialon (Si, Al, O, N) ceramic grade.

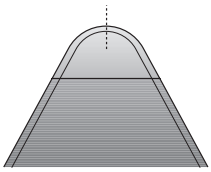
Coating:
No coating.

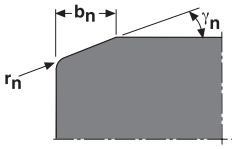
Chamfer size and angle

CS300	=	0,10 mm x 20°

S	=	Chamfered and honed
T	=	Chamfered, no honing
E	=	Honed

Chamfer size and angle





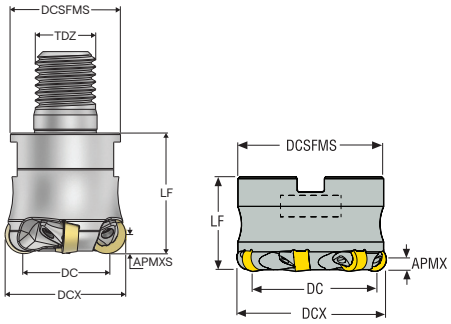
b_n = Chamfer width
γ_n = Chamfer angle
r_n = Hone radius

Ceramic, Roughing a_p 0,5 – 3,0 mm/Inch

SMG	CS300	
	v_c	f_z
S1	600 — 1000 *2000 — 3200*	0,050 — 0,15 *0.00197 — 0.00590*
S2	600 — 1000 *2000 — 3200*	0,050 — 0,15 *0.00197 — 0.00590*
S3	600 — 1000 *2000 — 3200*	0,050 — 0,15 *0.00197 — 0.00590*
S11	— —	— —
S12	— —	— —
S13	— —	— —

R217/220.26 - Metric

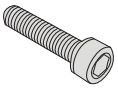
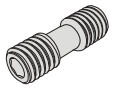




—For insert selection and cutting data recommendations, see page(s) 861, 862
—For complete insert programme, see page(s) 865
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCB	TDZ	DCSFMS	LF	OAL	RMPX°	RPMX	Weight	Insert
			mm	mm		mm	mm		mm	mm	mm			kg	
R217.26-1632.RE-RN1204.3A	03115686	Combimaster	19,265	32,0	3	6,0	–	M16	30,0	35,0	57,75	0,0	19100	0,2	RN1204
R217.26-1632.RE-RP1204.3A	03204228	Combimaster	19,439	32,0	3	6,0	–	M16	30,0	35,0	57,75	5,0	20800	0,2	RP1204
R217.26-2040.RE-RN1204.4A	03115687	Combimaster	27,338	40,0	4	6,0	–	M20	36,5	40,0	67,0	0,0	17100	0,4	RN1204
R217.26-2040.RE-RP1204.4A	03115679	Combimaster	27,423	40,0	4	6,0	–	M20	36,5	40,0	67,0	3,2	18600	0,4	RP1204
R220.26-0050-RN1204.6A	03115702	Arbor	37,329	50,0	6	6,0	22,0	–	47,0	45,0	–	–	16700	0,5	RN1204
R220.26-0050-RN1207.5A	03115710	Arbor	37,329	50,0	5	6,0	22,0	–	47,0	45,0	–	–	11900	0,5	RN1207
R220.26-0050-RP1204.6A	03133188	Arbor	37,409	50,0	6	6,0	22,0	–	47,0	45,0	–	2,3	16700	0,5	RP1204
R220.26-0063-RN1207.6A	03115711	Arbor	50,323	63,0	6	6,0	27,0	–	60,0	50,0	–	–	10600	0,8	RN1207
R220.26-0063-RN1207.7A	03115712	Arbor	50,323	63,0	7	6,0	27,0	–	60,0	50,0	–	–	10600	0,9	RN1207
R220.26-0080-RN1207.7A	03115713	Arbor	67,261	80,0	7	6,0	32,0	–	77,0	50,0	–	–	9400	1,6	RN1207
R220.26-0080-RN1207.8A	03115714	Arbor	67,261	80,0	8	6,0	32,0	–	77,0	50,0	–	–	9400	1,4	RN1207
R220.26-0100-RN1207.8A	03115715	Arbor	87,279	100,0	8	6,0	40,0	–	90,0	63,0	–	–	8400	2,8	RN1207
R220.26-0125-RN1207.9	03115716	Arbor	112,278	125,0	9	6,0	40,0	–	90,0	63,0	–	–	7500	3,6	RN1207

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Wedge clamp	Wedge screw
				
R217.26-..	–	1/4HEX-H2.5X50	CW0508	LD5015C
R220.26-0050	220.17-692	1/4HEX-H2.5X50	CW0508	LD5015C
R220.26-0063	MC6S12X40	1/4HEX-H2.5X50	CW0508	LD5015C
R220.26-0080	950E1645	1/4HEX-H2.5X50	CW0508	LD5015C
R220.26-0100-0125	MC6S20X50	1/4HEX-H2.5X50	CW0508	LD5015C

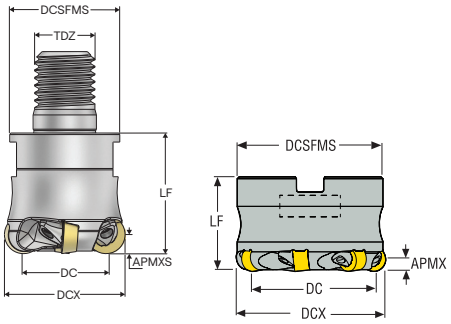
Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.26-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	H00-2535

Torque and fixed keys, see page 944

R217/220.26 - inch

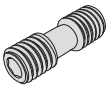




—For insert selection and cutting data recommendations, see page(s) 861, 862
—For complete insert programme, see page(s) 865
—For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC inch	DCX inch	ZEFP	APMXS inch	DCB inch	TDZ	DCSFMS inch	LF inch	OAL inch	RMPX°	RPMX	Weight lbs	Insert
R217.26-01.50-20RE-RN1207.3A	10008700	Arbor	1.001	1.500	3	0.236	–	M20	1.437	1.575	2.638	0,0	12500	0.880	RN1207
R220.26-02.00-RN1207.5A	03115723	Arbor	1.501	2.000	5	0.236	0.750	–	1.750	2.000	–	–	11900	1.320	RN1207
R220.26-02.50-RN1207.6A	03115724	Arbor	2.001	2.500	6	0.236	1.000	–	2.250	2.000	–	–	10600	1.980	RN1207
R220.26-03.00-RN1207.7A	03115725	Arbor	2.499	3.000	7	0.236	1.250	–	2.750	2.000	–	–	9400	2.870	RN1207

Spare Parts, included in delivery

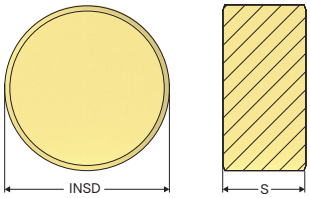
For cutter	Arbor screw	Insert key	Wedge clamp	Wedge screw
				
R217.26-..	–	1/4HEX-H2.5X50	CW0508	LD5015C
R220.26-02.00	UC6S3/8UNFX1-3/4	1/4HEX-H2.5X50	CW0508	LD5015C
R220.26-02.50	UC6S1/2UNFX1-1/2	1/4HEX-H2.5X50	CW0508	LD5015C
R220.26-03.00	–	1/4HEX-H2.5X50	CW0508	LD5015C

Accessories

For cutter	Adjustable Torque key	Bit holder	Insert clamping torque	Torque key
				
R217/220.26-..	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-S-HANDLE	3.5NM	H00-2535

Torque and fixed keys, see page 944

RNGN12



RNGN



RPGN



			Grades
Designation	**INSD**	**S**	**CBN**
	mm *Inch*	mm *Inch*	CS300
RNGN120400T-01020	12,7 *0.500*	4,76 *0.187*	■
RNGN120700T-01020	12,7 *0.500*	7,94 *0.313*	■
RPGN120400T-01020	12,7 *0.500*	4,76 *0.187*	■

Introduction

Polycrystalline Diamond (PCD) is produced by sintering together carefully selected particles of diamond under conditions of high temperature and high pressure. PCD cutting tools combine the hardness, abrasion resistance and thermal conductivity of diamond with the toughness of tungsten carbide.

Secomax™ PCD inserts are suitable for machining non-ferrous metals and alloys, e.g.:

- Aluminium
- Copper
- Brass
- Bronze
- Cemented carbide

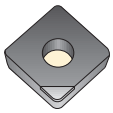
It can also be used for other materials, e.g.:

- Composites (MMC, ...)
- Reinforced plastics
- Graphite
- Tungsten carbide
- Ceramics
- Titanium alloys

Selection of insert types



- Sintered layer -LF
- PCD sintered on carbide.
- All cutting edges on one side are usable.
- Grades: PCD20, PCD30M

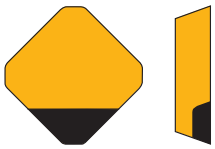


- Brazed tip -L1 and L2
- PCD brazed on to standard carbide inserts.
- Grades:PCD05, PCD20, PCD30

Inserts for standard milling cutters

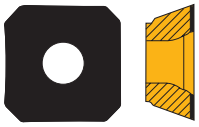
Face milling cutters

- SEHN12
- R220.13
- R220.30



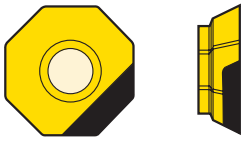
Face milling cutters

- SEEX12
- R220.53



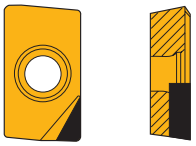
Face milling cutters

- OFEX05
- R220.43



Square shoulder milling cutters

- XOEX06/10/12/16
- 217/220.69



Cutting speed recommendations are in the cutting data table.
Feed rate recommendations are in the cutting data table.
Formulae for cutting data calculation are on page 935

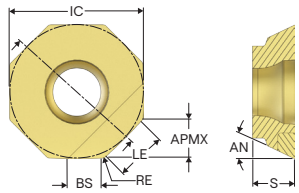
PCD, Roughing a_p 0,5 - 3,0 mm/Inch

SMG	PCD05		PCD20		PCD30		PCD30M	
	v_c	f_z	v_c	f_z	v_c	f_z	v_c	f_z
N1	600 — 3500 *2000 — 11400*	0,050 — 0,30 *0.00197 — 0.0118*	600 — 3500 *2000 — 11400*	0,050 — 0,30 *0.00197 — 0.0118*	— —	— —	— —	— —
N2	400 — 2500 *1400 — 8200*	0,050 — 0,20 *0.00197 — 0.00787*	400 — 2500 *1400 — 8200*	0,050 — 0,20 *0.00197 — 0.00787*	— —	— —	— —	— —
N3	300 — 1000 *990 — 3200*	0,050 — 0,10 *0.00197 — 0.00393*	— —	— —	300 — 1000 *990 — 3200*	0,050 — 0,10 *0.00197 — 0.00393*	300 — 1000 *990 — 3200*	0,050 — 0,10 *0.00197 — 0.00393*
N11	600 — 1200 *2000 — 3900*	0,10 — 0,50 *0.00394 — 0.0196*	600 — 1200 *2000 — 3900*	0,10 — 0,50 *0.00394 — 0.0196*	400 — 1200 *1400 — 3900*	0,10 — 0,50 *0.00394 — 0.0196*	600 — 1200 *2000 — 3900*	0,10 — 0,50 *0.00394 — 0.0196*
TS1	100 — 1500 *330 — 4900*	0,10 — 0,40 *0.00394 — 0.0157*	100 — 1500 *330 — 4900*	0,10 — 0,40 *0.00394 — 0.0157*	— —	— —	— —	— —
TS2	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*
TS3	100 — 800 *330 — 2600*	0,050 — 0,20 *0.00197 — 0.00787*	100 — 800 *330 — 2600*	0,050 — 0,20 *0.00197 — 0.00787*	100 — 800 *330 — 2600*	0,050 — 0,20 *0.00197 — 0.00787*	100 — 800 *330 — 2600*	0,050 — 0,20 *0.00197 — 0.00787*
TS4	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*
TP1	100 — 1500 *330 — 4900*	0,10 — 0,40 *0.00394 — 0.0157*	100 — 1500 *330 — 4900*	0,10 — 0,40 *0.00394 — 0.0157*	— —	— —	— —	— —
TP2	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*
TP3	100 — 800 *330 — 2600*	0,050 — 0,20 *0.00197 — 0.00787*	100 — 800 *330 — 2600*	0,050 — 0,20 *0.00197 — 0.00787*	100 — 800 *330 — 2600*	0,050 — 0,20 *0.00197 — 0.00787*	100 — 800 *330 — 2600*	0,050 — 0,20 *0.00197 — 0.00787*
TP4	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*
GR1	100 — 1500 *330 — 4900*	0,10 — 0,20 *0.00394 — 0.00787*	100 — 1500 *330 — 4900*	0,10 — 0,20 *0.00394 — 0.00787*	— —	— —	— —	— —

PCD, Finishing a_p < 0,5 mm/Inch

SMG	PCD05		PCD20		PCD30		PCD30M	
	v_c	f_z	v_c	f_z	v_c	f_z	v_c	f_z
N1	600 — 3500 *2000 — 11400*	0,050 — 0,30 *0.00197 — 0.0118*	600 — 3500 *2000 — 11400*	0,050 — 0,30 *0.00197 — 0.0118*	— —	— —	— —	— —
N2	400 — 2500 *1400 — 8200*	0,050 — 0,20 *0.00197 — 0.00787*	400 — 2500 *1400 — 8200*	0,050 — 0,20 *0.00197 — 0.00787*	— —	— —	— —	— —
N3	300 — 1000 *990 — 3200*	0,050 — 0,10 *0.00197 — 0.00393*	— —	— —	300 — 1000 *990 — 3200*	0,050 — 0,10 *0.00197 — 0.00393*	300 — 1000 *990 — 3200*	0,050 — 0,10 *0.00197 — 0.00393*
N11	600 — 1200 *2000 — 3900*	0,10 — 0,50 *0.00394 — 0.0196*	600 — 1200 *2000 — 3900*	0,10 — 0,50 *0.00394 — 0.0196*	400 — 1200 *1400 — 3900*	0,10 — 0,50 *0.00394 — 0.0196*	600 — 1200 *2000 — 3900*	0,10 — 0,50 *0.00394 — 0.0196*
TS1	100 — 1500 *330 — 4900*	0,10 — 0,40 *0.00394 — 0.0157*	100 — 1500 *330 — 4900*	0,10 — 0,40 *0.00394 — 0.0157*	— —	— —	— —	— —
TS2	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*
TS3	100 — 800 *330 — 2600*	0,050 — 0,20 *0.00197 — 0.00787*	100 — 800 *330 — 2600*	0,050 — 0,20 *0.00197 — 0.00787*	100 — 800 *330 — 2600*	0,050 — 0,20 *0.00197 — 0.00787*	100 — 800 *330 — 2600*	0,050 — 0,20 *0.00197 — 0.00787*
TS4	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*
TP1	100 — 1500 *330 — 4900*	0,10 — 0,40 *0.00394 — 0.0157*	100 — 1500 *330 — 4900*	0,10 — 0,40 *0.00394 — 0.0157*	— —	— —	— —	— —
TP2	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*
TP3	100 — 800 *330 — 2600*	0,050 — 0,20 *0.00197 — 0.00787*	100 — 800 *330 — 2600*	0,050 — 0,20 *0.00197 — 0.00787*	100 — 800 *330 — 2600*	0,050 — 0,20 *0.00197 — 0.00787*	100 — 800 *330 — 2600*	0,050 — 0,20 *0.00197 — 0.00787*
TP4	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*
GR1	100 — 1500 *330 — 4900*	0,10 — 0,20 *0.00394 — 0.00787*	100 — 1500 *330 — 4900*	0,10 — 0,20 *0.00394 — 0.00787*	— —	— —	— —	— —

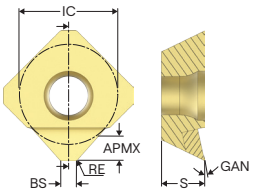
OFEX

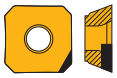




								Grades			
Designation	**RE**	**APMX**	**BS**	**LE**	**IC**	**S**	**AN°**	**PCD**			
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		PCD05	PCD20	PCD30	PCD30M
OFEX05T305FN-M05	0,5 *0.020*	3,0 *0.118*	2,4 *0.094*	3,5 *0.138*	12,79 *0.504*	3,97 *0.156*	26,0		■		

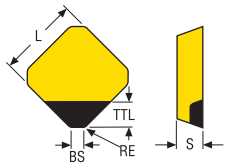
SEEX





								Grades			
Designation	**RE**	**APMX**	**BS**	**LE**	**IC**	**S**	**GAN**	**PCD**			
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		PCD05	PCD20	PCD30	PCD30M
SEEX09T3AFFN-L1	0,4 *0.016*	2,8 *0.110*	1,5 *0.059*	1,95 *0.077*	9,525 *0.375*	3,97 *0.156*	12,0 °	■	■		

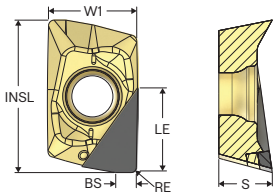
SEHN





Designation	RE	BS	L	TTL	S	GAN	Grades PCD			
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		PCD05	PCD20	PCD30	PCD30M
SEHN1203AFFN-E08	1,0 *0.039*	1,6 *0.063*	12,7 *0.500*	– *0.500*	3,18 *0.125*	0,0 °		■		

XOEX



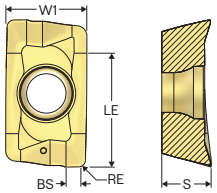




Designation	RE	BS	LE	INSL	W1	S	GAN	Grades PCD			
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		PCD05	PCD20	PCD30	PCD30M
XOEX060204FR	0,4 *0.016*	1,1 *0.043*	2,5 *0.098*	6,94 *0.273*	4,09 *0.161*	2,45 *0.096*	8,0 °	■			
XOEX10T304F	0,4 *0.016*	1,08 *0.043*	4,0 *0.157*	11,08 *0.436*	6,87 *0.270*	3,77 *0.148*	15,0 °	■	■		
XOEX120404FR	0,4 *0.016*	1,11 *0.044*	4,0 *0.157*	13,88 *0.546*	8,18 *0.322*	5,03 *0.198*	15,0 °		■	■	
XOEX120404FR-L2	0,4 *0.016*	1,95 *0.077*	4,5 *0.177*	13,7 *0.539*	8,18 *0.322*	4,95 *0.195*	14,0 °	■			
XOEX160508F	0,8 *0.031*	1,3 *0.051*	15,7 *0.618*	18,3 *0.720*	10,2 *0.402*	5,8 *0.228*	15,65 °	■	■		■



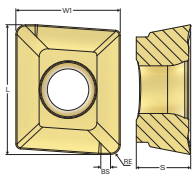
ABEX26



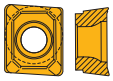


Designation	RE	BS	LE	W1	S	GAN	Grades																		
							PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
ABEX2606ZFFR-M15	1,6 *0.063*	2,0 *0.079*	24,4 *0.961*	14,0 *0.551*	6,35 *0.250*	17,0 °							■			■	■	■		■				

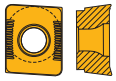
AC..15



M10/M11/M14/MD15

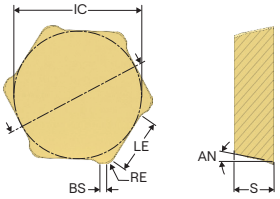


ME10

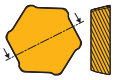


Designation	RE	BS	LE	W1	S	GAN	Grades																			
							PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
ACET150612TR-ME10	1,2 *0.047*	0,13 *0.005*	14,8 *0.583*	12,7 *0.500*	6,35 *0.250*	22,0 °						■	■											
ACET150612TL-M11	1,2 *0.047*	0,13 *0.005*	14,8 *0.583*	12,7 *0.500*	6,35 *0.250*	14,0 °							■											
ACET150612TR-M11	1,2 *0.047*	0,13 *0.005*	14,8 *0.583*	12,7 *0.500*	6,35 *0.250*	14,0 °							■			■	■	■		■	■			
ACET150631TR-M11	3,1 *0.122*	–	14,8 *0.583*	12,7 *0.500*	6,35 *0.250*	14,0 °							■											
ACET150612TL-M14	1,2 *0.047*	0,13 *0.005*	14,8 *0.583*	12,7 *0.500*	6,35 *0.250*	15,0 °							■											
ACET150612TR-M14	1,2 *0.047*	0,13 *0.005*	14,8 *0.583*	12,7 *0.500*	6,35 *0.250*	15,0 °							■			■		■		■				
ACET150630TR-M14	3,0 *0.118*	–	14,8 *0.583*	12,7 *0.500*	6,35 *0.250*	15,0 °														■				
ACET150631TR-M14	3,1 *0.122*	–	14,8 *0.583*	12,7 *0.500*	6,35 *0.250*	15,0 °							■											
ACET150660TL-M14	6,0 *0.236*	–	14,8 *0.583*	12,7 *0.500*	6,35 *0.250*	15,0 °							■											
ACET150660TR-M14	6,0 *0.236*	–	14,8 *0.583*	12,7 *0.500*	6,35 *0.250*	15,0 °							■							■				
ACET150612TR-MD15	1,2 *0.047*	0,13 *0.005*	14,8 *0.583*	12,7 *0.500*	6,35 *0.250*	15,0 °					■						■			■				
ACET150630TR-MD15	3,0 *0.118*	–	14,8 *0.583*	12,7 *0.500*	6,35 *0.250*	15,0 °											■							
ACMT150612TR-M14	1,2 *0.047*	0,13 *0.005*	14,8 *0.583*	12,7 *0.500*	6,35 *0.250*	15,0 °							■					■						

HPMN12

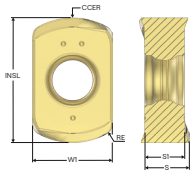


D25



Designation	RE	BS	LE	IC	S	AN°	Grades																		
							PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
HPMN1206ZETR-D25	1,7 *0.067*	0,8 *0.031*	9,0 *0.354*	21,458 *0.845*	6,35 *0.250*	11,0											■	■						

LOH.06



D07



M07



MD07

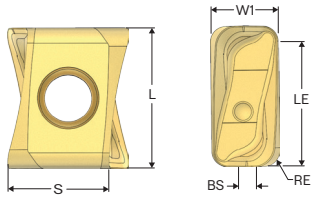


ME06



Designation	RE	CCER	INSL	W1	S	S1	GAN	Grades																		
								PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
LOHT060310TR-M07	1,0 *0.039*	5,5 *0.217*	10,0 *0.394*	6,35 *0.250*	3,57 *0.141*	3,17 *0.125*	20,0 °					■	■	■	■	■			■	■	■				
LOHT060310TR-MD07	1,0 *0.039*	5,5 *0.217*	10,0 *0.394*	6,35 *0.250*	3,57 *0.141*	3,17 *0.125*	7,0 °			■		■						■	■						
LOHT060310TR-ME06	1,0 *0.039*	5,5 *0.217*	10,0 *0.394*	6,35 *0.250*	3,57 *0.141*	3,17 *0.125*	27,0 °						■	■						■	■		■		
LOHW060310TR-D07	1,0 *0.039*	5,5 *0.217*	10,0 *0.394*	6,35 *0.250*	3,45 *0.136*	3,17 *0.125*	0,0 °	■				■						■							

LOEX08/12



M08/MD08



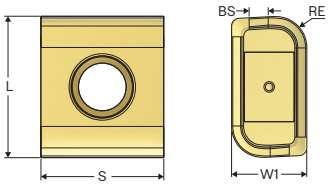
M09/M12/MD13



Designation	RE	BS	LE	L	W1	S	GAN	Grades																				
								PVD											CVD								Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
LOEX080404TR-M08	0,4 *0.016*	1,29 *0.051*	8,3 *0.327*	9,3 *0.366*	4,4 *0.173*	6,67 *0.263*	33,3 °			■		■		■				■	■							
LOEX080408TR-M08	0,8 *0.031*	0,92 *0.036*	8,3 *0.327*	9,3 *0.366*	4,4 *0.173*	6,6 *0.260*	34,0 °			■		■	■	■	■	■		■	■		■					
LOEX080412TR-M08	1,2 *0.047*	0,52 *0.020*	8,3 *0.327*	9,3 *0.366*	4,4 *0.173*	6,52 *0.257*	33,3 °			■				■					■							
LOEX080416TR-M08	1,6 *0.063*	0,13 *0.005*	8,3 *0.327*	9,3 *0.366*	4,4 *0.173*	6,45 *0.254*	33,3 °					■	■	■		■										
LOEX080404TR-MD08	0,4 *0.016*	1,29 *0.051*	8,3 *0.327*	9,3 *0.366*	4,4 *0.173*	6,67 *0.263*	29,0 °			■									■							
LOEX080408TR-MD08	0,8 *0.031*	0,92 *0.036*	8,3 *0.327*	9,3 *0.366*	4,4 *0.173*	6,6 *0.260*	29,5 °			■				■			■	■	■		■					
LOEX080416TR-MD08	1,6 *0.063*	0,13 *0.005*	8,3 *0.327*	9,3 *0.366*	4,4 *0.173*	6,45 *0.254*	29,5 °							■					■							
LOEX120704R-T4-M09	0,4 *0.016*	2,83 *0.111*	12,0 *0.472*	14,2 *0.559*	7,5 *0.295*	10,33 *0.407*	36,0 °							■												
LOEX120708R-T4-M09	0,8 *0.031*	2,47 *0.097*	12,0 *0.472*	14,2 *0.559*	7,5 *0.295*	10,26 *0.404*	36,0 °					■	■	■	■	■			■	■						
LOEX120716R-T4-M09	1,6 *0.063*	1,74 *0.069*	12,0 *0.472*	14,2 *0.559*	7,5 *0.295*	10,12 *0.398*	36,0 °					■	■	■		■										
LOEX120724R-T4-M09	2,4 *0.094*	1,01 *0.040*	12,0 *0.472*	14,2 *0.559*	7,5 *0.295*	9,98 *0.393*	36,0 °						■													
LOEX120731R-T4-M09	3,1 *0.122*	0,37 *0.015*	12,0 *0.472*	14,2 *0.559*	7,5 *0.295*	9,88 *0.389*	36,0 °					■	■	■		■										
LOEX120740R-T4-M09	4,0 *0.157*	0,14 *0.006*	12,0 *0.472*	14,2 *0.559*	7,5 *0.295*	9,74 *0.383*	36,0 °						■	■												
LOEX120750R-T2-M09	5,0 *0.197*	1,06 *0.042*	12,0 *0.472*	14,2 *0.559*	7,5 *0.295*	9,52 *0.375*	36,0 °							■												
LOEX120763R-T2-M09	6,3 *0.248*	0,43 *0.017*	12,0 *0.472*	14,2 *0.559*	7,5 *0.295*	9,28 *0.365*	36,0 °						■	■												
LOEX120708TR-T4-M12	0,8 *0.031*	2,47 *0.097*	12,0 *0.472*	14,2 *0.559*	7,5 *0.295*	10,26 *0.404*	35,0 °			■		■	■	■	■	■			■	■	■		■			
LOEX120712TR-T4-M12	1,2 *0.047*	2,1 *0.083*	12,0 *0.472*	14,2 *0.559*	7,5 *0.295*	10,19 *0.401*	35,0 °							■							■					
LOEX120716TR-T4-M12	1,6 *0.063*	1,74 *0.069*	12,0 *0.472*	14,2 *0.559*	7,5 *0.295*	10,12 *0.398*	35,0 °			■				■												
LOEX120720TR-T4-M12	2,0 *0.079*	1,37 *0.054*	12,0 *0.472*	14,2 *0.559*	7,5 *0.295*	10,04 *0.395*	35,0 °					■	■	■		■			■							
LOEX120724TR-T4-M12	2,4 *0.094*	1,01 *0.040*	12,0 *0.472*	14,2 *0.559*	7,5 *0.295*	9,98 *0.393*	35,0 °						■	■					■							
LOEX120731TR-T4-M12	3,1 *0.122*	0,37 *0.015*	12,0 *0.472*	14,2 *0.559*	7,5 *0.295*	9,88 *0.389*	35,0 °					■	■	■		■			■							
LOEX120708TR-T4-MD13	0,8 *0.031*	2,47 *0.097*	12,0 *0.472*	14,2 *0.559*	7,5 *0.295*	10,26 *0.404*	30,0 °			■				■			■	■	■							
LOEX120712TR-T4-MD13	1,2 *0.047*	2,1 *0.083*	12,0 *0.472*	14,2 *0.559*	7,5 *0.295*	10,19 *0.401*	30,0 °			■									■							
LOEX120716TR-T4-MD13	1,6 *0.063*	1,74 *0.069*	12,0 *0.472*	14,2 *0.559*	7,5 *0.295*	10,12 *0.398*	30,0 °			■				■				■	■		■					

Note: LOEX1207xxR-2-M09 have only 2 edges

LNHQ14/17

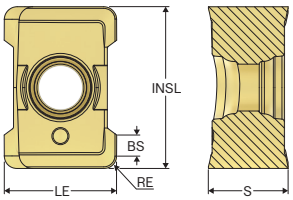


M11/M13



Designation	RE	BS	L	W1	S	GAN	Grades																		
							PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
LNHQ140708TN4-M11	0,8 *0.031*	2,8 *0.110*	14,0 *0.551*	7,5 *0.295*	11,85 *0.467*	16,0 °							■					■						
LNHQ140731TN4-M11	3,1 *0.122*	0,5 *0.020*	14,0 *0.551*	7,5 *0.295*	11,85 *0.467*	16,0 °							■					■						
LNHQ140740TN4-M11	4,0 *0.157*	–	14,0 *0.551*	7,5 *0.295*	11,85 *0.467*	16,0 °							■											
LNHQ140750TN4-M11	5,0 *0.197*	–	14,0 *0.551*	7,5 *0.295*	11,85 *0.467*	16,0 °							■											
LNHQ140760TN4-M11	6,0 *0.236*	–	14,0 *0.551*	7,5 *0.295*	11,85 *0.467*	16,0 °							■					■						

LNK.05/06



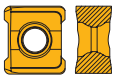
LNK.05



LNK.06



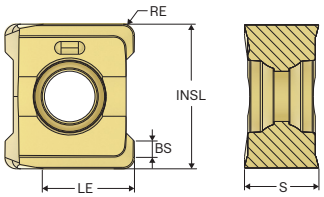
LNKW06



Designation	RE	BS	LE	INSL	S	GAN	Grades																		
							PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
LNKT050404PPN4-E05	0,4 *0.016*	1,3 *0.051*	5,0 *0.197*	10,0 *0.394*	4,7 *0.185*	23,0 °							■											■
LNKT050404PPTN4-M06	0,4 *0.016*	1,3 *0.051*	5,0 *0.197*	10,0 *0.394*	4,7 *0.185*	15,0 °					■		■									■		
LNKT050408PPTN4-M06	0,8 *0.031*	1,3 *0.051*	5,0 *0.197*	10,0 *0.394*	4,7 *0.185*	15,0 °					■		■							■				
LNKT050416PPTN4-M06	1,6 *0.063*	0,8 *0.031*	5,0 *0.197*	10,0 *0.394*	4,7 *0.185*	15,0 °							■											
LNKT050420PPTN4-M06	2,0 *0.079*	0,8 *0.031*	5,0 *0.197*	10,0 *0.394*	4,7 *0.185*	15,0 °							■											
LNKT050424PPTN2-M06	2,4 *0.094*	0,6 *0.024*	5,0 *0.197*	10,0 *0.394*	4,7 *0.185*	15,0 °							■											
LNKT050431PPTL1-M06	3,1 *0.122*	0,6 *0.024*	5,0 *0.197*	10,0 *0.394*	4,7 *0.185*	15,0 °							■											
LNKT050431PPTR1-M06	3,1 *0.122*	0,6 *0.024*	5,0 *0.197*	10,0 *0.394*	4,7 *0.185*	15,0 °							■											
LNKT050431PPTR1C-M06	3,1 *0.122*	0,6 *0.024*	4,96 *0.195*	10,0 *0.394*	4,7 *0.185*	15,0 °							■											
LNKT050431PPTL1C-M06	3,1 *0.122*	0,6 *0.024*	4,96 *0.195*	10,0 *0.394*	4,7 *0.185*	15,0 °							■											
LNKT060504PPN-E05	0,4 *0.016*	1,6 *0.063*	6,0 *0.236*	10,0 *0.394*	5,0 *0.197*	23,0 °																		■
LNKT060508PPN-E05	0,8 *0.031*	1,1 *0.043*	6,0 *0.236*	10,0 *0.394*	5,0 *0.197*	23,0 °																		■
LNKT060504PPTN-M06	0,4 *0.016*	1,6 *0.063*	6,0 *0.236*	10,0 *0.394*	5,0 *0.197*	15,0 °							■					■		■				
LNKT060508PPTN-M06	0,8 *0.031*	1,1 *0.043*	6,0 *0.236*	10,0 *0.394*	5,0 *0.197*	15,0 °			■		■		■			■		■		■				
LNKT060516PPTN-M06	1,6 *0.063*	1,3 *0.051*	6,0 *0.236*	10,0 *0.394*	5,0 *0.197*	15,0 °			■				■			■								
LNKT060531PPTN-M06	3,1 *0.122*	0,6 *0.024*	6,0 *0.236*	10,0 *0.394*	5,0 *0.197*	15,0 °							■											
LNKT060540PPTL-M06	4,0 *0.157*	0,8 *0.031*	6,0 *0.236*	10,0 *0.394*	5,0 *0.197*	15,0 °							■											
LNKT060540PPTR-M06	4,0 *0.157*	0,8 *0.031*	6,0 *0.236*	10,0 *0.394*	5,0 *0.197*	15,0 °							■											
LNKW060504PPN-MD08	0,4 *0.016*	1,6 *0.063*	6,0 *0.236*	10,0 *0.394*	5,0 *0.197*	0,0 °			■															
LNKW060508PPN-MD08	0,8 *0.031*	1,1 *0.043*	6,0 *0.236*	10,0 *0.394*	5,0 *0.197*	0,0 °										■		■						

LNK.0504031...C is the first choice for CW = 8 to 9mm and LNK.0504031 is the first choice for CW= 9 to 10mm

LNK.08



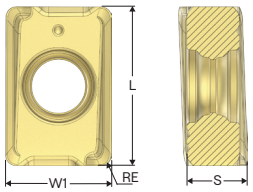
LNK.08



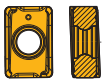
Designation	RE	BS	LE	INSL	S	GAN	Grades																		
							PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
LNKT080504PPN-E05	0,4 *0.016*	1,6 *0.063*	7,5 *0.295*	10,0 *0.394*	5,0 *0.197*	23,0 °																		■
LNKT080508PPN-E05	0,8 *0.031*	1,1 *0.043*	7,5 *0.295*	10,0 *0.394*	5,0 *0.197*	23,0 °																		■
LNKT080520PPN-E05	2,0 *0.079*	0,7 *0.028*	6,7 *0.264*	10,0 *0.394*	5,0 *0.197*	23,0 °																		■
LNKT080531PPN-E05	3,1 *0.122*	0,6 *0.024*	7,5 *0.295*	10,0 *0.394*	5,0 *0.197*	23,0 °																		■
LNKT080504PPTN-M06	0,4 *0.016*	1,6 *0.063*	7,5 *0.295*	10,0 *0.394*	5,0 *0.197*	15,0 °							■					■		■				
LNKT080508PPTN-M06	0,8 *0.031*	1,1 *0.043*	7,5 *0.295*	10,0 *0.394*	5,0 *0.197*	15,0 °			■		■		■			■		■		■				
LNKT080516PPTN-M06	1,6 *0.063*	1,3 *0.051*	7,2 *0.283*	10,0 *0.394*	5,0 *0.197*	15,0 °			■				■											
LNKT080520PPTN-M06	2,0 *0.079*	0,7 *0.028*	6,7 *0.264*	10,0 *0.394*	5,0 *0.197*	15,0 °			■				■			■								
LNKT080524PPTN-M06	2,4 *0.094*	0,5 *0.020*	6,7 *0.264*	10,0 *0.394*	5,0 *0.197*	15,0 °			■				■			■								
LNKT080531PPTN-M06	3,1 *0.122*	0,6 *0.024*	7,5 *0.295*	10,0 *0.394*	5,0 *0.197*	15,0 °			■				■			■								
LNKT080540PPTL-M06	4,0 *0.157*	0,8 *0.031*	7,5 *0.295*	10,0 *0.394*	5,0 *0.197*	15,0 °							■											
LNKT080540PPTR-M06	4,0 *0.157*	0,8 *0.031*	7,5 *0.295*	10,0 *0.394*	5,0 *0.197*	15,0 °							■											
LNKW080508PPN-MD08	0,8 *0.031*	1,1 *0.043*	7,5 *0.295*	10,0 *0.394*	5,0 *0.197*	0,0 °										■		■						

Note: When using LNK insert with corner radius RE= 2,4, 3,1 and 4,0 mm
please modify the external profile of the cutter or cassette by adding a corner radius or chamfer = 2,5 mm

LN.U1104

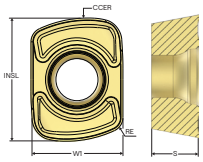


ME07/ME08/M07/M08/M12



Designation	RE	L	W1	S	GAN	Grades																	
						PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
LNEU110408ER-M07	0,8 *0.031*	12,0 *0.472*	8,0 *0.315*	4,53 *0.178*	28,0 °						■	■	■										
LNEU110408SR-M12	0,8 *0.031*	12,0 *0.472*	8,0 *0.315*	4,53 *0.178*	22,9 °			■				■				■	■		■				
LNEU110408SR-ME07	0,8 *0.031*	12,0 *0.472*	8,0 *0.315*	4,32 *0.170*	27,5 °						■												
LNEU110408SR-ME08	0,8 *0.031*	12,0 *0.472*	8,0 *0.315*	4,53 *0.178*	28,0 °						■						■						
LNMU110408ER-M07	0,8 *0.031*	12,0 *0.472*	8,0 *0.315*	4,32 *0.170*	27,5 °						■												
LNMU110408SR-M12	0,8 *0.031*	12,0 *0.472*	8,0 *0.315*	4,32 *0.170*	22,4 °			■									■						
LNMU110408SR-ME08	0,8 *0.031*	12,0 *0.472*	8,0 *0.315*	4,32 *0.170*	27,5 °						■	■											

LPH.05/06/09



E05/E08/ME04/ME05/ME08/M05/M06/M13

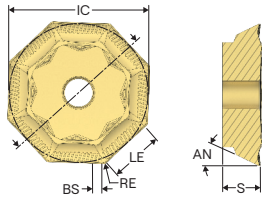


MD05/MD07/MD15/D06/D12/D15



Designation	RE	CCER	INSL	W1	S	GAN	Grades																		
							PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
LPHT05T210TR-ME04	1,0 *0.039*	6,4 *0.252*	6,8 *0.268*	5,07 *0.200*	2,54 *0.100*	16,0 °						■	■							■				
LPHT060310ER-E05	1,0 *0.039*	8,0 *0.315*	8,5 *0.335*	6,35 *0.250*	3,18 *0.125*	16,0 °							■									■		■
LPHT060310TR-ME05	1,0 *0.039*	8,0 *0.315*	8,5 *0.335*	6,35 *0.250*	3,18 *0.125*	16,0 °					■	■	■									■		
LPHT060310TR-M06	1,0 *0.039*	8,0 *0.315*	8,5 *0.335*	6,35 *0.250*	3,18 *0.125*	11,0 °			■		■	■	■	■	■			■	■	■				
LPHT09T420R-E08	2,0 *0.079*	9,75 *0.384*	14,0 *0.551*	9,5 *0.374*	4,76 *0.187*	20,0 °																		■
LPHW060310TR-MD07	1,0 *0.039*	8,0 *0.315*	8,5 *0.335*	6,35 *0.250*	3,18 *0.125*	0,0 °												■	■					
LPHW060310TR-D06	1,0 *0.039*	8,0 *0.315*	8,5 *0.335*	6,35 *0.250*	3,18 *0.125*	0,0 °	■				■													
LPKT05T210TR-M05	1,0 *0.039*	6,4 *0.252*	6,8 *0.268*	5,07 *0.200*	2,54 *0.100*	11,0 °					■	■	■	■	■			■	■					
LPKT09T420TR-ME08	2,0 *0.079*	9,75 *0.384*	14,0 *0.551*	9,5 *0.374*	4,76 *0.187*	15,0 °						■	■									■		
LPKT09T420TR-M13	2,0 *0.079*	9,75 *0.384*	14,0 *0.551*	9,5 *0.374*	4,76 *0.187*	10,0 °					■	■	■	■	■		■	■	■	■				
LPKW05T210TR-MD05	1,0 *0.039*	6,4 *0.252*	6,8 *0.268*	5,07 *0.200*	2,54 *0.100*	0,0 °	■				■							■						
LPKW09T420TR-MD15	2,0 *0.079*	9,75 *0.384*	14,0 *0.551*	9,5 *0.374*	4,76 *0.187*	0,0 °											■	■						
LPKW09T420TR-D15	2,0 *0.079*	9,75 *0.384*	14,0 *0.551*	9,5 *0.374*	4,76 *0.187*	0,0 °	■		■		■													

OFER/OFEN/OFMR07

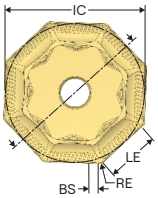


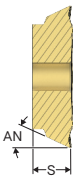
D18 | E07/M10 | M16 | ME10/ME15 | ME13/M15 | ZZ..M10/M16



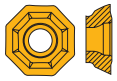
Designation	RE	BS	LE	IC	S	AN°	GAN	Grades																		
								PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*			MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
OFER070405N-E07	0,5 *0.020*	1,4 *0.055*	7,0 *0.276*		4,56 *0.180*	26,0	20,0 °		■															■	
OFER070405TN-ME10	0,5 *0.020*	1,4 *0.055*	7,1 *0.280*		4,56 *0.180*	26,0	18,0 °							■					■						
OFER070405TN-ME15	0,5 *0.020*	1,4 *0.055*	7,1 *0.280*		4,56 *0.180*	26,0	16,0 °							■					■		■				
OFER070405N-M10	0,5 *0.020*	1,4 *0.055*	7,0 *0.276*		4,56 *0.180*	26,0	0,0 °				■														
OFER070405TN-M16	0,5 *0.020*	1,4 *0.055*	7,1 *0.280*		4,56 *0.180*	26,0	0,0 °			■				■			■	■	■		■				
OFMR070405TR-ME13	0,5 *0.020*	1,0 *0.039*	5,2 *0.205*		4,86 *0.191*	26,0	15,0 °												■						
OFMR070405TR-M15	0,5 *0.020*	1,2 *0.047*	5,2 *0.205*		4,86 *0.191*	26,0	0,0 °										■		■						
OFEN070405TN-D18	0,5 *0.020*	2,0 *0.079*	7,0 *0.276*	17,96 *0.707*	4,76 *0.187*	26,0	0,0 °					■					■	■	■						
OFEN0704ZZR-M10	0,5 *0.020*	6,6 *0.260*	7,5 *0.295*		4,76 *0.187*	26,0	0,0 °				■														
OFEN0704ZZTR-M16	0,5 *0.020*	6,6 *0.260*	7,4 *0.291*		4,74 *0.187*	26,0	0,0 °										■				■				

OF..05/07

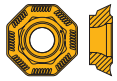




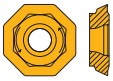
E04/M05/M08



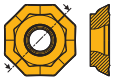
ME07/ME12/D09



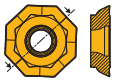
ME10



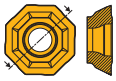
ME13



TN-M15

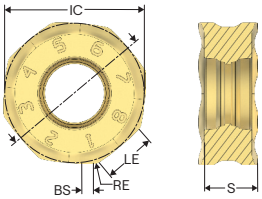


TR-M15

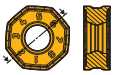


Designation	RE	BS	LE	IC	S	AN°	GAN	Grades																		
								PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*			MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
OFEX05T305N-E04	0,5 *0.020*	1,5 *0.059*	4,9 *0.193*	12,7 *0.500*	3,77 *0.148*	26,0	20,0 °		■																
OFEX05T305TN-ME07	0,5 *0.020*	1,5 *0.059*	4,9 *0.193*	12,7 *0.500*	3,77 *0.148*	26,0	18,0 °							■					■						
OFEX05T305N-M05	0,5 *0.020*	1,5 *0.059*	4,9 *0.193*	12,7 *0.500*	3,77 *0.148*	26,0	0,0 °				■														
OFEX05T305TN-M08	0,5 *0.020*	1,5 *0.059*	4,9 *0.193*	12,7 *0.500*	3,77 *0.148*	26,0	0,0 °							■			■		■		■				
OFEX05T305TN-D09	0,5 *0.020*	1,5 *0.059*	4,9 *0.193*		3,97 *0.156*	26,0	0,0 °											■							
OFMT050405TR-ME12	0,5 *0.020*	1,5 *0.059*	2,6 *0.102*	13,18 *0.519*	4,76 *0.187*	26,0	18,0 °							■											
OFMT070405TN-ME13	0,5 *0.020*	1,1 *0.043*	7,1 *0.280*		4,86 *0.191*	26,0	18,0 °												■						
OFMT070405TN-M15	0,5 *0.020*	1,1 *0.043*	7,1 *0.280*		4,86 *0.191*	26,0	0,0 °							■					■						
OFMT070405TR-M15	0,5 *0.020*	1,0 *0.039*	5,2 *0.205*		4,86 *0.191*	26,0	0,0 °							■											
OFET070405TN-ME10	0,5 *0.020*	1,4 *0.055*	7,1 *0.280*		4,56 *0.180*	26,0	18,0 °							■											

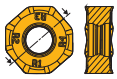
ON.U05



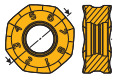
ON.U0504: ME14



ON.U0504: ZZTN-M10



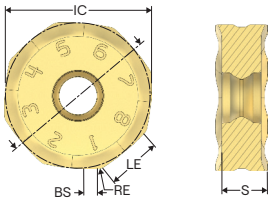
ON.U0504: ME10-11/M10-11



Designation	*	RE	BS	LE	IC	S	GAN	Grades																				
								PVD									CVD							Uncoated	
	mm	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
ONMU050410ANTN-ME10	*	1,0 *0.039*	0,3 *0.012*	3,9 *0.154*	12,0 *0.472*	4,5 *0.177*	20,0 °						■	■		■									
ONMU050410ANTN-ME11	–	1,0 *0.039*	1,0 *0.039*	3,4 *0.134*	12,0 *0.472*	4,5 *0.177*	20,0 °						■	■		■			■						
ONMU050406ANTN-ME14	–	0,6 *0.024*	1,3 *0.051*	3,2 *0.126*	12,0 *0.472*	4,5 *0.177*	25,0 °			■			■	■		■		■	■		■				
ONMU050410ANTN-M10	*	1,0 *0.039*	0,3 *0.012*	4,1 *0.161*	12,0 *0.472*	4,5 *0.177*	20,0 °			■				■					■		■				
ONMU050410ANTN-M11	–	1,0 *0.039*	1,0 *0.039*	3,4 *0.134*	12,0 *0.472*	4,5 *0.177*	20,0 °			■		■			■		■	■	■		■				
ONEU050410ZZTN4-M10	–	1,0 *0.039*	3,2 *0.126*	3,4 *0.134*	12,0 *0.472*	4,25 *0.167*	20,0 °			■															

The marked inserts are compatible with these dedicated wiper inserts:
*ONEU050410ZZTN4-M10
**ONEU090520ZZTN4-M12
***ONEU090520ZZTN4-M14

ON.U09

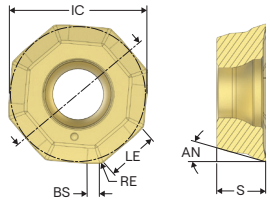




Designation	*	RE	BS	LE	IC	S	GAN	Grades																		
								PVD									CVD							Uncoated	
	mm	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
ONMU090520ANTN-ME12	**	2,0 *0.079*	0,45 *0.018*	7,3 *0.287*	22,0 *0.866*	6,8 *0.268*	20,0 °						■	■		■		■					■		
ONMU090520ANTN-ME13	***	2,0 *0.079*	2,11 *0.083*	7,7 *0.303*	22,0 *0.866*	6,8 *0.268*	20,0 °			■			■	■		■		■	■	■	■				
ONMU090510ANTN-ME16	–	1,0 *0.039*	1,5 *0.059*	6,8 *0.268*	22,0 *0.866*	6,8 *0.268*	25,0 °			■		■	■	■		■		■	■		■				
ONMU090512TN-ME16	–	1,2 *0.047*	–	8,1 *0.319*	22,0 *0.866*	6,8 *0.268*	25,0 °			■			■			■		■	■	■	■				
ONMU090510ANTN-M12	–	1,0 *0.039*	–	8,3 *0.327*	22,0 *0.866*	6,8 *0.268*	20,0 °			■			■			■				■					
ONMU090520ANTN-M12	**	2,0 *0.079*	0,45 *0.018*	7,3 *0.287*	22,0 *0.866*	6,8 *0.268*	20,0 °			■				■		■		■	■	■	■		■		
ONMU090520ANTN-M13	***	2,0 *0.079*	2,11 *0.083*	7,7 *0.303*	22,0 *0.866*	6,8 *0.268*	20,0 °			■		■		■		■	■	■	■		■		■		
ONMU090520ANTN-M14	***	2,0 *0.079*	0,45 *0.018*	7,3 *0.287*	22,0 *0.866*	5,56 *0.219*	15,0 °			■		■		■			■	■	■		■				
ONMU090520ANTN-M15	–	2,0 *0.079*	2,11 *0.083*	7,7 *0.303*	22,0 *0.866*	5,56 *0.219*	15,0 °			■		■					■	■	■		■				
ONMU090512TN-M30	–	1,2 *0.047*	–	8,1 *0.319*	22,0 *0.866*	6,5 *0.256*	25,0 °										■	■	■						
ONMU090512TN-M45	–	1,2 *0.047*	–	8,1 *0.319*	22,0 *0.866*	6,5 *0.256*	25,0 °										■	■							
ONMU090520ANTN-MD16	***	2,0 *0.079*	0,45 *0.018*	7,3 *0.287*	22,0 *0.866*	5,56 *0.219*	0,0 °										■	■	■		■				
ONMU090520ANTN-MD17	–	2,0 *0.079*	2,11 *0.083*	7,4 *0.291*	22,0 *0.866*	5,56 *0.219*	0,0 °										■	■	■						
ONEU090520ZZTN4-M12	–	2,0 *0.079*	6,3 *0.248*	6,3 *0.248*	21,41 *0.843*	6,8 *0.268*	20,0 °			■								■	■						
ONEU090520ZZTN4-M14	–	2,0 *0.079*	6,3 *0.248*	6,3 *0.248*	21,41 *0.843*	5,56 *0.219*	15,0 °			■				■			■	■	■		■				

The marked inserts are compatible with these dedicated wiper inserts:
*ONEU050410ZZTN4-M10
**ONEU090520ZZTN4-M12
***ONEU090520ZZTN4-M14

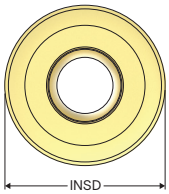
OOET/OOMT/OOEW06

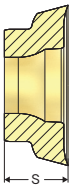




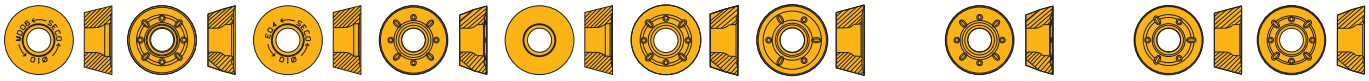
Designation	RE	BS	LE	IC	S	AN°	GAN°	Grades																				
								PVD										CVD							Uncoated		
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*			MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25	MP1020
OOET0605ZZFR-E08	0,6 *0.024*	1,5 *0.059*	4,5 *0.177*	15,8 *0.622*	5,56 *0.219*	18,0	20,0 °																		■	
OOMT060510SN-ME12	1,0 *0.039*	–	5,7 *0.224*	15,78 *0.621*	5,56 *0.219*	18,0	15,0 °						■			■			■		■					
OOET0605ZZSR-ME12	0,6 *0.024*	1,5 *0.059*	4,5 *0.177*	15,8 *0.622*	5,56 *0.219*	18,0	15,0 °					■	■	■	■	■			■	■	■					
OOMT060510EN-M10	1,0 *0.039*	–	5,7 *0.224*	15,78 *0.621*	5,56 *0.219*	18,0	10,0 °						■		■	■										
OOET0605ZZER-M10	0,6 *0.024*	1,5 *0.059*	4,5 *0.177*	15,8 *0.622*	5,56 *0.219*	18,0	10,0 °						■	■	■	■					■					
OOET0605ZZER-W8-M10	1,0 *0.039*	2,5 *0.098*	2,2 *0.087*	15,76 *0.620*	5,56 *0.219*	18,0	10,0 °					■	■								■					■
OOET0605ZZSR-W4-M15	0,9 *0.035*	4,9 *0.193*	6,0 *0.236*	15,85 *0.624*	5,96 *0.235*	18,0	5,0 °			■			■	■				■	■		■					
OOMT0605ZZSR-M15	0,6 *0.024*	1,5 *0.059*	4,5 *0.177*	15,8 *0.622*	5,56 *0.219*	18,0	10,0 °			■			■	■			■	■	■		■					■
OOMT0605ZZSR-MHF-M16	2,0 *0.079*	1,3 *0.051*	4,0 *0.157*	15,8 *0.622*	5,56 *0.219*	18,0	6,0 °						■			■			■							
OOMT060510SN-M20	1,0 *0.039*	–	5,7 *0.224*	15,78 *0.621*	5,56 *0.219*	18,0	12,0 °			■							■	■	■		■					
OOEW0605ZZSR-D20	0,6 *0.024*	1,5 *0.059*	4,5 *0.177*	15,8 *0.622*	5,56 *0.219*	18,0	0,0 °	■	■									■								

RD..05/06/07/08/10



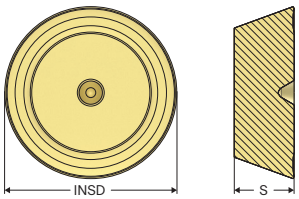


RD.W-MDxx RDHT-E04 RDHT-Exx RDHT-Mxx RDHW-MD01 RDHW-MDxx RDKT-6-M05 RDKT-8-M05 RDKT-8-M07 RDKW-6-MD06 RDKW-8-MD06

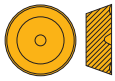


Designation	INSD	S	GAN	Grades																	
				PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
RDHT06T1M0-E02	6,0 *0.236*	2,18 *0.086*	18,0 °							■											■
RDHT0803M0-E03	8,0 *0.315*	3,18 *0.125*	20,0 °							■							■				■
RDHW0501M0-MD01	5,0 *0.197*	1,51 *0.059*	0,0 °					■		■											
RDHW06T1M0-MD02	6,0 *0.236*	2,18 *0.086*	0,0 °		■	■	■	■		■											
RDHW0702M0-MD03	7,0 *0.276*	2,38 *0.094*	0,0 °					■		■											
RDHW0702M0T-MD04	7,0 *0.276*	2,38 *0.094*	0,0 °		■																
RDHW0803M0-MD03	8,0 *0.315*	3,18 *0.125*	0,0 °				■	■	■	■											
RDKW0803M0T-MD05	8,0 *0.315*	3,18 *0.125*	0,0 °	■	■	■				■					■	■					
RDHT10T3M0-8-E04	10,0 *0.394*	3,97 *0.156*	20,0 °							■											■
RDHT10T3M0T-8-M11	10,0 *0.394*	3,97 *0.156*	16,0 °						■	■	■	■									
RDHW10T3M0-8-MD04	10,0 *0.394*	3,97 *0.156*	0,0 °					■		■											
RDKT10T3M0T-6-M05	10,0 *0.394*	3,97 *0.156*	16,0 °						■	■					■	■					
RDKT10T3M0T-8-M05	10,0 *0.394*	3,97 *0.156*	16,0 °						■	■	■	■				■	■		■		
RDKT10T3M0T-8-M07	10,0 *0.394*	3,97 *0.156*	11,0 °			■				■		■			■	■	■		■		
RDKW10T3M0T-6-MD06	10,0 *0.394*	3,97 *0.156*	0,0 °		■					■						■					
RDKW10T3M0T-8-MD06	10,0 *0.394*	3,97 *0.156*	0,0 °	■	■	■		■		■				■	■	■					

REHR16

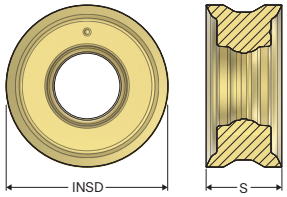


M14/MD15



Designation	INSD	S	GAN	Grades																		
				PVD										CVD							Uncoated	
	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
REHR1605M0T-MD15	16,0 *0.630*	5,56 *0.219*	6,0 °											■							

RNMU12



M10

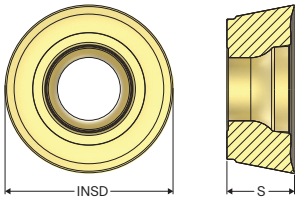


ME10



Designation	INSD	S	GAN	Grades																		
				PVD										CVD							Uncoated	
	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
RNMU1204M0-ME10	12,0 *0.472*	4,8 *0.189*	27,0 °						■	■						■	■				
RNMU1204M0T-M10	12,0 *0.472*	4,8 *0.189*	20,0 °			■			■	■	■	■			■	■	■				

ROHT12

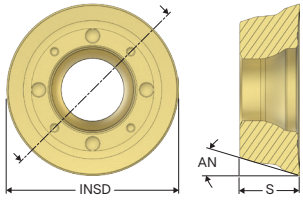


M09/M12/M14

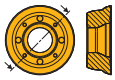


Designation	INSD	S	GAN	Grades																		
				PVD										CVD							Uncoated	
	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
ROHT1204M0-M12	12,0 *0.472*	4,76 *0.187*	10,0 °													■					
ROHT1204M0-M14	12,0 *0.472*	4,76 *0.187*	16,0 °													■					

ROMT1605

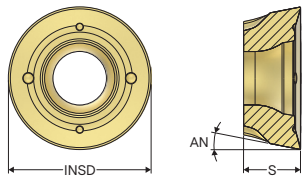


M14



Designation	INSD	S	AN°	GAN	Grades																	
					PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*			MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
ROMT1605M0T-8-M14	16,0 *0.630*	5,56 *0.219*	18,0	6,0 °			■			■			■			■						

RP..12

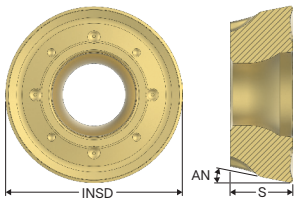


E05 M08 M10/M13 M15 MD10 ME07



Designation	INSD	S	AN°	GAN	Grades																	
					PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*			MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
RPHT1204M0T-4-M08	12,0 *0.472*	4,76 *0.187*	11,0	16,0 °							■						■	■				
RPKT1204M0T-4-M10	12,0 *0.472*	4,76 *0.187*	11,0	11,0 °								■	■									
RPHT1204M0T-4-M13	12,0 *0.472*	4,76 *0.187*	11,0	16,0 °						■		■	■				■					
RPHT1204M0-6-E05	12,0 *0.472*	4,76 *0.187*	11,0	20,0 °						■	■		■									■
RPHT1204M0T-6-ME07	12,0 *0.472*	4,76 *0.187*	11,0	20,0 °						■	■							■		■		
RPHT1204M0T-6-M08	12,0 *0.472*	4,76 *0.187*	11,0	16,0 °						■	■		■			■	■	■		■		
RPHT1204M0T-6-M13	12,0 *0.472*	4,76 *0.187*	11,0	16,0 °						■	■		■			■	■	■				
RPKT1204M0T-6-M15	12,0 *0.472*	4,76 *0.187*	11,0	15,0 °			■				■				■	■	■	■				
RPKW1204M0T-6-MD10	12,0 *0.472*	4,76 *0.187*	11,0	0,0 °	■		■		■						■	■						

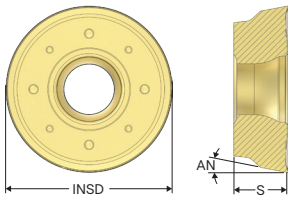
RP..16



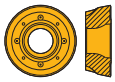


Designation	INSD	S	AN°	GAN	Grades																		
					PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*			MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
RPHT1605M0T-6-ME11	16,0 *0.630*	5,56 *0.219*	11,0	21,0 °						■	■											
RPHT1605M0T-6-M12	16,0 *0.630*	5,56 *0.219*	11,0	15,0 °							■											
RPHT1605M0T-8-ME11	16,0 *0.630*	5,56 *0.219*	11,0	21,0 °						■	■	■	■				■	■		■		
RPHT1605M0T-8-M12	16,0 *0.630*	5,56 *0.219*	11,0	15,0 °						■	■	■	■							■		
RPKT1605M0T-6-M18	16,0 *0.630*	5,56 *0.219*	11,0	15,0 °												■	■					
RPKT1605M0T-8-M12	16,0 *0.630*	5,56 *0.219*	11,0	15,0 °												■	■	■				
RPKT1605M0T-8-M18	16,0 *0.630*	5,56 *0.219*	11,0	15,0 °			■		■		■				■	■	■	■				
RPKW1605M0T-6-MD20	16,0 *0.630*	5,56 *0.219*	11,0	0,0 °			■								■	■	■					
RPKW1605M0T-8-MD20	16,0 *0.630*	5,56 *0.219*	11,0	0,0 °		■									■	■						

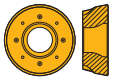
RP..19/20



M13/M15/M20



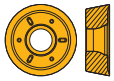
MD10/22



ME12

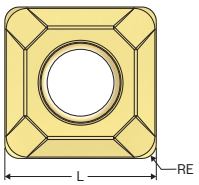


RPHT19-M13

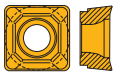


Designation	INSD	S	AN°	GAN	Grades																		
					PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*			MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
RPHT190600T-6-M13	19,05 *0.750*	6,39 *0.252*	11,0	16,0 °						■	■						■					
RPHT2006M0T-8-M13	20,0 *0.787*	6,35 *0.250*	11,0	16,0 °						■		■								■		
RPKT2006M0T-6-ME12	20,0 *0.787*	6,35 *0.250*	11,0	20,0 °						■	■								■			
RPKT2006M0T-8-ME12	20,0 *0.787*	6,35 *0.250*	11,0	20,0 °						■	■		■			■		■	■			
RPKT2006M0T-6-M15	20,0 *0.787*	6,35 *0.250*	11,0	15,0 °												■						
RPKT2006M0T-8-M15	20,0 *0.787*	6,35 *0.250*	11,0	15,0 °							■					■		■				
RPKT2006M0T-6-M20	20,0 *0.787*	6,35 *0.250*	11,0	15,0 °											■	■						
RPKT2006M0T-8-M20	20,0 *0.787*	6,35 *0.250*	11,0	15,0 °			■				■				■	■	■	■				
RPKW2006M0-8-MD10	20,0 *0.787*	6,35 *0.250*	11,0	0,0 °					■		■											
RPKW2006M0T-6-MD22	20,0 *0.787*	6,35 *0.250*	11,0	0,0 °											■							
RPKW2006M0T-8-MD22	20,0 *0.787*	6,35 *0.250*	11,0	0,0 °		■									■		■					

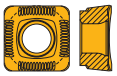
SC..12



M10/M11/M14/MD15/MD16

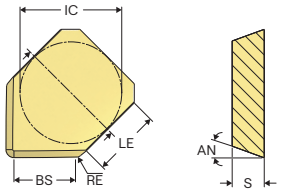


ME10

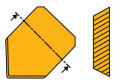


Designation	RE	L	S	GAN	Grades																		
					PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
SCET120612R-M10	1,2 *0.047*	12,673 *0.499*	6,35 *0.250*	20,0 °						■												
SCET120612T-ME10	1,2 *0.047*	12,7 *0.500*	6,35 *0.250*	22,0 °						■	■											
SCET120612T-M11	1,2 *0.047*	12,7 *0.500*	6,35 *0.250*	14,0 °							■			■	■	■		■				
SCET120612T-M14	1,2 *0.047*	12,7 *0.500*	6,35 *0.250*	15,0 °						■	■			■		■		■				
SCET120612T-MD15	1,2 *0.047*	12,7 *0.500*	6,35 *0.250*	15,0 °					■						■			■				
SCET120630T-M14	3,0 *0.118*	12,7 *0.500*	6,35 *0.250*	15,0 °			■		■	■	■					■	■	■				
SCET120630T-MD16	3,0 *0.118*	12,7 *0.500*	6,35 *0.250*	15,0 °							■				■	■	■	■				
SCEX120660T-M14	6,0 *0.236*	12,7 *0.500*	6,35 *0.250*	15,0 °																		
SCMT120612T-M14	1,2 *0.047*	12,7 *0.500*	6,35 *0.250*	15,0 °							■							■				

SEAN12-ZZ

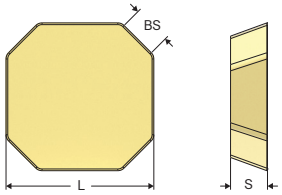


M15-18/MD15

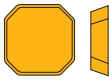


Designation	RE	BS	LE	IC	S	AN°	Grades																
							PVD									CVD						Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
SEAN1203ZZTN-M15	1,0 *0.039*	7,3 *0.287*	9,3 *0.366*	12,7 *0.500*	3,18 *0.125*	20,0										■							

SEAN12

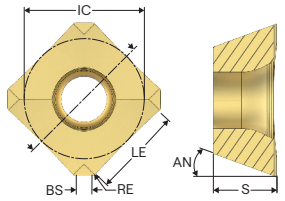


E12-E15/M14-M19

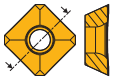


Designation	BS	L	S	GAN	Grades																		
					PVD										CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
SEAN1203AFN-E12	1,5 *0.059*	12,7 *0.500*	3,18 *0.125*	0,0 °		■																
SEAN1203AFTN-M14	1,5 *0.059*	12,7 *0.500*	3,18 *0.125*	0,0 °															■			
SEAN1303AFTN-M14	3,5 *0.138*	12,44 *0.490*	3,36 *0.132*	0,0 °														■				
SEAN1303AFTN-M15	3,5 *0.138*	13,44 *0.529*	3,36 *0.132*	0,0 °										■								
SEAN1604AFTN-M19	4,1 *0.161*	16,8 *0.661*	4,79 *0.189*	0,0 °										■								

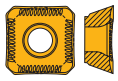
SE.X09



E04/M05/M08/D09

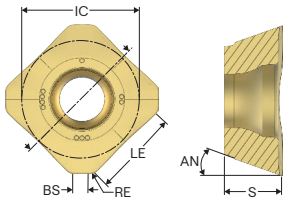


ME06-07

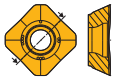


Designation	RE	BS	LE	IC	S	AN°	Grades																
							PVD									CVD						Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
SEEX09T3AFN-E04	0,3 *0.012*	1,5 *0.059*	7,1 *0.280*	9,525 *0.375*	3,97 *0.156*	20,0		■															■	
SEEX09T3AFN-M05	0,3 *0.012*	1,5 *0.059*	7,1 *0.280*	9,525 *0.375*	3,97 *0.156*	20,0					■	■	■		■									
SEEX09T3AFTN-M08	0,3 *0.012*	1,5 *0.059*	7,1 *0.280*	9,525 *0.375*	3,97 *0.156*	20,0			■		■		■			■	■	■		■				
SEEX09T3AFTN-ME07	0,3 *0.012*	1,5 *0.059*	7,1 *0.280*	9,525 *0.375*	3,97 *0.156*	20,0							■					■		■	■			
SEEX09T3AFTN-D09	0,3 *0.012*	1,5 *0.059*	7,1 *0.280*	9,525 *0.375*	3,97 *0.156*	20,0											■							
SEMX09T3AFTN-M08	0,3 *0.012*	1,5 *0.059*	7,1 *0.280*	9,525 *0.375*	3,97 *0.156*	20,0							■					■						
SEMX09T3AFTN-ME06	0,3 *0.012*	1,5 *0.059*	7,1 *0.280*	9,525 *0.375*	3,97 *0.156*	20,0												■						

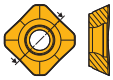
SE.X12/15



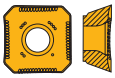
E08/M10/M14/M15/MD18/MD19



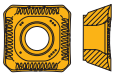
E10/M12/M17/M18/MD20



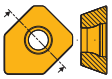
ME11-12



ME15

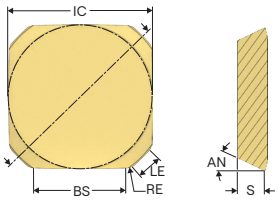


ZZTN-M14-17

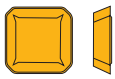


Designation	RE	BS	LE	IC	S	AN°	Grades																		
							PVD									CVD							Uncoated	
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
SEEX1204AFN-E08	1,12 0.044	1,5 0.059	8,7 0.343	12,7 0.500	4,76 0.187	20,0		■					■											■
SEEX1204AFTN-ME11	1,12 0.044	1,5 0.059	8,7 0.343	12,7 0.500	4,76 0.187	20,0							■					■		■				
SEEX1204AFN-M10	1,12 0.044	1,5 0.059	8,7 0.343	12,7 0.500	4,76 0.187	20,0					■	■	■	■	■					■		■		
SEEX1204AFTN-M14	1,12 0.044	1,5 0.059	8,7 0.343	12,7 0.500	4,76 0.187	20,0			■		■		■			■	■	■		■				
SEEX1204ZZTN-M14	1,12 0.044	7,4 0.291	8,7 0.343	12,7 0.500	4,76 0.187	20,0				■			■			■	■	■		■				
SEEX1204AFTN-MD18	1,12 0.044	1,5 0.059	8,7 0.343	12,7 0.500	4,76 0.187	20,0	■										■			■				
SEMX1204AFTN-ME12	1,12 0.044	1,5 0.059	8,7 0.343	12,7 0.500	4,76 0.187	20,0						■	■		■			■		■				
SEMX1204AFTN-M15	1,12 0.044	1,5 0.059	8,7 0.343	12,7 0.500	4,76 0.187	20,0			■				■			■	■	■		■		■		
SEMX1204AFTN-MD19	1,12 0.044	1,5 0.059	8,7 0.343	12,7 0.500	4,76 0.187	20,0					■					■	■			■				
SEEX1505AFN-E10	1,5 0.059	1,8 0.071	10,3 0.406	15,875 0.625	5,56 0.219	20,0																		■
SEEX1505AFN-M12	1,5 0.059	1,8 0.071	10,3 0.406	15,875 0.625	5,56 0.219	20,0						■	■	■	■					■				
SEEX1505AFTN-M17	1,5 0.059	1,8 0.071	10,3 0.406	15,875 0.625	5,56 0.219	20,0												■		■				
SEEX1505ZZTN-M17	1,5 0.059	9,4 0.370	10,3 0.406	15,875 0.625	5,56 0.219	20,0												■		■				
SEMX1505AFTN-ME15	1,5 0.059	1,8 0.071	10,3 0.406	15,875 0.625	5,56 0.219	20,0														■				
SEMX1505AFTN-M18	1,5 0.059	1,8 0.071	10,3 0.406	15,875 0.625	5,56 0.219	20,0			■				■			■	■	■		■				
SEMX1505AFTN-MD20	1,5 0.059	1,8 0.071	10,3 0.406	15,875 0.625	5,56 0.219	20,0					■						■	■		■				

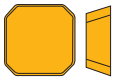
SE..12/15



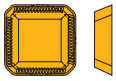
E07



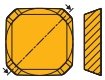
E10-15/M13-18/MD14-20/D16



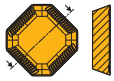
ME10/ME12/ME13/ME16



SEEX1203AFTN-M13/MD14

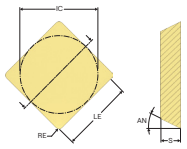


SEKR1303

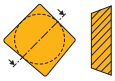


Designation	RE	BS	LE	IC	S	AN°	Grades																		
							PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
SEKR1203AFN-E07	1,0 *0.039*	1,5 *0.059*	8,8 *0.346*	12,7 *0.500*	3,18 *0.125*	20,0															■			
SEKR1203AFTN-ME10	1,0 *0.039*	1,5 *0.059*	8,8 *0.346*	12,7 *0.500*	3,18 *0.125*	20,0							■							■	■			
SEKR1203AFTN-ME13	1,0 *0.039*	1,5 *0.059*	8,8 *0.346*	12,7 *0.500*	3,18 *0.125*	20,0							■					■		■	■			
SEKR1303AFTN-ME13	0,8 *0.031*	3,46 *0.136*	7,0 *0.276*	13,44 *0.529*	3,36 *0.132*	20,0							■											
SEKR1504AFTN-ME16	1,0 *0.039*	1,5 *0.059*	11,6 *0.457*	15,875 *0.625*	4,76 *0.187*	20,0															■			
SEKR1604AFTN-ME16	1,0 *0.039*	4,1 *0.161*	– –	16,8 *0.661*	4,79 *0.189*	20,0															■			
SEEX1203AFTN-M13	1,0 *0.039*	8,0 *0.315*	2,2 *0.087*	12,77 *0.503*	3,18 *0.125*	20,0														■				
SEEX1203AFTN-MD14	1,0 *0.039*	8,0 *0.315*	2,2 *0.087*	12,77 *0.503*	3,18 *0.125*	20,0	■	■								■							■	
SEKN1203AFN-E12	2,0 *0.079*	1,6 *0.063*	8,8 *0.346*	12,7 *0.500*	3,18 *0.125*	20,0																		
SEKN1203AFTN-M14	1,0 *0.039*	1,5 *0.059*	8,8 *0.346*	12,7 *0.500*	3,18 *0.125*	20,0							■			■	■	■		■	■			
SEKN1203AFTN-D16	2,0 *0.079*	1,6 *0.063*	8,8 *0.346*	12,7 *0.500*	3,18 *0.125*	20,0											■							
SEKN1204AFTN-M18	1,0 *0.039*	1,5 *0.059*	8,8 *0.346*	12,7 *0.500*	4,76 *0.187*	20,0														■				
SEKN1504AFTN-M18	1,0 *0.039*	1,5 *0.059*	11,6 *0.457*	15,87 *0.625*	4,76 *0.187*	20,0							■			■		■						
SEKN1504AFTN-MD20	2,0 *0.079*	1,9 *0.075*	11,6 *0.457*	15,87 *0.625*	4,76 *0.187*	20,0											■							

SENN

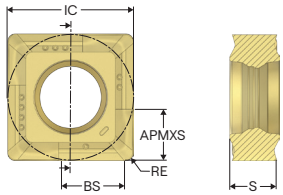


E10/M12

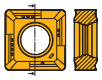


Designation	RE	LE	IC	S	AN°	Grades																				
						PVD										CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
SENN120308T-M12	0,8 *0.031*	11,1 *0.437*	12,7 *0.500*	3,18 *0.125*	20,0							■											

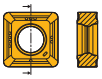
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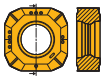
PZ..M08/M10



SNFX120412-M08

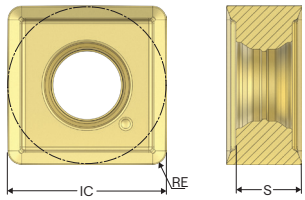


ZZ..M08/M12



Designation	RE	BS	APMXS	IC	S	Grades																				
						PVD										CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
SNFX120408PZSR-M10	0,8 *0.031*	2,5 *0.098*	3,0 *0.181*	12,7 *0.118*	4,61 *0.500*	■		■			■					■							
SNFX120408PZER-W8-M08	0,8 *0.031*	6,4 *0.252*	3,0 *0.181*	12,7 *0.118*	4,61 *0.500*					■	■								■			■	
SNFX120412PZEN-W4-M08	1,2 *0.047*	10,0 *0.394*	1,0 *0.181*	12,75 *0.039*	4,61 *0.502*	■		■								■							
SNFX120412PZEN-W8-M08	1,2 *0.047*	10,0 *0.394*	1,0 *0.181*	12,75 *0.039*	4,61 *0.502*	■		■								■							
SNFX120408PZSR-W8-M10	0,8 *0.031*	6,4 *0.252*	3,0 *0.181*	12,7 *0.118*	4,61 *0.500*	■	■	■								■	■						
SNFX1204ZZEN-W8-M08	2,0 *0.079*	5,44 *0.214*	1,0 *0.181*	12,7 *0.039*	4,61 *0.500*					■	■								■			■	
SNFX1204ZZSN-W8-M12	2,0 *0.079*	5,44 *0.214*	1,0 *0.181*	12,7 *0.039*	4,61 *0.500*	■	■	■							■	■							

SN.U13



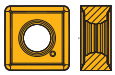
M12



M14

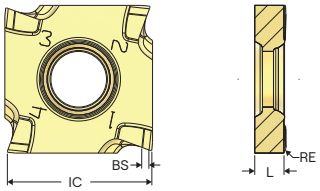


ME10

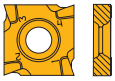


Designation	RE	IC	S	Grades																		
				PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
SNGU130612EN-ME10	1,2 *0.047*	13,587 *0.535*	5,56 *0.219*						■	■	■	■			■	■					
SNGU130612TN-M14	1,2 *0.047*	13,6 *0.535*	5,56 *0.219*			■								■	■						
SNXU130612TN-M12	1,2 *0.047*	13,587 *0.535*	5,56 *0.219*			■			■	■					■	■	■				

SNHQ11



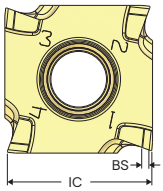
E05/M07

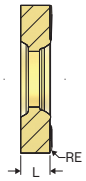


Designation	RE	BS	L	IC	Grades																		
					PVD										CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
SNHQ110202EL4-E05	0,2 *0.008*	0,5 *0.020*	2,3 *0.091*	11,0 *0.433*																		■
SNHQ110202ER4-E05	0,2 *0.008*	0,5 *0.020*	2,3 *0.091*	11,0 *0.433*																		■
SNHQ110202TL4-M07	0,2 *0.008*	0,5 *0.020*	2,3 *0.091*	11,0 *0.433*							■											
SNHQ110202TR4-M07	0,2 *0.008*	0,5 *0.020*	2,3 *0.091*	11,0 *0.433*							■											
SNHQ110204TL4-M07	0,4 *0.016*	0,3 *0.012*	2,3 *0.091*	11,0 *0.433*				■			■					■						
SNHQ110204TR4-M07	0,4 *0.016*	0,3 *0.012*	2,3 *0.091*	11,0 *0.433*				■			■					■						
SNHQ110208TL4-M07	0,8 *0.031*	0,2 *0.008*	2,3 *0.091*	11,0 *0.433*						■	■									■		
SNHQ110208TR4-M07	0,8 *0.031*	0,2 *0.008*	2,3 *0.091*	11,0 *0.433*						■	■									■		
SNHQ110212TL4-M07	1,2 *0.047*	0,2 *0.008*	2,3 *0.091*	11,0 *0.433*							■											
SNHQ110212TR4-M07	1,2 *0.047*	0,2 *0.008*	2,3 *0.091*	11,0 *0.433*							■											
SNHQ110216TL4-M07	1,6 *0.063*	0,2 *0.008*	2,3 *0.091*	11,0 *0.433*							■											
SNHQ110216TR4-M07	1,6 *0.063*	0,2 *0.008*	2,3 *0.091*	11,0 *0.433*							■											
SNHQ110220TL4-M07	2,0 *0.079*	–	2,3 *0.091*	11,0 *0.433*				■														
SNHQ110220TR4-M07	2,0 *0.079*	–	2,3 *0.091*	11,0 *0.433*				■														
SNHQ110302EL4-E05	0,2 *0.008*	0,5 *0.020*	2,7 *0.106*	11,0 *0.433*																		■
SNHQ110302ER4-E05	0,2 *0.008*	0,5 *0.020*	2,7 *0.106*	11,0 *0.433*																		■
SNHQ110302TL4-M07	0,2 *0.008*	0,5 *0.020*	2,7 *0.106*	11,0 *0.433*							■											
SNHQ110302TR4-M07	0,2 *0.008*	0,5 *0.020*	2,7 *0.106*	11,0 *0.433*							■											
SNHQ110304TL4-M07	0,4 *0.016*	0,3 *0.012*	2,7 *0.106*	11,0 *0.433*				■			■					■						
SNHQ110304TR4-M07	0,4 *0.016*	0,3 *0.012*	2,7 *0.106*	11,0 *0.433*				■			■					■						
SNHQ110308TL4-M07	0,8 *0.031*	0,2 *0.008*	2,7 *0.106*	11,0 *0.433*							■											
SNHQ110308TR4-M07	0,8 *0.031*	0,2 *0.008*	2,7 *0.106*	11,0 *0.433*							■											
SNHQ110312TL4-M07	1,2 *0.047*	0,2 *0.008*	2,7 *0.106*	11,0 *0.433*							■											
SNHQ110312TR4-M07	1,2 *0.047*	0,2 *0.008*	2,7 *0.106*	11,0 *0.433*							■											
SNHQ110316TL4-M07	1,6 *0.063*	0,2 *0.008*	2,7 *0.106*	11,0 *0.433*							■											
SNHQ110316TR4-M07	1,6 *0.063*	0,2 *0.008*	2,7 *0.106*	11,0 *0.433*							■											

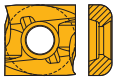
Designation	RE	BS	L	IC	Grades																		
					PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
SNHQ110320TL4-M07	2,0 *0.079*	–	2,7 *0.106*	11,0 *0.433*				■														
SNHQ110320TR4-M07	2,0 *0.079*	–	2,7 *0.106*	11,0 *0.433*				■														

SNHQ1203/1204





EL/ER2-E05/M07



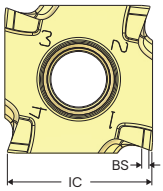
xL/xR4-E05/M07

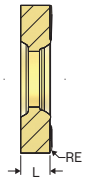


Designation	RE	BS	L	IC	Grades																
					PVD									CVD						Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
SNHQ120302EL4-E05	0,2 *0.008*	0,75 *0.030*	3,2 *0.126*	12,7 *0.500*																		■
SNHQ120302ER4-E05	0,2 *0.008*	0,75 *0.030*	3,2 *0.126*	12,7 *0.500*																		■
SNHQ120302TL4-M07	0,2 *0.008*	0,75 *0.030*	3,2 *0.126*	12,7 *0.500*							■											
SNHQ120302TR4-M07	0,2 *0.008*	0,75 *0.030*	3,2 *0.126*	12,7 *0.500*							■											
SNHQ120304TL4-M07	0,4 *0.016*	0,75 *0.030*	3,2 *0.126*	12,7 *0.500*				■			■					■						
SNHQ120304TR4-M07	0,4 *0.016*	0,75 *0.030*	3,2 *0.126*	12,7 *0.500*				■			■					■						
SNHQ120308TL4-M07	0,8 *0.031*	0,75 *0.030*	3,2 *0.126*	12,7 *0.500*							■					■						
SNHQ120308TR4-M07	0,8 *0.031*	0,75 *0.030*	3,2 *0.126*	12,7 *0.500*							■					■						
SNHQ120310TL4-M07	1,0 *0.039*	0,6 *0.024*	3,2 *0.126*	12,7 *0.500*							■											
SNHQ120310TR4-M07	1,0 *0.039*	0,6 *0.024*	3,2 *0.126*	12,7 *0.500*							■											
SNHQ120312TL4-M07	1,2 *0.047*	0,4 *0.016*	3,2 *0.126*	12,7 *0.500*							■											
SNHQ120312TR4-M07	1,2 *0.047*	0,4 *0.016*	3,2 *0.126*	12,7 *0.500*							■											
SNHQ120316TL4-M07	1,6 *0.063*	0,2 *0.008*	3,2 *0.126*	12,7 *0.500*							■											
SNHQ120316TR4-M07	1,6 *0.063*	0,2 *0.008*	3,2 *0.126*	12,7 *0.500*							■											
SNHQ120320TL4-M07	2,0 *0.079*	0,2 *0.008*	3,2 *0.126*	12,7 *0.500*							■											
SNHQ120320TR4-M07	2,0 *0.079*	0,2 *0.008*	3,2 *0.126*	12,7 *0.500*							■											
SNHQ120324EL2-M07	2,4 *0.094*	–	3,2 *0.126*	12,7 *0.500*							■											
SNHQ120324ER2-M07	2,4 *0.094*	–	3,2 *0.126*	12,7 *0.500*							■											
SNHQ120330EL2-M07	3,0 *0.118*	–	3,2 *0.126*	12,7 *0.500*							■											
SNHQ120330ER2-M07	3,0 *0.118*	–	3,2 *0.126*	12,7 *0.500*							■											
SNHQ120404EL4-E05	0,4 *0.016*	0,75 *0.030*	4,0 *0.157*	12,7 *0.500*																		■
SNHQ120404ER4-E05	0,4 *0.016*	0,75 *0.030*	4,0 *0.157*	12,7 *0.500*																		■
SNHQ120402TL4-M07	0,2 *0.008*	0,75 *0.030*	4,0 *0.157*	12,7 *0.500*							■											
SNHQ120402TR4-M07	0,2 *0.008*	0,75 *0.030*	4,0 *0.157*	12,7 *0.500*							■											
SNHQ120404TL4-M07	0,4 *0.016*	0,75 *0.030*	4,0 *0.157*	12,7 *0.500*				■			■											
SNHQ120404TR4-M07	0,4 *0.016*	0,75 *0.030*	4,0 *0.157*	12,7 *0.500*				■			■											

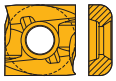
Designation	RE	BS	L	IC	Grades																		
					PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
SNHQ120408TL4-M07	0,8 *0.031*	0,75 *0.030*	4,0 *0.157*	12,7 *0.500*				■			■					■						
SNHQ120408TR4-M07	0,8 *0.031*	0,75 *0.030*	4,0 *0.157*	12,7 *0.500*				■			■					■						
SNHQ120412TL4-M07	1,2 *0.047*	0,4 *0.016*	4,0 *0.157*	12,7 *0.500*							■											
SNHQ120412TR4-M07	1,2 *0.047*	0,4 *0.016*	4,0 *0.157*	12,7 *0.500*							■											
SNHQ120416TL4-M07	1,6 *0.063*	0,2 *0.008*	4,0 *0.157*	12,7 *0.500*							■											
SNHQ120416TR4-M07	1,6 *0.063*	0,2 *0.008*	4,0 *0.157*	12,7 *0.500*							■											
SNHQ120420TL4-M07	2,0 *0.079*	0,2 *0.008*	4,0 *0.157*	12,7 *0.500*							■											
SNHQ120420TR4-M07	2,0 *0.079*	0,2 *0.008*	4,0 *0.157*	12,7 *0.500*							■											
SNHQ120424EL2-M07	2,4 *0.094*	–	4,0 *0.157*	12,7 *0.500*							■											
SNHQ120424ER2-M07	2,4 *0.094*	–	4,0 *0.157*	12,7 *0.500*							■											
SNHQ120431EL2-M07	3,1 *0.122*	–	4,0 *0.157*	12,7 *0.500*							■											
SNHQ120431ER2-M07	3,1 *0.122*	–	4,0 *0.157*	12,7 *0.500*							■											
SNHQ120435EL2-M07	3,5 *0.138*	–	4,0 *0.157*	12,7 *0.500*							■											
SNHQ120435ER2-M07	3,5 *0.138*	–	4,0 *0.157*	12,7 *0.500*							■											

SNHQ12045

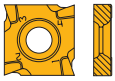




EL/ER2-M07

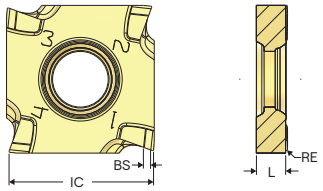


xL/xR4-E05/M07

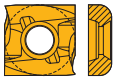


Designation	RE	BS	L	IC	Grades																	
					PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
SNHQ1204504EL4-E05	0,4 *0.016*	0,75 *0.030*	4,5 *0.177*	12,7 *0.500*																		■
SNHQ1204504ER4-E05	0,4 *0.016*	0,75 *0.030*	4,5 *0.177*	12,7 *0.500*																		■
SNHQ1204502TL4-M07	0,2 *0.008*	0,75 *0.030*	4,5 *0.177*	12,7 *0.500*							■											
SNHQ1204502TR4-M07	0,2 *0.008*	0,75 *0.030*	4,5 *0.177*	12,7 *0.500*							■											
SNHQ1204504TL4-M07	0,4 *0.016*	0,75 *0.030*	4,5 *0.177*	12,7 *0.500*				■			■					■						
SNHQ1204504TR4-M07	0,4 *0.016*	0,75 *0.030*	4,5 *0.177*	12,7 *0.500*				■			■					■						
SNHQ1204508TL4-M07	0,8 *0.031*	0,75 *0.030*	4,5 *0.177*	12,7 *0.500*							■					■						
SNHQ1204508TR4-M07	0,8 *0.031*	0,75 *0.030*	4,5 *0.177*	12,7 *0.500*							■					■						
SNHQ1204512TL4-M07	1,2 *0.047*	0,4 *0.016*	4,5 *0.177*	12,7 *0.500*							■											
SNHQ1204512TR4-M07	1,2 *0.047*	0,4 *0.016*	4,5 *0.177*	12,7 *0.500*							■											
SNHQ1204516TL4-M07	1,6 *0.063*	0,2 *0.008*	4,5 *0.177*	12,7 *0.500*							■											
SNHQ1204516TR4-M07	1,6 *0.063*	0,2 *0.008*	4,5 *0.177*	12,7 *0.500*							■											
SNHQ1204520TL4-M07	2,0 *0.079*	0,2 *0.008*	4,5 *0.177*	12,7 *0.500*							■											
SNHQ1204520TR4-M07	2,0 *0.079*	0,2 *0.008*	4,5 *0.177*	12,7 *0.500*							■											
SNHQ1204524EL2-M07	2,4 *0.094*	–	4,5 *0.177*	12,7 *0.500*							■											
SNHQ1204524ER2-M07	2,4 *0.094*	–	4,5 *0.177*	12,7 *0.500*							■											
SNHQ1204531EL2-M07	3,1 *0.122*	–	4,5 *0.177*	12,7 *0.500*							■											
SNHQ1204531ER2-M07	3,1 *0.122*	–	4,5 *0.177*	12,7 *0.500*							■											
SNHQ1204540EL2-M07	4,0 *0.157*	–	4,5 *0.177*	12,7 *0.500*							■											
SNHQ1204540ER2-M07	4,0 *0.157*	–	4,5 *0.177*	12,7 *0.500*							■											

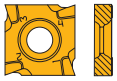
SNHQ1205



ER/EL2-M07



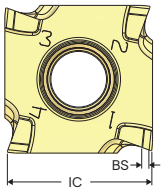
xL/xR4-E05/M07

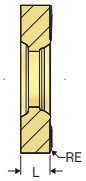


Designation	RE	BS	L	IC	Grades																	
					PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
SNHQ120504EL4-E05	0,4 *0.016*	0,75 *0.030*	5,4 *0.213*	12,7 *0.500*																		■
SNHQ120504ER4-E05	0,4 *0.016*	0,75 *0.030*	5,4 *0.213*	12,7 *0.500*																		■
SNHQ120502TL4-M07	0,2 *0.008*	0,75 *0.030*	5,4 *0.213*	12,7 *0.500*							■											
SNHQ120502TR4-M07	0,2 *0.008*	0,75 *0.030*	5,4 *0.213*	12,7 *0.500*							■											
SNHQ120504TL4-M07	0,4 *0.016*	0,75 *0.030*	5,4 *0.213*	12,7 *0.500*				■			■					■				■		
SNHQ120504TR4-M07	0,4 *0.016*	0,75 *0.030*	5,4 *0.213*	12,7 *0.500*				■			■					■				■		
SNHQ120508TL4-M07	0,8 *0.031*	0,75 *0.030*	5,4 *0.213*	12,7 *0.500*				■			■					■						
SNHQ120508TR4-M07	0,8 *0.031*	0,75 *0.030*	5,4 *0.213*	12,7 *0.500*				■			■					■						
SNHQ120510TL4-M07	1,0 *0.039*	0,6 *0.024*	5,4 *0.213*	12,7 *0.500*							■											
SNHQ120510TR4-M07	1,0 *0.039*	0,6 *0.024*	5,4 *0.213*	12,7 *0.500*							■											
SNHQ120512TL4-M07	1,2 *0.047*	0,4 *0.016*	5,4 *0.213*	12,7 *0.500*							■											
SNHQ120512TR4-M07	1,2 *0.047*	0,4 *0.016*	5,4 *0.213*	12,7 *0.500*							■											
SNHQ120516TL4-M07	1,6 *0.063*	0,2 *0.008*	5,4 *0.213*	12,7 *0.500*							■											
SNHQ120516TR4-M07	1,6 *0.063*	0,2 *0.008*	5,4 *0.213*	12,7 *0.500*							■											
SNHQ120520TL4-M07	2,0 *0.079*	0,2 *0.008*	5,4 *0.213*	12,7 *0.500*							■											
SNHQ120520TR4-M07	2,0 *0.079*	0,2 *0.008*	5,4 *0.213*	12,7 *0.500*							■											
SNHQ120524EL2-M07	2,4 *0.094*	–	5,4 *0.213*	12,7 *0.500*							■											
SNHQ120524ER2-M07	2,4 *0.094*	–	5,4 *0.213*	12,7 *0.500*							■											
SNHQ120531EL2-M07	3,1 *0.122*	–	5,4 *0.213*	12,7 *0.500*							■											
SNHQ120531ER2-M07	3,1 *0.122*	–	5,4 *0.213*	12,7 *0.500*							■											
SNHQ120540EL2-M07	4,0 *0.157*	–	5,4 *0.213*	12,7 *0.500*							■											
SNHQ120540ER2-M07	4,0 *0.157*	–	5,4 *0.213*	12,7 *0.500*							■											
SNHQ120550FEL2-M07	5,0 *0.197*	–	5,54 *0.218*	12,7 *0.500*							■											
SNHQ120550FER2-M07	5,0 *0.197*	–	5,54 *0.218*	12,7 *0.500*							■											

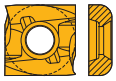
Note: When using SNHQ insert with corner radius = 5 mm,
please modify the external profile of the cutter by adding a corner radius or chamfer = 4 mm

SNHQ1207

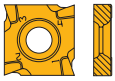




EL/ER2-M07



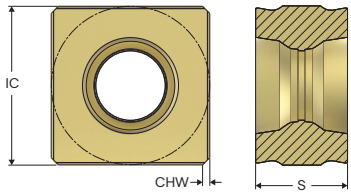
xL/xR4-E05/M07



Designation	RE	BS	L	IC	Grades																
					PVD									CVD						Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
SNHQ120704EL4-E05	0,4 *0.016*	0,75 *0.030*	7,0 *0.276*	12,7 *0.500*																		■
SNHQ120704ER4-E05	0,4 *0.016*	0,75 *0.030*	7,0 *0.276*	12,7 *0.500*																		■
SNHQ120704TL4-M07	0,4 *0.016*	0,75 *0.030*	7,0 *0.276*	12,7 *0.500*							■											
SNHQ120704TR4-M07	0,4 *0.016*	0,75 *0.030*	7,0 *0.276*	12,7 *0.500*							■											
SNHQ120708TL4-M07	0,8 *0.031*	0,75 *0.030*	7,0 *0.276*	12,7 *0.500*				■			■					■						
SNHQ120708TR4-M07	0,8 *0.031*	0,75 *0.030*	7,0 *0.276*	12,7 *0.500*				■			■					■						
SNHQ120712TL4-M07	1,2 *0.047*	0,4 *0.016*	7,0 *0.276*	12,7 *0.500*							■											
SNHQ120712TR4-M07	1,2 *0.047*	0,4 *0.016*	7,0 *0.276*	12,7 *0.500*							■											
SNHQ120716TL4-M07	1,6 *0.063*	0,2 *0.008*	7,0 *0.276*	12,7 *0.500*							■											
SNHQ120716TR4-M07	1,6 *0.063*	0,2 *0.008*	7,0 *0.276*	12,7 *0.500*							■											
SNHQ120720TL4-M07	2,0 *0.079*	0,2 *0.008*	7,0 *0.276*	12,7 *0.500*							■											
SNHQ120720TR4-M07	2,0 *0.079*	0,2 *0.008*	7,0 *0.276*	12,7 *0.500*							■											
SNHQ120724EL2-M07	2,4 *0.094*	–	7,0 *0.276*	12,7 *0.500*							■											
SNHQ120724ER2-M07	2,4 *0.094*	–	7,0 *0.276*	12,7 *0.500*							■											
SNHQ120731EL2-M07	3,1 *0.122*	–	7,0 *0.276*	12,7 *0.500*							■											
SNHQ120731ER2-M07	3,1 *0.122*	–	7,0 *0.276*	12,7 *0.500*							■											
SNHQ120740EL2-M07	4,0 *0.157*	–	7,0 *0.276*	12,7 *0.500*							■											
SNHQ120740ER2-M07	4,0 *0.157*	–	7,0 *0.276*	12,7 *0.500*							■											
SNHQ120750FEL2-M07	5,0 *0.197*	–	7,14 *0.281*	12,7 *0.500*							■											
SNHQ120750FER2-M07	5,0 *0.197*	–	7,14 *0.281*	12,7 *0.500*							■											
SNHQ120760FEL2-M07	6,0 *0.236*	–	7,15 *0.281*	12,7 *0.500*							■											
SNHQ120760FER2-M07	6,0 *0.236*	–	7,15 *0.281*	12,7 *0.500*							■											

Note: When using SNHQ insert with corner radius = 5 and 6 mm,
please modify the external profile of the cutter by adding a corner radius or chamfer = 4 mm

SNHX11/14

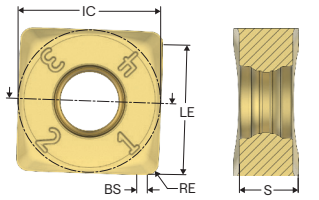


M11/M12

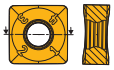


Designation	CHW	IC	S	KCH°	Grades																		
					PVD										CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
SNHX1106TN8-M11	0,5 *0.020*	11,0 *0.433*	6,35 *0.250*	45,0							■					■		■				
SNHX1406TN8-M12	0,8 *0.031*	14,5 *0.571*	6,35 *0.250*	45,0							■					■						

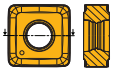
SNMU12/16



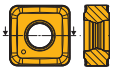
M10



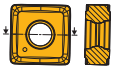
M16



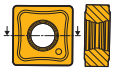
M16-1.6



M18

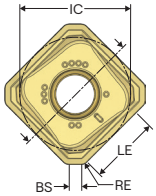


MD



Designation	RE	BS	LE	IC	S	Grades																	
						PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
SNMU120408TN-M10	0,8 *0.031*	–	11,2 *0.441*	12,0 *0.472*	4,8 *0.189*			■								■	■						
SNMU120410TN-M10	1,0 *0.039*	1,0 *0.039*	9,9 *0.390*	12,0 *0.472*	4,8 *0.189*			■			■	■				■	■	■	■				
SNMU120412TN-M16	1,2 *0.047*	1,4 *0.055*	9,2 *0.362*	12,0 *0.472*	4,78 *0.188*			■							■	■	■		■				
SNMU120416TN-M16	1,6 *0.063*	–	10,4 *0.409*	12,0 *0.472*	4,78 *0.188*			■								■							
SNMU120408TN-MD13	0,8 *0.031*	–	11,2 *0.441*	12,0 *0.472*	4,8 *0.189*			■							■								
SNMU120410TN-MD13	1,0 *0.039*	1,0 *0.039*	9,8 *0.386*	12,0 *0.472*	4,8 *0.189*			■							■	■	■						
SNMU160612TN-M10	1,2 *0.047*	1,2 *0.047*	13,4 *0.528*	16,0 *0.630*	6,4 *0.252*			■								■	■						
SNMU160612TN-M18	1,2 *0.047*	1,6 *0.063*	13,0 *0.512*	16,0 *0.630*	6,38 *0.251*			■								■	■		■				
SNMU160610TN-MD16	1,0 *0.039*	–	14,9 *0.587*	16,0 *0.630*	6,4 *0.252*										■	■							
SNMU160612TN-MD16	1,2 *0.047*	1,2 *0.047*	13,4 *0.528*	16,0 *0.630*	6,4 *0.252*										■	■							

SN.X14/22

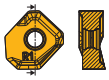




1407AN.R-ME10/M10/M16



1407AZTR-M10/M16



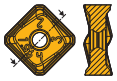
1407ZN.R-ME10/M10/M16



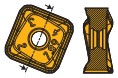
1407ZZTR-M10/M16



2209AN.R-ME12/M12/M18



2209ZN.R-M12/M18

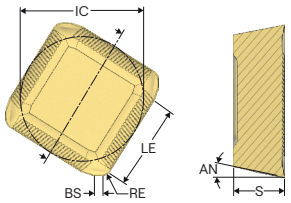


2209ZNTL-M18

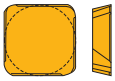


Designation	RE	BS	LE	IC	S	AN°	Grades																	
							PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
SNHX1407ANR-ME10	1,0 *0.039*	1,5 *0.059*	8,4 *0.331*	14,0 *0.551*	6,59 *0.259*	0,0						■	■		■									■
SNMX1407ANTR-M10	1,0 *0.039*	1,5 *0.059*	8,4 *0.331*	14,0 *0.551*	6,59 *0.259*	0,0			■		■	■	■	■	■		■	■	■	■				
SNMX1407ANTR-M16	1,0 *0.039*	1,5 *0.059*	8,4 *0.331*	14,0 *0.551*	6,59 *0.259*	0,0			■		■					■	■	■		■				
SNEX1407AZTR-M10	1,0 *0.039*	5,7 *0.224*	8,4 *0.331*	13,975 *0.550*	6,64 *0.261*	0,0			■		■						■							
SNEX1407AZTR-M16	1,0 *0.039*	5,7 *0.224*	8,4 *0.331*	13,975 *0.550*	6,64 *0.261*	0,0			■								■							
SNMX1407ZNTR-M10	1,0 *0.039*	1,5 *0.059*	9,5 *0.374*	14,0 *0.551*	6,59 *0.259*	0,0			■			■	■		■		■	■	■					
SNMX1407ZNTR-M16	1,0 *0.039*	1,5 *0.059*	9,5 *0.374*	14,0 *0.551*	6,59 *0.259*	0,0			■							■	■	■						
SNEX1407ZZTR-M10	1,0 *0.039*	5,7 *0.224*	9,5 *0.374*	14,02 *0.552*	6,19 *0.244*	0,0			■		■						■							
SNEX1407ZZTR-M16	1,0 *0.039*	5,7 *0.224*	9,5 *0.374*	14,02 *0.552*	6,19 *0.244*	0,0			■								■							
SNMX2209ANTR-M12	2,0 *0.079*	1,5 *0.059*	14,8 *0.583*	22,0 *0.866*	8,81 *0.347*	0,0						■			■			■						
SNMX2209ANTR-M18	2,0 *0.079*	1,5 *0.059*	14,8 *0.583*	22,0 *0.866*	8,81 *0.347*	0,0			■							■	■	■		■				
SNMX2209ZNTR-M12	2,0 *0.079*	1,5 *0.059*	14,3 *0.563*	22,0 *0.866*	8,79 *0.346*	0,0							■		■			■						
SNMX2209ZNTR-M18	2,0 *0.079*	1,5 *0.059*	14,3 *0.563*	22,0 *0.866*	8,79 *0.346*	0,0			■								■	■		■				
SNMX2209ZNTL-M18	2,0 *0.079*	1,5 *0.059*	14,3 *0.563*	22,0 *0.866*	8,79 *0.346*	0,0											■	■						

SP..19/28



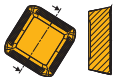
D35



ZETL-M17-MD20

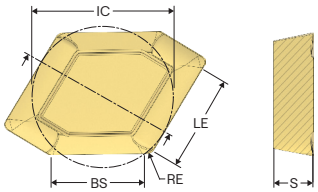


ZETR-M17-MD20-D25



Designation	RE	BS	LE	IC	S	AN°	Grades																		
							PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
SPER1906ZETL-M17	3,0 *0.118*	1,8 *0.071*	12,7 *0.500*	19,05 *0.750*	6,35 *0.250*	11,0									■									
SPER1906ZETR-M17	1,6 *0.063*	1,8 *0.071*	12,7 *0.500*	19,05 *0.750*	6,35 *0.250*	11,0														■				
SPEN1906ZETL-MD20	1,6 *0.063*	1,8 *0.071*	13,3 *0.524*	19,05 *0.750*	6,35 *0.250*	11,0												■						
SPEN1906ZETR-MD20	1,6 *0.063*	1,8 *0.071*	13,3 *0.524*	19,05 *0.750*	6,35 *0.250*	11,0												■		■				
SPEN1906ZETR-D25	1,6 *0.063*	1,8 *0.071*	13,3 *0.524*	19,05 *0.750*	6,35 *0.250*	11,0											■							
SPEN2807ZETR-D35	2,0 *0.079*	1,8 *0.071*	13,3 *0.524*	28,575 *1.125*	7,938 *0.313*	11,0											■							
SPMR1906ZETR-M17	1,6 *0.063*	1,0 *0.039*	12,9 *0.508*	19,05 *0.750*	6,35 *0.250*	11,0									■									

SPE.ZZ



M17/D25/MD20

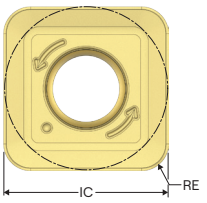


ZZTL-M17



Designation	RE	BS	LE	IC	S	Grades																		
						PVD										CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
SPER1906ZZTL-M17	3,0 *0.118*	12,0 *0.472*	14,0 *0.551*	19,05 *0.750*	6,35 *0.250*									■									
SPER1906ZZTR-M17	3,0 *0.118*	12,0 *0.472*	14,0 *0.551*	19,05 *0.750*	6,35 *0.250*									■									
SPEN1906ZZTR-D25	3,0 *0.118*	12,0 *0.472*	14,0 *0.551*	19,05 *0.750*	6,35 *0.250*											■	■						
SPEN1906ZZTR-MD20	3,0 *0.118*	12,0 *0.472*	14,0 *0.551*	19,05 *0.750*	6,35 *0.250*												■						

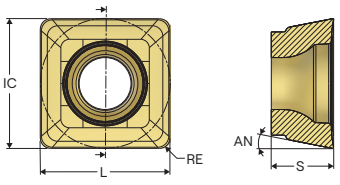
SPKT07/10/14/18

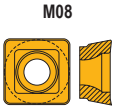




Designation	RE	IC	S	AN°	Grades																	
					PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
SPKT070312TN-ME06	1,2 *0.047*	7,0 *0.276*	3,18 *0.125*	11,0						■			■			■		■				
SPKT070312TN-M08	1,2 *0.047*	7,0 *0.276*	3,18 *0.125*	11,0			■		■							■		■				
SPKT070312TN-MD10	1,2 *0.047*	7,0 *0.276*	3,18 *0.125*	11,0	■				■						■			■				
SPKT10T317TN-ME08	1,7 *0.067*	10,0 *0.394*	3,97 *0.156*	11,0						■		■				■		■				
SPKT10T317TN-M10	1,7 *0.067*	10,0 *0.394*	3,97 *0.156*	11,0	■		■			■	■	■	■		■	■	■	■		■		
SPKT10T317TN-MD12	1,7 *0.067*	10,0 *0.394*	3,97 *0.156*	11,0	■		■		■		■				■	■						
SPKT140523TN-ME10	2,3 *0.091*	14,0 *0.551*	5,56 *0.219*	11,0						■		■				■		■				
SPKT140523TN-M14	2,3 *0.091*	14,0 *0.551*	5,56 *0.219*	11,0	■		■			■	■	■	■		■	■	■	■		■		
SPKT1405ZPTR-M14	1,85 *0.073*	14,21 *0.559*	5,56 *0.219*	11,0						■						■						
SPKT140523TN-MD16	2,3 *0.091*	14,0 *0.551*	5,56 *0.219*	11,0	■		■		■		■				■	■	■	■				
SPKT180630TN-ME10	3,0 *0.118*	18,0 *0.709*	6,35 *0.250*	11,0						■						■		■				
SPKT180630TN-M14	3,0 *0.118*	18,0 *0.709*	6,35 *0.250*	11,0			■			■	■	■	■		■	■	■	■				
SPKT180630TN-MD16	3,0 *0.118*	18,0 *0.709*	6,35 *0.250*	11,0	■		■		■		■				■	■						

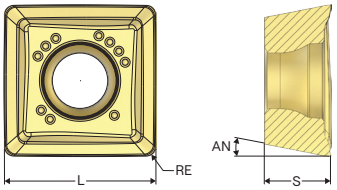
SPMT



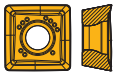


Designation	RE	L	S	AN°	Grades																	
					PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
SPMT100408T-M08	0,8 *0.031*	10,0 *0.394*	4,76 *0.187*	11,0							■											

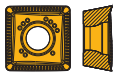
SPMT12



M12

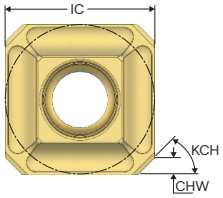


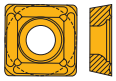
ME10

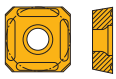


Designation	RE	L	S	AN°	GAN°	Grades																	
						PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*			MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2501	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
SPMT120508SR-M12	0,8 *0.031*	12,607 *0.496*	5,56 *0.219*	11,0	10,8 °			■			■	■		■			■		■				
SPMT120508SR-ME10	0,8 *0.031*	12,607 *0.496*	5,56 *0.219*	11,0	15,8 °						■	■	■										
SPMT120512SR-M12	1,2 *0.047*	12,607 *0.496*	5,56 *0.219*	11,0	10,8 °							■		■			■						
SPMT120512SR-ME10	1,2 *0.047*	12,607 *0.496*	5,56 *0.219*	11,0	15,8 °						■	■											

SPMX

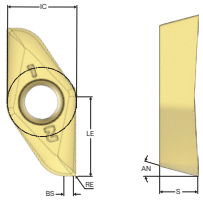






Designation	CHW	IC	S	KCH°	Grades																				
					PVD										CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
SPMX0602AP-75	0,69 *0.027*	6,35 *0.250*	2,38 *0.094*	45,0							■											
SPMX0703AP-75	0,87 *0.034*	7,94 *0.313*	3,18 *0.125*	45,0							■											
SPMX0903AP-75	1,05 *0.041*	9,525 *0.375*	3,18 *0.125*	45,0							■							■				
SPMX12T3AP-75	1,39 *0.055*	12,7 *0.500*	3,97 *0.156*	45,0							■							■				
SPMX060204-75	– –	6,35 *0.250*	2,38 *0.094*	–							■								■			
SPMX070304-75	– –	7,94 *0.313*	3,18 *0.125*	–							■								■			
SPMX090304-75	– –	9,525 *0.375*	3,18 *0.125*	–							■								■			
SPMX12T308-75	– –	12,7 *0.500*	3,97 *0.156*	–							■											

VPGX



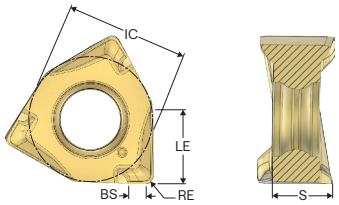
E06/E10



Designation	RE	BS	LE	IC	S	AN°	Grades																		
							PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
VPGX220605FR-E06	0,5 *0.020*	1,5 *0.059*	14,2 *0.559*	12,7 *0.500*	6,35 *0.250*	11,0																	■	
VPGX220605ER-E10	0,5 *0.020*	1,5 *0.059*	14,2 *0.559*	12,7 *0.500*	6,35 *0.250*	11,0																		■
VPGX220608PDER-E10	0,8 *0.031*	1,1 *0.043*	14,2 *0.559*	12,7 *0.500*	6,35 *0.250*	11,0																		■
VPGX220616ER-E10	1,6 *0.063*	–	13,7 *0.539*	12,7 *0.500*	6,35 *0.250*	11,0																		■
VPGX220620ER-E10	2,0 *0.079*	–	14,2 *0.559*	12,7 *0.500*	6,35 *0.250*	11,0																		■
VPGX220624ER-E10	2,4 *0.094*	–	14,2 *0.559*	12,7 *0.500*	6,35 *0.250*	11,0																		■
VPGX220631EN-E10	3,1 *0.122*	–	14,2 *0.559*	12,7 *0.500*	6,35 *0.250*	11,0																		■
VPGX220631FN-E06	3,1 *0.122*	–	14,2 *0.559*	12,7 *0.500*	6,35 *0.250*	11,0																	■	
VPGX220640ER-E10	4,0 *0.157*	–	14,2 *0.559*	12,7 *0.500*	6,35 *0.250*	11,0																		■
VPGX220663ER-E10	6,3 *0.248*	–	11,8 *0.465*	12,7 *0.500*	6,35 *0.250*	11,0																		■

*Insert with wiper flat 1,5mm

XNEX04/08



XNEX04..



XNEX08..



XNEX08..M13

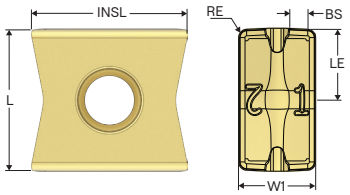


ZZR-M11



Designation	RE	BS	LE	IC	S	Grades																		
						PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
XNEX040304R-M06	0,4 *0.016*	0,8 *0.031*	4,0 *0.157*	6,7 *0.264*	3,31 *0.130*						■	■											
XNEX040308R-M06	0,8 *0.031*	0,4 *0.016*	4,0 *0.157*	6,7 *0.264*	3,31 *0.130*					■	■	■					■						
XNEX040304TR-M08	0,4 *0.016*	0,8 *0.031*	4,0 *0.157*	6,7 *0.264*	3,29 *0.130*			■		■		■			■	■	■						
XNEX040308TR-M08	0,8 *0.031*	0,4 *0.016*	4,0 *0.157*	6,7 *0.264*	3,29 *0.130*			■		■		■			■	■	■						
XNEX080604TR-M13	0,4 *0.016*	1,8 *0.071*	7,5 *0.295*	12,48 *0.491*	6,45 *0.254*					■		■							■				
XNEX080604TR-ME09	0,4 *0.016*	1,8 *0.071*	7,5 *0.295*	12,48 *0.491*	6,45 *0.254*					■		■					■						
XNEX080608TR-ME09	0,8 *0.031*	1,4 *0.055*	7,5 *0.295*	12,48 *0.491*	6,45 *0.254*			■		■		■			■	■	■		■		■		
XNEX080608R-M08	0,8 *0.031*	1,4 *0.055*	7,5 *0.295*	12,48 *0.491*	6,45 *0.254*					■	■	■	■	■				■	■				■
XNEX080608TR-M13	0,8 *0.031*	1,3 *0.051*	7,5 *0.295*	12,48 *0.491*	6,45 *0.254*			■		■		■			■	■	■		■				
XNEX080608TR-MD15	0,8 *0.031*	1,4 *0.055*	7,5 *0.295*	12,48 *0.491*	6,45 *0.254*	■		■		■		■			■	■	■		■				
XNEX080612TR-ME09	1,2 *0.047*	1,0 *0.039*	7,5 *0.295*	12,48 *0.491*	6,45 *0.254*							■					■						
XNEX080612TR-M13	1,2 *0.047*	0,9 *0.035*	7,5 *0.295*	12,48 *0.491*	6,45 *0.254*			■				■			■		■						
XNEX080612TR-MD15	1,2 *0.047*	1,0 *0.039*	7,5 *0.295*	12,48 *0.491*	6,45 *0.254*										■	■	■						
XNEX080616TR-ME09	1,6 *0.063*	0,6 *0.024*	7,5 *0.295*	12,48 *0.491*	6,45 *0.254*					■		■					■						
XNEX080616TR-M13	1,6 *0.063*	0,5 *0.020*	7,5 *0.295*	12,48 *0.491*	6,45 *0.254*			■		■		■			■	■	■		■				
XNEX080616TR-MD15	1,6 *0.063*	0,7 *0.028*	7,5 *0.295*	12,48 *0.491*	6,45 *0.254*			■		■		■			■	■	■		■				
XNEX080608TL-M13	0,8 *0.031*	1,3 *0.051*	7,5 *0.295*	12,48 *0.491*	6,45 *0.254*						■	■					■		■				
XNEX080616TL-M13	1,6 *0.063*	0,5 *0.020*	7,5 *0.295*	12,48 *0.491*	6,45 *0.254*												■						
XNEX080608ZZR-M11	0,8 *0.031*	6,0 *0.236*	7,5 *0.295*	12,48 *0.491*	6,45 *0.254*					■		■			■								

XNHQ07

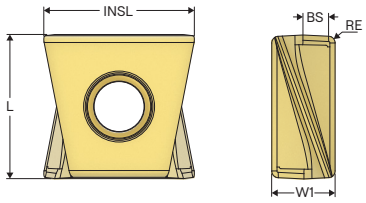


TN8-M11



Designation	RE	INSL	BS	L	LE	W1	GAN	Grades																		
								PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
XNHQ070708TN8-M11	0,8 *0.031*	15,08 *0.594*	1,8 *0.071*	13,63 *0.537*	6,9 *0.272*	7,5 *0.295*	16,0 °			■				■					■						
XNHQ070716TN8-M11	1,6 *0.063*	14,85 *0.585*	1,0 *0.039*	13,63 *0.537*	6,9 *0.272*	7,5 *0.295*	16,0 °			■									■						
XNHQ070731TN8-M11	3,1 *0.122*	14,42 *0.568*	0,6 *0.024*	13,63 *0.537*	6,9 *0.272*	7,5 *0.295*	16,0 °			■									■						

XNHQ09/12/14/17



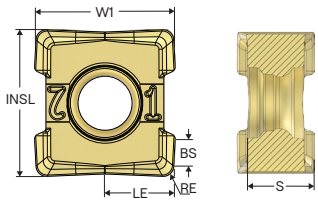
E07/E09/E10/E12/M08/M10/M11/M13



Designation	RE	INSL	BS	L	W1	GAN	Grades																		
							PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
XNHQ090504TN4-M08	0,4 *0.016*	11,81 *0.465*	2,2 *0.087*	9,3 *0.366*	5,5 *0.217*	16,0 °							■											
XNHQ090508TN4-M08	0,8 *0.031*	11,7 *0.461*	1,8 *0.071*	9,3 *0.366*	5,5 *0.217*	16,0 °			■				■					■						
XNHQ090512TN4-M08	1,2 *0.047*	11,58 *0.456*	1,4 *0.055*	9,3 *0.366*	5,5 *0.217*	16,0 °							■											
XNHQ090516TN4-M08	1,6 *0.063*	11,46 *0.451*	1,0 *0.039*	9,3 *0.366*	5,5 *0.217*	16,0 °							■					■						
XNHQ090520TN4-M08	2,0 *0.079*	11,4 *0.449*	0,6 *0.024*	9,3 *0.366*	5,5 *0.217*	16,0 °							■											
XNHQ090524TN4-M08	2,4 *0.094*	11,2 *0.441*	0,2 *0.008*	9,3 *0.366*	5,5 *0.217*	16,0 °							■											
XNHQ090531TN4-M08	3,1 *0.122*	11,0 *0.433*	–	9,3 *0.366*	5,5 *0.217*	16,0 °							■											
XNHQ090540TN4-M08	4,0 *0.157*	10,7 *0.421*	–	9,3 *0.366*	5,5 *0.217*	16,0 °							■											
XNHQ120608EN4-E09	0,8 *0.031*	13,34 *0.525*	2,3 *0.091*	11,7 *0.461*	6,5 *0.256*	21,0 °							■											
XNHQ120608TN4-M10	0,8 *0.031*	13,16 *0.518*	2,3 *0.091*	11,7 *0.461*	6,5 *0.256*	16,0 °			■				■					■						
XNHQ120612TN4-M10	1,2 *0.047*	13,05 *0.514*	1,9 *0.075*	11,7 *0.461*	6,5 *0.256*	16,0 °							■											
XNHQ120616TN4-M10	1,6 *0.063*	12,94 *0.509*	1,58 *0.062*	11,7 *0.461*	6,5 *0.256*	16,0 °							■					■						
XNHQ120620TN4-M10	2,0 *0.079*	12,81 *0.504*	1,1 *0.043*	11,7 *0.461*	6,5 *0.256*	16,0 °							■											
XNHQ120624TN4-M10	2,4 *0.094*	12,72 *0.501*	0,7 *0.028*	11,7 *0.461*	6,5 *0.256*	16,0 °							■											
XNHQ120631TN4-M10	3,1 *0.122*	12,53 *0.493*	0,15 *0.006*	11,7 *0.461*	6,5 *0.256*	16,0 °							■											
XNHQ120640TN4-M10	4,0 *0.157*	12,25 *0.482*	–	11,7 *0.461*	6,5 *0.256*	16,0 °							■											
XNHQ120650TN4-M10	5,0 *0.197*	11,87 *0.467*	–	11,7 *0.461*	6,5 *0.256*	16,0 °							■											
XNHQ140708EN4-E10	0,8 *0.031*	15,1 *0.594*	3,0 *0.118*	14,0 *0.551*	7,5 *0.295*	22,0 °							■											■
XNHQ140708TN4-M11	0,8 *0.031*	15,1 *0.594*	3,0 *0.118*	14,0 *0.551*	7,5 *0.295*	16,0 °			■				■					■						
XNHQ140716TN4-M11	1,6 *0.063*	14,8 *0.583*	2,2 *0.087*	14,0 *0.551*	7,5 *0.295*	16,0 °							■					■						
XNHQ140720TN4-M11	2,0 *0.079*	14,7 *0.579*	1,8 *0.071*	14,0 *0.551*	7,5 *0.295*	16,0 °							■											
XNHQ140724TN4-M11	2,4 *0.094*	14,6 *0.575*	1,4 *0.055*	14,0 *0.551*	7,5 *0.295*	16,0 °							■											
XNHQ140731TN4-M11	3,1 *0.122*	14,4 *0.567*	0,7 *0.028*	14,0 *0.551*	7,5 *0.295*	16,0 °							■					■						
XNHQ140740TN4-M11	4,0 *0.157*	14,2 *0.559*	–	14,0 *0.551*	7,5 *0.295*	16,0 °							■											
XNHQ140750TN4-M11	5,0 *0.197*	13,9 *0.547*	–	14,0 *0.551*	7,5 *0.295*	16,0 °							■											
XNHQ140760TN4-M11	6,0 *0.236*	13,6 *0.535*	–	14,0 *0.551*	7,5 *0.295*	16,0 °							■											

Designation	RE	INSL	BS	L	W1	GAN	Grades																			
							PVD									CVD								Uncoated		
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
XNHQ170708EN4-E12	0,8 *0.031*	–	3,0 *0.118*	17,0 *0.669*	7,5 *0.295*	16,0 °							■											
XNHQ170708TN4-M13	0,8 *0.031*	–	3,0 *0.118*	17,0 *0.669*	7,5 *0.295*	16,0 °			■				■					■						
XNHQ170716TN4-M13	1,6 *0.063*	–	2,2 *0.087*	17,0 *0.669*	7,5 *0.295*	16,0 °							■					■						
XNHQ170720TN4-M13	2,0 *0.079*	–	1,8 *0.071*	17,0 *0.669*	7,5 *0.295*	16,0 °							■											
XNHQ170724TN4-M13	2,4 *0.094*	–	1,4 *0.055*	17,0 *0.669*	7,5 *0.295*	16,0 °							■											
XNHQ170731TN4-M13	3,1 *0.122*	–	0,7 *0.028*	17,0 *0.669*	7,5 *0.295*	16,0 °							■											
XNHQ170740TN4-M13	4,0 *0.157*	–	–	17,0 *0.669*	7,5 *0.295*	16,0 °							■											
XNHQ170750TN4-M13	5,0 *0.197*	–	–	17,0 *0.669*	7,5 *0.295*	16,0 °							■											
XNHQ170760TN4-M13	6,0 *0.236*	–	–	17,0 *0.669*	7,5 *0.295*	16,0 °							■											

XNUX05

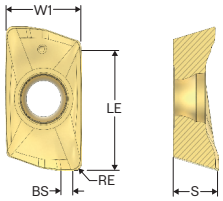


M07



Designation	RE	BS	LE	W1	INSL	S	Grades																		
							PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
XNXU050504TN8-M07	0,4 *0.016*	2,4 *0.094*	5,0 *0.197*	10,24 *0.403*	10,97 *0.432*	5,2 *0.205*							■												
XNXU050508TN8-M07	0,8 *0.031*	2,0 *0.079*	5,0 *0.197*	10,28 *0.405*	10,94 *0.431*	5,2 *0.205*			■				■					■						
XNXU050516TN8-M07	1,6 *0.063*	1,2 *0.047*	5,0 *0.197*	10,36 *0.408*	10,87 *0.428*	5,2 *0.205*			■									■						

XO.X06



E03

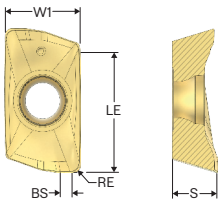


M05



Designation	RE	BS	LE	W1	S	GAN	Grades																		
							PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
XOEX060202FR-E03	0,2 *0.008*	1,1 *0.043*	6,0 *0.236*	4,1 *0.161*	2,45 *0.096*	30,6 °																	■	
XOEX060204FR-E03	0,4 *0.016*	0,9 *0.035*	6,0 *0.236*	4,1 *0.161*	2,45 *0.096*	29,2 °							■										■	
XOMX060202R-M05	0,2 *0.008*	1,1 *0.043*	5,5 *0.217*	4,1 *0.161*	2,45 *0.096*	20,2 °					■		■											
XOMX060204R-M05	0,4 *0.016*	0,91 *0.036*	5,5 *0.217*	4,1 *0.161*	2,45 *0.096*	20,2 °				■	■	■	■									■		
XOMX060208R-M05	0,8 *0.031*	0,51 *0.020*	5,5 *0.217*	4,1 *0.161*	2,45 *0.096*	20,2 °	■	■		■	■	■	■									■		
XOMX060216R-M05	1,6 *0.063*	0,64 *0.025*	5,5 *0.217*	4,1 *0.161*	2,45 *0.096*	20,2 °				■	■	■	■									■		

XO.X10



E05/M06



M09



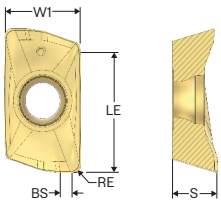
ME07



Designation	RE	BS	LE	W1	S	GAN	Grades																		
							PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
XOEX10T304FR-E05	0,4 *0.016*	1,3 *0.051*	9,7 *0.382*	6,9 *0.272*	3,8 *0.150*	21,6 °							■										■	
XOEX10T308FR-E05	0,8 *0.031*	1,3 *0.051*	9,7 *0.382*	6,9 *0.272*	3,8 *0.150*	21,6 °							■										■	
XOEX10T312FR-E05	1,2 *0.047*	1,3 *0.051*	9,7 *0.382*	6,9 *0.272*	3,8 *0.150*	21,6 °																	■	
XOEX10T320FR-E05	2,0 *0.079*	0,6 *0.024*	9,7 *0.382*	6,9 *0.272*	3,8 *0.150*	21,6 °																	■	
XOEX10T331FR-E05	3,1 *0.122*	0,39 *0.015*	9,7 *0.382*	6,9 *0.272*	3,8 *0.150*	24,1 °																	■	
XOEX10T302R-M06	0,2 *0.008*	1,3 *0.051*	9,7 *0.382*	6,9 *0.272*	3,8 *0.150*	15,1 °							■											
XOEX10T304R-M06	0,4 *0.016*	1,3 *0.051*	9,7 *0.382*	6,9 *0.272*	3,8 *0.150*	15,1 °						■	■					■						
XOEX10T308R-M06	0,8 *0.031*	1,3 *0.051*	9,7 *0.382*	6,9 *0.272*	3,8 *0.150*	15,1 °						■	■	■	■			■	■	■				
XOEX10T312R-M06	1,2 *0.047*	1,3 *0.051*	9,7 *0.382*	6,9 *0.272*	3,8 *0.150*	15,1 °						■	■											
XOEX10T316R-M06	1,6 *0.063*	1,0 *0.039*	9,7 *0.382*	6,9 *0.272*	3,8 *0.150*	15,1 °						■	■											
XOEX10T320R-M06	2,0 *0.079*	0,6 *0.024*	9,7 *0.382*	6,9 *0.272*	3,8 *0.150*	18,8 °						■								■				
XOEX10T324R-M06	2,4 *0.094*	0,2 *0.008*	9,7 *0.382*	6,9 *0.272*	3,8 *0.150*	18,3 °						■												
XOEX10T331R-M06	3,1 *0.122*	0,4 *0.016*	9,7 *0.382*	6,9 *0.272*	3,8 *0.150*	17,3 °						■	■		■									
XOMX10T304TR-ME07	0,4 *0.016*	1,3 *0.051*	9,3 *0.366*	6,9 *0.272*	3,83 *0.151*	20,4 °					■	■	■			■		■		■				
XOMX10T308TR-ME07	0,8 *0.031*	1,3 *0.051*	9,3 *0.366*	6,9 *0.272*	3,83 *0.151*	20,4 °					■	■	■	■	■	■	■	■	■	■		■		
XOMX10T312TR-ME07	1,2 *0.047*	1,3 *0.051*	9,3 *0.366*	6,9 *0.272*	3,83 *0.151*	20,4 °					■	■	■					■		■				
XOMX10T316TR-ME07	1,6 *0.063*	1,0 *0.039*	9,3 *0.366*	6,9 *0.272*	3,83 *0.151*	20,4 °					■	■	■	■	■			■		■				
XOMX10T320TR-ME07	2,0 *0.079*	0,6 *0.024*	9,3 *0.366*	6,9 *0.272*	3,83 *0.151*	20,4 °					■	■	■					■		■				
XOMX10T324TR-ME07	2,4 *0.094*	0,2 *0.008*	9,3 *0.366*	6,9 *0.272*	3,83 *0.151*	20,4 °						■	■					■						
XOMX10T331TR-ME07	3,1 *0.122*	0,4 *0.016*	9,3 *0.366*	6,9 *0.272*	3,83 *0.151*	20,4 °						■	■	■	■			■						
XOMX10T304TR-M09	0,4 *0.016*	1,3 *0.051*	9,3 *0.366*	6,9 *0.272*	3,83 *0.151*	10,6 °			■		■		■			■	■	■		■				
XOMX10T308TR-M09	0,8 *0.031*	1,3 *0.051*	9,3 *0.366*	6,9 *0.272*	3,83 *0.151*	10,6 °	■		■		■		■			■	■	■	■	■		■		
XOMX10T312TR-M09	1,2 *0.047*	1,3 *0.051*	9,3 *0.366*	6,9 *0.272*	3,83 *0.151*	10,6 °			■				■							■				
XOMX10T316TR-M09	1,6 *0.063*	1,0 *0.039*	9,3 *0.366*	6,9 *0.272*	3,83 *0.151*	10,6 °							■							■				
XOMX10T320TR-M09	2,0 *0.079*	0,6 *0.024*	9,3 *0.366*	6,9 *0.272*	3,83 *0.151*	10,6 °							■							■				
XOMX10T324TR-M09	2,4 *0.094*	0,2 *0.008*	9,3 *0.366*	6,9 *0.272*	3,83 *0.151*	10,6 °							■											

Designation	RE	BS	LE	W1	S	GAN	Grades																				
							PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
XOMX10T331TR-M09	3,1 *0.122*	0,4 *0.016*	9,3 *0.366*	6,9 *0.272*	3,83 *0.151*	10,6 °							■							■				

XO.X12

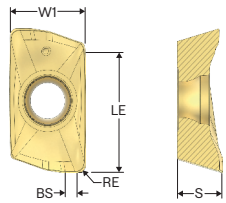




Designation	RE	BS	LE	W1	S	GAN	Grades																		
							PVD									CVD							Uncoated	
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
XOEX120404FR-E06	0,4 0.016	2,0 0.079	12,0 0.472	8,2 0.323	5,03 0.198	27,4 °		■					■										■	
XOEX120408FR-E06	0,8 0.031	1,6 0.063	12,0 0.472	8,2 0.323	5,03 0.198	27,2 °	■	■					■										■	
XOEX120420FR-E06	2,0 0.079	0,6 0.024	12,0 0.472	8,2 0.323	5,03 0.198	21,2 °		■					■											
XOEX120416FR-E06	1,6 0.063	1,2 0.047	12,0 0.472	8,2 0.323	5,03 0.198	26,3 °		■					■											
XOEX120431FR-E06	3,1 0.122	–	12,0 0.472	8,2 0.323	5,03 0.198	24,8 °							■											
XOEX120402R-M07	0,2 0.008	2,0 0.079	12,0 0.472	8,2 0.323	5,03 0.198	20,5 °							■											
XOEX120404R-M07	0,4 0.016	2,0 0.079	12,0 0.472	8,2 0.323	5,03 0.198	20,5 °				■		■	■					■						
XOEX120408R-M07	0,8 0.031	1,6 0.063	12,0 0.472	8,2 0.323	5,03 0.198	20,3 °				■	■	■	■	■	■			■	■	■		■		
XOEX120416R-M07	1,6 0.063	1,2 0.047	12,0 0.472	8,2 0.323	5,03 0.198	19,1 °					■	■	■											
XOEX120420R-M07	2,0 0.079	0,95 0.037	12,0 0.472	8,2 0.323	5,03 0.198	18,6 °						■												
XOEX120424R-M07	2,4 0.094	0,6 0.024	12,0 0.472	8,2 0.323	5,03 0.198	18,6 °						■	■											
XOEX120431R-M07	3,1 0.122	–	12,0 0.472	8,2 0.323	5,03 0.198	15,0 °						■	■	■	■				■	■				
XOEX120440R-M07	4,0 0.157	0,725 0.029	12,0 0.472	8,2 0.323	5,03 0.198	23,7 °						■	■											
XOEX120463R-M07	6,3 0.248	–	12,0 0.472	8,2 0.323	5,03 0.198	15,3 °						■	■											
XOEX120450R-M07	5,0 0.197	–	12,0 0.472	8,2 0.323	5,03 0.198	16,8 °						■	■											
XOEX120408ZZR-M07	0,8 0.031	6,6 0.260	11,1 0.437	8,2 0.323	5,03 0.198	20,3 °				■	■		■											
XOMX120404TR-ME08	0,4 0.016	2,0 0.079	11,6 0.457	8,2 0.323	5,07 0.200	20,1 °						■	■			■		■						
XOMX120408TR-ME08-CS	0,8 0.031	1,6 0.063	11,6 0.457	8,2 0.323	5,07 0.200	20,1 °			■			■	■					■		■				
XOMX120408TR-ME08	0,8 0.031	1,6 0.063	11,6 0.457	8,2 0.323	5,07 0.200	20,1 °			■			■	■	■	■	■		■		■		■		
XOMX120412TR-ME08	1,2 0.047	1,2 0.047	11,6 0.457	8,2 0.323	5,07 0.200	20,1 °						■	■					■		■				
XOMX120416TR-ME08	1,6 0.063	1,2 0.047	11,6 0.457	8,2 0.323	5,07 0.200	20,1 °							■	■	■			■		■				
XOMX120420TR-ME08	2,0 0.079	1,0 0.039	11,6 0.457	8,2 0.323	5,07 0.200	20,1 °						■	■					■		■				
XOMX120424TR-ME08	2,4 0.094	0,92 0.036	11,6 0.457	8,2 0.323	5,07 0.200	20,1 °						■	■					■		■				
XOMX120431TR-ME08	3,1 0.122	0,6 0.024	11,6 0.457	8,2 0.323	5,07 0.200	20,1 °						■	■	■	■			■		■				
XOMX120440TR-ME08	4,0 0.157	0,8 0.031	11,6 0.457	8,2 0.323	5,07 0.200	20,1 °						■	■		■			■						
XOMX120408TR-M12	0,8 0.031	1,6 0.063	11,6 0.457	8,2 0.323	5,07 0.200	10,4 °			■		■		■			■	■	■		■				

Designation	RE	BS	LE	W1	S	GAN	Grades																			
							PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
XOMX120416TR-M12	1,6 *0.063*	1,2 *0.047*	11,6 *0.457*	8,2 *0.323*	5,07 *0.200*	10,4 °					■		■							■				
XOMX120431TR-M12	3,1 *0.122*	0,6 *0.024*	11,6 *0.457*	8,2 *0.323*	5,07 *0.200*	10,4 °					■		■							■				
XOMX120408TR-MD13	0,8 *0.031*	1,6 *0.063*	11,6 *0.457*	8,2 *0.323*	5,07 *0.200*	14,6 °	■		■		■		■			■	■	■		■				
XOMX120404TR-MD13	0,4 *0.016*	2,0 *0.079*	11,6 *0.457*	8,2 *0.323*	5,07 *0.200*	14,6 °							■			■	■							
XOMX120412TR-MD13	1,2 *0.047*	1,2 *0.047*	11,6 *0.457*	8,2 *0.323*	5,07 *0.200*	14,7 °					■		■			■	■							
XOMX120416TR-MD13	1,6 *0.063*	1,2 *0.047*	11,6 *0.457*	8,2 *0.323*	5,07 *0.200*	14,7 °					■		■			■	■							
XOMX120408TR-D14	0,8 *0.031*	1,6 *0.063*	11,6 *0.457*	8,2 *0.323*	5,07 *0.200*	1,0 °				■	■					■	■	■						
XOMX120431TR-D14	3,1 *0.122*	0,6 *0.024*	11,6 *0.457*	8,2 *0.323*	5,07 *0.200*	1,0 °				■	■													

XO.X16




E07/M09


M13


MD14

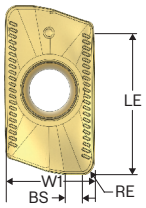

ME11


XOMX-M09

Designation	RE	BS	LE	W1	S	GAN	Grades																		
							PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
XOEX160504FR-E07	0,4 *0.016*	2,0 *0.079*	15,4 *0.606*	10,2 *0.402*	5,9 *0.232*	23,0 °																		■
XOEX160508FR-E07	0,8 *0.031*	2,0 *0.079*	15,4 *0.606*	10,2 *0.402*	5,9 *0.232*	23,0 °																		■
XOEX160504R-M09	0,4 *0.016*	2,0 *0.079*	15,4 *0.606*	10,2 *0.402*	5,9 *0.232*	14,0 °							■					■						
XOEX160508R-M09	0,8 *0.031*	2,0 *0.079*	15,4 *0.606*	10,2 *0.402*	5,9 *0.232*	14,0 °					■	■	■	■	■			■						
XOEX160516R-M09	1,6 *0.063*	2,0 *0.079*	15,4 *0.606*	10,2 *0.402*	5,9 *0.232*	14,0 °						■	■											
XOEX160520R-M09	2,0 *0.079*	2,0 *0.079*	15,4 *0.606*	10,2 *0.402*	5,9 *0.232*	14,0 °						■	■											
XOEX160524R-M09	2,4 *0.094*	1,8 *0.071*	15,4 *0.606*	10,2 *0.402*	5,9 *0.232*	14,0 °						■	■	■	■									
XOEX160531R-M09	3,1 *0.122*	1,6 *0.063*	15,3 *0.602*	10,2 *0.402*	5,9 *0.232*	14,0 °						■	■	■	■									
XOEX160540R-M09	4,0 *0.157*	1,2 *0.047*	15,2 *0.598*	10,2 *0.402*	5,9 *0.232*	14,0 °						■	■											
XOEX160550R-M09	5,0 *0.197*	0,3 *0.012*	15,0 *0.591*	10,2 *0.402*	5,59 *0.220*	14,0 °						■	■											
XOEX160563R-M09	6,3 *0.248*	0,2 *0.008*	14,7 *0.579*	10,2 *0.402*	5,34 *0.210*	14,0 °						■	■											
XOMX160504TR-ME11	0,4 *0.016*	2,0 *0.079*	15,4 *0.606*	10,2 *0.402*	5,94 *0.234*	19,0 °							■					■						
XOMX160508TR-ME11	0,8 *0.031*	2,0 *0.079*	15,4 *0.606*	10,2 *0.402*	5,94 *0.234*	19,0 °			■			■	■	■	■			■		■				
XOMX160512TR-ME11	1,2 *0.047*	2,0 *0.079*	15,4 *0.606*	10,2 *0.402*	5,94 *0.234*	19,0 °							■					■						
XOMX160516TR-ME11	1,6 *0.063*	2,0 *0.079*	15,4 *0.606*	10,2 *0.402*	5,94 *0.234*	18,0 °							■					■						
XOMX160520TR-ME11	2,0 *0.079*	1,9 *0.075*	15,4 *0.606*	10,2 *0.402*	5,94 *0.234*	18,0 °						■	■					■						
XOMX160524TR-ME11	2,4 *0.094*	1,8 *0.071*	15,4 *0.606*	10,2 *0.402*	5,93 *0.233*	18,0 °						■	■											
XOMX160531TR-ME11	3,1 *0.122*	1,6 *0.063*	15,4 *0.606*	10,2 *0.402*	5,93 *0.233*	19,0 °						■	■	■	■									
XOMX160540TR-ME11	4,0 *0.157*	1,2 *0.047*	15,2 *0.598*	10,2 *0.402*	5,93 *0.233*	19,0 °						■	■											
XOMX160550TR-ME11	5,0 *0.197*	0,3 *0.012*	15,0 *0.591*	10,2 *0.402*	5,56 *0.219*	18,0 °						■	■											
XOMX160563TR-ME11	6,3 *0.248*	0,2 *0.008*	14,6 *0.575*	10,2 *0.402*	5,3 *0.209*	18,0 °						■	■											
XOMX160508R-M09	0,8 *0.031*	2,0 *0.079*	15,4 *0.606*	10,2 *0.402*	5,9 *0.232*	14,0 °						■	■											
XOMX160508TR-M13	0,8 *0.031*	2,0 *0.079*	15,4 *0.606*	10,2 *0.402*	5,98 *0.235*	9,0 °			■		■		■			■	■	■		■				
XOMX160516TR-M13	1,6 *0.063*	2,0 *0.079*	15,4 *0.606*	10,2 *0.402*	5,98 *0.235*	9,0 °							■											
XOMX160531TR-M13	3,1 *0.122*	1,6 *0.063*	15,4 *0.606*	10,2 *0.402*	5,98 *0.235*	9,0 °							■											
XOMX160504TR-MD14	0,4 *0.016*	2,0 *0.079*	15,4 *0.606*	10,2 *0.402*	6,01 *0.237*	4,0 °			■															

Designation	RE	BS	LE	W1	S	GAN	Grades																				
							PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
XOMX160508TR-MD14	0,8 *0.031*	2,0 *0.079*	15,4 *0.606*	10,2 *0.402*	6,01 *0.237*	4,0 °	■		■		■						■			■				

XO.X18





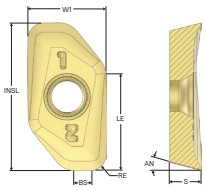
D16 E10 M10 M10-CS M14 MD15 ME13 ZZR-M10



Designation	RE	BS	LE	W1	S	GAN	Grades																		
							PVD									CVD							Uncoated	
	mm Inch	mm Inch	mm Inch	mm Inch	mm Inch		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
XOEX180604FR-E10	0,4 0.016	2,4 0.094	17,0 0.669	11,2 0.441	6,4 0.252	29,0 °							■											■
XOEX180608FR-E10	0,8 0.031	2,4 0.094	17,0 0.669	11,2 0.441	6,4 0.252	29,0 °							■											■
XOEX180616FR-E10	1,6 0.063	2,3 0.091	17,0 0.669	11,2 0.441	6,4 0.252	30,0 °																		■
XOEX180620FR-E10	2,0 0.079	2,2 0.087	17,0 0.669	11,2 0.441	6,4 0.252	30,0 °																		■
XOEX180631FR-E10	3,1 0.122	2,2 0.087	17,0 0.669	11,2 0.441	6,4 0.252	29,0 °																		■
XOEX180608ZZR-M10	0,8 0.031	9,0 0.354	17,0 0.669	11,2 0.441	6,4 0.252	22,4 °							■											
XOMX180604TR-ME13	0,4 0.016	2,4 0.094	17,0 0.669	11,2 0.441	6,4 0.252	25,0 °							■					■						
XOMX180608TR-ME13	0,8 0.031	2,4 0.094	17,0 0.669	11,2 0.441	6,4 0.252	25,3 °							■			■		■		■		■		
XOMX180616TR-ME13	1,6 0.063	2,3 0.091	17,0 0.669	11,2 0.441	6,4 0.252	24,7 °												■						
XOMX180620TR-ME13	2,0 0.079	2,2 0.087	17,0 0.669	11,2 0.441	6,4 0.252	24,7 °							■					■						
XOMX180631TR-ME13	3,1 0.122	2,2 0.087	17,0 0.669	11,2 0.441	6,38 0.251	23,6 °							■					■						
XOMX180640TR-ME13	4,0 0.157	0,8 0.031	17,0 0.669	11,2 0.441	6,38 0.251	24,0 °												■						
XOMX180604R-M10	0,4 0.016	2,4 0.094	17,0 0.669	11,2 0.441	6,4 0.252	22,0 °						■	■											
XOMX180608R-M10	0,8 0.031	2,4 0.094	17,0 0.669	11,2 0.441	6,4 0.252	22,4 °				■		■	■	■	■			■		■		■		
XOMX180616R-M10	1,6 0.063	2,3 0.091	17,0 0.669	11,2 0.441	6,4 0.252	21,7 °						■	■							■		■		
XOMX180620R-M10	2,0 0.079	2,2 0.087	17,0 0.669	11,2 0.441	6,4 0.252	21,8 °						■	■							■				
XOMX180624R-M10	2,4 0.094	2,2 0.087	17,0 0.669	11,2 0.441	6,35 0.250	21,1 °						■	■											
XOMX180631R-M10	3,1 0.122	2,2 0.087	17,0 0.669	11,2 0.441	6,35 0.250	21,0 °						■	■							■		■		
XOMX180640R-M10	4,0 0.157	0,8 0.031	17,0 0.669	11,2 0.441	6,35 0.250	21,0 °						■	■							■				
XOMX180650R-M10	5,0 0.197	0,3 0.012	17,0 0.669	11,2 0.441	6,35 0.250	19,4 °						■	■	■	■					■				
XOMX180663R-M10	6,3 0.248	0,3 0.012	17,0 0.669	11,2 0.441	6,35 0.250	19,0 °						■	■							■				
XOMX180608R-M10-CS	0,8 0.031	2,4 0.094	17,0 0.669	11,2 0.441	6,4 0.252	22,4 °			■			■	■					■		■				
XOMX180608TR-M14	0,8 0.031	2,38 0.094	17,0 0.669	11,2 0.441	6,4 0.252	15,5 °			■	■	■		■			■	■	■		■				
XOMX180612TR-M14	1,2 0.047	2,4 0.094	17,0 0.669	11,2 0.441	6,4 0.252	15,5 °			■		■		■			■	■	■		■				
XOMX180616TR-M14	1,6 0.063	2,3 0.091	17,0 0.669	11,2 0.441	6,4 0.252	15,0 °					■		■			■		■		■				
XOMX180620TR-M14	2,0 0.079	2,2 0.087	17,0 0.669	11,2 0.441	6,4 0.252	15,0 °							■					■		■				

Designation	RE	BS	LE	W1	S	GAN	Grades																				
							PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
XOMX180624TR-M14	2,4 *0.094*	2,2 *0.087*	17,0 *0.669*	11,2 *0.441*	6,37 *0.251*	14,0 °							■					■		■				
XOMX180631TR-M14	3,1 *0.122*	2,2 *0.087*	17,0 *0.669*	11,2 *0.441*	6,37 *0.251*	14,0 °					■		■					■		■				
XOMX180608TR-MD15	0,8 *0.031*	2,4 *0.094*	17,0 *0.669*	11,2 *0.441*	6,4 *0.252*	15,9 °	■		■	■	■		■			■	■	■		■				
XOMX180612TR-MD15	1,2 *0.047*	2,4 *0.094*	17,0 *0.669*	11,2 *0.441*	6,4 *0.252*	15,0 °					■		■				■							
XOMX180616TR-MD15	1,6 *0.063*	2,3 *0.091*	17,0 *0.669*	11,2 *0.441*	6,4 *0.252*	15,3 °					■		■			■				■				
XOMX180608TR-D16	0,8 *0.031*	2,4 *0.094*	17,0 *0.669*	11,2 *0.441*	6,4 *0.252*	11,0 °				■						■	■	■		■				
XOMX180631TR-D16	3,1 *0.122*	2,2 *0.087*	17,0 *0.669*	11,2 *0.441*	6,39 *0.252*	9,0 °					■						■							

XPKX08/12

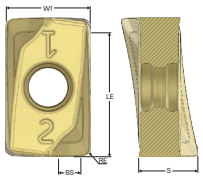


E06/E08



Designation	RE	BS	LE	INSL	W1	S	GAN	Grades																				
								PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
XPKX080304PDER-E06	0,4 *0.016*	1,3 *0.051*	8,0 *0.315*	13,0 *0.512*	7,0 *0.276*	3,4 *0.134*	11,0																		■
XPKX080308PDER-E06	0,8 *0.031*	1,3 *0.051*	8,0 *0.315*	13,0 *0.512*	7,0 *0.276*	3,4 *0.134*	11,0																		■
XPKX080316PDER-E06	1,6 *0.063*	1,2 *0.047*	8,0 *0.315*	13,0 *0.512*	7,0 *0.276*	3,4 *0.134*	11,0																		■
XPKX080320PDER-E06	2,0 *0.079*	1,3 *0.051*	8,0 *0.315*	13,0 *0.512*	7,0 *0.276*	3,4 *0.134*	11,0																		■
XPKX080324PDER-E06	2,4 *0.094*	1,2 *0.047*	8,0 *0.315*	13,0 *0.512*	7,0 *0.276*	3,4 *0.134*	11,0																		■
XPKX080331PDER-E06	3,1 *0.122*	0,5 *0.020*	8,0 *0.315*	13,0 *0.512*	7,0 *0.276*	3,4 *0.134*	11,0																		■
XPKX12T304PDER-E08	0,4 *0.016*	1,5 *0.059*	12,1 *0.476*	18,8 *0.740*	10,0 *0.394*	3,97 *0.156*	11,0																		■
XPKX12T308PDER-E08	0,8 *0.031*	1,5 *0.059*	12,1 *0.476*	18,8 *0.740*	10,0 *0.394*	3,97 *0.156*	11,0																		■
XPKX12T320PDER-E08	2,0 *0.079*	1,9 *0.075*	12,1 *0.476*	18,8 *0.740*	10,0 *0.394*	3,97 *0.156*	11,0																		■
XPKX12T324PDER-E08	2,4 *0.094*	1,5 *0.059*	12,1 *0.476*	18,8 *0.740*	10,0 *0.394*	3,97 *0.156*	11,0																		■
XPKX12T331PDER-E08	3,1 *0.122*	1,7 *0.067*	12,1 *0.476*	18,8 *0.740*	10,0 *0.394*	3,97 *0.156*	11,0																		■
XPKX12T340PDER-E08	4,0 *0.157*	1,1 *0.043*	12,1 *0.476*	18,8 *0.740*	10,0 *0.394*	3,97 *0.156*	11,0																		■

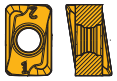
ZOMX11/16



ZOMX16

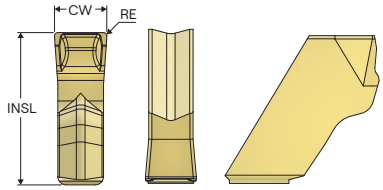


ZOMX11



Designation	RE	BS	LE	W1	S	GAN	Grades																		
							PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
ZOMX110708TR-ME10	0,8 *0.031*	1,5 *0.059*	10,8 *0.425*	7,92 *0.312*	6,22 *0.245*	34,0 °						■	■					■		■				
ZOMX110708R-M08	0,8 *0.031*	1,5 *0.059*	10,8 *0.425*	7,92 *0.312*	6,22 *0.245*	29,0 °						■	■					■		■				
ZOMX110708TR-M12	0,8 *0.031*	1,5 *0.059*	10,8 *0.425*	7,92 *0.312*	6,22 *0.245*	24,0 °			■				■				■	■		■				
ZOMX110708TR-MD14	0,8 *0.031*	1,5 *0.059*	10,8 *0.425*	7,92 *0.312*	6,22 *0.245*	22,0 °			■		■						■							
ZOMX160708TR-ME10	0,8 *0.031*	2,0 *0.079*	15,5 *0.610*	10,76 *0.424*	7,38 *0.291*	39,1 °						■	■					■		■				
ZOMX160708TR-M12	0,8 *0.031*	2,0 *0.079*	15,5 *0.610*	10,76 *0.424*	7,38 *0.291*	29,0 °			■		■		■				■	■		■				
ZOMX160716TR-ME10	1,6 *0.063*	1,2 *0.047*	15,5 *0.610*	10,76 *0.424*	7,26 *0.286*	39,1 °						■	■					■						
ZOMX160716TR-M12	1,6 *0.063*	1,2 *0.047*	15,5 *0.610*	10,76 *0.424*	7,26 *0.286*	29,0 °			■				■				■	■						

150.10



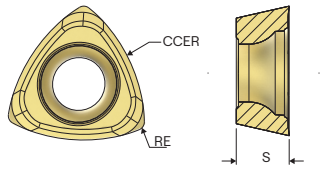

150.10-12


150.10-14


150.10-16

Designation	RE	CW	INSL	Grades																						
				PVD												CVD								Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	CP500	CP600	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	TGP45	H15	H25
150.10-2.5N-12	0,17 *0.007*	2,5 *0.098*	9,0 *0.354*										■	■						■		■		
150.10-3N-12	0,19 *0.007*	3,1 *0.122*	9,0 *0.354*										■	■						■		■		
150.10-2.25N-14	0,15 *0.006*	2,25 *0.089*	9,0 *0.354*										■	■								■		
150.10-2.5N-14	0,17 *0.007*	2,5 *0.098*	9,0 *0.354*										■	■						■		■		
150.10-3N-14	0,19 *0.007*	3,1 *0.122*	9,0 *0.354*										■	■						■		■		
150.10-2.25N-16	0,15 *0.006*	2,25 *0.089*	9,0 *0.354*										■	■						■		■		
150.10-2.5N-16	0,17 *0.007*	2,5 *0.098*	9,0 *0.354*										■	■						■		■		
150.10-3N-16	0,19 *0.007*	3,1 *0.122*	9,0 *0.354*										■	■						■		■		
150.10-4N-12	0,23 *0.009*	4,1 *0.161*	9,0 *0.354*										■	■						■		■		
150.10-4N-14	0,23 *0.009*	4,1 *0.161*	9,0 *0.354*										■	■						■		■		
150.10-4N-16	0,23 *0.009*	4,1 *0.161*	9,0 *0.354*										■	■						■		■		

218.19



E04-E07



M04-M11



MD04-MD11

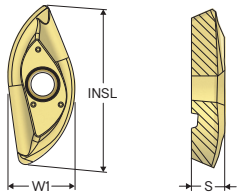


ME07-ME12



Designation	RE	CCER	S	GAN	Grades																		
					PVD										CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
218.19-160-04-E07	1,2 *0.047*	16,0 *0.630*	4,76 *0.187*	20,0 °																		■
218.19-125T-T3-ME07	0,8 *0.031*	12,5 *0.492*	3,97 *0.156*	20,0 °							■											
218.19-160T-04-ME08	1,2 *0.047*	16,0 *0.630*	4,76 *0.187*	20,0 °							■											
218.19-200T-05-ME10	0,6 *0.024*	20,0 *0.787*	5,5 *0.217*	20,0 °							■											
218.19-080T-M04	0,4 *0.016*	8,0 *0.315*	2,38 *0.094*	7,0 °				■			■					■						
218.19-100T-M06	0,8 *0.031*	10,0 *0.394*	2,78 *0.109*	7,0 °				■	■	■	■					■	■	■				
218.19-125T-T3-M07	0,8 *0.031*	12,5 *0.492*	3,97 *0.156*	10,0 °				■	■	■	■					■	■	■		■		
218.19-160T-04-M11	1,2 *0.047*	16,0 *0.630*	4,76 *0.187*	15,0 °											■	■	■					
218.19-160T-04-M08	1,2 *0.047*	16,0 *0.630*	4,76 *0.187*	10,0 °				■	■	■	■	■				■	■	■		■		
218.19-200T-05-M10	0,6 *0.024*	20,0 *0.787*	5,5 *0.217*	10,0 °							■											
218.19-080T-MD04	0,4 *0.016*	8,0 *0.315*	2,38 *0.094*	0,0 °		■											■					
218.19-100T-MD08	0,8 *0.031*	10,0 *0.394*	2,78 *0.109*	0,0 °		■										■	■					
218.19-125T-T3-MD10	0,8 *0.031*	12,5 *0.492*	3,97 *0.156*	0,0 °		■									■	■	■	■				
218.19-125T-T3-MD08	0,8 *0.031*	12,5 *0.492*	3,97 *0.156*	0,0 °				■	■													
218.19-160T-04-MD11	1,2 *0.047*	16,0 *0.630*	4,76 *0.187*	0,0 °		■	■								■	■	■	■				
218.19-160T-04-MD09	1,2 *0.047*	16,0 *0.630*	4,76 *0.187*	0,0 °				■	■													

218.20

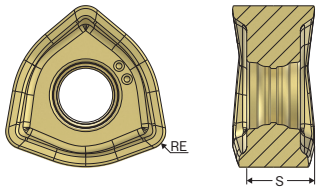


ME/M



Designation	INSL	W1	S	GAN	Grades																		
					PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
218.20-0.250ER-ME03	12,42 *0.489*	5,46 *0.215*	2,52 *0.099*	11,0 °							■											
218.20-0.250ER-M03	12,42 *0.489*	5,46 *0.215*	2,52 *0.099*	7,0 °							■											
218.20-0.375ER-M05	18,62 *0.733*	8,19 *0.322*	3,85 *0.152*	3,0 °							■											
218.20-0.375ER-ME05	18,62 *0.733*	8,19 *0.322*	3,85 *0.152*	11,0 °						■	■											
218.20-0.750ER-M10	36,44 *1.435*	15,12 *0.595*	7,625 *0.300*	-2,0 °																■		
218.20-0.750ER-ME10	36,44 *1.435*	15,12 *0.595*	7,625 *0.300*	6,0 °							■											
218.20-060ER-ME03	11,73 *0.462*	5,16 *0.203*	2,37 *0.093*	12,0 °						■	■											
218.20-080ER-ME04	15,64 *0.616*	6,88 *0.271*	3,21 *0.126*	5,0 °						■	■							■				
218.20-080ER-M04	15,64 *0.616*	6,88 *0.271*	3,21 *0.126*	1,0 °							■									■		
218.20-100ER-ME05	19,55 *0.770*	8,59 *0.338*	4,05 *0.159*	3,0 °						■	■									■		
218.20-100ER-M05	19,55 *0.770*	8,59 *0.338*	4,05 *0.159*	2,0 °							■									■		
218.20-125ER-ME07	24,48 *0.964*	10,74 *0.423*	5,05 *0.199*	11,0 °						■	■									■		
218.20-125ER-M07	24,48 *0.964*	10,74 *0.423*	5,05 *0.199*	1,0 °							■											
218.20-150ER-ME07	28,7 *1.130*	11,91 *0.469*	5,99 *0.236*	6,0 °						■	■											
218.20-150ER-M08	28,7 *1.130*	11,91 *0.469*	5,99 *0.236*	-2,0 °							■									■		
218.20-160ER-ME08	30,61 *1.205*	12,7 *0.500*	6,4 *0.252*	6,0 °						■	■									■		
218.20-160ER-M08	30,61 *1.205*	12,7 *0.500*	6,4 *0.252*	-2,0 °							■									■		
218.20-200ER-ME10	38,26 *1.506*	15,88 *0.625*	8,06 *0.317*	6,0 °						■	■									■		
218.20-200ER-M10	38,26 *1.506*	15,88 *0.625*	8,06 *0.317*	-2,0 °							■											
218.20-250ER-ME12	47,83 *1.883*	19,85 *0.781*	10,16 *0.400*	6,0 °						■	■									■		
218.20-250TR-M14	47,83 *1.883*	19,85 *0.781*	10,16 *0.400*	-2,0 °							■											

218.21



M15



MD17



ME13



Designation	RE	S	GAN	Grades																		
				PVD										CVD							Uncoated	
	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
218.21-230TR-06-ME13	1,6 *0.063*	5,95 *0.234*	21,0 °						■	■						■	■		■		
218.21-230TR-06-M15	1,6 *0.063*	5,95 *0.234*	17,0 °					■	■	■	■				■	■	■				
218.21-230TR-06-MD17	1,6 *0.063*	6,02 *0.237*	7,0 °			■		■						■	■	■					

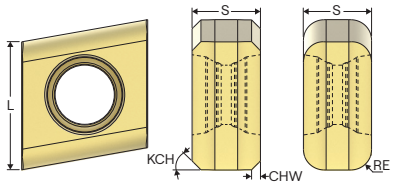
R235.15



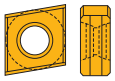
E05

Designation	RE	W1	S	GAN	Grades																	
					PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
R235.15-032-E05	0,4 *0.016*	11,15 *0.439*	5,0 *0.197*	22,0 °				■														
R235.15-050-E05	0,4 *0.016*	11,75 *0.463*	5,0 *0.197*	22,0 °				■														
R235.15-080-E05	0,4 *0.016*	11,75 *0.463*	5,0 *0.197*	22,0 °				■														

335.18

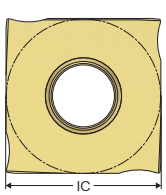


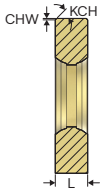
M10/M11/M12



Designation	CHW	L	S	KCH°	Grades																		
					PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
335.18-1005T-M10	0,5 *0.020*	10,0 *0.394*	5,4 *0.213*	45,0			■				■			■	■	■						
335.18-100508-M10	–	10,0 *0.394*	5,4 *0.213*	0,0														■				
335.18-1305T-M11	0,5 *0.020*	12,7 *0.500*	5,4 *0.213*	45,0			■				■			■	■	■						
335.18-130508-M11	–	12,7 *0.500*	5,4 *0.213*	0,0														■				
335.18-1606T-M12	0,5 *0.020*	16,0 *0.630*	6,4 *0.252*	45,0							■				■	■						
335.18-160608-M12	–	16,0 *0.630*	6,4 *0.252*	0,0																		

335.19





M08

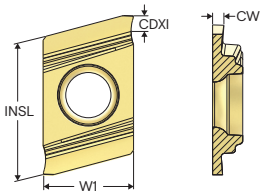


MD09



Designation	CHW	L	IC	KCH°	Grades																		
					PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
335.19-1102-M08	0,1 *0.004*	2,3 *0.091*	11,0 –	45,0							■											
335.19-1103-M08	0,1 *0.004*	2,7 *0.106*	11,0 –	45,0							■											
335.19-1203-M08	0,15 *0.006*	3,2 *0.126*	12,7 –	45,0							■											
335.19-1204-M08	0,15 *0.006*	4,0 *0.157*	12,7 –	45,0							■											
335.19-12045-M08	0,15 *0.006*	4,5 *0.177*	12,7 –	45,0							■											
335.19-1205-M08	0,15 *0.006*	5,4 *0.213*	12,7 –	45,0							■											
335.19-1207-M08	0,15 *0.006*	7,0 *0.276*	12,7 –	45,0							■											
335.19-1203T-MD09	0,1 *0.004*	3,2 *0.126*	12,7 –	20,0							■											
335.19-12045T-MD09	0,1 *0.004*	4,5 *0.177*	12,7 –	20,0							■											
335.19-1204T-MD09	0,1 *0.004*	4,0 *0.157*	12,7 –	20,0							■											
335.19-1205T-MD09	0,1 *0.004*	5,4 *0.213*	12,7 –	20,0							■					■			■			
335.19-1207T-MD09	0,1 *0.004*	7,0 *0.276*	12,7 –	20,0							■											

R335.15-13/18



E08 

M12 

M8 

Designation	INSL	W1	CW	CDXI	GAN	Grades																		
						PVD									CVD							Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MH1051	F15M	MK2050	F30M	MP3000	MS2050	F40M	MP2050	MP2051	MK1501	MP1501	MP2501	MS2500	MP3501	T25M	MM4500	H15	H25
R335.15-13110FG-E08	13,5 *0.531*	9,0 *0.354*	1,13 *0.044*	1,8 *0.071*	15,0 °							■											
R335.15-13130FG-E08	13,5 *0.531*	9,0 *0.354*	1,33 *0.052*	2,0 *0.079*	15,0 °							■											
R335.15-13160FG-E08	13,5 *0.531*	9,0 *0.354*	1,63 *0.064*	2,6 *0.102*	15,0 °							■											
R335.15-13185FG-E08	13,5 *0.531*	9,0 *0.354*	1,88 *0.074*	2,6 *0.102*	15,0 °							■											
R335.15-13215FG-E08	13,5 *0.531*	9,0 *0.354*	2,18 *0.086*	3,15 *0.124*	15,0 °							■											
R335.15-13265FG-E08	13,5 *0.531*	9,0 *0.354*	2,68 *0.106*	3,15 *0.124*	15,0 °							■											
R335.15-13215FG-M10	13,5 *0.531*	9,0 *0.354*	2,18 *0.086*	3,15 *0.124*	0,0 °							■											
R335.15-13265FG-M10	13,5 *0.531*	9,0 *0.354*	2,68 *0.106*	3,15 *0.124*	0,0 °							■											
R335.15-18315FG-M12	18,0 *0.709*	9,0 *0.354*	3,2 *0.126*	3,8 *0.150*	0,0 °							■											
R335.15-18350FG-M12	18,0 *0.709*	9,0 *0.354*	3,55 *0.140*	4,1 *0.161*	0,0 °							■											
R335.15-18400FG-M12	18,0 *0.709*	9,0 *0.354*	4,05 *0.159*	4,8 *0.189*	0,0 °							■											
R335.15-18415FG-M12	18,0 *0.709*	9,0 *0.354*	4,2 *0.165*	4,8 *0.189*	0,0 °							■											
R335.15-18500FG-M12	18,0 *0.709*	9,0 *0.354*	5,05 *0.199*	5,5 *0.217*	0,0 °							■											
R335.15-18515FG-M12	18,0 *0.709*	9,0 *0.354*	5,2 *0.205*	5,5 *0.217*	0,0 °							■											

Tolerance (mm): CW: +0/+0.05 - CDX: +0/+0.15

Cutting data calculation

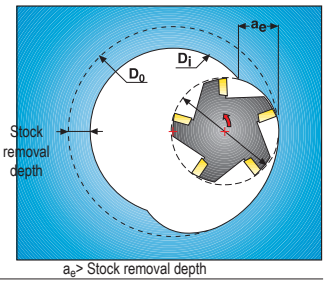
RPM	$n = \frac{v_c \cdot 1000}{\pi \cdot D_c}$	(rev/min) (inch/min)
Cutting speed	$v_c = \frac{n \cdot \pi \cdot D_c}{1000}$	(m/min) (ft/min)
Feed speed	$v_f = n \cdot ZEFP \cdot f_z$	(mm/min) (inch/min)
Feed per revolution	$f = ZEFP \cdot f_z$	(mm/rev) (inch/rev)
Material removal rate	$Q = \frac{a_e \cdot a_p \cdot v_f}{1000}$	(cm^3/min) ($inch^3$/min)
Cutting speed and RPM for copying	$v_c = \frac{n \cdot \pi \cdot D_w}{1000}$	(m/min) (ft/min)
	$D_w = 2 \cdot \sqrt{a_p (D_c - a_p)}$	(mm) (inch)
	$n = \frac{v_c \cdot 1000}{\pi \cdot D_w}$	(RPM)

Effective No. of teeth (ZEFP)
The effective No. of teeth (ZEFP) is used to calculate the feed speed (v_f) and the feed per revolution (f).
For most of the cutters the effective No. of teeth (ZEFP) is equal to the No. of teeth in the cutter (ZNP), but for some of the cutters ZEFP is less than ZNP.

Cutting data calculation

Internal circular interpolation
When using circular interpolation or helical interpolation ramping to increase the diameter of a hole in a workpiece, the stock removal depth is not the same as the width of cut value. The real width of cut must be calculated from the formula below. The width of cut value is then used for calculation of feed/tooth and feed speed.

$$a_e = \frac{D_o^2 - D_i^2}{4\,(D_o - D_c)}$$

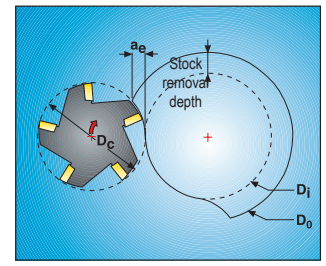


a_e> Stock removal depth

External circular interpolation
When using external circular interpolation or helical interpolation ramping to decrease the diameter of a round workpiece the stock removal depth is not the same as the width of cut value. The real width of cut must be calculated from the formula below.

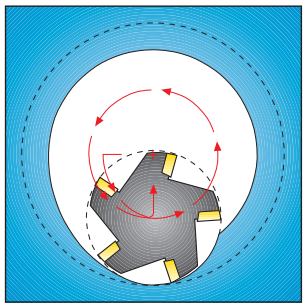
The width of cut is then used for calculation of feed/tooth and feed speed.

$$a_e = \frac{D_o^2 - D_i^2}{4\,(D_i + D_c)}$$

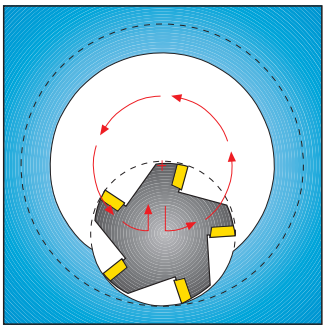


a_e> Stock removal depth

Increase the width of cut successively to full value
For circular interpolation operations it is recommended to successively increase the width of cut up to full value. When using radial infeed up to full width of cut, reduce the feed/tooth and feed speed to half.

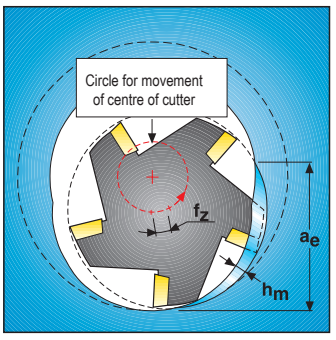


Successive increase of width of cut – recommended method.



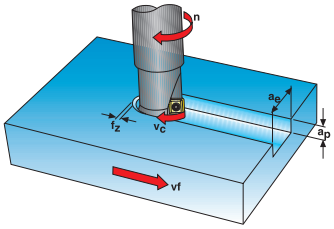
Radial infeed – Reduce feed/tooth.

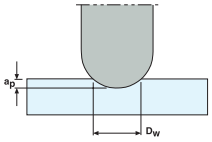
Feed speed related to the centre of the cutter
When calculating feed speed and feed/tooth from average chip thickness using circular interpolation or helical interpolation ramping in an operation, the feed speed and feed/tooth are always related to the centre and not to the periphery of the cutter.

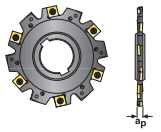


a_e> Stock removal depth

Cutting data calculation







a_e	=	Width of cut mm/radial depth of cut
a_p	=	Depth of cut mm/axial depth of cut
DC	=	Cutter diameter
f	=	Feed per revolution
f_z	=	Feed per tooth
ZEFP	=	Effective No. of teeth for calculation of feed speed or feed per rev (see below)
n	=	RPM
Q	=	Material removal rate
V_c	=	Cutting speed
v_f	=	Feed speed
v_f	=	Feed speed

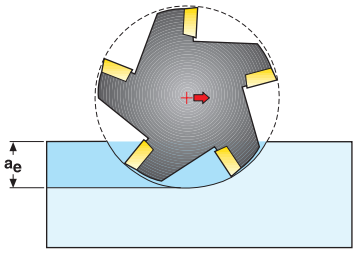
Example: Disc mill 335.19
Total No. of teeth (ZNP) = 12 Effective No. of teeth (ZEFP) = 6

Explanation: 6 inserts on one side of the cutter and 6 overlapping inserts on the other side are used to get the full width (a_p) ,which means ZEFP = 6.

Side milling

Relative engagement of the cutter diameter (a_e/DC=%)
30%
20%
10%
5%

Multiply the feed per tooth by the following factor
1.25
1.5
2.0
3.0



This table can be used for cutters with cutting edge angle = 90º

a_e/DC %	Feed Per Tooth, mm/tooth (f_z)													Speed Factor
	0,03	0,06	0,08	0,10	0,15	0,20	0,25	0,30	0,40	0,50	0,60	0,80	1,00	
	Average Chip Thickness, mm/tooth (hm)													
Width of cut up to and including DC/2														
2 (0.02)					0,02	0,03	0,04	0,04	0,06	0,07	0,08	0,11	0,14	1.8
3 (0.03)				0,02	0,03	0,03	0,04	0,05	0,07	0,09	0,10	0,14	0,17	1.7
5 (0.05)			0,02	0,02	0,03	0,04	0,06	0,07	0,09	0,11	0,13	0,18	0,22	1.6
10 (0.10)		0,02	0,02	0,03	0,05	0,06	0,08	0,09	0,12	0,16	0,19	0,25	0,31	1.5
15 (0.15)	0,011	0,02	0,03	0,04	0,06	0,08	0,09	0,11	0,15	0,19	0,23	0,30		1.4
20 (0.20)	0,013	0,03	0,03	0,04	0,06	0,09	0,11	0,13	0,17	0,22	0,26			1.35
30 (0.30)	0,016	0,03	0,04	0,05	0,08	0,10	0,13	0,16	0,21	0,26	0,31			1.3
40 (0.40)	0,018	0,04	0,05	0,06	0,09	0,12	0,15	0,18	0,23	0,29				1.25
50 (0.50)	0,02	0,04	0,05	0,06	0,10	0,13	0,16	0,19	0,25	0,32				1.2
Slotting (Width of cut = DC)														
100 (1.00)	0,02	0,04	0,05	0,06	0,10	0,13	0,16	0,19	0,25	0,32				1.0
= Feed per tooth correction example: at 20% engagement also increase speed by 1.35														

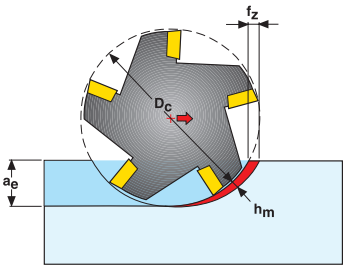
When using side milling it is necessary to increase the feed per tooth to keep the chip thickness at the same value.
It is also possible to increase the cutting speed and keep the same tool life. Use the tables below.

a_e/D_c %	Feed Per Tooth, in/tooth (fz)													Speed Factor
	.0012	.0024	.0031	.004	.006	.008	.010	.012	.016	.020	.024	.031	.039	
	Average Chip Thickness, in/tooth (hm)													
Width of cut up to and including Dc/2														
2 (0.02)					.0008	.0012	.0016	.0016	.0024	.0028	.0031	.0043	.0055	1.8
3 (0.03)				.0008	.0012	.0012	.0016	.0020	.0028	.0035	.0039	.0055	.0067	1.7
5 (0.05)			.0008	.0008	.0012	.0016	.0024	.0028	.0035	.0043	.0051	.0071	.0087	1.6
10 (0.10)		.0008	.0008	.0012	.0020	.0024	.0031	.0035	.0047	.0063	.0075	.0098	.0122	1.5
15 (0.15)	.0004	.0008	.0012	.0016	.0024	.0031	.0035	.0043	.0059	.0075	.0091	.0118		1.4
20 (0.20)	.0005	.0012	.0012	.0016	.0024	.0035	.0043	.0051	.0067	.0087	.0102			1.35
30 (0.30)	.0006	.0012	.0016	.0020	.0031	.0039	.0051	.0063	.0083	.0102	.0122			1.3
40 (0.40)	.0007	.0016	.0020	.0024	.0035	.0047	.0059	.0071	.0091	.0114				1.25
50 (0.50)	.0008	.0016	.0020	.0024	.0039	.0051	.0063	.0075	.0098	.0126				1.2
Slotting (Width of cut = Dc)														
100 (1.00)	.0008	.0016	.0020	.0024	.0039	.0051	.0063	.0075	.0098	.0126				1.0
= Feed per tooth correction example: at 20% engagement also increase speed by 1.35														

Instead of using the table above for calculating hm and fz, the following formula could be used if a_e/DC < 30%.

$$h_m = f_z \cdot \sqrt{\frac{a_e}{D_c}}$$

$$f_z = h_m \cdot \sqrt{\frac{D_c}{a_e}}$$



This table can be used for cutters with cutting edge angle = 45º

a_e/DC %	Feed Per Tooth, mm/tooth (f_z)													Speed Factor
	0,03	0,06	0,08	0,10	0,15	0,20	0,25	0,30	0,40	0,50	0,60	0,80	1,00	
	Average Chip Thickness, mm/tooth (hm)													
Width of cut up to and including DC/2														
2 (0.02)					0,01	0,02	0,02	0,03	0,04	0,05	0,06	0,08	0,10	1.8
3 (0.03)				0,01	0,02	0,02	0,03	0,04	0,05	0,06	0,07	0,10	0,12	1.7
5 (0.05)			0,01	0,02	0,02	0,03	0,04	0,05	0,06	0,08	0,09	0,13	0,16	1.6
10 (0.10)		0,01	0,02	0,02	0,03	0,04	0,05	0,07	0,09	0,11	0,13	0,18	0,22	1.5
15 (0.15)	0,008	0,02	0,02	0,03	0,04	0,05	0,07	0,08	0,11	0,13	0,16	0,21		1.4
20 (0.20)	0,009	0,02	0,02	0,03	0,05	0,06	0,08	0,09	0,12	0,15	0,18			1.35
30 (0.30)	0,011	0,02	0,03	0,04	0,05	0,07	0,09	0,11	0,15	0,18	0,22			1.3
40 (0.40)	0,012	0,02	0,03	0,04	0,06	0,08	0,10	0,12	0,17	0,21				1.25
50 (0.50)	0,01	0,03	0,04	0,05	0,07	0,09	0,11	0,14	0,18	0,23				1.2
Face milling full engagement (Width of cut = DC)														
100 (1.00)	0,02	0,04	0,05	0,06	0,10	0,13	0,16	0,19	0,25	0,32				1.0

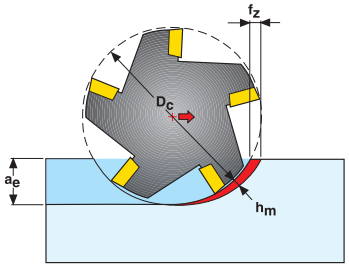
When using side milling it is necessary to increase the feed per tooth to keep the chip thickness at the same value.
It is also possible to increase the cutting speed and keep the same tool life. Use the tables below.

	Feed Per Tooth, in/tooth (f_z)													Speed Factor
	.0012	.0024	.0031	.004	.006	.008	.010	.012	.016	.020	.024	.031	.039	
	Average Chip Thickness, in/tooth (hm)													
Width of cut up to and including D_c/2														
2 (0.02)					.0004	.0008	.0008	.0012	.0016	.0020	.0024	.0031	.0039	1.8
3 (0.03)				.0004	.0008	.0008	.0012	.0016	.0020	.0024	.0028	.0039	.0047	1.7
5 (0.05)			.0004	.0008	.0008	.0012	.0016	.0020	.0024	.0031	.0035	.0051	.0063	1.6
10 (0.10)		.0004	.0008	.0008	.0012	.0016	.0020	.0028	.0035	.0043	.0051	.0071	.0087	1.5
15 (0.15)	.0003	.0008	.0008	.0012	.0016	.0020	.0028	.0031	.0043	.0051	.0063	.0083		1.4
20 (0.20)	.0004	.0008	.0008	.0012	.0020	.0024	.0031	.0035	.0047	.0059	.0071			1.35
30 (0.30)	.0004	.0008	.0012	.0016	.0020	.0028	.0035	.0043	.0059	.0071	.0087			1.3
40 (0.40)	.0005	.0008	.0012	.0016	.0024	.0031	.0039	.0047	.0067	.0083				1.25
50 (0.50)	.0004	.0012	.0016	.0020	.0028	.0035	.0043	.0055	.0071	.0091				1.2
Face milling full engagement (Width of cut = D_c)														
100 (1.00)	.0004	.0012	.0016	.0020	.0028	.0035	.0043	.0055	.0071	.0091				1.0

Instead of using the table above for calculating hm and fz, the following formula could be used if a_e/DC < 30%.

$$h_m = f_z \cdot \sqrt{\frac{a_e}{D_C}} \cdot \sin \kappa$$

$$f_z = h_m \cdot \sqrt{\frac{D_C}{a_e}} \cdot \frac{1}{\sin \kappa}$$



This table can be used for cutters with cutting edge angle = 60º

a_e/DC %	Feed Per Tooth, mm/tooth (f_z)													Speed Factor
	0,03	0,06	0,08	0,10	0,15	0,20	0,25	0,30	0,40	0,50	0,60	0,80	1,00	
	Average Chip Thickness, mm/tooth (hm)													
Width of cut up to and including DC/2														
2 (0.02)					0,02	0,02	0,03	0,04	0,05	0,06	0,07	0,10	0,12	1.8
3 (0.03)				0,01	0,02	0,03	0,04	0,04	0,06	0,07	0,09	0,12	0,15	1.7
5 (0.05)			0,02	0,02	0,03	0,04	0,05	0,06	0,08	0,10	0,12	0,15	0,19	1.6
10 (0.10)		0,02	0,02	0,03	0,04	0,05	0,07	0,08	0,11	0,13	0,16	0,22	0,27	1.5
15 (0.15)	0,010	0,02	0,03	0,03	0,05	0,07	0,08	0,10	0,13	0,16	0,20	0,26		1.4
20 (0.20)	0,011	0,02	0,03	0,04	0,06	0,07	0,09	0,11	0,15	0,19	0,22			1.35
30 (0.30)	0,013	0,03	0,04	0,04	0,07	0,08	0,11	0,13	0,18	0,22	0,27			1.3
40 (0.40)	0,015	0,03	0,04	0,05	0,08	0,10	0,13	0,15	0,20	0,25				1.25
50 (0.50)	0,02	0,03	0,04	0,06	0,08	0,11	0,14	0,17	0,22	0,28				1.2
Face milling full engagement (Width of cut = DC)														
100 (1.00)	0,02	0,04	0,05	0,06	0,10	0,13	0,16	0,19	0,25	0,32				1.0

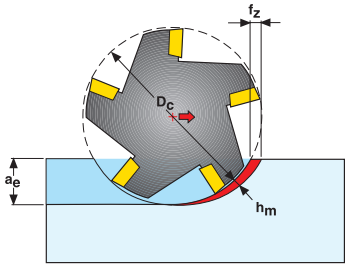
When using side milling it is necessary to increase the feed per tooth to keep the chip thickness at the same value.
It is also possible to increase the cutting speed and keep the same tool life. Use the tables below.

a_e/D_c %	Feed Per Tooth, in/tooth (f_z)													Speed Factor
	.0012	.0024	.0031	.004	.006	.008	.010	.012	.016	.020	.024	.031	1,00	
	Average Chip Thickness, in/tooth (hm)													
Width of cut up to and including $D_c/2$														
2 (0.02)					.0008	.0008	.0012	.0016	.0020	.0024	.0028	.0039	.0047	1.8
3 (0.03)				.0004	.0008	.0012	.0016	.0016	.0024	.0028	.0035	.0047	.0059	1.7
5 (0.05)			.0008	.0008	.0012	.0016	.0020	.0024	.0031	.0039	.0047	.0059	.0075	1.6
10 (0.10)		.0008	.0008	.0012	.0016	.0020	.0028	.0031	.0043	.0051	.0063	.0087	.0106	1.5
15 (0.15)	.0004	.0008	.0012	.0012	.0020	.0028	.0031	.0039	.0051	.0063	.0079	.0102		1.4
20 (0.20)	.0004	.0008	.0012	.0016	.0024	.0028	.0035	.0043	.0059	.0075	.0087			1.35
30 (0.30)	.0005	.0012	.0016	.0016	.0028	.0031	.0043	.0051	.0071	.0087	.0102			1.3
40 (0.40)	.0006	.0012	.0016	.0020	.0031	.0039	.0051	.0059	.0079	.0098				1.25
50 (0.50)	.0008	.0012	.0016	.0024	.0031	.0043	.0055	.0067	.0087	.0110				1.2
Face milling full engagement (Width of cut = D_c)														
100 (1.00)	.0008	.0012	.0016	.0024	.0031	.0043	.0055	.0067	.0087	.0110				1.0

Instead of using the table above for calculating hm and fz, the following formula could be used if $a_e/DC < 30\%$.

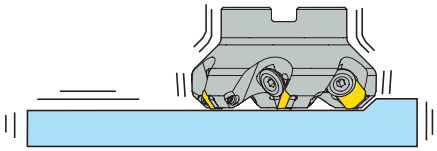
$$h_m = f_z \cdot \sqrt{\frac{a_e}{D_c}}$$

$$f_z = h_m \cdot \sqrt{\frac{D_c}{a_e}}$$

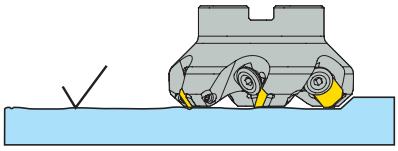


Trouble shooting carbide milling

Vibrations



- Improve the stability of cutter and workpiece.
- Change cutter positioning.
- Minimize tool overhang.
- Reduce the cutting speed.
- Increase the feed rate.
- Reduce the depth of cut.
- Select a different insert geometriy, see page Insert geometry
- Use Steadyline antivibration bar



- Improve the stability of cutter and workpiece.
- Minimize tool overhang.
- Reduce the feed rate.
- Incease the cutting speed
- Use coolant.
- Use wiper inserts.
- Keep feed/rev value within wiper width
- Use Steadyline antivibration bar

Tool life problems

Rapid flank wear



- Reduce the cutting speed.
- Increase the feed rate.
- Climb milling.

Rapid notch wear



- Reduce the cutting speed.
- Increase the feed rate.
- Increase the depth of cut.
- Climb milling.
- Change cutter positioning

Chipping



- Increase the cutting speed.
- reduce the feed rate.
- Conventional milling.
- Improve chip evacuation.
- Change cutter positioning.
- Minimize tool overhang.
- Improve stability.

Comb cracks



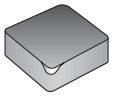
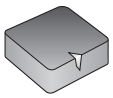
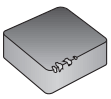
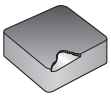
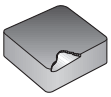
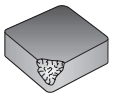
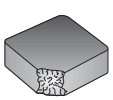
- Reduce the cutting speed.
- Reduce the feed rate.
- No coolant
- Change cutter positioning.

Built-up edge (BUE)

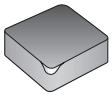
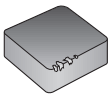


- Increase the cutting speed.
- Increase the feed rate
- No coolant.
- Climb milling.
- Change cutter positioning

Troubleshooting – PCBN

Problem		Cause	Suggested action(s)
Flank wear		Not correct edge temperature	• Increase cutting speed • Increase feed rate • Increase depth of cut • Check cutting tool centre height • Check the ferrite content
Crater wear		Not correct edge temperature	• Decrease cutting speed • Decrease feed rate • Reduce chamfer angle • Use E edge preparation • Use coated insert • Use coolant (only in continuous cut)
Notch wear		Not correct edge temperature Too high cutting forces	• Increase cutting speed • Decrease feed rate • Increase insert approach angle (preferably round inserts) • Vary the depth of cut • Use inserts with chamfered cutting edges
Edge chipping		Too high cutting forces	• Use inserts with chamfered cutting edges • Increase system rigidity • For interrupted cuts, chamfer the tool entry/exit slots and holes • Vary the cutting speed to eliminate vibrations
Edge flaking (continuous cut)		Too high cutting forces	• Increase cutting speed • Reduce feed rate • Use chamfered and honed cutting edges • Check cutting tool center height • Reduce insert approach angle
Edge flaking (interrupted cut)		Too high cutting forces	• Do not use coolant • Use chamfered and honed cutting edges • Reduce feed rate • Increase cutting speed • Check cutting tool centre height • Reduce insert approach angle
Edge breakage		Too high cutting forces	• Reduce depth of cut • Reduce cutting speed • Increase nose radius • Use chamfered and honed inserts • Check cutting tool center height
Insert breakage		Too high cutting forces	• Check insert seating • Check insert shim and insert clamp • Check cutting tool centre height

Troubleshooting – PCD

Problem		Cause	Suggested action(s)
Flank wear		Wrong grade Precense of Fe/Ni/Co	• Change to coarser PCD grade • Check material composition • Reduce cutting speed • Use coolant
Built-up edge		Not correct edge temperature Wrong grade	• Decrease or increase cutting speed • Choose a sharper insert • Change to a finer grade
Edge chipping		Poor rigidity Wrong grade Incorrect cutting data High run-out	• Minimize vibrations • Change to a tougher grade • Change cutting data • Check set-up
Poor surface finish		Wrong grade Too high cutting data Incrrect wiper position	• Change to a finer PCD grade • Reduce cutting speed and feed rate • Check wiper position
Flaking of workpiece		Too high depth of cut	• Decrease depth of cut • Add entry chamfer on component

Torque keys, insert keys and Combimaster tightening torque

The range of Torque keys with fixed torque values are available in combinations of key grip/torque value for insert locking for most of the Seco milling products. By using a Torque key you always ensure the correct tightening force when mounting the insert.
Torque keys are calibrated according to ISO 6789.

Code key: T00-15P35

T00 = Torque screw driver type for Torx Plus blade
T00T= Torque T-handle type for Torx Plus blade

15P= Torx Plus size
35 = Torque value 3,5 Nm

Please observe that blades are not interchangeable between screw driver type and T-handle type.
Torx Plus® is a registered trade mark belonging to
Camcar-Textron (USA)

Torque key*	Replaceable blade	Torx Plus size	Torque value Nm/in.lbs
T00-06P05	T00-06P	T06P	0,5 / *4.4*
T00-07P05	T00-07P	T07P	0,5 / *4.4*
T00-07P09	T00-07P	T07P	0,9 / *8.0*
T00-08P12	T00-08P	T08P	1,2 / *10.6*
T00-08P20	T00-08P	T08P	2,0 / *17.7*
T00-09P09	T00-09P	T09P	0,9 / *8.0*
T00-09P12	T00-09P	T09P	1,2 / *10.6*
T00-09P20	T00-09P	T09P	2,0 / *17.7*
T00-10P20	T00-10P	T10P	2,0 / *17.7*
T00-10P30	T00-10P	T10P	3,0 / *26.6*
T00-10P35	T00-10P	T10P	3,5 / *31.0*
T00-15P20	T00-15P	T15P	2,0 / *17.7*
T00-15P30	T00-15P	T15P	3,0 / *26.6*
T00-15P35	T00-15P	T15P	3,5 / *31.0*
T00-15P40	T00-15P	T15P	4,0 / *35.4*
T00-15P50	T00-15P	T15P	5,0 / *44.3*
T00-20P35	T00-20P	T20P	3,5 / *31.0*
T00-20P50	T00-20P	T20P	5,0 / *44.3*

*Including blade

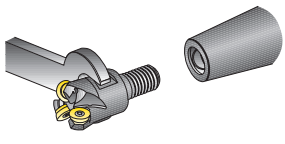
Torque key*	Replaceable blade	Torx Plus size	Torque value Nm/in.lbs
T00T-15P50	T00T-15P	T15P	5,0 / *44.3*
T00T-20P50	T00T-20P	T20P	5,0 / *44.3*
T00T-20P60	T00T-20P	T20P	6,0 / *53.1*
T00T-20P80	T00T-20P	T20P	8,0 / *70.8*
T00T-25P50	T00T-25P	T25P	5,0 / *44.3*
T00T-25P60	T00T-25P	T25P	6,0 / *53.1*
T00T-25P80	T00T-25P	T25P	8,0 / *70.8*

*Including blade

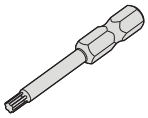
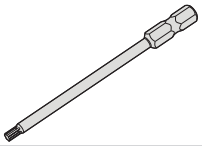
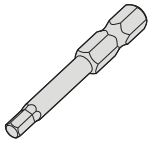
Torx Plus size	Torx Plus bit - short	Torx Plus bit - long	Key (T-handle)
T06P	H4B-T06P	-	DOUBLE-T
T07P	H4B-T07P	-	DOUBLE-T
T08P	H4B-T08P	-	DOUBLE-T
T09P	H4B-T09P	-	DOUBLE-T
T10P	H4B-T10P	-	DOUBLE-T
T15P	H4B-T15P	H4B-T15PL	DOUBLE-T
T20P	H6B-T20P	H6B-T20PL	DOUBLE-T
T25P	H6B-T25P	H6B-T25PL	DOUBLE-T
T30P	-	H6B-T30PL	DOUBLE-T

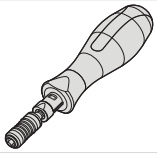
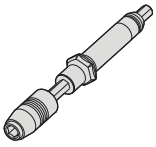
Hexagonal size	Hexagonal bit - short	Hexagonal bit - long	Key (T-handle)
3,0 mm	H6B-3.0	-	DOUBLE-T
5,0 mm	-	H6B-H5.0L	DOUBLE-T

Combimaster size M	Tightening torque
M6	10 Nm
M8	25 Nm
M10	40 Nm
M12	60 Nm
M16	80 Nm
M20	120 Nm



1/4" Hex Drive Bits and Adjustable Torque handles.

Size	Torx Plus bits (50 mm / 1.96 Inch)	Torx Plus bits (90 mm / 3.54 Inch)	Hexagonal bits (50 mm / 1.96 Inch)
			
Torx Plus - T05P	1/4HEX-T05Px50	-	
Torx Plus - T06P	1/4HEX-T06Px50	-	
Torx Plus - T07P	1/4HEX-T07Px50	-	
Torx Plus - T08P	1/4HEX-T08Px50	1/4HEX-T08Px90	
Torx Plus - T09P	1/4HEX-T09Px50	1/4HEX-T09Px90	
Torx Plus - T10P	1/4HEX-T10Px50	1/4HEX-T10Px90	
Torx Plus - T15P	1/4HEX-T15Px50	1/4HEX-T15Px90	
Torx Plus - T20P	1/4HEX-T20Px50	1/4HEX-T20Px90	
Torx Plus - T25P	1/4HEX-T25Px50	1/4HEX-T25Px90	
Torx Plus - T30P	1/4HEX-T30Px50	-	
Hexagonal - 2,5mm	-	-	1/4HEX-H2.5x50
Hexagonal - 3,0mm	-	-	1/4HEX-H3.0x50
Hexagonal - 4,0mm	-	-	1/4HEX-H4.0x50
Hexagonal - 5,0mm	-	-	1/4HEX-H5.0x50
Hexagonal - 6,0mm	-	-	1/4HEX-H6.0x50

Adjustable torque S-handle 0,8 - 5,0 Nm (7.1 - 44.0 in.lbs) *	Bit holder for S-HANDLE **	Adjustable torque T-handle 5,0 - 14,0 Nm (44.0 - 123.9 in.lbs) *	Bit holder for T-HANDLE ***
			
1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-BITHOLDER-S	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-BITHOLDER-T

* Including Bit holder
**The bit holder is also compatible with the fixed Torque keys.
*** The bit holder is also compatible with the fixed T-handle Torque keys.

Steels, ferritic and martensitic stainless steels

SMG	Description	Properties	Reference	$k_{c1.1}$	m_c
P1	Free-cutting steels	360 < R_m < 880	11 SMn30 R_m = 385 N/mm²	1500	0,14
P2	Low-alloy ferritic steels, C < 0.25%wt Low-alloy weldable general structural steels	320 < R_m < 600	S235JRG2 R_m = 420 N/mm²	1600	0,23
P3	Ferritic & ferritic/pearlitic steels, C < 0.25%wt Weldable general structural steels Case-hardening steels	430 < R_m < 610	16 MnCr 5 R_m = 550 N/mm²	1800	0,14
P4	Low-alloy general structural steels, 0.25% < C < 0.67%wt Low-alloy Quench & Temper steels	520 < R_m < 1200	C 45E R_m = 660 N/mm²	2000	0,15
P5	Structural steels, 0.25% < C < 0.67%wt Quench & Temper steels	550 < R_m < 1200	42 CrMo 4 R_m = 700 N/mm²	2020	0,18
P6	Low-alloy through-hardening steels, C > 0.67%wt Low-alloy spring and bearing steels	520 < R_m < 1200	C 100S R_m = 600 N/mm²	2100	0,17
P7	Through-hardening steels, C > 0.67%wt Spring and bearing steels	600 < R_m < 1200	100 Cr 6 R_m = 650 N/mm²	2160	0,17
P8	Tool steels High Speed Steels (HSS)	600 < R_m < 1200	X 40 CrMoV 5 1 R_m = 700 N/mm²	2400	0,20
P11	Ferritic & martensitic stainless steels	415 < R_m < 1200	X 20 Cr 13 R_m = 675 N/mm²	2000	0,15
P12	Maraging and precipitation-hardening stainless steels	500 < R_m < 1200	X 5 CrNiCuNb 16 4 R_m = 1100 N/mm²	2100	0,17

Free-cutting, austenitic and duplex stainless steels

SMG	Description	Properties	Reference	$k_{c1.1}$	m_c
M1	Free-cutting austenitic stainless steels		X 10 CrNiS 18 9	1700	0,14
M2	Low-alloy austenitic stainless steels		X 5 CrNi 18 10	1920	0,18
M3	Medium-alloy austenitic stainless steels		X 2 CrNiMo 18 14 3	2070	0,17
M4	High-alloy austenitic and duplex stainless steels		X 2 CrNiMoN 22 5 3	2230	0,16
M5	Difficult high-alloy austenitic and duplex stainless steels		X 2 CrNiMoN 25 7 4	2510	0,13

Cast irons

SMG	Description	Properties	Reference	$k_{c1.1}$	m_c
K1	Grey cast irons (GCI)		EN-GJL-250	930	0,32
K2	Compacted graphite irons (CGI)		EN-GJV-400	1000	0,35
K3	Malleable cast irons (MCI)		EN-GJMB-550-4	1050	0,37
K4	Nodular cast irons (SGI)		EN-GJS-500-7	1160	0,37
K5	Austempered ductile irons (ADI)		EN-GJS-1000-5	0	
K6	Austenitic lamellar cast irons		EN-GJLA-XNiCuCr15-6-2	0	
K7	Austenitic nodular cast irons		EN-GJSA-XNiMn23-4	0	

Non-ferrous metals

SMG	Description	Properties	Reference	$k_{c1.1}$	m_c
N1	Aluminium alloys, Si < 9%		AW-7075	0	
N2	Aluminium alloys, 9% < Si < 16%		AC-44200 Si = 12%	0	
N3	Aluminium alloys, Si >16%		AlSi17Cu5	0	
N11	Copper alloys		CW614N	740	0,26

Superalloys and titanium

SMG	Description	Properties	Reference	$k_{c1.1}$	m_c
S1	Iron-based superalloys		Discalloy	0	
S2	Cobalt-based superalloys		Stellite 21	0	
S3	Nickel-based superalloys		Inconel 718	2530	0,21
S11	Titanium, low alloyed, (α)		Ti	0	
S12	Titanium, medium alloyed, (α+β)		TiAl6V4	1500	0,24
S13	Titanium, high alloyed, (near β and β)		Ti10V2Fe3Al	0	

Hard materials

SMG	Description	Properties	Reference	$k_{c1.1}$	m_c
H3	Case-hardened steels	58 < HRC < 62	16 MnCr 5 60 HRC	2070	0,14
H5	Quenched & Tempered steels	38 < HRC < 56	42 CrMo 4 50 HRC	2320	0,18
H7	Quenched & Tempered steels Bearing steels	56 < HRC < 64	100 Cr 6 60 HRC	2480	0,17
H8	Tool steels High Speed Steels (HSS)	38 < HRC < 64	X 40 CrMoV 5 1 50 HRC	2750	0,20
H11	Martensitic stainless steels	38 < HRC < 50	X 20 Cr 13 45 HRC	2300	0,15
H12	Maraged and precipitation-hardened stainless steels	1200 < R_m < 1650	X 5 CrNiCuNb 16 4 R_m = 1450 N/mm^2	2410	0,17
H21	Manganese steels	23 < HRC < 64	X 120 Mn 12 50 HRC	0	
H31	White cast irons	50 < HRC < 64	EN-GJN-HV600(XCr11) 55 HRC	0	

Other difficult materials

SMG	Description	Properties	Reference	$k_{c1.1}$	m_c
PM1	Low-alloy PM-materials		F-0008 Fe-0.7C	0	
PM2	Medium-alloy PM-materials		FLC-4608 Fe2Cu1.8Ni 0.5Mo0.2Mn0.8C	0	
PM3	High-alloy PM-materials Exhaust valve seat materials, etc.			0	
HF1	Hardfacing alloys Welded or plasma-deposited iron-based alloys			0	
HF2	Hardfacing alloys Welded or plasma-deposited cobalt- and nickel-based alloys			0	
CC1	Sintered tungsten carbide		G50	0	

Plastics and Composites

SMG	Description	Properties	Reference	$k_{c1.1}$	m_c
TS1	Thermosetting polymers		Urea formaldehyde (UF)	0	
TS2	Thermosetting carbon-fibre composites		T300 T700 T800 HTA-S IMA - Epoxy (M21)...	0	
TS3	Thermosetting glass-fibre composites		Epoxy - HX..(42..)/E glass (7781...)...	0	
TS4	Thermosetting aramide-fibre composites		Kevlar 49	0	
TP1	Thermoplastic polymers		Polycarbonate (PC)	0	
TP2	Thermoplastic carbon-fibre composites		PPS/PEEK - T300..	0	
TP3	Thermoplastic glass-fibre composites		PPS/PEEK - E-glass or A-glass...	0	
TP4	Thermoplastic aramide-fibre composites			0	

Graphite

SMG	Description	Properties	Reference	$k_{c1.1}$	m_c
GR1	Graphite		R 8500	0	

SMG	EN	EN-Nr	W.-Nr	DIN	AFNOR	BS	UNI	JIS	SS	UNS
	11 SMn 30	1.0715	1.0715	9 SMn 28	S 250	230 M 07	CF 9 SMn 28	SUM 22	1912	G12130
	11 SMnPb 30	1.0718	1.0718	9 SMnPb 28	S 250 Pb		CF 9 SMnPb 28	SUM 22 L	1914	G12134
	10 S 20	1.0721	1.0721	10 S 20	10 F 1	210 M 15	CF 10 S 20			
			1.0722	10 SPb 20	10 PbF 2		CF 10 SPb 20			
P1	15 SMn 13	1.0725	1.0723	15 S 20		210 A 15		SUM 32	1922	
	35 S20	1.0726	1.0726	35 S 20	35 MF 4	212 M 36			1957	G11400
	46 S20	1.0727	1.0727	46 S 20	45 MF 4	212 M 44			1973	G11460
	11 SMn 37	1.0736	1.0736	9 SMn 36	S 300	240 M 07	CF 9 SMn 36			G12150
	11 SMn 37	1.0736	1.0736	9 SMn 36	S 300	240 M 07	CF 9 SMn 36			G12150
	S235JR	1.0037	1.0037	St 37-2	E 24-2		Fe 360 B	STKM 12 C	1311	
	S235JRG2	1.0038	1.0116	St 37-3	E 24-3, E 24-4	4360-40 C	Fe 360 D FF		1312, 1313	
	S275J2G3	1.0144	1.0144	St 44-3 N	E 28-3, E 28-4	4360-43 C	Fe 430 D FF	SM 41 C	1412, 1414	
	C 10	1.0301	1.0301	C 10	34 C 10, XC 10	045 M 10	C 10	S 10 C		G10100
P2			1.0401	C 15	37 C 12, XC 18	080 M 15	C 15, C 16		1350	G10170
	C22	1.0402	1.0402	C 22	C 20	050 A 20	C 20, C 21		1450	G10200
	S355JR	1.0570	1.0570	St 52-3	E 36-3, E 36-4	4360-50 C	Fe 510 B	SM 50 YA	2172, 2132	
	C 15R	1.1141	1.1141	Ck 15	XC 15, XC 18	080 M 15	C 15, C 16	S 15 C, S 15 CK	1370	G10170
			1.1158	Ck 25	XC 25	060 A 25	C 25	S 25 C		G10250
			1.2162	21 MnCr 5	20 NC 5			SCR 420 H		
	16 Mo 3	1.5415	1.5415	15 Mo 3	15 D 3	1501-240	16 Mo 3		2912	
			1.5423	16 Mo 5		1503-245-420	16 Mo 5	SB 450 M		G45200
	14 NiCr 14	1.5752	1.5752	14 NiCr 14	12 NC 15	655 M 13		SNC 815 (H)		G33106
			1.5919	15 CrNi 6	16 NC 6	S 107	16 CrNi 4			
	18 NiCrMo 7 6	1.6587	1.6587	18 CrNiMo 7 6	18 NCD 6	820 A 16	18 NiCrMo 7			
P3	16 MnCr 5	1.7131	1.7131	16 MnCr 5	16 MC 5	527 M 17	16 MnCr 5	SCR 415	2511	G51170
	16 MnCrS 5	1.7139	1.7139	16 MnCrS 5						
	20 MnCr 5	1.7147	1.7147	20 MnCr 5	20 MC 5		20 MnCr 5	SMnC 420 (H)		G51200
	20 MnCrS 5	1.7149	1.7149	20 MnCrS 5	20 MnCrS 5			SMnC 21 H		
	13 CrMo 4 5	1.7335	1.7335	13 CrMo 4 4	15 CD 3.5	1501-620 Gr. 27	14 CrMo 4 5		2216	
			1.7337	16 CrMo 4 4	15 CD 4.5	1501-620 Gr. 27	14 CrMo 4 5		2216	
	10 CrMo 9 10	1.7380	1.7380	10 CrMo 9 10	10 CD 9.10	1501-622 Gr. 31	12 CrMo 9 10		2218	J21890
	C35		1.0501	C 35	55 C 35	060 A 35	C 35		1550	G10350
	E 335	1.0503	1.0503	C 45	65 C 45	80 M 46	C 45	S 45 C	1650	G10430
	C40		1.0511	C 40	60 C 40	080 M 40	C 40	S 40 C		
	E 360	1.0070	1.0535	St 70-2	A 70-2		Fe 690		1655	
	C60	1.0601	1.0601	C 60	CC 55	080 A 62	C 60			G10600
P4			1.1157	40 Mn 4	35 M 5	150 M 36				G10390
	G 28 Mn6	1.1165	1.1165	30 Mn 5		120 M 36		SMn 1 H, SCMn 2		G13300
	C 35E	1.1181	1.1181	Ck 35	XC 38 H1	080 M 36	C 35	S 35 C	1572	G10340
	C 45E	1.1191	1.1191	Ck 45	XC 42	080 M 46	C 45	S 45 C	1672	G10420
	C 60E	1.1221	1.1221	Ck 60	XC 60	080 A 62	C 60	S 58 C	1665, 1678	G10640
			1.1740	C 60 W	Y3 55			SK 7		
	55 SiCr7	1.7100	1.0904	55 Si 7	55 S 7	250 A 53	55 Si 8		2085, 2090	
			1.2330	35 CrMo 4	34 CD 4	708 A 37	35 CrMo 4		2234	T51620
			1.2542	45 WCrV 7		BS 1	45 WCrV 8 KU		2710	T41901
		1.2714	1.2714	56 NiCrMoV 7		BH 224-5	56 NiCrMoV7-KU	SKT 4		T61206
			1.5121	46 MnSi 4						
			1.5710	36 NiCr 6	35 NC 6	640 A 35		SNC 236		
			1.5736	36 NiCr 10	35 NC 11		35 NiCr 9	SNC 631 (H)		
	36 CrNiMo 4		1.6511	36 CrNiMo 4	40 NCD 3	816 M 40	38 NiCrMo 4 (KB)			G98400
P5	34 CrNiMo 6	1.6582	1.6582	34 CrNiMo 6	35 NCD 6	817 M 40	35 NiCrMo 6 (KW)	SNCM 447	2541	G43400
	34 Cr 4	1.7033	1.7033	34 Cr 4	32 C 4	530 A 32	34 Cr 4 (KB)	SCR 430 (H)		G51320
	41 Cr 4	1.7035	1.7035	41 Cr 4	42 C 4	530 M 40	41 Cr 4	SCR 440 (H)		G51400
	25 CrMo 4	1.7218	1.7218	25 CrMo 4	25 CD 4 S	708 M 25	25 CrMo 4 (KB)	SCM 425	2225	G41300
	42 CrMo 4	1.7225	1.7225	42 CrMo 4	42 CD 4	708 M 40	42 CrMo 4	SCM 440 (H)	2244	G41400
	42 CrMo 4	1.7225	1.7225	42 CrMo 4	42 CD 4	708 M 40	42 CrMo 4	SCM 440 (H)	2244	G41400
			1.7361	32 CrMo 12	30 CD 12	722 M 24	32 CrMo 12		2240	
	50 CrV 4	1.8159	1.8159	50 CrV 4	50 CV 4	735 A 50	51 CrV 4	SUP 10	2230	H61500
	41 CrAlMo 7 10	1.8509	1.8509	41 CrAlMo 7	40 CAD 6.12	905 M 39	41 CrAlMo 7	SACM 645	2940	K24065
	C 67S	1.1231	1.1231	Ck 67	XC 68	060 A 67	C 70		1770	G10700
	C 100S	1.1274	1.1274	Ck 101		060 A 96		SUP 4	1870	G10950
P6	C 105U	1.1545	1.1545	C 105 W1	Y1 105		C 100 KU		1880	
			1.1645	C 105 W2	Y1 105		C 100 KU	SK 3		
			1.1663	C 125 W	Y2 120		C 120 KU	SK 2		

U.N.E./ I.H.A.	AISI / ASTM	GOST	CSN	Misc. Brands	Condition	Structure
	1213				Annealed	
	12 L 13				Annealed	
	1108				Annealed	
	11 L 08				Annealed	
					Annealed	
	1140	40			Annealed	
	1146				Annealed	
	1215				Annealed	
	12 L 14				Annealed	
		16D			Annealed	
	A573 Grade 58	18kp	11 378		Annealed	
	A573 Grade 70	St14kP	11 448		Annealed	
	1010	10			Annealed	
F.1110	1015	15			Annealed	
	1020, 1023	20	12 024		Annealed	
		17G1S	11 523		Annealed	
F.1511	1015	15			Annealed	
F.1120	1025	25			Annealed	
					Annealed	
	A204 Grade A		15 020		Annealed	
	4520				Annealed	
	3310, 9314	20X2H4A	16 420		Annealed	
	4320		16 220		Annealed	
					Annealed	
F.1516	5115	12KHN2	14 220		Annealed	
		18HG			Annealed	
	5120	20KH	14 221		Annealed	
	5120 H	20KH			Annealed	
	A182-F11, A182-F12	12KHM	15 121		Annealed	
	A387 Grade 12 Cl. 2				Annealed	
F.155	A182-F22	12KH8	15 313		Annealed	
F.1130	1035	35	12 040		Annealed	
F.5110	1045	45	12 050		Annealed	
	1040	40	12 041		Annealed	
F.1150	1055	55			Annealed	
	1060	60	12 061		Annealed	
	1039	40G			Annealed	
	1330	30G2			Annealed	
F.1135	1035	35			Annealed	
F.1140	1045	45	12 050		Annealed	
F.1150	1064	60			Annealed	
	1060	60			Annealed	
F.144	9255	55S2			Annealed	
F.1250	4135	35KHM			Annealed	
F.5241	S1	5KHV2S			Annealed	
	L6	5KHNV			Annealed	
	5045				Annealed	
	3135				Quenched & Tempered	
	3435				Annealed	
	9840				Quenched & Tempered	
F.1280	4340	38H2N2MA	16 343		Annealed	
	5132	35KH			Quenched & Tempered	
	5140	40H	14 140		Quenched & Tempered	
F.1251	4130	20KHM	15 130		Quenched & Tempered	
F.1252	4142, 4140	38HM	15 142		Annealed	
F.1252	4142, 4140	38HM	15 142		Quenched & Tempered	
					Quenched & Tempered	
F.143	6150	50KHFA	15 260		Quenched & Tempered	
F.1740	A355 Cl. A				Annealed	
F.5103	1070	70			Annealed	
F.5117	1095				Annealed	
F.5118	W1	U10A			Annealed	
		U10			Annealed	
	W1	U13			Annealed	

SMG	EN	EN-Nr	W.-Nr	DIN	AFNOR	BS	UNI	JIS	SS	UNS
P7	107 CrV 3	1.2210	1.2210	115 CrV 3	100 C 3		107 CrV 3 KU			T61202
			1.2510	100 MnCrW 4	90 MWCV 5	BO 1	95 MnWCr 5 KU	SKS 3	2140	T31501
	90 MnCrV 8	1.2842	1.2842	90 MnCrV 8	90 MV 8	BO 2	90 MnVCr 8 KU			T31502
	100 Cr 6	1.3505	1.3505	100 Cr 6	100 C 6	534 A 99	100 Cr 6	SUJ 2	2258	G51986
P8	X 210 Cr 12	1.2080	1.2080	X 210 Cr 12	Z 200 C 12	BD 3	X 210 Cr 13 KU	SKD 1		T30403
			1.2343	X 38 CrMoV 5 1	Z 38 CDV 5	BH 11	X 37 CrMoV 5 1 KU	SKD 6		T20811
	X 40 CrMoV 5 1	1.2344	1.2344	X 40 CrMoV 5 1	Z 40 CDV 5	BH 13	X 40 CrMo 5 1 1 KU	SKD 61	2242	T20813
	X 100 CrMoV 5	1.2363	1.2363	X 100 CrMoV 5 1	Z 100 CDV 5	BA 2	X 100 CrMoV 5 1 KU	SKD 12	2260	T30102
			1.2365	X 32 CrMoV 3 3	32 DCV 28	BH 10	30 CrMoV 12 27 KU	SKD 7		T20810
			1.2436	X 210 CrW 12			X 215 CrW 12 1 KU	SKD 2	2312	
			1.2601	X 165 CrMoV 12			X 165 CrMoW 12 KU		2310	
			1.2713	55 NiCrMoV 6	55 NCDV 7			SKT 4		T61206
	HS 6-5-2-5	1.3243	1.3243	S 6-5-2-5	Z 85 WDKCV 06-05-05-04-02		HS 6-5-2-5	SKH 55	2723	
	HS 2-10-1-8	1.3247	1.3247	S 2-10-1-8	Z 110 DKCWV 09-08-04	BM 42	HS 2-9-1-8	SKH 51		T11342
	HS 18-1-2-5	1.3255	1.3255	S 18-1-2-5	Z 80 WKCV 18-05-04-01	BT 4	HS 18-1-1-5	SKH 3		T12004
	HS 6-5-2	1.3343	1.3343	S 6-5-2	Z 85 WDCV 06-05-04-02	BM 2	HS 6-5-2	SKH 9, SKH 51	2722	T11302
	HS 2-9-2	1.3348	1.3348	S 2-9-2	Z 100 DCWV 09-04-02-02		HS 2-9-2	SKH 58	2782	T11307
	HS 18-0-1	1.3355	1.3355	S 18-0-1	Z 80 WCV 18-04-01	BT 1	HS 18-0-1	SKH 2		T12001
P11	X 6 Cr 13	1.4000	1.4000	X 6 Cr 13	Z 6 C 12	403 S 17	X 6 Cr 13	SUS 403	2301	S41008
	X 12 Cr 13	1.4006	1.4006	X 10 Cr 13	Z 10 C 13	410 S 21	X 12 Cr 13	SUS 410	2302	S41000
	X 6 Cr 17	1.4016	1.4016	X 6 Cr 17	Z 8 C 17	430 S 15	X 8 Cr 17	SUS 430	2320	S43000
	X 20 Cr 13	1.4021	1.4021	X 20 Cr 13	Z 20 C 13	420 S 37	X 20 Cr 13	SUS 420 J 1	2303	S42000
	X 39 Cr 13	1.4031	1.4031	X 40 Cr 13	Z 40 C 14	420 S 45	X 40 Cr 14	SUS 420	2304	S40280
	X 70 CrMo 15	1.4109	1.4109	X 65 CrMo 14	Z 70 D 14			SUS 440 A		S44002
	X 90 CrMoV 18	1.4112	1.4112	X 90 CrMoV 18	Z 2 CND 18 05	409 S 19	X CrTi 12	SUS 440 B	2327	S44003
	X 105 CrMo 17	1.4125	1.4125	X 105 CrMo 17	Z 100 CD 17		X 105 CrMo 17	SUS 440 C		S44004
	X 3 CrNIMo 13 3	1.4313	1.4313	X 5 CrNi 13 4	Z 5 CN 13.4	425 C 11	X 6 CrNi 13 04	SCS 5	2385	S41500
	X 18 CrN 28	1.4749	1.4749	X 18 CrN 28	Z 18 C 25				2322	S44600
P12	X 6 NiCrTiMoV 25 15	1.4534	1.4534	X 3 CrNiMoAl 13 8 2						S13800
	X 4 CrNiCuNb 16 4	1.4540	1.4540	X 4 CrNiCuNb 16 4						S15500
		1.4540	1.4540	X 4 CrNiCuNb 16 4	Z 4 CNUNb 16.4 M					S15500
	X 4 CrNiCuNb 16 4	1.4540	1.4540	X 4 CrNiCuNb 16 4						S15500
	X 5 CrNiCuNb 16 4	1.4542	1.4542	X 5 CrNiCuNb 16 4				SUS 630		S17400
	X 5 CrNiCuNb 17 4	1.4548	1.4542	X 5 CrNiCuNb 17 4	Z 6 CNU 17.4			SCS 24, SUS 630		S17400
	X 7 CrNiAl 17 7	1.4564	1.4564	X 7 CrNiAl 17 7	Z 9 CAN 17.7	301 S 81	X 7 CrNiAl 17 7	SUS 631	2388	S17700
	X 2 NiCoMoTi 18 12 4	1.6356	1.6356	X 2 NiCoMoTi 18 12 4						K93160
	X 2 NiCoMoTi 18 9 5	1.6358	1.6358	X 2 NiCoMoTi 18 9 5	Z 2 NKD 19-09					K93120
	X 2 NiCoMo 18 9 5	1.6358	1.6358	X 2 NiCoMoTi 18 9 5	Z 2 NKD 19-09					K93120
	X 2 NiCoMo 18 8 5	1.6359	1.6359	X 2 NiCoMo 18 8 5		S 162				K92890
	X 2 NiCoMo 18 8 5	1.6359	1.6359	X 2 NiCoMo 18 8 5		S 162				K92890
M1	X 10 CrNiS 18 9	1.4305	1.4305	X 10 CrNiS 18 9	Z 10 CNF 18.09	303 S 31	X 10 CrNi 18 09	SUS 303	2346	S30300
M2	X 2 CrNi 19 11	1.4306	1.4306	X 2 CrNi 19 11	Z 2 CN 18.10	304 S 12	X 3 Cr Ni 18 11	SUS 304 L	2352	S30403
	X 5 CrNi 18 10	1.4301	1.4301	X 5 CrNi 18 10	Z 6 CN 18.09	304 S 31	X 5 CrNi 18 11	SUS 304	2333	S30400
	X 5 CrNiMo 17 12 2	1.4401	1.4401	X 5 CrNiMo 17 12 2	Z 3 CND 17.11.1	316 S 31	X 5 CrNiMo 17 12	SUS 316	2347	S31600
	X 6 CrNiNb 18 10	1.4550	1.4550	X 6 CrNiNb 18 10	Z 6 CNNb 18.10	347 S 31	X 6 CrNiNb 18 11	SUS 347	2338	S34700
	X 9 CrNi 18 8	1.4310	1.4310	X 12 CrNi 17 7	Z 12 CN 17.07	301 S 21	X 12 CrNi 17 07	SUS 301	(2331)	S30100
	X 12 CrNi 18 8	1.4300	1.4300	X 12 CrNi 18 8	Z 12 CN 18	302 S 25		SUS 302	2331	S30200
M3	X 2 CrNiMo 18 14 3	1.4435	1.4435	X 2 CrNiMo 18 14 3	Z 2 CND 17.13	316 S 12	X 2 CrNiMo 17 13 2	SCS 16, SUS 316 L	2353	S31603
	X 2 CrNiMoN 17 13 3	1.4429	1.4429	X 2 CrNiMoN 17 13 3	Z 2 CND 17.13 Az	316 S 62	X 2 CrNiMoN 17 13 3	SUS 316 LN	2375	S31653
	X 2 CrNiN 18 10	1.4311	1.4311	X 2 CrNiN 19 11	Z 2 CN 18 .10 Az	304 S 62	X 2 CrNiN 18 11	SUS 304 LN	2371	S30453
	X 3 CrNiMo 18 12 3	1.4466	1.4466	X 5 CrNi 18 15		317 S 16	X 5 CrNi 18 15	SUS 317	2366	S31700
	X 9 CrNiSiNCe 21 11 2	1.4835	1.4893	X 9 CrNiSiNCe 21 11 2		310 S 31			2368	S30815
	X 12 CrNi 25 21	1.4335	1.4335	X 12 CrNi 25 21	Z 12 CN 25.20	310 S 24	X 6 CrNi 26 20	SUH 310, SUS 310 S	2361	S31008
M4	X 2 CrNiMoN 22 5 3	1.4462	1.4462	X 2 CrNiMoN 22 5	Z 2 CND 22.05 Az	332 S 15	X 2 CrNiMoN 22 5		2377	S31803
	X 2 CrNiMoSi 19 5	1.4424	1.4417	X 2 CrNiMoSi 19 5	Z 2 CND 18.05.03				2376	S31500
	X 2 NiCrMoCu 25 20 5	1.4539	1.4539	X 2 NiCrMoCu 25 20 5	Z 2 NCDU 25 20	904 S 13			2562	N08904
	X 3 CrNiMo 27 5 2	1.4460	1.4460	X 4 CrNiMo 27 5 2	Z 3 CND 25.7 Az		X 3 CrNiMo 27 5 2	SUS 329 J 1	2324	S32900
	X 5 CrNiCuNb 16 4	1.4980	1.4943	X 4 NiCrTi 25 15	Z 6 NCTDV 25.15	HR 51		SUH 660	2570	S66286
M5	X 1 CrNiMoN 20 18 7	1.4547	1.4529	X 1 CrNiMoN 20 18 7	Z 1 CNDU 20.18.05 Az		X 1 CrNiMoN 20 18 7		2778	S31254
	X 1 CrNiMoN 25 22 8	1.4652	1.4652	X 2 CrNiMoN 25 22 7						S32654
	X 10 NiCrAlTi 32 20	1.4876	1.4876	X 10 NiCrAlTi 32 20	Z 10 NC 32.21			NCF 800		N08800
	X 2 CrNiMoN 25 7 4	1.4410	1.4410	X 2 CrNiMoN 25 7 4	Z 3 CND 25.07 Az		X 2 CrNiMoN 25 7 4		2328	S32750

U.N.E./ I.H.A.	AISI / ASTM	GOST	CSN	Misc. Brands	Condition	Structure
F.520L	L2	11KHF			Annealed	
F.5220	O1	9KHVG			Annealed	
	O2	9G2F			Annealed	
F.5230	52100	SHKH15	14 109		Annealed	
F.5212	D3	KH12			Annealed	
	H11	4KH5MFS			Annealed	
F.5318	H13	4KH5MF1S			Annealed	
F.5227	A2	9KH5VF			Annealed	
	H10	3KH3M3F			Annealed	
F.5213		KH12			Annealed	
		KH12MF			Annealed	
F.520.S	L6	5KHNM			Annealed	
F.5613	M35	R6M5K5			Annealed	
	M42	R2AM9K5			Annealed	
	T4	R18K5F2			Annealed	
F.5603	M2	R6M5			Annealed	
	M7				Annealed	
	T1	R18			Annealed	
	403	08KH13			Annealed	Ferritic
F.3401	410, CA-15	12KH13, 08KH13			Annealed	Martensitic
F.3113	430	12KH17			Annealed	Ferritic
F.5261	420	20KH13	17 022		Annealed	Martensitic
F.3404	420	40KH13			Annealed	Martensitic
	440 A				Annealed	Martensitic
	440 B	95KH18			Annealed	Martensitic
	440 C	95KH18			Annealed	Martensitic
	A182 F6NM			F6NM	Annealed	Martensitic
	446	15KH28			Annealed	Ferritic
	XM-13			PH 13-8 Mo	Solution annealed	Austenitic
	XM-12			15-5 PH	H1150	Martensitic
	XM-12			15-5 PH	Solution annealed	Martensitic
	XM-12			15-5 PH	H1025	Martensitic
	SAE 630			17-4 PH	H1150	Martensitic
	630			17-4 PH	Solution annealed	Martensitic
	631	09KH17N7YU1		17-7 PH	Solution annealed	Austenitic/Ferritic
	AMS 6515			Marage 350	Solution annealed	Martensitic
	AMS 6521			Marage 300	Solution annealed	Martensitic
	AMS 6514			Marage 300, Vascomax C300	Solution annealed	Martensitic
	AMS 6512			Marage 250	Solution annealed	Martensitic
	AMS 6512			Marage 250, Vascomax C250	Solution annealed	Martensitic
F.3508	303	12KH19N9			Annealed	Austenitic
F.3504	304 L	03KH18N11			Annealed	Austenitic
F.3504	304	08KH18N10	17 240		Annealed	Austenitic
F.3534	316	08KH17H13M2T	17 346		Annealed	Austenitic
F.3524	347	08KH18N12B			Annealed	Austenitic
F.3517	301	07KH16N6			Annealed	Austenitic
	302	12KH18N9			Annealed	Austenitic
F.3533	(316 L)	03KH17N14M3	17 349		Annealed	Austenitic
	316 LN	03KH16N15M3			Annealed	Austenitic
F.3541	304 LN	03KH18N11			Annealed	Austenitic
	317	08KH17H15M3T			Annealed	Austenitic
				253 MA	Annealed	Austenitic
	310 S	12KH25N20			Annealed	Austenitic
	329 LN			SAF 2205	Annealed	Duplex
				3RE60	Annealed	Duplex
	904L				Annealed	Super austenitic
	329				Annealed	Duplex
	660			A286	Solution annealed	Austenitic
				254 SMO	Annealed	Super austenitic
				654 SMO	Annealed	Super austenitic
				Alloy 800	Annealed	Austenitic
	F 53			SAF 2507	Annealed	Super duplex

SMG	EN	EN-Nr	W.-Nr	DIN	AFNOR	BS	UNI	JIS	SS	UNS
K1	EN-GJL-150	0.6150	0.6150	GG-15	Ft 15 D	Grade 150	G15	FC 150	01 15-00	F11601
	EN-GJL-200	0.6200	0.6200	GG-20	Ft 20 D	Grade 220	G20	FC 200	01 20-00	F12101
	EN-GJL-250	0.6250	0.6250	GG-25	Ft 25 D	Grade 260	G25	FC 250	01 25-00	F12401
	EN-GJL-350	0.6350	0.6350	GG-35	Ft 35 D	Grade 350	G35	FC 350	01 35-00	F13502
	EN-GJL-215			GG-220 HB					02 19	
K2	EN-GJV-300			GJV-300						
	EN-GJV-350			GJV-350						
	EN-GJV-400			GJV-400						
	EN-GJV-450			GJV-450						
	EN-GJV-500			GJV-500						
K3	EN-GJMB-550-4	0.8155		GTS-55-04	P 540/5	P 540/5	P 55-04	PCMP55-04	08 54-00	F24130
K4	EN-GJS-350-22	0.7033	0.7033	GGG-35.3	FGS 370-17	Grade 350/22		FCD 350-22L	07 17-15	
	EN-GJS-400-15	0.7040	0.7040	GGG-40	FGS 400-12	Grade 420/12	GS 400-12	FCD 400-18L	07 17-02	F32800
	EN-GJS-400-18	0.7043	0.7043	GGG-40.3	FGS 370-17	Grade 370/17	GSO 42/17		07 17-12	F32800
	EN-GJS-500-7	0.7050	0.7050	GGG-50	FGS 500-7	Grade 500/7	GS 500-7	FCD 500-7	07 27-02	F33800
	EN-GJS-600-3	0.7060	0.7060	GGG-60	FGS 600-3	Grade 600/3	GS 600-3	FCD 600-3	07 32-03	F34100
	EN-GJS-700-2	0.7070	0.7070	GGG-70	FGS 700-2	Grade 700/2	GS 700-2	FCD 700-2	07 37-01	F34800
K5										ADI grade 5
	EN-GJS-1000-5			GJS-1000-5						ADI grade 2
	EN-GJS-1200-2			GJS-1200-2						ADI grade 3
	EN-GJS-1400-1			GJS-1400-1						ADI grade 4
	EN-GJS-800-8			GJS-800-8						ADI grade 1
K6	EN-GJLA-XNiCr 20-2	0.6660	0.6660	GGL-NiCr 20 2	FGL Ni20 Cr2	Grade F2			05 23-00	F41002
	EN-GJLA-XNiCr 30-3	0.6676	0.6676	GGL-NiCr 30 3	FGL Ni30 Cr3	Grade F3				F41004
	EN-GJLA-XNiCuCr 15-6-2	0.6655	0.6655	GGL-NiCuCr 15 6 2	FGL Ni15 Cu6 Cr2	Grade F1				F41000
K7	EN-GJSA-XNiMn 13-7	0.7652	0.7652	GGG-NiMn 13 7	FGS Ni13 Mn7	Grade S6			07 72-00	
	EN-GJSA-XNiCr 20-2	0.7660	0.7660	GGG-NiCr 20 2	FGS Ni20 Cr2	Grade S2				F43000
	EN-GJSA-XNiMn 23-4	0.7673	0.7673	GGG-NiMn 23 4	FGS Ni23 Mn4	Grade S2M				F43010
	EN-GJSA-XNiCr 30-3	0.7676	0.7676	GGG-NiCr 30 3	FGS Ni30 Cr3	Grade S3				F43003
	EN-GJSA-XNi 35	0.7683	0.7683	GGG-Ni 35	FGS Ni35					F43006
N1	AW-1050A	Al99.5	3.0255	Al99.5	A-5/1050A	1B		(A1050)	4007	AA1050A
	AW-2011	AlCuBiPb	3.1655	AlCuBiPb	A-U5PbBi/2011	FC1		A2011	4355	AA2011
	AW-2014	AlCuSiMn	3.1255	AlCuSiMn	A-U4SG/2014	H15			4338	AA2014
	AW-5005	AlMg1	3.3315	AlMg1	A-G0.6	N41			4106	AA5005
	AW-6060	AlMgSi0.5	3.3206	AlMgSi0.5	A-GS/6060	(H9)			4103	AA6060
	AW-6063	AlMgSi0.7	3.3210	AlMgSi0.7	A-GSUC/6061	(H10)		(A6063)	4104, 4107	AA6005
	AW-3103	AlMn1	3.0515	AlMn1		N3			4054	AA3103
	AW-3003	AlMn1Cu	3.0517	AlMn1Cu	A-M1/3003			A3003		AA3003
	AW-7020	AlZn4.5Mg1	3.4335	AlZn4.5Mg1	A-Z5G/7020	H17			4425	AA7020
	AW-7075		3.4365	AlZnMgCu1.5	A-Z5GU/7075	2L95/2L96		A7075		AA7075
	AC-42000		3.2341	G-AlSi5Mg	A-S7G	LM25	3599	AC 4C	4244	
	AC-46200	AlSi8Cu3(Si)	3.2161	G-AlSi8Cu3					4251	A13800
	MG-P-63	MgAl6Zn	3.5612	G-MgAl6Zn	G-A6-Z1	MAG-E-121				M11600
	MG-P-61	MgAl8Zn	3.5812	G-MgAl8Zn	(G-A7-Z1)					
	MN65120	MgSe3Zn2Zr1	3.5103	G-MgSe3Zn2Zr1	ZRE1	MAG6-TE				M12330
N2	AC-43400	AlSi10Mg(Fe)	3.2381	G-AlSi10Mg	A-S10G	LM9			4253	A13600
	AC-44200	AlSi12	3.2382	GD-AlSi12						
	AW-6082	AlMgSi1	3.2315	AlMgSi1	A-SGM0.7/6082	H30			4212	AA6082
N3		AlSi17Cu5						ADC14		
N11	CC331G		2.0940.01	CuAl10Fe	CuAl10Fe	AB1			5710	C95200
	CC333G		2.0975.01	CuAl10Ni	CuAl10Ni5Fe5	AB2			5716	C95500
		CuNi10Fe1Mn	2.0872	CuNi10Fe1Mn	CuNi10Fe1Mn	CN102			5667	C70600
				CuNi10Zn45						
		CW408J	2.0790	CuNi18Zn19Pb	CuNi18Zn19Pb1					C76300
	CW352H		2.1176	CuPb10Sn	CuSn10Pb10	LB2			5640	C93700
	CC480K		2.1050.01	CuSn10	CuSn10	CT1			5443	C90700
			2.1087	CuSn10Zn					5458	C90500
	CW452K	CuSn6	2.1020	CuSn6	CuSn6	PB103		C5191	5428	C51900
	CW502L	CuZn15	2.0240	CuZn15	CuZn15	CZ102		C2300	5112	C23000
	CW706R	CuZn28Sn1	2.0470	CuZn28Sn1	CuZn29Sn1				5220	C44300
	CW508L	CuZn37	2.0321	CuZn37	CuZn37	CZ108			5150	C27200
	CW717R	CuZn38Sn1	2.0530	CuZn38Sn1						C46400
	CW614N	CuZn39Pb3	2.0401	CuZn39Pb3	CuZn39Pb3	CZ121			5170	C38500
	CW612N	CuZn40Pb2	2.0402	CuZn40Pb2	CuZn39Pb2	CZ120			5168	C37800
	CW622N	CuZn44Pb2	2.0410	CuZn44Pb2		CZ104			5272	C68700

U.N.E./ I.H.A.	AISI / ASTM	GOST	CSN	Misc. Brands	Condition	Structure
	A48 25 B	Sc 15	422 415			Grey cast iron (GCI)
	A48 30 B	Sc 20	422 420			Grey cast iron (GCI)
	A48 35 B	Sc 25	422 425			Grey cast iron (GCI)
	A48 50 B	Sc 35				Grey cast iron (GCI)
	G 3500					Grey cast iron (GCI)
	Grade 350					Compacted graphite iron (CGI)
	Grade 400					Compacted graphite iron (CGI)
	Grade 400-15					Compacted graphite iron (CGI)
	Grade 450					Compacted graphite iron (CGI)
	Grade 500					Compacted graphite iron (CGI)
	A220 60004				Tempered	Malleable cast iron (MCI)
						Nodular cast iron (SGI)
FGE 38-17	60-40-18	Vc 42-12	422 304			Nodular cast iron (SGI)
	60-40-18	Vc 42-12				Nodular cast iron (SGI)
FGE 50-7	A536, 80-55-06	Vc 50-2	422 305			Nodular cast iron (SGI)
FGE 60-2	A476, 80-60-03	Vc 60-2	422 306			Nodular cast iron (SGI)
FGE 70-2	A536, 100-70-03	Vc 70-2				Nodular cast iron (SGI)
	1600/1300/-					Austempered ductile iron (ADI)
	1050/700/7					Austempered ductile iron (ADI)
	1200/850/4					Austempered ductile iron (ADI)
	1400/1100/1					Austempered ductile iron (ADI)
	850/550/10					Austempered ductile iron (ADI)
	A436 Type 2			Ni-Resist 2		Austenitic lamellar cast iron
	A436 Type 3			Ni-Resist 3		Austenitic lamellar cast iron
	A436 Type 1			Ni-Resist 1		Austenitic lamellar cast iron
				Nodumag		Austenitic nodular cast iron
	A436 Type D-2			Ni-Resist D-2		Austenitic nodular cast iron
	A439 Type D-2M			Ni-Resist D-2M		Austenitic nodular cast iron
	A436 Type D-3			Ni-Resist D-3		Austenitic nodular cast iron
	A439 Type D-5			Ni-Resist D-5		Austenitic nodular cast iron
	B26					
	A380					
	AZ61A					
	AZ80A					
	AMS 4442					
	B85					
	A413.2					
	B390.0					
	CA952	BrA9ZH3L				
	CA955	BrA10ZH4N4L				
	CA937					
		BrOF6.5-0.15				
		L90				
		LOMsh70-1-0.05				
		LO60-1				
		LAMsh77-2-0.05				

SMG	EN	EN-Nr	W.-Nr	DIN	AFNOR	BS	UNI	JIS	SS	UNS
S1										
S2										
S3	NiMo30		2.4810							N10002
	NiMo16Cr15W		2.4819							N10276
	NiCr19Fe19Nb5Mo3		2.4668							N07718
			2.4669							N07750
	NiCr20TiAl		2.4631							N07080
	NiCr19Co18Mo4Ti3Al3									N07500
	NiCr20Co13Mo4Ti3Al		2.4654							N07001
S11			3.7024							
										R54620
S12										R56320
	TiAl6V4		3.7164							R56400
S13				TiV10Fe2Al3						
H3	16 MnCr 5	1.7131	1.7131	16 MnCr 5	16 MC 5	527 M 17	16 MnCr 5	SCR 415	2511	G51170
H5	C 67S	1.1231	1.1231	Ck 67	XC 68	060 A 67	C 70		1770	G10700
	C 75S	1.1248	1.1248	Ck 75	XC 75	060 A 78	C 75		1774, 1778	G10780
	C 100S	1.1274	1.1274	Ck 101		060 A 96		SUP 4	1870	G10950
	C 105U	1.1545	1.1545	C 105 W1	Y1 105		C 100 KU		1880	
			1.2550	60 WCrV 7	55 WC 20		55 WCrV 8 KU			
	55 Cr 3	1.7176	1.7176	55 Cr 3	55 C 3	527 A 60	55 Cr 3	SUP 9 (A)	2253	G51550
	42 CrMo 4	1.7225	1.7225	42 CrMo 4	42 CD 4	708 M 40	42 CrMo 4	SCM 440 (H)	2244	G41400
H7	107 CrV 3	1.2210	1.2210	115 CrV 3	100 C 3		107 CrV 3 KU			T61202
			1.2510	100 MnCrW 4	90 MWCV 5	BO 1	95 MnWCr 5 KU	SKS 3	2140	T31501
	90 MnCrV 8	1.2842	1.2842	90 MnCrV 8	90 MV 8	BO 2	90 MnVCr 8 KU			T31502
	100 Cr 6	1.3505	1.3505	100 Cr 6	100 C 6	534 A 99	100 Cr 6	SUJ 2	2258	G51986
H8	X 40 CrMoV 5 1	1.2344	1.2344	X 40 CrMoV 5 1	Z 40 CDV 5	BH 13	X 40 CrMo 5 1 1 KU	SKD 61	2242	T20813
	X 100 CrMoV 5	1.2363	1.2363	X 100 CrMoV 5 1	Z 100 CDV 5	BA 2	X 100 CrMoV 5 1 KU	SKD 12	2260	T30102
	X 155 CrVMo 12 1		1.2379	X 155 CrVMo 12 1	Z 160 CDV 12	BD 2	X 155 CrVMo 12 1 KU	SKD 11		T30402
			1.2436	X 210 CrW 12			X 215 CrW 12 1 KU	SKD 2	2312	
			1.2601	X 165 CrMoV 12			X 165 CrMoW 12 KU		2310	
			1.2713	55 NiCrMoV 6	55 NCDV 7			SKT 4		T61206
	HS 6-5-2-5	1.3243	1.3243	S 6-5-2-5	Z 85 WDKCV 06-05-05-04-02		HS 6-5-2-5	SKH 55	2723	
	HS 2-10-1-8	1.3247	1.3247	S 2-10-1-8	Z 110 DKCWV 09-08-	BM 42	HS 2-9-1-8	SKH 51		T11342
	HS 18-0-1	1.3355	1.3355	S 18-0-1	Z 80 WCV 18-04-01	BT 1	HS 18-0-1	SKH 2		T12001
H11	X 20 Cr 13	1.4021	1.4021	X 20 Cr 13	Z 20 C 13	420 S 37	X 20 Cr 13	SUS 420 J 1	2303	S42000
	X 70 CrMo 15	1.4109	1.4109	X 65 CrMo 14	Z 70 D 14			SUS 440 A		S44002
	X 90 CrMoV 18	1.4112	1.4112	X 90 CrMoV 18	Z 2 CND 18 05	409 S 19	X CrTi 12	SUS 440 B	2327	S44003
	X 105 CrMo 17	1.4125	1.4125	X 105 CrMo 17	Z 100 CD 17		X 105 CrMo 17	SUS 440 C		S44004
H12	X 4 CrNiCuNb 16 4	1.4540	1.4540	X 4 CrNiCuNb 16 4						S15500
	X 5 CrNiCuNb 16 4	1.4542	1.4542	X 5 CrNiCuNb 16 4				SUS 630		S17400
	X 5 CrNiCuNb 16 4	1.4542	1.4542	X 5 CrNiCuNb 16 4				SUS 630		S17400
	X 7 CrNiAl 17 7	1.4568	1.4568	X 7 CrNiAl 17 7	Z 9 CAN 17.7	301 S 81	X 7 CrNiAl 17 7	SUS 631	2388	S17700
	X 8 CrNiMoAl 15 7 5	1.4574	1.4574	X 8 CrNiMoAl 15 7 5						S15700
	X 6 NiCrTiMoV 25 15	1.4980	1.4943	X 4 NiCrTi 25 15	Z 6 NCTDV 25.15	HR 51		SUH 660	2570	S66286
	X 2 NiCoMo 18 8 5	1.6359	1.6359	X 2 NiCoMo 18 8 5		S 162				K92890
	X 2 NiCoMoTi 18 9 5	1.6358	1.6358	X 2 NiCoMoTi 18 9 5	Z 2 NKD 19-09					K93120
	X 2 NiCoMoTi 18 9 5	1.6358	1.6358	X 2 NiCoMoTi 18 9 5	Z 2 NKD 19-09					K93120
	X 2 NiCoMoTi 18 12 4	1.6356	1.6356	X 2 NiCoMoTi 18 12 4						K93160
H21	X 120 Mn 12	1.3401	1.3401	X 120 Mn 12	Z 120 M 12	BW 10		SC MnH 1	2183	
H31	EN-GJN-HV520	0.9620	0.9620	G-X330 NiCr 4 2	FB Ni4 Cr2 BC	Grade 2 A			05 12-00	F45001
	EN-GJN-HV550	0.9625	0.9625	G-X260 NiCr 4 2	FB Ni4 Cr2 HC	Grade 2 B			05 13-00	F45000
	EN-GJN-HV600(XCr11)	0.9630	0.9630	G-X300 CrNiSi 9 5 2	FB Cr9 Ni5	Grade 2 C, D, E			04 57-00	F45003

U.N.E./ I.H.A.	AISI / ASTM	GOST	CSN	Misc. Brands	Condition	Structure
				Discalloy	Precipitation hardened	
				Haynes 25		
				Stellite 21		
				Hastelloy C		
		KHN65MV		Hastelloy C-276		
				IN 100		
				Inconel 718		
				Inconel X-750	Solution annealed	
				Nimonic 80A		
				René 41		
				Udimet 500		
				Waspalloy		
				Ti	Commercially pure	Ti (α)
	AMS 4919			Ti 6-2-4-2	Annealed	Ti (α)
	AMS 4943			Ti 3Al-2.5V (grd 9)	Annealed	Ti (α+β)
	AMS 4920, Grade 5	VT6		Ti 6Al-4V	Annealed	Ti (α+β)
	AMS 4986			Ti 10V-2Fe-3Al	Annealed	Ti (β)
F.1516	5115	12KHN2	14 220		Case hardened	
F.5103	1070	70			Quenched & Tempered	
F.5107	1078, 1080	75			Quenched & Tempered	
F.5117	1095				Quenched & Tempered	
F.5118	W1	U10A			Quenched & Tempered	
	S1	5KHV2SF			Quenched & Tempered	
	5155				Quenched & Tempered	
F.1252	4142, 4140	38HM	15 142		Quenched & Tempered	
F.520L	L2	11KHF			Quenched & Tempered	
F.5220	O1	9KHVG			Quenched & Tempered	
	O2	9G2F			Quenched & Tempered	
F.5230	52100	SHKH15	14 109		Quenched & Tempered	
F.5318	H13	4KH5MF1S			Quenched & Tempered	
F.5227	A2	9KH5VF			Quenched & Tempered	
F.5211	D2	KH12MF			Quenched & Tempered	
F.5213		KH12			Quenched & Tempered	
		KH12MF			Quenched & Tempered	
F.520.S	L6	5KHNM			Quenched & Tempered	
F.5613	M35	R6M5K5			Quenched & Tempered	
	M42	R2AM9K5			Quenched & Tempered	
	T1	R18			Quenched & Tempered	
F.5261	420	20KH13	17 022		Quenched & Tempered	Martensitic
	440 A				Quenched & Tempered	Martensitic
	440 B	95KH18			Quenched & Tempered	Martensitic
	440 C	95KH18			Quenched & Tempered	Martensitic
	XM-12			15-5 PH	H900	Martensitic
	SAE 630			17-4 PH	H1025	Martensitic
	SAE 630			17-4 PH	H900	Martensitic
	AMS 5528	09KH17N7YU1		17-7 PH	TH1050	Martensitic
	632			PH 15-7 Mo	TH1050	Martensitic
	660			A286	Precipitation hardened	Austenitic
	AMS 6512			Marage 250	Precipitation hardened	Martensitic
	AMS 6521			Marage 300	Precipitation hardened	Martensitic
	AMS 6521			Marage 300	Precipitation hardened	Martensitic
	AMS 6515			Marage 350	Precipitation hardened	Martensitic
	A128 Grade A			Hadfield		
	A532 IB (NiCr-LC			Ni-Hard 2		White cast iron
	A532 IA (NiCr-HC)			Ni-Hard 1		White cast iron
	A532 ID (Ni-HiCr)			Ni-Hard 4		White cast iron

Declaration of conformity

Cemented carbide inserts and insert carriers

Cemented carbide inserts and cemented carbide insert carriers from Seco Tools are not included in the product range intended for the following requirements.
Nevertheless Seco Tools can make the following declaration.
These products meet all requirements in RoHS (Restriction of the use of certain Hazardous Substances in electrical and electronic equipment), WEEE (Waste Electrical & Electronic Equipment) and ELV (End of Life Vehicles) requirements.
Products do not contain mercury, lead, hexavalent chromium, cadmium, CFC, HCFC, flame retardants or solvents in concentrations that exceed specifications in the regulations.

Regrinding:
Wet or dry grinding can produce potentially hazardous dusts or mists that can irritate skin, eyes, nose, throat and result in lung damage or disease. To avoid injury use proper safety precautions and protective equipment.

Disposal:
Seco Tools will buy back used inserts and solid carbide tools for recycling. Inserts and solid carbide tools should be separated from other metal waste (steel, aluminium, copper etc).
All packing material is fully recyclable.

CBN and PCD inserts

Inserts from Seco Tools are not included in the product range intended for the following requirements. Nevertheless Seco Tools can make the following declaration.
This product meets all requirements in RoHS (Restriction of the use of certain Hazardous Substances in electrical and electronic equipment), WEEE (Waste Electrical & Electronic Equipment) and ELV (End of Life Vehicles) requirements.
Products do not contain mercury, lead, hexavalent chromium, cadmium, CFC, HCFC, flame retardants or solvents in concentrations that exceed specifications in the regulations.

Regrinding:
Wet or dry grinding can produce potentially hazardous dusts or mists that can irritate skin, eyes, nose, throat and result in lung damage or disease. To avoid injury use proper safety precautions and protective equipment.

Disposal:
Seco Tools will buy back used CBN- or PCD-tipped inserts for recycling. Inserts should be separated from other metal waste (steel, aluminium, copper etc). Solid CBN-inserts may be discarded as landfill waste.
All packing material is fully recyclable.

Black oxide insert carriers

Insert carriers from Seco Tools are not included in the product range intended for the following requirements. Nevertheless Seco Tools can make the following declaration.
This product meets all requirements in RoHS (Restriction of the use of certain Hazardous Substances in electrical and electronic equipment), WEEE (Waste Electrical & Electronic Equipment) and ELV (End of Life Vehicles) requirements.
Products do not contain mercury, lead, hexavalent chromium, cadmium, CFC, HCFC, flame retardants or solvents in concentrations that exceed specifications in the regulations.

Disposal:
Used insert carriers may be sent for recycling together with ordinary steel waste (swarf and discarded steel scrap) for recycling.
All packing material is fully recyclable.

Declaration of conformity

Cermet inserts

Inserts from Seco Tools are not included in the product range intended for the following requirements. Nevertheless Seco Tools can make the following declaration.
This product meets all requirements in RoHS (Restriction of the use of certain Hazardous Substances in electrical and electronic equipment), WEEE (Waste Electrical & Electronic Equipment) and ELV (End of Life Vehicles) requirements.
Cermet grade C15M inserts do contain nickel and will leach nickel when in contact with the skin. Amount of leaching is higher than specified in norm SS-EN 1811 Reference test method for release of nickel from products intended to come into direct and prolonged contact with the skin. These norms are intended for products that are in direct and prolonged contact with the skin and are therefore not directly applicable for cermet inserts. Persons with known allergic reactions to nickel are advised to wear protective gloves when handling cermet inserts.

Regrinding:
Wet or dry grinding can produce potentially hazardous dusts or mists that can irritate skin, eyes, nose, throat and result in lung damage or disease. To avoid injury use proper safety precautions and protective equipment.

Disposal:
Used inserts may be recycled. Inserts should be separated from other metal waste (steel, aluminium, copper, etc) including cemented carbide inserts.
All packing material is fully recyclable.

Nickel coated insert carriers

Insert carriers from Seco Tools are not included in the product range intended for the following requirements. Nevertheless Seco Tools can make the following declaration.
This product meets all requirements in RoHS (Restriction of the use of certain Hazardous Substances in electrical and electronic equipment), WEEE (Waste Electrical & Electronic Equipment) and ELV (End of Life Vehicles) requirements.
Products do not contain mercury, lead, hexavalent chromium, cadmium, CFC, HCFC, flame retardants or solvents in concentrations that exceed specifications in the regulations.
Insert carriers do contain nickel and will leach nickel when in contact with the skin. Amount of leaching is not higher then norm SS-EN 1811 Reference test method for release of nickel from products intended to come into direct and prolonged contact with the skin.
These norms are intended for products that are in direct and prolonged contact with the skin and are therefore not directly applicable for insert carriers.
Persons with known allergic reactions to nickel are advised to wear protective gloves when handling nickel coated insert carriers.

Disposal:
Used tools maybe sent for recycling together with ordinary steel waste (swarf and discarded steel scrap) for recycling.
All packing material is fully recyclable.

Intentionally added alloying elements

Grade	Cemented carbide											Coating						
	W	Ti	Ta	Nb	Co	Cr	Ni	Mo	C	N	Ru	Ti	Al	C	N	O	Si	Nb
CP20	■				■				■			■			■			
CP200	■				■	■			■			■	■		■			
CP300	■	■	■	■	■				■			■	■		■			
CP500	■				■	■			■			■	■		■			
CP600	■				■	■			■			■	■		■			
C15M	■	■	■	■	■		■	■	■	■								
CF	■		■		■		■	■	■									
CM	■		■		■		■	■	■									
DP2000	■		■	■	■				■			■	■	■	■	■		
DP2501	■	■	■	■	■				■	■		■	■	■	■	■		
DP3000	■	■	■	■	■				■	■		■	■	■	■	■		
DS2050	■				■	■			■			■	■		■			■
DS4050	■				■	■			■			■	■		■			■
F15M	■				■	■			■			■	■		■			
F25M	■	■	■	■	■				■			■	■		■			
F30M	■				■	■			■			■	■		■			
F40M	■				■	■			■			■	■		■			
HX	■		■		■				■									
H02	■		■		■	■			■									
H15	■				■	■			■									
H25	■				■	■			■									
KX	■				■	■			■									
MH1000	■				■	■			■			■	■		■			
MH1051	■				■	■			■			■	■		■		■	
MK1500	■		■		■				■			■	■	■	■	■		
MK1501	■		■		■				■			■	■	■	■	■		
MK2050	■		■		■	■			■			■	■		■		■	
MM4500	■				■	■			■			■	■	■	■	■		
MP1501	■		■	■	■				■			■	■	■	■	■		
MP2050	■				■						■	■	■		■		■	
MP2051	■				■	■			■			■	■		■		■	
MP2501	■		■	■	■				■			■	■	■	■	■		
MP3000	■				■	■			■			■	■		■			
MP3501	■		■	■	■				■			■	■	■	■	■		
MS2500	■		■	■	■				■			■	■	■	■	■		
MS2050	■				■	■			■			■	■		■			■
RX1500	■		■		■		■	■	■			■	■		■			
RX2000	■		■		■	■			■			■	■		■			
RM2020	■				■				■			■						
RM2090	■				■	■			■			■	■				■	
RN2010	■				■	■			■									
RS2090	■				■	■			■			■	■				■	
T350M	■		■	■	■				■			■	■	■	■	■		
T25M	■		■	■	■				■			■		■	■			
TGH1050	■				■	■			■			■	■		■		■	
TGK1500	■		■		■				■			■	■	■	■	■		
TGP25	■	■	■	■	■				■			■	■	■	■	■		
TGP35	■		■	■	■				■			■	■	■	■	■		
TGP45	■		■	■	■				■			■	■	■	■	■		
TGS2050	■				■	■			■			■	■		■		■	
TH1000	■				■	■			■			■	■		■		■	
TH1500	■				■	■			■			■	■	■	■	■		
TK0501	■				■	■			■			■	■	■	■	■		
TK1501	■		■		■	■			■			■	■	■	■	■		
TM1501	■	■	■	■	■	■			■	■		■	■	■	■	■		
TM2000	■	■	■	■	■				■	■		■	■	■	■	■		
TM2501	■	■	■	■	■				■	■		■	■	■	■	■		

Declaration of conformity

Grade	Cemented carbide											Coating						
	W	Ti	Ta	Nb	Co	Cr	Ni	Mo	C	N	Ru	Ti	Al	C	N	O	Si	Nb
TM3501	■				■				■			■	■	■	■	■		
TM4000	■	■	■	■	■				■	■		■	■	■	■	■		
TP0501	■	■	■	■	■	■			■			■	■	■	■	■		
TP1020	■	■	■	■	■				■	■								
TP1030	■	■	■	■	■				■	■		■	■		■		■	
TP1501	■	■	■	■	■				■	■		■	■	■	■	■		
TP25	■	■	■	■	■	■			■	■		■	■	■	■	■		
TP200	■	■	■	■	■				■	■		■	■	■	■	■		
TP2501	■	■	■	■	■	■			■	■		■	■	■	■	■		
TP3501	■	■	■	■	■				■	■		■	■	■	■	■		
TP40	■		■	■	■				■			■		■	■			
TS2000	■				■	■			■			■	■		■			
TS2050	■				■	■			■			■	■		■		■	
TS2500	■		■		■				■			■	■		■			
TTP2050	■				■	■			■			■	■		■		■	
T250D	■				■	■			■			■	■		■			
T400D	■				■	■			■			■	■		■			
T100R	■		■		■	■			■			■	■		■			
T60M	■	■	■	■	■				■			■	■		■			
883	■		■		■				■									
890	■				■	■			■									

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