SECO DOUBLE-SIDED FACE MILLING

STAY AHEAD OF YOUR COMPETITION

SECO

INCREASING DEMANDS ON YOUR MANUFACTURING OUTPUT

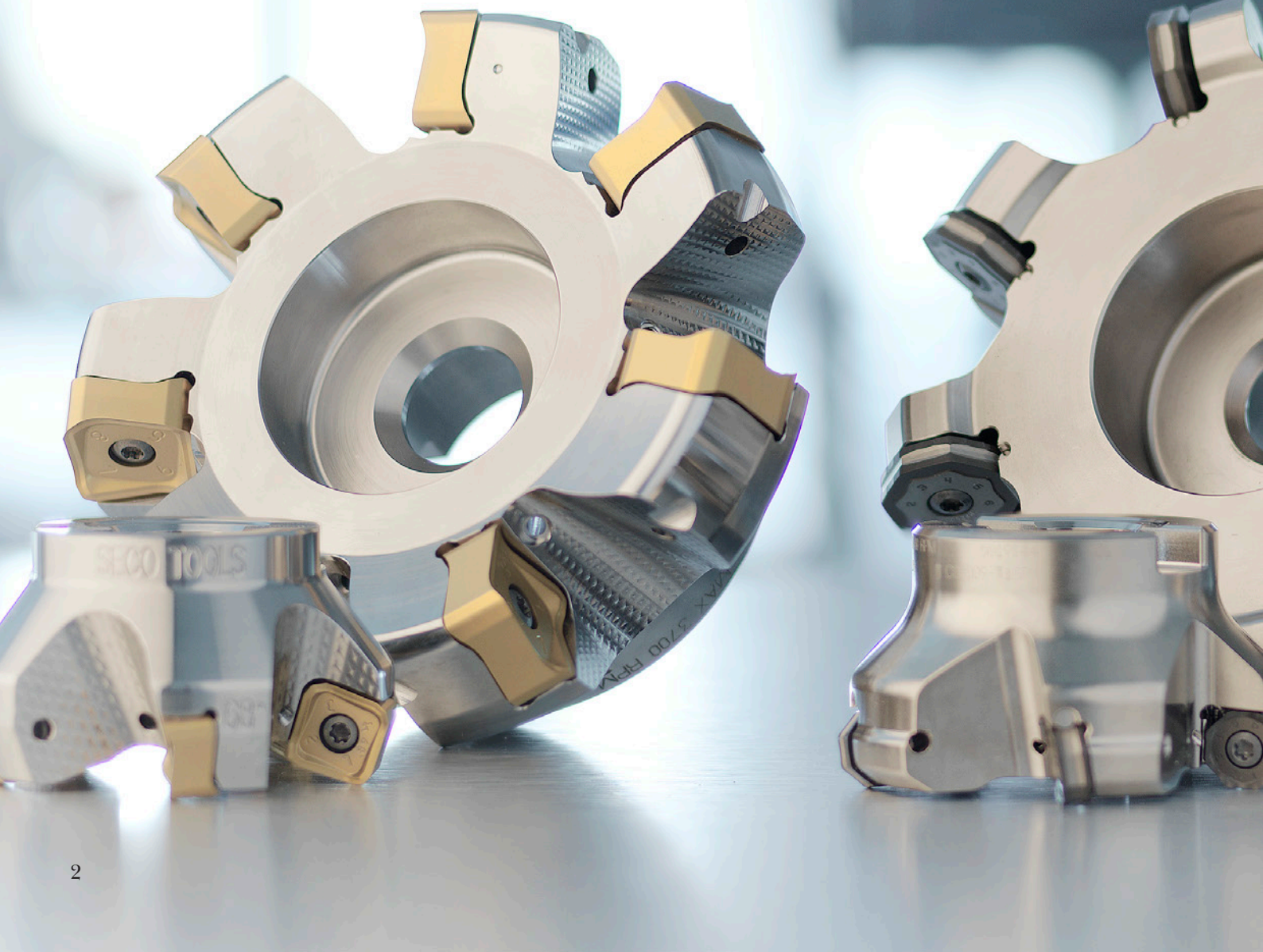
MANUFACTURERS FACE CONSTANTLY CHANGING DEMANDS:

- Rising order rates create a constant need for improved production capacity
- Lengthy lead times on new machine tools force manufacturers to push existing equipment harder
- Increased market pressure and competition mean companies must react quickly and adapt to stay competitive
- Companies must reduce and manage their process costs
- Competitiveness requires increased flexibility and adaptability
- Reducing waste requires reliable, consistent processes and accuracy

TO KEEP AHEAD OF YOUR COMPETITION, WHERE DO YOU START?

Look to these areas to optimize your manufacturing efficiency:

- Maximize the output of your existing equipment
- Create reliable processes
- Manage your process costs
- Manage risk during process change
- Choose dependable products and support to help you compete



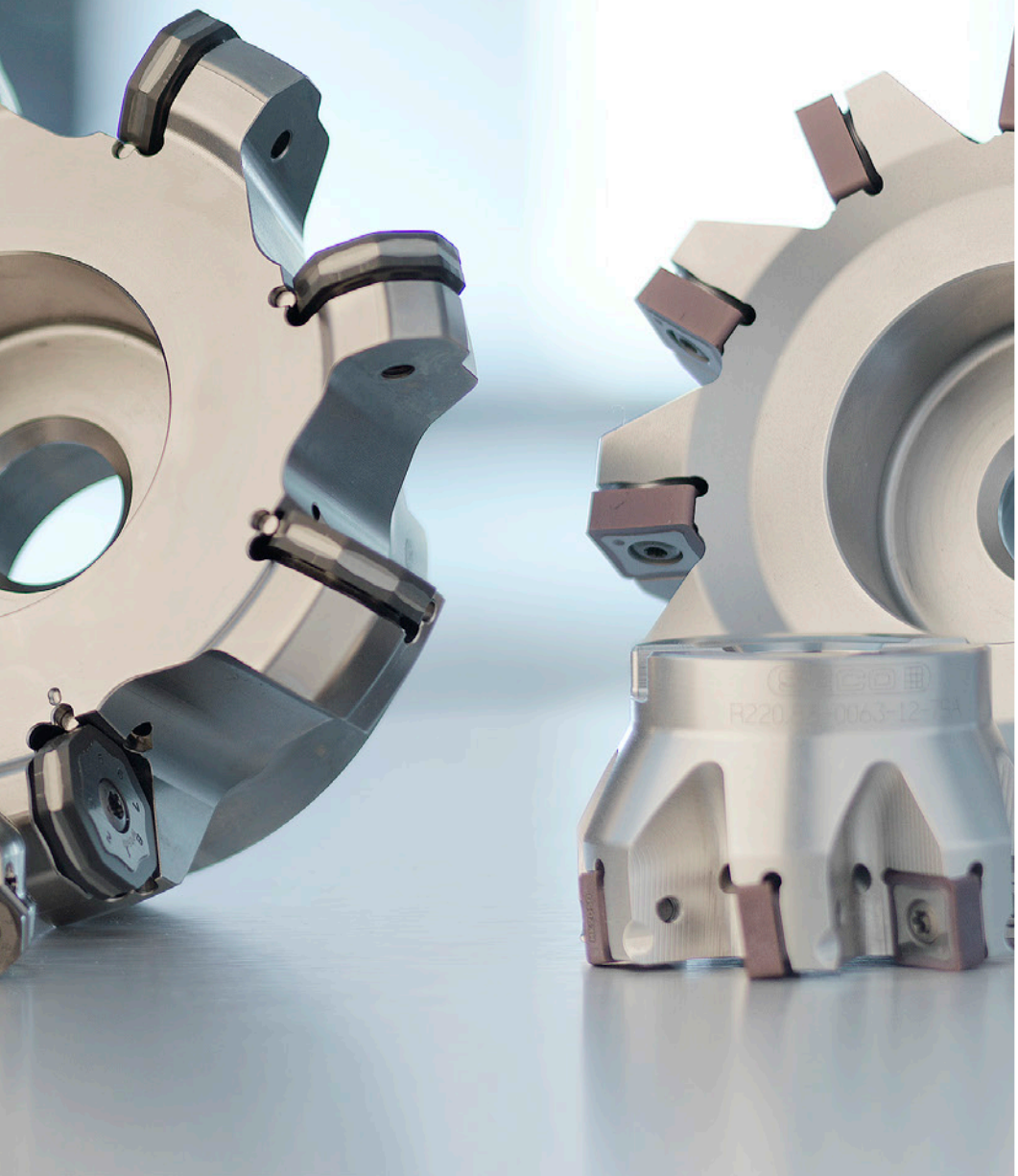
KEY FACTORS TO UNDERSTAND WHEN YOU CHOOSE A CUTTER

ELEMENTS THAT AFFECT YOUR MACHINING PROCESS

Face milling is a key machining operation on many workpieces and offers great opportunities to gain a competitive advantage. To obtain this benefit, you face a few considerations:

- Your machining environment must be suitable
- It's vitally important to choose the right cutter out of the wide range of choices
- What is your "driver" - minimized cutting edge cost or maximized metal removal rate or something in-between?
- Your selection can control your costs or destroy your productivity

Which factors hold the key to your cutter choice?



ACHIEVING BALANCE - SELECTION FACTORS

- Machine power & torque
- Rigidity of the work-piece setup
- Volume of material to remove
- Workpiece quality requirements
- Consumable cost vs. metal removal rate
- Dedicated application-based solution
- Workpiece material

VERY HIGH METAL REMOVAL WITH DOUBLE QUATTROMILL™ 22

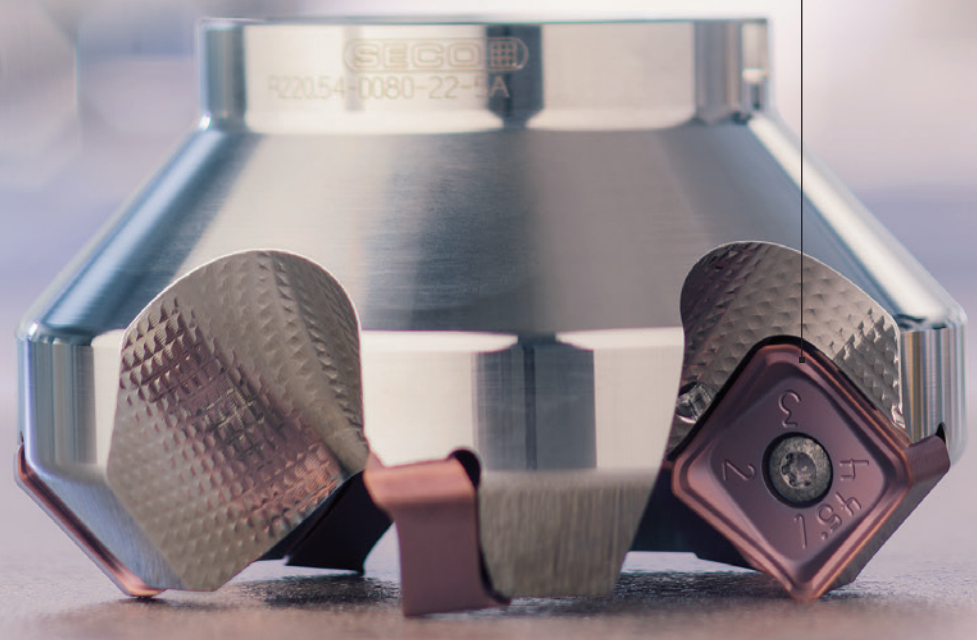
DOUBLE QUATTROMILL 22:

- Utilize the full potential of your machine's spindle
- Face mill your large components securely in less time
- Enable higher depth of cut up to 11 mm, we offer 2 versions in DQ22 - 45° insert design (48° lead angle) and 68° insert design (71° lead angle)
- Use cost-effective double-sided inserts
- Take advantage of inserts developed for performance and process reliability
- Use the same tool on most materials
- Improve the surface finish on your components

Cutter	Designation	Range	Max Depth of cut	Lead angle	Cassette versions	Cutting edges	Pitch	Coolant	Insert application range	Cutter body mounting
	R220.54	80-315 mm (3.00-12.50")	9 mm (.35")	48°	Yes, 200-315 mm (8.00-12.50")	8	Normal Close	All diameters	P M K S H	Arbor
	R220.56	80-315 mm (3.00-12.50")	11 mm (.43")	71°	Yes, 200-315 mm (8.00-12.50")	8	Normal Close	All diameters	P M K S H	Arbor

* Did you know that Double Quattromill cutter bodies are made of Idun, an optimized, corrosion-resistant tool steel with all the properties necessary for longevity and toughness in face milling applications?

* Nickel coating is unnecessary with Idun. This makes Double Quattromill far more environmentally friendly than cutter bodies made of other materials.



Pictured: R220.54 in 22 size

PERFORMANCE AND ECONOMY WITH DOUBLE QUATTROMILL™ 14

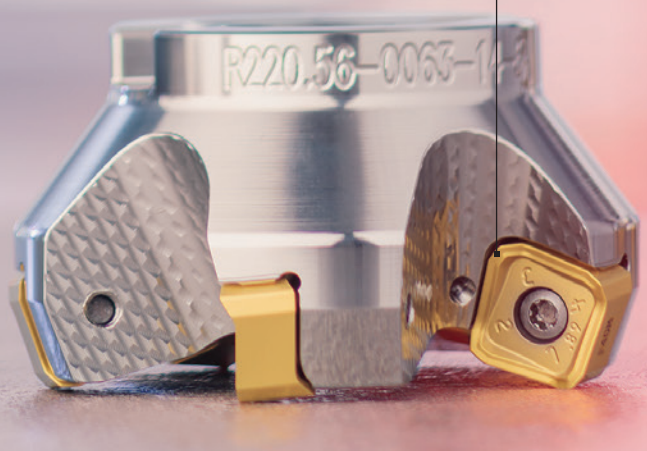
DOUBLE QUATTROMILL 14:

- Harness the power of your machine
- Developed to improve your medium depth-of-cut applications
- Achieve up to 8 mm (.31") depth of cut in most materials
- Reduce cost per cutting edge, without sacrificing high performance
- Simplify processes and reduce inventory with cost-effective double-sided inserts
- Engineered with your machining security and performance in mind
- Improve the surface finish on your components

Cutter	Designation	Range	Max Depth of cut	Lead angle	Cassette versions	Cutting edges	Pitch	Coolant	Insert application range	Cutter body mounting
	R220.54	50-315 mm (2.00-12.50")	6 mm (.24")	48°	Yes, 160-315 mm (6.00-12.50")	8	Normal Close	All diameters	P M K N S H	Arbor
	R220.56	50-315 mm (2.00-12.50")	8 mm (.31")	71°	Yes, 160-315 mm (6.00-12.50")	8	Normal Close	All diameters	P M K N S H	Arbor

* Idun's composition improves cutter-body tool life because insert pockets last longer. The new diamond pattern in the flute body allows chips to flow through more freely.

* For additional improvement of environmental impact, the polishing process uses walnut shells.



Pictured: R220.56
in 14 size

TECHNICAL INFORMATION
DOUBLE QUATTROMILL™

- Excellent cutter stability thanks to rigid machine arbor mounting
- Positive cutting design reduces cutting forces
- 45° insert design (48° lead angle) & 68° insert design (71° lead angle)suitable for most of your face milling applications
- Strong insert cross section to handle high metal removal
- Cutter bodies from 50 to 315 mm (2.0-12.5") dia.
- Double Quattromill is suitable for most machines, whether heavy duty or high speed
- Durable body made of Idun, a corrosion-resistant tool steel for maximum security
- All cutters offer internal coolant for optimal chip evacuation
- Environmentally friendly cutter with no need for coating

INTERCHANGEABLE CASSETTES

Depending on your application needs, these new cutters allow you to interchange cassettes from or SN14AR/SN22AR (45° insert design) to SN14ZR/SN22ZR (68° insert design). In the event of cutter damage, cassettes allow you to replace pockets one at a time instead of replacing the entire cutter body.

DOUBLE QUATTRO CUTTER BODY TECHNICAL FEATURES

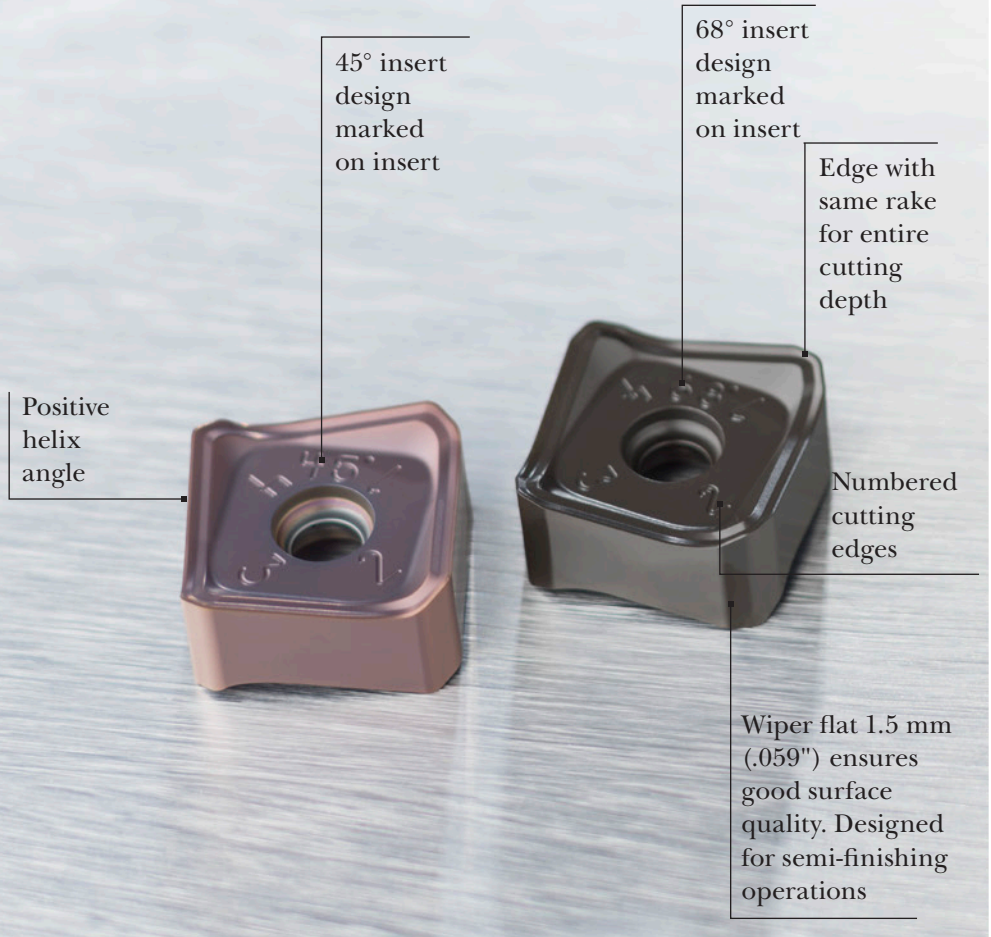
TECHNICAL INFORMATION - SNMX INSERTS

DOUBLE QUATTROMILL INSERT SIZE 22

- Available in ME12, M12 and M18 geometries
  - ME12 - No protection chamfer for sticky materials
  - M12 - Small T-land, ideal for sticky materials
  - M18 - Heavy duty geometry, ideal for cast iron and steels
- Corner radii 2 mm (.079")
- Depth of cut capabilities
  - SNMX2209ANTR-xx: 45° insert design up to 9 mm (.354")
  - SNMX2209ZNTR-xx: 68° insert design up to 11 mm (.433")

DOUBLE QUATTROMILL INSERT SIZE 14

- Available in ME10, M10 and M16 geometries
  - ME10 - No protection chamfer for sticky materials
  - M10 - Small T-land, ideal for sticky materials and steel
  - M16 - Geometry for heavy duty, ideal for cast iron and steels
- Corner radii 1 mm (.039")
- Depth of cut capabilities
  - SNMX1407ANTR-xx: 45° insert design up to 6 mm (.236")
  - SNMX1407ZNTR-xx: 68° insert design up to 8 mm (.315")



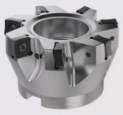
INSERT APPLICATION RANGE

MATERIAL GROUPS
Steel P1-P11
Stainless Steel M1-M5
Cast Iron K1-K7
Superalloys S1-S3
Hardened Steels H5-H21

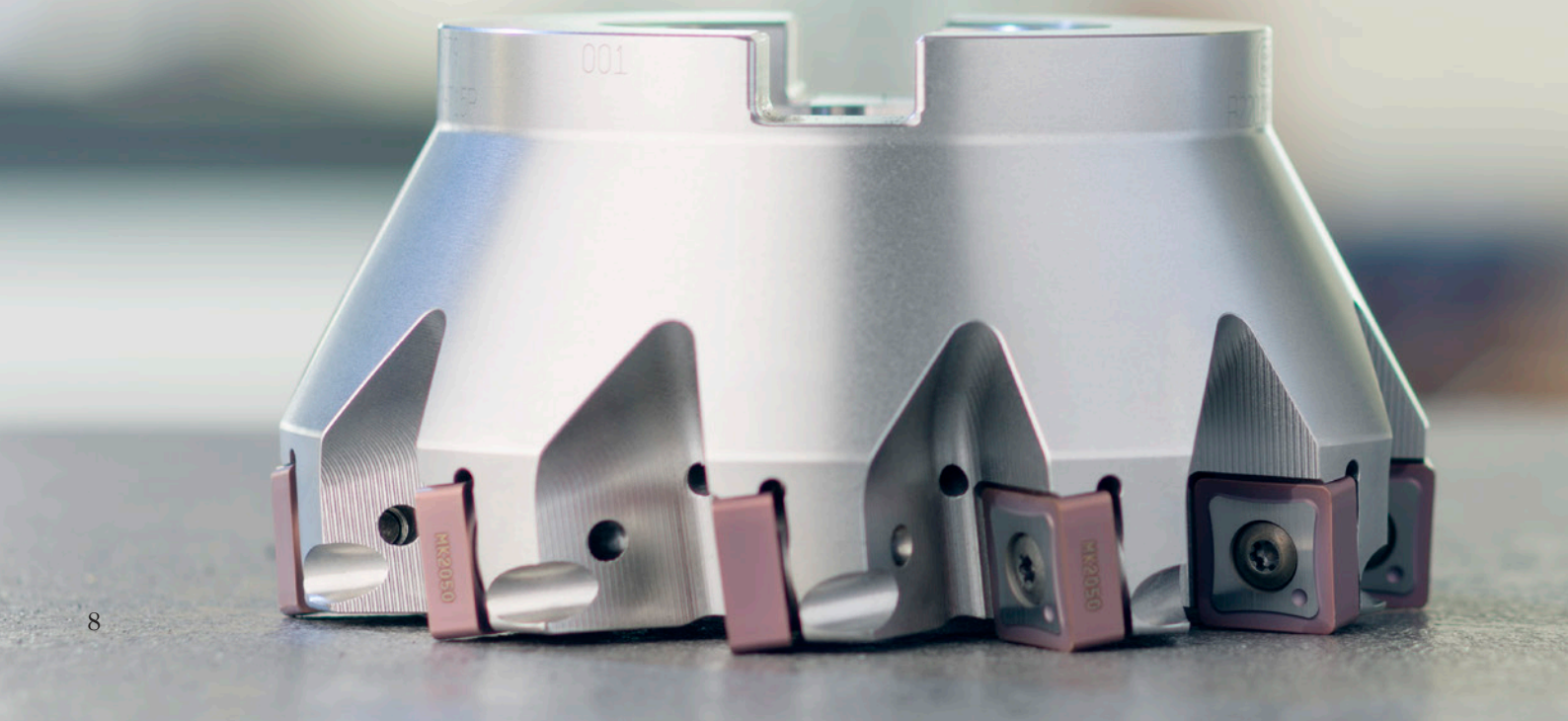
ACHIEVE LARGE DEPTH OF CUT VERY CLOSE TO SIDEWALLS WITH R220.88

CUTTER BODY R220.88

- Machine close to sidewalls within your face milling operation
- Reduce both your tool inventory and tooling costs thanks to the near 90° solution
- Trouble-free machining with the latest pocket design that provides optimal support for the insert
- Choose insert size 12 mm (.47") or 16 mm (.63") depending on your application
- Environmentally friendly cutter with no need for coating

Cutter	Designation	Range	Max Depth of cut	Lead angle	Cassette versions	Cutting edges	Pitch	Coolant	Insert application range	Cutter body mounting
	R220.88-SNMU 12	50-160 mm (2.00-6.00")	9 mm (.354")	88°	No	8	Normal Close	Up to 125 mm (5.00")	P K H	Arbor
	R220.88-SNMU16	63-200 mm (3.00-6.00")	13 mm (.511")	88°	No	8	Normal Close	Up to 125 mm (5.00")	P K H	Arbor

* Did you know that R220.88 cutter bodies are made of Idun, an optimized, corrosion-resistant tool steel with all the properties necessary for longevity and toughness in face milling applications?
* Nickel coating is unnecessary with Idun. This makes R220.88 far more environmentally friendly than cutter bodies made of other materials.



COMBINE VERSATILITY AND COST EFFECTIVENESS

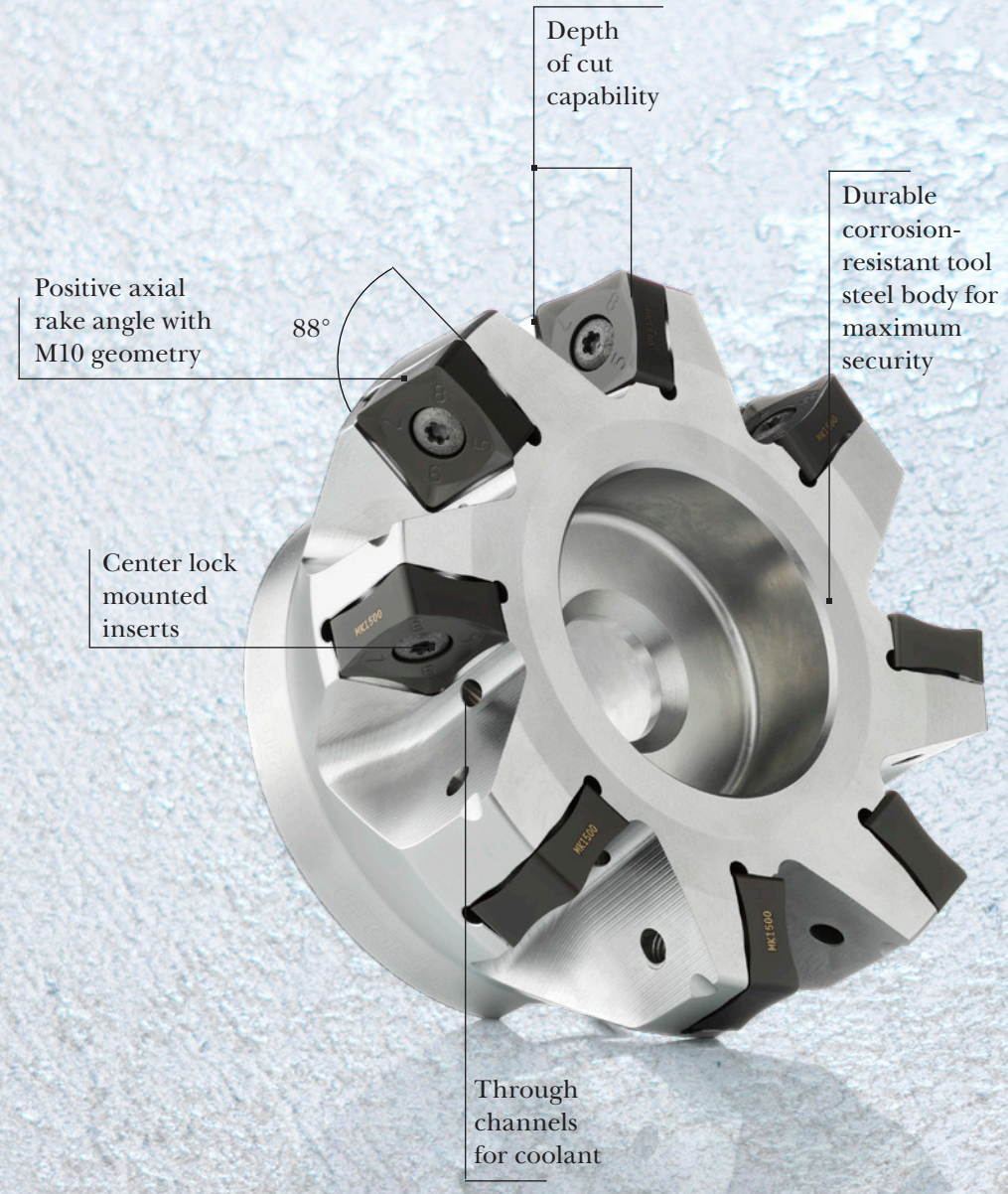
SNMU INSERTS

- Cost-effective double-sided, 8edge inserts reduce both tool inventory and tooling costs
- Geometries and grades developed for steel and cast iron applications
- Near 90° reduces mismatch on multi-pass applications
- For best protection during demanding machining applications, flat geometries are available (MD geometries)
- Big cross section on inserts for maximum security
- Individualized markings on insert edges to reduce axial run-out
- Ideal also for roughing applications for unstable conditions with inserts without wiper flat

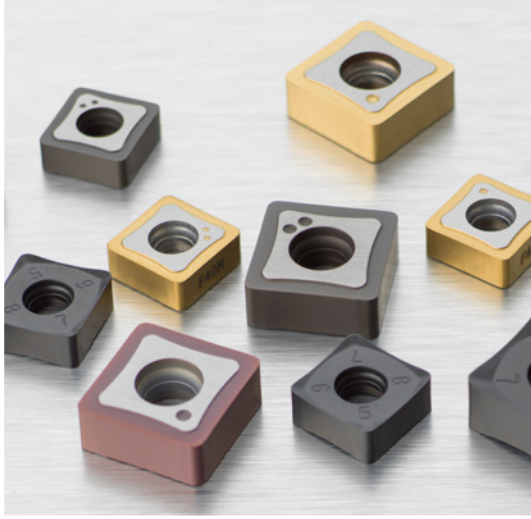
TECHNICAL INFORMATION R220.88

CUTTER BODY R220.88

- Optimized body design minimizes risk of machine downtime
- Machine closer to sidewalls or obstacles on the workpiece thanks to the 88° lead
- Rigid, reliable machining with shell mill mounting
- Optimal flute spacing ensures effective chip evacuation
- 20µm runout promotes longer tool life and better surface finish
- Environmentally friendly corrosion-resistant tool steel cutter body with no coating



TECHNICAL INFORMATION - SNMU INSERTS



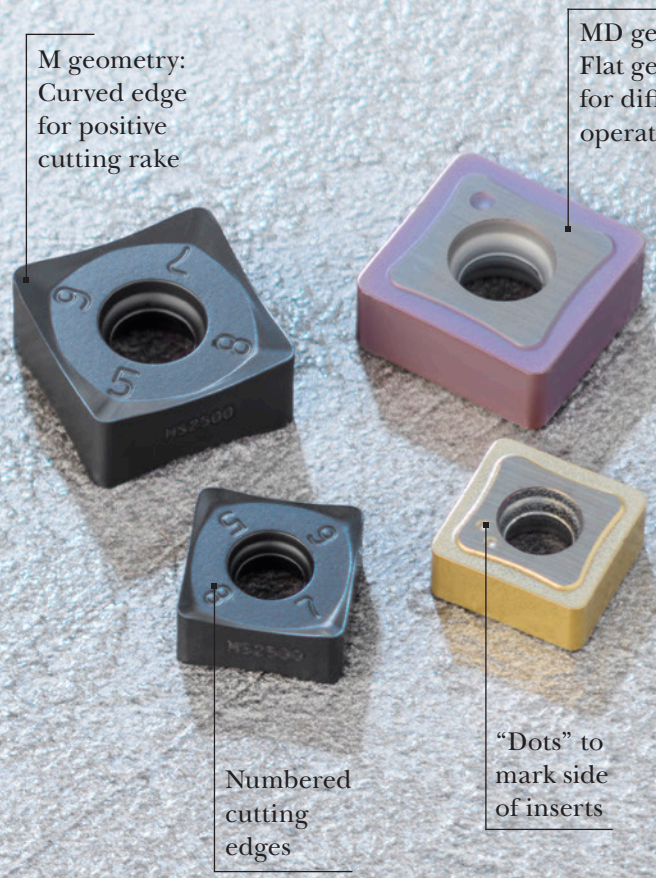
INSERT RANGE

SNMU SIZE 12

- Available in M10 and MD13 geometries
- Corner radii with wiper flat 1 mm (.034")
- Corner radii without wiper flat 0.8 mm (.031")
- D.O.C up to 9 mm (.354")

SNMU SIZE 16

- Available in M10 and MD16 geometries
- Corner radii with wiper flat 1.2 mm (.047")
- Corner radii without wiper flat 1 mm (.034")
- D.O.C up to 13 mm (.511")



INSERT APPLICATION RANGE

MATERIAL GROUPS
Steel P1-P11
Cast Iron K1-K7
Hardened Steels H5-H21

INCREASE YOUR COST EFFECTIVENESS WITH DOUBLE OCTOMILL™

GREAT PRODUCTIVITY IN YOUR ROUGHING AND FINISHING APPLICATIONS

DOUBLE OCTOMILL™

- Offers you a cost-effective, flexible, interchangeable system
- Comprehensive range makes it easy to optimize your production
- Patented fixed pocket design offers you security and ensures minimized risk of axial- and radial run-out
- Delivers optimal surface quality thanks to high axial accuracy
- Offers productivity in both roughing and finishing applications
- Ensures reduced risks of insert runout
- Reduced radial forces with 40° lead angle
- Double negative design can achieve higher feed rates

Cutter	Designation	Range	Max Depth of cut	Lead angle	Cassette versions	Cutting edges	Pitch	Coolant	Insert application range	Cutter body mounting
	R220.48-09	63-500 mm (2.50"-12.50")	6 mm (.236")	40°	Yes 125-315 mm (5.00"-12.00")	16	Coarse Normal Close	Up to 125 mm (5.00")	P M K S H	Capto Arbor CAP
	R220.48-05	25-200 mm (1.00"-8.00")	3 mm (.118")	40°	Yes 100-200 mm (4.00"-8.00")	16	Coarse Normal Close	Up to 125 mm (5.00")	P M K S H	Seco Weldon Arbor

160 CUTTING EDGES IN EACH BOX

ONMU INSERTS

- Multi-edge inserts for maximum economy, with 160 edges per box
- Comprehensive range of inserts to meet most challenges
- Choose between 5 mm (.196") & 9 mm (.354") edge length, 8 geometries and grades for most materials
- Strong insert cross section to handle high metal removal
- Easy indexing of inserts to reduce idle time
- Two different wiper inserts available

TECHNICAL INFORMATION - DOUBLE OCTOMILL™

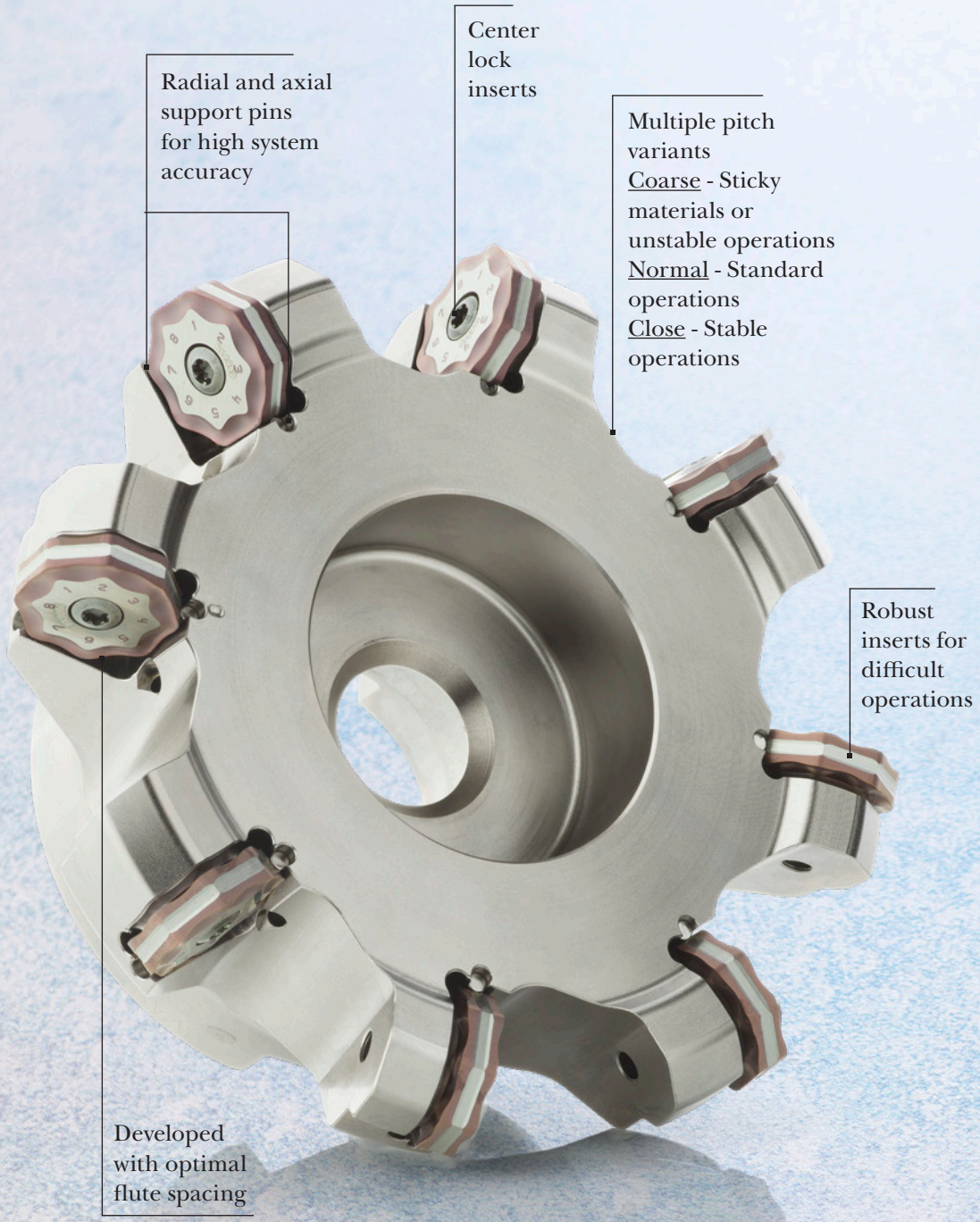
DOUBLE OCTOMILL RANGE

R217.48, R220.48/L220.48 (09 SIZE)

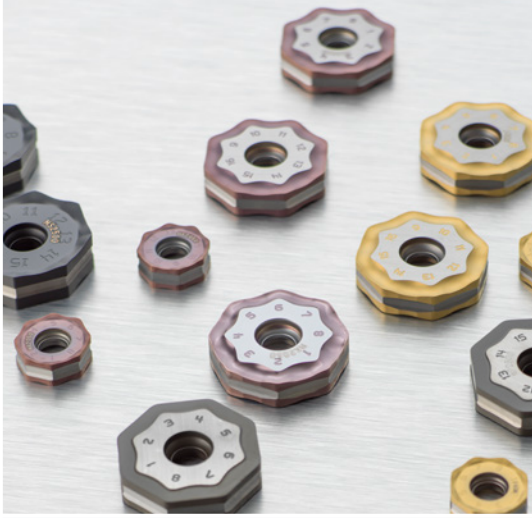
- 63-500 mm (2.50-12.50") diameters. Right hand version available
- 125-315 mm (5.00-12.50") diameter cassette body. Standard pitch only. Right and left-hand versions available

R217.48/220.48 (05 SIZE)

- 25-200 mm (1.00-8.00") diameters. Right hand version available
- 80-200 mm (4.00-8.00") diameter cassette body. Standard pitch only. Right hand version available



TECHNICAL INFORMATION - ONMU INSERTS



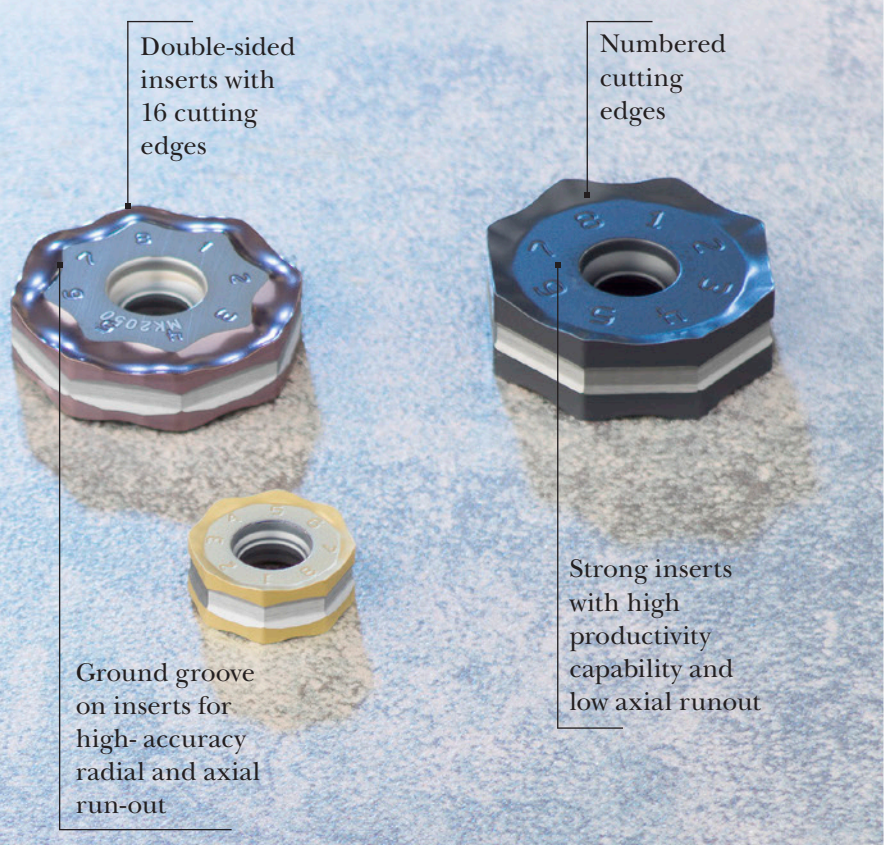
INSERT RANGE

ONMU 09

- Strong inserts with high productivity capability and low axial runout
- D.O.C. capabilities
  - ME12, M12, M14 and MD16 geometry - 6 mm (.236")
  - ME13, M13, M15 and MD17 geometry - 4.5 mm (.178")
- Incorporated wiper flat
  - ME12, M12, M14 and MD16 wiper flat of 0.45 mm (.018")
  - ME13, M13, M15 and MD17 wiper flat of 2.11 mm (.083")
- Wiper insert in M12 and M14 geometry
- M12 geometry with 1 mm (.034") corner radii without wiper flat available

ONMU 05

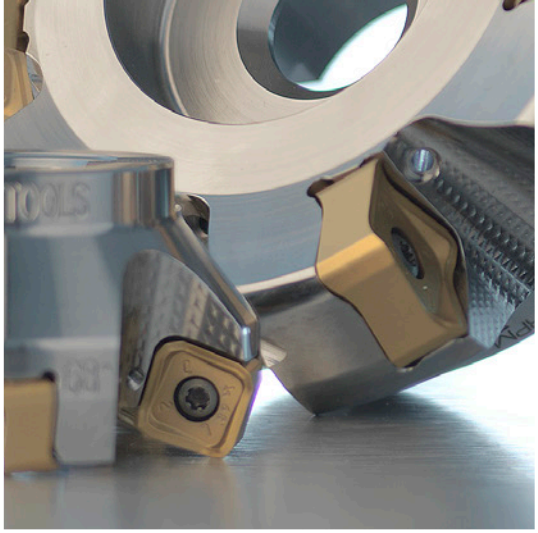
- Strong inserts with high productivity capability and low axial runout
- D.O.C capabilities
  - ME10, M10 Geometry - 3 mm (.118")
  - ME11, M11 Geometry - 2.5 mm (.098")
- Incorporated wiper flat
  - ME10, M10 wiper flat of 0.3 mm (.012")
  - ME11, M11 wiper flat of 1 mm (.039")
- Wiper insert in M10 geometry

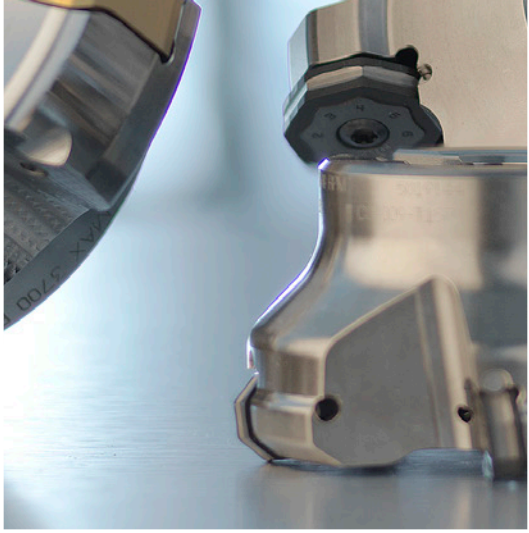


INSERT APPLICATION RANGE

MATERIAL GROUPS
Steel P1-P11
Stainless Steel M1-M5
Cast Iron K1-K7
Superalloys S1-S3
Hardened Steels H5-H21

CUTTER CODE KEY





DOUBLE QUATTROMILL

R	220	-	54	-	0080	-	22	-	5	SA
1	2		3		4		5		6	7

1 Right hand rotation

2 220 = shell mount

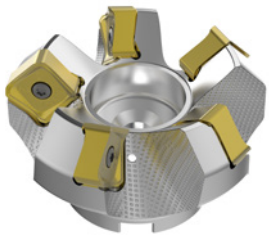
3 Cutter system 54 = 45° insert design
Cutter system 56 = 68° insert design

4 Cutter diameter

5 Insert size 22
Insert size 14

6 Effective number of teeth (Z_c)

7 Center locking (S) with through coolant (A)



R220.88

R	220	-	88	-	0080	-	12	-	7	SA
1	2		3		4		5		6	7

1 Right hand rotation

2 220 = shell mount

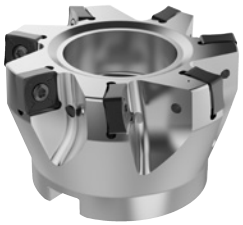
3 Cutter system

4 Cutter diameter

5 Insert size 12
Insert size 16

6 Effective number of teeth (Z_c)

7 Center locking (S) with through coolant (A)



DOUBLE OCTOMILL

R	220	-	48	-	0080	-	09	-	07	SA
1	2		3		4		5		6	7

1 Right hand rotation

2 220 = shell mount

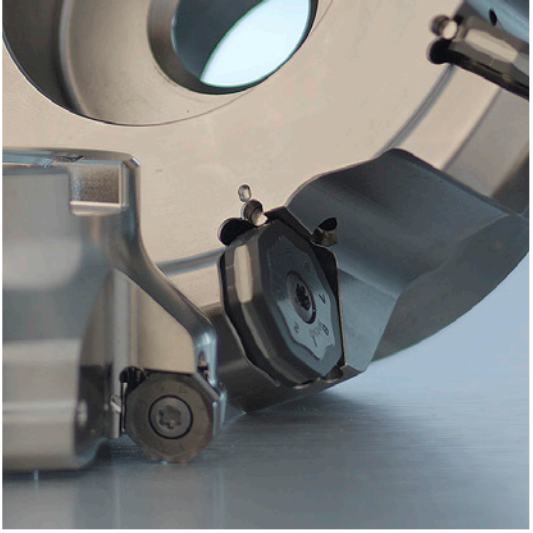
3 Cutter system

4 Cutter diameter

5 Insert size 09
Insert size 05

6 Effective number of teeth (Z_c)

7 Center locking (S) with through coolant (A)



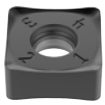
INSERT CODE KEY

DOUBLE QUATTROMILL INSERTS

Side clearance angle			Insert type		Insert thickness 09		Edge protection		Edge geometry	
S	N	M	X	22	09	AN	T	R	-	M18
1	2	3	4	5	6	7	8	9		10
Insert shape		Tolerances		Cutting edge length		Lead angle and side clearance		Right hand rotation		

SNMU INSERTS TO R220.88

Side clearance angle			Insert type		Insert thickness		Edge protection		Edge geometry	
S	N	M	U	12	04	10	T	N	-	M10
1	2	3	4	5	6	7	8	9		10
Insert shape		Tolerances		Cutting edge length 12 *Cutting edge length 16*		Corner radius		Neutral rotation		



DOUBLE OCTOMILL INSERTS

Side clearance angle			Insert type	Insert thickness 09=05 *Insert tickness 05=04*			Edge protection		Edge geometry	
O	N	M	U	09	05	10 AN	T	N	-	M12
1	2	3	4	5	6	7	8	9		10
Insert shape		Tolerances		Cutting edge length 09 *Cutting edge length 05*		Corner radius / Angle and clearance		Neutral rotation		

HOW TO CHOOSE THE RIGHT

Cutter designation	Insert type	ap max	ap rec	Material suitability								KAPRS°/ Lead angle
				P	M	K	N	S				
R217/220.48 (size 05)		3.0 (0.118")	2.0 (0.079")	■	■	■	□	◘	■	◘	□	40°
R217/220.48 (size 09)		6.0 (0.236")	3.0 (0.118")	■	■	■	□	◘	□	■	□	40°
R220.88 (size 12)		9.0 (0.354")	5.0 (0.197")	■	–	■	□	–	◘	■	□	88°
R220.88 (size 16)		13.0 (0.512")	8.0 (0.315")	■	–	■	□	–	□	■	□	88°
R220.54-22 (size 22)		9.0 (0.354")	6.0 (0.236")	■	■	■	□	■	□	■	◘	48°
R220.56-22 (size 22)		11.0 (0.433")	9.0 (0.354")	■	■	■	□	■	□	■	◘	71°
R220.54-14 (size 14)		6.0 (0.236")	4.0 (0.157")	■	■	■	■	■	■	■	◘	48°
R220.56-14 (size 14)		8.0 (0.315")	6.0 (0.236")	■	■	■	■	■	■	■	◘	71°

■ 1ST CHOICE

◘ ALTERNATIVE CHOICE

□ POSSIBLE CHOICE

— NOT RECOMMENDED

P STEELS

K CAST IRON

M STAINLESS STEEL

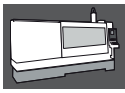
N NON-FERROUS MATERIALS

S SUPER ALLOYS/TITANIUM

FACE MILLING TOOL

NB Cutting	Pitch/ Appl.	Cutter diameter available with effective number of teeth													
		24*/25 (.94/1.00")	32 (1.25")	40 (1.50")	50 (2.00")	63 (2.50")	80 (3.00")	100 (4.00")	125 (5.00")	160 (6.00")	200 (8.00")	250 (10.00")	315 (12.50")	400	500
16				4	4	5									
		3	4		5	6	6	7	8						
				5	6	8	10	12	14						
							6	8	10	14	18				
16						5	6	7	8	10					
						6	7	8	10	12	12	16	20		
							9	12	15	20	24	30	40	50	60
									8	10	12	16	20		
8					4	6	7	8	10	12					
					5	7	9	11	13	16					
8						4	6	8	10	12					
						5	7	9	11	13					
8							5	5	6	8					
							6	7	8	11					
											9	11	14		
8								5	6	8					
							5	7	8	11					
											9	11	14		
8					4	5	6	7	8	10	12				
					5	7	8	10	12	15	17				
										9	11	14	16		
8					4	5	6	7	8	10	12				
					5	7	8	10	12	15	17				
										9	11	14	16		


HIGH-SPEED MACHINE WITH LOW POWER/TORQUE


STRONG, STABLE MACHINE WITH RIGID CONNECTION


UNSUITABLE FOR UNSTABLE CONDITIONS

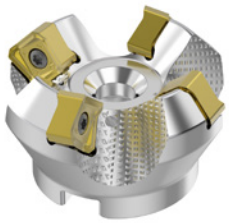

COARSE PITCH

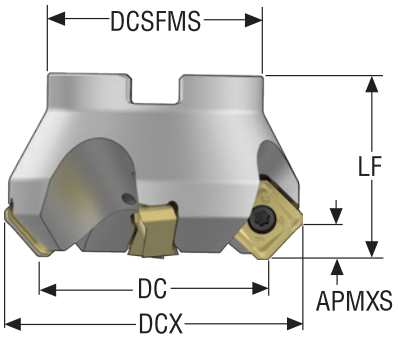

STANDARD PITCH


CLOSE PITCH

FIXED POCKET

CASSETTE VERSION



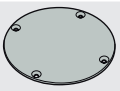


- For insert selection and cutting data recommendations, see page(s) 24-27
- For complete insert programme, see page(s) 69

R220.54-14 metric

Ordering and Product No.	Designation	Type of mounting	Dimensions in mm						KAPRS°	ZNP	KG	RPMX	Insert
			APMXS	DCX	DC	DCSFMS	DCB	LF					
03213622	R220.54-0050-14-4A	Arbor	6,0	61,0	50,0	47,0	22,0	40,0	48,0	4	0,5	8500	SN..14..AN
03213629	R220.54-0050-14-5A	Arbor	6,0	61,0	50,0	47,0	22,0	40,0	48,0	5	0,4	8500	SN..14..AN
03213623	R220.54-0063-14-5A	Arbor	6,0	74,0	63,0	47,0	22,0	40,0	48,0	5	0,6	7600	SN..14..AN
03213630	R220.54-0063-14-7A	Arbor	6,0	74,0	63,0	47,0	22,0	40,0	48,0	7	0,6	7600	SN..14..AN
03213624	R220.54-0080-14-6A	Arbor	6,0	91,0	80,0	62,0	27,0	50,0	48,0	6	1,2	6700	SN..14..AN
03213631	R220.54-0080-14-8A	Arbor	6,0	91,0	80,0	62,0	27,0	50,0	48,0	8	1,2	6700	SN..14..AN
03213632	R220.54-0100-14-10A	Arbor	6,0	111,0	100,0	77,0	32,0	50,0	48,0	10	1,8	6000	SN..14..AN
03213625	R220.54-0100-14-7A	Arbor	6,0	111,0	100,0	77,0	32,0	50,0	48,0	7	1,8	6000	SN..14..AN
03213633	R220.54-0125-14-12A	Arbor	6,0	136,0	125,0	90,0	40,0	63,0	48,0	12	3,4	5400	SN..14..AN
03213626	R220.54-0125-14-8A	Arbor	6,0	136,0	125,0	90,0	40,0	63,0	48,0	8	3,5	5400	SN..14..AN
03213627	R220.54-8160-14-10A	Arbor	6,0	171,0	160,0	90,0	40,0	63,0	48,0	10	5,9	4700	SN..14..AN
03213634	R220.54-8160-14-15A	Arbor	6,0	171,0	160,0	90,0	40,0	63,0	48,0	15	5,8	4700	SN..14..AN
03213628	R220.54-8200-14-12A	Arbor	6,0	211,0	200,0	130,0	60,0	63,0	48,0	12	8,2	4200	SN..14..AN
03213635	R220.54-8200-14-17A	Arbor	6,0	211,0	200,0	130,0	60,0	63,0	48,0	17	7,6	4200	SN..14..AN

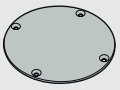
Spare Parts

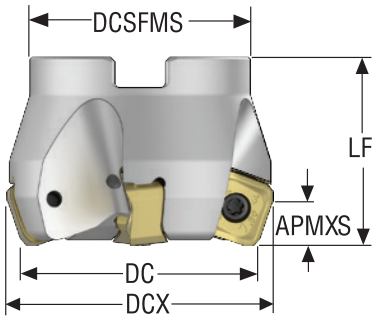
For cutter	Lid screw	Lid	Key (T-handle)	Insert screw	Insert key	Arbor screw	Torque value (Nm)
							
R220.54-0050-0063	–	–	DOUBLE-T	C04011-T15P	H4B-T15P	MF6S10X40	3,5
R220-54-0080	–	–	DOUBLE-T	C04011-T15P	H4B-T15P	–	3,5
R220-54-0100-0125	–	–	DOUBLE-T	C04011-T15P	H4B-T15PL	–	3,5
R220-54-8160	MF6S4X8	SC-160-90	DOUBLE-T	C04011-T15P	H4B-T15PL	–	3,5
R220-54-8200	MF6S4X8	SC-200-90	DOUBLE-T	C04011-T15P	H4B-T15PL	–	3,5

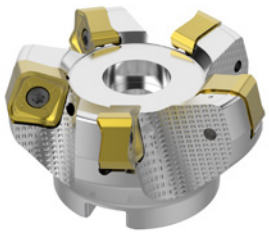
R220.54-14 inch

Ordering and Product No.	Designation	Type of mounting	Dimensions in inch						KAPRS°	ZNP	KG	RPMX	Insert
			APMXS	DCX	DC	DCSFMS	DCB	LF					
03213636	R220.54-02.00-14-4A	Arbor	0.236	2.402	1.969	1.85	0.75	1.57	48,0	4	0,5	8500	SN..14..AN
03213643	R220.54-02.00-14-5A	Arbor	0.236	2.402	1.969	1.85	0.75	1.57	48,0	5	0,5	8500	SN..14..AN
03213637	R220.54-02.50-14-5A	Arbor	0.236	2.913	2.480	1.85	0.75	1.57	48,0	5	0,6	7600	SN..14..AN
03213644	R220.54-02.50-14-7A	Arbor	0.236	2.913	2.480	1.85	0.75	1.57	48,0	7	0,6	7600	SN..14..AN
03213638	R220.54-03.00-14-6A	Arbor	0.236	3.583	3.150	2.44	1.00	1.97	48,0	6	1,3	6700	SN..14..AN
03213645	R220.54-03.00-14-8A	Arbor	0.236	3.583	3.150	2.44	1.00	1.97	48,0	8	1,3	6700	SN..14..AN
03213646	R220.54-04.00-14-10A	Arbor	0.236	4.370	3.937	3.03	1.50	1.97	48,0	10	1,7	6000	SN..14..AN
03213639	R220.54-04.00-14-7A	Arbor	0.236	4.370	3.937	3.03	1.50	1.97	48,0	7	1,8	6000	SN..14..AN
03213647	R220.54-05.00-14-12A	Arbor	0.236	5.354	4.921	3.54	1.50	2.48	48,0	12	3,7	5400	SN..14..AN
03213640	R220.54-05.00-14-8A	Arbor	0.236	5.354	4.921	3.54	1.50	2.48	48,0	8	3,7	5400	SN..14..AN
03213641	R220.54-06.00-14-10A	Arbor	0.236	6.732	6.299	4.33	2.00	2.48	48,0	10	6,2	4700	SN..14..AN
03213648	R220.54-06.00-14-15A	Arbor	0.236	6.732	6.299	4.33	2.00	2.48	48,0	15	6,8	4700	SN..14..AN
03213642	R220.54-808.00-14-12A	Arbor	0.236	8.307	7.874	5.12	2.50	2.48	48,0	12	7,6	4200	SN..14..AN
03213649	R220.54-808.00-14-17A	Arbor	0.236	8.307	7.874	5.12	2.50	2.48	48,0	17	7,5	4200	SN..14..AN

Spare Parts

For cutter	Lid screw	Lid	Key (T-handle)	Insert screw	Insert key	Arbor screw	Torque in/lbs
							
R220.54-02.00-02.50	–	–	DOUBLE-T	C04011-T15P	H4B-T15P	220.17-698	31
R220.54-03.00	–	–	DOUBLE-T	C04011-T15P	H4B-T15P	UC6S1/2UNFX1-1/4	31
R220.54-03.00	–	–	DOUBLE-T	C04011-T15P	H4B-T15P	UF6S1/2UNFX1-3/4	31
R220.54-04.00	–	–	DOUBLE-T	C04011-T15P	H4B-T15PL	UF6S3/4UNFX1-3/4	31
R220.54-05.00	–	–	DOUBLE-T	C04011-T15P	H4B-T15PL	UC6S3/4UNFX1-1/4	31
R220.54-06.00	MF6S4X8	SC-160-90	DOUBLE-T	C04011-T15P	H4B-T15PL	–	31
R220.54-808.00	MF6S4X8	SC-200-90	DOUBLE-T	C04011-T15P	H4B-T15PL	–	31



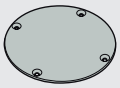


- For insert selection and cutting data recommendations, see page(s) 28-31
- For complete insert programme, see page(s) 69

R220.56-14 metric

Ordering and Product No.	Designation	Type of mounting	Dimensions in mm						KAPRS°	ZNP	KG	RPMX	Insert
			APMXS	DCX	DC	DCSFMS	DCB	LF					
03241895	R220.56-0050-14-4A	Arbor	8,0	55,0	50,0	47,0	22,0	40,0	71,0	4	0,4	8500	SN..14..ZN
03241902	R220.56-0050-14-5A	Arbor	8,0	55,0	50,0	47,0	22,0	40,0	71,0	5	0,4	8500	SN..14..ZN
03241896	R220.56-0063-14-5A	Arbor	8,0	68,0	63,0	47,0	22,0	40,0	71,0	5	0,5	7600	SN..14..ZN
03241903	R220.56-0063-14-6A	Arbor	8,0	68,0	63,0	47,0	22,0	40,0	71,0	6	0,5	7600	SN..14..ZN
03241897	R220.56-0080-14-6A	Arbor	8,0	85,0	80,0	62,0	27,0	50,0	71,0	6	1,0	6700	SN..14..ZN
03241904	R220.56-0080-14-8A	Arbor	8,0	85,0	80,0	62,0	27,0	50,0	71,0	8	1,0	6700	SN..14..ZN
03241905	R220.56-0100-14-10A	Arbor	8,0	105,0	100,0	77,0	32,0	50,0	71,0	10	1,6	6000	SN..14..ZN
03241898	R220.56-0100-14-7A	Arbor	8,0	105,0	100,0	77,0	32,0	50,0	71,0	7	1,6	6000	SN..14..ZN
03241906	R220.56-0125-14-12A	Arbor	8,0	130,0	125,0	90,0	40,0	63,0	71,0	12	3,1	5400	SN..14..ZN
03241899	R220.56-0125-14-8A	Arbor	8,0	130,0	125,0	90,0	40,0	63,0	71,0	8	3,1	5400	SN..14..ZN
03241900	R220.56-8160-14-10A	Arbor	8,0	165,0	160,0	90,0	40,0	63,0	71,0	10	5,1	4700	SN..14..ZN
03241907	R220.56-8160-14-15A	Arbor	8,0	165,0	160,0	90,0	40,0	63,0	71,0	15	5,1	4700	SN..14..ZN
03241901	R220.56-8200-14-12A	Arbor	8,0	205,0	200,0	130,0	60,0	63,0	71,0	12	6,9	4200	SN..14..ZN
03241908	R220.56-8200-14-17A	Arbor	8,0	205,0	200,0	130,0	60,0	63,0	71,0	17	6,9	4200	SN..14..ZN

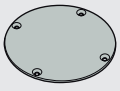
Spare Parts

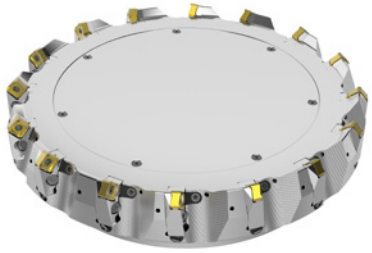
For cutter	Lid screw	Lid	Key (T-handle)	Insert screw	Insert key	Arbor screw	Torque value (Nm)
							
R220.56-0050	–	–	DOUBLE-T	C04011-T15P	H4B-T15P	220.17-692	3,5
R220.56-0063	–	–	DOUBLE-T	C04011-T15P	H4B-T15P	220.17-692	3,5
R220.56-0080	–	–	DOUBLE-T	C04011-T15P	H4B-T15P	–	3,5
R220.56-0100-0125	–	–	DOUBLE-T	C04011-T15P	H4B-T15PL	–	3,5
R220.56-8160	MF6S4X8	SC-160-90	DOUBLE-T	C04011-T15P	H4B-T15PL	–	3,5
R220.56-8200	MF6S4X8	SC-200-90	DOUBLE-T	C04011-T15P	H4B-T15PL	–	3,5

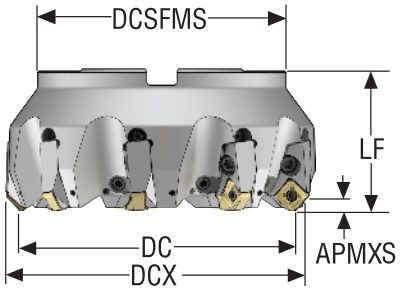
R220.56-14 inch

Ordering and Product No.	Designation	Type of mounting	Dimensions in inch						KAPRS°	ZNP	KG	RPMX	Insert
			APMXS	DCX	DC	DCSFMS	DCB	LF					
03241909	R220.56-02.00-14-4A	Arbor	0.315	2.165	1.969	1.85	0.75	1.58	71,0	4	0,4	8500	SN..14..ZN
03241916	R220.56-02.00-14-5A	Arbor	0.315	2.165	1.969	1.85	0.75	1.58	71,0	5	0,4	8500	SN..14..ZN
03241910	R220.56-02.50-14-5A	Arbor	0.315	2.677	2.480	1.85	0.75	1.58	71,0	5	0,5	7600	SN..14..ZN
03241917	R220.56-02.50-14-6A	Arbor	0.315	2.677	2.480	1.85	0.75	1.58	71,0	6	0,5	7600	SN..14..ZN
03241911	R220.56-03.00-14-6A	Arbor	0.315	3.346	3.150	2.44	1.00	1.97	71,0	6	1,2	6700	SN..14..ZN
03241918	R220.56-03.00-14-8A	Arbor	0.315	3.346	3.150	2.44	1.00	1.97	71,0	8	1,2	6700	SN..14..ZN
03241919	R220.56-04.00-14-10A	Arbor	0.315	4.134	3.937	3.03	1.50	1.97	71,0	10	1,6	6000	SN..14..ZN
03241912	R220.56-04.00-14-7A	Arbor	0.315	4.134	3.937	3.03	1.50	1.97	71,0	7	1,6	6000	SN..14..ZN
03241920	R220.56-05.00-14-12A	Arbor	0.315	5.118	4.921	3.54	1.50	2.48	71,0	12	3,4	5400	SN..14..ZN
03241913	R220.56-05.00-14-8A	Arbor	0.315	5.118	4.921	3.54	1.50	2.48	71,0	8	3,4	5400	SN..14..ZN
03241914	R220.56-06.00-14-10A	Arbor	0.315	6.496	6.299	4.33	2.00	2.48	71,0	10	5,7	4700	SN..14..ZN
03241921	R220.56-06.00-14-15A	Arbor	0.315	6.496	6.299	4.33	2.00	2.48	71,0	15	5,7	4700	SN..14..ZN
03241915	R220.56-808.00-14-12A	Arbor	0.315	8.071	7.874	5.12	2.50	2.48	71,0	12	6,9	4200	SN..14..ZN
03241922	R220.56-808.00-14-17A	Arbor	0.315	8.071	7.874	5.12	2.50	2.48	71,0	17	6,8	4200	SN..14..ZN

Spare Parts

For cutter	Lid screw	Lid	Key (T-handle)	Insert screw	Insert key	Arbor screw	Torque in/lbs
							
R220.56-02.00-02.50	–	–	DOUBLE-T	C04011-T15P	H4B-T15P	UC6S3/8UNFX1	31
R220.56-03.00	–	–	DOUBLE-T	C04011-T15P	H4B-T15P	UC6S1/2UNFX1-1/4	31
R220.56-04.00	–	–	DOUBLE-T	C04011-T15P	H4B-T15PL	UF6S3/4UNFX1-3/4	31
R220.56-05.00	–	–	DOUBLE-T	C04011-T15P	H4B-T15PL	UC6S3/4UNFX1-1/4	31
R220.56-06.00	MF6S4X8	SC-160-90	DOUBLE-T	C04011-T15P	H4B-T15PL	–	31
R220.56-808.00	MF6S4X8	SC-200-90	DOUBLE-T	C04011-T15P	H4B-T15PL	–	31



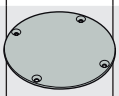


- For insert selection and cutting data recommendations, see page(s) 24-31
- For complete insert programme, see page(s) 69

R220.54/R220.56-14 metric

Ordering and Product No.	Designation	Type of mounting	Dimensions in mm						KAPRS°	ZNP	KG	RPMX	Insert
			APMXS	DCX	DC	DCSFMS	DCB	LF					
03213787	R220.54-8160-14-9CA	Arbor	6,0	171,0	160,0	90,0	40,0	80,0	48,0	9	8,1	4700	SN..14..AN
03213788	R220.54-8200-14-11CA	Arbor	6,0	211,0	200,0	90,0	40,0	80,0	48,0	11	10,6	4200	SN..14..AN
03213789	R220.54-8250-14-14CA	Arbor	6,0	261,0	250,0	90,0	40,0	80,0	48,0	14	19,8	3800	SN..14..AN
03213790	R220.54-8315-14-16CA	Arbor	6,0	326,0	315,0	225,0	60,0	80,0	48,0	16	32,1	3400	SN..14..AN
03245958	R220.56-8160-14-9CA	Arbor	8,0	165,0	160,0	90,0	40,0	80,0	71,0	9	8,1	4700	SN..14..ZN
03245959	R220.56-8200-14-11CA	Arbor	8,0	205,0	200,0	90,0	60,0	80,0	71,0	11	10,2	4200	SN..14..ZN
03245960	R220.56-8250-14-14CA	Arbor	8,0	255,0	250,0	130,0	60,0	80,0	71,0	14	19,9	3800	SN..14..ZN
03245961	R220.56-8315-14-16CA	Arbor	8,0	320,0	315,0	225,0	60,0	80,0	71,0	16	32,4	3400	SN..14..ZN

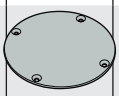
Spare Parts

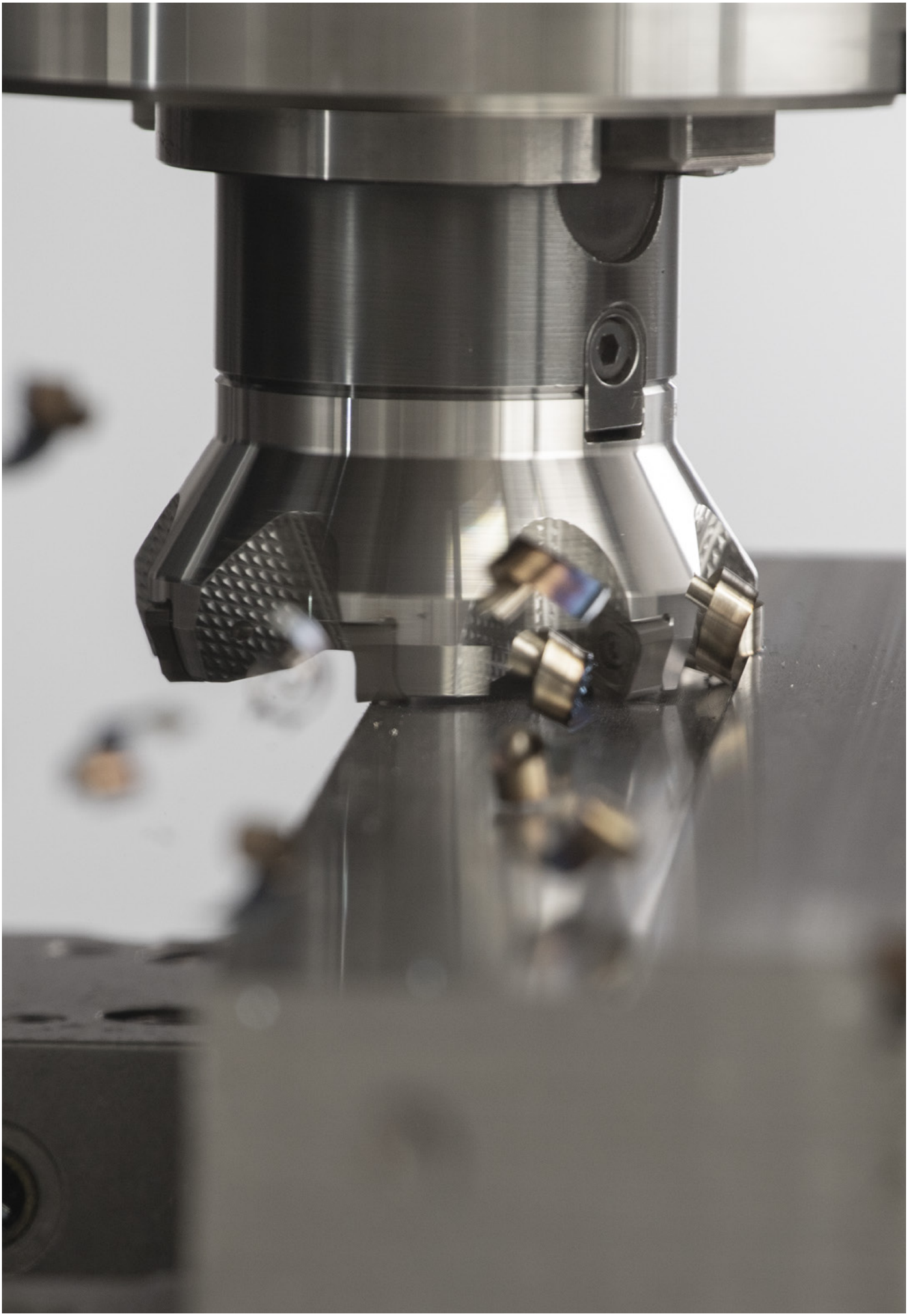
For cutter	Wedge screw	Wedge clamp	Setting gauge	Lid screw	Lid	Key (T-handle)	Insert screw	Insert key	Cassette screw	Cassette	Torque value (Nm)
											
R220.54-8160	LD8020-T25P	CW0810	AU1114T-T15P	MF6S4X8	SC-160-90	DOUBLE-T	C04011-T15P	H4B-T15PL	MC6S6X20	SN14AR	3,5
R220.54-8200	LD8020-T25P	CW0810	AU1114T-T15P	MF6S4X8	SC-200-90	DOUBLE-T	C04011-T15P	H4B-T15PL	MC6S6X20	SN14AR	3,5
R220.54-8250	LD8020-T25P	CW0810	AU1114T-T15P	MF6S4X8	SC-250-90	DOUBLE-T	C04011-T15P	H4B-T15PL	MC6S6X20	SN14AR	3,5
R220.54-8315	LD8020-T25P	CW0810	AU1114T-T15P	MF6S4X8	SC-315-90	DOUBLE-T	C04011-T15P	H4B-T15PL	MC6S6X20	SN14AR	3,5
R220.56-8160	LD8020-T25P	CW0810	AU1114T-T15P	MF6S4X8	SC-160-90	DOUBLE-T	C04011-T15P	H4B-T15PL	MC6S6X20	SN14ZR	3,5
R220.56-8200	LD8020-T25P	CW0810	AU1114T-T15P	MF6S4X8	SC-200-90	DOUBLE-T	C04011-T15P	H4B-T15PL	MC6S6X20	SN14ZR	3,5
R220.56-8250	LD8020-T25P	CW0810	AU1114T-T15P	MF6S4X8	SC-250-90	DOUBLE-T	C04011-T15P	H4B-T15PL	MC6S6X20	SN14ZR	3,5
R220.56-8315	LD8020-T25P	CW0810	AU1114T-T15P	MF6S4X8	SC-315-90	DOUBLE-T	C04011-T15P	H4B-T15PL	MC6S6X20	SN14ZR	3,5

R220.54/R220.56-14 inch

Ordering and Product No.	Designation	Type of mounting	Dimensions in inch						KAPRS°	ZNP	KG	RPMX	Insert
			APMXS	DCX	DC	DCSFMS	DCB	LF					
03213791	R220.54-06.00-14-9CA	Arbor	0.236	6.496	6.299	4.33	2.00	3.15	48,0	9	8,5	4700	SN..14..AN
03213792	R220.54-808.00-14-11CA	Arbor	0.236	8.307	7.874	5.12	2.50	3.15	48,0	11	10,7	4200	SN..14..AN
03213793	R220.54-810.00-14-14CA	Arbor	0.236	10.276	9.843	5.12	2.50	3.15	48,0	14	19,9	3800	SN..14..AN
03213794	R220.54-812.50-14-16CA	Arbor	0.236	12.835	12.402	8.86	2.50	3.15	48,0	16	32,5	3400	SN..14..AN
03245962	R220.56-06.00-14-9CA	Arbor	0.315	6.496	6.299	4.33	2.00	3.15	71,0	9	8,6	4700	SN..14..ZN
03245963	R220.56-808.00-14-11CA	Arbor	0.315	8.071	7.874	5.12	2.50	3.15	71,0	11	10,7	4200	SN..14..ZN
03245964	R220.56-810.00-14-14CA	Arbor	0.315	10.039	9.843	5.12	2.50	3.15	71,0	14	19,8	3800	SN..14..ZN
03245965	R220.56-812.50-14-16CA	Arbor	0.315	12.598	12.402	8.86	2.50	3.15	71,0	16	32,5	3400	SN..14..ZN

Spare Parts

For cutter	Wedge screw	Wedge clamp	Setting gauge	Lid screw	Lid	Key (T-handle)	Insert screw	Insert key	Cassette screw	Cassette	Torque in/lbs
											
R220.54-06.00	LD8020-T25P	CW0810	AU1114T-T15P	MF6S4X8	SC-160-90	DOUBLE-T	C04011-T15P	H4B-T15PL	MC6S6X20	SN14AR	31
R220.54-808	LD8020-T25P	CW0810	AU1114T-T15P	MF6S4X8	SC-200-90	DOUBLE-T	C04011-T15P	H4B-T15PL	MC6S6X20	SN14AR	31
R220.54-810	LD8020-T25P	CW0810	AU1114T-T15P	MF6S4X8	SC-250-90	DOUBLE-T	C04011-T15P	H4B-T15PL	MC6S6X20	SN14AR	31
R220.54-812	LD8020-T25P	CW0810	AU1114T-T15P	MF6S4X8	SC-315-90	DOUBLE-T	C04011-T15P	H4B-T15PL	MC6S6X20	SN14AR	31
R220.56-06.00	LD8020-T25P	CW0810	AU1114T-T15P	MF6S4X8	SC-160-90	DOUBLE-T	C04011-T15P	H4B-T15PL	MC6S6X20	SN14ZR	31
R220.56-808	LD8020-T25P	CW0810	AU1114T-T15P	MF6S4X8	SC-200-90	DOUBLE-T	C04011-T15P	H4B-T15PL	MC6S6X20	SN14ZR	31
R220.56-810	LD8020-T25P	CW0810	AU1114T-T15P	MF6S4X8	SC-250-90	DOUBLE-T	C04011-T15P	H4B-T15PL	MC6S6X20	SN14ZR	31
R220.56-812	LD8020-T25P	CW0810	AU1114T-T15P	MF6S4X8	SC-315-90	DOUBLE-T	C04011-T15P	H4B-T15PL	MC6S6X20	SN14ZR	31



R220.54-14 – Insert selection – metric

SMG		a_p	f_z		
			100%	30%	10%
P1	SNMX1407ANTR-M10 MP2500	5,0	0,20	0,22	0,34
P2	SNMX1407ANTR-M10 MP2500	5,0	0,20	0,22	0,34
P3	SNMX1407ANTR-M10 MP2500	5,0	0,19	0,22	0,32
P4	SNMX1407ANTR-M10 MP2500	5,0	0,19	0,20	0,32
P5	SNMX1407ANTR-M10 MP2500	5,0	0,18	0,20	0,32
P6	SNMX1407ANTR-M10 MP2500	5,0	0,18	0,20	0,32
P7	SNMX1407ANTR-M10 T350M	5,0	0,18	0,20	0,32
P8	SNMX1407ANTR-M10 T350M	5,0	0,19	0,22	0,32
P11	SNMX1407ANTR-M10 T350M	5,0	0,18	0,20	0,32
P12	SNMX1407ANTR-M10 T350M	4,0	0,13	0,14	0,22
M1	SNHX1407ANR-ME10 MS2050	5,0	0,20	0,22	0,34
M2	SNHX1407ANR-ME10 MS2050	5,0	0,18	0,20	0,32
M3	SNHX1407ANR-ME10 MS2050	4,0	0,15	0,16	0,25
M4	SNHX1407ANR-ME10 MS2050	3,0	0,13	0,14	0,22
M5	SNHX1407ANR-ME10 F40M	3,0	0,13	0,14	0,22
K1	SNMX1407ANTR-M16 MK2050	5,0	0,24	0,28	0,42
K2	SNMX1407ANTR-M16 MK2050	5,0	0,22	0,25	0,38
K3	SNMX1407ANTR-M16 MK2050	5,0	0,22	0,25	0,38
K4	SNMX1407ANTR-M16 MK2050	5,0	0,22	0,25	0,38
K5	SNMX1407ANTR-M16 MK2050	5,0	0,20	0,22	0,34
K6	SNMX1407ANTR-M16 MK2050	5,0	0,22	0,25	0,38
K7	SNMX1407ANTR-M16 MK2050	5,0	0,20	0,22	0,34
N1	SNHX1407ANR-ME10 H25	5,0	0,26	0,28	0,44
N2	SNHX1407ANR-ME10 H25	5,0	0,26	0,28	0,44
N3	SNHX1407ANR-ME10 H25	5,0	0,26	0,28	0,44
N11	SNHX1407ANR-ME10 H25	5,0	0,26	0,28	0,44
S1	SNMX1407ANTR-M10 MS2500	3,0	0,13	0,14	0,22
S2	SNMX1407ANTR-M10 MS2500	3,0	0,13	0,14	0,22
S3	SNMX1407ANTR-M10 MS2500	3,0	0,12	0,13	0,20
S11	SNHX1407ANR-ME10 MS2050	3,5	0,15	0,16	0,25
S12	SNHX1407ANR-ME10 MS2050	3,5	0,15	0,16	0,25
S13	SNHX1407ANR-ME10 MS2050	3,0	0,13	0,14	0,22
H5	SNMX1407ANTR-M16 MP1500	4,0	0,15	0,17	0,26
H8	SNMX1407ANTR-M16 MP1500	3,5	0,11	0,13	0,19
H11	SNMX1407ANTR-M16 MP1500	4,0	0,15	0,17	0,26
H12	SNMX1407ANTR-M16 MP1500	3,5	0,11	0,13	0,19
H21	SNMX1407ANTR-M16 MP1500	3,5	0,11	0,13	0,19

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

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

	MP1500			MP2500			T350M			MP3000			F40M			MK1500		
SMG	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	300	405	485	270	360	430	245	325	390	270	355	420	215	285	335	—	—	—
P2	290	395	460	255	350	410	240	320	380	260	345	410	210	275	330	—	—	—
P3	260	345	405	230	305	360	205	280	330	225	305	355	180	240	285	—	—	—
P4	225	300	355	200	270	315	185	245	295	200	265	320	160	215	255	—	—	—
P5	215	290	345	190	255	305	175	240	280	195	260	305	155	205	245	—	—	—
P6	245	330	390	215	290	345	200	270	315	215	290	340	175	235	275	—	—	—
P7	230	310	365	205	275	325	190	255	295	205	275	320	165	220	255	—	—	—
P8	215	290	340	190	255	300	175	235	275	190	255	300	150	205	240	—	—	—
P11	225	300	355	200	270	315	180	245	290	200	265	315	160	215	250	—	—	—
P12	150	195	235	130	170	205	120	160	190	130	175	205	105	140	165	—	—	—
M1	—	—	—	185	250	295	185	245	290	195	260	305	170	225	265	—	—	—
M2	—	—	—	155	205	245	155	205	240	160	215	255	140	185	220	—	—	—
M3	—	—	—	125	165	200	125	165	195	130	175	205	115	150	175	—	—	—
M4	—	—	—	95	130	155	95	125	150	100	135	155	85	115	135	—	—	—
M5	—	—	—	80	110	130	80	105	125	85	110	130	70	95	115	—	—	—
K1	230	310	365	205	275	325	190	250	300	205	275	325	165	220	260	310	410	485
K2	205	275	330	180	245	290	170	225	265	185	245	290	145	195	230	275	370	430
K3	175	230	280	155	205	245	140	190	225	155	210	245	125	165	195	230	310	365
K4	165	220	265	145	195	235	135	185	215	150	200	235	120	160	185	220	295	350
K5	105	135	160	90	120	145	85	110	130	90	120	140	70	95	115	135	180	210
K6	145	195	235	130	175	205	120	160	190	130	175	205	105	140	165	195	260	305
K7	130	175	205	115	155	185	105	140	165	115	155	180	90	125	145	170	230	270
N1	—	—	—	—	—	—	—	—	—	—	—	—	1200	1600	1900	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	485	650	770	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	325	435	510	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	370	495	590	—	—	—
S1	—	—	—	—	—	—	44	60	70	47	60	75	40	55	65	—	—	—
S2	—	—	—	—	—	—	36	47	55	38	50	60	33	43	50	—	—	—
S3	—	—	—	—	—	—	32	42	50	33	44	50	29	38	45	—	—	—
S11	—	—	—	—	—	—	65	85	100	65	90	105	55	75	90	—	—	—
S12	—	—	—	—	—	—	43	60	70	46	60	70	39	50	60	—	—	—
S13	—	—	—	—	—	—	25	33	39	26	35	41	23	30	36	—	—	—
H5	49	65	75	40	50	60	40	55	60	40	55	65	34	46	55	—	—	—
H8	55	70	80	43	55	65	42	55	65	43	55	65	37	49	60	—	—	—
H11	65	80	100	50	65	80	50	70	80	50	70	80	44	60	70	—	—	—
H12	95	125	145	85	110	130	75	100	120	80	110	130	65	85	105	—	—	—
H21	55	70	80	43	55	65	42	55	65	43	55	65	37	49	60	—	—	—

	MK2050			MM4500			MS2050			MS2500			MP2050			H25		
SMG	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	265	350	420	175	230	275	—	—	—	290	390	465	280	370	435	—	—	—
P2	255	345	400	170	225	265	—	—	—	280	380	445	270	360	425	—	—	—
P3	225	300	355	145	195	230	—	—	—	250	330	390	235	315	370	—	—	—
P4	200	265	310	130	175	205	—	—	—	220	290	345	210	275	330	—	—	—
P5	190	250	305	125	170	195	—	—	—	210	280	335	200	270	315	—	—	—
P6	210	285	340	140	190	220	—	—	—	235	320	375	225	300	355	—	—	—
P7	200	270	320	130	180	210	180	240	285	220	300	355	210	285	335	—	—	—
P8	190	250	295	120	165	195	165	225	265	210	280	330	195	265	310	—	—	—
P11	195	265	310	130	175	205	175	235	275	215	290	345	205	275	325	—	—	—
P12	130	170	205	85	115	130	115	155	180	145	190	225	135	180	210	—	—	—
M1	—	—	—	145	190	230	185	245	290	200	270	320	195	255	305	—	—	—
M2	—	—	—	120	160	190	155	205	240	170	225	270	160	215	250	—	—	—
M3	—	—	—	95	130	150	125	165	195	140	180	220	130	175	205	—	—	—
M4	—	—	—	75	100	115	95	125	150	105	140	165	100	130	155	—	—	—
M5	—	—	—	60	80	95	80	105	125	90	115	140	85	110	130	—	—	—
K1	275	370	435	—	—	—	—	—	—	—	—	—	215	285	335	—	—	—
K2	245	325	390	—	—	—	—	—	—	—	—	—	190	255	300	—	—	—
K3	205	275	330	—	—	—	—	—	—	—	—	—	160	215	255	—	—	—
K4	195	265	315	—	—	—	—	—	—	—	—	—	155	205	240	—	—	—
K5	120	160	190	—	—	—	—	—	—	—	—	—	95	125	145	—	—	—
K6	175	230	280	—	—	—	—	—	—	—	—	—	135	180	215	—	—	—
K7	155	205	245	—	—	—	—	—	—	—	—	—	120	160	190	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1075	1450	1725
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	435	580	690
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	290	390	465
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	330	445	530
S1	—	—	—	23	30	36	44	60	70	50	70	80	49	65	75	—	—	—
S2	—	—	—	18	24	29	36	47	55	42	55	65	39	50	60	—	—	—
S3	—	—	—	16	21	26	32	42	50	37	49	60	35	46	55	—	—	—
S11	—	—	—	32	43	50	65	85	100	75	95	115	70	90	105	—	—	—
S12	—	—	—	30	40	46	43	60	70	50	65	80	48	65	75	—	—	—
S13	—	—	—	17	23	27	25	33	39	29	39	46	27	36	43	—	—	—
H5	—	—	—	—	—	—	—	—	—	—	—	—	40	55	65	—	—	—
H8	—	—	—	—	—	—	—	—	—	—	—	—	43	55	65	—	—	—
H11	—	—	—	—	—	—	—	—	—	—	—	—	50	70	80	—	—	—
H12	—	—	—	—	—	—	—	—	—	—	—	—	85	115	135	—	—	—
H21	—	—	—	—	—	—	—	—	—	—	—	—	43	55	65	—	—	—

R220.54-14 – Insert selection – inch

SMG		a_p	f_z		
			100%	30%	10%
P1	SNMX1407ANTR-M10 MP2500	0.20	0.0080	0.0085	0.013
P2	SNMX1407ANTR-M10 MP2500	0.20	0.0080	0.0085	0.013
P3	SNMX1407ANTR-M10 MP2500	0.20	0.0075	0.0085	0.013
P4	SNMX1407ANTR-M10 MP2500	0.20	0.0075	0.0080	0.013
P5	SNMX1407ANTR-M10 MP2500	0.20	0.0070	0.0080	0.013
P6	SNMX1407ANTR-M10 MP2500	0.20	0.0070	0.0080	0.013
P7	SNMX1407ANTR-M10 T350M	0.20	0.0070	0.0080	0.013
P8	SNMX1407ANTR-M10 T350M	0.20	0.0075	0.0085	0.013
P11	SNMX1407ANTR-M10 T350M	0.20	0.0070	0.0080	0.013
P12	SNMX1407ANTR-M10 T350M	0.16	0.0050	0.0055	0.0085
M1	SNHX1407ANR-ME10 MS2050	0.20	0.0080	0.0085	0.013
M2	SNHX1407ANR-ME10 MS2050	0.20	0.0070	0.0080	0.013
M3	SNHX1407ANR-ME10 MS2050	0.16	0.0060	0.0065	0.010
M4	SNHX1407ANR-ME10 MS2050	0.12	0.0050	0.0055	0.0085
M5	SNHX1407ANR-ME10 F40M	0.12	0.0050	0.0055	0.0085
K1	SNMX1407ANTR-M16 MK2050	0.20	0.0095	0.011	0.017
K2	SNMX1407ANTR-M16 MK2050	0.20	0.0085	0.010	0.015
K3	SNMX1407ANTR-M16 MK2050	0.20	0.0085	0.010	0.015
K4	SNMX1407ANTR-M16 MK2050	0.20	0.0085	0.010	0.015
K5	SNMX1407ANTR-M16 MK2050	0.20	0.0080	0.0085	0.013
K6	SNMX1407ANTR-M16 MK2050	0.20	0.0085	0.010	0.015
K7	SNMX1407ANTR-M16 MK2050	0.20	0.0080	0.0085	0.013
N1	SNHX1407ANR-ME10 H25	0.20	0.010	0.011	0.017
N2	SNHX1407ANR-ME10 H25	0.20	0.010	0.011	0.017
N3	SNHX1407ANR-ME10 H25	0.20	0.010	0.011	0.017
N11	SNHX1407ANR-ME10 H25	0.20	0.010	0.011	0.017
S1	SNMX1407ANTR-M10 MS2500	0.12	0.0050	0.0055	0.0085
S2	SNMX1407ANTR-M10 MS2500	0.12	0.0050	0.0055	0.0085
S3	SNMX1407ANTR-M10 MS2500	0.12	0.0048	0.0050	0.0080
S11	SNHX1407ANR-ME10 MS2050	0.14	0.0060	0.0065	0.010
S12	SNHX1407ANR-ME10 MS2050	0.14	0.0060	0.0065	0.010
S13	SNHX1407ANR-ME10 MS2050	0.12	0.0050	0.0055	0.0085
H5	SNMX1407ANTR-M16 MP1500	0.16	0.0060	0.0065	0.010
H8	SNMX1407ANTR-M16 MP1500	0.14	0.0044	0.0050	0.0075
H11	SNMX1407ANTR-M16 MP1500	0.16	0.0060	0.0065	0.010
H12	SNMX1407ANTR-M16 MP1500	0.14	0.0044	0.0050	0.0075
H21	SNMX1407ANTR-M16 MP1500	0.14	0.0044	0.0050	0.0075

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

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

	MP1500			MP2500			T350M			MP3000			F40M			MK1500		
SMG	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	1000	1350	1575	890	1200	1400	820	1100	1300	890	1200	1425	710	960	1125	—	—	—
P2	970	1300	1550	860	1150	1375	790	1075	1275	860	1175	1375	690	930	1100	—	—	—
P3	860	1125	1350	760	1000	1200	690	920	1100	750	1000	1200	600	800	960	—	—	—
P4	760	1025	1200	670	900	1075	610	830	980	660	910	1050	530	720	850	—	—	—
P5	720	970	1150	640	860	1025	590	800	930	640	860	1025	510	690	810	—	—	—
P6	810	1100	1300	720	970	1150	660	890	1050	720	970	1125	580	780	910	—	—	—
P7	770	1025	1225	680	920	1075	630	840	990	680	920	1075	550	730	860	—	—	—
P8	720	960	1125	640	850	1000	580	770	930	630	840	1025	510	670	810	—	—	—
P11	740	1000	1175	660	890	1050	610	820	960	660	890	1050	530	710	830	—	—	—
P12	490	650	760	430	570	680	390	520	620	425	570	670	340	455	540	—	—	—
M1	—	—	—	620	820	990	610	830	980	650	870	1025	560	750	890	—	—	—
M2	—	—	—	520	690	820	510	680	800	540	720	850	465	620	730	—	—	—
M3	—	—	—	415	550	660	405	550	640	430	580	680	370	495	590	—	—	—
M4	—	—	—	325	430	510	315	420	495	330	445	520	285	380	450	—	—	—
M5	—	—	—	270	360	425	265	350	410	275	370	435	240	320	375	—	—	—
K1	770	1025	1225	680	910	1075	630	850	1000	680	920	1100	550	740	870	1025	1375	1625
K2	690	920	1100	610	810	970	560	760	880	610	820	960	490	660	770	910	1225	1450
K3	580	780	920	510	690	820	475	640	750	520	690	810	415	560	650	770	1050	1225
K4	550	740	880	490	660	780	455	610	710	495	660	780	395	530	620	740	990	1150
K5	340	460	540	300	405	480	275	375	440	300	405	480	240	325	385	445	610	720
K6	490	650	780	435	580	690	400	540	630	435	580	680	350	465	550	650	870	1025
K7	435	590	690	385	520	610	350	480	560	380	520	610	305	415	490	570	780	920
N1	—	—	—	—	—	—	—	—	—	—	—	—	4000	5425	6400	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	1600	2200	2600	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	1075	1475	1725	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	1225	1675	1975	—	—	—
S1	—	—	—	—	—	—	145	195	230	155	205	245	135	180	210	—	—	—
S2	—	—	—	—	—	—	120	160	185	125	165	195	110	145	170	—	—	—
S3	—	—	—	—	—	—	105	140	165	110	145	175	95	125	150	—	—	—
S11	—	—	—	—	—	—	205	275	325	215	290	340	185	250	295	—	—	—
S12	—	—	—	—	—	—	140	190	225	150	200	235	130	175	205	—	—	—
S13	—	—	—	—	—	—	85	110	130	85	115	135	75	100	120	—	—	—
H5	160	215	255	130	175	205	130	175	205	130	175	210	115	150	180	—	—	—
H8	175	230	275	140	185	220	140	185	220	140	185	225	120	160	190	—	—	—
H11	205	275	325	165	220	260	165	220	260	170	225	265	145	195	225	—	—	—
H12	315	410	490	280	365	435	250	330	395	275	360	425	220	285	340	—	—	—
H21	175	230	275	140	185	220	140	185	220	140	185	225	120	160	190	—	—	—

	MK2050			MM4500			MS2050			MS2500			MP2050			H25		
SMG	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	920	1250	1475	570	780	920	—	—	—	970	1300	1525	920	1250	1475	—	—	—
P2	900	1200	1425	560	750	890	—	—	—	940	1250	1500	890	1200	1425	—	—	—
P3	780	1050	1250	490	650	780	—	—	—	830	1100	1300	780	1050	1250	—	—	—
P4	690	940	1100	430	590	690	—	—	—	730	980	1175	690	940	1100	—	—	—
P5	670	900	1050	415	560	660	—	—	—	700	930	1100	670	900	1050	—	—	—
P6	750	1000	1175	470	630	740	—	—	—	780	1050	1250	750	1000	1175	—	—	—
P7	710	950	1125	440	590	700	600	810	940	740	1000	1175	710	950	1125	—	—	—
P8	660	880	1050	410	550	660	560	740	890	700	920	1100	660	870	1050	—	—	—
P11	690	930	1075	430	580	680	580	780	920	720	970	1150	690	920	1075	—	—	—
P12	440	590	700	275	370	435	375	500	590	470	620	740	440	590	690	—	—	—
M1	—	—	—	480	650	770	610	830	980	670	890	1075	640	860	1025	—	—	—
M2	—	—	—	400	540	630	510	680	800	560	750	890	530	720	840	—	—	—
M3	—	—	—	320	430	500	405	550	640	450	600	710	425	570	670	—	—	—
M4	—	—	—	245	330	390	315	420	495	355	465	550	330	440	520	—	—	—
M5	—	—	—	205	275	325	265	350	410	295	390	460	275	365	430	—	—	—
K1	970	1300	1550	—	—	—	—	—	—	—	—	—	710	960	1125	—	—	—
K2	870	1150	1350	—	—	—	—	—	—	—	—	—	630	850	1000	—	—	—
K3	730	980	1150	—	—	—	—	—	—	—	—	—	540	720	840	—	—	—
K4	700	940	1100	—	—	—	—	—	—	—	—	—	510	690	810	—	—	—
K5	425	580	680	—	—	—	—	—	—	—	—	—	310	420	495	—	—	—
K6	620	830	970	—	—	—	—	—	—	—	—	—	450	610	710	—	—	—
K7	540	740	870	—	—	—	—	—	—	—	—	—	395	540	640	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3800	5175	6100
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1525	2075	2450
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1025	1400	1650
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1175	1600	1875
S1	—	—	—	75	100	120	145	195	230	170	230	270	160	215	255	—	—	—
S2	—	—	—	60	80	95	120	160	185	140	185	215	130	175	205	—	—	—
S3	—	—	—	55	70	85	105	140	165	120	160	190	115	150	180	—	—	—
S11	—	—	—	105	140	165	205	275	325	235	320	375	225	300	355	—	—	—
S12	—	—	—	95	130	155	140	190	225	165	220	260	155	210	245	—	—	—
S13	—	—	—	55	75	90	85	110	130	95	130	150	90	120	140	—	—	—
H5	—	—	—	—	—	—	—	—	—	—	—	—	130	175	210	—	—	—
H8	—	—	—	—	—	—	—	—	—	—	—	—	140	185	225	—	—	—
H11	—	—	—	—	—	—	—	—	—	—	—	—	170	225	265	—	—	—
H12	—	—	—	—	—	—	—	—	—	—	—	—	285	370	445	—	—	—
H21	—	—	—	—	—	—	—	—	—	—	—	—	140	185	225	—	—	—

R220.56-14 – Insert selection – metric

SMG		a_p	f_z		
			100%	30%	10%
P1	SNMX1407ZNTR-M10 MP2500	6,0	0,15	0,17	0,26
P2	SNMX1407ZNTR-M10 MP2500	6,0	0,15	0,17	0,26
P3	SNMX1407ZNTR-M10 MP2500	6,0	0,15	0,16	0,25
P4	SNMX1407ZNTR-M10 MP2500	6,0	0,14	0,16	0,24
P5	SNMX1407ZNTR-M10 MP2500	6,0	0,14	0,15	0,24
P6	SNMX1407ZNTR-M10 MP2500	6,0	0,14	0,15	0,24
P7	SNMX1407ZNTR-M10 T350M	6,0	0,14	0,15	0,24
P8	SNMX1407ZNTR-M10 T350M	6,0	0,15	0,16	0,25
P11	SNMX1407ZNTR-M10 T350M	6,0	0,14	0,15	0,24
P12	SNMX1407ZNTR-M10 T350M	5,0	0,095	0,10	0,16
M1	SNHX1407ZNR-ME10 MS2050	6,0	0,19	0,20	0,32
M2	SNHX1407ZNR-ME10 MS2050	6,0	0,17	0,19	0,28
M3	SNHX1407ZNR-ME10 MS2050	5,0	0,13	0,15	0,22
M4	SNHX1407ZNR-ME10 MS2050	4,0	0,12	0,13	0,20
M5	SNHX1407ZNR-ME10 F40M	4,0	0,12	0,13	0,20
K1	SNMX1407ZNTR-M16 MK2050	6,0	0,19	0,20	0,32
K2	SNMX1407ZNTR-M16 MK2050	6,0	0,17	0,19	0,28
K3	SNMX1407ZNTR-M16 MK2050	6,0	0,17	0,19	0,28
K4	SNMX1407ZNTR-M16 MK2050	6,0	0,17	0,19	0,28
K5	SNMX1407ZNTR-M16 MK2050	6,0	0,15	0,17	0,26
K6	SNMX1407ZNTR-M16 MK2050	6,0	0,17	0,19	0,28
K7	SNMX1407ZNTR-M16 MK2050	6,0	0,15	0,17	0,26
N1	SNHX1407ZNR-ME10 H25	6,0	0,24	0,26	0,40
N2	SNHX1407ZNR-ME10 H25	6,0	0,24	0,26	0,40
N3	SNHX1407ZNR-ME10 H25	6,0	0,24	0,26	0,40
N11	SNHX1407ZNR-ME10 H25	6,0	0,24	0,26	0,40
S1	SNMX1407ZNTR-M10 MS2500	4,0	0,10	0,11	0,17
S2	SNMX1407ZNTR-M10 MS2500	4,0	0,10	0,11	0,17
S3	SNMX1407ZNTR-M10 MS2500	4,0	0,090	0,10	0,15
S11	SNHX1407ZNR-ME10 MS2050	4,5	0,13	0,15	0,22
S12	SNHX1407ZNR-ME10 MS2050	4,5	0,13	0,15	0,22
S13	SNHX1407ZNR-ME10 MS2050	4,0	0,12	0,13	0,20
H5	SNMX1407ZNTR-M16 MP1500	5,0	0,11	0,13	0,19
H8	SNMX1407ZNTR-M16 MP1500	4,5	0,085	0,095	0,15
H11	SNMX1407ZNTR-M16 MP1500	5,0	0,11	0,13	0,19
H12	SNMX1407ZNTR-M16 MP1500	4,5	0,085	0,095	0,15
H21	SNMX1407ZNTR-M16 MP1500	4,5	0,085	0,095	0,15

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

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

	MP1500			MP2500			T350M			MP3000			F40M			MK1500		
SMG	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	305	415	485	270	365	430	250	335	395	270	365	430	215	290	345	—	—	—
P2	295	395	470	265	350	415	240	325	385	265	355	420	210	285	335	—	—	—
P3	260	345	410	230	305	365	210	280	340	230	305	365	185	245	295	—	—	—
P4	230	310	365	205	275	325	185	255	295	200	275	325	160	220	260	—	—	—
P5	220	295	350	195	260	310	180	240	285	195	265	310	155	210	245	—	—	—
P6	245	335	395	220	295	350	205	270	320	220	295	345	175	235	275	—	—	—
P7	235	315	370	205	280	330	190	255	300	210	280	325	165	225	260	—	—	—
P8	220	290	345	195	260	305	180	235	285	195	255	310	155	205	245	—	—	—
P11	225	305	360	200	270	320	185	250	290	200	270	320	160	215	255	—	—	—
P12	150	195	235	130	175	205	120	160	190	130	175	205	105	140	165	—	—	—
M1	—	—	—	190	250	300	185	250	300	195	265	315	170	230	270	—	—	—
M2	—	—	—	155	210	250	155	210	245	165	220	260	140	190	220	—	—	—
M3	—	—	—	125	170	200	125	165	195	130	175	205	115	150	180	—	—	—
M4	—	—	—	100	130	155	95	130	150	100	135	160	85	115	135	—	—	—
M5	—	—	—	85	110	130	80	105	125	85	115	130	75	95	115	—	—	—
K1	235	310	375	210	275	330	190	260	305	210	280	330	165	225	265	310	420	495
K2	210	280	335	185	250	295	170	230	270	185	250	295	150	200	235	280	375	440
K3	175	235	280	155	210	250	145	195	230	160	210	250	125	170	200	235	315	370
K4	170	225	270	150	200	240	140	185	220	150	200	235	120	160	190	225	300	355
K5	105	140	165	90	125	145	85	115	135	90	125	145	75	100	115	135	185	220
K6	150	200	235	130	175	210	120	165	190	135	180	210	105	140	165	200	265	310
K7	130	180	210	115	160	185	105	145	170	115	160	185	95	125	150	175	235	280
N1	—	—	—	—	—	—	—	—	—	—	—	—	1225	1650	1950	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	490	670	790	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	330	445	530	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	375	510	600	—	—	—
S1	—	—	—	—	—	—	45	60	70	47	65	75	41	55	65	—	—	—
S2	—	—	—	—	—	—	36	48	55	38	50	60	33	44	50	—	—	—
S3	—	—	—	—	—	—	32	42	50	34	45	55	29	38	45	—	—	—
S11	—	—	—	—	—	—	60	85	100	65	90	105	55	75	90	—	—	—
S12	—	—	—	—	—	—	43	60	70	46	60	70	39	55	60	—	—	—
S13	—	—	—	—	—	—	25	34	40	27	35	42	23	31	36	—	—	—
H5	49	65	75	40	55	60	40	55	60	40	55	65	34	46	55	—	—	—
H8	55	70	85	43	55	65	43	55	65	43	55	70	37	49	60	—	—	—
H11	65	85	100	50	65	80	50	65	80	50	70	80	44	60	70	—	—	—
H12	95	125	150	85	110	130	75	100	120	85	110	130	65	85	105	—	—	—
H21	55	70	85	43	55	65	43	55	65	43	55	70	37	49	60	—	—	—

	MK2050			MM4500			MS2050			MS2500			MP2050			H25		
SMG	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	265	350	420	175	230	275	—	—	—	290	390	465	280	370	435	—	—	—
P2	255	345	400	170	225	265	—	—	—	280	380	445	270	360	425	—	—	—
P3	225	300	355	145	195	230	—	—	—	250	330	390	235	315	370	—	—	—
P4	200	265	310	130	175	205	—	—	—	220	290	345	210	275	330	—	—	—
P5	190	250	305	125	170	195	—	—	—	210	280	335	200	270	315	—	—	—
P6	210	285	340	140	190	220	—	—	—	235	320	375	225	300	355	—	—	—
P7	200	270	320	130	180	210	180	240	285	220	300	355	210	285	335	—	—	—
P8	190	250	295	120	165	195	165	225	265	210	280	330	195	265	310	—	—	—
P11	195	265	310	130	175	205	175	235	275	215	290	345	205	275	325	—	—	—
P12	130	170	205	85	115	130	115	155	180	145	190	225	135	180	210	—	—	—
M1	—	—	—	145	190	230	185	245	290	200	270	320	195	255	305	—	—	—
M2	—	—	—	120	160	190	155	205	240	170	225	270	160	215	250	—	—	—
M3	—	—	—	95	130	150	125	165	195	140	180	220	130	175	205	—	—	—
M4	—	—	—	75	100	115	95	125	150	105	140	165	100	130	155	—	—	—
M5	—	—	—	60	80	95	80	105	125	90	115	140	85	110	130	—	—	—
K1	275	370	435	—	—	—	—	—	—	—	—	—	215	285	335	—	—	—
K2	245	325	390	—	—	—	—	—	—	—	—	—	190	255	300	—	—	—
K3	205	275	330	—	—	—	—	—	—	—	—	—	160	215	255	—	—	—
K4	195	265	315	—	—	—	—	—	—	—	—	—	155	205	240	—	—	—
K5	120	160	190	—	—	—	—	—	—	—	—	—	95	125	145	—	—	—
K6	175	230	280	—	—	—	—	—	—	—	—	—	135	180	215	—	—	—
K7	155	205	245	—	—	—	—	—	—	—	—	—	120	160	190	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1075	1450	1725
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	435	580	690
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	290	390	465
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	330	445	530
S1	—	—	—	23	30	36	44	60	70	50	70	80	49	65	75	—	—	—
S2	—	—	—	18	24	29	36	47	55	42	55	65	39	50	60	—	—	—
S3	—	—	—	16	21	26	32	42	50	37	49	60	35	46	55	—	—	—
S11	—	—	—	32	43	50	65	85	100	75	95	115	70	90	105	—	—	—
S12	—	—	—	30	40	46	43	60	70	50	65	80	48	65	75	—	—	—
S13	—	—	—	17	23	27	25	33	39	29	39	46	27	36	43	—	—	—
H5	—	—	—	—	—	—	—	—	—	—	—	—	40	55	65	—	—	—
H8	—	—	—	—	—	—	—	—	—	—	—	—	43	55	65	—	—	—
H11	—	—	—	—	—	—	—	—	—	—	—	—	50	70	80	—	—	—
H12	—	—	—	—	—	—	—	—	—	—	—	—	85	115	135	—	—	—
H21	—	—	—	—	—	—	—	—	—	—	—	—	43	55	65	—	—	—

R220.56-14 – Insert selection – inch

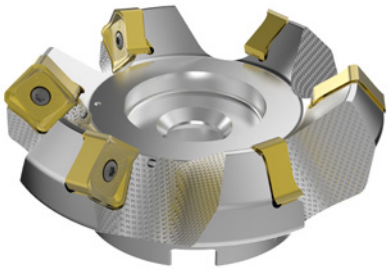
SMG		a_p	f_z		
			100%	30%	10%
P1	SNMX1407ZNTR-M10 MP2500	0.24	0.0060	0.0065	0.010
P2	SNMX1407ZNTR-M10 MP2500	0.24	0.0060	0.0065	0.010
P3	SNMX1407ZNTR-M10 MP2500	0.24	0.0060	0.0065	0.010
P4	SNMX1407ZNTR-M10 MP2500	0.24	0.0055	0.0065	0.0095
P5	SNMX1407ZNTR-M10 MP2500	0.24	0.0055	0.0060	0.0095
P6	SNMX1407ZNTR-M10 MP2500	0.24	0.0055	0.0060	0.0095
P7	SNMX1407ZNTR-M10 T350M	0.24	0.0055	0.0060	0.0095
P8	SNMX1407ZNTR-M10 T350M	0.24	0.0060	0.0065	0.010
P11	SNMX1407ZNTR-M10 T350M	0.24	0.0055	0.0060	0.0095
P12	SNMX1407ZNTR-M10 T350M	0.20	0.0038	0.0040	0.0065
M1	SNHX1407ZNR-ME10 MS2050	0.24	0.0075	0.0080	0.013
M2	SNHX1407ZNR-ME10 MS2050	0.24	0.0065	0.0075	0.011
M3	SNHX1407ZNR-ME10 MS2050	0.20	0.0050	0.0060	0.0085
M4	SNHX1407ZNR-ME10 MS2050	0.16	0.0048	0.0050	0.0080
M5	SNHX1407ZNR-ME10 F40M	0.16	0.0048	0.0050	0.0080
K1	SNMX1407ZNTR-M16 MK2050	0.24	0.0075	0.0080	0.013
K2	SNMX1407ZNTR-M16 MK2050	0.24	0.0065	0.0075	0.011
K3	SNMX1407ZNTR-M16 MK2050	0.24	0.0065	0.0075	0.011
K4	SNMX1407ZNTR-M16 MK2050	0.24	0.0065	0.0075	0.011
K5	SNMX1407ZNTR-M16 MK2050	0.24	0.0060	0.0065	0.010
K6	SNMX1407ZNTR-M16 MK2050	0.24	0.0065	0.0075	0.011
K7	SNMX1407ZNTR-M16 MK2050	0.24	0.0060	0.0065	0.010
N1	SNHX1407ZNR-ME10 H25	0.24	0.0095	0.010	0.016
N2	SNHX1407ZNR-ME10 H25	0.24	0.0095	0.010	0.016
N3	SNHX1407ZNR-ME10 H25	0.24	0.0095	0.010	0.016
N11	SNHX1407ZNR-ME10 H25	0.24	0.0095	0.010	0.016
S1	SNMX1407ZNTR-M10 MS2500	0.16	0.0040	0.0044	0.0065
S2	SNMX1407ZNTR-M10 MS2500	0.16	0.0040	0.0044	0.0065
S3	SNMX1407ZNTR-M10 MS2500	0.16	0.0036	0.0040	0.0060
S11	SNHX1407ZNR-ME10 MS2050	0.18	0.0050	0.0060	0.0085
S12	SNHX1407ZNR-ME10 MS2050	0.18	0.0050	0.0060	0.0085
S13	SNHX1407ZNR-ME10 MS2050	0.16	0.0048	0.0050	0.0080
H5	SNMX1407ZNTR-M16 MP1500	0.20	0.0044	0.0050	0.0075
H8	SNMX1407ZNTR-M16 MP1500	0.18	0.0034	0.0038	0.0060
H11	SNMX1407ZNTR-M16 MP1500	0.20	0.0044	0.0050	0.0075
H12	SNMX1407ZNTR-M16 MP1500	0.18	0.0034	0.0038	0.0060
H21	SNMX1407ZNTR-M16 MP1500	0.18	0.0034	0.0038	0.0060

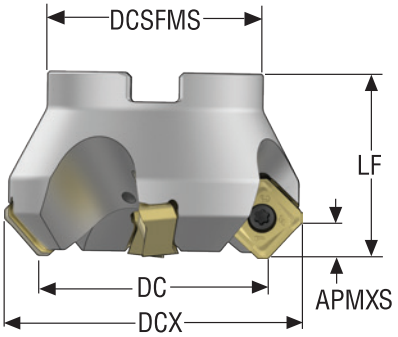
SMG = Seco material group
f_z = in/tooth
v_c= sf/min
a_e/DC = %
All cutting data are start values

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

	MP1500			MP2500			T350M			MP3000			F40M			MK1500		
SMG	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	990	1325	1575	880	1175	1400	810	1075	1275	880	1175	1375	700	930	1100	—	—	—
P2	950	1300	1525	840	1150	1350	790	1050	1250	860	1125	1350	690	910	1075	—	—	—
P3	850	1125	1325	750	1000	1175	680	910	1075	740	990	1175	590	800	940	—	—	—
P4	740	990	1175	660	880	1025	610	810	960	660	870	1050	530	700	830	—	—	—
P5	710	950	1150	630	840	1000	580	780	920	630	850	1000	510	680	800	—	—	—
P6	800	1075	1275	710	960	1125	650	880	1025	710	950	1125	570	760	890	—	—	—
P7	750	1025	1200	670	900	1075	620	830	970	670	900	1050	540	720	840	—	—	—
P8	710	950	1125	630	840	990	570	770	910	620	840	990	495	670	790	—	—	—
P11	730	990	1175	650	880	1025	600	810	940	650	880	1025	520	700	820	—	—	—
P12	490	640	760	435	560	680	390	530	620	425	570	670	340	455	540	—	—	—
M1	—	—	—	610	820	970	610	810	960	640	850	1000	550	730	870	—	—	—
M2	—	—	—	510	680	810	500	670	790	530	710	830	455	610	720	—	—	—
M3	—	—	—	415	550	660	405	540	640	430	570	670	370	495	580	—	—	—
M4	—	—	—	320	425	500	315	415	490	330	435	520	285	375	445	—	—	—
M5	—	—	—	265	355	420	260	345	405	275	365	430	235	315	370	—	—	—
K1	750	1025	1200	670	910	1050	620	830	980	680	900	1075	540	720	850	1025	1350	1600
K2	680	900	1075	600	800	960	550	740	870	600	810	950	480	650	760	900	1200	1425
K3	570	760	910	510	670	810	465	630	740	510	680	800	405	550	640	760	1025	1200
K4	550	730	870	485	640	770	445	600	700	485	650	760	390	520	610	730	980	1150
K5	335	445	530	300	395	470	270	365	430	295	395	465	235	315	370	440	590	700
K6	480	640	770	425	570	680	395	530	620	425	570	670	340	460	540	640	860	1000
K7	430	570	680	380	510	600	345	465	550	375	510	600	300	405	475	560	760	890
N1	—	—	—	—	—	—	—	—	—	—	—	—	3925	5275	6250	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	1600	2125	2525	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	1050	1425	1675	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	1200	1625	1925	—	—	—
S1	—	—	—	—	—	—	145	195	230	155	205	240	135	175	205	—	—	—
S2	—	—	—	—	—	—	120	155	185	125	165	195	105	140	165	—	—	—
S3	—	—	—	—	—	—	105	135	165	110	145	170	95	125	150	—	—	—
S11	—	—	—	—	—	—	205	275	320	215	290	340	185	250	290	—	—	—
S12	—	—	—	—	—	—	140	190	220	150	200	235	130	170	200	—	—	—
S13	—	—	—	—	—	—	80	110	130	85	115	135	75	100	115	—	—	—
H5	160	210	255	130	170	205	130	175	205	130	175	210	115	150	180	—	—	—
H8	175	230	270	140	185	215	140	185	215	140	185	220	120	160	190	—	—	—
H11	205	270	325	165	215	260	165	220	260	170	225	265	145	195	225	—	—	—
H12	310	410	480	275	365	425	245	330	390	270	360	425	215	285	340	—	—	—
H21	175	230	270	140	185	215	140	185	215	140	185	220	120	160	190	—	—	—

	MK2050			MM4500			MS2050			MS2500			MP2050			H25		
SMG	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	870	1150	1375	570	760	900	—	—	—	960	1275	1525	910	1200	1425	—	—	—
P2	830	1125	1325	560	740	870	—	—	—	920	1250	1450	890	1175	1400	—	—	—
P3	740	980	1150	480	640	760	—	—	—	820	1100	1275	760	1025	1225	—	—	—
P4	650	870	1025	430	570	680	—	—	—	720	960	1125	690	910	1075	—	—	—
P5	620	830	990	410	550	650	—	—	—	690	920	1100	660	880	1025	—	—	—
P6	700	940	1125	460	620	730	—	—	—	770	1050	1225	740	990	1150	—	—	—
P7	660	890	1050	435	580	680	590	790	930	730	990	1175	690	930	1100	—	—	—
P8	620	830	970	400	540	640	550	740	870	690	920	1075	640	870	1025	—	—	—
P11	640	860	1025	420	570	670	570	770	900	710	960	1125	670	910	1075	—	—	—
P12	425	560	670	275	370	435	375	500	590	470	620	740	440	590	690	—	—	—
M1	—	—	—	475	630	750	610	810	960	660	890	1050	640	840	1000	—	—	—
M2	—	—	—	395	530	620	500	670	790	550	730	880	520	710	830	—	—	—
M3	—	—	—	320	425	500	405	540	640	450	590	710	425	570	670	—	—	—
M4	—	—	—	245	325	385	315	415	490	345	460	550	325	435	510	—	—	—
M5	—	—	—	205	270	320	260	345	405	290	385	455	275	360	425	—	—	—
K1	890	1225	1425	—	—	—	—	—	—	—	—	—	700	930	1100	—	—	—
K2	800	1075	1275	—	—	—	—	—	—	—	—	—	620	840	980	—	—	—
K3	680	900	1075	—	—	—	—	—	—	—	—	—	530	710	830	—	—	—
K4	650	860	1025	—	—	—	—	—	—	—	—	—	500	680	790	—	—	—
K5	400	530	630	—	—	—	—	—	—	—	—	—	305	410	485	—	—	—
K6	570	760	910	—	—	—	—	—	—	—	—	—	445	600	700	—	—	—
K7	510	680	810	—	—	—	—	—	—	—	—	—	390	520	620	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3525	4750	5650
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1425	1925	2275
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	950	1275	1525
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1075	1450	1725
S1	—	—	—	75	100	115	145	195	230	170	225	265	160	210	250	—	—	—
S2	—	—	—	60	80	95	120	155	185	135	180	215	130	170	200	—	—	—
S3	—	—	—	55	70	85	105	135	165	120	160	190	115	150	180	—	—	—
S11	—	—	—	105	140	165	205	275	320	240	315	375	225	300	350	—	—	—
S12	—	—	—	100	130	150	140	190	220	165	215	260	155	210	245	—	—	—
S13	—	—	—	55	75	90	80	110	130	95	125	150	90	120	140	—	—	—
H5	—	—	—	—	—	—	—	—	—	—	—	—	130	175	210	—	—	—
H8	—	—	—	—	—	—	—	—	—	—	—	—	140	185	220	—	—	—
H11	—	—	—	—	—	—	—	—	—	—	—	—	170	225	265	—	—	—
H12	—	—	—	—	—	—	—	—	—	—	—	—	280	370	440	—	—	—
H21	—	—	—	—	—	—	—	—	—	—	—	—	140	185	220	—	—	—



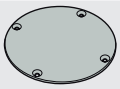


- For insert selection and cutting data recommendations, see page(s) 36-39
- For complete insert programme, see page(s) 69

R220.54-22 metric

Ordering and Product No.	Designation	Type of mounting	Dimensions in mm						KAPRS°	ZNP	KG	RPMX	Insert
			APMXS	DCX	DC	DCSFMS	DCB	LF					
03156810	R220.54-0080-22-5A	Arbor	9,0	98,0	80,0	62,0	27,0	63,0	48,0	5	1,6	4600	SN..22..AN
03157469	R220.54-0080-22-6A	Arbor	9,0	98,0	80,0	62,0	27,0	63,0	48,0	6	1,5	4600	SN..22..AN
03156811	R220.54-0100-22-5A	Arbor	9,0	118,0	100,0	77,0	32,0	63,0	48,0	5	2,3	4000	SN..22..AN
03157470	R220.54-0100-22-7A	Arbor	9,0	118,0	100,0	77,0	32,0	63,0	48,0	7	2,2	4000	SN..22..AN
03156812	R220.54-0125-22-6A	Arbor	9,0	143,0	125,0	90,0	40,0	63,0	48,0	6	3,2	3700	SN..22..AN
03157471	R220.54-0125-22-8A	Arbor	9,0	143,0	125,0	90,0	40,0	63,0	48,0	8	3,2	3700	SN..22..AN
03156813	R220.54-8160-22-8A	Arbor	9,0	178,0	160,0	90,0	40,0	63,0	48,0	8	5,7	3300	SN..22..AN
03157472	R220.54-8160-22-11A	Arbor	9,0	178,0	160,0	90,0	40,0	63,0	48,0	11	5,7	3300	SN..22..AN

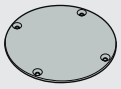
Spare Parts

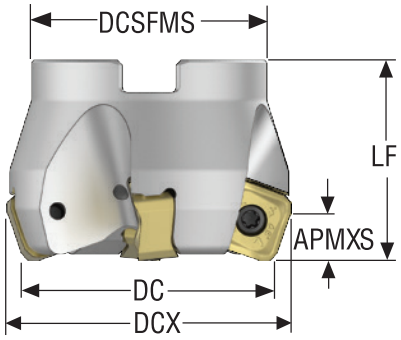
For cutter	Lid screw	Lid	Key (T-handle)	Insert screw	Insert key	Torque value (Nm)
						
R220.54-0080	–	–	DOUBLE-T	C05013-T20P	H6B-T20P	5,0
R220.54-0100-0125	–	–	DOUBLE-T	C05013-T20P	H6B-T20PL	5,0
R220.54-8160	MF6S4X8	SC-160-90	DOUBLE-T	C05013-T20P	H6B-T20PL	5,0

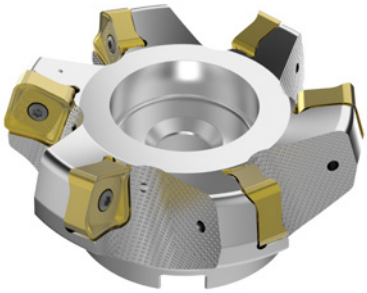
R220.54-22 inch

Ordering and Product No.	Designation	Type of mounting	Dimensions in inch						KAPRS°	ZNP	KG	RPMX	Insert
			APMXS	DCX	DC	DCSFMS	DCB	LF					
03157473	R220.54-03.00-22-5A	Arbor	0.354	3.858	3.150	2.44	1.00	2.48	48,0	5	1,7	4600	SN..22..AN
03157477	R220.54-03.00-22-6A	Arbor	0.354	3.858	3.150	2.44	1.00	2.48	48,0	6	1,6	4600	SN..22..AN
03157474	R220.54-04.00-22-5A	Arbor	0.354	4.646	3.937	3.54	1.50	2.48	48,0	5	2,6	4000	SN..22..AN
03157479	R220.54-04.00-22-7A	Arbor	0.354	4.646	3.937	3.54	1.50	2.48	48,0	7	2,5	4000	SN..22..AN
03157475	R220.54-05.00-22-6A	Arbor	0.354	5.630	4.921	3.54	1.50	2.48	48,0	6	3,4	3700	SN..22..AN
03157480	R220.54-05.00-22-8A	Arbor	0.354	5.630	4.921	3.54	1.50	2.48	48,0	8	3,4	3700	SN..22..AN
03157476	R220.54-06.00-22-8A	Arbor	0.354	7.008	6.299	4.33	2.00	2.48	48,0	8	5,9	3300	SN..22..AN
03157481	R220.54-06.00-22-11A	Arbor	0.354	7.008	6.299	4.33	2.00	2.48	48,0	11	5,9	3300	SN..22..AN

Spare Parts

For cutter	Lid screw	Lid	Key (T-handle)	Insert screw	Insert key	Arbor screw	Torque in/lbs
							
R220.53-03.00	–	–	DOUBLE-T	C05013-T20P	H6B-T20P	UC6S1/2UNFX1-1/4	44
R220.53-04.00	–	–	DOUBLE-T	C05013-T20P	H6B-T20PL	UC6S3/4UNFX1-1/4	44
R220.53-05.00	–	–	DOUBLE-T	C05013-T20P	H6B-T20PL	UC6S3/4UNFX1-1/4	44
R220.53-06.00	MF6S4X8	SC-160-90	DOUBLE-T	C05013-T20P	H6B-T20PL	–	44



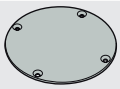


- For insert selection and cutting data recommendations, see page(s) 40-43
- For complete insert programme, see page(s) 69

R220.56-22 metric

Ordering and Product No.	Designation	Type of mounting	Dimensions in mm						KAPRS°	ZNP	KG	RPMX	Insert
			APMXS	DCX	DC	DCSFMS	DCB	LF					
03157447	**R220.56-0080-22-5A**	Arbor	11,0	93,0	80,0	62,0	27,0	63,0	71,0	5	1,4	4600	SN..22..ZN
03156816	**R220.56-0100-22-5A**	Arbor	11,0	110,0	100,0	77,0	32,0	63,0	71,0	5	2,0	4000	SN..22..ZN
03157448	**R220.56-0100-22-7A**	Arbor	11,0	110,0	100,0	77,0	32,0	63,0	71,0	7	1,9	4000	SN..22..ZN
03156817	**R220.56-0125-22-6A**	Arbor	11,0	138,0	125,0	90,0	40,0	63,0	71,0	6	2,9	3700	SN..22..ZN
03157449	**R220.56-0125-22-8A**	Arbor	11,0	135,0	125,0	90,0	40,0	63,0	71,0	8	2,9	3700	SN..22..ZN
03157450	**R220.56-8160-22-10A**	Arbor	11,0	170,0	160,0	90,0	40,0	63,0	71,0	10	4,9	3300	SN..22..ZN
03156818	**R220.56-8160-22-8A**	Arbor	11,0	170,0	160,0	90,0	40,0	63,0	71,0	8	5,0	3300	SN..22..ZN

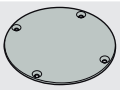
Spare Parts

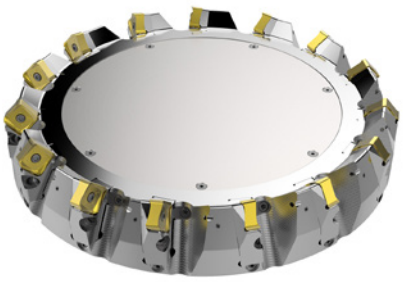
For cutter	Lid screw	Lid	Key (T-handle)	Insert screw	Insert key	Arbor screw	Torque value (Nm)
							
R220.56-0080	–	–	DOUBLE-T	C05013-T20P	H6B-T20P	MC6S12X35	5,0
R220.56-0100	–	–	DOUBLE-T	C05013-T20P	H6B-T20PL	–	5,0
R220.56-0125	–	–	DOUBLE-T	C05013-T20P	H6B-T20PL	–	5,0
R220.56-8160	MF6S4X8	SC-160-90	DOUBLE-T	C05013-T20P	H6B-T20PL	–	5,0

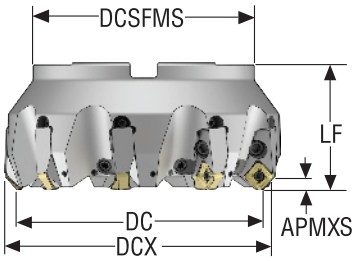
R220.56-22 inch

Ordering and Product No.	Designation	Type of mounting	Dimensions in inch						KAPRS°	ZNP	KG	RPMX	Insert
			APMXS	DCX	DC	DCSFMS	DCB	LF					
03157454	**R220.56-03.00-22-5A**	Arbor	0.433	3.543	3.150	2.44	1.00	2.48	71,0	5	1,4	4600	SN..22..ZN
03157451	**R220.56-04.00-22-5A**	Arbor	0.433	4.331	3.937	3.03	1.50	2.48	71,0	5	2,1	4000	SN..22..ZN
03157455	**R220.56-04.00-22-7A**	Arbor	0.433	4.331	3.937	3.03	1.50	2.48	71,0	7	2,0	4000	SN..22..ZN
03157452	**R220.56-05.00-22-6A**	Arbor	0.433	5.315	4.921	3.54	1.50	2.48	71,0	6	3,2	3700	SN..22..ZN
03157456	**R220.56-05.00-22-8A**	Arbor	0.433	5.315	4.921	3.54	1.50	2.48	71,0	8	3,2	3700	SN..22..ZN
03157457	**R220.56-06.00-22-10A**	Arbor	0.433	6.693	6.299	4.33	2.00	2.48	71,0	10	4,7	3300	SN..22..ZN
03157453	**R220.56-06.00-22-8A**	Arbor	0.433	6.693	6.299	4.33	2.00	2.48	71,0	8	4,8	3300	SN..22..ZN

Spare Parts

For cutter	Lid screw	Lid	Key (T-handle)	Insert screw	Insert key	Arbor screw	Torque in/lbs
							
R220.56-03.00	–	–	DOUBLE-T	C05013-T20P	H6B-T20P	UC6S1/2UNFX1-1/4	44
R220.56-04.00	–	–	DOUBLE-T	C05013-T20P	H6B-T20PL	UC6S3/4UNFX1-1/4	44
R220.56-05.00	–	–	DOUBLE-T	C05013-T20P	H6B-T20PL	UC6S3/4UNFX1-1/4	44
R220.56-06.00	MF6S4X8	SC-160-90	DOUBLE-T	C05013-T20P	H6B-T20PL	–	44



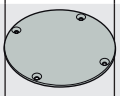
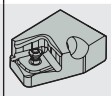


- For insert selection and cutting data recommendations, see page(s) 36-43
- For complete insert programme, see page(s) 69

R220.54/R220.56-22 metric

Ordering and Product No.	Designation	Type of mounting	Dimensions in mm						KAPRS°	ZNP	KG	RPMX	Insert
			APMXS	DCX	DC	DCSFMS	DCB	LF					
03167768	**R220.54-8200-22-9CS**	Arbor	9,0	211,0	200,0	130,0	60,0	80,0	48,0	9	9,9	2700	SN..22..AN
03167769	**R220.54-8250-22-11CS**	Arbor	9,0	261,0	250,0	130,0	60,0	80,0	48,0	11	17,9	2500	SN..22..AN
03167770	**R220.54-8315-22-14CS**	Arbor	9,0	326,0	315,0	130,0	60,0	80,0	48,0	14	33,7	2200	SN..22..AN
03167771	**R220.56-8200-22-9CS**	Arbor	11,0	211,0	200,0	130,0	60,0	80,0	71,0	9	9,9	2700	SN..22..ZN
03167772	**R220.56-8250-22-11CS**	Arbor	11,0	261,0	250,0	130,0	60,0	80,0	71,0	11	18,0	2500	SN..22..ZN
03167773	**R220.56-8315-22-14CS**	Arbor	11,0	326,0	315,0	130,0	60,0	80,0	71,0	14	29,2	2200	SN..22..ZN

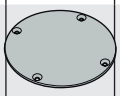
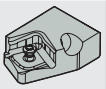
Spare Parts

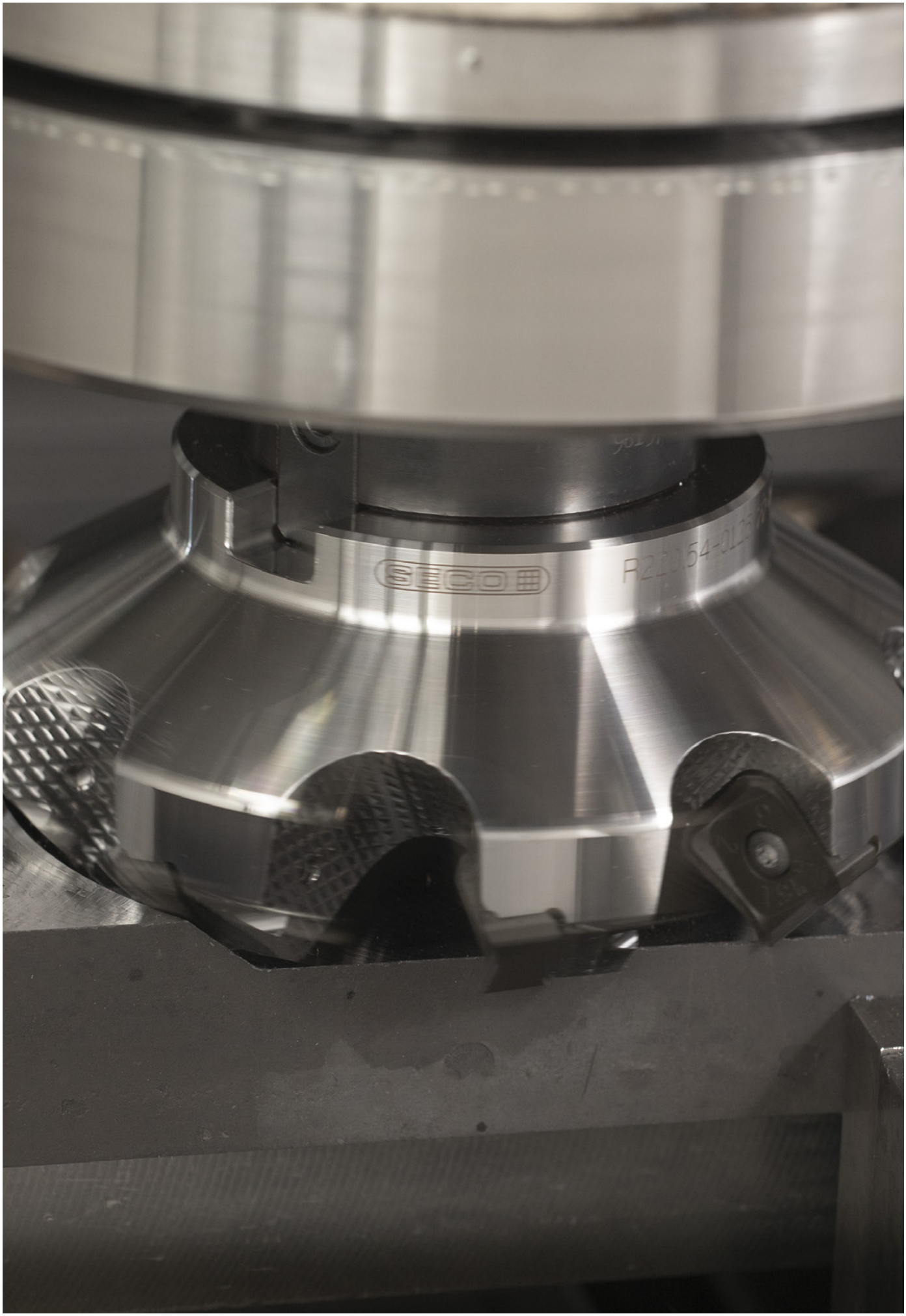
For cutter	Wedge screw	Wedge clamp	Setting gauge	Lid screw	Lid	Key (T-handle)	Insert screw	Insert key	Cassette screw	Cassette	Torque value (Nm)
											
R220.54-8200	LD8020-T25P	CW0810	AU1114T-T15P	MF6S4X8	SC-200-90	DOUBLE-T	C05013-T20P	H6B-T20PL	MC6S8X30	SN22AR	5,0
R220.54-8250	LD8020-T25P	CW0810	AU1114T-T15P	MF6S4X8	SC-250-90	DOUBLE-T	C05013-T20P	H6B-T20PL	MC6S8X30	SN22AR	5,0
R220.54-8315	LD8020-T25P	CW0810	AU1114T-T15P	MF6S4X8	SC-315-90	DOUBLE-T	C05013-T20P	H6B-T20PL	MC6S8X30	SN22AR	5,0
R220.56-8200	LD8020-T25P	CW0810	AU1114T-T15P	MF6S4X8	SC-200-90	DOUBLE-T	C05013-T20P	H6B-T20PL	MC6S8X30	SN22ZR	5,0
R220.56-8250	LD8020-T25P	CW0810	AU1114T-T15P	MF6S4X8	SC-250-90	DOUBLE-T	C05013-T20P	H6B-T20PL	MC6S8X30	SN22ZR	5,0
R220.56-8315	LD8020-T25P	CW0810	AU1114T-T15P	MF6S4X8	SC-315-90	DOUBLE-T	C05013-T20P	H6B-T20PL	MC6S8X30	SN22ZR	5,0

R220.54/R220.56-22 inch

Ordering and Product No.	Designation	Type of mounting	Dimensions in inch						KAPRS°	ZNP	KG	RPMX	Insert
			APMXS	DCX	DC	DCSFMS	DCB	LF					
03167774	**R220.54-808.00-22-9C**	Arbor	0.354	8.307	7.874	5.12	2.50	3.15	48,0	9	12,0	2700	SN..22..AN
03167775	**R220.54-810.00-22-11C**	Arbor	0.354	10.276	9.843	5.12	2.50	3.15	48,0	11	20,5	2500	SN..22..AN
03167776	**R220.54-812.50-22-14C**	Arbor	0.354	12.835	12.402	5.12	2.50	3.15	48,0	14	33,7	2200	SN..22..AN
03167778	**R220.56-810.00-22-11C**	Arbor	0.433	10.276	9.843	5.12	2.36	3.15	71,0	11	20,5	2500	SN..22..ZN
03167777	**R220.56-808.00-22-9C**	Arbor	0.433	8.307	7.874	5.12	2.36	3.15	71,0	9	12,0	2700	SN..22..ZN
03167779	**R220.56-812.50-22-14C**	Arbor	0.433	12.835	12.402	5.12	2.36	3.15	71,0	14	33,7	2200	SN..22..ZN

Spare Parts

For cutter	Wedge screw	Wedge clamp	Setting gauge	Lid screw	Lid	Key (T-handle)	Insert screw	Insert key	Cassette screw	Cassette	Torque in/lbs
											
R220.54-808	LD8020-T25P	CW0810	AU1114T-T15P	MF6S4X8	SC-200-90	DOUBLE-T	C05013-T20P	H6B-T20PL	MC6S8X30	SN22AR	44
R220.54-810	LD8020-T25P	CW0810	AU1114T-T15P	MF6S4X8	SC-250-90	DOUBLE-T	C05013-T20P	H6B-T20PL	MC6S8X30	SN22AR	44
R220.54-812	LD8020-T25P	CW0810	AU1114T-T15P	MF6S4X8	SC-315-90	DOUBLE-T	C05013-T20P	H6B-T20PL	MC6S8X30	SN22AR	44
R220.56-810	LD8020-T25P	CW0810	AU1114T-T15P	MF6S4X8	SC-250-90	DOUBLE-T	C05013-T20P	H6B-T20PL	MC6S8X30	SN22ZR	44
R220.56-808	LD8020-T25P	CW0810	AU1114T-T15P	MF6S4X8	SC-200-90	DOUBLE-T	C05013-T20P	H6B-T20PL	MC6S8X30	SN22ZR	44
R220.56-812	LD8020-T25P	CW0810	AU1114T-T15P	MF6S4X8	SC-315-90	DOUBLE-T	C05013-T20P	H6B-T20PL	MC6S8X30	SN22ZR	44


SECO

R220.54-22 – Insert selection – metric

SMG		a_p	f_z		
			100%	30%	10%
P1	SNMX2209ANTR-M12 MP2500	7,0	0,40	0,44	0,65
P2	SNMX2209ANTR-M12 MP2500	7,0	0,40	0,44	0,70
P3	SNMX2209ANTR-M12 MP2500	7,0	0,38	0,42	0,65
P4	SNMX2209ANTR-M12 MP2500	7,0	0,38	0,40	0,65
P5	SNMX2209ANTR-M12 MP2500	7,0	0,36	0,40	0,60
P6	SNMX2209ANTR-M12 MP2500	7,0	0,36	0,40	0,60
P7	SNMX2209ANTR-M12 T350M	7,0	0,36	0,40	0,60
P8	SNMX2209ANTR-M12 T350M	7,0	0,38	0,42	0,65
P11	SNMX2209ANTR-M12 T350M	7,0	0,36	0,40	0,60
P12	SNMX2209ANTR-M12 T350M	6,0	0,25	0,28	0,42
M1	SNMX2209ANR-ME12 MS2050	7,0	0,30	0,34	0,50
M2	SNMX2209ANR-ME12 MS2050	7,0	0,28	0,30	0,46
M3	SNMX2209ANR-ME12 MS2050	6,0	0,22	0,24	0,36
M4	SNMX2209ANR-ME12 MS2050	4,5	0,19	0,22	0,32
M5	SNMX2209ANR-ME12 F40M	4,5	0,19	0,22	0,32
K1	SNMX2209ANTR-M18 MK2050	7,0	0,40	0,44	0,70
K2	SNMX2209ANTR-M18 MK2050	7,0	0,36	0,40	0,60
K3	SNMX2209ANTR-M18 MK2050	7,0	0,36	0,40	0,60
K4	SNMX2209ANTR-M18 MK2050	7,0	0,36	0,40	0,60
K5	SNMX2209ANTR-M18 MK2050	7,0	0,34	0,36	0,55
K6	SNMX2209ANTR-M18 MK2050	7,0	0,36	0,40	0,60
K7	SNMX2209ANTR-M18 MK2050	7,0	0,34	0,36	0,55
S1	SNMX2209ANTR-M12 MS2500	4,5	0,26	0,28	0,44
S2	SNMX2209ANTR-M12 MS2500	4,5	0,26	0,28	0,44
S3	SNMX2209ANTR-M12 MS2500	4,5	0,24	0,26	0,40
S11	SNMX2209ANR-ME12 MS2050	5,0	0,22	0,24	0,36
S12	SNMX2209ANR-ME12 MS2050	5,0	0,22	0,24	0,36
S13	SNMX2209ANR-ME12 MS2050	4,5	0,19	0,22	0,32
H5	SNMX2209ANTR-M18 MP1500	6,0	0,25	0,28	0,42
H8	SNMX2209ANTR-M18 MP1500	5,0	0,19	0,20	0,32
H11	SNMX2209ANTR-M18 MP1500	6,0	0,25	0,28	0,42
H12	SNMX2209ANTR-M18 MP1500	5,0	0,19	0,20	0,32
H21	SNMX2209ANTR-M18 MP1500	5,0	0,19	0,20	0,32

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

R220.54-22 – Cutting data v_c = (m/min)

	MP1500			MP2500			T350M			F40M		
SMG	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	280	380	455	245	335	400	240	325	385	205	280	335
P2	270	370	440	240	325	390	230	315	375	200	275	325
P3	240	320	380	210	285	335	205	270	325	180	235	285
P4	210	290	345	185	255	305	180	245	285	155	210	250
P5	200	275	330	180	245	290	170	235	280	150	200	240
P6	230	310	370	205	275	325	195	260	310	170	225	270
P7	215	290	345	190	260	310	180	245	295	160	215	255
P8	200	270	320	180	240	285	170	225	275	150	200	240
P11	210	285	340	185	250	300	175	240	285	155	210	250
P12	140	190	220	125	165	195	115	155	185	100	135	160
M1	—	—	—	175	235	280	180	240	285	160	220	260
M2	—	—	—	145	195	235	150	200	240	135	180	215
M3	—	—	—	120	160	190	120	160	190	110	145	175
M4	—	—	—	90	120	145	95	125	150	85	115	135
M5	—	—	—	75	100	120	80	105	125	70	95	115
K1	215	290	350	190	260	310	—	—	—	160	215	255
K2	190	260	310	170	230	275	—	—	—	140	190	230
K3	160	220	265	145	195	235	—	—	—	120	160	195
K4	155	210	250	135	185	225	—	—	—	115	155	185
K5	95	130	155	85	115	135	—	—	—	70	95	110
K6	135	185	220	120	165	195	—	—	—	100	135	165
K7	120	165	195	110	150	175	—	—	—	90	120	145
S1	—	—	—	—	—	—	44	60	70	40	55	65
S2	—	—	—	—	—	—	35	47	55	32	42	50
S3	—	—	—	—	—	—	31	41	49	28	37	45
S11	—	—	—	—	—	—	60	80	95	55	75	90
S12	—	—	—	—	—	—	42	55	65	38	50	60
S13	—	—	—	—	—	—	25	32	39	22	30	36
H5	46	60	75	37	50	60	39	50	60	34	45	55
H8	50	65	80	40	55	65	42	55	65	36	47	55
H11	60	80	95	48	65	75	49	65	80	43	60	70
H12	90	120	145	80	105	125	75	100	120	65	85	105
H21	50	65	80	40	55	65	42	55	65	36	47	55

	MK1500			MK2050			MS2050			MS2500			MP2050		
SMG	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	245	335	400	—	—	—	270	370	440	270	365	435
P2	—	—	—	240	325	390	—	—	—	265	360	430	265	355	425
P3	—	—	—	210	285	335	—	—	—	235	315	370	235	310	370
P4	—	—	—	185	255	305	—	—	—	205	280	335	205	275	325
P5	—	—	—	175	245	290	—	—	—	195	270	320	195	265	315
P6	—	—	—	200	270	325	—	—	—	225	300	360	220	295	355
P7	—	—	—	190	255	305	175	240	285	210	285	340	205	280	335
P8	—	—	—	175	240	280	165	220	265	195	265	310	195	260	310
P11	—	—	—	185	250	300	170	230	275	205	275	330	200	275	325
P12	—	—	—	125	165	195	110	150	180	135	180	215	130	180	210
M1	—	—	—	—	—	—	180	245	290	190	255	310	190	255	305
M2	—	—	—	—	—	—	150	200	240	155	215	255	155	210	255
M3	—	—	—	—	—	—	120	165	195	130	175	205	125	170	205
M4	—	—	—	—	—	—	95	125	150	100	135	160	100	130	160
M5	—	—	—	—	—	—	80	105	125	85	110	135	80	110	130
K1	275	370	445	260	350	420	—	—	—	—	—	—	210	285	335
K2	240	330	395	230	315	375	—	—	—	—	—	—	185	250	300
K3	205	280	335	195	265	315	—	—	—	—	—	—	155	215	255
K4	195	270	320	185	255	300	—	—	—	—	—	—	150	205	240
K5	120	165	195	115	155	185	—	—	—	—	—	—	90	125	145
K6	170	235	280	160	225	265	—	—	—	—	—	—	130	180	215
K7	155	210	250	145	200	235	—	—	—	—	—	—	120	160	190
S1	—	—	—	—	—	—	44	60	70	48	65	80	48	65	75
S2	—	—	—	—	—	—	35	47	55	39	55	65	39	50	60
S3	—	—	—	—	—	—	31	41	50	35	46	55	34	45	55
S11	—	—	—	—	—	—	60	80	100	70	90	110	65	90	105
S12	—	—	—	—	—	—	42	55	70	47	65	75	46	60	75
S13	—	—	—	—	—	—	25	33	40	27	37	44	27	36	43
H5	—	—	—	—	—	—	—	—	—	—	—	—	40	55	65
H8	—	—	—	—	—	—	—	—	—	—	—	—	43	55	70
H11	—	—	—	—	—	—	—	—	—	—	—	—	50	70	80
H12	—	—	—	—	—	—	—	—	—	—	—	—	85	110	135
H21	—	—	—	—	—	—	—	—	—	—	—	—	43	55	70

R220.54-22 – Insert selection – inch

SMG		a_p	f_z		
			100%	30%	10%
P1	SNMX2209ANTR-M12 MP2500	0.28	0.016	0.017	0.026
P2	SNMX2209ANTR-M12 MP2500	0.28	0.016	0.017	0.028
P3	SNMX2209ANTR-M12 MP2500	0.28	0.015	0.017	0.026
P4	SNMX2209ANTR-M12 MP2500	0.28	0.015	0.016	0.026
P5	SNMX2209ANTR-M12 MP2500	0.28	0.014	0.016	0.024
P6	SNMX2209ANTR-M12 MP2500	0.28	0.014	0.016	0.024
P7	SNMX2209ANTR-M12 T350M	0.28	0.014	0.016	0.024
P8	SNMX2209ANTR-M12 T350M	0.28	0.015	0.017	0.026
P11	SNMX2209ANTR-M12 T350M	0.28	0.014	0.016	0.024
P12	SNMX2209ANTR-M12 T350M	0.24	0.010	0.011	0.017
M1	SNMX2209ANR-ME12 MS2050	0.28	0.012	0.013	0.020
M2	SNMX2209ANR-ME12 MS2050	0.28	0.011	0.012	0.018
M3	SNMX2209ANR-ME12 MS2050	0.24	0.0085	0.0095	0.014
M4	SNMX2209ANR-ME12 MS2050	0.18	0.0075	0.0085	0.013
M5	SNMX2209ANR-ME12 F40M	0.18	0.0075	0.0085	0.013
K1	SNMX2209ANTR-M18 MK2050	0.28	0.016	0.017	0.028
K2	SNMX2209ANTR-M18 MK2050	0.28	0.014	0.016	0.024
K3	SNMX2209ANTR-M18 MK2050	0.28	0.014	0.016	0.024
K4	SNMX2209ANTR-M18 MK2050	0.28	0.014	0.016	0.024
K5	SNMX2209ANTR-M18 MK2050	0.28	0.013	0.014	0.022
K6	SNMX2209ANTR-M18 MK2050	0.28	0.014	0.016	0.024
K7	SNMX2209ANTR-M18 MK2050	0.28	0.013	0.014	0.022
S1	SNMX2209ANTR-M12 MS2500	0.18	0.010	0.011	0.017
S2	SNMX2209ANTR-M12 MS2500	0.18	0.010	0.011	0.017
S3	SNMX2209ANTR-M12 MS2500	0.18	0.0095	0.010	0.016
S11	SNMX2209ANR-ME12 MS2050	0.20	0.0085	0.0095	0.014
S12	SNMX2209ANR-ME12 MS2050	0.20	0.0085	0.0095	0.014
S13	SNMX2209ANR-ME12 MS2050	0.18	0.0075	0.0085	0.013
H5	SNMX2209ANTR-M18 MP1500	0.24	0.010	0.011	0.017
H8	SNMX2209ANTR-M18 MP1500	0.20	0.0075	0.0080	0.013
H11	SNMX2209ANTR-M18 MP1500	0.24	0.010	0.011	0.017
H12	SNMX2209ANTR-M18 MP1500	0.20	0.0075	0.0080	0.013
H21	SNMX2209ANTR-M18 MP1500	0.20	0.0075	0.0080	0.013

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

R220.54-22 – Cutting data v_c = (sf/min)

	MP1500			MP2500			T350M			F40M		
SMG	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	920	1250	1475	810	1100	1325	780	1050	1250	680	920	1100
P2	890	1200	1450	790	1075	1275	760	1025	1225	660	900	1075
P3	780	1050	1250	690	930	1100	670	890	1075	580	770	930
P4	690	950	1125	610	840	1000	590	800	940	510	700	820
P5	660	900	1075	580	800	950	560	760	910	490	660	790
P6	750	1025	1200	670	900	1075	630	860	1025	550	740	890
P7	710	960	1150	630	850	1000	600	810	970	520	700	840
P8	660	890	1050	580	790	930	560	750	900	490	650	780
P11	690	930	1100	610	820	980	580	790	940	500	680	820
P12	455	620	720	405	550	640	380	510	600	330	445	530
M1	—	—	—	570	770	920	590	790	940	530	720	860
M2	—	—	—	470	640	770	485	660	780	440	600	710
M3	—	—	—	385	530	620	390	530	630	355	480	570
M4	—	—	—	295	400	480	305	405	490	275	370	445
M5	—	—	—	245	330	400	255	340	410	230	310	370
K1	710	960	1150	630	850	1025	—	—	—	520	710	840
K2	620	860	1025	550	760	900	—	—	—	465	630	750
K3	530	730	860	470	640	770	—	—	—	395	530	640
K4	500	690	820	445	610	730	—	—	—	375	510	610
K5	315	430	510	275	380	450	—	—	—	230	310	365
K6	445	610	730	395	540	640	—	—	—	330	450	540
K7	400	550	650	355	485	570	—	—	—	295	395	470
S1	—	—	—	—	—	—	140	190	230	130	170	210
S2	—	—	—	—	—	—	115	155	185	105	140	165
S3	—	—	—	—	—	—	100	135	160	90	120	145
S11	—	—	—	—	—	—	195	265	320	180	245	290
S12	—	—	—	—	—	—	115	155	185	105	140	165
S13	—	—	—	—	—	—	90	120	145	85	110	135
H5	150	205	240	120	165	195	125	170	200	110	150	175
H8	160	215	260	130	175	210	135	180	215	120	155	190
H11	195	260	305	155	210	245	160	215	255	140	190	220
H12	290	390	470	260	345	415	245	320	390	210	280	340
H21	160	215	260	130	175	210	135	180	215	120	155	190

	MK1500			MK2050			MS2050			MS2500			MP2050		
SMG	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	780	1075	1275	—	—	—	870	1200	1400	760	1025	1225
P2	—	—	—	760	1025	1225	—	—	—	850	1150	1375	740	990	1175
P3	—	—	—	670	910	1075	—	—	—	740	1025	1200	640	880	1050
P4	—	—	—	590	810	960	—	—	—	650	890	1050	570	780	920
P5	—	—	—	570	770	910	—	—	—	640	850	1000	550	740	880
P6	—	—	—	640	880	1025	—	—	—	710	970	1125	620	840	990
P7	—	—	—	610	830	970	495	680	790	670	920	1075	580	800	930
P8	—	—	—	560	770	910	460	630	750	620	850	1000	540	740	880
P11	—	—	—	590	800	940	480	660	770	650	890	1050	570	770	910
P12	—	—	—	390	520	620	320	430	510	435	580	690	375	500	600
M1	—	—	—	—	—	—	500	680	810	610	820	980	530	710	850
M2	—	—	—	—	—	—	420	570	670	510	680	810	440	590	700
M3	—	—	—	—	—	—	340	465	550	410	560	670	355	485	580
M4	—	—	—	—	—	—	265	360	425	320	430	510	280	375	445
M5	—	—	—	—	—	—	220	300	355	265	360	425	230	310	370
K1	870	1175	1400	820	1100	1325	—	—	—	—	—	—	580	790	940
K2	780	1050	1250	740	990	1175	—	—	—	—	—	—	520	700	830
K3	660	890	1050	630	840	1000	—	—	—	—	—	—	445	590	710
K4	630	850	1000	600	800	950	—	—	—	—	—	—	425	570	670
K5	385	520	620	365	495	580	—	—	—	—	—	—	255	350	410
K6	560	750	890	530	710	840	—	—	—	—	—	—	375	500	590
K7	490	670	790	465	630	750	—	—	—	—	—	—	330	445	530
S1	—	—	—	—	—	—	125	165	200	155	210	250	135	185	215
S2	—	—	—	—	—	—	100	135	160	125	170	200	110	145	175
S3	—	—	—	—	—	—	90	120	140	110	150	180	95	130	155
S11	—	—	—	—	—	—	170	235	275	215	295	350	190	255	305
S12	—	—	—	—	—	—	120	160	190	150	205	240	130	175	210
S13	—	—	—	—	—	—	70	95	110	90	120	140	75	105	120
H5	—	—	—	—	—	—	—	—	—	—	—	—	115	150	180
H8	—	—	—	—	—	—	—	—	—	—	—	—	120	160	195
H11	—	—	—	—	—	—	—	—	—	—	—	—	145	190	230
H12	—	—	—	—	—	—	—	—	—	—	—	—	245	320	390
H21	—	—	—	—	—	—	—	—	—	—	—	—	120	160	195

R220.56-22 – Insert selection – metric

SMG		a_p	f_z		
			100%	30%	10%
P1	SNMX2209ZNTR-M12 MP2500	9,0	0,30	0,34	0,50
P2	SNMX2209ZNTR-M12 MP2500	9,0	0,30	0,34	0,50
P3	SNMX2209ZNTR-M12 MP2500	9,0	0,30	0,32	0,48
P4	SNMX2209ZNTR-M12 MP2500	9,0	0,28	0,32	0,48
P5	SNMX2209ZNTR-M12 MP2500	9,0	0,28	0,30	0,46
P6	SNMX2209ZNTR-M12 MP2500	9,0	0,28	0,30	0,46
P7	SNMX2209ZNTR-M18 T350M	9,0	0,28	0,30	0,46
P8	SNMX2209ZNTR-M18 T350M	9,0	0,30	0,32	0,48
P11	SNMX2209ZNTR-M18 T350M	9,0	0,28	0,30	0,46
P12	SNMX2209ZNTR-M18 T350M	7,0	0,19	0,20	0,32
M1	SNMX2209ZNR-ME12 MS2050	9,0	0,24	0,25	0,38
M2	SNMX2209ZNR-ME12 MS2050	9,0	0,22	0,22	0,36
M3	SNMX2209ZNR-ME12 MS2050	7,0	0,17	0,18	0,28
M4	SNMX2209ZNR-ME12 MS2050	5,0	0,15	0,16	0,25
M5	SNMX2209ZNR-ME12 F40M	5,0	0,15	0,16	0,25
K1	SNMX2209ZNTR-M18 MK2050	9,0	0,30	0,34	0,50
K2	SNMX2209ZNTR-M18 MK2050	9,0	0,28	0,30	0,46
K3	SNMX2209ZNTR-M18 MK2050	9,0	0,28	0,30	0,46
K4	SNMX2209ZNTR-M18 MK2050	9,0	0,28	0,30	0,46
K5	SNMX2209ZNTR-M18 MK2050	9,0	0,25	0,28	0,42
K6	SNMX2209ZNTR-M18 MK2050	9,0	0,28	0,30	0,46
K7	SNMX2209ZNTR-M18 MK2050	9,0	0,25	0,28	0,42
S1	SNMX2209ZNTR-M12 MP2050	5,0	0,20	0,22	0,32
S2	SNMX2209ZNTR-M12 MP2050	5,0	0,20	0,22	0,32
S3	SNMX2209ZNTR-M12 MP2050	5,0	0,18	0,20	0,30
S11	SNMX2209ZNR-ME12 MS2050	6,0	0,17	0,18	0,28
S12	SNMX2209ZNR-ME12 MS2050	6,0	0,17	0,18	0,28
S13	SNMX2209ZNR-ME12 MS2050	5,0	0,15	0,16	0,25
H5	SNMX2209ZNTR-M18 MP1500	7,0	0,19	0,20	0,32
H8	SNMX2209ZNTR-M18 MP1500	6,0	0,15	0,16	0,24
H11	SNMX2209ZNTR-M18 MP1500	7,0	0,19	0,20	0,32
H12	SNMX2209ZNTR-M18 MP1500	6,0	0,15	0,16	0,24
H21	SNMX2209ZNTR-M18 MP1500	6,0	0,15	0,16	0,24

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

R220.56-22 – Cutting data v_c = (m/min)

	MP1500			MP2500			T350M			F40M		
SMG	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	275	375	445	245	330	395	210	290	340	205	275	330
P2	265	365	430	235	320	385	205	280	335	195	270	320
P3	235	320	375	210	285	335	180	245	290	175	235	275
P4	205	280	330	185	250	295	160	215	255	155	205	245
P5	200	270	320	175	240	285	155	205	250	145	200	235
P6	230	300	360	200	265	320	175	235	280	165	225	265
P7	215	285	340	190	250	300	165	220	265	155	210	250
P8	200	270	315	175	240	280	155	205	245	145	195	230
P11	210	275	330	185	245	295	160	215	255	150	205	245
P12	135	180	220	120	160	195	105	140	170	100	135	160
M1	—	—	—	170	230	275	160	215	255	160	215	260
M2	—	—	—	140	190	230	130	180	215	135	180	210
M3	—	—	—	115	155	185	110	145	175	110	145	175
M4	—	—	—	90	120	145	85	115	135	85	110	135
M5	—	—	—	75	100	120	70	95	110	70	95	110
K1	210	285	340	185	255	305	—	—	—	155	210	255
K2	190	255	305	165	225	270	—	—	—	140	190	225
K3	160	215	260	140	190	230	—	—	—	120	160	190
K4	150	205	245	135	180	220	—	—	—	115	155	180
K5	95	130	150	85	115	135	—	—	—	70	95	110
K6	135	180	215	120	160	195	—	—	—	100	135	160
K7	120	165	195	110	145	170	—	—	—	90	120	140
S1	—	—	—	—	—	—	39	55	60	39	50	60
S2	—	—	—	—	—	—	32	43	50	31	42	50
S3	—	—	—	—	—	—	28	37	44	28	37	44
S11	—	—	—	—	—	—	55	75	85	55	70	85
S12	—	—	—	—	—	—	38	50	60	38	50	60
S13	—	—	—	—	—	—	22	30	35	22	29	35
H5	46	60	75	37	49	60	35	47	55	34	45	55
H8	49	65	80	40	55	65	38	50	60	36	47	55
H11	60	75	95	47	60	75	45	60	70	43	55	65
H12	90	120	140	80	105	125	70	90	110	65	85	100
H21	49	65	80	40	55	65	38	50	60	36	47	55

	MK1500			MK2050			MS2050			MS2500			MP2050		
SMG	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	240	330	390	—	—	—	265	365	435	270	360	430
P2	—	—	—	235	320	380	—	—	—	260	355	420	260	350	420
P3	—	—	—	210	280	330	—	—	—	230	310	370	230	305	360
P4	—	—	—	185	250	295	—	—	—	200	275	325	200	270	325
P5	—	—	—	175	235	285	—	—	—	195	260	315	195	260	310
P6	—	—	—	200	265	320	—	—	—	220	295	355	215	295	345
P7	—	—	—	185	250	300	175	235	280	205	280	335	205	275	325
P8	—	—	—	175	235	280	165	220	255	195	260	310	195	255	305
P11	—	—	—	180	245	290	170	230	270	200	270	325	200	270	320
P12	—	—	—	120	160	195	110	150	175	135	180	215	130	175	210
M1	—	—	—	—	—	—	175	240	285	185	255	300	185	250	300
M2	—	—	—	—	—	—	145	200	235	155	210	250	155	210	245
M3	—	—	—	—	—	—	120	160	190	130	170	205	125	165	200
M4	—	—	—	—	—	—	95	125	150	100	135	155	95	130	155
M5	—	—	—	—	—	—	75	105	125	85	110	130	80	110	130
K1	270	365	435	255	345	410	—	—	—	—	—	—	205	275	330
K2	240	325	385	230	305	365	—	—	—	—	—	—	185	250	295
K3	205	275	330	195	260	310	—	—	—	—	—	—	155	210	250
K4	195	260	315	185	245	295	—	—	—	—	—	—	150	200	235
K5	120	160	190	115	155	180	—	—	—	—	—	—	90	120	145
K6	170	230	275	165	220	260	—	—	—	—	—	—	130	175	210
K7	155	205	245	145	195	235	—	—	—	—	—	—	115	155	185
S1	—	—	—	—	—	—	43	60	70	48	65	75	47	65	75
S2	—	—	—	—	—	—	35	46	55	39	55	60	38	50	60
S3	—	—	—	—	—	—	31	41	49	35	46	55	34	45	55
S11	—	—	—	—	—	—	60	80	95	70	90	105	65	90	105
S12	—	—	—	—	—	—	42	55	65	47	65	75	46	60	75
S13	—	—	—	—	—	—	24	32	39	27	37	43	27	36	43
H5	—	—	—	—	—	—	—	—	—	—	—	—	40	55	60
H8	—	—	—	—	—	—	—	—	—	—	—	—	42	55	65
H11	—	—	—	—	—	—	—	—	—	—	—	—	50	65	80
H12	—	—	—	—	—	—	—	—	—	—	—	—	85	110	130
H21	—	—	—	—	—	—	—	—	—	—	—	—	42	55	65

R220.56-22 – Insert selection – inch

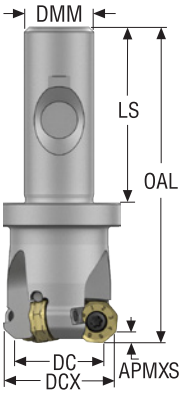
SMG		a_p	f_z		
			100%	30%	10%
P1	SNMX2209ZNTR-M12 MP2500	0.36	0.012	0.013	0.020
P2	SNMX2209ZNTR-M12 MP2500	0.36	0.012	0.013	0.020
P3	SNMX2209ZNTR-M12 MP2500	0.36	0.012	0.013	0.019
P4	SNMX2209ZNTR-M12 MP2500	0.36	0.011	0.013	0.019
P5	SNMX2209ZNTR-M12 MP2500	0.36	0.011	0.012	0.018
P6	SNMX2209ZNTR-M12 MP2500	0.36	0.011	0.012	0.018
P7	SNMX2209ZNTR-M18 T350M	0.36	0.011	0.012	0.018
P8	SNMX2209ZNTR-M18 T350M	0.36	0.012	0.013	0.019
P11	SNMX2209ZNTR-M18 T350M	0.36	0.011	0.012	0.018
P12	SNMX2209ZNTR-M18 T350M	0.28	0.0075	0.0080	0.013
M1	SNMX2209ZNR-ME12 MS2050	0.36	0.0095	0.010	0.015
M2	SNMX2209ZNR-ME12 MS2050	0.36	0.0085	0.0085	0.014
M3	SNMX2209ZNR-ME12 MS2050	0.28	0.0065	0.0070	0.011
M4	SNMX2209ZNR-ME12 MS2050	0.20	0.0060	0.0065	0.010
M5	SNMX2209ZNR-ME12 F40M	0.20	0.0060	0.0065	0.010
K1	SNMX2209ZNTR-M18 MK2050	0.36	0.012	0.013	0.020
K2	SNMX2209ZNTR-M18 MK2050	0.36	0.011	0.012	0.018
K3	SNMX2209ZNTR-M18 MK2050	0.36	0.011	0.012	0.018
K4	SNMX2209ZNTR-M18 MK2050	0.36	0.011	0.012	0.018
K5	SNMX2209ZNTR-M18 MK2050	0.36	0.010	0.011	0.017
K6	SNMX2209ZNTR-M18 MK2050	0.36	0.011	0.012	0.018
K7	SNMX2209ZNTR-M18 MK2050	0.36	0.010	0.011	0.017
S1	SNMX2209ZNTR-M12 MP2050	0.20	0.0080	0.0085	0.013
S2	SNMX2209ZNTR-M12 MP2050	0.20	0.0080	0.0085	0.013
S3	SNMX2209ZNTR-M12 MP2050	0.20	0.0070	0.0080	0.012
S11	SNMX2209ZNR-ME12 MS2050	0.24	0.0065	0.0070	0.011
S12	SNMX2209ZNR-ME12 MS2050	0.24	0.0065	0.0070	0.011
S13	SNMX2209ZNR-ME12 MS2050	0.20	0.0060	0.0065	0.010
H5	SNMX2209ZNTR-M18 MP1500	0.28	0.0075	0.0080	0.013
H8	SNMX2209ZNTR-M18 MP1500	0.24	0.0060	0.0065	0.0095
H11	SNMX2209ZNTR-M18 MP1500	0.28	0.0075	0.0080	0.013
H12	SNMX2209ZNTR-M18 MP1500	0.24	0.0060	0.0065	0.0095
H21	SNMX2209ZNTR-M18 MP1500	0.24	0.0060	0.0065	0.0095

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

R220.56-22 – Cutting data v_c = (sf/min)

	MP1500			MP2500			T350M			F40M		
SMG	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	900	1225	1450	800	1075	1300	690	940	1125	670	900	1075
P2	880	1200	1425	780	1050	1250	680	920	1100	650	880	1050
P3	770	1050	1225	680	930	1100	600	810	950	570	770	900
P4	680	920	1100	600	820	960	530	710	840	510	680	810
P5	650	880	1050	580	780	940	500	680	810	485	660	770
P6	750	990	1175	660	880	1050	580	760	910	540	740	870
P7	710	930	1125	630	830	990	550	720	860	510	690	820
P8	650	880	1050	580	780	920	500	680	800	485	640	760
P11	690	910	1075	610	800	960	530	700	840	495	670	800
P12	450	600	720	400	530	640	345	460	560	330	440	520
M1	—	—	—	560	760	900	520	710	840	520	710	850
M2	—	—	—	465	630	750	430	590	700	435	590	700
M3	—	—	—	385	510	610	355	475	570	355	470	570
M4	—	—	—	295	400	470	275	375	440	275	365	435
M5	—	—	—	245	335	395	230	310	365	225	305	365
K1	690	940	1125	610	840	990	—	—	—	510	700	830
K2	620	840	1000	550	740	890	—	—	—	460	620	730
K3	520	710	850	460	630	750	—	—	—	390	530	620
K4	500	680	810	440	600	720	—	—	—	370	500	590
K5	315	420	495	280	375	440	—	—	—	230	305	360
K6	440	590	710	390	530	630	—	—	—	325	440	520
K7	400	540	640	355	480	560	—	—	—	295	390	460
S1	—	—	—	—	—	—	130	175	205	125	170	205
S2	—	—	—	—	—	—	105	140	165	105	135	165
S3	—	—	—	—	—	—	95	125	145	90	120	145
S11	—	—	—	—	—	—	180	240	285	180	235	285
S12	—	—	—	—	—	—	105	140	165	105	135	165
S13	—	—	—	—	—	—	85	110	130	80	110	130
H5	150	200	240	120	160	195	115	155	185	110	145	175
H8	160	215	255	130	175	205	125	165	195	115	155	185
H11	190	255	305	155	205	245	145	195	235	140	185	220
H12	290	390	460	255	345	405	225	300	355	210	280	330
H21	160	215	255	130	175	205	125	165	195	115	155	185

	MK1500			MK2050			MS2050			MS2500			MP2050		
SMG	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	790	1075	1275	—	—	—	880	1200	1425	880	1175	1400
P2	—	—	—	770	1050	1250	—	—	—	850	1150	1375	840	1150	1375
P3	—	—	—	680	920	1100	—	—	—	750	1025	1200	750	1000	1175
P4	—	—	—	600	810	960	—	—	—	660	900	1075	660	880	1050
P5	—	—	—	580	780	930	—	—	—	640	860	1025	630	860	1025
P6	—	—	—	650	870	1050	—	—	—	720	970	1150	710	960	1150
P7	—	—	—	610	820	990	570	770	910	680	910	1100	670	910	1075
P8	—	—	—	570	780	920	540	720	840	630	860	1025	630	840	990
P11	—	—	—	600	800	960	550	750	890	660	880	1050	650	880	1050
P12	—	—	—	395	530	630	370	490	580	440	580	700	435	580	680
M1	—	—	—	—	—	—	580	790	940	610	830	990	610	820	980
M2	—	—	—	—	—	—	485	660	770	510	690	820	510	690	810
M3	—	—	—	—	—	—	395	520	630	420	560	670	415	550	660
M4	—	—	—	—	—	—	305	405	485	325	440	520	320	425	510
M5	—	—	—	—	—	—	255	335	405	270	365	430	265	355	425
K1	880	1200	1425	830	1125	1350	—	—	—	—	—	—	670	910	1100
K2	790	1050	1275	750	1000	1200	—	—	—	—	—	—	600	810	960
K3	670	900	1075	630	850	1025	—	—	—	—	—	—	510	690	810
K4	640	860	1025	610	810	970	—	—	—	—	—	—	485	660	780
K5	395	530	630	375	500	600	—	—	—	—	—	—	300	400	475
K6	560	750	900	530	710	860	—	—	—	—	—	—	425	580	680
K7	510	680	810	480	640	760	—	—	—	—	—	—	385	510	610
S1	—	—	—	—	—	—	140	190	225	160	215	250	155	205	250
S2	—	—	—	—	—	—	115	150	180	130	170	205	125	165	200
S3	—	—	—	—	—	—	100	135	160	115	150	180	110	145	175
S11	—	—	—	—	—	—	200	265	320	220	295	350	220	290	350
S12	—	—	—	—	—	—	140	180	220	155	205	245	150	200	240
S13	—	—	—	—	—	—	80	105	125	90	120	140	85	115	140
H5	—	—	—	—	—	—	—	—	—	—	—	—	130	175	205
H8	—	—	—	—	—	—	—	—	—	—	—	—	140	185	215
H11	—	—	—	—	—	—	—	—	—	—	—	—	165	220	260
H12	—	—	—	—	—	—	—	—	—	—	—	—	275	365	430
H21	—	—	—	—	—	—	—	—	—	—	—	—	140	185	215



- For insert selection and cutting data recommendations, see page(s) 48-51
- For complete insert programme, see page(s) 68

R220.48-05 metric

Ordering and Product No.	Designation	Type of mounting	Dimensions in mm						ZNP	KG	RPMX	Insert
			APMXS	DCX	DC	DMM	LS	OAL				
02810001	R217.48-2025.3S-05-3SA	Seco-Weldon	3,0	33,0	25,0	20,0	50,0	90,0	3	0,3	20400	ON..05
02810002	R217.48-2532.3S-05-4SA	Seco-Weldon	3,0	40,0	32,0	25,0	50,0	90,0	4	0,5	18000	ON..05

Spare Parts

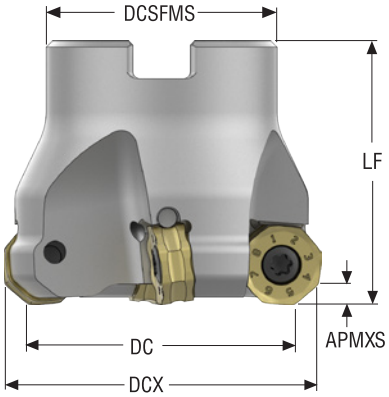
For cutter	Key (T-handle)	Insert screw	Insert key	Torque value (Nm)
				
R217.48-..	DOUBLE-T	C04009-T15P	H4B-T15P	3,5

R220.48-05 inch

Ordering and Product No.	Designation	Type of mounting	Dimensions in inch						ZNP	KG	RPMX	Insert
			APMXS	DCX	DC	DCSFMS	DCB	LF				
02810007	R217.48-01.25.3S-05-4SA	Seco-Weldon	0.118	1.575	1.250	–		1.57	4	0,5	20400	ON.U05

Spare Parts

For cutter	Key (T-handle)	Insert screw	Insert key	Torque in/lbs
				
R217.48-..	DOUBLE-T	C04009-T15P	H4B-T15P	31



- For insert selection and cutting data recommendations, see page(s) 48-51
- For complete insert programme, see page(s) 68

R220.48-05 metric

Ordering and Product No.	Designation	Type of mounting	Dimensions in mm						ZNP	KG	RPMX	Insert
			APMXS	DCX	DC	DCSFMS	DCB	LF				
02810082	R220.48-0040-05-04SA	Arbor	3,0	48,35	40,0	35,0	16,0	40,0	4	0,3	16100	ON..05
02810083	R220.48-0040-05-05SA	Arbor	3,0	48,35	40,0	35,0	16,0	40,0	5	0,3	16100	ON..05
02810003	R220.48-0050-05-04SA	Arbor	3,0	58,35	50,0	47,0	22,0	40,0	4	0,4	14400	ON..05
02810084	R220.48-0050-05-05SA	Arbor	3,0	58,35	50,0	47,0	22,0	40,0	5	0,4	14400	ON..05
02810085	R220.48-0050-05-06SA	Arbor	3,0	58,35	50,0	47,0	22,0	40,0	6	0,4	14400	ON..05
02810004	R220.48-0063-05-05SA	Arbor	3,0	71,35	63,0	47,0	22,0	40,0	5	0,6	12800	ON..05
02810086	R220.48-0063-05-06SA	Arbor	3,0	71,35	63,0	47,0	22,0	40,0	6	0,6	12800	ON..05
02810087	R220.48-0063-05-08SA	Arbor	3,0	71,35	63,0	47,0	22,0	40,0	8	0,6	12800	ON..05
02810005	R220.48-0080-05-06SA	Arbor	3,0	88,35	80,0	62,0	27,0	50,0	6	1,2	11400	ON..05
02810088	R220.48-0080-05-10SA	Arbor	3,0	88,35	80,0	62,0	27,0	50,0	10	1,1	11400	ON..05
02810089	R220.48-0100-05-07SA	Arbor	3,0	108,35	100,0	77,0	32,0	50,0	7	1,8	10200	ON..05
02810090	R220.48-0100-05-12SA	Arbor	3,0	108,35	100,0	77,0	32,0	50,0	12	1,8	10200	ON..05
02810091	R220.48-0125-05-08SA	Arbor	3,0	133,35	125,0	90,0	40,0	63,0	8	3,4	9100	ON..05

Spare Parts

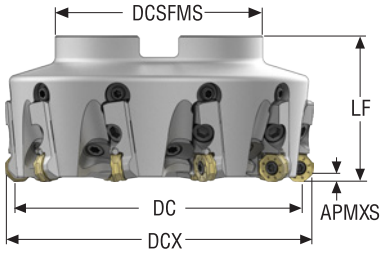
For cutter	Key (T-handle)	Insert screw	Insert key	Arbor screw	Torque value (Nm)
					
R220.48-0040	DOUBLE-T	C04009-T15P	H4B-T15P	TCEI0825	3,5
R220.48-0050-0063	DOUBLE-T	C04009-T15P	H4B-T15P	220.17-692	3,5
R220.48-0080	DOUBLE-T	C04009-T15P	H4B-T15P	–	3,5
R220.48-0100-0125	DOUBLE-T	C04009-T15P	H4B-T15PL	–	3,5
R220.48-0100	DOUBLE-T	C04009-T15P	H4B-T15PL	–	3,5

R220.48-05 inch

Ordering and Product No.	Designation	Type of mounting	Dimensions in inch						ZNP	KG	RPMX	Insert
			APMXS	DCX	DC	DCSFMS	DCB	LF				
02810093	R220.48-01.50-05-04SA	Arbor	0.118	1.904	1.575	1.38	0.50	1.57	4	0,3	16100	ON..05
02810095	R220.48-02.00-05-04SA	Arbor	0.118	2.297	1.969	1.85	0.75	1.57	4	0,5	14400	ON..05
02810096	R220.48-02.00-05-05SA	Arbor	0.118	2.297	1.969	1.85	0.75	1.57	5	0,4	14400	ON..05
02810098	R220.48-02.50-05-05SA	Arbor	0.118	2.809	2.480	1.85	0.75	1.57	5	0,6	12800	ON..05
02810101	R220.48-03.00-05-06SA	Arbor	0.118	3.478	3.150	2.44	1.00	1.97	6	1,3	11400	ON..05
02810102	R220.48-03.00-05-10SA	Arbor	0.118	3.478	3.150	2.44	1.00	1.97	10	1,2	11400	ON..05
02810103	R220.48-04.00-05-07SA	Arbor	0.118	4.266	3.937	3.03	1.50	1.97	7	1,8	10200	ON..05

Spare Parts

For cutter	Key (T-handle)	Insert screw	Insert key	Arbor screw	Torque in/lbs
					
R220.48-01.50	DOUBLE-T	C04009-T15P	H4B-T15P	UC6S1/4UNFX1	31
R220.48-02.00 / 02.50	DOUBLE-T	C04009-T15P	H4B-T15P	UC6S3/8UNFX1	31
R220.48-03.00	DOUBLE-T	C04009-T15P	H4B-T15P	UC6S1/2UNFX1-1/4	31
R220.48-04.00	DOUBLE-T	C04009-T15P	H4B-T15P	UF6S3/4UNFX1-3/4	31



- For insert selection and cutting data recommendations, see page(s) 48-51
- For complete insert programme, see page(s) 68

R220.48-05 metric

Ordering and Product No.	Designation	Type of mounting	Dimensions in mm						ZNP	KG	RPMX	Insert
			APMXS	DCX	DC	DCSFMS	DCB	LF				
03000629	**R220.48-0100-05-8CS**	Arbor	3,0	108,0	100,0	77,0	32,0	63,0	8	3,0	10200	ON..05
03000630	**R220.48-0125-05-10CS**	Arbor	3,0	133,0	125,0	90,0	40,0	63,0	10	4,0	9100	ON..05
03000631	**R220.48-8160-05-14CS**	Arbor	3,0	168,0	160,0	140,0	40,0	63,0	14	6,5	8000	ON..05
03000632	**R220.48-8200-05-18CS**	Arbor	3,0	208,0	200,0	160,0	60,0	63,0	18	9,0	7200	ON..05

Spare Parts

For cutter	Wedge screw	Wedge clamp axial adj.	Wedge clamp	Key (T-handle)	Insert screw	Insert key	Cassette screw	Cassette	Torque value (Nm)
									
R220.48-..	LD8020-T25P	AU1114T-T15P	CW0810	DOUBLE-T	C04009-T15P	H4B-T15P	FS96018	ON05AR	3,5

R220.48-05 inch

Ordering and Product No.	Designation	Type of mounting	Dimensions in inch						ZNP	KG	RPMX	Insert
			APMXS	DCX	DC	DCSFMS	DCB	LF				
03000634	**R220.48-04.00-05-8CS**	Arbor	0.118	4.252	3.937	3.03	1.50	2.48	8	3,0	10200	ON..05
03000636	**R220.48-06.00-05-14CS**	Arbor	0.118	6.614	6.299	5.91	2.00	2.48	14	6,0	8000	ON..05
03000637	**R220.48-808.00-05-18CS**	Arbor	0.118	8.189	7.874	6.30	2.50	2.48	18	8,6	7200	ON..05

Spare Parts

For cutter	Wedge screw	Wedge clamp axial adj.	Wedge clamp	Key (T-handle)	Insert screw	Insert key	Cassette screw	Cassette	Arbor screw	Torque in/lbs
										
R220.48-04.00-06.00	LD8020-T25P	AU1114T-T15P	CW0810	DOUBLE-T	C04009-T15P	H4B-T15P	FS96018	ON05AR	UC6S3/4UNFX1-1/4	31
R220.48-04.00-06.00	LD8020-T25P	AU1114T-T15P	CW0810	DOUBLE-T	C04009-T15P	H4B-T15P	FS96018	ON05AR	–	31
R220.48-808.00	LD8020-T25P	AU1114T-T15P	CW0810	DOUBLE-T	C04009-T15P	H4B-T15P	FS96018	ON05AR	–	31

R220.48-05 – Insert selection – metric

SMG		a_p	f_z		
			100%	30%	10%
P1	ONMU050410ANTN-M10 MP2500	1,8	0,22	0,24	0,36
P2	ONMU050410ANTN-M10 MP2500	1,8	0,22	0,24	0,38
P3	ONMU050410ANTN-M10 MP2500	1,8	0,22	0,22	0,36
P4	ONMU050410ANTN-M10 MP2500	1,8	0,20	0,22	0,34
P5	ONMU050410ANTN-M10 MP2500	1,8	0,20	0,22	0,34
P6	ONMU050410ANTN-M10 MP2500	1,8	0,20	0,22	0,34
P7	ONMU050410ANTN-M10 MP2500	1,8	0,20	0,22	0,34
P8	ONMU050410ANTN-M10 MP1500	1,8	0,22	0,22	0,36
P11	ONMU050410ANTN-M10 T350M	1,8	0,20	0,22	0,34
P12	ONMU050410ANTN-M10 T350M	1,4	0,14	0,15	0,22
M1	ONMU050410ANTN-ME10 F40M	1,8	0,22	0,24	0,38
M2	ONMU050410ANTN-ME10 F40M	1,8	0,20	0,22	0,34
M3	ONMU050410ANTN-ME10 F40M	1,4	0,16	0,18	0,28
M4	ONMU050410ANTN-M10 T350M	1,1	0,14	0,15	0,24
M5	ONMU050410ANTN-M10 MM4500	1,1	0,14	0,15	0,24
K1	ONMU050410ANTN-M10 MK2050	1,8	0,22	0,24	0,38
K2	ONMU050410ANTN-M10 MK2050	1,8	0,20	0,22	0,34
K3	ONMU050410ANTN-M10 MK2050	1,8	0,20	0,22	0,34
K4	ONMU050410ANTN-M10 MK2050	1,8	0,20	0,22	0,34
K5	ONMU050410ANTN-M10 MK2050	1,8	0,18	0,20	0,30
K6	ONMU050410ANTN-M10 MK2050	1,8	0,20	0,22	0,34
K7	ONMU050410ANTN-M10 MK2050	1,8	0,18	0,20	0,30
N1	ONMU050410ANTN-ME10 F40M	1,8	0,28	0,30	0,48
N2	ONMU050410ANTN-ME10 F40M	1,8	0,28	0,30	0,48
N3	ONMU050410ANTN-ME10 F40M	1,8	0,28	0,30	0,48
N11	ONMU050410ANTN-ME10 F40M	1,8	0,28	0,30	0,48
S1	ONMU050410ANTN-ME10 F40M	1,1	0,14	0,15	0,24
S2	ONMU050410ANTN-ME10 F40M	1,1	0,14	0,15	0,24
S3	ONMU050410ANTN-ME10 F40M	1,1	0,13	0,14	0,22
S11	ONMU050410ANTN-ME10 MS2050	1,3	0,16	0,18	0,28
S12	ONMU050410ANTN-ME10 MS2050	1,3	0,16	0,18	0,28
S13	ONMU050410ANTN-ME10 MS2050	1,1	0,14	0,15	0,24
H5	ONMU050410ANTN-M10 MP1500	1,4	0,14	0,15	0,22
H8	ONMU050410ANTN-M10 MP1500	1,3	0,11	0,11	0,18
H11	ONMU050410ANTN-M10 MP1500	1,4	0,14	0,15	0,22
H12	ONMU050410ANTN-M10 MP1500	1,3	0,11	0,11	0,18
H21	ONMU050410ANTN-M10 MP1500	1,3	0,11	0,11	0,18

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

R220.48-05 – Cutting data v_c = (m/min)

	MP1500			MP2500			MP3000			T350M			F40M		
SMG	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	320	425	510	280	375	450	265	355	425	245	330	390	215	285	340
P2	310	415	485	275	365	430	260	350	410	240	320	375	210	280	325
P3	265	365	425	235	325	375	225	305	355	205	280	330	180	245	285
P4	240	320	380	215	285	335	200	270	320	185	250	295	160	215	255
P5	230	305	365	205	270	320	195	260	305	180	235	280	155	205	245
P6	260	345	410	230	305	360	215	290	340	200	265	315	175	230	275
P7	245	325	385	215	290	340	205	275	325	190	250	295	165	220	260
P8	225	305	360	200	270	315	190	260	300	175	235	275	150	205	240
P11	235	315	375	210	280	330	200	265	315	185	245	290	160	210	250
P12	155	205	245	135	180	220	130	170	205	120	160	190	105	135	165
M1	—	—	—	200	265	310	195	260	305	185	245	290	165	225	265
M2	—	—	—	165	220	260	160	215	255	155	205	240	140	185	220
M3	—	—	—	135	175	210	130	170	205	125	165	195	110	150	175
M4	—	—	—	105	135	160	100	135	160	95	130	150	85	115	135
M5	—	—	—	85	115	135	85	110	130	80	105	125	75	95	115
K1	245	330	385	215	290	340	205	275	325	—	—	—	165	220	260
K2	220	290	345	195	260	305	185	245	290	—	—	—	145	195	230
K3	185	245	290	165	220	260	155	205	245	—	—	—	125	165	195
K4	175	235	280	155	210	245	150	200	235	—	—	—	120	160	185
K5	110	145	170	95	125	150	90	120	145	—	—	—	75	95	115
K6	155	210	245	140	185	215	130	175	205	—	—	—	105	140	165
K7	140	185	220	125	165	195	115	155	185	—	—	—	95	125	145
N1	—	—	—	—	—	—	—	—	—	—	—	—	1200	1625	1925
N2	—	—	—	—	—	—	—	—	—	—	—	—	490	660	770
N3	—	—	—	—	—	—	—	—	—	—	—	—	325	440	520
N11	—	—	—	—	—	—	—	—	—	—	—	—	375	500	590
S1	—	—	—	—	—	—	47	65	75	45	60	70	41	55	65
S2	—	—	—	—	—	—	38	50	60	36	48	55	33	44	50
S3	—	—	—	—	—	—	33	44	55	32	42	50	29	38	45
S11	—	—	—	—	—	—	65	85	105	60	80	100	55	75	90
S12	—	—	—	—	—	—	46	60	70	43	55	70	39	50	60
S13	—	—	—	—	—	—	27	35	42	25	34	40	23	30	36
H5	50	70	80	41	55	65	40	55	65	39	50	65	34	46	55
H8	55	75	85	43	60	70	42	55	65	42	55	65	36	49	55
H11	65	85	105	50	70	85	50	70	80	50	65	80	44	60	70
H12	95	130	155	85	115	135	80	110	130	75	100	120	65	90	105
H21	55	75	85	43	60	70	42	55	65	42	55	65	36	49	55

	MK1500			MK2050			MM4500			MS2050			MP2050		
SMG	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	275	370	445	175	230	275	235	315	375	275	370	440
P2	—	—	—	270	360	425	170	225	265	230	305	360	270	360	425
P3	—	—	—	230	320	370	145	200	230	195	270	315	230	320	370
P4	—	—	—	210	280	330	130	175	205	180	240	280	210	280	330
P5	—	—	—	200	270	315	125	165	200	170	225	270	200	265	315
P6	—	—	—	225	300	355	140	190	220	190	255	300	225	300	355
P7	—	—	—	215	285	335	135	175	210	180	240	285	210	285	335
P8	—	—	—	195	270	310	120	165	195	165	225	265	195	265	310
P11	—	—	—	205	275	325	130	170	205	175	235	275	205	275	325
P12	—	—	—	135	180	215	85	110	135	115	150	180	135	180	215
M1	—	—	—	—	—	—	145	195	225	185	245	290	195	260	305
M2	—	—	—	—	—	—	120	160	190	155	205	240	160	215	255
M3	—	—	—	—	—	—	95	130	150	125	165	195	130	170	205
M4	—	—	—	—	—	—	75	100	120	95	130	150	100	135	160
M5	—	—	—	—	—	—	65	85	100	80	105	125	85	110	130
K1	310	410	485	290	390	460	—	—	—	—	—	—	215	285	335
K2	275	365	435	260	345	410	—	—	—	—	—	—	190	255	300
K3	230	310	365	220	295	345	—	—	—	—	—	—	160	215	255
K4	220	295	350	210	280	330	—	—	—	—	—	—	155	205	240
K5	135	180	215	130	170	205	—	—	—	—	—	—	95	125	150
K6	195	260	310	185	245	290	—	—	—	—	—	—	135	180	215
K7	175	230	275	165	220	260	—	—	—	—	—	—	120	160	190
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	23	31	36	45	60	70	49	65	75
S2	—	—	—	—	—	—	19	25	29	36	48	55	39	55	60
S3	—	—	—	—	—	—	16	22	26	32	42	50	35	46	55
S11	—	—	—	—	—	—	32	42	50	60	80	100	70	90	105
S12	—	—	—	—	—	—	30	39	46	43	55	70	47	65	75
S13	—	—	—	—	—	—	17	23	27	25	34	40	28	37	43
H5	—	—	—	—	—	—	—	—	—	—	—	—	40	55	65
H8	—	—	—	—	—	—	—	—	—	—	—	—	42	55	65
H11	—	—	—	—	—	—	—	—	—	—	—	—	50	70	80
H12	—	—	—	—	—	—	—	—	—	—	—	—	85	115	135
H21	—	—	—	—	—	—	—	—	—	—	—	—	42	55	65

R220.48-05 – Insert selection – inch

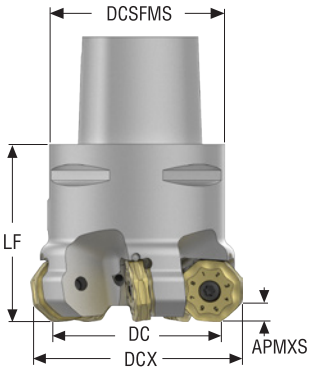
SMG		a_p	f_z		
			100%	30%	10%
P1	ONMU050410ANTN-M10 MP2500	0.070	0.0085	0.0095	0.014
P2	ONMU050410ANTN-M10 MP2500	0.070	0.0085	0.0095	0.015
P3	ONMU050410ANTN-M10 MP2500	0.070	0.0085	0.0085	0.014
P4	ONMU050410ANTN-M10 MP2500	0.070	0.0080	0.0085	0.013
P5	ONMU050410ANTN-M10 MP2500	0.070	0.0080	0.0085	0.013
P6	ONMU050410ANTN-M10 MP2500	0.070	0.0080	0.0085	0.013
P7	ONMU050410ANTN-M10 MP2500	0.070	0.0080	0.0085	0.013
P8	ONMU050410ANTN-M10 MP1500	0.070	0.0085	0.0085	0.014
P11	ONMU050410ANTN-M10 MP1500	0.070	0.0080	0.0085	0.013
M1	ONMU050410ANTN-ME10 MS2050	0.070	0.0085	0.0095	0.015
M2	ONMU050410ANTN-ME10 MS2050	0.070	0.0080	0.0085	0.013
M3	ONMU050410ANTN-ME10 MS2050	0.055	0.0065	0.0070	0.011
M4	ONMU050410ANTN-M10 T350M	0.044	0.0055	0.0060	0.0095
M5	ONMU050410ANTN-M10 MM4500	0.044	0.0055	0.0060	0.0095
K1	ONMU050410ANTN-M10 MK2050	0.070	0.0085	0.0095	0.015
K2	ONMU050410ANTN-M10 MK2050	0.070	0.0080	0.0085	0.013
K3	ONMU050410ANTN-M10 MK2050	0.070	0.0080	0.0085	0.013
K4	ONMU050410ANTN-M10 MK2050	0.070	0.0080	0.0085	0.013
K5	ONMU050410ANTN-M10 MK2050	0.070	0.0070	0.0080	0.012
K6	ONMU050410ANTN-M10 MK2050	0.070	0.0080	0.0085	0.013
K7	ONMU050410ANTN-M10 MK2050	0.070	0.0070	0.0080	0.012
N1	ONMU050410ANTN-ME10 F40M	0.070	0.011	0.012	0.019
N2	ONMU050410ANTN-ME10 F40M	0.070	0.011	0.012	0.019
N3	ONMU050410ANTN-ME10 F40M	0.070	0.011	0.012	0.019
N11	ONMU050410ANTN-ME10 F40M	0.070	0.011	0.012	0.019
S1	ONMU050410ANTN-ME10 F40M	0.044	0.0055	0.0060	0.0095
S2	ONMU050410ANTN-ME10 F40M	0.044	0.0055	0.0060	0.0095
S3	ONMU050410ANTN-ME10 F40M	0.044	0.0050	0.0055	0.0085
S11	ONMU050410ANTN-ME10 MS2050	0.050	0.0065	0.0070	0.011
S12	ONMU050410ANTN-ME10 MS2050	0.050	0.0065	0.0070	0.011
S13	ONMU050410ANTN-ME10 MS2050	0.044	0.0055	0.0060	0.0095
H5	ONMU050410ANTN-M10 MP1500	0.055	0.0055	0.0060	0.0085
H8	ONMU050410ANTN-M10 MP1500	0.050	0.0044	0.0044	0.0070
H11	ONMU050410ANTN-M10 MP1500	0.055	0.0055	0.0060	0.0085
H12	ONMU050410ANTN-M10 MP1500	0.055	0.0055	0.0060	0.0085
H21	ONMU050410ANTN-M10 MP1500	0.050	0.0044	0.0044	0.0070

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

R220.48-05 – Cutting data v_c = (sf/min)

	MP1020			MP1500			MP2500			MP3000			T350M			F40M		
SMG	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	1050	1275	1450	1050	1400	1650	920	1225	1475	870	1175	1400	800	1075	1275	700	940	1125
P2	1025	1250	1375	1000	1350	1600	900	1200	1400	850	1150	1325	780	1050	1225	680	910	1075
P3	880	1125	1200	870	1200	1400	770	1050	1225	730	1000	1175	670	920	1075	580	800	930
P4	830	990	1100	790	1050	1250	700	930	1100	660	880	1050	610	810	960	530	710	840
P5	790	950	1050	750	1000	1200	670	890	1050	630	840	1000	580	780	920	500	670	800
P6	890	1075	1175	840	1125	1325	750	1000	1175	710	950	1125	650	870	1025	570	760	900
P7	840	1000	1100	800	1075	1250	710	940	1125	670	890	1050	610	820	970	530	710	840
P8	740	950	1025	730	1000	1175	650	890	1025	610	840	980	560	780	900	490	670	790
P11	820	980	1075	770	1025	1225	690	920	1075	650	870	1025	600	800	940	520	690	820
M1	—	—	—	—	—	—	650	870	1025	630	850	1000	600	810	950	550	730	860
M2	—	—	—	—	—	—	540	720	850	530	700	830	500	670	790	455	610	720
M3	—	—	—	—	—	—	435	570	680	425	560	670	405	530	630	365	485	580
M4	—	—	—	—	—	—	335	450	530	330	440	520	315	420	495	285	380	450
M5	—	—	—	—	—	—	280	375	440	275	370	435	260	350	410	235	315	375
K1	—	—	—	800	1075	1275	710	950	1125	670	900	1050	620	830	970	540	720	850
K2	—	—	—	710	950	1125	630	850	1000	600	800	950	550	740	870	480	640	760
K3	—	—	—	600	810	950	530	720	850	510	680	800	465	620	740	405	540	640
K4	—	—	—	580	770	910	510	680	810	485	650	760	445	590	700	385	520	610
K5	—	—	—	355	470	560	315	415	495	295	395	470	275	365	430	235	315	375
K6	—	—	—	510	680	800	450	600	710	425	570	670	390	520	620	340	455	540
K7	—	—	—	450	600	720	400	530	640	380	510	600	350	465	550	305	405	480
N1	—	—	—	—	—	—	2600	3525	4150	2475	3350	3925	—	—	—	1975	2675	3125
N2	—	—	—	—	—	—	2100	2850	3350	2000	2700	3175	—	—	—	1600	2150	2525
N3	—	—	—	—	—	—	1400	1900	2225	1325	1800	2100	—	—	—	1075	1450	1700
N11	—	—	—	—	—	—	1600	2175	2550	1525	2050	2425	—	—	—	1225	1650	1925
S1	—	—	—	—	—	—	165	220	255	155	205	240	145	195	230	135	180	210
S2	—	—	—	—	—	—	130	175	205	125	165	195	120	155	185	105	145	170
S3	—	—	—	—	—	—	115	155	180	110	145	170	105	140	165	95	125	150
S11	—	—	—	—	—	—	230	300	360	215	285	335	205	270	320	185	245	290
S12	—	—	—	—	—	—	130	175	205	125	165	195	120	155	185	105	140	170
S13	—	—	—	—	—	—	105	140	165	100	135	155	95	125	150	85	115	135
H5	—	—	—	165	225	265	135	180	215	130	175	210	130	170	205	110	150	180
H8	—	—	—	175	240	280	140	190	225	140	190	220	135	185	215	120	160	190
H11	—	—	—	210	285	340	170	230	275	165	225	265	165	220	260	140	190	230
H12	—	—	—	320	430	510	260	345	415	250	335	405	245	330	395	215	290	345
H21	—	—	—	175	240	280	140	190	225	140	190	220	135	185	215	120	160	190

	MK1500			MK2050			MM4500			MS2050			MP2050		
SMG	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	910	1225	1450	570	760	910	770	1025	1225	820	1100	1300
P2	—	—	—	890	1175	1400	550	740	870	750	1000	1175	790	1075	1250
P3	—	—	—	760	1050	1225	475	650	760	640	890	1025	680	940	1100
P4	—	—	—	690	920	1100	430	570	680	580	780	920	620	830	980
P5	—	—	—	660	880	1050	410	550	650	560	740	880	590	790	930
P6	—	—	—	740	990	1175	460	620	730	630	840	990	660	890	1050
P7	—	—	—	700	930	1100	435	580	690	590	790	930	630	840	990
P8	—	—	—	640	880	1025	400	550	640	540	740	870	570	790	920
P11	—	—	—	680	910	1075	425	560	670	570	770	910	610	810	960
P12	—	—	—	440	590	700	275	365	440	370	495	600	395	530	630
M1	—	—	—	—	—	—	475	640	750	600	810	950	570	760	900
M2	—	—	—	—	—	—	395	530	620	500	670	790	475	630	750
M3	—	—	—	—	—	—	320	420	500	405	540	630	380	500	600
M4	—	—	—	—	—	—	245	330	390	315	420	495	295	395	465
M5	—	—	—	—	—	—	205	275	325	260	350	410	245	330	390
K1	1000	1350	1600	960	1275	1500	—	—	—	—	—	—	630	840	990
K2	900	1200	1425	850	1125	1350	—	—	—	—	—	—	560	750	890
K3	760	1025	1200	720	960	1125	—	—	—	—	—	—	475	630	750
K4	730	970	1150	690	920	1075	—	—	—	—	—	—	455	610	720
K5	445	590	710	420	560	670	—	—	—	—	—	—	280	370	440
K6	640	850	1000	610	810	960	—	—	—	—	—	—	400	530	630
K7	570	760	900	540	720	850	—	—	—	—	—	—	355	475	560
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	75	100	120	145	195	230	145	195	230
S2	—	—	—	—	—	—	60	80	95	120	155	185	115	155	185
S3	—	—	—	—	—	—	55	70	85	105	140	165	100	135	160
S11	—	—	—	—	—	—	105	140	165	205	270	320	200	265	315
S12	—	—	—	—	—	—	80	105	125	120	155	185	115	155	185
S13	—	—	—	—	—	—	65	85	100	95	125	150	95	125	145
H5	—	—	—	—	—	—	—	—	—	—	—	—	120	160	190
H8	—	—	—	—	—	—	—	—	—	—	—	—	125	170	200
H11	—	—	—	—	—	—	—	—	—	—	—	—	150	200	240
H12	—	—	—	—	—	—	—	—	—	—	—	—	250	335	395
H21	—	—	—	—	—	—	—	—	—	—	—	—	125	170	200



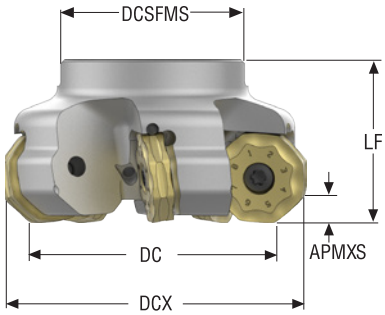
- For insert selection and cutting data recommendations, see page(s) 58-61
- For complete insert programme, see page(s) 68

R220.48-09 metric

Ordering and Product No.	Designation	Type of mounting	Dimensions in mm					ZNP	KG	RPMX	Insert
			APMXS	DCX	DC	DCSFMS	LF				
02731337	**C6-R217.48-063-09-05SA**	Seco-Capto	6,0	78,0	63,0	63,0	63,0	5	1,5	4900	ON..05
02731336	**C6-R217.48-063-09-06SA**	Seco-Capto	6,0	78,0	63,0	63,0	63,0	6	1,5	4900	ON..05
02731338	**C6-R217.48-080-09-06SA**	Seco-Capto	6,0	95,0	80,0	63,0	63,0	6	1,7	4400	ON..05
02731340	**C6-R217.48-080-09-07SA**	Seco-Capto	6,0	95,0	80,0	63,0	63,0	7	1,8	4400	ON..05
02731347	**C6-R217.48-100-09-07SA**	Seco-Capto	6,0	115,0	100,0	63,0	80,0	7	3,0	3900	ON..05
02731341	**C8-R217.48-100-09-07SA**	Seco-Capto	6,0	115,0	100,0	80,0	80,0	7	3,7	3900	ON..05
02731342	**C8-R217.48-100-09-08SA**	Seco-Capto	6,0	115,0	100,0	80,0	80,0	8	3,7	3900	ON..05

Spare Parts

For cutter	Key (T-handle)	Insert screw	Insert key	Torque value (Nm)
				
C6-217.48-063-080	DOUBLE-T	C05013-T20P	H6B-T20P	6,0
C6-C8-217.48-100	DOUBLE-T	C05013-T20P	H6B-T20PL	6,0



- For insert selection and cutting data recommendations, see page(s) 58-61
- For complete insert programme, see page(s) 68

R220.48-09 metric

Ordering and Product No.	Designation	Type of mounting	Dimensions in mm						ZNP	KG	RPMX	Insert
			APMXS	DCX	DC	DCSFMS	DCB	LF				
02670226	**R220.48-0063-09-05SA**	Arbor	6,0	78,0	63,0	47,0	22,0	40,0	5	0,5	4900	ON..09
02685780	**R220.48-0063-09-06SA**	Arbor	6,0	78,0	63,0	47,0	22,0	40,0	6	0,5	4900	ON..09
02670228	**R220.48-0080-09-06SA**	Arbor	6,0	95,0	80,0	62,0	27,0	50,0	6	1,0	4400	ON..09
02685781	**R220.48-0080-09-07SA**	Arbor	6,0	95,0	80,0	62,0	27,0	50,0	7	1,0	4400	ON..09
02670229	**R220.48-0100-09-07SA**	Arbor	6,0	115,0	100,0	77,0	32,0	50,0	7	1,6	3900	ON..09
02685782	**R220.48-0100-09-08SA**	Arbor	6,0	115,0	100,0	77,0	32,0	50,0	8	1,6	3900	ON..09
02670231	**R220.48-0125-09-08SA**	Arbor	6,0	140,0	125,0	90,0	40,0	63,0	8	2,9	3500	ON..09
02685847	**R220.48-0125-09-10SA**	Arbor	6,0	140,0	125,0	90,0	40,0	63,0	10	3,0	3500	ON..09
02685776	**R220.48-8160-09-10S**	Arbor	6,0	175,0	160,0	90,0	40,0	63,0	10	4,2	3100	ON..09
02685849	**R220.48-8160-09-12S**	Arbor	6,0	175,0	160,0	90,0	40,0	63,0	12	4,4	3100	ON..09
02685845	**R220.48-8200-09-12S**	Arbor	6,0	215,0	200,0	130,0	60,0	63,0	12	5,4	2700	ON..09
02685777	**R220.48-8250-09-16S**	Arbor	6,0	265,0	250,0	130,0	60,0	63,0	16	13,0	2500	ON..09
02685846	**R220.48-8315-09-20S**	Arbor	6,0	330,0	315,0	225,0	60,0	80,0	20	27,0	2200	ON..09

Spare Parts

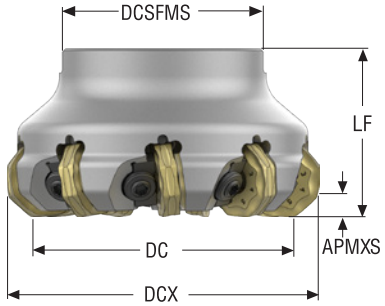
For cutter	Key (T-handle)	Insert screw	Insert key	Arbor screw	Torque value (Nm)
					
R220.48-0063	DOUBLE-T	C05013-T20P	H6B-T20P	220.17-692	6,0
R220.48-0080	DOUBLE-T	C05013-T20P	H6B-T20P	–	6,0
R220.48-0100-8315	DOUBLE-T	C05013-T20P	H6B-T20PL	–	6,0

R220.48-09 inch

Ordering and Product No.	Designation	Type of mounting	Dimensions in inch						ZNP	KG	RPMX	Insert
			APMXS	DCX	DC	DCSFMS	DCB	LF				
02685793	**R220.48-02.50-09-05SA**	Arbor	0.236	3.071	2.480	1.26	0.75	1.57	5	0,5	4900	ON..09
02685794	**R220.48-03.00-09-06SA**	Arbor	0.236	3.740	3.150	2.44	1.00	1.97	6	1,1	4400	ON..09
02685795	**R220.48-04.00-09-07SA**	Arbor	0.236	4.528	3.937	3.54	1.50	1.97	7	1,6	3900	ON..09
02685797	**R220.48-05.00-09-08SA**	Arbor	0.236	5.512	4.921	3.54	1.50	2.48	8	3,2	3500	ON..09
02685799	**R220.48-06.00-09-10S**	Arbor	0.236	6.890	6.299	4.33	2.00	2.48	10	4,0	3100	ON..09
02685801	**R220.48-808.00-09-12S**	Arbor	0.236	8.465	7.874	5.12	2.50	2.48	12	5,4	2700	ON..09
02685802	**R220.48-810.00-09-16S**	Arbor	0.236	10.433	9.843	5.12	2.50	2.48	16	13,0	2500	ON..09

Spare Parts

For cutter	Key (T-handle)	Insert screw	Insert key	Arbor screw	Torque in/lbs
					
R220.48-02.50	DOUBLE-T	C05013-T20P	H6B-T20P	UC6S3/8UNFX1	53
R220.48-03.00	DOUBLE-T	C05013-T20P	H6B-T20P	UC6S1/2UNFX1-1/4	53
R220.48-04.00	DOUBLE-T	C05013-T20P	H6B-T20PL	UF6S3/4UNFX1-3/4	53
R220.48-05.00	DOUBLE-T	C05013-T20P	H6B-T20PL	UC6S3/4UNFX1-1/4	53
R220.48-06.00 - 812.50	DOUBLE-T	C05013-T20P	H6B-T20PL	–	53



- For insert selection and cutting data recommendations, see page(s) 58-61
- For complete insert programme, see page(s) 68

R220.48-09 metric

Ordering and Product No.	Designation	Type of mounting	Dimensions in mm						ZNP	KG	RPMX	Insert
			APMXS	DCX	DC	DCSFMS	DCB	LF				
02731344	**C6-R217.48-080-09-09M**	Seco-Capto	6,0	95,0	80,0	63,0	–	63,0	9	2,3	4400	ON..09
02670210	**R220.48-0080-09-09M**	Arbor	6,0	95,0	80,0	62,0	27,0	50,0	9	1,2	4400	ON..09
02731345	**C8-R217.48-100-09-12M**	Seco-Capto	6,0	115,0	100,0	80,0	–	80,0	12	4,5	3900	ON..09
02670215	**R220.48-8160-09-20M**	Arbor	6,0	175,0	160,0	90,0	40,0	63,0	20	4,8	3100	ON..09
02685773	**R220.48-8200-09-24M**	Arbor	6,0	215,0	200,0	130,0	60,0	63,0	24	6,0	2700	ON..09
02729891	**R220.48-8200-09-28M**	Arbor	6,0	215,0	200,0	130,0	60,0	63,0	28	5,9	2700	ON..09
02685774	**R220.48-8250-09-30M**	Arbor	6,0	265,0	250,0	130,0	60,0	63,0	30	14,1	2500	ON..09
02685775	**R220.48-8315-09-40M**	Arbor	6,0	330,0	315,0	225,0	60,0	80,0	40	28,6	2200	ON..09
02670213	**R220.48-0100-09-12M**	Arbor	6,0	115,0	100,0	77,0	32,0	50,0	12	1,9	3900	ON..09
02670214	**R220.48-0125-09-15M**	Arbor	6,0	140,0	125,0	90,0	40,0	63,0	15	3,4	3500	ON..09

Spare Parts

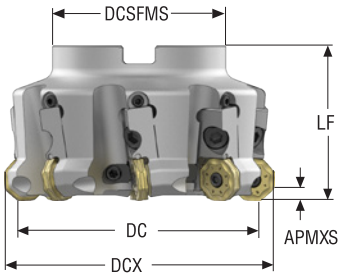
For cutter	Wedge kit	Key (T-handle)	Insert key	Torque value (Nm)
				
C6-C8-217.48-080	CW0816-RHA	DOUBLE-T	H6B-T20P	6,0
R220.48--0080	CW0816-RHA	DOUBLE-T	H6B-T20P	6,0
C8-217.48-100	CW0816-RHA	DOUBLE-T	H6B-T20PL	6,0
R220.48-0100-8315	CW0816-RHA	DOUBLE-T	H6B-T20PL	6,0

R220.48-09 inch

Ordering and Product No.	Designation	Type of mounting	Dimensions in inch						ZNP	KG	RPMX	Insert
			APMXS	DCX	DC	DCSFMS	DCB	LF				
02685806	**R220.48-03.00-09-09M**	Arbor	0.236	3.740	3.150	2.44	1.00	1.97	9	1,3	4400	ON.U09
02685807	**R220.48-04.00-09-12M**	Arbor	0.236	4.528	3.937	3.54	1.50	1.97	12	1,8	3900	ON.U09
02685808	**R220.48-05.00-09-15M**	Arbor	0.236	5.512	4.921	3.54	1.50	2.48	15	3,7	3500	ON.U09

Spare Parts

For cutter	Wedge kit	Key (T-handle)	Insert key	Arbor screw	Torque in/lbs
					
R220.48-03.00	CW0816-RHA	DOUBLE-T	H6B-T20P	UC6S1/2UNFX1-1/4	53
R220.48-04.00	CW0816-RHA	DOUBLE-T	H6B-T20PL	UC6S3/4UNFX1-1/4	53
R220.48-05.00	CW0816-RHA	DOUBLE-T	H6B-T20PL	UC6S3/4UNFX1-1/4	53



- For insert selection and cutting data recommendations, see page(s) 58-61
- For complete insert programme, see page(s) 68

R220.48-09 metric

Ordering and Product No.	Designation	Type of mounting	Dimensions in mm						ZNP	KG	RPMX	Insert
			APMXS	DCX	DC	DCSFMS	DCB	LF				
02883045	R220.48-0125-09-08CS	Arbor	6,0	140,0	125,0	90,0	40,0	80,0	8	4,9	3500	ON..09
02883050	L220.48-0125-09-08CS	Arbor	6,0	140,0	125,0	90,0	40,0	80,0	8	4,9	3500	ON..09
02883046	R220.48-8160-09-10CS	Arbor	6,0	175,0	160,0	130,0	40,0	80,0	10	7,6	3100	ON..09
02883051	L220.48-8160-09-10CS	Arbor	6,0	175,0	160,0	130,0	40,0	80,0	10	7,6	3100	ON..09
02883047	R220.48-8200-09-12CS	Arbor	6,0	215,0	200,0	160,0	60,0	80,0	12	10,5	2700	ON..09
02883052	L220.48-8200-09-12CS	Arbor	6,0	215,0	200,0	160,0	60,0	80,0	12	10,5	2700	ON..09
02883048	R220.48-8250-09-16CS	Arbor	6,0	265,0	250,0	200,0	60,0	80,0	16	19,6	2500	ON..09
02883053	L220.48-8250-09-16CS	Arbor	6,0	265,0	250,0	200,0	60,0	80,0	16	19,6	2500	ON..09
02883049	R220.48-8315-09-20CS	Arbor	6,0	330,0	315,0	270,0	60,0	80,0	20	35,5	2200	ON..09

Spare Parts

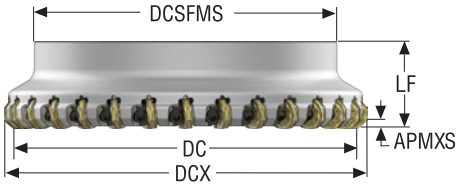
For cutter	Wedge screw	Wedge clamp	Setting gauge	Key (T-handle)	Insert screw	Insert key	Cassette screw	Cassette (R)	Cassette (L)	Torque value (Nm)
										
R220.48	LD8020-T25P	CW0810	AU1114T-T15P	DOUBLE-T	C05013-T20P	H6B-T20PL	FS98030	ON09AR	–	6,0
L220.48	LD8020-T25P	CW0810	AU1114T-T15P	DOUBLE-T	C05013-T20P	H6B-T20PL	FS98030	–	ON09AL	6,0

R220.48-09 inch

Ordering and Product No.	Designation	Type of mounting	Dimensions in inch						ZNP	KG	RPMX	Insert
			APMXS	DCX	DC	DCSFMS	DCB	LF				
02882762	L220.48-05.00-09-08CS	Arbor	0.236	5.512	4.921	3.54	1.50	3.15	8	4,9	3500	ON.U09
02882758	R220.48-06.00-09-10CS	Arbor	0.236	6.890	6.299	4.33	2.00	3.15	10	7,6	3100	ON.U09
02882763	L220.48-06.00-09-10CS	Arbor	0.236	6.890	6.299	4.33	2.00	3.15	10	7,6	3100	ON.U09
02883055	R220.48-808.00-09-12CS	Arbor	0.236	8.465	7.874	5.12	2.50	3.15	12	10,5	2700	ON.U09
02883058	L220.48-808.00-09-12CS	Arbor	0.236	8.465	7.874	5.12	2.50	3.15	12	10,5	2700	ON.U09
02883056	R220.48-810.00-09-16CS	Arbor	0.236	10.433	9.843	5.12	2.50	3.15	16	19,6	2500	ON.U09
02883059	L220.48-810.00-09-16CS	Arbor	0.236	10.433	9.843	5.12	2.50	3.15	16	19,6	2500	ON.U09
02883057	R220.48-812.50-09-20CS	Arbor	0.236	12.992	12.402	8.86	2.50	3.15	20	35,5	2200	ON.U09
02882766	L220.48-812.50-09-20CS	Arbor	0.236	12.992	12.402	8.86	2.50	3.15	20	35,5	2200	ON.U09

Spare Parts

For cutter	Wedge screw	Wedge clamp	Setting gauge	Key (T-handle)	Insert screw	Insert key	Cassette screw	Cassette (R)	Cassette (L)	Torque in/lbs
										
L220.48-05.00 / 06.00	LD8020-T25P	CW0810	AU1114T-T15P	DOUBLE-T	C05013-T20P	H6B-T20PL	FS98030	–	ON09AL	53
R220.48-05.00 / 06.00	LD8020-T25P	CW0810	AU1114T-T15P	DOUBLE-T	C05013-T20P	H6B-T20PL	FS98030	ON09AR	–	53
R220.48-808.00 / 810.00	LD8020-T25P	CW0810	AU1114T-T15P	DOUBLE-T	C05013-T20P	H6B-T20PL	FS98030	ON09AR	–	53
L220.48-808.00 / 810.00	LD8020-T25P	CW0810	AU1114T-T15P	DOUBLE-T	C05013-T20P	H6B-T20PL	FS98030	–	ON09AL	53
R220.48-812.50	LD8020-T25P	CW0810	AU1114T-T15P	DOUBLE-T	C05013-T20P	H6B-T20PL	FS98030	ON09AR	–	53
L220.48-812.50	LD8020-T25P	CW0810	AU1114T-T15P	DOUBLE-T	C05013-T20P	H6B-T20PL	FS98030	–	ON09AL	53



- For insert selection and cutting data recommendations, see page(s) 58-61
- For complete insert programme, see page(s) 68

R220.48-09 metric

Ordering and Product No.	Designation	Type of mounting	Dimensions in mm					ZNP	KG	RPMX	Insert
			APMXS	DCX	DC	DCSFMS	LF				
02720552	**R220.48-9250-09-30M**	CAP	6,0	265,0	250,0	220,0	63,0	30	9,2	2500	ON..09
02720554	**R220.48-9315-09-40M**	CAP	6,0	330,0	315,0	285,0	63,0	40	13,2	2200	ON..09
02729890	**R220.48-9315-09-50M**	CAP	6,0	330,0	315,0	285,0	63,0	50	17,7	2200	ON..09
02671031	**R220.48-9355-09-50M**	CAP	6,0	370,0	355,0	285,0	63,0	50	15,1	2000	ON..09
02720555	**R220.48-9400-09-50M**	CAP	6,0	415,0	400,0	370,0	63,0	50	18,6	1900	ON..09
02720556	**R220.48-9500-09-60M**	CAP	6,0	515,0	500,0	470,0	63,0	60	33,7	1700	ON..09

Spare Parts

For cutter	Wedge kit	Key (T-handle)	Insert key	Torque value (Nm)
				
R220.48-...	CW0816-RHA	DOUBLE-T	H6B-T20P	6,0

R220.48-09 – Insert selection – metric

SMG		a_p	f_z		
			100%	30%	10%
P1	ONMU090520ANTN-M12 MP2500	3,5	0,26	0,28	0,44
P2	ONMU090520ANTN-M12 MP2500	3,5	0,26	0,30	0,44
P3	ONMU090520ANTN-M12 MP2500	3,5	0,26	0,28	0,42
P4	ONMU090520ANTN-M12 MP2500	3,5	0,24	0,28	0,42
P5	ONMU090520ANTN-M12 MP2500	3,5	0,24	0,26	0,40
P6	ONMU090520ANTN-M12 MP2500	3,5	0,24	0,26	0,40
P7	ONMU090520ANTN-M12 MP2500	3,5	0,24	0,26	0,40
P8	ONMU090520ANTN-M12 T350M	3,5	0,26	0,28	0,42
P11	ONMU090520ANTN-M12 T350M	3,5	0,24	0,26	0,40
P12	ONMU090520ANTN-M12 T350M	3,0	0,17	0,18	0,28
M1	ONMU090520ANTN-ME12 F40M	3,5	0,26	0,30	0,44
M2	ONMU090520ANTN-ME12 F40M	3,5	0,24	0,26	0,40
M3	ONMU090520ANTN-ME12 F40M	3,0	0,19	0,22	0,32
M4	ONMU090520ANTN-ME12 T350M	2,0	0,17	0,19	0,28
M5	ONMU090520ANTN-ME12 MM4500	2,0	0,17	0,19	0,28
K1	ONMU090520ANTN-M14 MK2050	3,5	0,32	0,34	0,50
K2	ONMU090520ANTN-M14 MK2050	3,5	0,28	0,30	0,48
K3	ONMU090520ANTN-M14 MK2050	3,5	0,28	0,30	0,48
K4	ONMU090520ANTN-M14 MK2050	3,5	0,28	0,30	0,48
K5	ONMU090520ANTN-M14 MK2050	3,5	0,26	0,28	0,42
K6	ONMU090520ANTN-M14 MK2050	3,5	0,28	0,30	0,48
K7	ONMU090520ANTN-M14 MK2050	3,5	0,26	0,28	0,42
N1	ONMU090520ANTN-ME12 F40M	3,5	0,34	0,38	0,55
N2	ONMU090520ANTN-ME12 F40M	3,5	0,34	0,38	0,55
N3	ONMU090520ANTN-ME12 F40M	3,5	0,34	0,38	0,55
N11	ONMU090520ANTN-ME12 F40M	3,5	0,34	0,38	0,55
S1	ONMU090520ANTN-ME12 MS2500	2,0	0,17	0,19	0,28
S2	ONMU090520ANTN-ME12 MS2500	2,0	0,17	0,19	0,28
S3	ONMU090520ANTN-ME12 MS2500	2,0	0,16	0,17	0,26
S11	ONMU090520ANTN-ME12 MS2050	2,5	0,19	0,22	0,32
S12	ONMU090520ANTN-ME12 MS2050	2,5	0,19	0,22	0,32
S13	ONMU090520ANTN-ME12 MS2050	2,0	0,17	0,19	0,28
H5	ONMU090520ANTN-MD16 MP1500	3,0	0,22	0,24	0,36
H8	ONMU090520ANTN-MD16 MP1500	2,5	0,17	0,18	0,28
H11	ONMU090520ANTN-MD16 MP1500	3,0	0,22	0,24	0,36
H12	ONMU090520ANTN-MD16 MP1500	2,5	0,17	0,18	0,28
H21	ONMU090520ANTN-MD16 MP1500	2,5	0,17	0,18	0,28

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

R220.48-09 – Cutting data v_c = (m/min)

	MP1500			MP2500			MP3000			F40M			MK1500		
SMG	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	280	380	455	250	335	405	235	315	380	185	250	295	—	—	—
P2	270	370	445	240	325	390	225	310	370	175	245	290	—	—	—
P3	235	325	380	210	285	340	200	270	320	155	215	250	—	—	—
P4	210	285	340	190	250	300	180	240	285	140	185	225	—	—	—
P5	205	275	325	180	245	285	170	230	270	135	180	215	—	—	—
P6	230	310	365	200	275	325	190	260	305	150	205	240	—	—	—
P7	215	295	345	190	260	305	180	245	290	140	195	230	—	—	—
P8	200	270	320	175	240	285	165	230	270	130	180	210	—	—	—
P11	210	285	335	185	250	295	175	240	280	135	185	220	—	—	—
P12	140	180	220	120	160	195	115	150	185	90	120	145	—	—	—
M1	—	—	—	170	235	285	170	230	280	140	195	235	—	—	—
M2	—	—	—	145	195	230	140	195	225	120	160	195	—	—	—
M3	—	—	—	120	160	190	115	155	185	100	130	155	—	—	—
M4	—	—	—	90	120	145	90	120	145	75	100	120	—	—	—
M5	—	—	—	75	100	120	75	100	120	60	85	100	—	—	—
K1	215	290	350	190	260	310	180	245	295	140	190	230	265	365	440
K2	195	265	310	170	235	275	160	220	260	125	170	205	240	330	385
K3	165	220	260	145	195	230	135	185	220	105	145	175	205	280	325
K4	155	210	250	140	190	220	130	180	210	100	135	165	195	265	310
K5	95	130	155	85	115	135	80	110	130	60	85	100	120	160	195
K6	135	185	220	120	165	195	115	155	185	90	120	145	170	235	275
K7	120	165	195	105	145	175	100	140	165	80	110	130	150	205	245
N1	—	—	—	—	—	—	—	—	—	1025	1400	1675	—	—	—
N2	—	—	—	—	—	—	—	—	—	415	570	680	—	—	—
N3	—	—	—	—	—	—	—	—	—	280	380	450	—	—	—
N11	—	—	—	—	—	—	—	—	—	315	430	520	—	—	—
S1	—	—	—	—	—	—	41	55	65	35	47	55	—	—	—
S2	—	—	—	—	—	—	33	45	55	28	38	46	—	—	—
S3	—	—	—	—	—	—	30	39	48	25	33	40	—	—	—
S11	—	—	—	—	—	—	60	80	95	49	65	80	—	—	—
S12	—	—	—	—	—	—	40	55	65	34	46	55	—	—	—
S13	—	—	—	—	—	—	23	31	38	20	26	32	—	—	—
H5	46	60	75	37	49	60	36	47	60	30	40	48	—	—	—
H8	49	65	80	39	55	65	38	50	60	32	43	50	—	—	—
H11	60	75	95	47	60	75	46	60	75	39	50	60	—	—	—
H12	85	120	140	75	105	125	75	100	120	60	80	95	—	—	—
H21	49	65	80	39	55	65	38	50	60	32	43	50	—	—	—

	MK2050			MM4500			MS2050			MS2500			MP2050		
SMG	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	245	330	395	165	225	265	225	305	360	290	385	460	265	360	425
P2	235	320	385	160	215	260	220	295	350	280	375	450	260	345	415
P3	205	280	335	140	190	225	190	255	305	240	330	390	225	305	360
P4	185	250	295	125	165	200	170	225	270	220	290	350	200	265	320
P5	175	240	285	120	165	195	165	220	260	210	285	335	190	260	310
P6	200	270	320	135	185	215	185	250	295	235	320	375	215	290	345
P7	185	255	300	125	170	205	175	235	275	220	300	355	205	275	325
P8	175	235	280	115	160	190	160	215	260	205	275	330	185	255	305
P11	180	250	290	125	170	200	170	225	270	215	290	345	195	270	320
P12	120	160	195	80	110	130	110	145	175	140	185	225	130	175	205
M1	—	—	—	140	185	225	175	235	285	200	270	320	185	245	295
M2	—	—	—	115	155	185	145	200	235	165	225	265	155	210	245
M3	—	—	—	95	125	150	120	155	190	135	185	215	125	165	200
M4	—	—	—	70	95	115	90	120	150	105	140	170	95	125	155
M5	—	—	—	60	80	95	75	100	125	85	115	140	80	105	130
K1	255	345	415	—	—	—	—	—	—	—	—	—	205	275	330
K2	230	310	365	—	—	—	—	—	—	—	—	—	180	245	295
K3	195	265	310	—	—	—	—	—	—	—	—	—	155	210	250
K4	185	250	295	—	—	—	—	—	—	—	—	—	145	200	235
K5	115	155	185	—	—	—	—	—	—	—	—	—	90	120	145
K6	165	220	260	—	—	—	—	—	—	—	—	—	130	175	210
K7	145	195	235	—	—	—	—	—	—	—	—	—	115	155	185
S1	—	—	—	22	29	36	43	55	70	50	70	85	47	60	75
S2	—	—	—	18	23	29	34	46	55	41	55	65	38	50	60
S3	—	—	—	15	21	25	30	41	49	36	48	60	33	44	55
S11	—	—	—	31	41	50	60	80	95	70	95	115	65	85	105
S12	—	—	—	28	38	46	42	55	65	49	65	80	46	60	75
S13	—	—	—	16	22	27	24	32	39	29	38	47	26	35	43
H5	—	—	—	—	—	—	—	—	—	—	—	—	38	50	60
H8	—	—	—	—	—	—	—	—	—	—	—	—	41	55	65
H11	—	—	—	—	—	—	—	—	—	—	—	—	49	65	80
H12	—	—	—	—	—	—	—	—	—	—	—	—	80	110	130
H21	—	—	—	—	—	—	—	—	—	—	—	—	41	55	65

R220.48-09 – Insert selection – inch

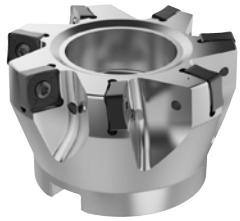
SMG		a_p	f_z		
			100%	30%	10%
P1	ONMU090520ANTN-M12 MP2500	0.14	0.010	0.011	0.017
P2	ONMU090520ANTN-M12 MP2500	0.14	0.010	0.012	0.017
P3	ONMU090520ANTN-M12 MP2500	0.14	0.010	0.011	0.017
P4	ONMU090520ANTN-M12 MP2500	0.14	0.0095	0.011	0.017
P5	ONMU090520ANTN-M12 MP2500	0.14	0.0095	0.010	0.016
P6	ONMU090520ANTN-M12 MP2500	0.14	0.0095	0.010	0.016
P7	ONMU090520ANTN-M12 T350M	0.14	0.0095	0.010	0.016
P8	ONMU090520ANTN-M12 T350M	0.14	0.010	0.011	0.017
P11	ONMU090520ANTN-M12 T350M	0.14	0.0095	0.010	0.016
M1	ONMU090520ANTN-ME12 MS2050	0.14	0.010	0.012	0.017
M2	ONMU090520ANTN-ME12 MS2050	0.14	0.0095	0.010	0.016
M3	ONMU090520ANTN-ME12 T350M	0.12	0.0075	0.0085	0.013
M4	ONMU090520ANTN-ME12 T350M	0.080	0.0065	0.0075	0.011
M5	ONMU090520ANTN-ME12 MM4500	0.080	0.0065	0.0075	0.011
K1	ONMU090520ANTN-M14 MK2050	0.14	0.013	0.013	0.020
K2	ONMU090520ANTN-M14 MK2050	0.14	0.011	0.012	0.019
K3	ONMU090520ANTN-M14 MK2050	0.14	0.011	0.012	0.019
K4	ONMU090520ANTN-M14 MK2050	0.14	0.011	0.012	0.019
K5	ONMU090520ANTN-M14 MK2050	0.14	0.010	0.011	0.017
K6	ONMU090520ANTN-M14 MK2050	0.14	0.011	0.012	0.019
K7	ONMU090520ANTN-M14 MK2050	0.14	0.010	0.011	0.017
N1	ONMU090520ANTN-ME12 F40M	0.14	0.013	0.015	0.022
N2	ONMU090520ANTN-ME12 F40M	0.14	0.013	0.015	0.022
N3	ONMU090520ANTN-ME12 F40M	0.14	0.013	0.015	0.022
N11	ONMU090520ANTN-ME12 F40M	0.14	0.013	0.015	0.022
S1	ONMU090520ANTN-ME12 MS2500	0.080	0.0065	0.0075	0.011
S2	ONMU090520ANTN-ME12 MS2500	0.080	0.0065	0.0075	0.011
S3	ONMU090520ANTN-ME12 MS2500	0.080	0.0065	0.0065	0.010
S11	ONMU090520ANTN-ME12 MS2050	0.10	0.0075	0.0085	0.013
S12	ONMU090520ANTN-ME12 MS2050	0.10	0.0075	0.0085	0.013
S13	ONMU090520ANTN-ME12 MS2050	0.080	0.0065	0.0075	0.011
H5	ONMU090520ANTN-MD16 MP1500	0.12	0.0080	0.0085	0.013
H8	ONMU090520ANTN-MD16 MP1500	0.10	0.0065	0.0065	0.010
H11	ONMU090520ANTN-MD16 MP1500	0.12	0.0080	0.0085	0.013
H12	ONMU090520ANTN-MD16 MP1500	0.12	0.0080	0.0085	0.013
H21	ONMU090520ANTN-MD16 MP1500	0.10	0.0065	0.0065	0.010

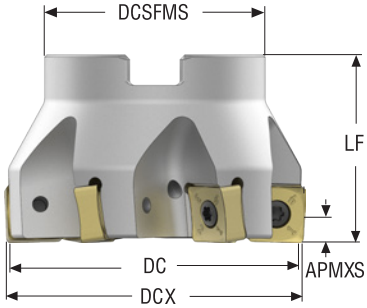
SMG = Seco material group
f_z = in/tooth
v_c= sf/min
a_e/DC = %
All cutting data are start values

R220.48-09 – Cutting data v_c = (sf/min)

	MP1020			MP1500			MP2500			MP3000			F40M			MK1500		
SMG	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	730	940	1150	920	1225	1475	810	1100	1325	770	1025	1250	600	810	970	—	—	—
P2	660	920	1100	870	1200	1450	770	1075	1275	730	1000	1200	580	790	940	—	—	—
P3	610	840	960	770	1050	1250	680	930	1100	640	880	1050	500	690	810	—	—	—
P4	590	740	870	690	930	1100	610	820	980	580	780	930	455	610	730	—	—	—
P5	560	750	830	660	900	1050	580	800	940	550	760	890	435	580	700	—	—	—
P6	630	840	930	740	1025	1200	660	900	1050	620	850	1000	485	670	790	—	—	—
P7	590	800	880	700	960	1125	620	850	990	590	800	940	460	630	740	—	—	—
P8	510	710	800	650	880	1050	570	780	930	540	740	880	425	580	680	—	—	—
P11	580	770	860	680	930	1100	600	820	960	570	780	910	445	610	720	—	—	—
M1	—	—	—	—	—	—	560	770	920	550	750	910	465	640	760	—	—	—
M2	—	—	—	—	—	—	470	640	750	460	630	740	390	520	630	—	—	—
M3	—	—	—	—	—	—	385	520	610	380	510	600	320	430	510	—	—	—
M4	—	—	—	—	—	—	295	395	475	290	390	465	245	325	395	—	—	—
M5	—	—	—	—	—	—	245	330	395	240	325	390	205	275	330	—	—	—
K1	—	—	—	690	950	1150	610	840	1025	580	800	960	455	630	750	870	1200	1425
K2	—	—	—	630	860	1000	560	760	890	530	720	840	410	550	670	790	1075	1250
K3	—	—	—	530	720	850	470	640	750	445	610	710	350	470	560	670	910	1075
K4	—	—	—	510	690	810	450	610	720	425	580	680	330	445	540	640	870	1025
K5	—	—	—	310	420	500	275	370	445	260	355	420	200	275	330	385	530	630
K6	—	—	—	445	610	710	395	540	630	375	510	600	295	395	475	560	760	900
K7	—	—	—	395	540	640	350	475	570	330	450	540	260	355	420	495	680	810
N1	—	—	—	—	—	—	2250	3075	3700	2125	2900	3500	1675	2300	2725	—	—	—
N2	—	—	—	—	—	—	1825	2475	2975	1725	2350	2825	1350	1850	2200	—	—	—
N3	—	—	—	—	—	—	1225	1650	2000	1150	1575	1875	900	1225	1475	—	—	—
N11	—	—	—	—	—	—	1375	1900	2275	1325	1800	2150	1025	1400	1675	—	—	—
S1	—	—	—	—	—	—	145	190	230	135	180	220	115	155	185	—	—	—
S2	—	—	—	—	—	—	115	155	185	110	145	175	90	125	150	—	—	—
S3	—	—	—	—	—	—	105	135	165	95	130	155	80	110	130	—	—	—
S11	—	—	—	—	—	—	200	275	325	190	255	305	160	215	260	—	—	—
S12	—	—	—	—	—	—	115	155	185	110	150	175	90	125	150	—	—	—
S13	—	—	—	—	—	—	95	125	150	90	115	140	75	100	120	—	—	—
H5	—	—	—	150	200	240	120	160	190	115	155	190	100	135	160	—	—	—
H8	—	—	—	160	215	255	130	170	205	125	170	200	105	140	170	—	—	—
H11	—	—	—	190	250	305	155	205	245	150	200	240	125	170	200	—	—	—
H12	—	—	—	285	380	460	230	305	370	225	300	360	190	255	305	—	—	—
H21	—	—	—	160	215	255	130	170	205	125	170	200	105	140	170	—	—	—

	MK2050			MM4500			MS2050			MS2500			MP2050		
SMG	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	810	1075	1300	550	740	870	740	1000	1175	950	1275	1525	790	1075	1250
P2	770	1050	1275	530	710	850	720	960	1150	920	1225	1475	760	1025	1225
P3	680	920	1100	455	620	740	620	840	1000	790	1075	1275	660	890	1075
P4	610	810	970	410	550	650	560	740	890	710	950	1150	590	790	940
P5	580	790	930	395	530	630	530	720	860	680	930	1100	570	770	910
P6	650	890	1050	440	600	710	600	810	960	770	1050	1225	640	860	1025
P7	620	840	980	415	570	670	570	770	910	720	980	1150	600	810	970
P8	570	780	920	385	520	620	520	710	850	670	910	1075	550	750	900
P11	600	810	960	405	550	650	550	750	880	700	960	1125	580	790	940
P12	395	520	630	260	355	425	355	480	570	460	610	740	375	510	610
M1	—	—	—	455	610	730	580	770	930	660	880	1050	550	730	880
M2	—	—	—	375	510	610	480	650	770	550	740	880	455	610	730
M3	—	—	—	305	405	490	390	510	630	435	600	710	365	485	590
M4	—	—	—	235	315	380	300	400	485	345	460	560	280	375	460
M5	—	—	—	195	260	320	250	330	405	285	380	465	235	315	380
K1	830	1125	1375	—	—	—	—	—	—	—	—	—	610	810	970
K2	750	1025	1200	—	—	—	—	—	—	—	—	—	540	730	860
K3	640	870	1025	—	—	—	—	—	—	—	—	—	455	620	730
K4	610	830	970	—	—	—	—	—	—	—	—	—	435	590	700
K5	370	500	600	—	—	—	—	—	—	—	—	—	265	360	430
K6	530	730	850	—	—	—	—	—	—	—	—	—	385	520	620
K7	475	640	770	—	—	—	—	—	—	—	—	—	340	460	550
S1	—	—	—	70	95	115	140	185	225	165	225	270	140	185	225
S2	—	—	—	60	75	95	110	150	185	135	180	220	110	150	180
S3	—	—	—	50	70	80	100	135	160	120	155	190	95	130	160
S11	—	—	—	100	135	165	195	260	315	230	315	375	195	255	310
S12	—	—	—	75	105	125	115	150	185	130	185	215	110	150	180
S13	—	—	—	60	80	100	90	120	145	110	145	175	90	120	145
H5	—	—	—	—	—	—	—	—	—	—	—	—	115	155	180
H8	—	—	—	—	—	—	—	—	—	—	—	—	120	165	195
H11	—	—	—	—	—	—	—	—	—	—	—	—	145	195	230
H12	—	—	—	—	—	—	—	—	—	—	—	—	240	325	385
H21	—	—	—	—	—	—	—	—	—	—	—	—	120	165	195





- For insert selection and cutting data recommendations, see page(s) 64-67
- For complete insert programme, see page(s) 68

R220.88-12 metric

Ordering and Product No.	Designation	Type of mounting	Dimensions in mm						ZNP	KG	RPMX	Insert
			APMXS	DCX	DC	DCSFMS	DCB	LF				
03091359	R220.88-0050-12-4SA	Arbor	9,0	51,0	50,0	47,0	22,0	40,0	4	0,4	12600	SNMU1204..
03091371	R220.88-0050-12-5SA	Arbor	9,0	51,0	50,0	47,0	22,0	40,0	5	0,4	12600	SNMU1204..
03091360	R220.88-0063-12-6SA	Arbor	9,0	64,0	63,0	47,0	22,0	40,0	6	0,5	11200	SNMU1204..
03091372	R220.88-0063-12-7SA	Arbor	9,0	64,0	63,0	47,0	22,0	40,0	7	0,5	11200	SNMU1204..
03091361	R220.88-0080-12-7SA	Arbor	9,0	81,0	80,0	62,0	27,0	50,0	7	1,0	9900	SNMU1204..
03091373	R220.88-0080-12-9SA	Arbor	9,0	81,0	80,0	62,0	27,0	50,0	9	1,0	9900	SNMU1204..
03091374	R220.88-0100-12-11SA	Arbor	9,0	101,0	100,0	77,0	32,0	50,0	11	1,6	8900	SNMU1204..
03091362	R220.88-0100-12-8SA	Arbor	9,0	101,0	100,0	77,0	32,0	50,0	8	1,6	8900	SNMU1204..
03091363	R220.88-0125-12-10SA	Arbor	9,0	126,0	125,0	90,0	40,0	63,0	10	3,0	7900	SNMU1204..
03091375	R220.88-0125-12-13SA	Arbor	9,0	126,0	125,0	90,0	40,0	63,0	13	3,0	7900	SNMU1204..
03091364	R220.88-8160-12-12S	Arbor	9,0	161,0	160,0	90,0	40,0	63,0	12	5,2	7000	SNMU1204..
03091376	R220.88-8160-12-16S	Arbor	9,0	161,0	160,0	90,0	40,0	63,0	16	5,2	7000	SNMU1204..

Spare Parts

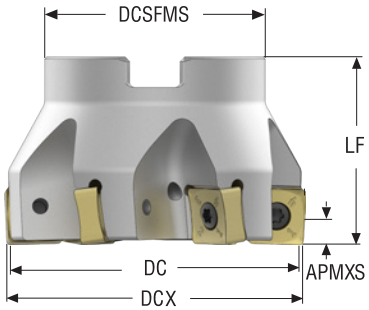
For cutter	Key (T-handle)	Insert screw	Insert key	Arbor screw	Torque value (Nm)
					
R220.88-0050-0063	DOUBLE-T	C04011-T15P	H4B-T15PL	220.17-692	3,5
R220.88-0080-8160	DOUBLE-T	C04011-T15P	H4B-T15PL	–	3,5

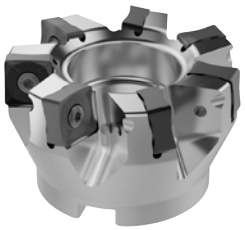
R220.88-12 inch

Ordering and Product No.	Designation	Type of mounting	Dimensions in inch						ZNP	KG	RPMX	Insert
			APMXS	DCX	DC	DCSFMS	DCB	LF				
03091365	R220.88-02.00-12-4SA	Arbor	0.354	2.039	2.000	1.85	0.75	1.57	4	0,4	12600	SNMU1204..
03091377	R220.88-02.00-12-5SA	Arbor	0.354	2.039	2.000	1.85	0.75	1.57	5	0,4	12600	SNMU1204..
03091366	R220.88-02.50-12-6SA	Arbor	0.354	2.539	2.500	1.85	0.75	1.57	6	0,5	11200	SNMU1204..
03091378	R220.88-02.50-12-7SA	Arbor	0.354	2.539	2.500	1.85	0.75	1.57	7	0,5	11200	SNMU1204..
03091367	R220.88-03.00-12-7SA	Arbor	0.354	3.039	3.000	2.44	1.00	1.97	7	1,1	9900	SNMU1204..
03091379	R220.88-03.00-12-9SA	Arbor	0.354	3.039	3.000	2.44	1.00	1.97	9	1,0	9900	SNMU1204..
03091380	R220.88-04.00-12-11SA	Arbor	0.354	4.039	4.000	3.03	1.50	1.97	11	1,6	8900	SNMU1204..
03091368	R220.88-04.00-12-8SA	Arbor	0.354	4.039	4.000	3.03	1.50	1.97	8	1,7	8900	SNMU1204..
03091369	R220.88-05.00-12-10SA	Arbor	0.354	5.039	5.000	3.54	1.50	2.48	10	0,4	7900	SNMU1204..
03091381	R220.88-05.00-12-13SA	Arbor	0.354	5.039	5.000	3.54	1.50	2.48	13	3,4	7900	SNMU1204..
03091370	R220.88-06.00-12-12S	Arbor	0.354	6.039	6.000	4.33	2.00	2.48	12	4,6	7000	SNMU1204..
03091382	R220.88-06.00-12-16S	Arbor	0.354	6.039	6.000	4.33	2.00	2.48	16	4,6	7000	SNMU1204..

Spare Parts

For cutter	Key (T-handle)	Insert screw	Insert key	Arbor screw	Torque in/lbs
					
R220.88-02.00-02.50	DOUBLE-T	C04011-T15P	H4B-T15PL	UC6S3/8UNFX1	31
R220.88-03.00	DOUBLE-T	C04011-T15P	H4B-T15PL	UC6S1/2UNFX1-1/4	31
R220.88-04.00-05.00	DOUBLE-T	C04011-T15P	H4B-T15PL	UC6S3/4UNFX1-1/4	31
R220.88-06.00	DOUBLE-T	C04011-T15P	H4B-T15PL	–	31





- For insert selection and cutting data recommendations, see page(s) 64-67
- For complete insert programme, see page(s) 68

R220.88-16 metric

Ordering and Product No.	Designation	Type of mounting	Dimensions in mm						ZNP	KG	RPMX	Insert
			APMXS	DCX	DC	DCSFMS	DCB	LF				
03091383	**R220.88-0063-16-4SA**	Arbor	13,0	64,0	63,0	47,0	22,0	40,0	4	0,5	7100	SNMU1606..
03091392	**R220.88-0063-16-5SA**	Arbor	13,0	64,0	63,0	47,0	22,0	40,0	5	0,5	7100	SNMU1606..
03091384	**R220.88-0080-16-6SA**	Arbor	13,0	81,0	80,0	62,0	27,0	50,0	6	1,0	6300	SNMU1606..
03091393	**R220.88-0080-16-7SA**	Arbor	13,0	81,0	80,0	62,0	27,0	50,0	7	1,0	6300	SNMU1606..
03091385	**R220.88-0100-16-8SA**	Arbor	13,0	101,0	100,0	77,0	32,0	50,0	8	1,6	5600	SNMU1606..
03091394	**R220.88-0100-16-9SA**	Arbor	13,0	101,0	100,0	77,0	32,0	50,0	9	1,6	5600	SNMU1606..
03091386	**R220.88-0125-16-10SA**	Arbor	13,0	126,0	125,0	90,0	40,0	63,0	10	3,0	5000	SNMU1606..
03091395	**R220.88-0125-16-11SA**	Arbor	13,0	126,0	125,0	90,0	40,0	63,0	11	3,0	5000	SNMU1606..
03091387	**R220.88-8160-16-12S**	Arbor	13,0	161,0	160,0	90,0	40,0	63,0	12	5,1	4400	SNMU1606..
03091396	**R220.88-8160-16-13S**	Arbor	13,0	161,0	160,0	90,0	40,0	63,0	13	5,0	4400	SNMU1606..

Spare Parts

For cutter	Key (T-handle)	Insert screw	Insert key	Arbor screw	Torque value (Nm)
					
R220.88-0050-0063	DOUBLE-T	C05012-T15P	H4B-T15PL	220.17-692	5,0
R220.88-0080-8160	DOUBLE-T	C05012-T15P	H4B-T15PL	–	5,0

R220.88-16 inch

Ordering and Product No.	Designation	Type of mounting	Dimensions in inch						ZNP	KG	RPMX	Insert
			APMXS	DCX	DC	DCSFMS	DCB	LF				
03091388	**R220.88-03.00-16-6SA**	Arbor	0.512	3.039	3.000	2.44	1.00	1.97	6	1,0	6300	SNMU1606..
03091397	**R220.88-03.00-16-7SA**	Arbor	0.531	3.039	3.000	2.44	1.00	1.97	7	1,0	6300	SNMU1606..
03091389	**R220.88-04.00-16-8SA**	Arbor	0.512	4.039	4.000	3.03	1.50	1.97	8	1,6	5600	SNMU1606..
03091398	**R220.88-04.00-16-9SA**	Arbor	0.531	4.039	4.000	3.03	1.50	1.97	9	1,6	5600	SNMU1606..
03091390	**R220.88-05.00-16-10SA**	Arbor	0.512	5.039	5.000	3.54	1.50	2.48	10	3,4	5000	SNMU1606..
03091399	**R220.88-05.00-16-11SA**	Arbor	0.531	5.039	5.000	3.54	1.50	2.48	11	3,4	5000	SNMU1606..
03091391	**R220.88-06.00-16-12S**	Arbor	0.512	6.039	6.000	4.33	2.00	2.48	12	4,5	4400	SNMU1606..
03091400	**R220.88-06.00-16-13S**	Arbor	0.531	6.039	6.000	4.33	2.00	2.48	13	4,5	4400	SNMU1606..

Spare Parts

For cutter	Key (T-handle)	Insert screw	Insert key	Arbor screw	Torque in/lbs
					
R220.88-03.00	DOUBLE-T	C05012-T15P	H4B-T15PL	UC6S1/2UNFX1-1/4	44
R220.88-04.00-05.00	DOUBLE-T	C05012-T15P	H4B-T15PL	UC6S3/4UNFX1-1/4	44
R220.88-06.00	DOUBLE-T	C05012-T15P	H4B-T15PL	–	44

R220.88-12 – Insert selection – metric

SMG		a_p	f_z		
			100%	30%	10%
P1	SNMU120410TN-M10 F40M	5,0	0,14	0,15	0,24
P2	SNMU120410TN-M10 F40M	5,0	0,14	0,16	0,24
P3	SNMU120410TN-M10 MP2500	5,0	0,14	0,15	0,22
P4	SNMU120410TN-M10 MP2500	5,0	0,13	0,14	0,22
P5	SNMU120410TN-M10 MP2500	5,0	0,13	0,14	0,22
P6	SNMU120410TN-M10 MP2500	5,0	0,13	0,14	0,22
P7	SNMU120410TN-M10 MP2500	5,0	0,13	0,14	0,22
P8	SNMU120410TN-M10 MP2500	5,0	0,14	0,15	0,22
P11	SNMU120410TN-M10 MP1500	5,0	0,13	0,14	0,22
P12	SNMU120410TN-M10 MS2500	4,5	0,090	0,095	0,15
K1	SNMU120410TN-M10 MK2050	5,0	0,14	0,16	0,24
K2	SNMU120410TN-M10 MK2050	5,0	0,13	0,14	0,22
K3	SNMU120410TN-M10 MK2050	5,0	0,13	0,14	0,22
K4	SNMU120410TN-M10 MK2050	5,0	0,13	0,14	0,22
K5	SNMU120410TN-MD13 MK2050	5,0	0,15	0,17	0,26
K6	SNMU120410TN-MD13 MK2050	5,0	0,17	0,18	0,28
K7	SNMU120410TN-MD13 MK2050	5,0	0,15	0,17	0,26
H5	SNMU120410TN-MD13 MP1500	4,5	0,11	0,13	0,19
H11	SNMU120410TN-MD13 MP1500	4,5	0,11	0,13	0,19
H12	SNMU120410TN-MD13 MP1500	3,5	0,090	0,095	0,15

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

R220.88-12 – Cutting data v_c = (m/min)

SMG	MP1500			MP2500			F40M			MK1500			MK2050			MS2500		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	315	420	495	280	375	440	210	285	330	—	—	—	275	370	430	305	410	480
P2	305	405	480	270	355	425	205	270	325	—	—	—	270	350	420	295	390	465
P3	265	355	425	235	315	375	180	235	285	—	—	—	230	310	370	255	340	410
P4	240	315	375	210	280	330	160	215	250	—	—	—	210	275	325	230	305	360
P5	225	305	355	200	270	315	155	205	240	—	—	—	200	265	310	220	295	345
P6	255	340	400	225	300	355	170	230	270	—	—	—	225	295	350	245	330	385
P7	240	320	380	215	285	335	160	215	255	—	—	—	210	280	330	235	310	365
P8	220	295	355	195	265	315	150	200	240	—	—	—	195	260	310	215	285	345
P11	235	310	365	205	275	325	155	210	245	—	—	—	205	270	320	225	300	355
P12	155	205	240	135	180	210	100	135	160	—	—	—	135	180	210	150	195	230
K1	245	320	380	215	285	340	165	215	255	305	400	480	290	380	455	—	—	—
K2	215	290	340	190	255	300	145	195	225	270	360	425	255	340	400	—	—	—
K3	185	245	285	160	215	255	120	165	190	230	305	360	215	290	340	—	—	—
K4	175	230	275	155	205	240	115	155	185	220	290	345	205	275	325	—	—	—
K5	105	140	165	95	125	150	70	95	110	135	175	210	125	170	200	—	—	—
K6	155	205	240	135	180	215	105	135	160	195	255	300	180	245	285	—	—	—
K7	135	180	215	120	160	190	90	120	145	170	225	270	160	215	255	—	—	—
H5	50	70	80	41	55	65	34	45	55	—	—	—	—	—	—	—	—	—
H8	55	70	85	43	60	70	36	48	55	—	—	—	—	—	—	—	—	—
H11	65	85	100	50	70	80	43	60	70	—	—	—	—	—	—	—	—	—
H12	95	130	155	85	115	135	65	85	105	—	—	—	—	—	—	—	—	—

R220.88-16 – Insert selection – metric

SMG		a_p	f_z		
			100%	30%	10%
P1	SNMU160612TN-M10 F40M	8,0	0,14	0,15	0,24
P2	SNMU160612TN-M10 F40M	8,0	0,14	0,16	0,24
P3	SNMU160612TN-M10 MP2500	8,0	0,14	0,15	0,22
P4	SNMU160612TN-M10 MP2500	8,0	0,13	0,14	0,22
P5	SNMU160612TN-M10 MP2500	8,0	0,13	0,14	0,22
P6	SNMU160612TN-M10 MP2500	8,0	0,13	0,14	0,22
P7	SNMU160612TN-M10 MP2500	8,0	0,13	0,14	0,22
P8	SNMU160612TN-M10 MP2500	8,0	0,14	0,15	0,22
P11	SNMU160612TN-M10 MP1500	8,0	0,13	0,14	0,22
P12	SNMU160612TN-M10 MS2500	6,0	0,090	0,095	0,15
K1	SNMU160612TN-M10 MK2050	8,0	0,14	0,16	0,24
K2	SNMU160612TN-M10 MK2050	8,0	0,13	0,14	0,22
K3	SNMU160612TN-M10 MK2050	8,0	0,13	0,14	0,22
K4	SNMU160612TN-M10 MK2050	8,0	0,13	0,14	0,22
K5	SNMU160612TN-MD16 MK2050	8,0	0,19	0,20	0,32
K6	SNMU160612TN-MD16 MK2050	8,0	0,20	0,22	0,34
K7	SNMU160612TN-MD16 MK2050	8,0	0,19	0,20	0,32
H5	SNMU160612TN-MD16 MP1500	6,0	0,14	0,15	0,24
H11	SNMU160612TN-MD16 MP1500	6,0	0,14	0,15	0,24
H12	SNMU160612TN-MD16 MP1500	5,0	0,11	0,12	0,18

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

R220.88-16 – Cutting data v_c = (m/min)

SMG	MP1500			MP2500			F40M			MK1500			MK2050			MS2500		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	315	420	495	280	375	440	210	285	330	—	—	—	275	370	430	305	410	480
P2	305	405	480	270	355	425	205	270	325	—	—	—	270	350	420	295	390	465
P3	265	355	425	235	315	375	180	235	285	—	—	—	230	310	370	255	340	410
P4	240	315	375	210	280	330	160	215	250	—	—	—	210	275	325	230	305	360
P5	225	305	355	200	270	315	155	205	240	—	—	—	200	265	310	220	295	345
P6	255	340	400	225	300	355	170	230	270	—	—	—	225	295	350	245	330	385
P7	240	320	380	215	285	335	160	215	255	—	—	—	210	280	330	235	310	365
P8	220	295	355	195	265	315	150	200	240	—	—	—	195	260	310	215	285	345
P11	235	310	365	205	275	325	155	210	245	—	—	—	205	270	320	225	300	355
P12	155	205	240	135	180	210	100	135	160	—	—	—	135	180	210	150	195	230
K1	245	320	380	215	285	340	165	215	255	305	400	480	290	380	455	—	—	—
K2	215	290	340	190	255	300	145	195	225	270	360	425	255	340	400	—	—	—
K3	185	245	285	160	215	255	120	165	190	230	305	360	215	290	340	—	—	—
K4	175	230	275	155	205	240	115	155	185	220	290	345	205	275	325	—	—	—
K5	105	140	165	95	125	150	70	95	110	135	175	210	125	170	200	—	—	—
K6	155	205	240	135	180	215	105	135	160	195	255	300	180	245	285	—	—	—
K7	135	180	215	120	160	190	90	120	145	170	225	270	160	215	255	—	—	—
H5	50	70	80	41	55	65	34	45	55	—	—	—	—	—	—	—	—	—
H11	65	85	100	50	70	80	43	60	70	—	—	—	—	—	—	—	—	—
H12	95	130	155	85	115	135	65	85	105	—	—	—	—	—	—	—	—	—

R220.88-12 – Insert selection – inch

SMG		a_p	f_z		
			100%	30%	10%
P1	SNMU120410TN-M10 F40M	0.20	0.0055	0.0059	0.0094
P2	SNMU120410TN-M10 F40M	0.20	0.0055	0.0063	0.0094
P3	SNMU120410TN-M10 MP2500	0.20	0.0055	0.0059	0.0087
P4	SNMU120410TN-M10 MP2500	0.20	0.0051	0.0055	0.0087
P5	SNMU120410TN-M10 MP2500	0.20	0.0051	0.0055	0.0087
P6	SNMU120410TN-M10 MP2500	0.20	0.0051	0.0055	0.0087
P7	SNMU120410TN-M10 MP2500	0.20	0.0051	0.0055	0.0087
P8	SNMU120410TN-M10 MP2500	0.20	0.0055	0.0059	0.0087
P11	SNMU120410TN-M10 MP1500	0.20	0.0051	0.0055	0.0087
P12	SNMU120410TN-M10 MS2500	0.18	0.0035	0.0037	0.0059
K1	SNMU120410TN-M10 MK2050	0.20	0.0055	0.0063	0.0094
K2	SNMU120410TN-M10 MK2050	0.20	0.0051	0.0055	0.0087
K3	SNMU120410TN-M10 MK2050	0.20	0.0051	0.0055	0.0087
K4	SNMU120410TN-M10 MK2050	0.20	0.0051	0.0055	0.0087
K5	SNMU120410TN-MD13 MK2050	0.20	0.0059	0.0067	0.010
K6	SNMU120410TN-MD13 MK2050	0.20	0.0067	0.0071	0.011
K7	SNMU120410TN-MD13 MK2050	0.20	0.0059	0.0067	0.010
H5	SNMU120410TN-MD13 MP1500	—	—	—	—
H11	SNMU120410TN-MD13 MP1500	—	—	—	—
H12	SNMU120410TN-MD13 MP1500	—	—	—	—

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

R220.88-12 – Cutting data v_c = (sf/min)

SMG	MP1500			MP2500			F40M			MK1500			MK2050			MS2500		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	1025	1375	1625	920	1225	1425	700	930	1100	—	—	—	900	1200	1425	1000	1350	1575
P2	1000	1325	1575	890	1175	1400	680	890	1050	—	—	—	880	1150	1375	970	1275	1525
P3	870	1150	1400	770	1025	1225	580	780	930	—	—	—	760	1000	1225	840	1125	1350
P4	780	1050	1225	690	920	1075	520	700	820	—	—	—	680	910	1075	750	1000	1175
P5	750	990	1175	660	880	1025	500	670	790	—	—	—	650	870	1025	720	960	1125
P6	840	1125	1325	740	990	1175	560	750	880	—	—	—	730	970	1150	810	1075	1275
P7	790	1050	1250	700	930	1100	530	710	830	—	—	—	690	920	1075	760	1025	1200
P8	730	980	1175	650	860	1025	490	650	790	—	—	—	640	850	1025	710	940	1125
P11	770	1025	1200	680	910	1075	520	690	810	—	—	—	670	890	1050	740	990	1175
P12	500	670	780	445	590	690	335	450	530	—	—	—	435	580	680	485	650	760
K1	800	1050	1250	710	930	1100	540	700	840	1000	1325	1575	950	1250	1475	—	—	—
K2	710	940	1100	630	840	980	475	630	750	890	1175	1400	840	1125	1325	—	—	—
K3	600	800	940	530	710	830	400	540	630	750	1000	1175	710	950	1125	—	—	—
K4	570	760	900	510	680	790	385	510	600	720	960	1125	680	910	1075	—	—	—
K5	350	465	550	310	410	485	235	310	370	435	580	690	415	550	650	—	—	—
K6	500	670	790	445	590	700	340	450	530	630	840	990	600	800	940	—	—	—
K7	445	590	700	395	530	620	300	400	470	560	740	880	530	700	830	—	—	—
H5	165	220	260	135	180	210	110	150	175	—	—	—	—	—	—	—	—	—
H8	175	235	280	145	190	225	120	155	190	—	—	—	—	—	—	—	—	—
H11	210	285	330	170	230	265	140	190	225	—	—	—	—	—	—	—	—	—
H12	320	420	500	280	375	445	215	285	335	—	—	—	—	—	—	—	—	—

R220.88-16 – Insert selection – inch

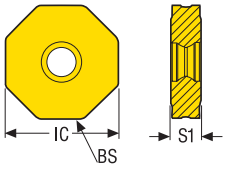
SMG		a_p	f_z		
			100%	30%	10%
P1	SNMU160612TN-M10 F40M	0.31	0.0055	0.0059	0.0094
P2	SNMU160612TN-M10 F40M	0.31	0.0055	0.0063	0.0094
P3	SNMU160612TN-M10 MP2500	0.31	0.0055	0.0059	0.0087
P4	SNMU160612TN-M10 MP2500	0.31	0.0051	0.0055	0.0087
P5	SNMU160612TN-M10 MP2500	0.31	0.0051	0.0055	0.0087
P6	SNMU160612TN-M10 MP2500	0.31	0.0051	0.0055	0.0087
P7	SNMU160612TN-M10 MP2500	0.31	0.0051	0.0055	0.0087
P8	SNMU160612TN-M10 MP2500	0.31	0.0055	0.0059	0.0087
P11	SNMU160612TN-M10 MP1500	0.31	0.0051	0.0055	0.0087
P12	SNMU160612TN-M10 MS2500	0.24	0.0035	0.0037	0.0059
K1	SNMU160612TN-M10 MK2050	0.31	0.0055	0.0063	0.0094
K2	SNMU160612TN-M10 MK2050	0.31	0.0051	0.0055	0.0087
K3	SNMU160612TN-M10 MK2050	0.31	0.0051	0.0055	0.0087
K4	SNMU160612TN-M10 MK2050	0.31	0.0051	0.0055	0.0087
K5	SNMU160612TN-MD16 MK2050	0.31	0.0075	0.0079	0.013
K6	SNMU160612TN-MD16 MK2050	0.31	0.0079	0.0087	0.013
K7	SNMU160612TN-MD16 MK2050	0.31	0.0075	0.0079	0.013
H5	SNMU160612TN-MD16 MP1500	0.24	0.0055	0.0059	0.0094
H11	SNMU160612TN-MD16 MP1500	0.24	0.0055	0.0059	0.0094
H12	SNMU160612TN-MD16 MP1500	0.20	0.0043	0.0047	0.0071

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

R220.88-16 – Cutting data v_c = (sf/min)

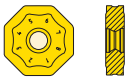
SMG	MP1500			MP2500			F40M			MK1500			MK2050			MS2500		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	1025	1375	1625	920	1225	1425	700	930	1100	—	—	—	900	1200	1425	1000	1350	1575
P2	1000	1325	1575	890	1175	1400	680	890	1050	—	—	—	880	1150	1375	970	1275	1525
P3	870	1150	1400	770	1025	1225	580	780	930	—	—	—	760	1000	1225	840	1125	1350
P4	780	1050	1225	690	920	1075	520	700	820	—	—	—	680	910	1075	750	1000	1175
P5	750	990	1175	660	880	1025	500	670	790	—	—	—	650	870	1025	720	960	1125
P6	840	1125	1325	740	990	1175	560	750	880	—	—	—	730	970	1150	810	1075	1275
P7	790	1050	1250	700	930	1100	530	710	830	—	—	—	690	920	1075	760	1025	1200
P8	730	980	1175	650	860	1025	490	650	790	—	—	—	640	850	1025	710	940	1125
P11	770	1025	1200	680	910	1075	520	690	810	—	—	—	670	890	1050	740	990	1175
P12	500	670	780	445	590	690	335	450	530	—	—	—	435	580	680	485	650	760
K1	800	1050	1250	710	930	1100	540	700	840	1000	1325	1575	950	1250	1475	—	—	—
K2	710	940	1100	630	840	980	475	630	750	890	1175	1400	840	1125	1325	—	—	—
K3	600	800	940	530	710	830	400	540	630	750	1000	1175	710	950	1125	—	—	—
K4	570	760	900	510	680	790	385	510	600	720	960	1125	680	910	1075	—	—	—
K5	350	465	550	310	410	485	235	310	370	435	580	690	415	550	650	—	—	—
K6	500	670	790	445	590	700	340	450	530	630	840	990	600	800	940	—	—	—
K7	445	590	700	395	530	620	300	400	470	560	740	880	530	700	830	—	—	—
H5	165	220	260	135	180	210	110	150	175	—	—	—	—	—	—	—	—	—
H11	210	285	330	170	230	265	140	190	225	—	—	—	—	—	—	—	—	—
H12	320	420	500	280	375	445	215	285	335	—	—	—	—	—	—	—	—	—

ON.U05/09

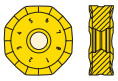


Size	Dimensions in mm			Dimensions in inch		
	IC	BS	S1	IC	BS	S1
ONEU05..ZZ	12,0	3,2	4,5	0.472	0.126	0.177
ON..05	12,0	0,3	4,0	0.472	0.012	0.157
ON..05	12,0	1,0	4,0	0.472	0.039	0.157
ONMU05..M11/ME11	12,0	1,0	4,0	0.472	0.039	0.157
ONMU05..M10/ME10	12,0	0,3	4,0	0.472	0.012	0.157
ON..09	21,41	6,3	6,8	0.843	0.248	0.268
ONEU09..ZZ	21,41	6,3	5,8	0.843	0.248	0.228
ONMU09..	22,0	0,0	5,8	0.866	–	0.228
ONMU09..	22,0	0,45	5,8	0.866	0.018	0.228
ONMU09..	22,0	2,11	5,8	0.866	0.083	0.228

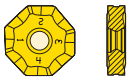
MD16/MD17



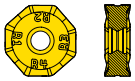
ME10-13/M10-15



ZZTN4-M10/M14

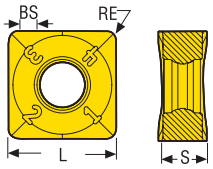


ZZTN4-M12



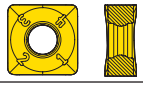
Designation	Cutting rake	Grades																					
		Coated																Uncoated			Cermet		
		MP1500	MP2050	MP2500	MP3000	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F25M	F30M	F40M	HX	H15	H25	MP1020		
ONEU050410ZZTN4-M10	20,0 °			■	■			■	■								■						
ONMU050410ANTN-M10	20,0 °	■	■	■	■		■	■	■				■				■						
ONMU050410ANTN-M11	20,0 °	■	■	■	■		■	■	■				■				■						
ONMU050410ANTN-ME10	20,0 °			■	■		■	■		■							■						
ONMU050410ANTN-ME11	20,0 °	■		■	■		■	■		■							■						
ONEU090520ZZTN4-M12	20,0 °	■		■					■														
ONEU090520ZZTN4-M14	15,0 °	■		■	■			■	■				■				■						
ONMU090510ANTN-M12	20,0 °		■						■	■	■		■				■						
ONMU090520ANTN-M12	20,0 °	■	■	■			■	■	■		■		■				■						
ONMU090520ANTN-M13	20,0 °	■	■	■	■		■	■	■		■		■				■						
ONMU090520ANTN-M14	15,0 °	■		■	■			■	■				■				■						
ONMU090520ANTN-M15	15,0 °	■		■	■			■	■				■				■						
ONMU090520ANTN-MD16	0,0 °	■		■				■					■										
ONMU090520ANTN-MD17	0,0 °	■		■				■															
ONMU090520ANTN-ME12	20,0 °	■		■	■		■	■		■	■		■				■						
ONMU090520ANTN-ME13	20,0 °	■		■	■		■	■	■	■	■		■				■						

SNMU12/16



Size	Dimensions in mm				Dimensions in inch			
	RE	L	BS	S	RE	L	BS	S
SNMU12..-M10	0,8	12,0	0,0	5,3	0.031	0.472	–	0.209
SNMU12..-MD13	0,8	12,0	0,0	5,0	0.031	0.472	–	0.197
SNMU12..-M10	1,0	12,0	1,0	5,3	0.039	0.472	0.039	0.209
SNMU12..-MD13	1,0	12,0	1,0	5,0	0.039	0.472	0.039	0.197
SNMU16..-M10	1,0	16,0	0,0	7,4	0.039	0.630	–	0.291
SNMU16..-MD16	1,0	16,0	0,0	6,6	0.039	0.630	–	0.260
SNMU16..-M10	1,2	16,0	1,2	7,4	0.047	0.630	0.047	0.291
SNMU16..-MD16	1,2	16,0	1,2	6,6	0.047	0.630	0.047	0.260

M10

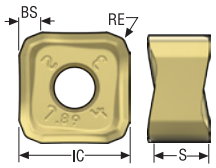


MD13/MD16

Designation	Cutting rake	Grades																					
		Coated																Uncoated			Cermet		
		MP1500	MP2050	MP2500	MP3000	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F25M	F30M	F40M	HX	H15	H25	MP1020		
SNMU120408TN-M10	20,0 °	■		■				■	■														
SNMU120408TN-MD13	0,0 °	■		■				■	■														
SNMU120410TN-M10	20,0 °	■		■				■	■		■						■						
SNMU120410TN-MD13	0,0 °	■		■				■	■		■						■						
SNMU160610TN-M10	20,0 °	■		■				■	■														
SNMU160610TN-MD16	0,0 °	■		■				■	■														
SNMU160612TN-M10	20,0 °	■		■				■	■		■						■						
SNMU160612TN-MD16	0,0 °	■		■				■	■		■						■						

SNHX14

Size	Dimensions in mm				Dimensions in inch			
	RE	IC	BS	S	RE	IC	BS	S
SNHX14..AN..	1,0	14,0	1,5	6,59	0.039	0.551	0.059	0.259
SNHX14..ZN.	1,0	14,0	1,5	6,59	0.039	0.551	0.059	0.259

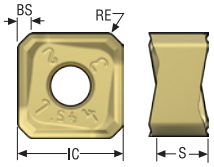


ME10

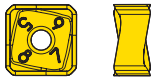
Designation	Cutting rake	Grades																					
		Coated																Uncoated			Cermet		
		MP1500	MP2050	MP2500	MP3000	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F25M	F30M	F40M	HX	H15	H25	MP1020		
SNHX1407ANR-ME10	20,0 °		■				■			■			■				■			■			
SNHX1407ZNR-ME10	20,0 °		■				■			■			■				■			■			

SNMX14/22

Size	Dimensions in mm				Dimensions in inch			
	RE	IC	BS	S	RE	IC	BS	S
SNMX14..AN..	1,0	14,0	1,5	6,59	0.039	0.551	0.059	0.259
SNMX14..ZN..	1,0	14,0	1,5	6,59	0.039	0.551	0.059	0.259
SNMX22..AN..	2,0	22,0	1,5	8,81	0.079	0.866	0.059	0.347
SNMX22..ZN..	2,0	22,0	1,5	8,79	0.079	0.866	0.059	0.346



ME12/M12/M18



Designation	Cutting rake	Grades																					
		Coated																Uncoated			Cermet		
		MP1500	MP2050	MP2500	MP3000	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F25M	F30M	F40M	HX	H15	H25	MP1020		
SNMX1407ANTR-M10	20,0 °	■	■	■	■		■	■	■	■	■		■				■						
SNMX1407ANTR-M16	20,0 °	■		■	■		■	■	■		■		■				■						
SNMX1407ZNTR-M10	20,0 °	■	■	■	■		■	■	■	■	■		■				■						
SNMX1407ZNTR-M16	20,0 °	■		■	■		■	■	■		■		■				■						
SNMX2209ANTR-M12	20,0 °		■	■					■	■	■		■				■						
SNMX2209ANTR-M18	25,0 °	■		■				■	■		■		■										
SNMX2209ANR-ME12	20,0 °		■							■							■						
SNMX2209ZNTR-M12	20,0 °		■	■					■	■							■						
SNMX2209ZNTR-M18	25,0 °	■		■				■	■		■		■										
SNMX2209ZNR-ME12	20,0 °		■							■							■						

Ordering and Product No.	Designation
02789590	ONEU050410ZZTN4-M10, F40M
02793095	ONEU050410ZZTN4-M10, MK1500
02828069	ONEU050410ZZTN4-M10, MK2050
02793092	ONEU050410ZZTN4-M10, MP2500
02793093	ONEU050410ZZTN4-M10, MP3000
03001977	ONEU090520ZZTN4-M12, MK2050
03001975	ONEU090520ZZTN4-M12, MP1500
03001976	ONEU090520ZZTN4-M12, MP2500
02747830	ONEU090520ZZTN4-M14, F40M
02747780	ONEU090520ZZTN4-M14, MK1500
02827996	ONEU090520ZZTN4-M14, MK2050
02747825	ONEU090520ZZTN4-M14, MP1500
02747826	ONEU090520ZZTN4-M14, MP2500
02747829	ONEU090520ZZTN4-M14, MP3000
02747831	ONEU090520ZZTN4-M14, T350M
02789512	ONMU050410ANTN-M10, F40M
02789579	ONMU050410ANTN-M10, MK1500
02828068	ONMU050410ANTN-M10, MK2050
02789578	ONMU050410ANTN-M10, MM4500
02789575	ONMU050410ANTN-M10, MP1500
03113825	ONMU050410ANTN-M10, MP2050
02789576	ONMU050410ANTN-M10, MP2500
02789577	ONMU050410ANTN-M10, MP3000
02831902	ONMU050410ANTN-M10, T350M
02789581	ONMU050410ANTN-M11, F40M
02789587	ONMU050410ANTN-M11, MK1500
02828067	ONMU050410ANTN-M11, MK2050
02789586	ONMU050410ANTN-M11, MM4500
02789583	ONMU050410ANTN-M11, MP1500
03113826	ONMU050410ANTN-M11, MP2050
02789584	ONMU050410ANTN-M11, MP2500
02789585	ONMU050410ANTN-M11, MP3000
02831903	ONMU050410ANTN-M11, T350M
02809856	ONMU050410ANTN-ME10, F40M
02809862	ONMU050410ANTN-ME10, MK1500
02809861	ONMU050410ANTN-ME10, MM4500
02809859	ONMU050410ANTN-ME10, MP2500
02809860	ONMU050410ANTN-ME10, MP3000
02899497	ONMU050410ANTN-ME10, MS2050
02809863	ONMU050410ANTN-ME11, F40M
02809869	ONMU050410ANTN-ME11, MK1500
02809868	ONMU050410ANTN-ME11, MM4500
02809865	ONMU050410ANTN-ME11, MP1500
02809866	ONMU050410ANTN-ME11, MP2500
02809867	ONMU050410ANTN-ME11, MP3000
02899498	ONMU050410ANTN-ME11, MS2050
03131709	ONMU090510ANTN-M12, F40M
03131708	ONMU090510ANTN-M12, MK2050
03131707	ONMU090510ANTN-M12, MP2050
03131710	ONMU090510ANTN-M12, MS2050
03139477	ONMU090510ANTN-M12, MS2500
03131706	ONMU090510ANTN-M12, T350M
02747692	ONMU090520ANTN-M12, F40M
02747671	ONMU090520ANTN-M12, MK1500
02827995	ONMU090520ANTN-M12, MK2050
02747686	ONMU090520ANTN-M12, MM4500
02747682	ONMU090520ANTN-M12, MP1500
03119420	ONMU090520ANTN-M12, MP2050
02747685	ONMU090520ANTN-M12, MP2500
02762063	ONMU090520ANTN-M12, MS2500
02747694	ONMU090520ANTN-M12, T350M
02688972	ONMU090520ANTN-M13, F40M
02688964	ONMU090520ANTN-M13, MK1500
02827994	ONMU090520ANTN-M13, MK2050
02747776	ONMU090520ANTN-M13, MM4500
02694075	ONMU090520ANTN-M13, MP1500
03113824	ONMU090520ANTN-M13, MP2050
02688969	ONMU090520ANTN-M13, MP2500
02688970	ONMU090520ANTN-M13, MP3000
02860020	ONMU090520ANTN-M13, MS2500
02694843	ONMU090520ANTN-M13, T350M
02688961	ONMU090520ANTN-M14, F40M
02688949	ONMU090520ANTN-M14, MK1500
02827993	ONMU090520ANTN-M14, MK2050

Ordering and Product No.	Designation
02694074	ONMU090520ANTN-M14, MP1500
02688956	ONMU090520ANTN-M14, MP2500
02688959	ONMU090520ANTN-M14, MP3000
02694844	ONMU090520ANTN-M14, T350M
02688948	ONMU090520ANTN-M15, F40M
02688942	ONMU090520ANTN-M15, MK1500
02827992	ONMU090520ANTN-M15, MK2050
02694072	ONMU090520ANTN-M15, MP1500
02688946	ONMU090520ANTN-M15, MP2500
02688947	ONMU090520ANTN-M15, MP3000
02694845	ONMU090520ANTN-M15, T350M
02688978	ONMU090520ANTN-MD16, MK1500
02694076	ONMU090520ANTN-MD16, MP1500
02688982	ONMU090520ANTN-MD16, MP2500
02694846	ONMU090520ANTN-MD16, T350M
02688995	ONMU090520ANTN-MD17, MK1500
02694077	ONMU090520ANTN-MD17, MP1500
02689000	ONMU090520ANTN-MD17, MP2500
02747746	ONMU090520ANTN-ME12, F40M
02747703	ONMU090520ANTN-ME12, MK1500
02747741	ONMU090520ANTN-ME12, MM4500
02747738	ONMU090520ANTN-ME12, MP1500
02747740	ONMU090520ANTN-ME12, MP2500
02747743	ONMU090520ANTN-ME12, MP3000
02899499	ONMU090520ANTN-ME12, MS2050
02860019	ONMU090520ANTN-ME12, MS2500
02747748	ONMU090520ANTN-ME12, T350M
02722345	ONMU090520ANTN-ME13, F40M
02722346	ONMU090520ANTN-ME13, MK1500
02827991	ONMU090520ANTN-ME13, MK2050
02747759	ONMU090520ANTN-ME13, MM4500
02722349	ONMU090520ANTN-ME13, MP1500
02722350	ONMU090520ANTN-ME13, MP2500
02722351	ONMU090520ANTN-ME13, MP3000
02899500	ONMU090520ANTN-ME13, MS2050
02860048	ONMU090520ANTN-ME13, MS2500
02722352	ONMU090520ANTN-ME13, T350M
03091459	SNMU120410TN-M10, MP2500
03091456	SNMU120410TN-M10, MK1500
03091460	SNMU120410TN-M10, MS2500
03091461	SNMU120410TN-M10, F40M
03091457	SNMU120410TN-M10, MK2050
03091458	SNMU120410TN-M10, MP1500
03091466	SNMU120410TN-MD13, MS2500
03091464	SNMU120410TN-MD13, MP1500
03091467	SNMU120410TN-MD13, F40M
03091465	SNMU120410TN-MD13, MP2500
03091462	SNMU120410TN-MD13, MK1500
03091463	SNMU120410TN-MD13, MK2050
03091468	SNMU160612TN-M10, MK1500
03091470	SNMU160612TN-M10, MP1500
03091473	SNMU160612TN-M10, F40M
03091469	SNMU160612TN-M10, MK2050
03091471	SNMU160612TN-M10, MP2500
03091472	SNMU160612TN-M10, MS2500
03091479	SNMU160612TN-MD16, F40M
03091475	SNMU160612TN-MD16, MK2050
03091476	SNMU160612TN-MD16, MP1500
03091478	SNMU160612TN-MD16, MS2500
03091477	SNMU160612TN-MD16, MP2500
03091474	SNMU160612TN-MD16, MK1500
03122640	SNMU120408TN-M10, MP1500
03122639	SNMU120408TN-M10, MK2050
03122641	SNMU120408TN-M10, MP2500
03122638	SNMU120408TN-M10, MK1500
03122642	SNMU120408TN-MD13, MK1500
03122645	SNMU120408TN-MD13, MP2500
03122644	SNMU120408TN-MD13, MP1500
03122643	SNMU120408TN-MD13, MK2050
03122649	SNMU160610TN-M10, MP2500
03122647	SNMU160610TN-M10, MK2050
03122648	SNMU160610TN-M10, MP1500
03122646	SNMU160610TN-M10, MK1500

Ordering and Product No.	Designation
03122651	SNMU160610TN-MD16, MK2050
03122650	SNMU160610TN-MD16, MK1500
03122653	SNMU160610TN-MD16, MP2500
03122652	SNMU160610TN-MD16, MP1500
03166962	SNMX2209ANTR-M12, MK2050
03166961	SNMX2209ANTR-M12, MP2500
03166964	SNMX2209ANTR-M12, MS2500
03166966	SNMX2209ANTR-M12, F40M
03166963	SNMX2209ANTR-M12, MS2050
03166805	SNMX2209ANTR-M12, MP2050
03166965	SNMX2209ANTR-M12, T350M
03166971	SNMX2209ANTR-M18, MK2050
03166972	SNMX2209ANTR-M18, MS2500
03166807	SNMX2209ANTR-M18, MP1500
03166969	SNMX2209ANTR-M18, MP2500
03166973	SNMX2209ANTR-M18, T350M
03166970	SNMX2209ANTR-M18, MK1500
03166806	SNMX2209ANR-ME12, MP2050
03166967	SNMX2209ANR-ME12, MS2050
03166968	SNMX2209ANR-ME12, F40M
03166974	SNMX2209ZNTR-M12, MP2500
03166977	SNMX2209ZNTR-M12, F40M
03166808	SNMX2209ZNTR-M12, MP2050
03166976	SNMX2209ZNTR-M12, MS2050
03166975	SNMX2209ZNTR-M12, MK2050
03166982	SNMX2209ZNTR-M18, MK2050
03166984	SNMX2209ZNTR-M18, T350M
03166983	SNMX2209ZNTR-M18, MS2500
03166810	SNMX2209ZNTR-M18, MP1500
03166981	SNMX2209ZNTR-M18, MK1500
03166980	SNMX2209ZNTR-M18, MP2500
03166978	SNMX2209ZNR-ME12, MS2050
03166809	SNMX2209ZNR-ME12, MP2050
03166979	SNMX2209ZNR-ME12, F40M
03213556	SNMX1407ANTR-M10, MS2050
03213558	SNMX1407ANTR-M10, T350M
03213549	SNMX1407ANTR-M10, MP2050
03213554	SNMX1407ANTR-M10, MK1500
03213555	SNMX1407ANTR-M10, MK2050
03213551	SNMX1407ANTR-M10, MP2500
03213552	SNMX1407ANTR-M10, MP3000
03213548	SNMX1407ANTR-M10, MP1500
03213557	SNMX1407ANTR-M10, MS2500
03213570	SNMX1407ANTR-M10, F40M
03213553	SNMX1407ANTR-M10, MM4500
03213564	SNMX1407ANTR-M16, MK2050
03213560	SNMX1407ANTR-M16, MP2500
03213563	SNMX1407ANTR-M16, MK1500
03213566	SNMX1407ANTR-M16, MS2500
03213567	SNMX1407ANTR-M16, T350M
03213561	SNMX1407ANTR-M16, MP3000
03213568	SNMX1407ANTR-M16, F40M
03213562	SNMX1407ANTR-M16, MM4500
03213559	SNMX1407ANTR-M16, MP1500
03241858	SNMX1407ZNTR-M10, MP1500
03241866	SNMX1407ZNTR-M10, MS2500
03241868	SNMX1407ZNTR-M10, F40M
03241862	SNMX1407ZNTR-M10, MM4500
03241865	SNMX1407ZNTR-M10, MS2050
03241863	SNMX1407ZNTR-M10, MK1500
03241867	SNMX1407ZNTR-M10, T350M
03241864	SNMX1407ZNTR-M10, MK2050
03241859	SNMX1407ZNTR-M10, MP2050
03241860	SNMX1407ZNTR-M10, MP2500
03241861	SNMX1407ZNTR-M10, MP3000
03241877	SNMX1407ZNTR-M16, F40M
03241875	SNMX1407ZNTR-M16, MS2500
03241871	SNMX1407ZNTR-M16, MP3000
03241874	SNMX1407ZNTR-M16, MK2050
03241872	SNMX1407ZNTR-M16, MM4500
03241870	SNMX1407ZNTR-M16, MP2500
03241873	SNMX1407ZNTR-M16, MK1500
03241876	SNMX1407ZNTR-M16, T350M
03241869	SNMX1407ZNTR-M16, MP1500

Ordering and Product No.	Designation
02731384	SNHX1106TN8-M11, F40M
02731368	SNHX1106TN8-M11, T350M
02793490	SNHX1106TN8-M11, MP2500
02823483	SNHX1406TN8-M12, F40M
02823484	SNHX1406TN8-M12, T350M
03167808	SNHX1406TN8-M12, MP2500
03213545	SNHX1407ANR-ME10, H25
03213542	SNHX1407ANR-ME10, MP2050
03213544	SNHX1407ANR-ME10, MS2050
03213543	SNHX1407ANR-ME10, MM4500
03213546	SNHX1407ANR-ME10, T350M
03213547	SNHX1407ANR-ME10, F40M
03241857	SNHX1407ZNR-ME10, F40M
03241856	SNHX1407ZNR-ME10, T350M
03241855	SNHX1407ZNR-ME10, MS2050
03241878	SNHX1407ZNR-ME10, H25
03241854	SNHX1407ZNR-ME10, MM4500
03241853	SNHX1407ZNR-ME10, MP2050

SECO TOOLS AB
SE-737 82 FAGERSTA
SWEDEN
TEL +46 223 400 00

03271328, ST 20186675