

SQUARE 6™



SQUARE SHOULDER MILLING GETS EVEN SMALLER

SECO 

SQUARE 6™ – PRODUCTIVITY W



COMPETITIVE EDGES

This latest square-shoulder innovation is a result of our commitment to you, and a desire to engineer tooling and solutions for your bottom line. We know that square shoulder milling represents a large portion of all milling operations, and that cost reduction would have a dramatic impact on any budget. But, we're not willing to *cut corners* on productivity, just modify them for an economic advantage.

TWO SIZES

Square 6 is now available in two sizes to give you more economy across all of your square shoulder machining operations.

The NEW Square 6 -04 is the smaller diameter solution with the economy of six cutting edges while providing the highest performance in a small diameter square shoulder mill. The smallest diameter available is 0.75" going up to 2.5" diameter. Square 6 -04 now provides excellent cost savings for smaller machine sizes, capable of up to 0.157 D.O.C. More range details can be found on the technical pages.

Square 6 - 08 is the larger insert version for higher depths in more demanding applications. The smallest diameter in this range is 1.5" up to 6.0". With a maximum depth of cut of 0.295", Square 6 -08 is the perfect choice for larger machines in applications requiring maximum security. Multiple grades and geometries are available to provide peak performance in a variety of workpiece materials.

SIX GREAT ANGLES...

LOWER COST PER PART

An economical tool solution that will boost your productivity and reduce your cost per part.

LOWEST COST PER EDGE

We're offering multi-edge cutters with the lowest cost per edge.

TRUE 90° WALLS

Achieved the first time in one milling operation.

A HIGH QUALITY SURFACE FINISH

Our high accuracy tools are low noise and low vibration with very tight insert tolerances (periphery ground) and pocket seats, producing a top quality surface finish.

VERSATILITY

A reliable, cost-effective, first-choice solution for general machining that can be used for several different operations, including face milling.

A SOLUTIONS PROVIDER

You want more than just a tool supplier. You want an informed business partner with first-class products and service, and genuine process know-how. Seco is a partner offering effective business solutions that will enhance your productivity.

WITH THE ECONOMIC ADVANTAGE

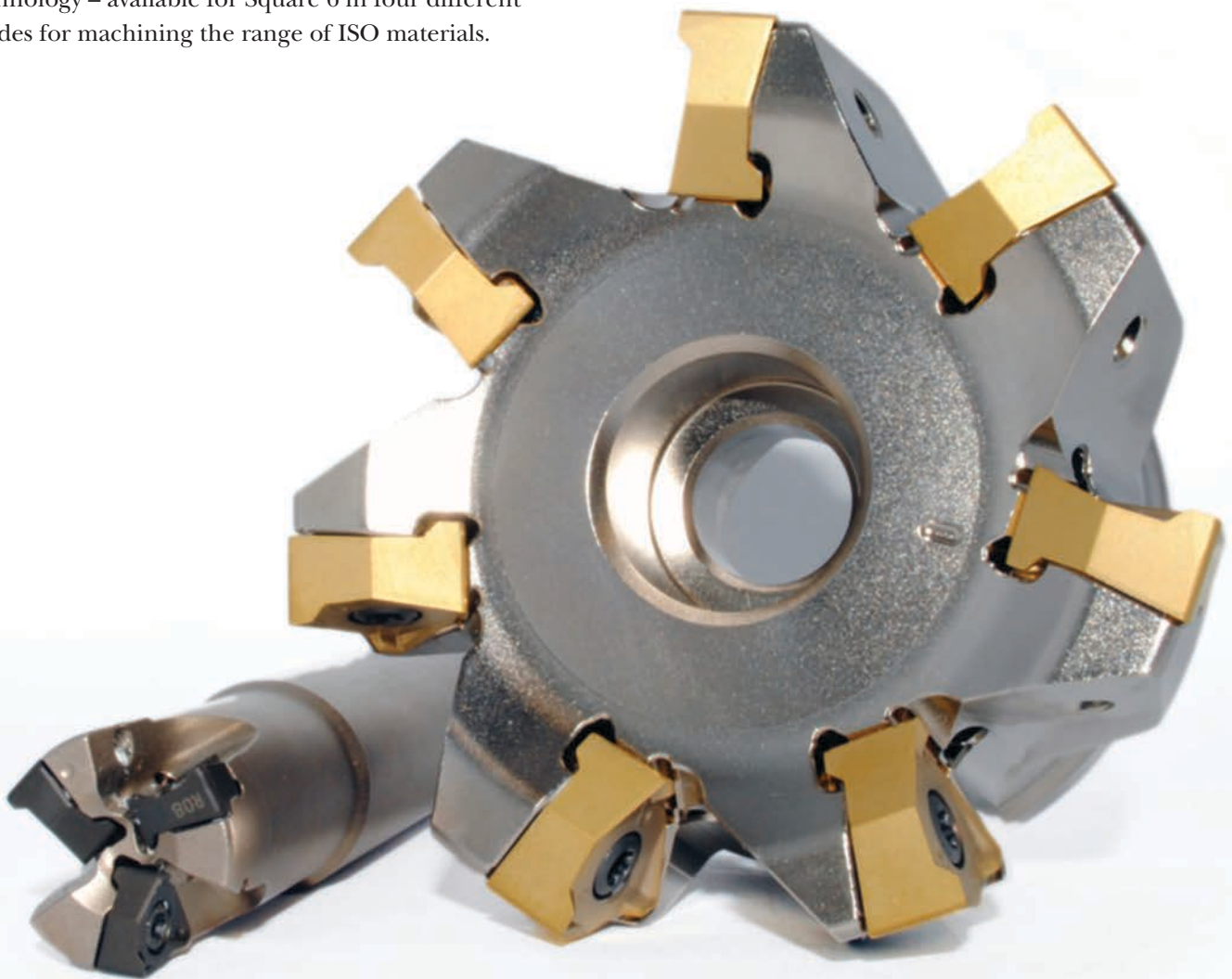
SECO R&D: UNDERSTANDING MARKET DEMANDS

We have designed Square 6 to provide added economy as a unique square shoulder milling cutter using trigonal inserts. Three cutting edges on each side, six in total – the bottom line is lower cost per cutting edge. Now with two different cutter family sizes, each having multiple options in insert geometries and pitch, Square 6 offers superior performance in a wide range of materials, operations and machining conditions.

The 90° setting angle ensures a true 90° square in one operation, saving valuable production time.

DURATOMIC™

For even greater productivity and economy, we've included our revolutionary Duratomic coating technology – available for Square 6 in four different grades for machining the range of ISO materials.



ONE TOOL FOR A BROAD

R220.96-04

HIGH PERFORMANCE INSERTS

The axial rake of the pocket seat is negative, but the positive cutting edge on the insert makes the cutting rake angle positive, so high performance is ensured. With six cutting edges, Square 6 offers the economy of low cost per cutting edge.

WIPER

For better surface finish, the inserts feature wiper flats that range in size based on insert radius.

STRONG CENTER LOCK SCREW

Strong center lock screw to hold the insert securely. The locking screw is positioned in the same direction as the cutting forces.

TRUE 90° SETTING ANGLE

Saves time and money. No mismatch when machining walls in different steps. Achieve a true 90° square shoulder on the part in one operation. Fewer tools and tool changes needed.

COATED AND PRE-HARDENED CUTTER BODY

Coated cutter bodies have a longer life. Pre-hardened cutter body and periphery ground inserts give better tolerances and increased reliability. The result is higher precision and better surface finish.

DIFFERENT PITCHES

Same diameter, different number of teeth.

- Coarse pitch = (available only for -08) for unstable conditions or weaker machines
- Normal Pitch = first choice for normal conditions
- Close pitch = for strong machines and cast iron materials, large metal removal rate. Great for side milling operations.

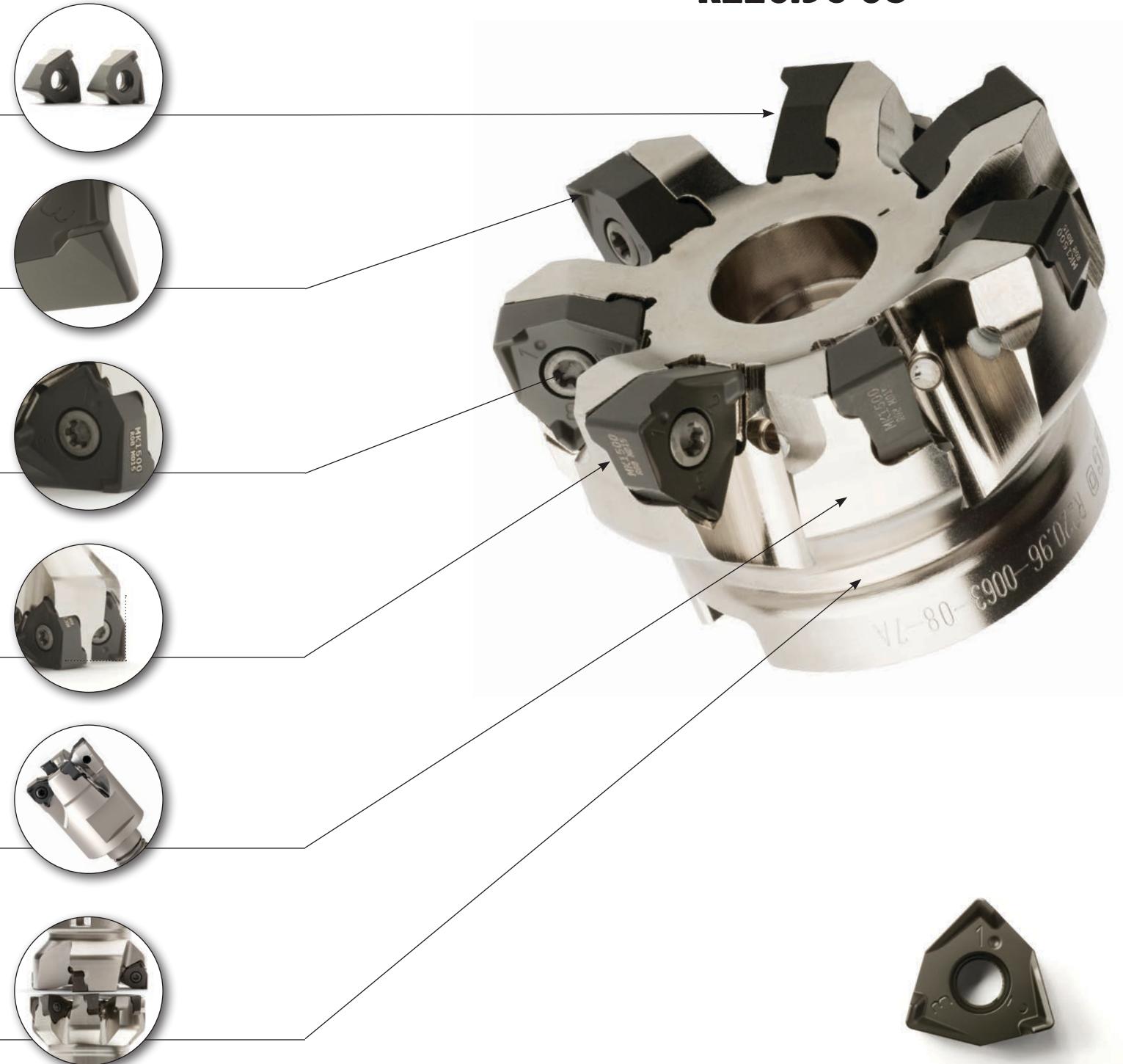


OPTIMUM INSERT GEOMETRY FOR SQUARE 6 -04

M08 is a general purpose geometry designed to work effectively in a broad range of materials eliminating the need to stock multiple types of inserts.

RANGE OF APPLICATIONS

R220.96-08



FOUR DIFFERENT INSERT GEOMETRIES INCLUDING NEW WIPER FOR SQUARE 6 -08

ME09 for stainless steel; M13 for steel and cast iron; MD15 for harder materials and higher cutting speeds; NEW M08 optimum for stainless steels and superalloys including a polished version for aluminum; NEW M11 wiper insert for when superior surface finish is needed.

THE CHOICE IS EASY

R220.96-04

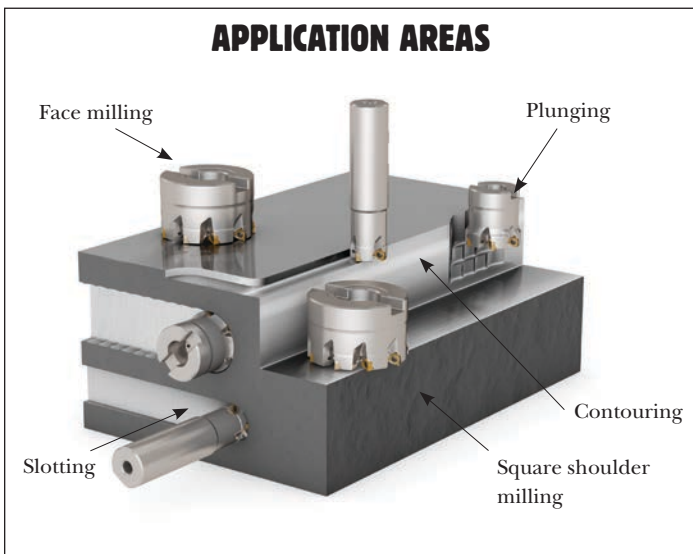
- The smaller size of insert gives the possibility to provide diameters starting from 0.75" (20mm), with a maximum diameter of 2.50" (63mm)
- It has a machining depth of cut capability of up to 0.157" (4mm)
- Available in multiple mounting configurations: shank, shell mill, and combimaster
- One optimized geometry to cover most materials
- Two different corner radii: R.016" (R0.4mm) with wider wiper flat for better surface finish and R.032" (R0.8mm) for better insert corner security
- Integrated wipers on all inserts provide a high quality surface finish
- Multiple grades available for most materials, some featuring our revolutionary Duratomic coating
- Square 6-04 is well suited for small and medium sized milling machines

Maximum plunging depth 0.157" in cast iron slotting and all other materials in open plunge areas. If slot plunging in materials other than cast, limit step over to 0.050" for good chip formation

R220.96-08

- The larger size of insert gives the possibility to provide diameters starting from 1.5" (40mm), with a maximum diameter of 6.0" (160mm)
- It has a machining depth of cut capability of up to 0.295" (7.5mm)
- Available in multiple mounting configurations: shank, shell mill, and combimaster
- Four geometries to cover all materials and machining operations
- Two different corner radii: R.031" (R0.8 mm) for normal cutting conditions and R.062" (R1.6 mm) for tougher cutting conditions
- Integrated wipers on all inserts provide a high quality surface finish
- Multiple grades available for all materials, some feature our revolutionary Duratomic coating
- Square 6-08 is well suited for most milling machines

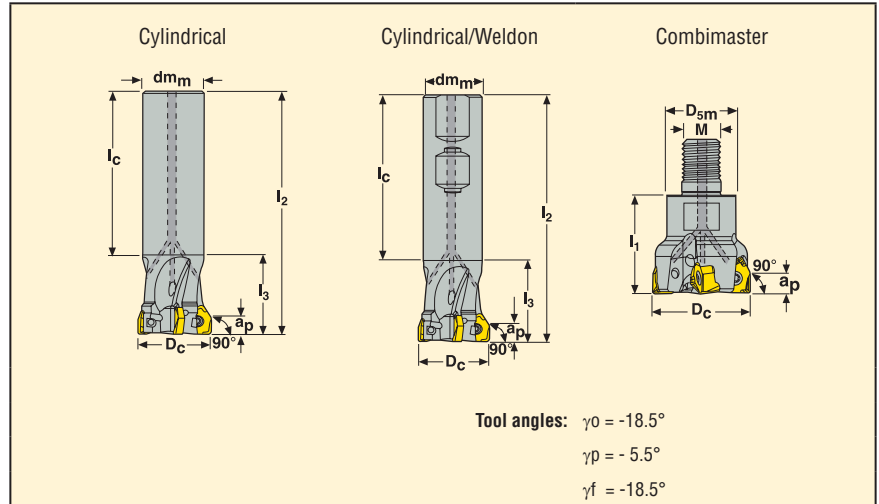
Maximum plunging depth 0.295" in cast iron slotting and all other materials in open plunge areas. If slot plunging in materials other than cast, limit step over to 0.150" for good chip formation





Square 6 – R217.96-04

For small depth of cut



- For insert selection and cutting data recommendations, see page 15.
- For insert program, see page 18.

EDP	Part No.	Dimensions in inch/mm							Flute	lbs	RPM	Type of mounting	Insert
		D _c	D _{sm} dm _m	l ₁	M l ₂	l ₃	l _c	a _p					
	Inch												
70287	R217.96-00.750-0-04-2A	0.75	0.75	–	5.91	1.38	4.52	0.157	2	0.66	29400	Cylindrical	XNEX04..
68231	R217.96-00.750-0-04-3A	0.75	0.75	–	5.91	1.38	4.52	0.157	3	0.66	29400	Cylindrical	XNEX04..
68245	R217.96-01.00-0-04-4A	1.00	1.00	–	6.69	1.57	5.11	0.157	4	1.32	26300	Cylindrical	XNEX04..
68246	R217.96-01.00-0-04-5A	1.00	1.00	–	6.69	1.57	5.11	0.157	5	1.32	26300	Cylindrical	XNEX04..
68278	R217.96-01.25-0-04-5A	1.25	1.25	–	7.68	1.58	6.10	0.157	5	2.42	23200	Cylindrical	XNEX04..
68279	R217.96-01.25-0-04-6A	1.25	1.25	–	7.68	1.58	6.10	0.157	6	2.42	23200	Cylindrical	XNEX04..
70288	R217.96-00.750-3-04-2A	0.75	0.75	–	3.39	1.18	2.20	0.157	2	0.40	29400	Cyl/Weldon	XNEX04..
68234	R217.96-00.750-3-04-3A	0.75	0.75	–	3.39	1.18	2.20	0.157	3	0.40	29400	Cyl/Weldon	XNEX04..
68247	R217.96-01.00-3-04-4A	1.00	1.00	–	3.78	1.18	2.50	0.157	4	0.72	26300	Cyl/Weldon	XNEX04..
68248	R217.96-01.00-3-04-5A	1.00	1.00	–	3.78	1.18	2.50	0.157	5	0.72	26300	Cyl/Weldon	XNEX04..
68251	R217.96-01.25-3-04-5A	1.25	1.25	–	4.00	1.24	2.76	0.157	5	1.21	23200	Cyl/Weldon	XNEX04..
68252	R217.96-01.25-3-04-6A	1.25	1.25	–	4.00	1.24	2.76	0.157	6	1.21	23200	Cyl/Weldon	XNEX04..
70286	R217.96-00.750-10RE-04-2A	0.75	0.75	1.37	M10	–	–	0.157	2	0.13	29400	Combimaster*	XNEX04..
68227	R217.96-00.750-10RE-04-3A	0.75	0.75	1.37	M10	–	–	0.157	3	0.13	29400	Combimaster*	XNEX04..
68243	R217.96-01.00-12RE-04-4A	1.00	1.00	1.57	M12	–	–	0.157	4	0.31	26300	Combimaster*	XNEX04..
68244	R217.96-01.00-12RE-04-5A	1.00	1.00	1.57	M12	–	–	0.157	5	0.31	26300	Combimaster*	XNEX04..
68249	R217.96-01.25-16RE-04-5A	1.25	1.25	1.57	M16	–	–	0.157	5	0.51	23200	Combimaster*	XNEX04..
68250	R217.96-01.25-16RE-04-6A	1.25	1.25	1.57	M16	–	–	0.157	6	0.51	23200	Combimaster*	XNEX04..
	Metric												
71736	R217.96-2020.0-04-2A	20	20	–	150	29	121	4	2	1.54	29400	Cylindrical	XNEX04..
67817	R217.96-2020.0-04-3A	20	20	–	150	29	121	4	3	1.54	29400	Cylindrical	XNEX04..
67823	R217.96-2525.0-04-4A	25	25	–	170	29	141	4	4	1.32	26300	Cylindrical	XNEX04..
67824	R217.96-2525.0-04-5A	25	25	–	170	29	141	4	5	1.32	26300	Cylindrical	XNEX04..
67829	R217.96-3232.0-04-5A	32	32	–	195	31	164	4	5	2.65	23200	Cylindrical	XNEX04..
67830	R217.96-3232.0-04-6A	32	32	–	195	31	164	4	6	2.65	23200	Cylindrical	XNEX04..
71737	R217.96-2020.3-04-2A	20	20	65	90	29	61	4	2	0.44	29400	Cyl/Weldon	XNEX04..
67819	R217.96-2020.3-04-3A	20	20	65	90	29	61	4	3	0.44	29400	Cyl/Weldon	XNEX04..
67825	R217.96-2525.3-04-4A	25	25	69	101	34	67	4	4	0.66	26300	Cyl/Weldon	XNEX04..
67826	R217.96-2525.3-04-5A	25	25	69	101	34	67	4	5	0.66	26300	Cyl/Weldon	XNEX04..
67831	R217.96-3232.3-04-5A	32	32	69	105	37	68	4	5	1.32	23200	Cyl/Weldon	XNEX04..
67832	R217.96-3232.3-04-6A	32	32	69	105	37	68	4	6	1.32	23200	Cyl/Weldon	XNEX04..
71728	R217.96-1020.RE-04-2A	20	18.3	28	M10	–	–	4	2	0.22	29400	Combimaster*	XNEX04..
67821	R217.96-1020.RE-04-3A	20	18.3	28	M10	–	–	4	3	0.22	29400	Combimaster*	XNEX04..
67827	R217.96-1225.RE-04-4A	25	23	30	M12	–	–	4	4	0.44	26300	Combimaster*	XNEX04..
67828	R217.96-1225.RE-04-5A	25	23	30	M12	–	–	4	5	0.44	26300	Combimaster*	XNEX04..
67833	R217.96-1632.RE-04-5A	32	30	40	M16	–	–	4	5	0.66	23200	Combimaster*	XNEX04..
67834	R217.96-1632.RE-04-6A	32	30	40	M16	–	–	4	6	0.66	23200	Combimaster*	XNEX04..

* For shanks and dimensions, see MN Milling.

Spare parts

	Locking screw	Key*
For cutter inch		
R217.96..	C02506-T08P	T08P-3

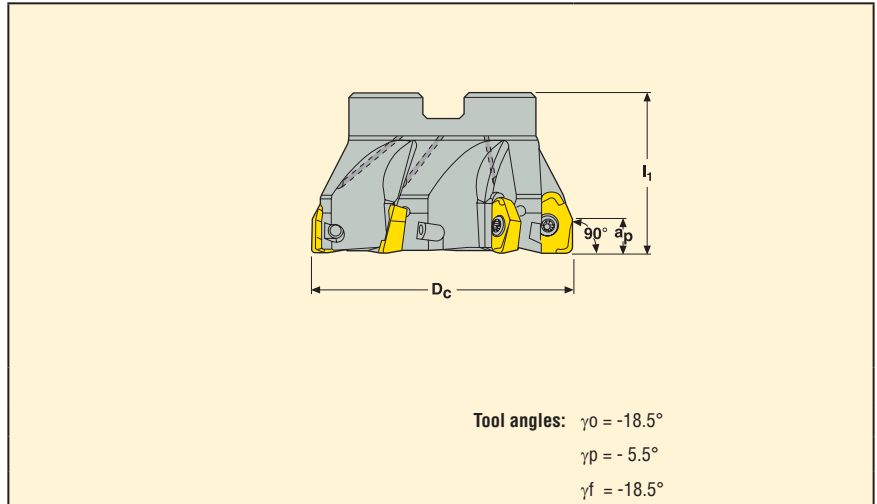
* Torque value 10.6 in/lbs (1.2 Nm). Dynamometric keys, see MN Milling.

Square 6 – R220.96-04

For small depth of cut



- For insert selection and cutting data recommendations, see page 15.
- For insert program, see page 18.



Pitch	EDP	Part No.	Dimensions in inch/mm						
			D _c	l ₁	a _p				
Normal		Inch							
	68256	R220.96-01.50-04-6A	1.50	1.57	0.157	6	0.20	20700	XNEX04..
	68260	R220.96-02.00-04-8A	2.00	1.57	0.157	8	0.42	18600	XNEX04..
	68263	R220.96-02.50-04-9A	2.50	1.57	0.157	9	0.72	16500	XNEX04..
		Metric							
	67836	R220.96-0040-04-6A	40	40	4	6	0.20	20700	XNEX04..
Close	67838	R220.96-0050-04-8A	50	40	4	8	0.40	18600	XNEX04..
	67842	R220.96-0063-04-9A	63	40	4	9	0.70	16500	XNEX04..
		Inch							
	68257	R220.96-01.50-04-7A	1.50	1.57	0.157	7	0.20	20700	XNEX04..
	68262	R220.96-02.00-04-9A	2.00	1.57	0.157	9	0.42	18600	XNEX04..
	68264	R220.96-02.50-04-10A	2.50	1.57	0.157	10	0.72	16500	XNEX04..
		Metric							
	67835	R220.96-0040-04-7A	40	40	4	7	0.20	20700	XNEX04..
	67837	R220.96-0050-04-9A	50	40	4	9	0.40	18600	XNEX04..
	67841	R220.96-0063-04-10A	63	40	4	10	0.70	16500	XNEX04..

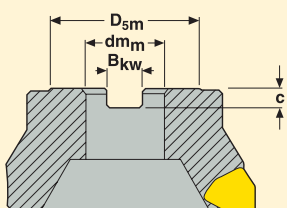
Spare parts

For cutter	Locking screw	Key*	Arbor screw
Inch			
R220.96 -01.50	C02506-T08P	T08P-3	UC6S 3/8UNFx1
R220.96 -02.00	C02506-T08P	T08P-3	UC6S 3/8UNFx1
R220.96 -02.50	C02506-T08P	T08P-3	UC6S 3/8UNFx1
Metric			
R220.96-0040	C02506-T08P	T08P-3	TCEI0825
R220.96-0050	C02506-T08P	T08P-3	220.17-692
R220.96-0063	C02506-T08P	T08P-3	-

* Torque value 10.6 in/lbs (1.2 Nm). Dynamometric keys, see MN Milling

Mounting dimensions

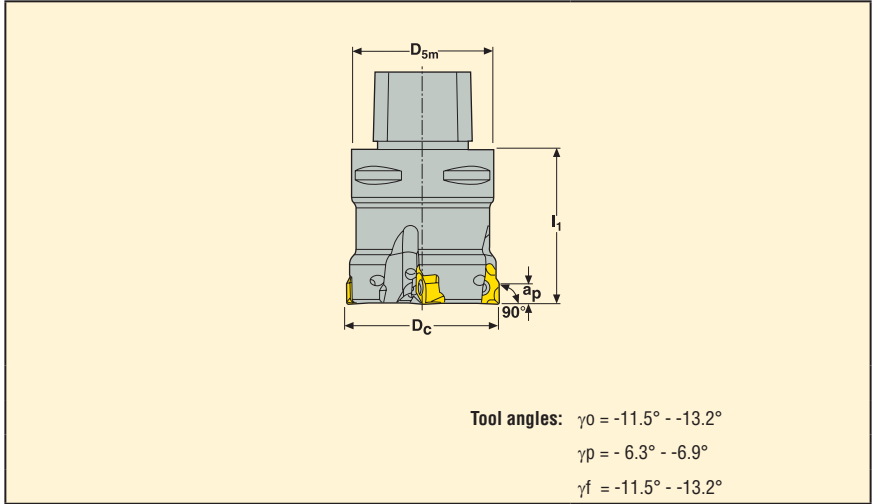
For cutter	Dimensions in inch/mm			
	dm _m	D _{sm}	B _{kw}	c
Inch				
R220.96 -01.50	0.75	1.811	.321	.193
R220.96 -02.00	0.75	1.811	.321	.193
R220.96 -02.50	0.75	1.811	.321	.193
Metric				
R220.96-0040..	16	35	8.4	5.6
R220.96-0050..	22	47	10.4	6.3
R220.96-0063..	27	52	12.4	7.0



SQUARE 6™ -08



Square 6 – R217.96-08-Seco-Capto™



- For insert selection and cutting data recommendations, see pages 16-17.
- For insert program, see page 18.

EDP	Part No.	Dimensions in mm							Type of mounting	
		D _c	D _{5m}	l ₁	a _p					
	Metric									
52717	C4-R217.96-044-08-3A	44	40	60	7,5	3	0.5	11300	Seco-Capto C4	XNEX0806..
52984	C4-R217.96-044-08-4A	44	40	60	7,5	4	0.5	11300	Seco-Capto C4	XNEX0806..
52987	C5-R217.96-054-08-4A	54	50	60	7,5	4	0.9	10200	Seco-Capto C5	XNEX0806..
53039	C5-R217.96-054-08-5A	54	50	60	7,5	5	0.9	10200	Seco-Capto C5	XNEX0806..
53053	C5-R217.96-063-08-6A	63	50	60	7,5	6	1.0	9400	Seco-Capto C5	XNEX0806..
53057	C5-R217.96-063-08-7A	63	50	60	7,5	7	1.0	9400	Seco-Capto C5	XNEX0806..
53066	C6-R217.96-080-08-9A	80	63	60	7,5	9	1.7	8400	Seco-Capto C6	XNEX0806..
53065	C6-R217.96-080-08-7A	80	63	60	7,5	7	1.7	8400	Seco-Capto C6	XNEX0806..

* For shanks and dimensions, see MN Milling.

Spare parts

	Locking screw	Key*
For cutter inch		
R217.96..	C04011-T15P	T15P-4

* Torque value 31 in/lbs (3.5 Nm). Dynamometric keys, see MN Milling.

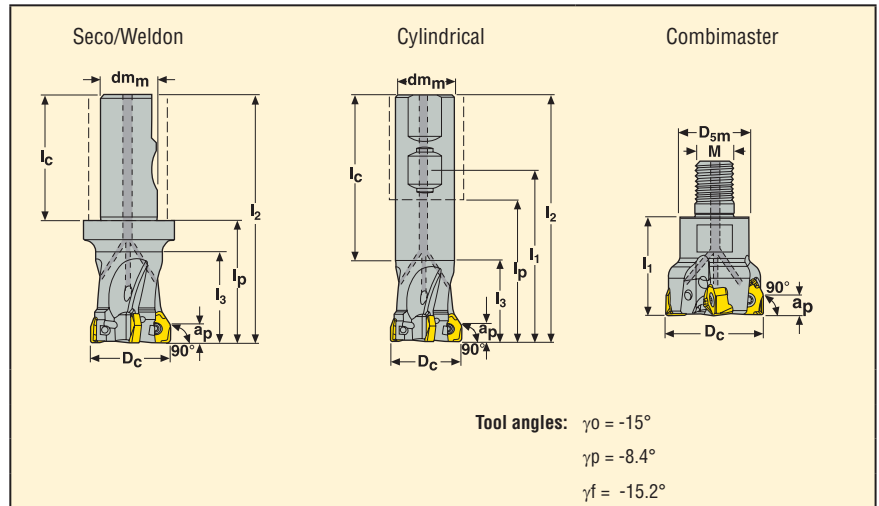
SQUARE 6™ -08



Square 6 – R217.96-08



- For insert selection and cutting data recommendations, see pages 16-17.
- For insert program, see page 18.



EDP	Part No.	Dimensions in inch/mm								Flutes	Weight (lbs)	RPM	Type of mounting	Insert
		D _c	dm _m	l ₁	l ₂	l _p	l ₃	l _c	a _p					
	Inch													
43719	R217.96-01.50-3-08-3A	1.50	1.25	–	4.5	–	1.15	3.35	.295	3	1.32	11800	Cyl/Weldon	XNEX 0806..
51594	R217.96-01.50-16RE-08-3A	1.50	1.10	1.57	–	–	–	–	.295	3	.05	11800	Combimaster	XNEX 0806..
	Metric													
39849	R217.96-3240.3S-08-3A	40	32	–	120	60	50	60	7.5	3	0.8	11800	Seco/Weldon	XNEX 0806..
39850	R217.96-3240.3S-08-4A	40	32	–	120	60	50	60	7.5	4	0.8	11800	Seco/Weldon	XNEX 0806..
39902	R217.96-3240.3-08-3A	40	32	84	120	60	35	85	7.5	3	0.6	11800	Cyl/Weldon	XNEX 0806..
39903	R217.96-3240.3-08-4A	40	32	84	120	60	35	85	7.5	4	0.6	11800	Cyl/Weldon	XNEX 0806..
51576	R217.96-1640.RE-08-3A	40	28	40	M16	–	–	–	7.5	3	0.2	11800	Combimaster	XNEX0806..
51577	R217.96-1640.RE-08-4A	40	28	40	M16	–	–	–	7.5	4	0.2	11800	Combimaster	XNEX0806..

*For Combimaster holders and adapters, see MN Milling.

Spare parts

	Locking screw	Key*
For cutter		
R217.96 -1.50..	C04011-T15P	T15P-4
R217.96 -3240..-1640..	C04011-T15P	T15P-4

*Key torque value 31 in/lbs (3.5 Nm). Dynamometric keys available, see the MN Milling.

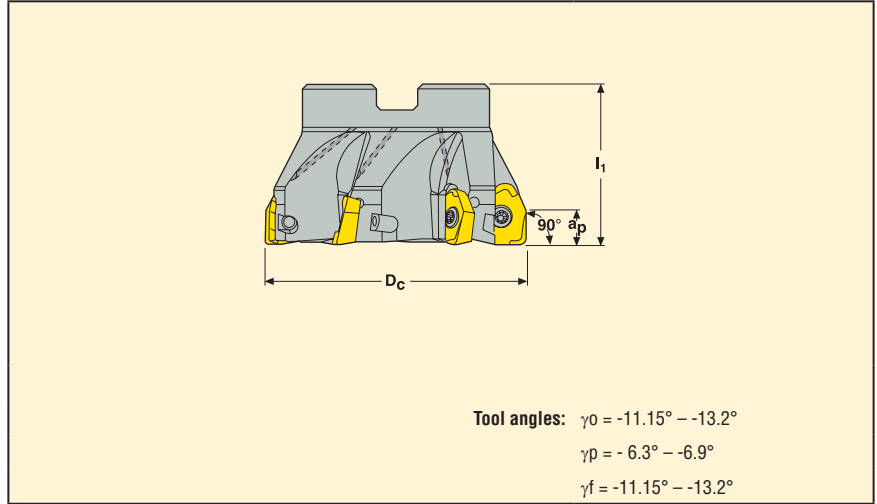
SQUARE 6™ -08



Square 6 – R220.96-08






- For insert selection and cutting data recommendations, see pages 16-17.
- For insert program, see page 18.



Pitch	EDP	Part No.	Dimensions in inch/mm						
			D _c	l ₁	a _p				
Normal		Inch							
	43721	R220.96-02.00-08-4A	2.00	1.57	.295	4	0.66	10600	XNEX 0806..
	43729	R220.96-02.50-08-6A	2.50	1.57	.295	6	0.88	9400	XNEX 0806..
	43735	R220.96-03.00-08-7A	3.00	1.97	.295	7	2.20	8400	XNEX 0806..
	43739	R220.96-04.00-08-8A	4.00	1.97	.295	8	3.31	7500	XNEX 0806..
	43745	R220.96-05.00-08-11A	5.00	2.48	.295	11	6.17	6700	XNEX 0806..
	43747	R220.96-06.00-08-12	6.00	2.48	.295	12	10.58	5900	XNEX 0806..
		Metric							
	39980	R220.96-0050-08-4A	50	40	7.5	4	0.66	10600	XNEX0806..
	39983	R220.96-0063-08-6A	63	40	7.5	6	0.88	9400	XNEX0806..
	65015	R220.96-0063-08-6A-27	63	40	7.5	6	0.88	9400	XNEX0806..
	39992	R220.96-0080-08-7A	80	50	7.5	7	2.20	8400	XNEX0806..
	39995	R220.96-0100-08-8A	100	50	7.5	8	3.31	7500	XNEX0806..
	43527	R220.96-0125-08-11A	125	63	7.5	11	6.17	6700	XNEX0806..
	43530	R220.96-8160-08-12	160	63	7.5	12	10.58	5900	XNEX0806..
Close		Inch							
	43722	R220.96-02.00-08-5A	2.00	1.57	.295	5	0.66	10600	XNEX 0806..
	43732	R220.96-02.50-08-7A	2.50	1.57	.295	7	0.88	9400	XNEX 0806..
	43737	R220.96-03.00-08-9A	3.00	1.97	.295	9	2.20	8400	XNEX 0806..
	43740	R220.96-04.00-08-11A	4.00	1.97	.295	11	3.31	7500	XNEX 0806..
	43746	R220.96-05.00-08-14A	5.00	2.48	.295	14	6.17	6700	XNEX 0806..
	43748	R220.96-06.00-08-16	6.00	2.48	.295	16	10.58	5900	XNEX 0806..
		Metric							
	39981	R220.96-0050-08-5A	50	40	7.5	5	0.66	10600	XNEX0806..
	39990	R220.96-0063-08-7A	63	40	7.5	7	0.88	9400	XNEX0806..
	65016	R220.96-0063-08-7A-27	63	40	7.5	7	0.88	9400	XNEX0806..
	39993	R220.96-0080-08-9A	80	50	7.5	9	2.20	8400	XNEX0806..
	39996	R220.96-0100-08-11A	100	50	7.5	11	3.31	7500	XNEX0806..
	43529	R220.96-0125-08-14A	125	63	7.5	14	6.17	6700	XNEX0806..
	43531	R220.96-8160-08-16	160	63	7.5	16	10.58	5900	XNEX0806..
Coarse		Inch							
	43726	R220.96-02.50-08-4A	2.50	1.57	.295	4	0.88	9400	XNEX 0806..
	43734	R220.96-03.00-08-5A	3.00	1.97	.295	5	2.20	8400	XNEX 0806..
	43738	R220.96-04.00-08-6A	4.00	1.97	.295	6	3.31	7500	XNEX 0806..
	43743	R220.96-05.00-08-7A	5.00	2.48	.295	7	6.17	6700	XNEX 0806..
		Metric							
	39982	R220.96-0063-08-4A	63	40	7.5	4	0.88	9400	XNEX0806..
	67756	R220.96-0063-08-5A-27	63	40	7.5	5	9400	XNEX0806..	
	39991	R220.96-0080-08-5A	80	50	7.5	5	2.20	8400	XNEX0806..
	39994	R220.96-0100-08-6A	100	50	7.5	6	3.31	7500	XNEX0806..
43525	R220.96-0125-08-7A	125	63	7.5	7	6.17	6700	XNEX0806..	

Spare parts

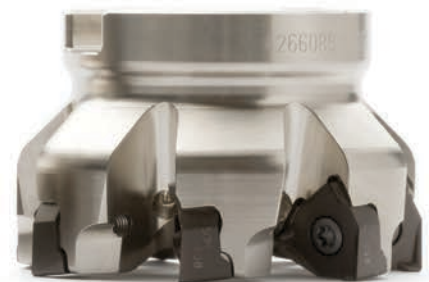
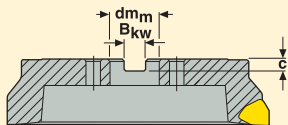
	Locking screw 	Key* 	Arbor screw 
For cutter inch/mm			
R220.96-02.00 - 2.50	C04011-T15P	T15P-4	UC6S 3/8UNFx1
R220.96-03.00	C04011-T15P	T15P-4	UC6S 1/2UNFx1 1/4
R220.96-04.00	C04011-T15P	T15P-4	UF6S 3/4UNFx1 3/4
R220.96-05.00	C04011-T15P	T15P-4	UC6S 3/4UNFx1 1/4
R220.96-06.00	C04011-T15P	T15P-4	–
R220.96-0050	C04011-T15P	T15P-4	220.17-696
R220.96-0063	C04011-T15P	T15P-4	220.17-692
R220.96-0080-8160	C04011-T15P	T15P-4	–

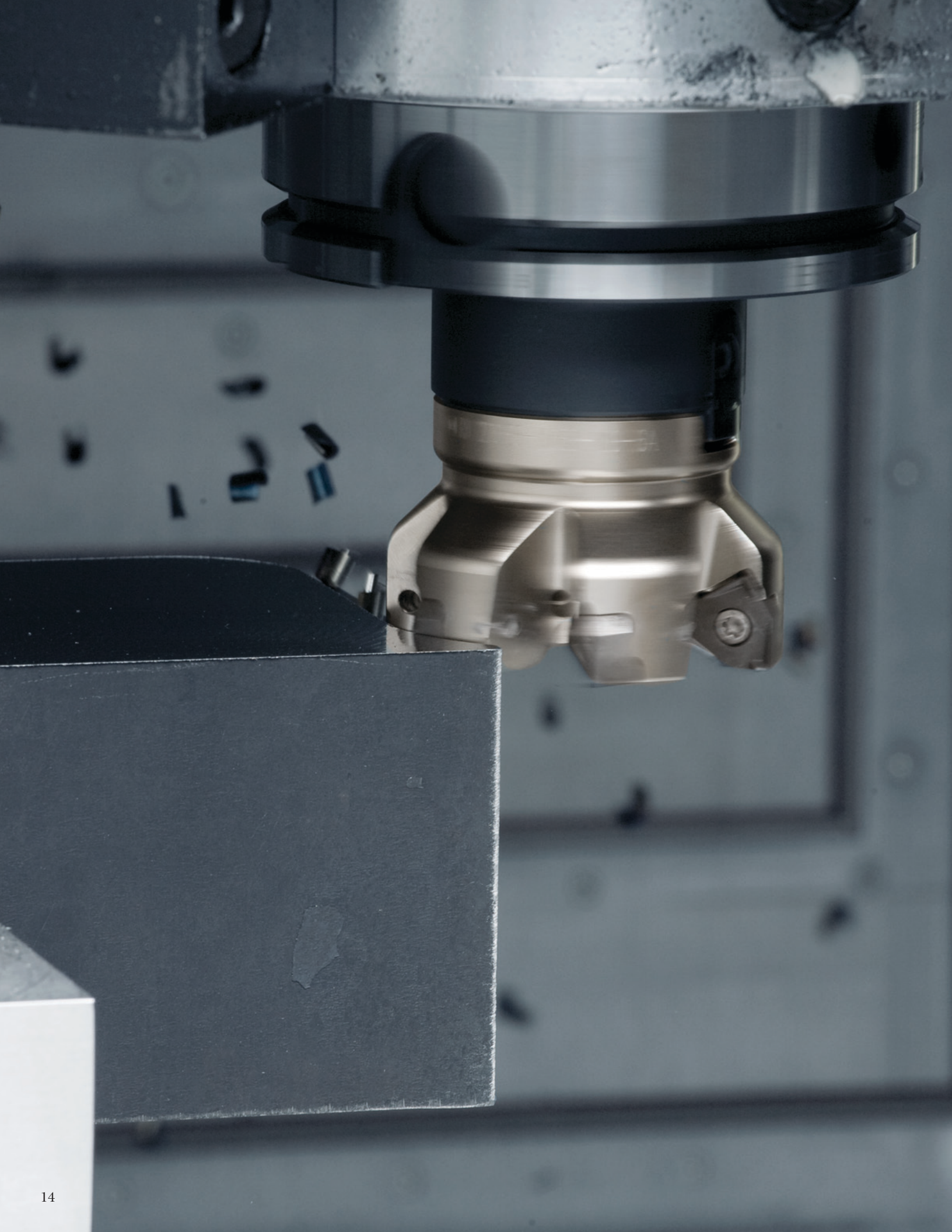
* Key torque value 31 in/lbs (3.5 Nm).

Dynamometric keys available, see the MN Milling.

Mounting dimensions

For cutter	Dimensions in inch/mm		
	dm_m	B_{kw}	c
R220.96-02.00 - 2.50	0.75	0.32	0.19
R220.96-03.00	1.00	0.38	0.22
R220.96-04.00 - 5.00	1.50	0.63	0.38
R220.96-06.00	2.00	0.76	0.44
R220.69-0050-0063	22	10.4	6.3
R220.69-0080	27	12.4	7
R220.69-0100	32	14.4	8
R220.69-0125	40	16.4	9
R220.69-8160	40	16.4	9





SQUARE 6™ -04 CUTTING DATA



Square 6 – 217/220.96-04A

Universal insert: XNEX 040304TR-M08 MP2500

Seco Material Group No.	Recommended feed fz in/tooth a _e /D _c = 100%	First choice	Difficult operations
1	.003-.006	XNEX040304TR-M08 F40M	XNEX040304TR-M08 F40M
2	.003-.006	XNEX040304TR-M08 F40M	XNEX040304TR-M08 F40M
3	.003-.005	XNEX040304TR-M08 MP2500	XNEX040304TR-M08 F40M
4	.003-.005	XNEX040304TR-M08 MP2500	XNEX040304TR-M08 F40M
5	.003-.005	XNEX040304TR-M08 MP2500	XNEX040304TR-M08 F40M
6	.003-.004	XNEX040304TR-M08 MP1500	XNEX040304TR-M08 MP2500
7	.002-.004	XNEX040304TR-M08 MP1500	XNEX040304TR-M08 MP3000
8	.003-.005	XNEX040304TR-M08 F40M	XNEX040304TR-M08 F40M
9	.003-.004	XNEX040304TR-M08 F40M	XNEX040304TR-M08 F40M
10	.003-.004	XNEX040304TR-M08 F40M	XNEX040304TR-M08 MM4500
11	.003-.004	XNEX040304TR-M08 F40M	XNEX040304TR-M08 MM4500
12	.003-.007	XNEX040304TR-M08 MK1500	XNEX040304TR-M08 MK2000
13	.003-.006	XNEX040304TR-M08 MK1500	XNEX040304TR-M08 MK2000
14	.003-.005	XNEX040304TR-M08 MK1500	XNEX040304TR-M08 MK2000
15	.003-.005	XNEX040304TR-M08 MP1500	XNEX040304TR-M08 MP1500
16	.003-.005	XNEX040304TR-M08 F40M	XNEX040304TR-M08 F40M
17	.003-.005	XNEX040304TR-M08 F40M	XNEX040304TR-M08 F40M
18	.003-.005	XNEX040304TR-M08 F40M	XNEX040304TR-M08 F40M
19	.002-.003	XNEX040304TR-M08 T350M	XNEX040304TR-M08 F40M
20	.002-.003	XNEX040304TR-M08 T350M	XNEX040304TR-M08 F40M
21	.002-.003	XNEX040304TR-M08 F40M	XNEX040304TR-M08 MP3000
22	.002-.004	XNEX040304TR-M08 F40M	XNEX040304TR-M08 F40M

Cutting data - Full engagement width (a_e/D_c = 100%)

Seco Material Group No.	Grades																							
	MP1020			MP1500			MP2500			MP3000			MM4500			MK1500			MK2000			F40M		
	Feed fz in/tooth																							
	.002	.004	.006	.002	.004	.006	.002	.004	.006	.002	.004	.006	.002	.004	.006	.002	.004	.006	.002	.004	.006	.002	.004	.006
Cutting speed, v _c (sfm)																								
1	1755	1625	1495	1985	1690	1510	1755	1495	1345	1655	1410	1265	1085	920	820	-	-	-	1720	1475	1310	1330	1130	1015
2	1495	1365	1265	1675	1425	1280	1495	1265	1130	1410	1200	1065	920	770	690	-	-	-	1460	1245	1115	1130	970	855
3	1230	1100	1050	1380	1180	1050	1230	1050	935	1165	985	885	755	640	575	-	-	-	1215	1035	920	935	785	705
4	1050	920	885	1180	1000	900	1050	885	805	985	855	755	640	540	490	-	-	-	1035	885	785	785	675	605
5	870	740	-	985	835	755	870	740	675	820	705	625	540	460	410	-	-	-	855	740	655	655	560	510
6	770	640	-	870	740	655	770	655	590	720	625	560	-	-	-	-	-	-	755	640	575	575	490	445
7	-	-	-	230	195	-	195	165	-	180	155	-	-	-	-	-	-	-	215	180	-	155	135	-
8	1065	935	-	1360	1150	1035	1065	920	820	1050	900	805	785	675	590	-	-	-	1180	1000	900	900	770	690
9	835	705	-	1065	900	820	835	720	640	835	705	640	625	525	475	-	-	-	935	785	705	720	605	540
10	690	560	-	870	740	675	690	590	525	675	575	525	510	425	375	-	-	-	755	655	575	590	490	445
11	510	380	-	640	560	-	510	445	-	510	425	-	375	310	280	-	-	-	560	475	-	425	375	-
12	-	-	-	1035	885	785	920	785	705	870	740	655	490	425	375	1295	1100	985	900	770	690	690	590	525
13	-	-	-	900	770	690	805	690	605	755	655	575	425	375	330	1130	970	870	785	675	605	605	525	460
14	-	-	-	755	655	575	675	575	510	640	540	490	360	310	280	950	820	740	675	575	510	510	445	395
15	-	-	-	625	540	475	560	475	425	525	460	410	295	260	230	785	675	605	560	475	425	425	360	330
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3445	2935	2625
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2770	2360	2115
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2115	1805	1610
19	-	-	-	-	-	-	230	195	-	215	180	-	135	115	-	-	-	-	245	215	-	195	165	-
20	-	-	-	-	-	-	195	160	-	180	150	-	110	90	-	-	-	-	195	165	-	155	130	-
21	-	-	-	-	-	-	165	140	-	155	130	-	90	80	-	-	-	-	165	150	-	130	110	-
22	-	-	-	-	-	-	257	215	-	234	202	-	150	127	-	-	-	-	267	224	-	202	182	-

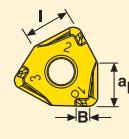
Cutting data - Side milling

Operations	a _e /D _c	Recommended feed fz in./tooth			Speed factor
Full engagement	100%	.003	.007	.012	1.00
Side milling	25%	.004	.009	.016	1.30
	10%	.006	.015	.024	1.50
	5%	.008	.020	.034	1.60
Average chip thickness h _m		.002	.004	.007	-

Choose suitable feed. Multiply speed value from basic cutting data by speed factor.

Dimensions in inch

Insert size	Max D.O.C. a _p	Wiper flat width B
040304	.157	.0315
040308	.157	.0157



SQUARE 6™ -08 CUTTING DATA



Square 6 – 217/220.96-08A

Universal insert: XNEX 080608-M13 MP2500

Seco Material Group No.	Recommended feed fz in/tooth a _e /D _c = 100%	First choice	Difficult operations
1	.004-.010	XNEX080608TR-ME09 F40M	XNEX080608TR-ME09 T350M
2	.004-.010	XNEX080608TR-ME09 F40M	XNEX080608TR-ME09 T350M
3	.004-.009	XNEX080608TR-M13 MP2500	XNEX080608TR-M13 T350M
4	.004-.008	XNEX080608TR-M13 MP2500	XNEX080608TR-M13 T350M
5	.004-.007	XNEX080608TR-M13 MP2500	XNEX080608TR-M13 T350M
6	.004-.007	XNEX080608TR-MD15 MP1500	XNEX080608TR-MD15 MP2500
7	.003-.006	XNEX080608TR-MD15 MP1500	XNEX080608TR-MD15 MP3000
8	.004-.008	XNEX080608TR-ME09 F40M	XNEX080608TR-M08 T350M
9	.004-.007	XNEX080608TR-ME09 F40M	XNEX080608TR-M08 T350M
10	.004-.007	XNEX080608TR-ME09 F40M	XNEX080608TR-M08 MM4500
11	.004-.006	XNEX080608TR-ME09 F40M	XNEX080608TR-M08 MM4500
12	.004-.012	XNEX080608TR-M13 MK1500	XNEX080608TR-MD15 MK2000
13	.004-.010	XNEX080608TR-M13 MK1500	XNEX080608TR-MD15 MK2000
14	.004-.008	XNEX080608TR-M13 MK1500	XNEX080608TR-MD15 MK2000
15	.004-.007	XNEX080608TR-M13 MP1500	XNEX080608TR-MD15 MP1500
16	.004-.008	XNEX080608TR-M08 H25	XNEX080608TR-M08 F40M
17	.004-.007	XNEX080608TR-M08 F40M	XNEX080608TR-ME09 F40M
18	.004-.007	XNEX080608TR-M08 H25	XNEX080608TR-M08 F40M
19	.003-.005	XNEX080608TR-M08 T350M	XNEX080608TR-ME09 F40M
20	.003-.005	XNEX080608TR-M08 T350M	XNEX080608TR-ME09 F40M
21	.003-.004	XNEX080608TR-M08 F40M	XNEX080608TR-ME09 MP3000
22	.003-.005	XNEX080608TR-M08 F40M	XNEX080608TR-ME09 F40M

Cutting data - Full engagement width (a_e/D_c = 100%)

Seco Material Group No.	Grades																				
	MP1020			MP1500			MP2500			MP3000			T350M			MM4500			F40M		
	Feed f _z in/tooth																				
	.002	.005	.008	.002	.005	.008	.002	.005	.008	.002	.005	.008	.002	.005	.008	.002	.005	.008	.002	.005	.008
Cutting speed, v _c (sfm)																					
1	1625	1540	1460	1835	1560	1330	1625	1380	1180	1540	1295	1115	1425	1200	1035	1000	835	720	1230	1035	900
2	1380	1300	1170	1560	1310	1130	1380	1165	1000	1310	1100	950	1200	1015	870	855	720	605	1050	885	755
3	1130	1050	970	1280	1085	935	1130	970	820	1085	900	785	1000	835	720	705	590	510	870	720	625
4	970	890	820	1100	920	805	970	820	705	920	770	675	855	720	605	590	510	425	740	625	540
5	805	720	-	920	770	655	805	690	590	770	640	560	705	590	510	490	425	360	605	525	445
6	705	620	-	805	675	575	705	605	510	675	575	490	625	525	445	-	-	-	540	460	395
7	-	-	-	215	180	-	180	150	-	180	145	-	165	145	-	-	-	-	150	125	-
8	1000	920	-	1265	1065	920	1000	835	720	985	820	705	935	785	675	720	605	525	835	705	605
9	785	700	-	985	835	720	785	655	575	770	655	560	720	625	525	575	475	410	655	560	475
10	640	560	-	805	690	590	640	540	460	625	525	460	590	510	425	475	395	345	540	460	395
11	475	390	-	605	510	-	475	395	-	460	395	-	445	375	-	345	295	245	410	345	-
12	-	-	-	950	805	690	855	720	605	805	675	590	740	625	540	460	395	330	640	540	460
13	-	-	-	835	705	605	740	625	540	705	590	510	655	540	475	410	345	295	560	475	410
14	-	-	-	705	590	510	625	525	460	590	510	425	540	460	395	345	280	245	475	395	345
15	-	-	-	590	490	425	525	445	375	490	410	360	460	375	330	280	230	195	395	330	280
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3200	2690	2315
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2575	2180	1870
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1970	1655	1425
19	-	-	-	-	-	-	215	180	-	215	180	-	195	165	-	125	105	-	180	150	-
20	-	-	-	-	-	-	180	150	-	165	140	-	155	130	-	100	85	-	140	120	-
21	-	-	-	-	-	-	150	130	-	140	120	-	135	115	-	85	70	-	120	105	-
22	-	-	-	-	-	-	234	202	-	224	192	-	215	182	-	140	117	-	192	159	-

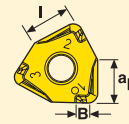
Cutting data - Side milling

Operations	a _e /D _c	Recommended feed f _z in./tooth			Speed factor
Full engagement	100%	.003	.007	.012	1.00
Side milling	25%	.004	.009	.016	1.30
	10%	.006	.015	.024	1.50
	5%	.008	.020	.034	1.60
Average chip thickness hm		.002	.004	.007	-

Choose suitable feed. Multiply speed value from basic cutting data by speed factor.

Dimensions in inch

Insert size	Max D.O.C. a _p	Wiper flat width B
080608	.295	.051
080616	.295	.020
080608ZZR	.295	.236



SQUARE 6™ -08 CUTTING DATA



Square 6 – 217/220.96-08A

Universal insert: XNEX 080608-M13 MP2500

Seco Material Group No.	Recommended feed fz in/tooth a _p /D _c = 100%	First choice	Difficult operations
1	.004-.010	XNEX080608TR-ME09 F40M	XNEX080608TR-ME09 T350M
2	.004-.010	XNEX080608TR-ME09 F40M	XNEX080608TR-ME09 T350M
3	.004-.009	XNEX080608TR-M13 MP2500	XNEX080608TR-M13 T350M
4	.004-.008	XNEX080608TR-M13 MP2500	XNEX080608TR-M13 T350M
5	.004-.007	XNEX080608TR-M13 MP2500	XNEX080608TR-M13 T350M
6	.004-.007	XNEX080608TR-MD15 MP1500	XNEX080608TR-MD15 MP2500
7	.003-.006	XNEX080608TR-MD15 MP1500	XNEX080608TR-MD15 MP3000
8	.004-.008	XNEX080608TR-ME09 F40M	XNEX080608TR-M08 T350M
9	.004-.007	XNEX080608TR-ME09 F40M	XNEX080608TR-M08 T350M
10	.004-.007	XNEX080608TR-ME09 F40M	XNEX080608TR-M08 MM4500
11	.004-.006	XNEX080608TR-ME09 F40M	XNEX080608TR-M08 MM4500
12	.004-.012	XNEX080608TR-M13 MK1500	XNEX080608TR-MD15 MK2000
13	.004-.010	XNEX080608TR-M13 MK1500	XNEX080608TR-MD15 MK2000
14	.004-.008	XNEX080608TR-M13 MK1500	XNEX080608TR-MD15 MK2000
15	.004-.007	XNEX080608TR-M13 MP1500	XNEX080608TR-MD15 MP1500
16	.004-.008	XNEX080608TR-M08 H25	XNEX080608TR-M08 F40M
17	.004-.007	XNEX080608TR-M08 F40M	XNEX080608TR-ME09 F40M
18	.004-.007	XNEX080608TR-M08 H25	XNEX080608TR-M08 F40M
19	.003-.005	XNEX080608TR-M08 T350M	XNEX080608TR-ME09 F40M
20	.003-.005	XNEX080608TR-M08 T350M	XNEX080608TR-ME09 F40M
21	.003-.004	XNEX080608TR-M08 F40M	XNEX080608TR-ME09 MP3000
22	.003-.005	XNEX080608TR-M08 F40M	XNEX080608TR-ME09 F40M

Cutting data - Full engagement width (a_p/D_c = 100%)

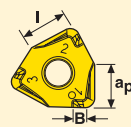
Seco Material Group No.	Grades														
	MS2500			MK1500			MK2000			MK3000			H25		
	Feed f _z in/tooth														
	.002	.005	.008	.002	.005	.008	.002	.005	.008	.002	.005	.008	.002	.005	.008
Cutting speed, v _c (sfm)															
1	1770	1495	1295	-	-	-	1610	1345	1165	1480	1240	1080	-	-	-
2	1510	1265	1100	-	-	-	1360	1150	985	1260	1060	910	-	-	-
3	1245	1050	900	-	-	-	1115	950	820	1040	860	750	-	-	-
4	1065	900	770	-	-	-	950	805	690	890	750	650	-	-	-
5	885	740	640	-	-	-	805	675	575	730	630	530	-	-	-
6	770	655	560	-	-	-	705	590	510	650	550	470	-	-	-
7	195	160	-	-	-	-	195	160	-	180	150	-	-	-	-
8	1085	920	785	-	-	-	1100	920	785	1000	850	730	-	-	-
9	855	720	625	-	-	-	870	720	625	790	670	570	-	-	-
10	690	590	510	-	-	-	705	590	510	650	550	470	-	-	-
11	510	425	-	-	-	-	525	445	-	490	410	-	-	-	-
12	920	785	675	1200	1015	870	835	705	605	770	650	550	605	510	445
13	820	690	590	1050	885	770	740	625	525	670	570	490	540	460	395
14	690	575	490	885	755	640	625	525	445	570	470	410	460	375	330
15	575	475	410	740	625	540	510	425	375	470	400	340	375	310	280
16	-	-	-	-	-	-	-	-	-	3840	3230	2780	3035	2560	2200
17	-	-	-	-	-	-	-	-	-	3090	2620	2240	2445	2065	1770
18	-	-	-	-	-	-	-	-	-	2360	1990	1710	1870	1575	1345
19	230	195	-	-	-	-	230	195	-	220	180	-	-	-	-
20	195	160	-	-	-	-	180	155	-	170	140	-	-	-	-
21	165	140	-	-	-	-	160	135	-	140	130	-	-	-	-
22	257	215	-	-	-	-	244	215	-	228	189	-	-	-	-

Cutting data - Side milling

Operations	a _p /D _c	Recommended feed f _z in./tooth			Speed factor
Full engagement	100%	.003	.007	.012	1.00
Side milling	25%	.004	.009	.016	1.30
	10%	.006	.015	.024	1.50
	5%	.008	.020	.034	1.60
Average chip thickness hm		.002	.004	.007	-

Choose suitable feed. Multiply speed value from basic cutting data by speed factor.

Dimensions in inch

	Insert size	Max D.O.C. a _p	Wiper flat width B
	080608	.295	.051
080616	.295	.020	
080608ZZR	.295	.236	

Steel, ferritic and martensitic stainless steel

ISO	SMG No.	Representative material	Description	BHN	$k_{c1.1} \times 1000$ lbf/in ²	m_c
P	1	1010	Very soft carbon steels Purely ferritic steels	<135	196	0.21
	2	1140	Free-cutting steels	120 <210	218	0.22
	3	1045	Structural steels. Ordinary carbon steels with low to medium carbon content (<0,5%C)	135 <165	218	0.25
	4	4140	Carbon steels with high carbon content (>0,5%C) Medium hard steels for toughening. Ordinary low-alloy steels Ferritic and martensitic stainless steels	165 <210	247	0.24
	5	4340	Normal tool steels Harder steels for toughening Martensitic stainless steels	210 <270	276	0.24
	6	D2	Difficult tool steels High-alloy steels with high hardness Martensitic stainless steels	270 <360	290	0.24
H	7	A128 Grade A	Difficult high-strength steels with 42 to 56 HRC hardness Hardened steels from material group 3-6 Martensitic stainless steels	>360	421	0.22

Free-cutting, austenitic and duplex stainless steel

M	8	304	Easy-cutting stainless steels Free-cutting stainless steels Calcium-treated stainless steels		254	0.22
	9	316	Moderately difficult stainless steels Austenitic and duplex stainless steels		276	0.2
	10	310	Difficult stainless steels Austenitic and duplex stainless steels		297	0.2
	11	330	Very difficult stainless steels Austenitic and duplex stainless steels		312	0.2

Cast iron

K	12	60-40-18	Medium hard cast iron Grey cast iron		167	0.22
	13	A536 80-55-06	Low-alloy cast iron Malleable cast iron Nodular cast iron		178	0.25
	14	A536 100-70-03	Moderately difficult alloy cast iron Moderately difficult malleable cast iron Nodular cast iron		196	0.28
	15	A536 120-90-02	Difficult high-alloy cast iron Difficult malleable cast iron Nodular cast iron		213	0.3

Other materials

N	16	A380	Aluminum alloys: Low Si		101	0.25
	17	B390.0	Aluminum alloys: High Si		101	0.27
	18	CA937	Copper alloys			
S	19	Disalloy	Fe-based superalloys			
	20	Stellite 21	Co-based superalloys		377	0.24
	21	Inconel 718 (bar, forge, ring)	Ni-based superalloys		479	0.24
	22	Ti 6Al-4V (annealed)	Titanium alloys		210	0.23

$k_{c1.1}$ -values with 0 degree effective cutting rake angle. For other rake angles, reduce the $k_{c1.1}$ -value by 1% for every degree increase in the cutting rake angle and vice versa. Keep in mind that the BHN-value is only an aid in the selection of the material group when the material has been worked by rolling, drawing, heat treatment or other methods that increase the strength of the material.



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