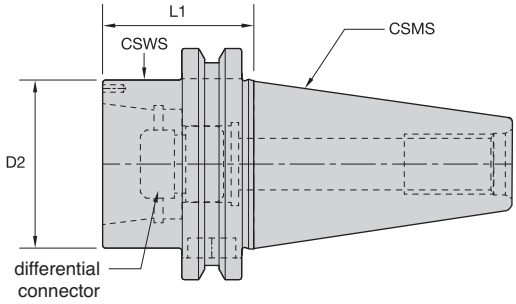
• Differential connector included.



CV to KR Adaptors AD/B

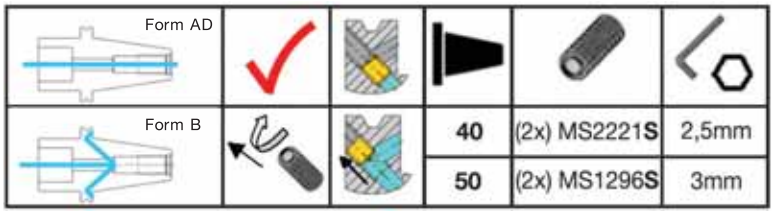
order number	catalogue number	CSMS system size	CSWS system size	D2 mm	L1 mm	differential connector	kg	reference head
3554366	CV40BKR32157	CV40	KR32	47	40	KRDCKR32M	1,08	SVS00B,0B,1B,2B,3B,SVUBB1,BB2
3554367	CV40BKR50236	CV40	KR50	65	60	KRDCKR50M	1,23	SVS4B,5B,SVU65,SVUBB2
3554368	CV50BKR32157	CV50	KR32	50	40	KRDCKR32M	3,25	SVS00B,0B,1B,2B,3B,SVUBB1,BB2
3554369	CV50BKR50157	CV50	KR50	65	40	KRDCKR50M	3,05	SVS4B,5B,SVU65,SVUBB2
3554370	CV50BKR63236	CV50	KR63	85	60	KRDCKR63M	3,50	SVS6B,7B,8B
3554371	CV50BKR80275	CV50	KR80	95	70	KRDCKR80M	4,28	SVU92,120

DV to KR DIN 69871 AD/B

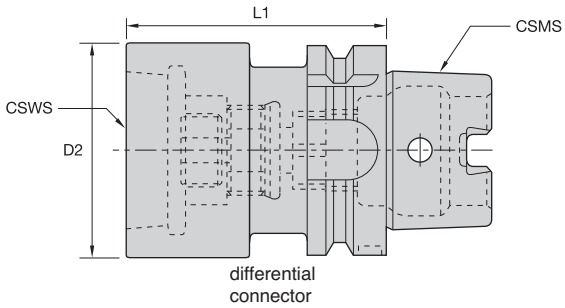
order number	catalogue number	CSMS system size	CSWS system size	D2 mm	L1 mm	differential connector	kg	reference head
1263815	DV40BKR32040M	DV40	KR32	44	40	KRDCKR32M	1,00	SVS0B, SVS2B, SVS3B
1539005	DV40BKR32041M	DV40	KR32	44	41	KRDCKR32M	1,00	SVS00B,0B,1B,2B,3B,SVUBB1,BB2
1263816	DV40BKR50060M	DV40	KR50	65	60	KRDCKR50M	1,40	SVS4B,5B,SVU65,SVUBB2
1191970	DV50BKR32040M	DV50	KR32	50	40	KRDCKR32M	2,80	SVS0B, SVS2B, SVS3B
1528328	DV50BKR32041M	DV50	KR32	50	41	KRDCKR32M	2,80	SVS00B,0B,1B,2B,3B,SVUBB1,BB2
1191971	DV50BKR50040M	DV50	KR50	65	40	KRDCKR50M	2,80	SVS4B,5B,SVU65,SVUBB2
1264135	DV50BKR63060M	DV50	KR63	85	60	KRDCKR63M	3,30	SVS6B,7B,8B
1264136	DV50BKR80070M	DV50	KR80	95	70	KRDCKR80M	4,10	SVU92,120

BT to KR JIS B6339 Adaptors AD/B

order number	catalogue number	CSMS system size	CSWS system size	D2 mm	L1 mm	differential connector	kg	reference head
3554372	BT40BKR32030M	BT40	KR32	50	30	KRDCKR32M	1,20	SVS00B,0B,1B,2B,3B,SVUBB1,BB2
3554373	BT40BKR50050M	BT40	KR50	63	50	KRDCKR50M	1,26	SVS4B,5B,SVU65,SVUBB2
3554374	BT50BKR32040M	BT50	KR32	50	40	KRDCKR32M	3,90	SVS00B,0B,1B,2B,3B,SVUBB1,BB2
3554375	BT50BKR50040M	BT50	KR50	65	40	KRDCKR50M	3,17	SVS4B,5B,SVU65,SVUBB2
3554376	BT50BKR63060M	BT50	KR63	85	60	KRDCKR63M	4,31	SVS6B,7B,8B
3554377	BT50BKR80060M	BT50	KR80	95	60	KRDCKR80M	4,53	SVU92,120



• Differential connector included.

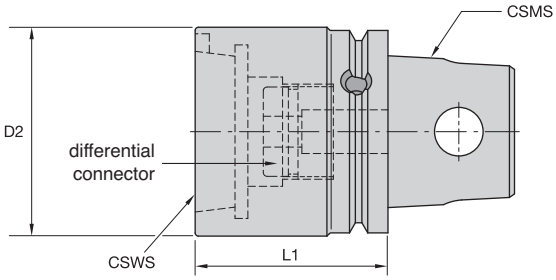


HSK Form A to KR Adaptors

order number	catalogue number	CSMS system size	CSWS system size	D2 mm	L1 mm	differential connector	kg	reference head
1153403	**HSK63AKR32075M**	HSK63A	KR32	50	75	**KRDCKR32M**	1,20	SVS00B,0B,1B,2B,3B,SVUBB1,BB2
1153604	**HSK63AKR50080M**	HSK63A	KR50	65	80	**KRDCKR50M**	1,60	SVS4B,5B,SVU65,SVUBB2
1153606	**HSK100AKR32075M**	HSK100A	KR32	50	75	**KRDCKR32M**	2,20	SVS00B,0B,1B,2B,3B,SVUBB1,BB2
1107188	**HSK100AKR50085M**	HSK100A	KR50	65	85	**KRDCKR50M**	3,10	SVS4B,5B,SVU65,SVUBB2
1173988	**HSK100AKR63100M**	HSK100A	KR63	95	90	**KRDCKR63M**	4,40	SVS6B,7B,8B
1153612	**HSK100AKR80090M**	HSK100A	KR80	50	75	**KRDCKR80M**	2,60	SVU92,120

NOTE: Plug may need to be removed to access the differential screw drive through the HSK taper.

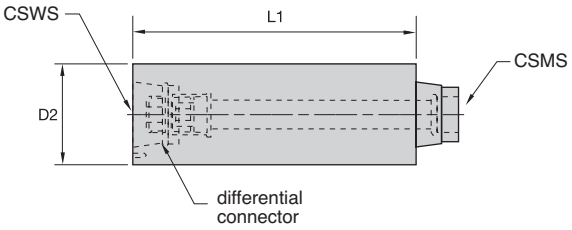
• Differential connector included.



KM63XMZ to KR Adaptors

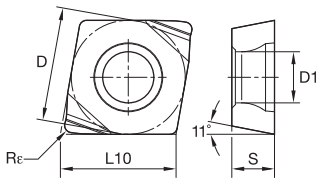
order number	catalogue number	CSMS system size	CSWS system size	D2 mm	L1 mm	differential connector	kg	reference head size
1831590	**KM63XMZKR5060Y**	KM63XMZ	KR50	65	60	**KRDCKR50M**	1,40	SVS4B,5B,SVU65,SVUBB2

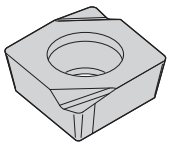
• Differential connector included.



Length Extenders and Spare Differential Connectors

order number	catalogue number	CSWS system size	CSMS system size	D2 mm	L1 mm	kg	reference head
1279772	KR32KR32038050M	KR32	KR32	38	50	0,45	SVS00B,1B
1192275	KR32KR32038100M	KR32	KR32	38	100	0,82	SVS00B,1B
1279775	KR32KR32047050M	KR32	KR32	47	50	0,69	SVS0B,2B,3B,SVUBB1
1192276	KR32KR32047100M	KR32	KR32	47	100	1,28	SVS0B,2B,3B,SVUBB1
1279783	KR50KR50056050M	KR50	KR50	56	50	0,82	SVS4B, SVS5B, SVU65, SVUBB2
1279785	KR50KR50065050M	KR50	KR50	65	50	1,16	SVS4B,5B,SVU65,SVUBB2
1192280	KR50KR50065100M	KR50	KR50	65	100	2,25	SVS4B,5B,SVU65,SVUBB2
1279791	KR63KR63085050M	KR63	KR63	85	50	2,00	SVS6B,7B,8B
1279792	KR63KR63085100M	KR63	KR63	85	100	4,02	SVS6B,7B,8B
1279797	KR80KR80095050M	KR80	KR80	95	50	2,50	SVU92,120
1279798	KR80KR80095100M	KR80	KR80	95	100	5,00	SVU92,120





● first choice
○ alternate choice

P	
M	
K	
N	●
S	
H	

CPGT - FWL20

ISO catalogue number	ANSI catalogue number	D mm	D1 mm	L10 mm	S mm	Rε mm	KC5410
CPGT060204FWL20	CPGT2151FWL20	6,35	2,85	6,45	2,38	0,40	●

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Material Group		Condition	Geometry -LF	Geometry -UF	Geometry -FP	Geometry -FW	Cutting Speed m/min min	Cutting Speed m/min Starting Value	Cutting Speed m/min max	Feed Rate mm/r -LF	Feed Rate mm/r -UF	Feed Rate mm/r -FP	Feed Rate mm/r -FW
P	1		KCP05			–	180	**435**	495	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
			–	–	KTP10	–	180	**435**	495	–	–	0,06 - 0,25	–
			KT315	–	–	KT315	180	**400**	495	0,06 - 0,25	–	–	0,08 - 0,30
			KCP10			–	180	**395**	465	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
			KC9110		–	–	180	**395**	495	0,06 - 0,25	0,04 - 0,16	–	–
			KCP25				140	**280**	360	0,06 - 0,10	0,04 - 0,08	0,06 - 0,12	0,08 - 0,16
			KC9125		–	–	140	**280**	360	0,06 - 0,10	0,04 - 0,08	–	–
	2		KCP05			–	180	**265**	400	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	
			–	–	KTP10		180	**265**	400	–	–	0,06 - 0,25	–
			KT315	–	–	KT315	190	**270**	390	0,06 - 0,25	–	–	0,08 - 0,30
			KCP10			–	180	**240**	330	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
			KC9110		–	–	180	**240**	330	0,06 - 0,25	0,04 - 0,16	–	–
			KCP25				145	**195**	320	0,06 - 0,10	0,04 - 0,08	0,06 - 0,12	0,08 - 0,16
			KC9125		–	–	145	**195**	320	0,06 - 0,10	0,04 - 0,08	–	–
	3		KCP05			–	180	**205**	275	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
			–	–	KTP10	–	180	**205**	275	–	–	0,06 - 0,25	–
			KT315	–	–	KT315	180	**210**	275	0,06 - 0,25	–	–	0,08 - 0,30
			KCP10			–	160	**190**	250	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
			KC9110		–	–	155	**190**	240	0,06 - 0,25	0,04 - 0,16	–	–
			KCP25				135	**155**	225	0,06 - 0,10	0,04 - 0,08	0,06 - 0,12	0,08 - 0,16
			KC9125		–	–	135	**155**	225	0,06 - 0,10	0,04 - 0,08	–	–
	4		KCP05			–	90	**160**	220	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
			–	–	KTP10	–	90	**160**	220	–	–	0,06 - 0,25	–
			KT315	–	–	KT315	90	**180**	220	0,06 - 0,25	–	–	0,08 - 0,30
			KCP10			–	90	**145**	195	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
			KC9110		–	–	90	**145**	195	0,06 - 0,25	0,04 - 0,16	–	–
			KCP25				75	**105**	180	0,06 - 0,10	0,04 - 0,08	0,06 - 0,12	0,08 - 0,16
			KC9125		–	–	75	**105**	180	0,06 - 0,10	0,04 - 0,08	–	–
	5		KCP05			–	150	**240**	315	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
			–	–	KTP10	–	150	**240**	315	–	–	0,06 - 0,25	–
			KT315	–	–	KT315	150	**250**	315	0,06 - 0,25	–	–	0,08 - 0,30
			KCP10			–	150	**215**	300	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
			KC9110		–	–	150	**215**	300	0,06 - 0,25	0,04 - 0,16	–	–
			KCP25				120	**195**	255	0,06 - 0,10	0,04 - 0,08	0,06 - 0,12	0,08 - 0,16
			KC9125		–	–	120	**195**	255	0,06 - 0,10	0,04 - 0,08	–	–
	6		KCP05			–	140	**200**	300	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
			–	–	KTP10	–	140	**200**	300	–	–	0,06 - 0,25	–
			KT315	–	–	KT315	140	**200**	300	0,06 - 0,25	–	–	0,08 - 0,30
			KCP10			–	120	**180**	275	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
			KC9110		–	–	120	**180**	225	0,06 - 0,25	0,04 - 0,16	–	–
			KCP25				105	**150**	225	0,06 - 0,10	0,04 - 0,08	0,06 - 0,12	0,08 - 0,16
			KC9125		–	–	105	**150**	225	0,06 - 0,10	0,04 - 0,08	–	–

Material Group		Condition	Geometry -LF	Geometry -UF	Geometry -FP	Geometry -FW	Cutting Speed m/min min	Cutting Speed m/min Starting Value	Cutting Speed m/min max	Feed Rate mm/r -LF	Feed Rate mm/r -UF	Feed Rate mm/r -FP	Feed Rate mm/r -FW
M	1		–	–	KTP10	–	140	**230**	315	–	–	0,06 - 0,25	–
			KT315	–	–	KT315	140	**230**	315	0,06 - 0,25	–	–	0,08 - 0,30
			KC5010	–	–	KC5010	130	**215**	245	0,06 - 0,25	–	–	0,08 - 0,30
			KCM15	–	KCM15	–	105	**180**	240	0,06 - 0,12	–	0,06 - 0,12	–
			KC9225	–	–	KC9225	105	**180**	240	0,06 - 0,12	–	–	0,08 - 0,16
	2		–	–	KTP10	–	140	**215**	295	–	–	0,06 - 0,25	–
			KT315	–	–	KT315	140	**215**	295	0,06 - 0,25	–	–	0,08 - 0,30
			KC5010	–	–	KC5010	130	**200**	245	0,06 - 0,25	–	–	0,08 - 0,30
			KCM15	–	KCM15	–	105	**165**	250	0,06 - 0,12	–	0,06 - 0,12	–
			KC9225	–	–	KC9225	100	**160**	230	0,06 - 0,12	–	–	0,08 - 0,16
	3		–	–	KTP10	–	140	**200**	300	–	–	0,06 - 0,25	–
			KT315	–	–	KT315	140	**200**	300	0,06 - 0,25	–	–	0,08 - 0,30
			KC5010	–	–	KC5010	130	**185**	230	0,06 - 0,25	–	–	0,08 - 0,30
			KCM15	–	KCM15	–	115	**150**	255	0,06 - 0,12	–	0,06 - 0,12	–
			KC9225	–	–	KC9225	110	**150**	230	0,06 - 0,12	–	–	0,08 - 0,16

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Material Group		Condition	Geometry -LF	Geometry -UF	Geometry -FP	Geometry -FW	Cutting Speed m/min min	Cutting Speed m/min Starting Value	Cutting Speed m/min max	Feed Rate mm/r -LF	Feed Rate mm/r -UF	Feed Rate mm/r -FP	Feed Rate mm/r -FW
K	1		KCK20	–	KCK20		200	**300**	540	0,06 - 0,25	–	0,06 - 0,25	0,08 - 0,30
			KT315	–	–	KT315	165	**275**	490	0,06 - 0,25	–	–	0,08 - 0,30
			KC9315	–	–	–	110	**275**	450	0,06 - 0,25	–	–	–
			KC9320	–	–	–	100	**240**	400	0,06 - 0,12	–	–	–
	2		KCK20	–	KCK20		150	**240**	420	0,06 - 0,25	–	0,06 - 0,25	0,08 - 0,30
			KT315	–	–	KT315	180	**275**	360	0,06 - 0,25	–	–	0,08 - 0,30
			KC5010		–	KC5010	100	**200**	265	0,06 - 0,25	0,04 - 0,16	–	0,08 - 0,30
			KC9315	–	–	–	145	**260**	360	0,06 - 0,25	–	–	–
			KC9320	–	–	–	140	**240**	330	0,06 - 0,12	–	–	–
	3		KCK20	–	KCK20		140	**210**	350	0,06 - 0,25	–	0,06 - 0,25	0,08 - 0,30
			KT315	–	–	KT315	180	**230**	320	0,06 - 0,25	–	–	0,08 - 0,30
			KC5010		–	KC5010	120	**150**	225	0,06 - 0,25	0,04 - 0,16	–	0,08 - 0,30
			KC9315	–	–	–	145	**215**	275	0,06 - 0,25	–	–	–
			KC9320	–	–	–	140	**210**	260	0,06 - 0,12	–	–	–

Material Group		Condition	Geometry -LF	Geometry -FWL20	Geometry –	Geometry –	Cutting Speed m/min min	Cutting Speed m/min Starting Value	Cutting Speed m/min max	Feed Rate mm/r -LF	Feed Rate mm/r -FWL20	Feed Rate mm/r –	Feed Rate mm/r –
N	1		KC5410		–	–	200	**550**	1000	0,10 - 0,40	0,20 - 0,50	–	–
			KC5410	–	–	–	200	**550**	1000	0,10 - 0,20	–	–	–
			–	–	KD1400	–	450	**765**	3000	–	–	0,06 - 0,15	–
	2		–	–	KD1425	–	375	**580**	1150	–	–	0,06 - 0,25	–
			–	–	KD1400	–	400	**650**	1250	–	–	0,06 - 0,15	–
	3		KC5410		–	–	125	**275**	525	0,10 - 0,40	0,20 - 0,50	–	–
			–	–	KD1425	–	250	**500**	875	–	–	0,06 - 0,25	–
			KC5410	–	–	–	125	**275**	525	0,10 - 0,20	–	–	–
			–	–	KD1400	–	375	**520**	1000	–	–	0,06 - 0,12	–
	5		KC5410	–	–	–	125	**200**	375	0,10 - 0,40	–	–	–
			KC5410	–	–	–	125	**200**	375	0,10 - 0,20	–	–	–

Material Group		Condition	Geometry -LF	Geometry -UF	Geometry -FP	Geometry -FW	Cutting Speed m/min min	Cutting Speed m/min Starting Value	Cutting Speed m/min max	Feed Rate mm/r -LF	Feed Rate mm/r -UF	Feed Rate mm/r -FP	Feed Rate mm/r -FW
S	1		–	–	KCU10	–	30	**55**	125	–	–	0,06 - 0,25	–
			K313	–	–	–	10	**30**	60	0,06 - 0,25	–	–	–
			KC5010		–	KC5010	30	**55**	120	0,06 - 0,25	0,04 - 0,16		0,08 - 0,30
			–	–	KCU10	–	30	**55**	125	–	–	0,06 - 0,25	–
			KC5010		–	KC5010	30	**55**	120	0,06 - 0,25	0,04 - 0,16		0,08 - 0,30
			–	–	KCU25	–	10	**40**	50	–	–	0,06 - 0,12	–
			KC5025	–	–	–	10	**40**	50	0,06 - 0,10	–	–	–
	2		–	–	KCU10	–	30	**35**	125	–	–	0,06 - 0,25	–
			K313	–	–	–	10	**35**	60	0,06 - 0,25	–	–	–
			KC5010		–	KC5010	30	**60**	120	0,06 - 0,25	0,04 - 0,16		0,08 - 0,30
			–	–	KCU10	–	30	**35**	125	–	–	0,06 - 0,25	–
			KC5010		–	KC5010	30	**60**	120	0,06 - 0,25	0,04 - 0,16	–	0,08 - 0,30
			–	–	KCU25	–	10	**30**	50	–	–	0,06 - 0,12	–
			KC5025	–	–	–	10	**30**	50	0,06 - 0,10	–	–	–
	3		–	–	KCU10	–	30	**70**	125	–	–	0,06 - 0,25	–
			K313	–	–	–	10	**40**	60	0,06 - 0,25	–	–	–
			KC5010		–	KC5010	30	**70**	120	0,06 - 0,25	0,04 - 0,16		0,08 - 0,30
			–	–	KCU10	–	30	**35**	125	–	–	0,06 - 0,25	–
			KC5010		–	KC5010	30	**70**	120	0,06 - 0,25	0,04 - 0,16	–	0,08 - 0,30
			–	–	KCU25	–	25	**40**	60	–	–	0,06 - 0,12	–
			KC5025	–	–	–	25	**40**	60	0,06 - 0,10	–	–	–
	4		–	–	KCU10	–	45	**70**	140	–	–	0,06 - 0,25	–
			K313	–	–	–	15	**45**	65	0,06 - 0,25	–	–	–
			KC5010		–	KC5010	45	**70**	140	0,06 - 0,25	0,04 - 0,16		0,08 - 0,30
			–	–	KCU10	–	45	**70**	140	–	–	0,06 - 0,25	–
			KC5010		–	KC5010	45	**70**	140	0,06 - 0,25	0,04 - 0,16	–	0,08 - 0,30
			–	–	KCU25	–	25	**55**	90	–	–	0,06 - 0,12	–
			KC5025	–	–	–	15	**55**	90	0,06 - 0,10	–	–	–

Romicron Assembly Instructions

The required parts for the adaptor assembly are identified on Figures 1 and 2. The SVS model is shown. The instructions are also valid to the SVU and SVUBB models

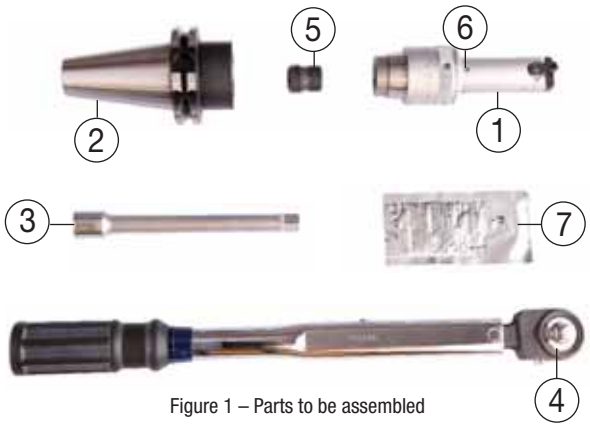


Figure 1 – Parts to be assembled

1	Boring head
2	Taper shank
3	Square extension (3/8" or 1/2")
4	Torque wrench
5	Differential connector
6	Positioning pin
7	Lubricant ASL-3G

WARNING:
Before starting the assembly procedure, ensure that all surfaces to be assembled together are free of dirt and completely clean.

Figure 2 – Assembled Tool

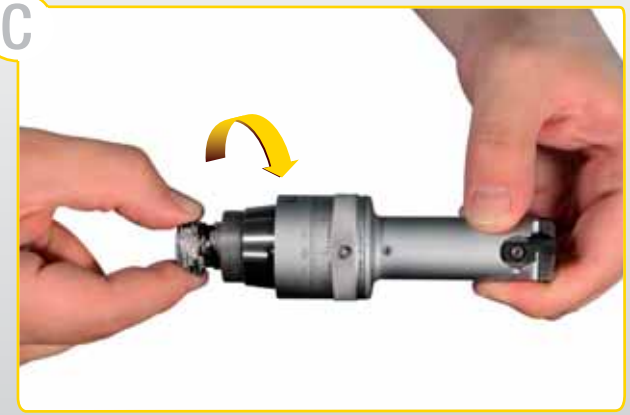
A

A. Remove the Differential Connector (5) from the Taper Shank (2).

B

B. Lubricate the thread on the Differential Connector (5) with Lubricant ASL-3G (7), supplied with the Taper Shank (2).

C



C. Screw the Differential Connector (5) into the rear thread on the Boring Head (1) until the end of the thread. At this time it is not necessary to tighten the Differential Connector (5). Remember that the Differential Connector (5) has two different screws, so there is no way to assemble the wrong side

Romicron Assembly Instructions

D

D. Screw the front end of the Taper Shank (2) onto the Differential Connector (5), now located at the back on the Boring Head (1). Screw carefully until the Positioning Pin (6) gently touches the Taper (2) face. Stop!

F

F. Insert the square end of the Extension (3) through the Taper Shank (2) and into the Differential Connector (5). Keeping the Positioning Pin (6) and the positioning slot aligned, turn the Extensions (3) counter-clockwise until you see that two Romicron faces are meshing. Ensure that the Positioning Pin (6) is inserted into the slot on the Taper Shank (2).

E

E. Unscrew the Taper Shank (2) a little bit until the Positioning Pin (6) is aligned with the positioning slot mark in the Taper Shank (2) face.

G

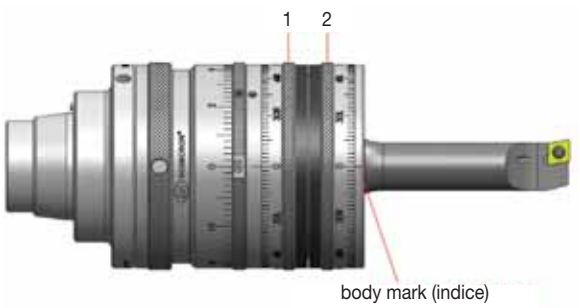
G. Tighten the Differential Connector (5) with the specified required torque, as shown on the table below. Use the Torque Wrench (4) to do this.

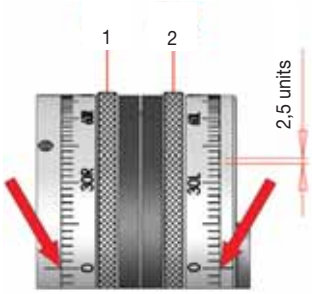
Tightening Torque Specifications

joint size	Torque Nm	drive square
KR32	30	3/8"
KR50	40	3/8"
KR63	55	1/2"
KR80	65	1/2"

Following these procedures will result in a rigid surface contact between the taper and the boring head face.

1. The balancing dials are identified on the figure below.
2. Ensure that the zero mark of dial 02 is coincident with Romicron Body Mark, and the zero mark dial 01 is coincident with the zero mark on dial 02.
3. Read the position values of the dials 01 and 02 on the table. For example, to machine a 10mm diameter, the positions are 01 = 24R and 02 = 22R.





Balancing Table • SVU-BB1 Boring Head

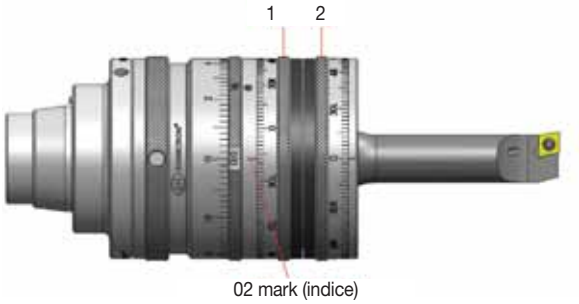
KRBB10FABDRS204C 4–6,4mm					KRBB10SCLDR4060C 6–9mm					KRBB10SCFPR06085C 8,5–11,5mm				
diameter mm	ring 1		ring 2		diameter mm	ring 1		ring 2		diameter mm	ring 1		ring 2	
4	40	L	58	L	6	34	L	66	L	8,5	34	L	66	L
4,1	42	L	58	L	6,1	36	L	66	L	8,6	36	L	68	L
4,2	42	L	54	L	6,2	36	L	64	L	8,7	36	L	64	L
4,3	44	L	54	L	6,3	38	L	62	L	8,8	38	L	62	L
4,4	44	L	50	L	6,4	38	L	62	L	8,9	36	L	60	L
4,5	46	L	50	L	6,5	40	L	60	L	9	40	L	60	L
4,6	46	L	48	L	6,6	40	L	58	L	9,1	40	L	58	L
4,7	46	L	46	L	6,7	40	L	56	L	9,2	42	L	56	L
4,8	46	L	42	L	6,8	40	L	54	L	9,3	40	L	54	L
4,9	46	L	40	L	6,9	42	L	52	L	9,4	42	L	52	L
5	22	R	20	R	7	42	L	54	L	9,5	42	L	50	L
5,1	32	R	26	R	7,1	54	R	60	R	9,6	40	L	46	L
5,2	40	R	32	R	7,2	54	R	60	R	9,7	38	L	42	L
5,3	44	R	34	R	7,3	60	R	60	R	9,8	30	L	32	L
5,4	48	R	36	R	7,4	70	R	72	R	9,9	24	R	22	R
5,5	50	R	36	R	7,5	42	R	40	R	10	24	R	22	R
5,6	52	R	34	R	7,6	48	R	44	R	10,1	26	R	22	R
5,7	54	R	34	R	7,7	50	R	42	R	10,2	44	R	38	R
5,8	56	R	32	R	7,8	50	R	42	R	10,3	48	R	38	R
5,9	58	R	32	R	7,9	52	R	40	R	10,4	52	R	38	R
6	60	R	30	R	8	54	R	40	R	10,5	52	R	38	R
6,1	62	R	30	R	8,1	54	R	38	R	10,6	56	R	36	R
6,2	64	R	28	R	8,2	56	R	38	R	10,7	56	R	36	R
6,3	66	R	28	R	8,3	58	R	36	R	10,8	58	R	34	R
6,4	68	R	24	R	8,4	58	R	34	R	10,9	58	R	32	R
–	–	–	–	–	8,5	60	R	36	R	11	62	R	32	R
–	–	–	–	–	8,6	62	R	34	R	11,1	60	R	30	R
–	–	–	–	–	8,7	62	R	32	R	11,2	62	R	28	R
–	–	–	–	–	8,8	62	R	32	R	11,3	62	R	28	R
–	–	–	–	–	8,9	66	R	28	R	11,4	68	R	26	R
–	–	–	–	–	9	66	R	28	R	11,5	68	R	26	R

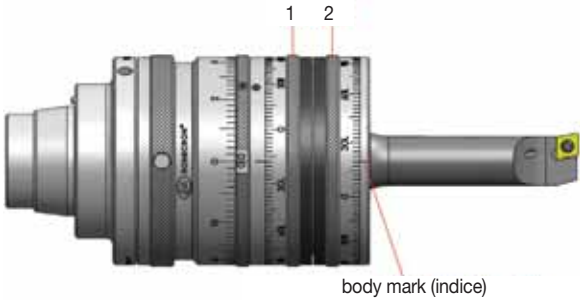
(continued)

(Balancing Table • SVU-BB1 Boring Head continued)

4. The dial 01 must be positioned first. Moving the dial, adjust the position of dial 01. Use the mark reference located on dial 02. The dial resolution is 2 units of table values.

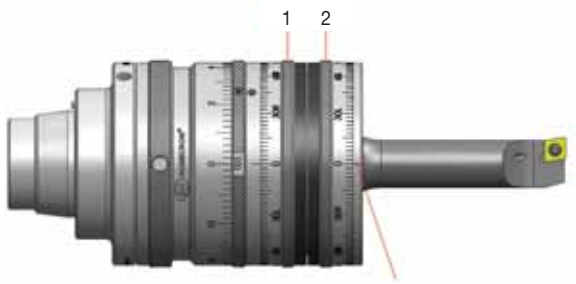
5. Now adjust the position for dial 02. Use the mark reference located on the Romicron body. After the adjustment of dial 02, the Romicron is correctly balanced.



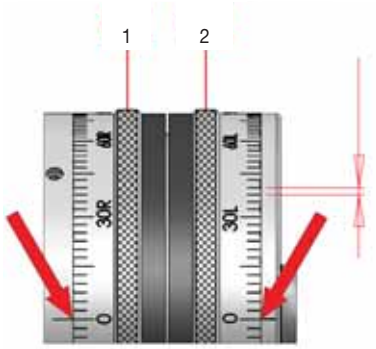


KRBB10SCFPR06110C 11–14mm					KRBB10SCFPR06135C 13,5–16,5mm				
diameter mm	ring 1		ring 2		diameter mm	ring 1		ring 2	
11	32	L	66	L	13,5	34	L	62	L
11,1	34	L	64	L	13,6	36	L	60	L
11,2	34	L	62	L	13,7	38	L	58	L
11,3	36	L	60	L	13,8	38	L	56	L
11,4	36	L	58	L	13,9	40	L	56	L
11,5	38	L	58	L	14	42	L	44	L
11,6	38	L	56	L	14,1	42	L	52	L
11,7	40	L	54	L	14,2	44	L	50	L
11,8	40	L	52	L	14,3	42	L	46	L
11,9	40	L	52	L	14,4	34	L	36	L
12	38	L	46	L	14,5	18	L	20	L
12,1	34	L	42	L	14,6	10	R	6	R
12,2	26	L	30	L	14,7	18	R	10	R
12,3	24	R	22	R	14,8	40	R	30	R
12,4	28	L	26	L	14,9	44	R	32	R
12,5	44	L	38	R	15	48	R	34	R
12,6	44	R	36	R	15,1	48	R	32	R
12,7	50	R	40	R	15,2	50	R	30	R
12,8	50	R	38	R	15,3	52	R	30	R
12,9	52	R	36	R	15,4	56	R	32	R
13	52	R	36	R	15,5	54	R	28	R
13,1	54	R	34	R	15,6	58	R	28	R
13,2	54	R	32	R	15,7	60	R	26	R
13,3	56	R	32	R	15,8	64	R	26	R
13,4	56	R	30	R	15,9	64	R	26	R
13,5	60	R	28	R	16	66	R	24	R
13,6	60	R	28	R	16,1	66	R	22	R
13,7	62	R	26	R	16,2	70	R	20	R
13,8	64	R	26	R	16,3	74	R	18	R
13,9	68	R	24	R	16,4	76	R	16	R
14	68	R	24	R	16,5	78	R	14	R

1. The balancing dials are identified on the figure below.
2. Ensure that the zero mark of dial 02 is coincident with Romicron Body Mark, and the zero mark dial 01 is coincident with the zero mark on dial 02.
3. Read the position values of the dials 01 and 02 on the table. For example, to machine a 10mm diameter, the positions are 01 = 17L and 02 = 20LR.



body mark (indice)



Balancing Table • SVU-BB2 Boring Head

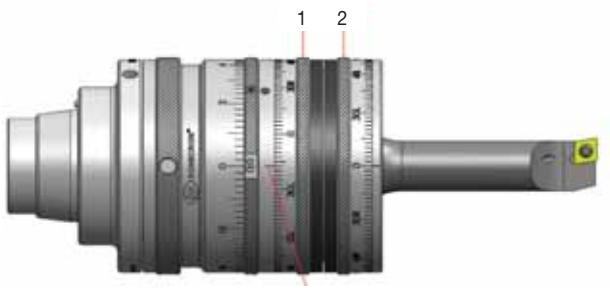
KRBB16SCLDRS406A 6–9,5mm diameter mm	ring 1		ring 2		KRBB16SCFPR06085A 8,5–12mm diameter mm	ring 1		ring 2		KRBB16SCFPR0611A 11–14,5mm diameter mm	ring 1		ring 2		KRBB16SCFPR06135A 13,5–17mm diameter mm	ring 1		ring 2	
6	67.5	L	67.5	L	8,5	67.5	L	67.5	L	11	67.5	L	70	L	13,5	65	L	70	L
6,1	62.5	L	62.5	L	8,6	62.5	L	62.5	L	11,1	60	L	62.5	L	13,6	60	L	65	L
6,2	57.5	L	57.5	L	8,7	57.5	L	57.5	L	11,2	57.5	L	60	L	13,7	55	L	60	L
6,3	55	L	55	L	8,8	52.5	L	55	L	11,3	52.5	L	55	L	13,8	50	L	55	L
6,4	50	L	50	L	8,9	50	L	50	L	11,4	47.5	L	50	L	13,9	47.5	L	52.5	L
6,5	47.5	L	47.5	L	9	47.5	L	47.5	L	11,5	45	L	47.5	L	14	42.5	L	47.5	L
6,6	45	L	45	L	9,1	42.5	L	45	L	11,6	42.5	L	45	L	14,1	40	L	45	L
6,7	40	L	40	L	9,2	40	L	40	L	11,7	37.5	L	42.5	L	14,2	35	L	42.5	L
6,8	37.5	L	37.5	L	9,3	37.5	L	37.5	L	11,8	35	L	37.5	L	14,3	32.5	L	40	L
6,9	35	L	35	L	9,4	35	L	35	L	11,9	32.5	L	35	L	14,4	30	L	37.5	L
7	32.5	L	32.5	L	9,5	30	L	32.5	L	12	30	L	32.5	L	14,5	25	L	35	L
7,1	30	L	30	L	9,6	27.5	L	30	L	12,1	27.5	L	30	L	14,6	22.5	L	32.5	L
7,2	27.5	L	27.5	L	9,7	25	L	27.5	L	12,2	25	L	27.5	L	14,7	20	L	30	L
7,3	25	L	25	L	9,8	22.5	L	25	L	12,3	22.5	L	25	L	14,8	17.5	L	27.5	L
7,4	22.5	L	22.5	L	9,9	20	L	22.5	L	12,4	17.5	L	25	L	14,9	15	L	25	L
7,5	20	L	20	L	10	17.5	L	20	L	12,5	15	L	22.5	L	15	10	L	25	L
7,6	17.5	L	17.5	L	10,1	15	L	17.5	L	12,6	12.5	L	20	L	15,1	7.5	L	22.5	L
7,7	15	L	15	L	10,2	12.5	L	15	L	12,7	10	L	17.5	L	15,2	2.5	L	22.5	L
7,8	12.5	L	12.5	L	10,3	10	L	15	L	12,8	5	L	17.5	L	15,3	2.5	R	22.5	L
7,9	10	L	12.5	L	10,4	7.5	L	12.5	L	12,9	2.5	L	15	L	15,4	7.5	R	22.5	L
8	7.5	L	10	L	10,5	5	L	10	L	13	2.5	R	15	L	15,5	17.5	R	27.5	L
8,1	5	L	7.5	L	10,6	0	L	10	L	13,1	10	R	17.5	L	15,6	37.5	R	42.5	L
8,2	2.5	L	5	L	10,7	5	R	10	L	13,2	25	R	30	L	15,7	85	L	90	R
8,3	2.5	R	5	L	10,8	45	R	45	L	13,3	62.5	L	65	R	15,8	35	L	42.5	R
8,4	10	L	12.5	R	10,9	10	L	15	R	13,4	17.5	L	22.5	R	15,9	17.5	L	27.5	R
8,5	0	R	5	R	11	2.5	L	10	R	13,5	5	L	15	R	16	7.5	L	22.5	R
8,6	2.5	R	7.5	R	11,1	2.5	R	10	R	13,6	0	R	15	R	16,1	2.5	L	22.5	R
8,7	7.5	R	7.5	R	11,2	5	R	12.5	R	13,7	5	R	15	R	16,2	2.5	R	22.5	R
8,8	10	R	10	R	11,3	10	R	12.5	R	13,8	7.5	R	17.5	R	16,3	7.5	R	22.5	R
8,9	12.5	R	12.5	R	11,4	12.5	R	15	R	13,9	10	R	20	R	16,4	10	R	25	R
9	12.5	R	15	R	11,5	15	R	17.5	R	14	15	R	20	R	16,5	15	R	25	R
9,1	15	R	17.5	R	11,6	17.5	R	20	R	14,1	17.5	R	22.5	R	16,6	17.5	R	27.5	R
9,2	17.5	R	20	R	11,7	20	R	22.5	R	14,2	20	R	25	R	16,7	20	R	30	R
9,3	20	R	22.5	R	11,8	22.5	R	25	R	14,3	22.5	R	27.5	R	16,8	22.5	R	32.5	R
9,4	22.5	R	25	R	11,9	25	R	27.5	R	14,4	25	R	30	R	16,9	27.5	R	35	R
9,5	25	R	27.5	R	12	27.5	R	30	R	14,5	27.5	R	32.5	R	17	30	R	37.5	R

(continued)

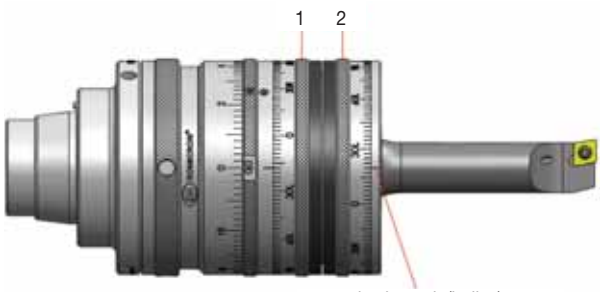
(Balancing Table • SVU-BB2 Boring Head continued)

4. The dial 01 must be positioned first. Moving the dial, adjust the position of dial 01. Use the mark reference located on dial 02. The dial resolution is 2 units of table values.

5. Now adjust the position for dial 02. Use the mark reference located on the Romicron body. After the adjustment of dial 02, the Romicron is correctly balanced.



02 mark (indice)



body mark (indice)

KRBB16SCFPR0616A 16–19,5mm diameter mm	ring 1		ring 2		KRBB16SCFPR0619A 19–22,5mm diameter mm	ring 1		ring 2		KRBB16SCFPR0622A 22–25,5mm diameter mm	ring 1		ring 2	
16	65	L	72.5	L	19	60	L	75	L	22	57.5	L	80	L
16,1	57.5	L	65	L	19,1	55	L	70	L	22,1	50	L	72.5	L
16,2	52.5	L	62.5	L	19,2	50	L	65	L	22,2	45	L	70	L
16,3	47.5	L	57.5	L	19,3	45	L	60	L	22,3	37.5	L	65	L
16,4	42.5	L	52.5	L	19,4	40	L	57.5	L	22,4	32.5	L	62.5	L
16,5	40	L	50	L	19,5	35	L	52.5	L	22,5	27.5	L	60	L
16,6	35	L	47.5	L	19,6	30	L	50	L	22,6	22.5	L	57.5	L
16,7	32.5	L	45	L	19,7	27.5	L	47.5	L	22,7	20	L	55	L
16,8	27.5	L	42.5	L	19,8	22.5	L	45	L	22,8	15	L	52.5	L
16,9	25	L	40	L	19,9	20	L	42.5	L	22,9	10	L	52.5	L
17	20	L	37.5	L	20	15	L	42.5	L	23	5	L	50	L
17,1	17.5	L	35	L	20,1	10	L	40	L	23,1	0	R	50	L
17,2	12.5	L	32.5	L	20,2	5	L	40	L	23,2	7.5	R	52.5	L
17,3	10	L	30	L	20,3	0	L	40	L	23,3	12.5	R	52.5	L
17,4	5	L	30	L	20,4	5	R	40	L	23,4	20	R	55	L
17,5	0	L	30	L	20,5	10	R	40	L	23,5	30	R	60	L
17,6	5	R	30	L	20,6	17.5	R	42.5	L	23,6	40	R	65	L
17,7	12.5	R	32.5	L	20,7	27.5	R	47.5	L	23,7	52.5	R	75	L
17,8	22.5	R	37.5	L	20,8	40	R	57.5	L	23,8	67.5	R	90	L
17,9	35	R	47.5	L	20,9	57.5	R	72.5	L	23,9	77.5	L	97.5	R
18	60	R	67.5	L	21	80	R	92.5	L	24	60	L	82.5	R
18,1	75	L	82.5	R	21,1	65	L	77.5	R	24,1	47.5	L	72.5	R
18,2	45	L	55	R	21,2	45	L	60	R	24,2	35	L	62.5	R
18,3	25	L	40	R	21,3	30	L	50	R	24,3	25	L	57.5	R
18,4	15	L	32.5	R	21,4	20	L	45	R	24,4	17.5	L	55	R
18,5	7.5	L	30	R	21,5	12.5	L	40	R	24,5	10	L	52.5	R
18,6	2.5	L	30	R	21,6	5	L	40	R	24,6	5	L	50	R
18,7	2.5	R	30	R	21,7	0	L	40	R	24,7	2.5	R	50	R
18,8	7.5	R	30	R	21,8	5	R	40	R	24,8	7.5	R	50	R
18,9	12.5	R	32.5	R	21,9	10	R	40	R	24,9	12.5	R	52.5	R
19	15	R	35	R	22	12.5	R	42.5	R	25	17.5	R	52.5	R
19,1	20	R	35	R	22,1	17.5	R	42.5	R	25,1	20	R	55	R
19,2	22.5	R	37.5	R	22,2	22.5	R	45	R	25,2	25	R	57.5	R
19,3	27.5	R	40	R	22,3	25	R	47.5	R	25,3	30	R	60	R
19,4	30	R	42.5	R	22,4	30	R	50	R	25,4	35	R	62.5	R
19,5	35	R	45	R	22.5	35	R	52.5	R	25,5	40	R	67.5	R

(continued)

(Balancing Table • Universal Applications SVU-BB2 Boring Head continued)

KRDEA046AM • KRDE025010M 25,5–34,4mm

diameter mm	ring 1		ring 2		diameter mm	ring 1		ring 2		diameter mm	ring 1		ring 2	
25,5	62.5	L	65	L	28,5	57.5	L	60	L	31,5	52.5	L	55	L
25,6	57.5	L	60	L	28,6	52.5	L	55	L	31,6	47.5	L	50	L
25,7	50	L	52.5	L	28,7	45	L	50	L	31,7	42.5	L	45	L
25,8	45	L	47.5	L	28,8	40	L	45	L	31,8	37.5	L	42.5	L
25,9	40	L	45	L	28,9	37.5	L	40	L	31,9	32.5	L	37.5	L
26,0	35	L	40	L	29,0	32.5	L	37.5	L	32,0	27.5	L	35	L
26,1	32.5	L	35	L	29,1	27.5	L	32.5	L	32,1	25	L	30	L
26,2	27.5	L	32.5	L	29,2	25	L	30	L	32,2	20	L	27.5	L
26,3	22.5	L	30	L	29,3	20	L	27.5	L	32,3	17.5	L	22.5	L
26,4	20	L	25	L	29,4	15	L	25	L	32,4	12.5	L	22.5	L
26,5	62.5	L	65	L	29,5	55	L	57.5	L	32,5	50	L	55	L
26,6	55	L	57.5	L	29,6	50	L	52.5	L	32,6	45	L	50	L
26,7	50	L	52.5	L	29,7	45	L	47.5	L	32,7	40	L	45	L
26,8	45	L	47.5	L	29,8	40	L	45	L	32,8	37.5	L	40	L
26,9	40	L	42.5	L	29,9	35	L	40	L	32,9	32.5	L	37.5	L
27,0	35	L	40	L	30,0	32.5	L	35	L	33,0	27.5	L	32.5	L
27,1	30	L	35	L	30,1	27.5	L	32.5	L	33,1	22.5	L	30	L
27,2	25	L	32.5	L	30,2	22.5	L	30	L	33,2	20	L	25	L
27,3	22.5	L	27.5	L	30,3	20	L	25	L	33,3	15	L	22.5	L
27,4	17.5	L	25	L	30,4	15	L	22.5	L	33,4	12.5	L	20	L
27,5	60	L	62.5	L	30,5	55	L	57.5	L	33,5	50	L	52.5	L
27,6	52.5	L	55	L	30,6	47.5	L	52.5	L	33,6	45	L	47.5	L
27,7	47.5	L	50	L	30,7	42.5	L	47.5	L	33,7	40	L	42.5	L
27,8	42.5	L	45	L	30,8	37.5	L	42.5	L	33,8	35	L	40	L
27,9	37.5	L	42.5	L	30,9	35	L	37.5	L	33,9	30	L	35	L
28,0	32.5	L	37.5	L	31,0	30	L	35	L	34,0	27.5	L	32.5	L
28,1	30	L	35	L	31,1	25	L	32.5	L	34,1	22.5	L	27.5	L
28,2	25	L	30	L	31,2	22.5	L	27.5	L	34,2	20	L	25	L
28,3	20	L	27.5	L	31,3	17.5	L	25	L	34,3	15	L	22.5	L
28,4	17.5	L	25	L	31,4	12.5	L	22.5	L	34,4	10	L	20	L

KRDEA046AM • KRDE033010M 33,5–44,4mm

diameter mm	ring 1		ring 2		diameter mm	ring 1		ring 2		diameter mm	ring 1		ring 2		diameter mm	ring 1		ring 2	
33,5	55	L	57.5	L	36,5	47.5	L	52.5	L	39,5	42.5	L	47.5	L	42,5	37.5	L	40	L
33,6	50	L	52.5	L	36,6	42.5	L	47.5	L	39,6	37.5	L	42.5	L	42,6	32.5	L	37.5	L
33,7	45	L	47.5	L	36,7	37.5	L	42.5	L	39,7	32.5	L	37.5	L	42,7	27.5	L	35	L
33,8	40	L	42.5	L	36,8	35	L	37.5	L	39,8	27.5	L	35	L	42,8	25	L	30	L
33,9	35	L	40	L	36,9	30	L	35	L	39,9	25	L	30	L	42,9	20	L	27.5	L
34,0	30	L	35	L	37,0	25	L	32.5	L	40,0	20	L	27.5	L	43,0	15	L	25	L
34,1	25	L	32.5	L	37,1	22.5	L	27.5	L	40,1	15	L	25	L	43,1	10	L	22.5	L
34,2	22.5	L	27.5	L	37,2	17.5	L	25	L	40,2	10	L	22.5	L	43,2	5	L	20	L
34,3	17.5	L	25	L	37,3	12.5	L	22.5	L	40,3	7.5	L	20	L	43,3	0	L	17.5	L
34,4	12.5	L	22.5	L	37,4	7.5	L	20	L	40,4	2.5	L	17.5	L	43,4	7.5	R	20	L
34,5	52.5	L	57.5	L	37,5	47.5	L	50	L	40,5	40	L	45	L	43,5	35	L	40	L
34,6	47.5	L	50	L	37,6	42.5	L	45	L	40,6	35	L	40	L	43,6	30	L	35	L
34,7	42.5	L	47.5	L	37,7	37.5	L	40	L	40,7	30	L	37.5	L	43,7	25	L	32.5	L
34,8	37.5	L	42.5	L	37,8	32.5	L	37.5	L	40,8	27.5	L	32.5	L	43,8	22.5	L	27.5	L
34,9	32.5	L	37.5	L	37,9	27.5	L	35	L	40,9	22.5	L	30	L	43,9	17.5	L	25	L
35,0	27.5	L	35	L	38,0	25	L	30	L	41,0	17.5	L	27.5	L	44,0	15	L	22.5	L
35,1	25	L	30	L	38,1	20	L	27.5	L	41,1	15	L	22.5	L	44,1	10	L	20	L
35,2	20	L	27.5	L	38,2	15	L	25	L	41,2	10	L	20	L	44,2	5	L	17.5	L
35,3	15	L	25	L	38,3	10	L	22.5	L	41,3	5	L	20	L	44,3	2.5	R	17.5	L
35,4	10	L	22.5	L	38,4	5	L	20	L	41,4	0	R	17.5	L	44,4	12.5	R	22.5	L
35,5	50	L	55	L	38,5	45	L	47.5	L	41,5	37.5	L	42.5	L	–	–	–	–	–
35,6	45	L	50	L	38,6	40	L	42.5	L	41,6	35	L	37.5	L	–	–	–	–	–
35,7	40	L	45	L	38,7	35	L	40	L	41,7	30	L	35	L	–	–	–	–	–
35,8	35	L	40	L	38,8	30	L	35	L	41,8	25	L	32.5	L	–	–	–	–	–
35,9	30	L	37.5	L	38,9	25	L	32.5	L	41,9	22.5	L	27.5	L	–	–	–	–	–
36,0	27.5	L	32.5	L	39,0	22.5	L	27.5	L	42,0	17.5	L	25	L	–	–	–	–	–
36,1	22.5	L	30	L	39,1	17.5	L	25	L	42,1	12.5	L	22.5	L	–	–	–	–	–
36,2	17.5	L	27.5	L	39,2	15	L	22.5	L	42,2	7.5	L	20	L	–	–	–	–	–
36,3	15	L	22.5	L	39,3	10	L	20	L	42,3	2.5	L	17.5	L	–	–	–	–	–
36,4	10	L	20	L	39,4	5	L	17.5	L	42,4	5	R	20	L	–	–	–	–	–

(continued)

(Balancing Table • Universal Applications SVU-BB2 Boring Head continued)

KRDEA051AM • KRDE043010M 43–65,9mm

diameter mm	ring 1		ring 2		diameter mm	ring 1		ring 2		diameter mm	ring 1		ring 2		diameter mm	ring 1		ring 2	
43,0	55	L	65	L	46,0	42.5	L	55	L	49,0	32.5	L	47.5	L	52,0	25	L	40	L
43,1	47.5	L	57.5	L	46,1	37.5	L	50	L	49,1	27.5	L	42.5	L	52,1	20	L	37.5	L
43,2	40	L	52.5	L	46,2	30	L	45	L	49,2	22.5	L	40	L	52,2	12.5	L	35	L
43,3	35	L	47.5	L	46,3	25	L	42.5	L	49,3	17.5	L	35	L	52,3	7.5	L	32.5	L
43,4	30	L	42.5	L	46,4	20	L	37.5	L	49,4	12.5	L	32.5	L	52,4	0	L	32.5	L
43,5	22.5	L	40	L	46,5	15	L	35	L	49,5	5	L	32.5	L	52,5	7.5	R	32.5	L
43,6	17.5	L	37.5	L	46,6	7.5	L	32.5	L	49,6	2.5	R	32.5	L	52,6	20	R	37.5	L
43,7	12.5	L	32.5	L	46,7	2.5	L	30	L	49,7	12.5	R	35	L	52,7	42.5	R	52.5	L
43,8	5	L	32.5	L	46,8	7.5	R	32.5	L	49,8	27.5	R	42.5	L	52,8	85	L	92.5	R
43,9	2.5	R	32.5	L	46,9	17.5	R	35	L	49,9	60	R	70	L	52,9	40	L	52.5	R
44,0	50	L	60	L	47,0	40	L	52.5	L	50,0	30	L	45	L	53,0	22.5	L	37.5	L
44,1	42.5	L	55	L	47,1	35	L	47.5	L	50,1	25	L	40	L	53,1	17.5	L	35	L
44,2	37.5	L	50	L	47,2	27.5	L	42.5	L	50,2	20	L	37.5	L	53,2	10	L	32.5	L
44,3	32.5	L	45	L	47.3	22.5	L	40	L	50,3	12.5	L	35	L	53,3	2.5	L	32.5	L
44,4	25	L	42.5	L	47,4	17.5	L	35	L	50,4	7.5	L	32.5	L	53,4	5	R	32.5	L
44,5	20	L	37.5	L	47,5	12.5	L	32.5	L	50,5	0	L	32.5	L	53,5	15	R	35	L
44,6	15	L	35	L	47,6	5	L	32.5	L	50,6	7.5	R	32.5	L	53,6	30	R	45	L
44,7	10	L	32.5	L	47,7	2.5	R	32.5	L	50,7	20	R	37.5	L	53,7	62.5	R	72.5	L
44,8	2.5	L	30	L	47,8	12.5	R	35	L	50,8	40	R	52.5	L	53,8	57.5	L	67.5	R
44,9	7.5	R	32.5	L	47,9	27.5	R	42.5	L	50,9	87.5	R	95	L	53,9	27.5	L	42.5	R
45,0	47.5	L	57.5	L	48,0	37.5	L	50	L	51,0	27.5	L	42.5	L	54,0	20	L	37.5	L
45,1	40	L	52.5	L	48,1	30	L	45	L	51,1	22.5	L	40	L	54,1	12.5	L	35	L
45,2	35	L	47.5	L	48,2	25	L	40	L	51,2	17.5	L	35	L	54,2	7.5	L	32.5	L
45,3	30	L	42.5	L	48,3	20	L	37.5	L	51,3	10	L	35	L	54,3	0	L	32.5	L
45,4	22.5	L	40	L	48,4	15	L	35	L	51,4	5	L	32.5	L	54,4	7.5	R	32.5	L
45,5	17.5	L	35	L	48,5	7.5	L	32.5	L	51,5	2.5	R	30	L	54,5	20	R	37.5	L
45,6	12.5	L	32.5	L	48,6	0	L	32.5	L	51,6	12.5	R	32.5	L	54,6	45	R	55	L
45,7	5	L	32.5	L	48,7	7.5	R	32.5	L	51,7	30	R	45	L	54,7	82.5	L	90	R
45,8	2.5	R	32.5	L	48,8	20	R	37.5	L	51,8	60	R	70	L	54,8	40	L	52.5	R
45,9	12.5	R	35	L	48,9	40	R	52.5	L	51,9	60	L	70	R	54,9	20	L	37.5	R
55,0	17.5	L	35	L	58,0	7.5	L	32.5	L	61,0	5	R	32.5	L	64,0	25	R	40	L
55,1	10	L	32.5	L	58,1	0	R	30	L	61,1	15	R	35	L	64,1	55	R	65	L
55,2	2.5	L	32.5	L	58,2	10	R	32.5	L	61,2	35	R	47.5	L	64,2	67.5	L	77.5	R
55,3	5	R	32.5	L	58,3	22.5	R	40	L	61,3	75	R	82.5	L	64,3	32.5	L	45	R
55,4	15	R	35	L	58,4	47.5	R	57.5	L	61,4	50	L	60	R	64,4	15	L	35	R
55,5	32.5	R	45	L	58,5	75	L	82.5	R	61,5	25	L	40	R	64,5	5	L	32.5	R
55,6	65	R	75	L	58,6	35	L	47.5	R	61,6	10	L	32.5	R	64,6	2.5	R	32.5	R
55,7	55	L	65	R	58,7	17.5	L	37.5	R	61,7	0	L	30	R	64,7	10	R	32.5	R
55,8	27.5	L	42.5	R	58,8	5	L	32.5	R	61,8	5	R	32.5	R	64,8	15	R	35	R
55,9	12.5	L	35	R	58,9	2.5	R	32.5	R	61,9	12.5	R	35	R	64,9	22.5	R	37.5	R
56,0	12.5	L	35	L	59,0	2.5	L	32.5	L	62,0	10	R	32.5	L	65,0	37.5	R	50	L
56,1	7.5	L	32.5	L	59,1	5	R	32.5	L	62,1	25	R	40	L	65,1	80	R	87.5	L
56,2	0	R	32.5	L	59,2	15	R	35	L	62,2	52.5	R	62.5	L	65,2	47.5	L	57.5	R
56,3	10	R	32.5	L	59,3	35	R	47.5	L	62,3	70	L	77.5	R	65,3	22.5	L	40	R
56,4	22.5	R	40	L	59,4	72.5	R	80	L	62,4	35	L	47.5	R	65,4	7.5	L	32.5	R
56,5	47.5	R	57.5	L	59,5	52.5	L	62.5	R	62,5	15	L	35	R	65,5	0	L	32.5	R
56,6	80	L	87.5	R	59,6	25	L	40	R	62,6	5	L	32.5	R	65,6	7.5	R	32.5	R
56,7	37.5	L	50	R	59,7	10	L	32.5	R	62,7	2.5	R	32.5	R	65,7	12.5	R	35	R
56,8	17.5	L	35	R	59,8	2.5	L	32.5	R	62,8	10	R	32.5	R	65,8	17.5	R	37.5	R
56,9	7.5	L	32.5	R	59,9	5	R	32.5	R	62,9	15	R	35	R	65,9	25	R	40	R
57,0	10	L	32.5	L	60,0	0	R	30	L	63,0	17.5	R	37.5	L	—	—	—	—	—
57,1	2.5	L	32.5	L	60,1	10	R	32.5	L	63,1	37.5	R	50	L	—	—	—	—	—
57,2	5	R	32.5	L	60,2	25	R	40	L	63,2	77.5	R	85	L	—	—	—	—	—
57,3	15	R	35	L	60,3	50	R	60	L	63,3	47.5	L	57.5	R	—	—	—	—	—
57,4	32.5	R	45	L	60,4	72.5	L	80	R	63,4	22.5	L	40	R	—	—	—	—	—
57,5	67.5	R	77.5	L	60,5	35	L	47.5	R	63,5	10	L	32.5	R	—	—	—	—	—
57,6	52.5	L	62.5	R	60,6	15	L	35	R	63,6	0	L	30	R	—	—	—	—	—
57,7	25	L	40	R	60,7	5	L	32.5	R	63,7	7.5	R	32.5	R	—	—	—	—	—
57,8	10	L	32.5	R	60,8	2.5	R	32.5	R	63,8	12.5	R	35	R	—	—	—	—	—
57,9	2.5	L	32.5	R	60,9	10	R	32.5	R	63,9	17.5	R	37.5	R	—	—	—	—	—

(continued)

(Balancing Table • Universal Applications SVU-BB2 Boring Head continued)

KRDEA012AM • KRDE065012M 65–82,9mm

diameter mm	ring 1		ring 2		diameter mm	ring 1		ring 2		diameter mm	ring 1		ring 2	
65,0	5	L	37.5	R	68,0	12.5	R	37.5	R	71,0	25	R	45	R
65,1	2.5	R	37.5	R	68,1	17.5	R	40	R	71,1	32.5	R	47.5	R
65,2	10	R	37.5	R	68,2	22.5	R	42.5	R	71,2	37.5	R	52.5	R
65,3	15	R	40	R	68,3	27.5	R	47.5	R	71,3	42.5	R	57.5	R
65,4	20	R	42.5	R	68,4	32.5	R	50	R	71,4	47.5	R	62.5	R
65,5	25	R	45	R	68,5	40	R	55	R	71,5	55	R	67.5	R
65,6	30	R	47.5	R	68,6	45	R	60	R	71,6	65	R	77.5	R
65,7	35	R	52.5	R	68,7	52.5	R	65	R	71,7	65	R	77.5	R
65,8	42.5	R	57.5	R	68,8	60	R	72.5	R	71,8	65	R	77.5	R
65,9	47.5	R	62.5	R	68,9	70	R	82.5	R	71,9	65	R	77.5	R
66,0	2.5	R	35	R	69,0	17.5	R	40	R	72,0	30	R	47.5	R
66,1	7.5	R	37.5	R	69,1	22.5	R	42.5	R	72,1	35	R	52.5	R
66,2	12.5	R	40	R	69,2	27.5	R	45	R	72,2	40	R	55	R
66,3	20	R	40	R	69,3	32.5	R	50	R	72,3	47.5	R	60	R
66,4	25	R	45	R	69,4	37.5	R	52.5	R	72,4	55	R	67.5	R
66,5	30	R	47.5	R	69,5	45	R	57.5	R	72,5	62.5	R	75	R
66,6	35	R	52.5	R	69,6	50	R	62.5	R	72,6	80	R	90	R
66,7	40	R	55	R	69,7	57.5	R	70	R	72,7	80	R	90	R
66,8	47.5	R	60	R	69,8	67.5	R	80	R	72,8	80	R	90	R
66,9	55	R	67.5	R	69,9	67.5	R	80	R	72,9	80	R	90	R
67,0	7.5	R	37.5	R	70,0	22.5	R	42.5	R	73,0	40	R	55	R
67,1	12.5	R	40	R	70,1	27.5	R	45	R	73,1	47.5	R	60	R
67,2	17.5	R	42.5	R	70,2	32.5	R	50	R	73,2	52.5	R	65	R
67,3	22.5	R	45	R	70,3	37.5	R	52.5	R	73,3	62.5	R	75	R
67,4	30	R	47.5	R	70,4	42.5	R	57.5	R	73,4	75	R	87.5	R
67,5	35	R	50	R	70,5	50	R	62.5	R	73,5	75	R	87.5	R
67,6	40	R	55	R	70,6	57.5	R	70	R	73,6	75	R	87.5	R
67,7	45	R	60	R	70,7	65	R	77.5	R	73,7	75	R	87.5	R
67,8	52.5	R	65	R	70,8	65	R	77.5	R	73,8	75	R	87.5	R
67,9	60	R	72.5	R	70,9	65	R	77.5	R	73,9	75	R	87.5	R
74,0	40	R	55	R	77,0	55	R	67.5	R	80,0	22.5	L	45	L
74,1	45	R	60	R	77,1	65	R	77.5	R	80,1	17.5	L	42.5	L
74,2	52.5	R	65	R	77,2	65	R	77.5	R	80,2	12.5	L	40	L
74,3	60	R	72.5	R	77,3	65	R	77.5	R	80,3	5	L	40	L
74,4	70	R	82.5	R	77,4	65	R	77.5	R	80,4	2.5	R	40	L
74,5	70	R	82.5	R	77,5	65	R	77.5	R	80,5	10	R	40	L
74,6	70	R	82.5	R	77,6	65	R	77.5	R	80,6	22.5	R	45	L
74,7	70	R	82.5	R	77,7	65	R	77.5	R	80,7	37.5	R	55	L
74,8	70	R	82.5	R	77,8	65	R	77.5	R	80,8	65	R	77.5	L
74,9	70	R	82.5	R	77,9	65	R	77.5	R	80,9	70	L	82.5	R
75,0	52.5	R	65	R	78,0	62.5	R	75	R	81,0	20	L	42.5	L
75,1	57.5	R	70	R	78,1	82.5	R	92.5	R	81,1	12.5	L	40	L
75,2	70	R	82.5	R	78,2	82.5	R	92.5	R	81,2	5	L	40	L
75,3	70	R	82.5	R	78,3	82.5	R	92.5	R	81,3	0	R	37.5	L
75,4	70	R	82.5	R	78,4	82.5	R	92.5	R	81,4	10	R	40	L
75,5	70	R	82.5	R	78,5	82.5	R	92.5	R	81,5	20	R	45	L
75,6	70	R	82.5	R	78,6	82.5	R	92.5	R	81,6	35	R	52.5	L
75,7	70	R	82.5	R	78,7	82.5	R	92.5	R	81,7	57.5	R	72.5	L
75,8	70	R	82.5	R	78,8	82.5	R	92.5	R	81,8	75	L	87.5	R
75,9	70	R	82.5	R	78,9	82.5	R	92.5	R	81,9	45	L	60	R
76,0	50	R	62.5	R	79,0	75	R	87.5	R	82,0	15	L	40	L
76,1	57.5	R	70	R	79,1	75	R	87.5	R	82,1	7.5	L	40	L
76,2	67.5	R	80	R	79,2	75	R	87.5	R	82,2	0	L	40	L
76,3	67.5	R	80	R	79,3	75	R	87.5	R	82,3	7.5	R	40	L
76,4	67.5	R	80	R	79,4	75	R	87.5	R	82,4	17.5	R	42.5	L
76,5	67.5	R	80	R	79,5	75	R	87.5	R	82,5	30	R	50	L
76,6	67.5	R	80	R	79,6	75	R	87.5	R	82,6	52.5	R	67.5	L
76,7	67.5	R	80	R	79,7	75	R	87.5	R	82,7	82.5	L	95	R
76,8	67.5	R	80	R	79,8	75	R	87.5	R	82,8	50	L	65	R
76,9	67.5	R	80	R	79,9	75	R	87.5	R	82,9	30	L	50	R

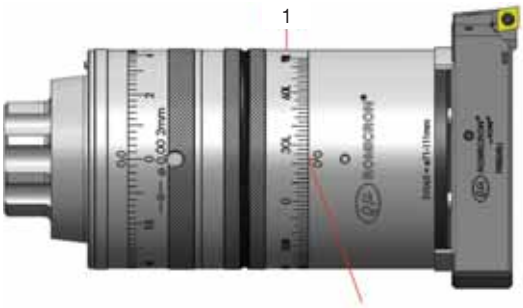
(continued)

(Balancing Table • Universal Applications SVU-BB2 Boring Head continued)

KRDEA012AM • KRDE065012M 83–100mm

diameter mm	ring 1		ring 2		diameter mm	ring 1		ring 2		diameter mm	ring 1		ring 2	
83,0	10	L	40	L	86,0	10	R	40	L	89,0	42.5	R	57.5	L
83,1	2.5	L	37.5	L	86,1	20	R	45	L	89,1	72.5	R	85	L
83,2	5	R	40	L	86,2	35	R	52.5	L	89,2	62.5	L	75	R
83,3	15	R	42.5	L	86,3	57.5	R	72.5	L	89,3	37.5	L	55	R
83,4	27.5	R	47.5	L	86,4	75	L	87.5	R	89,4	22.5	L	45	R
83,5	47.5	R	62.5	L	86,5	45	L	60	R	89,5	10	L	40	R
83,6	77.5	R	90	L	86,6	27.5	L	47.5	R	89,6	0	L	37.5	R
83,7	55	L	70	R	86,7	15	L	42.5	R	89,7	5	R	40	R
83,8	32.5	L	50	R	86,8	5	L	40	R	89,8	12.5	R	40	R
83,9	17.5	L	42.5	R	86,9	2.5	R	40	R	89,9	17.5	R	42.5	R
84,0	5	L	37.5	L	87,0	17.5	R	42.5	L	90,0	65	R	77.5	L
84,1	2.5	R	37.5	L	87,1	30	R	50	L	90,1	70	L	82.5	R
84,2	12.5	R	40	L	87,2	52.5	R	67.5	L	90,2	40	L	57.5	R
84,3	25	R	47.5	L	87,3	82.5	L	95	R	90,3	22.5	L	45	R
84,4	42.5	R	57.5	L	87,4	50	L	65	R	90,4	12.5	L	40	R
84,5	72.5	R	85	L	87,5	30	L	50	R	90,5	2.5	L	37.5	R
84,6	62.5	L	75	R	87,6	17.5	L	42.5	R	90,6	5	R	37.5	R
84,7	37.5	L	55	R	87,7	7.5	L	40	R	90,7	10	R	40	R
84,8	22.5	L	45	R	87,8	2.5	R	37.5	R	90,8	17.5	R	42.5	R
84,9	10	L	40	R	87,9	7.5	R	40	R	90,9	22.5	R	45	R
85,0	2.5	R	40	L	88,0	27.5	R	47.5	L	91,0	75	L	87.5	R
85,1	10	R	40	L	88,1	47.5	R	62.5	L	91,1	47.5	L	62.5	R
85,2	22.5	R	45	L	88,2	77.5	R	90	L	91,2	27.5	L	47.5	R
85,3	37.5	R	55	L	88,3	55	L	70	R	91,3	15	L	42.5	R
85,4	65	R	77.5	L	88,4	35	L	52.5	R	91,4	5	L	40	R
85,5	70	L	82.5	R	88,5	17.5	L	42.5	R	91,5	2.5	R	40	R
85,6	40	L	57.5	R	88,6	7.5	L	40	R	91,6	10	R	40	R
85,7	22.5	L	45	R	88,7	0	R	40	R	91,7	15	R	42.5	R
85,8	12.5	L	40	R	88,8	7.5	R	40	R	91,8	22.5	R	45	R
85,9	2.5	L	37.5	R	88,9	12.5	R	42.5	R	91,9	27.5	R	47.5	R
92,0	50	L	65	R	95,0	12.5	L	40	R	98,0	7.5	R	40	R
92,1	30	L	50	R	95,1	2.5	L	37.5	R	98,1	12.5	R	42.5	R
92,2	17.5	L	42.5	R	95,2	5	R	37.5	R	98,2	20	R	42.5	R
92,3	7.5	L	40	R	95,3	10	R	40	R	98,3	25	R	47.5	R
92,4	2.5	R	37.5	R	95,4	17.5	R	42.5	R	98,4	30	R	50	R
92,5	7.5	R	40	R	95,5	22.5	R	45	R	98,5	37.5	R	55	R
92,6	15	R	40	R	95,6	27.5	R	47.5	R	98,6	42.5	R	60	R
92,7	20	R	45	R	95,7	35	R	52.5	R	98,7	50	R	65	R
92,8	25	R	47.5	R	95,8	40	R	57.5	R	98,8	57.5	R	72.5	R
92,9	32.5	R	50	R	95,9	47.5	R	62.5	R	98,9	70	R	82.5	R
93,0	35	L	52.5	R	96,0	5	L	40	R	99,0	12.5	R	40	R
93,1	17.5	L	42.5	R	96,1	2.5	R	40	R	99,1	17.5	R	42.5	R
93,2	7.5	L	40	R	96,2	10	R	40	R	99,2	25	R	45	R
93,3	0	R	37.5	R	96,3	15	R	42.5	R	99,3	30	R	50	R
93,4	7.5	R	40	R	96,4	22.5	R	45	R	99,4	35	R	52.5	R
93,5	12.5	R	42.5	R	96,5	27.5	R	47.5	R	99,5	42.5	R	57.5	R
93,6	20	R	42.5	R	96,6	32.5	R	52.5	R	99,6	47.5	R	62.5	R
93,7	25	R	47.5	R	96,7	40	R	55	R	99,7	55	R	70	R
93,8	30	R	50	R	96,8	45	R	60	R	99,8	67.5	R	80	R
93,9	37.5	R	55	R	96,9	52.5	R	67.5	R	99,9	67.5	R	80	R
94,0	22.5	L	45	R	97,0	2.5	R	37.5	R	100,0	17.5	R	42.5	R
94,1	10	L	40	R	97,1	7.5	R	40	R	100,1	22.5	R	45	R
94,2	2.5	L	40	R	97,2	15	R	40	R	100,2	27.5	R	47.5	R
94,3	5	R	40	R	97,3	20	R	45	R	100,3	35	R	52.5	R
94,4	12.5	R	40	R	97,4	25	R	47.5	R	100,4	40	R	57.5	R
94,5	17.5	R	42.5	R	97,5	32.5	R	50	R	100,5	47.5	R	62.5	R
94,6	25	R	45	R	97,6	37.5	R	55	R	100,6	55	R	70	R
94,7	30	R	50	R	97,7	45	R	60	R	100,7	65	R	77.5	R
94,8	35	R	52.5	R	97,8	50	R	65	R	100,8	65	R	77.5	R
94,9	42.5	R	57.5	R	97,9	60	R	72.5	R	100,9	65	R	77.5	R

Balancing Table • SVU-65 Boring Head



reference mark for dial 01

2,5 units

1. The balancing dial 01 is identified on the figure below. The dial resolution is 2,5 units of table values.
2. Read the position value of the dial 01 on the table. For example, to machine a 76,2 mm diameter, the position is 01 = 22,5 L.
3. By moving dial 01, adjust its position, observing its proper reference mark, according to the read value.

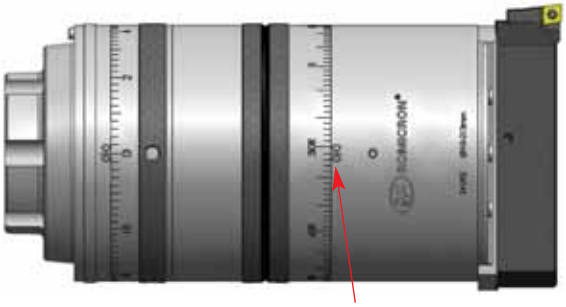
KRDE070019M									KRDE083019M					
KRCSCFPR061E 71–76mm			KRCSCFPR062E 75,5–81,5mm			KRCSCFPR063E 80–85mm			KRCSCFPR061E 84–89mm			KRCSCFPR062E 88,5–93,5mm		
diameter mm	balancing ring setting		diameter mm	balancing ring setting		diameter mm	balancing ring setting		diameter mm	balancing ring setting		diameter mm	balancing ring setting	
70,99	40	L	75,49	35	L	80,01	30	L	84,00	47.5	L	88,49	40	L
71,12	37.5	L	75,59	32.5	L	80,16	27.5	L	84,12	45	L	88,65	37.5	L
71,27	35	L	75,77	30	L	80,34	25	L	84,25	42.5	L	88,80	35	L
71,42	32.5	L	75,95	27.5	L	80,52	22.5	L	84,38	40	L	88,95	32.5	L
71,60	30	L	76,10	25	L	80,70	20	L	84,51	37.5	L	89,08	30	L
71,78	27.5	L	76,28	22.5	L	80,87	17.5	L	84,66	35	L	89,26	27.5	L
71,96	25	L	76,48	20	L	81,08	15	L	84,81	32.5	L	89,41	25	L
72,14	22.5	L	76,66	17.5	L	81,25	12.5	L	84,96	30	L	89,56	22.5	L
72,31	20	L	76,84	15	L	81,46	10	L	85,12	27.5	L	89,74	20	L
72,49	17.5	L	77,04	12.5	L	81,64	7.5	L	85,27	25	L	89,89	17.5	L
72,69	15	L	77,22	10	L	81,84	5	L	85,42	22.5	L	90,07	15	L
72,87	12.5	L	77,42	7.5	L	82,02	2.5	L	85,60	20	L	90,22	12.5	L
73,08	10	L	77,62	5	L	82,22	0	—	85,78	17.5	L	90,40	10	L
73,25	7.5	L	77,80	2.5	L	82,42	2.5	R	85,93	15	L	90,58	7.5	L
73,46	5	L	78,00	0	—	82,60	5	R	86,11	12.5	L	90,75	5	L
73,66	2.5	L	78,21	2.5	R	82,80	7.5	R	86,28	10	L	90,93	2.5	L
73,86	0	—	78,38	5	R	82,98	10	R	86,46	7.5	L	91,11	0	—
74,04	2.5	R	78,59	7.5	R	83,19	12.5	R	86,64	5	L	91,29	2.5	R
74,24	5	R	78,77	10	R	83,36	15	R	86,82	2.5	L	91,47	5	R
74,45	7.5	R	78,97	12.5	R	83,57	17.5	R	87,00	0	—	91,64	7.5	R
74,63	10	R	79,15	15	R	83,74	20	R	87,17	2.5	R	91,80	10	R
74,83	12.5	R	79,35	17.5	R	83,92	22.5	R	87,33	5	R	91,97	12.5	R
75,01	15	R	79,53	20	R	84,10	25	R	87,50	7.5	R	92,15	15	R
75,21	17.5	R	79,71	22.5	R	84,28	27.5	R	87,68	10	R	92,33	17.5	R
75,39	20	R	79,88	25	R	84,46	30	R	87,86	12.5	R	92,48	20	R
75,57	22.5	R	80,06	27.5	R	84,61	32.5	R	88,04	15	R	92,66	22.5	R
75,74	25	R	80,24	30	R	84,79	35	R	88,21	17.5	R	92,81	25	R
75,92	27.5	R	80,42	32.5	R	84,94	37.5	R	88,37	20	R	92,96	27.5	R
76,00	30	R	80,49	35	R	84,99	40	R	88,54	22.5	R	93,12	30	R
—	—	—	—	—	—	—	—	—	88,70	25	R	93,27	32.5	R
—	—	—	—	—	—	—	—	—	88,85	27.5	R	93,42	35	R
—	—	—	—	—	—	—	—	—	89,00	30	R	93,50	37.5	R

(continued)

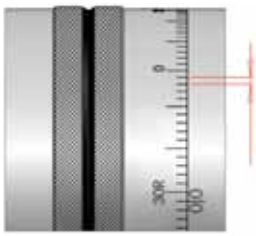
(Balancing Table • SVU-65 Boring Head continued)

KRDE083019M			KRDE096019M								
KRCSCFPR063E 93–98mm			KRCSCFPR061E 97–102mm			KRCSCFPR062E 101,5–106,5mm			KRCSCFPR063E 106–111mm		
diameter mm	balancing ring setting		diameter mm	balancing ring setting		diameter mm	balancing ring setting		diameter mm	balancing ring setting	
92,99	35	L	97,00	55	L	101,50	45	L	105,99	37.5	L
93,14	32.5	L	97,05	52.5	L	101,60	42.5	L	106,17	35	L
93,29	30	L	97,16	50	L	101,73	40	L	106,32	32.5	L
93,45	27.5	L	97,28	47.5	L	101,85	37.5	L	106,45	30	L
93,60	25	L	97,38	45	L	101,98	35	L	106,58	27.5	L
93,78	22.5	L	97,51	42.5	L	102,13	32.5	L	106,73	25	L
93,93	20	L	97,61	40	L	102,26	30	L	106,88	22.5	L
94,11	17.5	L	97,74	37.5	L	102,41	27.5	L	107,04	20	L
94,26	15	L	97,87	35	L	102,54	25	L	107,19	17.5	L
94,44	12.5	L	98,02	32.5	L	102,69	22.5	L	107,34	15	L
94,62	10	L	98,15	30	L	102,84	20	L	107,49	12.5	L
94,79	7.5	L	98,30	27.5	L	103,00	17.5	L	107,65	10	L
94,95	5	L	98,45	25	L	103,15	15	L	107,82	7.5	L
95,12	2.5	L	98,58	22.5	L	103,30	12.5	L	107,98	5	L
95,30	0	—	98,73	20	L	103,48	10	L	108,13	2.5	L
95,48	2.5	R	98,88	17.5	L	103,63	7.5	L	108,31	0	—
95,66	5	R	99,06	15	L	103,78	5	L	108,46	2.5	R
95,83	7.5	R	99,21	12.5	L	103,96	2.5	L	108,61	5	R
96,01	10	R	99,36	10	L	104,11	0	—	108,79	7.5	R
96,19	12.5	R	99,52	7.5	L	104,27	2.5	R	108,94	10	R
96,34	15	R	99,70	5	L	104,44	5	R	109,09	12.5	R
96,52	17.5	R	99,85	2.5	L	104,60	7.5	R	109,25	15	R
96,67	20	R	100,03	0	—	104,75	10	R	109,40	17.5	R
96,85	22.5	R	100,18	2.5	R	104,90	12.5	R	109,55	20	R
97,00	25	R	100,33	5	R	105,08	15	R	109,70	22.5	R
97,16	27.5	R	100,51	7.5	R	105,23	17.5	R	109,86	25	R
97,31	30	R	100,66	10	R	105,38	20	R	110,01	27.5	R
97,46	32.5	R	100,81	12.5	R	105,54	22.5	R	110,13	30	R
97,61	35	R	100,97	15	R	105,69	25	R	110,29	32.5	R
97,76	37.5	R	101,14	17.5	R	105,82	27.5	R	110,41	35	R
97,89	40	R	101,30	20	R	105,97	30	R	110,54	37.5	R
97,99	42.5	R	101,45	22.5	R	106,10	32.5	R	110,67	40	R
—	—	—	101,57	25	R	106,25	35	R	110,79	42.5	R
—	—	—	101,73	27.5	R	106,38	37.5	R	110,90	45	R
—	—	—	104,39	30	R	106,43	40	R	111,00	47.5	R
—	—	—	102,01	32.5	R	106,53	42.5	R	—	—	—

Balancing Table • SVU-92 Boring Head



reference mark for dial 01



2,0 units

1. The balancing dial 01 is identified on the figure below. The dial resolution is 2,0 units of table values.

2. Read the position value of the dial 01 on the table. For example, to machine a 76,2 mm diameter, the position is 01 = 22,5 L.

3. By moving dial 01, adjust its position, observing its proper reference mark, according to the read value.

KRDE101023M									KRDE120023M					
KRCSCFPR061F 101–108mm			KRCSCFPR062F 107,5–114,5mm			KRCSCFPR063F 114–121mm			KRCSCFPR061F 120–127mm			KRCSCFPR062F 126,5–133,5mm		
diameter mm	balancing ring setting		diameter mm	balancing ring setting		diameter mm	balancing ring setting		diameter mm	balancing ring setting		diameter mm	balancing ring setting	
100,99	36	L	107,49	34	L	114,00	30	L	119,99	40	L	126,49	36	L
101,19	34	L	107,62	32	L	114,22	28	L	120,19	38	L	126,72	34	L
101,40	32	L	107,80	30	L	114,40	26	L	120,35	36	L	126,90	32	L
101,57	30	L	108,00	28	L	114,60	24	L	120,52	34	L	127,08	30	L
101,78	28	L	108,20	26	L	114,81	22	L	120,70	32	L	127,25	28	L
101,98	26	L	108,41	24	L	115,01	20	L	120,88	30	L	127,43	26	L
102,18	24	L	108,61	22	L	115,24	18	L	121,06	28	L	127,61	24	L
102,39	22	L	108,81	20	L	115,44	16	L	121,23	26	L	127,81	22	L
102,59	20	L	109,02	18	L	115,67	14	L	121,41	24	L	127,99	20	L
102,79	18	L	109,25	16	L	115,87	12	L	121,62	22	L	128,19	18	L
103,02	16	L	109,45	14	L	116,10	10	L	121,79	20	L	128,40	16	L
103,23	14	L	109,68	12	L	116,31	8	L	122,00	18	L	128,57	14	L
103,45	12	L	109,88	10	L	116,54	6	L	122,20	16	L	128,78	12	L
103,66	10	L	110,11	8	L	116,76	4	L	122,38	14	L	128,98	10	L
103,89	8	L	110,34	6	L	116,97	2	L	122,58	12	L	129,18	8	L
104,11	6	L	110,57	4	L	117,20	0	—	122,78	10	L	129,39	6	L
104,32	4	L	110,77	2	L	117,42	2	R	122,99	8	L	129,59	4	L
104,55	2	L	111,00	0	—	117,65	4	R	123,19	6	L	129,79	2	L
104,78	0	—	111,23	2	R	117,86	6	R	123,39	4	L	130,00	0	—
105,00	2	R	111,46	4	R	118,08	8	R	123,60	2	L	130,20	2	R
105,23	4	R	111,66	6	R	118,31	10	R	123,80	0	—	130,40	4	R
105,44	6	R	111,89	8	R	118,52	12	R	124,00	2	R	130,61	6	R
105,66	8	R	112,12	10	R	118,75	14	R	124,21	4	R	130,81	8	R
105,89	10	R	107,19	12	R	118,95	16	R	124,41	6	R	131,01	10	R
106,10	12	R	112,55	14	R	119,18	18	R	124,61	8	R	131,22	12	R
106,32	14	R	112,75	16	R	119,38	20	R	124,82	10	R	131,42	14	R
106,53	16	R	112,98	18	R	119,58	22	R	125,02	12	R	131,62	16	R
106,76	18	R	113,18	20	R	119,79	24	R	125,22	14	R	131,80	18	R
106,96	20	R	113,39	22	R	119,99	26	R	125,43	16	R	132,00	20	R
107,16	22	R	113,59	24	R	120,19	28	R	125,63	18	R	132,18	22	R
107,37	24	R	113,79	26	R	120,37	30	R	125,81	20	R	132,38	24	R
107,57	26	R	114,00	28	R	120,57	32	R	126,01	22	R	132,56	26	R
107,77	28	R	114,20	30	R	120,75	34	R	126,19	24	R	132,74	28	R
107,98	30	R	114,38	32	R	120,93	36	R	126,37	26	R	132,92	30	R
108,00	32	R	114,50	34	R	121,01	38	R	126,57	28	R	133,10	32	R
—	—	—	—	—	—	—	—	—	126,75	30	R	133,27	34	R
—	—	—	—	—	—	—	—	—	126,92	32	R	133,45	36	R
—	—	—	—	—	—	—	—	—	127,00	34	R	133,50	38	R

(continued)

(Balancing Table • SVU-92 Boring Head continued)

KRDE120023M			KRDE139026M								
KRCSCFPR063F 133–140mm			KRCSCFPR061F 139–146mm			KRCSCFPR062F 145,5–152,5mm			KRCSCFPR063F 152–159mm		
diameter mm	balancing ring setting		diameter mm	balancing ring setting		diameter mm	balancing ring setting		diameter mm	balancing ring setting	
132,99	34	L	138,99	50	L	145,49	44	L	151,99	40	L
133,10	32	L	139,09	48	L	145,67	42	L	152,12	38	L
133,27	30	L	139,22	46	L	145,80	40	L	152,27	36	L
133,45	28	L	139,34	44	L	145,95	38	L	152,40	34	L
133,63	26	L	139,47	42	L	146,08	36	L	152,55	32	L
133,81	24	L	139,60	40	L	146,23	34	L	152,70	30	L
133,99	22	L	139,73	38	L	146,35	32	L	152,86	28	L
134,19	20	L	139,88	36	L	146,51	30	L	153,01	26	L
134,37	18	L	140,00	34	L	146,66	28	L	153,16	24	L
134,57	16	L	140,16	32	L	146,81	26	L	153,31	22	L
134,77	14	L	140,31	30	L	146,99	24	L	153,49	20	L
134,98	12	L	140,46	28	L	147,14	22	L	153,64	18	L
135,18	10	L	140,61	26	L	147,29	20	L	153,82	16	L
135,36	8	L	140,77	24	L	147,47	18	L	153,97	14	L
135,56	6	L	140,92	22	L	147,62	16	L	154,15	12	L
135,76	4	L	141,10	20	L	147,80	14	L	154,33	10	L
135,97	2	L	141,25	18	L	147,96	12	L	154,48	8	L
136,17	0	—	141,43	16	L	148,13	10	L	154,66	6	L
136,37	2	R	141,58	14	L	148,31	8	L	154,84	4	L
136,58	4	R	141,76	12	L	148,49	6	L	155,02	2	L
162,18	6	R	141,94	10	L	148,64	4	L	155,19	0	—
136,98	8	R	142,11	8	L	148,82	2	L	155,35	2	R
137,19	10	R	142,27	6	L	149,00	0	—	155,52	4	R
137,39	12	R	142,44	4	L	149,17	2	R	155,70	6	R
137,59	14	R	142,62	2	L	149,35	4	R	155,88	8	R
137,80	16	R	142,80	0	—	149,53	6	R	156,03	10	R
137,97	18	R	142,98	2	R	149,68	8	R	156,21	12	R
138,18	20	R	143,15	4	R	149,86	10	R	156,39	14	R
138,38	22	R	143,31	6	R	150,04	12	R	156,54	16	R
138,56	24	R	143,48	8	R	150,19	14	R	156,72	18	R
138,73	26	R	143,66	10	R	150,37	16	R	156,87	20	R
138,91	28	R	143,84	12	R	150,55	18	R	157,05	22	R
139,09	30	R	143,99	14	R	150,70	20	R	157,20	24	R
139,27	32	R	144,17	16	R	150,85	22	R	157,35	26	R
139,45	34	R	144,32	18	R	151,03	24	R	157,51	28	R
139,60	36	R	144,50	20	R	151,18	26	R	157,66	30	R
139,78	38	R	144,65	22	R	151,33	28	R	157,81	32	R
139,93	40	R	144,83	24	R	151,49	30	R	157,96	34	R
140,00	42	R	144,98	26	R	151,64	32	R	158,09	36	R
—	—	—	145,14	28	R	151,79	34	R	158,24	38	R
—	—	—	145,29	30	R	151,92	36	R	158,37	40	R
—	—	—	145,44	32	R	152,07	38	R	158,50	42	R
—	—	—	145,57	34	R	152,20	40	R	158,62	44	R
—	—	—	145,72	36	R	152,32	42	R	158,75	46	R
—	—	—	145,87	38	R	152,45	44	R	158,88	48	R
—	—	—	145,97	40	R	152,50	46	R	158,98	50	R
—	—	—	146,00	42	R	—	—	—	159,00	52	R

(continued)

(Balancing Table • SVU-92 Boring Head continued)

KRDE156026M

KRCSCFPR061F 156–163mm			KRCSCFPR062F 162,5–169,5mm			KRCSCFPR063F 169–176mm		
diameter mm	balancing ring setting		diameter mm	balancing ring setting		diameter mm	balancing ring setting	
156,01	56	L	162,51	50	L	169,01	44	L
156,11	54	L	162,61	48	L	169,11	42	L
156,21	52	L	162,71	46	L	169,24	40	L
156,31	50	L	162,81	44	L	169,37	38	L
156,41	48	L	162,94	42	L	169,49	36	L
156,51	46	L	163,07	40	L	169,62	34	L
156,62	44	L	163,20	38	L	169,75	32	L
156,74	42	L	163,32	36	L	169,90	30	L
156,87	40	L	163,45	34	L	170,03	28	L
157,00	38	L	163,58	32	L	170,18	26	L
157,12	36	L	163,70	30	L	170,33	24	L
157,25	34	L	163,86	28	L	170,46	22	L
157,38	32	L	164,01	26	L	170,61	20	L
157,53	30	L	164,13	24	L	170,76	18	L
157,66	28	L	164,29	22	L	170,92	16	L
157,81	26	L	164,44	20	L	171,07	14	L
157,94	24	L	164,59	18	L	171,22	12	L
158,09	22	L	164,74	16	L	171,37	10	L
158,24	20	L	164,90	14	L	171,55	8	L
158,39	18	L	165,05	12	L	171,70	6	L
158,55	16	L	165,20	10	L	171,86	4	L
158,70	14	L	165,35	8	L	172,01	2	L
158,85	12	L	165,53	6	L	172,19	0	—
159,00	10	L	165,68	4	L	172,34	2	R
159,18	8	L	165,84	2	L	172,49	4	R
159,33	6	L	165,99	0	—	172,64	6	R
159,49	4	L	166,17	2	R	172,82	8	R
159,64	2	L	166,32	4	R	172,97	10	R
159,82	0	—	166,47	6	R	173,13	12	R
159,97	2	R	166,62	8	R	173,28	14	R
160,12	4	R	166,80	10	R	173,43	16	R
160,27	6	R	166,95	12	R	173,58	18	R
160,45	8	R	167,11	14	R	173,74	20	R
160,60	10	R	167,26	16	R	173,89	22	R
160,76	12	R	167,41	18	R	174,04	24	R
160,91	14	R	167,56	20	R	174,17	26	R
161,06	16	R	167,72	22	R	174,32	28	R
161,21	18	R	167,87	24	R	174,45	30	R
161,37	20	R	168,00	26	R	174,60	32	R
161,52	22	R	168,15	28	R	174,73	34	R
161,67	24	R	168,28	30	R	174,85	36	R
161,82	26	R	168,43	32	R	174,98	38	R
161,95	28	R	168,55	34	R	175,11	40	R
162,10	30	R	168,68	36	R	175,23	42	R
162,23	32	R	168,81	38	R	175,34	44	R
162,36	34	R	168,94	40	R	175,46	46	R
162,51	36	R	169,06	42	R	175,56	48	R
162,64	38	R	169,16	44	R	175,67	50	R
162,74	40	R	169,29	46	R	175,77	52	R
162,86	42	R	169,39	48	R	175,87	54	R
162,99	44	R	169,49	50	R	175,95	56	R
162,99	46	R	169,49	52	R	176,00	58	R

(continued)

(Balancing Table • SVU-92 Boring Head continued)

KRDE175026M

KRCSCFPR061F 175–182mm			KRCSCFPR062F 181,5–188,5mm			KRCSCFPR063F 188–195mm		
diameter mm	balancing ring setting		diameter mm	balancing ring setting		diameter mm	balancing ring setting	
175,01	64	L	181,51	56	L	188,0108	48	L
175,06	62	L	181,56	54	L	188,1124	46	L
175,13	60	L	181,64	52	L	188,214	44	L
175,21	58	L	181,74	50	L	188,3156	42	L
175,29	56	L	181,84	48	L	188,4426	40	L
175,36	54	L	181,94	46	L	188,5442	38	L
175,46	52	L	182,04	44	L	188,6712	36	L
175,56	50	L	182,14	42	L	188,7982	34	L
175,64	48	L	182,27	40	L	188,8998	32	L
175,74	46	L	182,37	38	L	189,0268	30	L
175,87	44	L	182,50	36	L	189,1792	28	L
175,97	42	L	182,63	34	L	189,3062	26	L
176,07	40	L	182,75	32	L	189,4332	24	L
176,20	38	L	182,88	30	L	189,5602	22	L
176,30	36	L	183,01	28	L	189,7126	20	L
176,43	34	L	183,13	26	L	189,8396	18	L
176,56	32	L	183,26	24	L	189,992	16	L
176,68	30	L	183,41	22	L	190,1444	14	L
176,81	28	L	183,54	20	L	190,2714	12	L
176,96	26	L	183,69	18	L	190,4238	10	L
177,09	24	L	183,82	16	L	114,3762	8	L
177,22	22	L	183,97	14	L	190,7286	6	L
177,37	20	L	184,12	12	L	190,8556	4	L
177,50	18	L	184,25	10	L	191,008	2	L
177,65	16	L	184,40	8	L	191,1604	0	—
177,80	14	L	184,56	6	L	191,3128	2	R
177,93	12	L	184,71	4	L	191,4652	4	R
178,08	10	L	184,86	2	L	191,6176	6	R
178,23	8	L	184,99	0	—	191,7446	8	R
178,38	6	L	185,14	2	R	191,897	10	R
178,54	4	L	185,29	4	R	192,0494	12	R
178,66	2	L	185,45	6	R	192,2018	14	R
178,82	0	—	185,60	8	R	192,3288	16	R
178,97	2	R	185,75	10	R	192,4812	18	R
179,12	4	R	185,88	12	R	192,6082	20	R
179,27	6	R	186,03	14	R	192,7606	22	R
179,43	8	R	186,18	16	R	192,8876	24	R
179,55	10	R	186,31	18	R	193,04	26	R
179,71	12	R	186,46	20	R	193,167	28	R
179,86	14	R	186,59	22	R	193,294	30	R
180,01	16	R	186,74	24	R	193,421	32	R
180,14	18	R	186,87	26	R	193,548	34	R
180,29	20	R	186,99	28	R	193,675	36	R
180,42	22	R	187,12	30	R	193,7766	38	R
180,57	24	R	187,25	32	R	193,9036	40	R
180,70	26	R	187,38	34	R	194,0052	42	R
180,82	28	R	187,50	36	R	194,1068	44	R
180,95	30	R	187,63	38	R	194,2338	46	R
181,08	32	R	187,73	40	R	194,3354	48	R
181,20	34	R	187,86	42	R	194,4116	50	R
181,33	36	R	187,96	44	R	194,5132	52	R
181,46	38	R	188,06	46	R	194,6148	54	R
181,56	40	R	188,16	48	R	194,691	56	R
181,69	42	R	188,26	50	R	194,7672	58	R
181,79	44	R	188,37	52	R	194,8434	60	R
181,89	46	R	188,44	54	R	194,9196	62	R
181,99	48	R	188,49	56	R	194,9958	64	R
181,99	50	R	—	—	—	194,9958	66	R

(continued)

(Balancing Table • SVU-92 Boring Head continued)

KRDE193026M

KRCSCFPR061F 193–200mm			**KRCSCFPR062F** 199,5–206,5mm			**KRCSCFPR063F** 206–213mm		
diameter mm	balancing ring setting		diameter mm	balancing ring setting		diameter mm	balancing ring setting	
192,99	64	L	199,49	54	L	205,994	46	L
193,07	62	L	199,62	52	L	206,1464	44	L
193,14	60	L	199,72	50	L	206,248	42	L
193,22	58	L	199,80	48	L	206,375	40	L
193,29	56	L	199,90	46	L	206,4766	38	L
193,37	54	L	200,03	44	L	206,6036	36	L
193,47	52	L	200,13	42	L	206,7306	34	L
193,57	50	L	200,23	40	L	206,8576	32	L
193,65	48	L	200,36	38	L	206,9846	30	L
193,75	46	L	200,48	36	L	207,1116	28	L
193,88	44	L	200,61	34	L	207,2386	26	L
193,98	42	L	200,71	32	L	207,391	24	L
194,08	40	L	200,86	30	L	207,518	22	L
194,21	38	L	200,99	28	L	207,6704	20	L
194,34	36	L	201,12	26	L	207,7974	18	L
194,46	34	L	201,24	24	L	207,9498	16	L
194,59	32	L	201,40	22	L	208,1022	14	L
194,72	30	L	201,52	20	L	208,2292	12	L
194,84	28	L	201,68	18	L	208,3816	10	L
194,97	26	L	201,80	16	L	208,534	8	L
195,10	24	L	201,96	14	L	208,6864	6	L
195,25	22	L	202,11	12	L	208,8388	4	L
195,38	20	L	202,26	10	L	208,9912	2	L
195,53	18	L	202,41	8	L	209,1182	0	—
195,68	16	L	202,54	6	L	209,2706	2	R
195,81	14	L	202,69	4	L	209,423	4	R
195,96	12	L	202,84	2	L	209,5754	6	R
196,11	10	L	203,00	0	—	209,7278	8	R
196,27	8	L	203,15	2	R	209,8802	10	R
196,42	6	L	203,30	4	R	210,0326	12	R
196,57	4	L	203,45	6	R	210,1596	14	R
196,70	2	L	203,61	8	R	210,312	16	R
196,85	0	—	203,76	10	R	210,4644	18	R
197,00	2	R	203,89	12	R	210,5914	20	R
197,15	4	R	204,04	14	R	210,7438	22	R
197,31	6	R	204,19	16	R	210,8708	24	R
197,46	8	R	204,32	18	R	210,9978	26	R
197,61	10	R	204,47	20	R	211,1502	28	R
197,76	12	R	204,60	22	R	211,2772	30	R
197,89	14	R	204,75	24	R	211,4042	32	R
198,04	16	R	204,88	26	R	211,5312	34	R
198,20	18	R	205,03	28	R	211,6582	36	R
198,32	20	R	205,16	30	R	211,7598	38	R
198,48	22	R	205,28	32	R	84,8868	40	R
198,60	24	R	205,41	34	R	211,9884	42	R
198,76	26	R	205,54	36	R	212,1154	44	R
198,88	28	R	205,64	38	R	212,217	46	R
199,01	30	R	205,77	40	R	212,3186	48	R
199,14	32	R	205,87	42	R	212,4202	50	R
199,26	34	R	205,99	44	R	212,4964	52	R
199,39	36	R	206,10	46	R	212,598	54	R
199,52	38	R	206,20	48	R	212,6742	56	R
199,62	40	R	206,30	50	R	212,7758	58	R
199,75	42	R	206,38	52	R	212,852	60	R
199,85	44	R	206,48	54	R	212,9028	62	R
199,95	46	R	206,50	56	R	212,979	64	R
200,00	48	R	—	—	—	213,0044	66	R

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Multiple edges allow respective increase of feed rate to increase productivity and metal removal rate (MRR).

- Engineered solutions are available starting at diameter 78mm with two independent adjustable Romicron™ edges.
- Combination of semi-finishing and finishing cutting operations in one tool are also possible.
- Romicron edges can be set up independently and adjusted to compensate for insert wear with one central dial to enable CLB as well.

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Primary Application

This premium boring line enables rough to fine-boring operations using one system with a large diameter range from 9,75–2.205mm. ModBORE can be used in most materials commonly found in the metalcutting environment by applying the latest technology in Kennametal Standard ISO Turning Inserts.

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- Twin blade heads for roughing to semi-finishing operations starting from diameter 23,5mm.
- Fine-boring heads for finishing for diameters 9,75–2.205mm.
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- Through-coolant capability in all series.

Resolution

- Fine adjustable roughing heads.
- 0,01mm diameter adjustment respective 2 µm with easy-to-read large vernier scale with fine-boring heads.

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- KM™ shanks for adaptation to all spindles via respective adaptors.
- HSK shanks for direct adaptation.
- Inch shanks as most economic variant for adaptation via respective adaptors.

Customisation

- Engineered solutions available.
- Anti-chatter devices available.
- Cartridges can be designed into standard boring heads for added versatility.

ModBORE™ Fine-Boring System

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The ModBORE Fine-Boring System utilises standard ISO/ANSI turning inserts for maximum performance and flexibility.

RBHT • Twin Cutters for Rough and Semi-Finish Boring

- Diameters 23,5–153mm.
- KM, HSK, and inch straight shank back end versions available.
- Special preloaded serration and ground support face ensures very stable connection, minimises cutting vibration, and maximises position accuracy while enabling easy diameter adjustment.
- Large selection of blades sets:
  - — Staggered — efficient machining of large depths of cut.
  - — 70° — for challenging applications requiring stable corner radii and full utilisation of inserts.
  - — 90° — most precise machining results.
- Generous clearance and through coolant enables free chip flow and improves tool life.
- All insert holders allow positive standard turning inserts for lowest cutting forces. Starting with diameter 65,5mm, additional insert holders for negative standard turning inserts enable even higher feed rates for maximum metal removal rates.

FBHO • Offset Boring Bar Heads for Fine Finish

- Diameters 9,75–88,1mm.
- KM, HSK, and inch straight shank back end versions available.
- Use of a precision-ground micrometric screw enables fine adjustment of 2 µm via vernier scale. The large, TiN-coated dial is easy to adjust and easy to read. The force- and form-fixed adjustment mechanism is almost free of any backlash and play.
- Standard steel and carbide boring bars can be adjusted in length by pushing them deep into the body for maximum stability.
- Through coolant directed to the cutting edge improves tool life, surface finish, and chip evacuation.

FBHM • Offset Boring Bar and Cartridge Heads for Fine Finish

- Diameters 9,75–320mm.
- KM-TS, HSK, CV, DV, and BT steep taper back end versions available.
- Use of a precision-ground micrometric screw enables fine adjustment of 2 µm via vernier scale. The large, TiN-coated dial is easy to adjust and easy to read. The force- and form-fixed adjustment mechanism is almost free of any backlash and play.
- Standard steel and carbide boring bars adjust in length by pushing them deep into the body for maximum stability.
- Aluminium diameter extender with insert cartridges and counterweightare used for diameters starting at 86mm for maximum flexibility.
- Through coolant directed to the cutting edge improves tool life, surface finish, and chip evacuation.

FBHS • Cartridge Boring Heads for Fine Finish

- Diameters 23,5–153mm.
- KM™, HSK, and inch straight shank back end versions available.
- Use of a precision-ground micrometric screw enables fine adjustment of 2 µm via vernier scale. The large, TiN-coated dial is easy to adjust and easy to read. The force- and form-fixed adjustment mechanism is almost free of any backlash and play.
- Large selection of insert holders:
  - — 95° — for use of Wiper turning inserts.
  - — 90° regular diameter — for most efficient machining of large depths of cut.
  - — 90° oversized diameter — for enhanced use of boring head diameter capabilities.
- Generous clearance and through coolant directed to the cutting edge improves tool life, surface finish, and chip evacuation.

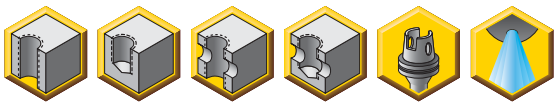
BT • Bridge Tools for Rough and Finish Boring

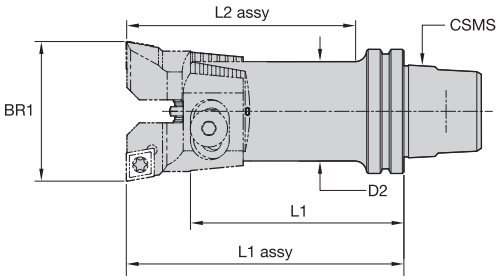
- Diameters 150–2.205mm.
- Highly sophisticated ground serration between consoles/slides and heads as well as T-style bolt clamping provides highest cutting force transmission capabilities, sensitive adjustment, and avoids diameter changes when heads are clamped.
- Only 10 bridge consoles are needed for diameters up to 655mm.
- KM, HSK, and various steep taper adaptors with console corresponding ground serration are available as standard. Through coolant to the cutting edge improves tool life and surface finish.
- Diameters 650–2.205mm are covered with only three aluminium-based consoles and two sets of steel slides for mounting rough and finish boring heads for direct spindle of shell mill adaptor clamping.
- 90° roughing head sets ensure precise height alignment and, by use of negative standard turning inserts, highest metal removal rates.
- New counterweight for better dynamic balancing supplements the fine-boring head with precision-ground micrometric screw enabling fine adjustment of 2 µm via vernier scale.

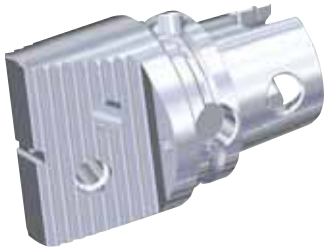
FBHM Fine-Boring Kits

range mm	order number	catalogue number	content	
9,75-164,0	**4057101**	**KM50TSFBHMKIT164M**	KM50TSFBHM1677 AFB09075SCFCR06 AFB13085SCFCR06 AFB17100SCFCR06 AFB21110SCFCR09 AFB24115SCFCR09	AFM29115 AFM47115 EBM8015086 AFM29SCFPR06 AFM47SCFPR09
9,75-164,0	**4057098**	**HSK63FBHMKIT164M**	HSK63FBHM1696 AFB09075SCFCR06 AFB13085SCFCR06 AFB17100SCFCR06 AFB21110SCFCR09 AFB24115SCFCR09	AFM29115 AFM47115 EBM8015086 AFM29SCFPR06 AFM47SCFPR09
9,75-164,0	**4057099**	**DV40FBHMKIT164M**	DV40FBHM1691 AFB09075SCFCR06 AFB13085SCFCR06 AFB17100SCFCR06 AFB21110SCFCR09 AFB24115SCFCR09	AFM29115 AFM47115 EBM8015086 AFM29SCFPR06 AFM47SCFPR09
9,75-164,0	**4057100**	**BT40FBHMKIT164M**	BT40FBHM1691 AFB09075SCFCR06 AFB13085SCFCR06 AFB17100SCFCR06 AFB21110SCFCR09 AFB24115SCFCR09	AFM29115 AFM47115 EBM8015086 AFM29SCFPR06 AFM47SCFPR09

• Order blade sets separately; see page K186.



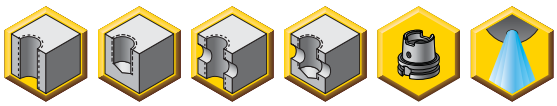


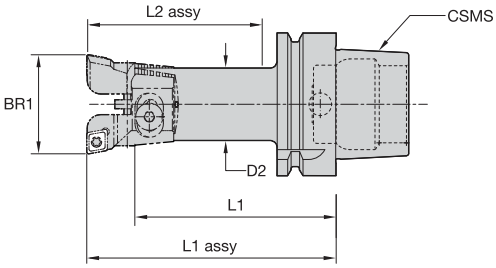


RBHT • KM™ Rough-Boring Twin Cutters

order number	catalogue number	BR1 bore range mm	CSMS system size	D2 mm	L1 mm	L1 assy mm	L2 assy mm	blade screw	washer	pin
3586519	KM32RBHT24	23,500-30,500	KM32	20,0	75,4	90,0	76,0	840.142.200	841.142.200	841.342.200
3586520	KM32RBHT30	29,500-40,000	KM32	25,0	83,8	100,0	86,0	840.142.250	841.142.250	841.342.200
3586521	KM40RBHT40	39,500-50,500	KM40	32,0	68,8	90,0	74,0	840.142.320	841.142.320	841.342.200
3586522	KM50RBHT50	49,500-66,500	KM50	42,0	62,2	90,0	70,0	840.142.420	841.142.200	841.342.420
3586543	KM50RBHT66	65,500-87,500	KM50	55,0	63,0	100,0	100,0	840.142.550	841.142.550	841.342.420
3586544	KM50RBHT87	86,500-115,500	KM50	72,0	70,5	120,0	120,0	840.142.720	841.142.720	841.342.420
3586545	KM63UTRBHT87	86,500-115,500	KM63UT	72,0	70,5	120,0	120,0	840.142.720	841.142.720	841.342.420
3586546	KM63UTRBHT115	114,500-153,000	KM63UT	94,0	83,2	150,0	150,0	840.142.940	841.142.940	841.342.420

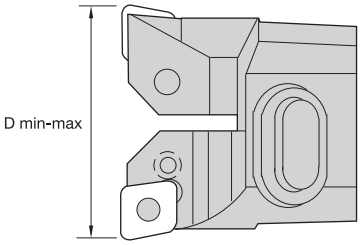
• Order blade sets separately; see page K186.

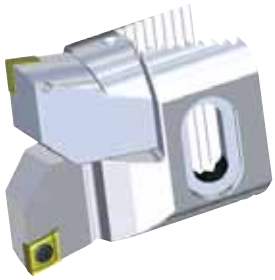




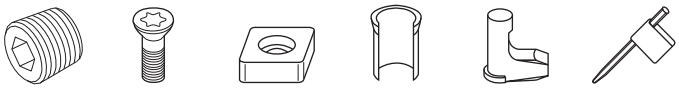
RBHT • HSK Rough-Boring Twin Cutters

order number	catalogue number	BR1 bore range mm	CSMS system size	D2 mm	L1 mm	L1 assy mm	L2 assy mm	blade screw	washer	pin
3586547	HSK63RBHT24	23,500-30,500	HSK63A	20,0	75,4	90,0	64,1	840.142.200	841.142.200	841.342.200
3586548	HSK63RBHT30	29,500-40,000	HSK63A	25,0	88,8	105,0	79,1	840.142.250	841.142.250	841.342.200
3586549	HSK63RBHT40	39,500-50,500	HSK63A	32,0	92,2	110,0	84,1	840.142.320	841.142.320	841.342.200
3586550	HSK63RBHT50	49,500-66,500	HSK63A	42,0	92,2	120,0	94,1	840.142.420	841.142.420	841.342.200
3586551	HSK63RBHT66	65,500-87,500	HSK63A	55,0	95,5	125,0	125,0	840.142.550	841.142.720	841.342.420
3586563	HSK63RBHT87	86,500-115,500	HSK63A	72,0	95,5	145,0	145,0	840.142.720	841.142.720	841.342.420

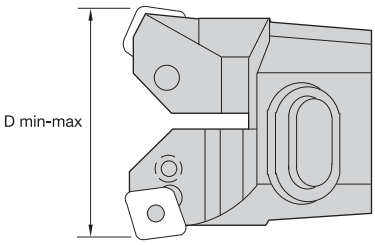




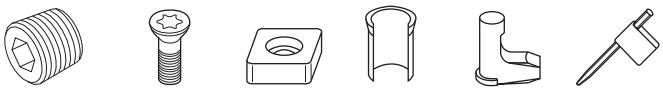
RBHT • 90° Blade Sets



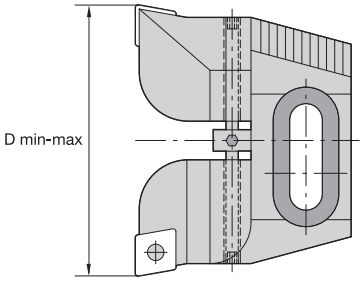
order number	catalogue number	D min mm	D max mm	gage insert	adjusting screw	insert screw	shim	shim pin	toggle lever	Torx wrench	Torx size
3556346	MB24RBHT06F	23,50	30,50	CC..0602..	848.200.407	843.006.000	–	–	–	FT7	T7
3556347	MB30RBHT06F	29,50	40,10	CC..0602..	848.250.409	843.006.000	–	–	–	FT7	T7
3556348	MB40RBHT09F	39,50	50,50	CC..09T3..	848.320.413	843.009.000	–	–	–	FT15	T15
3556349	MB50RBHT09F	49,50	66,50	CC..09T3..	848.420.614	843.009.000	–	–	–	FT15	T15
3556350	MB66RBHT12F	65,50	87,50	CC..1204..	848.550.620	843.012.000	–	–	–	FT20	T20
3556352	MB66RBHT12LF	65,50	87,50	CN..1204..	847.012.000	–	845.012.000	844.012.000	846.012.000	–	–
3556393	MB87RBHT12F	86,50	115,50	CC..1204..	848.720.000	843.012.000	–	–	–	FT20	T20
3556394	MB87RBHT16LF	86,50	115,50	CN..1606..	847.016.000	–	845.016.000	844.016.000	846.016.000	–	–
3556395	MB115RBHT12F	114,50	153,00	CC..1204..	848.940.640	843.012.000	–	–	–	FT20	T20
3556396	MB115RBHT16LF	114,50	153,00	CN..1606..	847.016.000	–	845.016.000	844.016.000	846.016.000	–	–



RBHT • 70° Blade Sets



order number	catalogue number	D min mm	D max mm	gage insert	adjusting screw	insert screw	shim	shim pin	toggle lever	Torx wrench	Torx size	hex size
3556397	MB24RBHT06K	23,50	30,50	CC..0602..	848.200.407	843.006.000	–	–	–	FT7	T7	–
3556398	MB30RBHT06K	29,50	40,10	CC..0602..	848.250.409	843.006.000	–	–	–	FT7	T7	–
3556399	MB40RBHT09K	39,50	50,50	CC..09T3..	848.320.413	843.009.000	–	–	–	FT15	T15	–
3556400	MB50RBHT09K	49,50	66,50	CC..09T3..	848.420.614	843.009.000	–	–	–	FT15	T15	–
3556401	MB66RBHT12K	65,50	87,50	CC..1204..	848.550.620	843.012.000	–	–	–	FT20	T20	–
3556402	MB66RBHT12LK	65,50	87,50	CN..1204..	847.012.000	–	845.012.000	844.012.000	846.012.000	–	–	3mm
3556403	MB87RBHT12K	86,50	115,50	CC..1204..	848.720.000	843.012.000	–	–	–	FT20	T20	–
3556404	MB87RBHT16LK	86,50	115,50	CN..1606..	847.016.000	–	845.016.000	844.016.000	846.016.000	–	–	3mm
3556405	MB115RBHT16LK	114,50	153,00	CN..1606..	847.016.000	–	845.016.000	844.016.000	846.016.000	–	–	3mm

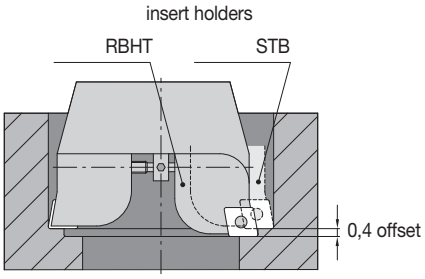


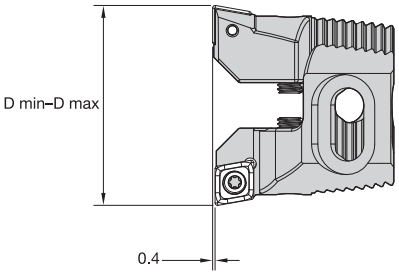
RBHT • 90° Simultaneous Adjusting Blade Sets

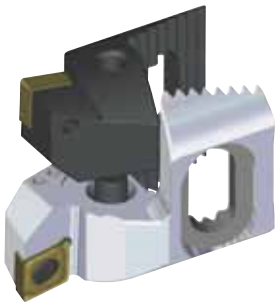
order number	catalogue number	D min mm	D max mm	gage insert	flat point socket set screw	insert screw	simultaneous adj spindle	shim	shim pin	toggle lever
2652965	SYB24RBHT06F	23,50	30,50	CC..0602..	848.200.407	843.006.000	848.200.005	–	–	–
2652967	SYB30RBHT06F	29,50	40,10	CC..0602..	848.250.409	843.006.000	848.250.005	–	–	–
2652968	SYB40RBHT09F	39,50	50,50	CC..09T3..	848.320.413	843.009.000	848.320.005	–	–	–
2652969	SYB50RBHT09F	49,50	66,50	CC..09T3..	848.420.614	843.009.000	848.420.005	–	–	–
2652971	SYB66RBHT12LF	65,50	87,50	CN..1204..	847.012.000	–	848.550.005	845.012.000	844.012.000	846.012.000
2652970	SYB66RBHT12F	65,50	87,50	CC..1204..	843.012.000	–	848.550.005	–	–	–
2652972	SYB87RBHT12F	86,50	115,50	CC..1204..	843.012.000	–	848.720.005	–	–	–
2652983	SYB87RBHT16LF	86,50	115,50	CN..1606..	847.016.000	–	848.720.005	845.016.000	844.016.000	846.016.000
2652984	SYB115RBHT16LF	114,50	153,00	CN..1606..	847.016.000	–	848.720.005	845.016.000	844.016.000	846.016.000

Reference Insert Blade Sets

BR1 mm	BR1 in	90° lead blade sets		70° lead blade sets		90° lead simultaneous adjusting blade sets		90° lead split depth-of-cut blade	
23.500–30.500	.9252–1.2008	MB24RBHT06F	–	MB24RBHT06K	–	SYB24RBHT06F	–	SDB24RBHT06F	–
29.500–40.000	1.1614–1.5748	MB30RBHT06F	–	MB30RBHT06K	–	SYB30RBHT06F	–	SDB30RBHT06F	–
39.500–50.500	1.5551–1.9882	MB40RBHT09F	–	MB40RBHT09K	–	SYB40RBHT09F	–	SDB40RBHT09F	–
49.500–66.500	1.9488–2.6181	MB50RBHT09F	–	MB50RBHT09K	–	SYB50RBHT09F	–	SDB50RBHT09F	–
65.500–87.500	2.5787–3.4449	MB66RBHT12F	MB66RBHT12LF	MB66RBHT12K	MB66RBHT12LK	SYB66RBHT12F	SYB66RBHT12LF	SDB66RBHT12F	SDB66RBHT12LF
86.500–115.500	3.4055–4.5472	MB87RBHT12F	MB87RBHT16LF	MB87RBHT12K	MB87RBHT16LK	SYB87RBHT12F	SYB87RBHT16LF	SDB87RBHT12F	SDB87RBHT16LF
114.500–153.000	4.5079–6.0236	MB115RBHT12F	MB115RBHT16LF	–	MB115RBHT16LK		SYB115RBHT16LF	SDB115RBHT12F	SDB115RBHT16LF



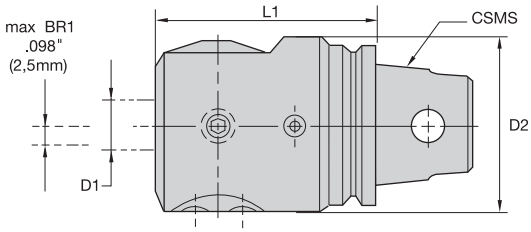




RBHT • 90° Split Depth of Cut Blade Sets

order number	catalogue number	D min mm	D max mm	gage insert	adjustment screw	insert screw	shim	shim pin	toggle lever
4063996	SDB24RBHT06F	23,50	30,50	CC..0602..	848.200.407	843.006.000	–	–	–
4063997	SDB30RBHT06F	29,50	40,10	CC..0602..	848.250.409	843.006.000	–	–	–
4063998	SDB40RBHT09F	39,50	50,50	CC..09T3..	848.320.413	843.009.000	–	–	–
4063999	SDB50RBHT09F	49,50	66,50	CC..09T3..	848.420.614	843.009.000	–	–	–
4064000	SDB66RBHT12F	65,50	87,50	CC..1204..	848.550.620	843.012.000	–	–	–
4064001	SDB66RBHT12LF	65,50	87,50	CN..1204..	847.012.000	–	845.012.000	844.012.000	846.012.000
4064002	SDB87RBHT12F	86,50	115,50	CC..1204..	848.720.000	843.012.000	–	–	–
4064203	SDB87RBHT16LF	86,50	115,50	CN..1606..	847.016.000	–	845.016.000	844.016.000	846.016.000
4064204	SDB115RBHT16LF	114,50	153,00	CN..1606..	847.016.000	–	845.016.000	844.016.000	846.016.000
4064205	SDB115RBHT12F	114,50	153,00	CC..1204..	848.940.640	843.012.000	–	–	–

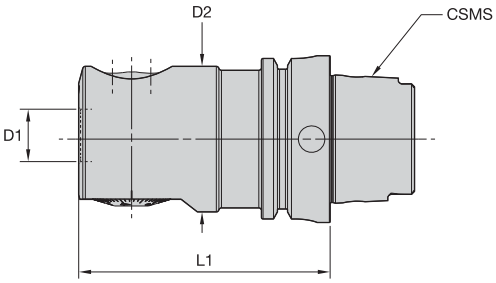
- Order boring bars separately for required diameter; see page K192.
- 0,01mm diameter adjustment respective 2 µm with vernier scale.



FBHO • KM™ Offset Boring Head

order number	catalogue number	CSMS system size	D1 mm	D2 mm	L1 mm	ModBORE FBHO parts package
1131111	**KM40FBHO1660**	KM40	16	55,0	60,0	**PKG7001**
1132036	**KM50FBHO1670**	KM50	16	55,0	70,0	**PKG7001**

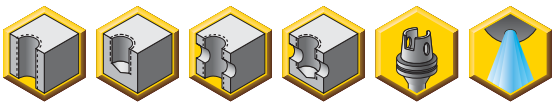
- Order boring bars separately for required diameter; see page K192.
- 0,01mm diameter adjustment respective 2 µm with vernier scale.

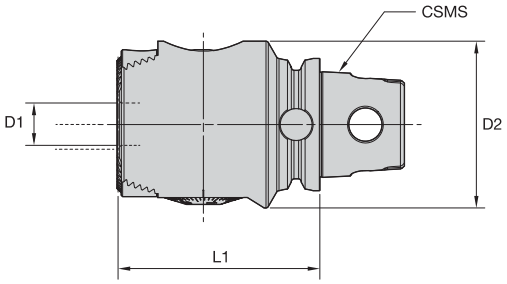


FBHO • HSK Boring Head

order number	catalogue number	CSMS system size	D1 mm	D2 mm	L1 mm	ModBORE FBHO parts package
2651037	**HSK63FBHO1695**	HSK63A	16	55	95,0	**PKG7001**

- Order boring bars, diameter extension bridge, and cartridges separately.
- 0,01mm diameter adjustment respective 2 µm with vernier scale.

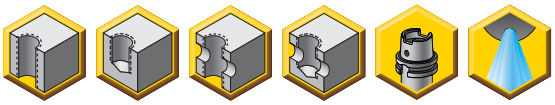


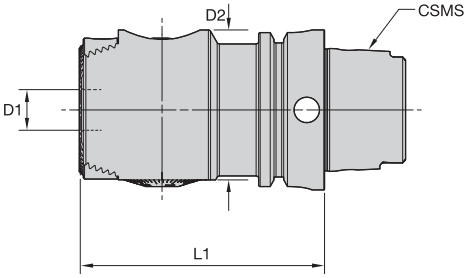


FBHM • KM™ Boring Head

order number	catalogue number	BR1 bore range mm	CSMS system size	D1 mm	D2 mm	L1 mm	ModBORE FBHS parts package	kg
4057060	**KM50TSFBHM1677**	9,750-164,000	KM50TS	16,0	63,0	76,6	**PKG-8001**	1,5

- Order boring bars, diameter extension bridge, and cartridges separately.
- 0,01mm diameter adjustment respective 2 µm with vernier scale.

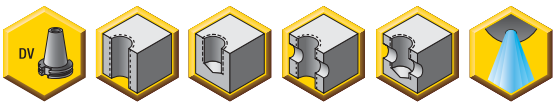


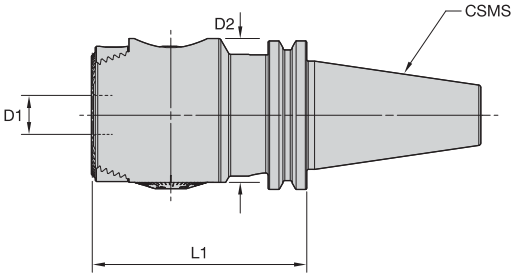


FBHM • HSK Boring Head

order number	catalogue number	BR1 bore range mm	CSMS system size	D1 mm	D2 mm	L1 mm	ModBORE FBHS parts package	kg
4057057	**HSK63FBHM1696**	9,750-164,000	HSK63A	16,0	63,0	95,0	**PKG-8001**	2,0

- Order boring bars, diameter extension bridge, and cartridges separately.
- 0,01mm diameter adjustment respective 2 µm with vernier scale.

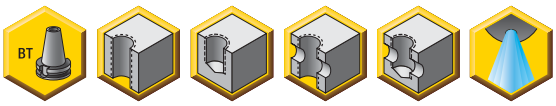


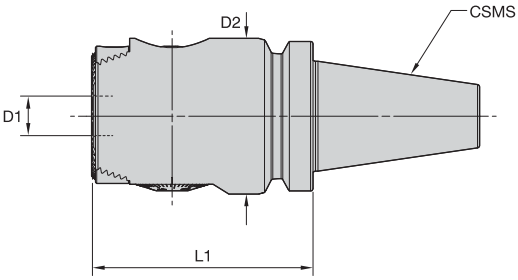


FBHM • DV40 Boring Head

order number	catalogue number	BR1 bore range mm	CSMS system size	D1 mm	D2 mm	L1 mm	ModBORE FBHS parts package	kg
4057058	**DV40FBHM1691**	9,750-154,000	DV40	—	63,0	90,0	**PKG-8001**	2,1

- Order boring bars, diameter extension bridge, and cartridges separately.
- 0,01mm diameter adjustment respective 2 µm with vernier scale.

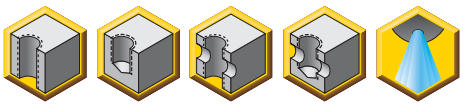


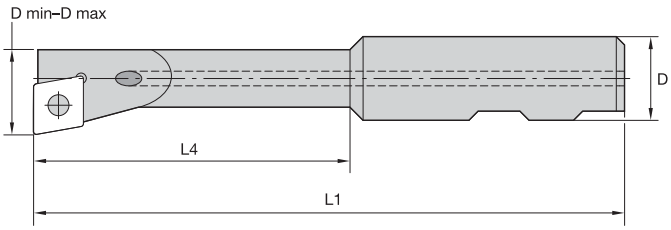


FBHM • BT40 Boring Head

order number	catalogue number	BR1 bore range mm	CSMS system size	D1 mm	D2 mm	L1 mm	ModBORE FBHS parts package	kg
4057059	**BT40FBHM1691**	9,750-164,000	BT40	16,0	63,0	90,0	**PKG-8001**	2,2

• Order inserts separately.

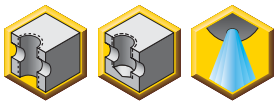


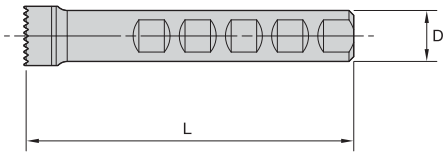


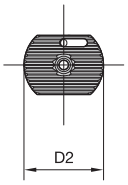
FBHO/FBHM • Universal Boring Bars

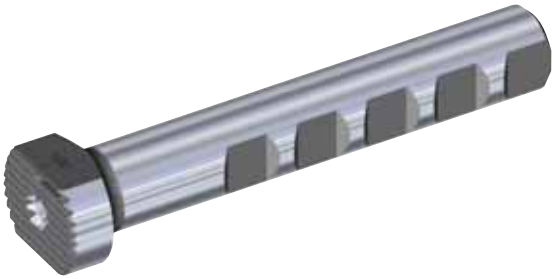
order number	catalogue number	D min mm	D max mm	D	L1 mm	L4 mm	gage insert	insert screw	Torx size
1125110	**AFB09075SCFCR06**	9,75	14,75	16	75,0	30,0	CC..0602../CC..215..	**PKG2025**	T7
1133883	**AFB13085SCFCR06**	13,75	18,75	16	85,0	40,0	CC..0602../CC..215..	**PKG2025**	T7
1133894	**AFB17100SCFCR06**	17,75	22,75	16	100,0	55,0	CC..0602../CC..215..	**PKG2025**	T7
1137835	**AFB21110SCFCR09**	21,75	26,75	16	110,0	60,0	CC..09T3../CC..325..	**PKG3242**	T15
1128324	**AFB24115SCFCR09**	24,75	29,75	16	115,0	65,0	CC..09T3../CC..325..	**PKG3242**	T15
1126838	**AFB27115SCFCR09**	27,75	32,75	16	115,0	70,0	CC..09T3../CC..325..	**PKG3242**	T15
1120731	**AFB31115SCFCR09**	31,75	36,75	16	115,0	70,0	CC..09T3../CC..325..	**PKG3242**	T15
1127271	**AFB34115SCFCR09**	34,75	39,75	16	115,0	70,0	CC..09T3../CC..325..	**PKG3242**	T15
2651038	**AFB38115SCFPR09**	38,75	44,10	16	115,0	85,0	CC..09T3../CC..325..	**PKG3242**	T15
2651039	**AFB42115SCFPR09**	42,75	48,10	16	115,0	85,0	CC..09T3../CC..325..	**PKG3242**	T15
2651040	**AFB47115SCFPR09**	47,75	53,10	16	115,0	85,0	CC..09T3../CC..325..	**PKG3242**	T15

• Order AFM insert cartridge separately.





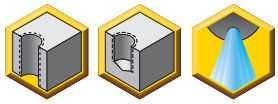


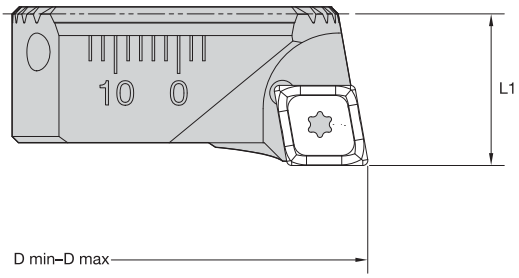


FBHO/FBHM • AFM Boring Bars

order number	catalogue number	BR1 bore range mm	D mm	D2 mm	L mm
4057061	**AFM29115**	29,8	16,0	25,0	103,000
4057062	**AFM47115**	47,8	16,0	44,0	101,580

- For use with AFM boring bars.
- Order insert separately.

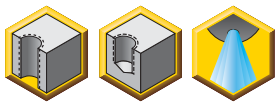


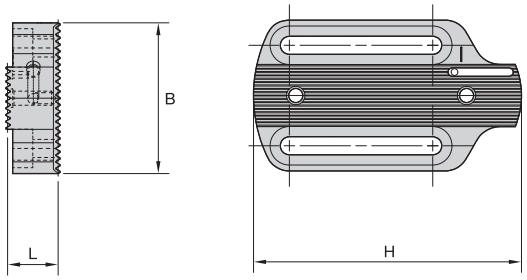


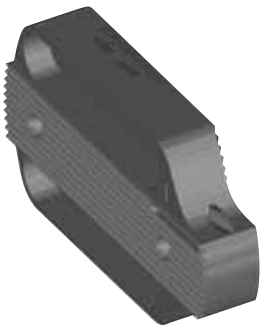
AFM • Insert Cartridges

order number	catalogue number	D min mm	D max mm	L1 mm	gage insert	ModBORE parts package	insert screw I.D. drive size
4057093	**AFM29SCFPR06**	30	48	12	CC..0602../CC..215..	**PKG2025**	T7
4057094	**AFM47SCFPR09**	48	88	14	CC..09T3../CC..325..	**PKG3242**	T15

- For use with FBHM insert holders and FBHM counterweight.
- Order AFM47SCFPR09 insert cartridge separately to achieve diameter range.



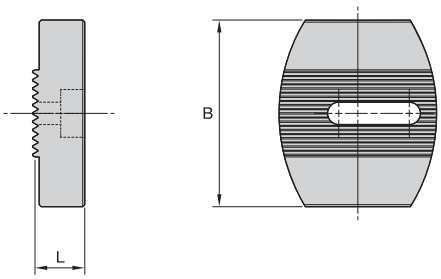




FBHM • Extension Bridge

order number	catalogue number	BR1 bore range mm	B mm	H mm	L mm
4057095	**EBM8015086**	86,000-164,000	45,0	80,0	15,0

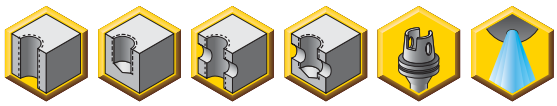
- For use with FBHM extension bridge.

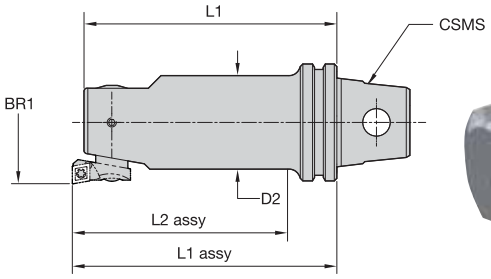


FBHM • Counterweight

order number	catalogue number	B mm	L mm
4057096	**886038045**	45	12

- 0,01mm diameter adjustment respective 2 µm with vernier scale.
- Internal coolant directed to indexable insert.
- Order insert cartridges separately for required bore range; see page K195.

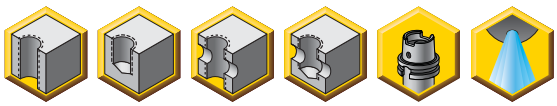


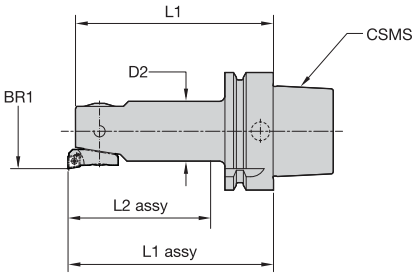


FBHS • KM™ Fine-Boring Single Cutters

order number	catalogue number	BR1 bore range mm	CSMS system size	D2 mm	L1 mm	L1 assy mm	L2 assy mm	cartridge mounting screw	lock screw
3586572	KM32FBHS24	23,900-37,100	KM32	20,0	86,0	90,0	76,1	880.252.200	881.252.200
3586573	KM32FBHS31	30,900-47,100	KM32	25,0	96,0	100,0	86,1	880.252.250	881.252.250
3586574	KM40FBHS40	39,900-59,100	KM40	32,0	86,0	90,0	74,0	880.252.320	881.252.320
3586575	KM50FBHS51	50,900-81,100	KM50	42,0	86,0	90,0	70,0	880.252.420	881.252.420
3586576	KM50FBHS67	66,900-105,100	KM50	55,0	96,0	100,0	100,0	880.252.550	881.252.550
3586577	KM50FBHS87	86,900-154,100	KM50	72,0	116,0	120,0	120,0	880.252.550	881.252.720
3586578	KM63UTFBHS87	86,900-154,100	KM63UT	72,0	115,0	120,0	120,0	880.252.550	881.252.720
3586579	KM63UTFBHS116	115,900-191,100	KM63UT	96,0	145,0	150,0	150,0	880.252.550	881.252.940

- 0,01mm diameter adjustment respective 2 µm with vernier scale.
- Internal coolant directed to indexable insert.
- Order insert cartridges separately for required bore range; see page K195.





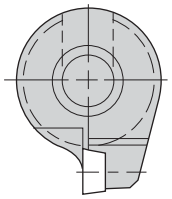
FBHS • HSK Fine-Boring Single Cutters

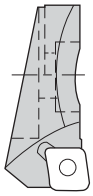
order number	catalogue number	BR1 bore range mm	CSMS system size	D2 mm	L1 mm	L1 assy mm	L2 assy mm	cartridge mounting screw	lock screw
3586580	HSK63FBHS24	23,900-37,100	HSK63A	20,0	86,0	90,0	61,1	880.252.200	881.252.200
3586581	HSK63FBHS31	30,900-47,100	HSK63A	25,0	101,0	105,0	76,1	880.252.250	881.252.250
3586582	HSK63FBHS40	39,900-59,100	HSK63A	32,0	106,0	110,0	81,1	880.252.320	881.252.320
3586583	HSK63FBHS51	50,900-81,100	HSK63A	42,0	116,0	120,0	91,1	880.252.420	881.252.420
3586584	HSK63FBHS67	66,900-105,100	HSK63A	55,0	121,0	125,0	99,1	880.252.550	881.252.550
3586585	HSK63FBHS87	86,900-154,100	HSK63A	72,0	141,0	145,0	145,0	880.252.550	881.252.720

Reference Insert Cartridges

BR1 mm	insert cartridges 90° lead		95° lead	
23,900-31,100	R24FBHS06	—	R24FBHS06LF	—
29,900-37,100	R30FBHS06	—	—	—
30,900-40,100	R31FBHS06	—	R31FBHS06LF	—
37,900-47,100	F38FBHS06	—	—	—
39,900-51,100	R40FBHS06	—	R40FBHS06LF	—
47,900-59,100	R48FBHS06	—	—	—
50,900-67,100	R51FBHS06	—	R51FBHS06LF	—
64,900-81,100	R65FBHS06	—	—	—
66,900-87,100	R67FBHS06	R67FBHS09	—	R67FBHS09LF
84,900-105,100	R85FBHS06	R85FBHS09	—	—
86,900-116,100	R67FBHS06	R67FBHS09	—	R67FBHS09LF
104,900-134,100	R85FBHS06	R85FBHS09	—	—
115,900-154,100	R67FBHS06	R67FBHS09	—	R67FBHS09LF
133,900-171,100	R85FBHS06	R85FBHS09	—	—
153,900-191,100	—	R125FBHS09	—	—

• Order inserts separately.





90° Lead • Insert Holders for FBHS Fine-Boring Heads

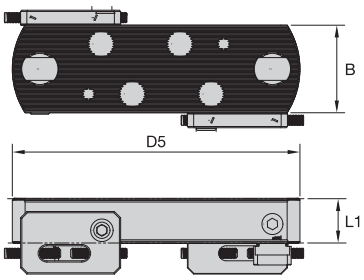
order number	catalogue number	gage insert	Torx size	insert screw
1137487	R24FBHS06	CC..0602../CC..215..	T7	843.006.000
2649548	R30FBHS06	CC..0602../CC..215..	T7	843.006.000
1133669	R31FBHS06	CC..0602../CC..215..	T7	843.006.000
2649549	R38FBHS06	CC..0602../CC..215..	T7	843.006.000
1135369	R40FBHS06	CC.0602../CC..215..	T7	843.006.000
2649550	R48FBHS06	CC..0602../CC..215..	T7	843.006.000
1137479	R51FBHS06	CC..0602../CC..215..	T7	843.006.000
2649551	R65FBHS06	CC..0602../CC..215..	T7	843.006.000
1834274	R67FBHS06	CC..0602../CC..215..	T7	843.006.000
1137505	R67FBHS09	CC..09T3../CC..325..	T15	843.009.000
2649552	R85FBHS06	CC..0602../CC..215..	T7	843.006.000
2649553	R85FBHS09	CC..09T3../CC..325..	T15	843.009.000
2649554	R125FBHS09	CC..09T3../CC..325..	T15	843.009.000

• Order inserts separately.

95° Lead • Insert Holders for FBHS

order number	catalogue number	gage insert	insert screw I.D. drive size	insert screw
2649555	R24FBHS06LF	CC..0602../CC..215..	T7	843.006.000
2649556	R31FBHS06LF	CC..0602../CC..215..	T7	843.006.000
2649557	R40FBHS06LF	CC..0602../CC..215..	T7	843.006.000
2649558	R51FBHS06LF	CC..0602../CC..215..	T7	843.006.000
2649559	R67FBHS09LF	CC..09T3../CC..325..	T15	843.009.000

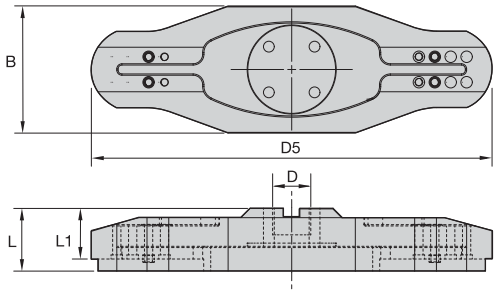
• Match extension bridge series to adaptor.



Small-Scale Extension Bridges

order number	catalogue number	BR1 bore range mm	max RPM	extension bridge series	B mm	D5 mm	L1 mm	spare parts package	hex size	kg
1133280	**EB13030150**	150,000-205,000	1250	A	70,0	130,0	30,0	**PKG156502**	8 mm	1,95
1125085	**EB18030200**	200,000-255,000	1000	A	70,0	180,0	30,0	**PKG156502**	8 mm	2,77
1132857	**EB23035250**	250,000-305,000	850	B	70,0	230,0	35,0	**PKG156502**	8 mm	4,00
1126830	**EB28035300**	300,000-355,000	700	B	70,0	280,0	35,0	**PKG156502**	8 mm	5,14
1121703	**EB33040350**	350,000-405,000	600	B	70,0	330,0	40,0	**PKG156502**	8 mm	6,86
1140602	**EB38040400**	400,000-455,000	530	C	70,0	380,0	40,0	**PKG156502**	8 mm	7,95
1121036	**EB43040450**	450,000-505,000	480	C	70,0	430,0	40,0	**PKG156502**	8 mm	9,23
1270619	**EB48040500**	500,000-550,000	440	C	70,0	480,0	40,0	**PKG156502**	8 mm	10,23
1270620	**EB53050550**	550,000-605,000	400	C	70,0	530,0	50,0	**PKG156502**	8 mm	13,91
1270621	**EB58050600**	600,000-655,000	370	C	70,0	580,0	50,0	**PKG156502**	8 mm	15,32

- For use with shell mill adaptors or direct connection to the machine spindle.
- Order bridge slides separately.



Large Scale Extension Bridge

order number	catalogue number	BR1 bore range mm	D mm	D5 mm	B mm	L mm	L1 mm	kg
4057204	**EB630128650**	650,000-1105,000	60,0	630,0	200,0	99,0	84,0	17,2
4057205	**EB10801281100**	1100,000-1655,000	60,0	1080,0	200,0	99,0	84,0	28,1
4057206	**EB16301281650**	1650,000-2205,000	60,0	1630,0	200,0	99,0	84,0	43,0

max RPMs

BR1 bore range (mm)	max RPM
650–705	300
700–755	285
750–805	270
800–855	255
850–905	240
900–955	225
950–1005	210
1000–1055	195
1050–1105	180

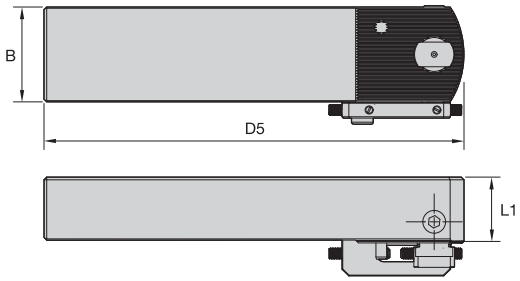
max RPMs

BR1 bore range (mm)	max RPM
1100–1155	170
1150–1205	163
1200–1255	156
1250–1305	149
1300–1355	142
1350–1405	135
1400–1455	128
1450–1505	121
1500–1555	114
1550–1605	107
1600–1655	100

max RPMs

BR1 bore range (mm)	max RPM
1650–1705	95
1700–1755	90
1750–1805	85
1800–1855	80
1850–1905	75
1900–1955	70
1950–2005	65
2000–2055	60
2050–2105	55
2100–2155	50
2150–2205	45

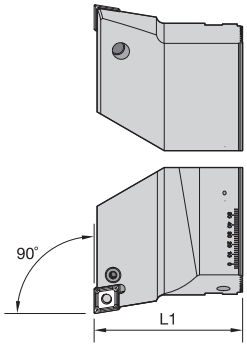
- For use with large-scale bridge extensions.
- Delivered as a set of two.

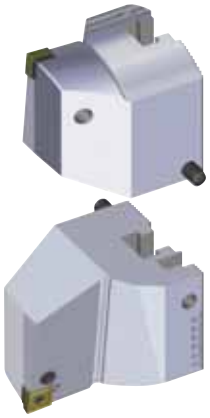


Bridge Slides

order number	catalogue number	BR1 bore range mm	B mm	D5 mm	L1 mm	spare parts package	kg
4057207	**EBSLD1105**	650,000-1105,000	70,0	310,0	48,0	**PKG156502**	7,0
4057208	**EBSLD2205**	1100,000-2205,000	70,0	360,0	48,0	**PKG156502**	7,9

- Packaged as a matched set of two to enable twin cutting operations.

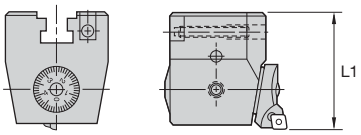




90° Lead • Bridge Tool Rough Boring Head

order number	catalogue number	L1 mm	gage insert	spare parts package	insert screw I.D. drive size	kg
1624878	**EBURF1975PKG**	75,0	CN..1906../CN..64..	**PKG7994**	4 mm	1,6

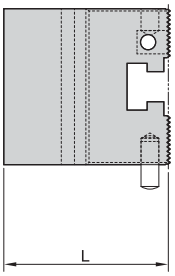
- Insert holder included.
- 0,01mm diameter adjustment respective 2 µm with vernier scale.
- Use with counterweight for balance.



90° Lead • Bridge Tool Fine-Boring Head

order number	catalogue number	L1 mm	cartridge	spare parts package	wrench size adjusting screw	kg
1135375	**EBUFF0975**	75,0	R67–FBHS-09	**PKG0002**	5 mm	2,1

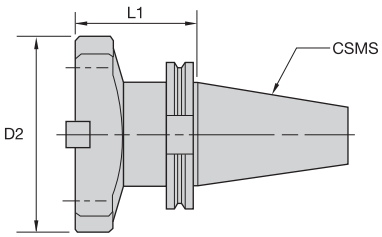
- Use to balance the extension bridge when using an EBUFF fine-boring head.



Bridge Tool Counterweight

order number	catalogue number	L mm	kg
4062443	**EBUCW0074**	74	2,1

- Extension bridge required.
- Order extension bridge separately; see page K196.
- Order coolant cartridge set separately; see page K200.
- Match adaptor and extension bridge series.



CV Bridge Tool Adaptors

order number	catalogue number	CSMS system size	extension bridge series	D1 mm	D1 max mm	D2 mm	L1 mm	spare parts package	socket-head cap screw
1122185	**CV50BT13069**	CV50	A,B,C	150	655	130,0	69,1	**PKG1565**	**MS1085PKG**

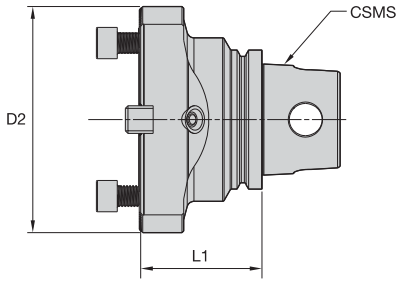
DV Bridge Tool Adaptors

order number	catalogue number	CSMS system size	extension bridge series	D1 mm	D1 max mm	D2 mm	L1 mm	spare parts package	socket-head cap screw
1263825	**DV40BT13069**	DV50	A	150	255	130	69	**PKG1565**	**MS1085PKG**
1133581	**DV50BT13069**	DV50	A,B,C	150	655	130	69	**PKG1565**	**MS1085PKG**

BT Bridge Tool Adaptors

order number	catalogue number	CSMS system size	extension bridge series	D1 mm	D1 max mm	D2 mm	L1 mm	spare parts package	socket-head cap screw
1121711	**BT50BT13088**	BT50	A,B,C	150	655	130	88	**PKG1565**	**MS1085PKG**

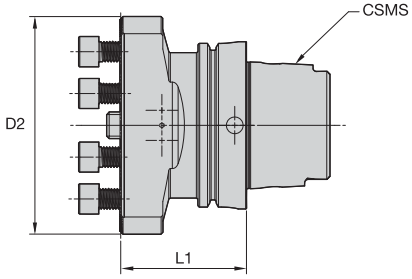
- Extension bridge required.
- Order extension bridge separately; see page K196.
- Match adaptor and extension bridge series.

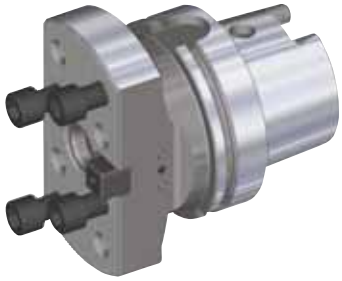


KM™ Bridge Tool Adaptors

order number	catalogue number	CSMS system size	extension bridge series	D1 mm	D1 max mm	D2 mm	L1 mm	spare parts package	socket-head cap screw
1135802	**KM63BT13065**	KM63	A	150	305	130,0	65,0	**PKG1565**	**MS1085PKG**
1197315	**KM80BT13070**	KM80	B,A	150	405	130,0	70,0	**PKG1565**	**MS1085PKG**

- Extension bridge required.
- Order extension bridge separately; see page K196.
- Match adaptor and extension bridge series.



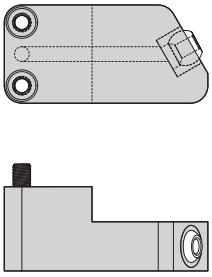


HSK Bridge Tool Adaptors

order number	catalogue number	CSMS system size	extension bridge series	D2 mm	L1 mm	spare parts package	socket-head cap screw
4062112	**HSK100BT13075**	HSK100A	A,B,C	130,0	75,0	**PKG1565**	**MS1085PKG**

Coolant Cartridge for Bridge Tool Adaptor

- Use at bridge tool adaptor to direct the coolant towards the insert.
- Delivered as a set of two with mounting screws.



Coolant Cartridge

order number	catalogue number
4062111	**920028015**

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Material Group		Condition	Geometry -MP	Geometry -MN	Geometry -MF	Cutting Speed m/min min	Cutting Speed m/min Starting Value	Cutting Speed m/min max	Feed Rate mm/r -MP	Feed Rate mm/r -MN	Feed Rate mm/r -MF
P	1		–	KCP05	–	180	**435**	495	–	0,16 - 0,63	–
			KCP10			180	**395**	360	0,10 - 0,40	0,16 - 0,63	0,10 - 0,40
			–	KC9110		180	**395**	360	–	0,16 - 0,63	0,10 - 0,40
			KCP25			125	**275**	360	0,10 - 0,20	0,16 - 0,31	0,10 - 0,20
			–	KC9125		155	**280**	360	–	0,16 - 0,31	0,10 - 0,20
	2		–	KCP05	–	180	**265**	400	–	0,16 - 0,63	–
			KCP10			180	**240**	470	0,10 - 0,40	0,16 - 0,63	0,10 - 0,40
			–	KC9110		180	**250**	340	–	0,16 - 0,63	0,10 - 0,40
			KCP25			125	**195**	280	0,10 - 0,20	0,16 - 0,31	0,10 - 0,20
			–	KC9125		140	**200**	295	–	0,16 - 0,31	0,10 - 0,20
	3		–	KCP05	–	180	**205**	275	–	0,16 - 0,63	–
			KCP10			160	**190**	350	0,10 - 0,40	0,16 - 0,63	0,10 - 0,40
			–	KC9110		155	**190**	235	–	0,16 - 0,63	0,10 - 0,40
			KCP25			135	**155**	225	0,10 - 0,20	0,16 - 0,31	0,10 - 0,20
			–	KC9125		135	**155**	225	–	0,16 - 0,31	0,10 - 0,20
	4		–	KCP05	–	90	**160**	220	–	0,16 - 0,63	–
			KCP10			90	**145**	235	0,10 - 0,40	0,16 - 0,63	0,10 - 0,40
			–	KC9110		90	**145**	195	–	0,16 - 0,63	0,10 - 0,40
			KCP25			75	**105**	180	0,10 - 0,20	0,16 - 0,31	0,10 - 0,20
			–	KC9125		75	**110**	175	–	0,16 - 0,31	0,10 - 0,20
	5		–	KCP05	–	150	**240**	315		0,16 - 0,63	–
			KCP10			150	**215**	300	0,10 - 0,40	0,16 - 0,63	0,10 - 0,40
			–	KC9110		150	**215**	300	–	0,16 - 0,63	0,10 - 0,40
			KCP25			120	**195**	260	0,10 - 0,20	0,16 - 0,31	0,10 - 0,20
			–	KC9125		120	**195**	260	–	0,16 - 0,31	0,10 - 0,20
	6		–	KCP05	–	140	**200**	300	–	0,16 - 0,63	–
			KCP10			110	**180**	270	0,10 - 0,40	0,16 - 0,63	0,10 - 0,40
			–	KC9110		120	**180**	225	–	0,16 - 0,63	0,10 - 0,40
			KCP25			105	**150**	225	0,10 - 0,20	0,16 - 0,31	0,10 - 0,20
			–	KC9125		105	**150**	225	–	0,16 - 0,31	0,10 - 0,20

Material Group		Condition	Geometry -MP	Geometry -MF	Geometry –	Cutting Speed m/min min	Cutting Speed m/min Starting Value	Cutting Speed m/min max	Feed Rate mm/r -MP	Feed Rate mm/r -MF	Feed Rate mm/r –
M	1		KCM15		–	100	**180**	240	0,10 - 0,40	0,08 - 0,30	–
			KC5010	–	–	130	**215**	250	0,10 - 0,40	–	–
			KC9225		–	175	**185**	250	0,10 - 0,40	0,08 - 0,30	–
			KCM25		–	90	**150**	200	0,10 - 0,20	0,08 - 0,15	–
			KC9240		–	90	**120**	135	0,10 - 0,20	0,08 - 0,15	–
	2		KCM15		–	110	**165**	250	0,10 - 0,40	0,08 - 0,30	–
			KC5010	–	–	125	**200**	250	0,10 - 0,40	–	–
			KC9225		–	110	**170**	230	0,10 - 0,40	0,08 - 0,30	–
			KCM25		–	90	**150**	225	0,10 - 0,20	0,08 - 0,15	–
			KC9240		–	80	**105**	135	0,10 - 0,20	0,08 - 0,15	–
	3		KCM15		–	110	**150**	250	0,10 - 0,40	0,08 - 0,30	–
			KC5010	–	–	110	**150**	230	0,10 - 0,40	–	–
			KC9225		–	110	**150**	230	0,10 - 0,40	0,08 - 0,30	–
			KCM25		–	90	**120**	200	0,10 - 0,20	0,08 - 0,15	–
			KC9240		–	80	**90**	135	0,10 - 0,20	0,08 - 0,15	–

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Material Group		Condition	Geometry -MP	Geometry -MW	Geometry –	Cutting Speed m/min min	Cutting Speed m/min Starting Value	Cutting Speed m/min max	Feed Rate mm/r -MP	Feed Rate mm/r -MW	Feed Rate mm/r –
K	1		KCK20		–	220	**300**	540	0,10 - 0,40	0,16 - 1,00	–
			–	KT315	–	160	**275**	490	–	0,16 - 1,00	–
			KCK20		–	220	**275**	350	0,10 - 0,40	0,16 - 1,00	–
			–	KC9315	–	150	**275**	350	–	0,16 - 1,00	–
			KCK20			140	**210**	340	0,10 - 0,20	0,16 - 0,45	–
			–	KC9325	–	70	**210**	340	–	0,16 - 0,45	–
	2		KCK20		–	220	**275**	350	0,10 - 0,40	0,16 - 1,00	–
			–	KT315	–	180	**275**	360	–	0,16 - 1,00	–
			KCK20		–	220	**275**	350	0,10 - 0,40	0,16 - 1,00	–
			–	KC9315	–	130	**260**	340	–	0,16 - 1,00	–
			KCK20		–	220	**275**	350	0,10 - 0,20	0,16 - 0,45	–
	3		KCK20		–	110	**150**	230	0,10 - 0,40	0,16 - 1,00	–
			–	KT315	–	170	**230**	360	–	0,16 - 1,00	–
			KCK20		–	110	**150**	230	0,10 - 0,40	0,16 - 1,00	–
			–	KC9315	–	130	**215**	350	–	0,16 - 1,00	–
			KCK20		–	110	**150**	230	0,10 - 0,20	0,16 - 0,45	–

Material Group		Condition	Geometry -HP	Geometry –	Geometry –	Cutting Speed m/min min	Cutting Speed m/min Starting Value	Cutting Speed m/min max	Feed Rate mm/r -HP	Feed Rate mm/r –	Feed Rate mm/r –
N	1		KC5410	–	–	200	**550**	1000	0,16 - 0,63	–	–
			–	KD1400	–	450	**765**	2500	–	0,25 - 0,63	–
			KC5410	–	–	200	**550**	1000	0,16 - 0,31	–	–
	2		–	KD1425	–	300	**520**	900	–	0,25 - 0,63	–
			–	KD1425	–	300	**520**	900	–	0,25 - 0,40	–
	3		KC5410	–	–	100	**275**	500	0,16 - 0,63	–	–
			K313	–	–	120	**260**	490	0,16 - 0,63	–	–
			KC5410	–	–	100	**275**	500	0,16 - 0,31	–	–
	5		KC5410	–	–	100	**200**	350	0,16 - 0,63	–	–
			KC5410	–	–	100	**200**	350	0,16 - 0,31	–	–

Material Group		Condition	Geometry -MP	Geometry -FP	Geometry -UP	Cutting Speed m/min min	Cutting Speed m/min Starting Value	Cutting Speed m/min max	Feed Rate mm/r -MP	Feed Rate mm/r -FP	Feed Rate mm/r -UP
S	1		KCU10		–	30	**55**	115	0,10 - 0,40	0,06 - 0,25	–
			KC5010			30	**55**	115	0,10 - 0,40	0,06 - 0,25	0,16 - 0,50
			KCU25		–	10	**40**	55	0,10 - 0,20	0,06 - 0,12	–
			KC9240	–	KC9240	10	**40**	60	0,10 - 0,20	–	0,16 - 0,27
	2		KCU10		–	30	**60**	120	0,10 - 0,40	0,06 - 0,25	–
			KC5010			30	**60**	115	0,10 - 0,40	0,06 - 0,25	0,16 - 0,50
			KCU25		–	10	**30**	55	0,10 - 0,20	0,06 - 0,12	–
			KC9240	–	KC9240	10	**30**	55	0,10 - 0,20	–	0,16 - 0,27
	3		KCU10		–	30	**70**	115	0,10 - 0,40	0,06 - 0,25	–
			KC5010			30	**70**	115	0,10 - 0,40	0,06 - 0,25	0,16 - 0,50
			KCU25		–	20	**40**	55	0,10 - 0,20	0,06 - 0,12	–
			KC9240	–	KC9240	20	**40**	60	0,10 - 0,20	–	0,16 - 0,27
	4		KCU10		–	45	**70**	140	0,10 - 0,40	0,06 - 0,25	–
			KC5010			45	**70**	170	0,10 - 0,40	0,06 - 0,25	0,16 - 0,50
			KCU25		–	20	**55**	90	0,10 - 0,20	0,06 - 0,12	–
			KC9240	–	KC9240	15	**55**	90	0,10 - 0,20	–	0,16 - 0,27

Condition: S = Stable cutting conditions; U = Unstable cutting conditions; I = Interrupted cutting conditions
Pocket seat: I = Inboard insert; O = Outboard insert

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Material Group		Condition	Geometry -LF	Geometry -UF	Geometry -FP	Geometry -FW	Cutting Speed m/min min	Cutting Speed m/min Starting Value	Cutting Speed m/min max	Feed Rate mm/r -LF	Feed Rate mm/r -UF	Feed Rate mm/r -FP	Feed Rate mm/r -FW
P	1		KCP05			–	180	**435**	495	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
			–	–	KTP10	–	180	**435**	495	–	–	0,06 - 0,25	–
			KT315	–	–	KT315	180	**400**	495	0,06 - 0,25	–	–	0,08 - 0,30
			KCP10			–	180	**395**	465	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
			KC9110		–	–	180	**395**	495	0,06 - 0,25	0,04 - 0,16	–	–
			KCP25				140	**280**	360	0,06 - 0,10	0,04 - 0,08	0,06 - 0,12	0,08 - 0,16
			KC9125		–	–	140	**280**	360	0,06 - 0,10	0,04 - 0,08	–	–
	2		KCP05			–	180	**265**	400	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
			–	–	KTP10	–	180	**265**	400	–	–	0,06 - 0,25	–
			KT315	–	–	KT315	190	**270**	390	0,06 - 0,25	–	–	0,08 - 0,30
			KCP10			–	180	**240**	330	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
			KC9110		–	–	180	**240**	330	0,06 - 0,25	0,04 - 0,16	–	–
			KCP25				145	**195**	320	0,06 - 0,10	0,04 - 0,08	0,06 - 0,12	0,08 - 0,16
			KC9125		–	–	145	**195**	320	0,06 - 0,10	0,04 - 0,08	–	–
	3		KCP05			–	180	**205**	275	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
			–	–	KTP10	–	180	**205**	275	–	–	0,06 - 0,25	–
			KT315	–	–	KT315	180	**210**	275	0,06 - 0,25	–	–	0,08 - 0,30
			KCP10			–	160	**190**	250	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
			KC9110		–	–	155	**190**	240	0,06 - 0,25	0,04 - 0,16	–	–
			KCP25				135	**155**	225	0,06 - 0,10	0,04 - 0,08	0,06 - 0,12	0,08 - 0,16
			KC9125		–	–	135	**155**	225	0,06 - 0,10	0,04 - 0,08	–	–
	4		KCP05			–	90	**160**	220	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
			–	–	KTP10	–	90	**160**	220	–	–	0,06 - 0,25	–
			KT315	–	–	KT315	90	**180**	220	0,06 - 0,25	–	–	0,08 - 0,30
			KCP10			–	90	**145**	195	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
			KC9110		–	–	90	**145**	195	0,06 - 0,25	0,04 - 0,16	–	–
			KCP25				75	**105**	180	0,06 - 0,10	0,04 - 0,08	0,06 - 0,12	0,08 - 0,16
			KC9125		–	–	75	**105**	180	0,06 - 0,10	0,04 - 0,08	–	–
	5		KCP05			–	150	**240**	315	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
			–	–	KTP10	–	150	**240**	315	–	–	0,06 - 0,25	–
			KT315	–	–	KT315	150	**250**	315	0,06 - 0,25	–	–	0,08 - 0,30
			KCP10			–	150	**215**	300	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
			KC9110		–	–	150	**215**	300	0,06 - 0,25	0,04 - 0,16	–	–
			KCP25				120	**195**	255	0,06 - 0,10	0,04 - 0,08	0,06 - 0,12	0,08 - 0,16
			KC9125		–	–	120	**195**	255	0,06 - 0,10	0,04 - 0,08	–	–
	6		KCP05			–	140	**200**	300	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
			–	–	KTP10	–	140	**200**	300	–	–	0,06 - 0,25	–
			KT315	–	–	KT315	140	**200**	300	0,06 - 0,25	–	–	0,08 - 0,30
			KCP10			–	120	**180**	275	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
			KC9110		–	–	120	**180**	225	0,06 - 0,25	0,04 - 0,16	–	–
			KCP25				105	**150**	225	0,06 - 0,10	0,04 - 0,08	0,06 - 0,12	0,08 - 0,16
			KC9125		–	–	105	**150**	225	0,06 - 0,10	0,04 - 0,08	–	–

Material Group		Condition	Geometry -LF	Geometry -UF	Geometry -FP	Geometry -FW	Cutting Speed m/min min	Cutting Speed m/min Starting Value	Cutting Speed m/min max	Feed Rate mm/r -LF	Feed Rate mm/r -UF	Feed Rate mm/r -FP	Feed Rate mm/r -FW
M	1		–	–	KTP10	–	140	**230**	315	–	–	0,06 - 0,25	–
			KT315	–	–	KT315	140	**230**	315	0,06 - 0,25	–	–	0,08 - 0,30
			KC5010	–	–	KC5010	130	**215**	245	0,06 - 0,25	–	–	0,08 - 0,30
			KCM15	–	KCM15	–	105	**180**	240	0,06 - 0,12	–	0,06 - 0,12	–
			KC9225	–	–	KC9225	105	**180**	240	0,06 - 0,12	–	–	0,08 - 0,16
	2		–	–	KTP10	–	140	**215**	295	–	–	0,06 - 0,25	–
			KT315	–	–	KT315	140	**215**	295	0,06 - 0,25	–	–	0,08 - 0,30
			KC5010	–	–	KC5010	130	**200**	245	0,06 - 0,25	–	–	0,08 - 0,30
			KCM15	–	KCM15	–	105	**165**	250	0,06 - 0,12	–	0,06 - 0,12	–
			KC9225	–	–	KC9225	100	**160**	230	0,06 - 0,12	–	–	0,08 - 0,16
	3		–	–	KTP10	–	140	**200**	300	–	–	0,06 - 0,25	–
			KT315	–	–	KT315	140	**200**	300	0,06 - 0,25	–	–	0,08 - 0,30
			KC5010	–	–	KC5010	130	**185**	230	0,06 - 0,25	–	–	0,08 - 0,30
			KCM15	–	KCM15	–	115	**150**	255	0,06 - 0,12	–	0,06 - 0,12	–
			KC9225	–	–	KC9225	110	**150**	230	0,06 - 0,12	–	–	0,08 - 0,16

■ ModBORE™ • Finishing • Metric

Material Group		Condition	Geometry -LF	Geometry -UF	Geometry -FP	Geometry -FW	Cutting Speed m/min min	Cutting Speed m/min Starting Value	Cutting Speed m/min max	Feed Rate mm/r -LF	Feed Rate mm/r -UF	Feed Rate mm/r -FP	Feed Rate mm/r -FW
K	1		KCK20	–	KCK20		200	**300**	540	0,06 - 0,25	–	0,06 - 0,25	0,08 - 0,30
			KT315	–	–	KT315	165	**275**	490	0,06 - 0,25	–	–	0,08 - 0,30
			KC9315	–	–	–	110	**275**	450	0,06 - 0,25	–	–	–
			KC9320	–	–	–	100	**240**	400	0,06 - 0,12	–	–	–
	2		KCK20	–	KCK20		150	**240**	420	0,06 - 0,25	–	0,06 - 0,25	0,08 - 0,30
			KT315	–	–	KT315	180	**275**	360	0,06 - 0,25	–	–	0,08 - 0,30
			KC5010		–	KC5010	100	**200**	265	0,06 - 0,25	0,04 - 0,16	–	0,08 - 0,30
			KC9315	–	–	–	145	**260**	360	0,06 - 0,25	–	–	–
			KC9320	–	–	–	140	**240**	330	0,06 - 0,12	–	–	–
	3		KCK20	–	KCK20		140	**210**	350	0,06 - 0,25	–	0,06 - 0,25	0,08 - 0,30
			KT315	–	–	KT315	180	**230**	320	0,06 - 0,25	–	–	0,08 - 0,30
			KC5010		–	KC5010	120	**150**	225	0,06 - 0,25	0,04 - 0,16	–	0,08 - 0,30
			KC9315	–	–	–	145	**215**	275	0,06 - 0,25	–	–	–
			KC9320	–	–	–	140	**210**	260	0,06 - 0,12	–	–	–

Material Group		Condition	Geometry -LF	Geometry –	Geometry –	Geometry –	Cutting Speed m/min min	Cutting Speed m/min Starting Value	Cutting Speed m/min max	Feed Rate mm/r -LF	Feed Rate mm/r –	Feed Rate mm/r –	Feed Rate mm/r –
N	1		KC5410	–	–	–	200	**550**	1000	0,10 - 0,40	–	–	–
			KC5410	–	–	–	200	**550**	1000	0,10 - 0,20	–	–	–
			–	KD1400	–	–	450	**765**	3000	–	0,06 - 0,15	–	–
	2		–	KD1425	–	–	375	**580**	1150	–	0,06 - 0,25	–	–
			–	KD1400	–	–	400	**650**	1250	–	0,06 - 0,15	–	–
	3		KC5410	–	–	–	125	**275**	525	0,10 - 0,40	–	–	–
			–	KD1425	–	–	250	**500**	875	–	0,06 - 0,25	–	–
			KC5410	–	–	–	125	**275**	525	0,10 - 0,20	–	–	–
			–	KD1400	–	–	375	**520**	1000	–	0,06 - 0,12	–	–
	5		KC5410	–	–	–	125	**200**	375	0,10 - 0,40	–	–	–
			KC5410	–	–	–	125	**200**	375	0,10 - 0,20	–	–	–

Material Group		Condition	Geometry -LF	Geometry -UF	Geometry -FP	Geometry -FW	Cutting Speed m/min min	Cutting Speed m/min Starting Value	Cutting Speed m/min max	Feed Rate mm/r -LF	Feed Rate mm/r -UF	Feed Rate mm/r -FP	Feed Rate mm/r -FW
S	1		–	–	KCU10	–	30	**55**	125	–	–	0,06 - 0,25	–
			K313	–	–	–	10	**30**	60	0,06 - 0,25	–	–	–
			KC5010		–	KC5010	30	**55**	120	0,06 - 0,25	0,04 - 0,16	–	0,08 - 0,30
			–	–	KCU10	–	30	**55**	125	–	–	0,06 - 0,25	–
			KC5010		–	KC5010	30	**55**	120	0,06 - 0,25	0,04 - 0,16	–	0,08 - 0,30
			–	–	KCU25	–	10	**40**	50	–	–	0,06 - 0,12	–
			KC5025	–	–	–	10	**40**	50	0,06 - 0,10	–	–	–
	2		–	–	KCU10	–	30	**35**	125	–	–	0,06 - 0,25	–
			K313	–	–	–	10	**35**	60	0,06 - 0,25	–	–	–
			KC5010		–	KC5010	30	**60**	120	0,06 - 0,25	0,04 - 0,16	–	0,08 - 0,30
			–	–	KCU10	–	30	**35**	125	–	–	0,06 - 0,25	–
			KC5010		–	KC5010	30	**60**	120	0,06 - 0,25	0,04 - 0,16	–	0,08 - 0,30
			–	–	KCU25	–	10	**30**	50	–	–	0,06 - 0,12	–
			KC5025	–	–	–	10	**30**	50	0,06 - 0,10	–	–	–
	3		–	–	KCU10	–	30	**70**	125	–	–	0,06 - 0,25	–
			K313	–	–	–	10	**40**	60	0,06 - 0,25	–	–	–
			KC5010		–	KC5010	30	**70**	120	0,06 - 0,25	0,04 - 0,16	–	0,08 - 0,30
			–	–	KCU10	–	30	**35**	125	–	–	0,06 - 0,25	–
			KC5010		–	KC5010	30	**70**	120	0,06 - 0,25	0,04 - 0,16	–	0,08 - 0,30
			–	–	KCU25	–	25	**40**	60	–	–	0,06 - 0,12	–
			KC5025	–	–	–	25	**40**	60	0,06 - 0,10	–	–	–
	4		–	–	KCU10	–	45	**70**	140	–	–	0,06 - 0,25	–
			K313	–	–	–	15	**45**	65	0,06 - 0,25	–	–	–
			KC5010		–	KC5010	45	**70**	140	0,06 - 0,25	0,04 - 0,16	–	0,08 - 0,30
			–	–	KCU10	–	45	**70**	140	–	–	0,06 - 0,25	–
			KC5010		–	KC5010	45	**70**	140	0,06 - 0,25	0,04 - 0,16	–	0,08 - 0,30
			–	–	KCU25	–	25	**55**	90	–	–	0,06 - 0,12	–
			KC5025	–	–	–	15	**55**	90	0,06 - 0,10	–	–	–

Application Data • Maximum RPM

	Application Diameter D1 min (mm)	Application Diameter D1 max (mm)	Application Diameter D1 min (in)	Application Diameter D1 max (in)	RPM max	
ModBORE™ RBHT	24	31	0.9449	1.2205	12000	
	31	40	1.2205	1.5748	10000	
	40	51	1.5748	2.0079	8000	
	51	67	2.0079	2.6378	6500	
	67	87	2.6378	3.4252	5000	
	87	116	3.4252	4.5669	4000	
	116	153	4.5669	6.0236	3000	
ModBORE FBHS					**balanced**	**unbalanced**
	24	31	0.9449	1.2205	12000	9000
	31	40	1.2205	1.5748	10000	7500
	40	51	1.5748	2.0079	8000	5250
	51	67	2.0079	2.6378	6500	4000
	67	87	2.6378	3.4252	5000	3000
	87	116	3.4252	4.5669	4000	2500
	116	171	4.5669	6.7323	3000	1750
ModBORE FBHO					**boring bar out of center**	
					max 0,5mm (.02")	**0,5–2,5mm (.02–.1")**
	3	20	0.1181	0.7874	16000	6000
	20	48	0.7874	1.8898	12000	4000
	48	88	1.8898	3.4646	8000	2000
ModBORE FBHM					**boring bar out of center**	
					max 0,5mm (.02")	**0,5–2,5mm (.02–.1")**
	3	20	0.1181	0.7874	16000	6000
	20	48	0.7874	1.8898	12000	4000
	48	88	1.8898	3.4646	8000	2000
	86	164	3.3858	6.4567	1000	–
	164	320	6.4567	12.5984	500	–
	–	–	0.0000	0.0000	–	–
	–	–	0.0000	0.0000	–	–
ModBORE Bridge Tools	150	205	5.9055	8.0709	1250	
	200	255	7.8740	10.0394	1000	
	250	305	9.8425	12.0079	850	
	300	355	11.8110	13.9764	700	
	350	405	13.7795	15.9449	600	
	400	455	15.7480	17.9134	530	
	450	505	17.7165	19.8819	480	
	500	555	19.6850	21.8504	440	
	550	605	21.6535	23.8189	400	
	600	655	23.6220	25.7874	380	

High-Performance Taps

Beyond High-Performance Solid Carbide Taps L2–L29

Tool Selection Guide L4–L5

Taps L10–L21

Application Data L22

Cross Reference Charts • Taps and Drills L24–L29

High-Performance HSS-E-PM Taps L30–L79

Tool Selection Guide L32–L33

Taps L36–L57

Wind Energy Taps L58–L63

Application Data L64

Cross Reference Charts L66–L79

High-Performance Solid Carbide Thread Mills L80–L97

Solid Thread Mills Selection Guide L82

Thread Mills L86–L90

Application Data L91–L92

CNC Programming L93–L97

Taps and Thread Milling Technical Information L98–L114

Informational Icons L115–L116

Beyond™ High-Performance Solid Carbide Taps

Primary Application

Solid carbide taps offer higher productivity and outstanding performance in a wider range of materials than formerly possible. Get more production from a single tool and superior accuracy of product thread that surpasses the competition. Kennametal High-Performance Solid Carbide Taps are available in various specifications with enhanced precision and design, which translates into longer tool life, excellent performance, and exceptional wear resistance.

- High performance to surpass competitive taps.
- More production from a single tool.
- Available in various specifications.

Features and Benefits

Advanced Technology

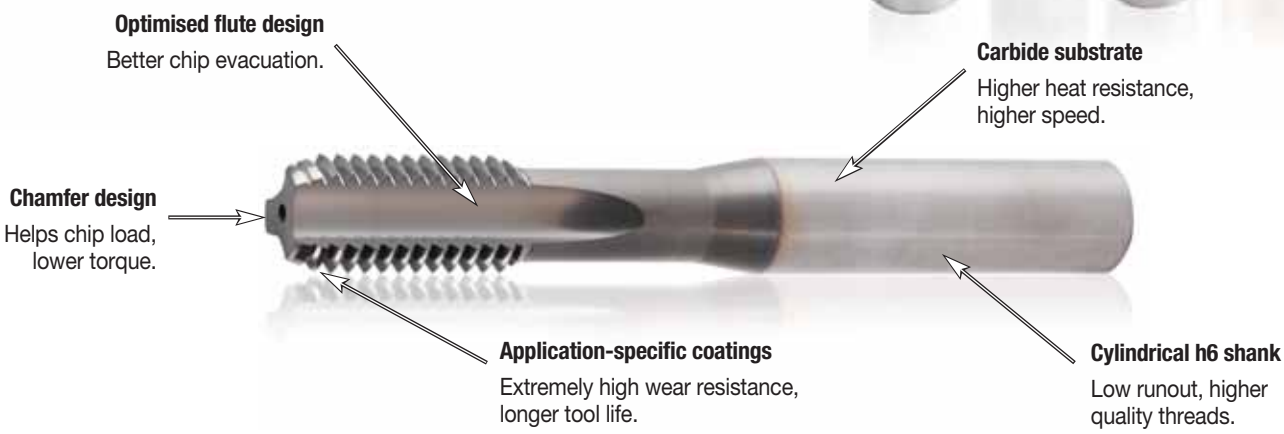
- Manufactured with micrograin carbide for exceptional wear life.
- Ideal for long production runs where fewer tool changes equate to greater productivity.
- Designed for outstanding tool life in steel, cast iron, aluminium, and hardened materials.
- Runs 4x faster and lasts 4x longer than conventional taps.
- Tap runout less than 10 microns (.0004").
- PVD nanolayer TiAlN/TiN coated carbide grade.

Customisation

- Engineered solutions available upon request.
- Available in various specifications.

Application Information

- Maximum chip control and free cutting in through holes.
- For use on CNC machines with synchronous or rigid tapping control and precision toolholders.
- Straight-flute taps for sizes M4 and larger for ductile or cast iron.
- Can be factory reconditioned to original specifications and tolerances.



*To learn more, **scan here**.*
For instructions on how to scan, please see page xxix.

Beyond™ Series HP Solid Carbide Taps and Solid Carbide Forming Taps • Metric

● first choice
○ alternate choice

Beyond HP Solid Carbide Taps

	series	grade	shank/dimension	P	M	K	N	S	H
	T320	KC7542	6535 HA	●		○			
	T321	KC7542	6535 HA	●		○			
	T331	KC7542	6535 HA	●		○			
	T340	KC7542	6535 HA			●			
	T351	KC7542	6535 HA			●			
	T410	KCU36	DIN 371, 374, 376 HA						●
	T461	KC7512	6535				●		
	T471	KC7512	6535 HA				●		

Beyond HP Solid Carbide Forming Taps

	T381	KC7542	6535 HA	●					
	T391	KC7542	6535 HA	●					
	T481	KC7512	6535 HA				●		
	T491	KC7512	6535 HA				●		

* Through coolant 1/4" and larger.

size range (inch and metric) size min–max	through hole	blind hole	chamfer form	helix angle	external coolant	internal coolant	page(s)	recommended cutting parameters
M6–M16			3.5–5	15°			L10	L22
M6–M16			3.5–5	15°			L11	L22
M6–M16			2–3	45°			L12	L22
M4–M20			3.5–5.5	0°			L13	L22
M4*–M16			1.5–2	0°			L14	L22
M3–M16			2–3	0°			L17	L22
M6–M16			3.5–5	0°			L18	L22
M6–M16			1.5–2	0°			L19	L22
M4*–M10			3.5–5				L15	L22
M4*–M10			3.5–5				L16	L22
M4*–M12			3.5–5				L20	L22
M4*–M12			1.5–2				L21	L22

Carbide Tap Identification System

T320MF120X150R6HX
T320NC06250-11R3BX

Metric

T320	MF	120	X	150	R	6HX

Inch

T320	NC	06250	-	11	R	3BX
Tap Design	Type of Thread	Nominal Diameter of Thread		Pitch	Cutting Direction	Tolerance Class
		mm or inch (depending on type)		mm or TPI (depending on type)		

M = Metric coarse-pitch thread (ISO form)

MF = Metric fine-pitch thread (ISO form)

NC = Unified coarse series thread

NF = Unified fine series thread

Style

T320 = Steel, through holes, LHSF
T321 = Steel, through holes, LHSF coolant
T331 = Steel, blind holes, RHSF coolant
T340 = Cast iron and cast aluminium, through holes, STFL
T351 = Cast iron and cast aluminium, blind holes, STFL coolant
T381 = Steel, through holes, forming FT, coolant
T391 = Steel, blind holes, forming FT, coolant
T410 = Hard materials, up to 63 HRC
T461 = Aluminium, through holes, STFL, coolant
T471 = Aluminium, blind holes, STFL, coolant
T481 = Aluminium, through holes, forming FT, coolant
T491 = Aluminium, blind holes, forming FT, coolant

The SPEED to EXCEED

Solid Carbide Taps

The Kennametal Solid Carbide Taps deliver the accuracy you demand at up to four times the speed of HSS taps. Longer tool life, exceptional thread quality, and an array of sizes for ferrous and non-ferrous materials make our taps the most trusted and productive tools in the industry.

- Reduce your operating costs by up to 65%.
- Workpiece-specific grades: KC7542™ for steels and cast irons, KC7512™ for aluminium.
- Go 4x faster with 4x the service life of conventional HSS offerings.
- Wide array of styles and sizes for through or blind hole applications.

Tap into something great at your Authorised Kennametal Distributor or at **www.kennametal.com**.

www.kennametal.com

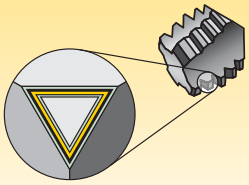
KENNAMETAL®

Through Holes

Blind Holes

		Through Holes				Blind Holes			
		Cutting		Forming		Cutting		Forming	
		Internal Coolant	Flood	Internal Coolant	Flood	Internal Coolant	Flood	Internal Coolant	Flood
P	<32 HRC	**T321_KC7542** T621_KP6525	**T320_KC7542** T620_KP6525	**T381_KC7542** T623_KSP21	T622_KSP21	**T331_KC7542** T631_KP6525 T633_KP6525 T651_KP6525	T630_KP6525 T630_KP6505 T632_KP6525 T650_KP6525	**T391_KC7542** T623_KSP21	T622_KSP21
P	32–44 HRC	—	T600_KSP2	—	—	—	T602_KSP21 T604_KSH26	—	—
M		T621_KM6515	T620_KM6515	—	—	T631_KM6515	T630_KM6515	—	—
K		T641_KP6525	**T340_KC7542** T640_KP6525	—	—	**T351_KC7542** T641_KP6525 T643_KP6525	T640_KP6525 T642_KP6525	—	—
N	Wrought, Low Si	—	T670_KSN38	**T481_KC7512** T623_KSN28	T622_KSN28	—	T680_KSN38	**T491_KC7512** T623_KSN28	T622_KSN28
N	Cast, Si<12%	**T461_KC7512** T641_KP6525	T640_KP6525	**T481_KC7512** T623_KSN28	T622_KSN28	**T471_KC7512** T641_KP6525 T643_KP6525	T640_KP6525 T642_KP6525	**T491_KC7512** T623_KSN28	T622_KSN28
S	Titanium Alloys	—	T614_KSN25	—	—	—	T616_KSN25	—	—
S	Ni and Co Alloys	—	T610_KSSH22	—	—	—	T612_KSSH22	—	—
H	44–55 HRC	—	T606_KSSH22	—	—	—	T606_KSSH22	—	—
H	55–63 HRC	—	**T410_KCU36**	—	—	—	**T410_KCU36**	—	—

Solid Carbide = **bold**
HSS-E-PM = regular

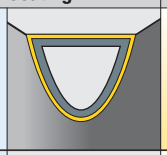
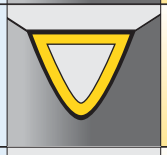
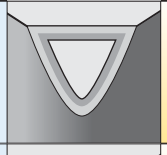
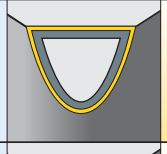
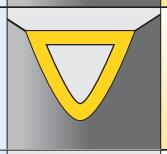
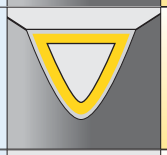
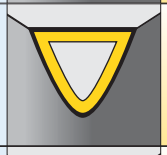
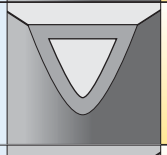
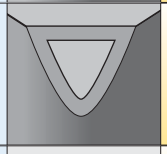
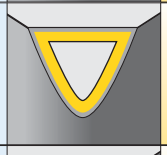
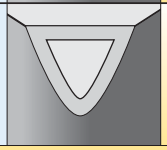


Coatings provide high-speed capability and are engineered for finishing to light roughing.

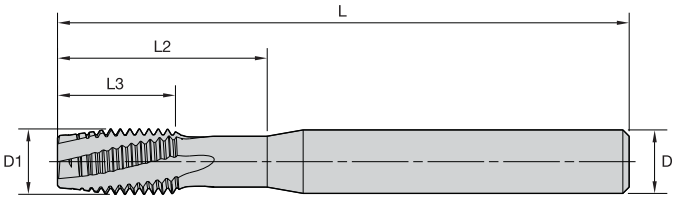
P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous Materials
S	High-Temp Alloys
H	Hardened Materials

wear resistance ⟷ toughness

Grade

	Coating	Grade Description	05	10	15	20	25	30	35	40	45
KC7542		Coated carbide. PVD — multilayer coating with TiAlN and TiN over a high-strength carbide substrate specifically designed for tap application. Use in steel up to 32 HRC and cast iron at four times faster speeds than HSS-E-PM taps.	P, K	P, K	P, K						
KC7512		Coated carbide. PVD — two-layer coating over fine-grain carbide. Coating consists of low friction CrC/C over wear-resistant TiN. CrC/C resists galling of non-ferrous materials to the tap. Provides superior performance for tapping cast aluminium and other non-ferrous materials.	N	N	N						
NEW! KCU36		Coated carbide. PVD — two-layer coating with heat-resistant TiAlN base layer and low-friction MoS_2 top layer over carbide substrate. Use in hardened steel 55–63 HRC.	H			H	H	H			
NEW! KP6525		Coated HSS-E-PM. PVD — heat- and wear-resistant high vanadium — cobalt powder metal HSS substrate coated with wear-resistant TiCN base layer and low-friction TiN top layer. Use in steel, cast iron, and cast aluminium with silicon.	P, K			P	P, K	P, K	P, K		
NEW! KSP21		Coated HSS-E-PM. PVD — powder metal HSS-E substrate with TiN coating. Use for tapping steel 32–44 HRC and for forming threads in steel 32 HRC.	P					P	P	P	
NEW! KSH26		Coated HSS-E-PM. PVD — powder metal HSS-E substrate coated with TiN base layer and low-friction MoS_2 top layer. Use in deep blind steel holes 32–44 HRC.	P					P	P	P	
NEW! KM6515		Coated HSS-E-PM. PVD — heat- and wear-resistant high vanadium — cobalt powder metal HSS substrate. Coating consists of low-friction CrC/C over wear-resistant TiN base layer. Use for tapping stainless steel and non-ferrous materials.	M, N			M	M	M, N	N	N	
NEW! KSN28		Coated HSS-E-PM. PVD — powder metal HSS-E substrate with DLC coating. Use for form tapping aluminium. Not recommended for steel.	N				N	N	N		
NEW! KSN38		Coated HSS-E. PVD — lower vanadium HSS-E substrate with DLC coating. Use for tapping non-ferrous materials with low cutting temperatures like wrought aluminium. Not recommended for steel.	N					N	N	N	
NEW! KSN25		Coated HSS-E-PM. PVD — powder metal HSS-E substrate with two-layer coating. TiN base layer and DLC top layer that resists galling of non-ferrous materials to the tap. Use for tapping titanium. Not recommended for steel.	S			S	S	S			
NEW! KSSH22		Coated HSS-E-PM. PVD — heat- and wear-resistant high vanadium — cobalt powder metal HSS substrate with high hardness TiCN coating. Use when tapping heat-treated steel 44–55 HRC and cobalt- or nickel-based heat-resistant alloys.	S, H		S, H	S, H	S, H				

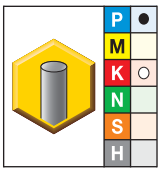
Taps



beyond

KC7542 TiAlN + TiN for steel.

T320 • Form D Plug Chamfer • Metric



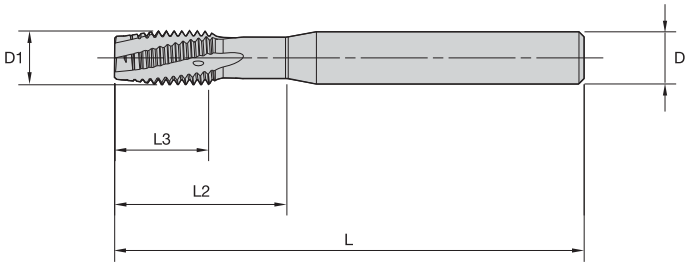
● first choice
○ alternate choice

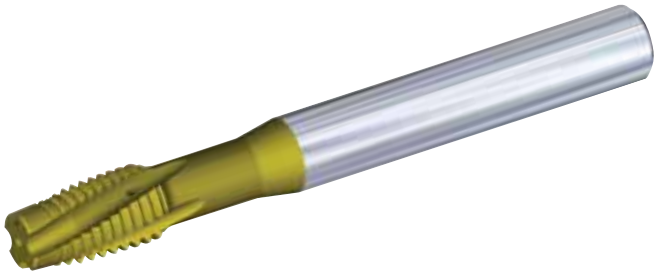
KC7542	D1 size	L	L3	L2	D	number of flutes	class of fit
T320M060X100R6HX	M6 x 1	70	12	23	6,0	3	6HX
T320M080X125R6HX	M8 x 1,25	80	15	28	8,0	3	6HX
T320M100X150R6HX	M10 x 1,5	90	18	33	10,0	4	6HX
T320MF120X150R6HX	M12 x 1,5	100	21	40	12,0	4	6HX
T320M120X175R6HX	M12 x 1,75	100	21	40	12,0	4	6HX
T320MF140X150R6HX	M14 x 1,5	110	24	47	12,0	4	6HX
T320M140X200R6HX	M14 x 2	110	24	47	12,0	4	6HX
T320M160X200R6HX	M16 x 2	110	24	53	14,0	4	6HX

NOTE: Proprietary technology.

Shank Tolerance

D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–16	+0, -0,011

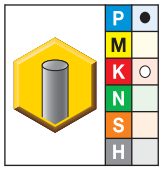




beyond

KC7542 TiAlN + TiN for steel.

T321 • Form D Plug Chamfer • Through Coolant • Metric



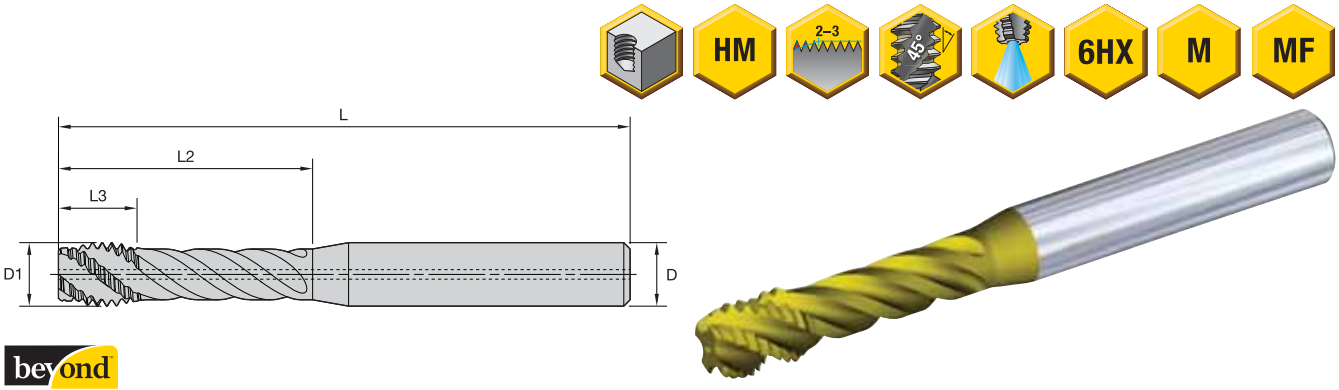
● first choice
○ alternate choice

KC7542	D1 size	L	L3	L2	D	number of flutes	class of fit
T321M100X150R6HX	M10 x 1,5	90	18	33	10,0	4	6HX
T321MF120X150R6HX	M12 x 1,5	100	21	40	12,0	4	6HX
T321M120X175R6HX	M12 x 1,75	100	21	40	12,0	4	6HX
T321MF140X150R6HX	M14 x 1,5	110	24	47	12,0	4	6HX
T321M140X200R6HX	M14 x 2	110	24	47	12,0	4	6HX
T321M160X200R6HX	M16 x 2	110	24	53	14,0	4	6HX

NOTE: Proprietary technology.

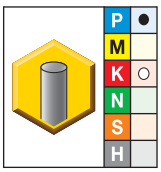
Shank Tolerance

D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–16	+0, -0,011



KC7542 TiAlN + TiN for steel.

T331 • Form C Semi-Bottoming Chamfer • Through Coolant • Metric



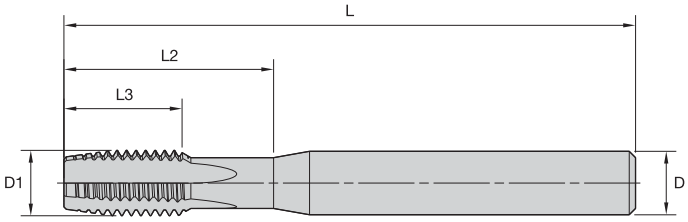
● first choice
○ alternate choice

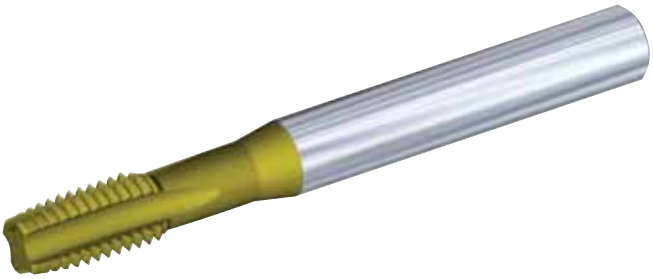
KC7542	D1 size	L	L3	L2	D	number of flutes	class of fit
T331M060X100R6HX	M6 x 1	70	8	24	6,0	3	6HX
T331M080X125R6HX	M8 x 1,25	80	10	32	8,0	3	6HX
T331MF100X100R6HX	M10 x 1	90	12	40	10,0	4	6HX
T331M100X150R6HX	M10 x 1,5	90	12	40	10,0	4	6HX
T331MF120X150R6HX	M12 x 1,5	100	14	48	12,0	4	6HX
T331M120X175R6HX	M12 x 1,75	100	14	48	12,0	4	6HX
T331MF140X150R6HX	M14 x 1,5	110	16	56	12,0	4	6HX
T331M140X200R6HX	M14 x 2	110	16	56	12,0	4	6HX
T331M160X200R6HX	M16 x 2	110	16	64	14,0	4	6HX

NOTE: Proprietary technology.

Shank Tolerance

D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–16	+0, -0,011

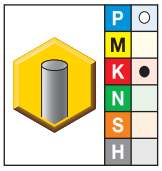




beyond™

KC7542 TiAlN + TiN for cast iron.

T340 • Form D Plug Chamfer • Metric



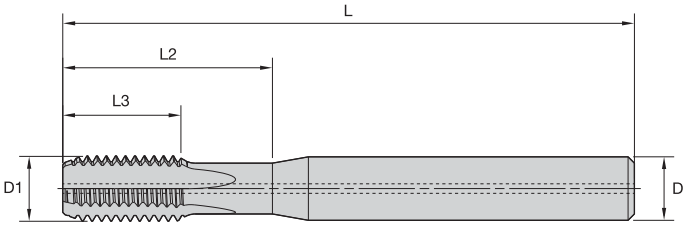
● first choice
○ alternate choice

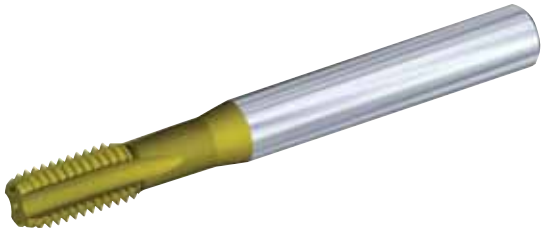
KC7542	D1 size	L	L3	L2	D	number of flutes	class of fit
T340M040X070R6HX	M4 x 0,7	60	6	16	6,0	3	6HX
T340M050X080R6HX	M5 x 0,8	60	7	20	6,0	3	6HX
T340M060X100R6HX	M6 x 1	70	12	23	6,0	4	6HX
T340M080X125R6HX	M8 x 1,25	80	15	28	8,0	4	6HX
T340M100X150R6HX	M10 x 1,5	90	18	33	10,0	4	6HX
T340MF100X100R6HX	M10 x 1	90	18	33	10,0	4	6HX
T340MF120X150R6HX	M12 x 1,5	100	21	40	12,0	4	6HX
T340M120X175R6HX	M12 x 1,75	100	21	40	12,0	4	6HX
T340M140X200R6HX	M14 x 2	110	24	47	12,0	4	6HX
T340MF140X150R6HX	M14 x 1,5	110	24	47	12,0	4	6HX
T340M160X200R6HX	M16 x 2	110	24	53	14,0	4	6HX
T340M180X250R6HX	M18 x 2,5	125	30	59	16,0	5	6HX
T340M200X250R6HX	M20 x 2,5	140	30	66	18,0	5	6HX

NOTE: Proprietary technology.

Shank Tolerance

D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–16	+0, -0,011

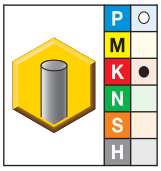




beyond

KC7542 TiAlN + TiN for cast iron.

T351 • Form E Bottoming Chamfer • Through Coolant M6 and Larger • Metric



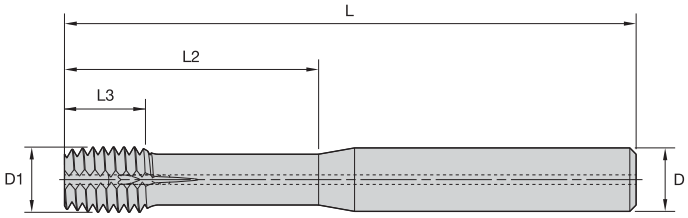
● first choice
○ alternate choice

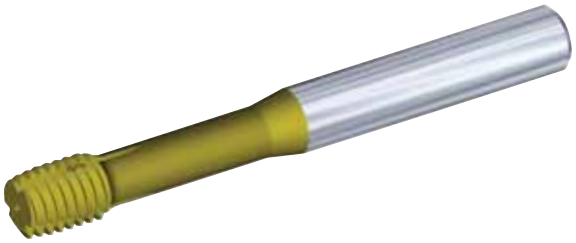
KC7542	D1 size	L	L3	L2	D	number of flutes	class of fit
T351M040X070R6HX	M4 x 0,7	60	6	16	6,0	3	6HX
T351M050X080R6HX	M5 x 0,8	60	7	20	6,0	3	6HX
T351M060X100R6HX	M6 x 1	70	12	23	6,0	4	6HX
T351M080X125R6HX	M8 x 1,25	80	15	28	8,0	4	6HX
T351MF100X100R6HX	M10 x 1	90	18	33	10,0	4	6HX
T351M100X150R6HX	M10 x 1,5	90	18	33	10,0	4	6HX
T351MF120X150R6HX	M12 x 1,5	100	21	40	12,0	4	6HX
T351M120X175R6HX	M12 x 1,75	100	21	40	12,0	4	6HX
T351MF140X150R6HX	M14 x 1,5	110	24	47	12,0	4	6HX
T351M140X200R6HX	M14 x 2	110	24	47	12,0	4	6HX
T351M160X200R6HX	M16 x 2	110	24	53	14,0	4	6HX
T351M200X250R6HX	M20 x 2,5	140	30	66	18,0	5	6HX

NOTE: Proprietary technology.

Shank Tolerance

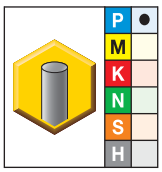
D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–16	+0, -0,011





KC7542 TiAlN + TiN for steel.

T381 • Form D Plug Entry Taper • Through Coolant M6 and Larger • Metric



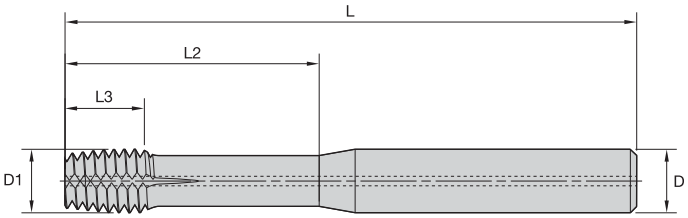
● first choice
○ alternate choice

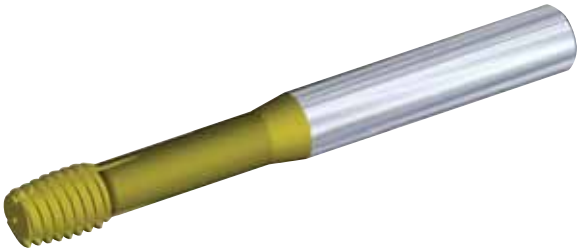
KC7542	D1 size	L	L3	L2	D	number of lube grooves	class of fit
T381M040X070R6HX	M4 x 0,7	60	6	16	6,0	2	6HX
T381M050X080R6HX	M5 x 0,8	60	7	20	6,0	2	6HX
T381M060X100R6HX	M6 x 1	70	8	24	6,0	2	6HX
T381M080X125R6HX	M8 x 1,25	80	10	32	8,0	2	6HX
T381M100X150R6HX	M10 x 1,5	90	12	40	10,0	3	6HX

NOTE: Proprietary technology.
Form taps require a larger drilled hole size prior to tapping than corresponding cutting taps.

Shank Tolerance

D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–16	+0, -0,011

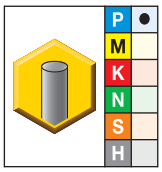




beyond

KC7542 TiAlN + TiN for steel.

T391 • Form E Bottoming Entry Taper • Through Coolant M6 and Larger • Metric



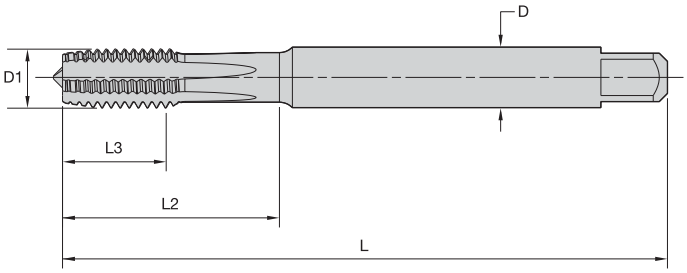
● first choice
○ alternate choice

KC7542	D1 size	L	L3	L2	D	number of lube grooves	class of fit
T391M040X070R6HX	M4 x 0,7	60	6	16	6,0	2	6HX
T391M050X080R6HX	M5 x 0,8	60	7	20	6,0	2	6HX
T391M060X100R6HX	M6 x 1	70	8	24	6,0	2	6HX
T391M080X125R6HX	M8 x 1,25	80	10	32	8,0	2	6HX
T391M100X150R6HX	M10 x 1,5	90	12	40	10,0	3	6HX

NOTE: Proprietary technology.
Form taps require a larger drilled hole size prior to tapping than corresponding cutting taps.

Shank Tolerance

D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–16	+0, -0,011

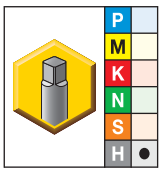


beyond

KCU36 • TiAlN/MoS_2 for tapping steel 55–63 HRC.

T410 • DIN 371, 374, and 376 • Form C Semi-Bottoming Chamfer • Metric

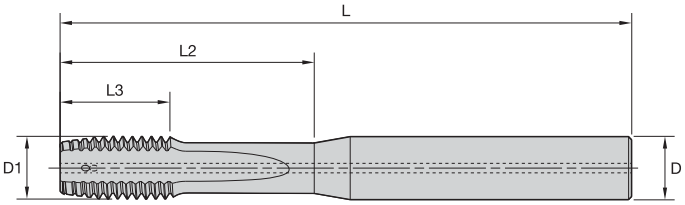
● first choice
○ alternate choice



KCU36	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit
T410M030X050R6HX-D1	M3 x 0,5	63	6	18	4,5	4	DIN 371	6HX
T410M040X070R6HX-D1	M4 x 0,7	63	8	20	4,5	4	DIN 371	6HX
T410M050X080R6HX-D1	M5 x 0,8	70	10	26	6,0	4	DIN 371	6HX
T410M060X100R6HX-D1	M6 x 1	80	12	28	6,0	4	DIN 371	6HX
T410MF080X100R6HX-D4	M8 x 1	90	15	35	8,0	5	DIN 374	6HX
T410M080X125R6HX-D1	M8 x 1,25	90	15	35	8,0	5	DIN 371	6HX
T410MF100X100R6HX-D4	M10 x 1	100	18	38	10,0	5	DIN 374	6HX
T410M100X150R6HX-D1	M10 x 1,5	100	18	38	10,0	5	DIN 371	6HX
T410MF120X150R6HX-D4	M12 x 1,5	110	21	41	12,0	5	DIN 374	6HX
T410M120X175R6HX-D6	M12 x 1,75	110	21	41	12,0	5	DIN 376	6HX
T410MF140X150R6HX-D4	M14 x 1,5	110	24	44	14,0	5	DIN 374	6HX
T410M140X200R6HX-D6	M14 x 2	110	24	44	14,0	6	DIN 376	6HX
T410MF160X150R6HX-D4	M16 x 1,5	110	24	44	16,0	5	DIN 374	6HX

Shank Tolerance

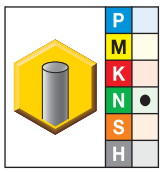
D	tolerance h9
1–3	+0, -0,025
3,5–6	+0, -0,030
7–10	+0, -0,036
11–18	+0, -0,043



beyond

KC7512 TiN + CrC/C for aluminium.

T461 • Form D Plug Chamfer • Through Coolant M6 and Larger • Metric



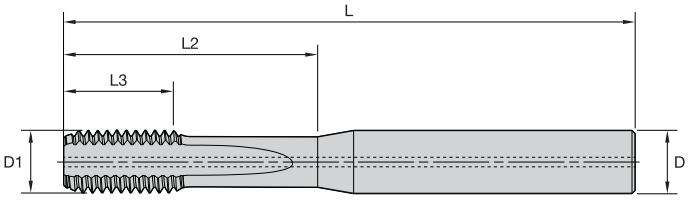
● first choice
○ alternate choice

KC7512	D1 size	L	L3	L2	D	number of flutes	class of fit
T461M060X100R6HX	M6 x 1	70	12	24	6,0	3	6HX
T461M080X125R6HX	M8 x 1,25	80	15	32	8,0	3	6HX
T461MF100X100R6HX	M10 x 1	90	18	40	10,0	3	6HX
T461M100X150R6HX	M10 x 1,5	90	18	40	10,0	3	6HX
T461MF120X150R6HX	M12 x 1,5	100	21	48	12,0	3	6HX
T461M120X175R6HX	M12 x 1,75	100	21	48	12,0	3	6HX
T461MF140X150R6HX	M14 x 1,5	110	24	56	12,0	4	6HX
T461M140X200R6HX	M14 x 2	110	24	56	12,0	4	6HX
T461MF160X150R6HX	M16 x 1,5	110	24	64	14,0	4	6HX
T461M160X200R6HX	M16 x 2	110	24	64	14,0	4	6HX

NOTE: Proprietary technology.

Shank Tolerance

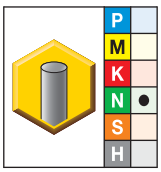
D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–16	+0, -0,011



beyond

KC7512 TiN + CrC/C for aluminium.

T471 • Form E Bottoming Chamfer • Through Coolant M6 and Larger • Metric



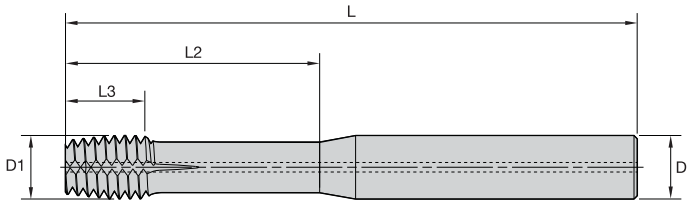
● first choice
○ alternate choice

KC7512	D1 size	L	L3	L2	D	number of flutes	class of fit
T471M060X100R6HX	M6 x 1	70	12	24	6,0	3	6HX
T471M080X125R6HX	M8 x 1,25	80	15	32	8,0	3	6HX
T471MF100X100R6HX	M10 x 1	90	18	40	10,0	3	6HX
T471M100X150R6HX	M10 x 1,5	90	18	40	10,0	3	6HX
T471MF120X150R6HX	M12 x 1,5	100	21	48	12,0	3	6HX
T471M120X175R6HX	M12 x 1,75	100	21	48	12,0	3	6HX
T471MF140X150R6HX	M14 x 1,5	110	24	56	12,0	4	6HX
T471M140X200R6HX	M14 x 2	110	24	56	12,0	4	6HX
T471MF160X150R6HX	M16 x 1,5	110	24	64	14,0	4	6HX
T471M160X200R6HX	M16 x 2	110	24	64	14,0	4	6HX

NOTE: Proprietary technology.

Shank Tolerance

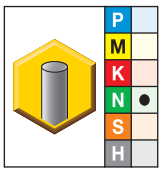
D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–16	+0, -0,011



beyond

KC7512 TiN + CrC/C for aluminium.

T481 • Form D Plug Entry Taper • Through Coolant M6 and Larger • Metric



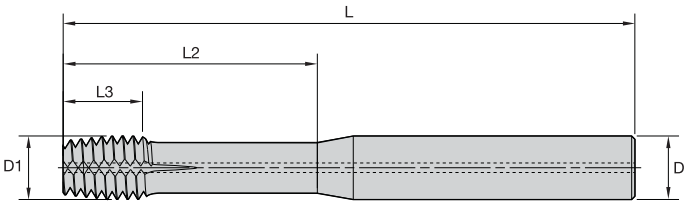
● first choice
○ alternate choice

KC7512	D1 size	L	L3	L2	D	number of lube grooves	class of fit
T481M040X070R6HX	M4 x 0,7	60	6	16	6,0	2	6HX
T481M050X080R6HX	M5 x 0,8	60	7	20	6,0	2	6HX
T481M060X100R6HX	M6 x 1	70	8	24	6,0	2	6HX
T481M080X125R6HX	M8 x 1,25	80	10	32	8,0	2	6HX
T481MF100X100R6HX	M10 x 1	90	12	40	10,0	3	6HX
T481M100X150R6HX	M10 x 1,5	90	12	40	10,0	3	6HX
T481MF120X150R6HX	M12 x 1,5	100	14	48	12,0	3	6HX
T481M120X175R6HX	M12 x 1,75	100	14	48	12,0	3	6HX

NOTE: Proprietary technology.
Form taps require a larger drilled hole size prior to tapping than corresponding cutting taps.

Shank Tolerance

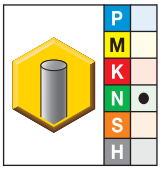
D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–16	+0, -0,011



beyond

KC7512 TiN + CrC/C for aluminium.

T491 • Form E Bottoming Entry Taper • Through Coolant M6 and Larger • Metric



● first choice
○ alternate choice

KC7512	D1 size	L	L3	L2	D	number of lube grooves	class of fit
T491M040X070R6HX	M4 x 0,7	60	6	16	6,0	2	6HX
T491M050X080R6HX	M5 x 0,8	60	7	20	6,0	2	6HX
T491M060X100R6H	M6 x 1	70	8	24	6,0	2	6HX
T491M080X125R6HX	M8 x 1,25	80	10	32	8,0	2	6HX
T491MF100X100R6H	M10 x 1	90	12	40	10,0	3	6HX
T491M100X150R6HX	M10 x 1,5	90	12	40	10,0	3	6HX
T491MF120X150R6HX	M12 x 1,5	100	14	48	12,0	3	6HX
T491M120X175R6HX	M12 x 1,75	100	14	48	12,0	3	6HX

NOTE: Proprietary technology.
Form taps require a larger drilled hole size prior to tapping than corresponding cutting taps.

Shank Tolerance

D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–16	+0, -0,011

Metric

Material Group		Through Holes					Blind Holes				
				Range — m/min					Range — m/min		
		Tap Style	Grade	min	Starting Value	max	Tap Style	Grade	min	Starting Value	max
P	1	T320, T381	KC7542	80	**100**	130	T331, T381	KC7542	50	**70**	90
	2	T320, T381	KC7542	70	**90**	120	T331, T381	KC7542	50	**60**	80
	3	T320, T381	KC7542	60	**80**	100	T331, T381	KC7542	50	**60**	80
K	1	T340	KC7542	80	**105**	140	T351	KC7542	50	**70**	90
	2	T340	KC7542	80	**100**	130	T351	KC7542	50	**70**	90
	3	T340	KC7542	70	**90**	120	T351	KC7542	50	**60**	80
N	1	T461, T481	KC7512	90	**120**	160	T471, T491	KC7512	60	**80**	100
	2	T461, T481	KC7512	80	**100**	130	T471, T491	KC7512	50	**70**	90
	4	T461, T481	KC7512	70	**85**	110	T471, T491	KC7512	50	**60**	80
H	3	T410	KCU36	1,2	**1,5**	2,0	T410	KCU36	0,8	**1,1**	1,4
	4	T410	KCU36	0,6	**0,8**	1,0	T410	KCU36	0,4	**0,5**	0,7

NOTE: Increase speed of T321 coolant taps by up to 25% of speeds listed for non-coolant T320 taps.

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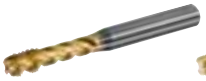
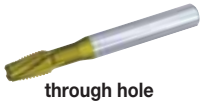
KENNAMETAL®

Steel

typical thread sizes				required tap drill diameter				P Solid Carbide Taps		
cutting taps		forming taps								
metric	inch	metric	inch	mm	inch	fraction	wire	blind hole with coolant T331_ KC7542	through hole T320_ KC7542	through hole with coolant T321_ KC7542
—	—	—	6-32	3.175	.1250	1/8	—	—	—	—
M4,5 x 0,75	—	M4 x 0,70	—	3.700	.1457	—	—	—	—	—
—	—	—	8-32	3.797	.1495	—	25	—	—	—
—	—	—	10-24	4.366	.1719	11/64	—	—	—	—
—	12-24	—	10-32	4.496	.1770	—	16	—	—	—
—	—	M5 x 0,80	—	4.700	.1850	—	13	—	—	—
M6 x 1,00	—	—	—	5.000	.1969	—	—	T331M060X100R6HX	T320M060X100R6HX	—
—	1/4-20	—	12-28	5.106	.2010	—	7	T331NC2500-20R3BX	T320NC02500-20R3BX	—
—	1/4-28	—	—	5.410	.2130	—	3	T331NF2500-28R3BX	T320NF02500-28R3BX	—
—	—	M6 x 1,00	—	5.600	.2205	—	—	—	—	—
—	—	—	1/4-20	5.791	.2280	—	1	—	—	—
—	—	—	1/4-28	5.944	.2340	—	A	—	—	—
—	5/16-18	—	—	6.528	.2570	—	F	T331NC3125-18R3BX	T320NC03125-18R3BX	—
M8 x 1,25	—	—	—	6.700	.2638	—	—	T331M080X125R6HX	T320M080X125R6HX	—
—	5/16-24	—	—	6.909	.2720	—	I	—	T320NF03125-24R3BX	—
—	—	—	5/16-18	7.366	.2900	—	L	—	—	—
—	—	M8 x 1,25	—	7.400	.2913	—	—	—	—	—
—	3/8-16	—	—	7.938	.3125	5/16	—	T331NC3750-16R3BX	T320NC03750-16R3BX	—
—	3/8-24	—	—	8.433	.3320	—	Q	—	T320NF03750-24R3BX	—
M10 x 1,50	—	—	—	8.500	.3346	—	—	T331M100X150R6HX	T320M100X150R6HX	T321M100X150R6HX
M10 x 1,00	—	—	—	9.000	.3543	—	—	T331MF100X100R6HX	—	—
—	—	—	3/8-16	8.839	.3480	—	S	—	—	—
—	7/16-14	—	3/8-24	9.093	.3580	—	T	T331NC4375-14R3BX	T320NC04375-14R3BX	—
—	—	M10 x 1,50	—	9.400	.3701	—	—	—	—	—
M12 x 1,75	—	—	—	10.200	.4016	—	—	T331M120X175R6HX	T320M120X175R6HX	T321M120X175R6HX
M12 x 1,50	—	—	—	10.500	.4134	—	—	T331MF120X150R6HX	T320MF120X150R6HX	T321MF120X150R6HX
—	1/2-13	—	—	10.716	.4219	27/64	—	T331NC5000-13R3BX	T320NC05000-13R3BX	—
—	1/2-20	—	—	11.509	.4531	29/64	—	—	T320NF0500020R3BX	—
M14 x 2,00	—	—	—	12.000	.4724	—	—	T331M140X200R6HX	T320M140X200R6HX	T321M140X200R6HX
—	9/16-12	—	—	12.304	.4844	31/64	—	T331NC5625-12R3BX	T320NC05625-12R3BX	—
M14 x 1,50	—	—	—	12.500	.4921	—	—	T331MF140X150R6HX	T320MF140X150R6HX	T321MF140X150R6HX
—	5/8-11	—	9/16-12	13.495	.5313	17/32	—	T331NC6250-11R3BX	T320NC06250-11R3BX	—
M16 x 2,00	—	—	—	14.000	.5512	—	—	T331M160X200R6HX	T320M160X200R6HX	T321M160X200R6HX

		P		All Materials	
Solid Carbide Taps		Recommended SC Drill		Alternate Tap Drill	
forming blind hole with coolant T391_KC7542	forming through hole with coolant T381_ KC7542	approximately 3 x D with coolant B224_ HP KCPK15	approximately 5 x D with coolant B225_ HP KCPK15	approximately 3 x D with coolant B976_ KC7315	approximately 5 x D with coolant B977_ KC7315
T391NC#6-32R3BX	T381NC#6-32R3BX	B224A03175HP	B225A03175HP	B976A03175	B977A03175
T391M040X070R6HX	T381M040X070R6HX	B224A03700HP	B225A03700HP	B976A03700	B977A03700
T391NC#8-32R3BX	T381NC#8-32R3BX	B224A03797HP	B225A03797HP	B976A03797	B977A03797
T391NC#10-24R3BX	T381NC#10-24R3BX	B224A04366HP	B225A04366HP	B976A04366	B977A04366
T391NF#10-32R3BX	T381NF#10-32R3BX	B224A04496HP	B225A04496HP	B976A04496	B977A04496
T391M050X080R6HX	T381M050X080R6HX	B224A04700HP	B225A04700HP	B976A04700	B977A04700
–	–	B224A05000HP	B225A05000HP	B976A05000	B977A05000
–	–	B224A05106HP	B225A05106HP	B976A05106	B977A05106
–	–	B224A05410HP	B225A05410HP	B976A05410	B977A05410
T391M060X100R6HX	T381M060X100R6HX	B224A05600HP	B225A05600HP	B976A05600	B977A05600
T391NC2500-20R3BX	T381NC2500-20R3BX	B224A05791HP	B225A05791HP	B976A05791	B977A05791
T391NF2500-28R3BX	T381NF2500-28R3BX	B224A05944HP	B225A05944HP	B976A05944	B977A05944
–	–	B224A06528HP	B225A06528HP	B976A06528	B977A06528
–	–	B224A06700HP	B225A06700HP	B976A06700	B977A06700
–	–	B224A06909HP	B225A06909HP	B976A06909	B977A06909
T391NC3125-18R3BX	T381NC3125-18R3BX	B224A07366HP	B225A07366HP	B976A07366	B977A07366
T391M080X125R6HX	T381M080X125R6HX	B224A07400HP	B225A07400HP	B976A07400	B977A07400
–	–	B224A07938HP	B225A07938HP	B976A07938	B977A07938
–	–	B224A08433HP	B225A08433HP	B976A08433	B977A08433
–	–	B224A08500HP	B225A08500HP	B976A08500	B977A08500
–	–	B224A09000HP	B225A09000HP	B976A09000	B977A09000
T391NC3750-16R3BX	T381NC3750-16R3BX	B224A08839HP	B225A08839HP	B976A08839	B977A08839
–	–	B224A09093HP	B225A09093HP	B976A09093	B977A09093
T391M100X150R6HX	T381M100X150R6HX	B224A09400HP	B225A09400HP	B976A09400	B977A09400
–	–	B224A10200HP	B225A10200HP	B976A10200	B977A10200
–	–	B224A10500HP	B225A10500HP	B976A10500	B977A10500
–	–	B224A10716HP	B225A10716HP	B976A10716	B977A10716
–	–	B224A11509HP	B225A11509HP	B976A11509	B977A11509
–	–	B224A12000HP	B225A12000HP	B976A12000	B977A12000
–	–	B224A12304HP	B225A12304HP	B976A12304	B977A12304
–	–	B224A12500HP	B225A12500HP	B976A12500	B977A12500
–	–	B224A13495HP	B225A13495HP	B976A13495	B977A13495
–	–	B224A14000HP	B225A14000HP	B976A14000	B977A14000

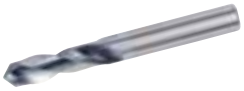
Cast Iron

typical thread sizes		required tap drill diameter				K Solid Carbide Taps	
cutting taps						blind hole with coolant	through hole
metric	inch	mm	inch	fraction	wire	T351_ KC7542	T340_ KC7542
—	6-32	2.705	.1065	—	36	T351NC#6-32R3BX	—
M4 x 0,70	—	3.300	.1299	—	—	T351M040X070R6HX	T340M040X070R6HX
—	8-32 /8-36	3.454	.1360	—	29	T351NC#8-32R3BX	—
—	10-24	3.734	.1470	—	26	T351NC#10-24R3BX	—
—	10-32	4.039	.1590	—	21	T351NF#10-32R3BX	—
M5 x 0,80	—	4.200	.1654	—	—	T351M050X080R6HX	T340M050X080R6HX
M6 x 1,00	—	5.000	.1969	—	—	T351M060X100R6HX	T340M060X100R6HX
—	1/4-20	5.106	.2010	—	7	T351NC2500-20R3BX	T340NC2500-20R3BX
—	1/4-28	5.410	.2130	—	3	T351NF2500-28R3BX	T340NF2500-28R3BX
—	5/16-18	6.528	.2570	—	F	T351NC3125-18R3BX	T340NC3125-18R3BX
M8 x 1,25	—	6.700	.2638	—	—	T351M080X125R6HX	T340M080X125R6HX
—	3/8-16	7.938	.3125	5/16	—	T351NC3750-16R3BX	T340NC03750-16R3BX
—	3/8-24	8.433	.3320	—	Q	—	T340NF03750-24R3BX
M10 x 1,50	—	8.500	.3346	—	—	T351M100X150R6HX	T340M100X150R6HX
M10 x 1,00	—	9.000	.3543	—	—	T351MF100X100R6HX	T340MF100X100R6HX
—	7/16-14	9.093	.3580	—	T	T351NC4375-14R3BX	T340NC04375-14R3BX
M12 x 1,75	—	10.200	.4016	—	—	T351M120X175R6HX	T340M120X175R6HX
M12 x 1,50	—	10.500	.4134	—	—	T351MF120X150R6HX	T340MF120X150R6HX
—	1/2-13	10.716	.4219	27/64	—	T351NC5000-13R3BX	T340NC05000-13R3BX
—	1/2-20	11.509	.4531	29/64	—	—	T340NF05000-20R3BX
M14 x 2,00	—	12.000	.4724	—	—	T351M140X200R6HX	T340M140X200R6HX
—	9/16-12	12.304	.4844	31/64	—	T351NC5625-12R3BX	T340NC05625-12R3BX
M14 x 1,50	—	12.500	.4921	—	—	T351MF140X150R6HX	T340MF140X150R6HX
—	5/8-11	13.495	.5313	17/32	—	T351NC6250-11R3BX	T340NC06250-11R3BX
M16 x 2,00	—	14.000	.5512	—	—	T351M160X200R6HX	T340M160X200R6HX
M18 x 2,50	—	15.500	.6102	—	—	—	T340M180X250R6HX
—	3/4-10	16.670	.6563	21/32	—	T351NC7500-10R3BX	T340NC07500-10R3BX
M20 x 2,50	—	17.500	.6890	—	—	T351M200X250R6HX	T340M200X250R6HX

K		All Materials	
Recommended SC Drill		Alternate Tap Drill	
approximately 3 x D with coolant B254_YPC KCK10	approximately 5 x D with coolant B254_YPC KCK10	approximately 3 x D with coolant B976_ KC7315	approximately 5 x D with coolant B977_ KC7315
B254Z02705YPC	B255Z02705YPC	–	B051A02705CPG
B254A03300YPC	B255A03300YPC	B976A03300	B977A03300
B254A03454YPC	B255A03454YPC	B976A03454	B977A03454
B254A03734YPC	B255A03734YPC	B976A03734	B977A03734
B254A04039YPC	B255A04039YPC	B976A04039	B977A04039
B254A04200YPC	B255A04200YPC	B976A04200	B977A04200
B254A05000YPC	B255A05000YPC	B976A05000	B977A05000
B254A05106YPC	B255A05106YPC	B976A05106	B977A05106
B254A05410YPC	B255A05410YPC	B976A05410	B977A05410
B254A06528YPC	B255A06528YPC	B976A06528	B977A06528
B254A06700YPC	B255A06700YPC	B976A06700	B977A06700
B254A07938YPC	B255A07938YPC	B976A07938	B977A07938
B254A08433YPC	B255A08433YPC	B976A08433	B977A08433
B254A08500YPC	B255A08500YPC	B976A08500	B977A08500
B254A09000YPC	B255A09000YPC	B976A09000	B977A09000
B254A09093YPC	B255A09093YPC	B976A09093	B977A09093
B254A10200YPC	B255A10200YPC	B976A10200	B977A10200
B254A10500YPC	B255A10500YPC	B976A10500	B977A10500
B254A10716YPC	B255A10716YPC	B976A10716	B977A10716
B254A11509YPC	B255A11509YPC	B976A11509	B977A11509
B254A12000YPC	B255A12000YPC	B976A12000	B977A12000
B254A12304YPC	B255A12304YPC	B976A12304	B977A12304
B254A12500YPC	B255A12500YPC	B976A12500	B977A12500
B254A13495YPC	B255A13495YPC	B976A13495	B977A13495
B254A14000YPC	B255A14000YPC	B976A14000	B977A14000
B254A15500YPC	B255A15500YPC	B976A15500	B977A15500
B254A16670YPC	B255A16670YPC	B976A16670	B977A16670
B254A17500YPC	B255A17500YPC	B976A17500	B977A17500

Aluminium

typical thread sizes				required tap drill diameter				N		
								Solid Carbide Taps		Solid Carbide Taps
cutting taps		forming taps								
metric	inch	metric	inch	mm	inch	fraction	wire	blind hole with coolant T471_ KC7512	through hole with coolant T461_ KC7512	forming blind hole with coolant T491_ KC7512
—	—	—	6-32	3.175	.1250	1/8	—	—	—	T491NC#6—32R3B
M4,5 x 0,75	—	M4 x 0,70	—	3.700	.1457	—	—	—	—	T491M040X070R6H
—	—	—	8-32	3.797	.1495	—	25	—	—	T491NC#8—32R3B
—	—	—	10-24	4.366	.1719	11/64	—	—	—	T491NC#10—24R3B
—	12-24	—	10-32	4.496	.1770	—	16	—	—	T491NF#10—32R3B
—	—	M5 x 0,80	—	4.700	.1850	—	13	—	—	T491M050X080R6H
M6 x 1,00	—	—	—	5.000	.1969	—	—	T471M060X100R6H	T461M060X100R6H	—
—	1/4-20	—	12-28	5.106	.2010	—	7	T471NC2500—20R3B	T461NC2500—20R3B	—
—	1/4-28	—	—	5.410	.2130	—	3	T471NF2500—28R3B	T461NF2500—28R3B	—
—	—	M6 x 1,00	—	5.600	.2205	—	—	—	—	T491M060X100R6H
—	—	—	1/4-20	5.791	.2280	—	1	—	—	T491NC2500—20R3B
—	—	—	1/4-28	5.944	.2340	—	A	—	—	T491NF2500—28R3B
—	5/16-18	—	—	6.528	.2570	—	F	T471NC3125—18R3B	T461NC3125—18R3B	—
M8 x 1,25	—	—	—	6.700	.2638	—	—	T471M080X125R6H	T461M080X125R6H	—
—	—	—	5/16-18	7.366	.2900	—	L	—	—	T491NC3125—18R3B
—	—	M8 x 1,25	—	7.400	.2913	—	—	—	—	T491M080X125R6H
—	3/8-16	—	—	7.938	.3125	5/16	—	T471NC3750—16R3B	T461NC3750—16R3B	—
M10 x 1,50	—	—	—	8.500	.3346	—	—	T471M100X150R6H	T461M100X150R6H	—
M10 x 1,00	—	—	—	9.000	.3543	—	—	T471MF100X100R6H	T461MF100X100R6H	—
—	—	—	3/8-16	8.839	.3480	—	S	—	—	T491NC3750—16R3B
—	7/16-14	—	3/8-24	9.093	.3580	—	T	T471NC4375—14R3B	T461NC4375—14R3B	—
—	—	M10 x 1,50	—	9.400	.3701	—	—	—	—	T491M100X150R6H
—	—	M10 x 1,00	—	9.500	.3740	—	—	—	—	T491MF100X100R6H
—	7/16-20	—	—	9.921	.3906	25/64	—	—	—	—
M12 x 1,75	—	—	—	10.200	.4016	—	—	T471M120X175R6H	T461M120X175R6H	—
—	—	—	7/16-14	10.262	.4040	—	Y	—	—	T491NC4375—14R3B
M12 x 1,50	—	—	—	10.500	.4134	—	—	T471MF120X150R6H	T461MF120X150R6H	—
—	1/2-13	—	—	10.716	.4219	27/64	—	T471NC5000—13R3B	T461NC5000—13R3B	—
—	—	M12 x 1,75	—	11.300	.4449	—	—	—	—	T491M120X175R6H
—	—	M12 x 1,50	—	11.300	.4449	—	—	—	—	T491MF120X150R6H
—	—	—	1/2-13	11.908	.4688	15/32	—	—	—	T491NC5000—13R3B
M14 x 2,00	—	—	—	12.000	.4724	—	—	T471M140X200R6H	T461M140X200R6H	—
—	9/16-12	—	—	12.304	.4844	31/64	—	T471NC5625—12R3B	T461NC5625—12R3B	—
M14 x 1,50	—	—	—	12.500	.4921	—	—	T471MF140X150R6H	T461MF140X150R6H	—
—	5/8-11	—	9/16-12	13.495	.5313	17/32	—	T471NC6250—11R3B	T461NC6250—11R3B	—
M16 x 2,00	—	—	—	14.000	.5512	—	—	T471M160X200R6H	T461M160X200R6H	—
M16 x 1,50	—	—	—	14.500	.5709	—	—	T471MF160X150R6H	T461MF160X150R6H	—

	N		All Materials	
Solid Carbide Taps	Recommended SC Drill		Alternate Tap Drill	
				
forming through hole with coolant T481_ KC7512	approximately 3 x D with coolant B284_(HP) K715	approximately 5 x D with coolant B411 KF1	approximately 3 x D with coolant B976_ KC7315	approximately 5 x D with coolant B977_ KC7315
T481NC#6—32R3B	—	—	B976A03175	B977A03175
T481M040X070R6H	—	—	B976A03700	B977A03700
T481NC#8—32R3B	—	—	B976A03797	B977A03797
T481NC#10—24R3B	—	—	B976A04366	B977A04366
T481NF#10—32R3B	—	—	B976A04496	B977A04496
T481M050X080R6H	—	—	B976A04700	B977A04700
—	B284A05000	B411A05000	B976A05000	B977A05000
—	—	—	B976A05106	B977A05106
—	—	—	B976A05410	B977A05410
T481M060X100R6H	—	B411A05600	B976A05600	B977A05600
T481NC2500—20R3B	—	—	B976A05791	B977A05791
T481NF2500—28R3B	—	—	B976A05944	B977A05944
—	—	—	B976A06528	B977A06528
—	—	—	B976A06700	B977A06700
T481NC3125—18R3B	—	—	B976A07366	B977A07366
T481M080X125R6H	—	B411A07400	B976A07400	B977A07400
—	—	—	B976A07938	B977A07938
—	—	B411A08500	B976A08500	B977A08500
—	—	B411A09000	B976A09000	B977A09000
T481NC3750—16R3B	—	—	B976A08839	B977A08839
—	—	—	B976A09093	B977A09093
T481M100X150R6H	—	—	B976A09400	B977A09400
T481MF100X100R6H	—	B411A09500	B976A09500	B977A09500
—	K284A03906	—	B976A09921	B977A09921
—	—	B411A10200	B976A10200	B977A10200
T481NC4375—14R3B	—	—	B976A10262	B977A10262
—	—	B411A10500	B976A10500	B977A10500
—	—	—	B976A10716	B977A10716
T481M120X175R6H	—	—	B976A11300	B977A11300
T481MF120X150R6H	—	—	B976A11300	B977A11300
T481NC5000—13R3B	K284A04688	—	B976A11908	B977A11908
—	—	B411A12000	B976A12000	B977A12000
—	—	—	B976A12304	B977A12304
—	—	B411A12500	B976A12500	B977A12500
—	—	—	B976A13495	B977A13495
—	—	B411A14000	B976A14000	B977A14000
—	—	B411A14500	B976A14500	B977A14500

High-Performance HSS-E-PM Taps

Primary Application

The High-Performance High-Speed Steel (HSS-E-PM) Taps are manufactured to both ANSI and DIN standards from powder metal, offering high productivity and reliable thread quality and are engineered for greater wear and heat resistance. HSS-E-PM tools can be used on conventional non-rigid and CNC-synchronous tapping machines for tapping through and blind holes in a variety of materials and is particularly efficient in tapping soft steel and aluminium.

The precision h6 shank enables usage in either conventional square drive tap holders or in precision round toolholders.

Features and Benefits

Improved Performance, Wide Range of Choices

- Higher strength and wider range of applications versus carbide taps.
- Higher tapping speed capability and longer life than conventional HSS-E taps.
- Can be used on either conventional or synchronous tapping machines.
- Forming taps for soft steel and aluminium.
- Selection of taps for all materials:
  - Steel
  - Stainless steel
  - Iron
  - Aluminium, cast and wrought
  - Aerospace
  - Hard steel

Customisation

- Customised taps are available with short lead times from semi-finished blanks.

Beyond™ High-Performance HSS-E-PM Taps • DIN Metric

● first choice
○ alternate choice

Beyond High-Performance HSS-E-PM	series	grade	shank/dimension	P	M	K	N	S	H
	T600	KSP21	DIN 371, 374, 376	●	○			○	
	T602	KSP21	DIN 371, 374, 376	●				○	
	T604	KSH26	DIN 371, 374, 376	●					
	T606	KSSH22	DIN 371, 374, 376						●
	T610	KSSH22	DIN 371, 374, 376					●	
	T612	KSSH22	DIN 371, 374, 376					●	
	T614	KSN25	DIN 371, 376				○	●	
	T616	KSN25	DIN 371				○	●	
	T620	KP6525	DIN 371, 374, 376, XL	●				○	
	T620	KM6515	DIN 371, 374, 376		●		○	○	
	T621	KP6525	DIN 371, 376	●				○	
	T621	KM6515	DIN 371, 376		●		○	○	
	T622	KSP21	DIN 371, 374, 376	●					
	T622	'KSN28	DIN 371, 374, 376				●		
	T623	KSP21	DIN 371, 374, 376	●					
	T623	KSN28	DIN 371, 374, 376				●		
	T630	KP6525	DIN 371, 374, 376, XL	●				○	
	T630	KM6515	DIN 371, 374, 376		●		○	○	
	T630	KP6505	DIN 371, 376	●					
	T631	KP6525	DIN 371, 376, XL	●				○	
	T631	KM6515	DIN 371, 376		●		○	○	
	T632	KP6525	DIN 371, 374, 376	●				○	
	T633	KP6525	DIN 371, 374, 376	●					
	T640	KP6525	DIN 371, 376			●	●		
	T641	KP6525	DIN 371, 376			●	●		
	T642	KP6525	DIN 371, 374, 376			●	●		
	T643	KP6525	DIN 371, 374, 376			●	●		
	T650	KP6525	DIN 376, XL	●	○				
	T651	KP6525	DIN 376, XL	●	○				
	T670	KSN38	DIN 371, 376				●		
	T680	KSN38	DIN 371, 376				●		

Taps

size range (metric) size min–max	through hole	blind hole	chamfer form	helix angle	external coolant	internal coolant	page(s)	recommended cutting parameters
M3–M20	✓		3,5–5	0°	✓		L36	L64
M3–M20		✓	2–3	45°	✓		L37	L64
M3–M20		✓	2–3	40°	✓		L38	L64
M6–M16	✓	✓	2–3	0°	✓		L39	L64
M3–M20	✓		3,5–5	15°	✓		L40	L64
M3–M20		✓	2–3	10°	✓		L41	L64
M3–M12	✓		3,5–6	0°	✓		L42	L64
M3–M12		✓	2–3	30°	✓		L43	L64
M3–M42	✓		3,5–5	15°	✓		L44, L59	L64
M3–M20	✓		3,5–5	15°	✓		L44	L64
M5–M14	✓		3,5–5	15°		✓	L45	L64
M5–M14	✓		3,5–5	15°		✓	L45	L64
M3–M16	✓	✓	2–3		✓		L46	L64
M3–M16	✓	✓	2–3		✓		L46	L64
M5–M16	✓	✓	2–3			✓	L47	L64
M5–M16	✓	✓	2–3			✓	L47	L64
M3–M42		✓	2–3	45°	✓		L48, L60	L64
M3–M24		✓	2–3	45°	✓		L48	L64
M3–M16		✓	2–3	45°	✓		L48	L64
M5–M42		✓	2–3	45°		✓	L49, L61	L64
M5–M16		✓	2–3	45°		✓	L49	L64
M5–M16		✓	1,5–2	45°	✓		L50	L64
M5–M16		✓	1,5–2	45°		✓	L51	L64
M4–M22	✓	✓	2–3	0°	✓		L52	L64
M4–M20	✓	✓	2–3	0°		✓	L53	L64
M5–M16		✓	1,5–2	0°	✓		L54	L64
M5–M16		✓	1,5–2	0°		✓	L55	L64
M24–M42		✓	2–3	15°	✓		L62	L64
M24–M42		✓	2–3	0°		✓	L63	L64
M3–M16	✓		3,5–6	0°	✓		L56	L64
M3–M20		✓	2–3	45°	✓		L57	L64

HSS Taps Identification System

T620MF120X150R6HX-D4

T620NC06250-11R3BX-A

Metric

T620	MF	120	X	150	R	6HX	-D4

Inch

T620	NC	06250	-	11	R	3BX	-A
Tap Design	Type of Thread	Nominal Diameter of Thread mm or inch (depending on type)		Pitch mm or TPI (depending on type)	Cutting Direction	Tolerance Class	Taps Dimension

M = Metric coarse-pitch thread (ISO form)

MF = Metric fine-pitch thread (ISO form)

NC = Unified coarse series thread

NF = Unified fine series thread

A = ANSI

D1 = DIN 371

D4 = DIN 374

D6 = DIN 376

D74 = DIN 3174

J = JIS

XL = DIN extra length

Style

T620 = Steel and stainless steel, through holes, LH spiral flute, solid

T621 = Steel and stainless steel, through holes, LH spiral flute, coolant

T630 = Steel and stainless steel, blind holes, RH spiral flute, solid

T631 = Steel and stainless steel, blind holes, RH spiral flute, coolant

T640 = Cast iron, through and blind holes, straight flute, solid

T641 = Cast iron, through and blind holes, straight flute, coolant

NOTE: Other taps styles, see page L31.

WIND ENERGY TAPS

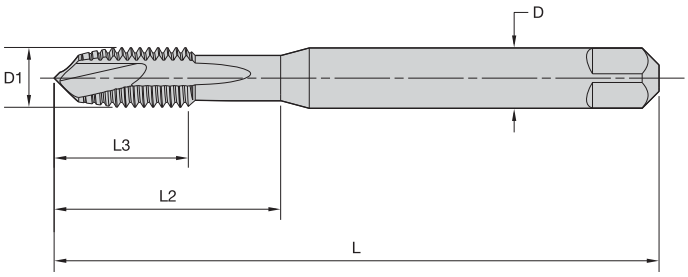
The new high-performance, large-sized HSS-E-PM taps called Wind Taps were developed for the manufacturers of some of the most important wind turbine components like hubs, rings, and gearbox housings to increase productivity and keep up with the rapid increase in demand for such components.

- Designed for both conventional non-rigid and CNC-synchronous tapping machines.
- Manufactured to DIN 376 dimension.
- Extra-long version developed to reach longer overhang that is very common on these big components.
- Precision h6 shanks enable use in either conventional tap holders with square drive or in precision round toolholders.

Tap into something great at your Authorised Kennametal Distributor or at **www.kennametal.com**.

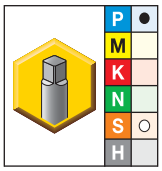
www.kennametal.com

KENNAMETAL®



KSP21• TiN for tapping steel 32–44 HRC.

T600 • DIN 371, 374, and 376 • Form B Plug Chamfer • Metric

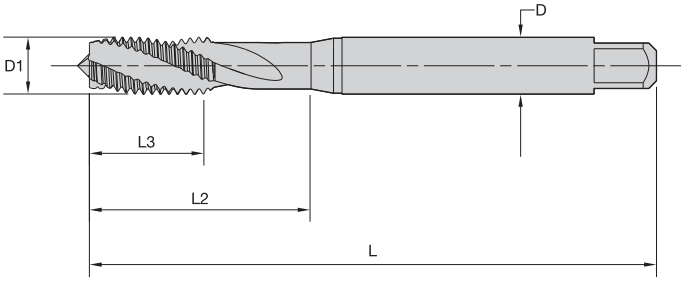


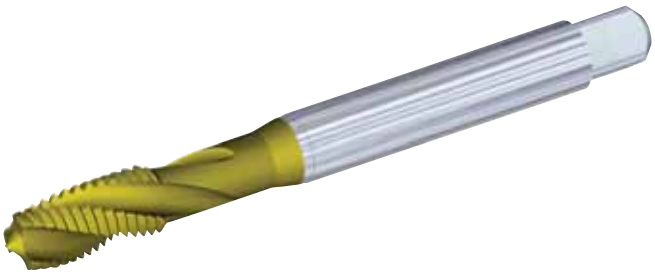
● first choice
○ alternate choice

KSP21	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit
T600M030X050R6HX-D1	M3 x 0,5	56	11	18	3,5	2	DIN 371	6HX
T600M040X070R6HX-D1	M4 x 0,7	63	13	21	4,5	2	DIN 371	6HX
T600M050X080R6HX-D1	M5 x 0,8	70	15	25	6,0	2	DIN 371	6HX
T600M060X100R6HX-D1	M6 x 1	80	17	30	6,0	3	DIN 371	6HX
T600MF080X100R6HX-D4	M8 x 1	90	17	—	6,0	3	DIN 374	6HX
T600M080X125R6HX-D1	M8 x 1,25	90	20	35	8,0	3	DIN 371	6HX
T600MF100X100R6HX-D4	M10 x 1	90	18	—	7,0	3	DIN 374	6HX
T600MF100X125R6HX-D4	M10 x 1,25	100	22	—	7,0	3	DIN 374	6HX
T600M100X150R6HX-D1	M10 x 1,5	100	22	39	10,0	3	DIN 371	6HX
T600MF120X125R6HX-D4	M12 x 1,25	100	22	—	9,0	3	DIN 374	6HX
T600MF120X150R6HX-D4	M12 x 1,5	100	22	—	9,0	3	DIN 374	6HX
T600M120X175R6HX-D6	M12 x 1,75	110	24	—	9,0	3	DIN 376	6HX
T600MF140X150R6HX-D4	M14 x 1,5	100	22	—	11,0	3	DIN 374	6HX
T600M140X200R6HX-D6	M14 x 2	110	26	—	11,0	3	DIN 376	6HX
T600MF160X150R6HX-D4	M16 x 1,5	100	22	—	12,0	4	DIN 374	6HX
T600M160X200R6HX-D6	M16 x 2	110	27	—	12,0	4	DIN 376	6HX
T600M180X250R6HX-D6	M18 x 2	125	30	—	14,0	4	DIN 376	6HX
T600M200X250R6HX-D6	M20 x 2,5	140	32	—	16,0	4	DIN 376	6HX

Shank Tolerance

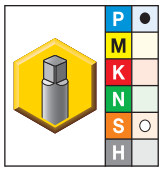
D	tolerance h9
1–3	+0, -0,025
3,5–6	+0, -0,030
7–10	+0, -0,036
11–18	+0, -0,043





KSP21 • TiN for tapping steel 32–44 HRC (2 x D).

T602 • DIN 371, 374, and 376 • Form C Semi-Bottoming Chamfer • Metric

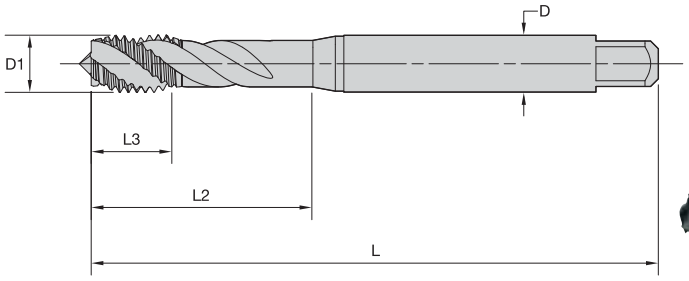


● first choice
○ alternate choice

KSP21	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit
T602M030X050R6H-D1	M3 x 0,5	56	11	18	3,5	3	DIN 371	6H
T602M040X070R6H-D1	M4 x 0,7	63	13	21	4,5	3	DIN 371	6H
T602M050X080R6H-D1	M5 x 0,8	70	15	25	6,0	3	DIN 371	6H
T602M060X100R6H-D1	M6 x 1	80	17	30	6,0	3	DIN 371	6H
T602MF080X100R6H-D4	M8 x 1	90	17	—	6,0	3	DIN 374	6H
T602M080X125R6H-D1	M8 x 1,25	90	20	35	8,0	3	DIN 371	6H
T602MF100X100R6H-D4	M10 x 1	90	18	—	7,0	3	DIN 374	6H
T602MF100X125R6H-D4	M10 x 1,25	100	22	—	7,0	3	DIN 374	6H
T602M100X150R6H-D1	M10 x 1,5	100	22	39	10,0	3	DIN 371	6H
T602MF120X125R6H-D4	M12 x 1,25	100	22	—	9,0	3	DIN 374	6H
T602MF120X150R6H-D4	M12 x 1,5	100	22	—	9,0	3	DIN 374	6H
T602M120X175R6H-D6	M12 x 1,75	110	24	44	12,0	3	DIN 376	6H
T602MF140X150R6H-D4	M14 x 1,5	100	22	—	11,0	3	DIN 374	6H
T602M140X200R6H-D6	M14 x 2	110	26	52	11,0	3	DIN 376	6H
T602MF160X150R6H-D4	M16 x 1,5	100	22	—	12,0	3	DIN 374	6H
T602M160X200R6H-D6	M16 x 2	110	27	—	12,0	3	DIN 376	6H
T602M180X250R6H-D6	M18 x 2	125	30	—	14,0	4	DIN 376	6H
T602M200X250R6H-D6	M20 x 2,5	140	32	—	16,0	4	DIN 376	6H

Shank Tolerance

D	tolerance h9
1–3	+0, -0,025
3,5–6	+0, -0,030
7–10	+0, -0,036
11–18	+0, -0,043



KSH26 • TiAlN/MoS_2 for tapping steel 32–44 HRC (3 x D).

T604 • DIN 371, 374, and 376 • Form C Semi-Bottoming Chamfer • Metric

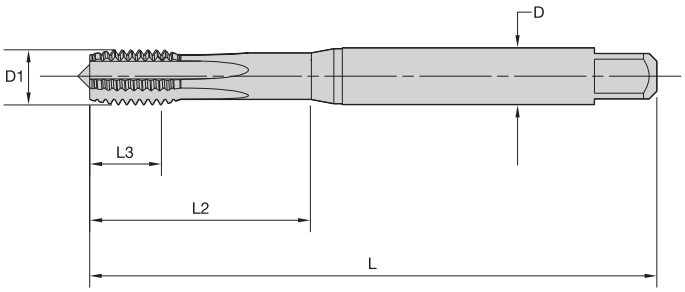
P	●
M	
K	
N	
S	○
H	

● first choice
○ alternate choice

KSH26	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit
T604M030X050R6H-D1	M3 x 0,5	56	6	18	3,5	3	DIN 371	6H
T604M040X070R6H-D1	M4 x 0,7	63	7	21	4,5	3	DIN 371	6H
T604M050X080R6H-D1	M5 x 0,8	70	8	25	6,0	3	DIN 371	6H
T604M060X100R6H-D1	M6 x 1	80	10	30	6,0	3	DIN 371	6H
T604MF080X100R6H-D4	M8 x 1	90	10	—	6,0	3	DIN 374	6H
T604M080X125R6H-D1	M8 x 1,25	90	14	35	8,0	3	DIN 371	6H
T604MF100X100R6H-D4	M10 x 1	90	10	—	7,0	3	DIN 374	6H
T604MF100X125R6H-D4	M10 x 1,25	100	16	—	7,0	3	DIN 374	6H
T604M100X150R6H-D1	M10 x 1,5	100	16	39	10,0	3	DIN 371	6H
T604MF120X125R6H-D4	M12 x 1,25	100	15	—	9,0	4	DIN 374	6H
T604MF120X150R6H-D4	M12 x 1,5	100	15	—	9,0	4	DIN 374	6H
T604M120X175R6H-D6	M12 x 1,75	110	18	—	9,0	4	DIN 376	6H
T604MF140X150R6H-D4	M14 x 1,5	100	15	—	11,0	4	DIN 374	6H
T604M140X200R6H-D6	M14 x 2	110	20	—	11,0	4	DIN 376	6H
T604MF160X150R6H-D4	M16 x 1,5	100	15	—	12,0	4	DIN 374	6H
T604M160X200R6H-D6	M16 x 2	110	22	—	12,0	4	DIN 376	6H
T604M180X250R6H-D6	M18 x 2	125	25	—	14,0	4	DIN 376	6H
T604M200X250R6H-D6	M20 x 2,5	140	25	—	16,0	4	DIN 376	6H

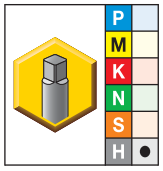
Shank Tolerance

D	tolerance h9
1–3	+0, -0,025
3,5–6	+0, -0,030
7–10	+0, -0,036
11–18	+0, -0,043



KSSH22 • TiCN for tapping steel 44–55 HRC.

T606 • DIN 371, 374, and 376 • Form C Semi-Bottoming Chamfer • Metric

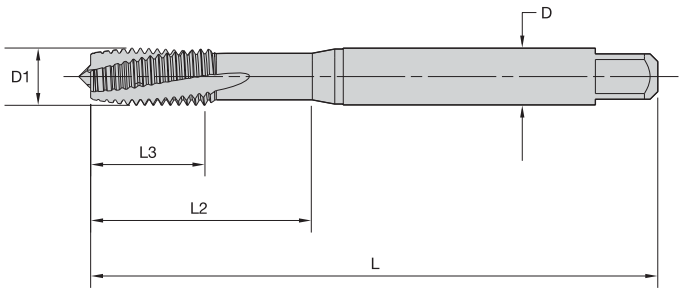


● first choice
○ alternate choice

KSSH22	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit
T606M060X100R6HX-D1	M6 x 1	80	10	30	6,0	4	DIN 371	6HX
T606MF080X100R6HX-D4	M8 x 1	90	10	35	8,0	5	DIN 374	6HX
T606M080X125R6HX-D1	M8 x 1,25	90	14	35	8,0	5	DIN 371	6HX
T606MF100X100R6HX-D4	M10 x 1	90	10	35	10,0	5	DIN 374	6HX
T606M100X150R6HX-D1	M10 x 1,5	100	16	39	10,0	5	DIN 371	6HX
T606MF120X150R6HX-D4	M12 x 1,5	100	15	—	9,0	5	DIN 374	6HX
T606M120X175R6HX-D6	M12 x 1,75	110	18	—	9,0	5	DIN 376	6HX
T606MF140X150R6HX-D4	M14 x 1,5	100	15	—	11,0	6	DIN 374	6HX
T606MF160X150R6HX-D4	M16 x 1,5	100	15	—	12,0	6	DIN 374	6HX
T606M160X200R6HX-D6	M16 x 2	110	22	—	12,0	6	DIN 376	6HX

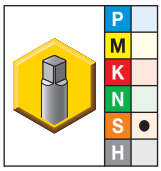
Shank Tolerance

D	tolerance h9
1–3	+0, -0,025
3,5–6	+0, -0,030
7–10	+0, -0,036
11–18	+0, -0,043



KSSH22 • TiCN for tapping cobalt and nickel alloys.

T610 • DIN 371 and 376 • Form D Plug Chamfer • Metric

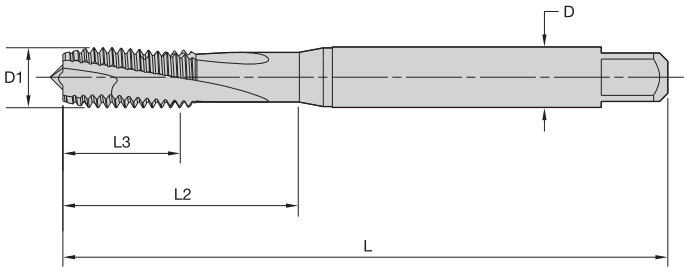


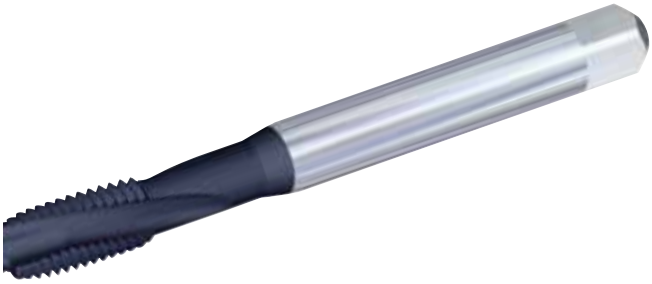
● first choice
○ alternate choice

KSSH22	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit
T610M030X050R6HX-D1	M3 x 0,5	56	11	18	3,5	2	DIN 371	6HX
T610M040X070R6HX-D1	M4 x 0,7	63	13	21	4,5	3	DIN 371	6HX
T610M050X080R6HX-D1	M5 x 0,8	70	15	25	6,0	3	DIN 371	6HX
T610M060X100R6HX-D1	M6 x 1	80	17	30	6,0	3	DIN 371	6HX
T610M080X125R6HX-D1	M8 x 1,25	90	20	35	8,0	3	DIN 371	6HX
T610M100X150R6HX-D1	M10 x 1,5	100	22	39	10,0	3	DIN 371	6HX
T610M120X175R6HX-D6	M12 x 1,75	110	24	—	9,0	3	DIN 376	6HX
T610M140X200R6HX-D6	M14 x 2	110	26	—	11,0	3	DIN 376	6HX
T610M160X200R6HX-D6	M16 x 2	110	27	—	12,0	3	DIN 376	6HX
T610M200X250R6HX-D6	M20 x 2,5	140	32	—	16,0	3	DIN 376	6HX

Shank Tolerance

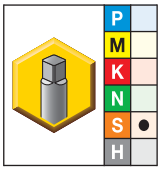
D	tolerance h9
1–3	+0, -0,025
3,5–6	+0, -0,030
7–10	+0, -0,036
11–18	+0, -0,043





KSSH22 • TiCN for tapping cobalt and nickel alloys.

T612 • DIN 371 and 376 • Form C Semi-Bottoming Chamfer • Metric

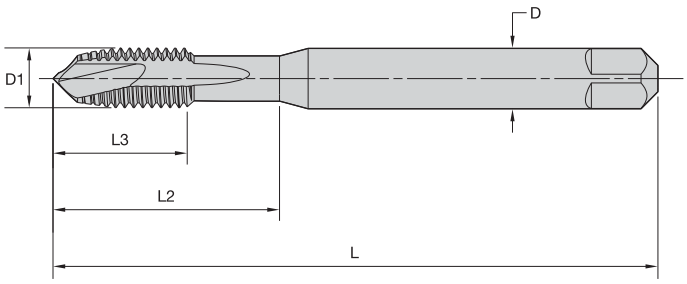


● first choice
○ alternate choice

KSSH22	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit
T612M030X050R6HX-D1	M3 x 0,5	56	11	18	3,5	2	DIN 371	6HX
T612M040X070R6HX-D1	M4 x 0,7	63	13	21	4,5	3	DIN 371	6HX
T612M050X080R6HX-D1	M5 x 0,8	70	15	25	6,0	3	DIN 371	6HX
T612M060X100R6HX-D1	M6 x 1	80	17	30	6,0	3	DIN 371	6HX
T612M080X125R6HX-D1	M8 x 1,25	90	20	35	8,0	3	DIN 371	6HX
T612M120X175R6HX-D6	M12 x 1,75	110	24	—	9,0	3	DIN 376	6HX
T612M100X150R6HX-D1	M10 x 1,5	100	22	39	10,0	3	DIN 371	6HX
T612M140X200R6HX-D6	M14 x 2	110	26	—	11,0	3	DIN 376	6HX
T612M160X200R6HX-D6	M16 x 2	110	27	—	12,0	3	DIN 376	6HX
T612M200X250R6HX-D6	M20 x 2,5	140	32	—	16,0	3	DIN 376	6HX

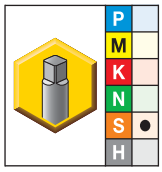
Shank Tolerance

D	tolerance h9
1–3	+0, -0,025
3,5–6	+0, -0,030
7–10	+0, -0,036
11–18	+0, -0,043



KSN25 • TiN/DLC for tapping titanium and titanium alloys.

T614 • DIN 371 and 376 • Form D Plug Chamfer • Metric

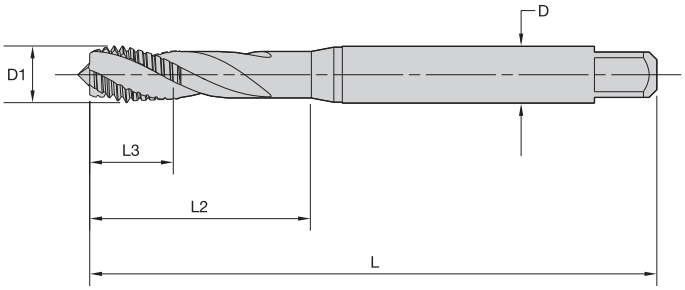


● first choice
○ alternate choice

KSN25	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit
T614M030X050R6HX-D1	M3 x 0,5	56	11	18	3,5	3	DIN 371	6HX
T614M040X070R6HX-D1	M4 x 0,7	63	13	21	4,5	3	DIN 371	6HX
T614M050X080R6HX-D1	M5 x 0,8	70	15	25	6,0	3	DIN 371	6HX
T614M060X100R6HX-D1	M6 x 1	80	17	30	6,0	3	DIN 371	6HX
T614M080X125R6HX-D1	M8 x 1,25	90	20	35	8,0	3	DIN 371	6HX
T614M100X150R6HX-D1	M10 x 1,5	100	22	39	10,0	3	DIN 371	6HX
T614M120X175R6HX-D6	M12 x 1,75	110	24	—	9,0	3	DIN 376	6HX

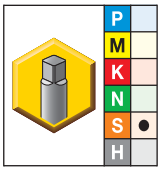
Shank Tolerance

D	tolerance h9
1–3	+0, -0,025
3,5–6	+0, -0,030
7–10	+0, -0,036
11–18	+0, -0,043



KSN25 • TiN/DLC for tapping titanium and titanium alloys.

T616 • DIN 371 • Form C Semi-Bottoming Chamfer • Metric

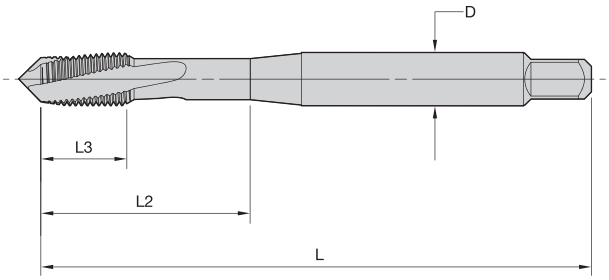


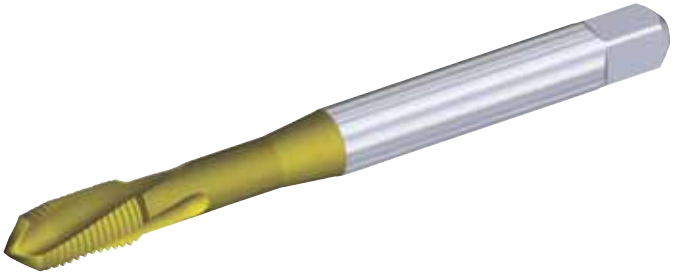
● first choice
○ alternate choice

KSN25	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit
T616M030X050R6HX-D1	M3 x 0,5	56	6	18	3,5	3	DIN 371	6HX
T616M040X070R6HX-D1	M4 x 0,7	63	7	21	4,5	3	DIN 371	6HX
T616M050X080R6HX-D1	M5 x 0,8	70	8	25	6,0	3	DIN 371	6HX
T616M060X100R6HX-D1	M6 x 1	80	10	30	6,0	3	DIN 371	6HX
T616M080X125R6HX-D1	M8 x 1,25	90	14	35	8,0	3	DIN 371	6HX
T616M100X150R6HX-D1	M10 x 1,5	100	16	39	10,0	3	DIN 371	6HX
T616M120X175R6HX-D1	M12 x 1,75	110	18	44	12,0	3	DIN 371	6HX

Shank Tolerance

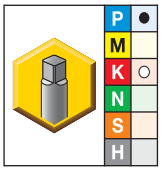
D	tolerance h9
1–3	+0, -0,025
3,5–6	+0, -0,030
7–10	+0, -0,036
11–18	+0, -0,043

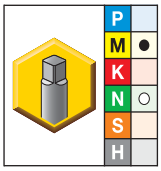




KM6515 • TiN + CrC/C for stainless steel.
KP6525 • TiCN+ TiN for steel.

T620 • DIN 371, 374, and 376 • Form D Plug Chamfer • Metric



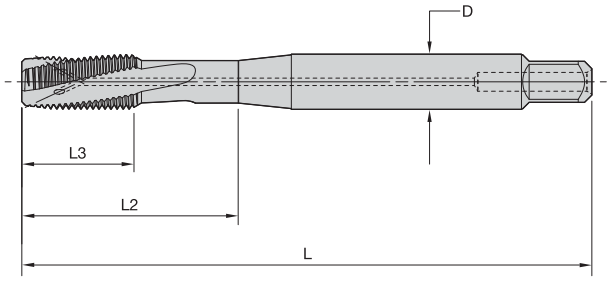


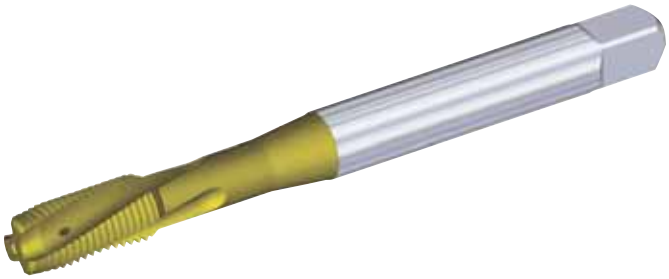
● first choice
○ alternate choice

KP6525	KM6515	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit
T620M030X050R6HX-D1	T620M030X050R6HX-D1	M3 x 0,5	56	8	18	3,5	3	DIN 371	6HX
T620M040X070R6HX-D1	T620M040X070R6HX-D1	M4 x 0,7	63	10	21	4,5	3	DIN 371	6HX
T620M050X080R6HX-D1	T620M050X080R6HX-D1	M5 x 0,8	70	10	25	6,0	3	DIN 371	6HX
T620M060X100R6HX-D1	T620M060X100R6HX-D1	M6 x 1	80	10	30	6,0	3	DIN 371	6HX
T620MF080X100R6HX-D4	T620MF080X100R6HX-D4	M8 x 1	90	13	35	6,0	3	DIN 374	6HX
T620M080X125R6HX-D1	T620M080X125R6HX-D1	M8 x 1,25	90	13	35	8,0	3	DIN 371	6HX
T620MF100X100R6HX-D4	T620MF100X100R6HX-D4	M10 x 1	90	10	35	7,0	3	DIN 374	6HX
T620MF100X125R6HX-D4	—	M10 x 1,25	100	15	39	7,0	3	DIN 374	6HX
T620M100X150R6HX-D1	T620M100X150R6HX-D1	M10 x 1,5	100	15	39	10,0	3	DIN 371	6HX
T620MF120X150R6HX-D4	T620MF120X150R6HX-D4	M12 x 1,5	100	15	39	9,0	3	DIN 374	6HX
T620M120X175R6HX-D6	T620M120X175R6HX-D6	M12 x 1,75	110	18	44	9,0	3	DIN 376	6HX
T620MF140X150R6HX-D4	T620MF140X150R6HX-D4	M14 x 1,5	100	15	47	11,0	4	DIN 374	6HX
T620M140X200R6HX-D6	T620M140X200R6HX-D6	M14 x 2	110	20	52	11,0	4	DIN 376	6HX
T620MF160X150R6HX-D4	T620MF160X150R6HX-D4	M16 x 1,5	100	15	46	12,0	4	DIN 374	6HX
T620M160X200R6HX-D6	T620M160X200R6HX-D6	M16 x 2	110	20	51	12,0	4	DIN 376	6HX
T620MF180X150R6HX-D4	T620MF180X150R6HX-D4	M18 x 1,5	110	15	50	14,0	4	DIN 374	6HX
T620M200X250R6HX-D6	T620M200X250R6HX-D6	M20 x 2,5	140	25	64	16,0	4	DIN 376	6HX

Shank Tolerance

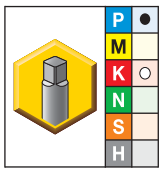
D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–16	+0, -0,011

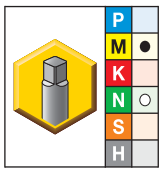




KM6515 • TiN + CrC/C for stainless steel.
KP6525 • TiCN+ TiN for steel.

T621 • DIN 371, 374, and 376 • Form D Plug Chamfer • Through Coolant • Metric



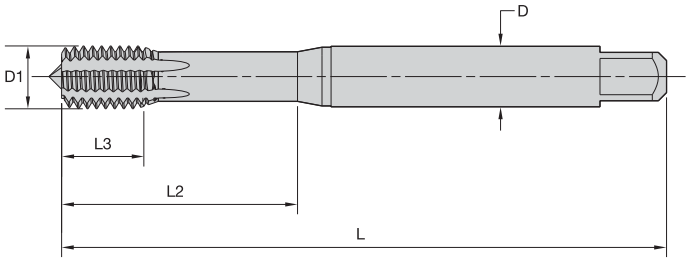


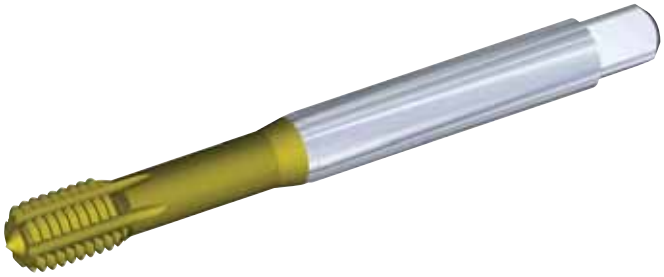
● first choice
○ alternate choice

KP6525	KM6515	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit
T621M050X080R6HX-D1	T621M050X080R6HX-D1	M5 x 0,8	70	10	25	6,0	2	DIN 371	6HX
T621M060X100R6HX-D1	T621M060X100R6HX-D1	M6 x 1	80	10	30	6,0	3	DIN 371	6HX
T621MF080X100R6HX-D4	T621MF080X100R6HX-D4	M8 x 1	90	13	35	6,0	3	DIN 374	6HX
T621M080X125R6HX-D1	T621M080X125R6HX-D1	M8 x 1,25	90	13	35	8,0	3	DIN 371	6HX
T621MF100X100R6HX-D4	T621MF100X100R6HX-D4	M10 x 1	90	10	35	7,0	3	DIN 374	6HX
T621MF100X125R6HX-D4	T621MF100X125R6HX-D4	M10 x 1,25	100	15	39	7,0	3	DIN 374	6HX
T621M100X150R6HX-D1	T621M100X150R6HX-D1	M10 x 1,5	100	15	39	10,0	3	DIN 371	6HX
T621MF120X125R6HX-D4	–	M12 x 1,25	100	15	39	9,0	3	DIN 374	6HX
T621MF140X125R6HX-D4	–	M14 x 1,25	100	15	47	11,0	4	DIN 374	6HX
T621MF120X150R6HX-D4	T621MF120X150R6HX-D4	M12 x 1,5	100	15	39	9,0	3	DIN 374	6HX
T621M120X175R6HX-D6	T621M120X175R6HX-D6	M12 x 1,75	110	18	44	9,0	3	DIN 376	6HX
T621MF140X150R6HX-D4	T621MF140X150R6HX-D4	M14 x 1,5	100	15	47	11,0	4	DIN 374	6HX
T621M140X200R6HX-D6	T621M140X200R6HX-D6	M14 x 2	110	20	52	11,0	4	DIN 376	6HX
T621MF160X150R6HX-D4	T621MF160X150R6HX-D4	M16 x 1,5	100	15	46	12,0	4	DIN 374	6HX
T621M160X200R6HX-D6	T621M160X200R6HX-D6	M16 x 2	110	20	51	12,0	4	DIN 376	6HX
T621MF180X150R6HX-D4	T621MF180X150R6HX-D4	M18 x 1,5	110	15	50	14,0	4	DIN 374	6HX
T621M180X250R6HX-D6	T621M180X250R6HX-D6	M18 x 2,5	125	25	58	14,0	4	DIN 376	6HX

Shank Tolerance

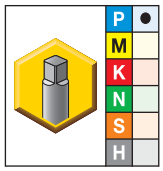
D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–16	+0, -0,011

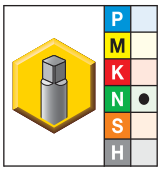




KSP21• TiN for tapping steel.
KSN28 • DLC for tapping aluminium.

T622 • DIN 2174 • Form C Semi-Bottoming Entry Taper • Metric



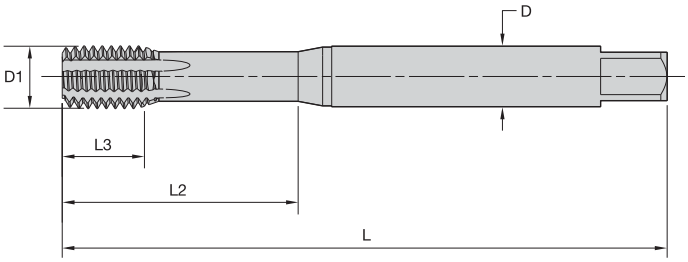


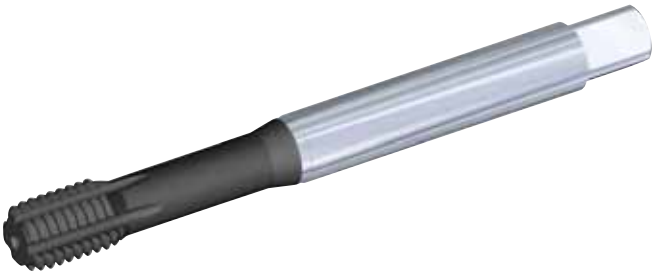
● first choice
○ alternate choice

KSP21	KSN28	D1 size	L	L3	L2	D	number of lube grooves	dimension standard	class of fit
T622M030X050R6HX-D74	T622M030X050R6HX-D74	M3 x 0,5	56	6	18	3,5	4	DIN 2174	6HX
T622M040X070R6HX-D74	T622M040X070R6HX-D74	M5 x 0,7	63	7	21	4,5	4	DIN 2174	6HX
T622M050X080R6HX-D74	T622M050X080R6HX-D74	M5 x 0,8	70	8	25	6,0	4	DIN 2174	6HX
T622M060X100R6HX-D74	T622M060X100R6HX-D74	M6 x 1	80	10	30	6,0	5	DIN 2174	6HX
T622MF080X100R6HX-D74	T622MF080X100R6HX-D74	M8 x 1	90	10	35	8,0	5	DIN 2174	6HX
T622M080X125R6HX-D74	T622M080X125R6HX-D74	M8 x 1,25	90	14	35	8,0	5	DIN 2174	6HX
T622MF100X100R6HX-D74	T622MF100X100R6HX-D74	M10 x 1	90	10	35	10,0	5	DIN 2174	6HX
T622MF100X125R6HX-D74	T622MF100X125R6HX-D74	M10 x 1,25	100	16	69	10,0	5	DIN 2174	6HX
T622M100X150R6HX-D74	T622M100X150R6HX-D74	M10 x 1,5	100	16	39	10,0	5	DIN 2174	6HX
T622MF120X125R6HX-D74	T622MF120X125R6HX-D74	M12 x 1,25	100	15	27	9,0	6	DIN 2174	6HX
T622MF120X150R6HX-D74	T622MF120X150R6HX-D74	M12 x 1,5	100	15	27	9,0	6	DIN 2174	6HX
T622M120X175R6HX-D74	T622M120X175R6HX-D74	M12 x 1,75	110	—	—	9,0	6	DIN 2174	6HX
T622MF140X150R6HX-D74	T622MF140X150R6HX-D74	M14 x 1,5	100	—	—	11,0	6	DIN 2174	6HX
T622MF160X150R6HX-D74	T622MF160X150R6HX-D74	M16 x 1,5	100	—	—	12,0	6	DIN 2174	6HX
T622M160X200R6HX-D74	T622M160X200R6HX-D74	M16 x 2	110	—	—	12,0	6	DIN 2174	6HX

Shank Tolerance

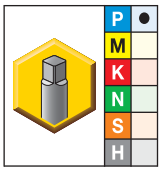
D	tolerance h9
1–3	+0, -0,025
3,5–6	+0, -0,030
7–10	+0, -0,036
11–18	+0, -0,043

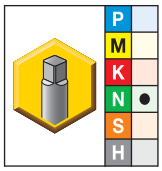




KSP21• TiN for tapping steel.
KSP28 • DLC for tapping aluminium.

T623 • DIN 2174 • Form C Semi-Bottoming Entry Taper • Through Coolant • Metric



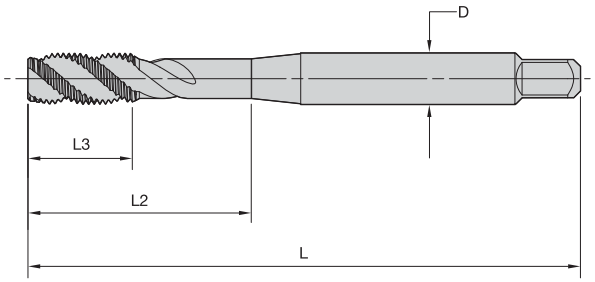


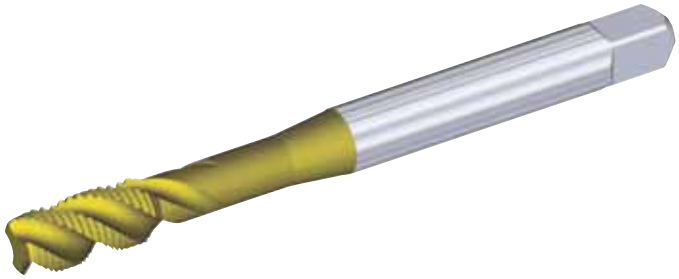
● first choice
○ alternate choice

KSP21	KSN28	D1 size	L	L3	L2	D	number of lube grooves	dimension standard	class of fit
T623M050X080R6HX-D74	T623M050X080R6HX-D74	M5 x 0,8	70	8	25	6,0	4	DIN 2174	6HX
T623M060X100R6HX-D74	T623M060X100R6HX-D74	M6 x 1	80	10	30	6,0	5	DIN 2174	6HX
T623MF080X100R6HX-D74	T623MF080X100R6HX-D74	M8 x 1	90	10	35	8,0	5	DIN 2174	6HX
T623M080X125R6HX-D74	T623M080X125R6HX-D74	M8 x 1,25	90	14	35	8,0	5	DIN 2174	6HX
T623MF100X100R6HX-D74	T623MF100X100R6HX-D74	M10 x 1	90	10	35	10,0	5	DIN 2174	6HX
T623M100X150R6HX-D74	T623M100X150R6HX-D1	M10 x 1,5	100	16	39	10,0	5	DIN 2174	6HX
T623MF120X150R6HX-D74	T623MF120X150R6HX-D74	M12 x 1,5	100	15	27	9,0	6	DIN 2174	6HX
T623M120X175R6HX-D74	T623M120X175R6HX-D74	M12 x 1,75	110	18	30	9,0	6	DIN 2174	6HX
T623MF140X150R6HX-D74	T623MF140X150R6HX-D74	M14 x 1,5	100	15	—	11,0	6	DIN 2174	6HX
T623MF160X150R6HX-D74	T623MF160X150R6HX-D74	M16 x 1,5	100	15	—	12,0	6	DIN 2174	6HX
T623M160X200R6HX-D74	T623M160X200R6HX-D74	M16 x 2	110	22	—	12,0	6	DIN 2174	6HX

Shank Tolerance

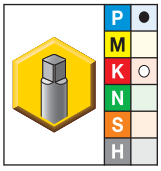
D	tolerance h9
1–3	+0, -0,025
3,5–6	+0, -0,030
7–10	+0, -0,036
11–18	+0, -0,043

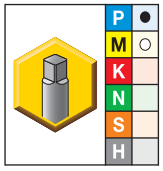


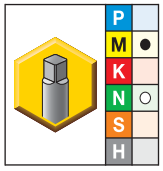


KM6515 • TiN + CrC/C for stainless steel.
KP6525 • TiCN+ TiN for steel.
KP6505 • Steam oxide for steel.

T630 • DIN 371, 374, and 376 • Form C Semi-Bottoming Chamfer • Metric





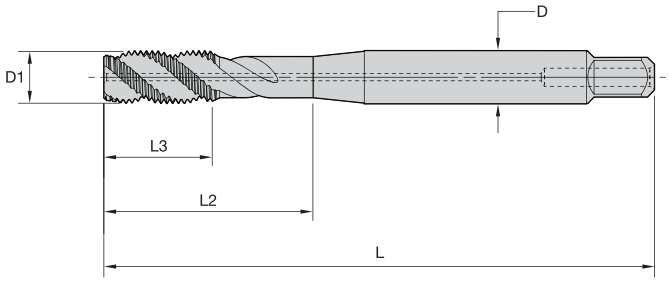


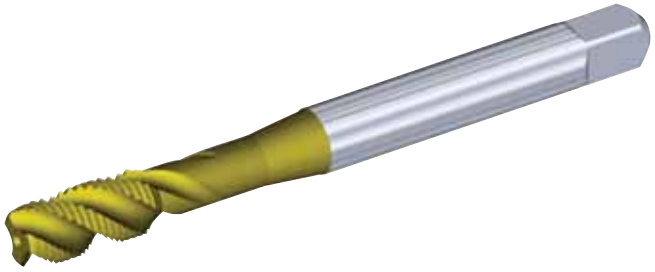
● first choice
○ alternate choice

KP6525	KP6505	KM6515	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit
T630M030X050R6HX-D1	T630M030X050R6HX-D1	T630M030X050R6HX-D1	M3 x 0,5	56	8	18	3,5	3	DIN 371	6HX
T630M040X070R6HX-D1	T630M040X070R6HX-D1	T630M040X070R6HX-D1	M4 x 0,7	63	10	21	4,5	3	DIN 371	6HX
T630M050X080R6HX-D1	T630M050X080R6HX-D1	T630M050X080R6HX-D1	M5 x 0,8	70	10	25	6,0	3	DIN 371	6HX
T630M060X100R6HX-D1	T630M060X100R6HX-D1	T630M060X100R6HX-D1	M6 x 1	80	10	30	6,0	3	DIN 371	6HX
T630MF080X100R6HX-D4	–	T630MF080X100R6HX-D4	M8 x 1	90	13	35	6,0	3	DIN 374	6HX
T630M080X125R6HX-D1	T630M080X125R6HX-D1	T630M080X125R6HX-D1	M8 x 1,25	90	13	35	8,0	3	DIN 371	6HX
T630MF100X100R6HX-D4	–	T630MF100X100R6HX-D4	M10 x 1	90	10	35	7,0	3	DIN 374	6HX
T630MF100X125R6HX-D4	–	T630MF100X125R6HX-D4	M10 x 1,25	100	15	39	7,0	3	DIN 374	6HX
T630M100X150R6HX-D1	T630M100X150R6HX-D1	T630M100X150R6HX-D1	M10 x 1,5	100	15	39	10,0	3	DIN 371	6HX
T630MF120X150R6HX-D4	–	T630MF120X150R6HX-D4	M12 x 1,5	100	15	39	9,0	3	DIN 374	6HX
T630M120X175R6HX-D6	T630M120X175R6HX-D6	T630M120X175R6HX-D6	M12 x 1,75	110	18	44	9,0	3	DIN 376	6HX
T630MF140X150R6HX-D4	–	T630MF140X150R6HX-D4	M14 x 1,5	100	15	47	11,0	4	DIN 374	6HX
T630M140X200R6HX-D6	T630M140X200R6HX-D6	T630M140X200R6HX-D6	M14 x 2	110	20	52	11,0	4	DIN 376	6HX
T630MF160X150R6HX-D4	–	T630MF160X150R6HX-D4	M16 x 1,5	100	15	46	12,0	4	DIN 374	6HX
T630M160X200R6HX-D6	T630M160X200R6HX-D6	T630M160X200R6HX-D6	M16 x 2	110	20	51	12,0	4	DIN 376	6HX
T630MF180X150R6HX-D4	–	T630MF180X150R6HX-D4	M18 x 1,5	110	15	50	14,0	4	DIN 374	6HX
T630M180X250R6HX-D6	T630M180X250R6HX-D6	T630M180X250R6HX-D6	M18 x 2,5	125	25	58	14,0	4	DIN 376	6HX
–	T630M200X250R6HX-D6	–	M20 x 2,5	140	25	64	16,0	4	DIN 376	6HX

Shank Tolerance

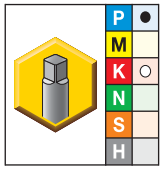
D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–16	+0, -0,011

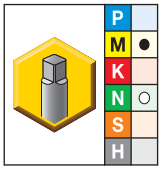




KM6515 • TiN + CrC/C for stainless steel.
KP6525 • TiCN+ TiN for steel.

T631 • DIN 371, 374, and 376 • Form C Semi-Bottoming Chamfer • Through Coolant • Metric



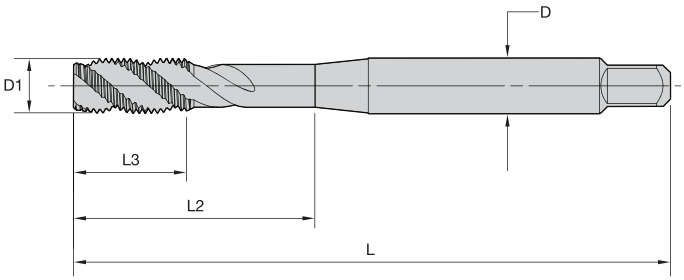


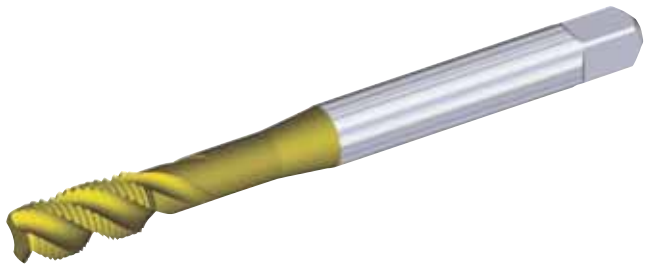
● first choice
○ alternate choice

KP6525	KM6515	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit
T631M050X080R6HX-D1	T631M050X080R6HX-D1	M5 x 0,8	70	10	25	6,0	3	DIN 371	6HX
T631M060X100R6HX-D1	T631M060X100R6HX-D1	M6 x 1	80	10	30	6,0	3	DIN 371	6HX
T631MF080X100R6HX-D4	T631MF080X100R6HX-D4	M8 x 1	90	13	35	6,0	3	DIN 374	6HX
T631M080X125R6HX-D1	T631M080X125R6HX-D1	M8 x 1,25	90	13	35	8,0	3	DIN 371	6HX
T631MF100X100R6HX-D4	T631MF100X100R6HX-D4	M10 x 1	90	10	35	7,0	3	DIN 374	6HX
T631MF100X125R6HX-D4	T631MF100X125R6HX-D4	M10 x 1,25	100	15	39	7,0	3	DIN 374	6HX
T631M100X150R6HX-D1	T631M100X150R6HX-D1	M10 x 1,5	100	15	39	10,0	3	DIN 371	6HX
T631MF120X125R6HX-D4	T631MF120X125R6HX-D4	M12 x 1,25	100	15	39	9,0	4	DIN 374	6HX
T631MF140X125R6HX-D4	T631MF140X125R6HX-D4	M14 x 1,25	100	15	47	11,0	4	DIN 374	6HX
T631MF120X150R6HX-D4	T631MF120X150R6HX-D4	M12 x 1,5	100	15	39	9,0	4	DIN 374	6HX
T631M120X175R6HX-D6	T631M120X175R6HX-D6	M12 x 1,75	110	18	44	9,0	4	DIN 376	6HX
T631MF140X150R6HX-D4	T631MF140X150R6HX-D4	M14 x 1,5	100	15	47	11,0	4	DIN 374	6HX
T631M140X200R6HX-D6	T631M140X200R6HX-D6	M14 x 2	110	20	52	11,0	4	DIN 376	6HX
T631MF160X150R6HX-D4	T631MF160X150R6HX-D4	M16 x 1,5	100	15	46	12,0	4	DIN 374	6HX
T631M160X200R6HX-D6	T631M160X200R6HX-D6	M16 x 2	110	20	51	12,0	4	DIN 376	6HX
T631MF180X150R6HX-D4	T631MF180X150R6HX-D4	M18 x 1,5	110	15	50	14,0	4	DIN 374	6HX
T631M180X250R6HX-D6	T631M180X250R6HX-D6	M18 x 2,5	125	25	58	13,0	4	DIN 376	6HX

Shank Tolerance

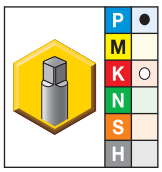
D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–16	+0, -0,011





KP6525 • TiCN+TiN for tapping steel.

T632 • DIN 371, 374, and 376 • Form E Bottoming Chamfer • Metric

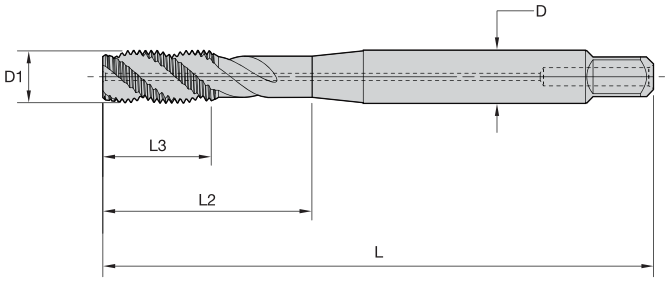


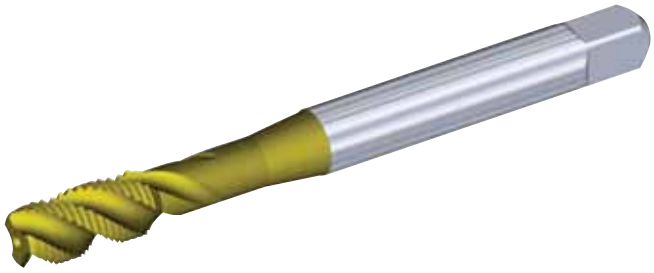
● first choice
○ alternate choice

KP6525	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit
T632M050X080R6HX-D1	M5 x 0,8	70	10	25	6,0	3	DIN 371	6HX
T632M060X100R6HX-D1	M6 x 1	80	10	30	6,0	3	DIN 371	6HX
T632M080X125R6HX-D1	M8 x 1,25	90	13	35	8,0	3	DIN 371	6HX
T632M100X150R6HX-D1	M10 x 1,5	100	15	39	10,0	3	DIN 371	6HX
T632MF120X150R6HX-D4	M12 x 1,5	100	15	39	9,0	4	DIN 374	6HX
T632M120X175R6HX-D6	M12 x 1,75	110	18	44	9,0	4	DIN 376	6HX
T632MF140X150R6HX-D4	M14 x 1,5	100	15	47	11,0	4	DIN 374	6HX
T632M140X200R6HX-D6	M14 x 2	110	20	52	11,0	4	DIN 376	6HX
T632MF160X150R6HX-D4	M16 x 1,5	100	15	46	12,0	4	DIN 374	6HX

Shank Tolerance

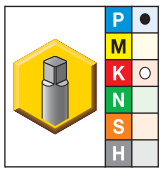
D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–16	+0, -0,011





KP6525 • TiCN+TiN for tapping steel.

T633 • DIN 371, 374, and 376 • Form E Bottoming Chamfer • Through Coolant • Metric

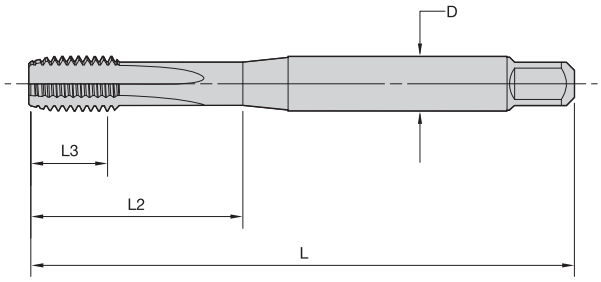


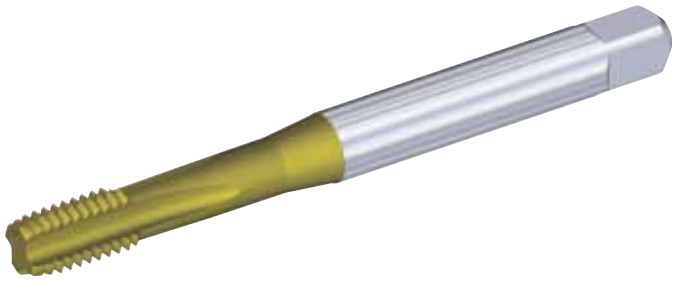
● first choice
○ alternate choice

KP6525	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit
T633M050X080R6HX-D1	M5 x 0,8	70	10	25	6,0	3	DIN 371	6HX
T633M060X100R6HX-D1	M6 x 1	80	10	30	6,0	3	DIN 371	6HX
T633M080X125R6HX-D1	M8 x 1,25	90	13	35	8,0	3	DIN 371	6HX
T633M100X150R6HX-D1	M10 x 1,5	100	15	39	10,0	3	DIN 371	6HX
T633MF120X150R6HX-D4	M12 x 1,5	100	15	39	9,0	4	DIN 374	6HX
T633M120X175R6HX-D6	M12 x 1,75	110	18	44	9,0	4	DIN 376	6HX
T633MF140X150R6HX-D4	M14 x 1,5	100	15	47	11,0	4	DIN 374	6HX
T633M140X200R6HX-D6	M14 x 2	110	20	52	11,0	4	DIN 376	6HX
T633MF160X150R6HX-D4	M16 x 1,5	100	15	46	12,0	4	DIN 374	6HX

Shank Tolerance

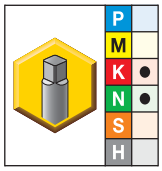
D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–16	+0, -0,011





KP6525 • TiCN+ TiN for cast iron and cast aluminium.

T640 • DIN 371 and 376 • Form C Semi-Bottoming Chamfer • Metric

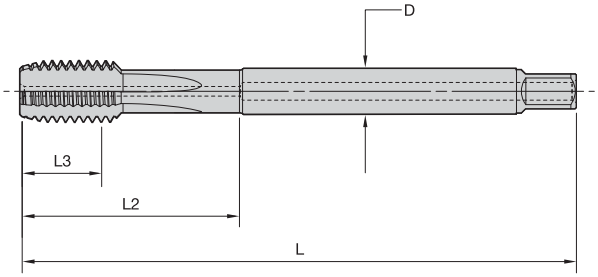


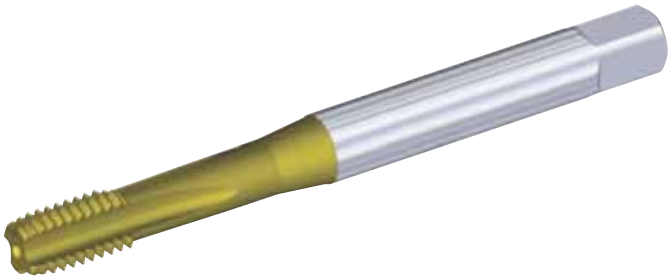
● first choice
○ alternate choice

KP6525	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit
T640M040X070R6HX-D1	M4 x 0,7	63	10	21	4,5	3	DIN 371	6HX
T640M050X080R6HX-D1	M5 x 0,8	70	10	25	6,0	3	DIN 371	6HX
T640M060X100R6HX-D1	M6 x 1	80	10	30	6,0	4	DIN 371	6HX
T640M080X125R6HX-D1	M8 x 1,25	90	13	35	8,0	4	DIN 371	6HX
T640M100X150R6HX-D1	M10 x 1,5	100	15	39	10,0	4	DIN 371	6HX
T640M120X175R6HX-D6	M12 x 1,75	110	18	44	9,0	4	DIN 376	6HX
T640M140X200R6HX-D6	M14 x 2	110	20	52	11,0	4	DIN 376	6HX
T640M160X200R6HX-D6	M16 x 2	110	20	51	12,0	4	DIN 376	6HX
T640M180X250R6HX-D6	M18 x 2,5	125	25	58	14,0	4	DIN 376	6HX
T640M200X250R6HX-D6	M20 x 2,5	140	25	64	16,0	4	DIN 376	6HX
T640M220X250R6HX-D6	M22 x 2,5	140	25	64	16,0	4	DIN 376	6HX

Shank Tolerance

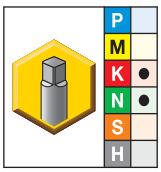
D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–16	+0, -0,011





KP6525 • TiCN+ TiN for cast iron and cast aluminium.

T641 • DIN 371 and 376 • Form C Semi-Bottoming Chamfer • Through Coolant • Metric

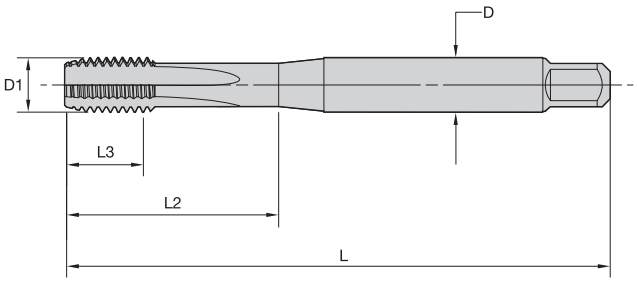


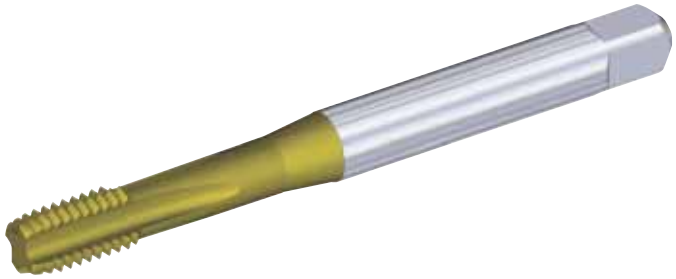
● first choice
○ alternate choice

KP6525	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit
T641M050X080R6HX-D1	M5 x 0,8	70	10	25	6,0	3	DIN 371	6HX
T641M060X100R6HX-D1	M6 x 1	80	10	30	6,0	4	DIN 371	6HX
T641M080X125R6HX-D1	M8 x 1,25	90	13	35	8,0	4	DIN 371	6HX
T641M100X150R6HX-D1	M10 x 1,5	100	15	39	10,0	4	DIN 371	6HX
T641M120X175R6HX-D6	M12 x 1,75	110	18	44	9,0	4	DIN 376	6HX
T641M140X200R6HX-D6	M14 x 2	110	20	52	11,0	4	DIN 376	6HX
T641M160X200R6HX-D6	M16 x 2	110	20	51	12,0	4	DIN 376	6HX
T641M180X250R6HX-D6	M18 x 2,5	125	25	58	14,0	4	DIN 376	6HX
T641M200X250R6HX-D6	M20 x 2,5	140	25	64	16,0	4	DIN 376	6HX

Shank Tolerance

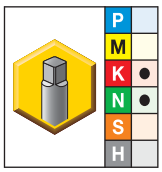
D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–16	+0, -0,011





KP6525 • TiCN+TiN for cast iron and cast silicon aluminium.

T642 • DIN 371, 374, and 376 • Form E Bottoming Chamfer • Metric

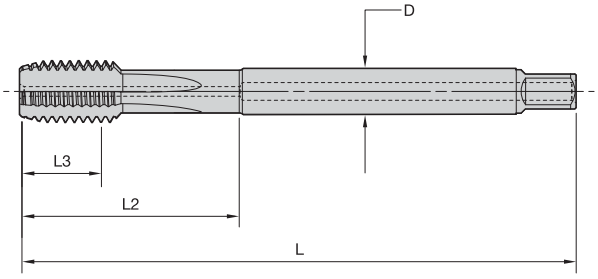


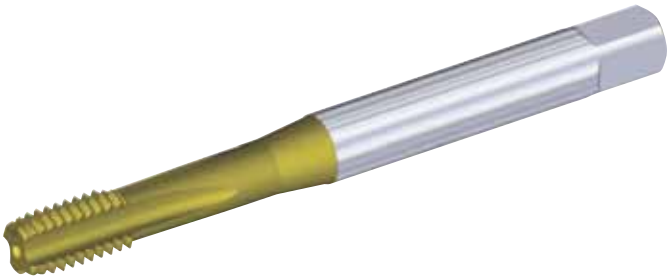
● first choice
○ alternate choice

KP6525	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit
T642M050X080R6HX-D1	M5 x 0,8	70	10	25	6,0	3	DIN 371	6HX
T642M060X100R6HX-D1	M6 x 1	80	10	30	6,0	4	DIN 371	6HX
T642M080X125R6HX-D1	M8 x 1,25	90	13	35	8,0	4	DIN 371	6HX
T642M100X150R6HX-D1	M10 x 1,5	100	15	39	10,0	4	DIN 371	6HX
T642MF120X150R6HX-D4	M12 x 1,5	100	15	39	9,0	4	DIN 374	6HX
T642M120X175R6HX-D6	M12 x 1,75	110	18	44	9,0	4	DIN 376	6HX
T642MF140X150R6HX-D4	M14 x 1,5	100	15	47	11,0	4	DIN 374	6HX
T642M140X200R6HX-D6	M14 x 2	110	20	52	11,0	4	DIN 376	6HX
T642MF160X150R6HX-D4	M16 x 1,5	100	15	46	12,0	4	DIN 374	6HX

Shank Tolerance

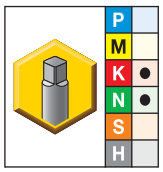
D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–16	+0, -0,011





KP6525 • TiCN+TiN for tapping cast iron and cast silicon aluminium.

T643 • DIN 371, 374, and 376 • Form E Bottoming Chamfer • Through Coolant • Metric



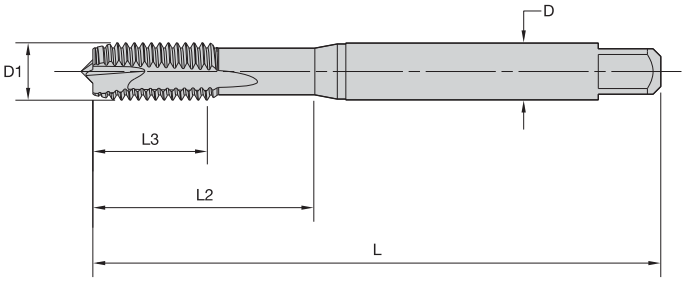
	P	M	K	N	S	H
			●	●		

● first choice
○ alternate choice

KP6525	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit
T643M050X080R6HX-D1	M5 x 0,8	70	10	25	6,0	3	DIN 371	6HX
T643M060X100R6HX-D1	M6 x 1	80	10	30	6,0	4	DIN 371	6HX
T643M080X125R6HX-D1	M8 x 1,25	90	13	35	8,0	4	DIN 371	6HX
T643M100X150R6HX-D1	M10 x 1,5	100	15	39	10,0	4	DIN 371	6HX
T643MF120X150R6HX-D4	M12 x 1,5	100	15	39	9,0	4	DIN 374	6HX
T643M120X175R6HX-D6	M12 x 1,75	110	18	44	9,0	4	DIN 376	6HX
T643MF140X150R6HX-D4	M14 x 1,5	100	15	47	11,0	4	DIN 374	6HX
T643M140X200R6HX-D6	M14 x 2	110	20	52	11,0	4	DIN 376	6HX
T643MF160X150R6HX-D4	M16 x 1,5	100	15	46	12,0	4	DIN 374	6HX

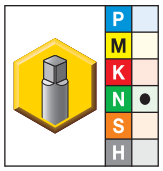
Shank Tolerance

D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–16	+0, -0,011



KSN38 • DLC for tapping aluminium.

T670 • DIN 371 and 376 • Form B Plug Chamfer • Metric

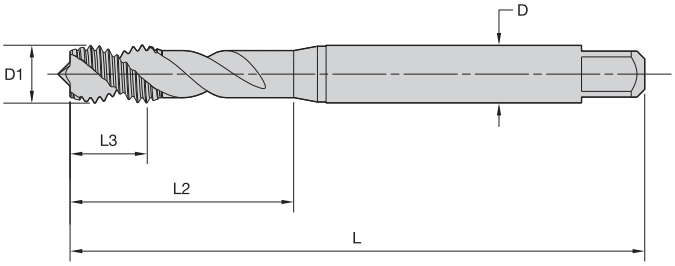


● first choice
○ alternate choice

KSN38	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit
T670M030X050R6H-D1	M3 x 0,5	56	11	18	3,5	2	DIN 371	6H
T670M040X070R6H-D1	M4 x 0,7	63	13	21	4,5	2	DIN 371	6H
T670M050X080R6H-D1	M5 x 0,8	70	15	25	6,0	2	DIN 371	6H
T670M060X100R6H-D1	M6 x 1	80	17	30	6,0	2	DIN 371	6H
T670M080X125R6H-D1	M8 x 1,25	90	20	35	8,0	2	DIN 371	6H
T670M100X150R6H-D1	M10 x 1,5	100	22	39	10,0	2	DIN 371	6H
T670M120X175R6H-D6	M12 x 1,75	110	24	—	9,0	3	DIN 376	6H
T670M160X200R6H-D6	M16 x 2	110	27	—	12,0	3	DIN 376	6H

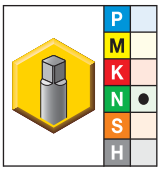
Shank Tolerance

D	tolerance h9
1–3	+0, -0,025
3,5–6	+0, -0,030
7–10	+0, -0,036
11–18	+0, -0,043



KSN38 • DLC for tapping aluminium.

T680 • DIN 371 and 376 • Form C Semi-Bottoming Chamfer • Metric



● first choice
○ alternate choice

KSN38	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit
T680M030X050R6H-D1	M3 x 0,5	56	6	18	3,5	2	DIN 371	6H
T680M040X070R6H-D1	M4 x 0,7	63	7	21	4,5	2	DIN 371	6H
T680M050X080R6H-D1	M5 x 0,8	70	8	25	6,0	2	DIN 371	6H
T680M060X100R6H-D1	M6 x 1	80	10	30	6,0	2	DIN 371	6H
T680M080X125R6H-D1	M8 x 1,25	90	14	35	8,0	2	DIN 371	6H
T680M100X150R6H-D1	M10 x 1,5	100	16	39	10,0	2	DIN 371	6H
T680M120X175R6H-D6	M12 x 1,75	110	18	—	9,0	3	DIN 376	6H
T680M160X200R6H-D6	M16 x 2	110	22	—	12,0	3	DIN 376	6H
T680M200X250R6H-D6	M20 x 2,5	140	25	—	16,0	3	DIN 376	6H

Shank Tolerance

D	tolerance h9
1–3	+0, -0,025
3,5–6	+0, -0,030
7–10	+0, -0,036
11–18	+0, -0,043

Wind Energy Taps

Primary Application

The new high-performance, large-sized HSS-E-PM Wind Taps were developed for manufacturers of some of the most important wind turbine components to increase productivity because of increased demand and can be used in conventional non-rigid and CNC-synchronous tapping machines. These Wind Taps are manufactured to DIN 376 dimensions and an extra-long version is available to reach the longer overhang that is common on these big components.

The precision h6 shanks enable use in either conventional tap holders with square drive or in precision round holders.

Features and Benefits

T620 LH Spiral Flute

- For through hole tapping.
- Push chips ahead, enabling free tapping on long chipping material.
- Form D plug chamfer.
- DIN 376 and extra-long versions available.

T630 RH Spiral Flute

- For blind hole tapping.
- Preferred for vertical tapping application.
- Form D plug chamfer.
- Internal coolant available as standard; see T631.
- DIN 376 and extra-long versions available.

T650 RH Spiral Flute

- For blind hole tapping.
- Preferred for horizontal tapping application.
- Form D plug chamfer.
- Internal coolant available as standard; see T651.
- DIN 376 and extra-long versions available.

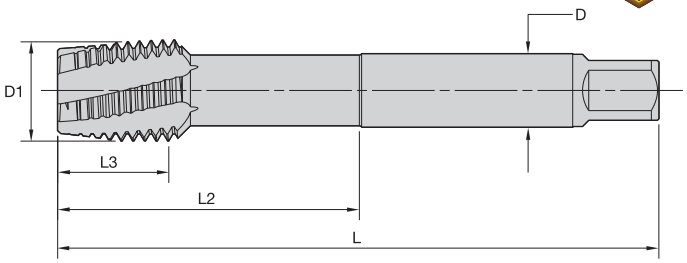
T650 HSS-E-PM • Proven Solution

Case study:

- Manufacturer of large diameter bearing for wind turbines.

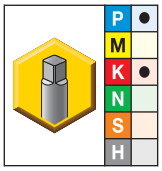
Conditions:

- Thread size: M24 x 2.5 6H
- Workpiece: bearing ring
- Material: low-carbon steel 1010 (C10)
- Thread depth: 35mm blind
- Tap drill size: 17,5mm
- Machine: CNC
- Coolant: water soluble



KP6525 • TiCN+TiN for tapping steel and cast iron.

T620 • DIN 376 • Form D Plug Chamfer • Larger Sizes • Metric

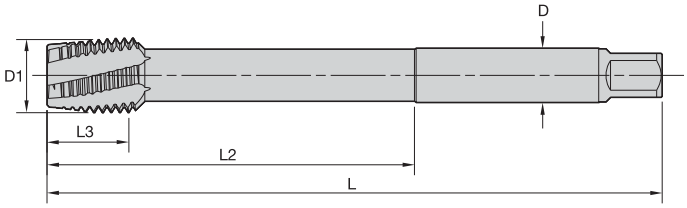


● first choice
○ alternate choice

KP6525	D1 size	L	L3	L2	D	number of flutes	class of fit
T620M240X300R6HX-D6	M24 x 3	160	30	77	18,0	5	6HX
T620M300X350R6HX-D6	M30 x 3,5	180	35	91	22,0	5	6HX
T620M330X350R6HX-D6	M33 x 3,5	180	35	100	25,0	5	6HX
T620M360X400R6HX-D6	M36 x 4	200	40	110	28,0	6	6HX
T620M420X450R6HX-D6	M42 x 4,5	200	45	120	32,0	6	6HX

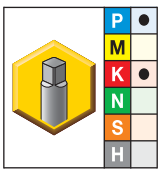
Shank Tolerance

D	tolerance h6
12–18	+0, -0,011
20–30	+0, -0,013
32–36	+0, -0,016



KP6525 • TiCN+TiN for tapping steel and cast iron.

T620 • Extra Long • Form D Plug Chamfer • Larger Sizes • Metric

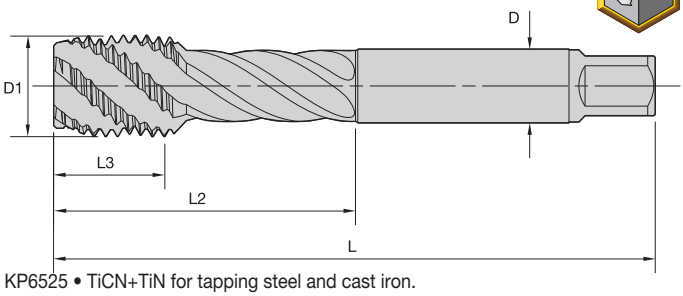


● first choice
○ alternate choice

KP6525	D1 size	L	L3	L2	D	number of flutes	class of fit
T620M240X300R6H-XL	M24 x 3	200	30	120	18,0	5	6HX
T620M300X350R6H-XL	M30 x 3,5	250	35	150	22,0	5	6HX
T620M330X350R6H-XL	M33 x 3,5	250	35	150	25,0	5	6HX
T620M360X400R6H-XL	M36 x 4	250	40	150	28,0	6	6HX
T620M420X450R6H-XL	M42 x 4,5	300	45	180	32,0	6	6HX

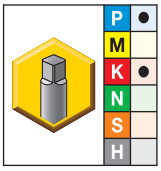
Shank Tolerance

D	tolerance h6
12–18	+0, -0,011
20–30	+0, -0,013
32–36	+0, -0,016



KP6525 • TiCN+TiN for tapping steel and cast iron.

T630 • DIN 376 • Form C Semi-Bottoming Chamfer • Larger Sizes • Metric

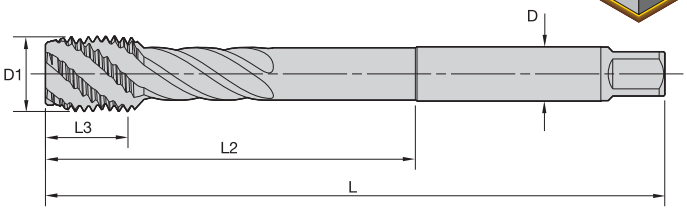


● first choice
○ alternate choice

KP6525	D1 size	L	L3	L2	D	number of flutes	class of fit
T630M240X300R6HX-D6	M24 x 3	160	30	77	18,0	5	6HX
T630M300X350R6HX-D6	M30 x 3,5	180	35	91	22,0	5	6HX
T630M330X350R6HX-D6	M33 x 3,5	180	35	100	25,0	5	6HX
T630M360X400R6HX-D6	M36 x 4	200	40	110	28,0	5	6HX
T630M420X450R6HX-D6	M42 x 4,5	200	45	120	32,0	5	6HX

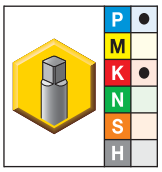
Shank Tolerance

D	tolerance h6
12–18	+0, -0,011
20–30	+0, -0,013
32–36	+0, -0,016



KP6525 • TiCN+TiN for tapping steel and cast iron.

T630 • Extra Long • Form C Semi-Bottoming Chamfer • Larger Sizes • Metric

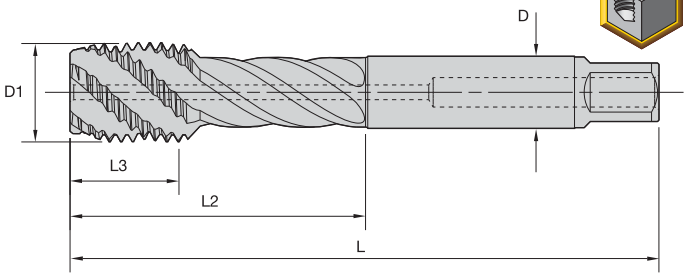


● first choice
○ alternate choice

KP6525	D1 size	L	L3	L2	D	number of flutes	class of fit
T630M240X300R6HX-XL	M24 x 3	200	30	120	18,0	5	6HX
T630M300X350R6HX-XL	M30 x 3,5	250	35	150	22,0	5	6HX
T630M330X350R6HX-XL	M33 x 3,5	250	35	150	25,0	5	6HX
T630M360X400R6HX-XL	M36 x 4	250	40	150	28,0	5	6HX
T630M420X450R6HX-XL	M42 x 4,5	300	45	180	32,0	5	6HX

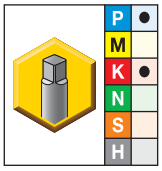
Shank Tolerance

D	tolerance h6
12–18	+0, -0,011
20–30	+0, -0,013
32–36	+0, -0,016



KP6525 • TiCN+TiN for tapping steel and cast iron.

T631 • DIN 376 • Form C Semi-Bottoming Chamfer • Through Coolant • Larger Sizes • Metric

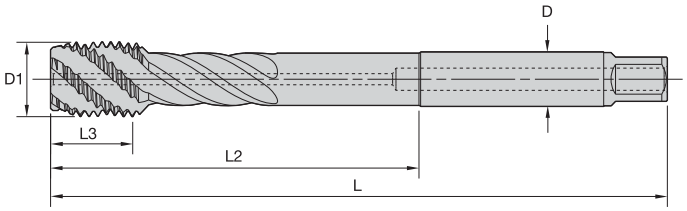


● first choice
○ alternate choice

KP6525	D1 size	L	L3	L2	D	number of flutes	class of fit
T631M240X300R6HX-D6	M24 x 3	160	30	77	18,0	5	6HX
T631M300X350R6HX-D6	M30 x 3,5	180	35	91	22,0	5	6HX
T631M330X350R6HX-D6	M33 x 3,5	180	35	100	25,0	5	6HX
T631M360X400R6HX-D6	M36 x 4	200	40	110	28,0	5	6HX
T631M420X450R6HX-D6	M42 x 4,5	200	45	120	32,0	5	6HX

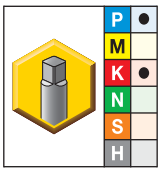
Shank Tolerance

D	tolerance h6
12–18	+0, -0,011
20–30	+0, -0,013
32–36	+0, -0,016



KP6525 • TiCN+TiN for tapping steel and cast iron.

T631 • Extra Long • Form C Semi-Bottoming Chamfer • Through Coolant • Larger Sizes • Metric

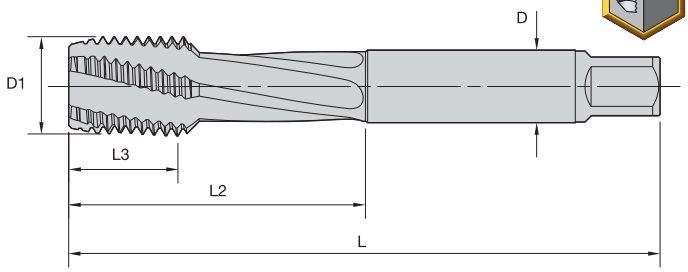


● first choice
○ alternate choice

KP6525	D1 size	L	L3	L2	D	number of flutes	class of fit
T631M240X300R6HX-XL	M24 x 3	200	30	120	18,0	5	6HX
T631M300X350R6HX-XL	M30 x 3,5	250	35	150	22,0	5	6HX
T631M330X350R6HX-XL	M33 x 3,5	250	35	150	25,0	5	6HX
T631M360X400R6HX-XL	M36 x 4	250	40	150	28,0	5	6HX
T631M420X450R6HX-XL	M42 x 4,5	300	45	180	32,0	5	6HX

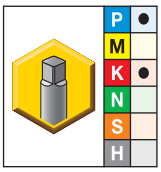
Shank Tolerance

D	tolerance h6
12–18	+0, -0,011
20–30	+0, -0,013
32–36	+0, -0,016



KP6525 • TiCN+TiN for tapping steel and cast iron.

T650 • DIN 376 • Form C Semi-Bottoming Chamfer • Larger Sizes • Metric

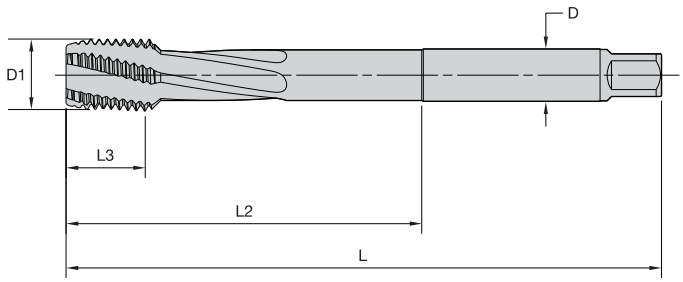


● first choice
○ alternate choice

KP6525	D1 size	L	L3	L2	D	number of flutes	class of fit
T650M240X300R6HX-D6	M24 x 3	160	30	77	18,0	4	6HX
T650M300X350R6HX-D6	M30 x 3,5	180	35	91	22,0	5	6HX
T650M330X350R6HX-D6	M33 x 3,5	180	35	100	25,0	5	6HX
T650M360X400R6HX-D6	M36 x 4	200	40	110	28,0	5	6HX
T650M420X450R6HX-D6	M42 x 4,5	200	45	120	32,0	6	6HX

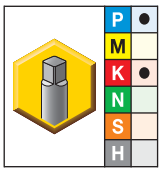
Shank Tolerance

D	tolerance h6
12–18	+0, -0,011
20–30	+0, -0,013
32–36	+0, -0,016



KP6525 • TiCN+TiN for tapping steel and cast iron.

T650 • Extra Long • Form C Semi-Bottoming Chamfer • Larger Sizes • Metric

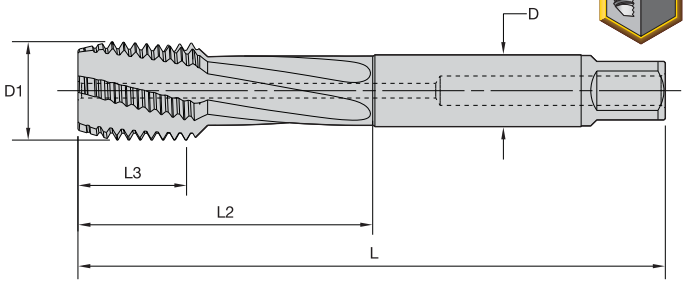


● first choice
○ alternate choice

KP6525	D1 size	L	L3	L2	D	number of flutes	class of fit
T650M240X300R6HX-XL	M24 x 3	200	30	120	18,0	4	6HX
T650M300X350R6HX-XL	M30 x 3,5	250	35	150	22,0	5	6HX
T650M330X350R6HX-XL	M33 x 3,5	250	35	150	25,0	5	6HX
T650M360X400R6HX-XL	M36 x 4	250	40	150	28,0	5	6HX
T650M420X450R6HX-XL	M42 x 4,5	300	45	180	32,0	6	6HX

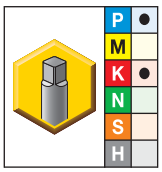
Shank Tolerance

D	tolerance h6
12–18	+0, -0,011
20–30	+0, -0,013
32–36	+0, -0,016



KP6525 • TiCN+TiN for tapping steel and cast iron.

T651 • DIN 376 • Form C Semi-Bottoming Chamfer • Through Hole • Larger Sizes • Metric

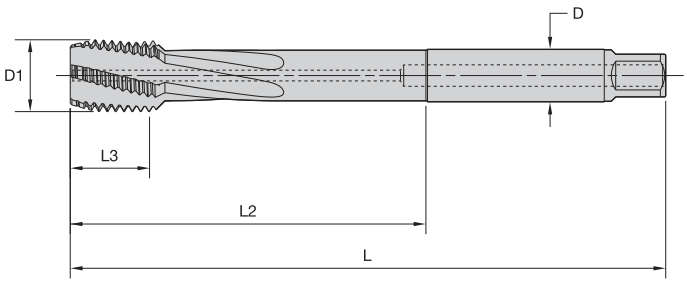


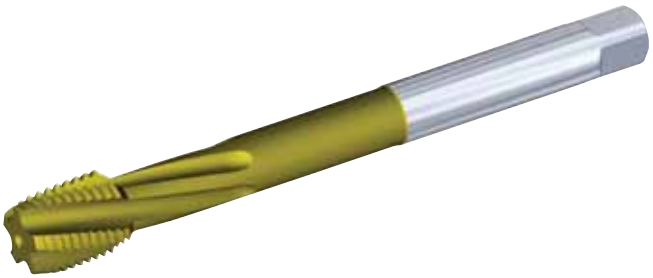
● first choice
○ alternate choice

KP6525	D1 size	L	L3	L2	D	number of flutes	class of fit
T651M240X300R6HX-D6	M24 x 3	160	30	77	18,0	4	6HX
T651M300X350R6HX-D6	M30 x 3,5	180	35	91	22,0	5	6HX
T651M330X350R6HX-D6	M33 x 3,5	180	35	100	25,0	5	6HX
T651M360X400R6HX-D6	M36 x 4	200	40	110	28,0	5	6HX
T651M420X450R6HX-D6	M42 x 4,5	200	45	120	32,0	6	6HX

Shank Tolerance

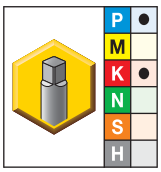
D	tolerance h6
12–18	+0, -0,011
20–30	+0, -0,013
32–36	+0, -0,016





KP6525 • TiCN+TiN for tapping steel and cast iron.

T651 • Extra Long • Form C Semi-Bottoming Chamfer • Through Coolant • Larger Sizes • Metric



● first choice
○ alternate choice

KP6525	D1 size	L	L3	L2	D	number of flutes	class of fit
T651M240X300R6HX-XL	M24 x 3	200	30	120	18,0	4	6HX
T651M300X350R6HX-XL	M30 x 3,5	250	35	150	22,0	5	6HX
T651M330X350R6HX-XL	M33 x 3,5	250	35	150	25,0	5	6HX
T651M360X400R6HX-XL	M36 x 4	250	40	150	28,0	5	6HX
T651M420X450R6HX-XL	M42 x 4,5	300	45	180	32,0	6	6HX

Shank Tolerance

D	tolerance h6
12–18	+0, -0,011
20–30	+0, -0,013
32–36	+0, -0,016

Material Group		Through Holes					Blind Holes				
				Range – m/min					Range – m/min		
		Tap Style	Grade	min	Starting Value	max	Tap Style	Grade	min	Starting Value	max
P	1	T620	KP6525	20	**30**	45	T630,T632,T650	KP6525	14	**21**	32
		T622	KSP21	18	**30**	50	T622	KSP21	13	**21**	35
	2	T620	KP6525	17	**25**	38	T630,T632,T650	KP6525	12	**18**	26
		T622	KSP21	15	**25**	42	T622	KSP21	10	**18**	29
	3	T620	KP6525	12	**15**	20	T630,T632,T650	KP6525	8	**11**	14
	4	T600	KSP21	5	**6**	8	T602, T604	KSP21	3	**4**	5
	5	T620	KP6525	12	**15**	20	T630,T632,T650	KP6525	8	**11**	14
	6	T600	KSP21	6	**8**	10	T602, T604	KSP21	4	**6**	7
M	1	T620	KM6515	12	**15**	20	T630,T632,T650	KM6515	8	**11**	14
	2	T620	KM6515	9	**12**	16	T630,T632,T650	KM6515	6	**8**	11
	3	T620	KM6515	8	**10**	13	T630,T632,T650	KM6515	5	**7**	9
K	1	T640	KP6525	35	**45**	59	T640, T642	KP6525	24	**32**	41
	2	T640	KP6525	31	**40**	52	T640, T642	KP6525	22	**28**	36
	3	T640	KP6525	23	**30**	39	T640, T642	KP6525	16	**21**	27
N	1	T670	KSN38	42	**55**	72	T680	KSN38	30	**39**	50
		T622	KSN28	37	**55**	83	T622	KSN28	26	**39**	58
	2	T640	KP6525	38	**50**	65	T640, T642	KP6525	27	**35**	46
		T622	KSN28	33	**50**	75	T622	KSN28	23	**35**	53
	4	T640	KP6525	4	**6**	9	T640, T642	KP6525	3	**4**	5
S	1	T620	KP6525	8	**12**	18	T630, T632	KP6525	6	**8**	11
	2	T610	KSSH22	3	**5**	8	T612	KSSH22	3	**4**	5
	3	T610	KSSH22	3	**4**	6	T612	KSSH22	2	**3**	4
	4	T614	KSN25	3	**4**	6	T616	KSN25	2	**3**	4
H	1	T606	KSSH22	1,3	**2,0**	3,0	T606	KSSH22	1,1	**1,4**	1,8
	2	T606	KSSH22	1,0	**1,5**	2,3	T606	KSSH22	0,8	**1,1**	1,4

NOTE: Increase speed by up to 25% when using coolant taps (T621,T623,T631,T633,T641,T643,T651).
Use grade KP6505™ in steels. Use 50% of the recommended speed listed for grade KP6525™.

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Holemaking

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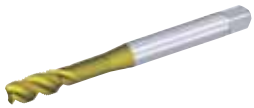
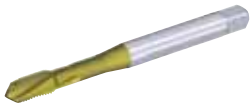
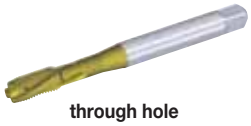
KENNAMETAL®

Steel • >32 HRC

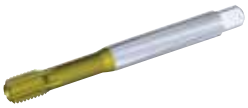
typical thread sizes		required tap drill diameter				P HSS-E-PM Taps — Tapping Steel >32 HRC		
								
cutting taps metric	inch	mm	inch	fraction	wire	blind hole T630_KP6525	through hole T620_KP6525	blind hole with coolant T631_KP6525
M3 x 0,50	—	2,500	.0984	—	—	T630M030X050R6HX-D1	T620M030X050R6HX-D1	—
—	5-40	2,578	.1015	—	38	T630NC#05-40R3BX-A	T620NC#05-40R3BX-A	—
—	6-32	2,705	.1065	—	36	T630NC#06-32R2BX-A	T620NC#06-32R2BX-A	—
M4 x 0,70	—	3,300	.1299	—	—	T630M040X070R6HX-D1	T620M040X070R6HX-D1	—
—	8-32	3,454	.1360	—	29	T630NC#08-32R2BX-A	T620NC#08-32R2BX-A	—
—	8-36	3,454	.1360	—	29	T630NF#08-36R3BX-A	T620NF#08-36R3BX-A	—
—	10-24	3,734	.1470	—	26	T630NC#10-24R3BX-A	T620NC#10-24R3BX-A	—
—	10-32	4,039	.1590	—	21	T630NF#10-32R2BX-A	T620NF#10-32R2BX-A	—
M5 x 0,80	—	4,200	.1654	—	—	T630M050X080R6HX-D1	T620M050X080R6HX-D1	T631M050X080R6HX-D1
—	12-24	4,496	.1770	—	16	T630NC#12-24R3BX-A	T620NC#12-24R3BX-A	—
M6 x 1,00	—	5,000	.1969	—	—	T630M060X100R6HX-D1	T620M060X100R6HX-D1	T631M060X100R6HX-D1
—	1/4-20	5,106	.2010	—	7	T630NC02500-20R2BX-A	T620NC02500-20R2BX-A	—
—	1/4-28	5,410	.2130	—	3	T630NF02500-28R2BX-A	T620NF02500-28R2BX-A	—
—	5/16-18	6,528	.2570	—	F	T630NC03125-18R2BX-A	T620NC03125-18R2BX-A	—
M8 x 1,25	—	6,700	.2638	—	—	T630M080X125R6HX-D1	T620M080X125R6HX-D1	T631M080X125R6HX-D1
M8 x 1,00	—	7,000	.2756	—	—	T630MF080X100R6HX D4	T620MF080X100R6HX D4	T631MF080X100R6HX D4
—	3/8-16	7,938	.3125	5/16	—	T630NC03750—16R3BX-A	T620NC03750-16R3BX-A	—
—	3/8-24	8,433	.3320	—	Q	T630NF03750—24R3BX-A	T620NF03750-24R3BX-A	—
M10 x 1,50	—	8,500	.3346	—	—	T630M100X150R6HX-D1	T620M100X150R6HX-D1	T631M100X150R6HX-D1
M10 x 1,25	—	8,700	.3425	—	—	T630MF100X125R6HX D4	—	T631MF100X125R6HX D4
M10 x 1,00	—	9,000	.3543	—	—	T630MF100X100R6HX D4	T620MF100X100R6HX D4	T631MF100X100R6HX D4
—	7/16-14	9,093	.3580	—	T	T630NC04375-14R3BX-A	T620NC04375-14R3BX-A	—
—	7/16-20	9,921	.3906	25/64	—	T630NF04375-20R3BX-A	T620NF04375-20R3BX-A	—
M12 x 1,75	—	10,200	.4016	—	—	T630M120X175R6HX-D6	T620M120X175R6HX-D6	T631M120X175R6HX-D6
M12 x 1,50	—	10,500	.4134	—	—	T630MF120X150R6HX-D4	T620MF120X150R6HX-D4	T631MF120X150R6HX-D4
—	1/2-13	10,716	.4219	27/64	—	T630NC05000-13R3BX-A	T620NC05000-13R3BX-A	—
M12 x 1,25	—	10,800	.4252	—	—	—	—	T631MF120X125R6HX-D4
—	1/2-20	11,509	.4531	29/64	—	T630NF05000-20R3BX-A	T620NF05000-20R3BX-A	—
M14 x 2,00	—	12,000	.4724	—	—	T630M140X200R6HX-D6	T620M140X200R6HX-D6	T631M140X200R6HX-D6
M14 x 1,50	—	12,500	.4921	—	—	T630MF140X150R6HX-D4	T620MF140X150R6HX-D4	T631MF140X150R6HX-D4
M16 x 2,00	—	14,000	.5512	—	—	T630M160X200R6HX-D6	T620M160X200R6HX-D6	T631M160X200R6HX-D6
M16 x 1,50	—	14,500	.5709	—	—	T630MF160X150R6HX-D4	T620MF160X150R6HX-D4	T631MF160X150R6HX-D4
M18 x 2,50	—	15,500	.6102	—	—	T630M180X250R6HX-D6	-	T631M180X250R6HX-D6
M18 x 1,50	—	16,500	.6496	—	—	T630MF180X150R6HX-D4	T620MF180X150R6HX-D4	T631MF180X150R6HX-D4
—	3/4-10	16,670	.6563	21/32	—	T630NC07500-10R3BX-A	T620NC07500-10R3BX-A	—
M20 x 2,50	—	17,500	.6890	—	—	T630M200X250R6HX-D6	T620M200X250R6HX-D6	T631M200X250R6HX-D6

	P		All Materials	
HSS-E-PM Taps — Tapping Steel >32 HRC	Recommended SC Drill		Alternate Tap Drill	
				
through hole with coolant T621_KP6525	approximately 3 x D with coolant B224_HP KCPK15	approximately 5 x D with coolant B225_HP KCPK15	approximately 3 x D with coolant B976_KC7315	approximately 5 x D with coolant B977_KC7315
—	—	—	B976Z02500	—
—	—	—	B976Z02578	—
—	—	—	B976Z02705	—
—	B224A03300HP	B225A03300HP	B976A03300	B977A03300
—	—	—	B976A03454	B977A03454
—	—	—	B976A03454	B977A03454
—	—	—	B976A03734	B977A03734
—	—	—	B976A04039	B977A04039
T621M050X080R6HX-D1	B224A04200HP	B225A04200HP	B976A04200	B977A04200
—	B224A04496HP	B225A04496HP	B976A04496	B977A04496
T621M060X100R6HX-D1	B224A05000HP	B225A05000HP	B976A05000	B977A05000
—	B224A05106HP	B225A05106HP	B976A05106	B977A05106
—	B224A05410HP	B225A05410HP	B976A05410	B977A05410
—	B224A06528HP	B225A06528HP	B976A06528	B977A06528
T621M080X125R6HX-D1	B224A06700HP	B225A06700HP	B976A06700	B977A06700
T621MF080X100R6HX D4	B224A07000HP	B225A07000HP	B976A07000	B977A07000
—	B224A07938HP	B225A07938HP	B976A07938	B977A07938
—	B224A08433HP	B225A08433HP	B976A08433	B977A08433
T621M100X150R6HX-D1	B224A08500HP	B225A08500HP	B976A08500	B977A08500
T621MF100X125R6HX D4	B224A08700HP	B225A08700HP	B976A08700	B977A08700
T621MF100X100R6HX D4	B224A09000HP	B225A09000HP	B976A09000	B977A09000
—	B224A09093HP	B225A09093HP	B976A09093	B977A09093
—	B224A09921HP	B225A09921HP	B976A09921	B977A09921
T621M120X175R6HX-D6	B224A10200HP	B225A10200HP	B976A10200	B977A10200
T621MF120X150R6HX-D4	B224A10500HP	B225A10500HP	B976A10500	B977A10500
—	B224A10716HP	B225A10716HP	B976A10716	B977A10716
T621MF120X125R6HX-D4	B224A10800HP	B225A10800HP	B976A10800	B977A10800
—	B224A11509HP	B225A11509HP	B976A11509	B977A11509
T621M140X200R6HX-D6	B224A12000HP	B225A12000HP	B976A12000	B977A12000
T621MF140X150R6HX-D4	B224A12500HP	B225A12500HP	B976A12500	B977A12500
T621M160X200R6HX-D6	B224A14000HP	B225A14000HP	B976A14000	B977A14000
T621MF160X150R6HX-D4	B224A14500HP	B225A14500HP	B976A14500	B977A14500
T621M180X250R6HX-D6	B224A15500HP	B225A15500HP	B976A15500	B977A15500
T621MF180X150R6HX-D4	B224A16500HP	B225A16500HP	B976A16500	B977A16500
—	—	B225A16670HP	B976A16670	B977A16670
—	B224A17500HP	B225A17500HP	B976A17500	B977A17500

Steel • 32–44 HRC

typical thread sizes	required tap drill diameter				P HSS-E-PM Taps — Tapping Steel 32–44 HRC		
cutting taps metric	mm	inch	fraction	wire	blind hole T602_KSP21	blind hole (3 x D) T604_KSH26	through hole T600_KSP21
M3 x 0,50	2,500	.0984	—	—	T602M030X050R6HX-D1	T604M030X050R6HX-D1	T600M030X050R6HX-D1
M4 x 0,70	3,300	.1299	—	—	T602M040X070R6HX-D1	T604M040X070R6HX-D1	T600M040X070R6HX-D1
M5 x 0,80	4,200	.1654	—	—	T602M050X080R6HX-D1	T604M050X080R6HX-D1	T600M050X080R6HX-D1
M6 x 1,00	5,000	.1969	—	—	T602M060X100R6HX-D1	T604M060X100R6HX-D1	T600M060X100R6HX-D1
M8 x 1,25	6,700	.2638	—	—	T602M080X125R6HX-D1	T604M080X125R6HX-D1	T600M080X125R6HX-D1
M8 x 1,00	7,000	.2756	—	—	T602MF080X100R6HX D4	T604MF080X100R6HX D4	T600MF080X100R6HX D4
M10 x 1,50	8,500	.3346	—	—	T602M100X150R6HX-D1	T604M100X150R6HX-D1	T600M100X150R6HX-D1
M10 x 1,25	8,700	.3425	—	—	T602MF100X125R6HX D4	T604MF100X125R6HX D4	T600MF100X125R6HX D4
M10 x 1,00	9,000	.3543	—	—	T602MF100X100R6HX D4	T604MF100X100R6HX D4	T600MF100X100R6HX D4
M12 x 1,75	10,200	.4016	—	—	T602M120X175R6H-D6	T604M120X175R6H-D6	T600M120X175R6HX-D6
M12 x 1,50	10,500	.4134	—	—	T602MF120X150R6H-D4	T604MF120X150R6H-D4	T600MF120X150R6HX-D4
M12 x 1,25	10,800	.4252	—	—	T602MF120X125R6H D4	T604MF120X125R6H D4	T600MF120X125R6HX D4
M14 x 2,00	12,000	.4724	—	—	T602M140X200R6H-D6	T604M140X200R6H-D6	T600M140X200R6HX-D6
M14 x 1,50	12,500	.4921	—	—	T602MF140X150R6H-D4	T604MF140X150R6H-D4	T600MF140X150R6HX-D4
M16 x 2,00	14,000	.5512	—	—	T602M160X200R6H-D6	T604M160X200R6H-D6	T600M160X200R6HX-D6
M16 x 1,50	14,500	.5709	—	—	T602MF160X150R6H-D4	T604MF160X150R6H-D4	T600MF160X150R6HX-D4
M18 x 2,50	15,500	.6102	—	—	T602M180X250R6H-D6	—	—
M18 x 1,50	16,500	.6496	—	—	T602MF180X150R6H-D4	T604MF180X150R6H-D4	T600MF180X150R6HX-D4
M20 x 2,50	17,500	.6890	—	—	T602M200X250R6H-D6	T604M200X250R6H-D6	T600M200X250R6HX-D6

Steel • Forming Taps

typical thread sizes	required tap drill diameter				P HSS-E-PM Taps — Forming Steel >32 HRC	
						
forming taps metric	mm	inch	fraction	wire	blind and through hole T622_KSP21	blind and through hole with coolant T623_KSP21
M3 x 0,50	2,800	.1102	—	—	T622M030X050R6HX-D74	—
M4 x 0,70	3,700	.1457	—	—	T622M040X070R6HX-D74	—
M5 x 0,80	4,700	.1850	—	13	T622M050X080R6HX-D74	T623M050X080R6HX-D74
M6 x 1,00	5,600	.2205	—	—	T622M060X100R6HX-D74	T623M060X100R6HX-D74
M8 x 1,25	7,400	.2913	—	—	T622M080X125R6HX-D74	T623M080X125R6HX-D74
M8 x 1,00	7,600	.2992	—	—	T622MF080X100R6HX-D74	T623MF080X100R6HX-D74
M10 x 1,50	9,400	.3701	—	—	T622M100X150R6HX-D74	T623M100X150R6HX-D74
M10 x 1,00	9,500	.3740	—	—	T622MF100X100R6HX-D74	T623MF100X100R6HX-D74
M12 x 1,75	11,300	.4449	—	—	T622M120X175R6HX-D74	T623M120X175R6HX-D74
M12 x 1,50	11,300	.4449	—	—	T622MF120X150R6HX-D74	T623MF120X150R6HX-D74
M12 x 1,25	11,500	.4528	—	—	T622MF120X125R6HX-D74	T623MF120X125R6HX-D74
M14 x 1,50	13,400	.5276	—	—	T622MF140X150R6HX-D74	T623MF140X150R6HX-D74
M16 x 2,00	15,200	.5984	—	—	T622M160X200R6HX-D74	T623M160X200R6HX-D74
M16 x 1,50	15,400	.6063	—	—	T622MF160X150R6HX-D74	T623MF160X150R6HX-D74

	P		All Materials	
	Recommended SC Drill		Alternate Tap Drill	
	approximately 3 x D with coolant B224_HP KCPK15	approximately 5 x D with coolant B225_HP KCPK15	approximately 3 x D with coolant B976_KC7315	approximately 5 x D with coolant B977_KC7315
	—	—	B976Z02500	—
	B224A03300HP	B225A03300HP	B976A03300	B977A03300
	B224A04200HP	B225A04200HP	B976A04200	B977A04200
	B224A05000HP	B225A05000HP	B976A05000	B977A05000
	B224A06700HP	B225A06700HP	B976A06700	B977A06700
	B224A07000HP	B225A07000HP	B976A07000	B977A07000
	B224A08500HP	B225A08500HP	B976A08500	B977A08500
	B224A08700HP	B225A08700HP	B976A08700	B977A08700
	B224A09000HP	B225A09000HP	B976A09000	B977A09000
	B224A10200HP	B225A10200HP	B976A10200	B977A10200
	B224A10500HP	B225A10500HP	B976A10500	B977A10500
	B224A10800HP	B225A10800HP	B976A10800	B977A10800
	B224A12000HP	B225A12000HP	B976A12000	B977A12000
	B224A12500HP	B225A12500HP	B976A12500	B977A12500
	B224A14000HP	B225A14000HP	B976A14000	B977A14000
	B224A14500HP	B225A14500HP	B976A14500	B977A14500
	B224A15500HP	B225A15500HP	B976A15500	B977A15500
	B224A16500HP	B225A16500HP	B976A16500	B977A16500
	B224A17500HP	B225A17500HP	B976A17500	B977A17500

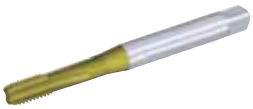
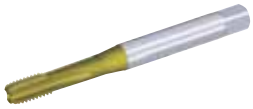
	P		All Materials	
	Recommended SC Drill		Alternate Tap Drill	
	approximately 3 x D with coolant B224_HP KCPK15	approximately 5 x D with coolant B225_HP KCPK15	approximately 3 x D with coolant B976_KC7315	approximately 5 x D with coolant B977_KC7315
	—	—	B976Z02800	—
	B224A03700HP	B225A03700HP	B976A03700	B977A03700
	B224A04700HP	B225A04700HP	B976A04700	B977A04700
	B224A05600HP	B225A05600HP	B976A05600	B977A05600
	B224A07400HP	B225A07400HP	B976A07400	B977A07400
	—	B225A07600HP	—	B977A07600
	B224A09400HP	B225A09400HP	B976A09400	B977A09400
	B224A09500HP	B225A09500HP	B976A09500	B977A09500
	—	B225A11300HP	B976A11300	B977A11300
	—	B225A11300HP	B976A11300	B977A11300
	B224A11500HP	B225A11500HP	B976A11500	B977A11500
	—	B225A13400HP	—	—
	—	B225A15200HP	—	—
	—	B225A15400HP	—	—

Stainless Steel

typical thread sizes		required tap drill diameter				M HSS-E-PM Taps		
cutting taps metric	inch	mm	inch	fraction	wire	blind hole T630_KM6515	through hole T620_KM6515	blind hole with coolant T631_KM6515
—	2-56	1.778	0.07	—	50	T630NC#02-56R3BX-A	T620NC#02-56R3BX-A	—
—	4-40	2.261	0.089	—	43	T630NC#04-40R2BX-A	T620NC#04-40R2BX-A	—
M3 x 0,50	—	2.500	.0984	—	—	T630M030X050R6HX-D1	T620M030X050R6HX-D1	—
—	5-40	2.578	.1015	—	38	T630NC#05-40R2BX-A	T620NC#05-40R2BX-A	—
—	6-32	2.705	.1065	—	36	T630NC#06-32R2BX-A	T620NC#06-32R2BX-A	—
M4 x 0,70	—	3.300	.1299	—	—	T630M040X070R6HX-D1	T620M040X070R6HX-D1	—
—	8-32	3.454	.1360	—	29	T630NC#08-32R2BX-A	T620NC#08-32R2BX-A	—
—	8-36	3.454	.1360	—	29	T630NF#08-36R3BX-A	T620NF#08-36R3BX-A	—
—	10-24	3.734	.1470	—	26	T630NC#10-24R3BX-A	T620NC#10-24R3BX-A	—
—	10-32	4.039	.1590	—	21	T630NF#10-32R2BX-A	T620NF#10-32R2BX-A	—
M5 x 0,80	—	4.200	.1654	—	—	T630M050X080R6HX-D1	T620M050X080R6HX-D1	T631M050X080R6HX-D1
—	12-24	4.496	.1770	—	16	T630NC#12-24R3BX-A	T620NC#12-24R3BX-A	—
M6 x 1,00	—	5.000	.1969	—	—	T630M060X100R6HX-D1	T620M060X100R6HX-D1	T631M060X100R6HX-D1
—	1/4-20	5.106	.2010	—	7	T630NC02500-20R2BX-A	T620NC02500-20R2BX-A	—
—	1/4-28	5.410	.2130	—	3	T630NF02500-28R2BX-A	T620NF02500-28R2BX-A	—
—	5/16-18	6.528	.2570	—	F	T630NC03125-18R2BX-A	T620NC03125-18R2BX-A	—
M8 x 1,25	—	6.700	.2638	—	—	T630M080X125R6HX-D1	T620M080X125R6HX-D1	T631M080X125R6HX-D1
—	5/16-24	6.909	.2720	—	I	—	T620NF03125-24R3BX-A	—
M8 x 1,00	—	7.000	.2756	—	—	T630MF080X100R6HX D4	T620MF080X100R6HX D4	T631MF080X100R6HX D4
—	3/8-16	7.938	.3125	5/16	—	T630NC03750-16R3BX-A	T620NC03750-16R3BX-A	—
—	3/8-24	8.433	.3320	—	Q	T630NF03750-24R3BX-A	T620NF03750-24R3BX-A	—
M10 x 1,50	—	8.500	.3346	—	—	T630M100X150R6HX-D1	T620M100X150R6HX-D1	T631M100X150R6HX-D1
M10 x 1,25	—	8.700	.3425	—	—	T630MF100X125R6HX D4	—	T631MF100X125R6HX D4
M10 x 1,00	—	9.000	.3543	—	—	T630MF100X100R6HX D4	T620MF100X100R6HX D4	T631MF100X100R6HX D4
—	7/16-14	9.093	.3580	—	T	T630NC04375-14R3BX-A	T620NC04375-14R3BX-A	—
—	7/16-20	9.921	.3906	25/64	—	T630NF04375-20R3BX-A	T620NF04375-20R3BX-A	—
M12 x 1,75	—	10.200	.4016	—	—	T630M120X175R6HX-D6	T620M120X175R6HX-D6	T631M120X175R6HX-D6
M12 x 1,50	—	10.500	.4134	—	—	T630MF120X150R6HX-D4	T620MF120X150R6HX-D4	T631MF120X150R6HX-D4
—	1/2-13	10.716	.4219	27/64	—	T630NC05000-13R3BX-A	T620NC05000-13R3BX-A	—
M12 x 1,25	—	10.800	.4252	—	—	—	—	T631MF120X125R6HX-D4
—	1/2-20	11.509	.4531	29/64	—	T630NF05000-20R3BX-A	T620NF05000-20R3BX-A	—
M14 x 2,00	—	12.000	.4724	—	—	T630M140X200R6HX-D6	T620M140X200R6HX-D6	T631M140X200R6HX-D6
M14 x 1,50	—	12.500	.4921	—	—	T630MF140X150R6HX-D4	T620MF140X150R6HX-D4	T631MF140X150R6HX-D4
M14 x 1,25	—	12.800	.5039	—	—	—	—	T631MF140X125R6HX-D4
—	5/8-11	13.495	.5313	17/32	—	T630NC06250-10R3BX-A	T620NC06250-10R3BX-A	—
M16 x 2,00	—	14.000	.5512	—	—	T630M160X200R6HX-D6	T620M160X200R6HX-D6	T631M160X200R6HX-D6
M16 x 1,50	—	14.500	.5709	—	—	T630MF160X150R6HX-D4	T620MF160X150R6HX-D4	T631MF160X150R6HX-D4
M18 x 2,50	—	15.500	.6102	—	—	T630M180X250R6HX-D6	—	T631M180X250R6HX-D6
M18 x 1,50	—	16.500	.6496	—	—	T630MF180X150R6HX-D4	T620MF180X150R6HX-D4	T631MF180X150R6HX-D4
—	3/4-10	16.670	.6563	21/32	—	T630NC07500-10R3BX-A	T620NC07500-10R3BX-A	—
M20 x 2,50	—	17.500	.6890	—	—	T630M200X250R6HX-D6	T620M200X250R6HX-D6	—

	M		All Materials	
HSS-E-PM Taps	Recommended Drill		Alternative Tap Drill	
through hole with coolant T621_KM6515	approximately 3 x D with coolant B210_HP KCM15	approximately 5 x D with coolant B211_HP KCM15	approximately 3 x D with coolant B976_KC7315	approximately 5 x D with coolant B977_KC7315
–	–	–	–	–
–	–	–	–	–
–	–	–	B976Z02500	–
–	–	–	B976Z02578	–
–	–	–	B976Z02705	–
–	B210A03300HP	B211A03300HP	B976A03300	B977A03300
–	–	B211A03454HP	B976A03454	B977A03454
–	–	B211A03454HP	B976A03454	B977A03454
–	–	–	B976A03734	B977A03734
–	–	–	B976A04039	B977A04039
T621M050X080R6HX-D1	B210A04200HP	B211A04200HP	B976A04200	B977A04200
–	–	–	B976A04496	B977A04496
T621M060X100R6HX-D1	B210A05000HP	B211A05000HP	B976A05000	B977A05000
–	B210A05106HP	–	B976A05106	B977A05106
–	B210A05410HP	–	B976A05410	B977A05410
–	B210A06528HP	–	B976A06528	B977A06528
T621M080X125R6HX-D1	B210A06700HP	B211A06700HP	B976A06700	B977A06700
–	–	-	B976A06909	B977A06909
T621MF080X100R6HX D4	B210A07000HP	B211A07000HP	B976A07000	B977A07000
–	B210A07938HP	–	B976A07938	B977A07938
–	B210A08433HP	–	B976A08433	B977A08433
T621M100X150R6HX-D1	B210A08500HP	B211A08500HP	B976A08500	B977A08500
T621MF100X125R6HX D4	B210A08700HP	B211A08700HP	B976A08700	B977A08700
T621MF100X100R6HX D4	B210A09000HP	B211A09000HP	B976A09000	B977A09000
–	B210A09093HP	–	B976A09093	B977A09093
–	B210A09921HP	–	B976A09921	B977A09921
T621M120X175R6HX-D6	B210A10200HP	B211A10200HP	B976A10200	B977A10200
T621MF120X150R6HX-D4	B210A10500HP	B211A10500HP	B976A10500	B977A10500
–	B210A10716HP	–	B976A10716	B977A10716
T621MF120X125R6HX-D4	B210A10800HP	B211A10800HP	B976A10800	B977A10800
–	B210A11509HP	–	B976A11509	B977A11509
T621M140X200R6HX-D6	B210A12000HP	B211A12000HP	B976A12000	B977A12000
T621MF140X150R6HX-D4	B210A12500HP	B211A12500HP	B976A12500	B977A12500
–	B210A12800HP	B211A12800HP	B976A12800	B977A12800
–	B210A13495HP	–	B976A13495	B977A13495
T621M160X200R6HX-D6	B210A14000HP	B211A14000HP	B976A14000	B977A14000
T621MF160X150R6HX-D4	B210A14500HP	B211A14500HP	B976A14500	B977A14500
T621M180X250R6HX-D6	B210A15500HP	B211A15500HP	B976A15500	B977A15500
T621MF180X150R6HX-D4	B210A16500HP	B211A16500HP	B976A16500	B977A16500
–	B210A16670HP	B211A16670HP	B976A16670	B977A16670
–	B210A17500HP	B211A17500HP	B976A17500	B977A17500

Cast and Ductile Iron

typical thread sizes		required tap drill diameter				K HSS-E-PM Taps	
							
cutting taps metric	inch	mm	inch	fraction	wire	blind and through hole T640 KP6525	blind and through hole with coolant T641 KP6525
M4 x 0,7	—	3,3	.1299	—	—	T640M040X070R6HX-D1	—
—	10-24	3,734	.1470	—	26	T640NC#10-24R3B-A	—
—	10-32	4,039	.1590	—	21	T640NF#10-32R3B-A	—
M5 x 0,8	—	4,2	.1654	—	—	T640M050X080R6HX-D1	T641M050X080R6HX-D1
M6 x 1,0	—	5,0	.1969	—	—	T640M060X100R6HX-D1	T641M060X100R6HX-D1
—	—	5,791	.2280	—	1	T640NC02500-20R3B-A	—
—	—	5,944	.2340	—	A	T640NF02500-28R3B-A	—
—	5/16-18	6,528	.2570	—	F	T640NC03125-18R3B-A	—
M8 x 1,25	—	6,7	.2638	—	—	T640M080X125R6HX-D1	T641M080X125R6HX-D1
—	5/16-24	6,909	.2720	—	I	T640NF03125-24R3B-A	—
—	3/8-16	7,938	.3125	5/16	—	T640NC03750-16R3B-A	—
—	3/8-24	8,433	.3320	—	Q	T640NF03750-24R3B-A	—
M10 x 1,5	—	8,5	.3346	—	—	T640M100X150R6HX-D1	T641M100X150R6HX-D1
—	7/16-14	9,093	.3580	—	T	T640NC04375-14R3B-A	—
—	7/16-20	9,921	.3906	25/64	—	T640NF04375-20R3B-A	—
M12 x 1,75	—	10,2	.4016	—	—	T640M120X175R6HX-D6	T641M120X175R6HX-D6
—	1/2-13	10,716	.4219	27/64	—	T640NC05000-13R3B-A	—
—	1/2-20	11,509	.4531	29/64	—	T640NF05000-20R3B-A	—
M14 x 2,0	—	12,0	.4724	—	—	T640M140X200R6HX-D6	T641M140X200R6HX-D6
—	5/8-11	13,495	.5313	17/32	—	T640NC06250-11R3B-A	—
M16 x 2,0	—	14,0	.5512	—	—	T640M160X200R6HX-D6	T641M160X200R6HX-D6
M18 x 2,5	—	15,5	.6102	—	—	T640M180X250R6HX-D6	T641M180X250R6HX-D6
—	3/4-10	16,67	.6563	21/32	—	T640NC07500-10R3B-A	—
M20 x 2,5	—	17,5	.6890	—	—	T640M200X250R6HX-D6	T641M200X250R6HX-D6
M22 x 2,5	—	19,5	.7677	—	—	T640M220X250R6HX-D6	—

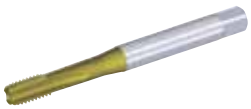
	K		All Materials	
	Recommended Drill		Alternate Tap Drill	
	approximately 3 x D with coolant B254_YPC KCK10	approximately 5 x D with coolant B255_YPC KCK10	approximately 3 x D with coolant B976 KC7315	approximately 5 x D with coolant B977 KC7315
	B254A03300YPC	B255A03300YPC	B976A03300	B977A03300
	B254A03734YPC	B255A03734YPC	B976A03734	B977A03734
	B254A04039YPC	B255A04039YPC	B976A04039	B977A04039
	B254A04200YPC	B255A04200YPC	B976A04200	B977A04200
	B254A05000YPC	B255A05000YPC	B976A05000	B977A05000
	B254A05791YPC	B255A05791YPC	B976A05791	B977A05791
	B254A05944YPC	B255A05944YPC	B976A05944	B977A05944
	B254A06528YPC	B255A06528YPC	B976A06528	B977A06528
	B254A06700YPC	B255A06700YPC	B976A06700	B977A06700
	B254A06909YPC	B255A06909YPC	B976A06909	B977A06909
	B254A07938YPC	B255A07940YPC	B976A07938	B977A07938
	B254A08433YPC	B255A08433YPC	B976A08433	B977A08433
	B254A08500YPC	B255A08500YPC	B976A08500	B977A08500
	B254A09093YPC	B255A09093YPC	B976A09093	B977A09093
	B254A09921YPC	B255A09920YPC	B976A09921	B977A09921
	B254A10200YPC	B255A10200YPC	B976A10200	B977A10200
	B254A10716YPC	B255A10716YPC	B976A10716	B977A10716
	B254A11509YPC	B255A11509YPC	B976A11509	B977A11509
	B254A12000YPC	B255A12000YPC	B976A12000	B977A12000
	B254A13495YPC	B255A13495YPC	B976A13495	B977A13495
	B254A14000YPC	B255A14000YPC	B976A14000	B977A14000
	B254A15500YPC	B255A15500YPC	B976A15500	B977A15500
	B254A16670YPC	B255A16670YPC	B976A16670	B977A16670
	B254A17500YPC	B255A17500YPC	B976A17500	B977A17500
	B254A19500YPC	B255A19500YPC	B976A19500	B977A19500

Aluminium

typical thread sizes		required tap drill diameter				N		
						HSS-E Taps — Tapping Aluminium (Wrought, low Si)		HSS-E-PM Taps — Tapping Cast Aluminium (Si <12%)
cutting taps metric	inch	mm	inch	fraction	wire	through hole T680_KSN38	blind hole T680_KSN38	blind and through hole T640 KP6525
M3 x 0,50	—	2,500	.0984	—	—	T680M030X050R6H-D1	T670M030X050R6H-D1	—
M4 x 0,70	—	3,300	.1299	—	—	T680M040X070R6H-D1	T670M040X070R6H-D1	T640M040X070R6HX-D1
—	10-24	3,734	.1470	—	26	—	—	T640NC#10-24R3B-A
—	10-32	4,039	.1590	—	21	—	—	T640NF#10-32R3B-A
M5 x 0,80	—	4,200	.1654	—	—	T680M050X080R6H-D1	T670M050X080R6H-D1	T640M050X080R6HX-D1
M6 x 1,00	— 5,000	.1969	—	—	—	T680M060X100R6H-D1	T670M060X100R6H-D1	T640M060X100R6HX-D1
—	—	5,791	.2280	—	1	—	—	T640NC02500-20R3B-A
—	—	5,944	.2340	—	A	—	—	T640NF02500-28R3B-A
—	5/16-18	6,528	.2570	—	F	—	—	T640NC03125-18R3B-A
M8 x 1,25	—	6,700	.2638	—	—	T680M080X125R6H-D1	T670M080X125R6H-D1	T640M080X125R6HX-D1
—	5/16-24	6,909	.2720	—	I	—	—	T640NF03125-24R3B-A
—	3/8-16	7,938	.3125	5/16	—	—	—	T640NC03750-16R3B-A
—	3/8-24	8,433	.3320	—	Q	—	—	T640NF03750-24R3B-A
M10 x 1,50	—	8,500	.3346	—	—	T680M100X150R6H-D1	T670M100X150R6H-D1	T640M100X150R6HX-D1
—	7/16-14	9,093	.3580	—	T	—	—	T640NC04375-14R3B-A
—	7/16-20	9,921	.3906	25/64	—	—	—	T640NF04375-20R3B-A
M12 x 1,75	—	10,200	.4016	—	—	T680M120X175R6H-D6	T670M120X175R6H-D6	T640M120X175R6HX-D6
—	1/2-13	10,716	.4219	27/64	—	—	—	T640NC05000-13R3B-A
—	1/2-20	11,509	.4531	29/64	—	—	—	T640NF05000-20R3B-A
M14 x 2,00	—	12,000	.4724	—	—	—	—	T640M140X200R6HX-D6
—	5/8-111	13,495	.5313	17/32	—	—	—	T640NC06250-11R3B-A
M16 x 2,00	—	14,000	.5512	—	—	T680M160X200R6H-D6	T670M160X200R6H-D6	T640M160X200R6HX-D6
M18 x 2,50	—	15,500	.6102	—	—	—	—	T640M180X250R6HX-D6
—	3/4-10	16,670	.6563	21/32	—	—	—	T640NC07500-10R3B-A
M20 x 2,50	—	17,500	.6890	—	—	T680M200X250R6H-D6	—	T640M200X250R6HX-D6
M22 x 2,50	—	19,500	.7677	—	—	—	—	T640M220X250R6HX-D6

Aluminium • Forming Taps

typical thread sizes		required tap drill diameter		N	
				HSS-E-PM Taps — Forming Aluminium (Wrought, low Si)	
forming taps metric	inch	mm	inch	blind and through hole T622 KSN38	blind and through hole with coolant T622 KSN38
M3 x 0,50	—	2,800	.1102	T622M030X050R6HX-D74	—
—	—	3,734	.1470	T622M040X070R6HX-D74	—
—	—	5,000	.1969	T622M050X080R6HX-D74	T623M050X080R6HX-D74
—	1/4-20	5,791	.2280	T622M060X100R6HX-D74	T623M060X100R6HX-D74
—	5/16-24	7,493	.2950	T622M080X125R6HX-D74	T623M080X125R6HX-D74
—	—	7,938	.3125	T622MF080X100R6HX-D74	T623MF080X100R6HX-D74
M10 x 1,25	—	9,500	.3740	T622M100X150R6HX-D74	T623M100X150R6HX-D74
—	—	9,921	.3906	T622MF100X100R6HX-D74	T623MF100X100R6HX-D74
M12 x 1,50	—	11,300	.4449	T622M120X175R6HX-D74	T623M120X175R6HX-D74
M12 x 1,25	—	11,500	.4528	T622MF120X150R6HX-D74	T623MF120X150R6HX-D74
—	—	11,509	.4531	T622MF120X125R6HX-D74	T623MF120X125R6HX-D74
M14 x 1,25	—	13,400	.5276	T622MF140X150R6HX-D74	T623MF140X150R6HX-D74
—	5/8-18	15,250	.6004	T622M160X200R6HX-D74	T623M160X200R6HX-D74
—	—	15,500	.6102	T622MF160X150R6HX-D74	T623MF160X150R6HX-D74

	N		All Materials	
HSS-E-PM Taps — Tapping Cast Aluminium (Si <12%)	Recommended SC Drill		Alternate Tap Drill	
				
approximately 3 x D with coolant T641 KP6525	approximately 3 x D with coolant B284_(HP) K715	approximately 5 x D with coolant B411 KF1	approximately 5 x D with coolant B976_KC7315	with coolant B977_KC7315
—	—	—	B976Z02500	—
—	—	B411A03300	B976A03300	B977A03300
—	—	—	B976A03734	B977A03734
—	—	—	B976A04039	B977A04039
T641M050X080R6HX-D1	B284A04200	B411A04200	B976A04200	B977A04200
T641M060X100R6HX-D1	B284A05000	B411A05000	B976A05000	B977A05000
—	—	—	B976A05791	B977A05791
—	—	—	B976A05944	B977A05944
—	—	—	B976A06528	B977A06528
T641M080X125R6HX-D1	—	—	B976A06700	B977A06700
—	—	—	B976A06909	B977A06909
—	—	—	B976A07938	B977A07938
—	—	—	B976A08433	B977A08433
T641M100X150R6HX-D1	—	B411A08500	B976A08500	B977A08500
—	—	—	B976A09093	B977A09093
—	K284A03906	—	B976A09921	B977A09921
T641M120X175R6HX-D6	—	B411A10200	B976A10200	B977A10200
—	—	—	B976A10716	B977A10716
—	K284A04531	—	B976A11509	B977A11509
T641M140X200R6HX-D6	—	B411A12000	B976A12000	B977A12000
—	—	—	B976A13495	B977A13495
T641M160X200R6HX-D6	—	B411A14000	B976A14000	B977A14000
T641M180X250R6HX-D6	—	B411A15500	B976A15500	B977A15500
—	—	—	B976A16670	B977A16670
T641M200X250R6HX-D6	—	B411A17500	B976A17500	B977A17500
—	—	B411A19500	B976A19500	B977A19500

	N		All Materials	
	Recommended SC Drill		Alternate Tap Drill	
	approximately 3 x D with coolant B284_(HP) K715	approximately 5 x D with coolant B411 KF1	approximately 3 x D with coolant B976_KC7315	approximately 5 x D with coolant B977_KC7315
	—	—	B976Z02800	—
	—	—	B976A03734	B977A03734
	B284A05000	B411A05000	B976A05000	B977A05000
	—	—	B976A05791	B977A05791
	—	—	—	—
	—	—	B976A07938	B977A07938
	—	B411A09500	B976A09500	B977A09500
	—	K284A03906	B976A09921	B977A09921
	—	—	B976A11300	B977A11300
	—	B411A11500	B976A11500	B977A11500
	K284A04531	—	B976A11509	B977A11509
	—	—	—	—
	—	—	—	—
	—	B411A15500	B976A15500	B977A15500

High-Temperature Alloys

typical thread sizes	required tap drill diameter		S		
			HSS-E-PM Taps — Tapping Titanium Alloys		HSS-E-PM Taps — Tapping Nickel and Cobalt Alloys
cutting taps metric	mm	inch	blind hole T616_KSN25	through hole T614_KSN25	blind hole T612_KSSH22
M3 x 0,50	2,500	.0984	T616M030X050R6HX-D1	T614M030X050R6HX-D1	T616M030X050R6HX-D1
M4 x 0,70	3,300	.1299	T616M040X070R6H-D1	T614M040X070R6H-D1	T616M040X070R6H-D1
M5 x 0,80	4,200	.1654	T616M050X080R6H-D1	T614M050X080R6H-D1	T616M050X080R6H-D1
M6 x 1,00	5,000	.1969	T616M060X100R6H-D1	T614M060X100R6H-D1	T616M060X100R6H-D1
M8 x 1,25	6,700	.2638	T616M080X125R6H-D1	T614M080X125R6H-D1	T616M080X125R6H-D1
M10 x 1,50	8,500	.3346	T616M100X150R6H-D1	T614M100X150R6H-D1	T616M100X150R6H-D1
M12 x 1,75	10,200	.4016	T616M120X175R6H-D6	T614M120X175R6H-D6	T616M120X175R6H-D6
M14 x 2,00	12,000	.4724	—	—	T612M140X200R6HX-D6
M16 x 2,00	14,000	.5512	—	—	T612M160X200R6HX-D6
M20 x 2,50	17,500	.6890	—	—	T612M200X250R6HX-D6

Taps

Hard Materials

typical thread sizes	required tap drill diameter		H	
			HSS-E-PM Taps — Tapping Hard Materials 44–55 HRC	Carbide Taps — Tapping Hard Materials 55–63 HRC
cutting taps metric	mm	inch	blind and through hole T606_KSSH22	blind and through hole T410_KCU36
M5 x 0,80	4,200	.1654	—	T410M050X080R6HX-D1
M6 x 1,00	5,000	.1969	T606M060X100R6HX-D1	T410M060X100R6HX-D1
M8 x 1,25	6,700	.2638	T606M080X125R6HX-D1	T410M080X125R6HX-D1
M8 x 1,00	7,000	.2756	T606MF080X100R6HX-D4	T410MF080X100R6HX-D4
M10 x 1,50	8,500	.3346	T606M100X150R6HX-D1	T410M100X150R6HX-D1
M10 x 1,00	9,000	.3543	T606MF100X100R6HX-D4	T410MF100X100R6HX-D4
M12 x 1,75	10,200	.4016	T606M120X175R6HX-D6	T410M120X175R6HX-D6
M12 x 1,50	10,500	.4134	T606MF120X150R6HX-D4	T410MF120X150R6HX-D4
M14 x 2,00	12,000	.4724	—	T410M140X200R6HX-D6
M14 x 1,50	12,500	.4921	T606MF140X150R6HX-D4	T410MF140X150R6HX-D4
M16 x 2,00	14,000	.5512	T606M160X200R6HX-D6	T612M160X200R6HX-D6
M16 x 1,50	14,500	.5709	T606MF160X150R6HX-D4	T410MF160X150R6HX-D4

	S		All Materials	
HSS-E-PM Taps — Tapping Nickel and Cobalt Alloys	Recommended SC Drill		Alternate Tap Drill	
through hole T610_KSSH22	approximately 3 x D with coolant B291_YPL KC7315	approximately 5 x D with coolant B292_YPL KC7315	approximately 3 x D with coolant B976_KC7315	approximately 5 x D with coolant B977_KC7315
T610M030X050R6HX-D1	—	—	B976Z02500	—
T610M040X070R6H-D1	B291A03300YPL	B292A03300YPL	B976A03300	B977A03300
T610M050X080R6H-D1	—	B292A04200YPL	B976A04200	B977A04200
T610M060X100R6H-D1	B291A05000YPL	B292A05000YPL	B976A05000	B977A05000
T610M080X125R6H-D1	—	—	B976A06700	B977A06700
T610M100X150R6H-D1	B291A08500YPL	B292A08500YPL	B976A08500	B977A08500
T610M120X175R6H-D6	B291A10200YPL	B292A10200YPL	B976A10200	B977A10200
T610M140X200R6HX-D6	B291A12000YPL	B292A12000YPL	B976A12000	B977A12000
T610M160X200R6HX-D6	B291A14000YPL	B292A14000YPL	B976A14000	B977A14000
T610M200X250R6HX-D6	B291A17500YPL	B292A17500YPL	B976A17500	B977A17500

Taps

	H		All Materials	
	Recommended SC Drill		Alternative Tap Drill	
	approximately 3 x D with coolant B291_YPL KC7315	approximately 5 x D with coolant B292_YPL KC7315	approximately 3 x D with coolant B976_KC7315	approximately 5 x D with coolant B977_KC7315
	—	B292A04200YPL	B976A04200	B977A04200
	B291A05000YPL	B292A05000YPL	B976A05000	B977A05000
	—	—	B976A06700	B977A06700
	B291A07000YPL	B292A07000YPL	B976A07000	B977A07000
	B291A08500YPL	B292A08500YPL	B976A08500	B977A08500
	B291A09000YPL	B292A09000YPL	B976A09000	B977A09000
	B291A10200YPL	B292A10200YPL	B976A10200	B977A10200
	B291A10500YPL	B292A10500YPL	B976A10500	B977A10500
	B291A12000YPL	B292A12000YPL	B976A12000	B977A12000
	B291A12500YPL	B292A12500YPL	B976A12500	B977A12500
	B291A14000YPL	B292A14000YPL	B976A14000	B977A14000
	B291A14500YPL	B292A14500YPL	B976A14500	B977A14500

Steel • Wind Energy

typical thread sizes	required tap drill diameter		P HSS-E-PM Taps — Tapping Steel >32 HRC		
cutting taps metric	mm	inch	blind hole T630_KP6525	blind hole T650_KP6525	through hole T620_KP6525
M24 x 3,00	21,000	.8268	T630M240X300R6HX-D6	T650M240X300R6HX-D6	T620M240X300R6HX-D6
M30 x 3,50	26,500	1.0433	T630M300X350R6HX-D6	T650M300X350R6HX-D6	T620M300X350R6HX-D6
M33 x 3,50	29,500	1.1614	T630M330X350R6HX-D6	T650M330X350R6HX-D6	T620M330X350R6HX-D6
M36 x 4,00	32,000	1.2598	T630M360X400R6HX-D6	T650M360X400R6HX-D6	T620M360X400R6HX-D6
M42 x 4,50	37,500	1.4764	T630M420X450R6HX-D6	T650M420X450R6HX-D6	T620M420X450R6HX-D6

Steel • Wind Energy • Extra Long

typical thread sizes	required tap drill diameter		P HSS-E-PM Taps — Tapping Steel >32 HRC		
cutting taps metric	mm	inch	blind hole T630_KP6525	blind hole T650_KP6525	through hole T620_KP6525
M24 x 3,00	21,000	.8268	T630M240X300R6HX-XL	T650M240X300R6HX-XL	T620M240X300R6HX-XL
M30 x 3,50	26,500	1.0433	T630M300X350R6HX-XL	T650M300X350R6HX-XL	T620M300X350R6HX-XL
M33 x 3,50	29,500	1.1614	T630M330X350R6HX-XL	T650M330X350R6HX-XL	T620M330X350R6HX-XL
M36 x 4,00	32,000	1.2598	T630M360X400R6HX-XL	T650M360X400R6HX-XL	T620M360X400R6HX-XL
M42 x 4,50	37,500	1.4764	T630M420X450R6HX-XL	T650M420X450R6HX-XL	T620M420X450R6HX-XL

Cast Iron • Wind Energy

typical thread sizes	required tap drill diameter		K HSS-E-PM Taps — Cast Iron		
cutting taps metric	mm	inch	blind hole T630_KP6525	blind hole T650_KP6525	through hole T620_KP6525
M24 x 3,00	21,000	.8268	T630M240X300R6HX-D6	T650M240X300R6HX-D6	T620M240X300R6HX-D6
M30 x 3,50	26,500	1.0433	T630M300X350R6HX-D6	T650M300X350R6HX-D6	T620M300X350R6HX-D6
M33 x 3,50	29,500	1.1614	T630M330X350R6HX-D6	T650M330X350R6HX-D6	T620M330X350R6HX-D6
M36 x 4,00	32,000	1.2598	T630M360X400R6HX-D6	T650M360X400R6HX-D6	T620M360X400R6HX-D6
M42 x 4,50	37,500	1.4764	T630M420X450R6HX-D6	T650M420X450R6HX-D6	T620M420X450R6HX-D6

Cast Iron • Wind Energy • Extra Long

typical thread sizes	required tap drill diameter		K HSS-E-PM Taps — Cast Iron		
cutting taps metric	mm	inch	blind hole T630_KP6525	blind hole T650_KP6525	through hole T620_KP6525
M24 x 3,00	21,000	.8268	T630M240X300R6HX-XL	T650M240X300R6HX-XL	T620M240X300R6HX-XL
M30 x 3,50	26,500	1.0433	T630M300X350R6HX-XL	T650M300X350R6HX-XL	T620M300X350R6HX-XL
M33 x 3,50	29,500	1.1614	T630M330X350R6HX-XL	T650M330X350R6HX-XL	T620M330X350R6HX-XL
M36 x 4,00	32,000	1.2598	T630M360X400R6HX-XL	T650M360X400R6HX-XL	T620M360X400R6HX-XL
M42 x 4,50	37,500	1.4764	T630M420X450R6HX-XL	T650M420X450R6HX-XL	T620M420X450R6HX-XL

P		P	
HSS-E-PM Taps — Tapping Steel >32 HRC		Recommended Modular Drill	
blind hole with coolant T631_KP6525	blind hole with coolant T651_KP6525	KSEM PLUS™ insert KCP15	KSEM PLUS™ tool body 3 x D
T631M240X300R6HX-D6	T651M240X300R6HX-D6	KTIP2100HPM	KSEM PLUS
T631M300X350R6HX-D6	T651M300X350R6HX-D6	KTIP2650HPM	KSEM PLUS
T631M330X350R6HX-D6	T651M330X350R6HX-D6	KSEM PLUS	KSEM PLUS
T631M360X400R6HX-D6	T651M360X400R6HX-D6	KSEM PLUS	KSEM PLUS
T631M420X450R6HX-D6	T651M420X450R6HX-D6	KSEM PLUS	KSEM PLUS

P		P	
HSS-E-PM Taps — Tapping Steel >32 HRC		Recommended Modular Drill	
blind hole with coolant T631_KP6525	blind hole with coolant T651_KP6525	KSEM PLUS™ insert KCP15	KSEM PLUS™ tool body 3 x D
T631M240X300R6HX-XL	T651M240X300R6HX-XL	KTIP2100HPM	KSEM PLUS
T631M300X350R6HX-XL	T651M300X350R6HX-XL	KTIP2650HPM	KSEM PLUS
T631M330X350R6HX-XL	T651M330X350R6HX-XL	KSEM PLUS	KSEM PLUS
T631M360X400R6HX-XL	T651M360X400R6HX-XL	KSEM PLUS	KSEM PLUS
T631M420X450R6HX-XL	T651M420X450R6HX-XL	KSEM PLUS	KSEM PLUS

K		K	
HSS-E-PM Taps — Cast Iron		Recommended Modular Drill	
blind hole with coolant T631_KP6525	blind hole with coolant T651_KP6525	KSEM PLUS™ insert KC7140	KSEM PLUS™ tool body 3 x D
T631M240X300R6HX-D6	T651M240X300R6HX-D6	KTIP2100HPM	KSEM PLUS
T631M300X350R6HX-D6	T651M300X350R6HX-D6	KTIP2650HPM	KSEM PLUS
T631M330X350R6HX-D6	T651M330X350R6HX-D6	KSEM PLUS	KSEM PLUS
T631M360X400R6HX-D6	T651M360X400R6HX-D6	KSEM PLUS	KSEM PLUS
T631M420X450R6HX-D6	T651M420X450R6HX-D6	KSEM PLUS	KSEM PLUS

K		K	
HSS-E-PM Taps — Cast Iron		Recommended Modular Drill	
blind hole with coolant T631_KP6525	blind hole with coolant T651_KP6525	KSEM PLUS™ insert KC7140	KSEM PLUS™ tool body 3 x D
T631M240X300R6HX-XL	T651M240X300R6HX-XL	KTIP2100HPM	KSEM PLUS
T631M300X350R6HX-XL	T651M300X350R6HX-XL	KTIP2650HPM	KSEM PLUS
T631M330X350R6HX-XL	T651M330X350R6HX-XL	KSEM PLUS	KSEM PLUS
T631M360X400R6HX-XL	T651M360X400R6HX-XL	KSEM PLUS	KSEM PLUS
T631M420X450R6HX-XL	T651M420X450R6HX-XL	KSEM PLUS	KSEM PLUS

High-Performance Solid Carbide Thread Mills

Primary Application

Our solid thread mills are designed to deliver high-quality internal threading on 3-axis CNC machines. Because these mills are made of carbide, they are capable of easily cutting most difficult materials up to 63 HRC. Thread mills make interrupted cuts and short chips.

The combination of these design elements offers a range of benefits to improve overall thread quality and tool production. Short, easily evacuated chips generate less heat and friction, so there is a lower risk of damage to threading. Also, the superior carbide grades make threading easier and machining times shorter.

Features and Benefits

System Requirements

- 3-axis CNC machine.
- Good clamping for tool and workpiece.
- Internal coolant supply.

Features

- Interrupted cuts.
- Short chips.
- Optimised carbide grades.
- Drill, thread, countersink.

Advantages

- Versatile.
- Better surface quality.
- No chip problems.
- No need to reverse the spindle.
- More production safety.

Through and Blind Holes (2 x D)

		Thread Mill	Thread Mill and Chamfer	Drill, Thread Mill, and Chamfer	Mill, Thread Mill, and Chamfer
P	<35 HRC	TM711	TM721	—	TM741_RHSF
	35–43 HRC	—	TM721	—	TM741_RHSF
M		TM711	TM721	—	TM741_RHSF
K		TM711	TM721	TM731	TM741_RHSF
N	Wrought	TM711	TM721	—	TM731
	Cast	TM711	TM721	TM731	TM741_RHSF
S		TM711	TM721	—	TM741_LHSF
H	44–63 HRC	—	—	—	TM741_RHSF TM741_LHSF

High-Performance
Solid Carbide Thread Mills

Our solid thread mills are designed to deliver high-quality internal threading on 3-axis CNC machines. Because these mills are made of carbide, they are capable of easily cutting most difficult materials up to 63 HRC. Thread mills make interrupted cuts and short chips. The combination of these design elements offers a range of benefits to improve overall thread quality and tool production. Short, easily evacuated chips generate less heat and friction, so there is a lower risk of damage to threading. Also, the superior carbide grades make threading easier and machining times shorter.

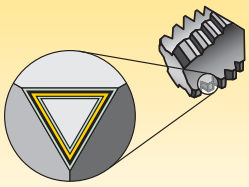
Features:

- 3-axis CNC machine.
- Good clamping for tool and workpiece.
- Internal coolant supply.
- Interrupted cuts.
- Short chips.
- Optimised carbide grades.
- Drill, thread, countersink.
- Versatile.
- Better surface quality.
- No chip problems.
- No need to reverse the spindle.
- More production safety.

Visit **www.kennametal.com** or contact your local Authorised Kennametal Distributor.

www.kennametal.com

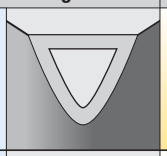
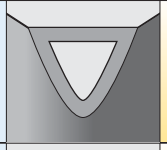
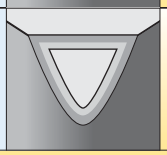
KENNAMETAL®



Coatings provide high-speed capability and are engineered for finishing to light roughing.

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous Materials
S	High-Temp Alloys
H	Hardened Materials

wear resistance ⟷ toughness

Grade	Coating	Grade Description	P	M	K	N	S	H	05	10	15	20	25	30	35	40	45
NEW! KCU32		Coated carbide. PVD — Fine-grain carbide substrate with high hardness TiCN coating. Universal grade for thread milling most materials.															
NEW! KCU33		Coated carbide. PVD — Carbide substrate with heat-resistant TiAlN coating. Universal grade for thread milling most materials.															
NEW! KCU36		Coated carbide. PVD — two-layer coating with heat-resistant TiAlN base layer and low-friction MoS_2 top layer over carbide substrate. Use for thread milling most materials including high hardness materials.															

Solid Thread Mills Identification System

TM721MF120X150R2DHA

TM721	MF	120	X	150	R	2D	HA
Tap Design	Type of Thread	Nominal Diameter of Thread		Pitch	Cutting Dimension	Depth of Cut	Shank
		mm or inch (depending on type)		mm or TPI (depending on type)			

M = Metric coarse-pitch thread (ISO form)

MF = Metric fine-pitch thread (ISO form)

NC = Unified coarse series thread

NF = Unified fine series thread

DIN 6535

HA = Plain Shank

HB = Weldon® Shank

HE = Whistle Notch™ Shank

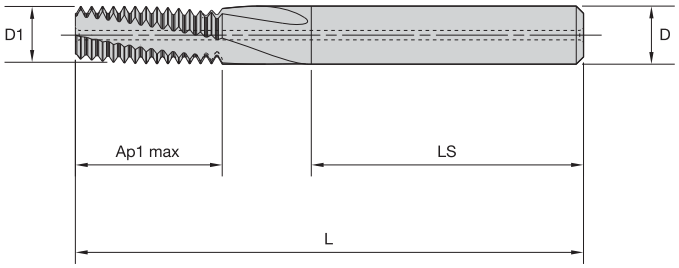
Style

TM711 = Solid Thread Mill; through coolant

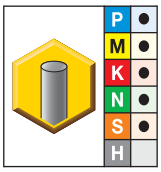
TM721 = Solid Thread Mill and Chamfer; through coolant

TM731 = Solid Thread Mill, Chamfer, and Drill; through coolant

TM741 = Solid Thread Mill, Chamfer, and Mill; through coolant



TM711 • Through Coolant • Metric and Metric Fine

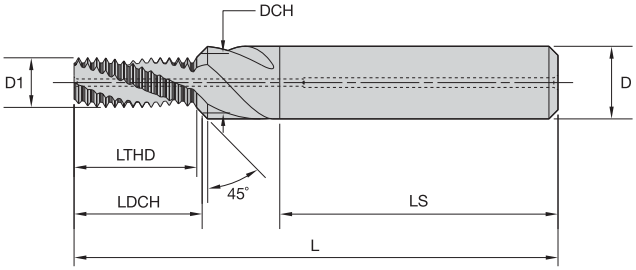


● first choice
○ alternate choice

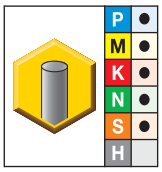
KCU32	D1 size	D1	Ap1 max	L	LS	D	cutting edges
TM711M030X050R2DHA	M3X0.5	2,4	6,2	42	28	4,0	3
TM711MF040X050R2DHA	M4X0.5	3,4	8,2	55	36	6,0	3
TM711M040X070R2DHA	M4X0.7	3,2	8,7	55	36	6,0	3
TM711MF050X050R2DHA	M5X0.5	4,3	10,2	55	36	6,0	3
TM711M050X080R2DHA	M5X0.8	4,0	10,8	55	36	6,0	3
TM711MF060X075R2DHA	M6X0.75	5,0	12,4	55	36	6,0	3
TM711M060X100R2DHA	M6X1	4,8	12,5	55	36	6,0	3
TM711MF080X075R2DHA	M8X0.75	5,9	16,8	63	36	6,0	3
TM711MF080X100R2DHA	M8X1	5,9	16,4	63	36	6,0	3
TM711M080X125R2DHA	M8X1.25	5,9	16,8	63	36	6,0	3
TM711MF100X100R2DHA	M10X1	7,9	20,5	70	36	8,0	3
TM711M100X150R2DHA	M10X1.5	7,9	20,2	70	36	8,0	3
TM711MF120X100R2DHA	M12X1	9,9	24,5	80	40	10,0	4
TM711MF120X150R2DHA	M12X1.5	9,9	24,7	80	40	10,0	4
TM711M120X175R2DHA	M12X1.75	9,9	25,3	80	40	10,0	4
TM711MF140X150R2DHA	M14X1.5	9,9	29,2	80	40	10,0	4
TM711M140X200R2DHA	M14X2	11,6	29,0	90	45	12,0	4
TM711MF160X150R2DHA	M16X1.5	11,9	32,2	90	45	12,0	4
TM711M160X200R2DHA	M16X2	11,9	32,9	90	45	12,0	4
TM711MF180X150R2DHA	M18X1.5	13,9	36,7	90	45	14,0	4
TM711M180X250R2DHA	M18X2.5	13,9	38,7	90	45	14,0	4
TM711MF200X150R2DHA	M20X1.5	13,9	41,2	90	45	14,0	4
TM711M200X250R2DHA	M20X2.5	13,9	41,2	90	45	14,0	4

Shank Tolerance

D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–18	+0, -0,011
20–30	+0, -0,013



TM721 • Through Coolant • Metric and Metric Fine

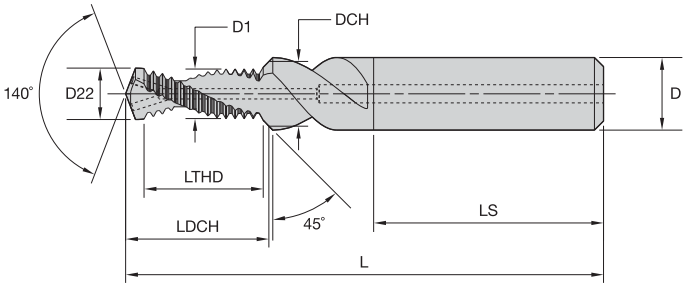


● first choice
○ alternate choice

KCU32	D1 size	D1	DCH	LTHD	LDCH	L	LS	D	cutting edges
TM721M050X080R2DHA	M5X0.8	4,0	5,3	10,82	11,40	55	36	6,0	3
TM721MF060X075R2DHA	M6X0.75	5,0	6,3	12,40	12,97	62	36	8,0	3
TM721M060X100R2DHA	M6X1	4,8	6,3	12,52	13,19	62	36	8,0	3
TM721MF080X100R2DHA	M8X1	6,7	8,3	16,53	17,23	74	40	10,0	3
TM721M080X125R2DHA	M8X1.25	6,5	8,3	16,91	17,71	74	40	10,0	3
TM721MF100X100R2DHA	M10X1	8,7	10,3	20,55	21,23	80	45	12,0	3
TM721MF100X125R2DHA	M10X1.25	8,4	10,3	20,67	21,50	80	45	12,0	3
TM721M100X150R2DHA	M10X1.5	8,2	10,3	20,29	21,22	80	45	12,0	3
TM721MF120X100R2DHA	M12X1	10,6	12,3	24,56	25,27	90	45	14,0	4
TM721MF120X125R2DHA	M12X1.25	10,4	12,3	24,43	25,24	90	45	14,0	4
TM721MF120X150R2DHA	M12X1.5	10,1	12,3	24,80	25,76	90	45	14,0	4
TM721M120X175R2DHA	M12X1.75	9,9	12,3	25,42	26,48	90	45	14,0	4
TM721MF140X150R2DHA	M14X1.5	12,1	14,3	29,31	30,25	100	48	16,0	4
TM721M140X200R2DHA	M14X2	11,6	14,3	29,05	30,24	100	48	16,0	4
TM721MF160X150R2DHA	M16X1.5	14,0	16,3	32,31	33,30	102	48	18,0	4
TM721M160X200R2DHA	M16X2	13,6	16,3	33,05	34,24	102	48	18,0	4

Shank Tolerance

D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–18	+0, -0,011
20–30	+0, -0,013



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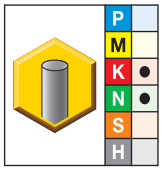
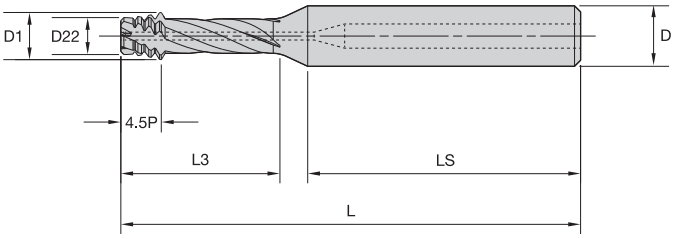


● first choice
○ alternate choice

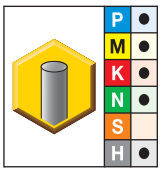
KCU32	D1 size	D22	D1	DCH	LTHD	LDCH	L	LS	D	cutting edges
TM731M040X070R2DHA	M4X0.7	3,3	3,2	4,3	7,74	9,59	49	36	6,0	2
TM731M050X080R2DHA	M5X0.8	4,2	4,0	5,3	9,65	11,82	55	36	6,0	2
TM731MF060X075R2DHA	M6X0.75	5,3	5,1	6,3	12,07	14,37	62	36	8,0	2
TM731M060X100R2DHA	M6X1	5,0	4,8	6,3	12,06	14,69	62	36	8,0	2
TM731MF080X100R2DHA	M8X1	7,0	6,8	8,3	16,09	19,10	74	40	10,0	2
TM731M080X125R2DHA	M8X1.25	6,8	6,5	8,3	15,08	18,42	74	40	10,0	2
TM731MF100X100R2DHA	M10X1	9,0	8,7	10,3	20,11	23,52	79	45	12,0	2
TM731MF100X125R2DHA	M10X1.25	8,8	8,4	10,3	20,11	23,87	79	45	12,0	2
TM731M100X150R2DHA	M10X1.5	8,5	8,2	10,3	19,59	23,65	79	45	12,0	2
TM731MF120X125R2DHA	M12X1.25	10,8	10,4	12,3	23,88	28,00	89	45	14,0	2
TM731MF120X150R2DHA	M12X1.5	10,5	10,2	12,3	24,12	28,57	89	45	14,0	2
TM731M120X175R2DHA	M12X1.75	10,3	9,9	12,3	22,86	27,63	89	45	14,0	2
TM731MF140X150R2DHA	M14X1.5	12,5	12,1	14,3	27,14	31,98	102	48	16,0	2
TM731M140X200R2DHA	M14X2	12,0	11,6	14,3	28,12	33,62	102	48	16,0	2
TM731MF160X150R2DHA	M16X1.5	14,5	14,1	16,3	31,65	36,87	102	48	18,0	2
TM731M160X200R2DHA	M16X2	14,0	13,6	16,3	32,13	38,00	102	48	18,0	2

Shank Tolerance

D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–18	+0, -0,011
20–30	+0, -0,013



TM741 • Through Coolant • Right Hand • Metric and Metric Fine

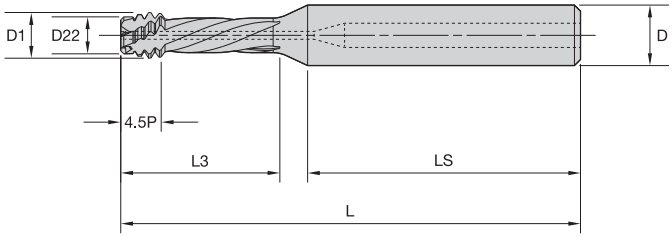


● first choice
○ alternate choice

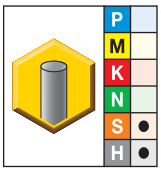
KCU36	D1 size	D1	D22	L3	L	LS	D	cutting edges
TM741M060X100R2DHA	M6X1	4,51	3,41	16,5	60	36	8,0	3
TM741M070X100R2DHA	M7X1	4,51	3,41	16,5	60	36	8,0	3
TM741MF080X100R2DHA	M8X1	6,23	5,13	21,9	71	40	10,0	4
TM741M080X125R2DHA	M8X1.25	6,23	4,91	21,9	71	40	10,0	4
TM741MF090X100R2DHA	M9X1	6,23	5,13	21,9	71	40	10,0	4
TM741M090X125R2DHA	M9X1.25	6,23	4,91	21,9	71	40	10,0	4
TM741MF100X100R2DHA	M10X1	6,23	5,13	21,9	71	40	10,0	4
TM741MF100X125R2DHA	M10X1.25	6,23	4,91	21,9	71	40	10,0	4
TM741M100X150R2DHA	M10X1.5	7,75	6,11	26,3	76	40	10,0	4
TM741M110X150R2DHA	M11X1.5	7,75	6,11	26,3	76	40	10,0	4
TM741MF120X100R2DHA	M12X1	9,15	8,06	30,0	86	45	12,0	4
TM741MF120X150R2DHA	M12X1.5	7,75	6,11	26,3	76	40	10,0	4
TM741M120X175R2DHA	M12X1.75	9,16	7,21	32,4	86	45	12,0	4
TM741MF140X100R2DHA	M14X1	9,15	8,06	30,0	86	45	12,0	4
TM741MF140X150R2DHA	M14X1.5	10,83	9,15	37,4	98	48	16,0	4
TM741M140X200R2DHA	M14X2	11,08	8,91	41,0	98	48	16,0	4
TM741MF160X150R2DHA	M16X1.5	10,83	9,15	37,4	98	48	16,0	4
TM741M160X200R2DHA	M16X2	11,08	8,91	41,0	98	48	16,0	4
TM741MF180X150R2DHA	M18X1.5	14,83	13,15	47,0	98	48	16,0	4
TM741M180X250R2DHA	M18X2.5	14,38	11,71	51,3	111	50	20,0	5
TM741MF200X150R2DHA	M20X1.5	14,83	13,15	47,0	98	48	16,0	4
TM741M200X250R2DHA	M20X2.5	14,38	11,71	51,3	111	50	20,0	5
TM741MF220X150R2DHA	M22X1.5	18,23	16,55	56,0	111	50	20,0	5
TM741MF240X150R2DHA	M24X1.5	18,23	16,55	56,0	111	50	20,0	5

Shank Tolerance

D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–18	+0, -0,011
20–30	+0, -0,013



TM741 • Through Coolant • Left Hand • Metric and Metric Fine



● first choice
○ alternate choice

KCU36	D1 size	D1	D22	L3	L	LS	D	cutting edges
TM741M060X100L2DHA	M6X1	4,51	3,41	16,5	60	36	8,0	3
TM741M070X100L2DHA	M7X1	4,51	3,41	16,5	60	36	8,0	3
TM741M080X125L2DHA	M8X1.25	6,23	4,91	21,9	71	40	10,0	4
TM741M090X125L2DHA	M9X1.25	6,23	4,91	21,9	71	40	10,0	4
TM741M100X150L2DHA	M10X1.5	7,75	6,11	26,3	76	40	10,0	4
TM741M110X150L2DHA	M11X1.5	7,75	6,11	26,3	76	40	10,0	4
TM741MF120X150L2DHA	M12X1.5	9,17	7,21	32,4	86	45	12,0	4

Shank Tolerance

D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–18	+0, -0,011
20–30	+0, -0,013

Material Group		Thread Mill TM711						Thread Mill and Chamfer TM721					
		Cutting Speed — vc Range — m/min			Feed/Tooth by Diameter			Cutting Speed — vc Range — m/min			Feed/Tooth by Diameter		
		min	Starting Value	max		<10mm	>10mm	min	Starting Value	max		<10mm	>10mm
P	1	90	**115**	150	mm/r	0,05	0,08	140	**185**	240	mm/r	0,06	0,10
	2	90	**115**	150	mm/r	0,05	0,08	140	**185**	240	mm/r	0,06	0,10
	3	40	**50**	70	mm/r	0,02	0,03	70	**90**	120	mm/r	0,03	0,04
	4	–	**–**	–	–	–	–	70	**90**	120	mm/r	0,03	0,04
	5	60	**80**	100	mm/r	0,04	0,06	70	**90**	120	mm/r	0,05	0,08
	6	–	**–**	–	–	–	–	–	**–**	–	–	–	–
M	1	60	**80**	100	mm/r	0,04	0,06	70	**90**	120	mm/r	0,05	0,08
	2	60	**80**	100	mm/r	0,04	0,06	70	**90**	120	mm/r	0,05	0,08
	3	–	**–**	–	–	–	–	–	**–**	–	–	–	–
K	1	120	**150**	200	mm/r	0,06	0,10	130	**170**	220	mm/r	0,06	0,11
	2	120	**150**	200	mm/r	0,06	0,10	130	**170**	220	mm/r	0,06	0,11
	3	90	**115**	150	mm/r	0,05	0,07	110	**140**	180	mm/r	0,05	0,07
N	1	250	**275**	300	mm/r	0,07	0,09	270	**300**	330	mm/r	0,08	0,16
	2	200	**225**	250	mm/r	0,05	0,06	270	**300**	330	mm/r	0,08	0,16
	3	170	**190**	210	mm/r	0,04	0,05	160	**175**	190	mm/r	0,08	0,16
	4	250	**275**	300	mm/r	0,07	0,09	270	**300**	330	mm/r	0,08	0,16
	5	270	**300**	330	mm/r	0,12	0,13	250	**275**	300	mm/r	0,11	0,20
	6	170	**190**	210	mm/r	0,05	0,06	90	**100**	110	mm/r	0,11	0,20
S	1	60	**80**	100	mm/r	0,04	0,06	70	**90**	120	mm/r	0,05	0,08
	2	50	**65**	80	mm/r	0,03	0,04	50	**60**	80	mm/r	0,03	0,05
	3	50	**65**	80	mm/r	0,03	0,04	50	**60**	80	mm/r	0,03	0,05
	4	50	**65**	80	mm/r	0,03	0,04	50	**60**	80	mm/r	0,03	0,05

Material Group		Drill, Chamfer, and Thread Mill TM731										
					Drilling				Milling			
		Cutting Speed — vc Range — m/min			Recommended Feed by Diameter				Feed/Tooth by Diameter			
		min	Starting Value	max		<6mm	6–10mm	10–16mm		<6mm	6–10mm	10–16mm
K	1	130	**175**	230	mm/r	0,10	0,16	0,30	mm/r	0,05	0,07	0,10
N	2	270	**300**	330	mm/r	0,15	0,25	0,34	mm/r	0,06	0,08	0,12
	3	140	**150**	170	mm/r	0,15	0,25	0,34	mm/r	0,06	0,08	0,12
	4	270	**300**	330	mm/r	0,15	0,25	0,34	mm/r	0,06	0,08	0,12
	5	110	**120**	130	mm/r	0,12	0,20	0,32	mm/r	0,06	0,08	0,12

Mill, Chamfer, and Thread Mill TM741

Material Group		TM Style	Grade	Cutting Speed — vc Range — m/min min	Starting Value	max	Feed/Tooth by Diameter	<10mm	>10mm
P	1	TM741 R	KCU36	170	**225**	290	mm/r	0,05	0,08
	2	TM741 R	KCU36	170	**225**	290	mm/r	0,05	0,08
	3	TM741 R	KCU36	120	**150**	200	mm/r	0,03	0,05
	4	TM741 R	KCU36	100	**125**	160	mm/r	0,03	0,05
	5	TM741 R	KCU36	120	**150**	200	mm/r	0,03	0,04
	6	TM741 R	KCU36	60	**80**	100	mm/r	0,03	0,04
M	1	TM741 R	KCU36	120	**150**	200	mm/r	0,03	0,04
	2	TM741 R	KCU36	120	**150**	200	mm/r	0,03	0,04
	3	TM741 R	KCU36	120	**150**	200	mm/r	0,03	0,04
K	1	TM741 R	KCU36	190	**250**	330	mm/r	0,06	0,10
	2	TM741 R	KCU36	190	**250**	330	mm/r	0,06	0,10
	3	TM741 R	KCU36	140	**185**	240	mm/r	0,04	0,07
N	1	–	–	–	**–**	–	–	–	–
	2	–	–	–	**–**	–	–	–	–
	3	TM741 R	KCU36	180	**230**	300	mm/r	0,06	0,07
	4	TM741 R	KCU36	210	**275**	360	mm/r	0,06	0,07
	5	–	–	–	**–**	–	–	–	–
	6	TM741 R	KCU36	210	**275**	360	mm/r	0,06	0,07
S	1	TM741 L	KCU36	120	**150**	200	mm/r	0,025	0,045
	2	TM741 L	KCU36	50	**60**	80	mm/r	0,015	0,025
	3	TM741 L	KCU36	50	**60**	80	mm/r	0,015	0,025
	4	TM741 L	KCU36	70	**90**	120	mm/r	0,025	0,035
H	1	TM741	KCU36	80	**100**	130	mm/r	0,030	0,050
	2	TM741	KCU36	80	**100**	130	mm/r	0,030	0,050
	3	TM741	KCU36	50	**65**	80	mm/r	0,020	0,030
	4	TM741	KCU36	50	**65**	80	mm/r	0,020	0,030

Milling Methods

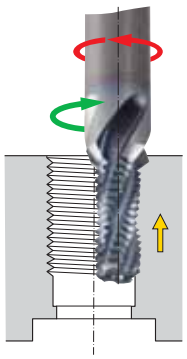
Climb Milling

Properties:

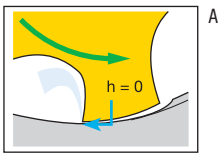
- Tool rotation direction clockwise
- Tool moves anti-clockwise
- Pitch "upwards"

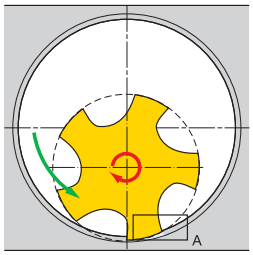
↓

- Right-hand thread



Climb milling is always when the cutting edge goes out of the material with a chip thickness h = 0





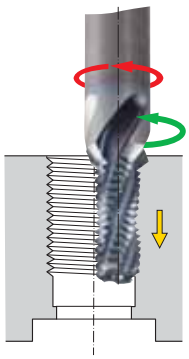
Conventional Milling

Properties:

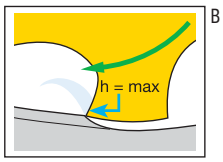
- Tool rotation direction clockwise
- Tool moves clockwise
- Pitch "downwards"

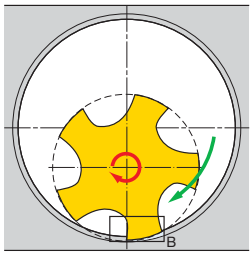
↓

- Right-hand thread



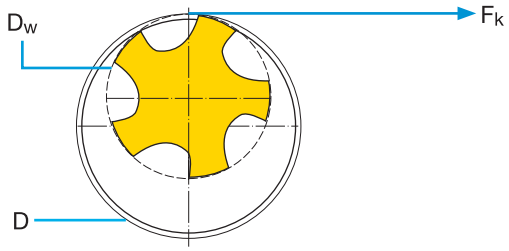
Conventional milling is always when the cutting edge goes out of the material with a chip thickness h = max





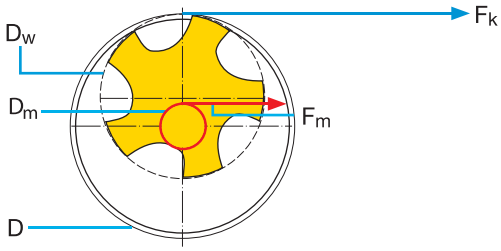
Counter Feed F_k

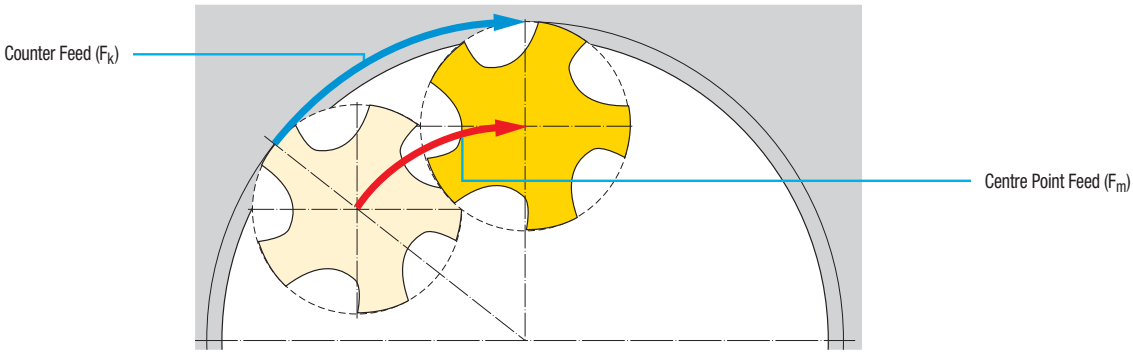
$$F_k = n \cdot f_z \cdot Z \text{ [mm/min]}$$



Centre Point Feed F_m

$$F_m = \frac{F_k \cdot (D-D_w)}{D} \text{ [mm/min]}$$



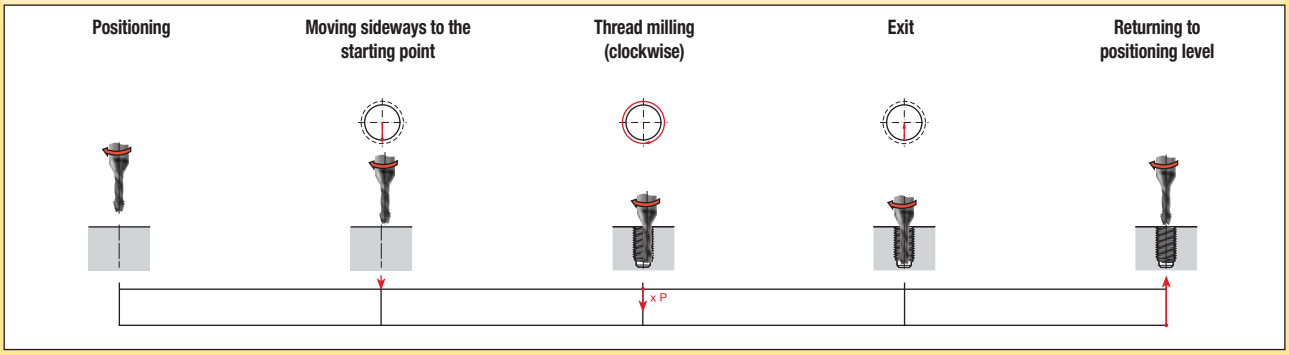


D_w = Tool diameter [mm]
n = RPM [min^{-1}]
f_z = Feed per tooth [mm]
Z = Number of teeth on tool (radial)
D = Nominal diameter of thread = Diameter of external contour [mm]
D_m = Diameter of the centre point ($D-D_w$) [mm]

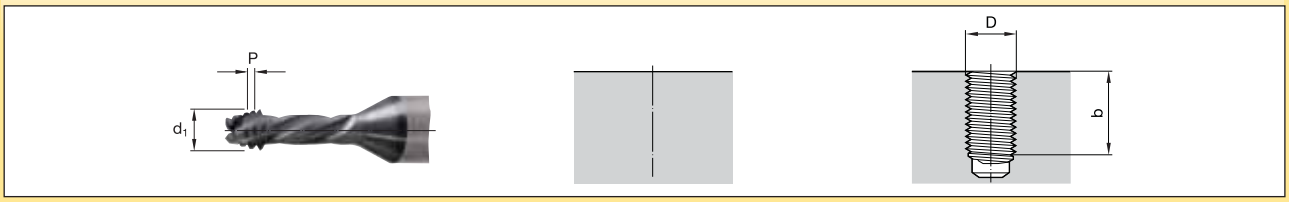
Drill Thread Mill TM741 • Right Hand

Preparation	None
Process Principle	Milling thread and core hole, countersinking (conventional milling)

Cycle



Required Specification Values



Example

Size — M10-6H
Thread diameter D 10mm
Pitch P 1,5mm
Core hole diameter D_1 .....8,5mm

Material — Hard steel, 50 HRC

Grade — KCU36

Tool — TM741 Right Hand
Catalogue number TM741M100X150R2DHA
Number of teeth Z 4
Tool diameter d_1 .....7,75mm*
Tool radius compensation k [1] 0,08mm**
Tool radius to be programmed [2] 3,795mm***
Thread depth b 20mm
Cutting speed v_c.....100 m/min
Feed (milling) f_z .....0,04 mm/tooth
Number of turns [5] 17

*(measured on the cutting part) **0,01 x D; adjust to application ***(1/2 d_1 - k)

$$N = \frac{V_c \cdot 1000}{d_1 \cdot \pi}$$ **S = 4109**

$$v_f = f_z \cdot Z \cdot n$$ **F = 657 (contour)**

$$N = \frac{v_f \text{ contour} \cdot (D-d_1)}{D}$$ **F = 148 (centre point)**

Program to DIN 66025 (conventional milling, on the contour, incremental)

Positioning the tool	N 10	G 54	G 90	G 00	X…	Y…	Z 1.500	S 4109	T01 [2]	M03 [6]
Incremental programming	N 20	G 91								
Moving sideways to the starting point	N 30	G 42	G 01	X 0	Y-5	F 657 (contour)		[F 148] [4] (centre point)		
Thread milling	N 40	G 02		X 0	Y 0	Z-1.500	I 0	J 5.000		
Repeat thread milling	… [5]									
Exit	N 50	G 40	G 01	X 0	Y 5					
Retracting tool to positioning level	N 70	G 90	G 00	Z 2						

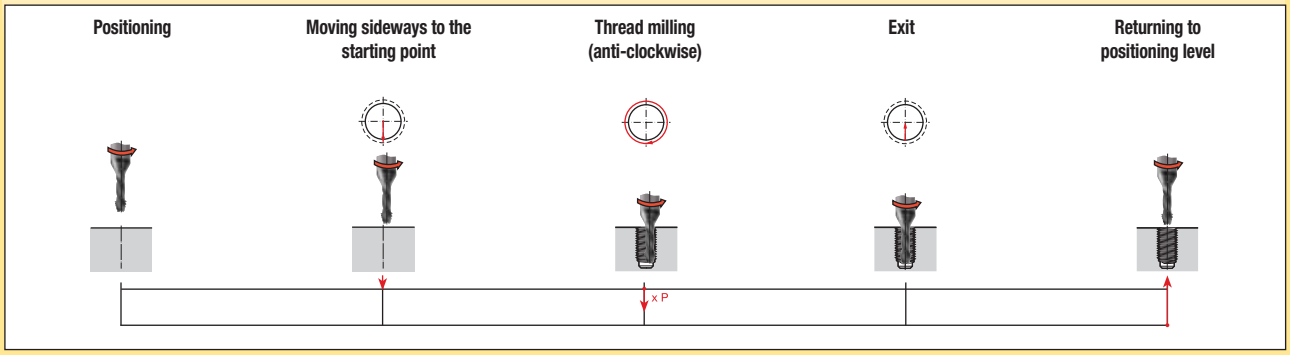
Cutting time t_h	**51,6 seconds**

NOTES:
[1] The cutter radius measured over the tooth crests of the threaded part must be reduced by the amount of the cutter radius compensation. This is necessary to achieve a depth of cut to the middle of the 6H/ISO2 nut tolerance. Please note, however, that this also depends on the radial deflection of the tool (tensile strength of the material, projecting length of the tool).
[2] The cutter radius to be programmed is normally included in the tool memory.
[3] The thread depth b must be divisible by the thread pitch P.
[4] The feed values in brackets must be used for controllers, which do not calculate the centre point feed themselves.
[5] **Set N40 must be repeated with the number of threads.** Repetitions N = thread depth b/pitch P (rounded up to the nearest integer).

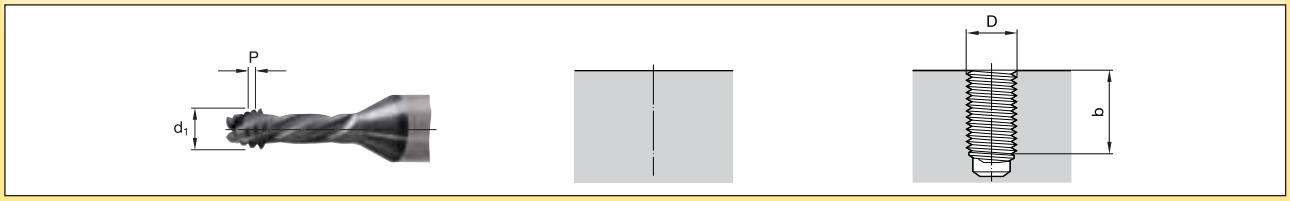
Drill Thread Mill TM741 • Left Hand

Preparation	None
Process Principle	Milling thread and core hole, countersinking (climb milling)

Cycle



Required Specification Values



Example

Size — M10-6H
Thread diameter D 10mm
Pitch P 1,5mm
Core hole diameter D_1 .....8,5mm

Material — TiAl6V4 titanium

Grade — KCU36

Tool — TM741 Left Hand
Catalogue number TM741M100X150L2DHA
Number of teeth Z 4
Tool diameter d_1 .....7,75mm*
Tool radius compensation k [1] 0,08mm**
Tool radius to be programmed [2] 3,795mm***
Drilling/countersink depth l_E 20mm
Cutting speed v_c.....100 m/min
Feed (milling) f_z .....0,03 mm/tooth
Number of turns [5] 17

*(measured on the cutting part) **(0,01 x D) ***(1/2 d_1 - k)

$$N = \frac{V_c \cdot 1000}{d_1 \cdot \pi} \qquad S = 4109$$

$$v_f = f_z \cdot Z \cdot n \qquad F = 493 \text{ (contour)}$$

$$v_f = \frac{v_f \text{ contour} \cdot (D - d_1)}{D} \qquad F = 111 \text{ (centre point)}$$

Program to DIN 66025 (climb milling, on the contour, incremental)

Positioning the tool	N 10	G 54	G 90	G 00	X…	Y…	Z 1.500	S 4109	T01 [2]	M04
Incremental programming	N 20	G 91								
Moving sideways to the starting point	N 30	G 42	G 01	X 0	Y-5	F 493 (contour)		[F 111] [4] (centre point)		
Thread milling	N 40	G 02		X 0	Y 0	Z-1.500	I 0	J 5.000		
Repeat thread milling	… [5]									
Exit	N 50	G 40	G 01	X 0	Y 5					
Retracting tool to positioning level	N 70	G 90	G 00	Z 2						

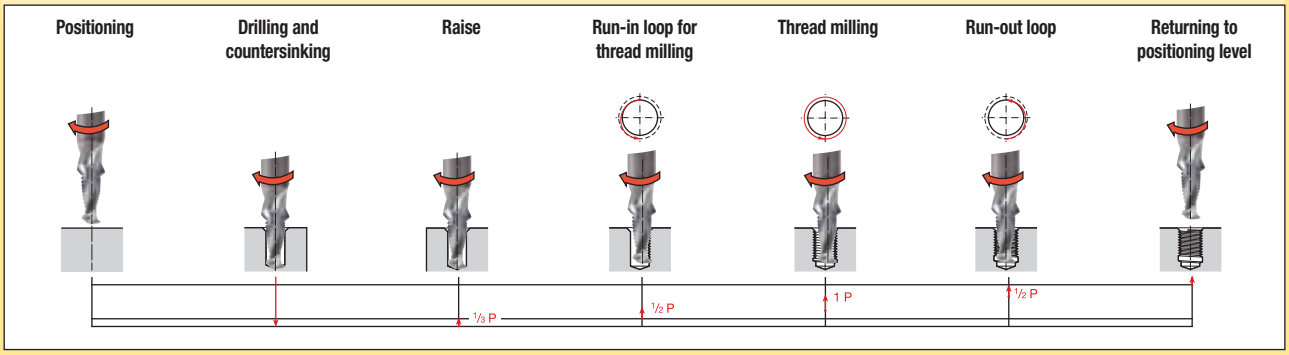
Cutting time t_h	**68,8 seconds**

NOTES:
[1] The cutter radius measured over the tooth crests of the threaded part must be reduced by the amount of the cutter radius compensation. This is necessary to achieve a depth of cut to the middle of the 6H/ISO2 nut tolerance. Please note, however, that this also depends on the radial deflection of the tool (tensile strength of the material, projecting length of the tool).
[2] The cutter radius to be programmed is normally included in the tool memory.
[3] The thread depth b must be divisible by the thread pitch P.
[4] The feed values in brackets must be used for controllers, which do not calculate the centre point feed themselves.
[5] **Set N40 must be repeated with the number of threads.** Repetitions N = thread depth b/pitch P (rounded up to the nearest integer).

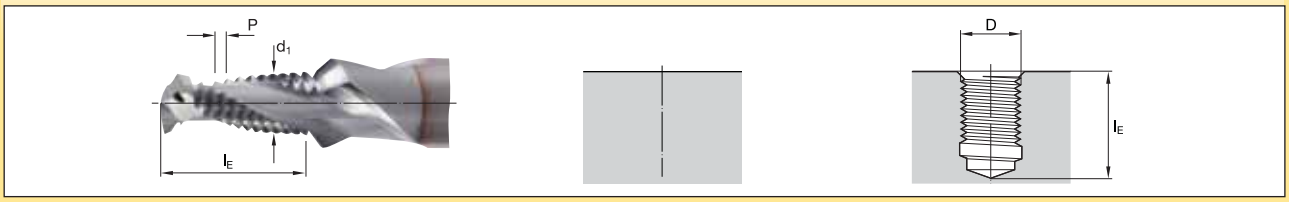
Drill Thread Mill TM731

Preparation	None
Process Principle	Drilling, countersinking, thread milling (climb milling)

Cycle



Required Specification Values



Example

Size — M10-6H
Thread diameter D 10mm
Pitch P 1,5mm
Core hole diameter D_1 .....8,5mm

Material — Grey cast iron

Grade — KCU32

Tool — TM731
Catalogue number TM731M100X150R2DHA
Number of teeth Z 2
Tool diameter d_1 .....8,2mm*
Tool radius compensation k [1] 0,1mm**
Tool radius to be programmed [2] 4mm***
Drilling/countersink depth l_E.....19,11mm
Cutting speed v_c.....250 m/min
Feed (drilling, countersinking) f_b .....0,25 mm/U
Feed (milling) f_z .....0,1 mm/tooth

*(measured on the cutting part) **(0,01 x D) ***(1/2 d_1 - k)

$N = \frac{V_c \cdot 1000}{d_1 \cdot \pi}$	S = 9709
$v_b = f_b \cdot n$	F = 2427 (drilling, countersinking)
$v_f = f_z \cdot Z \cdot n$	F = 1942 (contour)
$v_f = \frac{v_f \text{ contour} \cdot (D-d_1)}{D}$	F = 350 (centre point)

Program to DIN 66025 (climb milling, on the contour, incremental)

Positioning the tool	N 10	G 54	G 90	G 00	X…	Y…	Z 2	S 9709	T01 [2]	M03
Drilling and countersinking	N 20	G 91	G 01	Z-21.110	F 2427 (drill, countersink)					
Raise	N 30	G 01	Z 0.500							
Moving sideways to the starting point	N 40	G 41	Y-4.250	F 971 (milling, 1/2 contour)				[F 175] [3] (1/2 centre point)		
Run-in loop in arc	N 50	G 03	X 0	Y 9.250	Z 0.750	I 0	J 4.625			
Thread milling	N 60	G 03	X 0	Y 0	Z 1.500	I 0	J -5.000	F1942 [F 350] [3] (centre point)		
Run-out loop in arc	N 70	G 03	X 0	Y-9.250	Z 0.750	I 0	J- 4.625			
Exit	N 80	G 00	G 40	X 0	Y 4.250					
Retracting tool to positioning level	N 90	G 90	Z 2							

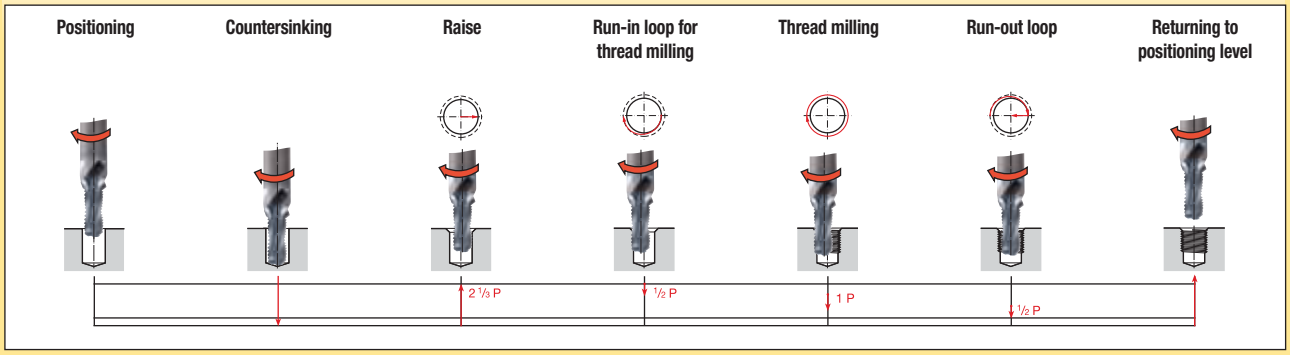
Cutting time t_h	**2,3 seconds**

NOTES:
[1] The cutter radius measured over the tooth crests of the threaded part must be reduced by the amount of the cutter radius compensation. This is necessary to achieve a depth of cut to the middle of the 6H/ISO2 nut tolerance. Please note, however, that this also depends on the radial deflection of the tool (tensile strength of the material, projecting length of the tool).
[2] The cutter radius to be programmed is normally included in the tool memory.
[3] The feed values in brackets must be used for controllers, which do not calculate the centre point feed themselves.

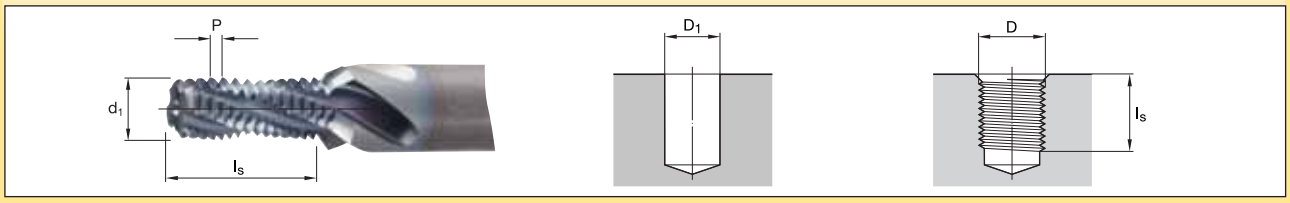
Thread Mill TM721

Preparation	Drilling of thread hole
Process Principle	Countersinking, thread milling (conventional milling)

Cycle



Required Specification Values



Example

Size — M10-6H
Thread diameter D 10mm
Pitch P 1,5mm
Core hole diameter D_1 .....8,5mm

Material — Cast aluminium

Grade — KCU32

Tool — TM721
Catalogue number TM721M100X150R2DHA
Number of teeth Z 3
Tool diameter d_1 .....8,2mm*
Tool radius compensation k [1] 0,1mm**
Tool radius to be programmed [2] 4mm***
Countersink depth l_s.....21,2mm
Cutting speed v_c.....250 m/min
Feed (countersinking) f_s.....0,3 mm/U
Feed (milling) f_z .....0,09 mm/tooth

*(measured on the cutting part) **(0,01 x D) ***(1/2 d_1 - k)

$N = \frac{V_c \cdot 1000}{d_1 \cdot \pi}$	S = 9709
$v_s = f_s \cdot n$	F = 2913 (countersinking)
$v_f = f_z \cdot Z \cdot n$	F = 2622 (contour)
$v_f = \frac{v_f \text{ contour} \cdot (D-d_1)}{D}$	F = 472 (centre point)

Program to DIN 66025 (conventional milling, on the contour, incremental)

Positioning the tool	N 10	G 54	G 90	G 00	X…	Y…	Z 2	S 9709	T01 [2]	M03
Advancing tool to full thread depth	N 20	G 91	Z-21.200							
Countersinking	N 30	G 01	Z-2	F 2913 (countersink)						
Raise	N 40	G 00	Z 3.450							
Moving sideways to the starting point	N 50	G 42	G01	X 4.250	F 1311 (milling, 1/2 contour)			[F 236] [3] (milling,1/2 centre point)		
Run-in loop in arc	N 60	G 02	X-9.25	Y 0.000	Z-0.750	I-4.625	J 0			
Thread milling	N 70	G 02	X 0	Y 0	Z-1.500	I 5	J 0.000	F2622 [F 472] [3] (centre point)		
Run-out loop in arc	N 80	G 02	X 9.25	Y 0.000	Z-0.750	I 4.625	J 0			
Exit	N 90	G 40	G 01	X-4.25						
Retracting tool to positioning level	N 100	G 90	G 00	Z 2						

Cutting time t_h	**1,4 seconds**

NOTES:
[1] The cutter radius measured over the tooth crests of the threaded part must be reduced by the amount of the cutter radius compensation. This is necessary to achieve a depth of cut to the middle of the 6H/ISO2 nut tolerance. Please note, however, that this also depends on the radial deflection of the tool (tensile strength of the material, projecting length of the tool).
[2] The cutter radius to be programmed is normally included in the tool memory.
[3] The feed values in brackets must be used for controllers, which do not calculate the centre point feed themselves.

Taps and Thread Milling Technical Information

The technical information in the following section can be used to assist you with your tapping and thread milling operations. Whether you are simply searching for information about tap dimensions and recommendations, or you're trying to solve basic tapping and thread milling problems, you will find the relevant data here.

This Section Includes the Following Information:

- Illustrations of tap terms.
- Explanations of tap chamfers.
- Dimensional information for various tap styles and lengths.
- Tap limitation data.
- Chip handling methods for different tap styles.
- Tap recommendations.
- Descriptions of screw thread tolerance and tolerance information.
- Information regarding surface treatments and coatings.
- Guidelines and tables for determining tapping speeds.
- Troubleshooting charts.
- Hardness conversion table.
- A guide to Kennametal tapping application icons.
- Taps custom order worksheet.
- Thread Milling application sheet.

This section will further your knowledge of tapping and thread milling operations enabling you to maximise the value of your tools.

How to Apply This Technical Information

Below is an example of where the technical information in this catalogue can be useful:

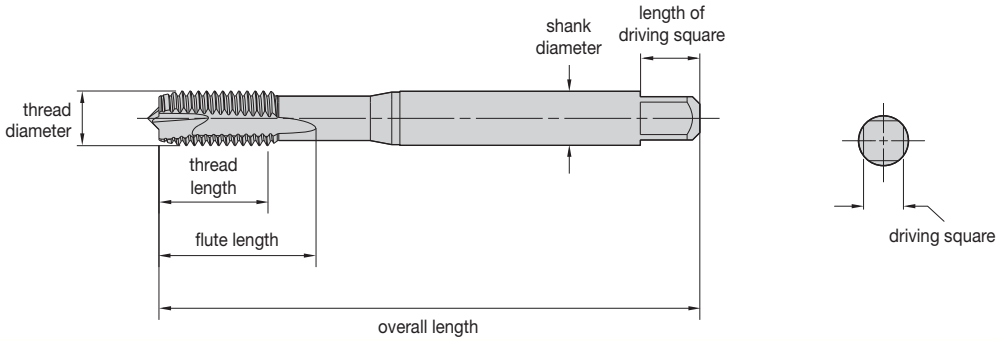
Problem

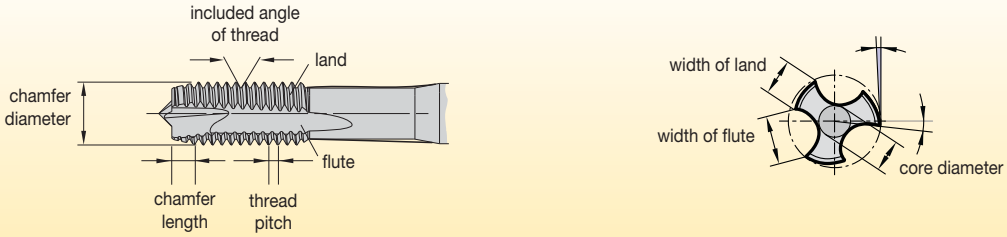
- Thread holes are oversized and taps are experiencing low life when working with stainless steel materials.

Solution

- Consult the troubleshooting portion of the Technical Information section to discover ways to correct the issue.

Definitions and Angles, Centres and Flute Forms





Flute Forms

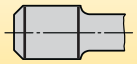
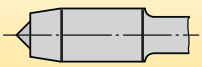
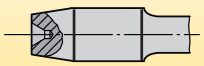
Straight flute, form C plug chamfer **without spiral point**

Right-hand spiral flute

Straight flute, form B plug chamfer **with spiral point**

Left-hand spiral flute

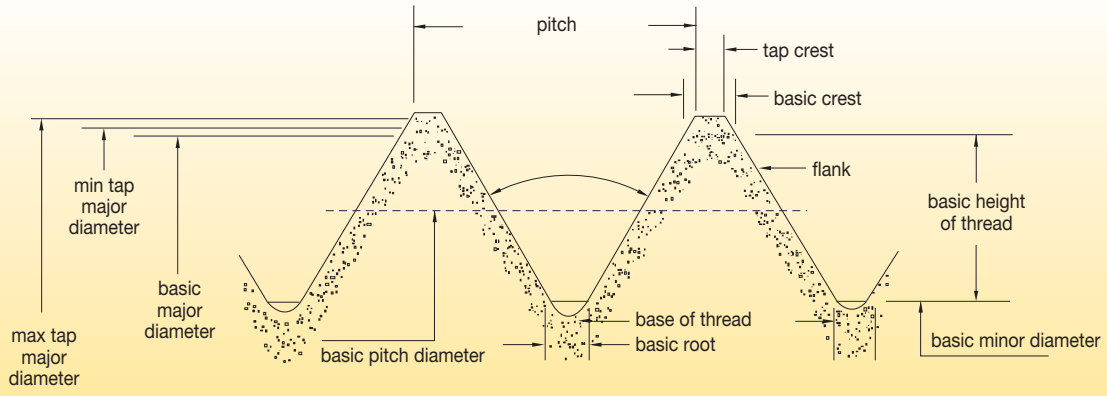
Types of Centres (Standard to DIN 2197/DIN 2175)

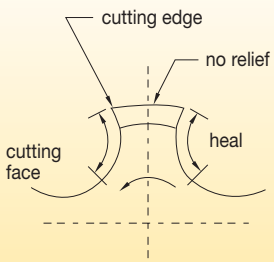
centre on thread section			
tap diameter range			
≤M10, 3/8 bottom or semi-bottom chamfer	≤M10, 3/8 plug chamfer	>M10, 3/8 all chamfers	
			
external centre removed	full external centre	partial external centre	internal centre

Coolant Hole Types

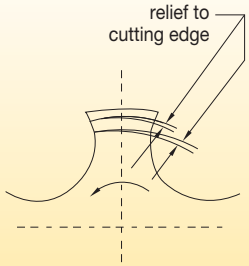
Axial coolant delivery with axial coolant exit hole

Axial coolant delivery with radial coolant hole exiting in the flutes

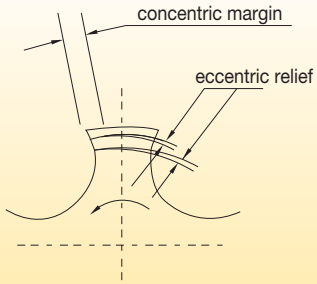




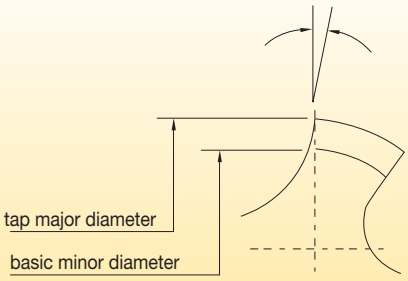
Concentric



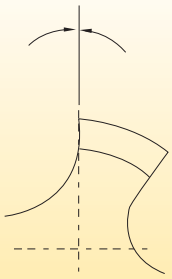
Eccentric Relief



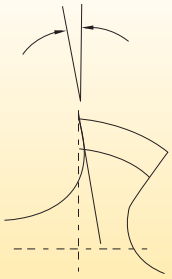
Con-Eccentric Relief



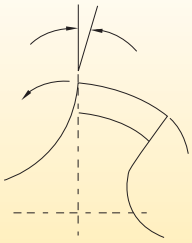
Negative Hook



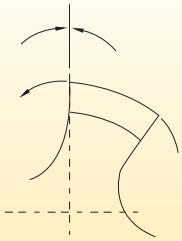
0º Hook



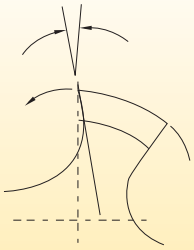
Positive Hook



Negative Rake



Radial Rake



Positive Rake

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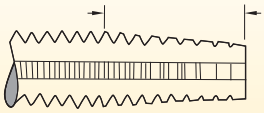
Tap Chamfers • DIN Taps

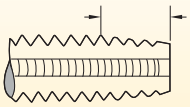
Taper Chamfer
7–10 Pitches



Form A (6–8 pitches)

The Form A chamfer has the longest standard chamfer ensuring easier starting. It provides the longest life because of more working teeth.

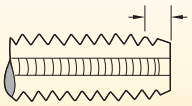
Plug Chamfer
3–5 Pitches



Form B/D (3,5–5 pitches)

The most common chamfers for use by hand or machine in through hole. Form B applies to spiral-point taps, and Form D applies to straight-flute and spiral-flute taps. This chamfer is more efficient than a Form E or Form C chamfers.

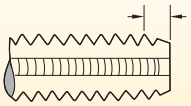
Semi-Bottoming Chamfer
2–3 Pitches



Form C (2–3 pitches)

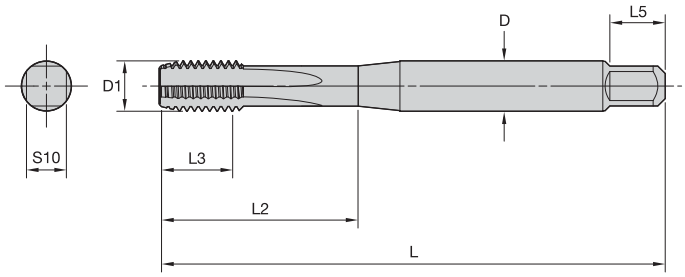
This short chamfer enables threading close to the bottom of blind holes. Due to the slightly longer chamfer and more working teeth, this chamfer is more efficient than a Form E chamfer.

Full Bottoming Chamfer
1–2 Pitches



Form E (2–3 pitches)

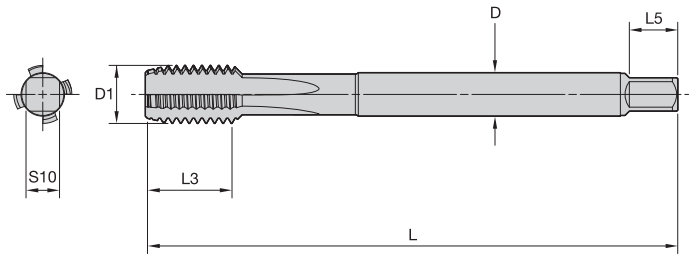
For threading close to the bottom of blind holes, the Form E chamfer is the least efficient chamfer available.



DIN 371

D1	pitch	D	L	L3*	L2	L5	S10
M3	0,5	3,5	56	11	18	6	2,7
M3,5	0,6	4	56	12	20	6	3
M4	0,7	4,5	63	13	21	6	3,4
M4,5	0,75	6	70	16	25	8	4,9
M5	0,8	6	70	16	25	8	4,9
M6	1	6	80	19	30	8	4,9
M7	1	7	80	19	30	8	5,5
M8	0,75	8	80	18	30	9	6,2
M8	1,25	8	90	22	35	9	6,2
M9	0,75	9	80	18	30	10	7
M9	1,25	9	90	22	35	10	7
M10	1	10	90	20	35	11	8
M10	1,5	10	100	24	39	11	8

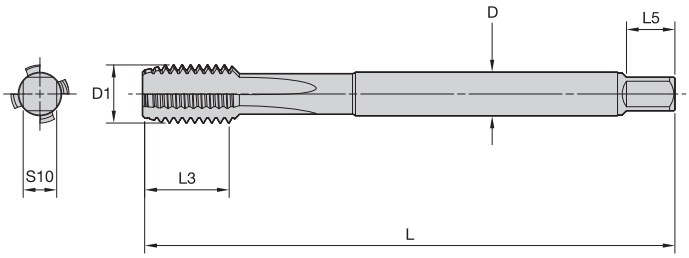
*Maximum



DIN 376

D1	pitch	D	L	L3*	L5	S10
M8	1,25	6	90	22	8	4,9
M9	1,25	7	90	22	8	5,5
M10	1,5	7	100	24	8	5,5
M11	1,5	8	100	24	9	6,2
M12	1,75	9	110	28	10	7
M14	2	11	110	30	12	9
M16	2	12	110	32	12	9
M18	2,5	14	125	34	14	11
M20	2,5	16	140	34	15	12
M22	2,5	18	140	34	17	14,5
M24	3	18	160	38	17	14,5
M27	3	20	160	38	19	16
M30	3,5	22	180	45	21	18
M33	3,5	25	180	50	23	20
M36	4	28	200	56	25	22
M39	4	32	200	60	27	24
M42	4,5	32	200	60	27	24
M45	4,5	36	220	65	32	29

*Maximum



DIN 374

D1	pitch minimum	pitch maximum	D	L	L3*	L5	S10
M8	0,2	0,75	6	80	18	8	4,9
M8	–	1	6	90	22	8	4,9
M9	0,2	0,75	7	80	18	8	5,5
M9	–	1	7	90	22	8	5,5
M10	0,2	1	7	90	20	8	5,5
M10	–	1,25	7	100	24	8	5,5
M11	0,35	1	8	90	20	9	6,2
M12	0,35	1,5	9	100	22	10	7
M14	0,35	1,5	11	100	22	12	9
M16	0,35	1,5	12	100	22	12	9
M16	–	2	12	110	32	12	9
M18	0,35	1,5	14	110	25	14	11
M18	–	2	14	125	34	14	11
M20	0,35	1,5	16	125	25	15	12
M20	–	2	16	140	34	15	12
M22	0,35	1,5	18	125	25	17	14,5
M22	–	2	18	140	34	17	14,5
M24	0,35	2	18	140	28	17	14,5
M27	0,35	2	20	140	28	19	16
M30	0,35	2	22	150	28	21	18
M30	–	3	22	180	45	21	18

*Maximum

Through Holes Push Chips

Spiral Point LHSF

- Spiral point or LHSF (Left-Hand Spiral Flute).
- Ideal for materials with long chips.

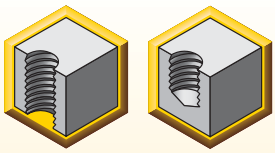
Blind Holes Pull Chips

RHSF

- RHSF (Right-Hand Spiral Flute).
- Ideal for materials with long chips.

Blind or Through Holes Store Chips

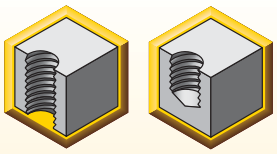
STFL



- STFL (Straight Flute).
- Ideal for materials with short chips.

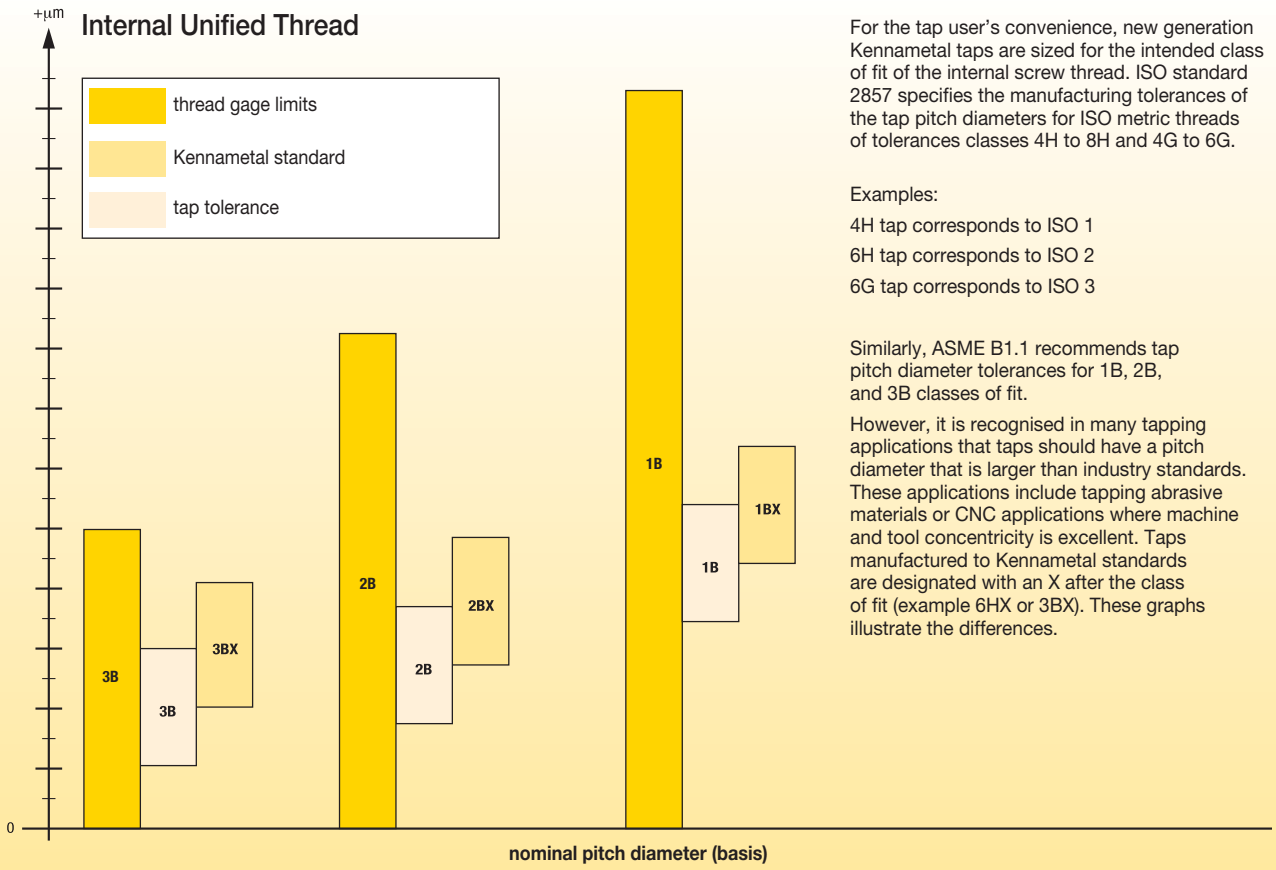
Blind or Through Holes No Chips

Forming



- Forming.
- Ideal for ductile materials <32 HRC.

Internal Unified Thread



For the tap user's convenience, new generation Kennametal taps are sized for the intended class of fit of the internal screw thread. ISO standard 2857 specifies the manufacturing tolerances of the tap pitch diameters for ISO metric threads of tolerances classes 4H to 8H and 4G to 6G.

Examples:

4H tap corresponds to ISO 1

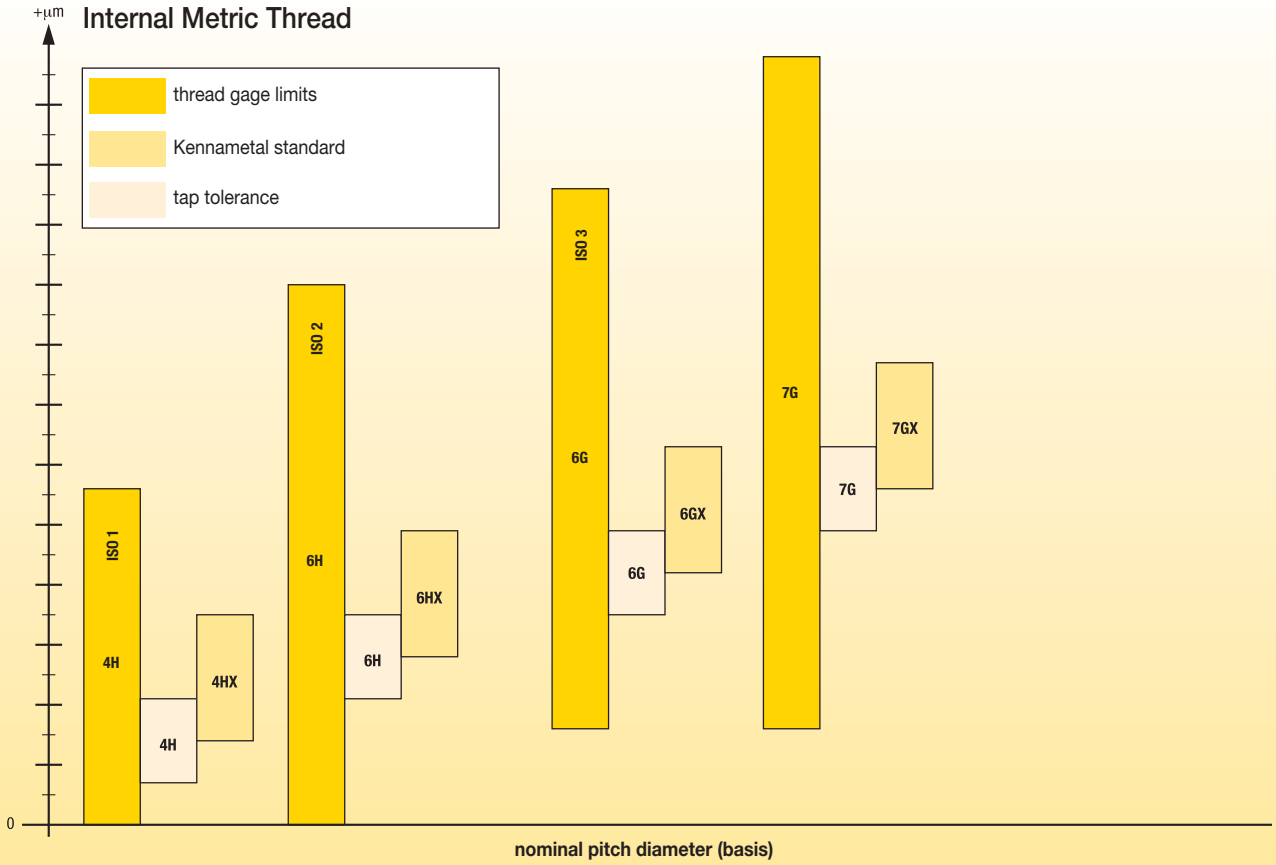
6H tap corresponds to ISO 2

6G tap corresponds to ISO 3

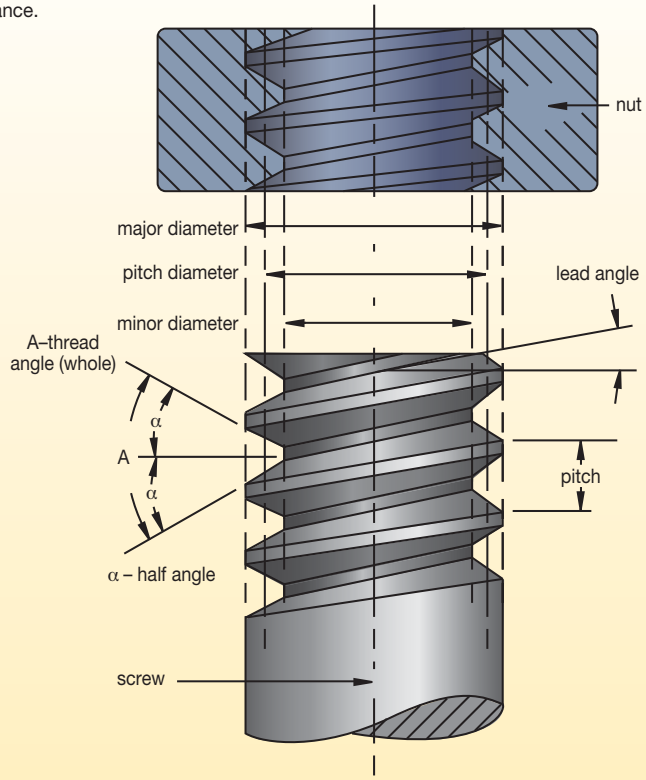
Similarly, ASME B1.1 recommends tap pitch diameter tolerances for 1B, 2B, and 3B classes of fit.

However, it is recognised in many tapping applications that taps should have a pitch diameter that is larger than industry standards. These applications include tapping abrasive materials or CNC applications where machine and tool concentricity is excellent. Taps manufactured to Kennametal standards are designated with an X after the class of fit (example 6HX or 3BX). These graphs illustrate the differences.

Internal Metric Thread



It is generally recognised that, in mass production, it is impossible to reproduce in exact detail the theoretically perfect product as laid out on the drawing board. The allowed slight variation between the theoretically perfect product drawing and each unit of the actual product is called the tolerance.



Allowance

An intentional difference in correlated dimensions of mating parts. It is the minimum clearance or maximum interference between such parts.

Angle of Thread

The angle included between the flanks of the thread measured in an axial plane

Half Angle of Thread

The angle included between a flank of the thread and the normal (90°) to the axis, measured in an axial plane.

Lead of Thread

The distance a screw thread advances axially in one turn. On a single-thread screw, the lead and pitch are identical. On a double thread, the lead is 2x pitch; on a triple thread, the lead is 3x pitch, etc.

Major Diameter

The largest diameter of a straight-screw thread.

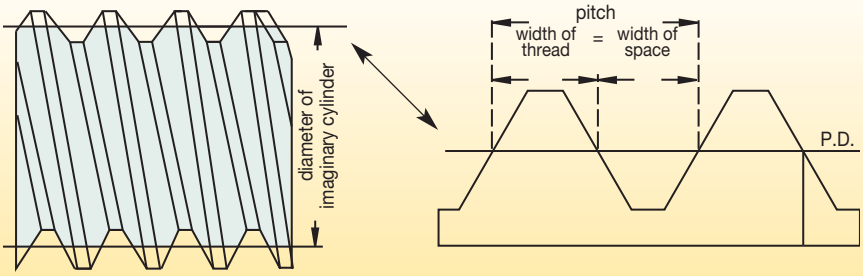
Minor Diameter

The smallest diameter of a straight-screw thread.

Pitch

The distance from a point on a screw thread to a corresponding point on the next thread measured parallel to the axis.

The pitch in inches = $\frac{1}{\text{number of threads per inch}}$



Pitch Diameter

On a straight-screw thread, the diameter of an imaginary cylinder that would pass through the threads at such points as to make equal the width of the threads and the width of the spaces cut by the surface of the cylinder.

More than just the right tool • the ultimate solution.

That's **Beyond BLAST.**™
That's **Different Thinking.**

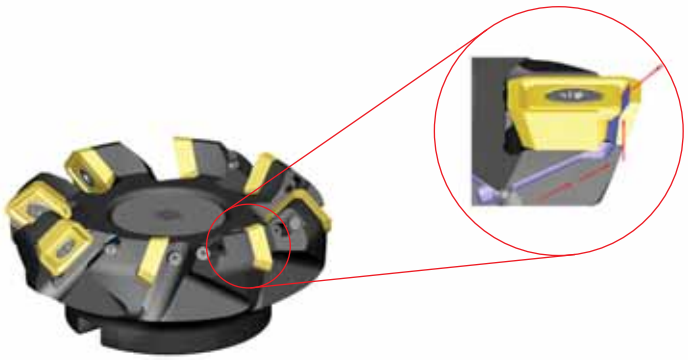
At Kennametal, innovation follows vision. Our revolutionary products and services are inspired by asking "what if?" The solutions that follow — like our Beyond BLAST through-coolant inserts — deliver remarkable results in the world's most demanding machining environments.

A cutting-edge insert that delivers coolant precisely at the cutting edge. Now that's Different Thinking. That's Kennametal.

To learn more about your productivity gains using Beyond BLAST technology, visit www.kennametal.com.

Milling

- Beyond BLAST technology uses low-pressure conditions to offer many of the high-pressure performance benefits.
- Delivers superior performance on titanium, using either high- or low-pressure coolant systems.
- Effective thermal management results in reduced cutting temperatures, improved lubricity, superior chip control, and longer tool life.
- Beyond BLAST for milling increases tool life by up to 100% compared with conventional coolant delivery systems.



beyond™ BLAST™

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KENNAMETAL®

L107

Factors when trying to determine the best tapping speeds:

- Material to be tapped
- Length of chamfer on tap
- Percentage of full thread to be cut
- Length of hole (depth of thread)
- Pitch of thread
- Cutting fluids
- Machine equipment
- Horizontal or vertical tapping

The best and most efficient operating speeds for taps cannot be calculated with the same certainty, as for many other metalcutting tools.

With other tools, the feed per revolution can be set at any desired point and can be varied as conditions demand. Taps, on the other hand, must always be advanced at a rate equal to one pitch for every revolution, or one lead in the case of multistart threads.

The style of tap may vary the conditions. For example, with a bottoming tap, the chamfer cuts a heavy chip, while with a taper tap, the chamfer cuts a very thin chip.

The depth of thread also varies, depending on the pitch. The coarser the thread, the greater the advance of the tap per revolution and the greater the amount of material removed.

The method of feeding the tap, and the type of equipment for driving, also influences the permissible speeds. If taps are mechanically fed at the proper rate of advance, they can be operated at higher speeds than if used with flexible tapping holders on machines with poor feed control.

Speeds may be modified to take into account any or all of these factors:

- Speeds must be lowered as length of thread increases because, in deep thread holes, the accumulated chips increase friction and interfere with lubrication.
- Bottoming taps must be run slower than plug taps.
- Tapping full height of thread calls for slower speed than if the commercial 75% height only is required.
- Coarse-thread taps in the larger diameters should be run more slowly than fine-thread taps of the same diameters.
- The quantity and quality of cutting fluid may affect the permissible speeds as much as 100%.
- Taper threaded taps, such as pipe taps, should be operated from 1/2–3/4 the speed of a straight thread tap of comparable major diameter.
- Increase the speed of coolant taps up to 25%.

RPM Formulas

SFM = Surface Feet per Minute

RPM = Revolutions per Minute

IPM = Inches per Minute

TPI = Threads per Inch

S m/min = Surface Metres per Minute

$\Pi = 3.1416$

mm/min = millimetres per minute

P = Pitch (1/number of threads per inch)

Inch Sizes

$$SFM = \frac{RPM \times \text{tool diameter}}{3.82} \quad \text{or} \quad 0.26 \times RPM \times \text{tool diameter}$$

$$RPM = \frac{3.82 \times SFM}{\text{tool diameter}}$$

$$IPM = \frac{RPM}{TPI^*} \quad \text{or} \quad {}^*P \times RPM$$

Metric Sizes

$$S\ m/min = \frac{\Pi \times \text{tool diameter} \times RPM}{1000}$$

$$RPM = \frac{mm/min \times 1000}{\Pi \times \text{tool diameter}}$$

$$mm/min = mm\ P \times RPM$$

Metric

	Vc = metres per minute (m/min)																	
	1,5	**3**	**4,5**	**6**	**7,5**	**10**	**12**	**15**	**18**	**21**	**24**	**27**	**30**	**33**	**36**	**39**	**42**	**45**
metric taps	**revolutions per minute (RPM)**																	
M1	490	979	1469	1959	2449	2938	3918	4897	5877	6856	7836	8815	9795	10774	11754	12733	13713	14692
M2	242	484	725	967	1209	1451	1934	2418	2901	3385	3868	4352	4835	5319	5803	6286	6770	7253
M3	162	324	486	347	809	971	1295	1619	1942	2266	2590	2914	3237	3561	3885	4208	4532	4856
M3.5	138	277	415	554	692	830	1107	1384	1661	1938	2214	1491	2768	3045	3322	3599	3875	4152
M4	122	243	365	487	608	730	973	1217	1460	1703	1946	2190	2433	2676	2920	3163	3406	3650
M5	97	194	291	388	485	582	776	970	1163	1357	1551	1745	1939	2133	2327	2521	2715	2905
M6	81	162	243	324	405	486	647	809	971	1133	1295	1457	1619	1781	1942	2104	2266	2428
M7	69	138	208	277	346	415	554	692	830	969	1107	1246	1384	1522	1661	1799	1938	2076
M8	61	121	182	243	303	364	485	606	728	849	970	1091	1213	1334	1455	1577	1698	1819
M10	48	97	145	194	242	291	388	485	582	679	776	873	970	1067	1163	1260	1357	1454
M12	40	81	121	162	202	243	324	405	486	567	647	728	809	890	971	1052	1133	1214
M14	35	69	104	139	173	208	277	347	416	485	555	624	693	763	832	901	971	1040
M16	30	61	91	121	152	182	243	303	364	424	485	546	606	667	728	788	849	910
M18	27	54	81	108	135	162	216	269	323	377	431	485	539	593	647	700	754	808
M20	24	49	73	97	121	146	194	243	291	340	388	437	485	534	582	631	680	728
M22	22	44	66	88	110	132	176	221	265	309	353	397	441	485	529	573	618	662
M24	20	40	61	81	101	121	162	202	243	283	323	364	404	445	485	526	566	606
M27	18	36	54	72	90	108	144	180	216	252	287	323	359	395	431	467	503	539
M30	16	32	49	65	81	97	129	162	194	226	259	291	323	356	388	420	453	485

Partial List of Solutions to Tapping Problems

application	symptom	common cause	remedy
general	gage out of limits	tap size and gage mismatch	select tap size for gage
	oversize thread	alignment, spindle feed	correct
	oversize at top	runout or alignment	correct
	go gage binds part way	worn tool, tap cuts off lead	replace tap, synchronous holder
	thread shaving	feed error, high axial force	program, synchronous holder
	chipping	high cutting force, worn tap	tap geometry, replace tap
	breakage	chip jamming flutes	tap geometry, tapping depth
	–	worn tool, high torque	replace tap with new tool
	short life, low speed	excessive wear	SC or HSS-E-PM HP taps
steel	birdnest blind hole	long, ductile chips	GT30 GP6505 (oxide), peck feed
	chipping	high material hardness	GT00, GT02 WP31MG (TiN)
	breakage in blind holes	hole depth >2D, chip jamming	GT04 WH36MG (TiN/MoS_2)
stainless steel	oversize thread, low life	galling	GT20, GT30 GM6515 (TiN-CrC/C)
	short life	work hardened core hole	replace drill
cast iron	excessive wear	abrasion	GT40 GP6520 (TiCN)
aluminium, cast	excessive wear	high silicon	GT40 GP6520 (TiCN)
aluminium, wrought	oversize thread	galling	GT70, GT80 WN48EG (DLC)
nickel, cobalt alloys	short life	high cutting temperature	GT10, GT12 WS32MG (TiCN)
titanium	short life	high cutting temperature	GT14, GT16 WN35MG (TiN-DLC)

Thread Mills

	vibration marks	major crest wear	edge chipping	cone shaped thread	entry marks
cutting speed	check	reduce	–	–	–
feed per tooth	check	increase	reduce	–	–
workpiece clamping	improve	improve	improve	–	improve
machine tool stability	improve	improve	improve	–	improve
cantilever arm	shorten	shorten	–	–	shorten
helix angle	increase	reduce	–	–	–
radial runout	check	check	–	–	–
coating	–	improve	improve	–	–
milling operation	–	climb mill	climb mill	climb mill	–
line feed/ entry ramp	check	check	–	–	improve
coolant pressure	–	check (>20 bar, 290 psi)	check (>20 bar, 290 psi)	–	–

Tap Custom-Order Worksheet

Use this Custom-Order Worksheet to modify an existing product to meet your specifications. If your custom requirements do not fall into these categories, simply contact your Kennametal Distributor.

Trust our experienced distributors and Kennametal engineering team to design the best solution for you.

1. Start with the standard product most similar to your specifications:

catalogue number _____ **grade/coating** _____

2. Type of tap needed:

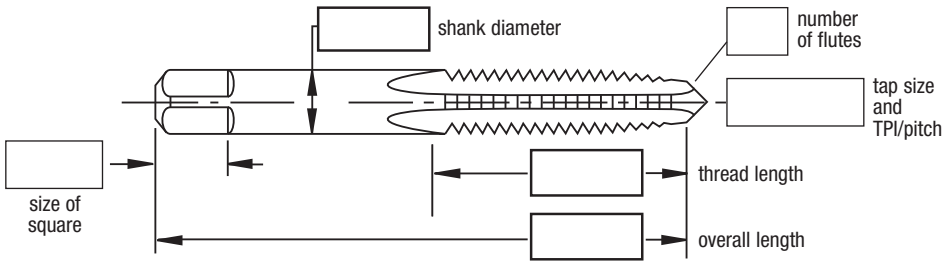
☐ solid carbide ☐ high performance HSS ☐ general purpose ☐ spiral point
☐ hand ☐ forming ☐ spiral flute
_____ pipe (and style) _____ other

3. Direction of cut (circle one)**:** left hand right hand

4. Material overview:

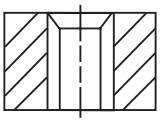
☐ ANSI ☐ DIN ☐ JIS ☐ other

5. Desired dimension:

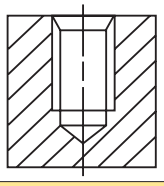


6. Choose one:

through hole:
hole diameter _____
hole depth _____



blind hole:
hole diameter _____
hole depth _____



7. Chamfer:

☐ taper: 7–10 pitch ☐ plug: 3–5 pitch ☐ semi-bottom: 2–3 pitch ☐ bottom: 1–2 pitch

8. Class of fit: **H limit** _____ **metric D limit** _____ **diameter pitch limit** _____

9. Workpiece material: _____

10. Hardness: _____

11. Number of taps required: _____

12. Price
Contact your Authorised Kennametal Distributor partners.

13. Other comments or special characteristics:

customer company name	**date**
address	**phone number**
city, state, zip	**fax number**
customer contact	**customer email address**
sales representative	

Application Sheet for Thread Milling

Test form thread data:	**Date:**

Customer Data

Company:	Department:
Street:	Position:
Postal code:	Telephone:
City:	Fax:
Country:	E-mail:

Tool Data

Engaged Kennametal tool:	Tool life:
Competitive tool:	

Workpiece Data

Thread size:			Name of workpiece:
Class of fit:			Picture, sketch...
Thread depth:		mm	
Thread type:	☐ Through hole	☐ Blind hole	
Drill hole ø:		mm	
Depth of drill hole:		mm	
Type of drilled hole:	☐ Drilled	☐ No hole	
Material:			
Hardness:			

Machine Data

Manufacturer:			Description:		
CNC-machine type:	☐ Turning machine	☐ Milling machine	Working direction:	☐ Horizontal	☐ Vertical
Control type:	☐ DIN	☐ Heidenhain	Coolant:	☐ Emulsion ☐ Compressed air	☐ MQL ☐ Dry
Coolant supply type:	☐ Internal	☐ External	Coolant pressure:		☐ Bar
Revolutions max:		☐ 1/min	Spindle power:		kW
Clamping device:	☐ Weldon® ☐ Shrinking	☐ Collet ☐ Hydraulic expansion			

Cutting Conditions

Cutting speed vc:		m/min	Revolutions:		1/min
Feed fz:		mm/tooth	Programmed feed:		mm/min
Milling direction	☐ Climb milling	☐ Down milling	Type of feed:	☐ Feed on contour	☐ Feed on center
Allocated cut over depth of thread:	☐ Yes	☐ No	Allocated cut over profile:	☐ By depth of profile	☐ By thread depth
Number of cuts:			Number of cuts:		

Knowing the hardness of the work material to be tapped is essential in selecting the best tap for the job.

10 mm/min ball 3000 kg	120° cone 150 kg	1/16" ball 100 kg	model C	1000 lb per sq. in.	10 mm/min ball 3000 kg	120° cone 150 kg	1/16" ball 100 kg	model C	1000 lb per sq. in.
Brinell	Rockwell C	Rockwell B	Shore Scleroscope	tensile strength	Brinell	Rockwell C	Rockwell B	Shore Scleroscope	tensile strength
800	72	—	100	—	276	30	105	42	136
780	71	—	99	—	269	29	104	41	132
760	70	—	98	—	261	28	103	40	129
745	68	—	97	367	258	27	102	39	127
725	67	—	96	357	255	26	102	39	125
712	66	—	95	350	249	25	101	38	123
682	65	—	93	337	245	24	100	37	119
668	64	—	91	326	240	23	99	36	117
652	63	—	89	318	237	23	99	35	115
626	62	—	87	306	229	22	98	34	113
614	61	—	85	299	224	21	97	33	110
601	60	—	83	292	217	20	96	33	107
590	59	—	81	290	211	19	95	32	104
576	57	—	79	281	206	18	94	32	102
552	56	—	76	270	203	17	94	31	100
545	55	—	75	268	200	16	93	31	98
529	54	—	74	259	196	15	92	30	96
514	53	120	72	254	191	14	92	30	94
502	52	119	70	247	187	13	91	29	92
495	51	119	69	244	185	12	91	29	91
477	49	118	67	233	183	11	90	28	90
461	48	117	66	227	180	10	89	28	89
451	47	117	65	223	175	9	88	27	86
444	46	116	64	219	170	7	87	27	84
427	46	115	62	209	167	6	87	27	82
415	44	115	60	204	165	5	86	26	81
401	43	114	58	196	163	4	85	26	80
388	42	114	57	191	160	3	84	25	78
375	41	113	55	184	156	2	83	25	76
370	40	112	54	182	154	1	82	25	75
362	39	111	53	179	152	—	82	24	74
351	38	111	51	173	150	—	81	24	74
346	37	110	50	170	147	—	80	24	72
341	37	110	49	168	145	—	79	23	71
331	36	109	47	163	143	—	79	23	70
323	35	109	46	158	141	—	78	23	69
311	34	108	46	153	140	—	77	22	69
301	33	107	45	148	135	—	75	22	67
293	32	106	44	144	130	—	72	22	65
285	31	105	43	140	—	—	—	—	—

Application Icons

Countersinking/ Stroke Chamfering	Drilling: Flat Bottom	Drilling: Blind	Tapping: Through Hole	Tapping: Blind Hole
Tapping: Pipe Thread	HSS: High-Speed Steel	HSS-E: High-Speed Steel with Cobalt Alloy for Materials with Higher Hardness	HSS-E-PM: High-Speed Steel with Cobalt Alloy for Materials with Higher Hardness (PM = Powder Metal Steel)	HM: (Carbide)
Drilling Depth: 2x	Threading: Through Hole	Threading: Blind Hole		

Geometry Icons

Corner Style: Ball Nose	Shank: Cylindrical Plain	Shank: Cylindrical with Square	Square Shank: L = 4"	Square Shank: L = 6"
Square Shank: L = 8"	Square Shank: L = 10"	Chamfer Form A (6–8)	Chamfer Form B (3–5)	Chamfer Form: (3–4)
Chamfer Form C (2–3)	Chamfer Form D (3,5–5)	Chamfer Form E (1,5–2)	Chamfer Form: (2,5–3,5)	Chamfer Form: (4–6)
Chamfer Form: (1–2)	Tapping Helix Angle: 0°	Tapping Helix Angle: L8°	Tapping Helix Angle: 10°	Tapping Helix Angle: 15°
Tapping Helix Angle: L15°	Tapping Helix Angle: 25°	Tapping Helix Angle: 30°	Tapping Helix Angle: 42°	Tapping Helix Angle: 45°
Tapping Helix Angle: 49°				

Feature Icons

DIN 371 — DIN Number 371	DIN 374 — DIN Number 374	DIN 376 — DIN Number 376	DIN 2174 — DIN Number 2174	Tapping: Through Coolant
Flood Coolant: Tapping	Coolant: Through Coolant	Through Coolant: Axial: Tapping	2B — Class of Fit: 2B	3B — Class of Fit: 3B
6H — Class of Fit: 6H	6HX — Class of Fit: 6HX	2BX — Class of Fit: 2BX	3BX — Class of Fit: 3BX	NPT — American Tapered Pipe Thread for Threads **with Dryseal Material**
NPTF — American Tapered Pipe Thread for Threads **without Dryseal Material**	ANSI — American National Standards Institute	NPS — American Standard Straight Pipe Threads	NPSF — American Standard Straight Pipe Threads Dryseal	BSPF — British Standard Pipe Fitting Thread
BSPT — British Standard Pipe Taper Thread	G — Whitworth Pipe Thread	Rp — Cylindrical Whitworth Pipe Thread	Rc — Tapered Whitworth Pipe Thread	UNF — Unified Fine Thread
UNC — Unified Coarse Thread	M — ISO Metric Coarse Thread	MF — ISO Metric Fine Thread		

DIN — German Institute for Standardisation

ANSI — American National Standards Institute

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Tool Selection Guide **M2–M7**

Grades and Grade Descriptions **M8–M9**

High-Performance Solid Carbide End Mills **M10–M110**

HARVI — Titanium, Stainless Steel and Steel M10–M25

KenFeed — High-Feed Machining M26–M30

Hard Steel Machining M31–M49

Aluminium Machining M50–M64

CFRP Machining M65–M71

Micro Machining M72–M83

Finishing Applications M84–M95

Roughing Applications M96–M110

General Application Solid Carbide End Mills **M111–M143**

KENNAMETAL

Solid End Milling

beyond *Beyond™ grade.		series	D1 diameter (mm)	length of cut	flute Z	helix	internal coolant
HARVI I™*		F4AS...DL	4–25	1,8–3 x D1	ZU=4	38°	
HARVI I*		F4AS..WM-WX-WL	6–25	1,5 x D1	ZU=4	38°	
HARVI I Chipbreaker*		F4BS..WM-WX-WL	6–25	1,5 x D1	ZU=4	38°	
HARVI I Ball Nose*		F4AW..WL-WX	6–16	1 x D1	ZU=4	38°	
HARVI II™*		UCDE	4–25	1,8–2,7 x D1	ZU=5	38°	
HARVI II		UDDE	6–25	1,8–2,2 x D1	ZU=5	38°	
HARVI II		UGDE	6–25	3–5 x D1	ZU=5	43°	
KenFeed™		KHDA	6–20	—	ZU=6	20°	
KenFeed		KMDA	6–20	—	ZU=6	20°	
Hard Steels		F2AT...WM-WL-WX	2–12	1 x D1	ZU=2	20°	
Hard Steels		F4AT... WS-WM-WL-WX	4–12	0,5 x D1	ZU=4	20°	
Hard Steels		F4AJ-F5AJ... WS-WM-WL-WX	6–25	1,5 x D1	ZU=X	50°	
Hard Steels		F4AJ-F5AJ-F6AJ WS-WL-WX	6–25	1,5 x D1	ZU=X	50°	
Hard Steels		F6AV-F8AV...DL	6–25	2,2–3 x D1	ZU=X	45°	
Hard Steels Ball Nose		F2AL...WL-WM-WX	2–12	—	ZU=2	20°	
Hard Steels Ball Nose		F2AL...WL-WM	1–16	—	ZU=2	30°	
Hard Steels Ball Nose		F2AL...WL-WM-WX	6–16	—	ZU=2	30°	
Hard Steels Ball Nose		F2AB...WL-WM-WX	3–10	—	ZU=2	30°	
Hard Steels Ball Nose		F4AL...WL-WM-WX	3–10	—	ZU=4	30°	
Aluminium MaxiMet™		ABDF	1,5–20	1,9–4 x D1	ZU=2	45°	
Aluminium MaxiMet		ABDE	3–20	1,9–4 x D1	ZU=3	38°	
Aluminium MaxiMet		ABDE	6–20	1,5 x D1	ZU=3	38°	
Aluminium		F2AA...DL	4–20	1,6–2 x D1	ZU=2	45°	
Aluminium		F2AA...WM-WL-WX	6–25	1,5 x D1	ZU=2	45°	
Aluminium		F3AA... WS-WM-WL-WX	3–20	1,9–4 x D1	ZU=3	45°	

					shank	centre cutting	neck	P	M	K	N	S	H						product page(s)	cutting data page(s)
		✓				✓		●	●	●			○	✓	✓	✓	✓		M11	M22
			✓			✓	✓	●	●	●			○	✓	✓	✓	✓		M12	M22
			✓			✓	✓	●	●	●			○	✓	✓	✓	✓		M13	M23
				✓		✓	✓	●	●	●			○	✓	✓			✓	M14	M23
	✓		✓					●	●	●			○	✓	✓	✓			M15	M24
	✓		✓				✓	●	●	●		●		✓	✓	✓			M16–M17	M24
			✓					●	●	○		●	○	✓					M18–M19	M25
✓							✓						●			✓		✓	M28	M30
✓							✓	○					●			✓		✓	M29	M30
✓						✓	✓	●					●	✓	✓			✓	M32	M42
✓						✓	✓	●					●	✓	✓	✓		✓	M33	M42
			✓			✓		●					●	✓	✓				M34	M43
	✓					✓		●					●	✓	✓				M35	M43
			✓			✓		●					●	✓					M36	M45
				✓		✓	✓	●					●	✓	✓			✓	M37	M44
				✓		✓		●					●	✓	✓			✓	M38	M46
				✓		✓	✓	●					●	✓	✓			✓	M39	M47
				✓		✓	✓	●					●	✓				✓	M40	M48
				✓		✓	✓	●					●	✓				✓	M41	M49
	✓					✓					●			✓	✓	✓	✓		M51	M62
	✓					✓					●			✓	✓	✓	✓		M52	M62
			✓			✓	✓				●			✓	✓	✓	✓		M53	M62
	✓					✓					●			✓	✓	✓	✓		M54	M62
			✓			✓	✓				●			✓	✓	✓	✓		M55	M63
	✓					✓					●			✓	✓	✓	✓		M56	M63

● first choice
○ alternate choice

KENNAMETAL

Solid End Milling

beyond *Beyond™ grade.		series	D1 diameter (mm)	length of cut	flute Z	helix	internal coolant
Aluminium		F3AA... WS-WM-WL-WX	6–25	1,5 x D1	ZU=3	45°	
Aluminium		F3BA... WS-WM-WL-WX	6–25	1,8–2,1 x D1	ZU=3	40°	
Aluminium		F3BA... WS-WM-WL-WX	8–25	1,8–2 x D1	ZU=3	40°	
Aluminium		F3BA...DL	6–20	1,2 x D1	ZU=3	40°	
CFRP*		CCNC	6–12	3 x D1	ZU=X	25°	
CFRP*		CDDC	6–12	3 x D1	ZU=6	25°	
CFRP*		CBDB	6–12	3 x D1	ZU=X	15°	
CFRP*		CRBD	10–12	—	ZU=4	30°	
Micro		F2AH...WS-WM	0,3–2,5	—	ZU=2	30°	
Micro		F2AH...WS	0,4–3	—	ZU=2	30°	
Micro		F3AH...WS	0,4–3	—	ZU=3	30°	
Micro		F2AL...WS	0,5–3	—	ZU=2	30°	
Micro		F2AL...WS	0,3–6	—	ZU=2	30°	
Micro		F2AL...WM	0,5–4	—	ZU=2	30°	
HP Finisher		F2AU...DK	1,8–19,7	1 x D1	ZU=2	38°	
HP Finisher		F3AU...DK	2,8–19,7	1–1,3 x D1	ZU=3	38°	
HP Finisher*		F3AS...DK	3–20	1–1,3 x D1	ZU=3	35°	
HP Finisher		F3AJ...DL	6–20	1,9–2,1 x D1	ZU=3	60°	
HP Finisher*		F3AW...WL-WX	6–16	—	ZU=3	35°	
HP Finisher*		F8AJ-F10AJ...DK	8–20	1 x D1	ZU=X	45°	
HP Finisher*		F6AJ-F8AJ...DL	6–25	2–3 x D1	ZU=X	45°	
HP Rougher*		F3BH...DL	4–25	1,8–2 x D1	ZU=3	30°	
HP Rougher*		F3BS..DK-DL	6–20	1–1,6 x D1	ZU=3	35°	
HP Rougher*		F4BJ...DL	6–20	1,9–2,2 x D1	ZU=4	30°	

					shank	centre cutting	neck	P	M	K	N	S	H						product page(s)	cutting data page(s)
			✓			✓	✓				●			✓	✓	✓	✓		M57	M63
			✓			✓					●			✓	✓	✓	✓		M58	M64
			✓			✓					●			✓	✓	✓	✓		M59	M64
			✓			✓	✓				●			✓	✓	✓	✓		M60	M64
		✓									●			✓		✓	✓		M66	M70
		✓				✓					●			✓	✓	✓	✓		M67	M70
		✓									●			✓	✓	✓			M68	M70
				✓		✓					●							✓	M69	M71
	✓					✓	✓	●		●			●	✓	✓	✓			M73	M79
	✓					✓	✓	●	●	●	●	●	●		✓	✓			M74	M79
	✓					✓	✓	●	●	●	●			✓	✓	✓			M75	M80
				✓		✓	✓	●					●	✓				✓	M76	M81
				✓				●					●	✓				✓	M77	M82
				✓		✓	✓	●					●	✓				✓	M78	M83
			✓			✓	✓	●	●	●		●	○	✓	✓		✓		M85	M92
			✓			✓		●	●	●		●	○	✓	✓		✓		M86	M92
			✓			✓		●	●	●			○	✓	✓	✓	✓		M87	M93
	✓					✓		●	●	●	○	●	○	✓					M88	M93
				✓		✓	✓	●	●	●			○	✓	✓		✓		M89	M94
			✓			✓	✓	●	●	●			○	✓					M90	M94
		✓						●	●	●			○	✓					M91	M95
		✓				✓		●	●	●				✓	✓	✓	✓		M97	M106
			✓			✓		●	●	●			○	✓	✓	✓	✓		M98	M106
		✓				✓		●	●	○			○	✓	✓	✓	✓		M99	M107

● first choice
○ alternate choice

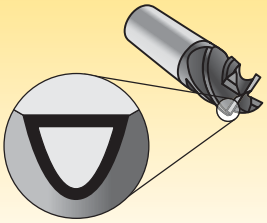
KENNAMETAL

beyond *Beyond™ grade.		series	D1 diameter (mm)	length of cut	flute Z	helix	internal coolant
HP Rougher		F3BT-F4BT-F6BT... WM-WL-WX	4–25	1 x D1	ZU=X	45°	
HP Rougher		F4BJ-F6BJ...DL	6–12	1 x D1	ZU=X	45°	
HP Rougher*		F4BJ-F6BJ...DL	6–25	1,8–2,1 x D1	ZU=X	45°	
HP Rougher*		F3BH-F4BJ-F5BJ... WS-WM-WL-WX	4–25	1,8–2,7 x D1	ZU=X	20°	
HP Rougher*		F3BH-F4BJ... WS-WM-WL-WX	8–20	1,3–1,9 x D1	ZU=X	20°	
HP Rougher*		F3BL...WS-WM	6–8	—	ZU=X	20°	
GP		F2AH...DN	4–20	1,6–2 x D1	ZU=2	30°	
GP		F2AH...DK	2–20	1,5 x D1	ZU=2	30°	
GP		F2AH... WS-WM-WL-WX	3–20	3,3–6,6 x D1	ZU=2	30°	
GOmill™		UEDE	2–12	1,2–2 x D1	ZU=3	38°	
GP		F3AH...DN	4–20	1,6–2 x D1	ZU=3	30°	
GP		F3AH...DL/DK	2,5–25	1,2–1,8 x D1	ZU=3	30°	
GP		F3AH...DK	2–20	1,5 x D1	ZU=3	45°	
GOmill		UEDE	4–12	1,2–1,7 x D1	ZU=4	38°	
GP		F4AJ...DN	4–20	1,9–2,7 x D1	ZU=4	30°	
GP		F4AJ...DK	2–20	1,9–2 x D1	ZU=4	30°	
GP		F4AJ...WM-WL-WX	3–20	3,3–6,7 x D1	ZU=4	30°	
GOmill		UEBC	2–12	1,2–2 x D1	ZU=2	30°	
GP		F2AL...DN	2–20	1,6–3 x D1	ZU=2	30°	
GP		F2AL...DL	2–20	1,6–3 x D1	ZU=2	30°	
GP		F2AL...WM-WL-WX	3–12	3,7–6,7 x D1	ZU=2	30°	
GOmill		UEBE	2–12	1,2–2 x D1	ZU=3	38°	
GP		F4AL...DN	2–20	1,9–3,5 x D1	ZU=4	30°	
GP		F4AL...DL	3–20	1,9–2,3 x D1	ZU=4	30°	
GP		F4AL...WM-WL-WX	3–12	3,7–6,7 x D1	ZU=4	30°	

					shank	centre cutting	neck	P	M	K	N	S	H						product page(s)	cutting data page(s)
			✓			✓	✓	●	●	●		●	●	✓	✓	✓		✓	M100	M107
		✓				✓		●	●	●		●	●	✓		✓			M101	M108
		✓				✓		●	●	●			○	✓	✓	✓			M102	M108
		✓				✓		●	○	●			○	✓	✓	✓			M103	M109
		✓				✓		●	●	●			○	✓	✓	✓			M104	M109
				✓		✓		●	○	○		○	○	✓	✓	✓		✓	M105	M110
		✓				✓		●	●	●	○			✓	✓	✓	✓		M114	M134
		✓				✓	✓	●	●	●	○			✓	✓	✓	✓		M115	M134
		✓				✓		●	●	●	○			✓	✓	✓			M116	M135
	✓					✓		●	●	●		●	○	✓	✓	✓	✓		M117	M135
		✓				✓		●	●	●	○			✓	✓	✓	✓		M118	M134
		✓				✓		●	●	●	○			✓	✓	✓	✓		M119–M120	M136
		✓				✓		●	●	●	○			✓	✓	✓	✓		M121	M136
		✓				✓		●	●	●		●	○	✓	✓	✓	✓		M122	M136
		✓				✓		●	●	●				✓		✓			M123	M137
		✓				✓		●	●	●				✓		✓			M124	M137
		✓				✓		●	●	●				✓	✓	✓			M125	M138
				✓		✓		●	●	●		●	○	✓	✓			✓	M126	M138
				✓		✓		●	●	●	○			✓	✓			✓	M127	M140
				✓		✓		●	●	●	○			✓	✓			✓	M128	M141
				✓		✓		●	●	●	○			✓	✓			✓	M129	M142
				✓		✓		●	●	●		●	○	✓	✓		✓	✓	M130	M139
				✓		✓		●	●	●	○			✓	✓			✓	M131	M140
				✓		✓		●	●	●	○			✓	✓			✓	M132	M141
				✓		✓		●	●	●				✓				✓	M133	M142

● first choice
○ alternate choice

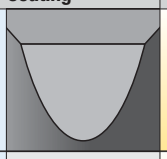
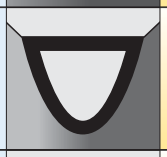
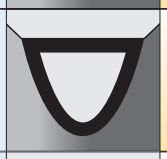
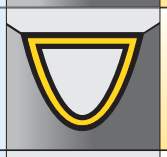
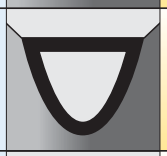
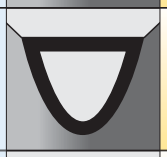
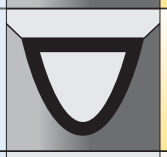
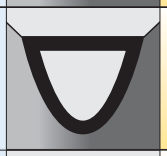
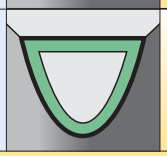
Solid End Milling



Coatings provide high-speed capability and are engineered for roughing to finishing.

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous Materials
S	High-Temp Alloys
H	Hardened Materials

wear resistance ⟷ toughness

Grade	Coating	Grade Description	05	10	15	20	25	30	35	40	45
K600		Carbide grade made from high-quality, micrograin materials for cutting all types of workpiece materials. Very high toughness ensures a controlled wear rate. The micrograin structure enables extremely sharp cutting edges.	N								
KCPM15		Coated carbide grade with thick PVD coating and optimised chemistry and process for increased wear resistance. Outstanding protection in milling stainless steel to mitigate crater, DOCN (depth-of-cut notching), and flank wear. Excellent performance up to 52 HRC. beyond	P, M, K								
KC643M		Coated fine-grain grade with PVD (AlTiN). KC643M is a hard PVD coating particularly suitable for cutting steel, cast iron, stainless steel (wet), and titanium (wet). This grade can be used for materials with hardness up to 52 HRC.	P, M, K, S								
KC633M		Coated carbide grade with PVD multilayer coating. KC633M is designed for dry milling most types of material, apart from the hardened variety. This grade is characterised by good hardness and wear resistance. It provides outstanding protection for solid carbide tools against cratering and abrasion.	P, M, S								
KC625M		Coated carbide grade with PVD (TiCN) coating. For universal use due to its high wear resistance and hardness. Only use wet or with MQL (Minimum Quantity Lubrication).	P, K, S								
KC639M		PVD (AlTiN) coated carbide on a new sub-micron carbide substrate. This hard coating provides outstanding performance in milling hardened materials (58–65 HRC).	H								
KC637M		Coated, tough, wear-resistant carbide grade with hard PVD coating, particularly suitable for machining steels above 48 HRC.	H								
KC635M		Universal carbide grade with PVD coating (TiAlN). KC635M is a high-performance grade for finishing operations. This grade is characterised by high hardness and wear resistance.	P, M, K, S								
KCN05		**High-Performance Grade** A pure, diamond-coated carbide for milling CFRP and graphite. It is a very tough and wear-resistant grade.	N								

Solid End Milling

Beyond™ Solid End Milling

High-Performance milling in a new dimension

Kennametal is pleased to announce KCPM15™ — the first Beyond grade for solid carbide end mills. KCPM15 features an improved high-performance carbide substrate with proprietary aluminium titanium nitride (AlTiN) PVD coating.

Features and Benefits

- Engineered to increase tool life and productivity by 30%.
- For use in milling steels and stainless steels.
- Improved resistance to cratering, flank wear, and depth-of-cut notching.

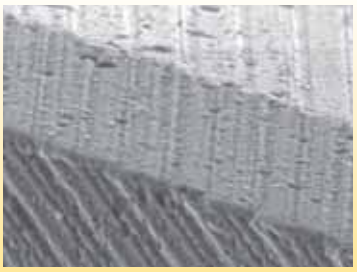
Workpiece Materials:

P	Steel
M	Stainless Steel
K	Cast Iron

Coating		Grade Description	
KCPM15	AlTiN	Coated carbide grade with thick PVD coating and optimised chemistry and process for increased wear resistance. Outstanding protection in milling stainless steel to mitigate crater, DOCN (depth-of-cut notching), and flank wear. Excellent performance up to 52 HRC.	P M K

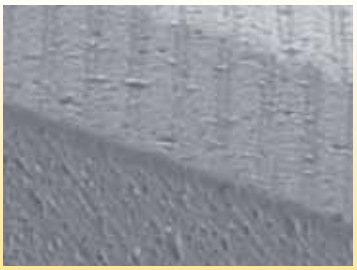
Conventional End Mill Cutting Edge

Conventional



KCPM15 End Mill Cutting Edge

New KCPM15 grade



View: 1st and 2nd Relief.

HARVI™ Line Solid Carbide End Mills

Primary Application

HARVI takes high-performance roughing, semi-finishing, slotting, and profiling to the next level. The line is designed to provide maximum metal removal rates by achieving supreme surface conditions. A wide range of diameters and corner radii are available from stock.

Features and Benefits

Higher Productivity and Profitability

- Best suited for applications in the aerospace, medical, die and mould, automotive, and general engineering markets.
- Outstanding performance in stainless steel, titanium, INCONEL®, and other high-temperature alloys and steels.
- Increased metal removal rates in roughing and finishing operations.
- Excellent performance in both slotting and side milling operations.

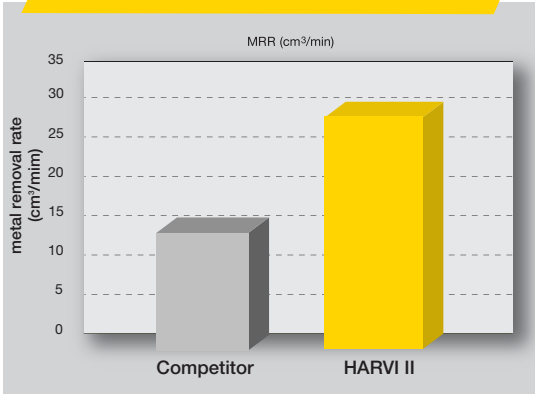
NOTE: Unequal flute spacing.

Featured Application: Slotting an Engine Ring

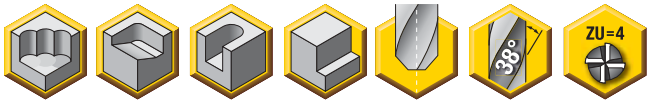
Operation: Slotting
Customer: Aerospace manufacturer
Workpiece: Engine ring
Material: SST nickel-based alloy EZ3NCT25 (25% nickel, 13% chromium) at 245 HB
Solution: HARVI II™ 5-flute with AlTiN coating
Results: 90% increase in metal removal rate

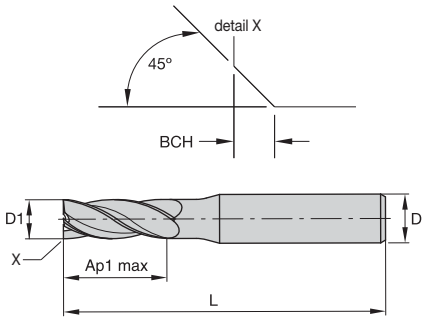
	COMPETITOR	HARVI II™
coating:	TiAlN	AlTiN
end mill:	4-flute 12mm 1mm radius	5-flute 12mm 1mm radius
material:	SST nickel-based alloy	SST nickel-based alloy
depth of cut (ap):	11,15mm	11,15mm
width of cut (ae):	12mm	12mm
speed (vc):	30 m/min	40 m/min
RPM (N):	800 RPM	1,060 RPM
feed rate (vf):	112 mm/min	212 mm/min
chip load per tooth (fz):	0,035 mm/th	0,04 mm/th
metal removal rate:	15 cm^3/min	28 cm^3/min

90% Productivity Increase!

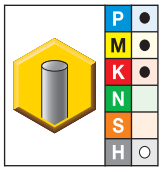


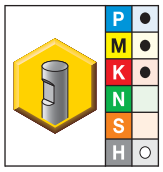
- Centre cutting.
- Single tool for roughing and finishing applications.
- Unequal flute spacing minimises chatter for smoother machining.





beyond





● first choice
○ alternate choice

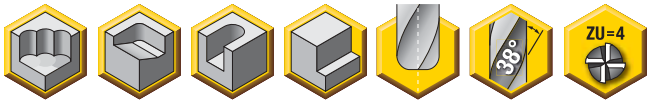
KCPM15	KCPM15	D1	D	Ap1 max	L	BCH
F4AS0400ADL38	F4AS0400BDL38	4,00	6,00	12,00	55,00	0,40
F4AS0500ADL38	F4AS0500BDL38	5,00	6,00	13,00	57,00	0,40
F4AS0600ADL38	F4AS0600BDL38	6,00	6,00	13,00	57,00	0,40
F4AS0800ADL38	F4AS0800BDL38	8,00	8,00	16,00	63,00	0,40
F4AS1000ADL38	F4AS1000BDL38	10,00	10,00	22,00	72,00	0,50
F4AS1200ADL38	F4AS1200BDL38	12,00	12,00	26,00	83,00	0,50
–	F4AS1400BDL38	14,00	14,00	26,00	83,00	0,50
F4AS1600ADL38	F4AS1600BDL38	16,00	16,00	32,00	92,00	0,50
F4AS1800ADL38	F4AS1800BDL38	18,00	18,00	32,00	92,00	0,50
F4AS2000ADL38	F4AS2000BDL38	20,00	20,00	38,00	104,00	0,50
F4AS2500ADL38	F4AS2500BDL38	25,00	25,00	45,00	121,00	0,50

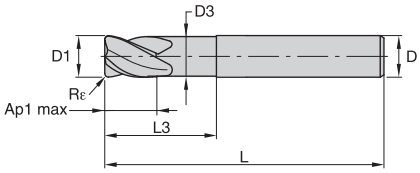
NOTE: For application data, see page M22.

End Mill Tolerances

D1	tolerance e8	D	tolerance h6
≤3	-0,014/-0,028	≤3	+0/-0,006
>3–6	-0,020/-0,038	>3–6	+0/-0,008
>6–10	-0,025/-0,047	>6–10	+0/-0,009
>10–18	-0,032/-0,059	>10–18	+0/-0,011
>18–30	-0,040/-0,073	>18–30	+0/-0,013

- Kennametal standard dimensions.
- Centre cutting.
- Single tool for roughing and finishing applications.
- Unequal flute spacing minimises chatter for smoother machining.





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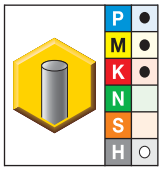
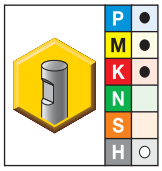


P	●
M	●
K	●
N	
S	
H	○



P	●
M	●
K	●
N	
S	
H	○

● first choice
○ alternate choice

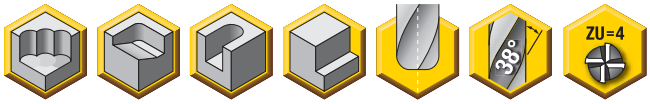
KCPM15	KCPM15	D1	D	Ap1 max	L3	L	Rε	D3
F4AS0600AWM38R050	F4AS0600BWM38R050	6,00	6,00	9,00	18,00	63,00	0,50	5,80
F4AS0600AWM38R100	F4AS0600BWM38R100	6,00	6,00	9,00	18,00	63,00	1,00	5,80
F4AS0800AWM38R050	F4AS0800BWM38R050	8,00	8,00	12,00	24,00	68,00	0,50	7,80
F4AS0800AWM38R100	F4AS0800BWM38R100	8,00	8,00	12,00	24,00	68,00	1,00	7,80
F4AS1000AWL38R050	F4AS1000BWL38R050	10,00	10,00	15,00	30,00	76,00	0,50	9,50
F4AS1000AWL38R100	F4AS1000BWL38R100	10,00	10,00	15,00	30,00	76,00	1,00	9,50
F4AS1000AWL38R200	F4AS1000BWL38R200	10,00	10,00	15,00	30,00	76,00	2,00	9,50
F4AS1000AWL38R300	F4AS1000BWL38R300	10,00	10,00	15,00	30,00	76,00	3,00	9,50
F4AS1000AWL38R400	F4AS1000BWL38R400	10,00	10,00	15,00	30,00	76,00	4,00	9,50
F4AS1200AWL38R050	F4AS1200BWL38R050	12,00	12,00	18,00	36,00	84,00	0,50	11,50
F4AS1200AWL38R100	F4AS1200BWL38R100	12,00	12,00	18,00	36,00	84,00	1,00	11,50
F4AS1200AWL38R200	F4AS1200BWL38R200	12,00	12,00	18,00	36,00	84,00	2,00	11,50
F4AS1200AWL38R300	F4AS1200BWL38R300	12,00	12,00	18,00	36,00	84,00	3,00	11,50
F4AS1200AWL38R400	F4AS1200BWL38R400	12,00	12,00	18,00	36,00	84,00	4,00	11,50
F4AS1600AWX38R050	F4AS1600BWX38R050	16,00	16,00	24,00	48,00	100,00	0,50	15,00
F4AS1600AWX38R100	F4AS1600BWX38R100	16,00	16,00	24,00	48,00	100,00	1,00	15,00
F4AS1600AWX38R200	F4AS1600BWX38R200	16,00	16,00	24,00	48,00	100,00	2,00	15,00
F4AS1600AWX38R300	F4AS1600BWX38R300	16,00	16,00	24,00	48,00	100,00	3,00	15,00
F4AS1600AWX38R400	F4AS1600BWX38R400	16,00	16,00	24,00	48,00	100,00	4,00	15,00
F4AS2000AWX38R050	F4AS2000BWX38R050	20,00	20,00	30,00	60,00	115,00	0,50	19,00
F4AS2000AWX38R100	F4AS2000BWX38R100	20,00	20,00	30,00	60,00	115,00	1,00	19,00
F4AS2000AWX38R200	F4AS2000BWX38R200	20,00	20,00	30,00	60,00	115,00	2,00	19,00
F4AS2000AWX38R300	F4AS2000BWX38R300	20,00	20,00	30,00	60,00	115,00	3,00	19,00
F4AS2000AWX38R400	F4AS2000BWX38R400	20,00	20,00	30,00	60,00	115,00	4,00	19,00
F4AS2500AWX38R050	F4AS2500BWX38R050	25,00	25,00	37,50	75,00	135,00	0,50	24,00
F4AS2500AWX38R100	F4AS2500BWX38R100	25,00	25,00	37,50	75,00	135,00	1,00	24,00
F4AS2500AWX38R200	F4AS2500BWX38R200	25,00	25,00	37,50	75,00	135,00	2,00	24,00
F4AS2500AWX38R300	F4AS2500BWX38R300	25,00	25,00	37,50	75,00	135,00	3,00	24,00
F4AS2500AWX38R400	F4AS2500BWX38R400	25,00	25,00	37,50	75,00	135,00	4,00	24,00

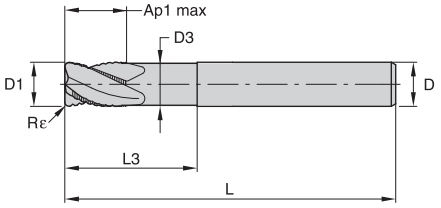
NOTE: For application data, see page M22.

End Mill Tolerances

D1	tolerance e8	D	tolerance h6
≤3	-0,014/-0,028	≤3	+0/-0,006
>3–6	-0,020/-0,038	>3–6	+0/-0,008
>6–10	-0,025/-0,047	>6–10	+0/-0,009
>10–18	-0,032/-0,059	>10–18	+0/-0,011
>18–30	-0,040/-0,073	>18–30	+0/-0,013

- Kennametal standard dimensions.
- Centre cutting.
- Chipbreaker profile.





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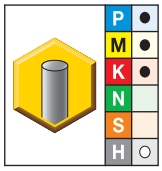
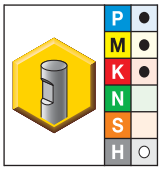




● first choice
○ alternate choice

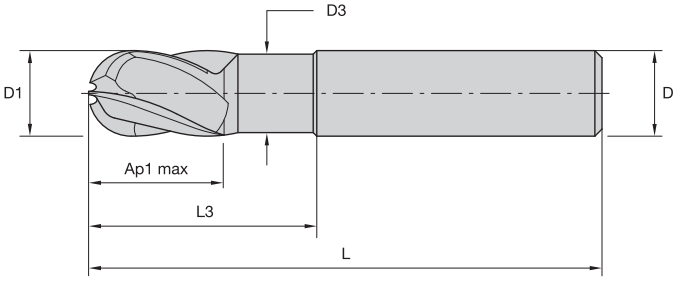
KCPM15	KCPM15	D1	D	Ap1 max	L3	L	Rε	D3
F4BS0600AWM38R050	F4BS0600BWM38R050	6,00	6,00	9,00	18,00	63,00	0,50	5,80
F4BS0600AWM38R100	F4BS0600BWM38R100	6,00	6,00	9,00	18,00	63,00	1,00	5,80
F4BS0800AWM38R050	F4BS0800BWM38R050	8,00	8,00	12,00	24,00	68,00	0,50	7,80
F4BS0800AWM38R100	F4BS0800BWM38R100	8,00	8,00	12,00	24,00	68,00	1,00	7,80
F4BS1000AWL38R050	F4BS1000BWL38R050	10,00	10,00	15,00	30,00	76,00	0,50	9,50
F4BS1000AWL38R100	F4BS1000BWL38R100	10,00	10,00	15,00	30,00	76,00	1,00	9,50
F4BS1000AWL38R200	F4BS1000BWL38R200	10,00	10,00	15,00	30,00	76,00	2,00	9,50
F4BS1000AWL38R300	F4BS1000BWL38R300	10,00	10,00	15,00	30,00	76,00	3,00	9,50
F4BS1000AWL38R400	F4BS1000BWL38R400	10,00	10,00	15,00	30,00	76,00	4,00	9,50
F4BS1200AWL38R050	F4BS1200BWL38R050	12,00	12,00	18,00	36,00	84,00	0,50	11,50
F4BS1200AWL38R100	F4BS1200BWL38R100	12,00	12,00	18,00	36,00	84,00	1,00	11,50
F4BS1200AWL38R200	F4BS1200BWL38R200	12,00	12,00	18,00	36,00	84,00	2,00	11,50
F4BS1200AWL38R300	F4BS1200BWL38R300	12,00	12,00	18,00	36,00	84,00	3,00	11,50
F4BS1200AWL38R400	F4BS1200BWL38R400	12,00	12,00	18,00	36,00	84,00	4,00	11,50
F4BS1600AWX38R050	F4BS1600BWX38R050	16,00	16,00	24,00	48,00	100,00	0,50	15,00
F4BS1600AWX38R100	F4BS1600BWX38R100	16,00	16,00	24,00	48,00	100,00	1,00	15,00
F4BS1600AWX38R200	F4BS1600BWX38R200	16,00	16,00	24,00	48,00	100,00	2,00	15,00
F4BS1600AWX38R300	F4BS1600BWX38R300	16,00	16,00	24,00	48,00	100,00	3,00	15,00
F4BS1600AWX38R400	F4BS1600BWX38R400	16,00	16,00	24,00	48,00	100,00	4,00	15,00
F4BS2000AWX38R050	F4BS2000BWX38R050	20,00	20,00	30,00	60,00	115,00	0,50	19,00
F4BS2000AWX38R100	F4BS2000BWX38R100	20,00	20,00	30,00	60,00	115,00	1,00	19,00
F4BS2000AWX38R200	F4BS2000BWX38R200	20,00	20,00	30,00	60,00	115,00	2,00	19,00
F4BS2000AWX38R300	F4BS2000BWX38R300	20,00	20,00	30,00	60,00	115,00	3,00	19,00
F4BS2000AWX38R400	F4BS2000BWX38R400	20,00	20,00	30,00	60,00	115,00	4,00	19,00
F4BS2500AWX38R050	F4BS2500BWX38R050	25,00	25,00	37,50	75,00	135,00	0,50	24,00
F4BS2500AWX38R100	F4BS2500BWX38R100	25,00	25,00	37,50	75,00	135,00	1,00	24,00
F4BS2500AWX38R200	F4BS2500BWX38R200	25,00	25,00	37,50	75,00	135,00	2,00	24,00
F4BS2500AWX38R300	F4BS2500BWX38R300	25,00	25,00	37,50	75,00	135,00	3,00	24,00
F4BS2500AWX38R400	F4BS2500BWX38R400	25,00	25,00	37,50	75,00	135,00	4,00	24,00

NOTE: For application data, see page M23.

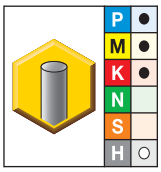
End Mill Tolerances

D1	tolerance e8	D	tolerance h6
≤3	-0,014/-0,028	≤3	+0/-0,006
>3–6	-0,020/-0,038	>3–6	+0/-0,008
>6–10	-0,025/-0,047	>6–10	+0/-0,009
>10–18	-0,032/-0,059	>10–18	+0/-0,011
>18–30	-0,040/-0,073	>18–30	+0/-0,013

- Kennametal standard dimensions.
- Centre cutting.



beyond™



● first choice
○ alternate choice

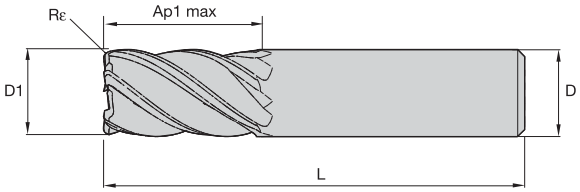
KCPM15	D1	D	Ap1 max	L3	L	D3
F4AW0600AWL38E120	6,00	6,00	6,00	12,00	76,00	5,80
F4AW0800AWL38E160	8,00	8,00	8,00	16,00	100,00	7,80
F4AW1000AWX38E200	10,00	10,00	10,00	20,00	121,50	9,50
F4AW1200AWX38E240	12,00	12,00	12,00	24,00	125,00	11,50
F4AW1600AWX38E320	16,00	16,00	16,00	32,00	150,00	15,00

NOTE: For application data, see page M23.

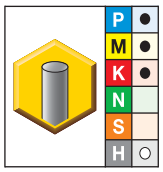
End Mill Tolerances

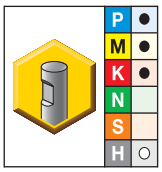
D1	tolerance e8	D	tolerance h6
≤3	-0,014/-0,028	≤3	+0/-0,006
>3–6	-0,020/-0,038	>3–6	+0/-0,008
>6–10	-0,025/-0,047	>6–10	+0/-0,009
>10–18	-0,032/-0,059	>10–18	+0/-0,011
>18–30	-0,040/-0,073	>18–30	+0/-0,013

- Kennametal standard dimensions.
- Non-centre cutting.
- Unequal flute spacing minimises chatter for smoother machining.
- Single tool for both roughing and finishing operations for fewer setups.
- Five-flute geometry enables slotting up to 1 x D.



beyond





● first choice
○ alternate choice

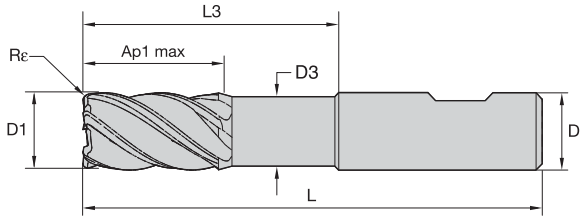
KCPM15	KCPM15	D1	D	Ap1 max	L	Rε
UCDE0400A5ARA	UCDE0400B5ARA	4,00	6,00	11,00	55,00	0,25
UCDE0400A5ASA	–	4,00	6,00	11,00	55,00	–
UCDE0500A5ARA	UCDE0500B5ARA	5,00	6,00	13,00	57,00	0,25
UCDE0500A5ASA	–	5,00	6,00	13,00	57,00	–
UCDE0600A5ARA	UCDE0600B5ARA	6,00	6,00	13,00	57,00	0,40
UCDE0600A5ASA	–	6,00	6,00	13,00	57,00	–
UCDE0700A5ARA	UCDE0700B5ARA	7,00	8,00	16,00	63,00	0,40
UCDE0700A5ASA	–	7,00	8,00	16,00	63,00	–
UCDE0800A5ARA	UCDE0800B5ARA	8,00	8,00	19,00	63,00	0,50
UCDE0800A5ASA	–	8,00	8,00	19,00	63,00	–
UCDE0900A5ARA	UCDE0900B5ARA	9,00	10,00	19,00	72,00	0,50
UCDE0900A5ASA	–	9,00	10,00	19,00	72,00	–
UCDE1000A5ARA	UCDE1000B5ARA	10,00	10,00	22,00	72,00	0,50
UCDE1000A5ASA	–	10,00	10,00	22,00	72,00	–
UCDE1200A5ARA	UCDE1200B5ARA	12,00	12,00	26,00	83,00	0,75
UCDE1200A5ASA	–	12,00	12,00	26,00	83,00	–
UCDE1400A5ARA	UCDE1400B5ARA	14,00	14,00	26,00	83,00	0,75
UCDE1400A5ASA	–	14,00	14,00	26,00	83,00	–
UCDE1600A5ARA	UCDE1600B5ARA	16,00	16,00	32,00	92,00	0,75
UCDE1600A5ASA	–	16,00	16,00	32,00	92,00	–
UCDE1800A5ARA	UCDE1800B5ARA	18,00	18,00	32,00	92,00	0,75
UCDE1800A5ASA	–	18,00	18,00	32,00	92,00	–
UCDE2000A5ARA	UCDE2000B5ARA	20,00	20,00	38,00	104,00	0,75
UCDE2000A5ASA	–	20,00	20,00	38,00	104,00	–
UCDE2500A5ARA	UCDE2500B5ARA	25,00	25,00	45,00	121,00	0,75
UCDE2500A5ASA	–	25,00	25,00	45,00	121,00	–

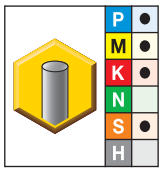
NOTE: For application data, see page M24.

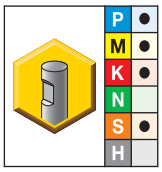
End Mill Tolerances

D1	tolerance e8	D	tolerance h6
≤3	-0,014/-0,028	≤3	+0/-0,006
>3–6	-0,020/-0,038	>3–6	+0/-0,008
>6–10	-0,025/-0,047	>6–10	+0/-0,009
>10–18	-0,032/-0,059	>10–18	+0/-0,011
>18–30	-0,040/-0,073	>18–30	+0/-0,013

- Kennametal standard dimensions.
- Non-centre cutting.
- Optimised geometry for titanium machining.
- Unequal flute spacing minimises chatter for smoother machining.
- Single tool for both roughing and finishing operations for fewer setups.
- Five-flute geometry enables slotting up to 1 x D.







● first choice
○ alternate choice

KC643M	KC643M	D1	D	Ap1 max	L3	L	Rε	D3
–	UDDE0600B5ARA	6,00	6,00	13,00	18,00	63,00	0,20	5,64
UDDE0600A5ARA	UDDE0600B5ARB	6,00	6,00	13,00	18,00	63,00	0,50	5,64
UDDE0600A5ARB	UDDE0600B5ARC	6,00	6,00	13,00	18,00	63,00	1,00	5,64
UDDE0600A5ARC	UDDE0600B5ARD	6,00	6,00	13,00	18,00	63,00	1,50	5,64
UDDE0600A5ASA	–	6,00	6,00	13,00	18,00	63,00	–	5,64
–	UDDE0800B5ARA	8,00	8,00	19,00	24,00	68,00	0,20	7,52
UDDE0800A5ARA	UDDE0800B5ARB	8,00	8,00	19,00	24,00	68,00	0,50	7,52
UDDE0800A5ARB	UDDE0800B5ARC	8,00	8,00	19,00	24,00	68,00	1,00	7,52
UDDE0800A5ARC	UDDE0800B5ARD	8,00	8,00	19,00	24,00	68,00	2,00	7,52
UDDE0800A5ASA	–	8,00	8,00	19,00	24,00	68,00	–	7,52
UDDE1000A5ARA	UDDE1000B5ARA	10,00	10,00	22,00	30,00	76,00	0,50	9,40
UDDE1000A5ARB	UDDE1000B5ARB	10,00	10,00	22,00	30,00	76,00	1,00	9,40
UDDE1000A5ARC	UDDE1000B5ARC	10,00	10,00	22,00	30,00	76,00	2,00	9,40
UDDE1000A5ARD	UDDE1000B5ARD	10,00	10,00	22,00	30,00	76,00	2,50	9,40
UDDE1000A5ASA	–	10,00	10,00	22,00	30,00	76,00	–	9,40
UDDE1200A5ARA	UDDE1200B5ARA	12,00	12,00	26,00	36,00	84,00	0,50	11,28

(continued)

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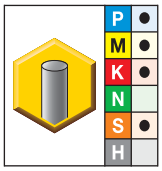
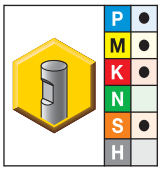




● first choice
○ alternate choice

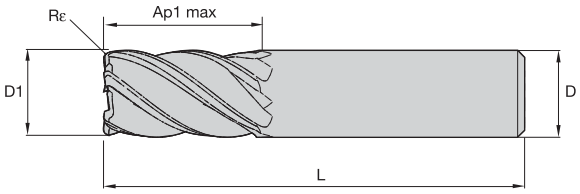
KC643M	KC643M	D1	D	Ap1 max	L3	L	Rε	D3
UDDE1200A5ARB	**UDDE1200B5ARB**	12,00	12,00	26,00	36,00	84,00	1,00	11,28
UDDE1200A5ARC	**UDDE1200B5ARC**	12,00	12,00	26,00	36,00	84,00	2,00	11,28
UDDE1200A5ARD	**UDDE1200B5ARD**	12,00	12,00	26,00	36,00	84,00	3,00	11,28
UDDE1200A5ASA	**–**	12,00	12,00	26,00	36,00	84,00	–	11,28
UDDE1600A5ARA	**UDDE1600B5ARA**	16,00	16,00	32,00	48,00	100,00	0,50	15,04
UDDE1600A5ARB	**UDDE1600B5ARB**	16,00	16,00	32,00	48,00	100,00	1,00	15,04
UDDE1600A5ARC	**UDDE1600B5ARC**	16,00	16,00	32,00	48,00	100,00	2,00	15,04
UDDE1600A5ARD	**UDDE1600B5ARD**	16,00	16,00	32,00	48,00	100,00	3,00	15,04
UDDE1600A5ARE	**UDDE1600B5ARE**	16,00	16,00	32,00	48,00	100,00	4,00	15,04
UDDE1600A5ASA	**–**	16,00	16,00	32,00	48,00	100,00	–	15,04
UDDE2000A5ARA	**UDDE2000B5ARA**	20,00	20,00	38,00	60,00	115,00	0,50	18,80
UDDE2000A5ARB	**UDDE2000B5ARB**	20,00	20,00	38,00	60,00	115,00	1,00	18,80
UDDE2000A5ARC	**UDDE2000B5ARC**	20,00	20,00	38,00	60,00	115,00	2,00	18,80
UDDE2000A5ARD	**UDDE2000B5ARD**	20,00	20,00	38,00	60,00	115,00	3,00	18,80
UDDE2000A5ARE	**UDDE2000B5ARE**	20,00	20,00	38,00	60,00	115,00	4,00	18,80
UDDE2000A5ASA	**–**	20,00	20,00	38,00	60,00	115,00	–	18,80
UDDE2500A5ARA	**UDDE2500B5ARA**	25,00	25,00	45,00	75,00	135,00	0,50	23,50
UDDE2500A5ARB	**UDDE2500B5ARB**	25,00	25,00	45,00	75,00	135,00	1,00	23,50
UDDE2500A5ARC	**UDDE2500B5ARC**	25,00	25,00	45,00	75,00	135,00	2,00	23,50
UDDE2500A5ARD	**UDDE2500B5ARD**	25,00	25,00	45,00	75,00	135,00	3,00	23,50
UDDE2500A5ARE	**UDDE2500B5ARE**	25,00	25,00	45,00	75,00	135,00	4,00	23,50
UDDE2500A5ASA	**–**	25,00	25,00	45,00	75,00	135,00	–	23,50

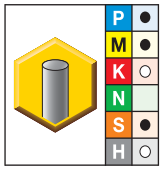
NOTE: For application data, see page M24.

End Mill Tolerances

D1	tolerance e8	D	tolerance h6
≤3	-0,014/-0,028	≤3	+0/-0,006
>3–6	-0,020/-0,038	>3–6	+0/-0,008
>6–10	-0,025/-0,047	>6–10	+0/-0,009
>10–18	-0,032/-0,059	>10–18	+0/-0,011
>18–30	-0,040/-0,073	>18–30	+0/-0,013

- Kennametal standard dimensions.
- Non-center cutting.
- Unequal flute spacing minimises chatter for smoother machining.
- For finishing and semi-finishing applications.





● first choice
○ alternate choice

KC643M	D1	D	Ap1 max	L	Rε
UGDE0600A5ARA	6,00	6,00	18,00	63,00	0,20
UGDE0600A5ARB	6,00	6,00	18,00	63,00	0,50
UGDE0600A5ARC	6,00	6,00	18,00	63,00	1,00
UGDE0600A5BRA	6,00	6,00	30,00	76,00	0,20
UGDE0600A5BRB	6,00	6,00	30,00	76,00	0,50
UGDE0600A5BRC	6,00	6,00	30,00	76,00	1,00
UGDE0800A5ARA	8,00	8,00	24,00	67,00	0,20
UGDE0800A5ARB	8,00	8,00	24,00	67,00	0,50
UGDE0800A5ARC	8,00	8,00	24,00	67,00	1,00
UGDE0800A5BRA	8,00	8,00	40,00	87,00	0,20
UGDE0800A5BRB	8,00	8,00	40,00	87,00	0,50
UGDE0800A5BRC	8,00	8,00	40,00	87,00	1,00
UGDE1000A5ARA	10,00	10,00	30,00	76,00	0,50
UGDE1000A5ARB	10,00	10,00	30,00	76,00	1,00
UGDE1000A5ARC	10,00	10,00	30,00	76,00	2,00
UGDE1000A5ARD	10,00	10,00	30,00	76,00	2,50
UGDE1000A5BRA	10,00	10,00	50,00	100,00	0,50
UGDE1000A5BRB	10,00	10,00	50,00	100,00	1,00
UGDE1000A5BRC	10,00	10,00	50,00	100,00	2,00
UGDE1000A5BRD	10,00	10,00	50,00	100,00	2,50
UGDE1200A5ARA	12,00	12,00	36,00	100,00	0,50
UGDE1200A5ARB	12,00	12,00	36,00	100,00	1,00
UGDE1200A5ARC	12,00	12,00	36,00	100,00	2,00
UGDE1200A5ARD	12,00	12,00	36,00	100,00	2,50
UGDE1200A5BRA	12,00	12,00	36,00	125,00	0,50
UGDE1200A5BRB	12,00	12,00	60,00	125,00	1,00
UGDE1200A5BRC	12,00	12,00	60,00	125,00	2,00
UGDE1200A5BRD	12,00	12,00	60,00	125,00	2,50
UGDE1400A5ARD	14,00	14,00	42,00	100,00	3,00
UGDE1400A5BRD	14,00	14,00	70,00	120,00	3,00

(continued)

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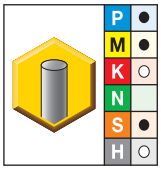


● first choice
○ alternate choice

KC643M	D1	D	Ap1 max	L	Rε
UGDE1600A5ARA	16,00	16,00	48,00	110,00	1,00
UGDE1600A5ARB	16,00	16,00	48,00	110,00	2,00
UGDE1600A5ARC	16,00	16,00	48,00	110,00	2,50
UGDE1600A5ARD	16,00	16,00	48,00	110,00	3,00
UGDE1600A5ARE	16,00	16,00	48,00	110,00	4,00
UGDE1600A5BRA	16,00	16,00	80,00	141,00	1,00
UGDE1600A5BRB	16,00	16,00	80,00	141,00	2,00
UGDE1600A5BRC	16,00	16,00	80,00	141,00	2,50
UGDE1600A5BRD	16,00	16,00	80,00	141,00	3,00
UGDE1600A5BRE	16,00	16,00	80,00	141,00	4,00
UGDE2000A5ARA	20,00	20,00	60,00	125,00	1,00
UGDE2000A5ARB	20,00	20,00	60,00	125,00	2,00
UGDE2000A5ARC	20,00	20,00	60,00	125,00	2,50
UGDE2000A5ARD	20,00	20,00	60,00	125,00	3,00
UGDE2000A5ARE	20,00	20,00	60,00	125,00	4,00
UGDE2000A5BRA	20,00	20,00	100,00	166,00	1,00
UGDE2000A5BRB	20,00	20,00	100,00	166,00	2,00
UGDE2000A5BRC	20,00	20,00	100,00	166,00	2,50
UGDE2000A5BRD	20,00	20,00	100,00	166,00	3,00
UGDE2000A5BRE	20,00	20,00	100,00	166,00	4,00
UGDE2500A5ARA	25,00	25,00	75,00	150,00	1,00
UGDE2500A5ARB	25,00	25,00	75,00	150,00	2,00
UGDE2500A5ARC	25,00	25,00	75,00	150,00	2,50
UGDE2500A5ARD	25,00	25,00	75,00	150,00	3,00
UGDE2500A5ARE	25,00	25,00	75,00	150,00	4,00
UGDE2500A5BRA	25,00	25,00	125,00	190,00	1,00
UGDE2500A5BRB	25,00	25,00	125,00	190,00	2,00
UGDE2500A5BRC	25,00	25,00	125,00	190,00	2,50
UGDE2500A5BRD	25,00	25,00	125,00	190,00	3,00
UGDE2500A5BRE	25,00	25,00	125,00	190,00	4,00

NOTE: For application data, see page M25.

End Mill Tolerances

D1	tolerance e8	D	tolerance h6
≤3	-0,014/-0,028	≤3	+0/-0,006
>3–6	-0,020/-0,038	>3–6	+0/-0,008
>6–10	-0,025/-0,047	>6–10	+0/-0,009
>10–18	-0,032/-0,059	>10–18	+0/-0,011
>18–30	-0,040/-0,073	>18–30	+0/-0,013

High-Performance Solid Carbide End Mills

SAFE-λOCK™
by HAIMER

In High-Performance Cutting (HPC), slow microcreeping can cause the cutting tool to be pulled out of the chuck, **turning high-quality workpieces to scrap.**

Be on the Safe Side with SAFE-λOCK™ in High-Performance Cutting (HPC)

Benefits

- Highly accurate clamping due to positive connection.
- No loss of accuracy.
- No pull out or spinning of the tool.
- No damage to the workpiece or machine.
- Groove on tool shank is directed so the tool will be pulled into the chuck (depending on direction of rotation).

Order Information

Kennametal high-performance end mills with a shank diameter of 12mm (1/2") and larger are available with **SAFE-λOCK**™ technology, as a special tool, upon request. Please contact your local customer service location to receive a quote.

Features

- Form-closed clamping.
- High accuracy clamping.
- Helical grooves.

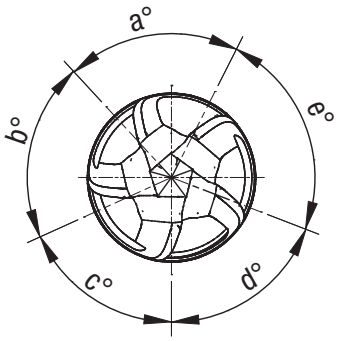
Functions

- No pull out.
- Excellent runout.
- Adjustable clamping length.

Benefits

- Reduce scrap rate.
- Higher tool life.
- No need to change NC programme after regrinding.

Customised-Solution Example for Highest Metal Removal Rates



The HARVI II UDDE proprietary design with **unequal flute spacing** and unique core geometry for chatter-free machining enables slotting operations in titanium up to 1 x D.

SAFE-λOCK™

The safety belt for high-performance solid carbide end mills provides a form-closed clamping with high accuracy and helical grooves for length adjustment.

HARVI I™ • F4AS...DL • Unequal Flute Spacing

Material Group		A		B	KCPM15 Cutting Speed — vc m/min			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%. D1 — Diameter							
		ap	ae	ap	min	max	mm	4,0	6,0	8,0	10,0	12,0	16,0	20,0	25,0
P	1	1,5 x D	0,5 x D	1 x D	150	200	fz	0,028	0,044	0,060	0,072	0,083	0,101	0,114	0,124
	2	1,5 x D	0,5 x D	1 x D	140	190	fz	0,028	0,044	0,060	0,072	0,083	0,101	0,114	0,124
	3	1,5 x D	0,5 x D	1 x D	120	160	fz	0,023	0,036	0,050	0,061	0,070	0,087	0,101	0,114
	4	1,5 x D	0,5 x D	0,75 x D	90	150	fz	0,021	0,033	0,045	0,054	0,062	0,077	0,088	0,098
	5	1,5 x D	0,5 x D	1 x D	60	100	fz	0,019	0,029	0,040	0,048	0,056	0,070	0,081	0,091
	6	1,5 x D	0,5 x D	0,75 x D	50	75	fz	0,016	0,025	0,034	0,040	0,047	0,057	0,065	0,071
M	1	1,5 x D	0,5 x D	1 x D	90	115	fz	0,023	0,036	0,050	0,061	0,070	0,087	0,101	0,114
	2	1,5 x D	0,5 x D	1 x D	60	80	fz	0,019	0,029	0,040	0,048	0,056	0,070	0,081	0,091
	3	1,5 x D	0,5 x D	1 x D	60	70	fz	0,016	0,025	0,034	0,040	0,047	0,057	0,065	0,071
K	1	1,5 x D	0,5 x D	1 x D	120	150	fz	0,028	0,044	0,060	0,072	0,083	0,101	0,114	0,124
	2	1,5 x D	0,5 x D	1 x D	110	130	fz	0,023	0,036	0,050	0,061	0,070	0,087	0,101	0,114
	3	1,5 x D	0,5 x D	1 x D	100	130	fz	0,019	0,029	0,040	0,048	0,056	0,070	0,081	0,091
H	1	1,5 x D	0,5 x D	0,75 x D	80	140	fz	0,021	0,033	0,045	0,054	0,062	0,077	0,088	0,098

HARVI I • F4AS.. WM-WX-WL

Material Group		A		B	KCPM15 Cutting Speed — vc m/min			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%. D1 — Diameter							
		ap	ae	ap	min	max	mm	4,0	6,0	8,0	10,0	12,0	16,0	20,0	25,0
P	1	1,5 x D	0,5 x D	1 x D	150	200	fz	0,028	0,044	0,060	0,072	0,083	0,101	0,114	0,124
	2	1,5 x D	0,5 x D	1 x D	140	190	fz	0,028	0,044	0,060	0,072	0,083	0,101	0,114	0,124
	3	1,5 x D	0,5 x D	1 x D	120	160	fz	0,023	0,036	0,050	0,061	0,070	0,087	0,101	0,114
	4	1,5 x D	0,5 x D	0,75 x D	90	150	fz	0,021	0,033	0,045	0,054	0,062	0,077	0,088	0,098
	5	1,5 x D	0,5 x D	1 x D	60	100	fz	0,019	0,029	0,040	0,048	0,056	0,070	0,081	0,091
	6	1,5 x D	0,5 x D	0,75 x D	50	75	fz	0,016	0,025	0,034	0,040	0,047	0,057	0,065	0,071
M	1	1,5 x D	0,5 x D	1 x D	90	115	fz	0,023	0,036	0,050	0,061	0,070	0,087	0,101	0,114
	2	1,5 x D	0,5 x D	1 x D	60	80	fz	0,019	0,029	0,040	0,048	0,056	0,070	0,081	0,091
	3	1,5 x D	0,5 x D	1 x D	60	70	fz	0,016	0,025	0,034	0,040	0,047	0,057	0,065	0,071
K	1	1,5 x D	0,5 x D	1 x D	120	150	fz	0,028	0,044	0,060	0,072	0,083	0,101	0,114	0,124
	2	1,5 x D	0,5 x D	1 x D	110	130	fz	0,023	0,036	0,050	0,061	0,070	0,087	0,101	0,114
	3	1,5 x D	0,5 x D	1 x D	100	130	fz	0,019	0,029	0,040	0,048	0,056	0,070	0,081	0,091
H	1	1,5 x D	0,5 x D	0,75 x D	80	140	fz	0,021	0,033	0,045	0,054	0,062	0,077	0,088	0,098

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centres, please adjust parameters accordingly on >12mm diameter.

HARVI I™ • F4BS.. WM-WX-WL • Unequal Flute Spacing • Extended Neck • Chipbreaker

Material Group		A		B	KCPM15 Cutting Speed — vc m/min			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%. D1 — Diameter							
		ap	ae	ap	min	max	mm	4,0	6,0	8,0	10,0	12,0	16,0	20,0	25,0
P	1	1,5 x D	0,5 x D	1 x D	150	200	fz	0,028	0,044	0,060	0,072	0,083	0,101	0,114	0,124
	2	1,5 x D	0,5 x D	1 x D	140	190	fz	0,028	0,044	0,060	0,072	0,083	0,101	0,114	0,124
	3	1,5 x D	0,5 x D	1 x D	120	160	fz	0,023	0,036	0,050	0,061	0,070	0,087	0,101	0,114
	4	1,5 x D	0,5 x D	0,75 x D	90	150	fz	0,021	0,033	0,045	0,054	0,062	0,077	0,088	0,098
	5	1,5 x D	0,5 x D	1 x D	60	100	fz	0,019	0,029	0,040	0,048	0,056	0,070	0,081	0,091
	6	1,5 x D	0,5 x D	0,75 x D	50	75	fz	0,016	0,025	0,034	0,040	0,047	0,057	0,065	0,071
M	1	1,5 x D	0,5 x D	1 x D	90	115	fz	0,023	0,036	0,050	0,061	0,070	0,087	0,101	0,114
	2	1,5 x D	0,5 x D	1 x D	60	80	fz	0,019	0,029	0,040	0,048	0,056	0,070	0,081	0,091
	3	1,5 x D	0,5 x D	1 x D	60	70	fz	0,016	0,025	0,034	0,040	0,047	0,057	0,065	0,071
K	1	1,5 x D	0,5 x D	1 x D	120	150	fz	0,028	0,044	0,060	0,072	0,083	0,101	0,114	0,124
	2	1,5 x D	0,5 x D	1 x D	110	130	fz	0,023	0,036	0,050	0,061	0,070	0,087	0,101	0,114
	3	1,5 x D	0,5 x D	1 x D	100	130	fz	0,019	0,029	0,040	0,048	0,056	0,070	0,081	0,091
H	1	1,5 x D	0,5 x D	0,75 x D	80	140	fz	0,021	0,033	0,045	0,054	0,062	0,077	0,088	0,098

HARVI I • F4AW..WL-WX • Extended Neck • Unequal Flute Spacing • Ball Nose

Material Group		A		B	KCPM15 Cutting Speed — vc m/min			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%. D1 — Diameter						
		ap	ae	ap	min	max	mm	5,0	6,0	8,0	10,0	12,0	16,0	20,0
P	1	1,5 x D	0,5 x D	1 x D	150	200	fz	0,036	0,044	0,060	0,072	0,083	0,101	0,114
	2	1,5 x D	0,5 x D	1 x D	140	190	fz	0,036	0,044	0,060	0,072	0,083	0,101	0,114
	3	1,5 x D	0,5 x D	1 x D	120	160	fz	0,030	0,036	0,050	0,061	0,070	0,087	0,101
	4	1,5 x D	0,5 x D	0,75 x D	90	150	fz	0,027	0,033	0,045	0,054	0,062	0,077	0,088
	5	1,5 x D	0,5 x D	1 x D	60	100	fz	0,024	0,029	0,040	0,048	0,056	0,070	0,081
	6	1,5 x D	0,5 x D	0,75 x D	50	75	fz	0,020	0,025	0,034	0,040	0,047	0,057	0,065
M	1	1,5 x D	0,5 x D	1 x D	90	115	fz	0,030	0,036	0,050	0,061	0,070	0,087	0,101
	2	1,5 x D	0,5 x D	1 x D	60	80	fz	0,024	0,029	0,040	0,048	0,056	0,070	0,081
	3	1,5 x D	0,5 x D	1 x D	60	70	fz	0,020	0,025	0,034	0,040	0,047	0,057	0,065
K	1	1,5 x D	0,5 x D	1 x D	120	150	fz	0,036	0,044	0,060	0,072	0,083	0,101	0,114
	2	1,5 x D	0,5 x D	1 x D	110	130	fz	0,030	0,036	0,050	0,061	0,070	0,087	0,101
	3	1,5 x D	0,5 x D	1 x D	100	130	fz	0,024	0,029	0,040	0,048	0,056	0,070	0,081
H	1	1,5 x D	0,5 x D	0,75 x D	80	140	fz	0,027	0,033	0,045	0,054	0,062	0,077	0,088

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centres, please adjust parameters accordingly on >12mm diameter.

HARVI II™ • UCDE • Unequal Flute Spacing

Material Group		A		B	KCPM15			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.							
					Cutting Speed — vc m/min			D1 — Diameter							
		ap	ae	ap	min	max	mm	4,0	6,0	8,0	10,0	12,0	16,0	20,0	25,0
P	1	1,5 x D	0,5 x D	1 x D	150	200	fz	0,028	0,044	0,060	0,072	0,083	0,101	0,114	0,124
	2	1,5 x D	0,5 x D	1 x D	140	190	fz	0,028	0,044	0,060	0,072	0,083	0,101	0,114	0,124
	3	1,5 x D	0,5 x D	1 x D	120	160	fz	0,023	0,036	0,050	0,061	0,070	0,087	0,101	0,114
	4	1,5 x D	0,5 x D	0,75 x D	90	150	fz	0,021	0,033	0,045	0,054	0,062	0,077	0,088	0,098
	5	1,5 x D	0,5 x D	1 x D	60	100	fz	0,019	0,029	0,040	0,048	0,056	0,070	0,081	0,091
	6	1,5 x D	0,5 x D	0,75 x D	50	75	fz	0,016	0,025	0,034	0,040	0,047	0,057	0,065	0,071
M	1	1,5 x D	0,5 x D	1 x D	90	115	fz	0,023	0,036	0,050	0,061	0,070	0,087	0,101	0,114
	2	1,5 x D	0,5 x D	1 x D	60	80	fz	0,019	0,029	0,040	0,048	0,056	0,070	0,081	0,091
	3	1,5 x D	0,5 x D	1 x D	60	70	fz	0,016	0,025	0,034	0,040	0,047	0,057	0,065	0,071
K	1	1,5 x D	0,5 x D	1 x D	120	150	fz	0,028	0,044	0,060	0,072	0,083	0,101	0,114	0,124
	2	1,5 x D	0,5 x D	1 x D	110	130	fz	0,023	0,036	0,050	0,061	0,070	0,087	0,101	0,114
	3	1,5 x D	0,5 x D	1 x D	100	130	fz	0,019	0,029	0,040	0,048	0,056	0,070	0,081	0,091
H	1	1,5 x D	0,5 x D	0,75 x D	80	140	fz	0,021	0,033	0,045	0,054	0,062	0,077	0,088	0,098

Solid End Milling

HARVI I™ • UDDE

Material Group		A		B	KC643M			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.										
					Cutting Speed — vc m/min			D1 — Diameter										
		ap	ae	ap	min	max	mm	4,0	5,0	6,0	8,0	10,0	12,0	14,0	16,0	18,0	20,0	25,0
P	2	1,5 x D	0,5 x D	1 x D	160	200	fz	0,030	0,040	0,050	0,060	0,070	0,070	0,080	0,080	0,090	0,10	0,11
	3	1,5 x D	0,5 x D	1 x D	160	180	fz	0,030	0,030	0,040	0,05	0,060	0,030	0,070	0,080	0,080	0,090	0,10
	4	1,5 x D	0,5 x D	1 x D	140	160	fz	0,020	0,030	0,040	0,040	0,05	0,060	0,070	0,070	0,080	0,080	0,10
M	1	1,5 x D	0,5 x D	1 x D	90	115	fz	0,030	0,030	0,040	0,050	0,060	0,070	0,070	0,080	0,080	0,090	0,10
	2	1,5 x D	0,5 x D	1 x D	60	80	fz	0,020	0,030	0,030	0,040	0,050	0,060	0,060	0,070	0,070	0,080	0,080
	3	1,5 x D	0,5 x D	1 x D	60	70	fz	0,020	0,020	0,030	0,040	0,040	0,050	0,050	0,050	0,060	0,060	0,070
K	1	1,5 x D	0.5 x D	1 x D	130	170	fz	0,030	0,040	0,050	0,060	0,080	0,080	0,10	0,10	0,11	0,12	0,13
	2	1,5 x D	0,5 x D	1 x D	110	130	fz	0,020	0,030	0,030	0,050	0,050	0,060	0,070	0,070	0,080	0,080	0,100
S	3	1,5 x D	0,2 x D	0,3 x D	25	40	fz	0,010	0,010	0,020	0,030	0,030	0,040	0,040	0,050	0,060	0,060	0,070
	4	1,5 x D	0,5 x D	1 x D	50	60	fz	0,020	0,020	0,030	0,040	0,040	0,050	0,050	0,060	0,070	0,080	0,090

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centres, please adjust parameters accordingly on >12mm diameter.

HARVI II™ • UGDE • 3 x D and 5 x D Lengths of Cut

Material Group		A		KC643M		Feed per Tooth — fz information is for Side Milling (A).								
				Cutting Speed — vc m/min			D1 — Diameter							
		ap	ae	min	max	mm	6,0	8,0	10,0	12,0	14,0	16,0	20,0	25,0
P	1	Ap1 max	0,05 x D*	300	400	fz	0,044	0,060	0,072	0,083	0,092	0,101	0,114	0,124
	2	Ap1 max	0,05 x D*	280	380	fz	0,044	0,060	0,072	0,083	0,092	0,101	0,114	0,124
	3	Ap1 max	0,05 x D*	240	320	fz	0,036	0,050	0,061	0,070	0,079	0,087	0,101	0,114
	4	Ap1 max	0,05 x D*	180	300	fz	0,033	0,045	0,054	0,062	0,070	0,077	0,088	0,098
	5	Ap1 max	0,05 x D*	120	200	fz	0,029	0,040	0,048	0,056	0,063	0,070	0,081	0,091
	6	Ap1 max	0,05 x D*	100	150	fz	0,025	0,034	0,040	0,047	0,052	0,057	0,065	0,071
M	1	Ap1 max	0,05 x D*	180	230	fz	0,036	0,050	0,061	0,070	0,079	0,087	0,101	0,114
	2	Ap1 max	0,05 x D*	120	160	fz	0,029	0,040	0,048	0,056	0,063	0,070	0,081	0,091
	3	Ap1 max	0,05 x D*	120	140	fz	0,025	0,034	0,040	0,047	0,052	0,057	0,065	0,071
K	1	Ap1 max	0,05 x D*	240	300	fz	0,044	0,060	0,072	0,083	0,092	0,101	0,114	0,124
	2	Ap1 max	0,05 x D*	220	260	fz	0,036	0,050	0,061	0,070	0,079	0,087	0,101	0,114
	3	Ap1 max	0,05 x D*	200	260	fz	0,029	0,040	0,048	0,056	0,063	0,070	0,081	0,091
S	1	Ap1 max	0,05 x D*	100	180	fz	0,036	0,050	0,061	0,070	0,079	0,087	0,101	0,114
	2	Ap1 max	0,05 x D*	50	80	fz	0,019	0,026	0,032	0,037	0,042	0,046	0,054	0,061
	3	Ap1 max	0,05 x D*	120	160	fz	0,029	0,040	0,048	0,056	0,063	0,070	0,081	0,091
	4	Ap1 max	0,05 x D*	100	120	fz	0,026	0,037	0,045	0,052	0,058	0,064	0,074	0,084
H	1	Ap1 max	0,05 x D*	160	140	fz	0,033	0,045	0,054	0,062	0,070	0,077	0,088	0,098

* For the above cutting data, do not exceed an overall ae of 0,8mm.

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machinining centers, please adjust parameters accordingly on >12mm diameter.

KenFeed™ End Mills for High-Feed Milling

Primary Application

Specifically engineered to machine hardened steel up to 65 HRC at extreme speeds and feeds.

Features and Benefits

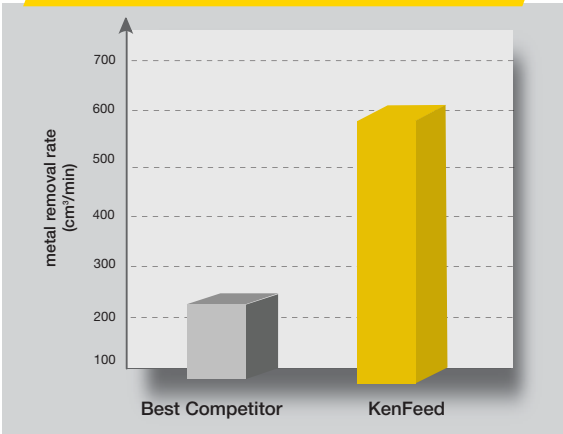
- Unique tool with new 6-flute style for high productivity.
- Necked shanks provide extended reach in deep cavities.
- High-feed rates up to 0,6mm per tooth on a 20mm tool.
- Machine hardened materials at 2–3x the metal removal rate of competitive end mills.
- Wide range of cutting diameters: down to 6mm for small and medium pocket work.
- Innovative new geometry maximises metal removal rates.
- High metal removal rates lower manufacturing costs.

Featured Application: Milling a Mould

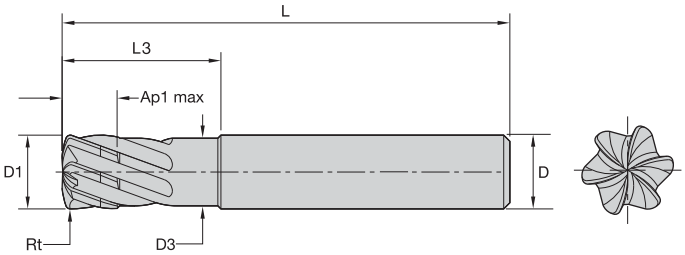
Operation: Pocket milling
Customer: Die and mould manufacturer
Workpiece: Mould
Material: AISI 4340 hardened steel (52 HRC)
Results: 3x better metal removal rate than competitive tool!
Machined at more than 3x faster feed!

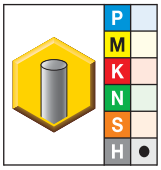
	COMPETITOR	KenFeed
tool:	4-flute H/P for die and mould	KMDA1200A6ANA
material:	medium-hardened steel	medium-hardened steel
surface speed:	120 m/min	160 m/min
feed per tooth:	0,34mm	0,34mm
depth of cut:	0,8mm	0,6mm
table feed:	4.331 mm/min	15.287 mm/min
metal removal rate:	22,8 cm^3/min	60,5 cm^3/min

Increased Metal Removal Rate by 191%



- Kennametal standard dimensions.
- Non-centre cutting.
- High-feed.



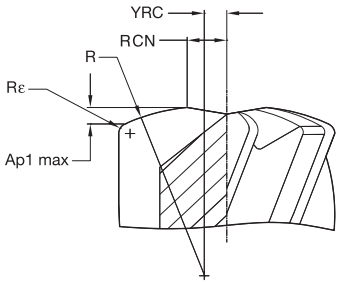


● first choice
○ alternate choice

KC639M	D1	D3	D	Ap1 max	L3	L	Rε
KHDA0600A6ANA	6,00	5,00	6,00	0,20	18,00	63,00	0,38
KHDA0800A6ANA	8,00	7,00	8,00	0,27	24,00	76,00	0,50
KHDA1000A6ANA	10,00	9,00	10,00	0,33	30,00	89,00	0,63
KHDA1200A6ANA	12,00	11,00	12,00	0,40	36,00	100,00	0,75
KHDA1600A6ANA	16,00	15,00	16,00	0,54	48,00	110,00	1,00
KHDA2000A6ANA	20,00	19,00	20,00	0,67	60,00	125,00	1,25

NOTE: For application data, see page M30.

D1	D1 tolerance	D tolerance
All	DIN e8	DIN h6

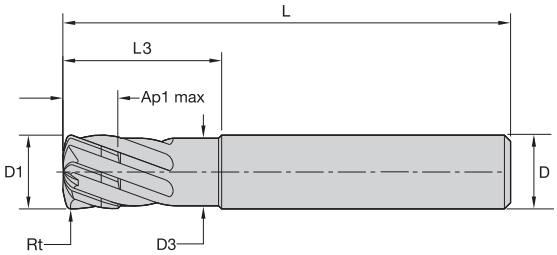


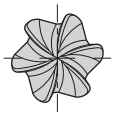
Programming Data

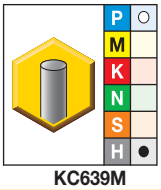
	geometrical parameters						ramping guide for circular and linear ramping						
							circular interpolation		linear ramping				
							optimal range of circle diameter for a single pass		calculated length per ramp angle				
catalogue number	D1	Ap1 max	R	Rε	YRC	CRN	smallest	largest	1°	2°	3°	4°	5°
KHDA0600A6ANA	6	0,20	9	0,375	0,75	1,26	8,52	12,00	32,99	16,49	10,99	8,23	6,58
KHDA0800A6ANA	8	0,27	12	0,500	1,00	1,68	11,36	16,00	43,98	21,99	14,65	10,98	8,78
KHDA1000A6ANA	10	0,33	15	0,625	1,25	2,10	14,20	20,00	54,98	27,48	18,31	13,72	10,97
KHDA1200A6ANA	12	0,40	18	0,750	1,50	2,52	17,04	24,00	65,98	32,98	21,97	16,47	13,16
KHDA1600A6ANA	16	0,54	24	1,000	2,00	3,36	22,72	32,00	87,97	43,97	29,30	21,96	17,55
KHDA2000A6ANA	20	0,67	30	1,250	2,50	4,20	28,40	40,00	109,96	54,96	36,62	27,45	21,94
							recommended percentage of programmed feed rate to use while ramping		100%	70%	50%	30%	10%

YRC = distance from centreline to the crown of the R radius.
CRN = distance from centreline to the start of the cutting edge. This dimension can also help determine the minimum circle size when helical ramping.
R = the head radius size.
Rε = the shoulder radius or radius at the corner of the cutter.

- Kennemetal standard dimensions.
- Non-centre cutting.
- High feed.





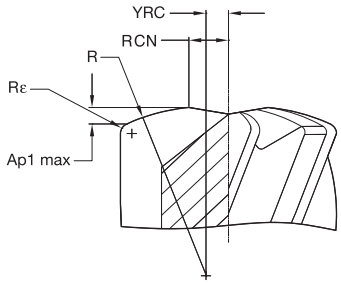


● first choice
○ alternate choice

KC639M	D1	D3	D	Ap1 max	L	Rε
KMDA0600A6ANA	6,00	5,00	6,00	0,32	63,00	0,38
KMDA0800A6ANA	8,00	7,00	8,00	0,42	76,00	0,50
KMDA1000A6ANA	10,00	9,00	10,00	0,53	89,00	0,63
KMDA1200A6ANA	12,00	11,00	12,00	0,63	100,00	0,75
KMDA1600A6ANA	16,00	15,00	16,00	0,84	110,00	1,00
KMDA2000A6ANA	20,00	19,00	20,00	1,05	125,00	1,25

NOTE: For application data, see page M30.

D1	D1 tolerance	D tolerance
All	DIN e8	DIN h6



Programming Data

	geometrical parameters						ramping guide for circular and linear ramping						
							circular interpolation		linear ramping				
							optimal range of circle diameter for a single pass		calculated length per ramp angle				
catalogue number	D1	Ap1 max	R	Rε	YRC	RCN	smallest	largest	1°	2°	3°	4°	5°
KMDA0600A6ANA	6	0,32	6	0,375	0,75	1,32	8,64	12,00	35,58	17,79	11,85	8,88	7,10
KMDA0800A6ANA	8	0,42	8	0,500	1,00	1,76	11,52	16,00	47,44	23,71	15,80	11,84	9,47
KMDA1000A6ANA	10	0,53	10	0,625	1,25	2,20	14,40	20,00	59,30	29,64	19,75	14,80	11,83
KMDA1200A6ANA	12	0,63	12	0,750	1,50	2,64	17,28	24,00	71,17	35,57	23,70	17,76	14,20
KMDA1600A6ANA	16	0,84	16	1,000	2,00	3,52	23,04	32,00	94,89	47,43	31,60	23,69	18,93
KMDA2000A6ANA	20	1,05	20	1,250	2,50	4,40	28,80	40,00	118,61	59,29	39,50	29,61	23,66
							recommended degree of programmed feed rate to use while ramping		100%	70%	50%	30%	10%

YRC = distance from centreline to the crown of the R radius.
CRN = distance from centreline to the start of the cutting edge. This dimension can also help determine the minimum circle size when helical ramping.
R = the head radius size.
Rε = the shoulder radius or radius at the corner of the cutter.

KenFeed • KHDA

Material Group		A		KC639M			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.					
				Cutting Speed — vc m/min			D1 — Diameter					
		ap	ae	min	max	mm	6,0	8,0	10,0	12,0	16,0	20,0
H	2	0,03 x D	0,55 x D	100	120	fz	0,200	0,300	0,300	0,400	0,500	0,600
H	3	0,03 x D	0,55 x D	80	100	fz	0,200	0,300	0,300	0,400	0,500	0,600
H	4	0,03 x D	0,55 x D	50	70	fz	0,150	0,200	0,250	0,300	0,400	0,500

KenFeed • KMDA

Material Group		A		KC639M			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.					
				Cutting Speed — vc m/min			D1 — Diameter					
		ap	ae	min	max	mm	6,0	8,0	10,0	12,0	16,0	20,0
P	4	0,05 x D	0,55 x D	160	180	fz	0,300	0,500	0,500	0,500	0,600	0,700
H	1	0,05 x D	0.55 x D	140	160	fz	0,300	0,500	0,500	0,500	0,600	0,700
H	2	0,05 x D	0,55 x D	100	120	fz	0,200	0,300	0,300	0,400	0,500	0,600

NOTE: These guidelines may require variations to achieve optimum results.

Best-in-Class Performance for Machining Hard Materials

Using Kennametal Solid End Mills will:

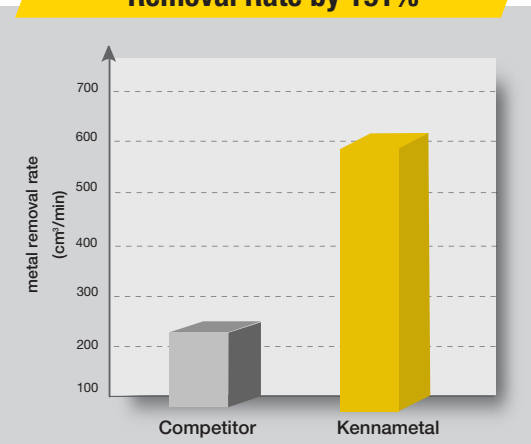
- Reduce the number of tools needed.
- Offer excellent chip evacuation.
- Promote maximum productivity.
- Increase removal rates.
- Enable higher speeds.
- Ensure accuracy.
- Reduce manufacturing costs.
- Provide long tool life.

Featured Application KenFeed™: Milling a Mould

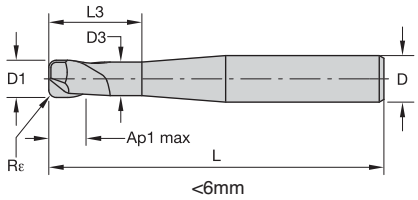
Operation: Pocket milling
Customer: Die and mould manufacturer
Workpiece: Mould
Material: AISI 4340 hardened steel (52 HRC)
Results: 3x better metal removal rate than competitive tool!
Machined at more than 3x faster feed!

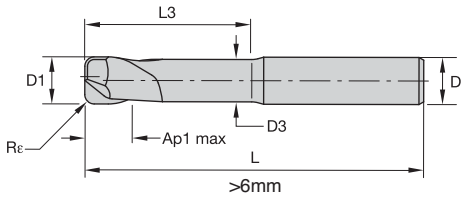
	COMPETITOR	Kennametal
tool:	4-flute H/P for die and mould	KMDA1200A6ANA
material:	medium-hardened steel	medium-hardened steel
surface speed:	120 m/min	160 m/min
feed per tooth:	0,34mm	0,6mm
depth of cut:	0,8mm	0,6mm
table feed:	4.331 mm/min	15.287 mm/min
metal removal rate:	22,8 cm^3/min	60,5 cm^3/min

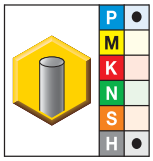
Increased Metal Removal Rate by 191%



- Kennametal standard dimensions.
- Centre cutting.







● first choice
○ alternate choice

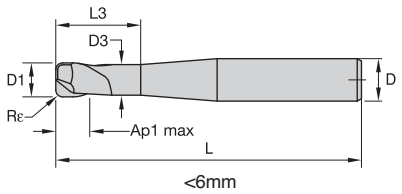
KC637M	D1	D	Ap1 max	L3	L	Rε	D3
F2AT0200AWM20R003	2,00	6,00	2,00	17,50	70,00	0,30	1,70
F2AT0200AWM20R005	2,00	6,00	2,00	17,50	70,00	0,50	1,70
F2AT0300AWM20R005	3,00	6,00	3,00	18,50	70,00	0,50	2,50
F2AT0300AWM20R010	3,00	6,00	3,00	18,50	70,00	1,00	2,50
F2AT0400AWL20R005	4,00	6,00	4,00	19,50	80,00	0,50	3,50
F2AT0400AWL20R010	4,00	6,00	4,00	19,50	80,00	1,00	3,50
F2AT0500AWL20R005	5,00	6,00	5,00	44,00	80,00	0,50	4,50
F2AT0500AWL20R010	5,00	6,00	5,00	44,00	80,00	1,00	4,50
F2AT0600AWL20R005	6,00	6,00	6,00	44,00	80,00	0,50	5,50
F2AT0600AWL20R010	6,00	6,00	6,00	44,00	80,00	1,00	5,50
F2AT0600AWL20R015	6,00	6,00	6,00	44,00	80,00	1,50	5,50
F2AT0800AWL20R010	8,00	8,00	8,00	54,00	90,00	1,00	7,00
F2AT0800AWL20R015	8,00	8,00	8,00	54,00	90,00	1,50	7,00
F2AT0800AWL20R020	8,00	8,00	8,00	54,00	90,00	2,00	7,00
F2AT1000AWL20R005	10,00	10,00	10,00	60,00	100,00	0,50	9,00
F2AT1000AWL20R010	10,00	10,00	10,00	60,00	100,00	1,00	9,00
F2AT1000AWL20R020	10,00	10,00	10,00	60,00	100,00	2,00	9,00
F2AT1000AWL20R030	10,00	10,00	10,00	60,00	100,00	3,00	9,00
F2AT1200AWX20R005	12,00	12,00	12,00	65,00	110,00	0,50	11,00
F2AT1200AWX20R010	12,00	12,00	12,00	65,00	110,00	1,00	11,00
F2AT1200AWX20R030	12,00	12,00	12,00	65,00	110,00	3,00	11,00
F2AT1200AWX20R040	12,00	12,00	12,00	65,00	110,00	4,00	11,00

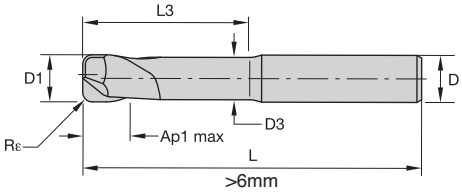
NOTE: For application data, see page M42.

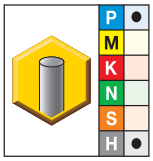
End Mill Tolerances

D1	tolerance e8	D	tolerance h6
≤3	-0,014/-0,028	≤3	+0/-0,006
>3–6	-0,020/-0,038	>3–6	+0/-0,008
>6–10	-0,025/-0,047	>6–10	+0/-0,009
>10–18	-0,032/-0,059	>10–18	+0/-0,011
>18–30	-0,040/-0,073	>18–30	+0/-0,013

- Kennametal standard dimensions.
- Centre cutting.







● first choice
○ alternate choice

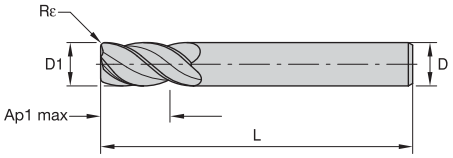
KC637M	D1	D	Ap1 max	L3	L	Rε	D3
F4AT0400AWS20R005	4,00	6,00	2,00	10,00	45,00	0,50	3,80
F4AT0400AWS20R010	4,00	6,00	2,00	10,00	45,00	1,00	3,80
F4AT0500AWS20R005	5,00	6,00	2,50	12,00	50,00	0,50	4,80
F4AT0500AWS20R010	5,00	6,00	2,50	12,00	50,00	1,00	4,80
F4AT0600AWS20R005	6,00	6,00	3,00	12,00	50,00	0,50	5,80
F4AT0600AWS20R020	6,00	6,00	3,00	12,00	50,00	2,00	5,80
F4AT0600AWL20R003	6,00	6,00	6,00	42,00	80,00	0,30	5,80
F4AT0600AWL20R005	6,00	6,00	6,00	42,00	80,00	0,50	5,80
F4AT0600AWL20R010	6,00	6,00	6,00	42,00	80,00	1,00	5,80
F4AT0800AWM20R005	8,00	8,00	4,00	20,00	60,00	0,50	7,80
F4AT0800AWM20R010	8,00	8,00	4,00	20,00	60,00	1,00	7,80
F4AT0800AWM20R020	8,00	8,00	4,00	20,00	60,00	2,00	7,80
F4AT0800AWL20R005	8,00	8,00	8,00	52,00	90,00	0,50	7,80
F4AT0800AWL20R010	8,00	8,00	8,00	52,00	90,00	1,00	7,80
F4AT0800AWL20R015	8,00	8,00	8,00	52,00	90,00	1,50	7,80
F4AT0800AWL20R020	8,00	8,00	8,00	52,00	90,00	2,00	7,80
F4AT1000AWL20R005	10,00	10,00	10,00	58,00	100,00	0,50	9,70
F4AT1000AWL20R010	10,00	10,00	10,00	58,00	100,00	1,00	9,70
F4AT1000AWL20R015	10,00	10,00	10,00	58,00	100,00	1,50	9,70
F4AT1000AWL20R020	10,00	10,00	10,00	58,00	100,00	2,00	9,70
F4AT1000AWL20R025	10,00	10,00	10,00	58,00	100,00	2,50	9,70
F4AT1000AWM20R005	10,00	10,00	5,00	24,00	70,00	0,50	9,80
F4AT1000AWM20R010	10,00	10,00	5,00	24,00	70,00	1,00	9,80
F4AT1000AWM20R015	10,00	10,00	5,00	24,00	70,00	1,50	9,80
F4AT1000AWM20R020	10,00	10,00	5,00	24,00	70,00	2,00	9,80
F4AT1000AWM20R025	10,00	10,00	5,00	24,00	70,00	2,50	9,80
F4AT1200AWX20R010	12,00	12,00	12,00	62,00	110,00	1,00	11,70
F4AT1200AWX20R015	12,00	12,00	12,00	62,00	110,00	1,50	11,70
F4AT1200AWX20R020	12,00	12,00	12,00	62,00	110,00	2,00	11,70
F4AT1200AWX20R030	12,00	12,00	12,00	62,00	110,00	3,00	11,70
F4AT1200AWL20R005	12,00	12,00	6,00	24,00	75,00	0,50	11,80
F4AT1200AWL20R010	12,00	12,00	6,00	24,00	75,00	1,00	11,80
F4AT1200AWL20R015	12,00	12,00	6,00	24,00	75,00	1,50	11,80
F4AT1200AWL20R020	12,00	12,00	6,00	24,00	75,00	2,00	11,80
F4AT1200AWL20R030	12,00	12,00	6,00	24,00	75,00	3,00	11,80

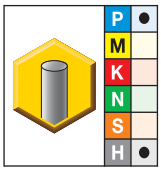
NOTE: For application data, see page M42.

End Mill Tolerances

D1	tolerance e8	D	tolerance h6
≤3	-0,014/-0,028	≤3	+0/-0,006
>3–6	-0,020/-0,038	>3–6	+0/-0,008
>6–10	-0,025/-0,047	>6–10	+0/-0,009
>10–18	-0,032/-0,059	>10–18	+0/-0,011
>18–30	-0,040/-0,073	>18–30	+0/-0,013

- Kennametal standard dimensions.
- Centre cutting.





● first choice
○ alternate choice

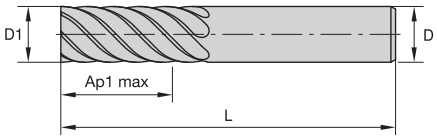
KC633M	D1	D	Ap1 max	L	Rε	Z U
F4AJ0600AWS50R025	6,00	6,00	9,00	50,00	0,25	4
F4AJ0600AWS50R050	6,00	6,00	9,00	50,00	0,50	4
F4AJ0800AWM50R050	8,00	8,00	12,00	63,00	0,50	4
F4AJ0800AWM50R100	8,00	8,00	12,00	63,00	1,00	4
F4AJ1000AWL50R050	10,00	10,00	15,00	76,00	0,50	4
F4AJ1000AWL50R100	10,00	10,00	15,00	76,00	1,00	4
F4AJ1200AWL50R050	12,00	12,00	18,00	76,00	0,50	4
F4AJ1200AWL50R150	12,00	12,00	18,00	76,00	1,50	4
F4AJ1600AWL50R050	16,00	16,00	24,00	89,00	0,50	4
F4AJ1600AWL50R150	16,00	16,00	24,00	89,00	1,50	4
F4AJ2000AWX50R050	20,00	20,00	30,00	104,00	0,50	4
F4AJ2000AWX50R200	20,00	20,00	30,00	104,00	2,00	4
F5AJ2500AWX50R050	25,00	25,00	38,00	121,00	0,50	5
F5AJ2500AWX50R300	25,00	25,00	38,00	121,00	3,00	5

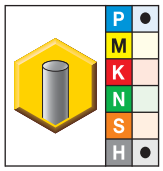
NOTE: For application data, see page M43.

End Mill Tolerances

D1	tolerance e8	D	tolerance h6
≤3	-0,014/-0,028	≤3	+0/-0,006
>3–6	-0,020/-0,038	>3–6	+0/-0,008
>6–10	-0,025/-0,047	>6–10	+0/-0,009
>10–18	-0,032/-0,059	>10–18	+0/-0,011
>18–30	-0,040/-0,073	>18–30	+0/-0,013

- Kennametal standard dimensions.
- Centre cutting.





● first choice
○ alternate choice

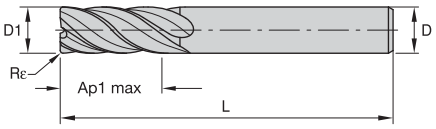
KC633M	D1	D	Ap1 max	L	Z U
F4AJ0600AWS50L090	6,00	6,00	9,00	50,00	4
F4AJ0800AWM50L120	8,00	8,00	12,00	63,00	4
F4AJ1000AWM50L150	10,00	10,00	15,00	76,00	4
F4AJ1200AWL50L180	12,00	12,00	18,00	76,00	4
F4AJ1600AWL50L240	16,00	16,00	24,00	89,00	4
F4AJ2000AWL50L300	20,00	20,00	30,00	104,00	4
F5AJ2500AWX50L380	25,00	25,00	38,00	121,00	5

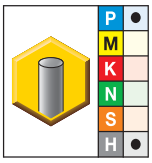
NOTE: For application data, see page M43.

End Mill Tolerances

D1	tolerance e8	D	tolerance h6
≤3	-0,014/-0,028	≤3	+0/-0,006
>3–6	-0,020/-0,038	>3–6	+0/-0,008
>6–10	-0,025/-0,047	>6–10	+0/-0,009
>10–18	-0,032/-0,059	>10–18	+0/-0,011
>18–30	-0,040/-0,073	>18–30	+0/-0,013

• Centre cutting.





● first choice
○ alternate choice

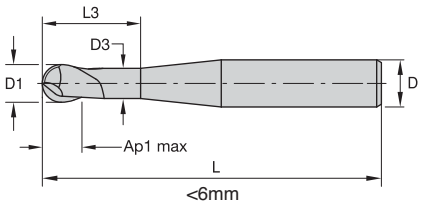
KC637M	D1	D	Ap1 max	L	Rε	Z U
F6AV0600ADL45	6,00	6,00	13,00	57,00	0,50	6
F6AV0600AWM45	6,00	6,00	18,00	62,00	0,50	6
F6AV0800ADL45	8,00	8,00	19,00	63,00	0,50	6
F6AV0800AWM45	8,00	8,00	24,00	68,00	0,50	6
F6AV1000ADL45	10,00	10,00	22,00	72,00	0,50	6
F6AV1000AWL45	10,00	10,00	30,00	80,00	0,50	6
F6AV1200ADL45	12,00	12,00	26,00	83,00	1,00	6
F6AV1200AWL45	12,00	12,00	36,00	93,00	1,00	6
F6AV1600ADL45	16,00	16,00	32,00	92,00	1,00	6
F6AV1600AWX45	16,00	16,00	48,00	108,00	1,00	6
F8AV2000ADL45	20,00	20,00	38,00	104,00	1,00	8
F8AV2000AWX45	20,00	20,00	60,00	126,00	1,00	8
F8AV2500ADL45	25,00	25,00	45,00	121,00	0,50	8
F8AV2500AWX45	25,00	25,00	75,00	150,00	1,50	8

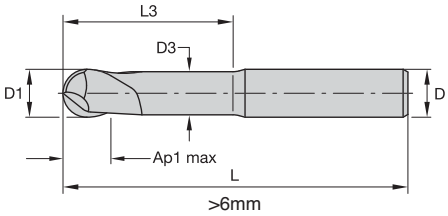
NOTE: For application data, see page M45.

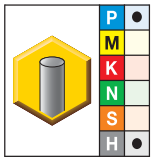
End Mill Tolerances

D1	tolerance e8	D	tolerance h6
≤3	-0,014/-0,028	≤3	+0/-0,006
>3–6	-0,020/-0,038	>3–6	+0/-0,008
>6–10	-0,025/-0,047	>6–10	+0/-0,009
>10–18	-0,032/-0,059	>10–18	+0/-0,011
>18–30	-0,040/-0,073	>18–30	+0/-0,013

- Kennametal standard dimensions.
- Centre cutting.







● first choice
○ alternate choice

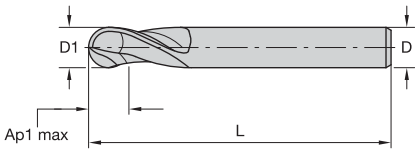
KC637M	D1	D3	D	Ap1 max	L3	L
F2AL0200AWM20	2,00	1,70	6,00	2,00	17,50	70,00
F2AL0300AWM20	3,00	2,50	6,00	3,00	18,50	70,00
F2AL0400AWL20	4,00	3,50	6,00	4,00	19,50	80,00
F2AL0500AWL20	5,00	4,50	6,00	5,00	44,00	80,00
F2AL0600AWL20	6,00	5,50	6,00	6,00	44,00	80,00
F2AL0800AWL20	8,00	7,00	8,00	8,00	54,00	90,00
F2AL1000AWL20	10,00	9,00	10,00	10,00	60,00	100,00
F2AL1200AWX20	12,00	11,00	12,00	12,00	65,00	110,00

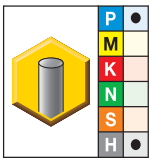
NOTE: For application data, see page M44.

End Mill Tolerances

D1	tolerance h10	D	tolerance h6
≤3	+0/-0,040	≤3	+0-/0,006
>3–6	+0/-0,048	>3–6	+0/-0,008
>6–10	+0/-0,058	>6–10	+0/-0,009
>10–18	+0/-0,070	>10–18	+0/-0,011
>18–30	+0/-0,084	>18–30	+0/-0,013

- Kennametal standard dimensions.
- Centre cutting.





● first choice
○ alternate choice

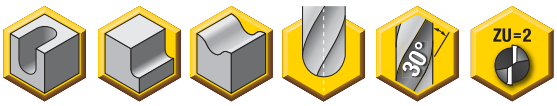
KC637M	D1	D	Ap1 max	L
F2AL0100AWL30	1,00	4,00	1,00	40,00
F2AL0150AWL30	1,50	4,00	1,50	40,00
F2AL0200AWL30	2,00	6,00	2,00	45,00
F2AL0300AWL30	3,00	6,00	3,00	45,00
F2AL0400AWL30	4,00	6,00	4,00	45,00
F2AL0500AWL30	5,00	6,00	5,00	50,00
F2AL0600AWL30	6,00	6,00	6,00	50,00
F2AL0800AWL30	8,00	8,00	8,00	60,00
F2AL1000AWM30	10,00	10,00	10,00	70,00
F2AL1200AWM30	12,00	12,00	12,00	75,00
F2AL1600AWM30	16,00	16,00	16,00	80,00

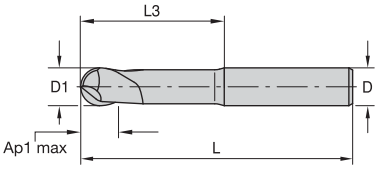
NOTE: For application data, see page M46.

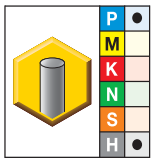
End Mill Tolerances

D1	tolerance h10	D	tolerance h6
≤3	+0/-0,040	≤3	+0/-0,006
>3–6	+0/-0,048	>3–6	+0/-0,008
>6–10	+0/-0,058	>6–10	+0/-0,009
>10–18	+0/-0,070	>10–18	+0/-0,011
>18–30	+0/-0,084	>18–30	+0/-0,013

- Kennametal standard dimensions.
- Centre cutting.







● first choice
○ alternate choice

KC637M	D1	D	Ap1 max	L	L3
F2AL0600AWM30	6,00	6,00	6,00	80,00	6,00
F2AL0800AWM30	8,00	8,00	8,00	90,00	8,00
F2AL1000AWL30	10,00	10,00	10,00	100,00	10,00
F2AL1200AWX30	12,00	12,00	12,00	110,00	12,00
F2AL1600AWX30	16,00	16,00	16,00	140,00	16,00

NOTE: For application data, see page M47.

End Mill Tolerances

D1	tolerance h10	D	tolerance h6
≤3	+0/-0,040	≤3	+0/-0,006
>3–6	+0/-0,048	>3–6	+0/-0,008
>6–10	+0/-0,058	>6–10	+0/-0,009
>10–18	+0/-0,070	>10–18	+0/-0,011
>18–30	+0/-0,084	>18–30	+0/-0,013

Carbide Recycling

Help preserve and protect our planet!

It's easy for your company to be environmentally conscious with the Kennametal Carbide Recycling Program.

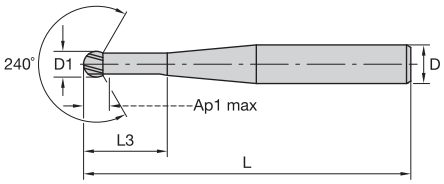
By sending us your used carbide tools, you help preserve and protect the environment and ensure that these products are recycled responsibly. Kennametal accepts any coated or non-coated carbide items, including inserts, drills, reamers, and taps.

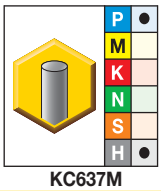
By using the Kennametal Carbide Recycling Program, you will receive:

- A partner who cares about a sustainable environment.
- Easy-to-use web portal to value your used carbide.
- Access to our popular Green Box™ options for carbide collection.
- Systematic and efficient disposal of carbide materials.
- Improved profitability.

Program is not currently available in all geographical areas.
For more information, please visit **www.kennametal.com/carbiderecycling.**

- Kennametal standard dimensions.
- Centre cutting.





● first choice
○ alternate choice

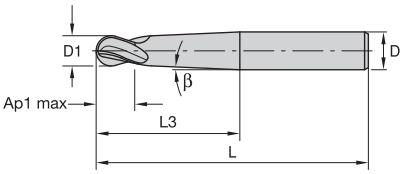
KC637M	D1	D	Ap1 max	L3	L
F2AB0200AWM30	2,00	6,00	1,00	17,00	70,00
F2AB0300AWM30	3,00	6,00	1,50	18,00	70,00
F2AB0400AWL30	4,00	6,00	2,00	19,00	80,00
F2AB0500AWL30	5,00	6,00	2,50	42,00	80,00
F2AB0600AWL30	6,00	6,00	3,00	42,00	80,00
F2AB0800AWL30	8,00	8,00	4,00	52,00	90,00
F2AB1000AWL30	10,00	10,00	5,00	58,00	100,00
F2AB1200AWX30	12,00	12,00	6,00	63,00	110,00

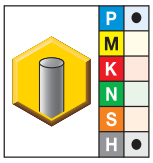
NOTE: For application data, see page M48.

End Mill Tolerances

D1	tolerance h10	D	tolerance h6
≤3	+0/-0,040	≤3	+0/-0,006
>3–6	+0/-0,048	>3–6	+0/-0,008
>6–10	+0/-0,058	>6–10	+0/-0,009
>10–18	+0/-0,070	>10–18	+0/-0,011
>18–30	+0/-0,084	>18–30	+0/-0,013

- Kennametal standard dimensions.
- Centre cutting.





● first choice
○ alternate choice

KC637M	D1	D	Ap1 max	L3	L	β
F4AL0300AWM30L040	3,00	6,00	4,00	4,00	75,00	2.85
F4AL0300AWL30L040	3,00	6,00	4,00	4,00	100,00	1.65
F4AL0400AWM30L050	4,00	6,00	5,00	5,00	75,00	2.67
F4AL0400AWL30L050	4,00	6,00	5,00	5,00	100,00	1.18
F4AL0500AWM30L060	5,00	6,00	6,00	6,00	75,00	1.33
F4AL0500AWL30L060	5,00	8,00	6,00	6,00	100,00	1.75
F4AL0600AWM30L080	6,00	8,00	8,00	8,00	75,00	2.38
F4AL0600AWL30L080	6,00	10,00	8,00	8,00	100,00	2.52
F4AL0800AWL30L120	8,00	10,00	12,00	12,00	100,00	1.52
F4AL0800AWX30L120	8,00	12,00	12,00	12,00	150,00	1.40
F4AL1000AWL30L150	10,00	12,00	15,00	15,00	100,00	1.83
F4AL1000AWX30L150	10,00	12,00	15,00	15,00	150,00	.80

NOTE: For application data, see page M49.

End Mill Tolerances

D1	tolerance h8	D	tolerance h6
≤3	+0/-0,014	≤3	+0/-0,006
>3–6	+0/-0,018	>3–6	+0/-0,008
>6–10	+0/-0,022	>6–10	+0/-0,009
>10–18	+0/-0,027	>10–18	+0/-0,011
>18–30	+0/-0,033	>18–30	+0/-0,013

F2AT...AWL/M/X20R...

Material Group		A		B	KC637M		Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.								
					Cutting Speed — vc m/min			D1 — Diameter							
		ap	ae	ap	min	max	mm	2,0	3,0	4,0	5,0	6,0	8,0	10,0	12,0
P	3	0,5 x D	0,4 x D	0,3 x D	120	160	fz	0,011	0,017	0,026	0,033	0,040	0,055	0,067	0,077
P	4	0,5 x D	0,4 x D	0,3 x D	90	150	fz	0,010	0,016	0,024	0,030	0,036	0,049	0,059	0,069
H	1	0,5 x D	0,4 x D	0,3 x D	80	140	fz	0,010	0,016	0,024	0,030	0,036	0,049	0,059	0,069
H	2	0,5 x D	0,3 x D	0,2 x D	60	80	fz	0,012	0,016	0,018	0,022	0,027	0,037	0,044	0,051
H	3	0,5 x D	0,15 x D	0,15 x D	50	70	fz	0,009	0,013	0,014	0,018	0,021	0,029	0,035	0,041
H	4	0,5 x D	0,1 x D	0,1 x D	40	60	fz	0,006	0,008	0,009	0,012	0,014	0,019	0,023	0,027

NOTE: These guidelines may require possible variations to achieve optimum results.
Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centres, please adjust parameters accordingly on >12mm diameter.

F4AT...AWS/M/L/X20R...

Material Group		A		B	KC637M		Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.						
					Cutting Speed — vc m/min			D1 — Diameter					
		ap	ae	ap	min	max	mm	4,0	5,0	6,0	8,0	10,0	12,0
P	3	0,5 x D	0,4 x D	0,3 x D	120	160	fz	0,026	0,033	0,040	0,055	0,067	0,077
P	4	0,5 x D	0,4 x D	0,3 x D	90	150	fz	0,024	0,030	0,036	0,049	0,059	0,069
H	1	0,5 x D	0,4 x D	0,3 x D	80	140	fz	0,024	0,030	0,036	0,049	0,059	0,069
H	2	0,5 x D	0,3 x D	0,2 x D	60	80	fz	0,018	0,022	0,027	0,037	0,044	0,051
H	3	0,5 x D	0,15 x D	0,15 x D	50	70	fz	0,014	0,018	0,021	0,029	0,035	0,041
H	4	0,5 x D	0,1 x D	0,1 x D	40	60	fz	0,009	0,012	0,014	0,019	0,023	0,027

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centres, please adjust parameters accordingly on >12mm diameter.

F4/5AJ...AWS/M/LX50R...

Material Group		A		B	KC633M		Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.										
					Cutting Speed — vc m/min			D1 — Diameter									
		ap	ae	ap	min	max	mm	3,0	4,0	5,0	6,0	8,0	10,0	12,0	16,0	20,0	25,0
P	3	1 x D	0,4 x D	1 x D	160	180	fz	0,019	0,026	0,033	0,040	0,055	0,067	0,077	0,096	0,111	0,125
P	4	1 x D	0,4 x D	0,75 x D	140	160	fz	0,017	0,024	0,030	0,036	0,049	0,059	0,069	0,084	0,097	0,107
H	1	1 x D	0,4 x D	0,75 x D	120	140	fz	0,017	0,024	0,030	0,036	0,049	0,059	0,069	0,084	0,097	0,107
H	2	1 x D	0,3 x D	0,5 x D	80	130	fz	0,013	0,018	0,022	0,027	0,037	0,044	0,051	0,063	0,071	0,078
H	3	1 x D	0,15 x D	0,3 x D	70	100	fz	0,010	0,014	0,018	0,021	0,029	0,035	0,041	0,051	0,059	0,067
H	4	1 x D	0,1 x D	0,15 x D	50	70	fz	0,007	0,009	0,012	0,014	0,019	0,023	0,027	0,034	0,039	0,044

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centres, please adjust parameters accordingly on >12mm diameter.

F4/5/6AJ...A/BWS/M/LX50L...

Material Group		A		B	KC633M		Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.										
					Cutting Speed — vc m/min			D1 — Diameter									
		ap	ae	ap	min	max	mm	3,0	4,0	5,0	6,0	8,0	10,0	12,0	16,0	20,0	25,0
P	3	1 x D	0,4 x D	1 x D	160	180	fz	0,019	0,026	0,033	0,040	0,055	0,067	0,077	0,096	0,111	0,125
P	4	1 x D	0,4 x D	0,75 x D	140	160	fz	0,017	0,024	0,030	0,036	0,049	0,059	0,069	0,084	0,097	0,107
H	1	1 x D	0,4 x D	0,75 x D	120	140	fz	0,017	0,024	0,030	0,036	0,049	0,059	0,069	0,084	0,097	0,107
H	2	1 x D	0,3 x D	0,5 x D	80	130	fz	0,013	0,018	0,022	0,027	0,037	0,044	0,051	0,063	0,071	0,078
H	3	1 x D	0,15 x D	0,3 x D	70	100	fz	0,010	0,014	0,018	0,021	0,029	0,035	0,041	0,051	0,059	0,067
H	4	1 x D	0,1 x D	0,15 x D	50	70	fz	0,007	0,009	0,012	0,014	0,019	0,023	0,027	0,034	0,039	0,044

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centres, please adjust parameters accordingly on >12mm diameter.

F2AL...AWM/L/X20...

Material Group		A		KC637M			Finishing — Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.							
				Cutting Speed — vc m/min			D1 — Diameter							
		ap	ae	min	max	mm	2,0	3,0	4,0	5,0	6,0	8,0	10,0	12,0
P	3	0,04 x D	0,04 x D	416	468	fz	0,052	0,080	0,108	0,137	0,168	0,231	0,279	0,324
P	4	0,04 x D	0,04 x D	364	416	fz	0,048	0,073	0,099	0,125	0,152	0,207	0,249	0,288
H	1	0,03 x D	0,03 x D	290	406	fz	0,052	0,078	0,106	0,134	0,162	0,221	0,266	0,308
H	2	0,03 x D	0,03 x D	203	348	fz	0,039	0,059	0,080	0,101	0,122	0,166	0,199	0,230
H	3	0,02 x D	0,02 x D	216	324	fz	0,033	0,050	0,067	0,084	0,102	0,139	0,168	0,196
H	4	0,02 x D	0,02 x D	180	252	fz	0,022	0,033	0,045	0,056	0,068	0,093	0,112	0,130

Material Group		A		KC637M			Semi-Finishing — Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.							
				Cutting Speed — vc m/min			D1 — Diameter							
		ap	ae	min	max	mm	2,0	3,0	4,0	5,0	6,0	8,0	10,0	12,0
P	3	0,1 x D	0,05 x D	272	306	fz	0,034	0,052	0,070	0,089	0,109	0,150	0,182	0,211
P	4	0,1 x D	0,05 x D	238	272	fz	0,031	0,048	0,064	0,081	0,099	0,134	0,162	0,187
H	1	0,07 x D	0,1 x D	200	280	fz	0,039	0,060	0,080	0,102	0,123	0,168	0,203	0,234
H	2	0,05 x D	0,04 x D	161	276	fz	0,034	0,052	0,070	0,088	0,107	0,145	0,174	0,201
H	3	0,03 x D	0,03 x D	174	261	fz	0,031	0,047	0,063	0,079	0,096	0,130	0,158	0,183
H	4	0,03 x D	0,03 x D	145	203	fz	0,021	0,031	0,042	0,053	0,064	0,087	0,105	0,122

Material Group		A		KC637M			Roughing — Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.							
				Cutting Speed — vc m/min			D1 — Diameter							
		ap	ae	min	max	mm	2,0	3,0	4,0	5,0	6,0	8,0	10,0	12,0
P	3	0,2 x D	0,1 x D	208	234	fz	0,015	0,023	0,031	0,040	0,049	0,067	0,081	0,094
P	4	0,2 x D	0,1 x D	182	208	fz	0,014	0,021	0,029	0,036	0,044	0,060	0,073	0,084
H	1	0,15 x D	0,1 x D	140	196	fz	0,021	0,032	0,043	0,054	0,066	0,090	0,109	0,125
H	2	0.1 x D	0,075 x D	119	204	fz	0,024	0,036	0,048	0,061	0,074	0,101	0,121	0,140
H	3	0,05 x D	0,05 x D	138	207	fz	0,027	0,041	0,055	0,069	0,084	0,114	0,138	0,161
H	4	0,05 x D	0,05 x D	115	161	fz	0,018	0,027	0,037	0,046	0,056	0,076	0,092	0,107

F6/8AV...ADL45...

Material Group		A		KC637M			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.						
				Cutting Speed — vc m/min			D1 — Diameter						
		ap	ae	min	max	mm	6,0	8,0	10,0	12,0	16,0	20,0	25,0
P	3	1,5 x D	0,2 x D	120	160	fz	0,040	0,055	0,067	0,077	0,096	0,111	0,125
	4	1,5 x D	0,2 x D	90	150	fz	0,036	0,049	0,059	0,069	0,084	0,097	0,107
H	1	1,5 x D	0,2 x D	80	140	fz	0,036	0,049	0,059	0,069	0,084	0,097	0,107
	2	1,5 x D	0,15 x D	60	80	fz	0,027	0,037	0,044	0,051	0,063	0,071	0,078
	3	1,5 x D	0,1 x D	50	70	fz	0,021	0,029	0,035	0,041	0,051	0,059	0,067
	4	1,5 x D	0,05 x D	40	60	fz	0,014	0,019	0,023	0,027	0,034	0,039	0,044

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centres, please adjust parameters accordingly on >12mm diameter.

Solid End Milling Application Videos

Check out our new KennametalSolutions Channel on YouTube!
You can find application videos for our solid end milling products there.
Just go to: **www.youtube.com/KennametalSolutions**.

F2AL...AWL/M30..

Material Group		A		KC637M			Finishing — Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.							
				Cutting Speed — vc m/min			D1 — Diameter							
		ap	ae	min	max	mm	1,0	2,0	4,0	6,0	8,0	10,0	12,0	16,0
P	3	0,04 x D	0,04 x D	416	468	fz	0,0256	0,0522	0,108	0,168	0,231	0,279	0,324	0,403
P	4	0,04 x D	0,04 x D	364	416	fz	0,0239	0,0484	0,099	0,152	0,207	0,249	0,288	0,355
H	1	0,03 x D	0,03 x D	290	406	fz	0,0255	0,0517	0,106	0,162	0,221	0,266	0,308	0,379
H	2	0,03 x D	0,03 x D	203	348	fz	0,0193	0,0391	0,080	0,122	0,166	0,199	0,230	0,281
H	3	0,02 x D	0,02 x D	216	324	fz	0,0163	0,0328	0,067	0,102	0,139	0,168	0,196	0,244
H	4	0,02 x D	0,02 x D	180	252	fz	0,0108	0,0219	0,045	0,068	0,093	0,112	0,130	0,162

Material Group		A		KC637M			Semi-Finishing — Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.							
				Cutting Speed — vc m/min			D1 — Diameter							
		ap	ae	min	max	mm	1,0	2,0	4,0	6,0	8,0	10,0	12,0	16,0
P	3	0,1 x D	0,05 x D	272	306	fz	0,017	0,034	0,070	0,109	0,150	0,182	0,211	0,262
P	4	0,1 x D	0,05 x D	238	272	fz	0,016	0,031	0,064	0,099	0,134	0,162	0,187	0,230
H	1	0,07 x D	0,1 x D	200	280	fz	0,019	0,039	0,080	0,123	0,168	0,203	0,234	0,288
H	2	0,05 x D	0,04 x D	161	276	fz	0,017	0,034	0,070	0,107	0,145	0,174	0,201	0,246
H	3	0,03 x D	0,03 x D	174	261	fz	0,015	0,031	0,063	0,096	0,130	0,158	0,183	0,229
H	4	0,03 x D	0,03 x D	145	203	fz	0,010	0,021	0,042	0,064	0,087	0,105	0,122	0,151

Material Group		A		KC637M			Roughing — Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.							
				Cutting Speed — vc m/min			D1 — Diameter							
		ap	ae	min	max	mm	1,0	2,0	4,0	6,0	8,0	10,0	12,0	16,0
P	3	0,2 x D	0,1 x D	208	234	fz	0,007	0,015	0,031	0,049	0,067	0,081	0,094	0,117
P	4	0,2 x D	0,1 x D	182	208	fz	0,007	0,014	0,029	0,044	0,060	0,073	0,084	0,103
H	1	0,15 x D	0,1 x D	140	196	fz	0,010	0,021	0,043	0,066	0,090	0,109	0,125	0,154
H	2	0,1 x D	0,075 x D	119	204	fz	0,012	0,024	0,048	0,074	0,101	0,121	0,140	0,171
H	3	0,05 x D	0,05 x D	138	207	fz	0,013	0,027	0,055	0,084	0,114	0,138	0,161	0,200
H	4	0,05 x D	0,05 x D	115	161	fz	0,009	0,018	0,037	0,056	0,076	0,092	0,107	0,133

F2AL...AWM/L/X30...

Material Group		A		KC637M			Finishing — Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.							
				Cutting Speed — vc m/min			D1 — Diameter							
		ap	ae	min	max	mm	1,0	2,0	4,0	6,0	8,0	10,0	12,0	16,0
P	3	0,04 x D	0,04 x D	416	468	fz	0,0256	0,0522	0,108	0,168	0,231	0,279	0,324	0,403
P	4	0,04 x D	0,04 x D	364	416	fz	0,0239	0,0484	0,099	0,152	0,207	0,249	0,288	0,355
H	1	0,03 x D	0,03 x D	290	406	fz	0,0255	0,0517	0,106	0,162	0,221	0,266	0,308	0,379
H	2	0,03 x D	0,03 x D	203	348	fz	0,0193	0,0391	0,080	0,122	0,166	0,199	0,230	0,281
H	3	0,02 x D	0,02 x D	216	324	fz	0,0163	0,0328	0,067	0,102	0,139	0,168	0,196	0,244
H	4	0,02 x D	0,02 x D	180	252	fz	0,0108	0,0219	0,045	0,068	0,093	0,112	0,130	0,162

Material Group		A		KC637M			Semi-Finishing — Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.							
				Cutting Speed — vc m/min			D1 — Diameter							
		ap	ae	min	max	mm	1,0	2,0	4,0	6,0	8,0	10,0	12,0	16,0
P	3	0,1 x D	0,05 x D	272	306	fz	0,017	0,034	0,070	0,109	0,150	0,182	0,211	0,262
P	4	0,1 x D	0,05 x D	238	272	fz	0,016	0,031	0,064	0,099	0,134	0,162	0,187	0,230
H	1	0,07 x D	0,1 x D	200	280	fz	0,019	0,039	0,080	0,123	0,168	0,203	0,234	0,288
H	2	0,05 x D	0,04 x D	161	276	fz	0,017	0,034	0,070	0,107	0,145	0,174	0,201	0,246
H	3	0,03 x D	0,03 x D	174	261	fz	0,015	0,031	0,063	0,096	0,130	0,158	0,183	0,229
H	4	0,03 x D	0,03 x D	145	203	fz	0,010	0,021	0,042	0,064	0,087	0,105	0,122	0,151

Material Group		A		KC637M			Roughing — Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.							
				Cutting Speed — vc m/min			D1 — Diameter							
		ap	ae	min	max	mm	1,0	2,0	4,0	6,0	8,0	10,0	12,0	16,0
P	3	0,2 x D	0,1 x D	208	234	fz	0,007	0,015	0,031	0,049	0,067	0,081	0,094	0,117
P	4	0,2 x D	0,1 x D	182	208	fz	0,007	0,014	0,029	0,044	0,060	0,073	0,084	0,103
H	1	0,15 x D	0,1 x D	140	196	fz	0,010	0,021	0,043	0,066	0,090	0,109	0,125	0,154
H	2	0,1 x D	0,075 x D	119	204	fz	0,012	0,024	0,048	0,074	0,101	0,121	0,140	0,171
H	3	0,05 x D	0,05 x D	138	207	fz	0,013	0,027	0,055	0,084	0,114	0,138	0,161	0,200
H	4	0,05 x D	0,05 x D	115	161	fz	0,009	0,018	0,037	0,056	0,076	0,092	0,107	0,133

F2AB...AWM/L/X30...

Material Group		A		KC637M			Finishing — Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.					
				Cutting Speed — vc m/min			D1 — Diameter					
		ap	ae	min	max	mm	2,0	4,0	6,0	8,0	10,0	12,0
P	3	0,04 x D	0,04 x D	416	468	fz	0,0522	0,108	0,168	0,231	0,279	0,324
P	4	0,04 x D	0,04 x D	364	416	fz	0,0484	0,099	0,152	0,207	0,249	0,288
H	1	0,03 x D	0,03 x D	290	406	fz	0,0517	0,106	0,162	0,221	0,266	0,308
H	2	0,03 x D	0,03 x D	203	348	fz	0,0391	0,080	0,122	0,166	0,199	0,230
H	3	0,02 x D	0,02 x D	216	324	fz	0,0328	0,067	0,102	0,139	0,168	0,196
H	4	0,02 x D	0,02 x D	180	252	fz	0,0219	0,045	0,068	0,093	0,112	0,130

Material Group		A		KC637M			Semi-Finishing — Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.					
				Cutting Speed — vc m/min			D1 — Diameter					
		ap	ae	min	max	mm	2,0	4,0	6,0	8,0	10,0	12,0
P	3	0,1 x D	0,05 x D	272	306	fz	0,034	0,070	0,109	0,150	0,182	0,211
P	4	0,1 x D	0,05 x D	238	272	fz	0,031	0,064	0,099	0,134	0,162	0,187
H	1	0,07 x D	0,1 x D	200	280	fz	0,039	0,080	0,123	0,168	0,203	0,234
H	2	0,05 x D	0,04 x D	161	276	fz	0,034	0,070	0,107	0,145	0,174	0,201
H	3	0,03 x D	0,03 x D	174	261	fz	0,031	0,063	0,096	0,130	0,158	0,183
H	4	0,03 x D	0,03 x D	145	203	fz	0,021	0,042	0,064	0,087	0,105	0,122

Material Group		A		KC637M			Roughing — Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.					
				Cutting Speed — vc m/min			D1 — Diameter					
		ap	ae	min	max	mm	2,0	4,0	6,0	8,0	10,0	12,0
P	3	0,2 x D	0,1 x D	208	234	fz	0,015	0,031	0,049	0,067	0,081	0,094
P	4	0,2 x D	0,1 x D	182	208	fz	0,014	0,029	0,044	0,060	0,073	0,084
H	1	0,15 x D	0,1 x D	140	196	fz	0,021	0,043	0,066	0,090	0,109	0,125
H	2	0,1 x D	0,075 x D	119	204	fz	0,024	0,048	0,074	0,101	0,121	0,140
H	3	0,05 x D	0,05 x D	138	207	fz	0,027	0,055	0,084	0,114	0,138	0,161
H	4	0,05 x D	0,05 x D	115	161	fz	0,018	0,037	0,056	0,076	0,092	0,107

F4AL...AWM/L/X30L...

Material Group		A		KC637M			Finishing — Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.					
				Cutting Speed — vc m/min			D1 — Diameter					
		ap	ae	min	max	mm	3,0	4,0	5,0	6,0	8,0	10,0
P	3	0,04 x D	0,04 x D	416	468	fz	0,080	0,108	0,137	0,168	0,231	0,279
P	4	0,04 x D	0,04 x D	364	416	fz	0,073	0,099	0,125	0,152	0,207	0,249
H	1	0,03 x D	0,03 x D	290	406	fz	0,078	0,106	0,134	0,162	0,221	0,266
H	2	0,03 x D	0,03 x D	203	348	fz	0,059	0,080	0,101	0,122	0,166	0,199
H	3	0,02 x D	0,02 x D	216	324	fz	0,050	0,067	0,084	0,102	0,139	0,168
H	4	0,02 x D	0,02 x D	180	252	fz	0,033	0,045	0,056	0,068	0,093	0,112

Material Group		A		KC637M			Semi-Finishing — Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.					
				Cutting Speed — vc m/min			D1 — Diameter					
		ap	ae	min	max	mm	3,0	4,0	5,0	6,0	8,0	10,0
P	3	0,1 x D	0,05 x D	272	306	fz	0,052	0,070	0,089	0,109	0,150	0,182
P	4	0,1 x D	0,05 x D	238	272	fz	0,048	0,064	0,081	0,099	0,134	0,162
H	1	0,07 x D	0,1 x D	200	280	fz	0,060	0,080	0,102	0,123	0,168	0,203
H	2	0,05 x D	0,04 x D	161	276	fz	0,052	0,070	0,088	0,107	0,145	0,174
H	3	0,03 x D	0,03 x D	174	261	fz	0,047	0,063	0,079	0,096	0,130	0,158
H	4	0,03 x D	0,03 x D	145	203	fz	0,031	0,042	0,053	0,064	0,087	0,105

Material Group		A		KC637M			Roughing — Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.					
				Cutting Speed — vc m/min			D1 — Diameter					
		ap	ae	min	max	mm	3,0	4,0	5,0	6,0	8,0	10,0
P	3	0,2 x D	0,1 x D	208	234	fz	0,023	0,031	0,040	0,049	0,067	0,081
P	4	0,2 x D	0,1 x D	182	208	fz	0,021	0,029	0,036	0,044	0,060	0,073
H	1	0,15 x D	0,1 x D	140	196	fz	0,032	0,043	0,054	0,066	0,090	0,109
H	2	0,1 x D	0,075 x D	119	204	fz	0,036	0,048	0,061	0,074	0,101	0,121
H	3	0,05 x D	0,05 x D	138	207	fz	0,041	0,055	0,069	0,084	0,114	0,138
H	4	0,05 x D	0,05 x D	115	161	fz	0,027	0,037	0,046	0,056	0,076	0,092

MaxiMet™ Carbide End Mills for High Metal Removal Rates and Superior Surface Finishes

Primary Application

Designed to significantly reduce machining time in aluminium! The innovative geometry designs include a wiper facet for superior surface finish on aluminium parts. MaxiMet takes roughing and finishing cuts with one tool.

Features and Benefits

Higher Productivity and Profitability

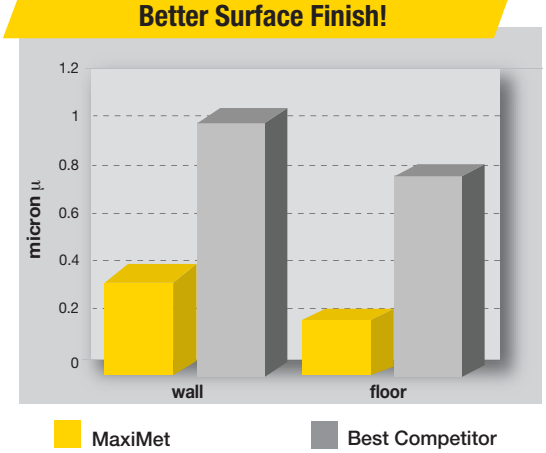
- Use only one tool for roughing and finishing operations.
- Slotting is effective up to full 1 x D axial depth. Side milling is effective up to 0,5 x D radial and 1,5 x D axial depth.
- Three-flute series uses unequal flute spacing for chatter-free performance.
- Effective in a full range of machine speeds.
- Multiple corner radii and extended neck configurations are available as standard.

Featured Application: Machining a Block

Operation: Slotting
Workpiece: Aluminium block
Material: 6061 aluminium
Solution: MaxiMet solid carbide end mill
Results: 100% better surface finish on walls and floor

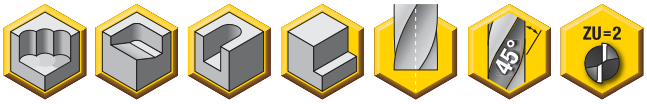
	COMPETITOR	MaxiMet
grade:	uncoated tools	uncoated tools
end mill:	16mm 3-flute	16mm 3-flute MaxiMet
material:	aluminium	aluminium
depth of cut (ap):	8mm	8mm
width of cut (ae):	8mm	8mm
speed (vc):	610 m/min	610 m/min
RPM (N):	12.000 RPM	12.000 RPM
feed rate (vf):	3.600 mm/min	3.600 mm/min
chip load per tooth (fz):	0,1 mm/th	0,1 mm/th
metal removal rate:	230 cm^3/min	230 cm^3/min

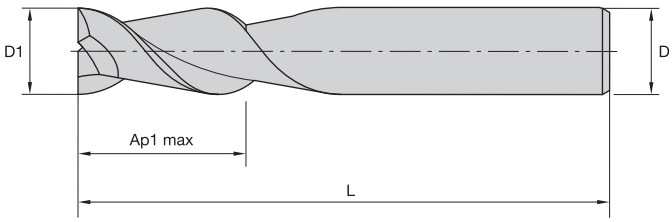
MaxiMet Delivered 100% Better Surface Finish!

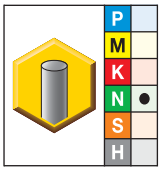


KENNAMETAL

- Kennametal standard dimensions.
- Centre cutting.
- Effective in thin wall applications.
- Wiper facet, special end gash, and flute geometry provide better surface finishes.
- Unique geometry delivers maximum metal removal rates.







● first choice
○ alternate choice

K600	D1	D	Ap1 max	L
ABDF0150A2AS	1,50	3,00	6,00	38,00
ABDF0200A2AS	2,00	3,00	8,00	38,00
ABDF0250A2AS	2,50	3,00	9,00	38,00
ABDF0300A2AS	3,00	3,00	12,00	38,00
ABDF0400A2AS	4,00	4,00	12,00	50,00
ABDF0500A2AS	5,00	5,00	14,00	50,00
ABDF0600A2AS	6,00	6,00	16,00	50,00
ABDF0800A2AS	8,00	8,00	20,00	63,00
ABDF1000A2AS	10,00	10,00	22,00	76,00
ABDF1200A2AS	12,00	12,00	25,00	76,00
ABDF1400A2AS	14,00	14,00	32,00	83,00
ABDF1600A2AS	16,00	16,00	32,00	89,00
ABDF1800A2AS	18,00	18,00	38,00	100,00
ABDF2000A2AS	20,00	20,00	38,00	104,00

NOTE: For application data, see page M62.

End Mill Tolerances

D1	D1 tolerance	D tolerance
<6mm	DIN e8	DIN h6
>6mm	DIN h6	DIN h6

- Kennametal standard dimensions.
- Centre cutting.
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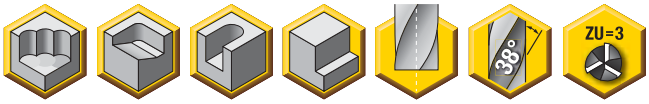
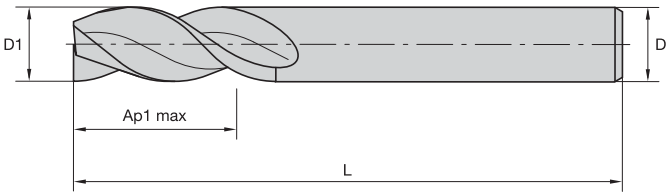
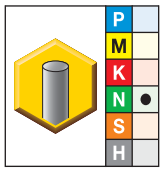






● first choice
○ alternate choice

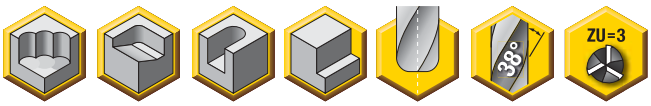
K600	D1	D	Ap1 max	L
ABDE0300A3AS	3,00	3,00	12,00	38,00
ABDE0400A3AS	4,00	4,00	12,00	50,00
ABDE0500A3AS	5,00	5,00	14,00	50,00
ABDE0600A3AS	6,00	6,00	16,00	50,00
ABDE0800A3AS	8,00	8,00	20,00	63,00
ABDE1000A3AS	10,00	10,00	22,00	76,00
ABDE1200A3AS	12,00	12,00	25,00	76,00
ABDE1400A3AS	14,00	14,00	32,00	83,00
ABDE1600A3AS	16,00	16,00	32,00	89,00
ABDE1800A3AS	18,00	18,00	38,00	100,00
ABDE2000A3AS	20,00	20,00	38,00	104,00

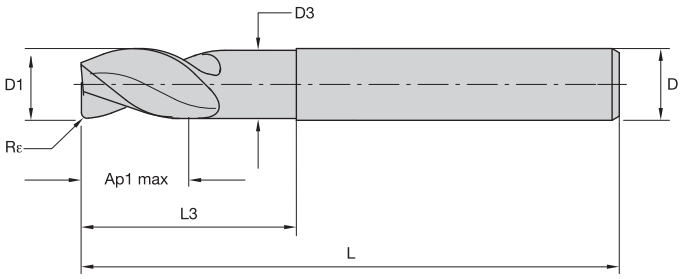
NOTE: For application data, see page M62.

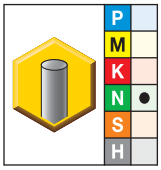
End Mill Tolerances

D1	D1 tolerance	D tolerance
<6mm	DIN e8	DIN h6
>6mm	DIN h6	DIN h6

- Kennametal standard dimensions.
- Centre cutting.
- Effective in thin wall applications.
- Wiper facet, special end gash, and flute geometry provide better surface finishes.
- Unique geometry delivers maximum metal removal rates.







● first choice
○ alternate choice

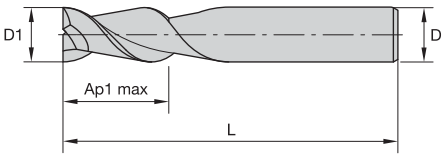
K600	D1	D	D3	Ap1 max	L3	L	Rε
ABDE0600A3ARA	6,00	6,00	5,40	9,00	18,00	63,00	0,20
ABDE0600A3ARB	6,00	6,00	5,40	9,00	18,00	63,00	0,50
ABDE0600A3ARC	6,00	6,00	5,40	9,00	18,00	63,00	1,00
ABDE0800A3ARA	8,00	8,00	7,20	12,00	24,00	76,00	0,20
ABDE0800A3ARB	8,00	8,00	7,20	12,00	24,00	76,00	0,50
ABDE0800A3ARC	8,00	8,00	7,20	12,00	24,00	76,00	1,00
ABDE1000A3ARA	10,00	10,00	9,00	15,00	30,00	89,00	0,20
ABDE1000A3ARB	10,00	10,00	9,00	15,00	30,00	89,00	0,50
ABDE1000A3ARC	10,00	10,00	9,00	15,00	30,00	89,00	1,50
ABDE1200A3ARA	12,00	12,00	10,80	18,00	36,00	100,00	0,20
ABDE1200A3ARB	12,00	12,00	10,80	18,00	36,00	100,00	0,50
ABDE1200A3ARC	12,00	12,00	10,80	18,00	36,00	100,00	1,50
ABDE1600A3ARA	16,00	16,00	14,40	24,00	48,00	110,00	0,20
ABDE1600A3ARB	16,00	16,00	14,40	24,00	48,00	110,00	0,50
ABDE1600A3ARC	16,00	16,00	14,40	24,00	48,00	110,00	1,00
ABDE1600A3ARD	16,00	16,00	14,40	24,00	48,00	110,00	2,00
ABDE2000A3ARA	20,00	20,00	18,80	30,00	60,00	125,00	0,20
ABDE2000A3ARB	20,00	20,00	18,80	30,00	60,00	125,00	0,50
ABDE2000A3ARC	20,00	20,00	18,80	30,00	60,00	125,00	1,50
ABDE2000A3ARD	20,00	20,00	18,80	30,00	60,00	125,00	4,00

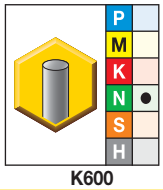
NOTE: For application data, see page M62.

End Mill Tolerances

D1	D1 tolerance	D tolerance
<6mm	DIN e8	DIN h6
>6mm	DIN h6	DIN h6

• Centre cutting.





● first choice
○ alternate choice

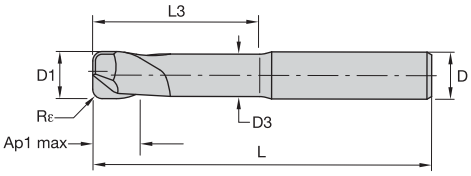
K600	D1	D	Ap1 max	L
F2AA0400ADL45	4,00	6,00	8,00	57,00
F2AA0500ADL45	5,00	6,00	10,00	57,00
F2AA0600ADL45	6,00	6,00	10,00	57,00
F2AA0800ADL45	8,00	8,00	16,00	63,00
F2AA1000ADL45	10,00	10,00	19,00	72,00
F2AA1200ADL45	12,00	12,00	22,00	83,00
F2AA1400ADL45	14,00	14,00	22,00	83,00
F2AA1600ADL45	16,00	16,00	26,00	92,00
F2AA1800ADL45	18,00	18,00	26,00	92,00
F2AA2000ADL45	20,00	20,00	32,00	104,00

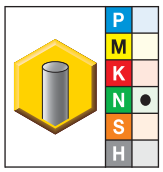
NOTE: For application data, see page M62.

End Mill Tolerances

D1	D1 tolerance	D tolerance
<6mm	DIN e8	DIN h6
>6mm	DIN h6	DIN h6

- Kennametal standard dimensions.
- Centre cutting.





● first choice
○ alternate choice

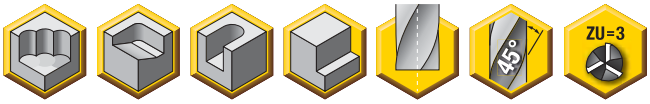
K600	D1	D	Ap1 max	L3	L	Rε	D3
F2AA0600AWM45R050	6,00	6,00	9,00	18,00	63,00	0,50	5,80
F2AA0600AWM45R100	6,00	6,00	9,00	18,00	63,00	1,00	5,80
F2AA0800AWM45R050	8,00	8,00	12,00	24,00	68,00	0,50	7,80
F2AA0800AWM45R100	8,00	8,00	12,00	24,00	68,00	1,00	7,80
F2AA1000AWL45R050	10,00	10,00	15,00	30,00	76,00	0,50	9,50
F2AA1000AWL45R100	10,00	10,00	15,00	30,00	76,00	1,00	9,50
F2AA1000AWL45R200	10,00	10,00	15,00	30,00	76,00	2,00	9,50
F2AA1000AWL45R300	10,00	10,00	15,00	30,00	76,00	3,00	9,50
F2AA1000AWL45R400	10,00	10,00	15,00	30,00	76,00	4,00	9,50
F2AA1200AWL45R050	12,00	12,00	18,00	36,00	84,00	0,50	11,50
F2AA1200AWL45R100	12,00	12,00	18,00	36,00	84,00	1,00	11,50
F2AA1200AWL45R200	12,00	12,00	18,00	36,00	84,00	2,00	11,50
F2AA1200AWL45R300	12,00	12,00	18,00	36,00	84,00	3,00	11,50
F2AA1200AWL45R400	12,00	12,00	18,00	36,00	84,00	4,00	11,50
F2AA1600AWX45R050	16,00	16,00	24,00	48,00	100,00	0,50	15,00
F2AA1600AWX45R100	16,00	16,00	24,00	48,00	100,00	1,00	15,00
F2AA1600AWX45R200	16,00	16,00	24,00	48,00	100,00	2,00	15,00
F2AA1600AWX45R300	16,00	16,00	24,00	48,00	100,00	3,00	15,00
F2AA1600AWX45R400	16,00	16,00	24,00	48,00	100,00	4,00	15,00
F2AA2000AWX45R050	20,00	20,00	30,00	60,00	115,00	0,50	19,00
F2AA2000AWX45R100	20,00	20,00	30,00	60,00	115,00	1,00	19,00
F2AA2000AWX45R200	20,00	20,00	30,00	60,00	115,00	2,00	19,00
F2AA2000AWX45R300	20,00	20,00	30,00	60,00	115,00	3,00	19,00
F2AA2000AWX45R400	20,00	20,00	30,00	60,00	115,00	4,00	19,00
F2AA2500AWX45R050	25,00	25,00	37,50	75,00	135,00	0,50	24,00
F2AA2500AWX45R100	25,00	25,00	37,50	75,00	135,00	1,00	24,00
F2AA2500AWX45R200	25,00	25,00	37,50	75,00	135,00	2,00	24,00
F2AA2500AWX45R300	25,00	25,00	37,50	75,00	135,00	3,00	24,00
F2AA2500AWX45R400	25,00	25,00	37,50	75,00	135,00	4,00	24,00

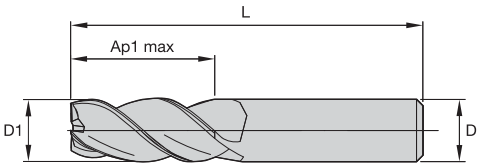
NOTE: For application data, see page M63.

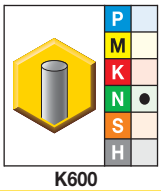
End Mill Tolerances

D1	D1 tolerance	D tolerance
<6mm	DIN e8	DIN h6
>6mm	DIN h6	DIN h6

- Kennametal standard dimensions.
- Centre cutting.







● first choice
○ alternate choice

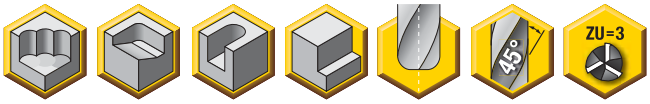
K600	D1	D	Ap1 max	L
F3AA0300AWS45	3,00	3,00	12,00	38,00
F3AA0400AWS45	4,00	4,00	12,00	50,00
F3AA0500AWS45	5,00	6,00	14,00	50,00
F3AA0600AWS45	6,00	6,00	16,00	50,00
F3AA0800AWM45	8,00	8,00	20,00	63,00
F3AA1000AWL45	10,00	10,00	22,00	76,00
F3AA1200AWL45	12,00	12,00	25,00	76,00
F3AA1400AWL45	14,00	14,00	32,00	89,00
F3AA1600AWL45	16,00	16,00	32,00	89,00
F3AA1800AWL45	18,00	18,00	38,00	100,00
F3AA2000AWX45	20,00	20,00	38,00	104,00

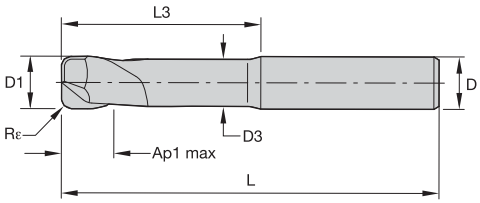
NOTE: For application data, see page M63.

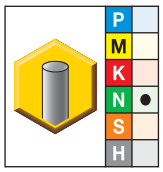
End Mill Tolerances

D1	D1 tolerance	D tolerance
<6mm	DIN e8	DIN h6
>6mm	DIN h6	DIN h6

- Kennametal standard dimension.
- Centre cutting.







● first choice
○ alternate choice

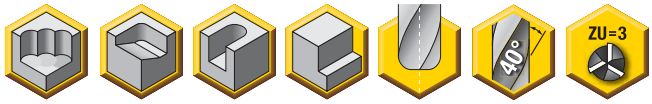
K600	D1	D3	D	Ap1 max	L3	L	Rε
F3AA0600AWM45R050	6,00	5,80	6,00	9,00	18,00	63,00	0,50
F3AA0600AWM45R100	6,00	5,80	6,00	9,00	18,00	63,00	1,00
F3AA0800AWM45R050	8,00	7,80	8,00	12,00	24,00	68,00	0,50
F3AA0800AWM45R100	8,00	7,80	8,00	12,00	24,00	68,00	1,00
F3AA1000AWL45R050	10,00	9,50	10,00	15,00	30,00	76,00	0,50
F3AA1000AWL45R100	10,00	9,50	10,00	15,00	30,00	76,00	1,00
F3AA1000AWL45R200	10,00	9,50	10,00	15,00	30,00	76,00	2,00
F3AA1000AWL45R300	10,00	9,50	10,00	15,00	30,00	76,00	3,00
F3AA1000AWL45R400	10,00	9,50	10,00	15,00	30,00	76,00	4,00
F3AA1200AWL45R050	12,00	11,50	12,00	18,00	36,00	84,00	0,50
F3AA1200AWL45R100	12,00	11,50	12,00	18,00	36,00	84,00	1,00
F3AA1200AWL45R200	12,00	11,50	12,00	18,00	36,00	84,00	2,00
F3AA1200AWL45R300	12,00	11,50	12,00	18,00	36,00	84,00	3,00
F3AA1200AWL45R400	12,00	11,50	12,00	18,00	36,00	84,00	4,00
F3AA1600AWX45R050	16,00	15,00	16,00	24,00	48,00	100,00	0,50
F3AA1600AWX45R100	16,00	15,00	16,00	24,00	48,00	100,00	1,00
F3AA1600AWX45R200	16,00	15,00	16,00	24,00	48,00	100,00	2,00
F3AA1600AWX45R300	16,00	15,00	16,00	24,00	48,00	100,00	3,00
F3AA1600AWX45R400	16,00	15,00	16,00	24,00	48,00	100,00	4,00
F3AA2000AWX45R050	20,00	19,00	20,00	30,00	60,00	115,00	0,50
F3AA2000AWX45R100	20,00	19,00	20,00	30,00	60,00	115,00	1,00
F3AA2000AWX45R200	20,00	19,00	20,00	30,00	60,00	115,00	2,00
F3AA2000AWX45R300	20,00	19,00	20,00	30,00	60,00	115,00	3,00
F3AA2000AWX45R400	20,00	19,00	20,00	30,00	60,00	115,00	4,00
F3AA2500AWX45R050	25,00	24,00	25,00	37,50	75,00	135,00	0,50
F3AA2500AWX45R100	25,00	24,00	25,00	37,50	75,00	135,00	1,00
F3AA2500AWX45R200	25,00	24,00	25,00	37,50	75,00	135,00	2,00
F3AA2500AWX45R300	25,00	24,00	25,00	37,50	75,00	135,00	3,00
F3AA2500AWX45R400	25,00	24,00	25,00	37,50	75,00	135,00	4,00

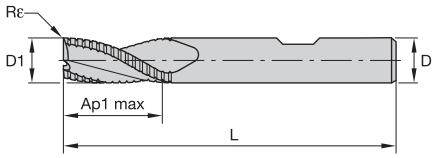
NOTE: For application data, see page M63.

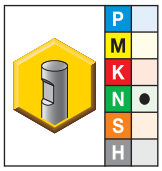
End Mill Tolerances

D1	D1 tolerance	D tolerance
<6mm	DIN e8	DIN h6
>6mm	DIN h6	DIN h6

- Kennametal standard dimensions.
- Aluminium profile.
- Centre cutting.







● first choice
○ alternate choice

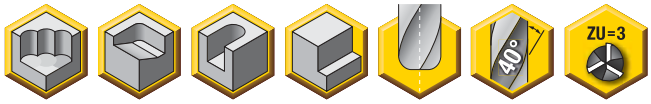
K600	D1	D	Ap1 max	L	Rε
F3BA0600BWS40	6,00	6,00	13,00	57,00	0,25
F3BA0800BWM40	8,00	8,00	16,00	63,00	0,25
F3BA1000BWM40	10,00	10,00	22,00	72,00	0,50
F3BA1200BWL40	12,00	12,00	26,00	83,00	0,50
F3BA1600BWL40	16,00	16,00	32,00	92,00	1,00
F3BA2000BWX40	20,00	20,00	38,00	104,00	1,00
F3BA2500BWX40	25,00	25,00	45,00	121,00	1,50

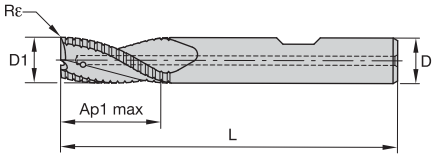
NOTE: For application data, see page M64.

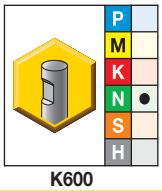
End Mill Tolerances

D1	tolerance d11	D	tolerance h6
≤3	-0,020/-0,080	≤3	+0/-0,006
>3–6	-0,030/-0,105	>3–6	+0/-0,008
>6–10	-0,040/-0,130	>6–10	+0/-0,009
>10–18	-0,050/-0,160	>10–18	+0/-0,011
>18–30	-0,065/-0,195	>18–30	+0/-0,013

- Kennametal standard dimensions.
- Aluminium profile.
- Centre cutting.







● first choice
○ alternate choice

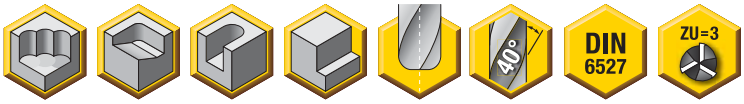
K600	D1	D	Ap1 max	L	Rε
F3BA0800BWM40C160	8,00	8,00	16,00	63,00	0,25
F3BA1000BWM40C220	10,00	10,00	22,00	72,00	0,50
F3BA1200BWL40C260	12,00	12,00	26,00	83,00	0,50
F3BA1600BWL40C320	16,00	16,00	32,00	92,00	1,00
F3BA2000BWX40C380	20,00	20,00	38,00	104,00	1,00
F3BA2500BWX40C450	25,00	25,00	45,00	121,00	1,50

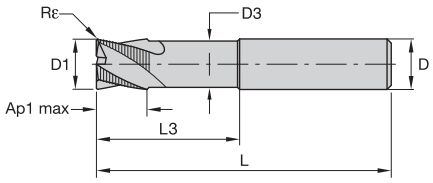
NOTE: For application data, see page M64.

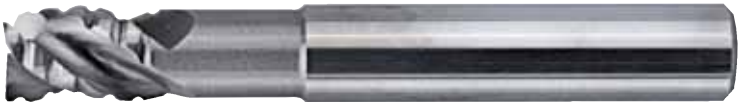
End Mill Tolerances

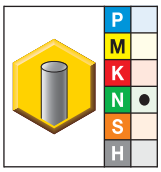
D1	tolerance d11	D	tolerance h6
≤3	-0,020/-0,080	≤3	+0/-0,006
>3–6	-0,030/-0,105	>3–6	+0/-0,008
>6–10	-0,040/-0,130	>6–10	+0/-0,009
>10–18	-0,050/-0,160	>10–18	+0/-0,011
>18–30	-0,065/-0,195	>18–30	+0/-0,013

- Aluminium profile.
- Centre cutting.









● first choice
○ alternate choice

K600	D1	D	Ap1 max	L3	L	Rε	D3
F3BA0600ADL40E180	6,00	6,00	8,00	18,00	57,00	0,25	5,00
F3BA0800ADL40E240	8,00	8,00	10,00	24,00	63,00	0,25	7,00
F3BA1000ADL40E300	10,00	10,00	12,00	30,00	72,00	0,25	9,00
F3BA1200ADL40E360	12,00	12,00	15,00	36,00	83,00	0,25	11,00
F3BA1600ADL40E480	16,00	16,00	20,00	48,00	92,00	1,00	15,00
F3BA2000ADL40E600	20,00	20,00	24,00	60,00	104,00	1,00	19,00

NOTE: For application data, see page M64.

End Mill Tolerances

D1	tolerance d11	D	Tolerance h6
≤3	-0,020/-0,080	≤3	+0/-0,006
>3–6	-0,030/-0,105	>3–6	+0/-0,008
>6–10	-0,040/-0,130	>6–10	+0/-0,009
>10–18	-0,050/-0,160	>10–18	+0/-0,011
>18–30	-0,065/-0,195	>18–30	+0/-0,013

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KENNAMETAL

You Tube

ABDE... • ABDF...

Material Group		A		B	K600			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.								
					Cutting Speed — vc m/min			D1 — Diameter								
		ap	ae	ap	min	max	mm	1,5	2,0	4,0	6,0	8,0	10,0	12,0	16,0	20,0
N	1	1,5 x D	0,5 x D	1 x D	500	2000	fz	0,014	0,018	0,036	0,054	0,072	0,090	0,108	0,144	0,180
N	2	1,5 x D	0,5 x D	1 x D	500	1500	fz	0,012	0,016	0,032	0,049	0,065	0,081	0,097	0,130	0,162

ABDE... with Neck

Material Group		A		B	K600			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.					
					Cutting Speed — vc m/min			D1 — Diameter					
		ap	ae	ap	min	max	mm	6,0	8,0	10,0	12,0	16,0	20,0
N	1	1 x D	0,5 x D	1 x D	500	2000	fz	0,060	0,080	0,100	0,120	0,160	0,200
N	2	1 x D	0,5 x D	1 x D	500	1500	fz	0,054	0,072	0,090	0,108	0,144	0,180

F2AA...ADL45...

Material Group		A		B	K600			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.							
					Cutting Speed — vc m/min			D1 — Diameter							
		ap	ae	ap	min	max	mm	4,0	6,0	8,0	10,0	12,0	14,0	16,0	20,0
N	1	1,2 x D	0,5 x D	1 x D	500	2000	fz	0,036	0,054	0,072	0,090	0,108	0,126	0,144	0,180
N	2	1,2 x D	0,5 x D	1 x D	500	1500	fz	0,032	0,049	0,065	0,081	0,097	0,113	0,130	0,162

NOTE: ap for milling machine with ceramic bearings spindle, multiply by 0,5.
For better surface finish, reduce feed per tooth.
Above parameters are based on ideal conditions. For smaller taper machining centres, please adjust parameters accordingly on >12mm diameter.

F2AA...AWM/L/X45R...

Material Group		A		B	K600 Cutting Speed — vc m/min			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%. D1 — Diameter						
		ap	ae	ap	min	max	mm	6,0	8,0	10,0	12,0	16,0	20,0	25,0
N	1	1 x D	0,5 x D	1 x D	500	2000	fz	0,054	0,072	0,090	0,108	0,144	0,180	0,225
N	2	1 x D	0,5 x D	1 x D	500	1500	fz	0,049	0,065	0,081	0,097	0,130	0,162	0,203

F3AA...AWS/L45...

Material Group		A		B	K600 Cutting Speed — vc m/min			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%. D1 — Diameter							
		ap	ae	ap	min	max	mm	3,0	4,0	6,0	8,0	10,0	12,0	16,0	20,0
N	1	1 x D	0,5 x D	0,7 x D	500	2000	fz	0,027	0,036	0,054	0,072	0,090	0,108	0,144	0,180
N	2	1 x D	0,5 x D	0,7 x D	500	1500	fz	0,024	0,032	0,049	0,065	0,081	0,097	0,130	0,162

F3AA...AWM/L/X45R...

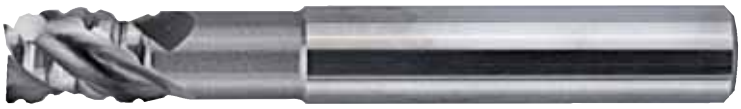
Material Group		A		B	K600 Cutting Speed — vc m/min			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%. D1 — Diameter							
		ap	ae	ap	min	max	mm	6,0	8,0	10,0	12,0	16,0	18,0	20,0	25,0
N	1	1 x D	0,5 x D	0,7 x D	500	2000	fz	0,054	0,072	0,090	0,108	0,144	0,162	0,180	0,225
N	2	1 x D	0,5 x D	0,7 x D	500	1500	fz	0,049	0,065	0,081	0,097	0,130	0,146	0,162	0,203

NOTE: ap for milling machine with ceramic bearings spindle, multiply by 0,5.
For better surface finish, reduce feed per tooth.
Above parameters are based on ideal conditions. For smaller taper machining centres, please adjust parameters accordingly on >12mm diameter.

F3BA...BWS/M/L/X30...

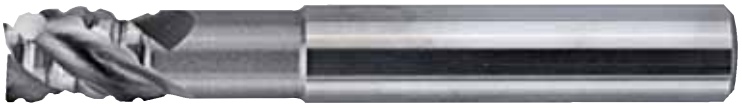
Material Group		A		B	K600 Cutting Speed — vc m/min			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%. D1 — Diameter						
		ap	ae	ap	min	max	mm	6,0	8,0	10,0	12,0	16,0	20,0	25,0
N	1	1,5 x D	0,5 x D	1 x D	500	2000	fz	0,072	0,096	0,120	0,144	0,192	0,240	0,300
N	2	1,5 x D	0,5 x D	1 x D	500	1500	fz	0,065	0,086	0,108	0,130	0,173	0,216	0,270

F3BA..BWM/L/X30C...



Material Group		A		B	K600 Cutting Speed — vc m/min			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%. D1 — Diameter					
		ap	ae	ap	min	max	mm	8,0	10,0	12,0	16,0	20,0	25,0
N	1	1,5 x D	0,5 x D	1,25 x D	500	2000	fz	0,096	0,120	0,144	0,192	0,240	0,300
N	2	1,5 x D	1,5 x D	1,25 x D	500	1500	fz	0,086	0,108	0,130	0,173	0,216	0,270

F3BA...ADL40E...



Material Group		A		B	K600 Cutting Speed — vc m/min			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%. D1 — Diameter					
		ap	ae	ap	min	max	mm	6,0	8,0	10,0	12,0	16,0	20,0
N	1	1 x D	0,5 x D	1 x D	500	2000	fz	0,078	0,104	0,130	0,156	0,208	0,260
N	2	1 x D	0,5 x D	1 x D	500	1500	fz	0,070	0,094	0,117	0,140	0,187	0,234

NOTE: These guidelines may require possible variations to achieve optimum results.
ap for milling machine with ceramic bearings spindle, multiply by 0,5.
For better surface finish, reduce feed per tooth.
Above parameters are based on ideal conditions. For smaller taper machining centres, please adjust parameters accordingly on >12mm diameter.

Go Beyond™ Traditional CFRP Milling Grades • Maximise Productivity with KCN05™ Solid Carbide Routers

Primary Application

Kennametal has the correct milling solutions engineered for machining difficult CFRP (Carbon-Fibre reinforced polymer) and non-ferrous components. KCN05 solid carbide router products provide excellent tool life and produce smooth finishes with improved edge quality. The unique geometries are free cutting, reduce heat generation, and provide high-quality machined surfaces.

Features and Benefits

Compression-Style Router

- Cutters are designed to provide high feed rates.
- Produce excellent quality edges on both sides on the material.
- Up-cut/down-cut geometry establishes stable cutting conditions.

Down-Cut-Style Router

- Intended for surface work.
- Great ramping capabilities for producing pockets.
- Geometry produces down forces to eliminate surface delamination.

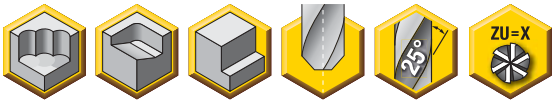
Burr-Style Router

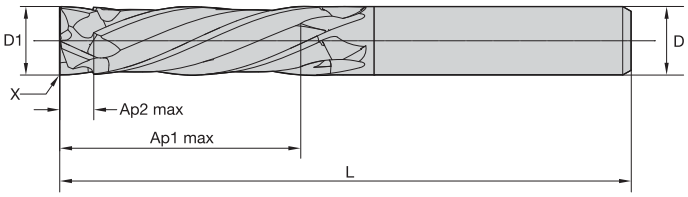
- Designed for trimming fibreglass and CFRP.
- Excellent temperature control.
- Good surface quality.

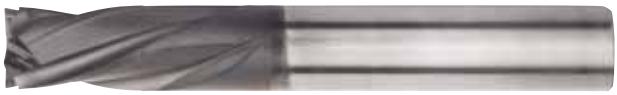
Ball-End-Style Router

- Specially designed for slotting and profiling.
- Excellent tool life.

- Kennametal standard dimensions.
- Through-hole capability.
- Aerospace composites and fibreglass.
- Internal air coolant for ZU=4.







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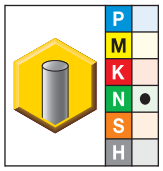


● first choice
○ alternate choice

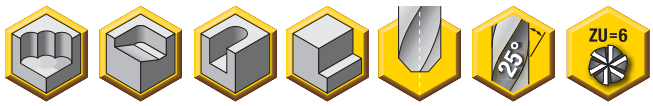
KCN05	D1	D	Ap1 max	Ap2 max	L	Z U
CCNC0600A3AH	6,00	6,00	18,01	2,50	63,00	3
CCNC0600A3BH	6,00	6,00	35,99	2,50	100,00	3
CCNC1000A4AH	10,00	10,00	18,01	2,50	83,00	4
CCNC1000A4BH	10,00	10,00	35,99	2,50	100,00	4
CCNC1200A4AH	12,00	12,00	18,01	2,50	83,00	4
CCNC1200A4BH	12,00	12,00	35,99	2,50	100,00	4

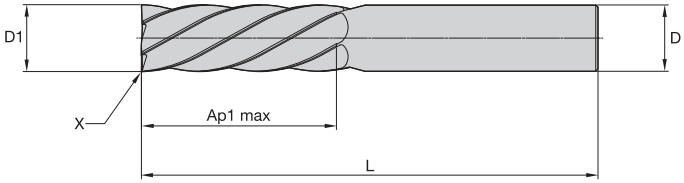
NOTE: For application data, see page M70.

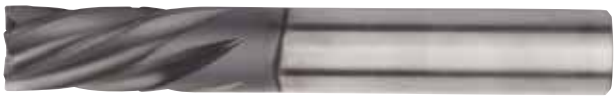
End Mill Tolerances

D1	tolerance	D	tolerance h6
All	+0/-0,05	≤3	+0/-0,006
		>3–6	+0/-0,008
		>6–10	+0/-0,009
		>10–18	+0/-0,011
		>18–24	+0/-0,013

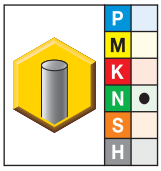
- Kennametal standard dimensions.
- Aerospace composites and fibreglass.







beyond



● first choice
○ alternate choice

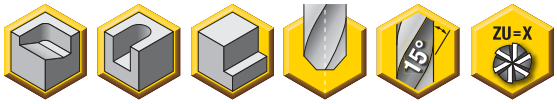
KCN05	D1	D	Ap1 max	L
CDDC0600A6AH	6,00	6,00	18,00	63,00
CDDC0600A6BH	6,00	6,00	36,00	100,00
CDDC1000A6AH	10,00	10,00	18,00	83,00
CDDC1000A6BH	10,00	10,00	36,00	100,00
CDDC1200A6AH	12,00	12,00	18,00	83,00
CDDC1200A6BH	12,00	12,00	36,00	100,00

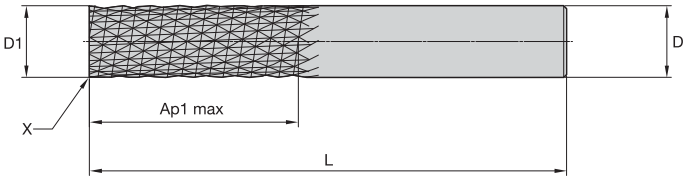
NOTE: For application data, see page M70.

End Mill Tolerances

D1	tolerance	D	tolerance h6
All	+0/-0,05	≤3	+0/-0,006
		>3–6	+0/-0,008
		>6–10	+0/-0,009
		>10–18	+0/-0,011
		>18–24	+0/-0,013

- Kennametal standard dimensions.
- Aerospace composites and fibreglass.





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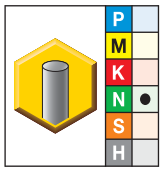
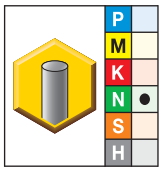


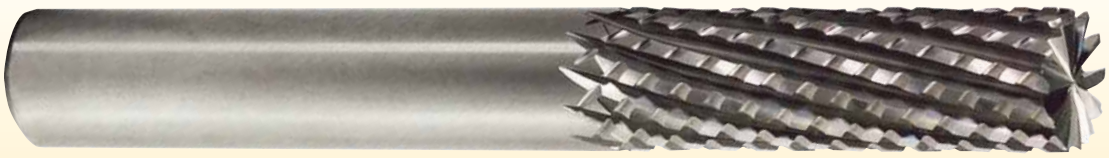


● first choice
○ alternate choice

K600	KCN05	D1	D	Ap1 max	L
CBDB0600AXAS	**CBDB0600AXAS**	6,00	6,00	18,00	63,00
CBDB0600AXBS	**CBDB0600AXBS**	6,00	6,00	36,00	100,00
CBDB1000AXAS	**CBDB1000AXAS**	10,00	10,00	18,00	83,00
CBDB1000AXBS	**CBDB1000AXBS**	10,00	10,00	36,00	100,00
CBDB1200AXAS	**CBDB1200AXAS**	12,00	12,00	18,00	83,00
CBDB1200AXBS	**CBDB1200AXBS**	12,00	12,00	36,00	100,00

NOTE: For application data, see page M70.
12 RHS/RHC flutes. 10 LHS/RHC flutes, 6 end teeth.
For tolerance table, see page M67.

Additional point styles are available upon request:

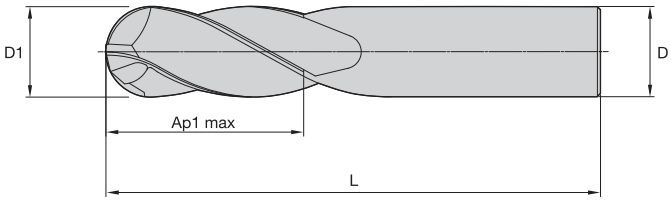


End Mill End Cutting

Drill-Point Cutting

Non-End Cutting

- Kennametal standard dimensions.
- Aerospace composites and fibreglass.



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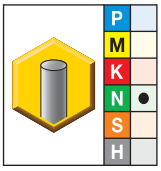


● first choice
○ alternate choice

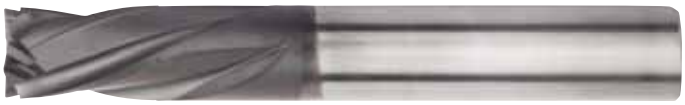
KCN05	D1	D	Ap1 max	L
CRBD1000A4AR	10,00	10,00	18,00	83,00
CRBD1200A4AR	12,00	12,00	18,00	83,00

NOTE: For application data, see page M71.
For tolerance table, see page M67.

Solid End Milling Application Videos

Check out our new KennametalSolutions Channel on YouTube!
You can find application videos for our solid end milling products there.
Just go to: **www.youtube.com/KennametalSolutions.**

Compression-Style Router • CCNC • Metric

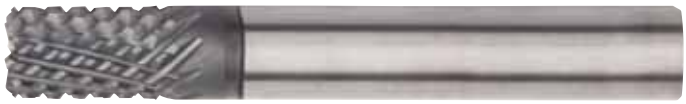


Material Group		A		beyond KCN05 Cutting Speed — vc m/min			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 10%. D1 — Diameter		
		ap	ae	min	max	mm	6,0	10,0	12,0
N	5	Ap1 max	0,5 x D	100	150	fz	0,018	0,030	0,036

Down-Cut Router • CDDC • Metric

Material Group		A		beyond KCN05 Cutting Speed — vc m/min			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 10%. D1 — Diameter		
		ap	ae	min	max	mm	6,0	10,0	12,0
N	5	Ap1 max	1 x D	100	150	fz	0,018	0,030	0,036

Burr-Style Router • CBDB • Metric



Material Group		A		B	K600 Cutting Speed — vc m/min		beyond KCN05 Cutting Speed — vc m/min			Feed per revolution — Frev information is for side milling (A). For Slotting (B), reduce fz by 10%. D1 — Diameter		
		ap	ae	ap	min	max	min	max	mm	6,0	10,0	12,0
N	5	Ap1 max	0,2 x D	1 x D	80	120	100	150	Frev	0,15	0,25	0,30

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centres, please adjust parameters accordingly on >12mm diameter.

Ball-Style Router • CRBD • Metric

Material Group		A		beyond KCN05			Feed per Tooth — Finishing	
				Cutting Speed — vc m/min			D1 — Diameter	
		ap	ae	min	max	mm	10,0	12,0
N	5	0,04 x D	0,04 x D	416	468	fz	0,279	0,324

Material Group		A		beyond KCN05			Feed per Tooth — Semi-Finishing	
				Cutting Speed — vc m/min			D1 — Diameter	
		ap	ae	min	max	mm	10,0	12,0
N	5	0,1 x D	0,05 x D	272	306	fz	0,182	0,211

Material Group		A		beyond KCN05			Feed per Tooth — Roughing	
				Cutting Speed — vc m/min			D1 — Diameter	
		ap	ae	min	max	mm	10,0	12,0
N	5	0,2 x D	0,1 x D	208	234	fz	0,081	0,094

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centres, please adjust parameters accordingly on >12mm diameter.

High-Performance Solid Carbide End Mills • Micro

Features and Benefits

- End mills from cutting diameter D = 0,4mm.
- Short and long length of cut variations.
- Ball nose and square end offering.

Applications:

Side Milling

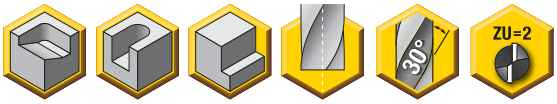
Slotting

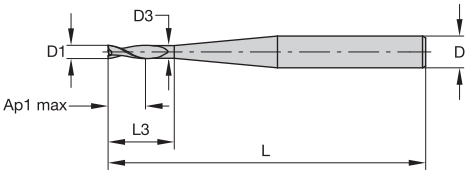
3-D Milling

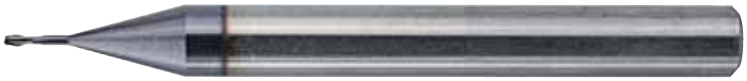
Workpiece Materials:

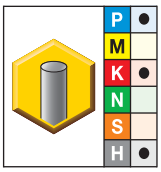
P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous Materials
S	High-Temp Alloys
H	Hardened Materials

- Kennametal standard dimensions.
- Centre cutting.









● first choice
○ alternate choice

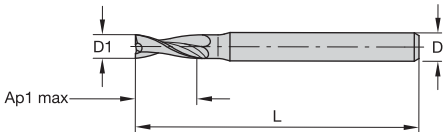
KC637M	D1	D	Ap1 max	L3	L	D3
F2AH0030AWS30L040	0,30	6,00	0,40	–	50,00	–
F2AH0040AWS30L060	0,40	6,00	0,60	–	50,00	–
F2AH0050AWS30L070	0,50	6,00	0,70	1,50	50,00	0,45
F2AH0050AWM30L070	0,50	6,00	0,70	2,50	60,00	0,45
F2AH0060AWS30L090	0,60	6,00	0,90	1,80	50,00	0,55
F2AH0060AWM30L090	0,60	6,00	0,90	3,00	60,00	0,55
F2AH0080AWS30L120	0,80	6,00	1,20	2,40	50,00	0,75
F2AH0080AWM30L120	0,80	6,00	1,20	4,00	60,00	0,75
F2AH0100AWS30L150	1,00	6,00	1,50	2,50	50,00	0,95
F2AH0100AWM30L150	1,00	6,00	1,50	5,00	60,00	0,95
F2AH0120AWS30L180	1,20	6,00	1,80	3,00	50,00	1,15
F2AH0120AWM30L180	1,20	6,00	1,80	6,00	60,00	1,15
F2AH0140AWS30L210	1,40	6,00	2,10	3,50	50,00	1,35
F2AH0140AWM30L210	1,40	6,00	2,10	7,00	60,00	1,35
F2AH0150AWS30L230	1,50	6,00	2,30	3,80	50,00	1,45
F2AH0150AWM30L230	1,50	6,00	2,30	7,50	60,00	1,45
F2AH0160AWS30L240	1,60	6,00	2,40	4,00	50,00	1,55
F2AH0160AWM30L240	1,60	6,00	2,40	8,00	60,00	1,55
F2AH0180AWS30L270	1,80	6,00	2,70	4,50	50,00	1,75
F2AH0180AWM30L270	1,80	6,00	2,70	9,00	60,00	1,75
F2AH0200AWS30L300	2,00	6,00	3,00	5,00	50,00	1,95
F2AH0200AWM30L300	2,00	6,00	3,00	10,00	60,00	1,95
F2AH0250AWS30L370	2,50	6,00	3,70	5,00	50,00	2,40
F2AH0250AWM30L370	2,50	6,00	3,70	12,50	60,00	2,40

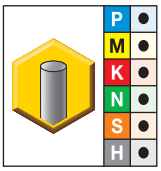
NOTE: For application data, see page M79.

End Mill Tolerances

D1	tolerance e8	D	tolerance h6
≤3	-0,014/-0,028	≤3	+0/-0,006
>3–6	-0,020/-0,038	>3–6	+0/-0,008
>6–10	-0,025/-0,047	>6–10	+0/-0,009
>10–18	-0,032/-0,059	>10–18	+0/-0,011
>18–30	-0,040/-0,073	>18–30	+0/-0,013

- Kennametal standard dimensions.
- Centre cutting.





● first choice
○ alternate choice

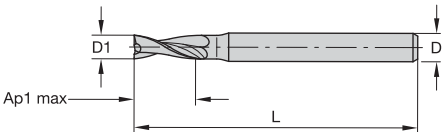
KC625M	D1	D	Ap1 max	L
F2AH0040AWS30	0,40	3,00	0,80	38,00
F2AH0050AWS30	0,50	3,00	1,00	38,00
F2AH0060AWS30	0,60	3,00	1,20	38,00
F2AH0080AWS30	0,80	3,00	1,60	38,00
F2AH0100AWS30	1,00	3,00	2,00	38,00
F2AH0120AWS30	1,20	3,00	2,40	38,00
F2AH0150AWS30	1,50	3,00	3,00	38,00
F2AH0180AWS30	1,80	3,00	3,60	38,00
F2AH0200AWS30	2,00	3,00	6,00	38,00
F2AH0250AWS30	2,50	3,00	7,00	38,00
F2AH0300AWS30	3,00	3,00	7,00	38,00

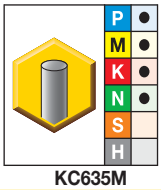
NOTE: For application data, see page M79.

End Mill Tolerances

D1	tolerance e8	D	tolerance h6
≤3	-0,014/-0,028	≤3	+0/-0,006
>3–6	-0,020/-0,038	>3–6	+0/-0,008
>6–10	-0,025/-0,047	>6–10	+0/-0,009
>10–18	-0,032/-0,059	>10–18	+0/-0,011
>18–30	-0,040/-0,073	>18–30	+0/-0,013

- Kennametal standard dimensions.
- Centre cutting.





● first choice
○ alternate choice

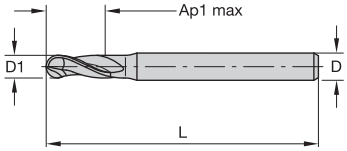
KC635M	D1	D	Ap1 max	L
F3AH0040AWS30	0,40	3,00	1,50	38,00
F3AH0050AWS30	0,50	3,00	1,50	38,00
F3AH0060AWS30	0,60	3,00	1,50	38,00
F3AH0080AWS30	0,80	3,00	1,50	38,00
F3AH0100AWS30	1,00	3,00	2,00	38,00
F3AH0120AWS30	1,20	3,00	2,00	38,00
F3AH0150AWS30	1,50	3,00	2,00	38,00
F3AH0180AWS30	1,80	3,00	2,00	38,00
F3AH0200AWS30	2,00	3,00	8,00	38,00
F3AH0250AWS30	2,50	3,00	9,00	38,00
F3AH0300AWS30	3,00	3,00	12,00	38,00

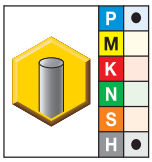
NOTE: For application data, see page M80.

End Mill Tolerances

D1	tolerance e8	D	tolerance h6
≤3	-0,014/-0,028	≤3	+0/-0,006
>3–6	-0,020/-0,038	>3–6	+0/-0,008
>6–10	-0,025/-0,047	>6–10	+0/-0,009
>10–18	-0,032/-0,059	>10–18	+0/-0,011
>18–30	-0,040/-0,073	>18–30	+0/-0,013

- Kennametal standard dimensions.
- Centre cutting.





● first choice
○ alternate choice

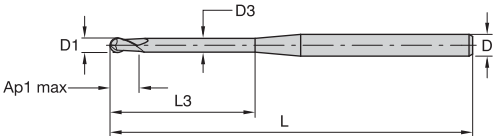
KC637M	D1	D	Ap1 max	L
F2AL0050AWS30	0,50	3,00	1,50	38,00
F2AL0060AWS30	0,60	3,00	1,60	38,00
F2AL0080AWS30	0,80	3,00	1,80	38,00
F2AL0100AWS30	1,00	3,00	2,00	38,00
F2AL0120AWS30	1,20	3,00	2,20	38,00
F2AL0150AWS30	1,50	3,00	2,50	38,00
F2AL0200AWS30	2,00	3,00	3,00	38,00
F2AL0250AWS30	2,50	3,00	4,00	38,00
F2AL0300AWS30	3,00	3,00	5,00	38,00

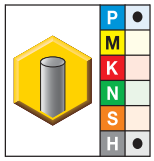
NOTE: For application data, see page M81.

End Mill Tolerances

D1	tolerance h8	D	tolerance h6
≤3	+0/-0,014	≤3	+0/-0,006
>3–6	+0/-0,018	>3–6	+0/-0,008
>6–10	+0/-0,022	>6–10	+0/-0,009
>10–18	+0/-0,027	>10–18	+0/-0,011
>18–30	+0/-0,033	>18–30	+0/-0,013

- Kennametal standard dimensions.
- Centre cutting.





● first choice
○ alternate choice

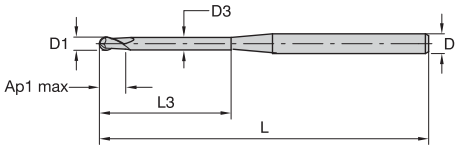
KC637M	D1	D	Ap1 max	L3	L	D3
F2AL0030AWS30L030	0,30	6,00	0,30	–	50,00	–
F2AL0040AWS30L040	0,40	6,00	0,40	–	50,00	–
F2AL0050AWS30L050	0,50	6,00	0,50	1,50	50,00	0,45
F2AL0060AWS30L060	0,60	6,00	0,60	1,80	50,00	0,55
F2AL0080AWS30L080	0,80	6,00	0,80	2,40	50,00	0,75
F2AL0100AWS30L100	1,00	6,00	1,00	2,50	50,00	0,95
F2AL0120AWS30L120	1,20	6,00	1,20	3,00	50,00	1,15
F2AL0140AWS30L140	1,40	6,00	1,40	3,50	50,00	1,35
F2AL0150AWS30L150	1,50	6,00	1,50	3,80	50,00	1,45
F2AL0160AWS30L160	1,60	6,00	1,60	4,00	50,00	1,55
F2AL0180AWS30L180	1,80	6,00	1,80	4,50	50,00	1,75
F2AL0200AWS30L200	2,00	6,00	2,00	5,00	50,00	1,95
F2AL0250AWS30L250	2,50	6,00	2,50	5,00	50,00	2,40
F2AL0300AWS30L300	3,00	6,00	3,00	6,00	50,00	2,85
F2AL0400AWS30L400	4,00	6,00	4,00	6,00	50,00	3,85
F2AL0600AWS30L600	6,00	6,00	6,00	9,00	50,00	5,85

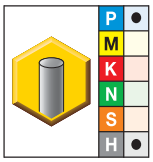
NOTE: For application data, see page M82.

End Mill Tolerances

D1	tolerance e8	D	tolerance h6
≤3	-0,014/-0,028	≤3	+0/-0,006
>3–6	-0,020/-0,038	>3–6	+0/-0,008
>6–10	-0,025/-0,047	>6–10	+0/-0,009
>10–18	-0,032/-0,059	>10–18	+0/-0,011
>18–30	-0,040/-0,073	>18–30	+0/-0,013

- Kennametal standard dimensions.
- Centre cutting.





● first choice
○ alternate choice

KC637M	D1	D	Ap1 max	L3	L	D3
F2AL0050AWM30E050	0,50	4,00	1,00	5,00	65,00	0,46
F2AL0050AWM30E080	0,50	4,00	1,00	8,00	65,00	0,46
F2AL0060AWM30E060	0,60	4,00	1,00	6,00	65,00	0,56
F2AL0060AWM30E090	0,60	4,00	1,00	9,00	65,00	0,56
F2AL0080AWM30E040	0,80	4,00	1,30	4,00	65,00	0,76
F2AL0080AWM30E080	0,80	4,00	1,30	8,00	65,00	0,76
F2AL0080AWM30E120	0,80	4,00	1,30	12,00	65,00	0,76
F2AL0080AWM30E160	0,80	4,00	1,30	16,00	65,00	0,76
F2AL0100AWM30E030	1,00	4,00	1,60	3,00	65,00	0,95
F2AL0100AWM30E060	1,00	4,00	1,60	6,00	65,00	0,95
F2AL0100AWM30E100	1,00	4,00	1,60	10,00	65,00	0,95
F2AL0100AWM30E160	1,00	4,00	1,60	16,00	65,00	0,95
F2AL0150AWM30E030	1,50	4,00	2,40	3,00	65,00	1,44
F2AL0150AWM30E060	1,50	4,00	2,40	6,00	65,00	1,44
F2AL0150AWM30E100	1,50	4,00	2,40	10,00	65,00	1,44
F2AL0150AWM30E160	1,50	4,00	2,40	16,00	65,00	1,44
F2AL0200AWM30E60	2,00	4,00	3,20	6,00	65,00	1,94
F2AL0200AWM30E100	2,00	4,00	3,20	10,00	65,00	1,94
F2AL0200AWM30E160	2,00	4,00	3,20	16,00	65,00	1,94
F2AL0200AWM30E0200	2,00	4,00	3,20	20,00	65,00	1,94
F2AL0300AWM30E080	3,00	4,00	4,50	8,00	65,00	2,92
F2AL0300AWM30E120	3,00	4,00	4,50	12,00	65,00	2,92
F2AL0300AWM30E160	3,00	4,00	4,50	16,00	65,00	2,92
F2AL0300AWM30E0300	3,00	4,00	4,50	30,00	65,00	2,92
F2AL0400AWM30E060	4,00	6,00	6,00	6,00	70,00	3,92
F2AL0400AWM30E100	4,00	6,00	6,00	10,00	70,00	3,92
F2AL0400AWM30E140	4,00	6,00	6,00	14,00	70,00	3,92
F2AL0400AWM30E160	4,00	6,00	6,00	16,00	70,00	3,92

NOTE: For application data, see page M83.

End Mill Tolerances

D1	tolerance e8	D	tolerance h6
≤3	-0,014/-0,028	≤3	+0/-0,006
>3–6	-0,020/-0,038	>3–6	+0/-0,008
>6–10	-0,025/-0,047	>6–10	+0/-0,009
>10–18	-0,032/-0,059	>10–18	+0/-0,011
>18–30	-0,040/-0,073	>18–30	+0/-0,013

F2AH...AWS30L...

Material Group		A ap	A ae	B ap	KC637M Cutting Speed — vc m/min min	max	mm	Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%. D1 — Diameter 0,3	0,5	0,8	1,0	1,5	2,0	2,5	3,0
P	2	1,25 x D	0,25 x D	0,75 x D	140	190	fz	0,0020	0,0034	0,0054	0,0069	0,0104	0,0138	0,0174	0,0210
P	3	1,25 x D	0,25 x D	0,75 x D	120	160	fz	0,0016	0,0028	0,0044	0,0057	0,0085	0,0113	0,0143	0,0173
P	4	1,25 x D	0,25 x D	0,5 x D	90	150	fz	0,0015	0,0026	0,0041	0,0052	0,0079	0,0105	0,0132	0,0159
P	5	1,25 x D	0,25 x D	0,5 x D	60	100	fz	0,0014	0,0023	0,0037	0,0047	0,0071	0,0094	0,0118	0,0143
K	1	1,25 x D	0,25 x D	0,5 x D	120	160	fz	0,0020	0,0034	0,0054	0,0069	0,0104	0,0138	0,0174	0,0210
K	2	1,25 x D	0,25 x D	0,5 x D	110	140	fz	0,0016	0,0028	0,0044	0,0057	0,0085	0,0113	0,0143	0,0173
H	1	1,25 x D	0,25 x D	0,5 x D	80	140	fz	0,0015	0,0026	0,0041	0,0052	0,0079	0,0105	0,0132	0,0159
H	2	1,25 x D	0,25 x D	0,3 x D	70	120	fz	0,0012	0,0020	0,0031	0,0079	0,0100	0,0120	0,0141	0,0162
H	3	1,25 x D	0,25 x D	0,25 x D	60	90	fz	0,0009	0,0015	0,0025	0,0062	0,0078	0,0095	0,0111	0,0127

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
For tools with reach >3 x D, reduce fz by 20%.
For tools with reach >5 x D, reduce fz by 30%.
For tools with reach >10 x D, reduce vc and fz by 20–30%.

F2AH...AWS30...

Material Group		A ap	A ae	B ap	KC625M Cutting Speed — vc m/min min	max	mm	Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%. D1 — Diameter 0,4	0,6	0,8	1,0	1,2	1,5	2,0	3,0
P	1	1 x D	0,1 x D	0,25 x D	150	200	fz	0,003	0,004	0,005	0,007	0,008	0,010	0,014	0,020
P	2	1 x D	0,1 x D	0,25 x D	140	190	fz	0,003	0,004	0,005	0,007	0,008	0,010	0,014	0,020
P	3	1 x D	0,1 x D	0,25 x D	120	160	fz	0,002	0,003	0,004	0,006	0,007	0,008	0,011	0,017
P	4	1 x D	0,1 x D	0,25 x D	90	150	fz	0,002	0,003	0,004	0,005	0,006	0,008	0,010	0,016
P	5	1 x D	0,1 x D	0,25 x D	60	100	fz	0,002	0,003	0,004	0,005	0,006	0,007	0,009	0,014
M	1	1 x D	0,1 x D	0,25 x D	90	115	fz	0,002	0,003	0,004	0,006	0,007	0,008	0,011	0,017
M	2	1 x D	0,1 x D	0,25 x D	60	80	fz	0,002	0,003	0,004	0,005	0,006	0,007	0,009	0,014
K	1	1 x D	0,1 x D	0,25 x D	120	150	fz	0,003	0,004	0,005	0,007	0,008	0,010	0,014	0,020
K	2	1 x D	0,1 x D	0,25 x D	110	130	fz	0,002	0,003	0,004	0,006	0,007	0,008	0,011	0,017
N	1	1 x D	0,1 x D	0,25 x D	500	2000	fz	0,004	0,006	0,008	0,010	0,012	0,015	0,020	0,030
N	2	1 x D	0,1 x D	0,25 x D	500	1500	fz	0,003	0,005	0,006	0,008	0,010	0,012	0,016	0,024
N	3	1 x D	0,1 x D	0,25 x D	500	1000	fz	0,004	0,005	0,007	0,009	0,011	0,014	0,018	0,027
S	1	1 x D	0,1 x D	0,25 x D	50	90	fz	0,002	0,003	0,004	0,006	0,007	0,008	0,011	0,017
S	4	1 x D	0,1 x D	0,25 x D	60	80	fz	0,002	0,003	0,004	0,005	0,006	0,007	0,009	0,014
H	1	1 x D	0,1 x D	0,25 x D	80	140	fz	0,002	0,003	0,004	0,005	0,006	0,008	0,010	0,016

NOTE: These guidelines may require possible variations to achieve optimum results.

F3AH...AWS30...

Material Group		A		B	KC635M Cutting Speed — vc m/min			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%. D1 — Diameter						
		ap	ae	ap	min	max	mm	0,4	0,5	0,6	0,8	1,0	1,2	1,5
P	1	1 x D	0,1 x D	0,25 x D	150	200	fz	0,003	0,004	0,005	0,006	0,008	0,009	0,012
	2	1 x D	0,1 x D	0,25 x D	140	190	fz	0,003	0,004	0,005	0,006	0,008	0,009	0,012
	3	1 x D	0,1 x D	0,25 x D	120	160	fz	0,003	0,003	0,004	0,005	0,006	0,008	0,010
	4	1 x D	0,1 x D	0,25 x D	90	150	fz	0,002	0,003	0,004	0,005	0,006	0,007	0,009
M	1	1 x D	0,1 x D	0,25 x D	90	115	fz	0,003	0,003	0,004	0,005	0,006	0,008	0,010
	2	1 x D	0,1 x D	0,25 x D	60	80	fz	0,002	0,003	0,003	0,004	0,005	0,006	0,008
K	1	1 x D	0,1 x D	0,25 x D	120	150	fz	0,003	0,004	0,005	0,006	0,008	0,009	0,012
	2	1 x D	0,1 x D	0,25 x D	110	130	fz	0,003	0,003	0,004	0,005	0,006	0,008	0,010
N	1	1 x D	0,1 x D	0,25 x D	250	1000	fz	0,005	0,006	0,007	0,009	0,012	0,014	0,017
	2	1 x D	0,1 x D	0,25 x D	250	750	fz	0,004	0,005	0,006	0,007	0,009	0,011	0,014
	3	1 x D	0,1 x D	0,25 x D	250	750	fz	0,004	0,005	0,006	0,008	0,010	0,012	0,016

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.

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F2AL...AWS30...

Material Group		A		KC637M			Feed per Tooth — Finishing							
				Cutting Speed — vc m/min			D1 — Diameter							
		ap	ae	min	max	mm	0,5	0,6	0,8	1,0	1,5	2,0	2,5	3,0
P	3	0,04 x D	0,04 x D	416	468	fz	0,0127	0,0153	0,0204	0,0256	0,0389	0,0522	0,0659	0,0796
P	4	0,04 x D	0,04 x D	364	416	fz	0,0119	0,0143	0,0191	0,0239	0,0361	0,0484	0,0609	0,0734
H	1	0,03 x D	0,03 x D	290	406	fz	0,0127	0,0153	0,0204	0,0255	0,0386	0,0517	0,0650	0,0784
H	2	0,03 x D	0,03 x D	203	348	fz	0,0096	0,0116	0,0154	0,0193	0,0292	0,0391	0,0491	0,0592
H	3	0,02 x D	0,02 x D	216	324	fz	0,0081	0,0097	0,0130	0,0163	0,0245	0,0328	0,0413	0,0497
H	4	0,02 x D	0,02 x D	180	252	fz	0,0054	0,0065	0,0087	0,0108	0,0164	0,0219	0,0275	0,0331

Material Group		A		KC637M			Feed per Tooth — Semi-Finishing							
				Cutting Speed — vc m/min			D1 — Diameter							
		ap	ae	min	max	mm	0,5	0,6	0,8	1,0	1,5	2,0	2,5	3,0
P	3	0,1 x D	0,05 x D	272	306	fz	0,0083	0,0099	0,0133	0,0167	0,0253	0,0339	0,0428	0,0518
P	4	0,1 x D	0,05 x D	238	272	fz	0,0077	0,0093	0,0124	0,0155	0,0235	0,0314	0,0396	0,0477
H	1	0,07 x D	0,1 x D	200	280	fz	0,0097	0,0116	0,0155	0,0194	0,0294	0,0393	0,0495	0,0596
H	2	0,05 x D	0,04 x D	161	276	fz	0,0084	0,0101	0,0135	0,0169	0,0255	0,0342	0,0430	0,0518
H	3	0,03 x D	0,03 x D	174	261	fz	0,0076	0,0091	0,0122	0,0152	0,0230	0,0308	0,0387	0,0466
H	4	0,03 x D	0,03 x D	145	203	fz	0,0051	0,0061	0,0081	0,0102	0,0153	0,0205	0,0258	0,0311

Material Group		A		KC637M			Feed per Tooth — Roughing							
				Cutting Speed — vc m/min			D1 — Diameter							
		ap	ae	min	max	mm	0,5	0,6	0,8	1,0	1,5	2,0	2,5	3,0
P	3	0,2 x D	0,1 x D	208	234	fz	0,0037	0,0044	0,0059	0,0075	0,0113	0,0152	0,0192	0,0232
P	4	0,2 x D	0,1 x D	182	208	fz	0,0035	0,0042	0,0056	0,0070	0,0105	0,0141	0,0177	0,0213
H	1	0,15 x D	0,1 x D	140	196	fz	0,0052	0,0062	0,0083	0,0104	0,0157	0,0211	0,0265	0,0319
H	2	0,1 x D	0,075 x D	119	204	fz	0,0059	0,0070	0,0094	0,0118	0,0178	0,0238	0,0299	0,0360
H	3	0,05 x D	0,05 x D	138	207	fz	0,0066	0,0080	0,0106	0,0133	0,0201	0,0269	0,0338	0,0408
H	4	0,05 x D	0,05 x D	115	161	fz	0,0044	0,0053	0,0071	0,0089	0,0134	0,0179	0,0226	0,0272

F2AL...AWS30L...

Material Group		A		KC637M Cutting Speed — vc m/min			Feed per Tooth — Finishing D1 — Diameter							
		ap	ae	min	max	mm	0,5	0,6	0,8	1,0	1,5	2,0	2,5	3,0
P	3	0,04 x D	0,04 x D	416	468	fz	0,0127	0,0153	0,0204	0,0256	0,0389	0,0522	0,0659	0,0796
P	4	0,04 x D	0,04 x D	364	416	fz	0,0119	0,0143	0,0191	0,0239	0,0361	0,0484	0,0609	0,0734
H	1	0,03 x D	0,03 x D	290	406	fz	0,0127	0,0153	0,0204	0,0255	0,0386	0,0517	0,0650	0,0784
H	2	0,03 x D	0,03 x D	203	348	fz	0,0096	0,0116	0,0154	0,0193	0,0292	0,0391	0,0491	0,0592
H	3	0,02 x D	0,02 x D	216	324	fz	0,0081	0,0097	0,0130	0,0163	0,0245	0,0328	0,0413	0,0497
H	4	0,02 x D	0,02 x D	180	252	fz	0,0054	0,0065	0,0087	0,0108	0,0164	0,0219	0,0275	0,0331

Material Group		A		KC637M Cutting Speed — vc m/min			Feed per Tooth — Semi-Finishing D1 — Diameter							
		ap	ae	min	max	mm	0,5	0,6	0,8	1,0	1,5	2,0	2,5	3,0
P	3	0,1 x D	0,05 x D	272	306	fz	0,0083	0,0099	0,0133	0,0167	0,0253	0,0339	0,0428	0,0518
P	4	0,1 x D	0,05 x D	238	272	fz	0,0077	0,0093	0,0124	0,0155	0,0235	0,0314	0,0396	0,0477
H	1	0,07 x D	0,1 x D	200	280	fz	0,0097	0,0116	0,0155	0,0194	0,0294	0,0393	0,0495	0,0596
H	2	0,05 x D	0,04 x D	161	276	fz	0,0084	0,0101	0,0135	0,0169	0,0255	0,0342	0,0430	0,0518
H	3	0,03 x D	0,03 x D	174	261	fz	0,0076	0,0091	0,0122	0,0152	0,0230	0,0308	0,0387	0,0466
H	4	0,03 x D	0,03 x D	145	203	fz	0,0051	0,0061	0,0081	0,0102	0,0153	0,0205	0,0258	0,0311

Material Group		A		KC637M Cutting Speed — vc m/min			Feed per Tooth — Roughing D1 — Diameter							
		ap	ae	min	max	mm	0,5	0,6	0,8	1,0	1,5	2,0	2,5	3,0
P	3	0,2 x D	0,1 x D	208	234	fz	0,0037	0,0044	0,0059	0,0075	0,0113	0,0152	0,0192	0,0232
P	4	0,2 x D	0,1 x D	182	208	fz	0,0035	0,0042	0,0056	0,0070	0,0105	0,0141	0,0177	0,0213
H	1	0,15 x D	0,1 x D	140	196	fz	0,0052	0,0062	0,0083	0,0104	0,0157	0,0211	0,0265	0,0319
H	2	0,1 x D	0,075 x D	119	204	fz	0,0059	0,0070	0,0094	0,0118	0,0178	0,0238	0,0299	0,0360
H	3	0,05 x D	0,05 x D	138	207	fz	0,0066	0,0080	0,0106	0,0133	0,0201	0,0269	0,0338	0,0408
H	4	0,05 x D	0,05 x D	115	161	fz	0,0044	0,0053	0,0071	0,0089	0,0134	0,0179	0,0226	0,0272

F2AL...AWM30E...

Material Group		A		KC637M			Feed per Tooth — Finishing												
				Cutting Speed — vc m/min			D1 — Diameter												
		ap	ae	min	max	mm	0,3	0,4	0,5	0,6	0,8	1,0	1,5	2,0	2,5	3,0	4,0	5,0	6,0
P	3	0,04 x D	0,04 x D	374	421	fz	0,0076	0,0102	0,0127	0,0153	0,0204	0,0256	0,0389	0,0522	0,0659	0,0796	0,1062	0,1327	0,0796
P	4	0,04 x D	0,04 x D	328	374	fz	0,0071	0,0095	0,0119	0,0143	0,0191	0,0239	0,0361	0,0484	0,0609	0,0734	0,0979	0,1223	0,0734
H	1	0,03 x D	0,03 x D	261	365	fz	0,0076	0,0102	0,0127	0,0153	0,0204	0,0255	0,0386	0,0517	0,0650	0,0784	0,1045	0,1307	0,0784
H	2	0,03 x D	0,03 x D	183	313	fz	0,0058	0,0077	0,0096	0,0116	0,0154	0,0193	0,0292	0,0391	0,0491	0,0592	0,0789	0,0986	0,0592
H	3	0,02 x D	0,02 x D	194	292	fz	0,0049	0,0065	0,0081	0,0097	0,0130	0,0163	0,0245	0,0328	0,0413	0,0497	0,0663	0,0828	0,0497
H	4	0,02 x D	0,02 x D	162	227	fz	0,0032	0,0043	0,0054	0,0065	0,0087	0,0108	0,0164	0,0219	0,0275	0,0331	0,0442	0,0552	0,0331

Material Group		A		KC637M			Feed per Tooth — Semi-Finishing												
				Cutting Speed — vc m/min			D1 — Diameter												
		ap	ae	min	max	mm	0,3	0,4	0,5	0,6	0,8	1,0	1,5	2,0	2,5	3,0	4,0	5,0	6,0
P	3	0,1 x D	0,05 x D	245	275	fz	0,0050	0,0066	0,0083	0,0099	0,0133	0,0167	0,0253	0,0339	0,0428	0,0518	0,0690	0,0863	0,0518
P	4	0,1 x D	0,05 x D	214	245	fz	0,0046	0,0062	0,0077	0,0093	0,0124	0,0155	0,0235	0,0314	0,0396	0,0477	0,0636	0,0795	0,0477
H	1	0,07 x D	0,1 x D	180	252	fz	0,0058	0,0077	0,0097	0,0116	0,0155	0,0194	0,0294	0,0393	0,0495	0,0596	0,0795	0,0994	0,0596
H	2	0,05 x D	0,04 x D	145	248	fz	0,0050	0,0067	0,0084	0,0101	0,0135	0,0169	0,0255	0,0342	0,0430	0,0518	0,0690	0,0863	0,0518
H	3	0,03 x D	0,03 x D	157	235	fz	0,0045	0,0061	0,0076	0,0091	0,0122	0,0152	0,0230	0,0308	0,0387	0,0466	0,0621	0,0777	0,0466
H	4	0,03 x D	0,03 x D	131	183	fz	0,0030	0,0040	0,0051	0,0061	0,0081	0,0102	0,0153	0,0205	0,0258	0,0311	0,0414	0,0518	0,0311

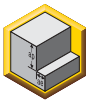
Material Group		A		KC637M			Feed per Tooth — Roughing												
				Cutting Speed — vc m/min			D1 — Diameter												
		ap	ae	min	max	mm	0,3	0,4	0,5	0,6	0,8	1,0	1,5	2,0	2,5	3,0	4,0	5,0	6,0
P	3	0,2 x D	0,1 x D	187	211	fz	0,0022	0,0030	0,0037	0,0044	0,0059	0,0075	0,0113	0,0152	0,0192	0,0232	0,0309	0,0386	0,0232
P	4	0,2 x D	0,1 x D	164	187	fz	0,0021	0,0028	0,0035	0,0042	0,0056	0,0070	0,0105	0,0141	0,0177	0,0213	0,0285	0,0356	0,0213
H	1	0,15 x D	0,1 x D	126	176	fz	0,0031	0,0041	0,0052	0,0062	0,0083	0,0104	0,0157	0,0211	0,0265	0,0319	0,0426	0,0532	0,0319
H	2	0,1 x D	0,075 x D	107	184	fz	0,0035	0,0047	0,0059	0,0070	0,0094	0,0118	0,0178	0,0238	0,0299	0,0360	0,0480	0,0600	0,0360
H	3	0,05 x D	0,05 x D	124	186	fz	0,0040	0,0053	0,0066	0,0080	0,0106	0,0133	0,0201	0,0269	0,0338	0,0408	0,0544	0,0680	0,0408
H	4	0,05 x D	0,05 x D	104	145	fz	0,0027	0,0035	0,0044	0,0053	0,0071	0,0089	0,0134	0,0179	0,0226	0,0272	0,0362	0,0453	0,0272

High-Performance Solid Carbide End Mills • Finishing

Features and Benefits

- Best surface finish.
- Keyway cutter portfolio.
- High helix portfolio.
- Multiflute finisher.

Applications:



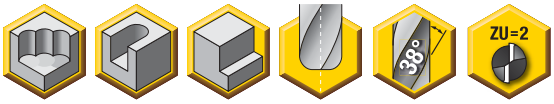
Side Milling

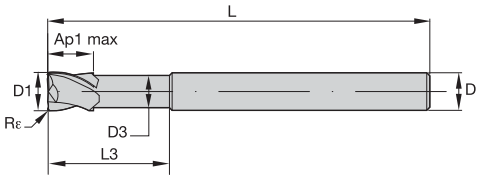
Slotting

Workpiece Materials:

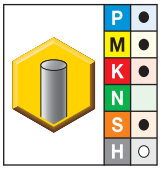
P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous Materials
S	High-Temp Alloys
H	Hardened Materials

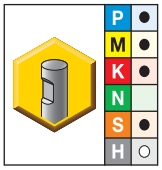
- Kennametal standard dimensions.
- Centre cutting.





NEW!





● first choice
○ alternate choice

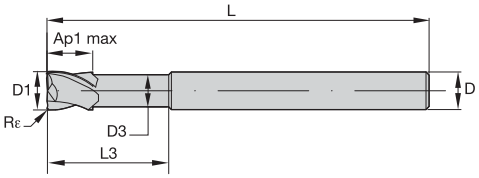
KC643M	KC643M	D1	D	D3	Ap1 max	L	L3	Rε
F2AU0180ADK38	–	1,80	4,00	1,77	2,00	36,00	8,00	0,12
F2AU0280ADK38	F2AU0280BDK38	2,80	6,00	2,77	4,00	50,00	14,00	0,12
–	F2AU0380BDK38	3,80	6,00	3,76	5,00	54,00	18,00	0,12
F2AU0380ADK38	–	3,80	6,00	3,76	5,00	54,00	18,00	0,12
F2AU0480ADK38	F2AU0480BDK38	4,80	6,00	4,76	6,00	54,00	18,00	0,20
F2AU0575ADK38	F2AU0575BDK38	5,75	6,00	5,71	7,00	54,00	18,00	0,20
F2AU0775ADK38	F2AU0775BDK38	7,75	8,00	7,70	9,00	58,00	22,00	0,20
F2AU0970ADK38	F2AU0970BDK38	9,70	10,00	9,65	11,00	66,00	26,00	0,33
F2AU1170ADK38	F2AU1170BDK38	11,70	12,00	11,64	12,00	73,00	28,00	0,33
F2AU1370ADK38	F2AU1370BDK38	13,70	14,00	13,64	14,00	75,00	30,00	0,33
F2AU1570ADK38	F2AU1570BDK38	15,70	16,00	15,64	16,00	82,00	34,00	0,33
F2AU1770ADK38	F2AU1770BDK38	17,70	18,00	17,64	18,00	84,00	36,00	0,40
F2AU1970ADK38	F2AU1970BDK38	19,70	20,00	19,63	20,00	92,00	42,00	0,40

NOTE: For application data, see page M92.

End Mill Tolerances

D1	tolerance e8	D	tolerance h6
≤3	-0,014/-0,028	≤3	+0/-0,006
>3–6	-0,020/-0,038	>3–6	+0/-0,008
>6–10	-0,025/-0,047	>6–10	+0/-0,009
>10–18	-0,032/-0,059	>10–18	+0/-0,011
>18–30	-0,040/-0,073	>18–30	+0/-0,013

- Kennametal standard dimensions.
- Centre cutting.



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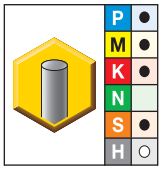
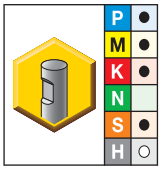




● first choice
○ alternate choice

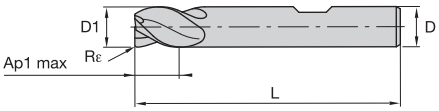
KC643M	KC643M	D1	D	D3	Ap1 max	L	L3	Rε
F3AU0280ADK38	F3AU0280BDK38	2,80	6,00	2,77	4,00	50,00	14,00	0,12
F3AU0380ADK38	F3AU0380BDK38	3,80	6,00	3,76	5,00	54,00	18,00	0,12
F3AU0480ADK38	F3AU0480BDK38	4,80	6,00	4,76	6,00	54,00	18,00	0,20
F3AU0575ADK38	F3AU0575BDK38	5,75	6,00	5,71	7,00	54,00	18,00	0,20
F3AU0775ADK38	F3AU0775BDK38	7,75	8,00	7,70	9,00	58,00	22,00	0,20
F3AU0970ADK38	F3AU0970BDK38	9,70	10,00	9,65	11,00	66,00	26,00	0,33
F3AU1170ADK38	F3AU1170BDK38	11,70	12,00	11,64	12,00	73,00	28,00	0,33
F3AU1370ADK38	F3AU1370BDK38	13,70	14,00	13,64	14,00	75,00	30,00	0,33
F3AU1570ADK38	F3AU1570BDK38	15,70	16,00	15,64	16,00	82,00	34,00	0,33
F3AU1770ADK38	F3AU1770BDK38	17,70	18,00	17,64	18,00	84,00	36,00	0,40
F3AU1970ADK38	F3AU1970BDK38	19,70	20,00	19,63	20,00	92,00	42,00	0,40

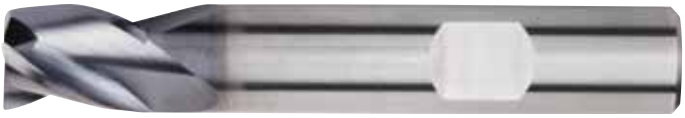
NOTE: For application data, see page M92.

End Mill Tolerances

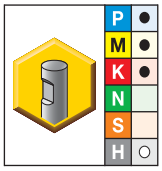
D1	tolerance e8	D	tolerance h6
≤3	-0,014/-0,028	≤3	+0/-0,006
>3–6	-0,020/-0,038	>3–6	+0/-0,008
>6–10	-0,025/-0,047	>6–10	+0/-0,009
>10–18	-0,032/-0,059	>10–18	+0/-0,011
>18–30	-0,040/-0,073	>18–30	+0/-0,013

• Centre cutting.





beyond



● first choice
○ alternate choice

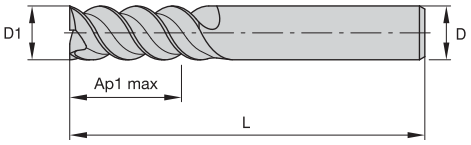
KCPM15	D1	D	Ap1 max	L	Rε
F3AS0300BDK35	3,00	6,00	4,00	50,00	0,25
F3AS0400BDK35	4,00	6,00	5,00	54,00	0,25
F3AS0500BDK35	5,00	6,00	6,00	54,00	0,25
F3AS0600BDK35	6,00	6,00	7,00	54,00	0,45
F3AS0800BDK35	8,00	8,00	9,00	58,00	0,45
F3AS1000BDK35	10,00	10,00	11,00	66,00	0,45
F3AS1200BDK35	12,00	12,00	12,00	73,00	0,45
F3AS1400BDK35	14,00	14,00	14,00	75,00	0,45
F3AS1600BDK35	16,00	16,00	16,00	82,00	0,45
F3AS1800BDK35	18,00	18,00	18,00	84,00	0,45
F3AS2000BDK35	20,00	20,00	20,00	92,00	0,45

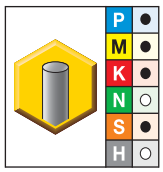
NOTE: For application data, see page M93.

End Mill Tolerances

D1	tolerance e8	D	tolerance h6
≤3	-0,014/-0,028	≤3	+0/-0,006
>3–6	-0,020/-0,038	>3–6	+0/-0,008
>6–10	-0,025/-0,047	>6–10	+0/-0,009
>10–18	-0,032/-0,059	>10–18	+0/-0,011
>18–30	-0,040/-0,073	>18–30	+0/-0,013

• Centre cutting.





● first choice
○ alternate choice

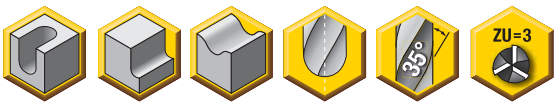
KC625M	D1	D	Ap1 max	L
F3AJ0600ADL60	6,00	6,00	13,00	57,00
F3AJ0800ADL60	8,00	8,00	19,00	63,00
F3AJ1000ADL60	10,00	10,00	22,00	72,00
F3AJ1200ADL60	12,00	12,00	26,00	83,00
F3AJ1400ADL60	14,00	14,00	26,00	83,00
F3AJ1600ADL60	16,00	16,00	32,00	92,00
F3AJ1800ADL60	18,00	18,00	32,00	92,00
F3AJ2000ADL60	20,00	20,00	38,00	104,00

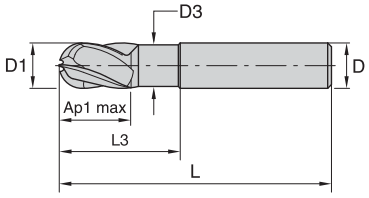
NOTE: For application data, see page M93.

End Mill Tolerances

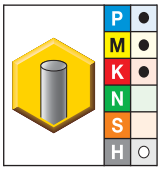
D1	tolerance e8	D	tolerance h6
≤3	-0,014/-0,028	≤3	+0/-0,006
>3–6	-0,020/-0,038	>3–6	+0/-0,008
>6–10	-0,025/-0,047	>6–10	+0/-0,009
>10–18	-0,032/-0,059	>10–18	+0/-0,011
>18–30	-0,040/-0,073	>18–30	+0/-0,013

- Kennametal standard dimensions.
- Centre cutting.





beyond



● first choice
○ alternate choice

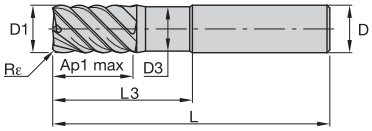
KCPM15	D1	D	Ap1 max	L3	L	D3
F3AW0600AWL35E120	6,00	6,00	6,00	12,00	76,00	5,80
F3AW0800AWL35E160	8,00	8,00	8,00	16,00	100,00	7,80
F3AW1000AWX35E200	10,00	10,00	10,00	20,00	121,50	9,50
F3AW1200AWX35E240	12,00	12,00	12,00	24,00	125,00	11,50
F3AW1600AWX35E320	16,00	16,00	16,00	32,00	150,00	15,00

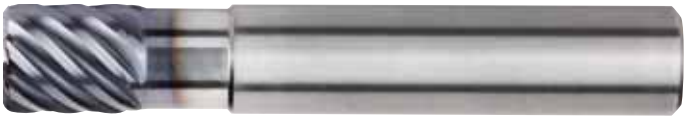
NOTE: For application data, see page M94.

End Mill Tolerances

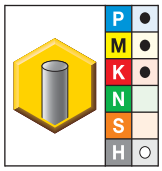
D1	tolerance e8	D	tolerance h6
All	+0/-0,03	≤3	+0/-0,006
		>3–6	+0/-0,008
		>6–10	+0/-0,009
		>10–18	+0/-0,011
		>18–30	+0/-0,013

• Centre cutting.





beyond



● first choice
○ alternate choice

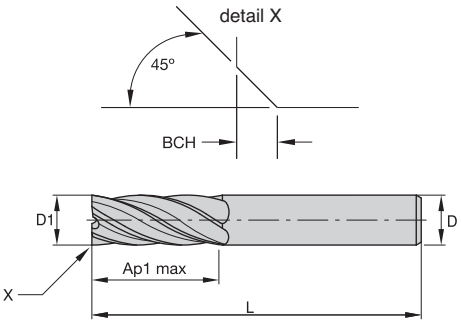
KCPM15	D1	D	Ap1 max	L3	L	Rε	D3	Z U
F8AJ0800ADK45E160	8,00	8,00	8,00	16,00	58,00	1,00	7,00	8
F8AJ1000ADK45E200	10,00	10,00	10,00	20,00	66,00	1,00	9,00	8
F8AJ1200ADK45E240	12,00	12,00	12,00	24,00	73,00	1,00	11,00	8
F10AJ1600ADK45E320	16,00	16,00	16,00	32,00	82,00	1,00	15,00	10
F10AJ2000ADK45E400	20,00	20,00	20,00	40,00	92,00	1,00	19,00	10

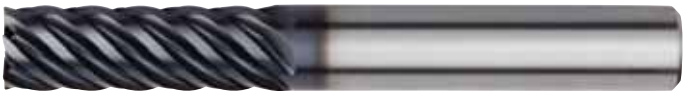
NOTE: For application data, see page M94.

End Mill Tolerances

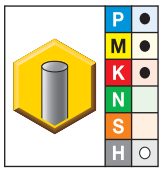
D1	tolerance e8	D	tolerance h6
≤3	-0,014/-0,028	≤3	+0/-0,006
>3–6	-0,020/-0,038	>3–6	+0/-0,008
>6–10	-0,025/-0,047	>6–10	+0/-0,009
>10–18	-0,032/-0,059	>10–18	+0/-0,011
>18–30	-0,040/-0,073	>18–30	+0/-0,013

• Non-centre cutting.





beyond



● first choice
○ alternate choice

KCPM15	D1	D	Ap1 max	L	BCH	Z U
F6AJ0600ADL45	6,00	6,00	13,00	57,00	0,10	6
F6AJ0600AWM45	6,00	6,00	18,00	62,00	0,10	6
F6AJ0800ADL45	8,00	8,00	19,00	63,00	0,20	6
F6AJ0800AWM45	8,00	8,00	24,00	68,00	0,20	6
F6AJ1000ADL45	10,00	10,00	22,00	72,00	0,30	6
F6AJ1000AWL45	10,00	10,00	30,00	80,00	0,30	6
F6AJ1200ADL45	12,00	12,00	26,00	83,00	0,30	6
F6AJ1200AWL45	12,00	12,00	36,00	93,00	0,30	6
F6AJ1400ADL45	14,00	14,00	26,00	83,00	0,30	6
F6AJ1600ADL45	16,00	16,00	32,00	92,00	0,40	6
F6AJ1600AWX45	16,00	16,00	48,00	108,00	0,40	6
F8AJ2000AWX45	20,00	20,00	60,00	126,00	0,40	8
F8AJ2500AWX45	25,00	25,00	75,00	150,00	0,40	8

NOTE: For application data, see page M95.

End Mill Tolerances

D1	tolerance e8	D	tolerance h6
≤3	-0,014/-0,028	≤3	+0/-0,006
>3–6	-0,020/-0,038	>3–6	+0/-0,008
>6–10	-0,025/-0,047	>6–10	+0/-0,009
>10–18	-0,032/-0,059	>10–18	+0/-0,011
>18–30	-0,040/-0,073	>18–30	+0/-0,013

	Corner Chamfer (chamfer height)	
D1 h10	**BCH**	**tolerance**
2–6,75	0,10	-0,05
6,76–9,7	0,20	-0,10
9,71–15,7	0,30	-0,10
15,71–25	0,40	-0,20

F2AU...A/BDK38...

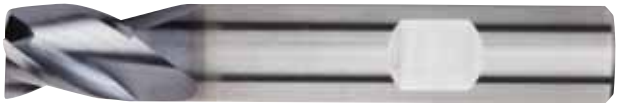
Material Group		A		B	K633M Cutting Speed — vc m/min			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%. D1 — Diameter						
		ap	ae	ap	min	max	mm	2,0	3,0	4,0	6,0	8,0	10,0	12,0
P	1	1 x D	0,5 x D	0,75 x D	150	200	fz	0,014	0,021	0,028	0,044	0,060	0,072	0,083
	2	1 x D	0,5 x D	0,75 x D	140	190	fz	0,014	0,021	0,028	0,044	0,060	0,072	0,083
	3	1 x D	0,5 x D	0,75 x D	120	160	fz	0,011	0,017	0,023	0,036	0,050	0,061	0,070
	4	1 x D	0,5 x D	0,75 x D	90	150	fz	0,010	0,016	0,021	0,033	0,045	0,054	0,062
	5	1 x D	0,5 x D	0,75 x D	60	100	fz	0,009	0,014	0,019	0,029	0,040	0,048	0,056
	6	1 x D	0,5 x D	0,75 x D	50	75	fz	0,008	0,012	0,016	0,025	0,034	0,040	0,047
M	1	1 x D	0,5 x D	0,75 x D	90	115	fz	0,011	0,017	0,023	0,036	0,050	0,061	0,070
	2	1 x D	0,5 x D	0,75 x D	60	80	fz	0,009	0,014	0,019	0,029	0,040	0,048	0,056
	3	1 x D	0,5 x D	0,75 x D	60	70	fz	0,008	0,012	0,016	0,025	0,034	0,040	0,047
K	1	1 x D	0,5 x D	0,75 x D	120	150	fz	0,014	0,021	0,028	0,044	0,060	0,072	0,083
	2	1 x D	0,5 x D	0,75 x D	110	130	fz	0,011	0,017	0,023	0,036	0,050	0,061	0,070
	3	1 x D	0,5 x D	0,75 x D	100	130	fz	0,009	0,014	0,019	0,029	0,040	0,048	0,056
S	1	1 x D	0,3 x D	0,3 x D	50	90	fz	0,011	0,017	0,023	0,036	0,050	0,061	0,070
	2	1 x D	0,3 x D	0,3 x D	50	90	fz	0,011	0,017	0,023	0,036	0,050	0,061	0,070
	3	1 x D	0,3 x D	0,3 x D	25	40	fz	0,006	0,009	0,013	0,019	0,026	0,032	0,037
	4	1 x D	0,5 x D	0,75 x D	50	60	fz	0,007	0,011	0,016	0,026	0,037	0,045	0,052
H	1	1 x D	0,5 x D	0,75 x D	80	140	fz	0,010	0,016	0,021	0,033	0,045	0,054	0,062

F3AU...A/BDK38...

Material Group		A		B	K633M Cutting Speed — vc m/min			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%. D1 — Diameter						
		ap	ae	ap	min	max	mm	2,0	3,0	4,0	6,0	8,0	10,0	12,0
P	1	1 x D	0,5 x D	0,75 x D	150	200	fz	0,014	0,021	0,028	0,044	0,060	0,072	0,083
	2	1 x D	0,5 x D	0,75 x D	140	190	fz	0,014	0,021	0,028	0,044	0,060	0,072	0,083
	3	1 x D	0,5 x D	0,75 x D	120	160	fz	0,011	0,017	0,023	0,036	0,050	0,061	0,070
	4	1 x D	0,5 x D	0,75 x D	90	150	fz	0,010	0,016	0,021	0,033	0,045	0,054	0,062
	5	1 x D	0,5 x D	0,75 x D	60	100	fz	0,009	0,014	0,019	0,029	0,040	0,048	0,056
	6	1 x D	0,5 x D	0,75 x D	50	75	fz	0,008	0,012	0,016	0,025	0,034	0,040	0,047
M	1	1 x D	0,5 x D	0,75 x D	90	115	fz	0,011	0,017	0,023	0,036	0,050	0,061	0,070
	2	1 x D	0,5 x D	0,75 x D	60	80	fz	0,009	0,014	0,019	0,029	0,040	0,048	0,056
	3	1 x D	0,5 x D	0,75 x D	60	70	fz	0,008	0,012	0,016	0,025	0,034	0,040	0,047
K	1	1 x D	0,5 x D	0,75 x D	120	150	fz	0,014	0,021	0,028	0,044	0,060	0,072	0,083
	2	1 x D	0,5 x D	0,75 x D	110	130	fz	0,011	0,017	0,023	0,036	0,050	0,061	0,070
	3	1 x D	0,5 x D	0,75 x D	100	130	fz	0,009	0,014	0,019	0,029	0,040	0,048	0,056
S	1	1 x D	0,3 x D	0,3 x D	50	90	fz	0,011	0,017	0,023	0,036	0,050	0,061	0,070
	2	1 x D	0,3 x D	0,3 x D	50	90	fz	0,011	0,017	0,023	0,036	0,050	0,061	0,070
	3	1 x D	0,3 x D	0,3 x D	25	40	fz	0,006	0,009	0,013	0,019	0,026	0,032	0,037
	4	1 x D	0,5 x D	0,75 x D	50	60	fz	0,007	0,011	0,016	0,026	0,037	0,045	0,052
H	1	1 x D	0,5 x D	0,75 x D	80	140	fz	0,010	0,016	0,021	0,033	0,045	0,054	0,062

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centres, please adjust parameters accordingly on >12mm diameter.

F3AS...DK



Material Group		A		B	KCPM15			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.							
					Cutting Speed — vc m/min			D1 — Diameter							
		ap	ae	ap	min	max	mm	3,0	4,0	6,0	8,0	10,0	12,0	16,0	20,0
P	1	0,75 x D	0,4 x D	0,5 x D	150	200	fz	0,021	0,028	0,044	0,060	0,072	0,083	0,101	0,114
	2	0,75 x D	0,4 x D	0,5 x D	140	190	fz	0,021	0,028	0,044	0,060	0,072	0,083	0,101	0,114
	3	0,75 x D	0,4 x D	0,5 x D	120	160	fz	0,018	0,023	0,036	0,050	0,061	0,070	0,087	0,101
	4	0,75 x D	0,4 x D	0,3 x D	90	150	fz	0,016	0,021	0,033	0,045	0,054	0,062	0,077	0,088
	5	0,75 x D	0,4 x D	0,5 x D	60	100	fz	0,014	0,019	0,029	0,040	0,048	0,056	0,070	0,081
	6	0,75 x D	0,4 x D	0,3 x D	50	75	fz	0,012	0,016	0,025	0,034	0,040	0,047	0,057	0,065
M	1	0,75 x D	0,4 x D	0,5 x D	80	100	fz	0,018	0,023	0,036	0,050	0,061	0,070	0,087	0,101
	2	0,75 x D	0,4 x D	0,5 x D	60	80	fz	0,014	0,019	0,029	0,040	0,048	0,056	0,070	0,081
	3	0,75 x D	0,4 x D	0,5 x D	60	80	fz	0,012	0,016	0,025	0,034	0,040	0,047	0,057	0,065
K	1	0,75 x D	0,4 x D	0,5 x D	120	160	fz	0,021	0,028	0,044	0,060	0,072	0,083	0,101	0,114
	2	0,75 x D	0,4 x D	0,5 x D	110	140	fz	0,018	0,023	0,036	0,050	0,061	0,070	0,087	0,101
	3	0,75 x D	0,4 x D	0,5 x D	100	130	fz	0,014	0,019	0,029	0,040	0,048	0,056	0,070	0,081
H	1	0,75 x D	0,4 x D	0,3 x D	100	140	fz	0,016	0,021	0,033	0,045	0,054	0,062	0,077	0,088

F3AJ...ADL60...

Material Group		A		B	KC625M			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.								
					Cutting Speed — vc m/min			D1 — Diameter								
		ap	ae	ap	min	max	mm	3,0	4,0	5,0	6,0	8,0	10,0	12,0	16,0	20,0
P	3	1,5 x D	0,3 x D	0,5 x D	120	160	fz	0,015	0,019	0,024	0,029	0,040	0,048	0,056	0,070	0,081
	4	1,5 x D	0,3 x D	0,3 x D	90	150	fz	0,013	0,017	0,022	0,026	0,036	0,043	0,050	0,061	0,070
	5	1,5 x D	0,3 x D	0,5 x D	60	100	fz	0,012	0,015	0,019	0,024	0,032	0,039	0,045	0,056	0,065
	6	1,5 x D	0,3 x D	0,3 x D	50	75	fz	0,010	0,013	0,016	0,020	0,027	0,032	0,037	0,046	0,052
M	1	1,5 x D	0,3 x D	0,5 x D	80	100	fz	0,015	0,019	0,024	0,029	0,040	0,048	0,056	0,070	0,081
	2	1,5 x D	0,3 x D	0,5 x D	60	80	fz	0,012	0,015	0,019	0,024	0,032	0,039	0,045	0,056	0,065
	3	1,5 x D	0,3 x D	0,5 x D	60	80	fz	0,010	0,013	0,016	0,020	0,027	0,032	0,037	0,046	0,052
K	1	1,5 x D	0,3 x D	0,5 x D	120	160	fz	0,018	0,023	0,029	0,035	0,048	0,058	0,066	0,081	0,091
	2	1,5 x D	0,3 x D	0,5 x D	110	140	fz	0,015	0,019	0,024	0,029	0,040	0,048	0,056	0,070	0,081
	3	1,5 x D	0,3 x D	0,5 x D	100	130	fz	0,012	0,015	0,019	0,024	0,032	0,039	0,045	0,056	0,065
S	1	1,5 x D	0,3 x D	0,3 x D	50	90	fz	0,015	0,019	0,024	0,029	0,040	0,048	0,056	0,070	0,081
	2	1,5 x D	0,3 x D	0,3 x D	20	40	fz	0,008	0,010	0,013	0,016	0,021	0,026	0,030	0,037	0,043
	3	1,5 x D	0,3 x D	0,5 x D	50	80	fz	0,012	0,015	0,019	0,024	0,032	0,039	0,045	0,056	0,065
	4	1,5 x D	0,3 x D	0,3 x D	45	65	fz	0,010	0,013	0,017	0,021	0,029	0,036	0,041	0,051	0,059
H	1	1,5 x D	0,3 x D	0,5 x D	80	140	fz	0,013	0,017	0,022	0,026	0,036	0,043	0,050	0,061	0,070

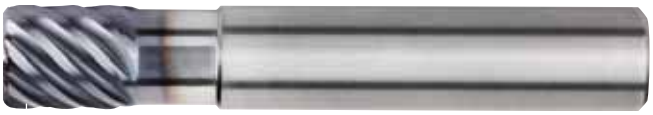
NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centres, please adjust parameters accordingly on >12mm diameter.

F3AW...WL-WX

Material Group		A		B	KCPM15 Cutting Speed — vc m/min			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%. D1 — Diameter								
		ap	ae	ap	min	max	mm	3,0	5,0	6,0	8,0	10,0	12,0	16,0	20,0	20,0
P	1	1 x D	0,5 x D	1 x D	150	200	fz	0,022	0,036	0,044	0,060	0,072	0,083	0,101	0,114	0,114
	2	1 x D	0,5 x D	1 x D	140	190	fz	0,022	0,036	0,044	0,060	0,072	0,083	0,101	0,114	0,114
	3	1 x D	0,5 x D	1 x D	120	160	fz	0,018	0,030	0,036	0,050	0,061	0,070	0,087	0,101	0,101
	4	1 x D	0,5 x D	1 x D	90	150	fz	0,016	0,027	0,033	0,045	0,054	0,062	0,077	0,088	0,088
	5	1 x D	0,5 x D	1 x D	60	100	fz	0,015	0,024	0,029	0,040	0,048	0,056	0,070	0,081	0,081
	6	1 x D	0,5 x D	1 x D	50	75	fz	0,012	0,020	0,025	0,034	0,040	0,047	0,057	0,065	0,065
M	1	1 x D	0,5 x D	1 x D	80	100	fz	0,018	0,030	0,036	0,050	0,061	0,070	0,087	0,101	0,101
	2	1 x D	0,5 x D	1 x D	60	80	fz	0,015	0,024	0,029	0,040	0,048	0,056	0,070	0,081	0,081
	3	1 x D	0,5 x D	1 x D	60	80	fz	0,012	0,020	0,025	0,034	0,040	0,047	0,057	0,065	0,065
K	1	1 x D	0,5 x D	1 x D	120	160	fz	0,022	0,036	0,044	0,060	0,072	0,083	0,101	0,114	0,114
	2	1 x D	0,5 x D	1 x D	110	140	fz	0,018	0,030	0,036	0,050	0,061	0,070	0,087	0,101	0,101
	3	1 x D	0,5 x D	1 x D	100	130	fz	0,015	0,024	0,029	0,040	0,048	0,056	0,070	0,081	0,081
H	1	1 x D	0,5 x D	1 x D	100	140	fz	0,016	0,027	0,033	0,045	0,054	0,062	0,077	0,088	0,088

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centres, please adjust parameters accordingly on >12mm diameter.

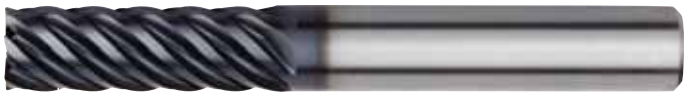
F8AJ-F10AJ...DK



Material Group		A		KCPM15 Cutting Speed — vc m/min			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%. D1 — Diameter							
		ap	ae	min	max	mm	6,0	8,0	10,0	12,0	14,0	16,0	18,0	20,0
P	1	1 x D	0,05 x D	150	200	fz	0,044	0,060	0,072	0,083	0,092	0,101	0,108	0,114
	2	1 x D	0,05 x D	140	190	fz	0,044	0,060	0,072	0,083	0,092	0,101	0,108	0,114
	3	1 x D	0,05 x D	120	160	fz	0,036	0,050	0,061	0,070	0,079	0,087	0,095	0,101
	4	1 x D	0,04 x D	90	150	fz	0,033	0,045	0,054	0,062	0,070	0,077	0,083	0,088
	5	1 x D	0,05 x D	60	100	fz	0,029	0,040	0,048	0,056	0,063	0,070	0,076	0,081
	6	1 x D	0,04 x D	50	75	fz	0,025	0,034	0,040	0,047	0,052	0,057	0,061	0,065
M	1	1 x D	0,05 x D	80	100	fz	0,036	0,050	0,061	0,070	0,079	0,087	0,095	0,101
	2	1 x D	0,05 x D	60	80	fz	0,029	0,040	0,048	0,056	0,063	0,070	0,076	0,081
	3	1 x D	0,05 x D	60	80	fz	0,025	0,034	0,040	0,047	0,052	0,057	0,061	0,065
K	1	1 x D	0,05 x D	120	160	fz	0,044	0,060	0,072	0,083	0,092	0,101	0,108	0,114
	2	1 x D	0,05 x D	110	140	fz	0,036	0,050	0,061	0,070	0,079	0,087	0,095	0,101
	3	1 x D	0,05 x D	100	130	fz	0,029	0,040	0,048	0,056	0,063	0,070	0,076	0,081
H	1	1 x D	0,04 x D	80	140	fz	0,033	0,045	0,054	0,062	0,070	0,077	0,083	0,088

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
For better surface finish, reduce feed per tooth.
Above parameters are based on ideal conditions. For smaller taper machining centres, please adjust parameters accordingly on >12mm diameter.

F6AJ-F8AJ...DL • Multiflute • Long • Extra Long



Material Group		A		KCPM15			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.							
				Cutting Speed — vc m/min			D1 — Diameter							
		ap	ae	min	max	mm	6,0	8,0	10,0	12,0	14,0	16,0	18,0	20,0
P	1	1,5 x D	0,05 x D	150	200	fz	0,044	0,060	0,072	0,083	0,092	0,101	0,108	0,114
	2	1,5 x D	0,05 x D	140	190	fz	0,044	0,060	0,072	0,083	0,092	0,101	0,108	0,114
	3	1,5 x D	0,05 x D	120	160	fz	0,036	0,050	0,061	0,070	0,079	0,087	0,095	0,101
	4	1,5 x D	0,04 x D	90	150	fz	0,033	0,045	0,054	0,062	0,070	0,077	0,083	0,088
	5	1,5 x D	0,05 x D	60	100	fz	0,029	0,040	0,048	0,056	0,063	0,070	0,076	0,081
	6	1,5 x D	0,04 x D	50	75	fz	0,025	0,034	0,040	0,047	0,052	0,057	0,061	0,065
M	1	1,5 x D	0,05 x D	80	100	fz	0,036	0,050	0,061	0,070	0,079	0,087	0,095	0,101
	2	1,5 x D	0,05 x D	60	80	fz	0,029	0,040	0,048	0,056	0,063	0,070	0,076	0,081
	3	1,5 x D	0,05 x D	60	80	fz	0,025	0,034	0,040	0,047	0,052	0,057	0,061	0,065
K	1	1,5 x D	0,05 x D	120	160	fz	0,044	0,060	0,072	0,083	0,092	0,101	0,108	0,114
	2	1,5 x D	0,05 x D	110	140	fz	0,036	0,050	0,061	0,070	0,079	0,087	0,095	0,101
	3	1,5 x D	0,05 x D	100	130	fz	0,029	0,040	0,048	0,056	0,063	0,070	0,076	0,081
H	1	1,5 x D	0,04 x D	80	140	fz	0,033	0,045	0,054	0,062	0,070	0,077	0,083	0,088

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
For better surface finish, reduce feed per tooth.
Above parameters are based on ideal conditions. For smaller taper machining centres, please adjust parameters accordingly on >12mm diameter.

Carbide Recycling

Help preserve and protect our planet!

It's easy for your company to be environmentally conscious with the Kennametal Carbide Recycling Program.

By sending us your used carbide tools, you help preserve and protect the environment and ensure that these products are recycled responsibly. Kennametal accepts any coated or non-coated carbide items, including inserts, drills, reamers, and taps.

By using the Kennametal Carbide Recycling Program, you will receive:

- A partner who cares about a sustainable environment.
- Easy-to-use web portal to value your used carbide.
- Access to our popular Green Box™ options for carbide collection.
- Systematic and efficient disposal of carbide materials.
- Improved profitability.

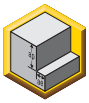
Program is not currently available in all geographical areas.
For more information, please visit **www.kennametal.com/carbiderecycling.**

High-Performance Solid Carbide End Mills • Roughing

Features and Benefits

- Highest metal removal rates.
- Innovative roughing geometries.
- End mills with internal coolant.
- Different radius styles.

Applications:



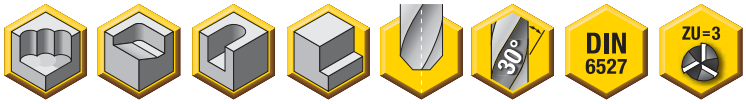
Side Milling

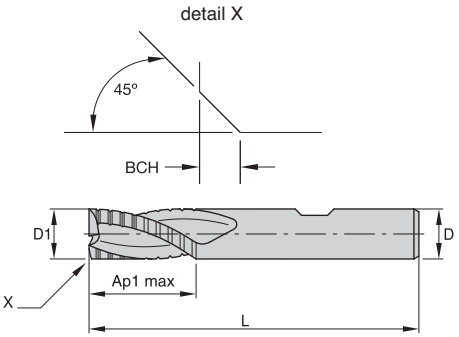
Slotting

Workpiece Materials:

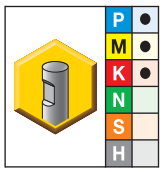
P	Steel
M	Stainless Steel
K	Cast Iron
S	High-Temp Alloys
H	Hardened Materials

- Centre cutting.
- Semi-finishing profile.





beyond



● first choice
○ alternate choice

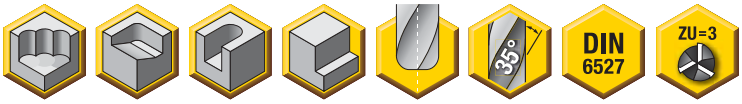
KCPM15	D1	D	Ap1 max	L	BCH
F3BH0400BDL30	4,00	6,00	8,00	57,00	0,10
F3BH0500BDL30	5,00	6,00	13,00	57,00	0,10
F3BH0600BDL30	6,00	6,00	13,00	57,00	0,10
F3BH0800BDL30	8,00	8,00	16,00	63,00	0,20
F3BH1000BDL30	10,00	10,00	19,00	72,00	0,30
F3BH1200BDL30	12,00	12,00	22,00	83,00	0,30
F3BH1600BDL30	16,00	16,00	26,00	92,00	0,40
F3BH2000BDL30	20,00	20,00	32,00	104,00	0,40
F3BH2500BDL30	25,00	25,00	45,00	121,00	0,40

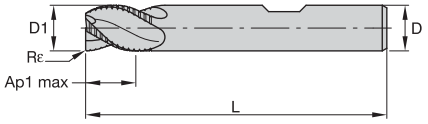
NOTE: For application data, see page M106.

End Mill Tolerances

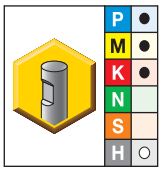
D1	tolerance h11	D	tolerance h6
≤3	+0/-0,060	≤3	+0/-0,006
>3–6	+0/-0,075	>3–6	+0/-0,008
>6–10	+0/-0,090	>6–10	+0/-0,009
>10–18	+0/-0,110	>10–18	+0/-0,011
>18–30	+0/-0,130	>18–30	+0/-0,013

- Centre cutting.
- Chipbreaker profile.





beyond



● first choice
○ alternate choice

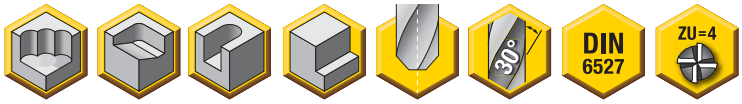
KCPM15	D1	D	Ap1 max	L	Rε
F3BS0600BDK35	6,00	6,00	7,00	54,00	0,45
F3BS0600BDL35	6,00	6,00	10,00	57,00	0,45
F3BS0800BDK35	8,00	8,00	9,00	58,00	0,45
F3BS0800BDL35	8,00	8,00	16,00	63,00	0,45
F3BS1000BDK35	10,00	10,00	11,00	66,00	0,45
F3BS1000BDL35	10,00	10,00	19,00	72,00	0,45
F3BS1200BDK35	12,00	12,00	12,00	73,00	0,45
F3BS1200BDL35	12,00	12,00	22,00	83,00	0,45
F3BS1400BDK35	14,00	14,00	14,00	75,00	0,45
F3BS1400BDL35	14,00	14,00	22,00	83,00	0,45
F3BS1600BDK35	16,00	16,00	16,00	82,00	0,45
F3BS1600BDL35	16,00	16,00	26,00	92,00	0,45
F3BS2000BDK35	20,00	20,00	20,00	92,00	0,45
F3BS2000BDL35	20,00	20,00	32,00	104,00	0,45

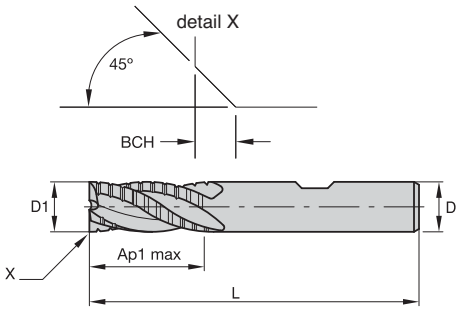
NOTE: For application data, see page M106.

End Mill Tolerances

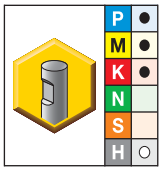
D1	tolerance d11	D	Tolerance h6
≤3	-0,020/-0,080	≤3	+0/-0,006
>3–6	-0,030/-0,105	>3–6	+0/-0,008
>6–10	-0,040/-0,130	>6–10	+0/-0,009
>10–18	-0,050/-0,160	>10–18	+0/-0,011
>18–30	-0,065/-0,195	>18–30	+0/-0,013

- Centre cutting.
- Semi-finishing profile.





beyond



● first choice
○ alternate choice

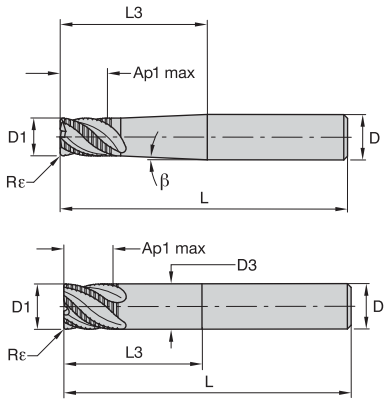
KCPM15	D1	D	Ap1 max	L	BCH
F4BJ0600BDL30	6,00	6,00	13,00	57,00	0,10
F4BJ0800BDL30	8,00	8,00	19,00	63,00	0,20
F4BJ1000BDL30	10,00	10,00	22,00	72,00	0,30
F4BJ1200BDL30	12,00	12,00	26,00	83,00	0,30
F4BJ1400BDL30	14,00	14,00	26,00	83,00	0,30
F4BJ1600BDL30	16,00	16,00	32,00	92,00	0,40
F4BJ1800BDL30	18,00	18,00	32,00	92,00	0,40
F4BJ2000BDL30	20,00	20,00	38,00	104,00	0,40

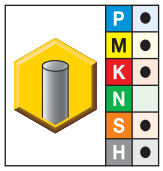
NOTE: For application data, see page M107.

End Mill Tolerances

D1	tolerance h11	D	tolerance h6
≤3	+0/-0,060	≤3	+0/-0,006
>3–6	+0/-0,075	>3–6	+0/-0,008
>6–10	+0/-0,090	>6–10	+0/-0,009
>10–18	+0/-0,110	>10–18	+0/-0,011
>18–30	+0/-0,130	>18–30	+0/-0,013

- Kennametal standard dimensions.
- Centre cutting.
- Flat shallow-pitch profile.





● first choice
○ alternate choice

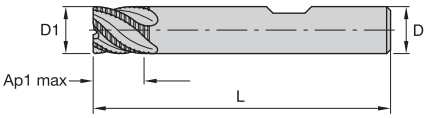
KC633M	D1	D	Ap1 max	L	L3	Rε	D3	Z U
F3BT0400AWM45R075	4,00	6,00	4,00	75,00	4,00	0,75	–	3
F3BT0500AWM45R075	5,00	6,00	5,00	75,00	5,00	0,75	–	3
F4BT0600AWL45R075	6,00	10,00	6,00	100,00	6,00	0,75	–	4
F4BT0800AWL45R075	8,00	10,00	8,00	100,00	8,00	0,75	–	4
F4BT1000AWX45R075	10,00	12,00	10,00	125,00	10,00	0,75	–	4
F4BT1200AWX45R100	12,00	16,00	12,00	125,00	12,00	1,00	–	4
F6BT2000AWX45R125	20,00	20,00	20,00	150,00	20,00	1,25	19,00	6
F6BT2500AWX45R125	25,00	25,00	25,00	150,00	25,00	1,25	24,00	6

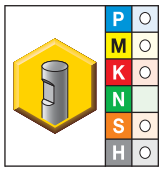
NOTE: For application data, see page M107.

End Mill Tolerances

D1	tolerance d11	D	tolerance h6
≤3	-0,020/-0,080	≤3	+0/-0,006
>3–6	-0,030/-0,105	>3–6	+0/-0,008
>6–10	-0,040/-0,130	>6–10	+0/-0,009
>10–18	-0,050/-0,160	>10–18	+0/-0,011
>18–30	-0,065/-0,195	>18–30	+0/-0,013

- Centre cutting.
- Shallow-pitch profile.





● first choice
○ alternate choice

KC633M	D1	D	Ap1 max	L	Z U
F4BJ0600BDL45L060	6,00	6,00	6,00	57,00	4
F4BJ0800BDL45L080	8,00	8,00	8,00	63,00	4
F4BJ1000BDL45L100	10,00	10,00	10,00	72,00	4
F4BJ1200BDL45L120	12,00	12,00	12,00	83,00	4

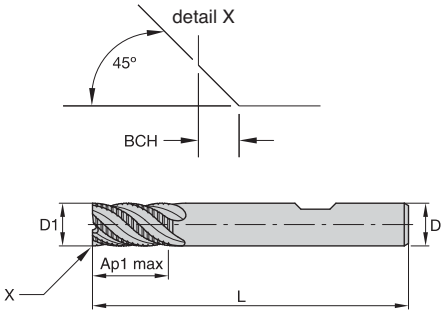
NOTE: For application data, see page M108.

End Mill Tolerances

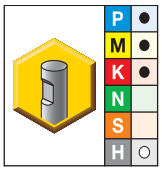
D1	tolerance d11	D	tolerance h6
≤ 3	-0,020/-0,080	≤ 3	+0/-0,006
>3–6	-0,030/-0,105	>3–6	+0/-0,008
>6–10	-0,040/-0,130	>6–10	+0/-0,009
>10–18	-0,050/-0,160	>10–18	+0/-0,011
>18–30	-0,065/-0,195	>18–30	+0/-0,013

	Corner Radius (chamfer height)	
D1 d11	R	tolerance
6–11,99	0,75	± 0,05
12–19,99	1,00	± 0,05
20–25	1,25	± 0,05

- Centre cutting.
- Shallow-pitch profile.



beyond



● first choice
○ alternate choice

KCPM15	D1	D	Ap1 max	L	BCH	Z U
F4BJ0600BDL45	6,00	6,00	13,00	57,00	0,10	4
F4BJ0800BDL45	8,00	8,00	19,00	63,00	0,20	4
F4BJ1000BDL45	10,00	10,00	22,00	72,00	0,30	4
F4BJ1200BDL45	12,00	12,00	26,00	83,00	0,30	4
F6BJ1600BDL45	16,00	16,00	32,00	92,00	1,00	6
F6BJ2000BDL45	20,00	20,00	38,00	104,00	1,25	6
F6BJ2500BDL45	25,00	25,00	45,00	121,00	1,25	6

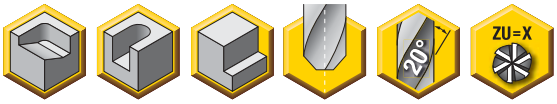
NOTE: For application data, see page M108.

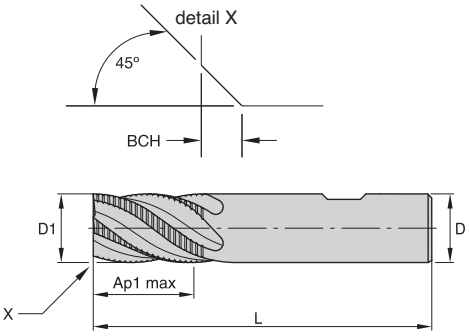
End Mill Tolerances

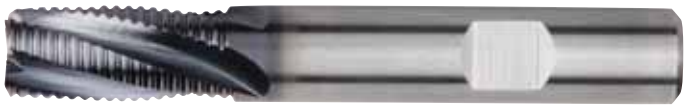
D1	tolerance h11	D	tolerance h6
≤ 3	+0/-0,060	≤ 3	+0/-0,006
>3–6	+0/-0,075	>3–6	+0/-0,008
>6–10	+0/-0,090	>6–10	+0/-0,009
>10–18	+0/-0,110	>10–18	+0/-0,011
>18–30	+0/-0,130	>18–30	+0/-0,013

	Corner Chamfer (chamfer height)	
D1 h10	BCH	tolerance
2–6,75	0,10	-0,05
6,76–9,7	0,20	-0,10
9,71–15,7	0,30	-0,10
15,71–25	0,40	-0,20

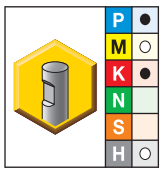
- Kennametal standard dimensions.
- Centre cutting.
- Fine-pitch profile.







beyond



● first choice
○ alternate choice

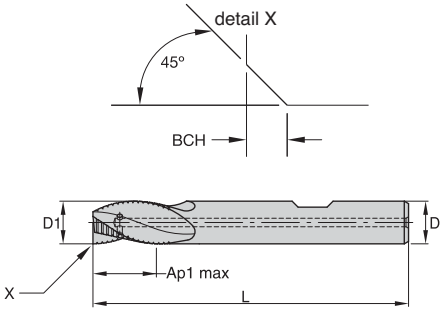
KCPM15	D1	D	Ap1 max	L	BCH	Z U
F3BH0400BWS20L110	4,00	6,00	11,00	55,00	0,30	3
F3BH0500BWS20L130	5,00	6,00	13,00	57,00	0,30	3
F3BH0600BWS20L080	6,00	6,00	8,00	54,00	0,30	3
F3BH0600BWS20L130	6,00	6,00	13,00	57,00	0,30	3
F3BH0800BWS20L110	8,00	8,00	11,00	58,00	0,30	3
F3BH0800BWM20L160	8,00	8,00	16,00	63,00	0,30	3
F4BJ1000BWM20L130	10,00	10,00	13,00	66,00	0,50	4
F4BJ1000BWM20L220	10,00	10,00	22,00	72,00	0,50	4
F4BJ1200BWM20L160	12,00	12,00	16,00	73,00	0,50	4
F4BJ1200BWL20L260	12,00	12,00	26,00	83,00	0,50	4
F4BJ1400BWL20L260	14,00	14,00	26,00	83,00	0,50	4
F4BJ1600BWL20L190	16,00	16,00	19,00	82,00	0,50	4
F4BJ1600BWL20L320	16,00	16,00	32,00	92,00	0,50	4
F4BJ2000BWL20L220	20,00	20,00	22,00	92,00	0,50	4
F4BJ2000BWX20L380	20,00	20,00	38,00	104,00	0,50	4
F5BJ2500BWX20L450	25,00	25,00	45,00	121,00	0,50	5

NOTE: For application data, see page M109.

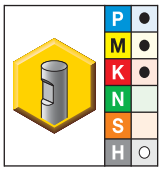
End Mill Tolerances

D1	tolerance d11	D	tolerance h6
≤ 3	-0,020/-0,080	≤ 3	+0/-0,006
>3–6	-0,030/-0,105	>3–6	+0/-0,008
>6–10	-0,040/-0,130	>6–10	+0/-0,009
>10–18	-0,050/0,160	>10–18	+0/-0,011
>18–30	-0,065/-0,195	>18–30	+0/-0,013

- Kennametal standard dimensions.
- Centre cutting.
- Fine-pitch profile.



beyond



● first choice
○ alternate choice

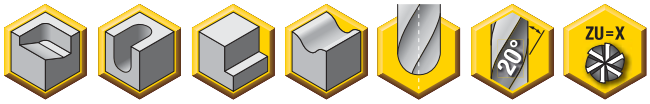
KCPM15	D1	D	Ap1 max	L	BCH	Z U
F3BH0800BWS20C110	8,00	8,00	11,00	58,00	0,30	3
F3BH0800BWM20C160	8,00	8,00	16,00	63,00	0,30	3
F4BJ1000BWM20C130	10,00	10,00	13,00	66,00	0,50	4
F4BJ1000BWM20C220	10,00	10,00	22,00	72,00	0,50	4
F4BJ1200BWM20C160	12,00	12,00	16,00	73,00	0,50	4
F4BJ1200BWL20C260	12,00	12,00	26,00	83,00	0,50	4
F4BJ1600BWL20C190	16,00	16,00	19,00	82,00	0,50	4
F4BJ1600BWL20C320	16,00	16,00	32,00	92,00	0,50	4
F4BJ2000BWL20C220	20,00	20,00	22,00	92,00	0,50	4
F4BJ2000BWX20C380	20,00	20,00	38,00	104,00	0,50	4

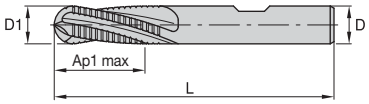
NOTE: For application data, see page M109.

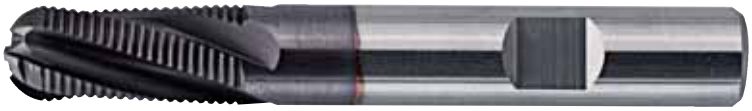
End Mill Tolerances

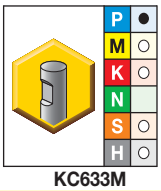
D1	tolerance d11	D	tolerance h6
≤3	-0,020/-0,080	≤3	+0/-0,006
>3–6	-0,030/-0,105	>3–6	+0/-0,008
>6–10	-0,040/-0,130	>6–10	+0/-0,009
>10–18	-0,050/-0,160	>10–18	+0/-0,011
>18–30	-0,065/-0,195	>18–30	+0/-0,013

- Kennametal standard dimensions.
- Centre cutting.
- Roughing profile.









● first choice
○ alternate choice

KC633M	D1	D	Ap1 max	L	Z U
F3BL0600BWS20	6,00	6,00	13,00	57,00	3
F3BL0800BWM20	8,00	8,00	16,00	63,00	3

NOTE: For application data, see page M110.

End Mill Tolerances

D1	tolerance d11	D	tolerance h6
≤3	-0,020/-0,080	≤3	+0/-0,006
>3–6	-0,030/-0,105	>3–6	+0/-0,008
>6–10	-0,040/-0,130	>6–10	+0/-0,009
>10–18	-0,050/-0,160	>10–18	+0/-0,011
>18–30	-0,065/-0,195	>18–30	+0/-0,013

F3BH...DL • DIN 6527 • Long • Steel

Material Group		A		B	KCPM15 Cutting Speed — vc m/min			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%. D1 — Diameter							
		ap	ae	ap	min	max	mm	3,0	4,0	6,0	8,0	10,0	12,0	16,0	20,0
P	1	1 x D	0,4 x D	0,75 x D	150	200	fz	0,021	0,028	0,044	0,060	0,072	0,083	0,101	0,114
	2	1 x D	0,4 x D	0,75 x D	140	190	fz	0,021	0,028	0,044	0,060	0,072	0,083	0,101	0,114
	3	1 x D	0,4 x D	0,75 x D	120	160	fz	0,018	0,023	0,036	0,050	0,061	0,070	0,087	0,101
	4	1 x D	0,3 x D	0,3 x D	90	150	fz	0,016	0,021	0,033	0,045	0,054	0,062	0,077	0,088
	3	1 x D	0,4 x D	0,75 x D	60	100	fz	0,014	0,019	0,029	0,040	0,048	0,056	0,070	0,081
	4	1 x D	0,3 x D	0,3 x D	50	75	fz	0,012	0,016	0,025	0,034	0,040	0,047	0,057	0,065
M	1	1 x D	0,4 x D	0,75 x D	80	100	fz	0,018	0,023	0,036	0,050	0,061	0,070	0,087	0,101
	2	1 x D	0,4 x D	0,75 x D	60	80	fz	0,014	0,019	0,029	0,040	0,048	0,056	0,070	0,081
	3	1 x D	0,4 x D	0,75 x D	60	80	fz	0,012	0,016	0,025	0,034	0,040	0,047	0,057	0,065
K	1	1 x D	0,4 x D	0,75 x D	120	160	fz	0,021	0,028	0,044	0,060	0,072	0,083	0,101	0,114
	2	1 x D	0,4 x D	0,75 x D	110	140	fz	0,018	0,023	0,036	0,050	0,061	0,070	0,087	0,101
	3	1 x D	0,4 x D	0,75 x D	100	130	fz	0,014	0,019	0,029	0,040	0,048	0,056	0,070	0,081

F3BS...DK-DL • DIN 6527 • Short • Long • Steel • Stainless Steel

Material Group		A		B	KCPM15 Cutting Speed — vc m/min			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%. D1 — Diameter							
		ap	ae	ap	min	max	mm	3,0	4,0	6,0	8,0	10,0	12,0	16,0	20,0
P	1	1 x D	0,4 x D	0,75 x D	150	200	fz	0,021	0,028	0,044	0,060	0,072	0,083	0,101	0,114
	2	1 x D	0,4 x D	0,75 x D	140	190	fz	0,021	0,028	0,044	0,060	0,072	0,083	0,101	0,114
	3	1 x D	0,4 x D	0,75 x D	120	160	fz	0,018	0,023	0,036	0,050	0,061	0,070	0,087	0,101
	4	1 x D	0,3 x D	0,3 x D	90	150	fz	0,016	0,021	0,033	0,045	0,054	0,062	0,077	0,088
	5	1 x D	0,4 x D	0,75 x D	60	100	fz	0,014	0,019	0,029	0,040	0,048	0,056	0,070	0,081
	6	1 x D	0,3 x D	0,3 x D	50	75	fz	0,012	0,016	0,025	0,034	0,040	0,047	0,057	0,065
M	1	1 x D	0,4 x D	0,75 x D	80	100	fz	0,018	0,023	0,036	0,050	0,061	0,070	0,087	0,101
	2	1 x D	0,4 x D	0,75 x D	60	80	fz	0,014	0,019	0,029	0,040	0,048	0,056	0,070	0,081
	3	1 x D	0,4 x D	0,75 x D	60	80	fz	0,012	0,016	0,025	0,034	0,040	0,047	0,057	0,065
K	1	1 x D	0,4 x D	0,75 x D	120	160	fz	0,021	0,028	0,044	0,060	0,072	0,083	0,101	0,114
	2	1 x D	0,4 x D	0,75 x D	110	140	fz	0,018	0,023	0,036	0,050	0,061	0,070	0,087	0,101
	3	1 x D	0,4 x D	0,75 x D	100	130	fz	0,014	0,019	0,029	0,040	0,048	0,056	0,070	0,081
H	1	1 x D	0,3 x D	0,3 x D	100	140	fz	0,016	0,021	0,033	0,045	0,054	0,062	0,077	0,088

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centres, please adjust parameters accordingly on >12mm diameter.

F4BJ...DL • DIN 6527 • Long • Steel

Material Group		A		B	KCPM15			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.										
					Cutting Speed — vc m/min			D1 — Diameter										
		ap	ae	ap	min	max	mm	4,0	5,0	6,0	8,0	10,0	12,0	14,0	16,0	18,0	20,0	25,0
P	1	1,5 x D	0,4 x D	1 x D	150	200	fz	0,028	0,036	0,044	0,060	0,072	0,083	0,092	0,101	0,107	0,114	0,143
	2	1,5 x D	0,4 x D	1 x D	140	190	fz	0,028	0,036	0,044	0,060	0,072	0,083	0,092	0,101	0,107	0,114	0,143
	3	1,5 x D	0,4 x D	0,75 x D	120	160	fz	0,023	0,030	0,036	0,050	0,061	0,070	0,079	0,087	0,094	0,101	0,126
	4	1,5 x D	0,3 x D	0,3 x D	90	150	fz	0,021	0,027	0,033	0,045	0,054	0,062	0,070	0,077	0,082	0,088	0,110
	5	1,5 x D	0,4 x D	0,75 x D	60	100	fz	0,019	0,024	0,029	0,040	0,048	0,056	0,063	0,070	0,075	0,081	0,101
	6	1,5 x D	0,3 x D	0,3 x D	50	75	fz	0,016	0,020	0,025	0,034	0,040	0,047	0,052	0,057	0,061	0,065	0,081
M	1	1,5 x D	0,4 x D	0,75 x D	80	100	fz	0,023	0,030	0,036	0,050	0,061	0,070	0,079	0,087	0,094	0,101	0,126
	2	1,5 x D	0,4 x D	0,75 x D	60	80	fz	0,019	0,024	0,029	0,040	0,048	0,056	0,063	0,070	0,075	0,081	0,101
	3	1,5 x D	0,4 x D	0,75 x D	60	80	fz	0,016	0,020	0,025	0,034	0,040	0,047	0,052	0,057	0,061	0,065	0,081
K	1	1,5 x D	0,4 x D	1 x D	120	160	fz	0,028	0,036	0,044	0,060	0,072	0,083	0,092	0,101	0,107	0,114	0,143
	2	1,5 x D	0,4 x D	1 x D	110	140	fz	0,023	0,030	0,036	0,050	0,061	0,070	0,079	0,087	0,094	0,101	0,126
	3	1,5 x D	0,4 x D	1 x D	100	130	fz	0,019	0,024	0,029	0,040	0,048	0,056	0,063	0,070	0,075	0,081	0,101
H	1	1,5 x D	0,3 x D	0,3 x D	100	140	fz	0,021	0,027	0,033	0,045	0,054	0,062	0,070	0,077	0,082	0,088	0,110

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centres, please adjust parameters accordingly on >12mm diameter.

F3/4/6BT...AWM/L/X45R...

Material Group		A		B	K633M			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.								
					Cutting Speed — vc m/min			D1 — Diameter								
		ap	ae	ap	min	max	mm	4,0	5,0	6,0	8,0	10,0	12,0	16,0	20,0	25,0
P	3	0,8 x D	0,5 x D	0,75 x D	160	180	fz	0,020	0,025	0,031	0,043	0,051	0,063	0,078	0,101	0,114
	4	0,8 x D	0,4 x D	0,5 x D	140	160	fz	0,018	0,023	0,028	0,038	0,046	0,056	0,069	0,088	0,098
	5	0,8 x D	0,5 x D	0,75 x D	60	100	fz	0,016	0,021	0,025	0,034	0,041	0,051	0,063	0,081	0,091
	6	0,8 x D	0,4 x D	0,5 x D	50	80	fz	0,014	0,017	0,021	0,029	0,034	0,042	0,051	0,065	0,071
M	1	0,8 x D	0,5 x D	0,75 x D	80	100	fz	0,020	0,025	0,031	0,043	0,051	0,063	0,078	0,101	0,114
	2	0,8 x D	0,4 x D	0,75 x D	60	80	fz	0,016	0,021	0,025	0,034	0,041	0,051	0,063	0,081	0,091
	3	0,8 x D	0,4 x D	0,75 x D	60	80	fz	0,014	0,017	0,021	0,029	0,034	0,042	0,051	0,065	0,071
K	1	0,8 x D	0,5 x D	0,75 x D	120	160	fz	0,024	0,031	0,037	0,051	0,061	0,075	0,091	0,114	0,124
	2	0,8 x D	0,5 x D	0,75 x D	110	140	fz	0,020	0,025	0,031	0,043	0,051	0,063	0,078	0,101	0,114
	3	0,8 x D	0,4 x D	0,75 x D	100	130	fz	0,016	0,021	0,025	0,034	0,041	0,051	0,063	0,081	0,091
S	1	0,8 x D	0,4 x D	0,75 x D	90	115	fz	0,020	0,025	0,031	0,043	0,051	0,063	0,078	0,101	0,114
	2	0,8 x D	0,25 x D	0,3 x D	20	40	fz	0,011	0,014	0,017	0,022	0,027	0,033	0,042	0,054	0,061
	3	0,8 x D	0,4 x D	0,75 x D	50	80	fz	0,016	0,021	0,025	0,034	0,041	0,051	0,063	0,081	0,091
	4	0,8 x D	0,3 x D	0,5 x D	45	65	fz	0,013	0,018	0,022	0,031	0,038	0,046	0,058	0,074	0,084
H	1	0,8 x D	0,5 x D	0,5 x D	120	140	fz	0,018	0,023	0,028	0,038	0,046	0,056	0,069	0,088	0,098
	2	0,8 x D	0,2 x D	0,3 x D	80	130	fz	0,014	0,017	0,021	0,029	0,034	0,042	0,051	0,065	0,071
	3	0,8 x D	0,15 x D	0,2 x D	70	100	fz	0,011	0,014	0,017	0,023	0,027	0,034	0,041	0,052	0,057

NOTE: These guidelines may require possible variations to achieve optimum results.
Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
For rougher tool with six flutes, use ap in slotting 60% of table value.
Above parameters are based on ideal conditions. For smaller taper machining centres, please adjust parameters accordingly on >12mm diameter.

F4BJ-F6BJ...DL • DIN 6527

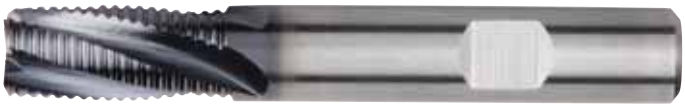
Material Group		A		B	KC633M			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.						
					Cutting Speed — vc m/min			D1 — Diameter						
		ap	ae	ap	min	max	mm	6,0	8,0	10,0	12,0	16,0	20,0	25,0
P	3	0,8 x D	0,5 x D	0,75 x D	120	160	fz	0,031	0,043	0,051	0,063	0,078	0,101	0,114
	4	0,8 x D	0,4 x D	0,5 x D	90	150	fz	0,028	0,038	0,046	0,056	0,069	0,088	0,098
	5	0,8 x D	0,5 x D	0,75 x D	60	100	fz	0,025	0,034	0,041	0,051	0,063	0,081	0,091
	6	0,8 x D	0,4 x D	0,5 x D	50	75	fz	0,021	0,029	0,034	0,042	0,051	0,065	0,071
M	1	0,8 x D	0,5 x D	0,75 x D	80	100	fz	0,031	0,043	0,051	0,063	0,078	0,101	0,114
	2	0,8 x D	0,4 x D	0,75 x D	60	80	fz	0,025	0,034	0,041	0,051	0,063	0,081	0,091
	3	0,8 x D	0,4 x D	0,75 x D	60	80	fz	0,021	0,029	0,034	0,042	0,051	0,065	0,071
K	1	0,8 x D	0,5 x D	0,75 x D	120	160	fz	0,037	0,051	0,061	0,075	0,091	0,114	0,124
	2	0,8 x D	0,5 x D	0,75 x D	110	140	fz	0,031	0,043	0,051	0,063	0,078	0,101	0,114
	3	0,8 x D	0,4 x D	0,75 x D	100	130	fz	0,025	0,034	0,041	0,051	0,063	0,081	0,091
S	1	0,8 x D	0,4 x D	0,75 x D	50	90	fz	0,031	0,043	0,051	0,063	0,078	0,101	0,114
	2	0,8 x D	0,4 x D	0,75 x D	50	90	fz	0,031	0,043	0,051	0,063	0,078	0,101	0,114
	3	0,8 x D	0,25 x D	0,3 x D	20	40	fz	0,017	0,022	0,027	0,033	0,042	0,054	0,061
	4	0,8 x D	0,3 x D	0,5 x D	45	65	fz	0,022	0,031	0,038	0,046	0,058	0,074	0,084
H	1	0,8 x D	0,5 x D	0,5 x D	80	140	fz	0,028	0,038	0,046	0,056	0,069	0,088	0,098
	2	0,8 x D	0,2 x D	0,3 x D	70	120	fz	0,021	0,029	0,034	0,042	0,051	0,065	0,071
	3	0,8 x D	0,2 x D	0,2 x D	60	90	fz	0,017	0,023	0,027	0,034	0,041	0,052	0,057

F4BJ-F6BJ...DL • DIN 6527

Material Group		A		B	KCPM15			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.						
					Cutting Speed — vc m/min			D1 — Diameter						
		ap	ae	ap	min	max	mm	6,0	8,0	10,0	12,0	16,0	20,0	25,0
P	3	1 x D	0,5 x D	0,5 x D	120	160	fz	0,031	0,043	0,051	0,063	0,078	0,101	0,114
	4	1 x D	0,3 x D	0,4 x D	90	150	fz	0,028	0,038	0,046	0,056	0,069	0,088	0,098
	5	1 x D	0,5 x D	0,5 x D	60	100	fz	0,025	0,034	0,041	0,051	0,063	0,081	0,091
	6	1 x D	0,3 x D	0,4 x D	50	75	fz	0,021	0,029	0,034	0,042	0,051	0,065	0,071
M	1	1 x D	0,5 x D	0,5 x D	80	100	fz	0,031	0,043	0,051	0,063	0,078	0,101	0,114
	2	1 x D	0,5 x D	0,5 x D	60	80	fz	0,025	0,034	0,041	0,051	0,063	0,081	0,091
	3	1 x D	0,5 x D	0,5 x D	60	80	fz	0,021	0,029	0,034	0,042	0,051	0,065	0,071
K	1	1 x D	0,5 x D	0,5 x D	120	160	fz	0,037	0,051	0,061	0,075	0,091	0,114	0,124
	2	1 x D	0,5 x D	0,5 x D	110	140	fz	0,031	0,043	0,051	0,063	0,078	0,101	0,114
	3	1 x D	0,5 x D	0,5 x D	100	130	fz	0,025	0,034	0,041	0,051	0,063	0,081	0,091
H	1	1 x D	0,3 x D	0,3 x D	80	140	fz	0,028	0,038	0,046	0,056	0,069	0,088	0,098
	2	1 x D	0,2 x D	0,2 x D	70	120	fz	0,021	0,029	0,034	0,042	0,051	0,065	0,071
	3	1 x D	0,2 x D	0,2 x D	60	90	fz	0,017	0,023	0,027	0,034	0,041	0,052	0,057

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centres, please adjust parameters accordingly on >12mm diameter.

F3BH-F4BJ-F5BJ...WS-WM-WL-WX



Material Group		A		B	KCPM15			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.						
					Cutting Speed — vc m/min			D1 — Diameter						
		ap	ae	ap	min	max	mm	8,0	10,0	12,0	14,0	16,0	18,0	20,0
P	1	1,5 x D	0,5 x D	1 x D	150	200	fz	0,049	0,059	0,072	0,080	0,087	0,093	0,098
	2	1,5 x D	0,5 x D	1 x D	140	190	fz	0,049	0,059	0,072	0,080	0,087	0,093	0,098
	3	1,5 x D	0,4 x D	0,75 x D	120	160	fz	0,041	0,049	0,061	0,068	0,075	0,082	0,087
	4	1 x D	0,3 x D	0,5 x D	90	150	fz	0,037	0,044	0,054	0,060	0,066	0,072	0,076
	5	1,5 x D	0,4 x D	0,75 x D	60	100	fz	0,033	0,039	0,049	0,055	0,060	0,065	0,070
M	1	1 x D	0,4 x D	0,75 x D	80	100	fz	0,041	0,049	0,061	0,068	0,075	0,082	0,087
	2	1 x D	0,4 x D	0,75 x D	60	80	fz	0,033	0,039	0,049	0,055	0,060	0,065	0,070
	3	1 x D	0,4 x D	0,75 x D	60	80	fz	0,026	0,032	0,039	0,044	0,048	0,052	0,056
K	1	1,5 x D	0,5 x D	1 x D	120	160	fz	0,049	0,059	0,072	0,080	0,087	0,093	0,098
	2	1,5 x D	0,4 x D	1 x D	110	140	fz	0,041	0,049	0,061	0,068	0,075	0,082	0,087
	3	1,5 x D	0,4 x D	1 x D	100	130	fz	0,033	0,039	0,049	0,055	0,060	0,065	0,070
H	1	1,0 x D	0,3 x D	0,5 x D	80	140	fz	0,037	0,044	0,054	0,060	0,066	0,072	0,076

F3BH-F4BJ...WS-WM-WL-WX • Internal Coolant

Material Group		A		B	KCPM15			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.						
					Cutting Speed — vc m/min			D1 — Diameter						
		ap	ae	ap	min	max	mm	8,0	10,0	12,0	14,0	16,0	18,0	20,0
P	1	1,5 x D	0,5 x D	1 x D	150	200	fz	0,049	0,059	0,072	0,080	0,087	0,093	0,098
	2	1,5 x D	0,5 x D	1 x D	140	190	fz	0,049	0,059	0,072	0,080	0,087	0,093	0,098
	3	1,5 x D	0,4 x D	0,75 x D	120	160	fz	0,041	0,049	0,061	0,068	0,075	0,082	0,087
	4	1 x D	0,3 x D	0,5 x D	90	150	fz	0,037	0,044	0,054	0,060	0,066	0,072	0,076
	5	1,5 x D	0,4 x D	0,75 x D	60	100	fz	0,033	0,039	0,049	0,055	0,060	0,065	0,070
M	1	1 x D	0,4 x D	0,75 x D	80	100	fz	0,041	0,049	0,061	0,068	0,075	0,082	0,087
	2	1 x D	0,4 x D	0,75 x D	60	80	fz	0,033	0,039	0,049	0,055	0,060	0,065	0,070
	3	1 x D	0,4 x D	0,75 x D	60	80	fz	0,026	0,032	0,039	0,044	0,048	0,052	0,056
K	1	1,5 x D	0,5 x D	1 x D	120	160	fz	0,049	0,059	0,072	0,080	0,087	0,093	0,098
	2	1,5 x D	0,4 x D	1 x D	110	140	fz	0,041	0,049	0,061	0,068	0,075	0,082	0,087
	3	1,5 x D	0,4 x D	1 x D	100	130	fz	0,033	0,039	0,049	0,055	0,060	0,065	0,070
H	1	1,0 x D	0,3 x D	0,5 x D	80	140	fz	0,037	0,044	0,054	0,060	0,066	0,072	0,076

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centres, please adjust parameters accordingly on >12mm diameter.

F3BL...BWS/M...

Material Group		A		B	KC633M			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.							
					Cutting Speed — vc m/min			D1 — Diameter							
		ap	ae	ap	min	max	mm	6,0	8,0	10,0	12,0	14,0	16,0	18,0	20,0
P	1	1.5 x D	0.5 x D	1 x D	150	200	fz	0,037	0,049	0,059	0,072	0,080	0,087	0,093	0,098
	2	1.5 x D	0.5 x D	1 x D	140	190	fz	0,037	0,049	0,059	0,072	0,080	0,087	0,093	0,098
	3	1.5 x D	0.4 x D	0,75 x D	120	160	fz	0,031	0,041	0,049	0,061	0,068	0,075	0,082	0,087
	4	1 x D	0.3 x D	0,5 x D	90	150	fz	0,027	0,037	0,044	0,054	0,060	0,066	0,072	0,076
	5	1.5 x D	0.4 x D	0,75 x D	60	100	fz	0,024	0,033	0,039	0,049	0,055	0,060	0,065	0,070
M	1	1 x D	0.4 x D	0,75 x D	80	100	fz	0,031	0,041	0,049	0,061	0,068	0,075	0,082	0,087
	2	1 x D	0.4 x D	0,75 x D	60	80	fz	0,024	0,033	0,039	0,049	0,055	0,060	0,065	0,070
	3	1 x D	0.4 x D	0,75 x D	60	80	fz	0,020	0,026	0,032	0,039	0,044	0,048	0,052	0,056
K	1	1.5 x D	0.5 x D	1 x D	120	160	fz	0,037	0,049	0,059	0,072	0,080	0,087	0,093	0,098
	2	1.5 x D	0.4 x D	1 x D	110	140	fz	0,031	0,041	0,049	0,061	0,068	0,075	0,082	0,087
	3	1.5 x D	0.4 x D	1 x D	100	130	fz	0,024	0,033	0,039	0,049	0,055	0,060	0,065	0,070
S	1	1.5 x D	0.4 x D	0,75 x D	50	90	fz	0,031	0,041	0,049	0,061	0,068	0,075	0,082	0,087
	3	1.5 x D	0.4 x D	0,75 x D	50	80	fz	0,024	0,033	0,039	0,049	0,055	0,060	0,065	0,070
H	1	1 x D	0.3 x D	0,5 x D	80	140	fz	0,027	0,037	0,044	0,054	0,060	0,066	0,072	0,076

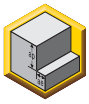
NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centers, please adjust parameters accordingly on >12,0mm diameter.

General Application • Solid Carbide End Mills

Features and Benefits

- Wide range of diameters.
- Short, regular, long, and extra-long overall lengths.
- Different coatings.
- DIN and factory-standard end mills.

Applications:



Side Milling

Slotting

3-D Milling

Workpiece Materials:

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous Materials
S	High-Temp Alloys
H	Hardened Materials

GOmill™ • the Economical Milling Cutter Line

Primary Application

The GOmill line is specifically engineered to work on short length-of-cut applications in multiple workpiece materials, like soft and hard steels up to 48 HRC, stainless steels, high-temperature alloys, and cast iron. With the very short overall length and soft cutting geometries, the line is made to conform to the growing market of millturn machines.

The 3-flute sharp and 4-flute chamfer versions support roughing, semi-finishing, and finishing applications. The 3-flute ball nose tool supports roughing and semi-finishing applications. The 2-flute ball nose version requires finishing applications. All three geometries work in slotting as well as side milling applications up to 1 x D depth of cut.

Features and Benefits

- Unequal flute spacing.
- AlTiN coating.
- Short overall tool length.
- Positive rake angle.
- Better surface finish and tool life.
- Universal usage on multiple workpiece materials.
- Higher cutting conditions, higher productivity, lower price due to less carbide.
- Lower power consumption.

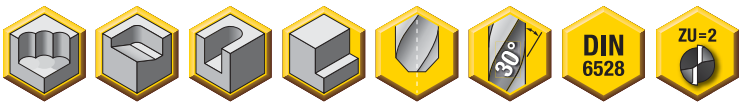
Portfolio:

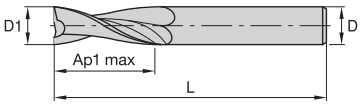
- 4-flute square end, chamfer corner, Ø 4–12mm.
- 3-flute square end, sharp corner, Ø 2–12mm.
- 3-flute ball nose, Ø 2–12mm.
- 2-flute ball nose, Ø 2–12mm.

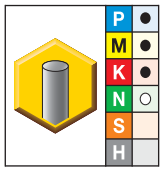
Functions:

- Less vibrations.
- Optimum combination of hardness and toughness.
- Extremely stable.
- Soft cutting.

• Centre cutting.







● first choice
○ alternate choice

KC633M	D1	D	Ap1 max	L
F2AH0400ADN30	4,00	4,00	8,00	50,00
F2AH0450ADN30	4,50	4,50	8,00	50,00
F2AH0500ADN30	5,00	5,00	10,00	50,00
F2AH0550ADN30	5,50	5,50	10,00	57,00
F2AH0600ADN30	6,00	6,00	10,00	57,00
F2AH0650ADN30	6,50	6,50	13,00	60,00
F2AH0700ADN30	7,00	7,00	13,00	60,00
F2AH0750ADN30	7,50	7,50	16,00	63,00
F2AH0800ADN30	8,00	8,00	16,00	63,00
F2AH0850ADN30	8,50	8,50	16,00	67,00
F2AH0900ADN30	9,00	9,00	16,00	67,00
F2AH0950ADN30	9,50	9,50	19,00	72,00
F2AH1000ADN30	10,00	10,00	19,00	72,00
F2AH1100ADN30	11,00	11,00	22,00	83,00
F2AH1200ADN30	12,00	12,00	22,00	83,00
F2AH1300ADN30	13,00	13,00	22,00	83,00
F2AH1400ADN30	14,00	14,00	22,00	83,00
F2AH1500ADN30	15,00	15,00	26,00	92,00
F2AH1600ADN30	16,00	16,00	26,00	92,00
F2AH1800ADN30	18,00	18,00	26,00	92,00
F2AH2000ADN30	20,00	20,00	32,00	104,00

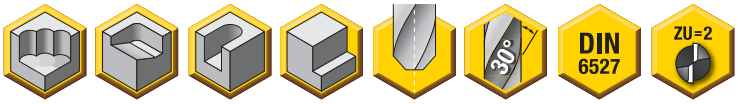
NOTE: For application data, see page M134.

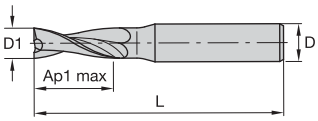
End Mill Tolerances

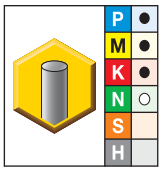
D1	tolerance h10	D	tolerance h6
≤3	+0/-0,04	≤3	+0/-0,006
>3–6	+0/-0,048	>3–6	+0/-0,008
>6–10	+0/-0,058	>6–10	+0/-0,009
>10–18	+0/-0,070	>10–18	+0/-0,011
>18–30	+0/-0,084	>18–30	+0/-0,013

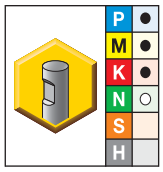
	Corner Chamfer (chamfer height)	
D1 h10	BCH	tolerance
2–6,75	0,10	-0,05
6,76–9,7	0,20	-0,10
9,71–15,7	0,30	-0,10
15,71–25	0,40	-0,20

• Centre cutting.







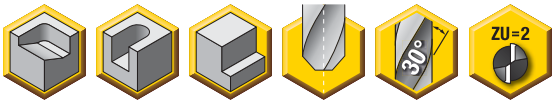


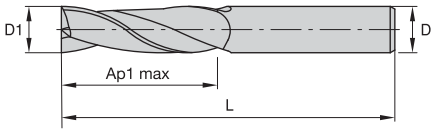
● first choice
○ alternate choice

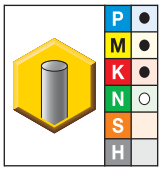
KC633M	KC633M	D1	D	Ap1 max	L
F2AH0200ADK30	F2AH0200BDK30	2,00	6,00	3,00	50,00
F2AH0250ADK30	F2AH0250BDK30	2,50	6,00	3,00	50,00
F2AH0250ADL30	F2AH0250BDL30	2,50	6,00	7,00	57,00
F2AH0300ADK30	F2AH0300BDK30	3,00	6,00	4,00	50,00
F2AH0300ADL30	F2AH0300BDL30	3,00	6,00	7,00	57,00
F2AH0350ADK30	F2AH0350BDK30	3,50	6,00	4,00	50,00
F2AH0400ADK30	F2AH0400BDK30	4,00	6,00	5,00	54,00
F2AH0400ADL30	F2AH0400BDL30	4,00	6,00	8,00	57,00
F2AH0450ADK30	F2AH0450BDK30	4,50	6,00	5,00	54,00
F2AH0450ADL30	F2AH0450BDL30	4,50	6,00	8,00	57,00
F2AH0500ADK30	F2AH0500BDK30	5,00	6,00	6,00	54,00
F2AH0500ADL30	F2AH0500BDL30	5,00	6,00	10,00	57,00
F2AH0550ADK30	F2AH0550BDK30	5,50	6,00	7,00	54,00
F2AH0550ADL30	F2AH0550BDL30	5,50	6,00	10,00	57,00
F2AH0600ADK30	F2AH0600BDK30	6,00	6,00	7,00	54,00
F2AH0600ADL30	F2AH0600BDL30	6,00	6,00	10,00	57,00
F2AH0650ADK30	F2AH0650BDK30	6,50	8,00	8,00	58,00
F2AH0700ADK30	F2AH0700BDK30	7,00	8,00	8,00	58,00
F2AH0700ADL30	F2AH0700BDL30	7,00	8,00	13,00	63,00
F2AH0750ADK30	F2AH0750BDK30	7,50	8,00	9,00	58,00
F2AH0800ADK30	F2AH0800BDK30	8,00	8,00	9,00	58,00
F2AH0800ADL30	F2AH0800BDL30	8,00	8,00	16,00	63,00
F2AH0850ADK30	F2AH0850BDK30	8,50	10,00	10,00	66,00
F2AH0900ADK30	F2AH0900BDK30	9,00	10,00	10,00	66,00
F2AH0900ADL30	F2AH0900BDL30	9,00	10,00	16,00	72,00
F2AH0950ADK30	F2AH0950BDK30	9,50	10,00	11,00	66,00
F2AH1000ADK30	F2AH1000BDK30	10,00	10,00	11,00	66,00
F2AH1000ADL30	F2AH1000BDL30	10,00	10,00	19,00	72,00
F2AH1100ADK30	F2AH1100BDK30	11,00	12,00	12,00	73,00
F2AH1100ADL30	F2AH1100BDL30	11,00	12,00	22,00	83,00
F2AH1200ADK30	F2AH1200BDK30	12,00	12,00	12,00	73,00
F2AH1200ADL30	F2AH1200BDL30	12,00	12,00	22,00	83,00
F2AH1300ADK30	F2AH1300BDK30	13,00	14,00	14,00	75,00
F2AH1400ADK30	F2AH1400BDK30	14,00	14,00	14,00	75,00
F2AH1400ADL30	F2AH1400BDL30	14,00	14,00	22,00	83,00
F2AH1500ADK30	F2AH1500BDK30	15,00	16,00	16,00	82,00
F2AH1500ADL30	F2AH1500BDL30	15,00	16,00	26,00	92,00
F2AH1600ADK30	F2AH1600BDK30	16,00	16,00	16,00	82,00
F2AH1600ADL30	F2AH1600BDL30	16,00	16,00	26,00	92,00
F2AH1800ADK30	F2AH1800BDK30	18,00	18,00	18,00	84,00
F2AH1800ADL30	F2AH1800BDL30	18,00	18,00	26,00	92,00
F2AH2000ADK30	F2AH2000BDK30	20,00	20,00	20,00	92,00
F2AH2000ADL30	F2AH2000BDL30	20,00	20,00	32,00	104,00

NOTE: For application data, see page M134.
For tolerance and chamfer tables, see M114.

- Kennametal standard dimensions.
- Centre cutting.







● first choice
○ alternate choice

KC625M	D1	D	Ap1 max	L
F2AH0300AWM30	3,00	3,00	20,00	75,00
F2AH0400AWM30	4,00	4,00	25,00	75,00
F2AH0500AWM30	5,00	5,00	30,00	75,00
F2AH0600AWM30	6,00	6,00	30,00	75,00
F2AH0800AWL30	8,00	8,00	40,00	100,00
F2AH1000AWL30	10,00	10,00	40,00	100,00
F2AH1200AWX30	12,00	12,00	45,00	150,00
F2AH1400AWX30	14,00	14,00	45,00	150,00
F2AH1600AWX30	16,00	16,00	65,00	150,00
F2AH1800AWX30	18,00	18,00	65,00	150,00
F2AH2000AWX30	20,00	20,00	65,00	150,00

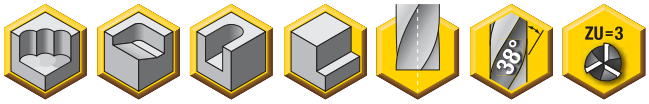
NOTE: For application data, see page M135.

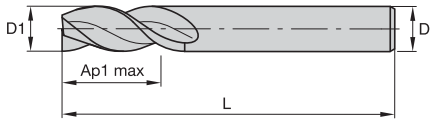
End Mill Tolerances

D1	tolerance h10	D	tolerance h6
≤3	+0/-0,04	≤3	+0/-0,006
>3–6	+0/-0,048	>3–6	+0/-0,008
>6–10	+0/-0,058	>6–10	+0/-0,009
>10–18	+0/-0,070	>10–18	+0/-0,011
>18–30	+0/-0,084	>18–30	+0/-0,013

	Corner Chamfer (chamfer height)	
D1 h10	BCH	tolerance
2–6,75	0,10	-0,05
6,76–9,7	0,20	-0,10
9,71–15,7	0,30	-0,10
15,71–25	0,40	-0,20

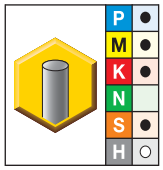
- Kennametal standard dimensions.
- Centre cutting.
- Unequal flute spacing.
- Roughing/finishing.

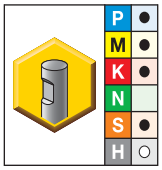




NEW!

GOmill





● first choice
○ alternate choice

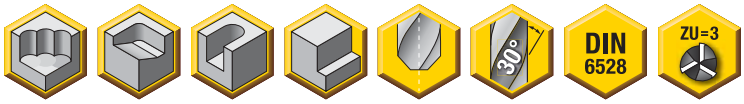
KC643M	KC643M	D1	D	Ap1 max	L
UEDE0200A3AS	UEDE0200B3AS	2,00	6,00	4,00	38,00
UEDE0300A3AS	UEDE0300B3AS	3,00	6,00	5,00	38,00
UEDE0400A3AS	UEDE0400B3AS	4,00	6,00	7,00	38,00
UEDE0500A3AS	UEDE0500B3AS	5,00	6,00	8,00	38,00
UEDE0600A3AS	UEDE0600B3AS	6,00	6,00	8,00	38,00
UEDE0800A3AS	UEDE0800B3AS	8,00	8,00	11,00	43,00
UEDE1000A3AS	UEDE1000B3AS	10,00	10,00	13,00	50,00
UEDE1200A3AS	UEDE1200B3AS	12,00	12,00	15,00	55,00

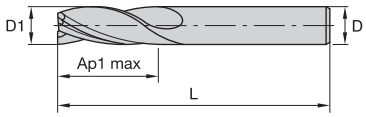
NOTE: For application data, see page M135.

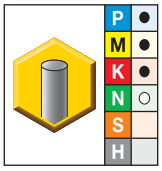
End Mill Tolerances

D1	tolerance e8	D	tolerance h6
≤3	-0,014/-0,028	≤3	+0/-0,006
>3–6	-0,020/-0,038	>3–6	+0/-0,008
>6–10	-0,025/-0,047	>6–10	+0/-0,009
>10–18	-0,032/-0,059	>10–18	+0/-0,011
>18–30	-0,040/-0,073	>18–30	+0/-0,013

• Centre cutting.







● first choice
○ alternate choice

KC633M	D1	D	Ap1 max	L
F3AH0400ADN30	4,00	4,00	8,00	50,00
F3AH0450ADN30	4,50	4,50	8,00	50,00
F3AH0500ADN30	5,00	5,00	10,00	50,00
F3AH0550ADN30	5,50	5,50	10,00	57,00
F3AH0600ADN30	6,00	6,00	10,00	57,00
F3AH0650ADN30	6,50	6,50	13,00	60,00
F3AH0700ADN30	7,00	7,00	13,00	60,00
F3AH0750ADN30	7,50	7,50	16,00	63,00
F3AH0800ADN30	8,00	8,00	16,00	63,00
F3AH0850ADN30	8,50	8,50	16,00	67,00
F3AH0900ADN30	9,00	9,00	16,00	67,00
F3AH0950ADN30	9,50	9,50	19,00	72,00
F3AH1000ADN30	10,00	10,00	19,00	72,00
F3AH1100ADN30	11,00	11,00	22,00	83,00
F3AH1200ADN30	12,00	12,00	22,00	83,00
F3AH1300ADN30	13,00	13,00	22,00	83,00
F3AH1400ADN30	14,00	14,00	22,00	83,00
F3AH1500ADN30	15,00	15,00	26,00	92,00
F3AH1600ADN30	16,00	16,00	26,00	92,00
F3AH1800ADN30	18,00	18,00	26,00	92,00
F3AH2000ADN30	20,00	20,00	32,00	104,00

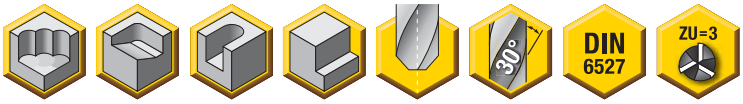
NOTE: For application data, see page M134.

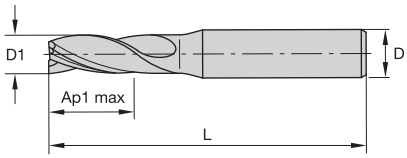
End Mill Tolerances

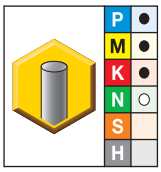
D1	tolerance h10	D	tolerance h6
≤3	+0/-0,04	≤3	+0/-0,006
>3–6	+0/-0,048	>3–6	+0/-0,008
>6–10	+0/-0,058	>6–10	+0/-0,009
>10–18	+0/-0,070	>10–18	+0/-0,011
>18–30	+0/-0,084	>18–30	+0/-0,013

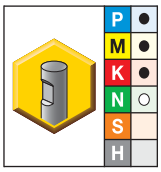
	Corner Chamfer (chamfer height)	
D1 h10	BCH	tolerance
2–6,75	0,10	-0,05
6,76–9,7	0,20	-0,10
9,71–15,7	0,30	-0,10
15,71–25	0,40	-0,20

• Centre cutting.







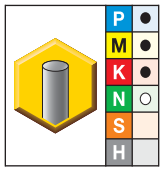


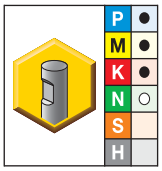
● first choice
○ alternate choice

KC633M	KC633M	D1	D	Ap1 max	L
F3AH0250ADK30	F3AH0250BDK30	2,50	6,00	3,00	50,00
F3AH0280ADK30	F3AH0280BDK30	2,80	6,00	4,00	50,00
F3AH0300ADK30	F3AH0300BDK30	3,00	6,00	4,00	50,00
F3AH0350ADK30	F3AH0350BDK30	3,50	6,00	4,00	50,00
F3AH0380ADK30	F3AH0380BDK30	3,80	6,00	5,00	54,00
F3AH0400ADK30	F3AH0400BDK30	4,00	6,00	5,00	54,00
F3AH0400ADL30	F3AH0400BDL30	4,00	6,00	8,00	57,00
F3AH0450ADK30	F3AH0450BDK30	4,50	6,00	5,00	54,00
F3AH0450ADL30	F3AH0450BDL30	4,50	6,00	8,00	57,00
F3AH0480ADK30	F3AH0480BDK30	4,80	6,00	6,00	54,00
F3AH0480ADL30	F3AH0480BDL30	4,80	6,00	10,00	57,00
F3AH0500ADK30	F3AH0500BDK30	5,00	6,00	6,00	54,00
F3AH0500ADL30	F3AH0500BDL30	5,00	6,00	10,00	57,00
F3AH0550ADK30	F3AH0550BDK30	5,50	6,00	7,00	54,00
F3AH0550ADL30	F3AH0550BDL30	5,50	6,00	10,00	57,00
F3AH0575ADK30	F3AH0575BDK30	5,75	6,00	7,00	54,00
F3AH0575ADL30	F3AH0575BDL30	5,75	6,00	10,00	57,00
F3AH0600ADK30	F3AH0600BDK30	6,00	6,00	7,00	54,00
F3AH0600ADL30	F3AH0600BDL30	6,00	6,00	10,00	57,00
F3AH0650ADK30	F3AH0650BDK30	6,50	8,00	8,00	58,00
F3AH0650ADL30	F3AH0650BDL30	6,50	8,00	13,00	63,00
F3AH0675ADK30	F3AH0675BDK30	6,75	8,00	8,00	58,00
F3AH0675ADL30	F3AH0675BDL30	6,75	8,00	13,00	63,00
F3AH0700ADK30	F3AH0700BDK30	7,00	8,00	8,00	58,00
F3AH0700ADL30	F3AH0700BDL30	7,00	8,00	13,00	63,00
F3AH0750ADK30	F3AH0750BDK30	7,50	8,00	9,00	58,00
F3AH0775ADK30	F3AH0775BDK30	7,75	8,00	9,00	58,00
F3AH0775ADL30	F3AH0775BDL30	7,75	8,00	16,00	63,00
F3AH0800ADK30	F3AH0800BDK30	8,00	8,00	9,00	58,00
F3AH0800ADL30	F3AH0800BDL30	8,00	8,00	16,00	63,00
F3AH0850ADK30	F3AH0850BDK30	8,50	10,00	10,00	66,00
F3AH0850ADL30	F3AH0850BDL30	8,50	10,00	16,00	72,00
F3AH0870ADK30	F3AH0870BDK30	8,70	10,00	10,00	66,00
F3AH0870ADL30	F3AH0870BDL30	8,70	10,00	16,00	72,00
F3AH0900ADK30	F3AH0900BDK30	9,00	10,00	10,00	66,00
F3AH0900ADL30	F3AH0900BDL30	9,00	10,00	16,00	72,00
F3AH0950ADK30	F3AH0950BDK30	9,50	10,00	11,00	66,00
F3AH0970ADK30	F3AH0970BDK30	9,70	10,00	11,00	66,00
F3AH0970ADL30	F3AH0970BDL30	9,70	10,00	19,00	72,00
F3AH1000ADK30	F3AH1000BDK30	10,00	10,00	11,00	66,00
F3AH1000ADL30	F3AH1000BDL30	10,00	10,00	19,00	72,00
F3AH1100ADK30	F3AH1100BDK30	11,00	12,00	12,00	73,00
F3AH1100ADL30	F3AH1100BDL30	11,00	12,00	22,00	83,00
F3AH1170ADK30	F3AH1170BDK30	11,70	12,00	12,00	73,00
F3AH1170ADL30	F3AH1170BDL30	11,70	12,00	22,00	83,00
F3AH1200ADK30	F3AH1200BDK30	12,00	12,00	12,00	73,00

(continued)

(continued)





● first choice
○ alternate choice

KC633M	KC633M	D1	D	Ap1 max	L
F3AH1200ADL30	F3AH1200BDL30	12,00	12,00	22,00	83,00
F3AH1300ADK30	F3AH1300BDK30	13,00	14,00	14,00	75,00
F3AH1300ADL30	F3AH1300BDL30	13,00	14,00	22,00	83,00
F3AH1370ADK30	F3AH1370BDK30	13,70	14,00	14,00	75,00
F3AH1370ADL30	F3AH1370BDL30	13,70	14,00	22,00	83,00
F3AH1400ADK30	F3AH1400BDK30	14,00	14,00	14,00	75,00
F3AH1400ADL30	F3AH1400BDL30	14,00	14,00	22,00	83,00
F3AH1500ADK30	F3AH1500BDK30	15,00	16,00	16,00	82,00
F3AH1500ADL30	F3AH1500BDL30	15,00	16,00	26,00	92,00
F3AH1570ADK30	F3AH1570BDK30	15,70	16,00	16,00	82,00
F3AH1570ADL30	F3AH1570BDL30	15,70	16,00	26,00	92,00
F3AH1600ADK30	F3AH1600BDK30	16,00	16,00	16,00	82,00
F3AH1600ADL30	F3AH1600BDL30	16,00	16,00	26,00	92,00
F3AH1800ADK30	F3AH1800BDK30	18,00	18,00	18,00	84,00
F3AH1800ADL30	F3AH1800BDL30	18,00	18,00	26,00	92,00
F3AH2000ADK30	F3AH2000BDK30	20,00	20,00	20,00	92,00
F3AH2000ADL30	F3AH2000BDL30	20,00	20,00	32,00	104,00

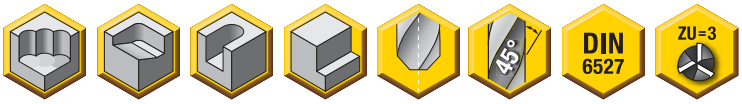
NOTE: For application data, see page M136.

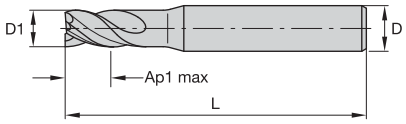
End Mill Tolerances

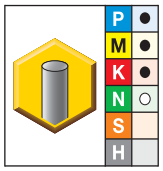
D1	tolerance h10	D	tolerance h6
≤3	+0/-0,04	≤3	+0/-0,006
>3–6	+0/-0,048	>3–6	+0/-0,008
>6–10	+0/-0,058	>6–10	+0/-0,009
>10–18	+0/-0,070	>10–18	+0/-0,011
>18–30	+0/-0,084	>18–30	+0/-0,013

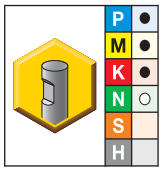
	Corner Chamfer (chamfer height)	
D1 h10	BCH	tolerance
2–6,75	0,10	-0,05
6,76–9,7	0,20	-0,10
9,71–15,7	0,30	-0,10
15,71–25	0,40	-0,20

• Centre cutting.









● first choice
○ alternate choice

KC633M	KC633M	D1	D	Ap1 max	L
F3AH0200ADK45	F3AH0200BDK45	2,00	6,00	3,00	50,00
F3AH0250ADK45	F3AH0250BDK45	2,50	6,00	3,00	50,00
F3AH0300ADK45	F3AH0300BDK45	3,00	6,00	4,00	50,00
F3AH0300ADL45	F3AH0300BDL45	3,00	6,00	7,00	57,00
F3AH0350ADK45	F3AH0350BDK45	3,50	6,00	4,00	50,00
F3AH0350ADL45	F3AH0350BDL45	3,50	6,00	7,00	57,00
F3AH0400ADK45	F3AH0400BDK45	4,00	6,00	5,00	54,00
F3AH0400ADL45	F3AH0400BDL45	4,00	6,00	8,00	57,00
F3AH0450ADK45	F3AH0450BDK45	4,50	6,00	5,00	54,00
F3AH0450ADL45	F3AH0450BDL45	4,50	6,00	8,00	57,00
F3AH0500ADK45	F3AH0500BDK45	5,00	6,00	6,00	54,00
F3AH0500ADL45	F3AH0500BDL45	5,00	6,00	10,00	57,00
F3AH0600ADK45	F3AH0600BDK45	6,00	6,00	7,00	54,00
F3AH0600ADL45	F3AH0600BDL45	6,00	6,00	10,00	57,00
F3AH0700ADK45	F3AH0700BDK45	7,00	8,00	8,00	58,00
F3AH0700ADL45	F3AH0700BDL45	7,00	8,00	13,00	63,00
F3AH0800ADK45	F3AH0800BDK45	8,00	8,00	9,00	58,00
F3AH0800ADL45	F3AH0800BDL45	8,00	8,00	16,00	63,00
F3AH0900ADK45	F3AH0900BDK45	9,00	10,00	10,00	66,00
F3AH0900ADL45	F3AH0900BDL45	9,00	10,00	16,00	72,00
F3AH1000ADK45	F3AH1000BDK45	10,00	10,00	11,00	66,00
F3AH1000ADL45	F3AH1000BDL45	10,00	10,00	19,00	72,00
F3AH1200ADK45	F3AH1200BDK45	12,00	12,00	12,00	73,00
F3AH1200ADL45	F3AH1200BDL45	12,00	12,00	22,00	83,00
F3AH1400ADK45	F3AH1400BDK45	14,00	14,00	14,00	75,00
F3AH1400ADL45	F3AH1400BDL45	14,00	14,00	22,00	83,00
F3AH1600ADK45	F3AH1600BDK45	16,00	16,00	16,00	82,00
F3AH1600ADL45	F3AH1600BDL45	16,00	16,00	26,00	92,00
F3AH1800ADK45	F3AH1800BDK45	18,00	18,00	18,00	84,00
F3AH1800ADL45	F3AH1800BDL45	18,00	18,00	26,00	92,00
F3AH2000ADK45	F3AH2000BDK45	20,00	20,00	20,00	92,00
F3AH2000ADL45	F3AH2000BDL45	20,00	20,00	32,00	104,00

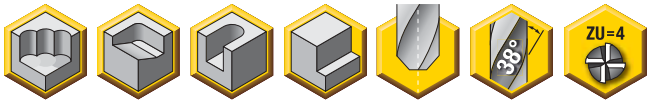
NOTE: For application data, see page M136.

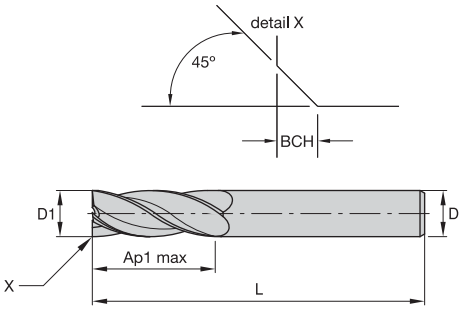
End Mill Tolerances

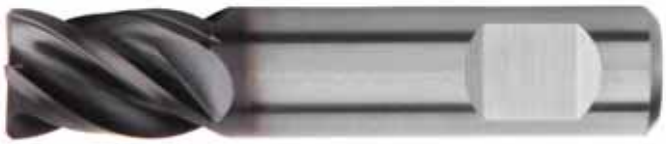
D1	tolerance h10	D	tolerance h6
≤3	+0/-0,04	≤3	+0/-0,006
>3–6	+0/-0,048	>3–6	+0/-0,008
>6–10	+0/-0,058	>6–10	+0/-0,009
>10–18	+0/-0,070	>10–18	+0/-0,011
>18–30	+0/-0,084	>18–30	+0/-0,013

	Corner Chamfer (chamfer height)	
D1 h10	BCH	tolerance
2–6,75	0,10	-0,05
6,76–9,7	0,20	-0,10
9,71–15,7	0,30	-0,10
15,71–25	0,40	-0,20

- Kennametal standard dimensions.
- Centre cutting.
- Unequal flute spacing minimises chatter for smoother machining.
- Single tool for both roughing and finishing operations for fewer setups.

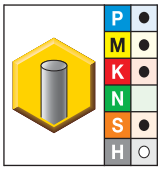


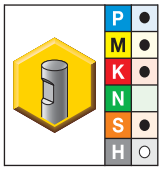




NEW!

GOmill





● first choice
○ alternate choice

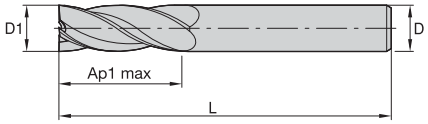
KC643M	KC643M	D1	D	Ap1 max	L	BCH
UEDE0400A4AH	UEDE0400B4AH	4,00	6,00	7,00	38,00	0,40
UEDE0600A4AH	UEDE0600B4AH	6,00	6,00	8,00	38,00	0,40
UEDE0800A4AH	UEDE0800B4AH	8,00	8,00	11,00	43,00	0,40
UEDE1000A4AH	UEDE1000B4AH	10,00	10,00	13,00	50,00	0,50
UEDE1200A4AH	UEDE1200B4AH	12,00	12,00	15,00	55,00	0,50

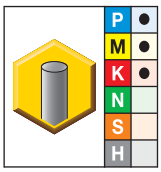
NOTE: For application data, see page M136.

End Mill Tolerances

D1	tolerance e8	D	tolerance h6
≤3	-0,014/-0,028	≤3	+0/-0,006
>3–6	-0,020/-0,038	>3–6	+0/-0,008
>6–10	-0,025/-0,047	>6–10	+0/-0,009
>10–18	-0,032/-0,059	>10–18	+0/-0,011
>18–30	-0,040/-0,073	>18–30	+0/-0,013

• Centre cutting.





● first choice
○ alternate choice

KC633M	D1	D	Ap1 max	L
F4AJ0400ADN30	4,00	4,00	11,00	50,00
F4AJ0450ADN30	4,50	4,50	11,00	50,00
F4AJ0500ADN30	5,00	5,00	13,00	50,00
F4AJ0550ADN30	5,50	5,50	13,00	57,00
F4AJ0600ADN30	6,00	6,00	13,00	57,00
F4AJ0650ADN30	6,50	6,50	16,00	60,00
F4AJ0700ADN30	7,00	7,00	16,00	60,00
F4AJ0750ADN30	7,50	7,50	19,00	63,00
F4AJ0800ADN30	8,00	8,00	19,00	63,00
F4AJ0850ADN30	8,50	8,50	19,00	67,00
F4AJ0900ADN30	9,00	9,00	19,00	67,00
F4AJ0950ADN30	9,50	9,50	22,00	72,00
F4AJ1000ADN30	10,00	10,00	22,00	72,00
F4AJ1200ADN30	12,00	12,00	26,00	83,00
F4AJ1300ADN30	13,00	13,00	26,00	83,00
F4AJ1400ADN30	14,00	14,00	26,00	83,00
F4AJ1500ADN30	15,00	15,00	32,00	92,00
F4AJ1600ADN30	16,00	16,00	32,00	92,00
F4AJ1800ADN30	18,00	18,00	32,00	92,00
F4AJ2000ADN30	20,00	20,00	38,00	104,00

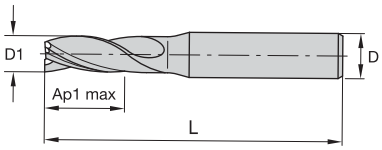
NOTE: For application data, see page M137.

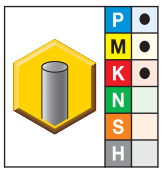
End Mill Tolerances

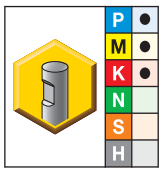
D1	tolerance h10	D	tolerance h6
≤3	+0/-0,04	≤3	+0/-0,006
>3–6	+0/-0,048	>3–6	+0/-0,008
>6–10	+0/-0,058	>6–10	+0/-0,009
>10–18	+0/-0,070	>10–18	+0/-0,011
>18–30	+0/-0,084	>18–30	+0/-0,013

	Corner Chamfer (chamfer height)	
D1 h10	BCH	tolerance
2–6,75	0,10	-0,05
6,76–9,7	0,20	-0,10
9,71–15,7	0,30	-0,10
15,71–25	0,40	-0,20

• Centre cutting





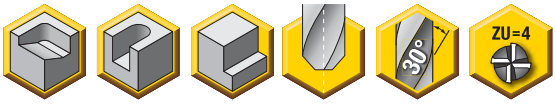


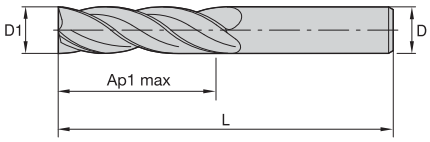
● first choice
○ alternate choice

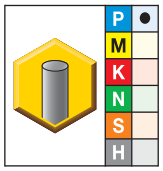
KC633M	KC633M	D1	D	Ap1 max	L
F4AJ0200ADK30	F4AJ0200BDK30	2,00	6,00	4,00	50,00
F4AJ0250ADK30	F4AJ0250BDK30	2,50	6,00	4,00	50,00
F4AJ0300ADK30	F4AJ0300BDK30	3,00	6,00	5,00	50,00
F4AJ0350ADK30	F4AJ0350BDK30	3,50	6,00	6,00	50,00
F4AJ0400ADK30	F4AJ0400BDK30	4,00	6,00	8,00	54,00
F4AJ0400ADL30	F4AJ0400BDL30	4,00	6,00	11,00	57,00
F4AJ0450ADK30	F4AJ0450BDK30	4,50	6,00	8,00	54,00
F4AJ0450ADL30	F4AJ0450BDL30	4,50	6,00	11,00	57,00
F4AJ0500ADK30	F4AJ0500BDK30	5,00	6,00	9,00	54,00
F4AJ0500ADL30	F4AJ0500BDL30	5,00	6,00	13,00	57,00
F4AJ0550ADK30	F4AJ0550BDK30	5,50	6,00	10,00	54,00
F4AJ0600ADK30	F4AJ0600BDK30	6,00	6,00	10,00	54,00
F4AJ0600ADL30	F4AJ0600BDL30	6,00	6,00	13,00	57,00
F4AJ0650ADK30	F4AJ0650BDK30	6,50	8,00	11,00	58,00
F4AJ0700ADK30	F4AJ0700BDK30	7,00	8,00	11,00	58,00
F4AJ0700ADL30	F4AJ0700BDL30	7,00	8,00	16,00	63,00
F4AJ0750ADK30	F4AJ0750BDK30	7,50	8,00	12,00	58,00
F4AJ0800ADK30	F4AJ0800BDK30	8,00	8,00	12,00	58,00
F4AJ0800ADL30	F4AJ0800BDL30	8,00	8,00	19,00	63,00
F4AJ0850ADK30	F4AJ0850BDK30	8,50	10,00	13,00	66,00
F4AJ0900ADK30	F4AJ0900BDK30	9,00	10,00	13,00	66,00
F4AJ0900ADL30	F4AJ0900BDL30	9,00	10,00	19,00	72,00
F4AJ0950ADK30	F4AJ0950BDK30	9,50	10,00	14,00	66,00
F4AJ1000ADK30	F4AJ1000BDK30	10,00	10,00	14,00	66,00
F4AJ1000ADL30	F4AJ1000BDL30	10,00	10,00	22,00	72,00
F4AJ1100ADK30	F4AJ1100BDK30	11,00	12,00	16,00	73,00
F4AJ1100ADL30	F4AJ1100BDL30	11,00	12,00	26,00	83,00
F4AJ1200ADK30	F4AJ1200BDK30	12,00	12,00	16,00	73,00
F4AJ1200ADL30	F4AJ1200BDL30	12,00	12,00	26,00	83,00
F4AJ1300ADK30	F4AJ1300BDK30	13,00	14,00	18,00	75,00
F4AJ1300ADL30	F4AJ1300BDL30	13,00	14,00	26,00	83,00
F4AJ1400ADK30	F4AJ1400BDK30	14,00	14,00	18,00	75,00
F4AJ1400ADL30	F4AJ1400BDL30	14,00	14,00	26,00	83,00
F4AJ1500ADK30	F4AJ1500BDK30	15,00	16,00	22,00	82,00
F4AJ1500ADL30	F4AJ1500BDL30	15,00	16,00	32,00	92,00
F4AJ1600ADK30	F4AJ1600BDK30	16,00	16,00	22,00	82,00
F4AJ1600ADL30	F4AJ1600BDL30	16,00	16,00	32,00	92,00
F4AJ1800ADK30	F4AJ1800BDK30	18,00	18,00	24,00	84,00
F4AJ1800ADL30	F4AJ1800BDL30	18,00	18,00	32,00	92,00
F4AJ2000ADK30	F4AJ2000BDK30	20,00	20,00	26,00	92,00
F4AJ2000ADL30	F4AJ2000BDL30	20,00	20,00	38,00	104,00

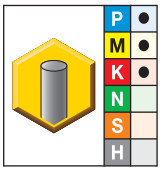
NOTE: For application data, see page M137.
For tolerance and chamfer tables, see page M125

- Kennametal standard dimensions.
- Centre cutting.









● first choice
○ alternate choice

K600	KC625M	D1	D	Ap1 max	L
F4AJ0300AWM30	**F4AJ0300AWM30**	3,00	3,00	20,00	75,00
F4AJ0400AWM30	**F4AJ0400AWM30**	4,00	4,00	25,00	75,00
F4AJ0500AWM30	**F4AJ0500AWM30**	5,00	5,00	30,00	75,00
F4AJ0600AWM30	**F4AJ0600AWM30**	6,00	6,00	30,00	75,00
F4AJ0800AWL30	**F4AJ0800AWL30**	8,00	8,00	40,00	100,00
F4AJ1000AWL30	**F4AJ1000AWL30**	10,00	10,00	40,00	100,00
F4AJ1200AWX30	**F4AJ1200AWX30**	12,00	12,00	45,00	150,00
F4AJ1400AWX30	**F4AJ1400AWX30**	14,00	14,00	45,00	150,00
F4AJ1600AWX30	**F4AJ1600AWX30**	16,00	16,00	65,00	150,00
F4AJ1800AWX30	**F4AJ1800AWX30**	18,00	18,00	65,00	150,00
F4AJ2000AWX30	**F4AJ2000AWX30**	20,00	20,00	65,00	150,00

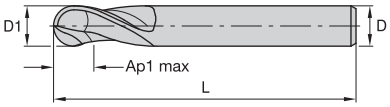
NOTE: For application data, see page M138.

End Mill Tolerances

D1	tolerance h10	D	tolerance h6
≤3	+0/-0,04	≤3	+0/-0,006
>3–6	+0/-0,048	>3–6	+0/-0,008
>6–10	+0/-0,058	>6–10	+0/-0,009
>10–18	+0/-0,070	>10–18	+0/-0,011
>18–30	+0/-0,084	>18–30	+0/-0,013

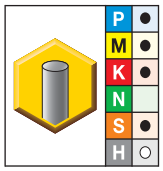
	Corner Chamfer (chamfer height)	
D1 h10	BCH	tolerance
2–6,75	0,10	-0,05
6,76–9,7	0,20	-0,10
9,71–15,7	0,30	-0,10
15,71–25	0,40	-0,20

- Kennametal standard dimensions.
- Semi-finishing/finishing.
- Centre cutting.



NEW!

GOmill



P	●
M	●
K	●
N	
S	●
H	○

● first choice
○ alternate choice

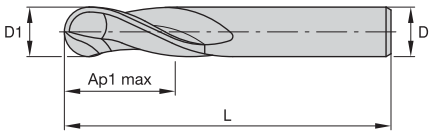
KC643M	D1	D	Ap1 max	L
UEBC0200A2A	2,00	6,00	4,00	38,00
UEBC0300A2A	3,00	6,00	5,00	38,00
UEBC0400A2A	4,00	6,00	7,00	38,00
UEBC0500A2A	5,00	6,00	8,00	38,00
UEBC0600A2A	6,00	6,00	8,00	38,00
UEBC0800A2A	8,00	8,00	11,00	43,00
UEBC1000A2A	10,00	10,00	13,00	50,00
UEBC1200A2A	12,00	12,00	15,00	55,00

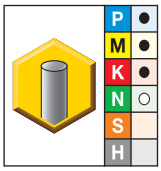
NOTE: For application data, see page M138.

End Mill Tolerances

D1	tolerance e8	D	tolerance h6
≤3	-0,014/-0,028	≤3	+0/-0,006
>3–6	-0,020/-0,038	>3–6	+0/-0,008
>6–10	-0,025/-0,047	>6–10	+0/-0,009
>10–18	-0,032/-0,059	>10–18	+0/-0,011
>18–30	-0,040/-0,073	>18–30	+0/-0,013

• Centre cutting.





● first choice
○ alternate choice

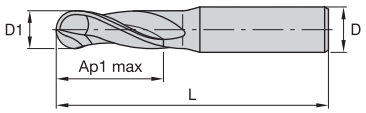
KC633M	D1	D	Ap1 max	L
F2AL0200ADN30	2,00	2,00	6,00	32,00
F2AL0300ADN30	3,00	3,00	7,00	32,00
F2AL0400ADN30	4,00	4,00	8,00	50,00
F2AL0500ADN30	5,00	5,00	10,00	50,00
F2AL0600ADN30	6,00	6,00	10,00	57,00
F2AL0800ADN30	8,00	8,00	16,00	63,00
F2AL1000ADN30	10,00	10,00	19,00	72,00
F2AL1200ADN30	12,00	12,00	22,00	83,00
F2AL1400ADN30	14,00	14,00	22,00	83,00
F2AL1600ADN30	16,00	16,00	26,00	92,00
F2AL1800ADN30	18,00	18,00	26,00	92,00
F2AL2000ADN30	20,00	20,00	32,00	104,00

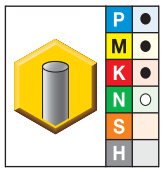
NOTE: For application data, see page M140.

End Mill Tolerances

D1	tolerance h10	D	tolerance h6
≤3	+0/-0,04	≤3	+0/-0,006
>3–6	+0/-0,048	>3–6	+0/-0,008
>6–10	+0/-0,058	>6–10	+0/-0,009
>10–18	+0/-0,070	>10–18	+0/-0,011
>18–30	+0/-0,084	>18–30	+0/-0,013

• Centre cutting.





● first choice
○ alternate choice

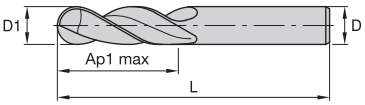
KC633M	D1	D	Ap1 max	L
F2AL0200ADL30	2,00	6,00	6,00	57,00
F2AL0300ADL30	3,00	6,00	7,00	57,00
F2AL0400ADL30	4,00	6,00	8,00	57,00
F2AL0500ADL30	5,00	6,00	10,00	57,00
F2AL0600ADL30	6,00	6,00	10,00	57,00
F2AL0800ADL30	8,00	8,00	16,00	63,00
F2AL1000ADL30	10,00	10,00	19,00	72,00
F2AL1200ADL30	12,00	12,00	22,00	83,00
F2AL1400ADL30	14,00	14,00	22,00	83,00
F2AL1600ADL30	16,00	16,00	26,00	92,00
F2AL1800ADL30	18,00	18,00	26,00	92,00
F2AL2000ADL30	20,00	20,00	32,00	104,00

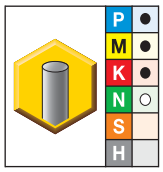
NOTE: For application data, see page M141.

End Mill Tolerances

D1	tolerance h10	D	tolerance h6
≤3	+0/-0,04	≤3	+0/-0,006
>3–6	+0/-0,048	>3–6	+0/-0,008
>6–10	+0/-0,058	>6–10	+0/-0,009
>10–18	+0/-0,070	>10–18	+0/-0,011
>18–30	+0/-0,084	>18–30	+0/-0,013

- Kennametal standard dimensions.
- Centre cutting.





● first choice
○ alternate choice

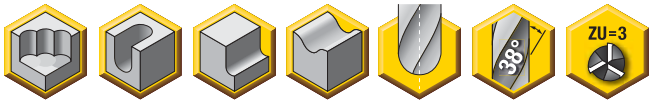
KC633M	D1	D	Ap1 max	L
F2AL0300AWM30L200	3,00	3,00	20,00	75,00
F2AL0400AWM30L250	4,00	4,00	25,00	75,00
F2AL0500AWM30L300	5,00	5,00	30,00	75,00
F2AL0600AWM30L300	6,00	6,00	30,00	75,00
F2AL0800AWL30L400	8,00	8,00	40,00	100,00
F2AL1000AWL30L400	10,00	10,00	40,00	100,00
F2AL1200AWX30L450	12,00	12,00	45,00	150,00

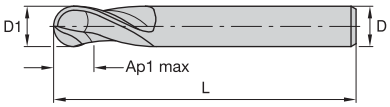
NOTE: For application data, see page M142.

End Mill Tolerances

D1	tolerance h10	D	tolerance h6
≤3	+0/-0,04	≤3	+0/-0,006
>3–6	+0/-0,048	>3–6	+0/-0,008
>6–10	+0/-0,058	>6–10	+0/-0,009
>10–18	+0/-0,070	>10–18	+0/-0,011
>18–30	+0/-0,084	>18–30	+0/-0,013

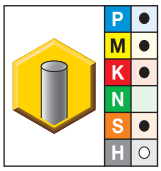
- Kennametal standard dimensions.
- Centre cutting.
- Unequal flute spacing minimises chatter for smoother machining.
- Single tool for both roughing and finishing operations for fewer setups.





NEW!

GOmill



● first choice
○ alternate choice

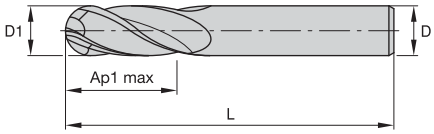
KC643M	D1	D	Ap1 max	L
UEBE0200A3A	2,00	6,00	4,00	38,00
UEBE0300A3A	3,00	6,00	5,00	38,00
UEBE0400A3A	4,00	6,00	7,00	38,00
UEBE0500A3A	5,00	6,00	8,00	38,00
UEBE0600A3A	6,00	6,00	8,00	38,00
UEBE0800A3A	8,00	8,00	11,00	43,00
UEBE1000A3A	10,00	10,00	13,00	50,00
UEBE1200A3A	12,00	12,00	15,00	55,00

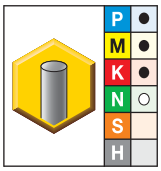
NOTE: For application data, see page M139.

End Mill Tolerances

D1	tolerance e8	D	tolerance h6
≤3	-0,014/-0,028	≤3	+0/-0,006
>3–6	-0,020/-0,038	>3–6	+0/-0,008
>6–10	-0,025/-0,047	>6–10	+0/-0,009
>10–18	-0,032/-0,059	>10–18	+0/-0,011
>18–30	-0,040/-0,073	>18–30	+0/-0,013

• Centre cutting.





● first choice
○ alternate choice

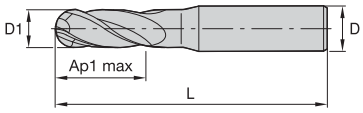
KC633M	D1	D	Ap1 max	L
F4AL0200ADN30	2,00	2,00	7,00	32,00
F4AL0300ADN30	3,00	3,00	8,00	32,00
F4AL0400ADN30	4,00	4,00	11,00	50,00
F4AL0500ADN30	5,00	5,00	13,00	50,00
F4AL0600ADN30	6,00	6,00	13,00	57,00
F4AL0800ADN30	8,00	8,00	19,00	63,00
F4AL1000ADN30	10,00	10,00	22,00	72,00
F4AL1200ADN30	12,00	12,00	26,00	83,00
F4AL1400ADN30	14,00	14,00	26,00	83,00
F4AL1600ADN30	16,00	16,00	32,00	92,00
F4AL1800ADN30	18,00	18,00	32,00	92,00
F4AL2000ADN30	20,00	20,00	38,00	104,00

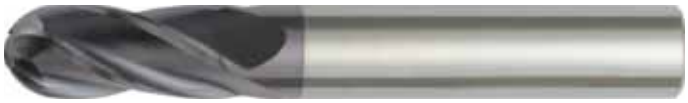
NOTE: For application data, see page M140.

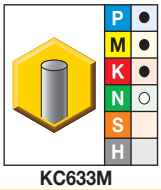
End Mill Tolerances

D1	tolerance h10	D	tolerance h6
≤3	+0/-0,04	≤3	+0/-0,006
>3–6	+0/-0,048	>3–6	+0/-0,008
>6–10	+0/-0,058	>6–10	+0/-0,009
>10–18	+0/-0,070	>10–18	+0/-0,011
>18–30	+0/-0,084	>18–30	+0/-0,013

• Centre cutting.







● first choice
○ alternate choice

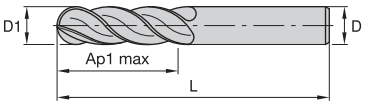
KC633M	D1	D	Ap1 max	L
F4AL0300ADL30	3,00	6,00	7,00	57,00
F4AL0400ADL30	4,00	6,00	8,00	57,00
F4AL0500ADL30	5,00	6,00	11,00	57,00
F4AL0600ADL30	6,00	6,00	13,00	57,00
F4AL0800ADL30	8,00	8,00	19,00	63,00
F4AL1000ADL30	10,00	10,00	22,00	72,00
F4AL1200ADL30	12,00	12,00	26,00	83,00
F4AL1400ADL30	14,00	14,00	26,00	83,00
F4AL1600ADL30	16,00	16,00	32,00	92,00
F4AL1800ADL30	18,00	18,00	32,00	92,00
F4AL2000ADL30	20,00	20,00	38,00	104,00

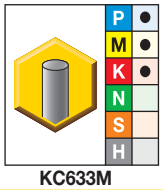
NOTE: For application data, see page M141.

End Mill Tolerances

D1	tolerance h10	D	tolerance h6
≤3	+0/-0,04	≤3	+0/-0,006
>3–6	+0/-0,048	>3–6	+0/-0,008
>6–10	+0/-0,058	>6–10	+0/-0,009
>10–18	+0/-0,070	>10–18	+0/-0,011
>18–30	+0/-0,084	>18–30	+0/-0,013

- Kennametal standard dimensions.
- Centre cutting.





● first choice
○ alternate choice

KC633M	D1	D	Ap1 max	L
F4AL0300AWM30L200	3,00	3,00	20,00	75,00
F4AL0400AWM30L250	4,00	4,00	25,00	75,00
F4AL0500AWM30L300	5,00	5,00	30,00	75,00
F4AL0600AWM30L300	6,00	6,00	30,00	75,00
F4AL0800AWL30L400	8,00	8,00	40,00	100,00
F4AL1000AWL30L400	10,00	10,00	40,00	100,00
F4AL1200AWX30L450	12,00	12,00	45,00	150,00

NOTE: For application data, see page M142.

End Mill Tolerances

D1	tolerance h10	D	tolerance h6
≤3	+0/-0,04	≤3	+0/-0,006
>3–6	+0/-0,048	>3–6	+0/-0,008
>6–10	+0/-0,058	>6–10	+0/-0,009
>10–18	+0/-0,070	>10–18	+0/-0,011
>18–30	+0/-0,084	>18–30	+0/-0,013

F2/3AH...ADN30...

Material Group		A		B	KC633M Cutting Speed — vc m/min			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%. D1 — Diameter								
		ap	ae	ap	min	max	mm	2,0	4,0	6,0	8,0	10,0	12,0	14,0	16,0	20,0
P	1	1,25 x D	0,1 x D	0,5 x D	150	200	fz	0,014	0,028	0,044	0,060	0,072	0,083	0,092	0,101	0,114
	2	1,25 x D	0,1 x D	0,5 x D	140	190	fz	0,014	0,028	0,044	0,060	0,072	0,083	0,092	0,101	0,114
	3	1,25 x D	0,1 x D	0,5 x D	120	160	fz	0,011	0,023	0,036	0,050	0,061	0,070	0,079	0,087	0,101
	4	1,25 x D	0,1 x D	0,5 x D	90	150	fz	0,010	0,021	0,033	0,045	0,054	0,062	0,070	0,077	0,088
M	1	1,25 x D	0,1 x D	0,5 x D	90	115	fz	0,011	0,023	0,036	0,050	0,061	0,070	0,079	0,087	0,101
	2	1,25 x D	0,1 x D	0,5 x D	60	80	fz	0,009	0,019	0,029	0,040	0,048	0,056	0,063	0,070	0,081
K	1	1,25 x D	0,1 x D	0,5 x D	120	150	fz	0,014	0,028	0,044	0,060	0,072	0,083	0,092	0,101	0,114
	2	1,25 x D	0,1 x D	0,5 x D	110	130	fz	0,011	0,023	0,036	0,050	0,061	0,070	0,079	0,087	0,101
N	1	1,25 x D	0,1 x D	0,5 x D	100	300	fz	0,020	0,040	0,060	0,080	0,100	0,120	0,140	0,160	0,200
	2	1,25 x D	0,1 x D	0,5 x D	250	750	fz	0,016	0,032	0,048	0,064	0,080	0,096	0,112	0,128	0,160
	5	1,25 x D	0,1 x D	0,5 x D	250	750	fz	0,018	0,036	0,054	0,072	0,090	0,108	0,126	0,144	0,180

F2AH...A/BDK30

Material Group		A		B	KC633M Cutting Speed — vc m/min			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%. D1 — Diameter								
		ap	ae	ap	min	max	mm	2,0	4,0	6,0	8,0	10,0	12,0	14,0	16,0	20,0
P	1	0,75 x D	0,1 x D	0,5 x D	150	200	fz	0,014	0,028	0,044	0,060	0,072	0,083	0,092	0,101	0,114
	2	0,75 x D	0,1 x D	0,5 x D	140	190	fz	0,014	0,028	0,044	0,060	0,072	0,083	0,092	0,101	0,114
	3	0,75 x D	0,1 x D	0,5 x D	120	160	fz	0,011	0,023	0,036	0,050	0,061	0,070	0,079	0,087	0,101
	4	0,75 x D	0,1 x D	0,5 x D	90	150	fz	0,010	0,021	0,033	0,045	0,054	0,062	0,070	0,077	0,088
M	1	0,75 x D	0,1 x D	0,5 x D	90	115	fz	0,011	0,023	0,036	0,050	0,061	0,070	0,079	0,087	0,101
	2	0,75 x D	0,1 x D	0,5 x D	60	80	fz	0,009	0,019	0,029	0,040	0,048	0,056	0,063	0,070	0,081
K	1	0,75 x D	0,1 x D	0,5 x D	120	150	fz	0,014	0,028	0,044	0,060	0,072	0,083	0,092	0,101	0,114
	2	0,75 x D	0,1 x D	0,5 x D	110	130	fz	0,011	0,023	0,036	0,050	0,061	0,070	0,079	0,087	0,101
N	1	0,75 x D	0,1 x D	0,5XD	250	1000	fz	0,020	0,040	0,060	0,080	0,100	0,120	0,140	0,160	0,200
	2	0,75 x D	0,1 x D	0,5 x D	250	750	fz	0,016	0,032	0,048	0,064	0,080	0,096	0,112	0,128	0,160
	5	0,75 x D	0,1 x D	0,5 x D	250	750	fz	0,018	0,036	0,054	0,072	0,090	0,108	0,126	0,144	0,180

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centres, please adjust parameters accordingly on >12mm diameter.

F2AH...AWM/L/X30...

Material Group		A		B	KC625M			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.								
					Cutting Speed — vc m/min			D1 — Diameter								
		ap	ae	ap	min	max	mm	3,0	4,0	6,0	8,0	10,0	12,0	16,0	18,0	20,0
P	1	3 x D	0,05 x D	0,15 x D	150	200	fz	0,013	0,028	0,044	0,060	0,072	0,083	0,101	0,107	0,114
	2	3 x D	0,05 x D	0,15 x D	140	190	fz	0,013	0,028	0,044	0,060	0,072	0,083	0,101	0,107	0,114
	3	3 x D	0,05 x D	0,15 x D	120	160	fz	0,011	0,023	0,036	0,050	0,061	0,070	0,087	0,094	0,101
	4	3 x D	0,05 x D	0,15 x D	90	150	fz	0,010	0,021	0,033	0,045	0,054	0,062	0,077	0,082	0,088
M	1	3 x D	0,05 x D	0,15 x D	90	115	fz	0,011	0,023	0,036	0,050	0,061	0,070	0,087	0,094	0,101
	2	3 x D	0,05 x D	0,15 x D	60	80	fz	0,009	0,019	0,029	0,040	0,048	0,056	0,070	0,075	0,081
K	1	3 x D	0,05 x D	0,15 x D	120	150	fz	0,013	0,028	0,044	0,060	0,072	0,083	0,101	0,107	0,114
	2	3 x D	0,05 x D	0,15 x D	110	130	fz	0,011	0,023	0,036	0,050	0,061	0,070	0,087	0,094	0,101
N	1	3 x D	0,05 x D	0,15 x D	250	1000	fz	0,020	0,040	0,060	0,080	0,100	0,120	0,160	0,180	0,200
	2	3 x D	0,05 x D	0,15 x D	250	750	fz	0,016	0,032	0,048	0,064	0,080	0,096	0,128	0,144	0,160
	5	3 x D	0,05 x D	0,15 x D	500	1000	fz	0,018	0,036	0,054	0,072	0,090	0,108	0,144	0,162	0,180

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centres, please adjust parameters accordingly on >12mm diameter.

UEDE • 3-Flute Sharp

Material Group		A		B	KC643M			Recommended Feed per Tooth (fz=inch/th) for side milling (A). For slotting (B), reduce fz by 10%.						
					Cutting Speed — vc m/min			D1 — Diameter						
		ap	ae	ap	min	max	mm	2,0	3,0	4,0	6,0	8,0	10,0	12,0
P	1	1,5 x D	0,5 x D	1 x D	150	200	fz	0,014	0,021	0,028	0,044	0,060	0,072	0,083
	2	1,5 x D	0,5 x D	1 x D	140	190	fz	0,014	0,021	0,028	0,044	0,060	0,072	0,083
	3	1,5 x D	0,5 x D	1 x D	120	160	fz	0,011	0,017	0,023	0,036	0,050	0,061	0,070
	4	1,5 x D	0,5 x D	0,75 x D	90	150	fz	0,010	0,016	0,021	0,033	0,045	0,054	0,062
	5	1,5 x D	0,5 x D	1 x D	60	100	fz	0,009	0,014	0,019	0,029	0,040	0,048	0,056
	6	1,5 x D	0,5 x D	0,75 x D	50	75	fz	0,008	0,012	0,016	0,025	0,034	0,040	0,047
M	1	1,5 x D	0,5 x D	1 x D	90	115	fz	0,011	0,017	0,023	0,036	0,050	0,061	0,070
	2	1,5 x D	0,5 x D	1 x D	60	80	fz	0,009	0,014	0,019	0,029	0,040	0,048	0,056
	3	1,5 x D	0,5 x D	1 x D	60	70	fz	0,008	0,012	0,016	0,025	0,034	0,040	0,047
K	1	1,5 x D	0,5 x D	1 x D	120	150	fz	0,014	0,021	0,028	0,044	0,060	0,072	0,083
	2	1,5 x D	0,5 x D	1 x D	110	130	fz	0,011	0,017	0,023	0,036	0,050	0,061	0,070
	3	1,5 x D	0,5 x D	1 x D	100	130	fz	0,009	0,014	0,019	0,029	0,040	0,048	0,056
S	1	1,5 x D	0,3 x D	0,3 x D	50	90	fz	0,011	0,017	0,023	0,036	0,050	0,061	0,070
	2	1,5 x D	0,3 x D	0,3 x D	25	40	fz	0,006	0,009	0,013	0,019	0,026	0,032	0,037
	3	1,5 x D	0,5 x D	1 x D	60	80	fz	0,009	0,014	0,019	0,029	0,040	0,048	0,056
	4	1,5 x D	0,5 x D	1 x D	50	60	fz	0,007	0,011	0,016	0,026	0,037	0,045	0,052
H	1	1,5 x D	0,5 x D	0,75 x D	80	140	fz	0,010	0,016	0,021	0,033	0,045	0,054	0,062

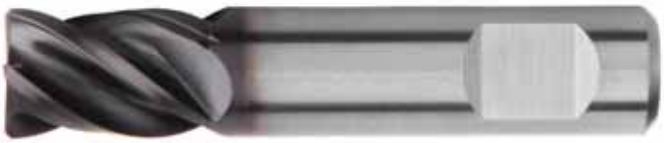
NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.

F3AH...A/BDK/L...

Material Group		A ap	A ae	B ap	KC633M Cutting Speed — vc m/min min	max	mm	Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%. D1 — Diameter 2,0	4,0	6,0	8,0	10,0	12,0	14,0	16,0	20,0
P	1	0,5 x D	0,1 x D	0,25 x D	150	200	fz	0,014	0,028	0,044	0,060	0,072	0,083	0,092	0,101	0,114
	2	0,5 x D	0,1 x D	0,25 x D	140	190	fz	0,014	0,028	0,044	0,060	0,072	0,083	0,092	0,101	0,114
	3	0,5 x D	0,1 x D	0,25 x D	120	160	fz	0,011	0,023	0,036	0,050	0,061	0,070	0,079	0,087	0,101
	4	0,5 x D	0,1 x D	0,25 x D	90	150	fz	0,010	0,021	0,033	0,045	0,054	0,062	0,070	0,077	0,088
M	1	0,5 x D	0,1 x D	0,25 x D	90	115	fz	0,011	0,023	0,036	0,050	0,061	0,070	0,079	0,087	0,101
	2	0,5 x D	0,1 x D	0,25 x D	60	80	fz	0,009	0,019	0,029	0,040	0,048	0,056	0,063	0,070	0,081
K	1	0,5 x D	0,1 x D	0,25 x D	120	150	fz	0,014	0,028	0,044	0,060	0,072	0,083	0,092	0,101	0,114
	2	0,5 x D	0,1 x D	0,25 x D	110	130	fz	0,011	0,023	0,036	0,050	0,061	0,070	0,079	0,087	0,101
N	1	0,5 x D	0,1 x D	0,25 x D	250	1000	fz	0,020	0,040	0,060	0,080	0,100	0,120	0,140	0,160	0,200
	2	0,5 x D	0,1 x D	0,25 x D	250	750	fz	0,016	0,032	0,048	0,064	0,080	0,096	0,112	0,128	0,160
	5	0,5 x D	0,1 x D	0,25 x D	250	750	fz	0,018	0,036	0,054	0,072	0,090	0,108	0,126	0,144	0,180

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centres, please adjust parameters accordingly on >12mm diameter.

UEDE • 4-Flute Chamfer



Material Group		A ap	A ae	B ae	KC643M Cutting Speed — vc m/min min	max	mm	Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%. D1 — Diameter 4,0	6,0	8,0	10,0	12,0
P	1	1,5 x D	0,5 x D	1 x D	150	200	fz	0,028	0,044	0,060	0,072	0,083
	2	1,5 x D	0,5 x D	1 x D	140	190	fz	0,028	0,044	0,060	0,072	0,083
	3	1,5 x D	0,5 x D	1 x D	120	160	fz	0,023	0,036	0,050	0,061	0,070
	4	1,5 x D	0,5 x D	0,75 x D	90	150	fz	0,021	0,033	0,045	0,054	0,062
	5	1,5 x D	0,5 x D	1 x D	60	100	fz	0,019	0,029	0,040	0,048	0,056
	6	1,5 x D	0,5 x D	0,75 x D	50	75	fz	0,016	0,025	0,034	0,040	0,047
M	1	1,5 x D	0,5 x D	1 x D	90	115	fz	0,023	0,036	0,050	0,061	0,070
	2	1,5 x D	0,5 x D	1 x D	60	80	fz	0,019	0,029	0,040	0,048	0,056
	3	1,5 x D	0,5 x D	1 x D	60	70	fz	0,016	0,025	0,034	0,040	0,047
K	1	1,5 x D	0,5 x D	1 x D	120	150	fz	0,028	0,044	0,060	0,072	0,083
	2	1,5 x D	0,5 x D	1 x D	110	130	fz	0,023	0,036	0,050	0,061	0,070
	3	1,5 x D	0,5 x D	1 x D	100	130	fz	0,019	0,029	0,040	0,048	0,056
S	1	1,5 x D	0,3 x D	0,3 x D	50	90	fz	0,023	0,036	0,050	0,061	0,070
	2	1,5 x D	0,3 x D	0,3 x D	25	40	fz	0,013	0,019	0,026	0,032	0,037
	3	1,5 x D	0,5 x D	1 x D	60	80	fz	0,019	0,029	0,040	0,048	0,056
	4	1,5 x D	0,5 x D	1 x D	50	60	fz	0,016	0,026	0,037	0,045	0,052
H	1	1,5 x D	0,5 x D	0,75 x D	80	140	fz	0,021	0,033	0,045	0,054	0,062

NOTE: Lower value of cutting speed is used for high-stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.

F4AJ...ADN30...

Material Group		A		B	KC633M Cutting Speed — vc m/min			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%. D1 — Diameter								
		ap	ae	ap	min	max	mm	2,0	4,0	6,0	8,0	10,0	12,0	14,0	16,0	20,0
P	1	1,5 x D	0,1 x D	0,5 x D	150	200	fz	0,014	0,028	0,044	0,060	0,072	0,083	0,092	0,101	0,114
	2	1,5 x D	0,1 x D	0,5 x D	140	190	fz	0,014	0,028	0,044	0,060	0,072	0,083	0,092	0,101	0,114
	3	1,5 x D	0,1 x D	0,5 x D	120	160	fz	0,011	0,023	0,036	0,050	0,061	0,070	0,079	0,087	0,101
	4	1,5 x D	0,1 x D	0,5 x D	90	150	fz	0,010	0,021	0,033	0,045	0,054	0,062	0,070	0,077	0,088
M	1	1,5 x D	0,1 x D	0,5 x D	90	115	fz	0,011	0,023	0,036	0,050	0,061	0,070	0,079	0,087	0,101
	2	1,5 x D	0,1 x D	0,5 x D	60	80	fz	0,009	0,019	0,029	0,040	0,048	0,056	0,063	0,070	0,081
K	1	1,5 x D	0,1 x D	0,5 x D	120	150	fz	0,014	0,028	0,044	0,060	0,072	0,083	0,092	0,101	0,114
	2	1,5 x D	0,1 x D	0,5 x D	110	130	fz	0,011	0,023	0,036	0,050	0,061	0,070	0,079	0,087	0,101

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centres, please adjust parameters accordingly on >12mm diameter.

F4AJ...A/BDL/K30...

Material Group		A		B	KC633M Cutting Speed — vc m/min			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%. D1 — Diameter								
		ap	ae	ap	min	max	mm	2,0	4,0	6,0	8,0	10,0	12,0	14,0	16,0	20,0
P	1	1 x D	0,1 x D	0,5 x D	180	220	fz	0,014	0,028	0,044	0,060	0,072	0,083	0,092	0,101	0,114
	2	1 x D	0,1 x D	0,5 x D	160	200	fz	0,014	0,028	0,044	0,060	0,072	0,083	0,092	0,101	0,114
	3	1 x D	0,1 x D	0,5 x D	160	180	fz	0,011	0,023	0,036	0,050	0,061	0,070	0,079	0,087	0,101
	4	1 x D	0,1 x D	0,5 x D	140	160	fz	0,010	0,021	0,033	0,045	0,054	0,062	0,070	0,077	0,088
M	1	1 x D	0,1 x D	0,5 x D	90	115	fz	0,011	0,023	0,036	0,050	0,061	0,070	0,079	0,087	0,101
	2	1 x D	0,1 x D	0,5 x D	60	80	fz	0,009	0,019	0,029	0,040	0,048	0,056	0,063	0,070	0,081
K	1	1 x D	0,1 x D	0,5 x D	120	150	fz	0,014	0,028	0,044	0,060	0,072	0,083	0,092	0,101	0,114
	2	1 x D	0,1 x D	0,5 x D	110	130	fz	0,011	0,023	0,036	0,050	0,061	0,070	0,079	0,087	0,101

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.

F4AJ...AWM/L/X30...

Material Group		A		B	K600		KC625M			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.								
					Cutting Speed — vc m/min					D1 — Diameter								
		ap	ae	ap	min	max	min	max	mm	3,0	4,0	6,0	8,0	10,0	12,0	16,0	18,0	20,0
P	1	3 x D	0,1 x D	0,15 x D	90	110	180	220	fz	0,013	0,028	0,044	0,060	0,072	0,083	0,101	0,107	0,114
	2	3 x D	0,1 x D	0,15 x D	80	100	160	200	fz	0,013	0,028	0,044	0,060	0,072	0,083	0,101	0,107	0,114
	3	3 x D	0,1 x D	0,15 x D	—	—	160	180	fz	0,011	0,023	0,036	0,050	0,061	0,070	0,087	0,094	0,101
	4	3 x D	0,05 x D	0,15 x D	—	—	140	160	fz	0,010	0,021	0,033	0,045	0,054	0,062	0,077	0,082	0,088
M	1	3 x D	0,1 x D	0,15 x D	—	—	90	115	fz	0,011	0,023	0,036	0,050	0,061	0,070	0,087	0,094	0,101
	2	3 x D	0,1 x D	0,15 x D	—	—	60	80	fz	0,009	0,019	0,029	0,040	0,048	0,056	0,070	0,075	0,081
K	1	3 x D	0,1 x D	0,15 x D	—	—	120	150	fz	0,013	0,028	0,044	0,060	0,072	0,083	0,101	0,107	0,114
	2	3 x D	0,1 x D	0,15 x D	—	—	110	130	fz	0,011	0,023	0,036	0,050	0,061	0,070	0,087	0,094	0,101

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centres, please adjust parameters accordingly on >12mm diameter.

UEBC • 2-Flute Ball Nose

Material Group		A		B	KC643M			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.						
					Cutting Speed — vc m/min			D1 — Diameter						
		ap	ae	ap	min	max	mm	2,0	3,0	4,0	6,0	8,0	10,0	12,0
P	1	1,5 x D	0,5 x D	1 x D	150	200	fz	0,014	0,021	0,028	0,044	0,060	0,072	0,083
	2	1,5 x D	0,5 x D	1 x D	140	190	fz	0,014	0,021	0,028	0,044	0,060	0,072	0,083
	3	1,5 x D	0,5 x D	1 x D	120	160	fz	0,011	0,017	0,023	0,036	0,050	0,061	0,070
	4	1,5 x D	0,5 x D	0,75 x D	90	150	fz	0,010	0,016	0,021	0,033	0,045	0,054	0,062
	5	1,5 x D	0,5 x D	1 x D	60	100	fz	0,009	0,014	0,019	0,029	0,040	0,048	0,056
	6	1,5 x D	0,5 x D	0,75 x D	50	75	fz	0,008	0,012	0,016	0,025	0,034	0,040	0,047
M	1	1,5 x D	0,5 x D	1 x D	90	115	fz	0,011	0,017	0,023	0,036	0,050	0,061	0,070
	2	1,5 x D	0,5 x D	1 x D	60	80	fz	0,009	0,014	0,019	0,029	0,040	0,048	0,056
	3	1,5 x D	0,5 x D	1 x D	60	70	fz	0,008	0,012	0,016	0,025	0,034	0,040	0,047
K	1	1,5 x D	0,5 x D	1 x D	120	150	fz	0,014	0,021	0,028	0,044	0,060	0,072	0,083
	2	1,5 x D	0,5 x D	1 x D	110	130	fz	0,011	0,017	0,023	0,036	0,050	0,061	0,070
	3	1,5 x D	0,5 x D	1 x D	100	130	fz	0,009	0,014	0,019	0,029	0,040	0,048	0,056
S	1	1,5 x D	0,3 x D	0,3 x D	50	90	fz	0,011	0,017	0,023	0,036	0,050	0,061	0,070
	2	1,5 x D	0,3 x D	0,3 x D	25	40	fz	0,006	0,009	0,013	0,019	0,026	0,032	0,037
	3	1,5 x D	0,5 x D	1 x D	60	80	fz	0,009	0,014	0,019	0,029	0,040	0,048	0,056
	4	1,5 x D	0,5 x D	1 x D	50	60	fz	0,007	0,011	0,016	0,026	0,037	0,045	0,052
H	1	1,5 x D	0,5 x D	0,75 x D	80	140	fz	0,010	0,016	0,021	0,033	0,045	0,054	0,062

NOTE: Lower value of cutting speed is used for high-stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.

UEBE • 3-Flute Ball Nose

Material Group		A		B	KC643M Cutting Speed — vc m/min			Recommended Feed per Tooth (fz=inch/th) for side milling (A). For slotting (B), reduce fz by 20%. D1 — Diameter						
		ap	ae	ap	min	max	mm	2,0	3,0	4,0	6,0	8,0	10,0	12,0
P	1	1,5 x D	0,5 x D	1 x D	150	200	fz	0,014	0,021	0,028	0,044	0,060	0,072	0,083
	2	1,5 x D	0,5 x D	1 x D	140	190	fz	0,014	0,021	0,028	0,044	0,060	0,072	0,083
	3	1,5 x D	0,5 x D	1 x D	120	160	fz	0,011	0,017	0,023	0,036	0,050	0,061	0,070
	4	1,5 x D	0,5 x D	0,75 x D	90	150	fz	0,010	0,016	0,021	0,033	0,045	0,054	0,062
	5	1,5 x D	0,5 x D	1 x D	60	100	fz	0,009	0,014	0,019	0,029	0,040	0,048	0,056
	6	1,5 x D	0,5 x D	0,75 x D	50	75	fz	0,008	0,012	0,016	0,025	0,034	0,040	0,047
M	1	1,5 x D	0,5 x D	1 x D	90	115	fz	0,011	0,017	0,023	0,036	0,050	0,061	0,070
	2	1,5 x D	0,5 x D	1 x D	60	80	fz	0,009	0,014	0,019	0,029	0,040	0,048	0,056
	3	1,5 x D	0,5 x D	1 x D	60	70	fz	0,008	0,012	0,016	0,025	0,034	0,040	0,047
K	1	1,5 x D	0,5 x D	1 x D	120	150	fz	0,014	0,021	0,028	0,044	0,060	0,072	0,083
	2	1,5 x D	0,5 x D	1 x D	110	130	fz	0,011	0,017	0,023	0,036	0,050	0,061	0,070
	3	1,5 x D	0,5 x D	1 x D	100	130	fz	0,009	0,014	0,019	0,029	0,040	0,048	0,056
S	1	1,5 x D	0,3 x D	0,3 x D	50	90	fz	0,011	0,017	0,023	0,036	0,050	0,061	0,070
	2	1,5 x D	0,3 x D	0,3 x D	25	40	fz	0,006	0,009	0,013	0,019	0,026	0,032	0,037
	3	1,5 x D	0,5 x D	1 x D	60	80	fz	0,009	0,014	0,019	0,029	0,040	0,048	0,056
	4	1,5 x D	0,5 x D	1 x D	50	60	fz	0,007	0,011	0,016	0,026	0,037	0,045	0,052
H	1	1,5 x D	0,5 x D	0,75 x D	80	140	fz	0,010	0,016	0,021	0,033	0,045	0,054	0,062

NOTE: Lower value of cutting speed is used for high-stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.

F2ALDN30...

Material Group		A		B	KC633M			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.											
					Cutting Speed — vc m/min			D1 — Diameter											
		ap	ae	ap	min	max	mm	2,0	3,0	4,0	5,0	6,0	8,0	10,0	12,0	14,0	16,0	18,0	20,0
P	1	1 x D	0,25 x D	0,5 x D	180	220	fz	0,014	0,021	0,028	0,036	0,044	0,060	0,072	0,083	0,092	0,101	0,107	0,114
	2	1 x D	0,25 x D	0,5 x D	160	200	fz	0,014	0,021	0,028	0,036	0,044	0,060	0,072	0,083	0,092	0,101	0,107	0,114
	3	1 x D	0,25 x D	0,5 x D	160	180	fz	0,011	0,017	0,023	0,030	0,036	0,050	0,061	0,070	0,079	0,087	0,094	0,101
	4	1 x D	0,25 x D	0,4 x D	140	160	fz	0,010	0,016	0,021	0,027	0,033	0,045	0,054	0,062	0,070	0,077	0,082	0,088
M	1	1 x D	0,25 x D	0,5 x D	90	115	fz	0,011	0,017	0,023	0,030	0,036	0,050	0,061	0,070	0,079	0,087	0,094	0,101
	2	1 x D	0,25 x D	0,5 x D	60	80	fz	0,009	0,014	0,019	0,024	0,029	0,040	0,048	0,056	0,063	0,070	0,075	0,081
K	1	1 x D	0,25 x D	0,5 x D	120	150	fz	0,014	0,021	0,028	0,036	0,044	0,060	0,072	0,083	0,092	0,101	0,107	0,114
	2	1 x D	0,25 x D	0,5 x D	110	130	fz	0,011	0,017	0,023	0,030	0,036	0,050	0,061	0,070	0,079	0,087	0,094	0,101
N	1	1 x D	0,25 x D	0,5 x D	250	1000	fz	0,020	0,030	0,040	0,050	0,060	0,080	0,100	0,120	0,140	0,160	0,180	0,200
	2	1 x D	0,25 x D	0,5 x D	250	750	fz	0,016	0,024	0,032	0,040	0,048	0,064	0,080	0,096	0,112	0,128	0,144	0,160
	3	1 x D	0,25 x D	0,5 x D	250	750	fz	0,018	0,027	0,036	0,045	0,054	0,072	0,090	0,108	0,126	0,144	0,162	0,180

F4ALDN30....

Material Group		A		B	KC633M			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.							
					Cutting Speed — vc m/min			D1 — Diameter							
		ap	ae	ap	min	max	mm	2,0	4,0	6,0	8,0	10,0	12,0	16,0	20,0
P	1	1,25 x D	0,25 x D	0,5 x D	150	200	fz	0,014	0,028	0,044	0,060	0,072	0,083	0,101	0,114
	2	1,25 x D	0,25 x D	0,5 x D	140	190	fz	0,014	0,028	0,044	0,060	0,072	0,083	0,101	0,114
	3	1,25 x D	0,25 x D	0,5 x D	120	160	fz	0,011	0,023	0,036	0,050	0,061	0,070	0,087	0,101
	4	1,25 x D	0,25 x D	0,4 x D	90	150	fz	0,010	0,021	0,033	0,045	0,054	0,062	0,077	0,088
M	1	1,25 x D	0,25 x D	0,5 x D	90	115	fz	0,011	0,023	0,036	0,050	0,061	0,070	0,087	0,101
	2	1,25 x D	0,25 x D	0,5 x D	60	80	fz	0,009	0,019	0,029	0,040	0,048	0,056	0,070	0,081
K	1	1,25 x D	0,25 x D	0,5 x D	120	150	fz	0,014	0,028	0,044	0,060	0,072	0,083	0,101	0,114
	2	1,25 x D	0,25 x D	0,5 x D	110	130	fz	0,011	0,023	0,036	0,050	0,061	0,070	0,087	0,101
N	1	1,25 x D	0,25 x D	0,5 x D	250	1000	fz	0,020	0,040	0,060	0,080	0,100	0,120	0,160	0,200
	2	1,25 x D	0,25 x D	0,5 x D	250	750	fz	0,016	0,032	0,048	0,064	0,080	0,096	0,128	0,160
	3	1,25 x D	0,25 x D	0,5 x D	250	750	fz	0,018	0,036	0,054	0,072	0,090	0,108	0,144	0,180

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centres, please adjust parameters accordingly on >12mm diameter.

F2AL...ADL30...

Material Group		A		B	KC633M Cutting Speed — vc m/min			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%. D1 — Diameter							
		ap	ae	ap	min	max	mm	3,0	4,0	6,0	8,0	10,0	12,0	16,0	20,0
P	1	1,25 x D	0,25 x D	0,5 x D	150	200	fz	0,021	0,028	0,044	0,060	0,072	0,083	0,101	0,114
	2	1,25 x D	0,25 x D	0,5 x D	140	190	fz	0,021	0,028	0,044	0,060	0,072	0,083	0,101	0,114
	3	1,25 x D	0,25 x D	0,5 x D	120	160	fz	0,017	0,023	0,036	0,050	0,061	0,070	0,087	0,101
	4	1,25 x D	0,25 x D	0,5 x D	90	150	fz	0,016	0,021	0,033	0,045	0,054	0,062	0,077	0,088
M	1	1,25 x D	0,25 x D	0,5 x D	90	115	fz	0,017	0,023	0,036	0,050	0,061	0,070	0,087	0,101
	2	1,25 x D	0,25 x D	0,5 x D	60	80	fz	0,014	0,019	0,029	0,040	0,048	0,056	0,070	0,081
K	1	1,25 x D	0,25 x D	0,5 x D	120	150	fz	0,021	0,028	0,044	0,060	0,072	0,083	0,101	0,114
	2	1,25 x D	0,25 x D	0,5 x D	110	130	fz	0,017	0,023	0,036	0,050	0,061	0,070	0,087	0,101
N	1	1,25 x D	0,25 x D	0,5 x D	250	1000	fz	0,030	0,040	0,060	0,080	0,100	0,120	0,160	0,200
	2	1,25 x D	0,25 x D	0,5 x D	250	750	fz	0,024	0,032	0,048	0,064	0,080	0,096	0,128	0,160
	3	1,25 x D	0,25 x D	0,5 x D	250	750	fz	0,027	0,036	0,054	0,072	0,090	0,108	0,144	0,180

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centres, please adjust parameters accordingly on >12mm diameter.

F4AL...ADL30...

Material Group		A		B	KC633M Cutting Speed — vc m/min			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%. D1 — Diameter							
		ap	ae	ap	min	max	mm	2,0	4,0	6,0	8,0	10,0	12,0	16,0	20,0
P	1	1,25 x D	0,25 x D	0,5 x D	150	200	fz	0,014	0,028	0,044	0,060	0,072	0,083	0,101	0,114
	2	1,25 x D	0,25 x D	0,5 x D	140	190	fz	0,014	0,028	0,044	0,060	0,072	0,083	0,101	0,114
	3	1,25 x D	0,25 x D	0,5 x D	120	160	fz	0,011	0,023	0,036	0,050	0,061	0,070	0,087	0,101
	4	1,25 x D	0,25 x D	0,4 x D	90	150	fz	0,010	0,021	0,033	0,045	0,054	0,062	0,077	0,088
M	1	1,25 x D	0,25 x D	0,5 x D	90	115	fz	0,011	0,023	0,036	0,050	0,061	0,070	0,087	0,101
	2	1,25 x D	0,25 x D	0,5 x D	60	80	fz	0,009	0,019	0,029	0,040	0,048	0,056	0,070	0,081
K	1	1,25 x D	0,25 x D	0,5 x D	120	150	fz	0,014	0,028	0,044	0,060	0,072	0,083	0,101	0,114
	2	1,25 x D	0,25 x D	0,5 x D	110	130	fz	0,011	0,023	0,036	0,050	0,061	0,070	0,087	0,101
N	1	1,25 x D	0,25 x D	0,5 x D	250	1000	fz	0,020	0,040	0,060	0,080	0,100	0,120	0,160	0,200
	2	1,25 x D	0,25 x D	0,5 x D	250	750	fz	0,016	0,032	0,048	0,064	0,080	0,096	0,128	0,160
	3	1,25 x D	0,25 x D	0,5 x D	250	750	fz	0,018	0,036	0,054	0,072	0,090	0,108	0,144	0,180

NOTE: These guidelines may require possible variations to achieve optimum results.
Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centres, please adjust parameters accordingly on >12mm diameter.

F2/4AL...AWM/L/X30L...

Material Group		A		B	KC633M			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.						
					Cutting Speed — vc m/min			D1 — Diameter						
		ap	ae	ap	min	max	mm	3,0	4,0	6,0	8,0	10,0	12,0	16,0
P	1	1,5 x D	0,15 x D	0,25 x D	150	200	fz	0,021	0,028	0,044	0,060	0,072	0,083	0,101
	2	1,5 x D	0,15 x D	0,25 x D	140	190	fz	0,021	0,028	0,044	0,060	0,072	0,083	0,101
	3	1,5 x D	0,15 x D	0,25 x D	120	160	fz	0,017	0,023	0,036	0,050	0,061	0,070	0,087
	4	1,5 x D	0,15 x D	0,25 x D	90	150	fz	0,016	0,021	0,033	0,045	0,054	0,062	0,077
M	1	1,5 x D	0,15 x D	0,25 x D	90	115	fz	0,017	0,023	0,036	0,050	0,061	0,070	0,087
	2	1,5 x D	0,15 x D	0,25 x D	60	80	fz	0,014	0,019	0,029	0,040	0,048	0,056	0,070
K	1	1,5 x D	0,15 x D	0,25 x D	120	150	fz	0,021	0,028	0,044	0,060	0,072	0,083	0,101
	2	1,5 x D	0,15 x D	0,25 x D	110	130	fz	0,017	0,023	0,036	0,050	0,061	0,070	0,087
N	1	1,5 x D	0,25 x D	0,5 x D	250	1000	fz	0,030	0,040	0,060	0,080	0,100	0,120	0,160
	2	1,5 x D	0,25 x D	0,5 x D	250	750	fz	0,024	0,032	0,048	0,064	0,080	0,096	0,128
	3	1,5 x D	0,25 x D	0,5 x D	250	750	fz	0,027	0,036	0,054	0,072	0,090	0,108	0,144

F2/4AL...AWM/L/X30L...

Material Group		A		B	KC633M			Feed per Tooth — fz information is for side milling (A). For slotting (B), reduce fz by 20%.						
					Cutting Speed — vc m/min			D1 — Diameter						
		ap	ae	ap	min	max	mm	3,0	4,0	6,0	8,0	10,0	12,0	16,0
P	1	1,5 x D	0,15 x D	0,25 x D	150	200	fz	0,021	0,028	0,044	0,060	0,072	0,083	0,101
	2	1,5 x D	0,15 x D	0,25 x D	140	190	fz	0,021	0,028	0,044	0,060	0,072	0,083	0,101
	3	1,5 x D	0,15 x D	0,25 x D	120	160	fz	0,017	0,023	0,036	0,050	0,061	0,070	0,087
	4	1,5 x D	0,15 x D	0,25 x D	90	150	fz	0,016	0,021	0,033	0,045	0,054	0,062	0,077
M	1	1,5 x D	0,15 x D	0,25 x D	90	115	fz	0,017	0,023	0,036	0,050	0,061	0,070	0,087
	2	1,5 x D	0,15 x D	0,25 x D	60	80	fz	0,014	0,019	0,029	0,040	0,048	0,056	0,070
K	1	1,5 x D	0,15 x D	0,25 x D	120	150	fz	0,021	0,028	0,044	0,060	0,072	0,083	0,101
	2	1,5 x D	0,15 x D	0,25 x D	110	130	fz	0,017	0,023	0,036	0,050	0,061	0,070	0,087

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions. For smaller taper machining centres, please adjust parameters accordingly on >12mm diameter.

High-Performance Milling Chucks

- Heavy- and fine-milling capabilities.
- Prebalanced G6.3 @ 20,000 RPM — six threaded M6 holes to accept set screws for fine balancing.
- Heavy milling — tighten locknut until O-ring on back face of locknut just touches the flange on the chuck body to achieve runout 0,01mm (.0004") 3 x D1.
- Fine milling — tighten as above, then back the locknut off 1/8–1/4 turn to achieve runout 0,005mm (.0002") 3 x D1.
- Sub-zero heat treatment for material stability.
- Through-the-toolholder coolant capability using stop screw as sealing device.
- 10mm (3/8") axial adjustment stop screw.

Experience the advantages at your Authorised Kennametal Distributor or at **www.kennametal.com**.

www.kennametal.com

KENNAMETAL®

Indexable Milling Products

Our latest Metalcutting Innovations are designed to deliver higher productivity, longer tool life, and increased application versatility.

FACE MILLS

See Section O for more details.

Dodeka™ Series Platform

MEGA Series Platform

Beyond BLAST™ KSSM™ 45°

KSSM 45°

KSOM™ and KSOM Mini

Fix-Perfect™ Series Platform

HexaCut™ Series Platform

KSSR™ 84°

KCMS™ Cartridge Milling System

KSCM™ PCD AluMill™

Fix-Perfect 90° Aluminium

Chamfer Mills (30°, 45°, 60°)

SHOULDER MILLS

See Section P for more details.

Mill 1-10™ Platform

Mill 1-14™ Platform

Mill 1-18™ Platform

Mill 1-25™ Platform

KSSM™ Platform

KSSM-KSSP, Helical Cutters Platform

KFSR™ Helical Platform

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SLOTTING CUTTERS

See Section Q for more details.

KTMS™ T-Slot Platform

KVNS™ Platform

SN Platform

LN Platform

KSSM™ Platform

COPY MILLS

See Section R for more details.

KenFeed™ 2X

KenFeed Mini

Rodeka™ Platform

KDM Platform

KSRM™ Platform

Beyond BLAST™ KSRM Platform

KDMB™ and KDMT™ Platforms

Z-Axis • Plunge Milling Cutters

KDMR™ • Multifunction Cutters

KIPR™ and KSSP™ • Round Ceramic Milling Cutters

THREAD MILLS

See Section S for more details.

Indexable End Mills

- Weldon® Shank • TM25
- Conical Thread • TMT25
- Mini Thread Mills • STN
- Tapered Thread • STN

Indexable Inserts

The Most Advanced Milling Solutions in the Industry

For unsurpassed quality, value, and performance, you can trust Kennametal to provide the most comprehensive line of reliable metalcutting tools. Whatever your indexable milling product requirements, be assured that you will find the appropriate solution in this all-inclusive, easy-to-use guide.

For every milling application, workpiece, or equipment need, we offer the best tools on the market, designed to reduce your machining time, provide superior surface finishes, and outperform the competition.

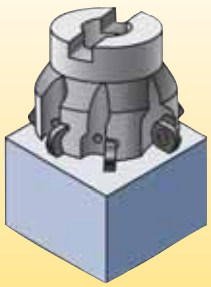
Identify material to be machined:
Each tool has a material grid marked with a letter indicating the materials that can be machined.

● first choice
○ alternate choice

P	○	Steel
M	●	Stainless Steel
K		Cast Iron
N		Non-Ferrous Materials
S	○	High-Temp Alloys
H	○	Hardened Materials

Choose your application:
- Face Milling
- Chamfer Milling
- Shoulder Milling
- Slotting
- Copy Milling
- Ceramic Milling
- Thread Milling

Face Mills



Dodeka™ Mini 15° • High-Feed

Ap1: 1,60mm
Cutting Edges: 12
Dia: 25–80mm

k = 15°

Pages: O4–O5

Tool name

Illustration of the product

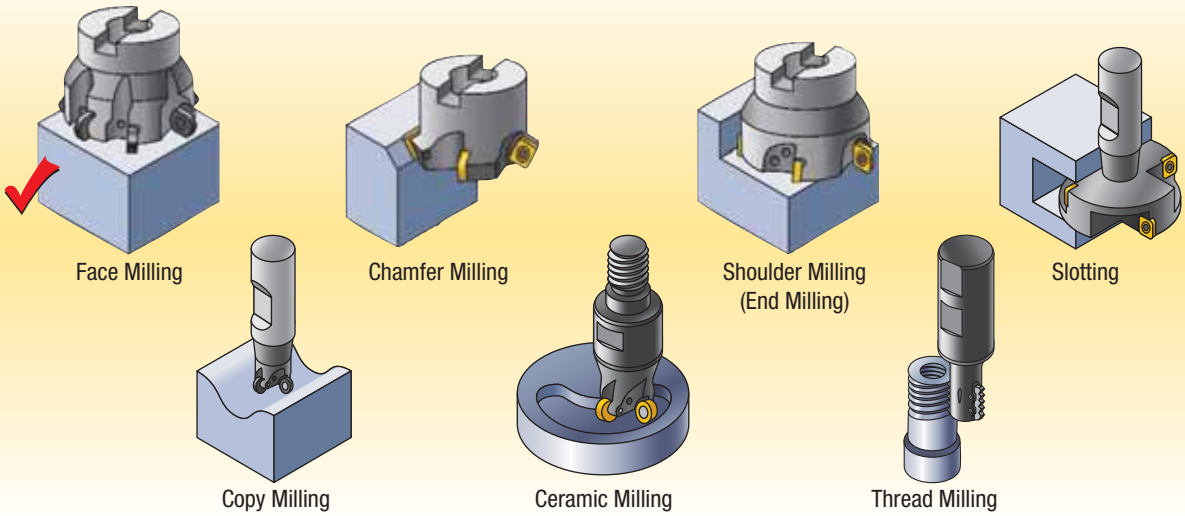
Lead angle

Location of introduction detail, tool bodies, inserts, and cutting data

Select tool based on maximum depth of cut and diameter required:
Information is given in this area to provide specific detail as a quick reference.

How to Navigate the 2013 Catalogue

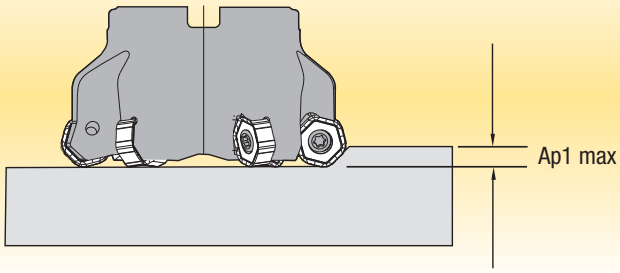
Step 1 • Select Application



Step 2 • Select Workpiece Material

ISO Description		● first choice ○ alternate choice	Material Group	
Steel	P	●	P1–P2	Carbon steels
			P3–P4	Alloy steels and tool steels
			P5–P6	Ferritic, martensitic, and PH stainless steels
Stainless Steel	M	●	M1–M2	Austenitic stainless steels
			M3	Duplex stainless steels (ferritic and austenitic mixture)
Cast Iron	K		K1–K2	Grey, ductile, CGI, and malleable cast irons >80 KSI
			K3	Ductile, CGI, and malleable cast irons >80 KSI
Non-Ferrous Materials	N		N1–N2	Aluminium alloys <12.2% Si
			N3	Aluminium alloys >12.2% Si
High-Temp Alloys	S	●	S1–S2	Iron- and cobalt-based heat-resistant alloys
			S3	Nickel-based heat-resistant alloys
			S4	Alpha-Beta titanium alloys
Hardened Materials	H	○	H1	Hardened steels and irons

Step 3 • Select a Maximum Axial Depth of Cut (Ap)



How to Navigate the 2013 Catalogue *(continued)*

Step 4 • Select Milling Cutter from Application Selector

Face milling 1

Material 2

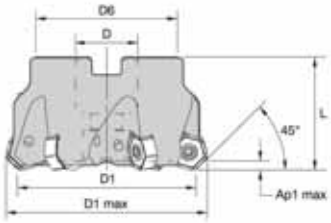
Dodeka™ Mini 45°

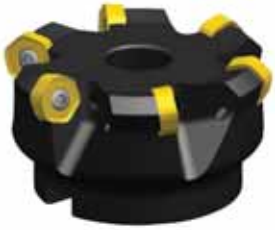
3 Axial depth of cut

Ap1: 3,2mm
Cutting Edges: 12
Dia: 25–125mm

k = 45° Pages: O8–O10

Select the Cutter





Dodeka Mini 45° • Shell Mills

order number	catalogue number	D1	D1 max	D	D6	L	Ap1 max	Z	kg	max RPM
4126387	KSHR040A04RS45HN06	40	48,2	22	38	40	3,2	4	0,25	15800
4124313	KSHR040A05RS45HN06	40	48,2	22	38	40	3,2	5	0,25	15800
4126388	KSHR050A04RS45HN06	50	58,2	22	38	40	3,2	4	0,36	12700
4122886	KSHR050A05RS45HN06	50	58,2	22	38	40	3,2	5	0,37	12700
4126389	KSHR050A06RS45HN06	50	58,2	22	38	40	3,2	6	0,36	12700
4122887	KSHR063A04RS45HN06	63	71,2	22	50	40	3,2	4	0,59	10100
4122889	KSHR063A06RS45HN06	63	71,2	22	50	40	3,2	6	0,65	10100
4126390	KSHR063A08RS45HN06	63	71,2	22	50	40	3,2	8	0,64	10100

4

Step 5 • Insert Selection Guide

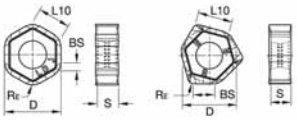
Insert Selection Guide

Material Group	Light Machining		General Purpose		Heavy Machining	
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1–P2	.E..LD	KC725M	.S..GD	KC725M	.S..HD	KC725M
P3–P4	.E..LD	KCPK30	.S..GD	KCPK30	.S..HD	KCPK30
P5–P6	.E..LD	KCPM20	.S..GD	KCPM20	.S..HD	KCPM20
M1–M2	.E..LD	KC725M	.S..GD	KC725M	.S..HD	KC725M
M3	.E..LD	KCPK30	.S..GD	KCPK30	.S..HD	KCPK30
K1–K2	.E..LD	KCK15	.S..GD	KCK15	.S..HD	KCK15
K3	.E..LD	KCPK30	.S..GD	KCPK30	.S..HD	KCPK30
N1–N2	.F..LDJ	K313	.F..LDJ	KC410M	.E..LD	KC510M
N3	.F..LDJ	KC410M	.E..LD	KC510M	.E..LD	KC510M
S1–S2	.E..LD	KC725M	.S..GD	KC725M	.S..HD	KC725M
S3	.E..LD	KC725M	.S..GD	KC725M	.S..HD	KC725M
S4	.S..GD	KC725M	.S..HD	KC725M	–	–
H1	.E..LD	KC510M	.S..GD	KC522M	–	–

5

How to Navigate the 2013 Catalogue *(continued)*

Step 6 • Insert Chart, Providing the Inserts and Grades



● first choice
○ alternate choice

	K313	KC410M	KC510M	KC520M	KC522M	KC725M	KCK15	KCPM20	KCPK30
P					○	●		●	●
M					●	●		○	●
K			●	●	○		●	○	○
N	●	●	○						
S					●	●			
H			●		●				

HNPJ-GD

catalogue number	D	BS	L10	Rε	S	hm	cutting edges
HNPJ0604ANSNGD	12,00	1,45	6,44	1,0	4,45	0,08	12

6

Step 7 • Defining the Feed per Tooth

Geometry (S.GD)
20% radial width of cut, follow arrows for value.
% = radial width of cut (Ae) ÷ cutter diameter (D1)
Using a round or ball nose insert, consider the axial depth of cut; see separate chart on the cutter page.

Recommended Starting Feeds [mm]

Light Machining	General Purpose	Heavy Machining

Insert Geometry	Programmed Feed per Tooth (fz) as a % of Radial Depth of Cut (ae)															Insert Geometry
	10%			20%			30%			40%			50–100%			
.F..LDJ	0,12	**0,24**	0,47	0,09	**0,18**	0,35	0,08	**0,15**	0,31	0,07	**0,14**	0,29	0,07	**0,14**	0,28	.F..LDJ
.E..LD	0,12	**0,35**	0,71	0,09	**0,27**	0,53	0,08	**0,23**	0,46	0,07	**0,22**	0,43	0,07	**0,21**	0,42	.E..LD
.S..GD	0,24	**0,54**	0,94	0,18	**0,41**	0,70	0,16	**0,35**	0,61	0,15	**0,33**	0,57	0,14	**0,32**	0,56	.S..GD
.S..HD	0,24	**0,60**	0,97	0,18	**0,45**	0,72	0,16	**0,39**	0,63	0,15	**0,37**	0,59	0,14	**0,36**	0,57	.S..HD

NOTE: Use "Light Machining" values as starting feed rate.

7

Always consider starting with the "Light Machining" value. Once established, increase the feed per tooth from the chart.
These are minimum values and can be increased when the application has been proven.
Light Machining — Low Feed Rate, Higher Speed
General Purpose — Normal Feed, Normal Speed
Heavy Machining — Higher Feed, Reduced Speed

Step 8 • Recommended Starting Speeds [m/min]

8

Material Group		KC522M			KCPM20			KC725M			KCK15			KCPK30		
P	1	395	**345**	325	660	**580**	535	315	**275**	255	–	–	–	545	**475**	440
	2	330	**290**	240	410	**370**	330	260	**230**	195	–	–	–	335	**305**	275
	3	305	**255**	215	370	**330**	305	240	**205**	170	–	–	–	305	**275**	250
	4	270	**225**	180	275	**255**	230	215	**180**	145	–	–	–	225	**210**	190
	5	225	**200**	180	330	**300**	275	180	**160**	145	–	–	–	310	**275**	255
	6	200	**150**	120	230	**200**	175	160	**120**	95	–	–	–	190	**165**	–
M	1	245	**215**	200	270	**240**	205	205	**180**	165	–	–	–	250	**220**	190
	2	225	**190**	160	245	**215**	190	185	**160**	130	–	–	–	225	**195**	170
	3	170	**145**	115	195	**175**	150	140	**120**	95	–	–	–	175	**160**	140
K	1	275	**250**	220	435	**390**	350	–	–	–	505	**460**	410	355	**320**	285
	2	215	**195**	180	345	**310**	280	–	–	–	400	**355**	330	280	**255**	230
	3	180	**160**	145	290	**255**	240	–	–	–	335	**300**	275	235	**210**	195
N	1–2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
S	1	50	**45**	35	–	–	–	45	**35**	30	–	–	–	–	–	–
	2	50	**45**	35	–	–	–	45	**35**	30	–	–	–	–	–	–
	3	60	**50**	35	–	–	–	55	**45**	30	–	–	–	–	–	–
	4	85	**60**	45	–	–	–	75	**55**	35	–	–	–	–	–	–
H	1	145	**110**	85	–	–	–	–	–	–	–	–	–	–	–	–
	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

8

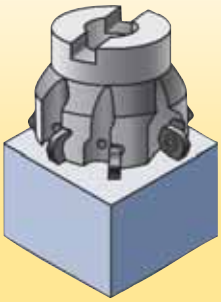
Choose the Application

- Face Milling
- Chamfer Milling
- Shoulder Milling
- Slotting
- Copy Milling
- Ceramic Milling
- Thread Milling

● first choice
○ alternate choice

P	○	Steel
M	●	Stainless Steel
K		Cast Iron
N		Non-Ferrous Materials
S	○	High-Temp Alloys
H	○	Hardened Materials

Face Mills



Dodeka™ Mini 15° • High-Feed

Ap1: 1,60mm
Cutting Edges: 12
Dia: 25–80mm
k = 15° Pages: O4–O5

Dodeka™ Mini 45°

Ap1: 3,2mm
Cutting Edges: 12
Dia: 25–125mm
k = 45° Pages: O8–O10

Dodeka™ Mini 60° • Heavy Duty

Ap1: 4,4mm
Cutting Edges: 12
Dia: 40–125mm
k = 60° Page: O13

Dodeka™ • High-Feed • 15°

Ap1: 2,2mm
Cutting Edges: 12
Dia: 50–160mm
k = 15° Page: O16

Dodeka™

Ap1: 4,5mm
Cutting Edges: 12
Dia: 40–315mm
k = 45° Pages: O19–O20

Dodeka™ JIS

Ap1: 4,5mm
Cutting Edges: 12
Dia: 80–160mm
k = 45° Page: O21

Dodeka MAX™

Ap1: 8mm
Cutting Edges: 12
Dia: 80–315mm
k = 45° Page: O26

Dodeka MAX™ JIS

Ap1: 8mm
Cutting Edges: 12
Dia: 80–315mm
k = 45° Page: O27

MEGA 45° • Heavy Duty

Ap1: 17,2mm
Cutting Edges: 4
Dia: 125–315mm
k = 45° Page: O32

MEGA 45° • Heavy Duty • JIS

Ap1: 17,2mm
Cutting Edges: 4
Dia: 125–315mm
k = 45° Page: O33

MEGA 15 • Heavy Duty

Ap1: 6,1mm
Cutting Edges: 4
Dia: 125–315mm
k = 15° Page: O38

MEGA 60 • Heavy Duty

Ap1: 21,4mm
Cutting Edges: 4
Dia: 125–315mm
k = 60° Page: O40

MEGA 60 • Heavy Duty • JIS

Ap1: 21,4mm
Cutting Edges: 4
Dia: 125–315mm
k = 60° Page: O41

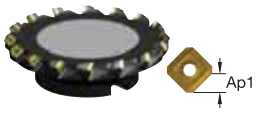
MEGA 90 • Heavy Duty

Ap1: 25,5mm
Cutting Edges: 4
Dia: 125–315mm
k = 90° Page: O44

MEGA 90 • Heavy Duty • JIS

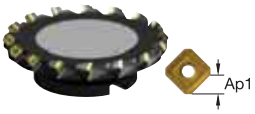
Ap1: 25,5mm
Cutting Edges: 4
Dia: 125–315mm
k = 90° Page: O45

KSSM™ 45° • Beyond BLAST™



Ap1: 6,6mm
Cutting Edges: 4
Dia: 50–200mm
k = 45° Page: O50

KSSM™ 45° • Beyond BLAST™ • JIS



Ap1: 6,6mm
Cutting Edges: 4
Dia: 80–200mm
k = 45° Page: O51

KSSM™ 45°

Ap1: 6,6mm
Cutting Edges: 4
Dia: 40–160mm
k = 45° Pages: O55–O56

KSSM™ 45° JIS

Ap1: 6,6mm
Cutting Edges: 4
Dia: 80–160mm
k = 45° Page: O57

KSOM™ Mini

Ap1: 3,5mm (8 edges)
Ap2: 9mm (4 edges)
Dia: 32–160mm
k = 43° Pages: O64–O66

KSOM™ Mini JIS

Ap1: 3,5mm (8 edges)
Ap2: 9mm (4 edges)
Dia: 80–160mm
k = 43° Page: O67

KSOM™ • OF.T07L6...

Ap1: 5mm (8 edges)
Ap2: 11mm (4 edges)
Dia: 63–160mm
k = 43° Page: O72

KSOM™ • OF.T07L6... JIS

Ap1: 5mm (8 edges)
Ap2: 11mm (4 edges)
Dia: 80–160mm
k = 43° Page: O73

Fix-Perfect™ • Finisher

Ap1: 1mm
Cutting Edges: 4
Dia: 63–250mm
k = 15° Page: O80

Fix-Perfect™ 70° • Cast Iron • IC12

Ap1: 5,9mm (8 edges)
Ap2: 9,5mm (4 edges)
Dia: 50–250mm
k = 70° Page: O84

Fix-Perfect™ 90° • Cast Iron • IC12

Ap1: 6mm (8 edges)
Ap2: 10mm (4 edges)
Dia: 50–200mm
k = 90° Page: O88

Fix-Perfect™ 70° • Cast Iron • IC15

Ap1: 6,5mm (8 edges)
Ap2: 12mm (4 edges)
Dia: 80–250mm
k = 70° Page: O92

Fix-Perfect™ 90° • Cast Iron • IC15

Ap1: 8mm (8 edges)
Ap2: 12mm (4 edges)
Dia: 80–200mm
k = 90° Page: O96

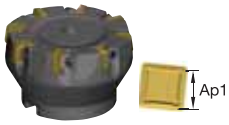
HexaCut™ 45° • Cast Iron

Ap1: 6,5mm
Cutting Edges: 12
Dia: 80–200mm
k = 45° Page: O103

HexaCut™ 60° • Cast Iron

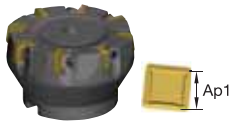
Ap1: 8mm
Cutting Edges: 12
Dia: 80–200mm
k = 60° Page: O108

KSSR • Left and Right Hand



Ap1: 5mm
Cutting Edges: 8
Dia: 63–250mm
k = 84° Pages: O116–O118

KSSR JIS



Ap1: 5mm
Cutting Edges: 8
Dia: 80–250mm
k = 84° Page: O119

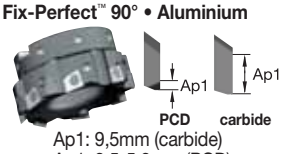
KCMS™ • Cartridge Milling System

Ap1: 0,7–18mm
28 alternative cartridges
Note: See cartridges for Ap1 value
Dia: 125–315mm
Variable Page: O126

KSCM™ AluMill™

Ap1: 3mm
Cutting Edges: 1
Dia: 63–315mm
k = 90° Pages: O129–O130

Fix-Perfect™ 90° • Aluminium

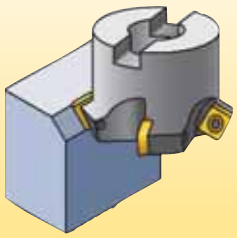


Ap1: 9,5mm (carbide)
Ap1: 2,5-5,2mm (PCD)
Cutting Edges: 1 (PCD); 4 (carbide)
Dia: 40–315mm
k = 90° Pages: O139–O143

● first choice
○ alternate choice

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous Materials
S	High-Temp Alloys
H	Hardened Materials

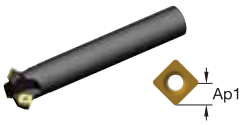
Chamfer Mills



Chamfer Mill • End Mills 45° • IC 09

Ap1: 6,5mm
Cutting Edges: 4
Dia: 10–32mm
k = 45° Page: O148

Chamfer Mill • End Mills 45° • IC 12

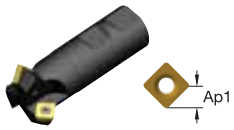


Ap1: 9mm
Cutting Edges: 4
Dia: 32mm
k = 45° Page: O151

Chamfer Mill • End Mills 30° • IC 12

Ap1: 6,5mm
Cutting Edges: 4
Dia: 32mm
k = 30° Page: O150

Chamfer Mill • End Mills 45° • IC 12

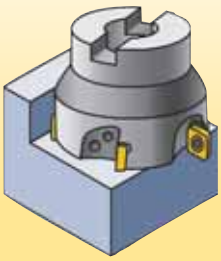


Ap1: 9mm
Cutting Edges: 4
Dia: 32mm
k = 45° Page: O150

Chamfer Mill • End Mills 60° • IC 12

Ap1: 10mm
Cutting Edges: 4
Dia: 32mm
k = 60° Page: O151

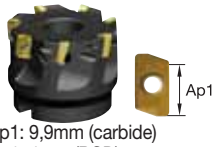
Shoulder Mills



Mill 1-10™

Ap1: 10mm (carbide)
Ap1: 4mm (PCD)
Cutting Edges: 2
Dia: 12–100mm
k = 90° Pages: P3–P7

Mill 1-10™ • JIS



Ap1: 9,9mm (carbide)
Ap1: 4mm (PCD)
Cutting Edges: 2
Dia: 80–100mm
k = 90° Page: P8

Mill 1-10™ Helical

Ap1: up to 45mm
Cutting Edges: 2
Dia: 20–50mm
k = 90° Pages: P14–P16

Mill 1-14™

Ap1: 14mm
Cutting Edges: 2
Dia: 20–160mm
k = 90° Pages: P23–P25

Mill 1-14™ • JIS

Ap1: 14,2mm
Cutting Edges: 2
Dia: 80–160mm
k = 90° Page: P26

Mill 1-14™ Helical

Ap1: 27–54mm
Cutting Edges: 2
Dia: 32–63mm
k = 90° Pages: P33–P35

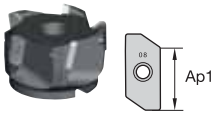
Mill 1-18™

Ap1: 18mm
Cutting Edges: 2
Dia: 25–160mm
k = 90° Pages: P45–P48

Mill 1-18™ • JIS

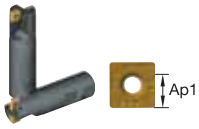
Ap1: 18mm
Cutting Edges: 2
Dia: 80–160mm
k = 90° Page: P50

Mill 1-25™



Ap1: 25mm
Cutting Edges: 2
Dia: 40–100mm
k = 90° Pages: P57–P58, P60

KSSM™ 90° • IC 10mm



Ap1: 6,6mm
Cutting Edges: 4
Dia: 25–100mm
k = 90° Pages: P65–P66

KSSM™ 90° • IC 12mm

Ap1: 9,2mm
Cutting Edges: 4
Dia: 50–200mm
k = 90° Page: P70

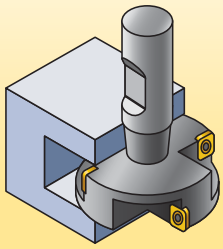
KSSM™ • Helical 90° • IC 12mm

Ap1: 32–61mm
Cutting Edges: 4
Dia: 50–80mm
k = 90° Page: P75

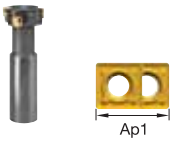
KFSR™ Heavy Duty

Ap1: 24–111mm
Cutting Edges: 2
Dia: 63–250mm
k = 90° Pages: P81, P83

Slotting

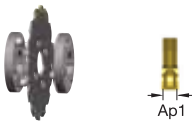


T-Slot Cutter



Ap1: 9–22mm
Dia: 21–50mm
k = 90° Page: Q3

KVNS™ A2™ Slotting Cutters



Ap1: 1,6–4mm
Cutting Edge: 1
Dia: 63–250mm
k = 90° Pages: Q9–Q10

90° SN Slotting Cutters

B min: 4–14mm
Cutting Edges: 4
Dia: 80–250mm
k = 90° Page: Q15

90° LN Slotting Cutters

B min: 6–12mm
Cutting Edges: 4
Dia: 80–200mm
k = 90° Pages: Q19–Q20

KSSM™ Slotting Cutters • IC 10

B min: 14–18mm
Cutting Edges: 4
Dia: 100–315mm
k = 90° Pages: Q27–Q40

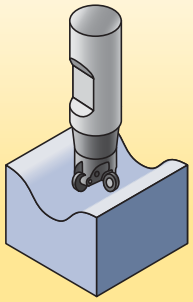
KSSM™ Slotting Cutters • IC 12

B min: 18–23,3mm
Cutting Edges: 4
Dia: 125–315mm
k = 90° Pages: Q44–Q57

● first choice
○ alternate choice

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous Materials
S	High-Temp Alloys
H	Hardened Materials

Copy Mills



KenFeed™ 2X Series

Ap1: 1,5mm
Cutting Edges: 6
Dia: 25–80mm
Pages: R3–R4

HF

KenFeed™ Mini

Ap1: 0,8–1mm
Cutting Edges: 3
Dia: 16–35mm
Page: R9

HF

KDR Rodeka™ IC 12

Ap1: 3mm/6mm
Cutting Edges: 12/8
Dia: 32–100mm
Pages: R13–R15, R19

Round

KDM • RD.X05...

Ap1: 2,5mm
Dia: 12–25mm
Page: R21

Round

KDM • RD.X07...

Ap1: 3,5mm
Dia: 12–35mm
Page: R24

Round

KDM • RD.X10...

Ap1: 5mm
Dia: 20–52mm
Pages: R27–R29

Round

KDM • RD.X12...

Ap1: 6mm
Dia: 24–80mm
Pages: R33–R34

Round

KDM • RD.X16...

Ap1: 8mm
Dia: 32–100mm
Page: R38

Round

KSRM™ • IC12

Ap1: 6mm
Dia: 32–100mm
Pages: R43–R45

Round

KSRM™ • IC16

Ap1: 8mm
Dia: 40–125mm
Pages: R49–R50

Round

KSRM™ • IC20

Ap1: 10mm
Dia: 63–200mm
Page: R54

Round

Beyond BLAST™ • KSRM™ • IC20

Ap1: 10mm
Dia: 63–200mm
Page: R59

Round

Beyond BLAST™ • KSRM™ • IC20 • JIS

Ap1: 10mm
Dia: 80–200mm
Page: R60

Round

KDMB™ Ball Nose Platform

Ap1: 3–16mm
Cutting Edges: 1
Dia: 6–32mm
Pages: R65–R68

KDMT™ Platform • KDMS™

Ap1: Up to 8mm
Cutting Edges: 1
Dia: 8–32mm
Pages: R82–R83

KDMT™ High-Feed

Ap1: up to 8mm
Cutting Edges: 1
Dia: 6–20mm
HF Pages: R82–R83

KMM™ Platform

Ap1: 1mm
Cutting Edges: 2
Dia: 10–52mm
k = 95° Pages: R89–R90

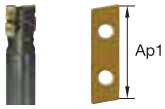
Z-Axis Plunge Mill

Ap1: 11mm
Cutting Edges: 4
Dia: 32–160mm
k = 88.5° Pages: R97–R99

Z-Axis Plunge Mill • JIS

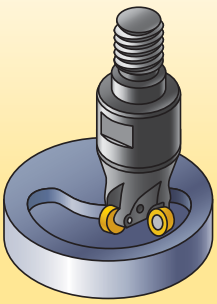
Ap1: 11mm
Cutting Edges: 4
Dia: 80–160mm
k = 88.5° Page: R100

KDMR™ Platform



Ap1: up to 54mm
Ap2 = up to 10mm
Cutting Edges: 2
Dia: 16–50mm
k = 90° Pages: R107–R110

Ceramic Mills



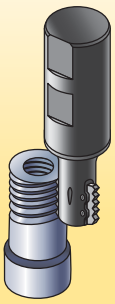
Ceramic Positive RP

Ap1: 3–6,3mm
Dia: 16–100mm
Round Pages: R115–R117

Ceramic Negative RN

Ap1: 6mm
Dia: 50–160mm
Round Page: R121

Thread Mills



Thread Mills

Inserts:
Long: STN 16, STN 27, STN 38
Normal: STN 11, STN 16, STN 27, STN 38
Mini - STN 10
Dia: 9–46mm
Pages: S9–S10

Thread Mills — Tapered Thread

Inserts:
STN 11, STN 16, STN 27
Dia: 10–42mm
Page: S11

Thread Mills

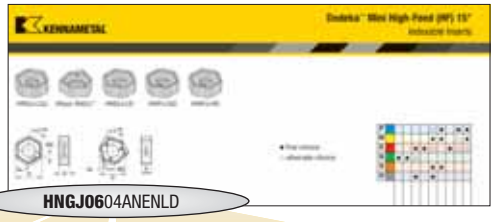
Dia: 17–30mm
Page: S4

Conical Thread Mills

Dia: 14–26mm
Page: S5

How Do Catalogue Numbers Work?

Each character in our catalogue number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



HNGJ0604ANENLD

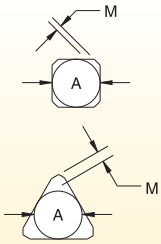
H — Insert Shape

A	Parallelogram 85°	
C E	Rhomboid 80° 75°	
H	Hexagon 120°	
L	Rectangular 90°	
O	Octagon 135°	
R	Round —	
S	Square 90°	
T	Triangular 60°	
X	Kennametal Standard Form	

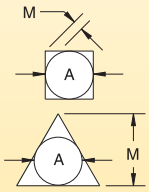
N — Insert Clearance Angle

A	3°
B	5°
C	7°
D	15°
E	20°
F	25°
G	30°
N	0°
P	11°

G — Tolerance Class



Indexable inserts with facets/wipers



Indexable inserts with corner radii

Insert thickness

tolerance class	tolerance on "A"	tolerance on "M"	tolerance on "T"	tolerance class	tolerance on "A"	tolerance on "M"	tolerance on "T"
A	0,025	0,005	0,025	J	0,05–0,13*	0,005	0,025
B	0,025	0,005	0,13	K	0,05–0,13*	0,013	0,025
C	0,025	0,013	0,025	L	0,05–0,13*	0,025	0,025
D	0,025	0,013	0,13	M	0,05–0,10*	0,05–0,25*	0,13
E	0,025	0,025	0,025	N	0,05–0,10*	0,05–0,25*	0,025
F	0,013	0,005	0,025	P**	0,038	0,038	0,038
G	0,025	0,025	0,13	U	0,08–0,25*	0,13–0,30*	0,13
H	0,013	0,013	0,025	—	—	—	—

*See table below for tolerances according to insert size and class.
**Kennametal standard only.

A	tolerances on "A"		tolerances on "M"	
	classes J, K, L, M, N	class U	classes M & N	class U
4,76–10,00	0,051	0,076	0,076	0,127
11,11–14,29	0,076	0,127	0,127	0,203
15,00–20,64	0,102	0,178	0,152	0,279
22,00–31,16	0,127	0,254	0,178	0,381
31,75–35,00	0,152	0,254	0,203	0,381

J — Geometry and Clamping Type

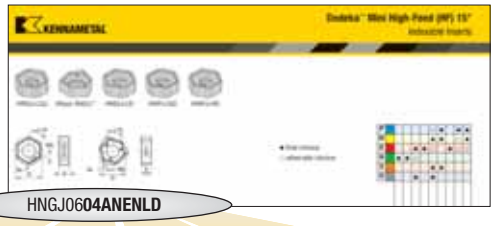
symbol	hole	shape of hole	chipbreaker	shape of insert's section
N	without		without	
R			single sided	
F			double sided	
A	with	cylindrical hole	without	
M			single sided	
G			double sided	
W		partly cylindrical hole, 40–60° countersink	without	
T			single sided	
Q		partly cylindrical hole, 40–60° double countersink	without	
U			double sided	
B		partly cylindrical hole, 70–90° countersink	without	
H			single sided	
C		partly cylindrical hole, 70–90° double countersink	without	
J			double sided	
X	special design			

06 — Size

A	"L" for shapes						
	C	T	R	O	C	H	E
6,00	–	–	06	–	–	–	–
6,35	06	11	06	02	06	03	06
8,00	–	–	08	–	–	–	–
9,52	09	16	09	04	09	05	09
10,00	–	–	10	–	–	–	–
12,00	–	–	12	–	–	–	–
12,70	12	22	12	05	12	07	13
15,88	15	27	15	06	16	09	16
16,00	–	–	16	–	–	–	–
19,05	19	33	19	07	19	11	19
20,00	–	–	20	–	–	–	–
25,00	–	–	25	–	–	–	–
25,40	25	44	25	10	25	14	26

For shapes A, L, and X, see position #1; use length of leading cutting edge.

By referencing this easy-to-use guide, you can identify the correct product to meet your needs.



HNGJ06**04ANENLD**

04 — Thickness

insert thickness

T	
2,38	02
3,18	03
3,97	T3
4,76	04
5,56	05
6,35	06
7,94	07

AN — Corner Configuration

E — Cutting Edge Form

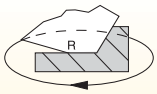
F — Sharp

E — Honed

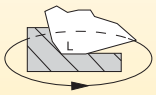
T — T-land

S — Honed T-land

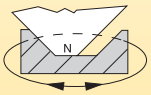
N — Insert Hand



direction of cutter rotation



direction of cutter rotation



direction of cutter rotation

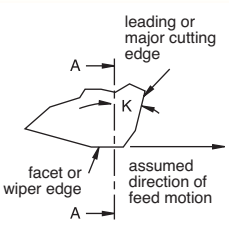
L — Edge Prep Size

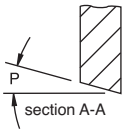
L = Light — sharp or lightly honed and/or T-land
G = General — medium hone and/or T-land
H = Heavy — large hone and/or T-land

D — Rake Face Angle

Added Info

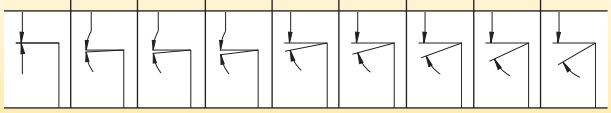
J = Polished rake face
P = Partial T-land
W = Wiper/radiused facet



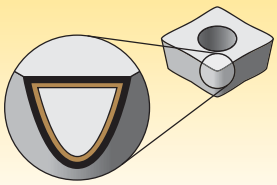


radius				wiper edge clearance P	
M0	round insert	If letter is replaced by number(s), refer to table for radius "r".			
01	0,1mm				
02	0,2mm				
04	0,4mm			A	3º
05	0,5mm			B	5º
08	0,8mm			C	7º
10	1,0mm			D	15º
12	1,2mm	lead angle K		E	20º
15	1,5mm	A	45º	F	25º
16	1,6mm	D	60º	G	30º
24	2,4mm	E	75º	N	0º
32	3,2mm	P	90º	P	11º

N	A	B	C	P	D	E	F	G
0º or less	3º	5º	7º	11º	15º	20º	25º	30º



Nominal or average angle of rake on insert face at leading cutting edge before edge prep and before installation.



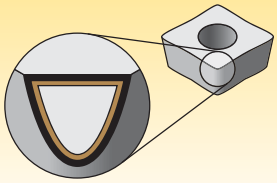
Coatings provide high-speed capability and are engineered for finishing to heavy roughing.

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous Materials
S	High-Temp Alloys
H	Hardened Materials

wear resistance ⟷ toughness

Grade

Coating	Grade Description	05	10	15	20	25	30	35	40	45
KMF	KMF is an uncoated carbide grade, fine grained substrate for machining of high-temperature alloys and non-ferrous materials.	K, N, S	K, N, S	K, N, S	K, N, S	K, N, S	K, N, S			
K115M	A premium uncoated carbide grade designed for high edge wear resistance in non-ferrous and cast iron materials. Coolant use recommended.	K, N	K, N	K, N						
K313	An uncoated carbide grade suitable for machining cast iron, high-temperature alloys, and non-ferrous materials. This grade can be used both wet and dry and is designed for light and general machining.	K, N, S	K, N, S	K, N, S						
K110M	A universal uncoated carbide grade for machining non-ferrous materials for use in light and general machining. K110M can be used with or without coolant.	K, N, S	K, N, S	K, N, S	K, N					
K125M	An uncoated carbide grade particularly suitable for dry machining of steel. Its primary use is in light and general machining.	P			P	P	P			
KC410M	An extremely hard TiB_2-PVD-coated grade that provides very good wear characteristics at higher cutting speeds. KC410M resists edge build up, can help reduce burring, and generates excellent surface finishes. This grade is best suited for aluminium with <10% silicon and other non-ferrous materials.	N	N	N						
KC422M	A very wear resistant TiB_2-PVD-coated grade. Its hard coating and tough substrate make KC422M an excellent choice for medium to roughing applications in aluminium with <10% silicon and other non-ferrous materials.	N			N	N	N			
KC505M	A highly wear-resistant TiAlN-PVD-coated grade primarily for light machining in steel and hardened steel.	P, H	P, H							



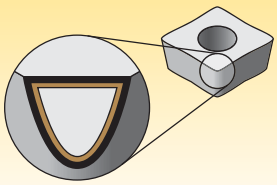
Coatings provide high-speed capability and are engineered for finishing to heavy roughing.

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous Materials
S	High-Temp Alloys
H	Hardened Materials

wear resistance ⟷ toughness

Grade

Coating	Grade Description	05	10	15	20	25	30	35	40	45
KC510M	A highly wear-resistant TiAiN-PVD-coated carbide grade primarily for use in milling aluminium and high-temperature alloys in light applications. Can also be used for machining steel and hardened steel.	P, N, S, H	P, N, S, H	P, N						
KC514M	A thicker TiAlN-PVD-coated carbide grade that combines high wear-resistance with good toughness. KC514M is primarily for light to medium machining of cast irons and can be used wet or dry.	K	K	K	K					
KC515M	A K10 substrate premium grade with built-in wear resistance and a TiAlN coating for extended life during finishing applications. Used in ball nose finishing and back draft inserts for the die and mould industry and is capable of running at moderate to high cutting speeds.	P, M, K	P, M, K	P						
KC520M	A TiAlN-PVD-coated carbide grade developed specifically for general machining of ductile cast iron and can be used with or without coolant.	K		K	K	K				
KC522M	AlTiN-PVD-coated carbide grade engineered to provide better performance in general machining of high-temperature alloys and stainless steel. KC522M resists breakage and offers improved wear resistance and increased strength.	P, M, K, S			P, M, S	P, M, K, S	P, M, S	K		
KC524M	A thicker coated TiAlN-PVD-coated carbide grade combining good wear-resistance and high toughness. It is primarily for general machining of all cast irons and can be used wet or dry.	K			K	K	K	K		
KC525M	A new universal TiAlN-PVD-coated carbide grade primarily for use in light and general machining of milling steel, stainless steel, and high-temperature alloys. KC525M can be used with or without coolant.	P, M, S			P, M, S	P, M, S	P, M, S			
KC527M	A TiAlN-PVD-coated carbide grade ideal for medium milling applications in steel and high strength ductile cast irons. For best results, use dry, but can be used wet.	P, K			P, K	P, K	P, K			

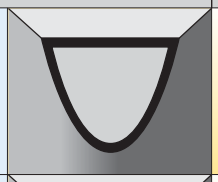
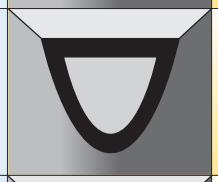
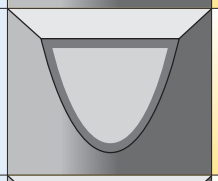
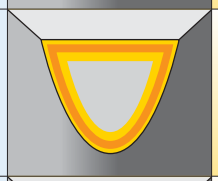
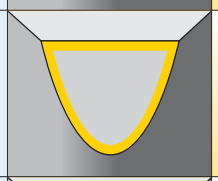
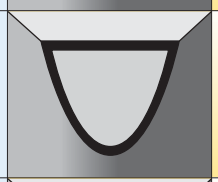
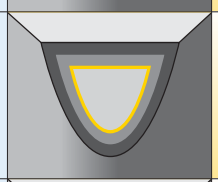
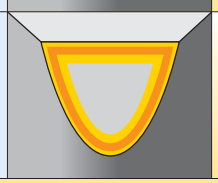


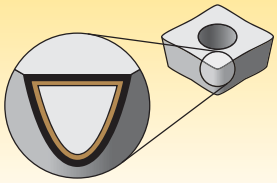
Coatings provide high-speed capability and are engineered for finishing to heavy roughing.

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous Materials
S	High-Temp Alloys
H	Hardened Materials

wear resistance ⟷ toughness

Grade

Coating		Grade Description	05	10	15	20	25	30	35	40	45
KC530M		A premium TiAlN-PVD-coated carbide grade enabling extended tool life at moderate feeds and high cutting speeds. First choice for milling in all steels, including die and mould steels, and is recommended for use without coolant.	P, M				P, M	P, M	P		
KC537M		A tough, general-purpose TiAlN-PVD-coated carbide grade for medium to heavy milling applications for use in all steels and cast irons. KC537M can be used either wet or dry.	P, M, K					P, M, K	P, M, K	P, K	
KC5410		An extremely hard TiB_2-PVD-coated grade that provides very good wear characteristics at high cutting speeds and is best suited for machining aluminium with <10% silicon and other non-ferrous materials. KC5410 resists built-up edge, can help reduce the burring effect, and will generate excellent surface finishes.	N	N	N						
KC610M		A high-performance, TiN-TiCN-TiN-PVD-coated carbide grade characterised by good hardness and wear resistance for milling all types of material and is the first choice for steel. KC610M should be used with coolant or minimal lubrication.	P, M, K, S		P, M, K, S	P, M, K, S	P, M, K, S	P, M, K			
KC620M		A TiN-PVD-coated carbide grade suitable for machining cast iron, non-ferrous materials, and aluminium alloys that can be used for wet or dry machining.	P, K, N		K, N	P, K, N	P, K, N	P, K, N			
KC635M		A high-performance, TiAlN-PVD-coated grade characterised by high hardness and wear resistance. KC635M is suitable for cutting hard materials up to 65 HRC and is first choice for stainless steel.	P, M, K, H		P, M, K, H	P, M, K, H	P, M, K, H	P, M, K			
KCPM20		KCPM20 is a multilayered TiN-MT-TiCN-Al_2O_3-CVD-coated carbide grade with advanced Beyond™ post-coat treatment. The substrate is a well-balanced combination of wear resistance and toughness. KCPM20 is primarily for light and general machining of steels and stainless steels or roughing of cast irons.	P, M, K		P, M, K	P, M, K	P, M, K	P, M, K			
KC715M		KC715M has a deformed substrate and PVD coating that can handle high temperatures and higher surface speeds making it ideal for dry machining. KC715M is primarily for use in light and general machining of steel, stainless steel, and cast steel.	P	P	P	P	P				

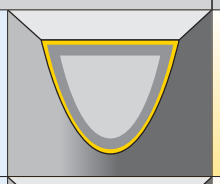
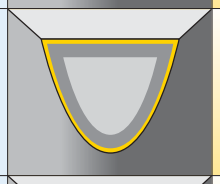
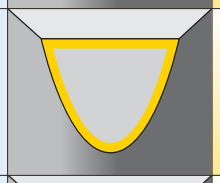
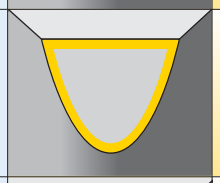
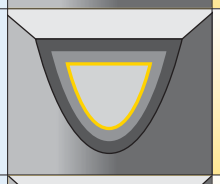
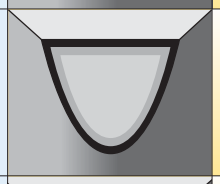
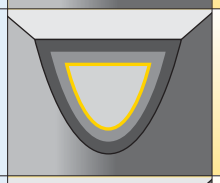
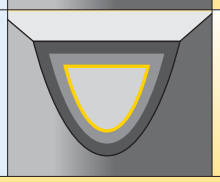


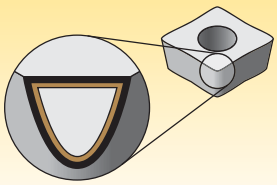
Coatings provide high-speed capability and are engineered for finishing to heavy roughing.

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous Materials
S	High-Temp Alloys
H	Hardened Materials

wear resistance ⟷ toughness

Grade

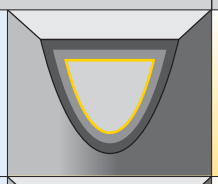
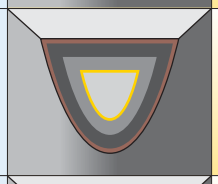
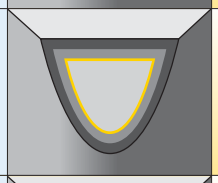
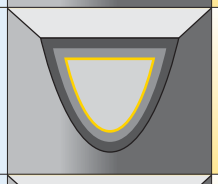
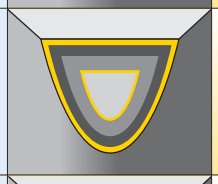
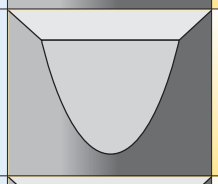
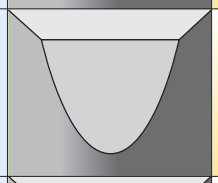
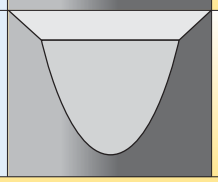
Coating		Grade Description	05	10	15	20	25	30	35	40	45
KC720M		A TiAlN-TiN-PVD-coated carbide grade engineered to provide balanced wear and deformation resistance in combination with excellent breakage resistance.	P, M		M	M	M	P			
KC725M		A high-performance TiAlN-PVD-coated carbide grade for milling steel, stainless steel and ductile cast iron. The good thermal shock resistance of the substrate makes this grade ideal for both wet and dry machining. KC725M is primarily for use in general and heavy machining.	P, M, S					P, M, S	P, M, S	P, M, S	
KC730M		A TiN-PVD-coated carbide grade with a tough substrate and is recommended for general milling with moderate speeds. KC730M can be used wet or dry.	P, M				P, M	P, M	P, M		
KC735M		A TiN-PVD-coated carbide grade offering an unusual combination of high toughness and wear resistance. Even under extreme toughness requirements, KC735M achieves outstanding results in general and heavy machining applications and is suitable for dry and wet machining.	P, M					P, M	P, M	P, M	
KCK15		A multilayered TiN-MT-TiCN-Al_2O_3-CVD-coated carbide grade with advanced Beyond™ post-coat treatment. KCK15 is a wear-resistant grade with balanced toughness for general milling of cast irons at higher speeds. Best results in dry but can also be used wet.	K	K	K	K					
KTPK20		A multilayered TiAlN-AlCrN-PVD-coated cermet. This tough cermet is primarily for use in light and general machining of steel, stainless steel, and cast iron and performs best dry.	P, M, K		P, M, K	P, M, K	P, M, K				
KCPK30		A multilayered TiN-TiCN-Al_2O_3-CVD-coated carbide grade with advanced Beyond™ post-coat treatment and a very tough substrate. KCPK30 has a wide application area in general and rough milling of steels and cast irons. It performs best dry but can also be used wet.	P, K				P, K	P, K	P, K	P, K	
KCMP30		A multilayered TiN-TiCN-Al_2O_3-CVD-coated carbide grade with advanced Beyond™ post-coat treatment and a very tough substrate. KCMP30 has a wide application area in general and rough milling of steels. It performs best dry but can also be used wet.	P, M, S				P, M	P, M, S	P, M, S	P, M, S	

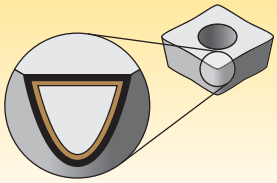


Coatings provide high-speed capability and are engineered for finishing to heavy roughing.

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous Materials
S	High-Temp Alloys
H	Hardened Materials

wear resistance ⟷ toughness

Grade	Coating	Grade Description	05	10	15	20	25	30	35	40	45
KC907M		A TiN-MT-TiCN-Al_2O_3-CVD-coated carbide grade with a very hard substrate providing excellent wear resistance. Primarily for use in light cuts and finishing of cast iron.	K	K	K						
KC914M		A TiN-TiCN-Al_2O_3-ZrCN-CVD-coated carbide grade ideal for light to medium cutting of grey cast iron at high speeds that performs best dry.	K		K	K					
KC917M		A wear-resistant multilayered TiN-TiCN-Al_2O_3-CVD-coated carbide grade with balanced toughness for general milling of cast irons at high speeds. Best results achieved when used with coolant but can also be used dry.	K		K	K	K				
KC924M		A multilayered TiN-TiCN-Al_2O_3-CVD-coated carbide grade with good toughness for medium to heavy milling of all cast irons. Best results when machining dry, but can be used wet.	K S			K	K	K			
KC927M		A multilayered TiN-TiCN-Al_2O_3-TiN-CVD-coated carbide grade with a tough substrate used for medium machining of all steels and ductile cast irons. Best results when machining dry but can be used wet.	P M K				P M	P M K			
KYSM10		KYSM10 — previously KY2100 — has good mechanical shock resistance combined with edge wear resistance and is used for general-purpose machining of high-temperature alloys. KYSM10 can also be used for machining steel and stainless steel.	M S		M S	M S					
KY3500		A ceramic cutting material based on micro-grain Si_3N_4 primarily for use in light to general machining of grey cast iron and ferritic ductile cast iron. Dry machining is preferred while using this grade.	K			K	K	K	K		
KYHS10		KYHS10 — previously KY4300 — is an Al_2O_3 matrix reinforced with SiC whiskers for excellent toughness suited for machining high-temperature and ferrous alloys with a high Brinell hardness.	K S H		K S	K S	K S				



Coatings provide high-speed capability and are engineered for finishing to heavy roughing.

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous Materials
S	High-Temp Alloys
H	Hardened Materials

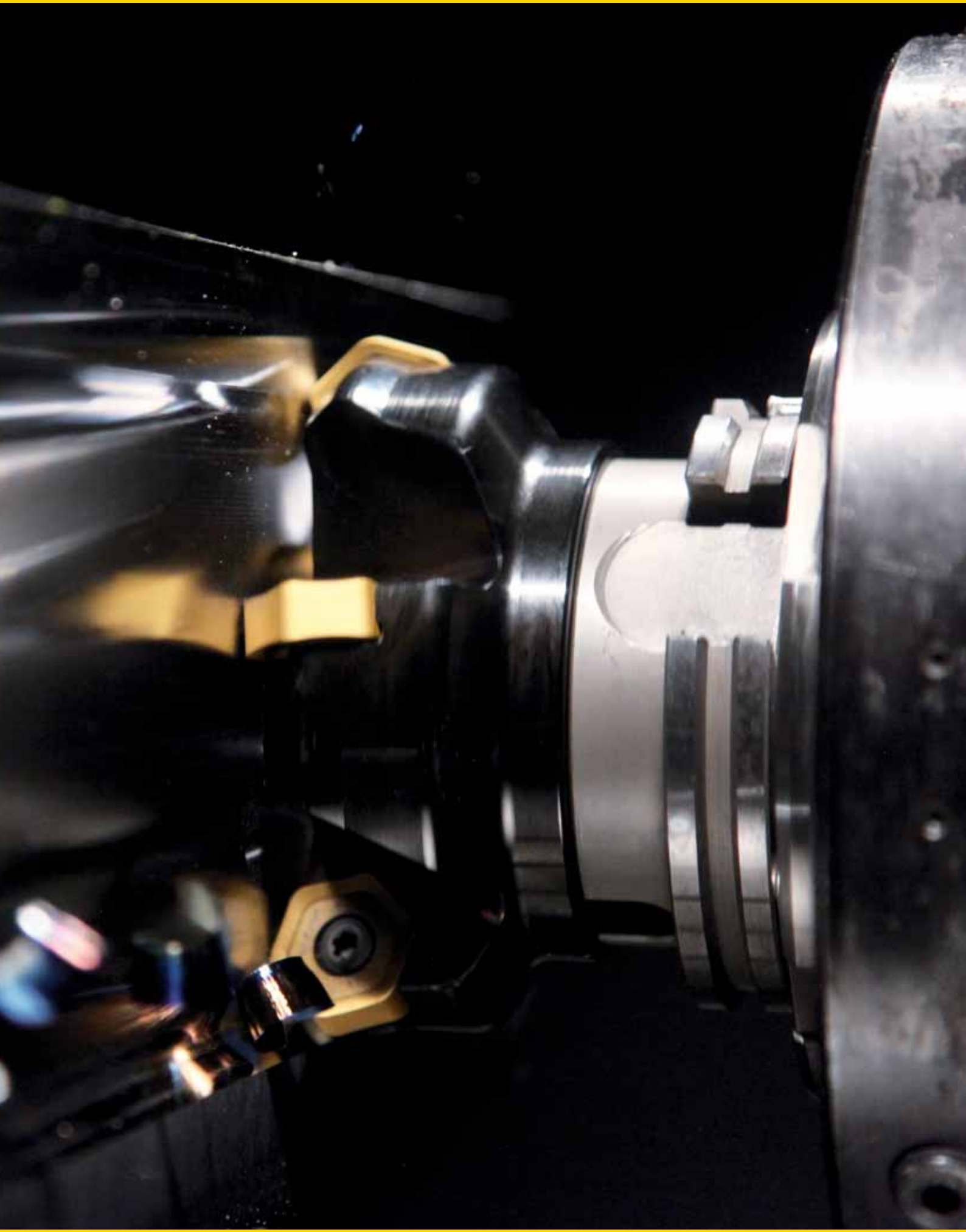
wear resistance ⟷ toughness

Grade

Coating	Grade Description	05	10	15	20	25	30	35	40	45
KYSP30	Combines excellent wear properties, fracture toughness, and thermal shock resistance for general purpose to finish machining of high-temperature alloys. KYSP30 provides superior depth-of-cut notch resistance compared to whisker ceramics.	S								
KYS30	KYS30 is the latest in the line of α/βSiAlON grades for general purpose to finish machining of high-temperature alloys. This grade provides excellent wear characteristics, with better toughness and thermal shock resistance than whisker ceramics. KYS30 also gives improved thermal stability.	S								
KB1340	A PCBN cutting material with micrograin structure for light to general machining of grey cast iron and hard materials. The grade has good wear resistance and is ideal for finishing.	K								
KD1410	A PCD-tip brazed to carbide for machining aluminium with a very high silicon content, abrasive non-ferrous materials, and fibre-reinforced plastics. KD1410 can be used at very high cutting speeds, even where good surface finishes are required. This grade can be used both wet or dry but is suggested to use coolant where good surface finishes are required.	N								
KD1415	PCD-tip brazed to carbide for general machining of aluminium with a low silicon content, non-ferrous heavy metals, and plastics. KD1415 can be used at high cutting speeds and for continuous cutting, even where outstanding surface finishes are required. KD1415 is suitable for wet and dry machining.	N								
KD1420	A varied-grain, PCD-brazed tip grade suited for machining low silicon aluminium, non-ferrous heavy metals, and plastics. It can be used for high cutting speeds where outstanding surface finishes are required and is suitable for dry and wet machining.	N								

Grade Conversion by Name Only
KSSR™ — Face Mill Platform
HexaCut™ — Face Mill Platform
Machining cast iron only.
Inserts are the same; only the grade name changes.

old TN grade names	NEW grade name
TN2510	KC914M
TN5505	KC907M
TN5515	KC917M
TN5520	KC924M
TN6510	KC514M
TN6520	KC524M
TN6525	KC527M
TN6540	KC537M
TN7525	KC927M



Face Mills

Dodeka Series • Performance Booster (12 True Edges per Insert) O2–O29

Dodeka Mini O4–O15

Dodeka O16–O24

Dodeka MAX O26–O29

MEGA Series • Heavy-Duty Machining O30–O47

MEGA 45° O32–O35

MEGA 15 . . . . . O38–O39

MEGA 60 . . . . . O40–O43

MEGA 90 . . . . . O44–O47

Beyond BLAST KSSM 45° • First Choice for Machining Titanium O48–O53

KSSM 45° • Conventional Machining O54–O60

KSOM Mini • KSOM • Best-in-Class Free-Cutting Face Mills O62–O77

Fix-Perfect Series O78–O99

Fix-Perfect Finisher • Cast Iron O80–O82

Fix-Perfect 70° • Cast Iron O84–O87, O92–O94

Fix-Perfect 90° • Cast Iron O88–O91, O96–O98

HexaCut Series O100–O113

HexaCut 45° • Cast Iron O103–O106

HexaCut 60° • Cast Iron O108–O112

KSSR 84° • Cast Iron • Roughing and Finishing (84° Lead) O114–O123

KCMS Cartridge Milling System O124–O127

KSCM PCD AluMill O128–O137

Fix-Perfect 90° Aluminium O138–O146

Chamfer Mills (30°, 45°, 60°) O147–O153

Dodeka™ Series • Leader in Advanced Face Milling Applications

Primary Application

Dodeka, Dodeka Mini, and Dodeka MAX™ are the most comprehensive face milling boosters on the market today. Twelve true cutting edges per insert mean low cost per edge and high productivity. With Beyond™ premium milling grades, you will see up to 30% higher Metal Removal Rates (MRR), 25% lower cutting forces due to real soft cutting action, and up to 35% better tool life in light to heavy machining.

Features and Benefits

Dodeka Mini Series • Most comprehensive face milling booster in the market, up to Ap1 max = 4,4mm

All different cutter body variations can be loaded with one insert style.

Dodeka Mini High-Feed

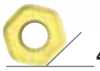
12 True Cutting Edges **15° lead**

Insert HNGJ0604
HNPJ0604

Ap1 max = 1,6mm

Dodeka Mini HF can be loaded with all Dodeka Mini standard inserts, except wiper inserts.

Dodeka Mini 45°

12 True Cutting Edges  **45° lead**

Insert HNGJ0604
HNPJ0604

Ap1 max = 3,2mm

Best-in-class leader in face milling up to Ap1 max = 3,2mm. Excellent choice for near net shape strategies and driven tools.

Dodeka Mini 60°

12 True Cutting Edges **60° lead**

Insert HNGJ0604
HNPJ0604

Ap1 max = 4,4mm

Achieve a higher axial depth-of-cut capability up to Ap1 = 4,4mm with standard Dodeka Mini inserts.

Dodeka™ Mini Series

insert size HN.J06
Ap1 max = 4,4mm
page O4–O15

Dodeka™

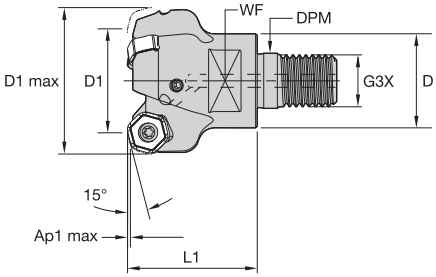
insert size HN.J0905
Ap1 max = 4,5mm
page O16–O24

Dodeka MAX™

insert size HN.J1307
Ap1 max = 8mm
page O26–O29

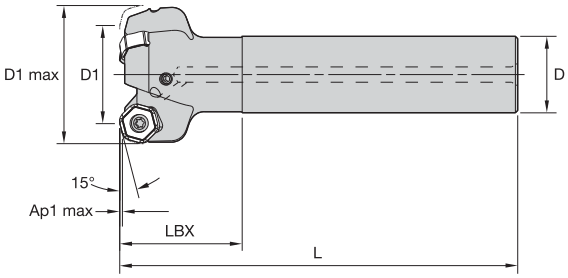
P M K N S *Capable in all material groups • Excellent results in machining titanium*

- Twelve cutting edges per insert.
- High-Feed capability.



Dodeka Mini High-Feed 15° • Screw-On End Mills

order number	catalogue number	D1	D1 max	D	DPM	G3X	L1	WF	Ap1 max	Z	kg	max RPM
4153686	**KSHRHF025D02M16HN06**	25	38,2	29	17,0	M16	32	22	1,6	2	0,18	20000
4153687	**KSHRHF025D03M16HN06**	25	38,2	29	17,0	M16	32	22	1,6	3	0,16	20000
4153688	**KSHRHF032D03M16HN06**	32	45,2	29	17,0	M16	40	22	1,6	3	0,24	17600
4153689	**KSHRHF032D04M16HN06**	32	45,2	29	17,0	M16	40	22	1,6	4	0,25	17600
4153690	**KSHRHF040D04M16HN06**	40	53,2	29	17,0	M16	40	22	1,6	4	0,30	15800
4153691	**KSHRHF040D05M16HN06**	40	53,2	29	17,0	M16	40	22	1,6	5	0,30	15800



Dodeka Mini High-Feed 15° • Cylindrical End Mills

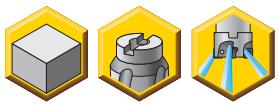
order number	catalogue number	D1	D1 max	D	L	LBX	Ap1 max	Z	kg	max RPM
4153692	**KSHRHF025D02A20HN06L120**	25	38,2	20	120	32	1,6	2	0,33	20000
4153703	**KSHRHF025D03A20HN06L120**	25	38,2	20	120	32	1,6	3	0,31	20000
4153704	**KSHRHF032D03A25HN06L130**	32	45,2	25	130	40	1,6	3	0,52	17600
4153705	**KSHRHF032D04A25HN06L130**	32	45,2	25	130	40	1,6	4	0,53	17600

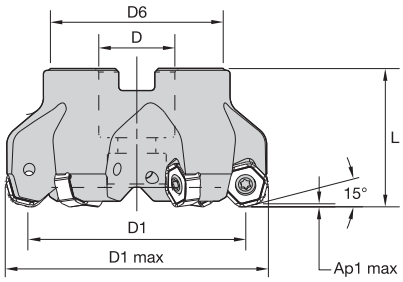
Spare Parts

D1	insert screw	Nm	wrench
25	**193.492**	3,5	**170.025**
32	**193.492**	3,5	**170.025**
40	**193.492**	3,5	**170.025**

NOTE: D1 = 40 for Spare Parts table.

- Twelve cutting edges per insert.
- High-Feed capability.





Dodeka Mini High-Feed 15° • Shell Mills

order number	catalogue number	D1	D1 max	D	D6	L	Ap1 max	Z	kg	max RPM
4153706	KSHRHF040A05RS15HN06	40	53,2	22	38	40	1,6	5	0,29	15800
4153707	KSHRHF050A05RS15HN06	50	63,1	22	38	40	1,6	5	0,39	12700
4153708	KSHRHF063A06RS15HN06	63	76,1	22	50	40	1,6	6	0,67	10100
4153709	KSHRHF080A08RS15HN06	80	93,1	27	60	50	1,6	8	1,26	7900

Spare Parts

D1	insert screw	Nm	wrench
40	193.492	3,5	170.025
50	193.492	3,5	170.025
63	193.492	3,5	170.025
80	193.492	3,5	170.025

Dodeka Mini High-Feed

First choice for long reach face milling applications or light fixtures.

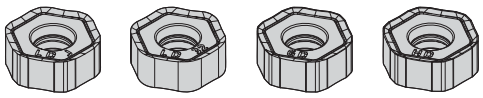
Chip thinning effect due to lead angle 14,5°. Tremendous enlargement of feed rate and Metal Removal Rate (MRR).

Up to 40% shorter machining cycle time.

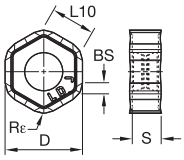
Insert Selection Guide

Material Group	Light Machining		General Purpose		Heavy Machining	
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1–P2	.E..LD	KC725M	**.S..GD**	**KC725M**	.S..HD	KC725M
P3–P4	.E..LD	KCPK30	**.S..GD**	**KCPK30**	.S..HD	KCPK30
P5–P6	.E..LD	KCPM20	**.S..GD**	**KCPM20**	.S..HD	KCPM20
M1–M2	.E..LD	KC725M	**.S..GD**	**KC725M**	.S..HD	KC725M
M3	.E..LD	KCPK30	**.S..GD**	**KCPK30**	.S..HD	KCPK30
K1–K2	.E..LD	KCK15	**.S..GD**	**KCK15**	.S..HD	KCK15
K3	.E..LD	KCPK30	**.S..GD**	**KCPK30**	.S..HD	KCPK30
N1–N2	.F..LDJ	K313	**.F..LDJ**	**KC410M**	.E..LD	KC510M
N3	.F..LDJ	KC410M	**.E..LD**	**KC510M**	.E..LD	KC510M
S1–S2	.E..LD	KC725M	**.S..GD**	**KC725M**	.S..HD	KC725M
S3	.E..LD	KC725M	**.S..GD**	**KC725M**	.S..HD	KC725M
S4	.S..GD	KC725M	**.S..HD**	**KC725M**	–	–
H1	–	–	–	–	–	–

Indexable Inserts



HNGJ-LDJ HNGJ-LD HNPJ-GD HNPJ-HD



● first choice
○ alternate choice

	K313	KC410M	KC510M	KC520M	KC522M	KC725M	KCK15	KCPM20	KCPK30
P					○	●		●	●
M					●	●		○	●
K			●	●	○		●	○	○
N	●	●	○						
S					●	●			
H									

Face Mills

HNGJ-LDJ

catalogue number	D	BS	L10	Rε	S	hm	cutting edges	K313	KC410M	KC510M	KC520M	KC522M	KC725M	KCK15	KCPM20	KCPK30
HNGJ0604ANFNLDJ	12,00	1,54	6,44	1,00	4,48	0,02	12	●	●							

HNGJ-LD

catalogue number	D	BS	L10	Rε	S	hm	cutting edges	K313	KC410M	KC510M	KC520M	KC522M	KC725M	KCK15	KCPM20	KCPK30
HNGJ0604ANENLD	12,00	1,54	6,44	1,0	4,48	0,05	12			●	●	●	●	●	●	●
HNGJ060432ANENLD	12,00	–	6,43	3,2	4,48	0,05	12				●	●	●	●	●	●

HNPJ-GD

catalogue number	D	BS	L10	Rε	S	hm	cutting edges	K313	KC410M	KC510M	KC520M	KC522M	KC725M	KCK15	KCPM20	KCPK30
HNPJ0604ANSNGD	12,00	1,45	6,44	1,0	4,45	0,08	12				●	●	●	●	●	●

HNPJ-HD

catalogue number	D	BS	L10	Rε	S	hm	cutting edges	K313	KC410M	KC510M	KC520M	KC522M	KC725M	KCK15	KCPM20	KCPK30
HNPJ0604ANSNHD	12,00	1,45	6,44	1,0	4,40	0,14	12				●	●	●	●	●	●
HNPJ060432ANSNHD	12,00	–	6,43	3,2	4,42	0,10	12				●	●	●	●	●	●

Recommended Starting Speeds [m/min]

Material Group		K313			KC410M			KC510M			KC520M			KC522M		
P	1	–	–	–	–	–	–	–	–	–	–	–	–	395	**345**	325
	2	–	–	–	–	–	–	–	–	–	–	–	–	330	**290**	240
	3	–	–	–	–	–	–	–	–	–	–	–	–	305	**255**	215
	4	–	–	–	–	–	–	295	**240**	200	–	–	–	270	**225**	180
	5	–	–	–	–	–	–	–	–	–	–	–	–	225	**200**	180
	6	–	–	–	–	–	–	–	–	–	–	–	–	200	**150**	120
M	1	–	–	–	–	–	–	–	–	–	–	–	–	245	**215**	200
	2	–	–	–	–	–	–	–	–	–	–	–	–	225	**190**	160
	3	–	–	–	–	–	–	–	–	–	–	–	–	170	**145**	115
K	1	–	–	–	–	–	–	350	**315**	285	325	**295**	260	275	250	220
	2	–	–	–	–	–	–	275	**250**	230	255	**225**	215	215	**195**	180
	3	–	–	–	–	–	–	235	**205**	190	215	**190**	170	180	**160**	145
N	1–2	955	**835**	715	1460	**1300**	1195	770	**685**	630	–	–	–	–	–	–
	3	–	–	–	1300	**1195**	1100	695	**640**	585	–	–	–	–	–	–
S	1	–	–	–	–	–	–	–	–	–	–	–	–	50	**45**	35
	2	–	–	–	–	–	–	–	–	–	–	–	–	50	**45**	35
	3	–	–	–	–	–	–	–	–	–	–	–	–	60	**50**	35
	4	–	–	–	–	–	–	–	–	–	–	–	–	85	**60**	45
H	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

Material Group		KCPM20			KC725M			KCK15			KCPK30		
P	1	660	**580**	535	315	**275**	255	–	–	–	545	**475**	440
	2	410	**370**	330	260	**230**	195	–	–	–	335	**305**	275
	3	370	**330**	305	240	**205**	170	–	–	–	305	**275**	250
	4	275	**255**	230	215	**180**	145	–	–	–	225	**210**	190
	5	330	**300**	275	180	**160**	145	–	–	–	310	**275**	255
	6	230	**200**	175	160	**120**	95	–	–	–	190	**165**	–
M	1	270	**240**	205	205	**180**	165	–	–	–	250	**220**	190
	2	245	**215**	190	185	**160**	130	–	–	–	225	**195**	170
	3	195	**175**	150	140	**120**	95	–	–	–	175	**160**	140
K	1	435	**390**	350	–	–	–	505	**460**	410	355	**320**	285
	2	345	**310**	280	–	–	–	400	**355**	330	280	**255**	230
	3	290	**255**	240	–	–	–	335	**300**	275	235	**210**	195
N	1–2	–	–	–	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–	–	–	–
S	1	–	–	–	45	**35**	30	–	–	–	–	–	–
	2	–	–	–	45	**35**	30	–	–	–	–	–	–
	3	–	–	–	55	**45**	30	–	–	–	–	–	–
	4	–	–	–	75	**55**	35	–	–	–	–	–	–
H	1	–	–	–	–	–	–	–	–	–	–	–	–
	2	–	–	–	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–	–	–	–

NOTE: FIRST choice starting speeds are in **bold** type.
As the average chip thickness increases, the speed should be decreased.

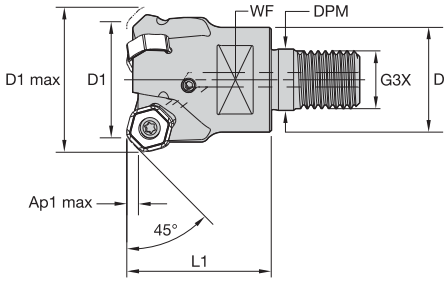
Recommended Starting Feeds [mm]

Light Machining	General Purpose	Heavy Machining

Insert Geometry	Programmed Feed per Tooth (fz) as a % of Radial Depth of Cut (ae)															Insert Geometry
	10%			20%			30%			40%			50–100%			
.F..LDJ	0,33	**0,65**	1,31	0,25	**0,48**	0,97	0,21	**0,42**	0,84	0,20	**0,39**	0,79	0,20	**0,39**	0,77	.F..LDJ
.E..LD	0,33	**0,98**	1,97	0,25	**0,73**	1,46	0,21	**0,63**	1,27	0,20	**0,59**	1,18	0,20	**0,58**	1,16	.E..LD
.S..GD	0,66	**1,45**	2,39	0,49	**1,07**	1,76	0,43	**0,93**	1,53	0,40	**0,87**	1,42	0,39	**0,86**	1,39	.S..GD
.S..HD	0,66	**1,67**	2,70	0,49	**1,23**	1,98	0,43	**1,07**	1,72	0,40	**1,00**	1,60	0,39	**0,98**	1,57	.S..HD

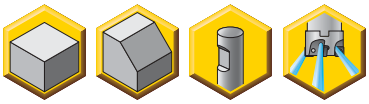
NOTE: Use “Light Machining” values as starting feed rate.

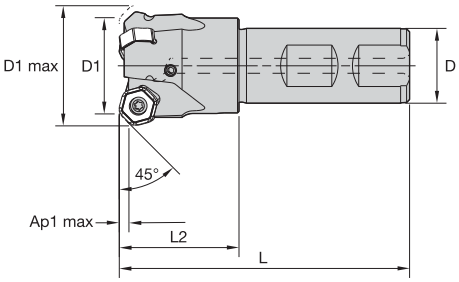
- Twelve cutting edges per insert.
- Maximum number of teeth per diameter.
- Productivity booster in all materials.



Dodeka Mini 45° • Screw-On End Mills

order number	catalogue number	D1	D1 max	D	DPM	G3X	L1	WF	Ap1 max	Z	kg	max RPM
4125881	**KSHR025D02M16HN06**	25	33,2	29	17,0	M16	32	22	3,2	2	0,14	20000
4125882	**KSHR025D03M16HN06**	25	33,2	29	17,0	M16	32	22	3,2	3	0,13	20000
4126343	**KSHR032D03M16HN06**	32	40,2	29	17,0	M16	40	22	3,2	3	0,21	17600
4126344	**KSHR032D04M16HN06**	32	40,2	29	17,0	M16	40	22	3,2	4	0,21	17600
4126345	**KSHR040D04M16HN06**	40	48,2	29	17,0	M16	40	22	3,2	4	0,26	15800
4126346	**KSHR040D05M16HN06**	40	48,2	29	17,0	M16	40	22	3,2	5	0,26	15800





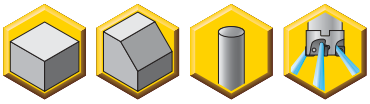
Dodeka Mini 45° • Weldon® End Mills

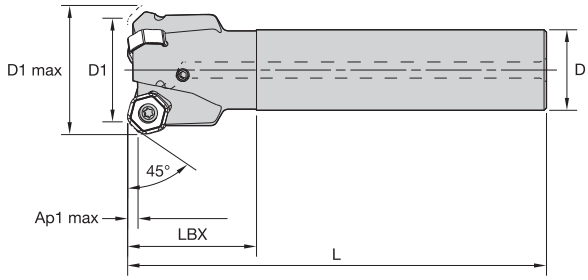
order number	catalogue number	D1	D1 max	D	L	L2	Ap1 max	Z	kg	max RPM
4126347	**KSHR025D02B20HN06**	25	33,2	20	82	32	3,2	2	0,22	20000
4126348	**KSHR025D03B20HN06**	25	33,2	20	82	32	3,2	3	0,21	20000
4126349	**KSHR032D03B25HN06**	32	40,2	25	97	40	3,2	3	0,40	17600
4126350	**KSHR032D04B25HN06**	32	40,2	25	97	40	3,2	4	0,41	17600

Spare Parts

D1	insert screw	Nm	wrench
25	**193.492**	3,5	**170.025**
32	**193.492**	3,5	**170.025**
40	**193.492**	3,5	**170.025**

- Twelve cutting edges per insert.
- Long-reach version.





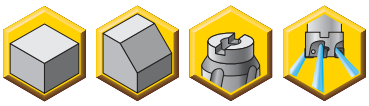
Dodeka Mini 45° • Cylindrical End Mills

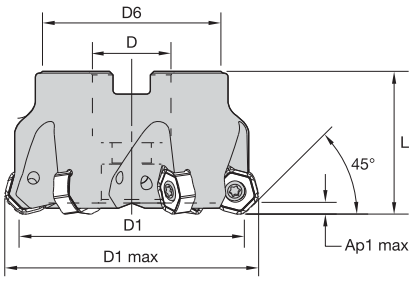
order number	catalogue number	D1	D1 max	D	L	LBX	Ap1 max	Z	kg	max RPM
4126351	**KSHR025D02A20HN06L120**	25	33,2	20	120	32	3,2	2	0,28	20000
4126352	**KSHR025D03A20HN06L120**	25	33,2	20	120	32	3,2	3	0,28	20000
4126385	**KSHR025D02A25HN06L200**	25	33,2	25	200	32	3,2	2	0,72	20000
4126386	**KSHR025D03A25HN06L200**	25	33,2	25	200	32	3,2	3	0,71	20000
4126383	**KSHR032D03A25HN06L130**	32	40,2	25	130	40	3,2	3	0,50	17600
4126384	**KSHR032D04A25HN06L130**	32	40,2	25	130	40	3,2	4	0,50	17600

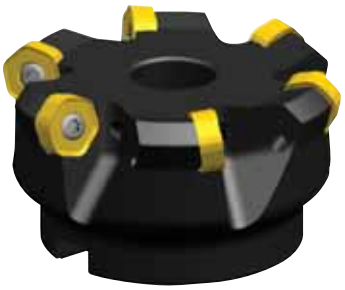
Spare Parts

D1	insert screw	Nm	wrench
25	**193.492**	3,5	**170.025**
32	**193.492**	3,5	**170.025**

- Twelve cutting edges per insert.
- Maximum number of teeth per diameter.
- Productivity booster in all materials.



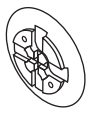




Dodeka Mini 45° • Shell Mills

order number	catalogue number	D1	D1 max	D	D6	L	Ap1 max	Z	kg	max RPM
4126387	KSHR040A04RS45HN06	40	48,2	22	38	40	3,2	4	0,25	15800
4124313	KSHR040A05RS45HN06	40	48,2	22	38	40	3,2	5	0,25	15800
4126388	KSHR050A04RS45HN06	50	58,2	22	38	40	3,2	4	0,36	12700
4122886	KSHR050A05RS45HN06	50	58,2	22	38	40	3,2	5	0,37	12700
4126389	KSHR050A06RS45HN06	50	58,2	22	38	40	3,2	6	0,36	12700
4122887	KSHR063A04RS45HN06	63	71,2	22	50	40	3,2	4	0,59	10100
4122889	KSHR063A06RS45HN06	63	71,2	22	50	40	3,2	6	0,65	10100
4126390	KSHR063A08RS45HN06	63	71,2	22	50	40	3,2	8	0,64	10100
4126391	KSHR080A05RS45HN06	80	88,1	27	60	50	3,2	5	1,13	7900
4126392	KSHR080A08RS45HN06	80	88,1	27	60	50	3,2	8	1,25	7900
4126403	KSHR080A10RS45HN06	80	88,1	27	60	50	3,2	10	1,19	7900
4126404	KSHR100B06RS45HN06	100	108,1	32	80	50	3,2	6	1,73	6300
4126405	KSHR100B09RS45HN06	100	108,1	32	80	50	3,2	9	1,84	6300
4126406	KSHR100B12RS45HN06	100	108,1	32	80	50	3,2	12	1,84	6300
4126407	KSHR125B08RS45HN06	125	133,1	40	90	63	3,2	8	2,87	5050
4126408	KSHR125B12RS45HN06	125	133,1	40	90	63	3,2	12	2,98	5050
4124262	KSHR125B16RS45HN06	125	133,1	40	90	63	3,2	16	3,05	5050

Spare Parts

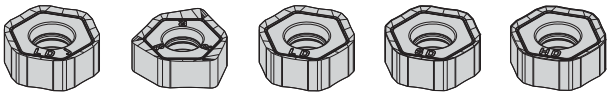


D1	insert screw	Nm	wrench	socket-head cap screw	coolant lock screw assembly	mill cutter lock screw	coolant shower plate
40	193.492	3,5	170.025	125.025	–	–	–
50	193.492	3,5	170.025	125.025	–	–	–
63	193.492	3,5	170.025	125.025	–	–	–
80	193.492	3,5	170.025	125.230	–	–	–
100	193.492	3,5	170.025	–	MS2189C	–	–
125	193.492	3,5	170.025	–	–	420.200	470.232

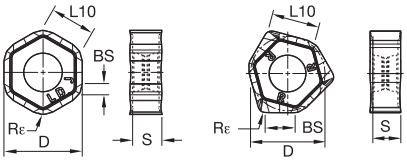
Insert Selection Guide

Material Group	Light Machining Geometry	Light Machining Grade	General Purpose Geometry	General Purpose Grade	Heavy Machining Geometry	Heavy Machining Grade
P1–P2	.E..LD	KC725M	**.S..GD**	**KC725M**	.S..HD	KC725M
P3–P4	.E..LD	KCPK30	**.S..GD**	**KCPK30**	.S..HD	KCPK30
P5–P6	.E..LD	KCPM20	**.S..GD**	**KCPM20**	.S..HD	KCPM20
M1–M2	.E..LD	KC725M	**.S..GD**	**KC725M**	.S..HD	KC725M
M3	.E..LD	KCPK30	**.S..GD**	**KCPK30**	.S..HD	KCPK30
K1–K2	.E..LD	KCK15	**.S..GD**	**KCK15**	.S..HD	KCK15
K3	.E..LD	KCPK30	**.S..GD**	**KCPK30**	.S..HD	KCPK30
N1–N2	.F..LDJ	K313	**.F..LDJ**	**KC410M**	.E..LD	KC510M
N3	.F..LDJ	KC410M	**.E..LD**	**KC510M**	.E..LD	KC510M
S1–S2	.E..LD	KC725M	**.S..GD**	**KC725M**	.S..HD	KC725M
S3	.E..LD	KC725M	**.S..GD**	**KC725M**	.S..HD	KC725M
S4	.S..GD	KC725M	**.S..HD**	**KC725M**	–	–
H1	.E..LD	KC510M	**.S..GD**	**KC522M**	–	–

Indexable Inserts



HNGJ-LDJ | Wiper XNGJ * | HNGJ-LD | HNPJ-GD | HNPJ-HD



● first choice
○ alternate choice

	K313	KC410M	KC510M	KC520M	KC522M	KC725M	KCK15	KCPM20	KCPK30
P					○	●		●	●
M					●	●		○	●
K			●	●	○		●	○	○
N	●	●	○						
S					●	●			
H			●		●				

HNGJ-LDJ/XNGJ-LDJ3W

catalogue number	D	BS	L10	Rε	S	hm	cutting edges	K313	KC410M	KC510M	KC520M	KC522M	KC725M	KCK15	KCPM20	KCPK30
HNGJ0604ANFNLDJ	12,00	1,54	6,44	1,0	4,48	0,02	12	●	●							
XNGJ0604ANFNLDJ3W	12,00	4,80	7,20	1,6	4,51	0,02	3	●	●							

* For wiper insert XNGJ, 3 left-hand (LH) and 3 right-hand (RH) wiper edges per insert.

HNGJ-LD/XNGJ-LD

catalogue number	D	BS	L10	Rε	S	hm	cutting edges	K313	KC410M	KC510M	KC520M	KC522M	KC725M	KCK15	KCPM20	KCPK30
HNGJ0604ANENLD	12,00	1,54	6,44	1,0	4,48	0,05	12			●	●	●	●	●	●	●
HNGJ060432ANENLD	12,00	–	6,43	3,2	4,48	0,05	12				●	●	●	●	●	●
XNGJ0604ANENLD3W	12,00	4,80	7,20	1,6	4,51	0,05	3			●	●	●	●	●	●	●

* For wiper insert XNGJ, 3 left-hand (LH) and 3 right-hand (RH) wiper edges per insert.

HNPJ-GD

catalogue number	D	BS	L10	Rε	S	hm	cutting edges	K313	KC410M	KC510M	KC520M	KC522M	KC725M	KCK15	KCPM20	KCPK30
HNPJ0604ANSNGD	12,00	1,45	6,44	1,0	4,45	0,08	12				●	●	●	●	●	●

HNPJ-HD

catalogue number	D	BS	L10	Rε	S	hm	cutting edges	K313	KC410M	KC510M	KC520M	KC522M	KC725M	KCK15	KCPM20	KCPK30
HNPJ0604ANSNHD	12,00	1,45	6,44	1,0	4,40	0,14	12				●	●	●	●	●	●
HNPJ060432ANSNHD	12,00	–	6,43	3,2	4,42	0,10	12				●	●	●	●	●	●

Recommended Starting Speeds [m/min]

Material Group		K313			KC410M			KC510M			KC520M			KC522M		
P	1	–	–	–	–	–	–	–	–	–	–	–	–	395	**345**	325
	2	–	–	–	–	–	–	–	–	–	–	–	–	330	**290**	240
	3	–	–	–	–	–	–	–	–	–	–	–	–	305	**255**	215
	4	–	–	–	–	–	–	295	**240**	200	–	–	–	270	**225**	180
	5	–	–	–	–	–	–	–	–	–	–	–	–	225	**200**	180
	6	–	–	–	–	–	–	–	–	–	–	–	–	200	**150**	120
M	1	–	–	–	–	–	–	–	–	–	–	–	–	245	**215**	200
	2	–	–	–	–	–	–	–	–	–	–	–	–	225	**190**	160
	3	–	–	–	–	–	–	–	–	–	–	–	–	170	**145**	115
K	1	–	–	–	–	–	–	350	**315**	285	325	**295**	260	275	**250**	220
	2	–	–	–	–	–	–	275	**250**	230	255	**225**	215	215	**195**	180
	3	–	–	–	–	–	–	235	**205**	190	215	**190**	170	180	**160**	145
N	1–2	955	**835**	715	1460	**1300**	1195	770	**685**	630	–	–	–	–	–	–
	3	–	–	–	1300	**1195**	1100	695	**640**	585	–	–	–	–	–	–
S	1	–	–	–	–	–	–	–	–	–	–	–	–	50	**45**	35
	2	–	–	–	–	–	–	–	–	–	–	–	–	50	**45**	35
	3	–	–	–	–	–	–	–	–	–	–	–	–	60	**50**	35
	4	–	–	–	–	–	–	–	–	–	–	–	–	85	**60**	45
H	1	–	–	–	–	–	–	190	**155**	110	–	–	–	145	**110**	85
	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

Material Group		KCPM20			KC725M			KCK15			KCPK30		
P	1	660	**580**	535	315	**275**	255	–	–	–	545	**475**	440
	2	410	**370**	330	260	**230**	195	–	–	–	335	**305**	275
	3	370	**330**	305	240	**205**	170	–	–	–	305	**275**	250
	4	275	**255**	230	215	**180**	145	–	–	–	225	**210**	190
	5	330	**300**	275	180	**160**	145	–	–	–	310	**275**	255
	6	230	**200**	175	160	**120**	95	–	–	–	190	**165**	–
M	1	270	**240**	205	205	**180**	165	–	–	–	250	**220**	190
	2	245	**215**	190	185	**160**	130	–	–	–	225	**195**	170
	3	195	**175**	150	140	**120**	95	–	–	–	175	**160**	140
K	1	435	**390**	350	–	–	–	505	**460**	410	355	**320**	285
	2	345	**310**	280	–	–	–	400	**355**	330	280	**255**	230
	3	290	**255**	240	–	–	–	335	**300**	275	235	**210**	195
N	1–2	–	–	–	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–	–	–	–
S	1	–	–	–	45	**35**	30	–	–	–	–	–	–
	2	–	–	–	45	**35**	30	–	–	–	–	–	–
	3	–	–	–	55	**45**	30	–	–	–	–	–	–
	4	–	–	–	75	**55**	35	–	–	–	–	–	–
H	1	–	–	–	–	–	–	–	–	–	–	–	–
	2	–	–	–	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–	–	–	–

NOTE: FIRST choice starting speeds are in **bold** type.
As the average chip thickness increases, the speed should be decreased.

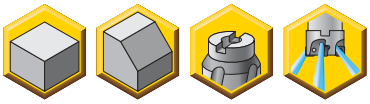
Recommended Starting Feeds [mm]

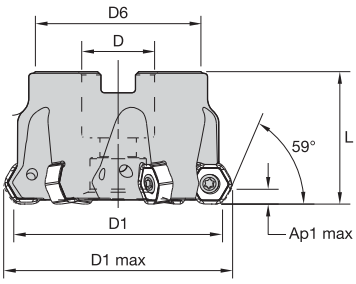
Light Machining	General Purpose	Heavy Machining

Insert Geometry	Programmed Feed per Tooth (fz) as a % of Radial Depth of Cut (ae)															Insert Geometry
	10%			20%			30%			40%			50–100%			
.F..LDJ	0,12	**0,24**	0,47	0,09	**0,18**	0,35	0,08	**0,15**	0,31	0,07	**0,14**	0,29	0,07	**0,14**	0,28	.F..LDJ
.E..LD	0,12	**0,35**	0,71	0,09	**0,27**	0,53	0,08	**0,23**	0,46	0,07	**0,22**	0,43	0,07	**0,21**	0,42	.E..LD
.S..GD	0,24	**0,54**	0,94	0,18	**0,41**	0,70	0,16	**0,35**	0,61	0,15	**0,33**	0,57	0,14	**0,32**	0,56	.S..GD
.S..HD	0,24	**0,60**	0,97	0,18	**0,45**	0,72	0,16	**0,39**	0,63	0,15	**0,37**	0,59	0,14	**0,36**	0,57	.S..HD

NOTE: Use “Light Machining” values as starting feed rate.

- Twelve cutting edges per insert.
- Higher Ap1 max with standard inserts.
- Productivity booster in all materials.

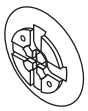




Dodeka Mini 60° • Shell Mills

order number	catalogue number	D1	D1 max	D	D6	L	Ap1 max	Z	kg	max RPM
4147022	KSHR040A04RS60HN06	40	46,1	22	38	40	4,4	4	0,21	15800
4147713	KSHR040A05RS60HN06	40	46,1	22	38	40	4,4	5	0,21	15800
4147714	KSHR050A04RS60HN06	50	56,1	22	38	40	4,4	4	0,32	12700
4147715	KSHR050A05RS60HN06	50	56,1	22	38	40	4,4	5	0,32	12700
4147716	KSHR063A04RS60HN06	63	69,2	22	50	40	4,4	4	0,57	10100
4147717	KSHR063A06RS60HN06	63	69,2	22	50	40	4,4	6	0,59	10100
4147718	KSHR080A05RS60HN06	80	86,2	27	60	50	4,4	5	1,08	7900
4147719	KSHR080A08RS60HN06	80	86,2	27	60	50	4,4	8	1,15	7900
4147720	KSHR100B06RS60HN06	100	106,1	32	80	50	4,4	6	1,70	6300
4147721	KSHR100B09RS60HN06	100	106,1	32	80	50	4,4	9	1,78	6300
4147722	KSHR125B08RS60HN06	125	131,2	40	90	63	4,4	8	2,92	5050
4147723	KSHR125B12RS60HN06	125	131,2	40	90	63	4,4	12	2,96	5050

Spare Parts

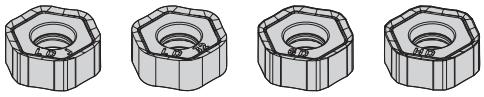


D1	insert screw	Nm	wrench	mounting screw	socket-head cap screw	coolant lock screw assembly	mill cutter lock screw	coolant shower plate
40	193.492	3,5	170.025	KLSSM22-39-CG	–	–	–	–
50	193.492	3,5	170.025	–	125.025	–	–	–
63	193.492	3,5	170.025	–	125.025	–	–	–
80	193.492	3,5	170.025	–	125.230	–	–	–
100	193.492	3,5	170.025	–	–	MS2189C	–	–
125	193.492	3,5	170.025	–	–	–	420.200	470.232

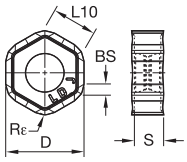
Insert Selection Guide

Material Group	Light Machining		General Purpose		Heavy Machining	
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1–P2	.E..LD	KC725M	**.S..GD**	**KC725M**	.S..HD	KC725M
P3–P4	.E..LD	KCPK30	**.S..GD**	**KCPK30**	.S..HD	KCPK30
P5–P6	.E..LD	KCPM20	**.S..GD**	**KCPM20**	.S..HD	KCPM20
M1–M2	.E..LD	KC725M	**.S..GD**	**KC725M**	.S..HD	KC725M
M3	.E..LD	KCPK30	**.S..GD**	**KCPK30**	.S..HD	KCPK30
K1–K2	.E..LD	KCK15	**.S..GD**	**KCK15**	.S..HD	KCK15
K3	.E..LD	KCPK30	**.S..GD**	**KCPK30**	.S..HD	KCPK30
N1–N2	.F..LDJ	K313	**.F..LDJ**	**KC410M**	.E..LD	KC510M
N3	.F..LDJ	KC410M	**.E..LD**	**KC510M**	.E..LD	KC510M
S1–S2	.E..LD	KC725M	**.S..GD**	**KC725M**	.S..HD	KC725M
S3	.E..LD	KC725M	**.S..GD**	**KC725M**	.S..HD	KC725M
S4	.S..GD	KC725M	**.S..HD**	**KC725M**	–	–
H1	–	–	–	–	–	–

Indexable Inserts



HNGJ-LDJ HNGJ-LD HNPJ-GD HNPJ-HD



● first choice
○ alternate choice

	K313	KC410M	KC510M	KC520M	KC522M	KC725M	KCK15	KCPM20	KCPK30
P					○	●		●	●
M					●	●		○	●
K			●	●	○		●	○	○
N	●	●	○						
S					●	●			
H									

Face Mills

HNGJ-LDJ

catalogue number	D	BS	L10	Rε	S	hm	cutting edges	K313	KC410M	KC510M	KC520M	KC522M	KC725M	KCK15	KCPM20	KCPK30
HNGJ0604ANFNLDJ	12,00	1,54	6,44	1,00	4,48	0,02	12	●	●							

HNGJ-LD

catalogue number	D	BS	L10	Rε	S	hm	cutting edges	K313	KC410M	KC510M	KC520M	KC522M	KC725M	KCK15	KCPM20	KCPK30
HNGJ0604ANENLD	12,00	1,54	6,44	1,0	4,48	0,05	12			●	●	●	●	●	●	●
HNGJ060432ANENLD	12,00	–	6,43	3,2	4,48	0,05	12				●	●	●	●	●	●

HNPJ-GD

catalogue number	D	BS	L10	Rε	S	hm	cutting edges	K313	KC410M	KC510M	KC520M	KC522M	KC725M	KCK15	KCPM20	KCPK30
HNPJ0604ANSNGD	12,00	1,45	6,44	1,0	4,45	0,08	12				●	●	●	●	●	●

HNPJ-HD

catalogue number	D	BS	L10	Rε	S	hm	cutting edges	K313	KC410M	KC510M	KC520M	KC522M	KC725M	KCK15	KCPM20	KCPK30
HNPJ0604ANSNHD	12,00	1,45	6,44	1,0	4,40	0,14	12				●	●	●	●	●	●
HNPJ060432ANSNHD	12,00	–	6,43	3,2	4,42	0,10	12				●	●	●	●	●	●

Recommended Starting Speeds [m/min]

Material Group		K313			KC410M			KC510M			KC520M			KC522M		
P	1	–	–	–	–	–	–	–	–	–	–	–	–	395	**345**	325
	2	–	–	–	–	–	–	–	–	–	–	–	–	330	**290**	240
	3	–	–	–	–	–	–	–	–	–	–	–	–	305	**255**	215
	4	–	–	–	–	–	–	295	**240**	200	–	–	–	270	**225**	180
	5	–	–	–	–	–	–	–	–	–	–	–	–	225	**200**	180
	6	–	–	–	–	–	–	–	–	–	–	–	–	200	**150**	120
M	1	–	–	–	–	–	–	–	–	–	–	–	–	245	**215**	200
	2	–	–	–	–	–	–	–	–	–	–	–	–	225	**190**	160
	3	–	–	–	–	–	–	–	–	–	–	–	–	170	**145**	115
K	1	–	–	–	–	–	–	350	**315**	285	325	**295**	260	275	**250**	220
	2	–	–	–	–	–	–	275	**250**	230	255	**225**	215	215	**195**	180
	3	–	–	–	–	–	–	235	**205**	190	215	**190**	170	180	**160**	145
N	1–2	955	**835**	715	1460	**1300**	1195	770	**685**	630	–	–	–	–	–	–
	3	–	–	–	1300	**1195**	1100	695	**640**	585	–	–	–	–	–	–
S	1	–	–	–	–	–	–	–	–	–	–	–	–	50	**45**	35
	2	–	–	–	–	–	–	–	–	–	–	–	–	50	**45**	35
	3	–	–	–	–	–	–	–	–	–	–	–	–	60	**50**	35
	4	–	–	–	–	–	–	–	–	–	–	–	–	85	**60**	45
H	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

Material Group		KCPM20			KC725M			KCK15			KCPK30		
P	1	660	**580**	535	315	**275**	255	–	–	–	545	**475**	440
	2	410	**370**	330	260	**230**	195	–	–	–	335	**305**	275
	3	370	**330**	305	240	**205**	170	–	–	–	305	**275**	250
	4	275	**255**	230	215	**180**	145	–	–	–	225	**210**	190
	5	330	**300**	275	180	**160**	145	–	–	–	310	**275**	255
	6	230	**200**	175	160	**120**	95	–	–	–	190	**165**	–
M	1	270	**240**	205	205	**180**	165	–	–	–	250	**220**	190
	2	245	**215**	190	185	**160**	130	–	–	–	225	**195**	170
	3	195	**175**	150	140	**120**	95	–	–	–	175	**160**	140
K	1	435	**390**	350	–	–	–	505	**460**	410	355	**320**	285
	2	345	**310**	280	–	–	–	400	**355**	330	280	**255**	230
	3	290	**255**	240	–	–	–	335	**300**	275	235	**210**	195
N	1–2	–	–	–	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–	–	–	–
S	1	–	–	–	45	**35**	30	–	–	–	–	–	–
	2	–	–	–	45	**35**	30	–	–	–	–	–	–
	3	–	–	–	55	**45**	30	–	–	–	–	–	–
	4	–	–	–	75	**55**	35	–	–	–	–	–	–
H	1	–	–	–	–	–	–	–	–	–	–	–	–
	2	–	–	–	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–	–	–	–

NOTE: FIRST choice starting speeds are in **bold** type.
As the average chip thickness increases, the speed should be decreased.

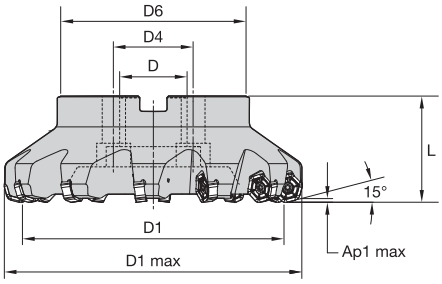
Recommended Starting Feeds [mm]

Light Machining	General Purpose	Heavy Machining

Insert Geometry	Programmed Feed per Tooth (fz) as a % of Radial Depth of Cut (ae)															Insert Geometry
	10%			20%			30%			40%			50–100%			
.F..LDJ	0,10	**0,19**	0,39	0,07	**0,14**	0,29	0,06	**0,13**	0,25	0,06	**0,12**	0,24	0,06	**0,12**	0,23	.F..LDJ
.E..LD	0,10	**0,29**	0,58	0,07	**0,22**	0,43	0,06	**0,19**	0,38	0,06	**0,18**	0,35	0,06	**0,17**	0,35	.E..LD
.S..GD	0,20	**0,43**	0,70	0,15	**0,32**	0,52	0,13	**0,28**	0,45	0,12	**0,26**	0,43	0,12	**0,26**	0,42	.S..GD
.S..HD	0,20	**0,49**	0,79	0,15	**0,37**	0,59	0,13	**0,32**	0,51	0,12	**0,30**	0,48	0,12	**0,29**	0,47	.S..HD

NOTE: Use “Light Machining” values as starting feed rate.

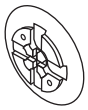
- Twelve cutting edges per insert.
- 2mm depth-of-cut capability.
- High feed rates for rough face milling.



Dodeka High-Feed 15° • Shell Mills

order number	catalogue number	D1	D1 max	D	D4	D6	L	Ap1 max	Z	kg	max RPM
4042332	**KSHRHF50A04RS15HN09**	50	67,9	22	–	38	40	2,2	4	0,41	11400
4042533	**KSHRHF63A05RS15HN09**	63	80,9	22	–	50	40	2,2	5	0,65	8950
4042534	**KSHRHF80A06RS15HN09**	80	97,9	27	–	60	50	2,2	6	1,24	7300
4042535	**KSHRHF100B08RS15HN09**	100	117,9	32	–	80	50	2,2	8	1,89	5900
4042536	**KSHRHF125B09RS15HN09**	125	142,9	40	–	90	63	2,2	9	3,23	4800
4042537	**KSHRHF160C12RS15HN09**	160	177,9	40	66,7	110	63	2,2	12	5,14	3900

Spare Parts

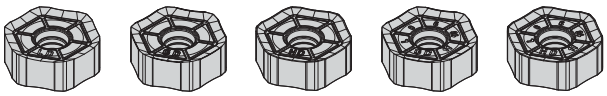


D1	insert screw	Nm	wrench	socket-head cap screw	coolant lock screw assembly	mill cutter lock screw	coolant shower plate
50	**193.492**	3,5	**170.025**	**125.025**	–	–	–
63	**193.492**	3,5	**170.025**	**125.025**	–	–	–
80	**193.492**	3,5	**170.025**	**125.230**	–	–	–
100	**193.492**	3,5	**170.025**	–	**MS2189C**	–	–
125	**193.492**	3,5	**170.025**	–	–	**420.200**	**470.232**
160	**193.492**	3,5	**170.025**	–	–	**420.200**	**470.233**

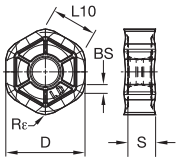
Insert Selection Guide

Material Group	Light Machining		General Purpose		Heavy Machining	
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1–P2	.E..LD	KC725M	**.S..GD**	**KC725M**	.S..GD	KC725M
P3–P4	.E..LD	KCPK30	**.S..GD**	**KCPK30**	.S..GD	KCPK30
P5–P6	.E..LD	KCPM20	**.S..GD**	**KCPM20**	.S..HD	KCPM20
M1–M2	.E..LD	KC725M	**.S..GD**	**KC725M**	.S..GD	KC725M
M3	.S..GD	KCPK30	**.S..HD**	**KCPK30**	.S..HD	KCPK30
K1–K2	.E..LD	KCK15	**.S..GD**	**KCK15**	.S..GD	KCK15
K3	.S..GD	KCPK30	**.S..HD**	**KCPK30**	.S..HD	KCPK30
N1–N2	.F..LDJ	KC410M	**.F..LDJ**	**KC410M**	.F..LDJ	KC410M
N3	.F..LDJ	KC410M	**.F..LDJ**	**KC410M**	.F..LDJ	KC410M
S1–S2	.S..GD	KC725M	**.S..GD**	**KC725M**	.S..HD	KC725M
S3	.S..GD	KC725M	**.S..HD**	**KC725M**	.S..HD	KC725M
S4	.S..GD	KC725M	**.S..HD**	**KC725M**	–	–
H1	–	–	–	–	–	–

Indexable Inserts



HNGJ-LD HNGJ-LDJ | HNGJ-GD | HNGJ-HD | HNPJ-GD | HNPJ-HD



beyond

	KC410M	KC520M	KC522M	KC725M	KCK15	KCPM20	KCPK30
P			○	●		●	●
M			●	●		○	●
K		●	○		●	○	○
N	●						
S			●	●			
H							

● first choice
○ alternate choice

HNGJ-LD and -LDJ

catalogue number	D	S	L10	BS	Rε	hm	cutting edges	KC410M	KC520M	KC522M	KC725M	KCK15	KCPM20	KCPK30
HNGJ0905ANFNLDJ	15,88	5,56	9,00	1,80	1,2	0,02	12	●						
HNGJ0905ANENLD	15,88	5,56	9,00	1,80	1,2	0,05	12		●	●	●	●	●	●

HNGJ-GD

catalogue number	D	S	L10	BS	Rε	hm	cutting edges	KC410M	KC520M	KC522M	KC725M	KCK15	KCPM20	KCPK30
HNGJ0905ANSNGD	15,88	5,56	9,00	1,80	1,2	0,06	12				●	●	●	●

HNGJ-HD

catalogue number	D	S	L10	BS	Rε	hm	cutting edges	KC410M	KC520M	KC522M	KC725M	KCK15	KCPM20	KCPK30
HNGJ0905ANSNHD	15,88	5,46	8,59	1,66	1,2	0,06	12		●		●	●	●	●
HNGJ090543ANSNHD	15,88	5,44	8,50	–	4,4	0,06	12		●		●	●	●	●

HNPJ-GD

catalogue number	D	S	L10	BS	Rε	hm	cutting edges	KC410M	KC520M	KC522M	KC725M	KCK15	KCPM20	KCPK30
HNPJ0905ANSNGD	15,88	5,56	8,58	1,80	1,2	0,10	12		●	●	●	●		●

HNPJ-HD

catalogue number	D	S	L10	BS	Rε	hm	cutting edges	KC410M	KC520M	KC522M	KC725M	KCK15	KCPM20	KCPK30
HNPJ0905ANSNHD	15,88	5,46	8,59	1,66	1,2	0,18	12		●	●	●	●		●
HNPJ090543ANSNHD	15,88	5,44	8,50	–	4,3	0,13	12			●	●	●		●

Recommended Starting Speeds [m/min]

Material Group		KC410M			KC520M			KC522M			KC725M		
P	1	–	–	–	–	–	–	395	**345**	325	315	**275**	255
	2	–	–	–	–	–	–	330	**290**	240	260	**230**	195
	3	–	–	–	–	–	–	305	**255**	215	240	**205**	170
	4	–	–	–	–	–	–	270	**225**	180	215	**180**	145
	5	–	–	–	–	–	–	225	**200**	180	180	**160**	145
	6	–	–	–	–	–	–	200	**150**	120	160	**120**	95
M	1	–	–	–	–	–	–	245	**215**	200	205	**180**	165
	2	–	–	–	–	–	–	225	190	160	185	**160**	130
	3	–	–	–	–	–	–	170	**145**	115	140	**120**	95
K	1	–	–	–	325	**295**	260	275	**250**	220	–	–	–
	2	–	–	–	255	**225**	215	215	**195**	180	–	–	–
	3	–	–	–	215	**190**	170	180	**160**	145	–	–	–
N	1–2	1460	**1300**	1195	–	–	–	–	–	–	–	–	–
	3	1300	**1195**	1100	–	–	–	–	–	–	–	–	–
S	1	–	–	–	–	–	–	50	**45**	35	45	**35**	30
	2	–	–	–	–	–	–	50	**45**	35	45	**35**	30
	3	–	–	–	–	–	–	60	**50**	35	55	**45**	30
	4	–	–	–	–	–	–	85	**60**	45	75	**55**	35
H	1	–	–	–	–	–	–	–	–	–	–	–	–

Material Group		KCK15			KCPM20			KCPK30		
P	1	–	–	–	660	**580**	535	545	**475**	440
	2	–	–	–	410	**370**	330	335	**305**	275
	3	–	–	–	370	**330**	305	305	**275**	250
	4	–	–	–	275	**255**	230	225	**210**	190
	5	–	–	–	330	**300**	275	310	**275**	255
	6	–	–	–	230	**200**	175	190	**165**	–
M	1	–	–	–	270	**240**	205	250	**220**	190
	2	–	–	–	245	**215**	190	225	**195**	170
	3	–	–	–	195	**175**	150	175	**160**	140
K	1	505	**460**	410	435	**390**	350	355	**320**	285
	2	400	**355**	330	345	**310**	280	280	**255**	230
	3	335	**300**	275	290	**255**	240	235	**210**	195
N	1–2	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–
S	1	–	–	–	–	–	–	–	–	–
	2	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–
	4	–	–	–	–	–	–	–	–	–
H	1	–	–	–	–	–	–	–	–	–

NOTE: FIRST choice starting speeds are in **bold** type.
As the average chip thickness increases, the speed should be decreased.

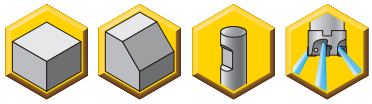
Recommended Starting Feeds [mm]

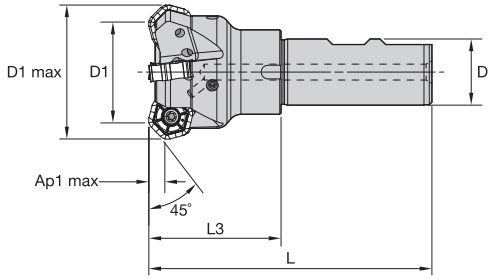
Light Machining	General Purpose	Heavy Machining

Insert Geometry	Programmed Feed per Tooth (fz) as a % of Radial Depth of Cut (ae)															Insert Geometry
	10%			20%			30%			40%			50–100%			
.F..LDJ	0,33	**0,65**	1,31	0,25	**0,48**	0,97	0,21	**0,42**	0,84	0,20	**0,39**	0,79	0,20	**0,39**	0,77	.F..LDJ
.E..LD	0,33	**0,98**	1,97	0,25	**0,73**	1,46	0,21	**0,63**	1,27	0,20	**0,59**	1,18	0,20	**0,58**	1,16	.E..LD
.S..GD	0,55	**1,37**	2,38	0,41	**1,02**	1,75	0,36	**0,89**	1,52	0,33	**0,83**	1,42	0,33	**0,81**	1,39	.S..GD
.S..HD	0,55	**1,67**	2,70	0,41	**1,23**	1,98	0,36	**1,07**	1,72	0,33	**1,00**	1,60	0,33	**0,98**	1,57	.S..HD

NOTE: Use “Light Machining” values as starting feed rate.

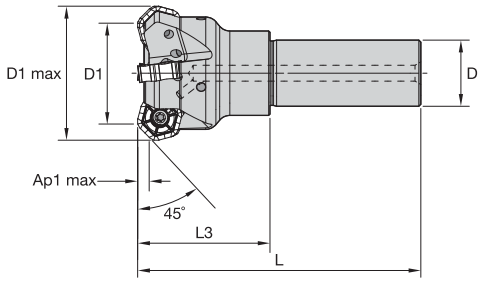
- Twelve cutting edges per insert.
- Soft cutting action.
- Through tool coolant.





Dodeka 45° • Weldon® End Mills

order number	catalogue number	D1	D1 max	D	L	L3	Ap1 max	Z	kg	max RPM
3324829	KSHR40D03R50B25SHN09	40	51,0	25	107	50	4,5	3	0,53	15800
3324830	KSHR40D04R50B25SHN09	40	51,0	25	107	50	4,5	4	0,52	15800



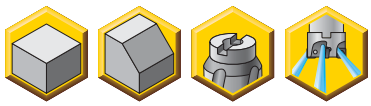
Dodeka 45° • Cylindrical End Mills

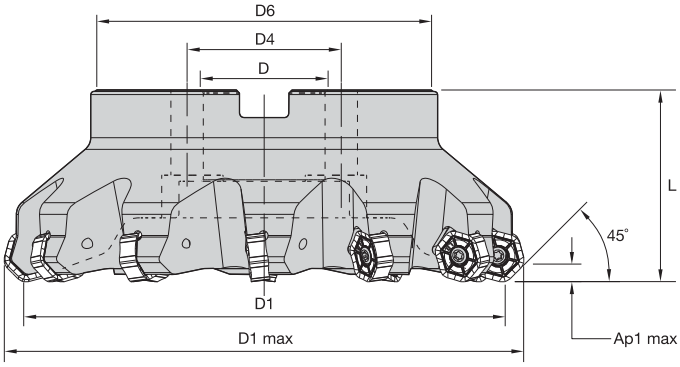
order number	catalogue number	D1	D1 max	D	L	L3	Ap1 max	Z	kg	max RPM
3644452	KSHR40D03R50A25SHN09	40	51,0	25	107	50	4,5	3	0,53	15800
3645083	KSHR40D04R50A25SHN09	40	51,0	25	107	50	4,5	4	0,53	15800

Spare Parts

D1	insert screw	Nm	wrench
40	193.492	3,5	170.025

- Twelve cutting edges per insert.
- Through-coolant standard.
- Soft cutting action.





Dodeka 45° • Shell Mills

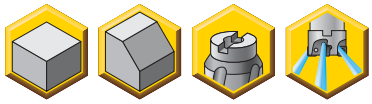
order number	catalogue number	D1	D1 max	D	D4	D41	D6	L	Ap1 max	Z	kg	max RPM
3647201	KSHR40A04RS45HN09	40	51,0	22	–	–	39	40	4,5	4	0,25	15800
3324831	KSHR50A04RS45HN09	50	61,0	22	–	–	38	40	4,5	4	0,32	12700
3324832	KSHR50A05RS45HN09	50	61,0	22	–	–	38	40	4,5	5	0,33	12700
3749959	KSHR63A05RS45HN09	63	74,0	22	–	–	50	40	4,5	5	0,60	10100
3325163	KSHR63A06RS45HN09	63	74,0	22	–	–	50	40	4,5	6	0,56	10100
3325164	KSHR63A07RS45HN09	63	74,0	22	–	–	50	40	4,5	7	0,57	10100
3749960	KSHR80A05RS45HN09	80	91,0	27	–	–	60	50	4,5	5	1,12	7900
3325165	KSHR80A06RS45HN09	80	91,0	27	–	–	60	50	4,5	6	1,07	7900
3325166	KSHR80A09RS45HN09	80	91,0	27	–	–	60	50	4,5	9	1,11	7900
3749961	KSHR100B06RS45HN09	100	111,0	32	–	–	80	50	4,5	6	1,73	6300
3325167	KSHR100B08RS45HN09	100	111,0	32	–	–	80	40	4,5	8	1,68	6300
3325168	KSHR100B11RS45HN09	100	111,0	32	–	–	80	50	4,5	11	1,73	6300
3749962	KSHR125B08RS45HN09	125	135,9	40	–	–	90	63	4,5	8	2,84	5050
3325169	KSHR125B10RS45HN09	125	135,9	40	–	–	90	63	4,5	10	2,77	5050
3325170	KSHR125B14RS45HN09	125	136,0	40	–	–	90	63	4,5	14	2,86	5050
3750013	KSHR160C10RS45HN09	160	171,0	40	66,7	–	110	63	4,5	10	4,75	3900
3325171	KSHR160C12RS45HN09	160	171,0	40	66,7	–	110	63	4,5	12	4,56	3900
3325172	KSHR160C16RS45HN09	160	171,0	40	66,7	–	110	63	4,5	16	4,70	3900
3587732	KSHR200C16RS45HN09	200	211,0	60	101,6	–	130	63	4,5	16	6,43	3180
3587753	KSHR250C20RS45HN09	250	261,0	60	101,6	–	130	63	4,5	20	9,93	2550
3587754	KSHR315C24RS45HN09	315	326,0	60	101,6	177,8	230	80	4,5	24	22,90	2020

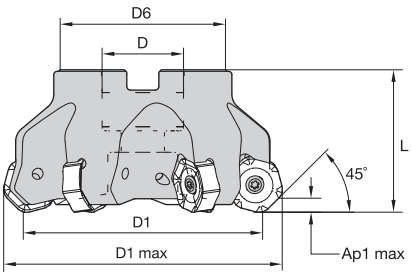
Spare Parts

D1	insert screw	Nm	wrench	mounting screw	low-head cap screw	socket-head cap screw	coolant lock screw assembly	mill cutter lock screw	coolant shower plate
40	193.492	3,5	170.025	KLSSM22-39-CG	–	–	–	–	–
50	193.492	3,5	170.025	MS2072CG	129.025	–	–	–	–
63	193.492	3,5	170.025	MS1234CG	–	125.025	–	–	–
80	193.492	3,5	170.025	MS2038CG	–	125.230	–	–	–
100	193.492	3,5	170.025	–	–	–	MS2189C	–	–
125	193.492	3,5	170.025	–	–	–	–	420.200	470.232
160	193.492	3,5	170.025	–	–	–	–	420.200	470.233
200	193.492	3,5	170.025	–	–	–	–	–	470.234
250	193.492	3,5	170.025	–	–	–	–	–	470.235
315	193.492	3,5	170.025	–	–	–	–	–	470.236

NOTE: Please order all spare parts separately.

- Twelve cutting edges per insert.
- Through-coolant standard.
- Soft cutting action.





Dodeka 45° • Shell Mills • JIS (Japanese Industry Standard)

order number	catalogue number	D1	D1 max	D mm	D in	D6	L	Ap1 max	Z	kg	max RPM
3645084	**KSHR80A06RS45HN09-J**	80	91,0	25,400	1.000	60	50	4,5	6	1,08	7900
3645085	**KSHR80A09RS45HN09-J**	80	91,0	25,400	1.000	60	50	4,5	9	1,21	7900
3645087	**KSHR100B11RS45HN09-J**	100	111,0	31,750	1.250	80	50	4,5	11	1,96	6300
3645086	**KSHR100B08RS45HN09-J**	100	111,0	31,750	1.250	80	50	4,5	8	1,91	6300
3645088	**KSHR125B10RS45HN09-J**	125	135,9	38,100	1.500	90	63	4,5	10	3,16	5050
3645089	**KSHR125B14RS45HN09-J**	125	136,0	38,100	1.500	90	63	4,5	14	3,25	5050
3645090	**KSHR160B12RS45HN09-J**	160	171,0	50,800	2.000	110	63	4,5	12	4,98	3900
3645091	**KSHR160B16RS45HN09-J**	160	171,0	50,800	2.000	110	63	4,5	16	5,14	3900

Spare Parts

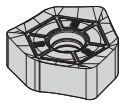
D1	insert screw	Nm	wrench
80	**193.492**	3,5	**170.025**
100	**193.492**	3,5	**170.025**
125	**193.492**	3,5	**170.025**
160	**193.492**	3,5	**170.025**

NOTE: Metric cutter diameters with inch bore sizes.

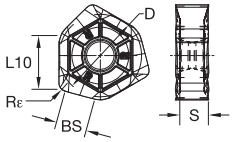
Insert Selection Guide

Material Group	Light Machining		General Purpose		Heavy Machining	
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1–P2	.E..LD	KC725M	**.S..GD**	**KC725M**	.S..GD	KC725M
P3–P4	.E..LD	KCPK30	**.S..GD**	**KCPK30**	.S..GD	KCPK30
P5–P6	.E..LD	KCPM20	**.S..GD**	**KCPM20**	.S..HD	KCPM20
M1–M2	.E..LD	KC725M	**.S..GD**	**KC725M**	.S..GD	KC725M
M3	.S..GD	KCPK30	**.S..HD**	**KCPK30**	.S..HD	KCPK30
K1–K2	.E..LD	KCK15	**.S..GD**	**KCK15**	.S..GD	KCK15
K3	.S..GD	KCPK30	**.S..HD**	**KCPK30**	.S..HD	KCPK30
N1–N2	.F..LDJ	KC410M	**.F..LDJ**	**KC410M**	.F..LDJ	KC410M
N3	.F..LDJ	KC410M	**.F..LDJ**	**KC410M**	.F..LDJ	KC410M
S1–S2	.S..GD	KC725M	**.S..GD**	**KC725M**	.S..HD	KC725M
S3	.S..GD	KC725M	**.S..HD**	**KC725M**	.S..HD	KC725M
S4	.S..GD	KC725M	**.S..HD**	**KC725M**	–	–
H1	–	–	–	–	–	–

Indexable Inserts • Dodeka • XNGJ • Finishing



XNGJ-LDJ3W *
XNGJ-GD3W *



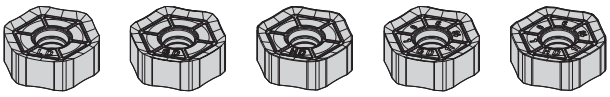
● first choice
○ alternate choice

	KC410M	KC725M	KCK15	KCPM20	KCPK30
P		●		●	●
M		●		○	○
K			●	○	○
N	●				
S		●			
H					

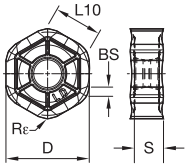
XNGJ-LDJ3W and -GD3W

catalogue number	D	S	L10	BS	Rε	cutting edges	KC410M	KC725M	KCK15	KCPM20	KCPK30
XNGJ0905ANFNLDJ3W	15,88	5,51	9,60	6,00	2	3	●				
XNGJ0905ANSNGD3W	15,88	5,51	9,60	6,00	2	3		●	●	●	●

* 3 left-hand (LH) and 3 right-hand (RH) wiper edges per insert.



HNGJ-LD
HNGJ-LPJ
HNGJ-GD
HNGJ-HD
HNPJ-GD
HNPJ-HD



beyond

● first choice
○ alternate choice

	KC410M	KC520M	KC522M	KC725M	KCK15	KCPM20	KCPK30
P			○	●		●	●
M			●	●		○	●
K		●	○		●	○	○
N	●						
S			●	●			
H							

HNGJ-LD and -LDJ

catalogue number	D	S	L10	BS	Rε	hm	cutting edges	KC410M	KC520M	KC522M	KC725M	KCK15	KCPM20	KCPK30
HNGJ0905ANFNLDJ	15,88	5,56	9,00	1,80	1,2	0,02	12	●						
HNGJ0905ANENLD	15,88	5,56	9,00	1,80	1,2	0,05	12		●	●	●	●	●	●

HNGJ-GD

catalogue number	D	S	L10	BS	Rε	hm	cutting edges	KC410M	KC520M	KC522M	KC725M	KCK15	KCPM20	KCPK30
HNGJ0905ANSNGD	15,88	5,56	9,00	1,80	1,2	0,06	12				●	●	●	●

HNGJ-HD

catalogue number	D	S	L10	BS	Rε	hm	cutting edges	KC410M	KC520M	KC522M	KC725M	KCK15	KCPM20	KCPK30
HNGJ0905ANSNHD	15,88	5,46	8,59	1,66	1,2	0,06	12		●		●	●	●	●
HNGJ090543ANSNHD	15,88	5,44	8,50	—	4,4	0,06	12		●		●	●	●	●

HNPJ-GD

catalogue number	D	S	L10	BS	Rε	hm	cutting edges	KC410M	KC520M	KC522M	KC725M	KCK15	KCPM20	KCPK30
HNPJ0905ANSNGD	15,88	5,56	8,58	1,80	1,2	0,10	12		●	●	●	●		●

HNPJ-HD

catalogue number	D	S	L10	BS	Rε	hm	cutting edges	KC410M	KC520M	KC522M	KC725M	KCK15	KCPM20	KCPK30
HNPJ0905ANSNHD	15,88	5,46	8,59	1,66	1,2	0,18	12		●	●	●	●		●
HNPJ090543ANSNHD	15,88	5,44	8,50	—	4,3	0,13	12			●	●	●		●

Recommended Starting Speeds [m/min]

Material Group		KC410M			KC520M			KC522M			KC725M		
P	1	–	–	–	–	–	–	395	**345**	325	315	**275**	255
	2	–	–	–	–	–	–	330	**290**	240	260	**230**	195
	3	–	–	–	–	–	–	305	**255**	215	240	**205**	170
	4	–	–	–	–	–	–	270	**225**	180	215	**180**	145
	5	–	–	–	–	–	–	225	**200**	180	180	**160**	145
	6	–	–	–	–	–	–	200	**150**	120	160	**120**	95
M	1	–	–	–	–	–	–	245	**215**	200	205	**180**	165
	2	–	–	–	–	–	–	225	**190**	160	185	**160**	130
	3	–	–	–	–	–	–	170	**145**	115	140	**120**	95
K	1	–	–	–	325	**295**	260	275	**250**	220	–	–	–
	2	–	–	–	255	**225**	215	215	**195**	180	–	–	–
	3	–	–	–	215	**190**	170	180	**160**	145	–	–	–
N	1–2	1460	**1300**	1195	–	–	–	–	–	–	–	–	–
	3	1300	**1195**	1100	–	–	–	–	–	–	–	–	–
S	1	–	–	–	–	–	–	50	**45**	35	45	**35**	30
	2	–	–	–	–	–	–	50	**45**	35	45	**35**	30
	3	–	–	–	–	–	–	60	**50**	35	55	**45**	30
	4	–	–	–	–	–	–	85	**60**	45	75	**55**	35
H	1	–	–	–	–	–	–	–	–	–	–	–	–

Material Group		KCK15			KCPM20			KCPK30		
P	1	–	–	–	660	**580**	535	545	**475**	440
	2	–	–	–	410	370	330	335	**305**	275
	3	–	–	–	370	**330**	305	305	**275**	250
	4	–	–	–	275	**255**	230	225	**210**	190
	5	–	–	–	330	**300**	275	310	**275**	255
	6	–	–	–	230	**200**	175	190	**165**	–
M	1	–	–	–	270	**240**	205	250	**220**	190
	2	–	–	–	245	**215**	190	225	**195**	170
	3	–	–	–	195	**175**	150	175	**160**	140
K	1	505	**460**	410	435	**390**	350	355	**320**	285
	2	400	**355**	330	345	**310**	280	280	**255**	230
	3	335	**300**	275	290	**255**	240	235	**210**	195
N	1–2	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–
S	1	–	–	–	–	–	–	–	–	–
	2	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–
	4	–	–	–	–	–	–	–	–	–
H	1	–	–	–	–	–	–	–	–	–

NOTE: FIRST choice starting speeds are in **bold** type.
As the average chip thickness increases, the speed should be decreased.

Recommended Starting Feeds [mm]

Light Machining	General Purpose	Heavy Machining

Insert Geometry	Programmed Feed per Tooth (fz) as a % of Radial Depth of Cut (ae)															Insert Geometry
	10%			20%			30%			40%			50–100%			
.F..LDJ	0,12	**0,24**	0,47	0,09	**0,18**	0,35	0,08	**0,15**	0,31	0,07	**0,14**	0,29	0,07	**0,14**	0,28	.F..LDJ
.E..LD	0,12	**0,35**	0,71	0,09	**0,27**	0,53	0,08	**0,23**	0,46	0,07	**0,22**	0,43	0,07	**0,21**	0,42	.E..LD
.S..GD	0,20	**0,50**	0,86	0,15	**0,37**	0,64	0,13	**0,32**	0,56	0,12	**0,30**	0,52	0,12	**0,30**	0,51	.S..GD
.S..HD	0,20	**0,60**	0,97	0,15	**0,45**	0,72	0,13	**0,39**	0,63	0,12	**0,37**	0,59	0,12	**0,36**	0,57	.S..HD

NOTE: Use “Light Machining” values as starting feed rate.

KM4X™

The Next Generation Spindle Interface for Heavy-Duty Machining!

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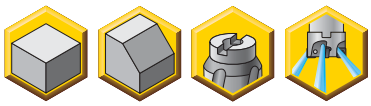
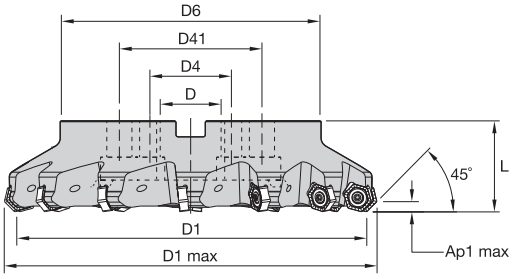
KENNAMETAL®

- Twelve cutting edges per insert.
- 25% lower cutting forces.
- Laser-hardened pocket seats.

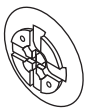




Dodeka MAX 45° • Shell Mills

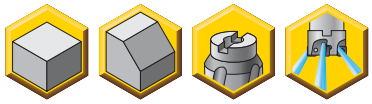
order number	catalogue number	D1	D1 max	D	D4	D41	D6	L	Ap1 max	Z	kg	max RPM
4059463	**KSHR80A04RS45HN13**	80	97,3	27	–	–	60	50	8,0	4	1,26	7900
4060935	**KSHR100B05RS45HN13**	100	117,3	32	–	–	80	50	8,0	5	1,81	6300
4060936	**KSHR125B06RS45HN13**	125	142,3	40	–	–	90	63	8,0	6	3,07	5050
4059485	**KSHR160C09RS45HN13**	160	177,3	40	66,7	–	110	63	8,0	9	4,34	3900
4060912	**KSHR200C10RS45HN13**	200	217,3	60	101,6	–	130	63	8,0	10	6,41	3180
4060937	**KSHR200C12RS45HN13**	200	217,3	60	101,6	–	130	63	8,0	12	6,48	3180
4060933	**KSHR250C12RS45HN13**	250	267,3	60	101,6	–	130	63	8,0	12	10,30	2550
4060938	**KSHR250C14RS45HN13**	250	267,3	60	101,6	–	130	63	8,0	14	10,27	2550
4060934	**KSHR315C14RS45HN13**	315	332,3	60	101,6	177,8	230	80	8,0	14	24,04	2020
4059486	**KSHR315C18RS45HN13**	315	332,3	60	101,6	177,8	230	80	8,0	18	24,62	2020

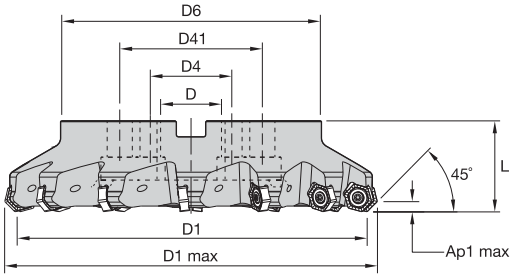
Spare Parts



D1	insert screw	Nm	Torx Plus wrench	socket-head cap screw	coolant lock screw assembly	mill cutter lock screw	coolant shower plate
80	**193.531**	8,0	**TTP25**	**125.230**	–	–	–
100	**193.531**	8,0	**TTP25**	–	**MS2189C**	–	–
125	**193.531**	8,0	**TTP25**	–	–	**420.200**	**470.232**
160	**193.531**	8,0	**TTP25**	–	–	**420.200**	**470.233**
200	**193.531**	8,0	**TTP25**	–	–	–	**470.234**
250	**193.531**	8,0	**TTP25**	–	–	–	**470.235**
315	**193.531**	8,0	**TTP25**	–	–	–	**470.236**

- Twelve cutting edges per insert.
- 25% lower cutting forces.
- Laser-hardened pocket seats.

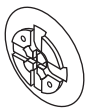




Dodeka MAX 45° • Shell Mills • JIS (Japanese Industry Standard)

order number	catalogue number	D1	D1 max	D mm	D in	D4	D41	D6	L	Ap1 max	Z	kg	max RPM
4060996	KSHR80A04RS45HN13J	80	97,3	25,400	1.000	–	–	60	50	8,0	4	1,23	7900
4060997	KSHR100B05RS45HN13J	100	117,3	31,750	1.250	–	–	80	50	8,0	5	1,82	6300
4060998	KSHR125B06RS45HN13J	125	142,3	38,100	1.500	–	–	90	63	8,0	6	3,20	5050
4060999	KSHR160C09RS45HN13J	160	177,3	50,800	2.000	–	–	110	63	8,0	9	4,45	3900
4060993	KSHR200C10RS45HN13J	200	217,3	47,625	1.875	101,6	–	130	63	8,0	10	7,69	3180
4061000	KSHR200C12RS45HN13J	200	217,3	47,625	1.875	101,6	–	130	63	8,0	12	7,81	3180
4060994	KSHR250C12RS45HN13J	250	267,3	47,625	1.875	101,6	–	130	63	8,0	12	11,75	2550
4061001	KSHR250C14RS45HN13J	250	267,3	47,625	1.875	101,6	–	130	63	8,0	14	11,81	2550
4060995	KSHR315C14RS45HN13J	315	332,3	47,625	1.875	101,6	177,8	230	80	8,0	14	25,38	2020
4061002	KSHR315C18RS45HN13J	315	332,3	47,625	1.875	101,6	177,8	230	80	8,0	18	25,51	2020

Spare Parts

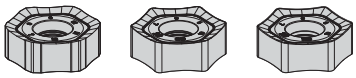


D1	insert screw	Nm	Torx Plus wrench	socket-head cap screw	coolant lock screw assembly	mill cutter lock screw	coolant shower plate
80	193.531	8,0	TTP25	125.230	–	–	–
100	193.531	8,0	TTP25	–	MS2220C	–	–
125	193.531	8,0	TTP25	–	–	420.200	470.380
160	193.531	8,0	TTP25	–	–	420.240	470.381
200	193.531	8,0	TTP25	–	–	–	470.242
250	193.531	8,0	TTP25	–	–	–	470.243
315	193.531	8,0	TTP25	–	–	–	470.244

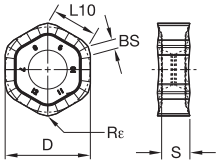
Insert Selection Guide

Material Group	Light Machining		General Purpose		Heavy Machining	
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1–P2	.E..GD	KC725M	**.S..GD**	**KC725M**	.S..HD	KC725M
P3–P4	.E..GD	KCPK30	**.S..GD**	**KCPK30**	.S..HD	KCPK30
P5–P6	.E..GD	KCPK30	**.S..GD**	**KCPK30**	.S..HD	KCPK30
M1–M2	.E..GD	KC725M	**.S..GD**	**KC725M**	.S..HD	KC725M
M3	.E..GD	KCPK30	**.S..GD**	**KCPK30**	.S..HD	KCPK30
K1–K2	.E..GD	KCK15	**.S..GD**	**KCK15**	.S..HD	KCK15
K3	.E..GD	KCPK30	**.S..GD**	**KCPK30**	.S..HD	KCPK30
N1–N2	–	–	**–**	**–**	–	–
N3	–	–	**–**	**–**	–	–
S1–S2	.E..GD	KC725M	**.S..GD**	**KC725M**	.S..HD	KC725M
S3	.E..GD	KC725M	**.S..GD**	**KC725M**	.S..HD	KC725M
S4	.S..GD	KC725M	**.S..HD**	**KC725M**	–	–
H1	–	–	**–**	**–**	–	–

Indexable Inserts



HNGJ-GD HNPJ-GD HNPJ-HD



● first choice
○ alternate choice

P			●		●
M			●		○
K		●		●	●
N					
S			●		
H					

Face Mills

HNGJ-GD

catalogue number	D	S	L10	BS	Rε	hm	cutting edges	KC520M	KC725M	KCK15	KCPK30
HNGJ1307ANENGD	22,23	7,41	12,83	1,88	1,2	0,05	12		●	●	●

HNPJ-GD

catalogue number	D	S	L10	BS	Rε	hm	cutting edges	KC520M	KC725M	KCK15	KCPK30
HNPJ130720ANSNGD	22,23	7,53	12,83	–	2,0	0,13	12	●	●	●	●

HNPJ-HD

catalogue number	D	S	L10	BS	Rε	hm	cutting edges	KC520M	KC725M	KCK15	KCPK30
HNPJ1307ANSNHD	22,23	7,31	12,83	1,88	1,2	0,25	12	●	●	●	●
HNPJ130720ANSNHD	22,23	7,42	12,83	–	2,0	0,23	12	●	●	●	●
HNPJ130735ANSNHD	22,23	7,33	12,83	–	3,5	0,23	12	●	●	●	●

Recommended Starting Speeds [m/min]

Material Group		KC520M			KC725M			KCK15			KCPK30		
P	1	–	**–**	–	315	**275**	255	–	**–**	–	545	**475**	440
	2	–	**–**	–	260	**230**	195	–	**–**	–	335	**305**	275
	3	–	**–**	–	240	**205**	170	–	**–**	–	305	**275**	250
	4	–	**–**	–	215	**180**	145	–	**–**	–	225	**210**	190
	5	–	**–**	–	180	**160**	145	–	**–**	–	310	**275**	255
	6	–	**–**	–	160	**120**	95	–	**–**	–	190	**165**	–
M	1	–	**–**	–	205	**180**	165	–	**–**	–	250	**220**	190
	2	–	**–**	–	185	**160**	130	–	**–**	–	225	**195**	170
	3	–	**–**	–	140	**120**	95	–	**–**	–	175	**160**	140
K	1	325	**295**	260	–	**–**	–	505	**460**	410	355	**320**	285
	2	255	**225**	215	–	**–**	–	400	**355**	330	280	**255**	230
	3	215	**190**	170	–	**–**	–	335	**300**	275	235	**210**	195
N	1–2	–	**–**	–	–	**–**	–	–	**–**	–	–	**–**	–
	3	–	**–**	–	–	**–**	–	–	**–**	–	–	**–**	–
S	1	–	**–**	–	45	**35**	30	–	**–**	–	–	**–**	–
	2	–	**–**	–	45	**35**	30	–	**–**	–	–	**–**	–
	3	–	**–**	–	55	**45**	30	–	**–**	–	–	**–**	–
	4	–	**–**	–	75	**55**	35	–	**–**	–	–	**–**	–
H	1	–	**–**	–	–	**–**	–	–	**–**	–	–	**–**	–

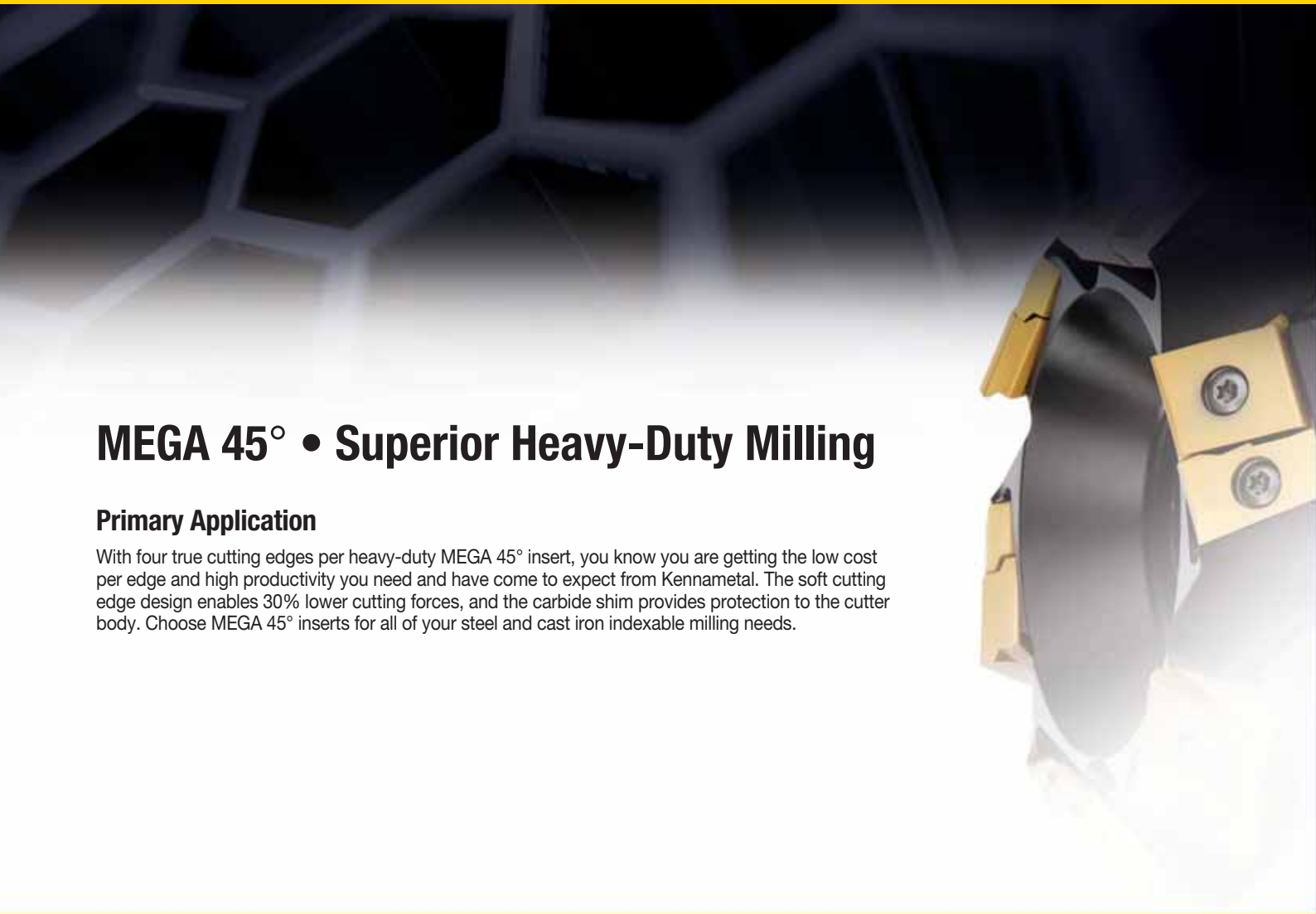
NOTE: FIRST choice starting speeds are in **bold** type.
As the average chip thickness increases, the speed should be decreased.

Recommended Starting Feeds [mm]

Light Machining	General Purpose	Heavy Machining

Insert Geometry	Programmed Feed per Tooth (fz) as a % of Radial Depth of Cut (ae)															Insert Geometry
	10%			20%			30%			40%			50–100%			
.E..GD	0,17	**0,35**	0,65	0,13	**0,27**	0,49	0,11	**0,23**	0,42	0,10	**0,22**	0,40	0,10	**0,21**	0,39	.E..GD
.S..GD	0,24	**0,46**	0,84	0,18	**0,35**	0,63	0,16	**0,30**	0,55	0,15	**0,28**	0,51	0,14	**0,28**	0,50	.S..GD
.S..HD	0,24	**0,60**	0,97	0,18	**0,45**	0,72	0,16	**0,39**	0,63	0,15	**0,37**	0,59	0,14	**0,36**	0,57	.S..HD

NOTE: Use “Light Machining” values as starting feed rate.



MEGA 45° • Superior Heavy-Duty Milling

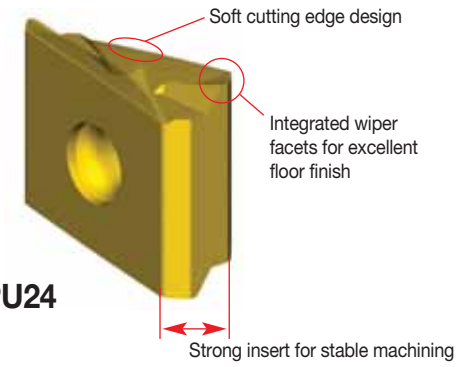
Primary Application

With four true cutting edges per heavy-duty MEGA 45° insert, you know you are getting the low cost per edge and high productivity you need and have come to expect from Kennametal. The soft cutting edge design enables 30% lower cutting forces, and the carbide shim provides protection to the cutter body. Choose MEGA 45° inserts for all of your steel and cast iron indexable milling needs.

Features and Benefits

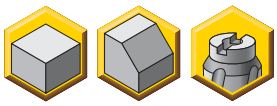
Features	Benefits
Four true cutting edges per heavy-duty MEGA 45° insert.	Low cost per edge and high productivity.
Soft cutting edge design.	30% lower cutting forces.
Up to 30% increased Metal Removal Rates (MRR).	Performance leader in steel and cast iron materials.
Carbide pocket shims.	Excellent cutter body protection.

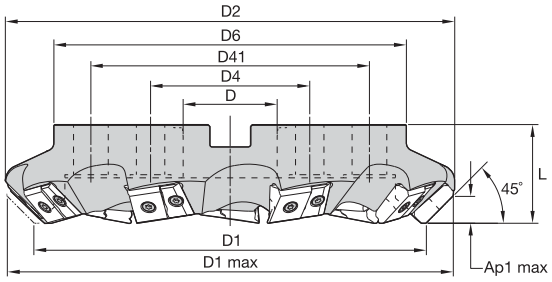
4 True Cutting Edges



LNPU24

- Four cutting edges per insert.
- Ap1 max = 17mm.
- Up to 30% higher metal removal rate (MRR).
- Cutter body protection with carbide shims.





MEGA45 • Shell Mills

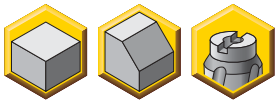
order number	catalogue number	D1	D1 max	D	D2	D4	D41	D6	L	Ap1 max	Z	kg	max RPM
4040931	**MEGA45D125B06LN24**	125	160,3	40	169	—	—	90	63	17,2	6	4,40	12620
4040932	**MEGA45D160C07LN24**	160	195,4	40	201	66,7	—	130	63	17,2	7	6,46	11150
4102923	**MEGA45D200C07LN24**	200	235,4	60	239	101,6	—	160	63	17,2	7	8,41	9970
4040953	**MEGA45D200C09LN24**	200	235,4	60	239	101,6	—	160	63	17,2	9	8,83	9970
4102924	**MEGA45D250C09LN24**	250	285,4	60	287	101,6	177,8	225	63	17,2	9	13,54	8920
4040954	**MEGA45D250C11LN24**	250	285,4	60	287	101,6	177,8	225	63	17,2	11	13,97	8920
4102925	**MEGA45D315C10LN24**	315	350,4	60	352	101,6	177,8	225	80	17,2	10	22,57	7950
4040955	**MEGA45D315C13LN24**	315	350,4	60	352	101,6	177,8	225	80	17,2	13	23,03	7950

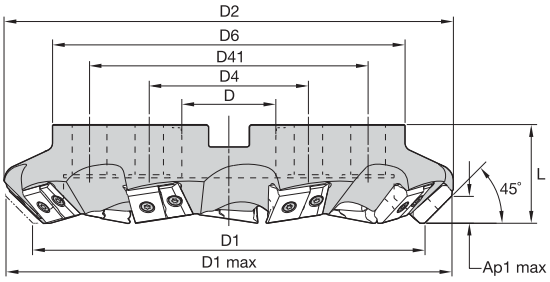
Spare Parts

D1	insert screw	Nm	shim	universal bit torque driver	drive bit
125	**MS1162**	5,0	**SM-906**	**DTQ3054**	**BTQT25**
160	**MS1162**	5,0	**SM-906**	**DTQ3054**	**BTQT25**
200	**MS1162**	5,0	**SM-906**	**DTQ3054**	**BTQT25**
250	**MS1162**	5,0	**SM-906**	**DTQ3054**	**BTQT25**
315	**MS1162**	5,0	**SM-906**	**DTQ3054**	**BTQT25**

NOTE: Shim screw: MS1162.

- Four cutting edges per insert.
- Ap1 max = 17mm.
- Up to 30% higher metal removal rate (MRR).
- Cutter body protection with carbide shims.
- JIS standard.

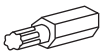




MEGA45 • Shell Mills • JIS (Japanese Industry Standard)

order number	catalogue number	D1	D1 max	D mm	D in	D2	D4	D41	D6	L	Ap1 max	Z	kg	max RPM
4040956	MEGA45D125B06LN24J	125	160,3	38,100	1.500	169	—	—	97	63	17,2	6	4,87	12620
4040957	MEGA45D160C07LN24J	160	195,4	50,800	2.000	201	101,6	—	130	63	17,2	7	7,10	11150
4102926	MEGA45D200C07LN24J	200	235,4	47,625	1.875	239	101,6	—	160	63	17,2	7	9,21	9970
4040958	MEGA45D200C09LN24J	200	235,4	47,625	1.875	239	101,6	—	160	63	17,2	9	9,63	9970
4102927	MEGA45D250C09LN24J	250	285,4	47,625	1.875	287	101,6	177,8	225	63	17,2	9	14,97	8920
4040959	MEGA45D250C11LN24J	250	285,4	47,625	1.875	287	101,6	177,8	225	63	17,2	11	15,40	8920
4102928	MEGA45D315C10LN24J	315	350,4	47,625	1.875	352	101,6	177,8	225	80	17,2	10	23,48	7950
4040960	MEGA45D315C13LN24J	315	350,4	47,625	1.875	352	101,6	177,8	225	80	17,2	13	23,94	7950

Spare Parts



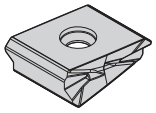
D1	insert screw	Nm	shim	universal bit torque driver	drive bit
125	MS1162	5,0	SM-906	DTQ3054	BTQT25
160	MS1162	5,0	SM-906	DTQ3054	BTQT25
200	MS1162	5,0	SM-906	DTQ3054	BTQT25
250	MS1162	5,0	SM-906	DTQ3054	BTQT25
315	MS1162	5,0	SM-906	DTQ3054	BTQT25

NOTE: Shim screw: MS1162.

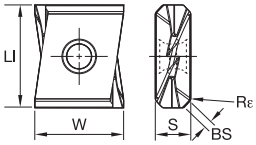
Insert Selection Guide

Material Group	Light Machining		General Purpose		Heavy Machining	
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1–P2	.S..HD	KC725M	**.S..HD**	**KC725M**	.S..HD	KCPK30
P3–P4	.S..HD	KC725M	**.S..HD**	**KCPK30**	.S..HD	KCPK30
P5–P6	.S..HD	KC725M	**.S..HD**	**KCPK30**	.S..HD	KCPK30
M1–M2	–	–	–	–	–	–
M3	–	–	–	–	–	–
K1–K2	.S..HD	KC520M	**.S..HD**	**KCK15**	.S..HD	KCPK30
K3	.S..HD	KC520M	**.S..HD**	**KCPK30**	.S..HD	KCPK30
N1–N2	–	–	–	–	–	–
N3	–	–	–	–	–	–
S1–S2	–	–	–	–	–	–
S3	–	–	–	–	–	–
S4	–	–	–	–	–	–
H1	–	–	–	–	–	–

Indexable Inserts



LNPU-HD



● first choice
○ alternate choice

	KC520M	KC725M	KCK15	KCPK30
P		●		●
M				
K	●		●	○
N				
S				
H				

LNPU-HD

catalogue number	Ll	BS	W	Rε	S	hm	cutting edges	KC520M	KC725M	KCK15	KCPK30
LNPU2410ANSRHD	29,00	2,25	25,02	1,20	10,00	0,23	4	●	●	●	●

Recommended Starting Speeds [m/min]

Material Group		KC520M			KC725M			KCK15			KCPK30		
P	1	–	**–**	–	315	**275**	255	–	**–**	–	545	**475**	440
	2	–	**–**	–	260	**230**	195	–	**–**	–	335	**305**	275
	3	–	**–**	–	240	**205**	170	–	**–**	–	305	**275**	250
	4	–	**–**	–	215	**180**	145	–	**–**	–	225	**210**	190
	5	–	**–**	–	180	**160**	145	–	**–**	–	310	**275**	255
	6	–	**–**	–	160	**120**	95	–	**–**	–	190	**165**	–
M	1	–	**–**	–	–	**–**	–	–	**–**	–	–	**–**	–
	2	–	**–**	–	–	**–**	–	–	**–**	–	–	**–**	–
	3	–	**–**	–	–	**–**	–	–	**–**	–	–	**–**	–
K	1	325	**295**	260	–	**–**	–	505	**460**	410	355	**320**	285
	2	255	**225**	215	–	**–**	–	400	**355**	330	280	**255**	230
	3	215	**190**	170	–	**–**	–	335	**300**	275	235	**210**	195
N	1–2	–	**–**	–	–	**–**	–	–	**–**	–	–	**–**	–
	3	–	**–**	–	–	**–**	–	–	**–**	–	–	**–**	–
S	1	–	**–**	–	–	**–**	–	–	**–**	–	–	**–**	–
	2	–	**–**	–	–	**–**	–	–	**–**	–	–	**–**	–
	3	–	**–**	–	–	**–**	–	–	**–**	–	–	**–**	–
	4	–	**–**	–	–	**–**	–	–	**–**	–	–	**–**	–
H	1	–	**–**	–	–	**–**	–	–	**–**	–	–	**–**	–
	2	–	**–**	–	–	**–**	–	–	**–**	–	–	**–**	–
	3	–	**–**	–	–	**–**	–	–	**–**	–	–	**–**	–

NOTE: FIRST choice starting speeds are in **bold** type.
As the average chip thickness increases, the speed should be decreased.

Recommended Starting Feeds [mm]

Light Machining	General Purpose	Heavy Machining

Insert Geometry	Programmed Feed per Tooth (fz) as a % of Radial Depth of Cut (ae)															Insert Geometry
	10%			20%			30%			40%			50–100%			
.S..HD	0,24	**0,54**	0,97	0,18	**0,41**	0,72	0,16	**0,35**	0,63	0,15	**0,33**	0,59	0,14	**0,32**	0,57	.S..HD

NOTE: Use “Light Machining” values as starting feed rate.

MEGA 15, 60, and 90

Primary Application

The real performance booster in heavy-duty milling. With four true cutting edges per heavy-duty insert, you know you are getting the low cost per edge and high productivity you need and have come to expect from Kennametal. The soft cutting edge design enables 30% lower cutting forces, and the carbide shim provides protection to the cutter body. Choose MEGA 15, MEGA 60, and MEGA 90 for all of your steel and cast iron indexable milling needs.

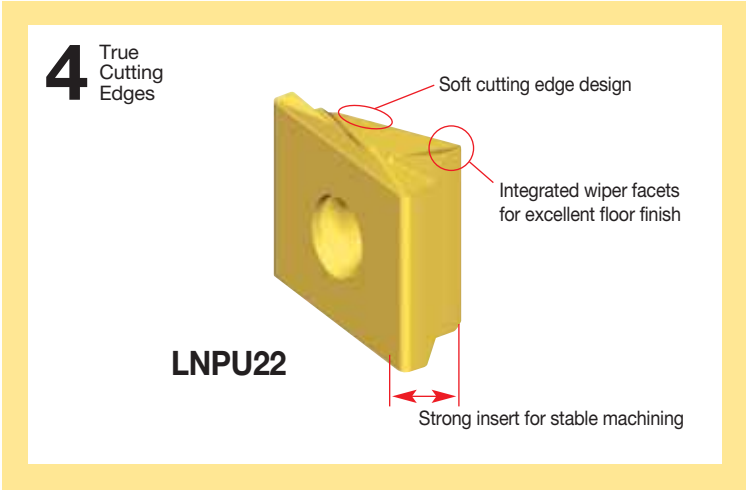
Features and Benefits

Features

- Four true cutting edges per heavy-duty insert.
- One insert style for MEGA 15, MEGA 60, and MEGA 90.
- Soft cutting edge design.
- Up to 30% increased Metal Removal Rates (MRR).
- Carbide pocket shims.

Benefits

- Low cost per edge and high productivity.
- Maximum flexibility to address application needs.
- 30% lower cutting forces.
- Performance leader in steel and cast iron materials.
- Excellent cutter body protection.



One Insert Style for MEGA 15, MEGA 60, and MEGA 90

MEGA 15

Ap1 max = 6mm

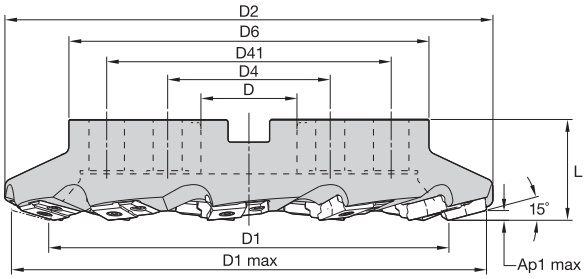
MEGA 60

Ap1 max = 21mm

MEGA 90

Ap1 max = 25mm

- Four cutting edges per insert.
- Ap1 max = 6mm.
- High-Feed capability.
- Cutter body protection with carbide shims.



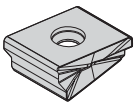
MEGA15 • High-Feed • Shell Mills

order number	catalogue number	D1	D1 max	D	D2	D4	D41	D6	L	Ap1 max	Z	kg	max RPM
4163319	MEGA15D125B06LN22	125	172,2	40	185	–	–	100	63	6,1	6	4,72	9200
4163320	MEGA15D160C07LN22	160	207,1	40	220	66,7	–	130	63	6,1	7	6,49	8130
4163321	MEGA15D200C09LN22	200	247,0	60	260	101,6	–	160	63	6,1	9	9,72	7270
4163322	MEGA15D250C11LN22	250	296,9	60	305	101,6	177,8	225	63	6,1	11	14,36	6500
4163703	MEGA15D315C13LN22	315	361,8	60	372	101,6	177,8	225	80	6,0	13	21,52	5790

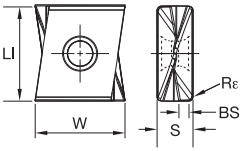
NOTE: For spare parts, see page O40.

Insert Selection Guide

Material Group	Light Machining		General Purpose		Heavy Machining	
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1–P2	.S..HD	KC725M	**.S..HD**	**KC725M**	.S..HD	KCPK30
P3–P4	.S..HD	KC725M	**.S..HD**	**KCPK30**	.S..HD	KCPK30
P5–P6	.S..HD	KCPK30	**.S..HD**	**KCPK30**	.S..HD	KCPK30
M1–M2	–	–	**–**	**–**	–	–
M3	–	–	**–**	**–**	–	–
K1–K2	.S..HD	KC520M	**.S..HD**	**KCK15**	.S..HD	KCPK30
K3	.S..HD	KCK15	**.S..HD**	**KCPK30**	.S..HD	KCPK30
N1–N2	–	–	**–**	**–**	–	–
N3	–	–	**–**	**–**	–	–
S1–S2	–	–	**–**	**–**	–	–
S3	–	–	**–**	**–**	–	–
S4	–	–	**–**	**–**	–	–
H1	–	–	**–**	**–**	–	–



LNPU-HD



beyond

● first choice
○ alternate choice

	KC520M	KC725M	KCK15	KCPK30
P		●		●
M				
K	●		●	○
N				
S				
H				

LNPU-HD

catalogue number	Ll	BS	W	Rε	S	hm	cutting edges	KC520M	KC725M	KCK15	KCPK30
LNPU221012PNSRHD	26,50	2,31	25,01	1,20	10,00	0,23	4	●	●	●	●

Recommended Starting Speeds and Feeds

Recommended Starting Speeds [m/min]

Material Group		KC520M			KC725M			KCK15			KCPK30		
P	1	–	–	–	315	**275**	255	–	–	–	545	**475**	440
	2	–	–	–	260	**230**	195	–	–	–	335	**305**	275
	3	–	–	–	240	**205**	170	–	–	–	305	**275**	250
	4	–	–	–	215	**180**	145	–	–	–	225	**210**	190
	5	–	–	–	180	**160**	145	–	–	–	310	**275**	255
	6	–	–	–	160	**120**	95	–	–	–	190	**165**	–
M	1	–	–	–	–	–	–	–	–	–	–	–	–
	2	–	–	–	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–	–	–	–
K	1	325	**295**	260	–	–	–	505	**460**	410	355	**320**	285
	2	255	**225**	215	–	–	–	400	**355**	330	280	**255**	230
	3	215	**190**	170	–	–	–	335	**300**	275	235	**210**	195
N	1–2	–	–	–	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–	–	–	–
S	1	–	–	–	–	–	–	–	–	–	–	–	–
	2	–	–	–	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–	–	–	–
	4	–	–	–	–	–	–	–	–	–	–	–	–
H	1	–	–	–	–	–	–	–	–	–	–	–	–
	2	–	–	–	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–	–	–	–

NOTE: FIRST choice starting speeds are in **bold** type.
As the average chip thickness increases, the speed should be decreased.

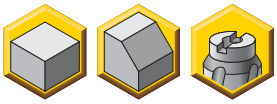
Recommended Starting Feeds [mm]

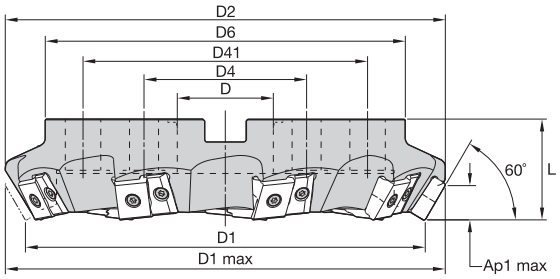
Light Machining	General Purpose	Heavy Machining

Insert Geometry	Programmed Feed per Tooth (fz) as a % of Radial Depth of Cut (ae)															Insert Geometry
	10%			20%			30%			40%			50–100%			
.S..HD	0,66	**1,50**	2,27	0,49	**1,11**	1,67	0,43	**0,97**	1,45	0,40	**0,90**	1,36	0,39	**0,88**	1,33	.S..HD

NOTE: Use “Light Machining” values as starting feed rate.

- Four cutting edges per insert.
- Ap1 max = 21mm.
- Up to 30% higher metal removal rate (MRR).
- Cutter body protection with carbide shims.





MEGA60 • Shell Mills

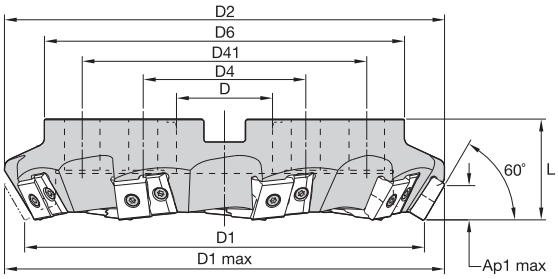
order number	catalogue number	D1	D1 max	D	D2	D4	D41	D6	L	Ap1 max	Z	kg	max RPM
4147458	**MEGA60D125B06LN22**	125	150,0	40	155	—	—	90	63	21,4	6	3,76	11130
4147459	**MEGA60D160C07LN22**	160	184,9	40	190	66,7	—	130	63	21,4	7	5,73	9830
4147460	**MEGA60D200C07LN22**	200	224,9	60	225	101,6	—	160	63	21,4	7	8,17	8790
4147461	**MEGA60D200C09LN22**	200	224,9	60	225	101,6	—	160	63	21,4	9	8,26	8790
4147462	**MEGA60D250C09LN22**	250	274,9	60	275	101,6	177,8	225	63	21,4	9	12,93	7870
4147483	**MEGA60D250C11LN22**	250	274,9	60	275	101,6	177,8	225	63	21,4	11	13,09	7870
4147484	**MEGA60D315C10LN22**	315	339,9	60	340	101,6	177,8	225	80	21,4	10	21,29	7010
4147485	**MEGA60D315C13LN22**	315	339,9	60	340	101,6	177,8	225	80	21,4	13	21,39	7010

Spare Parts

D1	insert screw	Nm	shim	universal bit torque driver	drive bit
125	**MS1162**	5,0	**SM-906**	**DTQ3054**	**BTQT25**
160	**MS1162**	5,0	**SM-906**	**DTQ3054**	**BTQT25**
200	**MS1162**	5,0	**SM-906**	**DTQ3054**	**BTQT25**
250	**MS1162**	5,0	**SM-906**	**DTQ3054**	**BTQT25**
315	**MS1162**	5,0	**SM-906**	**DTQ3054**	**BTQT25**

NOTE: Shim screw: MS1162.

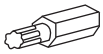
- Four cutting edges per insert.
- Ap1 max = 21mm.
- Up to 30% higher metal removal rate (MRR).
- Cutter body protection with carbide shims.
- JIS standard.



MEGA60 • Shell Mills • JIS (Japanese Industry Standard)

order number	catalogue number	D1	D1 max	D mm	D in	D2	D4	D41	D6	L	Ap1 max	Z	kg	max RPM
4147486	**MEGA60D125B06LN22J**	125	150,0	38,100	1.500	155	—	—	97	63	21,4	6	4,15	11130
4147487	**MEGA60D160C07LN22J**	160	184,9	50,800	2.000	190	—	—	130	63	21,4	7	6,27	9830
4147488	**MEGA60D200C07LN22J**	200	224,9	47,625	1.875	225	101,6	—	160	63	21,4	7	9,02	8790
4147489	**MEGA60D200C09LN22J**	200	224,9	47,625	1.875	225	101,6	—	160	63	21,4	9	9,11	8790
4147490	**MEGA60D250C09LN22J**	250	274,9	47,625	1.875	275	101,6	177,8	225	63	21,4	9	14,47	7870
4147491	**MEGA60D250C11LN22J**	250	274,9	47,625	1.875	275	101,6	177,8	225	63	21,4	11	14,63	7870
4147492	**MEGA60D315C10LN22J**	315	339,9	47,625	1.875	340	101,6	177,8	225	80	21,4	10	22,94	7010
4147493	**MEGA60D315C13LN22J**	315	339,9	47,625	1.875	340	101,6	177,8	225	80	21,4	13	23,04	7010

Spare Parts



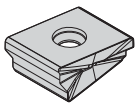
D1	insert screw	Nm	shim	universal bit torque driver	drive bit
125	**MS1162**	5,0	**SM-906**	**DTQ3054**	**BTQT25**
160	**MS1162**	5,0	**SM-906**	**DTQ3054**	**BTQT25**
200	**MS1162**	5,0	**SM-906**	**DTQ3054**	**BTQT25**
250	**MS1162**	5,0	**SM-906**	**DTQ3054**	**BTQT25**
315	**MS1162**	5,0	**SM-906**	**DTQ3054**	**BTQT25**

NOTE: Shim screw: MS1162.

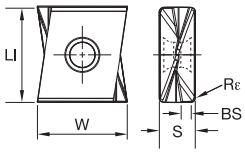
Insert Selection Guide

Material Group	Light Machining Geometry	Light Machining Grade	General Purpose Geometry	General Purpose Grade	Heavy Machining Geometry	Heavy Machining Grade
P1–P2	.S..HD	KC725M	**.S..HD**	**KC725M**	.S..HD	KCPK30
P3–P4	.S..HD	KC725M	**.S..HD**	**KCPK30**	.S..HD	KCPK30
P5–P6	.S..HD	KCPK30	**.S..HD**	**KCPK30**	.S..HD	KCPK30
M1–M2	–	–	–	–	–	–
M3	–	–	–	–	–	–
K1–K2	.S..HD	KC520M	**.S..HD**	**KCK15**	.S..HD	KCPK30
K3	.S..HD	KCK15	**.S..HD**	**KCPK30**	.S..HD	KCPK30
N1–N2	–	–	–	–	–	–
N3	–	–	–	–	–	–
S1–S2	–	–	–	–	–	–
S3	–	–	–	–	–	–
S4	–	–	–	–	–	–
H1	–	–	–	–	–	–

Indexable Inserts



LNPU-HD



beyond

P			●		●
M					
K		●		●	○
N					
S					
H					
		KC520M	KC725M	KCK15	KCPK30

● first choice
○ alternate choice

LNPU-HD

catalogue number	Ll	BS	W	Rε	S	hm	cutting edges	KC520M	KC725M	KCK15	KCPK30
LNPU221012PNSRHD	26,50	2,31	25,01	1,20	10,00	0,23	4	●	●	●	●

Recommended Starting Speeds [m/min]

Material Group		KC520M			KC725M			KCK15			KCPK30		
P	1	–	–	–	315	**275**	255	–	–	–	545	**475**	440
	2	–	–	–	260	**230**	195	–	–	–	335	**305**	275
	3	–	–	–	240	**205**	170	–	–	–	305	**275**	250
	4	–	–	–	215	**180**	145	–	–	–	225	**210**	190
	5	–	–	–	180	**160**	145	–	–	–	310	**275**	255
	6	–	–	–	160	**120**	95	–	–	–	190	**165**	–
M	1	–	–	–	–	–	–	–	–	–	–	–	–
	2	–	–	–	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–	–	–	–
K	1	325	**295**	260	–	–	–	505	**460**	410	355	**320**	285
	2	255	**225**	215	–	–	–	400	**355**	330	280	**255**	230
	3	215	**190**	170	–	–	–	335	**300**	275	235	**210**	195
N	1–2	–	–	–	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–	–	–	–
S	1	–	–	–	–	–	–	–	–	–	–	–	–
	2	–	–	–	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–	–	–	–
	4	–	–	–	–	–	–	–	–	–	–	–	–
H	1	–	–	–	–	–	–	–	–	–	–	–	–
	2	–	–	–	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–	–	–	–

NOTE: FIRST choice starting speeds are in **bold** type.
As the average chip thickness increases, the speed should be decreased.

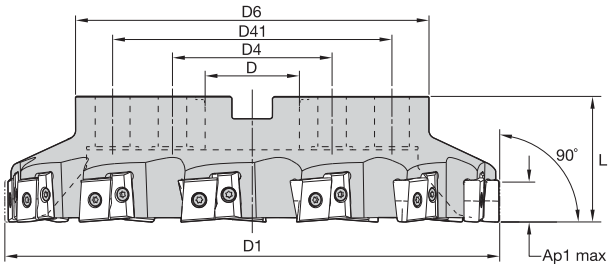
Recommended Starting Feeds [mm]

Light Machining	General Purpose	Heavy Machining

Insert Geometry	Programmed Feed per Tooth (fz) as a % of Radial Depth of Cut (ae)															Insert Geometry
	10%			20%			30%			40%			50–100%			
.S..HD	0,20	**0,49**	0,79	0,15	**0,37**	0,59	0,13	**0,32**	0,51	0,12	**0,30**	0,48	0,12	**0,29**	0,47	.S..HD

NOTE: Use “Light Machining” values as starting feed rate.

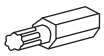
- Four cutting edges per insert.
- Ap1 max = 25mm.
- Up to 30% higher metal removal rate (MRR).
- Cutter body protection with carbide shims.



MEGA90 • Shell Mills

order number	catalogue number	D1	D	D4	D41	D6	L	Ap1 max	Z	kg	max RPM
4129656	**MEGA90D125B06LN22**	125	40	—	—	90	63	25,5	6	3,19	10070
4129657	**MEGA90D160C07LN22**	160	40	66,7	—	130	63	25,5	7	4,86	8900
4129658	**MEGA90D200C07LN22**	200	60	101,6	—	160	63	25,5	7	6,85	7960
4129659	**MEGA90D200C09LN22**	200	60	101,6	—	160	63	25,5	9	6,92	7960
4129660	**MEGA90D250C09LN22**	250	60	101,6	—	160	63	25,5	9	9,82	7120
4129661	**MEGA90D250C11LN22**	250	60	101,6	—	160	63	25,5	11	9,95	7120
4129662	**MEGA90D315C10LN22**	315	60	101,6	177,8	225	80	25,5	10	17,66	6340
4129664	**MEGA90D315C13LN22**	315	60	101,6	177,8	225	80	25,5	13	17,78	6340

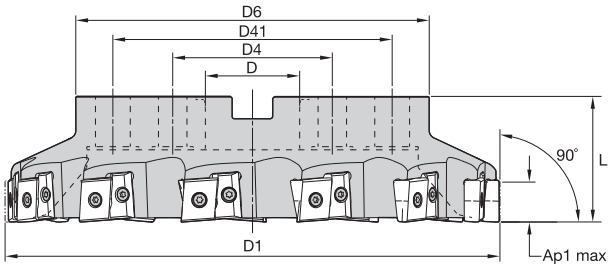
Spare Parts



D1	insert screw	Nm	shim	universal bit torque driver	drive bit
125	**MS1162**	5,0	**SM-906**	**DTQ3054**	**BTQT25**
160	**MS1162**	5,0	**SM-906**	**DTQ3054**	**BTQT25**
200	**MS1162**	5,0	**SM-906**	**DTQ3054**	**BTQT25**
250	**MS1162**	5,0	**SM-906**	**DTQ3054**	**BTQT25**
315	**MS1162**	5,0	**SM-906**	**DTQ3054**	**BTQT25**

NOTE: Shim screw: MS1162.

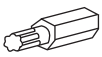
- Four cutting edges per insert.
- Ap1 max = 25mm.
- Up to 30% higher metal removal rate (MRR).
- Cutter body protection with carbide shims.
- JIS standard.



MEGA90 • Shell Mills • JIS (Japanese Industry Standard)

order number	catalogue number	D1	D mm	D in	D4	D41	D6	L	Ap1 max	Z	kg	max RPM
4129665	**MEGA90D125B06LN22J**	125	38,100	1.500	—	—	97	63	25,5	6	3,44	10070
4129666	**MEGA90D160C07LN22J**	160	50,800	2.000	—	—	130	63	25,5	7	5,63	8900
4129667	**MEGA90D200C07LN22J**	200	47,625	1.875	101,6	—	160	63	25,5	7	7,63	7960
4129668	**MEGA90D200C09LN22J**	200	47,625	1.875	101,6	—	160	63	25,5	9	7,70	7960
4129669	**MEGA90D250C09LN22J**	250	47,625	1.875	101,6	—	160	63	25,5	9	11,09	7120
4129670	**MEGA90D250C11LN22J**	250	47,625	1.875	101,6	—	160	63	25,5	11	11,22	7120
4129671	**MEGA90D315C10LN22J**	315	47,625	1.875	101,6	177,8	225	80	25,5	10	19,31	6340
4129672	**MEGA90D315C13LN22J**	315	47,625	1.875	101,6	177,8	225	80	25,5	13	19,46	6340

Spare Parts



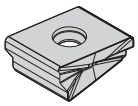
D1	insert screw	Nm	shim	universal bit torque driver	drive bit
125	**MS1162**	5,0	**SM-906**	**DTQ3054**	**BTQT25**
160	**MS1162**	5,0	**SM-906**	**DTQ3054**	**BTQT25**
200	**MS1162**	5,0	**SM-906**	**DTQ3054**	**BTQT25**
250	**MS1162**	5,0	**SM-906**	**DTQ3054**	**BTQT25**
315	**MS1162**	5,0	**SM-906**	**DTQ3054**	**BTQT25**

NOTE: Shim screw: MS1162.

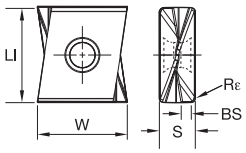
Insert Selection Guide

Material Group	Light Machining		General Purpose		Heavy Machining	
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1–P2	.S..HD	KC725M	**.S..HD**	**KC725M**	.S..HD	KCPK30
P3–P4	.S..HD	KC725M	**.S..HD**	**KCPK30**	.S..HD	KCPK30
P5–P6	.S..HD	KCPK30	**.S..HD**	**KCPK30**	.S..HD	KCPK30
M1–M2	–	–	**–**	**–**	–	–
M3	–	–	**–**	**–**	–	–
K1–K2	.S..HD	KC520M	**.S..HD**	**KCK15**	.S..HD	KCPK30
K3	.S..HD	KCK15	**.S..HD**	**KCPK30**	.S..HD	KCPK30
N1–N2	–	–	**–**	**–**	–	–
N3	–	–	**–**	**–**	–	–
S1–S2	–	–	**–**	**–**	–	–
S3	–	–	**–**	**–**	–	–
S4	–	–	**–**	**–**	–	–
H1	–	–	**–**	**–**	–	–

Indexable Inserts



LNPU-HD



beyond

● first choice
○ alternate choice

LNPU-HD

catalogue number	LI	BS	W	Rε	S	hm	cutting edges	KC520M	KC725M	KCK15	KCPK30
LNPU221012PNSRHD	26,50	2,31	25,01	1,20	10,00	0,23	4	●	●	●	●

	KC520M	KC725M	KCK15	KCPK30
P		●		●
M				
K	●		●	○
N				
S				
H				

Recommended Starting Speeds [m/min]

Material Group		KC520M			KC725M			KCK15			KCPK30		
P	1	–	–	–	260	**230**	215	–	–	–	455	**395**	370
	2	–	–	–	220	**190**	160	–	–	–	280	**255**	230
	3	–	–	–	200	**170**	140	–	–	–	255	**230**	205
	4	–	–	–	180	**150**	120	–	–	–	190	**175**	160
	5	–	–	–	150	**135**	120	–	–	–	260	**230**	210
	6	–	–	–	130	**100**	80	–	–	–	160	**135**	–
M	1	–	–	–	–	–	–	–	–	–	–	–	–
	2	–	–	–	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–	–	–	–
K	1	270	**245**	215	–	–	–	420	**385**	340	295	**265**	240
	2	210	**190**	175	–	–	–	335	**295**	275	235	**210**	190
	3	175	**160**	145	–	–	–	280	**250**	230	195	**175**	160
N	1–2	–	–	–	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–	–	–	–
S	1	–	–	–	–	–	–	–	–	–	–	–	–
	2	–	–	–	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–	–	–	–
	4	–	–	–	–	–	–	–	–	–	–	–	–
H	1	–	–	–	–	–	–	–	–	–	–	–	–
	2	–	–	–	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–	–	–	–

NOTE: FIRST choice starting speeds are in **bold** type.
As the average chip thickness increases, the speed should be decreased.

Recommended Starting Feeds [mm]

Light Machining	General Purpose	Heavy Machining

Insert Geometry	Programmed Feed per Tooth (fz) as a % of Radial Depth of Cut (ae)															Insert Geometry
	10%			20%			30%			40%			50–100%			
.S..HD	0,17	**0,43**	0,68	0,13	**0,32**	0,51	0,11	**0,28**	0,44	0,10	**0,26**	0,41	0,10	**0,25**	0,41	.S..HD

NOTE: Use “Light Machining” values as starting feed rate.

Beyond BLAST™ • KSSM™ 45

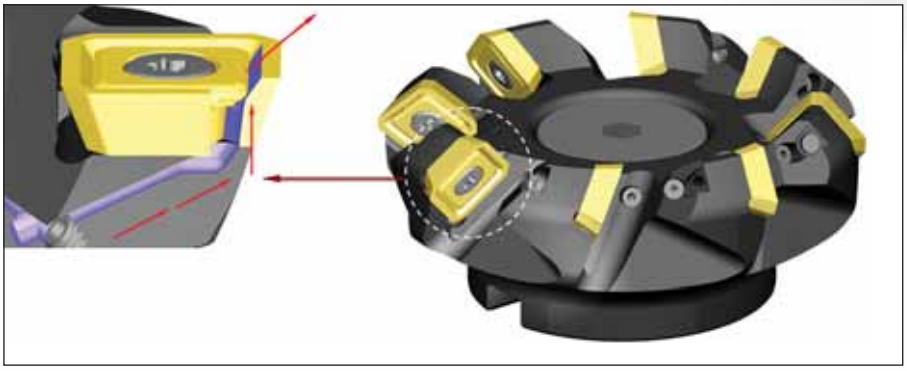
More than just the right tool — the ultimate solution.

Primary Application

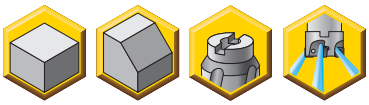
The Beyond BLAST KSSM 45° utilises Precision Coolant Technology (PCT) to aggressively apply coolant directly to the cutting area. Not only does this reduce heat at the cutting edge, but it also assists with reducing tool and chip friction, increasing chip evacuation, and relieving shear stress. Because the Beyond BLAST technology can be applied in low-pressure conditions, there is no need to invest in additional equipment. It's so easy to convert from conventional to Beyond BLAST technology, it can be done directly on the floor — virtually eliminating costly downtime. See what the performance leader can do for your titanium machining.

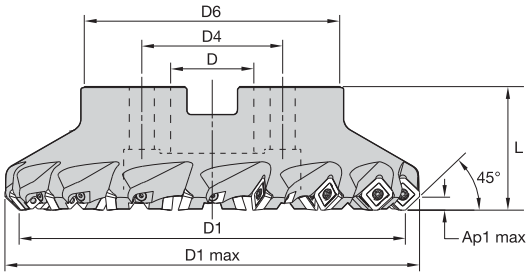
Features and Benefits

Features	Benefits
PCT — Precision Coolant Technology.	Coolant delivery exactly to the cutting area.
Increased heat transfer.	Less tool/chip friction and shear stress.
Improved chip control.	True internal coolant assists chip evacuation.
Beyond BLAST also works with regular low-pressure conditions.	No need for investments in high-pressure equipment.
Easy to convert from conventional to Beyond BLAST Technology.	Shop-floor-proven handling reduces costly downtime.
Up to 100% better tool life.	Performance leader in machining titanium.



- Precision Coolant Technology (PCT).
- Coolant delivery exactly to cutting area.
- Increased heat transfer.
- Improved chip control.
- Productivity booster for machining titanium.



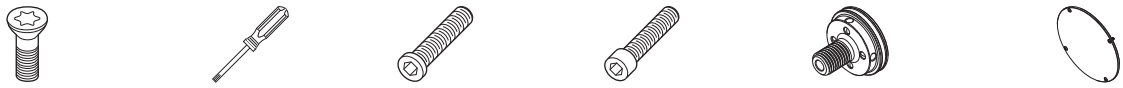


beyond BLAST™

BB Shell Mills 45°

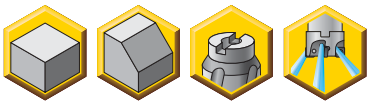
order number	catalogue number	D1	D1 max	D	D4	D6	L	Ap1 max	Z	kg	max RPM
4137779	50A04RS45SE14BB	50	63,9	22	–	50	40	6,6	4	0,47	18400
4137780	63A05RS45SE14BB	63	76,8	22	–	50	40	6,6	5	0,61	16400
4137781	80A06RS45SE14BB	80	93,8	27	–	60	50	6,6	6	1,19	14500
4137782	100B07RS45SE14BB	100	113,7	32	–	80	50	6,6	7	1,89	13000
4147354	100B10RS45SE14BB	100	113,7	32	–	80	50	6,6	10	1,91	13000
4137783	125B08RS45SE14BB	125	138,7	40	–	90	63	6,6	8	3,36	11600
4147355	125B12RS45SE14BB	125	138,7	40	–	90	63	6,6	12	3,35	11600
4137784	160C10RS45SE14BB	160	173,6	40	66,7	100	63	6,6	10	4,33	10300
4147356	160C14RS45SE14BB	160	173,6	40	66,7	100	63	6,6	14	4,35	10300
4137785	200C12RS45SE14BB	200	213,6	60	101,6	130	63	6,6	12	6,47	9200
4147357	200C16RS45SE14BB	200	213,6	60	101,6	130	63	6,6	16	6,84	9200

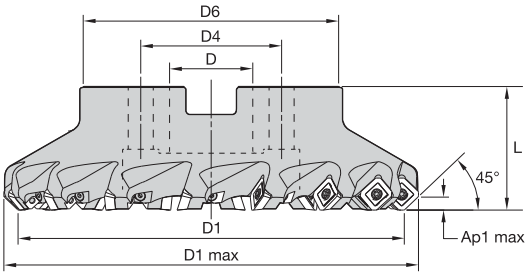
Spare Parts



D1	insert screw	Nm	Torx Plus driver	low-head cap screw	socket-head cap screw	coolant lock screw	coolant shower plate assembly
50	MS2078	4,0	DT15IP	129.025	–	–	–
63	MS2078	4,0	DT15IP	129.025	–	–	–
80	MS2078	4,0	DT15IP	–	MS2038	–	–
100	MS2078	4,0	DT15IP	–	–	MS2195C	–
125	MS2078	4,0	DT15IP	–	–	MS2187C	–
160	MS2078	4,0	DT15IP	–	–	–	MCCM16001
200	MS2078	4,0	DT15IP	–	–	–	MCC080001

- Precision Coolant Technology (PCT).
- Coolant delivery exactly to cutting area.
- Increased heat transfer.
- Improved chip control.
- Productivity booster for machining titanium.





beyond BLAST™

BB Shell Mills 45° • JIS (Japanese Industry Standard)

order number	catalogue number	D1	D1 max	D mm	D in	D4	D6	L	Ap1 max	Z	kg	max RPM
4137786	80A06RS45SE14BBJ	80	93,8	25,400	1.000	–	56	50	6,6	6	1,13	14500
4137787	100B07RS45SE14BBJ	100	113,7	31,750	1.250	–	73	50	6,6	7	1,76	13000
4147358	100B10RS45SE14BBJ	100	113,7	31,750	1.250	–	73	50	6,6	10	1,79	13000
4137788	125B08RS45SE14BBJ	125	138,7	38,100	1.500	–	97	63	6,6	8	3,62	11600
4147359	125B12RS45SE14BBJ	125	138,7	38,100	1.500	–	97	63	6,6	12	3,62	11600
4137789	160B10RS45SE14BBJ	160	173,6	50,800	2.000	–	100	63	6,6	10	4,99	10300
4147360	160B14RS45SE14BBJ	160	173,6	50,800	2.000	–	100	63	6,6	14	5,01	10300
4137790	200C12RS45SE14BBJ	200	213,6	47,625	1,875	101,6	130	63	6,6	12	7,07	9200
4147361	200C16RS45SE14BBJ	200	213,6	47,625	1,875	101,6	130	63	6,6	16	7,08	9200

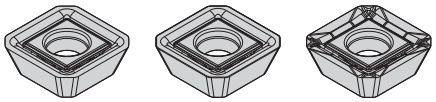
Spare Parts

D1	insert screw	Nm	Torx Plus driver	socket-head cap screw	coolant lock screw	coolant shower plate assembly
80	MS2078	4,0	DT15IP	125.230	–	–
100	MS2078	4,0	DT15IP	–	MS2220C	–
125	MS2078	4,0	DT15IP	–	MS2244C	–
160	MS2078	4,0	DT15IP	–	MS2245C	–
200	MS2078	4,0	DT15IP	–	–	MCC080001

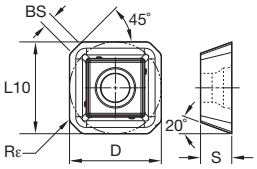
Insert Selection Guide

Material Group	Light Machining		General Purpose		Heavy Machining	
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1–P2	–	–	–	–	–	–
P3–P4	–	–	–	–	–	–
P5–P6	–	–	–	–	–	–
M1–M2	–	–	–	–	–	–
M3	–	–	–	–	–	–
K1–K2	–	–	–	–	–	–
K3	–	–	–	–	–	–
N1–N2	–	–	–	–	–	–
N3	–	–	–	–	–	–
S1–S2	–	–	–	–	–	–
S3	–	–	–	–	–	–
S4	.E..GD2	KC725M	**.E..GN**	**KC725M**	.S..GN	KC725M
H1	–	–	–	–	–	–

Indexable Inserts • BB KSSM 45°



SECX-ENGN SECX-SNGN SECX-GD2



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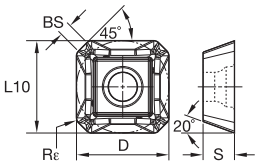


SECX-GD2

beyond BLAST™

● first choice
○ alternate choice

P	
M	
K	
N	
S	●
H	

Face Mills

SECX-GN

catalogue number	D	BS	L10	Rε	S	hm	cutting edges	KC725M
SECX1404AEENGN	14,00	1,85	14,00	1,00	4,76	0,06	4	●
SECX1404AESNGN	14,00	1,85	14,00	1,00	4,76	0,08	4	●

SECX-GD2

catalogue number	D	BS	L10	Rε	S	hm	cutting edges	KC725M
SECX1404AEENGD2	14,00	1,85	14,00	1,00	4,76	0,06	4	

Recommended Starting Speeds [m/min]

Material Group		KC725M		
P	1	–	–	–
	2	–	–	–
	3	–	–	–
	4	–	–	–
	5	–	–	–
	6	–	–	–
M	1	–	–	–
	2	–	–	–
	3	–	–	–
K	1	–	–	–
	2	–	–	–
	3	–	–	–
N	1–2	–	–	–
	3	–	–	–
S	1	–	–	–
	2	–	–	–
	3	–	–	–
	4	75	**55**	35
H	1	–	–	–
	2	–	–	–
	3	–	–	–

NOTE: FIRST choice starting speeds are in **bold** type.
As the average chip thickness increases, the speed should be decreased.

Recommended Starting Feeds [mm]

Light Machining	General Purpose	Heavy Machining

Insert Geometry	Programmed Feed per Tooth (fz) as a % of Radial Depth of Cut (ae)															Insert Geometry
	10%			20%			30%			40%			50–100%			
.E..GD2	0,17	**0,26**	0,36	0,12	**0,19**	0,27	0,11	**0,17**	0,24	0,10	**0,16**	0,22	0,10	**0,15**	0,22	.E..GD2
.E..GN	0,17	**0,26**	0,36	0,12	**0,19**	0,27	0,11	**0,17**	0,24	0,10	**0,16**	0,22	0,10	**0,15**	0,22	.E..GN
.S..GN	0,21	**0,31**	0,44	0,15	**0,23**	0,33	0,13	**0,20**	0,29	0,13	**0,19**	0,27	0,12	**0,18**	0,26	.S..GN

NOTE: Use “Light Machining” values as starting feed rate.

KSSM™ 45°

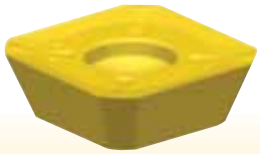
Primary Application

Universal face mill for conventional machining.

Features and Benefits

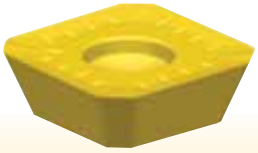
- Insert SE.T1404.
- Ap1 max = 6,6mm.
- Four true cutting edges.
- Pocket seat protection with carbide shims.
- Easy handling and rapid insert change.

-LD2



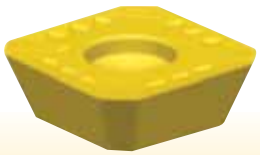
For light machining and semi-finishing, light edge prep.

-GP2



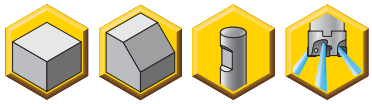
For medium roughing, medium edge prep.

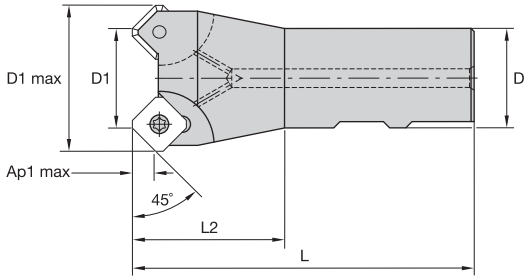
-GB2



For heavy roughing, strongest edge protection.

- Consumes less power.
- Rapid insert changes.

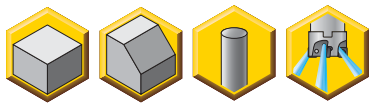


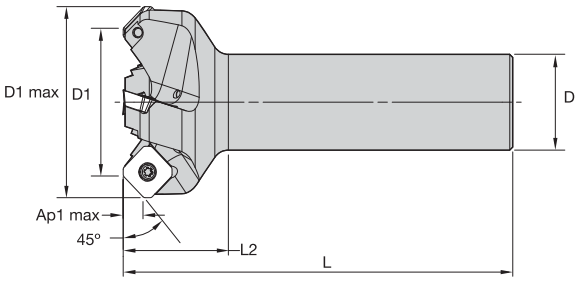


KSSM 45° • Weldon® End Mills

order number	catalogue number	D1	D1 max	D	L	L2	Ap1 max	Z	kg	max RPM
1926943	**40D3R049B32SSE14G**	40	54,0	32	110	49	6,6	3	0,70	26000

- Rapid insert changes.
- Suitable for a wide variety of workpiece materials.





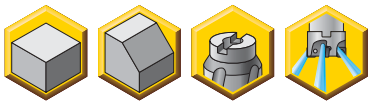
KSSM 45° • Cylindrical End Mills

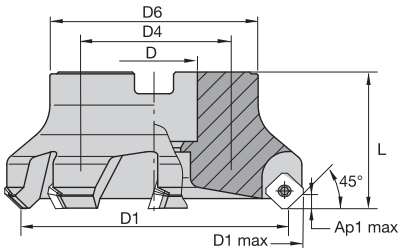
order number	catalogue number	D1	D1 max	D	L	L2	Ap1 max	Z	kg	max RPM
3127213	**50D4R049A32SSE14G**	50	63,9	32	130	49	6,6	4	0,92	23250
3127216	**63D5R049A32SSE14G**	63	76,8	32	130	49	6,6	5	1,08	20710
3127217	**80D6R049A32SSE14G**	80	93,8	32	130	49	6,6	6	1,36	18380

Spare Parts

D1	insert screw	Nm	Torx Plus driver
40	**MS2078**	4	**DT15IP**
50	**MS2078**	4	**DT15IP**
63	**MS2078**	4	**DT15IP**
80	**MS2078**	4	**DT15IP**

- Rapid insert changes.
- Carbide shims for pocket protection.





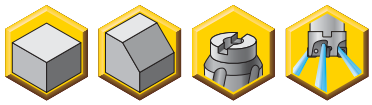
KSSM 45° • Shell Mills

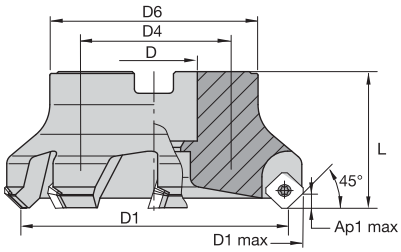
order number	catalogue number	D1	D1 max	D	D4	D6	L	Ap1 max	Z	kg	max RPM
1926850	40A03RS45SE14EG	40	54,0	16	–	44	40	6,6	3	0,30	26000
1926812	50A03RS45SE14EG	50	63,9	22	–	50	40	6,6	3	0,40	22500
1926900	50A04RS45SE14EG	50	63,9	22	–	50	40	6,6	4	0,40	22500
1926899	63A04RS45SE14EG	63	76,8	22	–	50	40	6,6	4	0,50	20200
1926897	63A05RS45SE14EG	63	76,8	22	–	50	40	6,6	5	0,60	20200
1926894	80A05RS45SE14EG	80	93,8	27	–	60	50	6,6	5	1,10	18000
1926893	80A06RS45SE14EG	80	93,8	27	–	60	50	6,6	6	1,20	18000
1926926	100B05RS45SE14EG	100	113,7	32	–	80	50	6,6	5	1,70	16000
1926925	100B07RS45SE14EG	100	113,7	32	–	80	50	6,6	7	1,80	16000
1926924	125B06RS45SE14EG	125	138,7	40	–	90	63	6,6	6	2,90	14400
1926911	125B08RS45SE14EG	125	138,7	40	–	90	63	6,6	8	3,00	14400
1926909	160C07RS45SE14EG	160	173,6	40	66,7	100	63	6,6	7	4,10	12500
1926908	160C10RS45SE14EG	160	173,6	40	66,7	100	63	6,6	10	4,30	12500

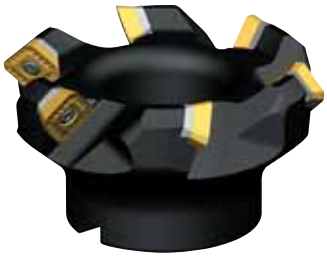
Spare Parts

D1	insert screw	Nm	Torx Plus driver	shim	shim screw	hex driver	low-head cap screw	socket-head cap screw
40	MS2078	4,0	DT15IP	–	–	–	MS2040	–
50	MS2078	4,0	DT15IP	–	–	–	129.025	–
63	MS2078	4,0	DT15IP	–	–	–	129.025	–
80	MS2078	4,0	DT15IP	SM455	SRS3	DH35M	–	MS2038
100	MS2078	4,0	DT15IP	SM455	SRS3	DH35M	–	–
125	MS2078	4,0	DT15IP	SM455	SRS3	DH35M	–	–
160	MS2078	4,0	DT15IP	SM455	SRS3	DH35M	–	–

- Rapid insert changes.
- Carbide shims for pocket protection.



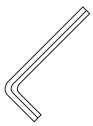




KSSM 45° • Shell Mills • JIS (Japanese Industry Standard)

order number	catalogue number	D1	D1 max	D mm	D in	D6	L	Ap1 max	Z	kg	max RPM
3669080	80A05RS45SE14EG-J	80	93,8	25,400	1.000	60	50	6,6	5	1,13	18000
3127218	80A06RS45SE14EG-J	80	93,8	25,400	1.000	60	50	6,6	6	1,16	18000
3669081	100B05RS45SE14EG-J	100	113,7	31,750	1.250	80	50	6,6	5	1,70	16000
3127219	100B07RS45SE14EG-J	100	113,7	31,750	1.250	80	50	6,6	7	1,80	16000
3669082	125B06RS45SE14EG-J	125	138,7	38,100	1.500	90	63	6,6	6	3,26	14400
3127220	125B08RS45SE14EG-J	125	138,7	38,100	1.500	90	63	6,6	8	3,09	14400
3669693	160B07RS45SE14EG-J	160	173,6	50,800	2.000	100	63	6,6	7	4,58	12500
3127221	160B10RS45SE14EG-J	160	173,6	50,800	2.000	100	63	6,6	10	—	12500

Spare Parts

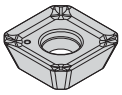


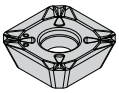
D1	insert screw	Nm	Torx Plus driver	shim	shim screw	hex driver
80	MS2078	4,0	DT15IP	SM455	SRS3	DH35M
100	MS2078	4,0	DT15IP	SM455	SRS3	DH35M
125	MS2078	4,0	DT15IP	SM455	SRS3	DH35M
160	MS2078	4,0	DT15IP	SM455	SRS3	DH35M

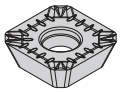
Insert Selection Guide

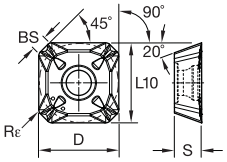
Material Group	Light Machining		General Purpose		Heavy Machining	
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1–P2	.E..LD2	KC725M	**.E..GP2**	**KC725M**	.E..GB2	KC725M
P3–P4	.E..GP2	KCPK30	**.E..GB2**	**KCPK30**	.S..GP2	KCPK30
P5–P6	.E..GB2	KCPM20	**.S..GP2**	**KCPM20**	.S..GB2	KCPM20
M1–M2	.E..GP2	KC725M	**.E..GB2**	**KC725M**	.S..GP2	KC725M
M3	.E..GB2	KCPK30	**.S..GP2**	**KCPK30**	.S..GB2	KCPK30
K1–K2	.E..GP2	KCK15	**.E..GB2**	**KCK15**	.S..GP2	KCK15
K3	.E..GB2	KCPK30	**.S..GP2**	**KCPK30**	.S..GB2	KCPK30
N1–N2	.F..LE	KC410M	**.F..LE**	**KC410M**	.F..LE	KC410M
N3	.F..LE	KC410M	**.F..LE**	**KC410M**	.F..LE	KC410M
S1–S2	.E..LD2	KC725M	**.E..GP2**	**KC725M**	.E..GB2	KC725M
S3	.E..GP2	KC725M	**.E..GB2**	**KC725M**	.S..GP2	KC725M
S4	.S..GP2	KC725M	**.S..GB2**	**KC725M**	–	–
H1	–	–	–	–	–	–

Indexable Inserts


SECT-LE


SECT-LD2


SEKT-GP2



SECT/SEKT/SEPT

beyond

		KC410M	KC520M	KC725M	KCK15	KCPM20	KCPK30	KY3500
P				●		●	●	
M				●		○	○	
K			●		●	○	○	●
N		●						
S				●				
H								

● first choice
○ alternate choice

Face Mills

SECT-LE

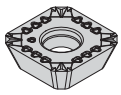
catalogue number	D	S	L10	BS	Rε	hm	cutting edges	KC410M	KC520M	KC725M	KCK15	KCPM20	KCPK30	KY3500
SECT1404AEFNLE	14,00	4,76	14,00	2,65	1,0	0,02	4	●						

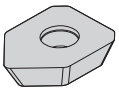
SECT-LD2

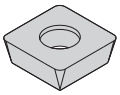
catalogue number	D	S	L10	BS	Rε	hm	cutting edges	KC410M	KC520M	KC725M	KCK15	KCPM20	KCPK30	KY3500
SECT1404AEENLD2	14,00	4,76	14,00	2,65	1,0	0,04	4			●		●		

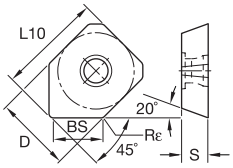
SEKT-GP2

catalogue number	D	S	L10	BS	Rε	hm	cutting edges	KC410M	KC520M	KC725M	KCK15	KCPM20	KCPK30	KY3500
SEKT1404AEENGP2	14,00	4,76	14,00	2,65	1,0	0,05	4		●	●	●	●	●	
SEKT1404AESNGP2	14,00	4,76	14,00	2,65	1,0	0,11	4		●	●	●	●	●	


SEPT-GB2


SECW-GNW


SECW-GN



SECW-GNW

beyond

P				●		●	●	
M				●		○	○	
K			●		●	○	○	●
N	●							
S				●				
H								

● first choice
○ alternate choice

SEPT-GB2

catalogue number	D	S	L10	BS	Rε	hm	cutting edges	KC410M	KC520M	KC725M	KCK15	KCPM20	KCPK30	KY3500
SEPT1404AEENGB2	14,00	4,76	14,00	2,65	1,0	0,08	4		●	●	●	●	●	
SEPT1404AESNGB2	14,00	4,76	14,00	2,65	1,0	0,13	4		●	●	●	●	●	

SECW-GNW

catalogue number	D	S	L10	BS	Rε	hm	cutting edges	KC410M	KC520M	KC725M	KCK15	KCPM20	KCPK30	KY3500
SECW1404AEENGNW	14,00	4,76	8,26	8,26	0,8	0,04	2		●	●				

SECW-GN

catalogue number	D	S	L10	BS	Rε	hm	cutting edges	KC410M	KC520M	KC725M	KCK15	KCPM20	KCPK30	KY3500
SECW1404AESNGN	14,00	4,76	14,00	2,65	1,0	0,16	4							●

Recommended Starting Speeds [m/min]

Material Group		KC410M			KC520M			KC725M			KCK15		
P	1	–	–	–	–	–	–	315	**275**	255	–	–	–
	2	–	–	–	–	–	–	260	**230**	195	–	–	–
	3	–	–	–	–	–	–	240	**205**	170	–	–	–
	4	–	–	–	–	–	–	215	**180**	145	–	–	–
	5	–	–	–	–	–	–	180	**160**	145	–	–	–
	6	–	–	–	–	–	–	160	**120**	95	–	–	–
M	1	–	–	–	–	–	–	205	**180**	165	–	–	–
	2	–	–	–	–	–	–	185	**160**	130	–	–	–
	3	–	–	–	–	–	–	140	**120**	95	–	–	–
K	1	–	–	–	325	**295**	260	–	–	–	505	**460**	410
	2	–	–	–	255	**225**	215	–	–	–	400	**355**	330
	3	–	–	–	215	**190**	170	–	–	–	335	**300**	275
N	1–2	1460	**1300**	1195	–	–	–	–	–	–	–	–	–
	3	1300	**1195**	1100	–	–	–	–	–	–	–	–	–
S	1	–	–	–	–	–	–	45	**35**	30	–	–	–
	2	–	–	–	–	–	–	45	**35**	30	–	–	–
	3	–	–	–	–	–	–	55	**45**	30	–	–	–
	4	–	–	–	–	–	–	75	**55**	35	–	–	–
H	1	–	–	–	–	–	–	–	–	–	–	–	–

Material Group		KCPM20			KCPK30			KY3500		
P	1	660	**580**	535	545	**475**	440	–	–	–
	2	410	**370**	330	335	**305**	275	–	–	–
	3	370	**330**	305	305	**275**	250	–	–	–
	4	275	**255**	230	225	**210**	190	–	–	–
	5	330	**300**	275	310	**275**	255	–	–	–
	6	230	**200**	175	190	**165**	–	–	–	–
M	1	270	**240**	205	250	**220**	190	–	–	–
	2	245	**215**	190	225	**195**	170	–	–	–
	3	195	**175**	150	175	**160**	140	–	–	–
K	1	435	**390**	350	355	**320**	285	965	**880**	780
	2	345	**310**	280	280	**255**	230	765	**685**	635
	3	290	**255**	240	235	**210**	195	645	**570**	525
N	1–2	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–
S	1	–	–	–	–	–	–	–	–	–
	2	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–
	4	–	–	–	–	–	–	–	–	–
H	1	–	–	–	–	–	–	–	–	–

NOTE: FIRST choice starting speeds are in **bold** type.
As the average chip thickness increases, the speed should be decreased.

Recommended Starting Feeds [mm]

Light Machining	General Purpose	Heavy Machining

Insert Geometry	Programmed Feed per Tooth (fz) as a % of Radial Depth of Cut (ae)															Insert Geometry
	10%			20%			30%			40%			50–100%			
.F..LE	0,12	**0,24**	0,47	0,09	**0,18**	0,35	0,08	**0,15**	0,31	0,07	**0,14**	0,29	0,07	**0,14**	0,28	.F..LE
.E..LD2	0,13	**0,27**	0,50	0,10	**0,20**	0,38	0,08	**0,18**	0,33	0,08	**0,16**	0,31	0,08	**0,16**	0,30	.E..LD2
.E..GP2	0,17	**0,29**	0,54	0,13	**0,22**	0,41	0,11	**0,19**	0,35	0,10	**0,18**	0,33	0,10	**0,17**	0,32	.E..GP2
.E..GB2	0,20	**0,32**	0,58	0,15	**0,24**	0,43	0,13	**0,21**	0,38	0,12	**0,20**	0,35	0,12	**0,19**	0,34	.E..GB2
.S..GP2	0,24	**0,38**	0,64	0,18	**0,29**	0,48	0,16	**0,25**	0,42	0,15	**0,23**	0,39	0,14	**0,23**	0,38	.S..GP2
.S..GB2	0,24	**0,44**	0,69	0,18	**0,33**	0,52	0,16	**0,29**	0,45	0,15	**0,27**	0,42	0,14	**0,26**	0,41	.S..GB2
.S..GN	0,24	**0,47**	0,72	0,18	**0,35**	0,54	0,16	**0,31**	0,47	0,15	**0,29**	0,44	0,14	**0,28**	0,43	.S..GN

NOTE: Use “Light Machining” values as starting feed rate.

More than just the right tool • the ultimate solution.

That's **Beyond BLAST.**™
That's **Different Thinking.**

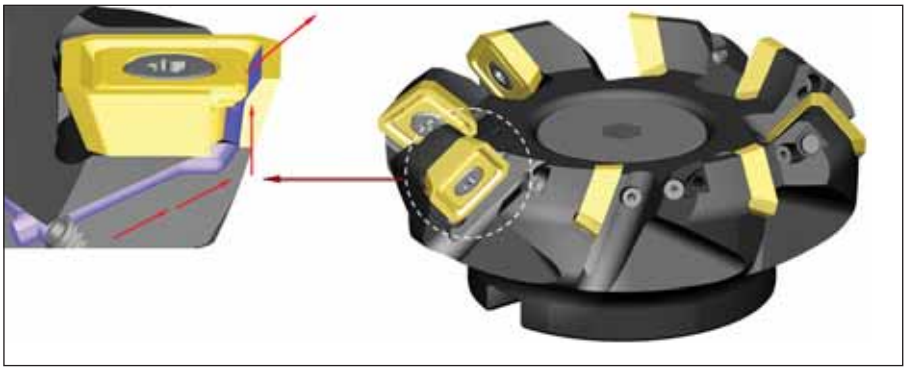
At Kennametal, innovation follows vision. Our revolutionary products and services are inspired by asking "what if?" The solutions that follow — like our Beyond BLAST through-coolant inserts — deliver remarkable results in the world's most demanding machining environments.

A cutting-edge insert that delivers coolant precisely at the cutting edge. Now that's Different Thinking. That's Kennametal.

To learn more about your productivity gains using Beyond BLAST technology, visit www.kennametal.com.

Milling

- Beyond BLAST technology uses low-pressure conditions to offer many of the high-pressure performance benefits.
- Delivers superior performance on titanium, using either high- or low-pressure coolant systems.
- Effective thermal management results in reduced cutting temperatures, improved lubricity, superior chip control, and longer tool life.
- Beyond BLAST for milling increases tool life by up to 100% compared with conventional coolant delivery systems.



beyond™ BLAST™

KSOM™ Mini • KSOM™

Primary Application

Super soft cutting due to super positive rake face.

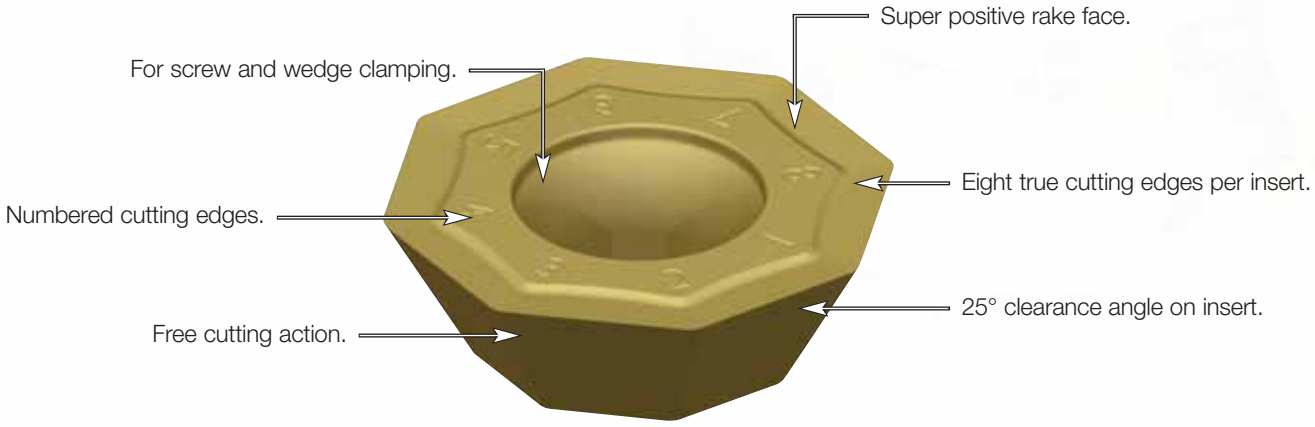
Features and Benefits

Features

- KSOM Mini: insert OFKT06/OFPT06.
- KSOM: insert OFKT07/OFPT07.
- KSOM Mini: Ap1 max = 3,5mm (8 indexes); Ap2 max = 9mm (4 indexes).
- KSOM: Ap1 max = 5mm (8 indexes); Ap2 max = 12mm (4 indexes).

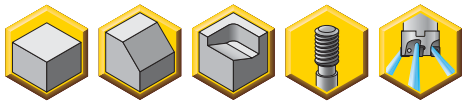
Benefits

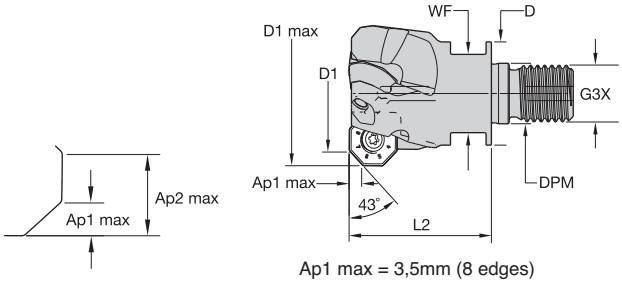
- Low cutting forces deliver higher feed capability.
- Excellent performance in stainless steel and super alloys.
- First choice solution in machining turbochargers.



Insert OF.T06/OF.T07

- Eight cutting edges per insert.
- Super soft cutting.

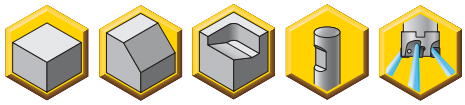


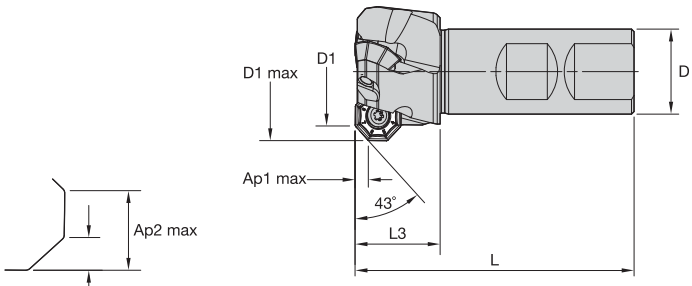


Ap1 max = 3,5mm (8 edges)
Ap2 max = 9mm (4 edges), reduce feed rate by 40%

KSOM Mini • Screw-On End Mills

order number	catalogue number	D1	D1 max	D	DPM	G3X	L2	WF	Ap1 max	Z	max ramp angle	kg	max RPM
3115896	**KSOM32R02M16OF06**	32	41,1	29	17	M16	40	22	3,5	2	11.0°	0,23	19890
3115895	**KSOM32R03M16OF06**	32	41,1	29	17	M16	40	22	3,5	3	11.0°	0,21	19890
3115901	**KSOM40R03M16OF06**	40	49,0	29	17	M16	40	22	3,5	3	7.5°	0,27	15920
3115900	**KSOM40R04M16OF06**	40	49,0	29	17	M16	40	22	3,5	4	7.5°	0,27	15920





Ap1 max = 3,5mm (8 edges)
Ap2 max = 9mm (4 edges), reduce feed rate by 40%

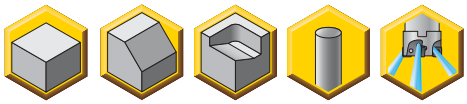
KSOM Mini • Weldon® End Mills

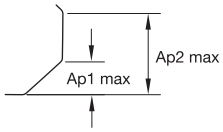
order number	catalogue number	D1	D1 max	D	L	L3	Ap1 max	Z	max ramp angle	kg	max RPM
3115894	**KSOM32R02B20OF06**	32	41,1	20	76	25	3,5	2	11.0°	0,25	19890
3115893	**KSOM32R03B20OF06**	32	41,1	20	76	25	3,5	3	11.0°	0,23	19890
3115882	**KSOM32R03B25OF06**	32	41,1	25	82	25	3,5	3	11.0°	0,32	19890
3115899	**KSOM40R03B25OF06**	40	49,0	25	82	25	3,5	3	7.5°	0,37	15920
3115898	**KSOM40R04B25OF06**	40	49,0	25	82	25	3,5	4	7.5°	0,37	15920
3115897	**KSOM40R04B32OF06**	40	49,0	32	110	49	3,5	4	7.5°	0,67	15920

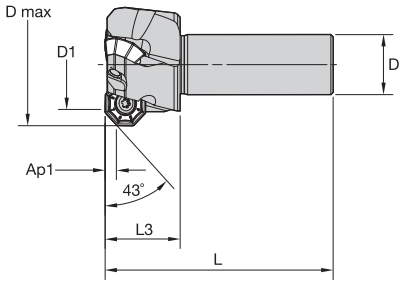
Spare Parts

D1	insert screw	Nm	Torx Plus wrench
32	**193.433**	6	**TTP15**
40	**193.433**	6	**TTP15**

- Eight cutting edges per insert.
- Super soft cutting.







Ap1 max = 3,5mm (8 edges)
Ap2 max = 9mm (4 edges), reduce feed rate by 40%

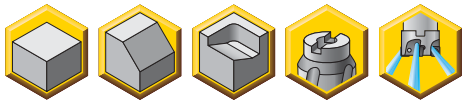
KSOM Mini • Cylindrical End Mills

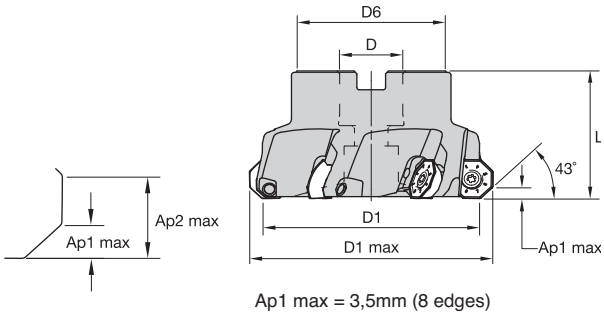
order number	catalogue number	D1	D1 max	D	L	L3	Ap1 max	Z	max ramp angle	kg	max RPM
3660311	**KSOM32R02A20OF06**	32	41,1	20	76	25	3,5	2	11.0°	0,25	19890
3660312	**KSOM32R03A20OF06**	32	41,1	20	76	25	3,5	3	11.0°	0,24	19890
3660943	**KSOM32R03A25OF06**	32	41,1	25	82	25	3,5	3	11.0°	0,32	19890
3660944	**KSOM40R03A25OF06**	40	49,0	25	82	25	3,5	3	7.5°	0,38	15920
3660945	**KSOM40R04A25OF06**	40	49,0	25	82	25	3,5	4	7.5°	0,37	15920
3660946	**KSOM40R04A32OF06**	40	49,0	32	110	49	3,5	4	7.5°	0,68	15920

Spare Parts

D1	insert screw	Nm	Torx Plus wrench
32	**193.433**	6	**TTP15**
40	**193.433**	6	**TTP15**

- Eight cutting edges per insert.
- Super soft cutting.



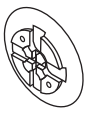


Ap1 max = 3,5mm (8 edges)
Ap2 max = 9mm (4 edges), reduce feed rate by 40%

KSOM Mini • Shell Mills

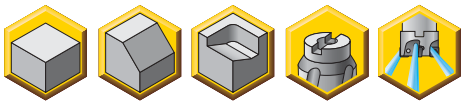
order number	catalogue number	D1	D1 max	D	D4	D6	L	Ap1 max	Z	max ramp angle	kg	max RPM
3115903	**KSOM50R04OF06**	50	58,9	22	–	38	43	3,5	4	5.0°	0,35	12730
3115902	**KSOM50R06OF06**	50	58,9	22	–	38	43	3,5	6	5.0°	0,35	12730
3115905	**KSOM63R05OF06**	63	71,8	22	–	50	43	3,5	5	3.9°	0,62	10110
3115904	**KSOM63R07OF06**	63	71,8	22	–	50	43	3,5	7	3.9°	0,63	10110
3115907	**KSOM80R06OF06**	80	88,7	27	–	60	50	3,5	6	2.9°	1,10	7960
3115906	**KSOM80R09OF06**	80	88,7	27	–	60	50	3,5	9	2.9°	1,12	7960
3115909	**KSOM100R07OF06**	100	108,6	32	–	80	50	3,5	7	2.2°	1,71	6370
3115908	**KSOM100R10OF06**	100	108,6	32	–	80	50	3,5	10	2.2°	1,75	6370
3115911	**KSOM125R08OF06**	125	133,6	40	–	94	63	3,5	8	1.7°	2,74	5090
3115910	**KSOM125R12OF06**	125	133,6	40	–	94	63	3,5	12	1.7°	2,83	5090
3115913	**KSOM160R10OF06**	160	168,5	40	66,7	114	63	3,5	10	1.3°	4,30	3980
3115912	**KSOM160R16OF06**	160	168,5	40	66,7	114	63	3,5	16	1.3°	4,46	3980

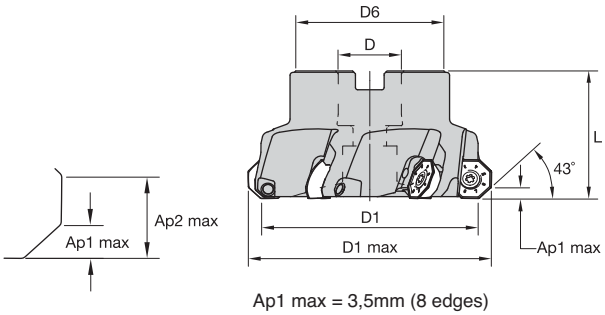
Spare Parts



D1	insert screw	Nm	Torx Plus wrench	low-head cap screw	socket-head cap screw	coolant lock screw assembly	mill cutter lock screw	coolant shower plate
50	**193.433**	6,0	**TTP15**	**129.025**	–	–	–	–
63	**193.433**	6,0	**TTP15**	–	**125.025**	–	–	–
80	**193.433**	6,0	**TTP15**	–	**125.230**	–	–	–
100	**193.433**	6,0	**TTP15**	–	–	**MS2189C**	–	–
125	**193.433**	6,0	**TTP15**	–	–	–	**420.200**	**470.232**
160	**193.433**	6,0	**TTP15**	–	–	–	**420.200**	**470.233**

- Eight cutting edges per insert.
- Super soft cutting.





Ap1 max = 3,5mm (8 edges)
Ap2 max = 9mm (4 edges), reduce feed rate by 40%

KSOM Mini • Shell Mills • JIS (Japanese Industry Standard)

order number	catalogue number	D1	D1 max	D mm	D in	D6	L	Ap1 max	Z	kg	max RPM
3660947	KSOM80R06OF06-J	80	88,7	25,400	1.000	60	50	3,5	6	1,22	7960
3660948	KSOM80R09OF06-J	80	88,7	25,400	1.000	60	50	3,5	9	1,24	7960
3660949	KSOM100R07OF06-J	100	108,6	31,750	1.250	80	50	3,5	7	1,96	6370
3660950	KSOM100R10OF06-J	100	108,6	31,750	1.250	80	50	3,5	10	1,99	6370
3660951	KSOM125R08OF06-J	125	133,6	38,100	1.500	90	63	3,5	8	2,77	5090
3660952	KSOM125R12OF06-J	125	133,6	38,100	1.500	90	63	3,5	12	3,19	5090
3660953	KSOM160R10OF06-J	160	168,5	50,800	2.000	110	63	3,5	10	4,66	3980
3660954	KSOM160R16OF06-J	160	168,5	50,800	2.000	110	63	3,5	16	4,80	3980

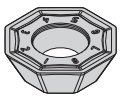
Spare Parts

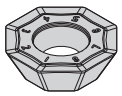
D1	insert screw	Nm	Torx Plus wrench
80	193.433	6,0	TTP15
100	193.433	6,0	TTP15
125	193.433	6,0	TTP15
160	193.433	6,0	TTP15

Insert Selection Guide

Material Group	Light Machining		General Purpose		Heavy Machining	
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1–P2	.E..LB	KC725M	**.E..GB**	**KC725M**	.S..HB	KC725M
P3–P4	.E..LB	KCPK30	**.E..GB**	**KCPK30**	.S..HB	KCPK30
P5–P6	.E..GB	KCPK30	**.E..GB**	**KCPM20**	.S..HB	KCPM20
M1–M2	.E..LB	KC725M	**.E..GB**	**KC725M**	.S..HB	KC725M
M3	.E..LB	KCPK30	**.E..GB**	**KCPK30**	.S..HB	KCPK30
K1–K2	.E..LB	KCK15	**.E..GB**	**KCK15**	.S..HB	KCK15
K3	.E..LB	KCPK30	**.E..GB**	**KCPK30**	.S..HB	KCPK30
N1–N2	.F..LBJ	KC410M	**.F..LBJ**	**KC410M**	.F..LNJ	KC410M
N3	.F..LBJ	KC410M	**.F..LNJ**	**KC410M**	.E..LBJ	KC422M
S1–S2	.E..LB	KC725M	**.E..GB**	**KC725M**	.S..HB	KC725M
S3	.E..LB	KC725M	**.E..GB**	**KC725M**	.S..HB	KC725M
S4	.E..GB	KC725M	**.S..HB**	**KC725M**	–	–
H1	–	–	**–**	**–**	–	–

Indexable Inserts


OF.T-LNJ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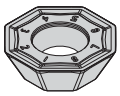
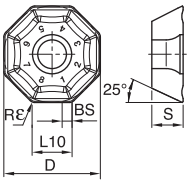

OF.T-LB



beyond

P					○	●		●	●
M					●	●		○	○
K				●	○		●	○	○
N		●	●						
S					●	●			
H									

● first choice
○ alternate choice

Face Mills

OFKT-LNJ

catalogue number	D	S	L10	BS	Rε	hm	cutting edges	KC410M	KC422M	KC520M	KC522M	KC725M	KCK15	KCPM20	KCPK30
OFKT06L5AFFNLNJ	14,70	5,00	6,00	–	0,8	0,02	8	●							

OFKT-LBJ

catalogue number	D	S	L10	BS	Rε	hm	cutting edges	KC410M	KC422M	KC520M	KC522M	KC725M	KCK15	KCPM20	KCPK30
OFKT06L5AFFNLBJ	14,70	5,00	6,00	–	0,8	0,02	8	●							
OFKT06L5AFENLBJ	14,70	5,00	6,00	–	0,8	0,03	8		●						

OFKT-LB

catalogue number	D	S	L10	BS	Rε	hm	cutting edges	KC410M	KC422M	KC520M	KC522M	KC725M	KCK15	KCPM20	KCPK30
OFKT06L5AFENLB	14,70	5,00	6,00	1,23	0,8	0,10	8				●	●	●		●
OFKT06L5AFSNLB	14,70	5,00	6,00	1,21	0,8	0,22	8			●	●	●			●