

DORMER PRAMET

INDEXABLE MILLING

2024



 PRAMET

INDEXABLE MILLING – GENERAL CONTENT

INDEXABLE MILLING	Face milling		Negative inserts	SON06C 	SHN06C 	SHN09C 	SPN13 			7	
			Positive square inserts	SSD13F 	SSE09 	SSN12Z 	FSB22X 			25	
			Positive octagonal & round inserts	SOD05 	SOD06D 	SOE06Z 				41	
	Shoulder milling		Negative inserts	STN10 	STN16 	SLN12 	SLN16 	SLN12X 			65
			Positive parallelogram (A-shape) inserts	SAD07D 	SAD11E 	SAD16E 	SAP10D 	SAP16D 			89
			Positive square & triangle inserts	SSO09 	SSD12 	FTB27X 				121	
	Deep shoulder milling		Helical cutters	J(T)-SAD11E	J(T)-SAD16E	J(T)-SSAP	J(T)-CSD12X	J(T)-SLSN			133
	Copy milling (button cutters)		Round insert seat (RD.. inserts with 15° flank)	SRD05 	SRD07 	SRD10 	SRD12 	SRD16 			159
			Seat with locating flats (RC.. inserts with 7° flank)	SRC10 	SRC12 	SRC16 	SRC20 			185	
	Profile milling		Ball nose	L2-SZP	K2-SRC	K2-SLC	K2-PPH	K3-CXP			205
			Bull nose	SVC22C 	SCN05C 	SWN04 				239	
	High-feed milling		Negative inserts	SBN10 	SSN11 					251	
			Positive inserts	SSO12 	SPD09 	SZD07 	SZD09 			265	
	Chamfering		Positive inserts	SSD09 	N-SSO09 	STC 	2516 	2636 	J(T)-SXP16	291	
	Slot milling		Disc & T-slot mills	S90SN	S90CN (XN)	F-SCC				313	
	Other milling inserts										330
INSTRUCTIONS	How to read catalogue data? (ISO 13399, icons, navigation...)									352	
	Grades navigator and detail description									362	
	Indexable milling – Technical info									366	
	Machining formulas, corrections and technical details									372	
	Workpiece material groups (WMG)									376	

PRODUCT FAMILY		PRODUCT FAMILY		PRODUCT FAMILY		PRODUCT FAMILY	
2		S90		SOE		SSE	
2516	301	S90CN(XN)	320	SOE06Z	55	SSE09	31
2636	304	S90SN	314	SON		SSN	
F		SAD		SON06C	8	SSN11	258
FSB22X	38	SAD07D	90	SPD		SSN12Z	35
F-SCC	325	SAD11E	97	SPD09	270	SSO	
FTB27X	128	SAD16E	106	SPN		SSO09	122
J(T)		SAP		SPN13	21	SSO12	266
J(T)-CSD12X	150	SAP10D	114	SRC		STC	
J(T)-SAD11E	134	SAP16D	117	SRC10	186	STC	298
J(T)-SAD16E	139	SBN		SRC12	190	STN	
J(T)-SLSN	153	SBN10	252	SRC16	194	STN10	66
J(T)-SSAP	145	SCN		SRC20	198	STN16	70
J(T)-SXP16	307	SCN05C	243	SRD		SVC	
K2		SHN		SRD05	160	SVC22C	240
K2-PPH	222	SHN06C	13	SRD07	163	SWN	
K2-SLC	218	SHN09C	17	SRD10	168	SWN04C	246
K2-SRC	211	SLN		SRD12	174	SZD	
K3-CXP	234	SLN12	75	SRD16	180	SZD07	276
L2		SLN12X	85	SSD		SZD09	280
L2-SZP	206	SLN16	81	SSD09	292	SZD12	284
N		SOD		SSD12	125		
N-SS009	295	SOD05	42	SSD13F	26		
		SOD06D	51				






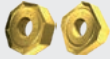

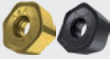





PRODUCT FAMILY		PRODUCT FAMILY		PRODUCT FAMILY		PRODUCT FAMILY	
A		O		S		T	
ADEX 07-FA	92	ODEW 06	52	SBKX 22	39	TBMR 27	129
ADEX 07-HF	93	ODKT 05IM	43	SBMR 22	39	TCMT	302
ADEX 11-FA	101	ODMT 05	333	SDET 13	27	TCMT	305
ADEX 11-FA	137	ODMT 05IM	44	SDEW 09	293	TCXT 16 STC	299
ADEX 11-HF	101	ODMT 06	52	SDEX 09	293	TNGX 10	67
ADEX 16	109	OEHT 06	56	SDGX 12	151	TNGX 10-FA	68
ADEX 16	142	OEHT 06-FA	57	SDKT 12IM	45	TNGX 16	71
ADEX 16-FA	109	OFKR 07	334	SDMT 12	126	TNGX 16-FA	72
ADEX 16-FA	142	ONMX 06	9	SDMT 12IM	46	TPCN 16	346
ADEX 16-HF	110	P		SDMT 13	28	TPKN	347
ADKT 15	330	PDKT 09	272	SDMX 12	151	TPKR	348
ADKX 15	330	PDKX 09	272	SEEN	337	TPUN	348
ADMX 07	91	PDMW 09	273	SEER	338	V	
ADMX 11	99	PDMX 09	271	SEET 09	33	VCGT 22-FA	241
ADMX 11	135	PNMQ 13	22	SEET 12	338	W	
ADMX 16	107	PNMU 13	22	SEET 12-FA	340	WNHX 04	247
ADMX 16	140	PPH	224	SEET 12-PM	339	X	
ANHX 10	254	PPHF	226	SEEW 12	340	XDET 13	29
APET 15	146	PPHT	225	SEMT 09	32	XDHW	349
APET 16-FA	119	R		SNGX 11	259	XEHT 06	58
APEW 15	146	RC	212	SNGX 13	154	XNGX 06	15
APKT 10	115	RCMT 10	187	SNHF	341	XNGX 09	19
APKT 16	118	RCMT 12	191	SNHN	341	XNGX 13	23
APMT 16	331	RCMT 16	195	SNHQ AZ	316	XNHQ	322
B		RCMT 20	199	SNHQ TRL	317	XP	235
BNGX 10	253	RDET	334	SNKT 12	36	XPHT 16	308
C		RDGT 07	164	SNMT 12	36	XPHT 16-FA	308
CCMX	326	RDGT 10	169	SNMX 17	10	Z	
CNHQ	322	RDGT 12	175	SNUN	342	ZDCW 07	277
CNHX 05	244	RDGT 12IM	44	SOHT 12	267	ZDCW 09	281
CNM	332	RDGT 16	181	SOMT 05	342	ZDEW 12	285
H		RDHT 07-FA	165	SOMT 09	123	ZP	208
HNEF 09	332	RDHT 10-FA	171	SOMT 09	296		
HNGX 06	14	RDHT 12-FA	177	SPET 12	147		
HNGX 09	18	RDHT 16-FA	182	SPET 12 AD	147		
HNMF 09	333	RDHX 05	161	SPEW 12 AD	148		
L		RDHX 07	164	SPGN	343		
LC	219	RDHX 10	170	SPGN 25 DZ	343		
LNET 16	154	RDHX 12	176	SPKN	344		
LNEX 12	86	RDHX 16	182	SPKR	345		
LNGU 12	78	RDHX 20	335	SPUN	345		
LNGU 16	82	RDMT 10	169				
LNGU 16-FA	83	RDMT 12	175				
LNGX 12	76	RDMT 12IM	45				
LNGX 12-FA	78	RDMX 10	170				
LNMU 16	82	RDMX 12	176				
		RDMX 16	181				
		REHT 16	57				
		RPET 12	335				
		RPET 15	53				
		RPEW 12	336				
		RPEX	336				



FACE MILLING

FACE MILLING – NAVIGATOR

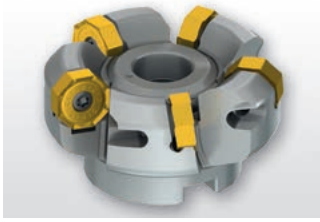
FACE MILLING – NEGATIVE INSERTS

	SON06C	SHN06C	SHN09C	SPN13						
	43°		45°		45°		57°			
	APMX (mm)	4.0 (7.0)	APMX (mm)	3.0	APMX (mm)	5.0	APMX (mm)	10.0		
	DC (mm)	50 – 250	DC (mm)	25 – 125	DC (mm)	50 – 315	DC (mm)	100 – 315		
Cylindrical shank										
Weldon			DC = 25, 32 (mm)							
Modular										
Shell mill			DC = 40 – 125 (mm)							
Page	8		13		17		21			
ISO	P M K S H	P M K	H P M K	H P M K	H P M K S H					
Insert shape										
Inserts	ONMX 0605 SNMX 1705	HNGX 0604 XNGX 0604		HNGX 0906 XNGX 0906	PNM. 1308 XN.. 1308					
No. of cutting edges	16 / 8		12 / 1		12 / 1		10 / 1			
Face milling 	■	■		■	■			■		
Chamfer milling 	■	■		■	■					
Progressive plunging 			■		■					
Ramping 	▣	■		■	■					

SON06C



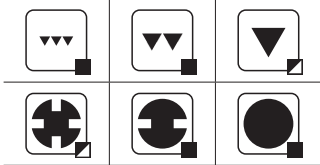
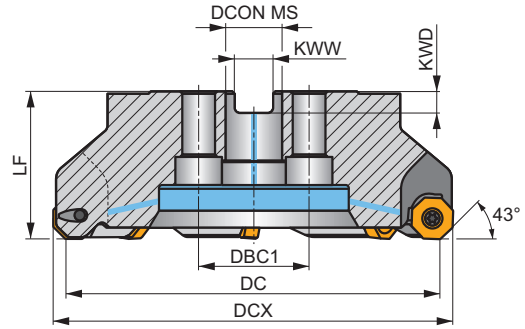
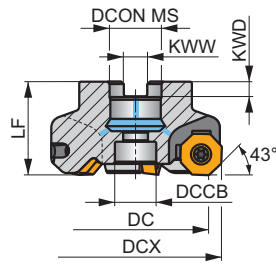
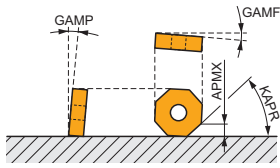
PRAMET



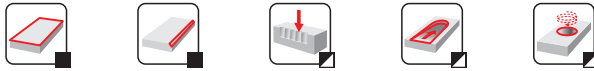
ECON ON06 43° Face Mill with Double Negative Design and Internal Coolant

Highly economical and productive face mill utilising two types of double-sided negative inserts. Economical octagonal ON..06 inserts with 16 cutting edges and APMX of 4 mm, and productive square SN..17 inserts with 8 cutting edges and APMX of 7 mm. Arbor style available with differential tooth pitch. Body treated for longer tool life.

KAPR	43°
APMX	4.0 (7.0) mm



0.04 - 0.25



Product	DC (mm)	DCX (mm)	DCON MS (mm)	DCCB (mm)	DBC1 (mm)	LF (mm)	KWW (mm)	KWD (mm)	GAME (°)	GAMP (°)									
50A04R-S450N06-C	50	60.8	22	16.5	-	40	10.4	6.3	-10	-5	4	✓	9400	✓	0.42	GI342	C0621	-	-
50A05R-S450N06-C	50	60.8	22	16.5	-	40	10.4	6.3	-10	-5	5	-	9400	✓	0.39	GI342	C0621	-	-
63A05R-S450N06-C	63	73.8	22	18.1	-	40	10.4	6.3	-10	-5	5	✓	8400	✓	0.71	GI342	C0621	-	-
63A06R-S450N06-C	63	73.8	22	18.1	-	40	10.4	6.3	-10	-5	6	✓	8400	✓	0.55	GI342	C0621	-	-
80A06R-S450N06-C	80	90.8	27	22.1	-	50	12.4	7	-10	-5	6	✓	7500	✓	1.27	GI342	C0622	-	-
80A08R-S450N06-C	80	90.8	27	22.1	-	50	12.4	7	-10	-5	8	-	7500	✓	1.19	GI342	C0622	-	-
100A08R-S450N06-C	100	110.8	32	30.1	-	50	14.4	8	-10	-5	8	✓	6700	✓	1.88	GI342	C0620	AC002	-
100A10R-S450N06-C	100	110.8	32	30.1	-	50	14.4	8	-10	-5	10	-	6700	✓	1.81	GI342	C0620	AC002	-
125A08R-S450N06-C	125	135.8	40	56.1	-	63	16.4	9	-10	-5	8	✓	6000	✓	3.80	GI342	C0620	AC003	-
125A10R-S450N06-C	125	135.8	40	56.1	-	63	16.4	9	-10	-5	10	✓	6000	✓	3.65	GI342	C0620	AC003	-
125A12R-S450N06-C	125	135.8	40	56.1	-	63	16.4	9	-11	-5	12	-	6000	✓	3.70	GI342	C0620	AC003	-
160C08R-S450N06-C	160	170.8	40	-	66.7	63	16.4	9.25	-10	-5	8	✓	5700	✓	6.48	GI342	C0623	-	-
160C12R-S450N06-C	160	170.8	40	-	66.7	63	16.4	9.25	-10	-5	12	✓	5700	✓	5.74	GI342	C0623	-	-
160C14R-S450N06-C	160	170.8	40	-	66.7	63	16.4	9.25	-11	-5	14	-	5700	✓	5.65	GI342	C0623	-	-
200C12R-S450N06-C	200	210.8	60	-	101.6	63	25.8	14.25	-10	-5	12	✓	4700	✓	9.06	GI342	C0624	-	-
200C16R-S450N06-C	200	210.8	60	-	101.6	63	25.8	14.25	-10	-5	16	-	4700	✓	9.02	GI342	C0624	-	-
250C14R-S450N06-C	250	260.8	60	-	101.6	63	25.8	14.25	-10	-5	14	✓	4300	✓	15.71	GI342	C0625	-	-
250C18R-S450N06-C	250	260.8	60	-	101.6	63	25.8	14.25	-10	-5	18	-	4300	✓	15.51	GI342	C0625	-	-

GI342	ONMX 0605..	ONMX 0605..-W..	SNMX 1705..

C0620	US 45013A-T20P	5.0	M 5	13	SDR T20P-T	-	-	-	-

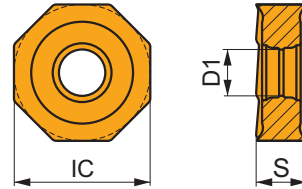
CO621	US 45013A-T20P	5.0	M 5	13	SDR T20P-T	HS 1030C	-	-	-
CO622	US 45013A-T20P	5.0	M 5	13	SDR T20P-T	HS 1230C	-	-	-
CO623	US 45013A-T20P	5.0	M 5	13	SDR T20P-T	HS 1240C	CAC 160C	HSD 0825C	HXK 5
CO624	US 45013A-T20P	5.0	M 5	13	SDR T20P-T	HS 1655C	CAC 200C	HSD 1025C	HXK 7
CO625	US 45013A-T20P	5.0	M 5	13	SDR T20P-T	HS 1655C	CAC 250C	HSD 1025C	HXK 7

AC002	KS 1635	K.FMH32
AC003	KS 2040	K.FMH40

ONMX 06

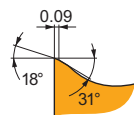
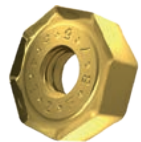


	IC	D1	S
	(mm)	(mm)	(mm)
0605	17.000	5.70	7.08



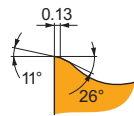
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



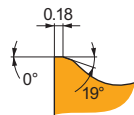
F geometry is sharp and used for finishing, suitable for large overhang or thin walled and slim workpiece applications. Designed with highly positive rake, narrow T-land and rounding of cutting edge for light machining.

ONMX 060508SR-F:8215	0.8	275	0.10	2.0	165	0.09	2.0	-	-	-	-	-	65	0.07	1.6	-	-	-
ONMX 060508SR-F:M6330	0.8	230	0.10	2.0	165	0.09	2.0	-	-	-	-	-	65	0.07	1.6	-	-	-
ONMX 060508SR-F:M8330	0.8	270	0.10	2.0	160	0.09	2.0	-	-	-	-	-	65	0.07	1.6	-	-	-
ONMX 060508SR-F:M8340	0.8	245	0.10	2.0	145	0.09	2.0	-	-	-	-	-	60	0.07	1.6	-	-	-
ONMX 060508SR-F:M9340	0.8	320	0.10	2.0	190	0.09	2.0	-	-	-	-	-	80	0.07	1.6	-	-	-



M geometry is versatile and the first choice for a wide range of working conditions. Designed with positive rake, medium T-land and rounding of cutting edge for medium machining.

ONMX 060508SR-M:8215	0.8	230	0.20	2.0	135	0.18	2.0	-	-	-	-	-	55	0.14	1.6	45	0.14	1.0
ONMX 060508SR-M:M6330	0.8	195	0.20	2.0	140	0.18	2.0	-	-	-	-	-	55	0.14	1.6	-	-	-
ONMX 060508SR-M:M8330	0.8	230	0.20	2.0	135	0.18	2.0	-	-	-	-	-	55	0.14	1.6	45	0.14	1.0
ONMX 060508SR-M:M8340	0.8	210	0.20	2.0	125	0.18	2.0	-	-	-	-	-	50	0.14	1.6	-	-	-
ONMX 060508SR-M:M9325	0.8	285	0.20	2.0	-	-	-	-	-	-	-	-	-	-	-	55	0.14	1.0
ONMX 060508SR-M:M9340	0.8	255	0.20	2.0	150	0.18	2.0	-	-	-	-	-	60	0.14	1.6	-	-	-

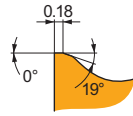
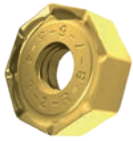


R geometry is strong and used for roughing and heavy working conditions. Designed with slightly positive rake, wide T-land and rounding of cutting edge for rough machining.

ONMX 060508SR-R:8215	0.8	210	0.30	2.0	-	-	-	195	0.30	2.0	-	-	-	-	-	-	40	0.21	1.0
ONMX 060508SR-R:M5315	0.8	255	0.30	2.0	-	-	-	240	0.30	2.0	-	-	-	-	-	-	50	0.21	1.0
ONMX 060508SR-R:M8330	0.8	210	0.30	2.0	-	-	-	195	0.30	2.0	-	-	-	-	-	-	40	0.21	1.0

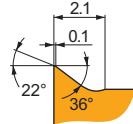
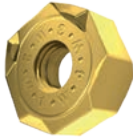
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



R geometry is strong and used for roughing and heavy working conditions. Designed with slightly positive rake, wide T-land and rounding of cutting edge for rough machining.

ONMX 060508SR-R:M8340	0.8	190	0.30	2.0	–	–	–	180	0.30	2.0	–	–	–	–	–	–	–	–	–
ONMX 060508SR-R:M9325	0.8	250	0.30	2.0	–	–	–	235	0.30	2.0	–	–	–	–	–	–	50	0.21	1.0



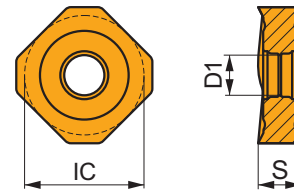
Wiper design for improved surface finish when machining with large cutters and high feed rate.

ONMX 060508SR-W:8215	0.8	340	0.10	0.3	200	0.09	0.3	–	–	–	–	–	–	–	–	–	–	–	–
ONMX 060508SR-W:M8330	0.8	325	0.10	0.3	195	0.09	0.3	–	–	–	–	–	–	–	–	–	–	–	–

SNMX 17

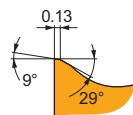
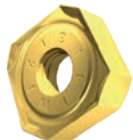


	IC (mm)	D1 (mm)	S (mm)
1705	17.000	5.70	5.56



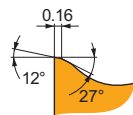
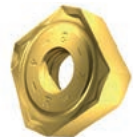
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



M geometry is versatile and the first choice for a wide range of working conditions. Designed with positive rake, medium T-land and rounding of cutting edge for medium machining.

SNMX 170508SR-M:8215	0.8	265	0.20	4.0	155	0.18	4.0	–	–	–	–	–	–	65	0.14	3.2	50	0.14	1.0
SNMX 170508SR-M:M6330	0.8	225	0.20	4.0	160	0.18	4.0	–	–	–	–	–	–	65	0.14	3.2	–	–	–
SNMX 170508SR-M:M8330	0.8	265	0.20	4.0	155	0.18	4.0	–	–	–	–	–	–	65	0.14	3.2	50	0.14	1.0
SNMX 170508SR-M:M8340	0.8	240	0.20	4.0	140	0.18	4.0	–	–	–	–	–	–	60	0.14	3.2	–	–	–
SNMX 170508SR-M:M9325	0.8	325	0.20	4.0	–	–	–	–	–	–	–	–	–	–	–	–	65	0.14	1.0
SNMX 170508SR-M:M9340	0.8	295	0.20	4.0	175	0.18	4.0	–	–	–	–	–	–	70	0.14	3.2	–	–	–



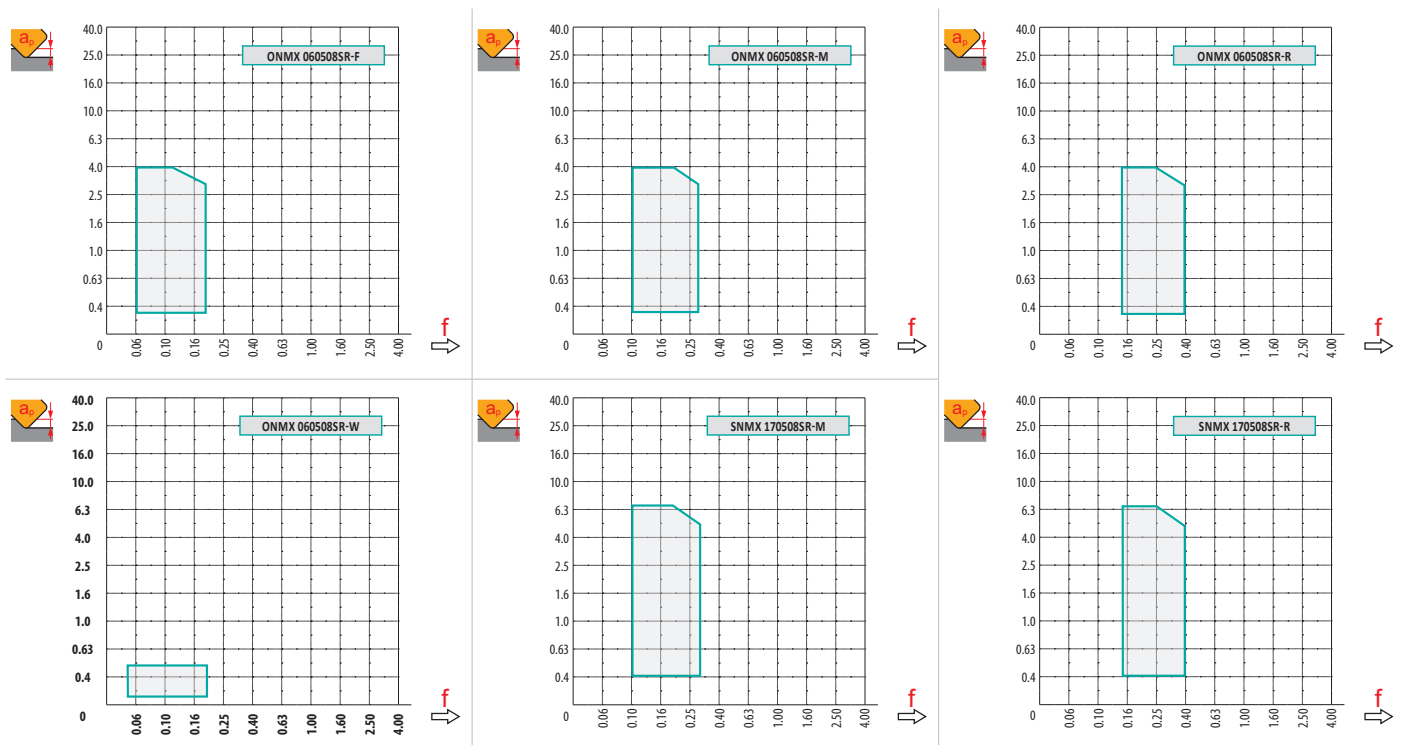
R geometry is strong and used for roughing and heavy working conditions. Designed with slightly positive rake, wide T-land and rounding of cutting edge for rough machining.

SNMX 170508SR-R:8215	0.8	240	0.30	4.0	–	–	–	225	0.30	4.0	–	–	–	–	–	–	45	0.21	1.0
SNMX 170508SR-R:M5315	0.8	300	0.30	4.0	–	–	–	285	0.30	4.0	–	–	–	–	–	–	60	0.21	1.0
SNMX 170508SR-R:M8330	0.8	240	0.30	4.0	–	–	–	225	0.30	4.0	–	–	–	–	–	–	45	0.21	1.0
SNMX 170508SR-R:M8340	0.8	220	0.30	4.0	–	–	–	205	0.30	4.0	–	–	–	–	–	–	–	–	–
SNMX 170508SR-R:M9325	0.8	290	0.30	4.0	–	–	–	275	0.30	4.0	–	–	–	–	–	–	55	0.21	1.0



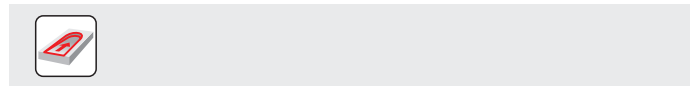
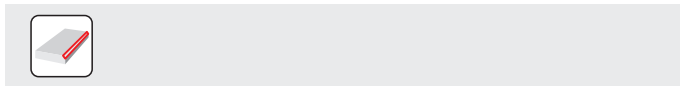
a_e / DC	5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	90%	100%
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	ONMX 06-F	ONMX 06-M	ONMX 06-R	ONMX 06-W	SNMX 17-M	SNMX 17-R
	0.80	0.80	0.80	0.80	0.80	0.80
	0.75	0.75	0.75	4.30	0.70	0.70



		0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00
50		51.06	52.11	53.19	54.27	55.35	56.43	57.51	58.59
63		64.06	65.11	66.19	67.27	68.35	69.43	70.51	71.59
80		81.06	82.11	83.19	84.27	85.35	86.43	87.51	88.59
100		101.06	102.11	103.19	104.27	105.35	106.43	107.51	108.59
125		126.06	127.11	128.19	129.27	130.35	131.43	132.51	133.59
160		161.06	162.11	163.19	164.27	165.35	166.43	167.51	168.59
200		201.06	202.11	203.19	204.27	205.35	206.43	207.51	208.59
250		251.06	252.11	253.19	254.27	255.35	256.43	257.51	258.59

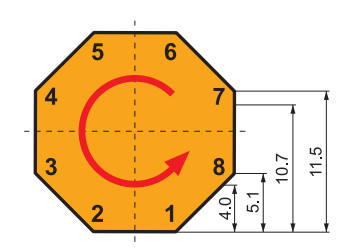
DC		S							
		0.00	1.00	2.00	3.00	4.00	5.00	6.00	7.00
50	DEF	47.24	49.40	51.56	53.73	55.90	58.06	60.23	62.40
63		60.24	62.40	64.56	66.73	68.90	71.06	73.23	75.40
80		77.24	79.40	81.56	83.73	85.90	88.06	90.23	92.40
100		97.24	99.40	101.56	103.73	105.90	108.06	110.23	112.40
125		122.24	124.40	126.56	128.73	130.90	133.06	135.23	137.40
160		157.24	159.40	161.56	163.73	165.90	168.06	170.23	172.40
200		197.24	199.40	201.56	203.73	205.90	208.06	210.23	212.40
250		247.24	249.40	251.56	253.73	255.90	258.06	260.23	262.40



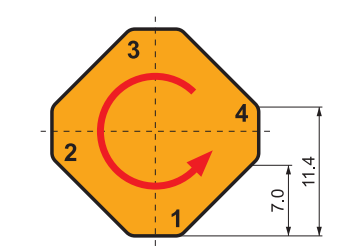
DC	X.V	f _{max}
50	1.35	0.36
63	1.39	0.40
80	1.44	0.45
100	1.48	0.51
125	1.53	0.57
160	1.58	0.64
200	1.63	0.72
250	1.68	0.80

DC	O	
	RPMX	APMX/I
50	0.3	0.4/100
63	0.2	0.25/100
80	0.2	0.2/100
100	0.1	0.1/100
125	0.1	0.05/100

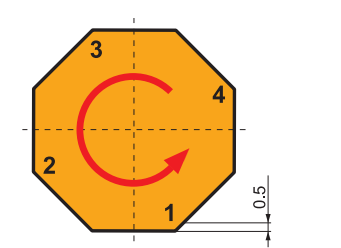
DC	S	
	RPMX	APMX/I
47.24	0.1	0.1/100
60.24	0.1	0.05/100
77.24	0.1	0.05/100



-> 4.0	16
-> 5.1	14
-> 10.7	8
-> 11.5	6



-> 7.0	8
-> 11.4	4



ONMX 06-W	
-> 0.5	8

SHN06C

P M K H

PRAMET

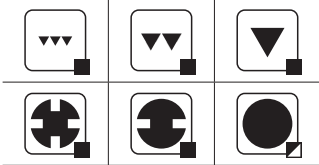
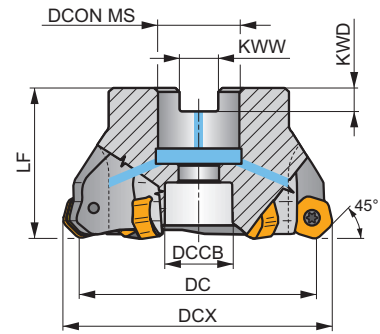
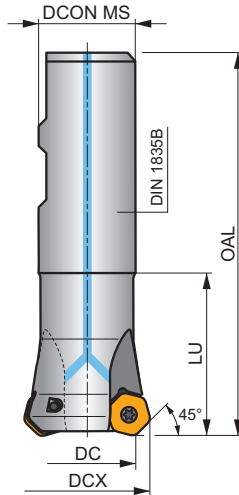
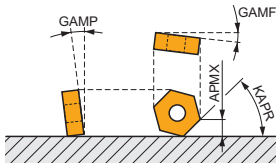
S



ECON HN06 45° Face Mill with Double Negative Design and Internal Coolant

Highly productive 45° face mill utilising double sided HN..06 style inserts with APMX of 3 mm. Roughing, finishing and chamfering. Economical insert with 12 cutting edges. Differential tooth pitch. Weldon and arbor style available. Body treated for longer tool life.

KAPR	45°
APMX	3.0 mm



	0.06 - 0.15				
	0.06 - 0.15				

Product	DC	DCX	OAL	DCON MS	DCCB	LU	LF	KWW	KWD	GAMF	GAMP								
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)								
25N2R042B25-SHN06C-C	25	32.2	99	25	-	42	-	-	-	-7	-7	2	-	17400	✓	0.35	GI204	FA010	-
32N3R042B32-SHN06C-C	32	39.3	103	32	-	42	-	-	-	-7	-7	3	-	15400	✓	0.59	GI204	FA010	-
40A05R-S45HN06C-C	40	47.3	-	16	14	-	40	8.4	5.6	-7	-7	5	✓	13800	✓	0.37	GI204	FA012	-
50A04R-S45HN06C-C	50	57.3	-	22	18	-	40	10.4	6.3	-7	-7	4	✓	12300	✓	0.54	GI204	FA013	-
50A06R-S45HN06C-C	50	57.3	-	22	18	-	40	10.4	6.3	-7	-7	6	✓	12300	✓	0.41	GI204	FA013	-
63A06R-S45HN06C-C	63	70.3	-	22	18	-	40	10.4	6.3	-7	-7	6	✓	11000	✓	0.68	GI204	FA013	-
63A08R-S45HN06C-C	63	70.3	-	22	18	-	40	10.4	6.3	-7	-7	8	✓	11000	✓	0.68	GI204	FA013	-
80A07R-S45HN06C-C	80	86.8	-	27	38	-	50	12.4	7	-7	-7	7	✓	9700	✓	1.10	GI204	FA011	AC001
80A10R-S45HN06C-C	80	86.8	-	27	38	-	50	12.4	7	-7	-7	10	✓	9700	✓	1.10	GI204	FA011	AC001
100A08R-S45HN06C-C	100	107.1	-	32	45	-	50	14.4	8	-7	-7	8	✓	8700	✓	2.00	GI204	FA011	AC002
100A12R-S45HN06C-C	100	107.1	-	32	45	-	50	14.4	8	-7	-7	12	✓	8700	✓	1.82	GI204	FA011	AC002
125A10R-S45HN06C-C	125	132.2	-	40	56	-	63	16.4	9	-7	-7	10	✓	7800	✓	3.53	GI204	FA011	AC003

GI204	HNGX 0604AN..	XNGX 0604AN..

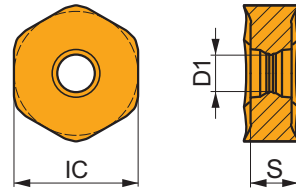
FA010	US 3007-T09P	2.0	M 3	7.3	-	-	Flag T09P	-
FA011	US 3007-T09P	2.0	M 3	7.3	D-T07P/T09P	FG-15	-	-
FA012	US 3007-T09P	2.0	M 3	7.3	D-T07P/T09P	FG-15	-	HS 0830C
FA013	US 3007-T09P	2.0	M 3	7.3	D-T07P/T09P	FG-15	-	HS 1030C

AC001	KS 1230	K.FMH27
AC002	KS 1635	K.FMH32
AC003	KS 2040	K.FMH40

HNGX 06

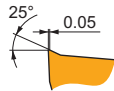


	IC	D1	S
	(mm)	(mm)	(mm)
0604	10.500	3.70	4.76



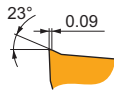
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



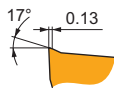
F geometry with highly positive design for light machining.

HNGX 0604ANSN-F:8215	☹	–	■	315	0.11	1.7	☑	185	0.10	1.7	■	–	–	–	–	–	–	–	–	–
HNGX 0604ANSN-F:M6330	☹	–	■	265	0.11	1.7	☑	185	0.10	1.7	■	–	–	–	–	–	–	–	–	–
HNGX 0604ANSN-F:M8330	☹	–	■	305	0.11	1.7	☑	180	0.10	1.7	■	–	–	–	–	–	–	–	–	–
HNGX 0604ANSN-F:M8340	☹	–	■	285	0.11	1.7	☑	170	0.10	1.7	■	–	–	–	–	–	–	–	–	–
HNGX 0604ANSN-F:M9340	☹	–	■	365	0.11	1.7	☑	215	0.10	1.7	■	–	–	–	–	–	–	–	–	–



M geometry with highly positive design for medium machining.

HNGX 0604ANSN-M:8215	☹	–	■	300	0.13	2.0	☑	180	0.13	2.0	■	285	0.13	2.0	–	–	–	–	–	–
HNGX 0604ANSN-M:M5315	☹	–	☑	425	0.13	2.0	–	–	–	–	■	400	0.13	2.0	–	–	–	–	–	–
HNGX 0604ANSN-M:M6330	☹	–	■	255	0.13	2.0	☑	180	0.13	2.0	■	–	–	–	–	–	–	–	–	–
HNGX 0604ANSN-M:M8310	☹	–	■	325	0.13	2.0	☑	165	0.13	2.0	■	305	0.13	2.0	–	–	–	–	–	–
HNGX 0604ANSN-M:M8330	☹	–	■	295	0.13	2.0	☑	175	0.13	2.0	■	280	0.13	2.0	–	–	–	–	–	–
HNGX 0604ANSN-M:M8340	☹	–	■	265	0.13	2.0	☑	155	0.13	2.0	■	250	0.13	2.0	–	–	–	–	–	–
HNGX 0604ANSN-M:M9315	☹	–	■	410	0.13	2.0	–	–	–	–	■	385	0.13	2.0	–	–	–	–	–	–
HNGX 0604ANSN-M:M9325	☹	–	■	375	0.13	2.0	–	–	–	–	■	355	0.13	2.0	–	–	–	–	–	–
HNGX 0604ANSN-M:M9340	☹	–	■	345	0.13	2.0	☑	205	0.13	2.0	■	–	–	–	–	–	–	–	–	–



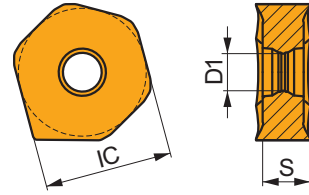
R geometry with highly positive design for medium to heavy machining.

HNGX 0604ANSN-R:8215	☹	–	■	280	0.18	1.8	☑	165	0.18	1.8	■	265	0.18	1.8	–	–	–	–	☑	55	0.12	1.0
HNGX 0604ANSN-R:M5315	☹	–	☑	370	0.18	1.8	–	–	–	–	■	350	0.18	1.8	–	–	–	–	☑	70	0.12	1.0
HNGX 0604ANSN-R:M8310	☹	–	■	300	0.18	1.8	☑	150	0.18	1.8	■	285	0.18	1.8	–	–	–	–	☑	60	0.12	1.0
HNGX 0604ANSN-R:M8330	☹	–	■	275	0.18	1.8	☑	165	0.18	1.8	■	260	0.18	1.8	–	–	–	–	☑	55	0.12	1.0
HNGX 0604ANSN-R:M8340	☹	–	■	250	0.18	1.8	☑	150	0.18	1.8	■	235	0.18	1.8	–	–	–	–	–	–	–	–
HNGX 0604ANSN-R:M9325	☹	–	■	345	0.18	1.8	–	–	–	–	■	325	0.18	1.8	–	–	–	–	☑	65	0.12	1.0

XNGX 06

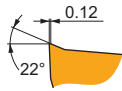


	IC	D1	S
	(mm)	(mm)	(mm)
0604	10.500	3.70	4.76



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



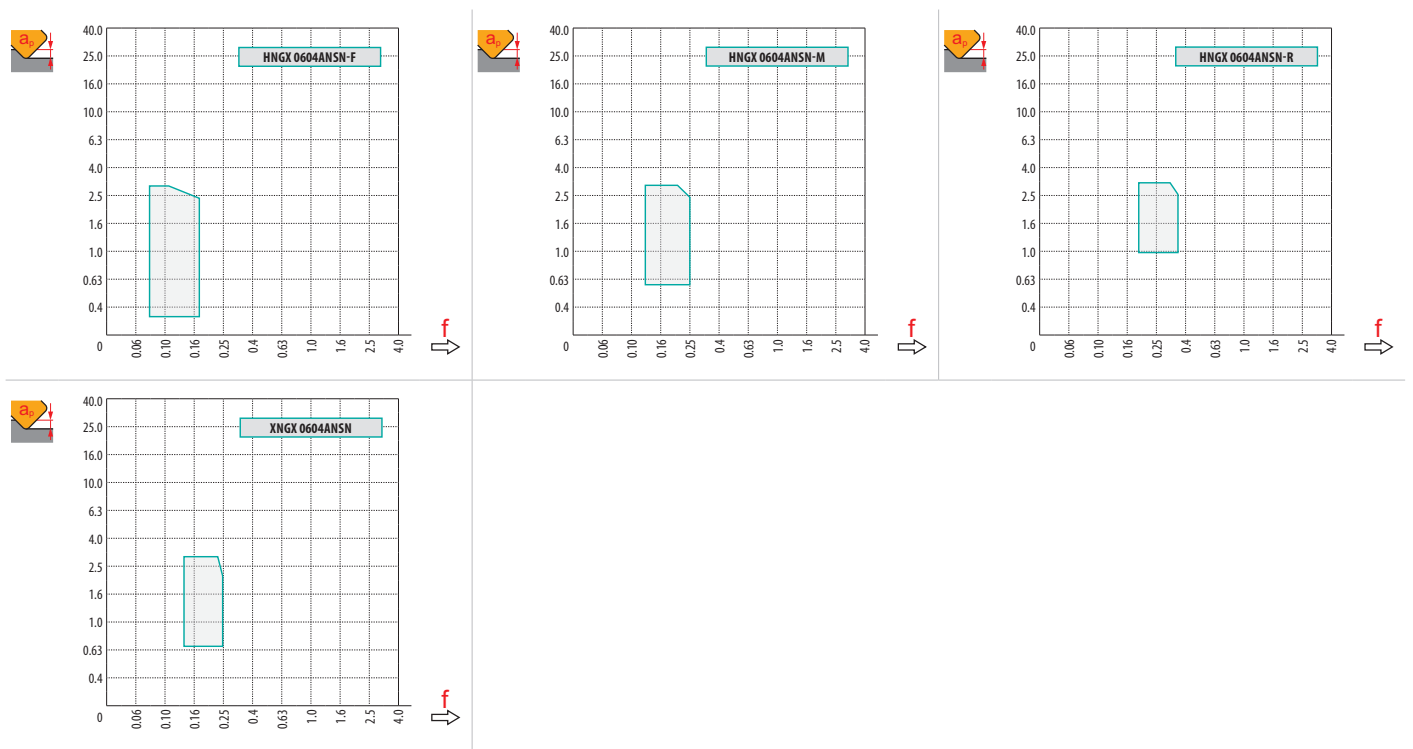
Wiper design for improved surface finish.

XNGX 0604ANSN:8215	RE	-	290	0.13	1.8	170	0.12	1.8	275	0.13	1.8	-	-	-	-	-	-	-
---------------------------	----	---	-----	------	-----	-----	------	-----	-----	------	-----	---	---	---	---	---	---	---



a_e / DC	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	HNGX 06-F	HNGX 06-M	HNGX 06-R	XNGX 06
	-	-	-	-
	1.12	0.80	0.80	4.15



		f_{max}		RPMX	APMX/I			
25	1.31	0.24	25	2.7°	3.0/65	0.9		
32	1.36	0.28	32	1.9°	3.0/89			
40	1.40	0.31	40	1.5°	2.5/100			
50	1.45	0.35	50	1.1°	1.9/100			
63	1.49	0.39	63	0.9°	1.4/100			
80	1.54	0.44	80	0.6°	1.0/100			
100	1.59	0.49	100	0.5°	0.8/100			
125	1.64	0.55	125	0.4°	0.6/100			

SHN09C

P M K H

PRAMET

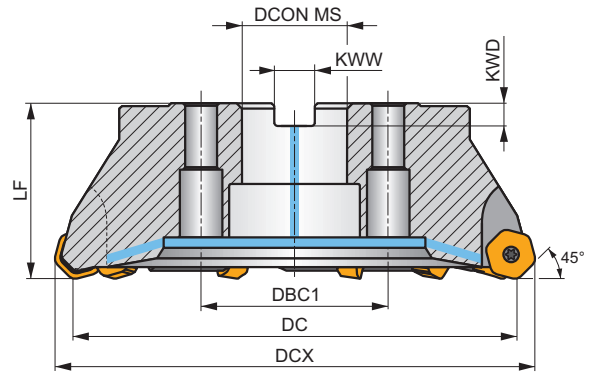
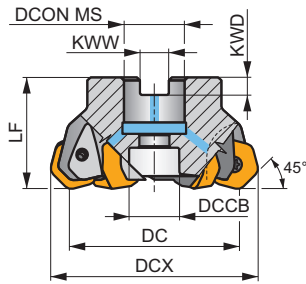
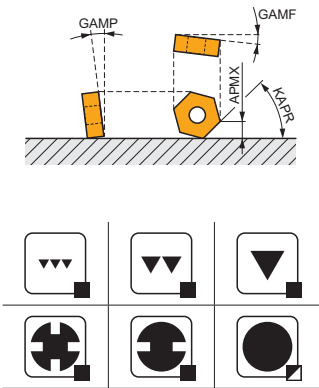
S



ECON HN09 45° Face Mill with Double Negative Design and Internal Coolant

Highly productive 45° face mill utilizing double sided HN..09 style inserts with APMX of 5 mm. Roughing, finishing and chamfering. Economical insert with 12 cutting edges. Differential tooth pitch. Arbor style only. Body treated for longer tool life.

KAPR	45°
APMX	5.0 mm



0.08 - 0.25



Product	DC	DCX	LF	D CON MS	DCCB	DBC1	KWW	KWD	GAMP	GAMP								
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)								
50A04R-S45HN09C-CF	50	61.7	40	22	18	-	10.4	6.3	-7	-7	4	✓	7900	✓	0.38	GI252	FA023	-
63A06R-S45HN09C-CF	63	74.7	40	22	18	-	10.4	6.3	-7	-7	6	✓	7000	✓	0.54	GI252	FA023	-
80A06R-S45HN09C-CF	80	91.7	50	27	38	-	12.4	7	-7	-7	6	✓	6200	✓	1.06	GI252	FA021	AC001
80A08R-S45HN09C-CF	80	91.7	50	27	38	-	12.4	7	-7	-7	8	✓	6200	✓	1.06	GI252	FA021	AC001
100A06R-S45HN09C-CF	100	111.7	50	32	45	-	14.4	8	-7	-7	6	✓	5600	✓	1.95	GI252	FA021	AC002
100A08R-S45HN09C-CF	100	111.7	50	32	45	-	14.4	8	-7	-7	8	✓	5600	✓	1.99	GI252	FA021	AC002
100A10R-S45HN09C-CF	100	111.7	50	32	45	-	14.4	8	-8	-7	10	-	5600	✓	1.99	GI252	FA021	AC002
125A06R-S45HN09C-CF	125	136.7	63	40	56	-	16.4	9	-7	-7	6	✓	5000	✓	3.36	GI252	FA021	AC003
125A08R-S45HN09C-CF	125	136.7	63	40	56	-	16.4	9	-7	-7	8	✓	4900	✓	3.66	GI252	FA021	AC003
125A10R-S45HN09C-CF	125	136.7	63	40	56	-	16.4	9	-7	-7	10	✓	5000	✓	3.52	GI252	FA021	AC003
125A12R-S45HN09C-CF	125	136.7	63	40	56	-	16.4	9	-8	-7	12	-	5000	✓	3.36	GI252	FA021	AC003
160C08R-S45HN09C-CF	160	171.7	63	40	-	66.7	16.4	9	-7	-7	8	✓	4400	✓	6.24	GI252	FA026	-
160C12R-S45HN09C-CF	160	171.7	63	40	-	66.7	16.4	9	-7	-7	12	✓	4400	✓	6.45	GI252	FA026	-
160C14R-S45HN09C-CF	160	171.7	63	40	-	66.7	16.4	9	-7	-7	14	✓	4400	✓	6.39	GI252	FA026	-
200C10R-S45HN09C-CF	200	211.7	63	60	-	101.6	25.7	14	-7	-7	10	✓	3900	✓	11.37	GI252	FA027	-
250C14R-S45HN09C-CF	250	261.7	63	60	-	101.6	25.7	14	-7	-7	14	✓	3500	✓	18.50	GI252	FA028	-
315C16R-S45HN09C-CF	315	326.7	80	60	-	101.6	25.7	14	-7	-7	16	✓	3100	✓	37.00	GI252	FA029	-

GI252	HNGX 0906AN..	XNGX 0906AN..

FA021	US 54511-T15P	5.0	M 4.5	11	D-T08P/T15P	FG-15	-	-	-	-	-	-
FA023	US 54511-T15P	5.0	M 4.5	11	D-T08P/T15P	FG-15	HS 1030C	-	-	-	-	-

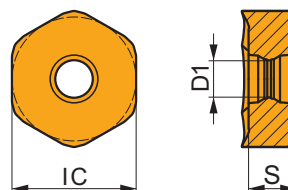
FA026	US 54511-T15P	5.0	M 4.5	11	D-T08P/T15P	FG-15	HS 1240C	CAC 160C	HSD 0825C	HXK 5	-	-
FA027	US 54511-T15P	5.0	M 4.5	11	D-T08P/T15P	FG-15	HS 1655C	CAC 200C	HSD 1025C	HXK 7	-	-
FA028	US 54511-T15P	5.0	M 4.5	11	D-T08P/T15P	FG-15	HS 1655C	CAC 250C	HSD 1025C	HXK 7	-	-
FA029	US 54511-T15P	5.0	M 4.5	11	D-T08P/T15P	FG-15	HS 1655C	CAC 315C	HSD 1035C	HXK 7	CACP 3150C	RRH 34

AC001	KS 1230	K.FMH27
AC002	KS 1635	K.FMH32
AC003	KS 2040	K.FMH40

HNGX 09

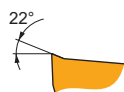


	IC	D1	S
	(mm)	(mm)	(mm)
0906	16.500	4.90	6.35



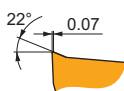
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



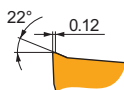
FF geometry with highly positive design for light machining.

HNGX 0906ANEN-FF:8215	●	-	345	0.10	1.0	205	0.09	1.0	-	-	-	-	-	-	-	-	-	-
HNGX 0906ANEN-FF:M8330	●	-	335	0.10	1.0	200	0.09	1.0	-	-	-	-	-	-	-	-	-	-
HNGX 0906ANEN-FF:M9340	●	-	405	0.10	1.0	240	0.09	1.0	-	-	-	-	-	-	-	-	-	-



F geometry with highly positive design for light to medium machining.

HNGX 0906ANSN-F:8215	⊕	-	300	0.12	2.1	180	0.11	2.1	-	-	-	-	-	-	-	-	-	-
HNGX 0906ANSN-F:M6330	⊕	-	255	0.12	2.1	180	0.11	2.1	-	-	-	-	-	-	-	-	-	-
HNGX 0906ANSN-F:M8310	⊕	-	330	0.12	2.1	165	0.11	2.1	-	-	-	-	-	-	-	-	-	-
HNGX 0906ANSN-F:M8330	⊕	-	300	0.12	2.1	180	0.11	2.1	-	-	-	-	-	-	-	-	-	-
HNGX 0906ANSN-F:M8340	⊕	-	270	0.12	2.1	160	0.11	2.1	-	-	-	-	-	-	-	-	-	-

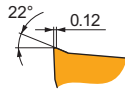


M geometry with highly positive design for medium machining.

HNGX 0906ANSN-M:8215	⊕	-	255	0.20	2.7	150	0.18	2.7	240	0.20	2.7	-	-	-	-	-	-	-
HNGX 0906ANSN-M:M5315	⊕	-	340	0.20	2.7	-	-	-	320	0.20	2.7	-	-	-	-	-	-	-

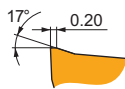
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



M geometry with highly positive design for medium machining.

HNGX 0906ANSN-M:M6330	✳	–	■	220	0.20	2.7	▣	155	0.18	2.7	■	–	–	–	–	–	–	–	–
HNGX 0906ANSN-M:M8310	✳	–	■	280	0.20	2.7	▣	140	0.18	2.7	■	265	0.20	2.7	–	–	–	–	–
HNGX 0906ANSN-M:M8330	✳	–	■	255	0.20	2.7	▣	150	0.18	2.7	■	240	0.20	2.7	–	–	–	–	–
HNGX 0906ANSN-M:M8340	✳	–	■	235	0.20	2.7	▣	140	0.18	2.7	■	220	0.20	2.7	–	–	–	–	–
HNGX 0906ANSN-M:M9315	✳	–	■	340	0.20	2.7	▣	–	–	–	■	320	0.20	2.7	–	–	–	–	–
HNGX 0906ANSN-M:M9325	✳	–	■	315	0.20	2.7	▣	–	–	–	■	295	0.20	2.7	–	–	–	–	–
HNGX 0906ANSN-M:M9340	✳	–	■	290	0.20	2.7	▣	170	0.18	2.7	■	–	–	–	–	–	–	–	–



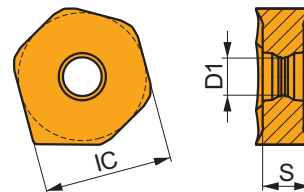
R geometry with positive design for medium to heavy machining.

HNGX 0906ANSN-R:8215	✳	–	■	240	0.25	3.0	▣	140	0.25	3.0	■	225	0.25	3.0	–	–	–	▣	45	0.13	1.0
HNGX 0906ANSN-R:M5315	✳	–	▣	305	0.25	3.0	▣	–	–	–	■	285	0.25	3.0	–	–	–	▣	60	0.13	1.0
HNGX 0906ANSN-R:M8310	✳	–	■	260	0.25	3.0	▣	130	0.25	3.0	■	245	0.25	3.0	–	–	–	▣	50	0.13	1.0
HNGX 0906ANSN-R:M8330	✳	–	■	240	0.25	3.0	▣	140	0.25	3.0	■	225	0.25	3.0	–	–	–	▣	45	0.13	1.0
HNGX 0906ANSN-R:M8340	✳	–	■	220	0.25	3.0	▣	130	0.25	3.0	■	205	0.25	3.0	–	–	–	–	–	–	–
HNGX 0906ANSN-R:M9315	✳	–	■	310	0.25	3.0	▣	–	–	–	■	290	0.25	3.0	–	–	–	▣	60	0.13	1.0
HNGX 0906ANSN-R:M9325	✳	–	■	295	0.25	3.0	▣	–	–	–	■	280	0.25	3.0	–	–	–	▣	55	0.13	1.0

XNGX 09

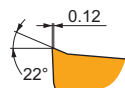
PRAMET

	IC (mm)	D1 (mm)	S (mm)
0906	16.500	4.90	6.35



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



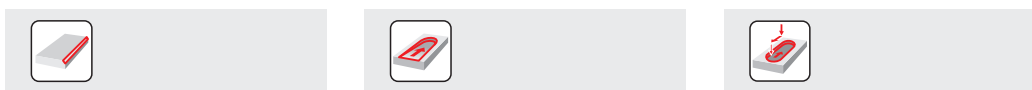
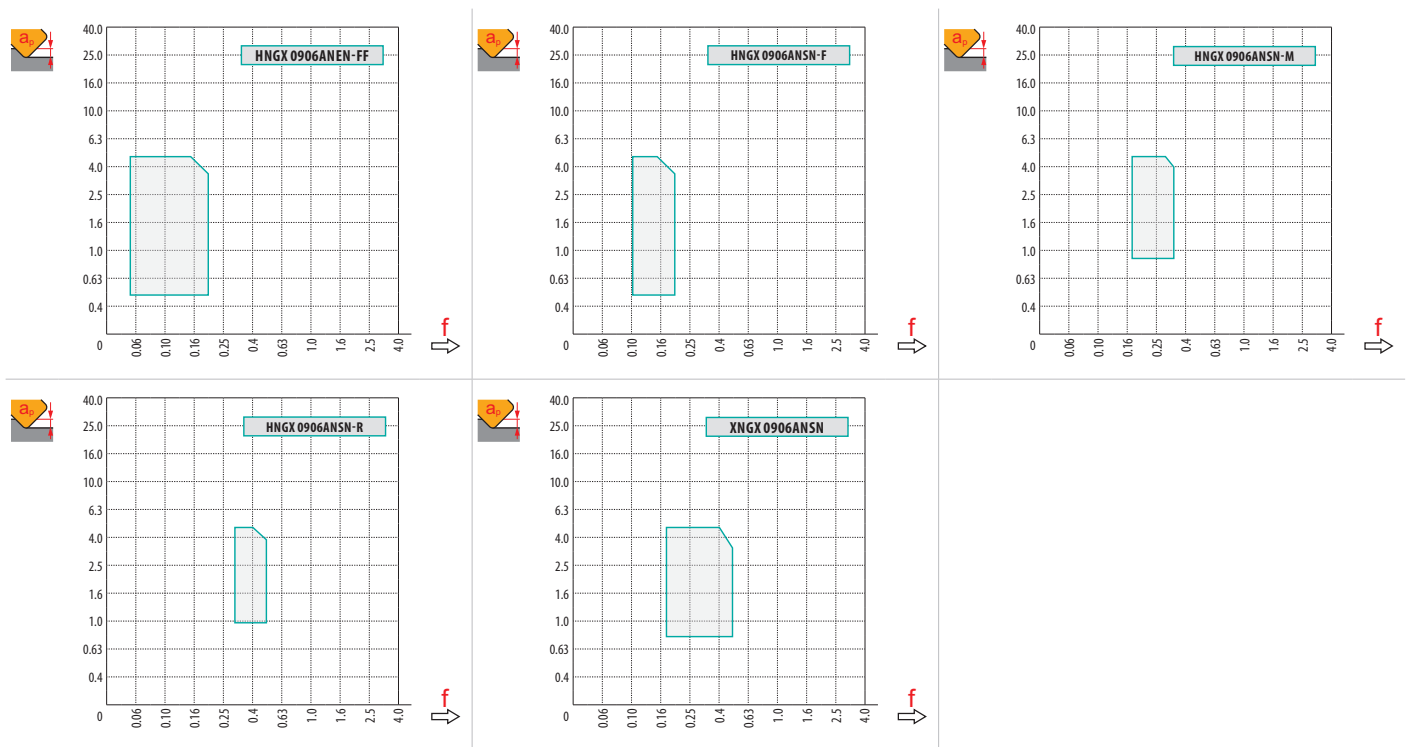
Wiper design for improved surface finish.

XNGX 0906ANSN:8215	✳	–	■	245	0.20	2.7	▣	145	0.18	2.7	■	230	0.20	2.7	–	–	–	–	–	–
XNGX 0906ANSN:M8330	✳	–	■	245	0.20	2.7	▣	145	0.18	2.7	■	230	0.20	2.7	–	–	–	–	–	–



a_e / DC	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	HNGX 09-FF	HNGX 09-F	HNGX 09-M	HNGX 09-R	XNGX 09
	-	-	-	-	-
	1.50	1.17	1.17	1.17	7.53



DC	X.V	f_{max}
50	1.35	0.36
63	1.39	0.40
80	1.44	0.45
100	1.48	0.51
125	1.53	0.57
160	1.58	0.64
200	1.63	0.72
250	1.68	0.80
315	1.74	0.90

DC	RPMX	APMX/II
50	2.1°	3.5/100
63	1.5°	2.5/100
80	1.1°	1.8/100
100	0.9°	1.4/100
125	0.7°	1.1/100
160	0.5°	0.7/100

a_e	1.9
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SPN13



PRAMET

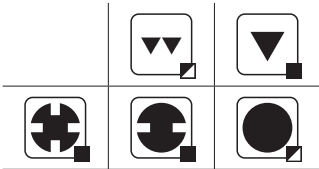
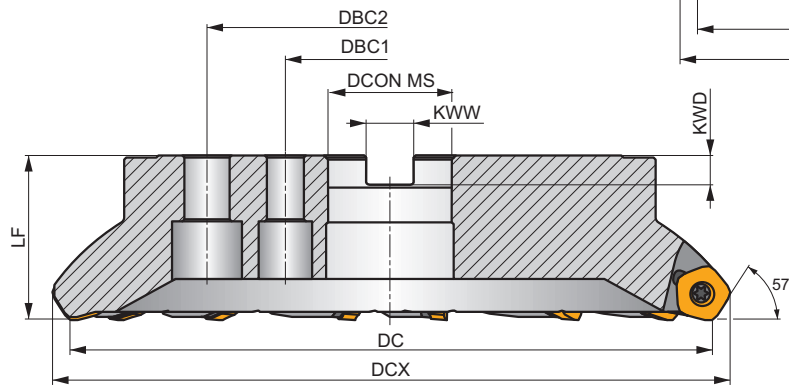
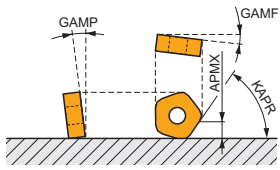
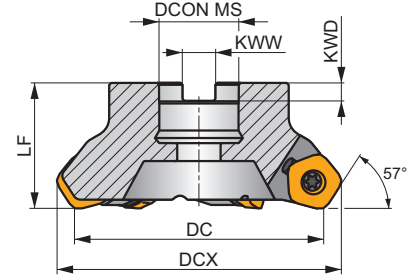


PENTA HD 57° Face Mill with Double Negative Design for Heavy Face Milling

Highly productive 57° face mill utilising double sided PN.. 13 and XN.. 13 style inserts with APMX of 10 mm. Suited for face milling. Arbor style only. An insert seat protected with a shim. Body treated for longer tool life.

PENTA HD

KAPR	57°
APMX	10.0 mm



h_{min} 0.20 - 0.50



Product	DC	DCX	LF	DCON MS	DBC1	DBC2	KWW	KWD	GAMF	GAMP				kg				
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)								
100A05R-S57PN13	100	115.8	50	32	-	-	14.4	8	-8.2	-4	5	-	3400	-	1.22	G1261	FA081	AC002
125A06R-S57PN13	125	140.8	63	40	-	-	16.4	9	-7	-4	6	-	3100	-	2.79	G1261	FA081	AC003
160C08R-S57PN13	160	175.8	63	40	66.7	-	16.4	9	-6	-4	8	-	2700	-	3.58	G1261	FA081	-
200C10R-S57PN13	200	215.8	63	60	101.6	-	25.7	14	-5	-4	10	-	2400	-	9.17	G1261	FA081	-
250C12R-S57PN13	250	265.8	63	60	101.6	-	25.7	14	-5	-4	12	-	2200	-	15.39	G1261	FA081	-
315C14R-S57PN13	315	330.8	80	60	101.6	177.8	25.7	14	-5	-4	14	-	1900	-	29.17	G1261	FA081	-

G1261	PNMU 1308DN..	XNGX 1308DNSN	PNMQ 1308DN..

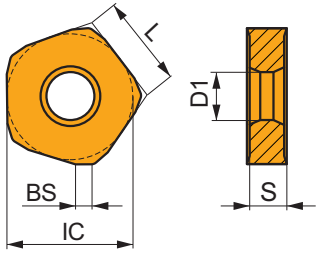
FA081	SPN 13T3DN	US 64010-T15P	SDRT15P	US 68026-T30P	15.0	M 8	26	SDRT30P-T

AC002	KS 1635	K.FMH32
AC003	KS 2040	K.FMH40

PNMU 13

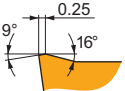


	BS	IC	D1	L	S
	(mm)	(mm)	(mm)	(mm)	(mm)
1308	3.00	24.400	10.00	13.00	7.94



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap
		(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)



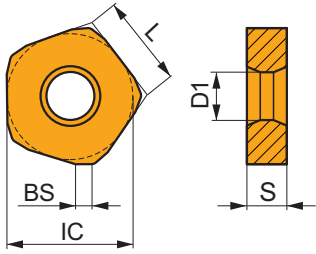
M geometry with positive design for rough machining.

PNMU 1308DNSR-M:8215	✳	–	█	165	0.35	6.5	▣	95	0.32	6.5	█	155	0.35	6.5	–	–	–	▣	40	0.28	5.2	█	30	0.18	2.0
PNMU 1308DNSR-M:M8330	✳	–	█	190	0.35	6.5	▣	110	0.32	6.5	█	180	0.35	6.5	–	–	–	▣	45	0.28	5.2	█	35	0.18	2.0
PNMU 1308DNSR-M:M8345	✳	–	█	135	0.35	6.5	▣	80	0.32	6.5	–	–	–	–	–	–	–	▣	30	0.28	5.2	–	–	–	
PNMU 1308DNSR-M:M9315	✳	–	█	210	0.35	6.5	–	–	–	–	█	195	0.35	6.5	–	–	–	–	–	–	–	▣	40	0.18	2.0
PNMU 1308DNSR-M:M9340	✳	–	█	170	0.35	6.5	▣	100	0.32	6.5	–	–	–	–	–	–	–	–	▣	40	0.28	5.2	–	–	–

PNMQ 13

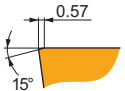


	BS	IC	D1	L	S
	(mm)	(mm)	(mm)	(mm)	(mm)
1308	3.00	24.400	10.00	13.00	7.94



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap
		(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)



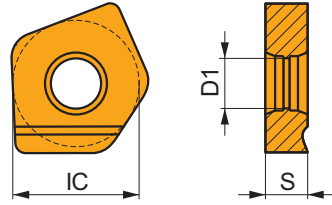
Zero rake angle design particularly suited to rough machining.

PNMQ 1308DNSN:M8330	✳	–	▣	165	0.60	6.5	–	–	–	–	█	155	0.60	6.5	–	–	–	–	–	–	–	▣	30	0.30	2.0
PNMQ 1308DNSN:M8345	✳	–	▣	120	0.60	6.5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	

XNGX 13

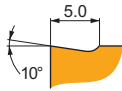


	IC	D1	S
	(mm)	(mm)	(mm)
1308	24.180	10.00	7.94



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



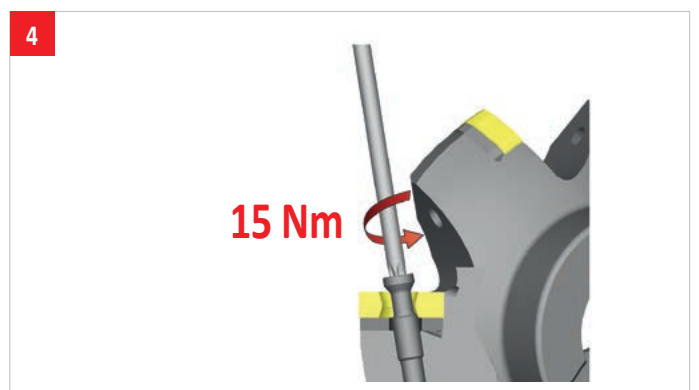
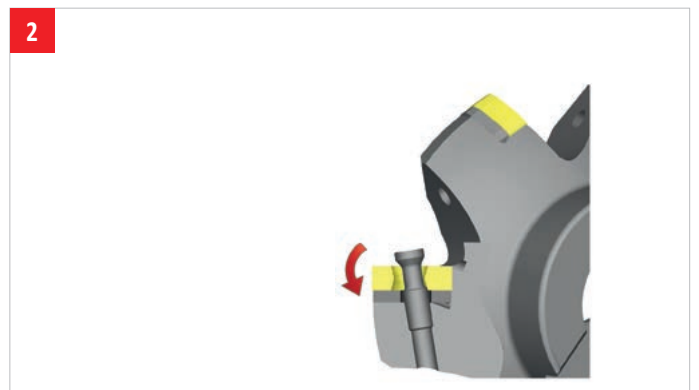
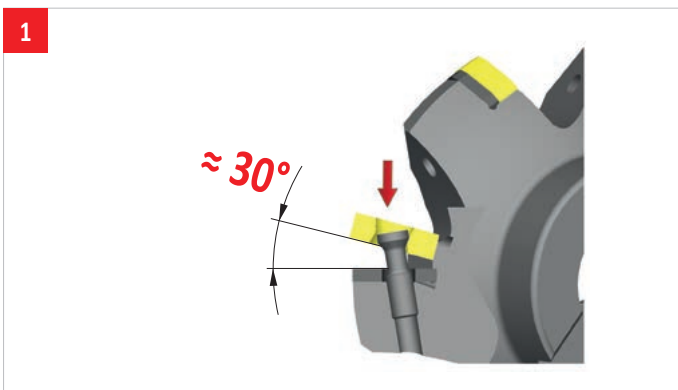
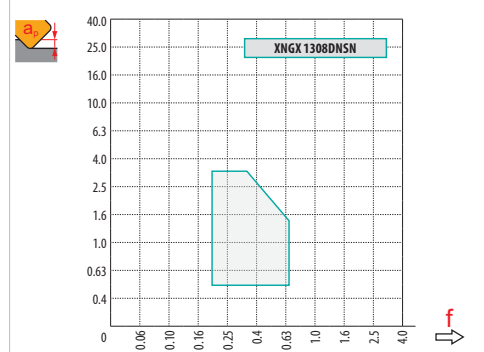
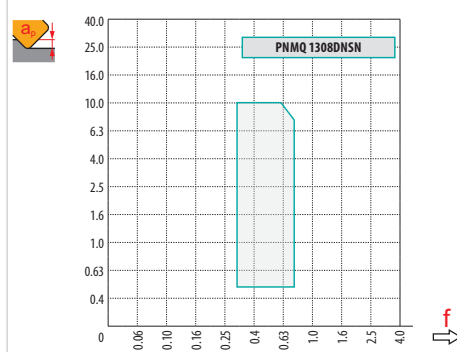
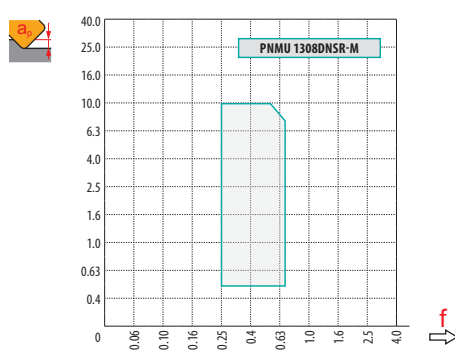
Wiper design for improved surface finish.

XNGX 1308DNSN:M8330	✳	-	■	245	0.45	2.5	■	-	-	-	■	230	0.45	2.5	■	-	-	-	■	-	-	-
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


a_e / DC	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	PNMU 13-M	PNMQ 13	XNGX 13
	-	-	-
	3.00	3.00	12.71



FACE MILLING – NAVIGATOR

FACE MILLING – POSITIVE SQUARE INSERTS

	SSD13F	SSE09	SSN12Z	FSB22X						
	45°		45°		45°		60°			
	APMX (mm) 6.4	APMX (mm) 4.5	APMX (mm) 6.5	APMX (mm) 15.0						
	DC (mm) 32 – 250	DC (mm) 20 – 160	DC (mm) 63 – 125	DC (mm) 125 – 250						
Cylindrical shank										
Weldon	 DC = 32, 40 (mm)	 DC = 20 – 32 (mm)								
Modular										
Shell mill	 DC = 40 – 250 (mm)	 DC = 32 – 160 (mm)								
Page	26	31	35	38						
ISO	P M K N S H	P M K S	P M K S	P M K						
Insert shape										
Inserts	SDET 13T3 SDMT 13T3 XDET 13T3	SE.T 09T3	SN.T 1205	SB.. 2207						
No. of cutting edges	4 / 4 / 1	4	4	4 / 1						
Face milling 	■	■	■	■						
Chamfer milling 	■	■	■							
Helical interpolation 	▣									
Progressive plunging 	▣									
Ramping 	▣									

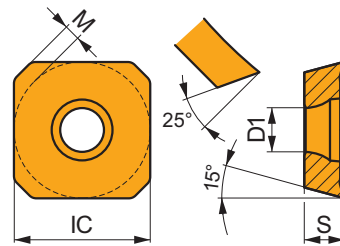
C0610	US 63513-T15P	3.0	M 3.5	13	Flag T15P	-	-	-	SDW 1103AF	MS 3507	HXK 3.5	-	-	-
C0611	US 63513-T15P	3.0	M 3.5	13	-	D-T08P/T15P	FG-15	HS 0830C	SDW 1103AF	MS 3507	HXK 3.5	-	-	-
C0612	US 63513-T15P	3.0	M 3.5	13	-	D-T08P/T15P	FG-15	HSD 1025C	SDW 1103AF	MS 3507	HXK 3.5	-	-	-
C0613	US 63513-T15P	3.0	M 3.5	13	-	D-T08P/T15P	FG-15	-	SDW 1103AF	MS 3507	HXK 3.5	-	-	-
C0614	US 63513-T15P	3.0	M 3.5	13	-	D-T08P/T15P	FG-15	HS 1240C	SDW 1103AF	MS 3507	HXK 3.5	CAC 160C	HSD 0825C	HXK 5
C0615	US 63513-T15P	3.0	M 3.5	13	-	D-T08P/T15P	FG-15	HS 1655C	SDW 1103AF	MS 3507	HXK 3.5	CAC 200C	HSD 1025C	HXK 7
C0616	US 63513-T15P	3.0	M 3.5	13	-	D-T08P/T15P	FG-15	HS 1655C	SDW 1103AF	MS 3507	HXK 3.5	CAC 250C	HSD 1025C	HXK 7

AC001	KS 1230	K.FMH27
AC002	KS 1635	K.FMH32
AC003	KS 2040	K.FMH40

SDET 13

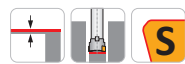
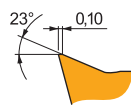
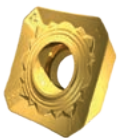


	IC	D1	M	S
	(mm)	(mm)	(mm)	(mm)
13T3	13.385	4.40	1.5	3.97



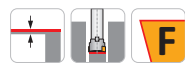
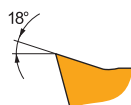
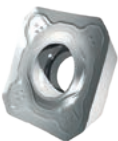
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap
		(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)



S geometry is sharp and used for finishing, suitable for large overhang or thin walled and slim workpiece applications. Designed with highly positive rake, narrow T-land and rounding of cutting edge for light machining.

SDET 13T3AFSN-F:M6330	☼	-	■	250	0.15	3.0	■	175	0.14	3.0	■	-	-	-	■	70	0.11	2.4	-	-	-	
SDET 13T3AFSN-F:M8310	☼	-	■	315	0.15	3.0	■	160	0.14	3.0	■	295	0.15	3.0	■	-	-	-	-	-	-	
SDET 13T3AFSN-F:M8330	☼	-	■	285	0.15	3.0	■	170	0.14	3.0	■	270	0.15	3.0	■	855	0.18	3.0	■	70	0.11	2.4
SDET 13T3AFSN-F:M8340	☼	-	■	265	0.15	3.0	■	155	0.14	3.0	■	250	0.15	3.0	■	-	-	-	■	65	0.11	2.4
SDET 13T3AFSN-F:M9340	☼	-	■	330	0.15	3.0	■	195	0.14	3.0	■	-	-	-	■	80	0.11	2.4	-	-	-	



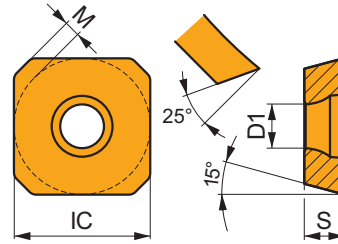
FA geometry is sharp and used for non-ferrous alloys machining, suitable for large overhang or thin walled and slim workpiece applications. Polished and ground design with highly positive rake.

SDET 13T3AFFN-FA:HF7	☼	-	■	-	-	-	■	-	-	-	■	360	0.12	3.0	■	-	-	-	-	-	-
SDET 13T3AFFN-FA:M0315	☼	-	■	-	-	-	■	-	-	-	■	840	0.12	3.0	■	-	-	-	-	-	-

SDMT 13

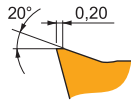


	IC	D1	M	S
	(mm)	(mm)	(mm)	(mm)
13T3	13.385	4.40	1.5	3.97



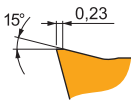
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



M geometry is versatile and the first choice for a wide range of working conditions. Designed with positive rake, medium T-land and rounding of cutting edge for medium machining.

SDMT 13T3AFSN-M:8215	☉	–	■	245	0.30	3.0	▣	145	0.27	3.0	■	230	0.30	3.0	–	–	–	▣	60	0.24	2.4	■	45	0.21	1.0
SDMT 13T3AFSN-M:M6330	☉	–	■	215	0.30	3.0	■	150	0.27	3.0	–	–	–	–	–	–	–	■	60	0.24	2.4	–	–	–	
SDMT 13T3AFSN-M:M8330	☉	–	■	245	0.30	3.0	■	145	0.27	3.0	■	230	0.30	3.0	–	–	–	▣	60	0.24	2.4	▣	45	0.21	1.0
SDMT 13T3AFSN-M:M8340	☉	–	■	225	0.30	3.0	■	135	0.27	3.0	▣	210	0.30	3.0	–	–	–	■	55	0.24	2.4	–	–	–	
SDMT 13T3AFSN-M:M9325	☉	–	■	295	0.30	3.0	–	–	–	–	■	280	0.30	3.0	–	–	–	–	–	–	–	▣	55	0.21	1.0
SDMT 13T3AFSN-M:M9340	☉	–	■	265	0.30	3.0	■	155	0.27	3.0	–	–	–	–	–	–	–	■	65	0.24	2.4	–	–	–	



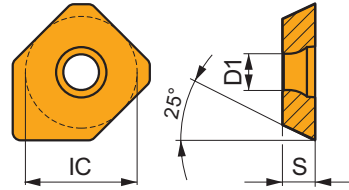
R geometry is strong and used for roughing and heavy working conditions. Designed with slightly positive rake, wide T-land and rounding of cutting edge for rough machining.

SDMT 13T3AFSN-R:M5315	☉	–	▣	285	0.35	3.0	–	–	–	–	■	270	0.35	3.0	–	–	–	–	–	–	–	■	55	0.25	1.0
SDMT 13T3AFSN-R:M8310	☉	–	■	255	0.35	3.0	▣	130	0.32	3.0	■	240	0.35	3.0	–	–	–	–	–	–	–	■	50	0.25	1.0
SDMT 13T3AFSN-R:M8330	☉	–	■	240	0.35	3.0	▣	140	0.32	3.0	■	225	0.35	3.0	–	–	–	–	–	–	–	▣	45	0.25	1.0
SDMT 13T3AFSN-R:M8340	☉	–	■	220	0.35	3.0	▣	130	0.32	3.0	▣	205	0.35	3.0	–	–	–	–	–	–	–	–	–	–	
SDMT 13T3AFSN-R:M9325	☉	–	■	280	0.35	3.0	–	–	–	–	■	265	0.35	3.0	–	–	–	–	–	–	–	▣	55	0.25	1.0

XDET 13



	IC	D1	S
	(mm)	(mm)	(mm)
13T3	13.385	4.40	3.97



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



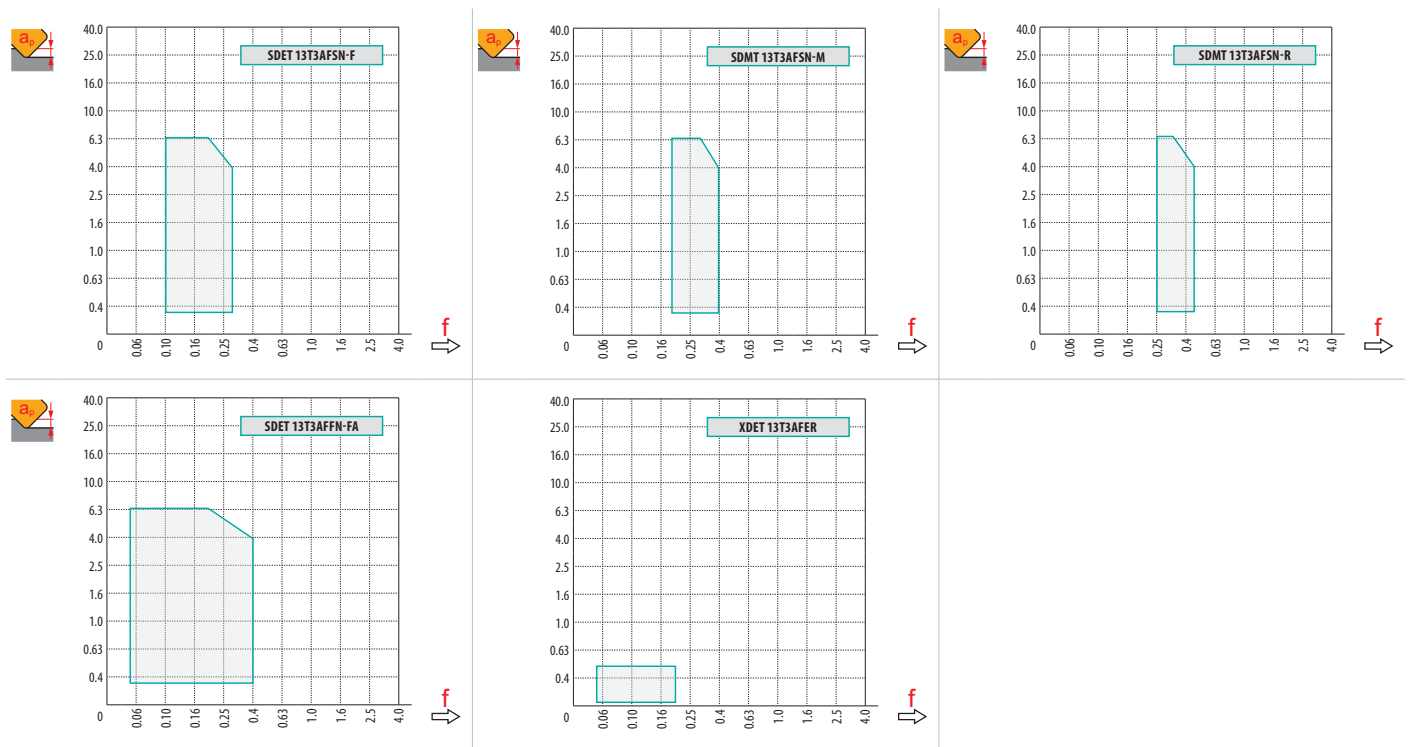
Wiper design for improved surface finish when machining with large cutters and high feed rates.

XDET 13T3AFER:8215	☺	–	■	420	0.10	0.2	▣	250	0.09	0.2	■	395	0.10	0.2	■	–	–	–	■	–	–	–
XDET 13T3AFER:M8330	☺	–	■	395	0.10	0.2	▣	235	0.09	0.2	■	375	0.10	0.2	■	–	–	–	■	–	–	–



a_e / DC	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	SDET 13-F	SDMT 13-M	SDMT 13-R	SDET 13-FA	XDET 13
	-	-	-	-	-
	1.75	1.75	1.75	1.75	8.19



		f_{max}		RPMX	APMX/I		DMIN	DMAX		
32	1.22	0.15	32	14.1°	6.4/27	32	60.0	89.8	1.7	1.7
40	1.26	0.16	40	11.8°	6.4/32	40	75.0	107.0	1.7	1.7
50	1.30	0.18	50	9.8°	6.4/39	50	94.0	127.0	1.7	1.7
63	1.34	0.20	63	7.7°	6.4/49	63	120.0	152.8	1.7	1.7
80	1.39	0.22	80	5.2°	6.4/72	80	155.0	186.8	1.7	1.7
100	1.43	0.24	100	4.1°	6.4/91	100	193.0	225.8	1.7	1.7
125	1.48	0.26	125	3.2°	5.45/100	125	245.0	275.6	1.7	1.7
160	1.53	0.29	160	1.0°	1.6/100	160	322.0	345.6	1.7	1.7
200	1.58	0.33	200	0.4°	0.55/100	200	405.0	425.6	1.7	1.7
250	1.63	0.36	250	0.3°	0.4/100	250	505.0	525.6	1.7	1.7

SSE09



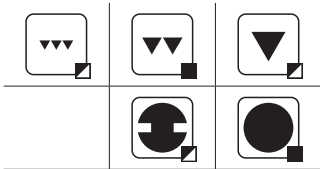
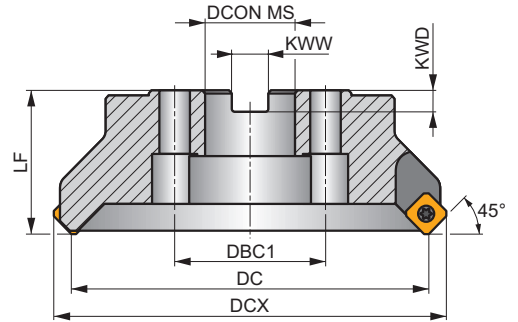
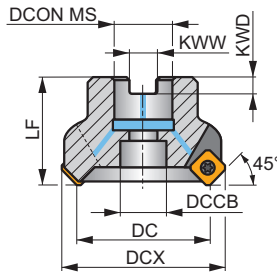
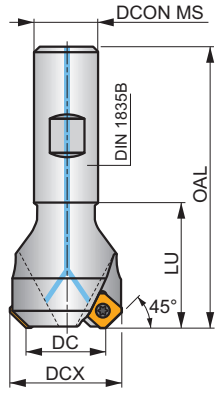
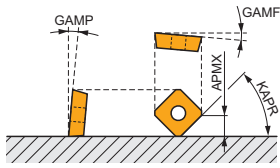
PRAMET



45° Face Mill with Positive Design and Internal Coolant

Highly productive 45° face mill utilising single sided SE..09 style inserts with APMX of 4.5 mm. Suited for face milling and chamfering. Weldon and arbor style available with differential tooth pitch. Body treated for longer tool life.

KAPR	45°
APMX	4.5 mm



	0.06 - 0.18
	0.06 - 0.2



Product	DC	DCX	OAL	DCON MS	DCCB	DBC1	LU	LF	KWW	KWD	GAMF	GAMP	max.		kg	Icons				
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)								
20N2R032B20-SSE09-C	20	29.8	82	20	-	-	32	-	-	-	-5	20	2	-	24600	✓	0.26	G147	FA010	-
25N3R042B25-SSE09-C	25	34.8	98	25	-	-	42	-	-	-	-5	20	3	-	22000	✓	0.44	G147	FA010	-
32N4R042B32-SSE09-C	32	42	102	32	-	-	42	-	-	-	-5	20	4	-	19400	✓	0.68	G147	FA010	-
32A04R-S45SE09F-C	32	42	-	16	14	-	-	40	8.4	6.4	-5	20	4	✓	19400	✓	0.24	G147	FA012	-
40A04R-S45SE09F-C	40	53.2	-	16	14	-	-	40	8.4	6.4	-5	20	4	✓	17400	✓	0.30	G147	FA012	-
50A05R-S45SE09F-C	50	59.6	-	22	18	-	-	40	10.4	6.4	-5	20	5	✓	15600	✓	0.55	G147	FA013	-
63A05R-S45SE09F-C	63	75.8	-	22	18	-	-	40	10.4	6.4	-5	20	5	✓	13900	✓	0.66	G147	FA013	-
63A06R-S45SE09F-C	63	75.8	-	22	18	-	-	40	10.4	6.4	-5	20	6	✓	13900	✓	0.58	G147	FA013	-
80A06R-S45SE09F-C	80	89.6	-	27	38	-	-	50	12.4	7	-5	20	6	✓	12300	✓	1.14	G147	FA011	AC001
80A08R-S45SE09F-C	80	89.6	-	27	38	-	-	50	12.4	7	-5	20	8	✓	12300	✓	1.13	G147	FA011	AC001
100A08R-S45SE09F-C	100	110	-	32	45	-	-	50	14.4	8	-5	20	8	✓	11000	✓	1.83	G147	FA011	AC002
100A10R-S45SE09F-C	100	110	-	32	45	-	-	50	14.4	8	-5	20	10	✓	10900	✓	1.82	G147	FA011	AC002
125A09R-S45SE09F-C	125	134.5	-	40	60	-	-	63	16.4	9	-5	20	9	✓	9800	✓	3.87	G147	FA011	AC003
125A12R-S45SE09F-C	125	134.5	-	40	60	-	-	63	16.4	9	-5	20	12	✓	9800	✓	3.87	G147	FA011	AC003
160C10R-S45SE09F	160	169.6	-	40	-	66.7	-	63	16.4	9	-5	20	10	✓	8700	-	6.21	G147	FA014	-

G147	SEET 09T3AF.	SEMT 09T3AF.

Icon	Icon	Nm	Icon	Icon	Icon	Icon	Icon
FA010	US 3007-T09P	2.0	M 3	7.3	-	-	Flag T09P
FA011	US 3007-T09P	2.0	M 3	7.3	D-T07P/T09P	FG-15	-
FA012	US 3007-T09P	2.0	M 3	7.3	D-T07P/T09P	FG-15	HS 0830C
FA013	US 3007-T09P	2.0	M 3	7.3	D-T07P/T09P	FG-15	HS 1030C

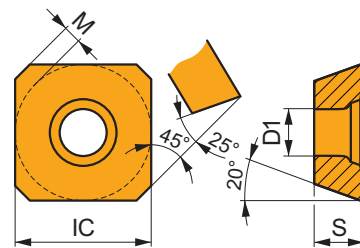
FA014	US 3007-T09P	2.0	M 3	7.3	D-T07P/T09P	FG-15	–	HS 1240C

AC001	KS 1230	K.FMH27
AC002	KS 1635	K.FMH32
AC003	KS 2040	K.FMH40

SEMT 09

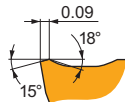
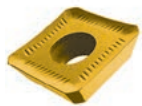


	IC	D1	M	S
	(mm)	(mm)	(mm)	(mm)
09T3	9.525	3.50	1.2	3.97



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



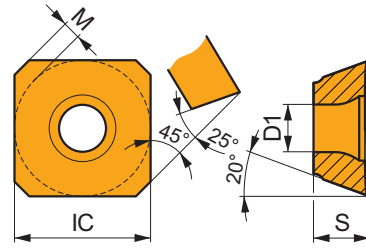
Positive design for light to medium machining.

SEMT 09T3AFSN:8215	☹	–	■	295	0.18	1.8	▣	175	0.16	1.8	■	280	0.18	1.8	–	–	–	–	–	–
SEMT 09T3AFSN:M8330	☹	–	■	290	0.18	1.8	▣	170	0.16	1.8	■	275	0.18	1.8	–	–	–	–	–	–
SEMT 09T3AFSN:M8340	☹	–	■	265	0.18	1.8	▣	155	0.16	1.8	▣	250	0.18	1.8	–	–	–	–	–	–
SEMT 09T3AFSN:M9325	☹	–	■	365	0.18	1.8	–	–	–	–	■	345	0.18	1.8	–	–	–	–	–	–

SEET 09

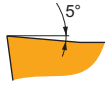


	IC	D1	M	S
	(mm)	(mm)	(mm)	(mm)
09T3	9.525	3.50	1.2	3.97



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



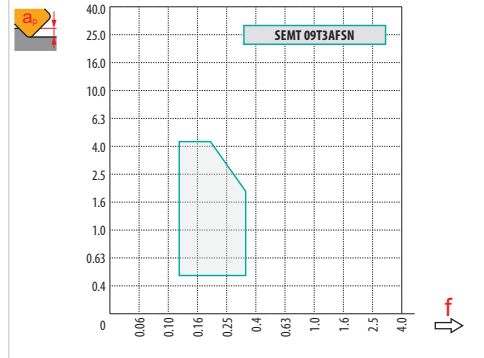
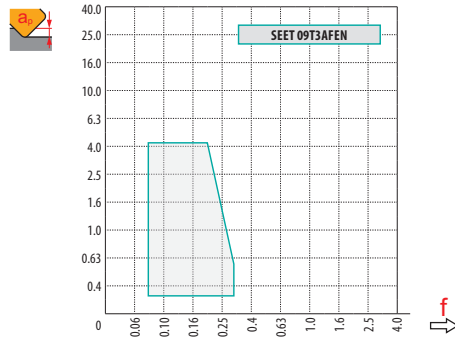
Positive design for light to medium machining.

SEET 09T3AFEN:M6330	☹	–	■	255	0.14	2.5	☑	180	0.13	2.5	■	–	–	–	☑	75	0.10	2.0	■	–	–	–
SEET 09T3AFEN:M8330	☹	–	■	295	0.14	2.5	☑	175	0.13	2.5	■	–	–	–	☑	70	0.10	2.0	■	–	–	–
SEET 09T3AFEN:M8340	☹	–	■	270	0.14	2.5	☑	160	0.13	2.5	■	–	–	–	☑	65	0.10	2.0	■	–	–	–
SEET 09T3AFEN:M9340	☹	–	■	345	0.14	2.5	☑	205	0.13	2.5	■	–	–	–	☑	85	0.10	2.0	■	–	–	–



a_e / DC	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	SEET 09	SEMT 09
	-	-
	1.28	1.25



DC	X.V	f_{max}
20	1.20	0.18
25	1.24	0.20
32	1.29	0.23
40	1.33	0.25
50	1.37	0.28
63	1.41	0.32
80	1.46	0.36
100	1.50	0.40
125	1.55	0.45
160	1.60	0.51

SSN12Z



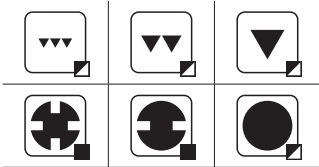
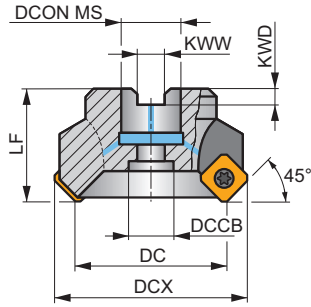
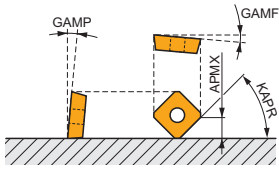
PRAMET



45° Face Mill with Positive Design and Internal Coolant

Highly productive 45° face mill utilising single sided SN.. 12 style inserts with APMX of 6.5 mm. Suited for face milling and chamfering. Arbor style only. Body treated for longer tool life.

KAPR	45°
APMX	6.5 mm



0.12 - 0.35



Product	DC	DCX	LF	DCON MS	DCCB	DBC1	KWW	KWD	GAMP	GAMP					kg			
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)								
63A05R-S45SN12Z-C	63	78	40	22	18	-	10.4	6.3	-5.5	7.5	5	-	8600	✓	0.62	GI156	FA071	-
80A06R-S45SN12Z-C	80	95	50	27	38	-	12.4	7	-5.5	7.5	6	-	7700	✓	1.36	GI156	FA071	AC001
100A07R-S45SN12Z-C	100	115	50	32	45	-	14.4	8	-5.5	7.5	7	-	6900	✓	1.70	GI156	FA071	AC002
125A08R-S45SN12Z-C	125	140	63	40	56	-	16.4	9	-5.5	7.5	8	-	6100	✓	3.42	GI156	FA071	AC003

GI156	SNKT 1205AZ..	SNMT 1205AZ..

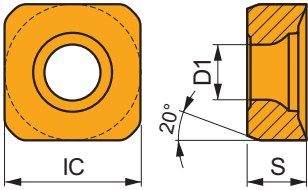
FA071	US 4511-T20	5.0	M 4.5	11	SDRT20-T

AC001	KS 1230	K.FMH27
AC002	KS 1635	K.FMH32
AC003	KS 2040	K.FMH40

SNMT 12

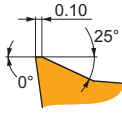


	IC (mm)	D1 (mm)	S (mm)
1205	12.700	5.20	5.56



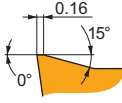
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



M geometry with highly positive design for medium machining.

SNMT 1205AZSR-M:8215	☉	–	300	0.25	3.2	180	0.23	3.2	285	0.25	3.2	–	–	–	75	0.18	2.6	–	–	–
SNMT 1205AZSR-M:M8330	☉	–	300	0.25	3.2	180	0.23	3.2	285	0.25	3.2	–	–	–	75	0.18	2.6	–	–	–
SNMT 1205AZSR-M:M8340	☉	–	275	0.25	3.2	165	0.23	3.2	260	0.25	3.2	–	–	–	65	0.18	2.6	–	–	–
SNMT 1205AZSR-M:M9325	☉	–	365	0.25	3.2	–	–	–	345	0.25	3.2	–	–	–	–	–	–	–	–	–



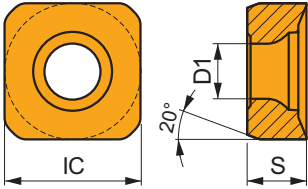
R geometry with positive design for medium to heavy machining.

SNMT 1205AZSR-R:8215	☉	–	290	0.27	3.5	170	0.24	3.5	275	0.27	3.5	–	–	–	70	0.22	2.8	–	–	–
SNMT 1205AZSR-R:M5315	☉	–	365	0.27	3.5	–	–	–	345	0.27	3.5	–	–	–	–	–	–	–	–	–
SNMT 1205AZSR-R:M8330	☉	–	290	0.27	3.5	170	0.24	3.5	275	0.27	3.5	–	–	–	70	0.22	2.8	–	–	–
SNMT 1205AZSR-R:M8340	☉	–	270	0.27	3.5	160	0.24	3.5	255	0.27	3.5	–	–	–	65	0.22	2.8	–	–	–
SNMT 1205AZSR-R:M9325	☉	–	355	0.27	3.5	–	–	–	335	0.27	3.5	–	–	–	–	–	–	–	–	–

SNKT 12

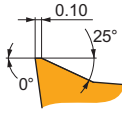


	IC (mm)	D1 (mm)	S (mm)
1205	12.700	5.20	5.56



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



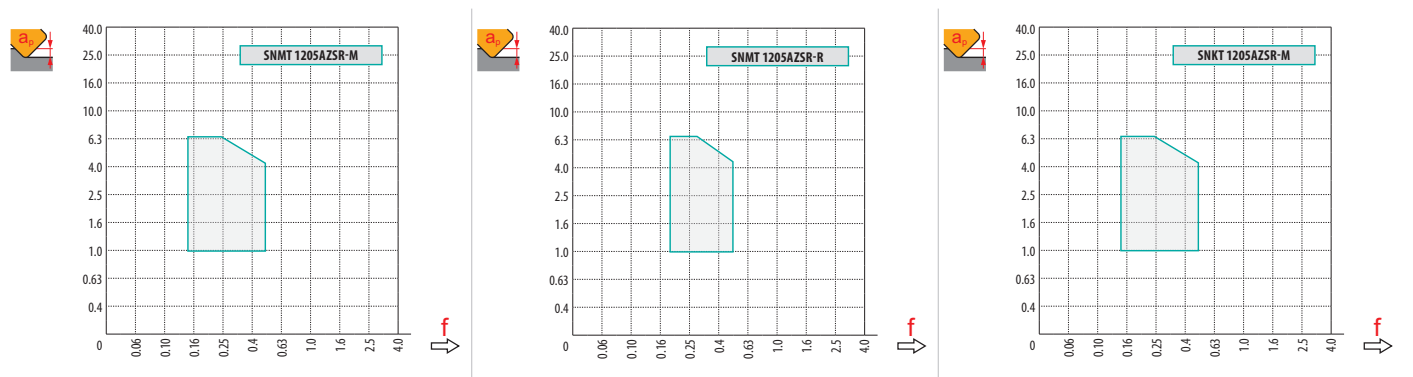
M geometry with highly positive design for medium machining.

SNKT 1205AZSR-M:M8330	☉	–	305	0.24	3.2	180	0.22	3.2	285	0.24	3.2	–	–	–	75	0.17	2.6	–	–	–
SNKT 1205AZSR-M:M8340	☉	–	275	0.24	3.2	165	0.22	3.2	260	0.24	3.2	–	–	–	65	0.17	2.6	–	–	–



a_e / DC	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	SNMT 12-M	SNMT 12-R	SNKT 12-M
	-	-	-
	0.95	1.03	1.59



		f_{max}
63	1.34	0.53
80	1.39	0.60
100	1.43	0.67
125	1.47	0.74

FSB22X



PRAMET

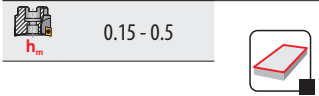
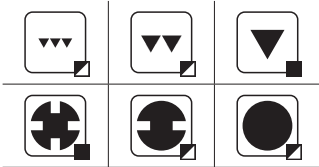
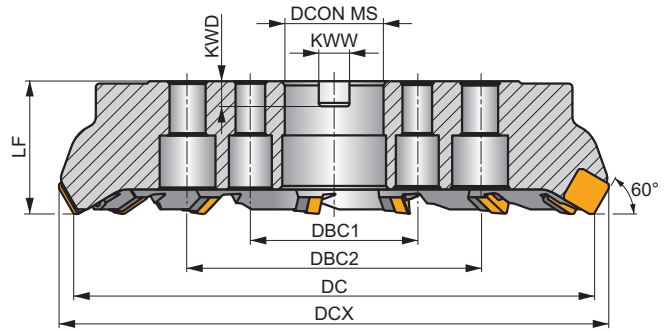
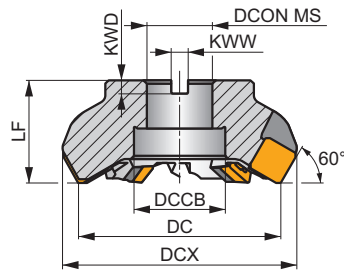
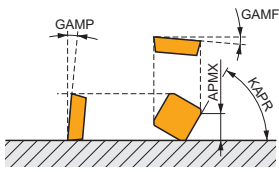


ROUGH SB 60° Face Mill with Positive Design for Heavy Face Milling

Highly productive 60° face mill utilising single sided SB.. 22 style inserts with APMX of 15 mm. Optimized for heavy face milling with smooth cutting action. Differential tooth pitch. Arbor style only. Body treated for longer tool life.

ROUGH SB

KAPR	60°
APMX	15.0 mm



Product	DC	DCX	LF	DCON MS	DCCB	DBC1	DBC2	KWW	KWD	GAMF	GAMP								
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)								
125B07R-F60SB22X	125	144.4	63	40	56	-	-	16.4	9	-9	9	7	✓	-	-	3.73	GI144	FA111	AC003
160C08R-F60SB22X	160	178.7	63	40	-	66.7	-	16.4	9	-9	9	8	✓	-	-	6.46	GI144	FA114	-
200C08R-F60SB22X	200	217.9	63	60	-	101.6	-	25.7	14	-9	9	8	✓	-	-	10.59	GI144	FA115	-
250C09R-F60SB22X	250	267.4	63	60	-	101.6	-	25.7	14	-9	9	9	✓	-	-	17.54	GI144	FA115	-

GI144	SBKX 2207DZ..	SBMR 2207DZ..

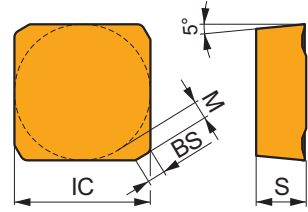
FA111	LNX 220616	US 6013-T20P	SDR T20P-T	KU SBMR 2207	DS 01Z	KL 04	-
FA114	LNX 220616	US 6013-T20P	SDR T20P-T	KU SBMR 2207	DS 01Z	KL 04	HS 1240
FA115	LNX 220616	US 6013-T20P	SDR T20P-T	KU SBMR 2207	DS 01Z	KL 04	HS 1655

AC003	KS 2040	K.FMH40

SBMR 22

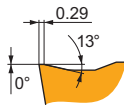
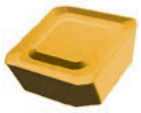


	IC (mm)	M (mm)	S (mm)	BS (mm)
2207	22.000	2.8	8.00	1.99



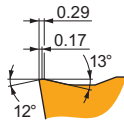
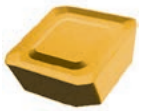
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



Stable design for heavy machining.

SBMR 2207DZSR-M8326	☉	-	140	0.38	8.5	-	-	-	130	0.38	8.5	-	-	-	-	-	-	-	-
SBMR 2207DZSR-M8346	☼	-	120	0.38	8.5	70	0.38	8.5	-	-	-	-	-	-	-	-	-	-	-



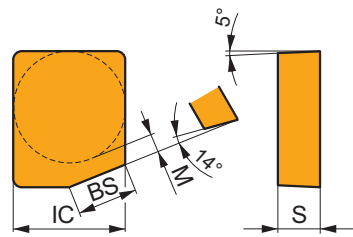
R geometry with stable design for heavy machining.

SBMR 2207DZSR-R-M5326	☉	-	160	0.44	9.8	-	-	-	150	0.44	9.8	-	-	-	-	-	-	-	-
SBMR 2207DZSR-R-M8326	☉	-	135	0.44	9.8	-	-	-	125	0.44	9.8	-	-	-	-	-	-	-	-
SBMR 2207DZSR-R-M8346	☼	-	115	0.44	9.8	65	0.40	9.8	-	-	-	-	-	-	-	-	-	-	-

SBKX 22

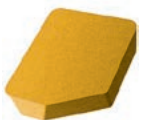


	IC (mm)	M (mm)	S (mm)	BS (mm)
2207	22.000	3.2	8.00	11.84



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



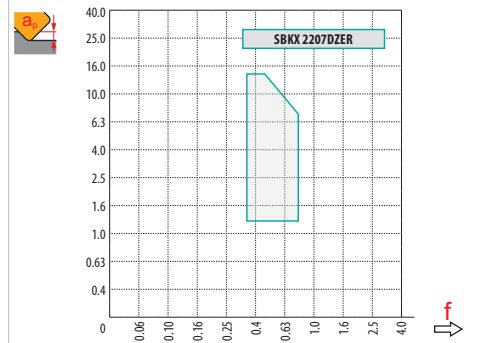
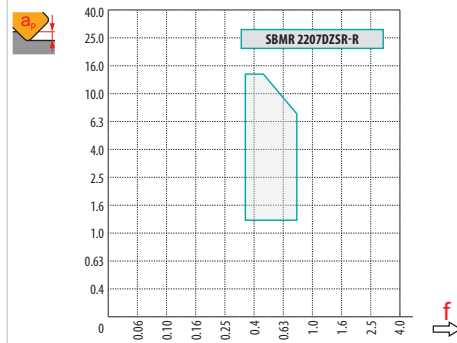
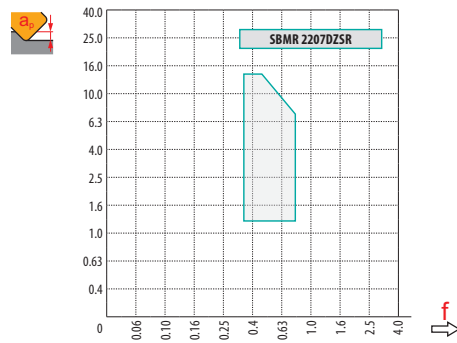
Zero rake wiper design for improved surface finish.

SBKX 2207DZER-M8326	☉	-	100	0.60	8.5	-	-	-	95	0.60	8.5	-	-	-	-	-	-	-	-
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







a_e / DC	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	SBMR 22	SBMR 22-R	SBKX 22
	-	-	-
	1.99	1.99	11.84



FACE MILLING – NAVIGATOR

FACE MILLING – POSITIVE OCTAGONAL & ROUND INSERTS

	SOD05	SOD06D	SOE06Z		
	45°	45°	43°		
	APMX (mm) 2.7 (10.0)	APMX (mm) 3.1 (8.6)	APMX (mm) 3.3 (9.9)		
	DCX (mm) 32 – 125	DC (mm) 63 – 160	DC (mm) 50 – 200		
Cylindrical shank	 DC = 32, 40 (mm)				
Weldon					
Modular					
Shell mill	 DC = 40 – 125 (mm)				
Page	42	51	55		
ISO	P M K N	P M K S H	P M N S		
Insert shape					
Inserts	OD.. 0505 RD.. 1205 SD.. 1205	OD.. 0605 RPE. 1505	OEHT 0604 REHT 1604 XEHT 0604		
No. of cutting edges	8 / 8 / 4	8 / 8	8 / 8 / 1		
Face milling	 ■	■	■		
Chamfer milling	 ■	■	■		
Helical interpolation	 ■		▣		
Progressive plunging	 ■		▣		
Ramping	 ■		▣		
Shape surfaces milling (copy milling)	 ■		▣		
Shallow shoulder milling	 ■				
Shallow slot milling	 ■				
Plunge milling	 ■				

SOD05



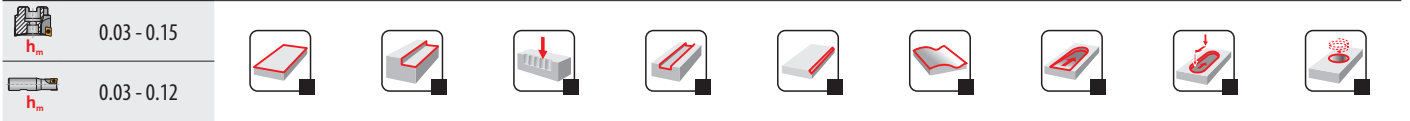
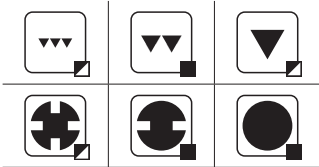
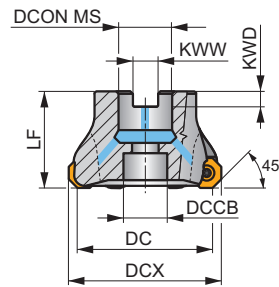
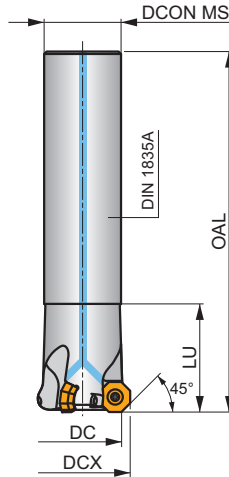
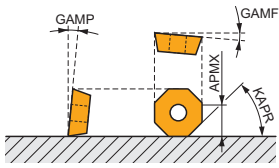
PRAMET



Universal Face Mill with Positive Design and Internal Coolant

Highly productive universal face mill utilising single-sided positive inserts with APMX up to 2.7 (10) mm. Unique insert seat fits OD.. 05, RD.. 12 and SD.. 12 style inserts, suited for wide range of applications. Differential tooth pitch. Arbor and cylindrical style. Body treated for longer tool life.

KAPR	45°
APMX	2.7 (10.0) mm



Product	DCX	DC	OAL	DCON MS	DCCB	LU	LF	KAPR	KWW	KWD	GAMP	GAMP	max.			kg	ISO 8030			
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(mm)	(mm)	(°)	(°)								
32N3R045A25-SOD05-C	32	24.7	130	25	-	45	-	45	-	-	-10	8	3	-	17700	✓	0.41	GI326	FA049	-
40N3R045A32-SOD05-C	40	32.6	150	32	-	45	-	45	-	-	-7	8	3	-	15800	✓	0.86	GI326	FA040	-
40A03R-S450D05-C	40	32.7	-	16	14	-	40	45	8.4	5.6	-10	8	3	-	15800	✓	0.18	GI326	FA042	-
50A04R-S450D05-C	50	42.6	-	22	18	-	40	45	10.4	6.3	-7	8	4	-	14100	✓	0.28	GI326	FA043	-
50A05R-S450D05-C	50	42.6	-	22	18	-	40	45	10.4	6.3	-7	8	5	-	14100	✓	0.28	GI326	FA043	-
63A05R-S450D05-C	63	55.6	-	22	18	-	40	45	10.4	6.3	-7	8	5	✓	12600	✓	0.39	GI326	FA043	-
63A06R-S450D05-C	63	55.6	-	22	18	-	40	45	10.4	6.3	-7	8	6	✓	12600	✓	0.50	GI326	FA043	-
80A06R-S450D05-C	80	72.6	-	27	38	-	50	45	12.4	7	-7	8	6	✓	11100	✓	0.73	GI326	FA041	AC001
80A08R-S450D05-C	80	72.6	-	27	38	-	50	45	12.4	7	-7	8	8	✓	11100	✓	0.66	GI326	FA041	AC001
100A07R-S450D05-C	100	92.6	-	32	45	-	50	45	14.4	8	-7	8	7	✓	10000	✓	1.09	GI326	FA041	AC002
125A08R-S450D05-C	125	117.6	-	40	56	-	63	45	16.4	9	-7	8	8	✓	8900	✓	2.20	GI326	FA041	AC003

GI326	OD.. 0505..	RD.. 1205..	SDKT 1205..	SDMT 1205..SN

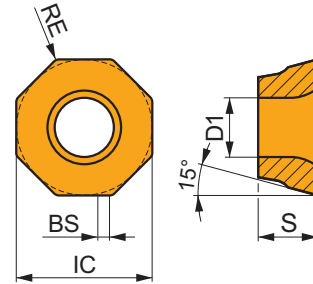
FA040	US 45014-T20P	5.0	M 5	13	Flag T20P	-	-
FA041	US 45014-T20P	5.0	M 5	13	-	SDR T20P-T	-
FA042	US 45014-T20P	5.0	M 5	13	-	SDR T20P-T	HS 90835
FA043	US 45014-T20P	5.0	M 5	13	-	SDR T20P-T	HS 1030C
FA049	US 45011-T20P	5.0	M 5	11	Flag T20P	-	-

AC001	KS 1230	K.FMH27
AC002	KS 1635	K.FMH32
AC003	KS 2040	K.FMH40

ODKT 05IM

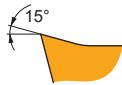
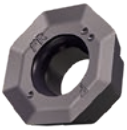


	IC	D1	S	BS
	(mm)	(mm)	(mm)	(mm)
0505	12.700	5.50	5.56	1.00



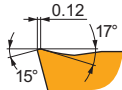
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



F geometry, 45° face milling insert, with highly positive design for light machining.

ODKT 0505ADFR-F:M8310	● 0.8	■ 275	■ 0.15	■ 2.5	■ 140	■ 0.14	■ 2.5	■ -	■ -	■ -	■ -	■ -	■ -	■ -	■ -	■ -	■ -	■ -	■ -
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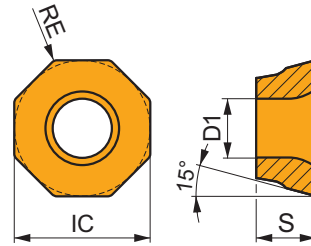
FM geometry, 45° face milling insert, with positive design for light to medium machining.

ODKT 0505ADSR-FM:M6330	● 0.8	■ 190	■ 0.25	■ 2.5	■ 135	■ 0.23	■ 2.5	■ -	■ -	■ -	■ -	■ -	■ -	■ -	■ -	■ -	■ -	■ -	■ -
ODKT 0505ADSR-FM:M8310	● 0.8	■ 240	■ 0.25	■ 2.5	■ 120	■ 0.23	■ 2.5	■ 225	■ 0.25	■ 2.5	■ -	■ -	■ -	■ -	■ -	■ -	■ -	■ -	■ -
ODKT 0505ADSR-FM:M8330	● 0.8	■ 225	■ 0.25	■ 2.5	■ 135	■ 0.23	■ 2.5	■ 210	■ 0.25	■ 2.5	■ -	■ -	■ -	■ -	■ -	■ -	■ -	■ -	■ -
ODKT 0505ADSR-FM:M8345	● 0.8	■ 160	■ 0.25	■ 2.5	■ 95	■ 0.23	■ 2.5	■ -	■ -	■ -	■ -	■ -	■ -	■ -	■ -	■ -	■ -	■ -	■ -
ODKT 0505ADSR-FM:M9340	● 0.8	■ 245	■ 0.25	■ 2.5	■ 145	■ 0.23	■ 2.5	■ -	■ -	■ -	■ -	■ -	■ -	■ -	■ -	■ -	■ -	■ -	■ -

ODMT 05IM

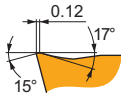


	IC (mm)	D1 (mm)	S (mm)
0505	12.700	5.50	5.56



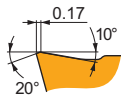
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



FM geometry, 45° face milling insert, with positive design for light to medium machining.

ODMT 0505ADSR-FM:M8340	0.8	200	0.25	2.5	120	0.23	2.5	190	0.25	2.5	-	-	-	-	-	-	-	-
ODMT 0505ADSR-FM:M9340	0.8	245	0.25	2.5	145	0.23	2.5	-	-	-	-	-	-	-	-	-	-	-



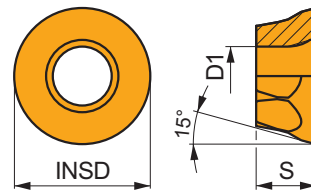
R geometry, 45° face milling insert, with positive design for unstable cutting conditions.

ODMT 050508SN-R:M8330	0.8	190	0.25	2.5	-	-	-	180	0.25	2.5	-	-	-	-	-	-	-	-
ODMT 050508SN-R:M9340	0.8	210	0.25	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-

RDGT 12IM

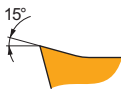


	INSD (mm)	D1 (mm)	S (mm)
1205	12.700	5.50	5.56



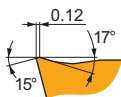
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



F geometry with highly positive design for light machining.

RDGT 120500FN-F:M8310	-	210	0.20	1.5	105	0.18	1.5	-	-	-	-	-	-	-	-	-	-	-
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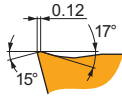


FM geometry with positive design for light to medium machining.

RDGT 120500SN-FM:M8330	-	190	0.20	1.5	110	0.18	1.5	180	0.20	1.5	-	-	-	-	-	-	-	-
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Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



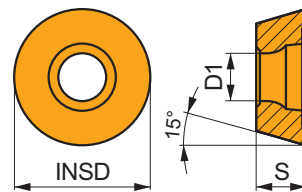
FM geometry with positive design for light to medium machining.

RDGT 120500SN-FM:M8345	●	-	■	140	0.20	1.5	■	80	0.18	1.5	■	-	-	-	■	-	-	-	■	-	-	-
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RDMT 12IM

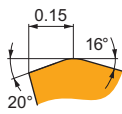


	INSD (mm)	D1 (mm)	S (mm)
1205	12.700	5.50	5.56



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



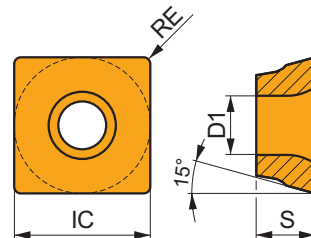
R geometry, copy and profile milling insert, with positive design for unstable cutting conditions.

RDMT 120500SN-R:M8330	●	-	■	175	0.30	1.5	■	-	-	-	■	165	0.30	1.5	■	-	-	-	■	-	-	-
RDMT 120500SN-R:M8340	●	-	■	160	0.30	1.5	■	-	-	-	■	150	0.30	1.5	■	-	-	-	■	-	-	-

SDKT 12IM

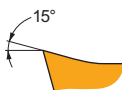


	IC (mm)	D1 (mm)	S (mm)
1205	12.700	5.50	5.56



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)

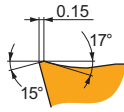
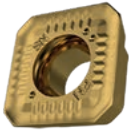


F geometry, 90° shoulder milling insert, with highly positive design for light machining.

SDKT 1205PDFR-F:8215	●	0.8	■	285	0.10	4.0	■	170	0.09	4.0	■	-	-	-	■	855	0.12	4.0	■	-	-	-
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Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



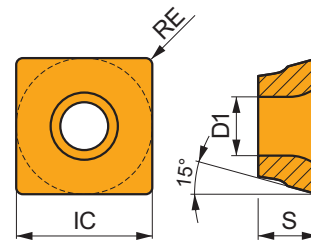
FM geometry, 90° shoulder milling insert, with positive design for light to medium machining.

SDKT 1205AESN-FM:M8330	0.8	280	0.15	4.0	165	0.15	4.0	265	0.15	4.0	-	-	-	-	-	-	-	-
SDKT 1205AESN-FM:M8345	-	205	0.15	4.0	120	0.15	4.0	-	-	-	-	-	-	-	-	-	-	-
SDKT 1205PDSR-FM:M8330	0.8	255	0.15	4.0	150	0.15	4.0	240	0.15	4.0	-	-	-	-	-	-	-	-
SDKT 1205PDSR-FM:M8345	0.8	185	0.15	4.0	110	0.15	4.0	-	-	-	-	-	-	-	-	-	-	-

SDMT 12IM

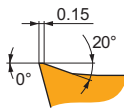
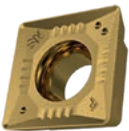


	IC (mm)	D1 (mm)	S (mm)
1205	12.700	5.50	5.56



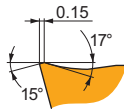
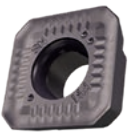
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



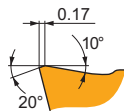
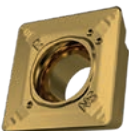
F geometry, 90° shoulder milling insert, with positive design for light to medium machining.

SDMT 120508SN-F:M8310	0.8	265	0.15	4.0	135	0.15	4.0	-	-	-	-	-	-	-	-	-	-	-
SDMT 120508SN-F:M8330	0.8	245	0.15	4.0	145	0.15	4.0	-	-	-	735	0.18	4.0	-	-	-	-	-



FM geometry, 90° shoulder milling insert, with positive design for medium machining.




SDMT 120508SN-FM:M8345	0.8	175	0.15	4.0	105	0.15	4.0	-	-	-	-	-	-	-	-	-	-	-
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






R geometry, 90° shoulder milling insert, with positive design for unstable cutting conditions.




SDMT 120508SN-R:M8330	0.8	225	0.20	4.0	-	-	-	210	0.20	4.0	-	-	-	-	-	-	-	-
SDMT 120508SN-R:M8345	0.8	165	0.20	4.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SDMT 1205AESN-R:M8330	-	265	0.20	4.0	-	-	-	250	0.20	4.0	-	-	-	-	-	-	-	-
SDMT 1205AESN-R:M8340	-	240	0.20	4.0	-	-	-	225	0.20	4.0	-	-	-	-	-	-	-	-

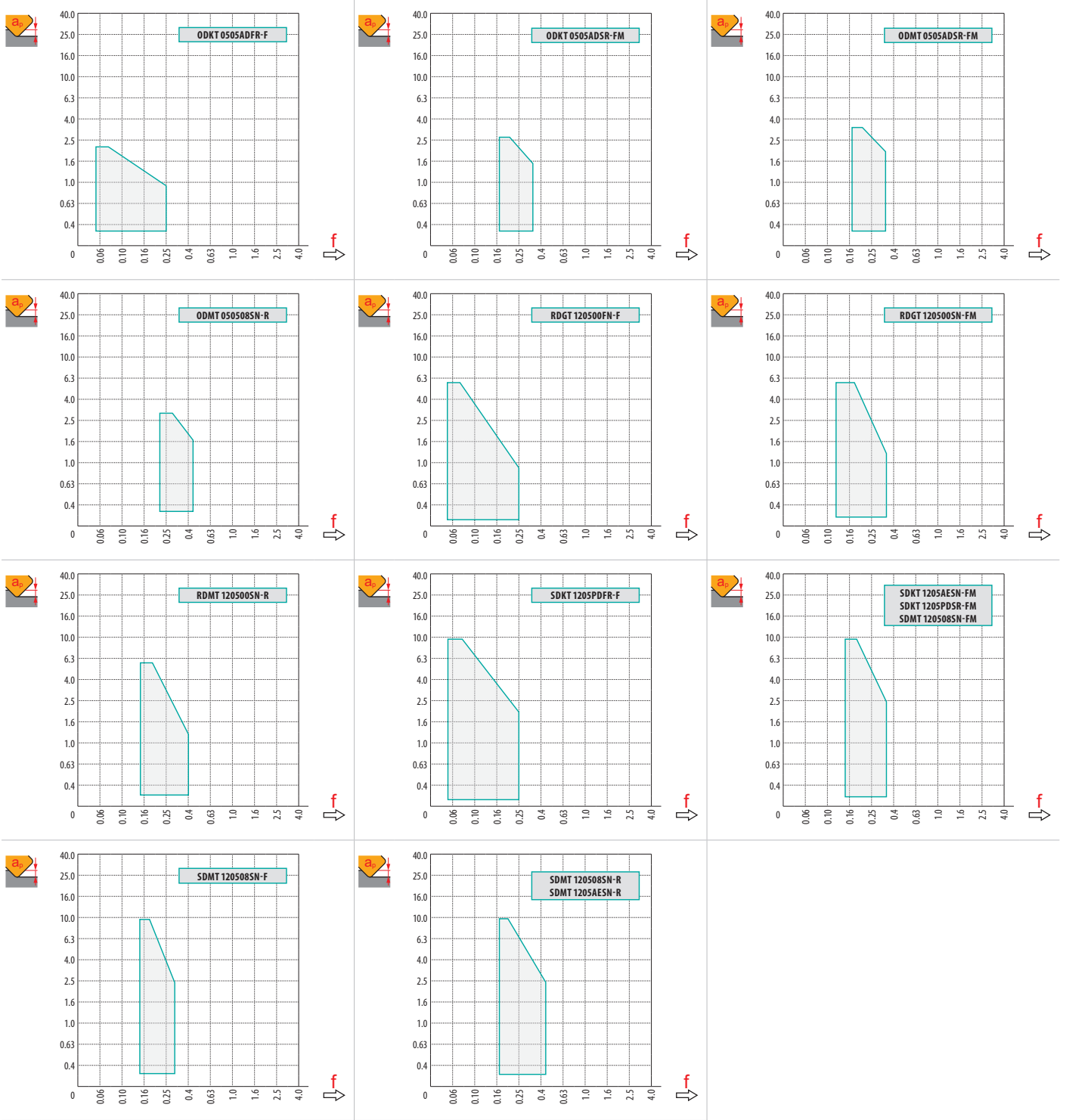


a_e / DCX	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	ODKT 05-F	ODKT 05-FM	ODMT 05-FM	ODMT 05-R
	0.4	0.8	0.8	0.8
	1.00	1.00	-	-

	RDGT 12-F	RDGT 12-FM	RDGT 12-R
	6.35	6.35	6.35
	-	-	-

	SDKT 12-F	SDKT 12-FM	SDMT 12-F	SDMT 12-R
	0.8	0.8	0.8	0.8
	2.30	2.30	-	-



		R												
		0.25	0.50	0.60	0.70	0.80	1.00	1.25	1.50	2.00	3.00	4.00	5.00	6.00
32		23.43	24.80	25.23	25.62	25.99	26.63	27.33	27.94	28.94	30.39	31.31	31.83	32.00
40		31.43	32.80	33.23	33.62	33.99	34.63	35.33	35.94	36.94	38.39	39.31	39.83	40.00
50		41.43	42.80	43.23	43.62	43.99	44.63	45.33	45.94	46.94	48.39	49.31	49.83	50.00
63		54.43	55.80	56.23	56.62	56.99	57.63	58.33	58.94	59.94	61.39	62.31	62.83	63.00
80		71.43	72.80	73.23	73.62	73.99	74.63	75.33	75.94	76.94	78.39	79.31	79.83	80.00
100		91.43	92.80	93.23	93.62	93.99	94.63	95.33	95.94	96.94	98.39	99.31	99.83	100.00
125		116.43	117.80	118.23	118.62	118.99	119.63	120.33	120.94	121.94	123.39	124.31	124.83	125.00



		f_{max}
32	1.36	0.28
40	1.40	0.31
50	1.43	0.33
63	1.47	0.37
80	1.52	0.42
100	1.57	0.47
125	1.62	0.52



S



10.0



S

a_p	1.0	5.0	10.0
	0.35	0.21	0.15



O

	RPMX	APMX/I
50	4.1°	7.05/100
63	2.7°	4.6/100
80	1.8°	3/100
100	1.7°	2.85/100
125	0.7°	1.1/100

R

	RPMX	APMX/I
50	3.8°	6.2/95
63	2.5°	4.25/100
80	1.7°	2.85/100
100	1.6°	2.65/100
125	0.3°	0.4/100



O

	DMIN	DMAX		
50	78.0	100.0	4.5	4.5
63	105.0	126.0	4.5	4.5
80	138.0	160.0	4.5	4.5
100	178.0	200.0	4.5	4.5
125	229.0	250.0	4.0	4.5

R

	DMIN	DMAX		
50	78.0	100.0	4.5	4.5
63	105.0	126.0	4.5	4.5
80	138.0	160.0	4.5	4.5
100	178.0	200.0	4.5	4.5
125	230.0	250.0	4.0	4.5



2.4

2.3



R

		3	5	10	15	20	30	40	50	60	80	100
32		0.620	0.800	1.131	1.386	1.600	1.960	2.263	2.530	2.771	3.200	3.578
40		0.693	0.894	1.265	1.549	1.789	2.191	2.530	2.828	3.098	3.578	4.000
50		0.775	1.000	1.414	1.732	2.000	2.449	2.828	3.162	3.464	4.000	4.472
63		0.869	1.122	1.587	1.944	2.245	2.750	3.175	3.550	3.888	4.490	5.020
80		0.980	1.265	1.789	2.191	2.530	3.098	3.578	4.000	4.382	5.060	5.657
100		1.095	1.414	2.000	2.449	2.828	3.464	4.000	4.472	4.899	5.657	6.325
125		1.225	1.581	2.236	2.739	3.162	3.873	4.472	5.000	5.477	6.325	7.071



3

5

10

15

20

30

40

50

60

80

100

6.0



0.379

0.490

0.693

0.849

0.980

1.200

1.386

1.549

1.697

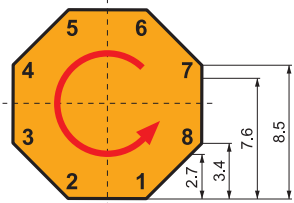
1.960

2.191

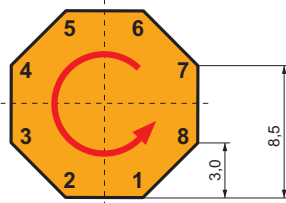


ODKT 05

ODMT 05



-> 2.7	8
-> 3.4	7
-> 7.6	4
-> 8.5	2



-> 3.0	8
-> 8.5	4

SOD06D



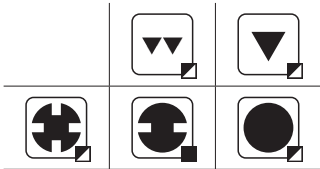
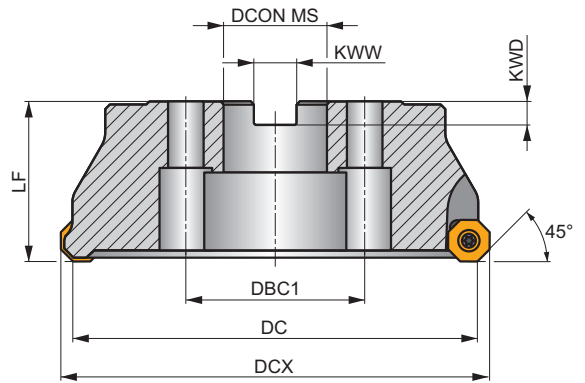
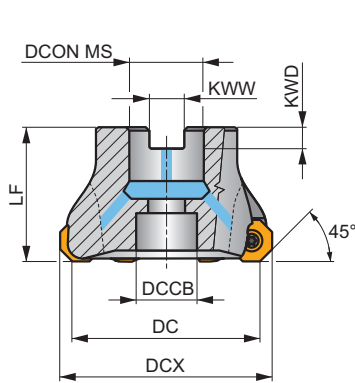
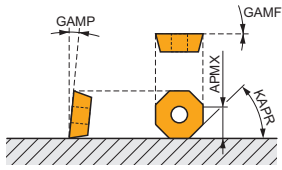
PRAMET



Universal Face Mill with Positive Design and Internal Coolant

Highly productive universal face mill utilising single sided positive inserts with APMX of up to 3.1 (8.6) mm. Unique insert seat fits OD.. 06 and RP.. 15 style inserts, suited for face milling and chamfering. Arbor style only with differential tooth pitch. Body treated for longer tool life.

KAPR	45°
APMX	3.1 (8.6) mm



0.12 - 0.22



Product	DC (mm)	DCX (mm)	LF (mm)	DCON MS (mm)	DCCB (mm)	DBC1 (mm)	KWW (mm)	KWD (mm)	GAMF (°)	GAMP (°)						
63A05R-S450D06D	63	72.5	40	22	18	-	10.4	6.3	0	5	5	✓	8800	✓	0.55	GI059 FA071
80A06R-S450D06D	80	89.5	50	27	20	-	12.4	7	0	5	6	✓	7800	✓	1.19	GI059 FA071
100A07R-S450D06D	100	109.5	50	32	27	-	14.4	8	0	5	7	✓	7000	✓	2.07	GI059 FA071
125A08R-S450D06D	125	134.5	63	40	33	-	16.4	9	0	5	8	✓	6300	✓	4.05	GI059 FA071
160C09R-S450D06D	160	169.5	63	40	56	66.7	16.4	9	0	5	9	✓	5500	-	6.49	GI059 FA071

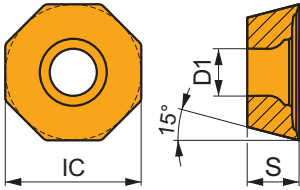
GI059	OD.. 0605ZZ..	RP.. 1505MO..

FA071	US 4511-T20	5.0	M 4.5	11	SDR T20-T

ODMT 06

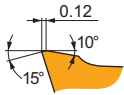


	IC (mm)	D1 (mm)	S (mm)
0605	15.875	5.50	5.56



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



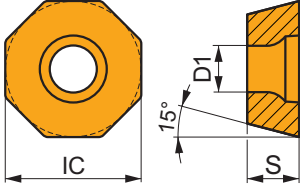
Slightly positive design, 45° face milling insert, for medium machining.

ODMT 0605ZZN:M5315	☛	–	☑	255	0.24	3.0	–	–	–	■	240	0.24	3.0	–	–	–	–	–	–
ODMT 0605ZZN:M8330	☛	–	■	200	0.24	3.0	–	–	–	■	190	0.24	3.0	–	–	–	–	–	–
ODMT 0605ZZN:M8340	☛	–	■	185	0.24	3.0	–	–	–	☑	175	0.24	3.0	–	–	–	–	–	–
ODMT 0605ZZN:M9325	☛	–	■	245	0.24	3.0	–	–	–	■	230	0.24	3.0	–	–	–	–	–	–

ODEW 06

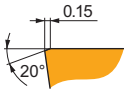


	IC (mm)	D1 (mm)	S (mm)
0605	15.875	5.50	5.56



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



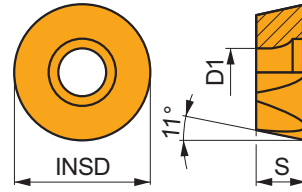
Zero rake angle design, 45° face milling insert, for medium machining.

ODEW 0605ZZN:M8330	☛	–	☑	210	0.26	2.5	–	–	–	■	195	0.26	2.5	–	–	–	–	–	–	☑	40	0.13	1.0
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RPET 15

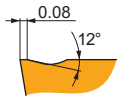


	INSD	D1	S
	(mm)	(mm)	(mm)
1505	15.785	5.50	5.56



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



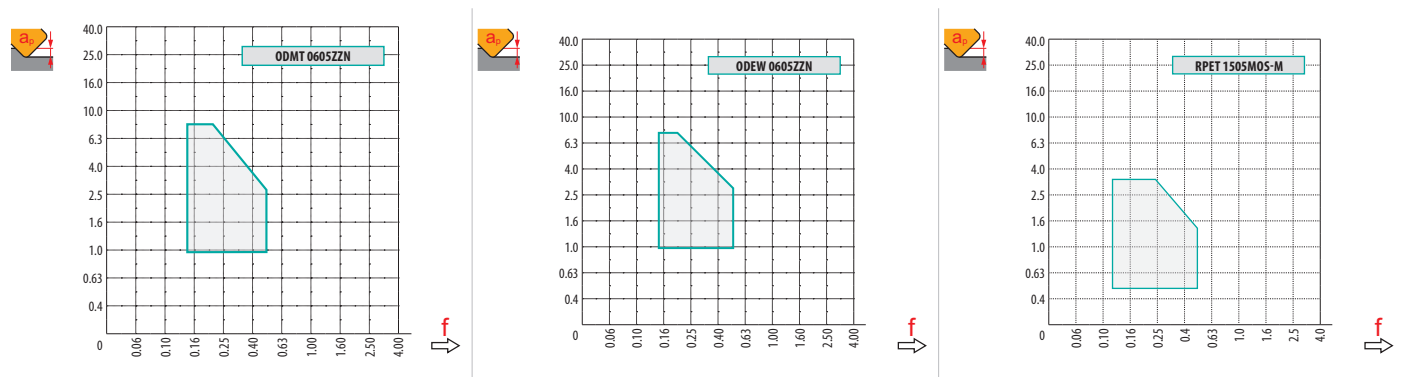
M geometry, copy and profile mill insert, with positive design for light to rough machining.

RPET 1505MOS-M:M8330	✳	-	230	0.40	1.0	135	0.36	1.0	215	0.40	1.0	-	-	-	55	0.28	0.8	-	-	-
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a_e / DC	5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	90%	100%
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

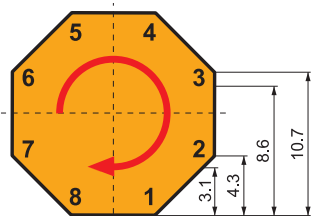
	ODMT 06	ODEW 06	RPET 15-M
	-	-	7.89
	1.73	5.92	-



	R									
		0.00	0.50	0.75	1.25	1.50	2.00	2.50	3.00	4.00
63		56.63	62.17	63.36	65.18	65.91	67.16	68.19	69.05	70.41
80		73.63	79.17	80.36	82.18	82.91	84.16	85.19	86.05	87.41
100		93.63	99.17	100.36	102.18	102.91	104.16	105.19	106.05	107.41
125		118.63	124.17	125.36	127.18	127.91	129.16	130.19	131.05	132.41
160		153.63	159.17	160.36	162.18	162.91	164.16	165.19	166.05	167.41



		f_{max}
63	1.49	0.78
80	1.54	0.88
100	1.59	0.98
125	1.64	1.10
160	1.70	1.24



→ 3.1	8
→ 4.3	7
→ 8.6	4
→ 10.7	2

SOE06Z

P M N S

PRAMET

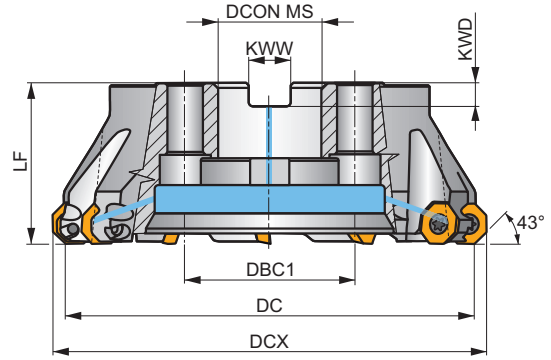
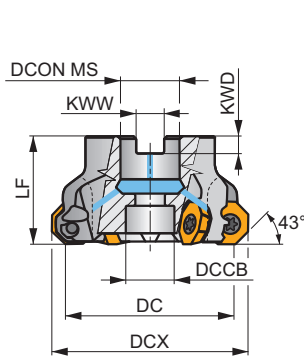
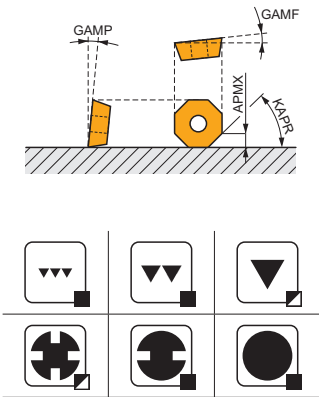
S



Universal Face Mill with Positive Design and Internal Coolant

Highly productive universal face mill utilizing positive single sided inserts with APMX of 4 mm for RE.. 16. Unique insert seat fits OE.. 06, RE.. 16 and XE.. 06 style inserts, suited for a wide range of applications. Arbor style only with differential tooth pitch. Body treated for longer tool life.

KAPR	43°
APMX	3.3 (9.9) mm



0.06 - 0.20



Product	DC	DCX	LF	DCON MS	DCCB	DBC1	KWW	KWD	GAMP	GAMP						
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)						
50A04R-S450E06Z-C	50	60.2	40	22	18	-	10.4	6.3	6	10	4	✓	10700	✓	0.47	G1283 FA053 -
50A05R-S450E06Z-C	50	60	40	22	18	-	10.4	6.3	1	10	5	✓	10700	✓	0.47	G1283 FA053 -
56A05R-S450E06Z-C	56	66	40	22	18	-	10.4	6.3	6	10	5	✓	10100	✓	0.52	G1283 FA053 -
63A04R-S450E06Z-C	63	73.2	40	22	18	-	10.4	6.3	6	10	4	✓	9600	✓	0.58	G1283 FA053 -
63A06R-S450E06Z-C	63	73	40	22	18	-	10.4	6.3	1	10	6	✓	9600	✓	0.60	G1283 FA053 -
70A06R-S450E06Z-C	70	80	40	22	18	-	10.4	6.3	6	10	6	✓	9100	✓	0.69	G1283 FA053 -
80A05R-S450E06Z-C	80	90.2	50	27	38	-	12.4	7	6	10	5	✓	8500	✓	1.02	G1283 FA051 AC001
80A06R-S450E06Z-C	80	90.2	50	27	38	-	12.4	7	6	10	6	✓	8500	✓	1.03	G1283 FA051 AC001
90A07R-S450E06Z-C	90	100	50	32	45	-	14.4	8	6	10	7	✓	8000	✓	1.59	G1283 FA051 AC002
100A06R-S450E06Z-C	100	110.2	50	32	45	-	14.4	8	6	10	6	✓	7600	✓	1.85	G1283 FA051 AC002
100A08R-S450E06Z-C	100	109.9	50	32	45	-	14.4	8	1	10	8	✓	7600	✓	1.87	G1283 FA051 AC002
125A07R-S450E06Z-C	125	135.2	63	40	56	-	16.4	9	6	10	7	✓	6800	✓	3.31	G1283 FA051 AC003
125A09R-S450E06Z-C	125	134.9	63	40	56	-	16.4	9	1	10	9	✓	6800	✓	3.35	G1283 FA051 AC003
160C09R-S450E06Z-C	160	170.2	63	40	-	66.7	16.4	9	6	10	9	✓	6000	✓	6.08	G1283 FA056 -
160C12R-S450E06Z-C	160	169.9	63	40	-	66.7	16.4	9	1	10	12	✓	6000	✓	7.06	G1283 FA056 -
200C11R-S450E06Z-C	200	210.2	63	60	-	101.6	25.7	14	6	10	11	✓	5300	✓	10.80	G1283 FA057 -
200C14R-S450E06Z-C	200	209.9	63	60	-	101.6	25.7	14	1	10	14	✓	5300	✓	11.15	G1283 FA057 -

G1283	OEHT 0604AE..	REHT 1604M0..	XEHT 0604AE..

FA051	US 5011-T20P	5.0	M 5	11	SDR T20P-T	-	FA053	US 5011-T20P	5.0	M 5	11	SDR T20P-T	HS 1030C

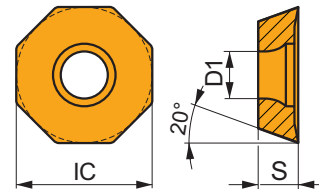
FA056	US 5011-T20P	5.0	M 5	11	SDR T20P-T	HS 1240C	CAC 160C	HSD 0825C	HXK 5
FA057	US 5011-T20P	5.0	M 5	11	SDR T20P-T	HS 1655C	CAC 200C	HSD 1025C	HXK 7

AC001	KS 1230	K.FMH27
AC002	KS 1635	K.FMH32
AC003	KS 2040	K.FMH40

OEHT 06

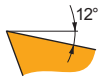
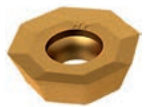


	IC	D1	S
	(mm)	(mm)	(mm)
0604	16.050	5.50	4.76



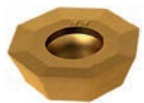
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



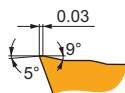
MF geometry, 45° face milling insert, with sharp positive design for light to medium and potentially finish machining.

OEHT 0604AEER-MF:M6330	☺	-	255	0.12	2.2	180	0.11	2.2	-	-	-	-	-	-	75	0.10	1.8	-	-	-
OEHT 0604AEER-MF:M8330	☺	-	295	0.12	2.2	175	0.11	2.2	-	-	-	885	0.14	2.2	70	0.10	1.8	-	-	-
OEHT 0604AEER-MF:M8340	☺	-	275	0.12	2.2	165	0.11	2.2	-	-	-	-	-	-	65	0.10	1.8	-	-	-



MM geometry, 45° face milling insert, with sharp positive design for light to medium machining.

OEHT 0604AEER-MM:M6330	☺	-	245	0.16	2.2	170	0.14	2.2	-	-	-	-	-	-	70	0.11	1.8	-	-	-
OEHT 0604AEER-MM:M8330	☺	-	280	0.16	2.2	165	0.14	2.2	-	-	-	840	0.19	2.2	70	0.11	1.8	-	-	-
OEHT 0604AEER-MM:M8340	☺	-	255	0.16	2.2	150	0.14	2.2	-	-	-	-	-	-	60	0.11	1.8	-	-	-
OEHT 0604AEER-MM:M8345	☺	-	205	0.16	2.2	120	0.14	2.2	-	-	-	-	-	-	50	0.11	1.8	-	-	-
OEHT 0604AEER-MM:M9340	☺	-	320	0.16	2.2	190	0.14	2.2	-	-	-	-	-	-	80	0.11	1.8	-	-	-



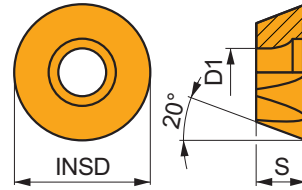
M geometry, 45° face milling insert, with slightly positive design for light to medium machining.

OEHT 0604AESR-M:M6330	☺	-	210	0.24	3.2	150	0.22	3.2	-	-	-	-	-	-	60	0.17	2.6	-	-	-
OEHT 0604AESR-M:M8310	☺	-	265	0.24	3.2	135	0.22	3.2	-	-	-	-	-	-	-	-	-	-	-	-
OEHT 0604AESR-M:M8330	☺	-	245	0.24	3.2	145	0.22	3.2	-	-	-	-	-	-	60	0.17	2.6	-	-	-
OEHT 0604AESR-M:M8340	☺	-	220	0.24	3.2	130	0.22	3.2	-	-	-	-	-	-	55	0.17	2.6	-	-	-
OEHT 0604AESR-M:M9325	☺	-	295	0.24	3.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

REHT 16

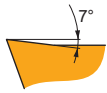
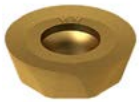


	INSD	D1	S
	(mm)	(mm)	(mm)
1604	16.000	5.50	4.76



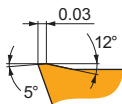
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE	P			M			K			N			S			H		
		vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap
	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)



MM geometry, copy and profile mill insert, with slightly positive design for light to medium machining.

REHT 1604MOEN-MM:M6330	☼	–	255	0.20	2.0	180	0.18	2.0	–	–	–	–	–	–	–	75	0.14	1.6	–	–	–
REHT 1604MOEN-MM:M8340	☼	–	270	0.20	2.0	160	0.18	2.0	–	–	–	–	–	–	–	65	0.14	1.6	–	–	–
REHT 1604MOEN-MM:M9340	☼	–	330	0.20	2.0	195	0.18	2.0	–	–	–	–	–	–	–	80	0.14	1.6	–	–	–



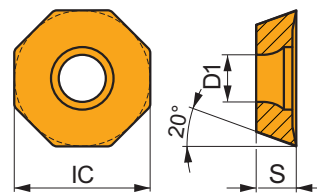
M geometry, copy and profile mill insert, with positive design for light to medium machining.

REHT 1604MOSN-M:M8310	☼	–	285	0.30	2.0	145	0.27	2.0	–	–	–	–	–	–	–	–	–	–	–	–	–
REHT 1604MOSN-M:M8330	☼	–	270	0.30	2.0	160	0.27	2.0	–	–	–	–	–	–	–	65	0.21	1.6	–	–	–
REHT 1604MOSN-M:M8340	☼	–	245	0.30	2.0	145	0.27	2.0	–	–	–	–	–	–	–	60	0.21	1.6	–	–	–

OEHT 06-FA

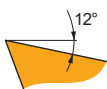
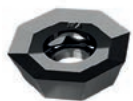


	IC	D1	S
	(mm)	(mm)	(mm)
0604	16.050	5.50	4.76



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE	P			M			K			N			S			H		
		vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap
	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)



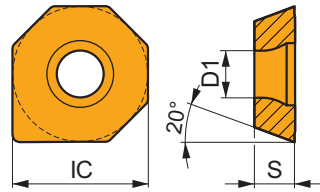
FA geometry, 45° face milling insert, with highly positive design for fine-finish to medium machining.

OEHT 0604AEFR-FA:HF7	●	–	–	–	–	–	–	–	–	–	–	–	–	–	–	330	0.18	2.0	–	–	–
OEHT 0604AEFR-FA:M0315	●	–	–	–	–	–	–	–	–	–	–	–	–	–	–	765	0.18	2.0	–	–	–

XEHT 06

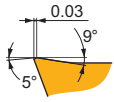


	IC	D1	S
	(mm)	(mm)	(mm)
0604	16.050	5.50	4.76



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



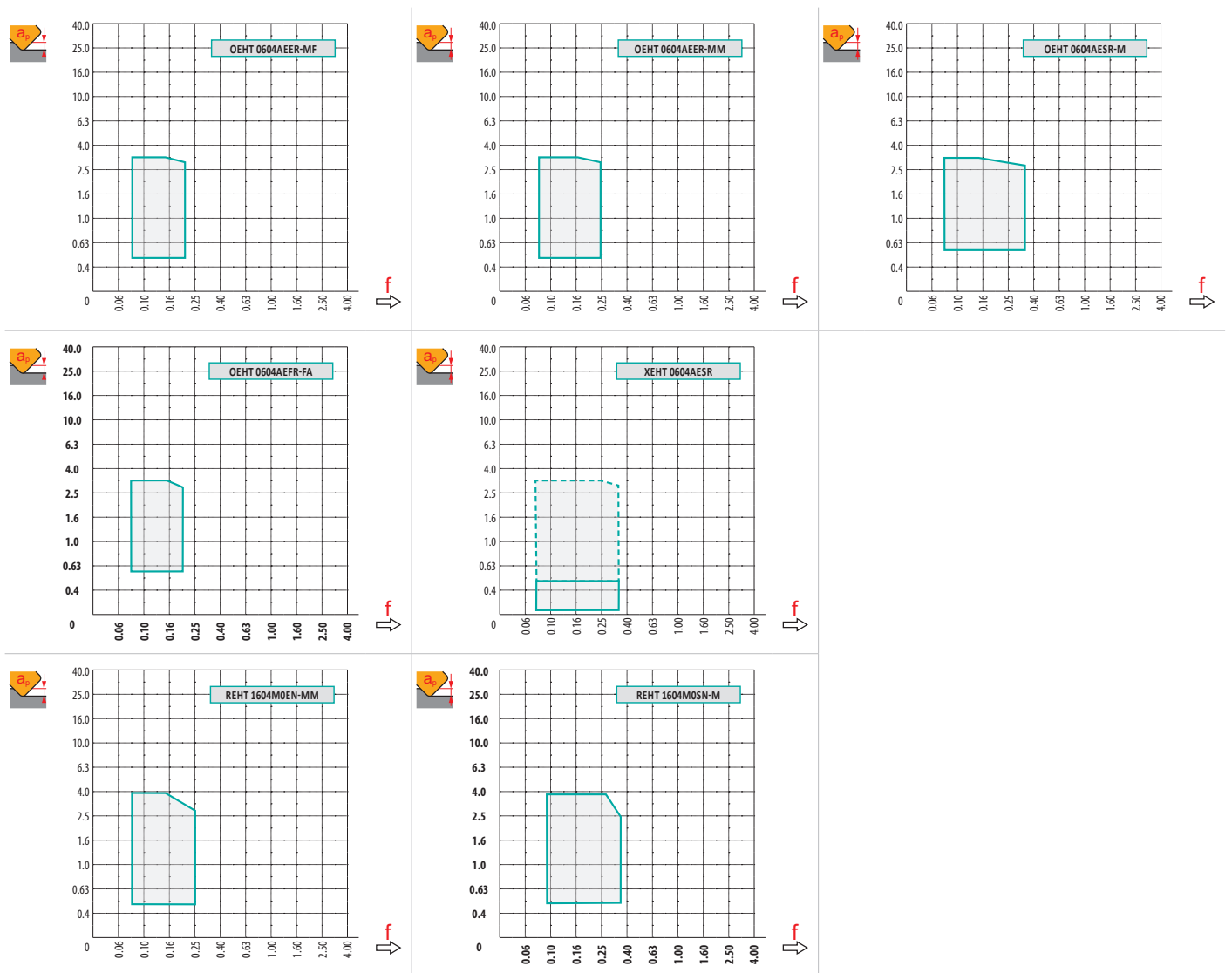
Slightly positive wiper design for improved surface finish.

XEHT 0604AESR:M8310	●	–	■	265	0.24	3.2	▣	135	0.22	3.2	■	–	–	–	■	–	–	–	■	–	–	–
XEHT 0604AESR:M8330	✱	–	■	245	0.24	3.2	▣	145	0.22	3.2	■	–	–	–	■	–	–	–	■	–	–	–

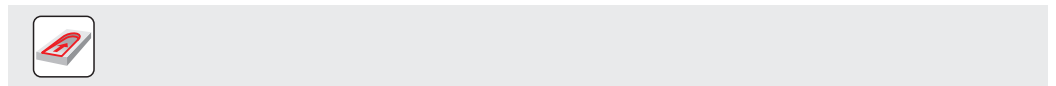
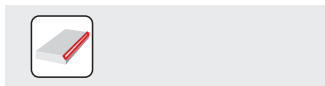


a_e / DC	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	OEHT 06-MF	OEHT 06-MM	OEHT 06-M	OEHT 06-FA	XEHT 06	REHT 16-MM	REHT 16-M
	-	-	-	-	-	8.00	8.00
	1.36	1.36	1.36	1.36	9.91	-	-



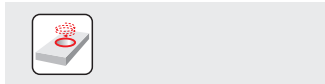
	R									
		0.00	0.50	0.75	1.25	1.50	2.00	2.50	3.00	4.00
50		43.90	49.47	50.66	52.49	53.23	54.48	55.52	56.39	57.76
56		49.80	55.37	56.56	58.39	59.13	60.38	61.42	62.29	63.66
63		56.90	62.47	63.66	65.49	66.23	67.48	68.52	69.39	70.76
70		63.80	69.37	70.56	72.39	73.13	74.38	75.42	76.29	77.66
80		73.90	79.47	80.66	82.49	83.23	84.48	85.52	86.39	87.76
90		83.80	89.37	90.56	92.39	93.13	94.38	95.42	96.29	97.66
100		93.90	99.47	100.66	102.49	103.23	104.48	105.52	106.39	107.76
125		118.90	124.47	125.66	127.49	128.23	129.48	130.52	131.39	132.76
160		153.90	159.47	160.66	162.49	163.23	164.48	165.52	166.39	167.76
200		193.90	199.47	200.66	202.49	203.23	204.48	205.52	206.39	207.76



		f_{max}
50	1.43	0.33
56	1.45	0.35
63	1.47	0.37
70	1.49	0.39
80	1.52	0.42
90	1.55	0.44
100	1.57	0.47
125	1.62	0.52
160	1.68	0.59
200	1.73	0.66

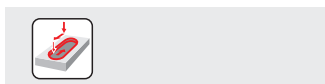
O		
	RPMX	APMX/I
50	4.9°	8.4/100
56	4.2°	7.2/100
63	3.6°	6.1/100
70	3.1°	5.3/100
80	2.6°	4.4/100
90	2.3°	3.9/100
100	2.0°	3.3/100
125	1.5°	2.5/100

R		
	RPMX	APMX/I
59.9	4.6°	7.9/100
65.8	4.0°	6.8/100
72.9	3.0°	5.1/100
79.8	2.7°	4.6/100
89.9	2.2°	3.7/100
99.8	2.0°	3.3/100
109.9	1.8°	3.0/100
134.9	1.3°	2.1/100



O				
	DMIN	DMAX		
50	91.5	120.0	5.9	5.9
56	103.2	131.5	5.9	5.9
63	117.4	146.0	5.9	5.9
70	131.2	159.5	5.9	5.9
80	151.4	180.0	5.9	5.9
90	171.2	199.5	5.9	5.9
100	191.4	220.0	5.9	5.9
125	241.3	270.0	5.9	5.9

R				
	DMIN	DMAX		
59.9	91.5	119.5	5.9	5.9
65.8	103.5	131.0	5.9	5.9
72.9	118.0	145.5	5.9	5.9
79.8	131.5	159.0	5.9	5.9
89.9	151.5	179.5	5.9	5.9
99.8	171.5	199.0	5.9	5.9
109.9	191.5	219.5	5.9	5.9
134.9	241.5	269.5	5.9	5.9



	O	R
	3.1	3.0

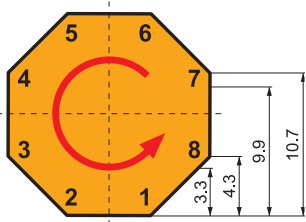


R

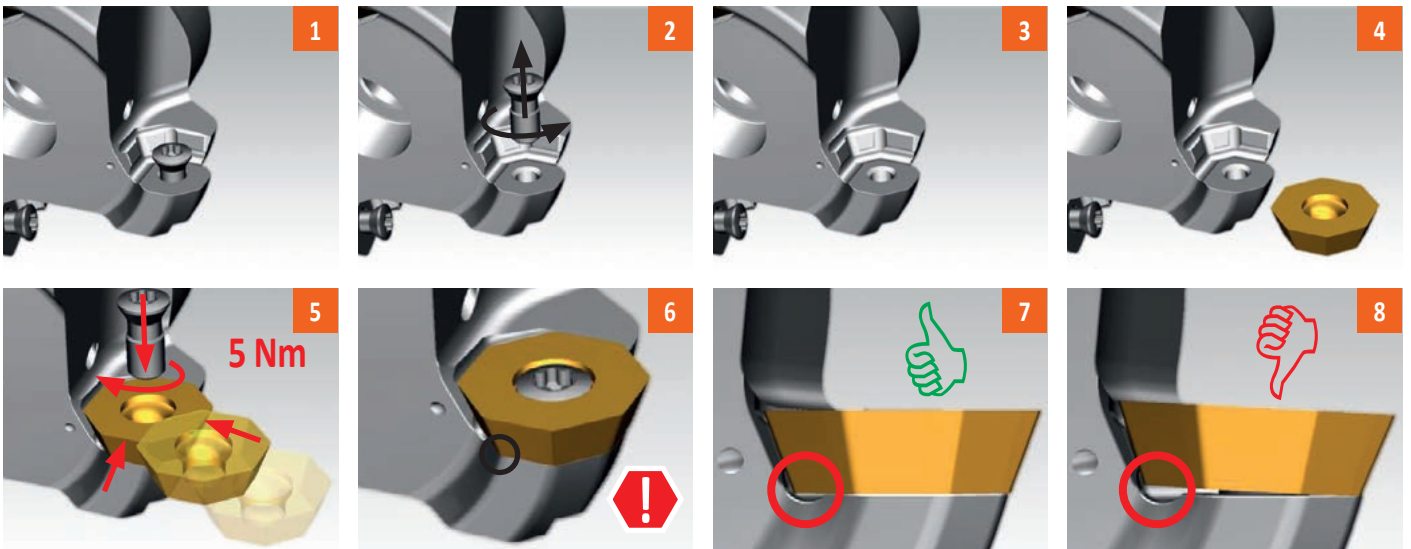
DCX	μm	3	5	10	15	20	30	40	50	60	80	100
59.9		0.848	1.095	1.548	1.896	2.189	2.681	3.096	3.461	3.792	4.378	4.895
65.8		0.889	1.147	1.622	1.987	2.294	2.810	3.245	3.628	3.974	4.589	5.130
72.9		0.935	1.207	1.708	2.091	2.415	2.958	3.415	3.818	4.183	4.830	5.400
79.8		0.979	1.263	1.787	2.188	2.527	3.095	3.573	3.995	4.376	5.053	5.650
89.9		1.039	1.341	1.896	2.322	2.682	3.285	3.793	4.240	4.645	5.364	5.997
99.8		1.094	1.413	1.998	2.447	2.826	3.461	3.996	4.468	4.894	5.651	6.318

RE	μm	3	5	10	15	20	30	40	50	60	80	100
8.0		0.438	0.566	0.800	0.980	1.131	1.386	1.600	1.789	1.960	2.263	2.530

i



a _r	
-> 3.3	8
-> 4.3	7
-> 9.9	4
-> 10.7	2





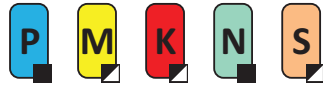
SHOULDER MILLING

SHOULDER MILLING – NAVIGATOR

SHOULDER MILLING – NEGATIVE INSERTS

	STN10		STN16		SLN12		SLN16		SLN12X											
	90°		90°		90°		90°		90°											
	APMX (mm)	5.0	APMX (mm)	10.0	APMX (mm)	9.0	APMX (mm)	13.0	APMX (mm)	10.0										
	DC (mm)	18 – 80	DC (mm)	25 – 175	DC (mm)	25 – 125	DC (mm)	63 – 175	DC (mm)	25 – 125										
Cylindrical shank		DC = 18 – 35 (mm)		DC = 25 – 35 (mm)		DC = 25, 32 (mm)				DC = 25 – 40 (mm)										
Weldon		DC = 20 – 32 (mm)		DC = 25 – 40 (mm)		DC = 25 – 40 (mm)				DC = 25 – 40 (mm)										
Modular		DC = 20 – 32 (mm)		DC = 25 – 40 (mm)		DC = 25 – 40 (mm)														
Shell mill		DC = 40 – 80 (mm)		DC = 40 – 175 (mm)		DC = 40 – 125 (mm)				DC = 40 – 125 (mm)										
Page	66		70		75		81		85											
ISO	P	M	K	N	P	M	K	N	P	M	K	N	P	K	N	H	P	M	K	H
Insert shape																				
Inserts	TNGX 1004		TNGX 1606		LNG 1205		LN.U 1607		LNEX 1210											
No. of cutting edges	6		6		4		4		4											
Shallow shoulder milling	■		■		■		■		■											
Helical interpolation	▣		▣		▣		▣		▣											
Shallow slot milling	■		■		■		■		■											
Plunge milling	▣		■		■		■		■											
Progressive plunging	▣		■		▣		■		■											
Ramping	▣		■		▣		■		▣											
Face milling	■		■		▣		■		■											
Shape surfaces milling (copy milling)	■		■		▣		▣		■											

STN10



PRAMET

S

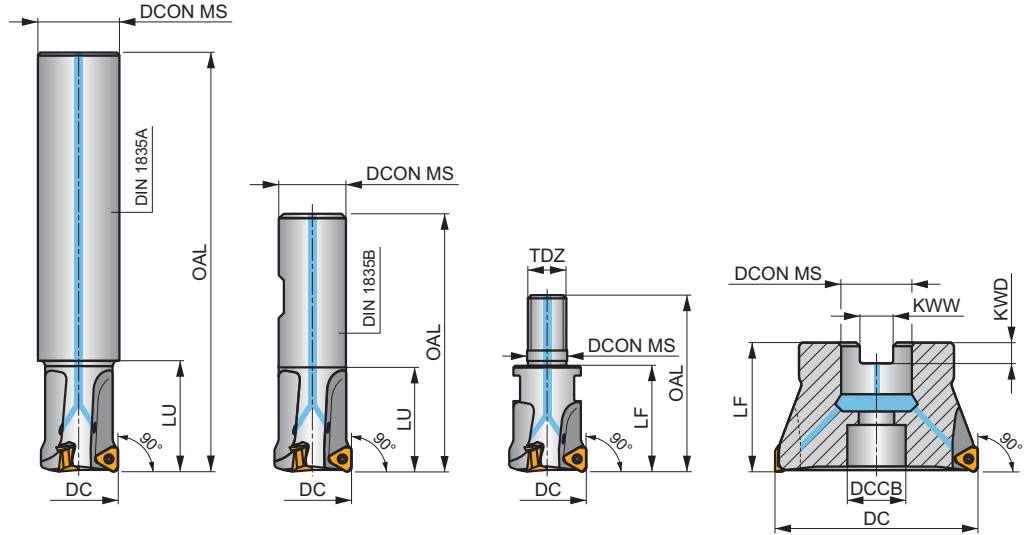
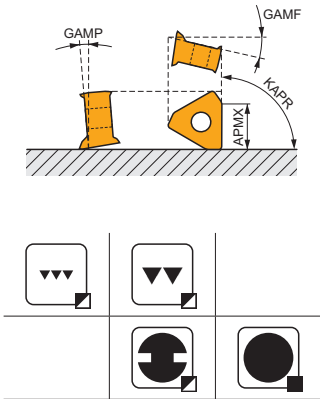


ECON TN10 Square Shoulder Mill with Internal Coolant

90° end and shell mills utilizing double sided TNGX 10 insert with 6 cutting edges and APMX of 5 mm. Suitable for a wide range of applications. Available in cylindrical, Weldon, modular and arbor style, with or without differential tooth pitch. Body treated for longer tool life.

ECON TN

KAPR	90°
APMX	5.0 mm



Product	DC (mm)	OAL (mm)	DCON MS (mm)	DCCB (mm)	LU (mm)	LF (mm)	TDZ	KWW (mm)	KWD (mm)	GAMF (°)	GAMP (°)	max.	kg	G1292	SQ300	SQ302	SQ303		
																		(mm)	(mm)
18A2R050A20-STN10-C	18	180	20	-	50	-	-	-	-	-17.1	-11	2	-	29100	✓	0.39	GI292	SQ300	-
20A2R029A20-STN10-C	20	150	20	-	29	-	-	-	-	-16.5	-11	2	-	27600	✓	0.35	GI292	SQ300	-
20A3R029A20-STN10-C	20	150	20	-	29	-	-	-	-	-16.5	-11	3	-	27600	✓	0.34	GI292	SQ300	-
22A3R050A25-STN10-C	22	180	25	-	50	-	-	-	-	-16.5	-11	3	-	26300	✓	0.58	GI292	SQ300	-
25A3R034A25-STN10-C	25	170	25	-	34	-	-	-	-	-16	-11	3	-	24700	✓	0.58	GI292	SQ300	-
25A4R034A25-STN10-C	25	170	25	-	34	-	-	-	-	-16	-11	4	✓	24700	✓	0.58	GI292	SQ300	-
30A4R050A32-STN10-C	30	200	32	-	50	-	-	-	-	-16	-11	4	✓	22500	✓	1.06	GI292	SQ300	-
32A4R037A32-STN10-C	32	195	32	-	37	-	-	-	-	-16	-11	4	✓	21800	✓	1.08	GI292	SQ300	-
32A5R037A32-STN10-C	32	195	32	-	37	-	-	-	-	-16	-11	5	✓	21800	✓	1.08	GI292	SQ300	-
35A5R080A32-STN10-C	35	200	32	-	80	-	-	-	-	-16	-11	5	✓	20800	✓	1.07	GI292	SQ300	-
20A2R032B20-STN10-C	20	90	20	-	32	-	-	-	-	-16.5	-11	2	-	27600	✓	0.20	GI292	SQ300	-
20A3R032B20-STN10-C	20	90	20	-	32	-	-	-	-	-16.5	-11	3	-	27600	✓	0.19	GI292	SQ300	-
25A3R042B25-STN10-C	25	100	25	-	42	-	-	-	-	-16	-11	3	-	24700	✓	0.31	GI292	SQ300	-
25A4R042B25-STN10-C	25	100	25	-	42	-	-	-	-	-16	-11	4	✓	24700	✓	0.31	GI292	SQ300	-
32A4R042B32-STN10-C	32	110	32	-	42	-	-	-	-	-16	-11	4	✓	21800	✓	0.57	GI292	SQ300	-
32A5R042B32-STN10-C	32	110	32	-	42	-	-	-	-	-16	-11	5	✓	21800	✓	0.56	GI292	SQ300	-
20A2R026M10-STN10-C	20	45	10.5	-	-	26	M10	-	-	-16.5	-11	2	-	✓	0.06	GI292	SQ300	-	
20A3R026M10-STN10-C	20	45	10.5	-	-	26	M10	-	-	-16.5	-11	3	-	✓	0.06	GI292	SQ300	-	
25A3R033M12-STN10-C	25	55	12.5	-	-	33	M12	-	-	-16	-11	3	-	✓	0.10	GI292	SQ300	-	
25A4R033M12-STN10-C	25	55	12.5	-	-	33	M12	-	-	-16	-11	4	✓	-	✓	0.10	GI292	SQ300	-
32A4R043M16-STN10-C	32	66	17	-	-	43	M16	-	-	-16	-11	4	✓	-	✓	0.21	GI292	SQ300	-
32A5R043M16-STN10-C	32	66	17	-	-	43	M16	-	-	-16	-11	5	✓	-	✓	0.21	GI292	SQ300	-
40A04R-S90TN10-C	40	-	16	14	-	40	-	8.4	5.6	-15	-11	4	✓	19500	✓	0.34	GI292	SQ302	-
40A06R-S90TN10-C	40	-	16	14	-	40	-	8.4	5.6	-15	-11	6	✓	19500	✓	0.34	GI292	SQ302	-
50A05R-S90TN10-C	50	-	22	18	-	40	-	10.4	6.3	-15	-11	5	✓	17400	✓	0.48	GI292	SQ303	-
50A07R-S90TN10-C	50	-	22	18	-	40	-	10.4	6.3	-15	-11	7	✓	17400	✓	0.49	GI292	SQ303	-
63A06R-S90TN10-C	63	-	22	18	-	40	-	10.4	6.3	-15	-11	6	✓	15500	✓	0.63	GI292	SQ303	-

Product	DC	OAL	D CONIMS	DCB	LU	LF	TDZ	KWW	KWD	GAMF	GAMP						
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)						
63A09R-S90TN10-C	63	-	22	18	-	40	-	10.4	6.3	-15	-11	9	✓	15500	✓	0.63	GI292 SQ303 -
80A10R-S90TN10-C	80	-	27	38	-	50	-	12.4	7	-15	-11	10	✓	13800	✓	1.03	GI292 SQ301 AC001

GI292	TNGX 1004..

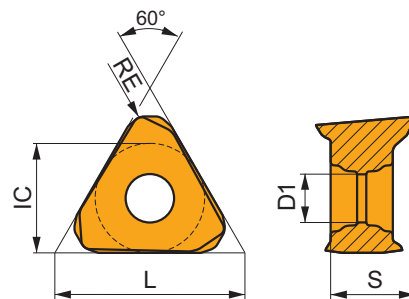
SQ300	US 52506-T07P	0.8	M 2.5	6	-	-	-	Flag T07P	-
SQ301	US 52506-T07P	0.8	M 2.5	6	D-T07P/T09P	FG-15	-	-	-
SQ302	US 52506-T07P	0.8	M 2.5	6	D-T07P/T09P	FG-15	-	-	HS 0830C
SQ303	US 52506-T07P	0.8	M 2.5	6	D-T07P/T09P	FG-15	-	-	HS 1030C

AC001	KS 1230	K.FMH27

TNGX 10

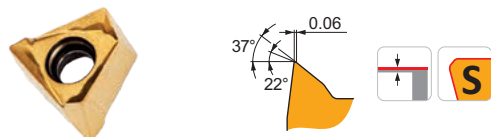


	IC	D1	L	S
	(mm)	(mm)	(mm)	(mm)
1004	6.000	2.80	10.39	4.69



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap
		(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)

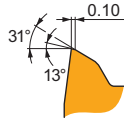
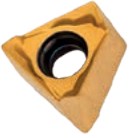


F geometry with highly positive design for light machining.

TNGX 100402SR-F:M8330	●	0.2	205	0.09	2.0	120	0.08	2.0	190	0.09	2.0	-	-	-	-	-	-	-	-
TNGX 100402SR-F:M8340	●	0.2	190	0.09	2.0	110	0.08	2.0	180	0.09	2.0	-	-	-	-	-	-	-	-
TNGX 100404SR-F:8215	●	0.4	225	0.09	2.0	135	0.08	2.0	210	0.09	2.0	-	-	-	-	-	-	-	-
TNGX 100404SR-F:M6330	●	0.4	190	0.09	2.0	135	0.08	2.0	-	-	-	-	-	-	-	-	-	-	-
TNGX 100404SR-F:M8330	●	0.4	220	0.09	2.0	130	0.08	2.0	205	0.09	2.0	-	-	-	-	-	-	-	-
TNGX 100404SR-F:M8340	●	0.4	200	0.09	2.0	120	0.08	2.0	190	0.09	2.0	-	-	-	-	-	-	-	-
TNGX 100404SR-F:M9340	●	0.4	270	0.09	2.0	160	0.08	2.0	-	-	-	-	-	-	-	-	-	-	-
TNGX 100408SR-F:8215	●	0.8	270	0.09	2.0	160	0.08	2.0	255	0.09	2.0	-	-	-	-	-	-	-	-
TNGX 100408SR-F:M6330	●	0.8	225	0.09	2.0	160	0.08	2.0	-	-	-	-	-	-	-	-	-	-	-
TNGX 100408SR-F:M8330	●	0.8	260	0.09	2.0	155	0.08	2.0	245	0.09	2.0	-	-	-	-	-	-	-	-
TNGX 100408SR-F:M8340	●	0.8	240	0.09	2.0	140	0.08	2.0	225	0.09	2.0	-	-	-	-	-	-	-	-
TNGX 100408SR-F:M9340	●	0.8	320	0.09	2.0	190	0.08	2.0	-	-	-	-	-	-	-	-	-	-	-

Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



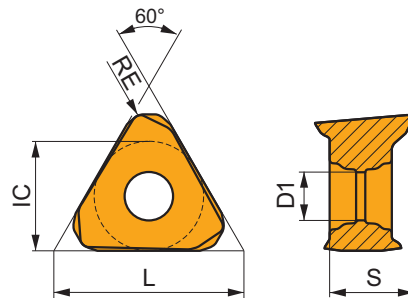
M geometry with positive design for light to medium machining.

TNGX 100404SR-M:8215	● 0.4	■ 205	■ 0.13	■ 2.0	■ 120	■ 0.12	■ 2.0	■ 190	■ 0.13	■ 2.0	■ -	■ -	■ -	■ 50	■ 0.09	■ 1.6	■ -	■ -	■ -
TNGX 100404SR-M:M6330	● 0.4	■ 175	■ 0.13	■ 2.0	■ 125	■ 0.12	■ 2.0	■ -	■ -	■ -	■ -	■ -	■ 50	■ 0.09	■ 1.6	■ -	■ -	■ -	
TNGX 100404SR-M:M8330	● 0.4	■ 205	■ 0.13	■ 2.0	■ 120	■ 0.12	■ 2.0	■ 190	■ 0.13	■ 2.0	■ -	■ -	■ 50	■ 0.09	■ 1.6	■ -	■ -	■ -	
TNGX 100404SR-M:M8340	● 0.4	■ 185	■ 0.13	■ 2.0	■ 110	■ 0.12	■ 2.0	■ 175	■ 0.13	■ 2.0	■ -	■ -	■ 45	■ 0.09	■ 1.6	■ -	■ -	■ -	
TNGX 100404SR-M:M9340	● 0.4	■ 240	■ 0.13	■ 2.0	■ 140	■ 0.12	■ 2.0	■ -	■ -	■ -	■ -	■ -	■ 60	■ 0.09	■ 1.6	■ -	■ -	■ -	
TNGX 100408SR-M:8215	● 0.8	■ 245	■ 0.13	■ 2.0	■ 145	■ 0.12	■ 2.0	■ 230	■ 0.13	■ 2.0	■ -	■ -	■ 60	■ 0.09	■ 1.6	■ -	■ -	■ -	
TNGX 100408SR-M:M6330	● 0.8	■ 210	■ 0.13	■ 2.0	■ 150	■ 0.12	■ 2.0	■ -	■ -	■ -	■ -	■ -	■ 60	■ 0.09	■ 1.6	■ -	■ -	■ -	
TNGX 100408SR-M:M8310	● 0.8	■ 270	■ 0.13	■ 2.0	■ 135	■ 0.12	■ 2.0	■ 255	■ 0.13	■ 2.0	■ -	■ -	■ -	■ -	■ -	■ -	■ -	■ -	
TNGX 100408SR-M:M8330	● 0.8	■ 245	■ 0.13	■ 2.0	■ 145	■ 0.12	■ 2.0	■ 230	■ 0.13	■ 2.0	■ -	■ -	■ 60	■ 0.09	■ 1.6	■ -	■ -	■ -	
TNGX 100408SR-M:M8340	● 0.8	■ 220	■ 0.13	■ 2.0	■ 130	■ 0.12	■ 2.0	■ 205	■ 0.13	■ 2.0	■ -	■ -	■ 55	■ 0.09	■ 1.6	■ -	■ -	■ -	
TNGX 100408SR-M:M8345	● 0.8	■ 180	■ 0.13	■ 2.0	■ 105	■ 0.12	■ 2.0	■ -	■ -	■ -	■ -	■ -	■ 45	■ 0.09	■ 1.6	■ -	■ -	■ -	
TNGX 100408SR-M:M9340	● 0.8	■ 285	■ 0.13	■ 2.0	■ 170	■ 0.12	■ 2.0	■ -	■ -	■ -	■ -	■ -	■ 70	■ 0.09	■ 1.6	■ -	■ -	■ -	
TNGX 100412SR-M:M8330	● 1.2	■ 255	■ 0.13	■ 2.0	■ 150	■ 0.12	■ 2.0	■ 240	■ 0.13	■ 2.0	■ -	■ -	■ 60	■ 0.09	■ 1.6	■ -	■ -	■ -	
TNGX 100412SR-M:M8340	● 1.2	■ 230	■ 0.13	■ 2.0	■ 135	■ 0.12	■ 2.0	■ 215	■ 0.13	■ 2.0	■ -	■ -	■ 55	■ 0.09	■ 1.6	■ -	■ -	■ -	
TNGX 100416SR-M:M8310	● 1.6	■ 300	■ 0.13	■ 2.0	■ 150	■ 0.12	■ 2.0	■ 285	■ 0.13	■ 2.0	■ -	■ -	■ -	■ -	■ -	■ -	■ -	■ -	
TNGX 100416SR-M:M8330	● 1.6	■ 270	■ 0.13	■ 2.0	■ 160	■ 0.12	■ 2.0	■ 255	■ 0.13	■ 2.0	■ -	■ -	■ 65	■ 0.09	■ 1.6	■ -	■ -	■ -	
TNGX 100416SR-M:M8340	● 1.6	■ 245	■ 0.13	■ 2.0	■ 145	■ 0.12	■ 2.0	■ 230	■ 0.13	■ 2.0	■ -	■ -	■ 60	■ 0.09	■ 1.6	■ -	■ -	■ -	

TNGX 10-FA

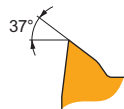
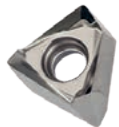


	IC (mm)	D1 (mm)	L (mm)	S (mm)
1004	6.000	2.80	10.39	4.69



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



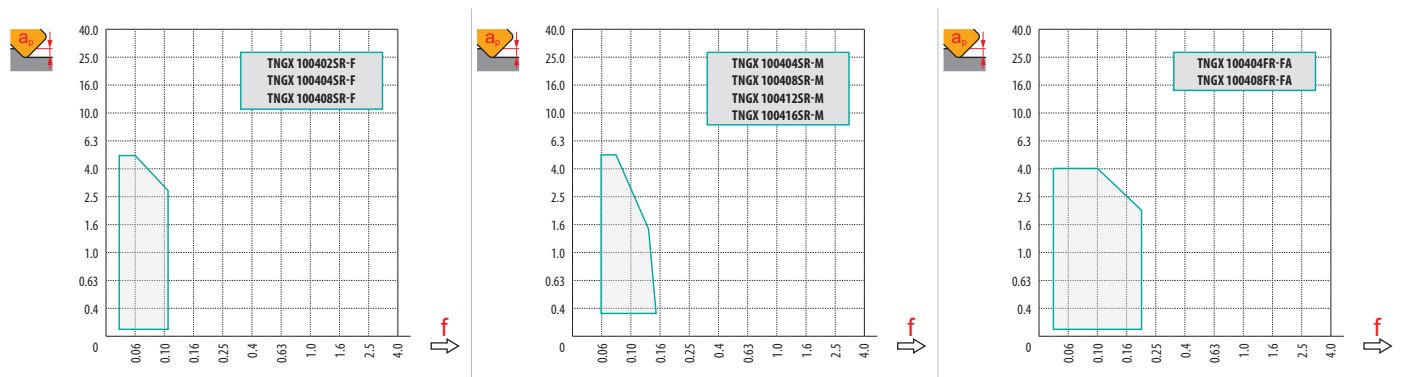
FA geometry with highly positive design for fine-finish to medium machining.

TNGX 100404FR-FA:HF7	● 0.4	■ -	■ -	■ -	■ -	■ -	■ -	■ -	■ -	■ -	■ 345	■ 0.10	■ 1.5	■ -	■ -	■ -	■ -	■ -	■ -
TNGX 100404FR-FA:M0315	● 0.4	■ -	■ -	■ -	■ -	■ -	■ -	■ -	■ -	■ -	■ 780	■ 0.10	■ 1.5	■ -	■ -	■ -	■ -	■ -	■ -
TNGX 100408FR-FA:HF7	● 0.8	■ -	■ -	■ -	■ -	■ -	■ -	■ -	■ -	■ -	■ 345	■ 0.10	■ 1.5	■ -	■ -	■ -	■ -	■ -	■ -
TNGX 100408FR-FA:M0315	● 0.8	■ -	■ -	■ -	■ -	■ -	■ -	■ -	■ -	■ -	■ 780	■ 0.10	■ 1.5	■ -	■ -	■ -	■ -	■ -	■ -



a_e / DC	5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	90%	100%
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

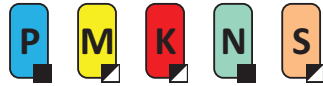
	TNGX 10-F			TNGX 10-M				TNGX 10-FA	
	0.2	0.4	0.8	0.4	0.8	1.2	1.6	0.4	0.8
	1.53	1.34	0.92	1.34	0.92			1.33	0.93



1.5	1.0 3.0 5.0	0.2
	0.10 0.08 0.04	

	RPMX	APMX/l		DMIN	DMAX		
						DMIN	DMAX
18	1.80°	3.05/100	18	33	36	1.2	1.2
20	1.60°	2.70/100	20	37	40	1.2	1.2
22	1.20°	2.00/100	22	41	44	1.0	1.0
25	1.00°	1.70/100	25	47	50	1.0	1.0
30	0.90°	1.45/100	30	57	60	1.0	1.0
32	0.80°	1.30/100	32	61	64	1.0	1.0
35	0.65°	1.00/100	35	67	70	0.9	0.9
40	0.60°	0.90/100	40	77	80	0.9	0.9
50	0.50°	0.70/100	50	97	100	0.9	0.9
63	0.40°	0.50/100	63	123	126	0.9	0.9
80	0.25°	0.30/100	80	157	160	0.9	0.9

STN16



PRAMET

S

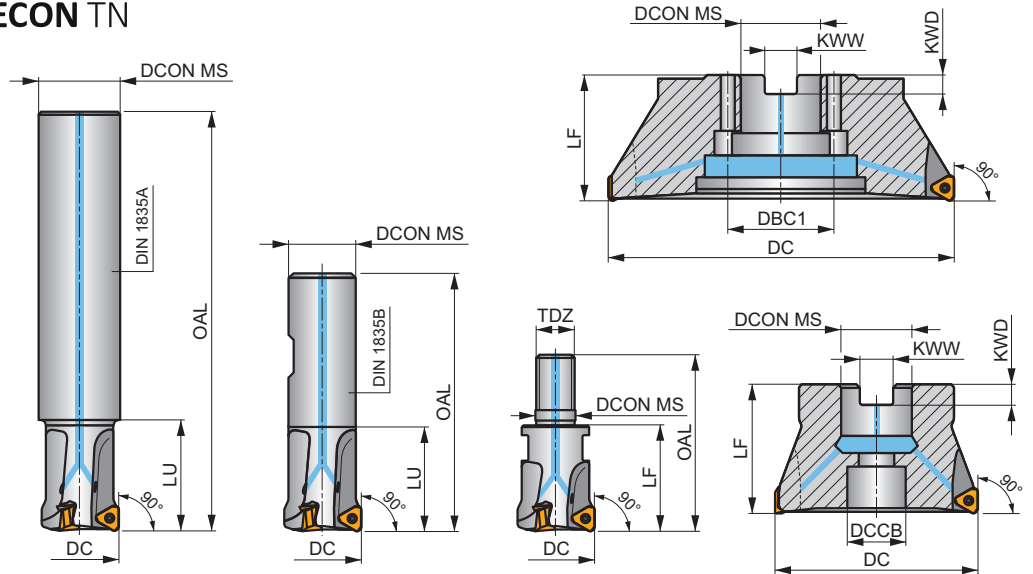
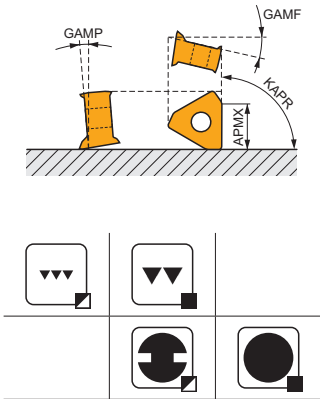


ECON TN16 Square Shoulder Mill with Internal Coolant

90° end and shell mills utilizing double sided TNGX 16 inserts with 6 cutting edges and APMX of 10 mm. Suitable for a wide range of applications. Available in cylindrical, Weldon, modular and arbor (with differential tooth pitch) style. Body treated for longer tool life.

ECON TN

KAPR	90°
APMX	10.0 mm



	0.03 - 0.13				
	0.03 - 0.15				

Product	DC (mm)	OAL (mm)	DCON MS (mm)	DCCB (mm)	DBC1 (mm)	LU (mm)	LF (mm)	TDZ (mm)	KWW (mm)	KWD (mm)	GAMP (°)	GAMP (°)							
																	max.	kg	Material
25A2R034A25-STN16-C	25	170	25	-	-	34	-	-	-	-	-18.5	-9.5	2	-	20000	✓	0.54	GI340	C0382
32A2R034A32-STN16-C	32	195	32	-	-	34	-	-	-	-	-16	-9.5	2	-	17500	✓	1.05	GI340	C0382
25A2R080A25-STN16-C	25	170	25	-	-	80	-	-	-	-	-18.5	-9.5	2	-	20000	✓	0.48	GI340	C0382
32A2R080A32-STN16-C	32	195	32	-	-	80	-	-	-	-	-16	-9.5	2	-	17500	✓	0.96	GI340	C0382
32A3R034A32-STN16-C	32	195	32	-	-	34	-	-	-	-	-16	-9.5	3	-	17500	✓	1.04	GI340	C0382
35A3R034A32-STN16-C	35	195	32	-	-	34	-	-	-	-	-16	-9.5	3	-	17000	✓	1.07	GI340	C0382
25A2R042B25-STN16-C	25	110	25	-	-	42	-	-	-	-	-18.5	-9.5	2	-	20000	✓	0.29	GI340	C0382
32A3R042B32-STN16-C	32	110	32	-	-	42	-	-	-	-	-16	-9.5	3	-	17500	✓	0.52	GI340	C0382
40A4R050B32-STN16-C	40	120	32	-	-	50	-	-	-	-	-16	-9.5	4	-	16000	✓	0.68	GI340	C0382
25A2R033M12-STN16-C	25	55	12.5	-	-	-	33	M12	-	-	-18.5	-9.5	2	-	20000	✓	0.10	GI340	C0382
32A2R043M16-STN16-C	32	66	17	-	-	-	43	M16	-	-	-16	-9.5	2	-	17500	✓	0.18	GI340	C0382
32A3R043M16-STN16-C	32	66	17	-	-	-	43	M16	-	-	-16	-9.5	3	-	17500	✓	0.17	GI340	C0382
40A3R043M16-STN16-C	40	66	17	-	-	-	43	M16	-	-	-16	-9.5	3	-	16000	✓	0.20	GI340	C0382
40A4R043M16-STN16-C	40	66	17	-	-	-	43	M16	-	-	-16	-9.5	4	-	16000	✓	0.21	GI340	C0382
40A03R-S90TN16-C	40	40	16	12.4	-	-	40	-	8.4	5.6	-16	-9.5	3	-	16000	✓	0.32	GI340	C0384
40A04R-S90TN16-C	40	40	16	12.4	-	-	40	-	8.4	5.6	-16	-9.5	4	-	16000	✓	0.31	GI340	C0384
50A04R-S90TN16-C	50	40	22	18.1	-	-	40	-	10.4	6.3	-16	-9.5	4	✓	14000	✓	0.34	GI340	C0386
50A05R-S90TN16-C	50	40	22	18.1	-	-	40	-	10.4	6.3	-16	-9.5	5	✓	14000	✓	0.32	GI340	C0386
63A04R-S90TN16-C	63	40	22	18.1	-	-	40	-	10.4	6.3	-16	-9.5	4	✓	12500	✓	0.47	GI340	C0386
63A06R-S90TN16-C	63	40	22	18.1	-	-	40	-	10.4	6.3	-16	-9.5	6	✓	12500	✓	0.48	GI340	C0386
80A05R-S90TN16-C	80	50	27	22.1	-	-	50	-	12.4	7	-16	-9.5	5	✓	11000	✓	1.15	GI340	C0388
80A07R-S90TN16-C	80	50	27	22.1	-	-	50	-	12.4	7	-16	-9.5	7	✓	11000	✓	1.17	GI340	C0388
100A06R-S90TN16-C	100	50	32	45.1	-	-	50	-	14.4	8	-16	-9.5	6	✓	10000	✓	1.79	GI340	C0390
100A08R-S90TN16-C	100	50	32	45.1	-	-	50	-	14.4	8	-16	-9.5	8	✓	10000	✓	1.66	GI340	C0390
115A06R-S90TN16-C	115	50	32	45.1	-	-	50	-	14.4	8	-16	-9.5	6	✓	9500	✓	2.21	GI340	C0390
125A07R-S90TN16-C	125	63	40	56.1	-	-	63	-	16.4	9	-16	-9.5	7	✓	9000	✓	3.05	GI340	C0390
125A09R-S90TN16-C	125	63	40	56.1	-	-	63	-	16.4	9	-16	-9.5	9	✓	9000	✓	3.14	GI340	C0390

Product	DC	OAL	D CONIMS	DCB	DBC1	LU	LF	TDZ	KWW	KWD	GAMF	GAMP	max.			kg		
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)						
140A08R-S90TN16-C	140	63	40	56.1	-	-	63	-	16.4	9	-16	-9.5	8	✓	8500	✓	3.69	GI340 C0390
160C10R-S90TN16-C	160	63	40	-	66.7	-	63	-	16.4	9.2	-16	-9.5	10	✓	8000	✓	5.16	GI340 C0394
175C10R-S90TN16-C	175	63	40	-	66.7	-	63	-	16.4	9.2	-16	-9.5	10	✓	7500	✓	6.89	GI340 C0394

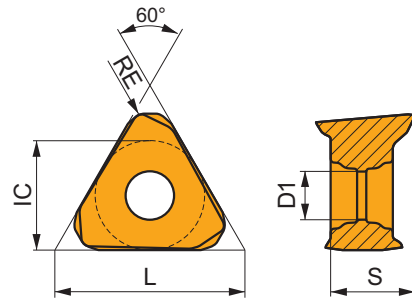
	GI340		TNGX 1606..
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C0382	US 44010-T15P	3.5	M 4	10	-	-	Flag T15P	-	-	-
C0384	US 44010-T15P	3.5	M 4	10	D-T08P/T15P	FG-15	-	HS 90835	-	-
C0386	US 44010-T15P	3.5	M 4	10	D-T08P/T15P	FG-15	-	HS 1030C	-	-
C0388	US 44010-T15P	3.5	M 4	10	D-T08P/T15P	FG-15	-	HS 1230C	-	-
C0390	US 44010-T15P	3.5	M 4	10	D-T08P/T15P	FG-15	-	-	-	-
C0394	US 44010-T15P	3.5	M 4	10	D-T08P/T15P	FG-15	-	HS 1240C	HSD 0825C	CAC 160C

TNGX 16

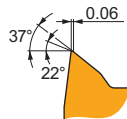
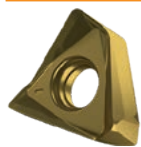


	IC	D1	L	S
	(mm)	(mm)	(mm)	(mm)
1606	9.525	4.40	16.50	6.58



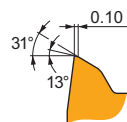
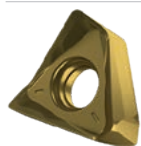
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap
		(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)



F geometry with highly positive design for light machining.

TNGX 160604SR-F:M8330	● 0.4	■ 205	■ 0.10	■ 3.0	■ 120	■ 0.09	■ 3.0	■ 190	■ 0.10	■ 3.0	-	-	-	-	-	-	-	-	-
TNGX 160604SR-F:M8340	● 0.4	■ 190	■ 0.10	■ 3.0	■ 110	■ 0.09	■ 3.0	■ 180	■ 0.10	■ 3.0	-	-	-	-	-	-	-	-	-
TNGX 160608SR-F:8215	● 0.8	■ 250	■ 0.10	■ 3.0	■ 150	■ 0.09	■ 3.0	■ 235	■ 0.10	■ 3.0	-	-	-	-	-	-	-	-	-
TNGX 160608SR-F:M6330	● 0.8	■ 215	■ 0.10	■ 3.0	■ 150	■ 0.09	■ 3.0	-	-	-	-	-	-	-	-	-	-	-	-
TNGX 160608SR-F:M8310	● 0.8	■ 280	■ 0.10	■ 3.0	■ 140	■ 0.09	■ 3.0	■ 265	■ 0.10	■ 3.0	-	-	-	-	-	-	-	-	-
TNGX 160608SR-F:M8330	● 0.8	■ 245	■ 0.10	■ 3.0	■ 145	■ 0.09	■ 3.0	■ 230	■ 0.10	■ 3.0	-	-	-	-	-	-	-	-	-
TNGX 160608SR-F:M8340	● 0.8	■ 225	■ 0.10	■ 3.0	■ 135	■ 0.09	■ 3.0	■ 210	■ 0.10	■ 3.0	-	-	-	-	-	-	-	-	-

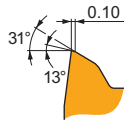
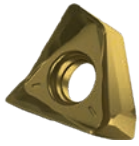


M geometry with positive design for light to medium machining.

TNGX 160604SR-M:8215	● 0.4	■ 180	■ 0.18	■ 3.0	■ 105	■ 0.16	■ 3.0	■ 170	■ 0.18	■ 3.0	-	-	-	■ 45	■ 0.13	■ 2.4	-	-	-
TNGX 160604SR-M:M6330	● 0.4	■ 155	■ 0.18	■ 3.0	■ 110	■ 0.16	■ 3.0	-	-	-	-	-	-	■ 45	■ 0.13	■ 2.4	-	-	-
TNGX 160604SR-M:M8310	● 0.4	■ 205	■ 0.15	■ 3.0	■ 100	■ 0.14	■ 3.0	■ 190	■ 0.15	■ 3.0	-	-	-	-	-	-	-	-	-
TNGX 160604SR-M:M8330	● 0.4	■ 180	■ 0.18	■ 3.0	■ 105	■ 0.16	■ 3.0	■ 170	■ 0.18	■ 3.0	-	-	-	■ 45	■ 0.13	■ 2.4	-	-	-

Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



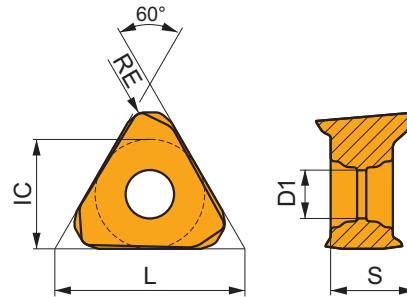
M geometry with positive design for light to medium machining.

TNGX 160604SR-M:M8340	● 0.4	165	0.18	3.0	95	0.16	3.0	155	0.18	3.0	—	—	—	40	0.13	2.4	—	—	—
TNGX 160608SR-M:8215	● 0.8	215	0.18	3.0	125	0.16	3.0	200	0.18	3.0	—	—	—	50	0.13	2.4	—	—	—
TNGX 160608SR-M:M6330	● 0.8	185	0.18	3.0	130	0.16	3.0	—	—	—	—	—	—	55	0.13	2.4	—	—	—
TNGX 160608SR-M:M8310	● 0.8	245	0.15	3.0	120	0.14	3.0	230	0.15	3.0	—	—	—	—	—	—	—	—	—
TNGX 160608SR-M:M8330	● 0.8	215	0.18	3.0	125	0.16	3.0	200	0.18	3.0	—	—	—	50	0.13	2.4	—	—	—
TNGX 160608SR-M:M8340	● 0.8	195	0.18	3.0	115	0.16	3.0	185	0.18	3.0	—	—	—	45	0.13	2.4	—	—	—
TNGX 160608SR-M:M8345	● 0.8	155	0.18	3.0	90	0.16	3.0	—	—	—	—	—	—	35	0.13	2.4	—	—	—
TNGX 160608SR-M:M9325	● 0.8	285	0.15	3.0	—	—	—	270	0.15	3.0	—	—	—	—	—	—	—	—	—
TNGX 160608SR-M:M9340	● 0.8	245	0.18	3.0	145	0.16	3.0	—	—	—	—	—	—	60	0.13	2.4	—	—	—
TNGX 160612SR-M:M8330	● 1.2	230	0.18	3.0	135	0.16	3.0	215	0.18	3.0	—	—	—	55	0.13	2.4	—	—	—
TNGX 160612SR-M:M8340	● 1.2	205	0.18	3.0	120	0.16	3.0	190	0.18	3.0	—	—	—	50	0.13	2.4	—	—	—
TNGX 160616SR-M:M8310	● 1.6	275	0.15	3.0	140	0.14	3.0	260	0.15	3.0	—	—	—	—	—	—	—	—	—
TNGX 160616SR-M:M8330	● 1.6	240	0.18	3.0	140	0.16	3.0	225	0.18	3.0	—	—	—	60	0.13	2.4	—	—	—
TNGX 160616SR-M:M8340	● 1.6	220	0.18	3.0	130	0.16	3.0	205	0.18	3.0	—	—	—	55	0.13	2.4	—	—	—

TNGX 16-FA

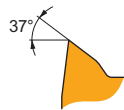
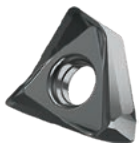


	IC (mm)	D1 (mm)	L (mm)	S (mm)
1606	9.525	4.40	16.50	6.58



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



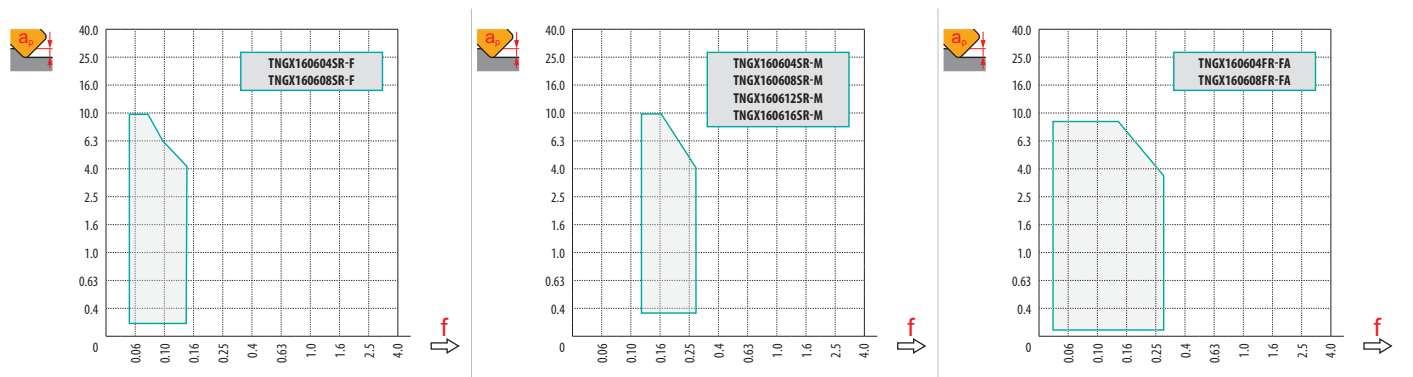
FA geometry with highly positive design for fine-finish to medium machining.

TNGX 160604FR-FA:HF7	● 0.4	—	—	—	—	—	—	—	—	—	255	0.14	2.0	—	—	—	—	—	—
TNGX 160604FR-FA:M0315	● 0.4	—	—	—	—	—	—	—	—	—	585	0.14	2.0	—	—	—	—	—	—
TNGX 160608FR-FA:HF7	● 0.8	—	—	—	—	—	—	—	—	—	300	0.14	2.0	—	—	—	—	—	—
TNGX 160608FR-FA:M0315	● 0.8	—	—	—	—	—	—	—	—	—	690	0.14	2.0	—	—	—	—	—	—



a_e / DC	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	TNGX 16-F		TNGX 16-M				TNGX 16-FA	
	0.4	0.8	0.4	0.8	1.2	1.6	0.4	0.8
	2.10	1.9	2.10	1.90	1.73	1.14	2.10	1.90

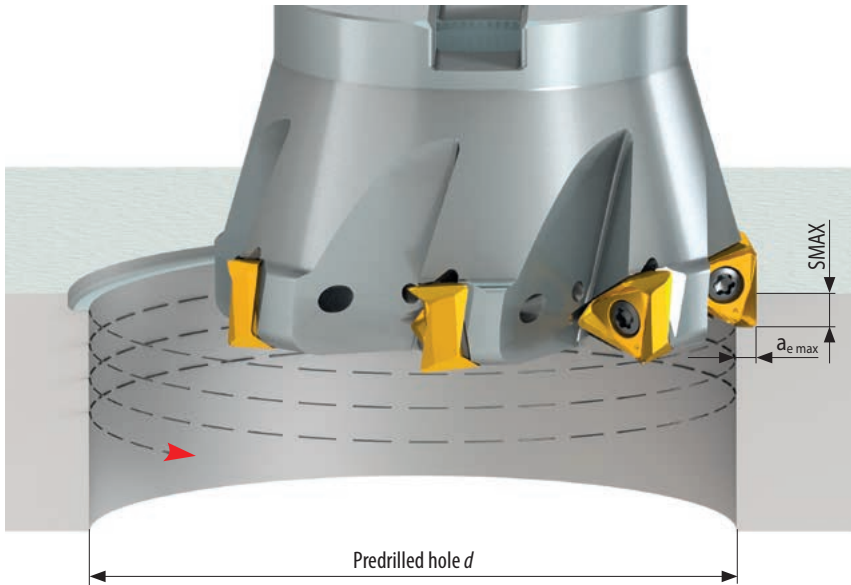


	3.0	4.5	6.0
	0.18	0.14	0.10



DC	min	$d_{min} = DC^*$		min	$d = 1.25 DC$		min	$d = 1.5 DC$		min	$d = 1.75 DC$		min	$d \geq 2 DC$	
		SMAX	$a_{e max}$		SMAX	$a_{e max}$		SMAX	$a_{e max}$		SMAX	$a_{e max}$		SMAX	$a_{e max}$
25	25	0.14	1.3	31	0.22	2.2	38	0.33	3.0	44	0.60	4.0	50	0.70	5.0
32	32	0.16	1.5	40	0.33	2.8	48	0.44	4.0	56	0.70	5.0	64	0.90	6.5
40	40	0.22	2.0	50	0.38	3.5	60	0.55	5.0	70	0.90	6.5	80	1.15	8.0
50	50	0.27	2.5	63	0.50	4.5	75	0.70	6.5	88	1.00	8.0	100	1.40	10.0
63	63	0.33	3.2	80	0.60	5.5	95	0.90	8.0	110	1.45	10.0	125	1.80	12.5
80	80	0.55	4.0	100	1.00	7.0	120	1.45	10.0	140	2.15	13.0	160	2.60	16.0
100	100	0.70	5.0	125	1.20	9.0	150	1.80	12.5	175	2.70	16.5	200	3.30	20.0
115	115	0.85	6.0	145	1.50	10.0	175	1.90	14.5	200	2.80	19.0	230	3.80	23.0
125	125	0.90	6.5	155	1.60	11.0	190	2.30	15.5	220	3.10	20.0	250	4.10	25.0
140	140	1.00	7.0	175	1.80	12.5	210	2.60	17.5	245	3.70	23.0	280	4.60	28.0
160	160	1.20	8.0	200	2.00	14.0	240	2.90	20.0	280	4.30	26.0	320	5.30	32.0
175	175	1.30	8.8	220	2.20	15.5	265	3.20	22.0	305	4.70	29.0	350	5.80	35.0

* Check feed rate reduction when hole diameter is between $d_{min} - 1.5 DC$.



SLN12



PRAMET

S

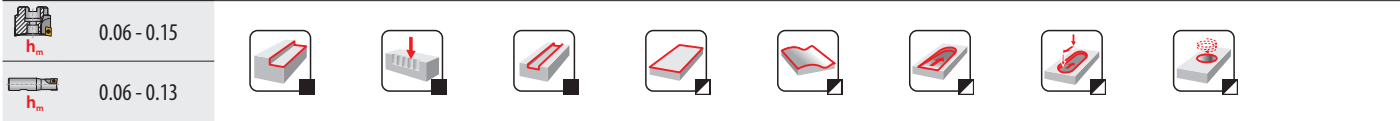
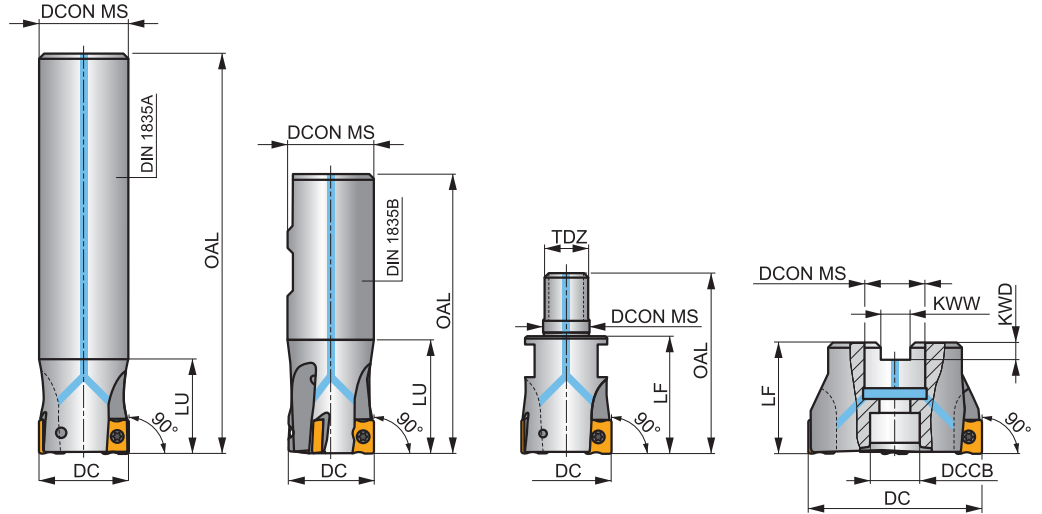
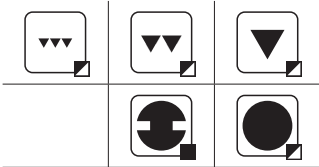
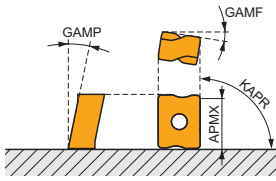


ECON LN12 Square Shoulder Mill with Internal Coolant

90° end and shell mills utilising double sided LN.. 12 inserts with APMX of 9 mm. Suitable for a wide range of applications. Available in cylindrical, Weldon, modular and arbor (with differential tooth pitch) style. Body treated for longer tool life.

ECON LN

KAPR	90°
APMX	9.0 mm



Product	DC (mm)	OAL (mm)	DCON MS (mm)	DCCB (mm)	LU (mm)	LF (mm)	TDZ (mm)	KWW (mm)	KWD (mm)	GAMF (°)	GAMP (°)	max.	kg	G1205	SQ340	AC001	AC002	AC003	
																			ISO 6462 DIN 8030
25A2R034A25-SLN12-C	25	170	25	-	34	-	-	-	-	-23	-8	2	-	19500	✓	0.58	G1205	SQ340	-
25A2R080A25-SLN12-C	25	170	25	-	80	-	-	-	-	-23	-8	2	-	19500	✓	0.54	G1205	SQ340	-
32A2R034A32-SLN12-C	32	195	32	-	34	-	-	-	-	-15	-6	2	-	17300	✓	1.05	G1205	SQ340	-
32A2R090A32-SLN12-C	32	195	32	-	90	-	-	-	-	-15	-6	2	-	17300	✓	0.98	G1205	SQ340	-
25A2R042B25-SLN12-C	25	99	25	-	42	-	-	-	-	-23	-8	2	-	19500	✓	0.30	G1205	SQ340	-
32A3R042B32-SLN12-C	32	103	32	-	42	-	-	-	-	-15	-6	3	-	17300	✓	0.50	G1205	SQ340	-
40A4R050B32-SLN12-C	40	111	32	-	50	-	-	-	-	-15	-6	4	✓	15500	✓	0.62	G1205	SQ340	-
25A2R033M12-SLN12-C	25	55	12.5	-	-	33	-	-	-	-22	-6	2	-	-	✓	0.11	G1205	SQ340	-
32A2R043M16-SLN12-C	32	66	17	-	-	43	-	-	-	-15	-6	2	-	-	✓	0.22	G1205	SQ340	-
32A3R043M16-SLN12-C	32	66	17	-	-	43	-	-	-	-15	-6	3	-	-	✓	0.22	G1205	SQ340	-
40A3R043M16-SLN12-C	40	66	17	-	-	43	-	-	-	-15	-6	3	-	-	✓	0.28	G1205	SQ340	-
40A04R-S90LN12-C	40	-	16	14	-	40	-	8.4	5.6	-15	-6	4	✓	15500	✓	0.33	G1205	SQ342	-
50A04R-S90LN12-C	50	-	22	18	-	40	-	10.4	6.3	-14.5	-6	4	✓	13800	✓	0.47	G1205	SQ343	-
50A05R-S90LN12-C	50	-	22	18	-	40	-	10.4	6.3	-14.5	-6	5	✓	13800	✓	0.40	G1205	SQ343	-
63A04R-S90LN12-C	63	-	22	18	-	40	-	10.4	6.3	-14	-6	4	✓	12300	✓	0.55	G1205	SQ343	-
63A06R-S90LN12-C	63	-	22	18	-	40	-	10.4	6.3	-14	-6	6	✓	12300	✓	0.50	G1205	SQ343	-
80A05R-S90LN12-C	80	-	27	38	-	50	-	12.4	7	-14	-6	5	✓	10900	✓	1.16	G1205	SQ341	AC001
80A07R-S90LN12-C	80	-	27	38	-	50	-	12.4	7	-14	-6	7	✓	10900	✓	1.11	G1205	SQ341	AC001
100A06R-S90LN12-C	100	-	32	45	-	50	-	14.4	8	-14	-6	6	✓	9800	✓	1.78	G1205	SQ341	AC002
100A08R-S90LN12-C	100	-	32	45	-	50	-	14.4	8	-14	-6	8	✓	9800	✓	1.93	G1205	SQ341	AC002
110A06R-S90LN12-C	110	-	32	45	-	50	-	14.4	8	-14	-6	6	✓	9300	✓	2.09	G1205	SQ341	AC002
125A07R-S90LN12-C	125	-	40	56	-	63	-	16.4	9	-14	-6	7	✓	8700	✓	3.40	G1205	SQ341	AC003
125A09R-S90LN12-C	125	-	40	56	-	63	-	16.4	9	-14	-6	9	✓	8700	✓	3.35	G1205	SQ341	AC003

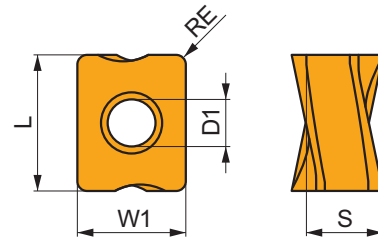
SQ340	US 44012-T15P	3.5	M 4	12	–	–	Flag T15P	–
SQ341	US 44012-T15P	3.5	M 4	12	D-T08P/T15P	FG-15	–	–
SQ342	US 44012-T15P	3.5	M 4	12	D-T08P/T15P	FG-15	–	HS 0830C
SQ343	US 44012-T15P	3.5	M 4	12	D-T08P/T15P	FG-15	–	HS 1030C

AC001		KS 1230	K.FMH27
AC002		KS 1635	K.FMH32
AC003		KS 2040	K.FMH40

LNGX 12

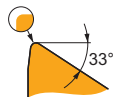


	W1	D1	L	S
	(mm)	(mm)	(mm)	(mm)
1205	9.500	4.50	12.00	5.96



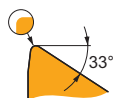
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap
	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)



F geometry with highly positive design for light machining.

LNGX 120504ER-F:8215	● 0.4	200	0.15	1.5	–	–	–	190	0.15	1.5	–	–	–	–	–	–	–	–	–
LNGX 120504ER-F:M8330	● 0.4	200	0.15	1.5	–	–	–	190	0.15	1.5	–	–	–	–	–	–	–	–	–
LNGX 120504ER-F:M8340	● 0.4	180	0.15	1.5	–	–	–	170	0.15	1.5	–	–	–	–	–	–	–	–	–
LNGX 120508ER-F:8215	● 0.8	240	0.15	1.5	–	–	–	225	0.15	1.5	–	–	–	–	–	–	–	–	–
LNGX 120508ER-F:M8310	● 0.8	260	0.15	1.5	–	–	–	245	0.15	1.5	–	–	–	–	–	–	–	–	–
LNGX 120508ER-F:M8330	● 0.8	235	0.15	1.5	–	–	–	220	0.15	1.5	–	–	–	–	–	–	–	–	–
LNGX 120508ER-F:M8340	● 0.8	215	0.15	1.5	–	–	–	200	0.15	1.5	–	–	–	–	–	–	–	–	–

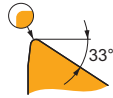


M geometry with positive design for light to medium machining.

LNGX 120504ER-M:M8330	● 0.4	185	0.15	3.0	–	–	–	175	0.15	3.0	–	–	–	–	–	–	–	–	–
LNGX 120504ER-M:M8340	● 0.4	170	0.15	3.0	–	–	–	160	0.15	3.0	–	–	–	–	–	–	–	–	–
LNGX 120508ER-M:8215	● 0.8	220	0.15	3.0	–	–	–	205	0.15	3.0	–	–	–	–	–	–	–	–	–
LNGX 120508ER-M:M8310	● 0.8	240	0.15	3.0	–	–	–	225	0.15	3.0	–	–	–	–	–	–	–	–	–
LNGX 120508ER-M:M8330	● 0.8	220	0.15	3.0	–	–	–	205	0.15	3.0	–	–	–	–	–	–	–	–	–
LNGX 120508ER-M:M8340	● 0.8	200	0.15	3.0	–	–	–	190	0.15	3.0	–	–	–	–	–	–	–	–	–
LNGX 120508ER-M:M9315	● 0.8	300	0.15	3.0	–	–	–	285	0.15	3.0	–	–	–	–	–	–	–	–	–
LNGX 120508ER-M:M9325	● 0.8	280	0.15	3.0	–	–	–	265	0.15	3.0	–	–	–	–	–	–	–	–	–
LNGX 120508ER-M:M9340	● 0.8	250	0.15	3.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
LNGX 120510ER-M:M8330	● 1.0	230	0.15	3.0	–	–	–	215	0.15	3.0	–	–	–	–	–	–	–	–	–
LNGX 120512ER-M:M8330	● 1.2	230	0.15	3.0	–	–	–	215	0.15	3.0	–	–	–	–	–	–	–	–	–

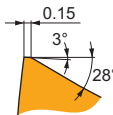
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



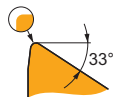
M geometry with positive design for light to medium machining.

LNGX 120512ER-M:M8340	1.2	210	0.15	3.0	–	–	–	195	0.15	3.0	–	–	–	–	–	–	–	–	–
LNGX 120516ER-M:M8330	1.6	240	0.15	3.0	–	–	–	225	0.15	3.0	–	–	–	–	–	–	–	–	–
LNGX 120516ER-M:M8340	1.6	220	0.15	3.0	–	–	–	205	0.15	3.0	–	–	–	–	–	–	–	–	–
LNGX 120520ER-M:M8310	2.0	280	0.15	3.0	–	–	–	265	0.15	3.0	–	–	–	–	–	–	–	–	–
LNGX 120520ER-M:M8330	2.0	255	0.15	3.0	–	–	–	240	0.15	3.0	–	–	–	–	–	–	–	–	–
LNGX 120520ER-M:M8340	2.0	230	0.15	3.0	–	–	–	215	0.15	3.0	–	–	–	–	–	–	–	–	–



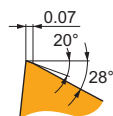
R geometry with positive design for unstable cutting conditions.

LNGX 120508SR-R:8215	0.8	205	0.20	3.5	–	–	–	190	0.20	3.5	–	–	–	–	–	–	–	–	–
LNGX 120508SR-R:M5315	0.8	265	0.20	3.5	–	–	–	250	0.20	3.5	–	–	–	–	–	–	–	–	–
LNGX 120508SR-R:M8310	0.8	220	0.20	3.5	–	–	–	205	0.20	3.5	–	–	–	–	–	–	–	–	–
LNGX 120508SR-R:M8330	0.8	205	0.20	3.5	–	–	–	190	0.20	3.5	–	–	–	–	–	–	–	–	–
LNGX 120508SR-R:M8340	0.8	185	0.20	3.5	–	–	–	175	0.20	3.5	–	–	–	–	–	–	–	–	–
LNGX 120508SR-R:M9315	0.8	265	0.20	3.5	–	–	–	250	0.20	3.5	–	–	–	–	–	–	–	–	–
LNGX 120508SR-R:M9325	0.8	250	0.20	3.5	–	–	–	235	0.20	3.5	–	–	–	–	–	–	–	–	–
LNGX 120508SR-R:M9340	0.8	225	0.20	3.5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
LNGX 120516SR-R:8215	1.6	225	0.20	3.5	–	–	–	210	0.20	3.5	–	–	–	–	–	–	–	–	–
LNGX 120516SR-R:M8330	1.6	225	0.20	3.5	–	–	–	210	0.20	3.5	–	–	–	–	–	–	–	–	–
LNGX 120516SR-R:M8340	1.6	205	0.20	3.5	–	–	–	190	0.20	3.5	–	–	–	–	–	–	–	–	–
LNGX 120516SR-R:M9325	1.6	275	0.20	3.5	–	–	–	260	0.20	3.5	–	–	–	–	–	–	–	–	–



MF geometry with highly positive design for light machining.

LNGX 120504ER-MF:M6330	0.4	175	0.15	1.0	125	0.14	1.0	–	–	–	–	–	–	–	–	–	–	–	–
LNGX 120504ER-MF:M9340	0.4	240	0.15	1.0	140	0.14	1.0	–	–	–	–	–	–	–	–	–	–	–	–
LNGX 120508ER-MF:M6330	0.8	210	0.15	1.0	150	0.14	1.0	–	–	–	–	–	–	–	–	–	–	–	–
LNGX 120508ER-MF:M8340	0.8	225	0.15	1.0	135	0.14	1.0	–	–	–	–	–	–	–	–	–	–	–	–
LNGX 120508ER-MF:M9340	0.8	285	0.15	1.0	170	0.14	1.0	–	–	–	–	–	–	–	–	–	–	–	–



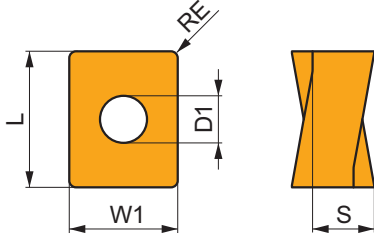
MM geometry with positive design for light to medium machining.

LNGX 120508SR-MM:M6330	0.8	190	0.15	2.8	135	0.14	2.8	–	–	–	–	–	–	–	–	–	–	–	–
LNGX 120508SR-MM:M8340	0.8	200	0.15	2.8	120	0.14	2.8	–	–	–	–	–	–	–	–	–	–	–	–
LNGX 120508SR-MM:M8345	0.8	160	0.15	2.8	95	0.14	2.8	–	–	–	–	–	–	–	–	–	–	–	–
LNGX 120508SR-MM:M9340	0.8	255	0.15	2.8	150	0.14	2.8	–	–	–	–	–	–	–	–	–	–	–	–

LNGU 12



	W1 (mm)	D1 (mm)	L (mm)	S (mm)
1205	9.500	4.50	12.00	5.96



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



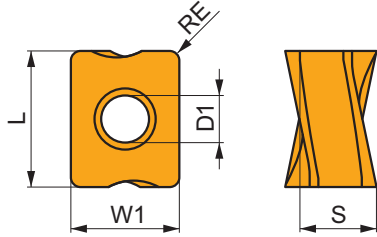
M geometry with positive design for medium machining.

LNGU 120525ER-M:M8330	2.5	255	0.15	3.0	—	—	—	240	0.15	3.0	—	—	—	—	—	—	—	—	—
LNGU 120525ER-M:M8340	2.5	230	0.15	3.0	—	—	—	215	0.15	3.0	—	—	—	—	—	—	—	—	—
LNGU 120530ER-M:M8330	3.0	255	0.15	3.0	—	—	—	240	0.15	3.0	—	—	—	—	—	—	—	—	—
LNGU 120530ER-M:M8340	3.0	230	0.15	3.0	—	—	—	215	0.15	3.0	—	—	—	—	—	—	—	—	—

LNGX 12-FA

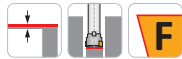
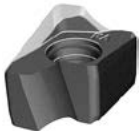


	W1 (mm)	D1 (mm)	L (mm)	S (mm)
1205	9.500	4.50	12.00	5.96



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



FA geometry with highly positive design for fine-finish to medium machining.

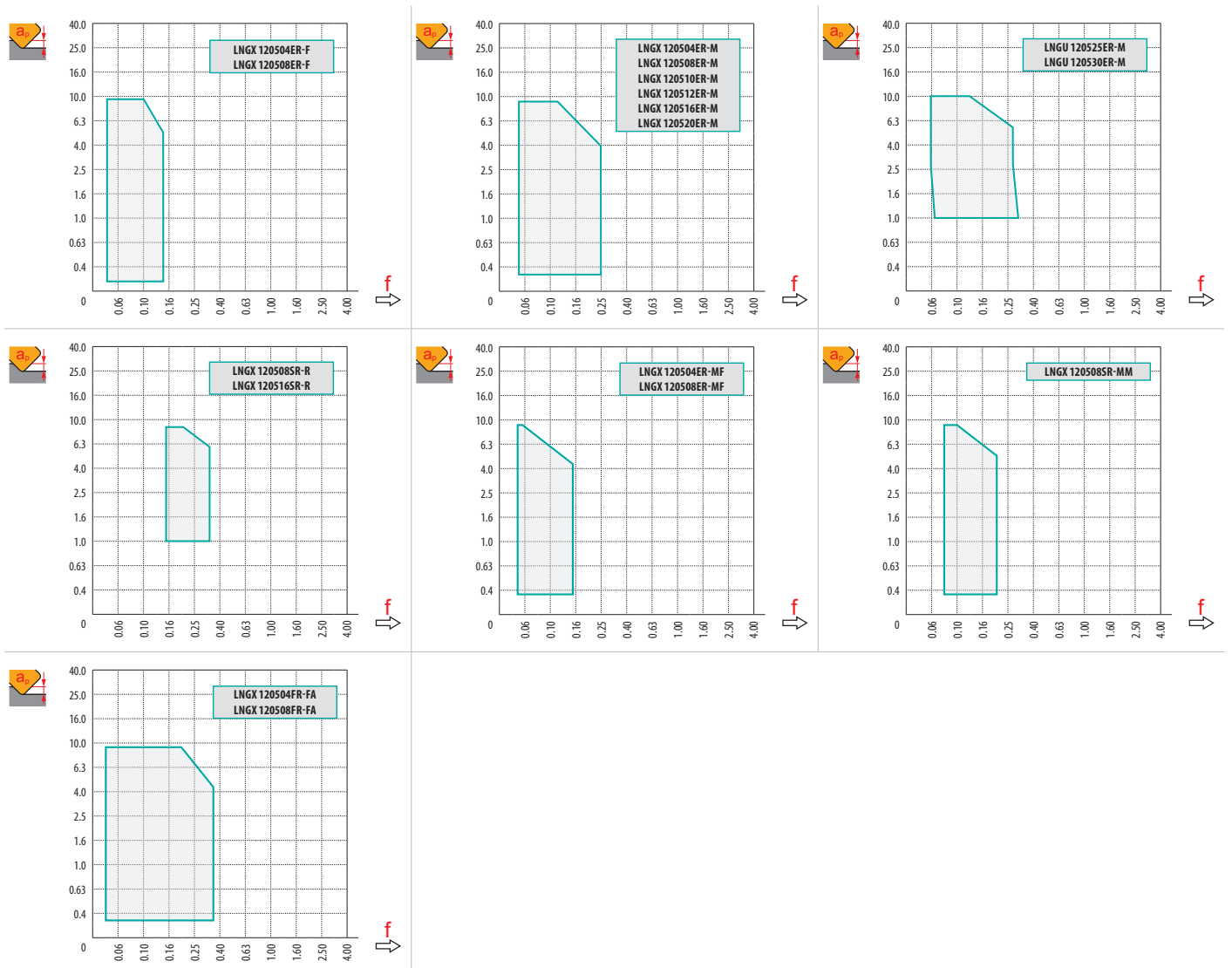
LNGX 120504FR-FA:HF7	0.4	—	—	—	—	—	—	—	—	—	270	0.30	2.0	—	—	—	—	—	—
LNGX 120508FR-FA:HF7	0.8	—	—	—	—	—	—	—	—	—	315	0.30	2.0	—	—	—	—	—	—
LNGX 120508FR-FA:M0315	0.8	—	—	—	—	—	—	—	—	—	720	0.30	2.0	—	—	—	—	—	—

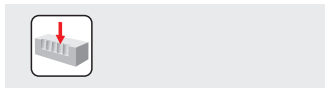


a_e / DC	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

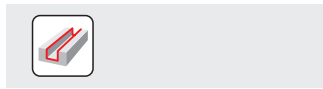
	LNGX 12-F		LNGX 12-M						LNGU 12-M	
	0.4	0.8	0.4	0.8	1.0	1.2	1.6	2.0	2.5	3.0
	2.29	1.89	2.29	1.89	1.69	1.49	1.09	0.68	0.87	0.36

	LNGX 12-R		LNGX 12-MF		LNGX 12-MM	LNGX 12-FA	
	0.8	1.6	0.4	0.8	0.8	0.4	0.8
	1.88	1.08	2.28	1.88	1.88	2.30	1.89

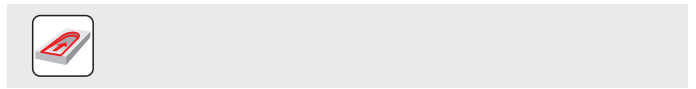




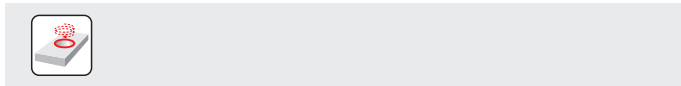
max
3.5



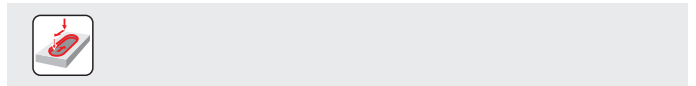
	1.0	5.0	9.0
	0.19	0.13	0.08



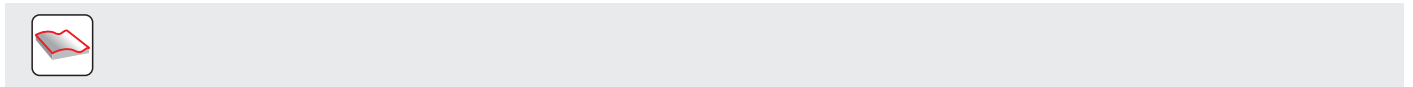
LNGX 12		
	RPMX	APMX/II
25	1.3°	2.1/100
32	0.7°	1.1/100
40	0.5°	0.7/100
50	0.4°	0.5/100
63	0.2°	0.3/100
80	0.2°	0.2/100



LNGX 12				
	DMIN	DMAX		
			DMIN	DMAX
25	35.0	50.0	0.7	1.7
32	49.0	64.0	0.6	1.2
40	65.0	80.0	0.6	1.0
50	85.0	100.0	0.7	1.0
63	111.0	126.0	0.6	0.8
80	145.0	160.0	0.7	0.8



0.2



		3	5	10	15	20	30	40	50	60	80	100
25		0.548	0.707	1.000	1.225	1.414	1.732	2.000	2.236	2.449	2.828	3.162
32		0.620	0.800	1.131	1.386	1.600	1.960	2.263	2.530	2.771	3.200	3.578
40		0.693	0.894	1.265	1.549	1.789	2.191	2.530	2.828	3.098	3.578	4.000
50		0.775	1.000	1.414	1.732	2.000	2.449	2.828	3.162	3.464	4.000	4.472
63		0.869	1.122	1.587	1.944	2.245	2.750	3.175	3.550	3.888	4.490	5.020
80	0.980	1.265	1.789	2.191	2.530	3.098	3.578	4.000	4.382	5.060	5.657	

		3	5	10	15	20	30	40	50	60	80	100
1.6		0.196	0.253	0.358	0.438	0.506	0.620	0.716	0.800	0.876	1.012	1.131
2.0		0.219	0.283	0.400	0.490	0.566	0.693	0.800	0.894	0.980	1.131	1.265
2.5		0.245	0.316	0.447	0.548	0.632	0.775	0.894	1.000	1.095	1.265	1.414
3.0		0.268	0.346	0.490	0.600	0.693	0.849	0.980	1.095	1.200	1.386	1.549

SLN16

P **K** **N** **H**

PRAMET

S

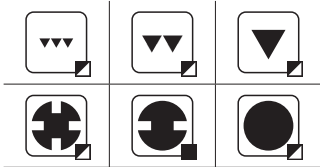
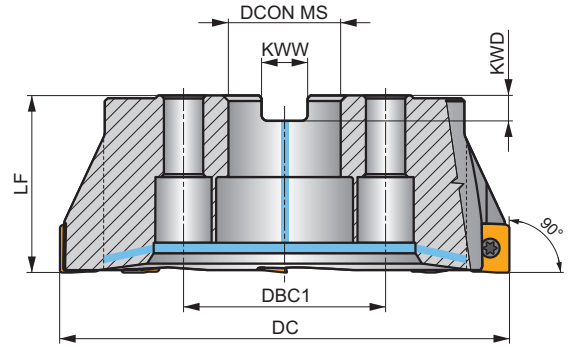
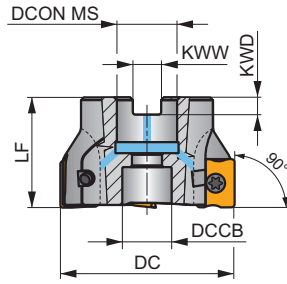
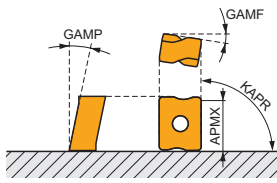


ECON LN16 Square Shoulder Mill with Internal Coolant

90° shell mill utilising double sided LN.. 16 inserts with APMX of 13 mm. Suitable for a wide range of applications. Available in arbor style with differential tooth pitch. Body treated for longer tool life.

ECON LN

KAPR	90°
APMX	13.0 mm



0.08 - 0.2



Product	DC	LF	DCON MS	DCCB	DBC1	KWW	KWD	GAMF	GAMP								
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)								
63A04R-S90LN16-C	63	40	22	18	-	10.4	6.3	-10.5	-6	4	✓	7600	✓	0.46	GI207	SQ353	-
63A05R-S90LN16-C	63	40	22	18	-	10.4	6.3	-10.5	-6	5	✓	7600	✓	0.46	GI207	SQ353	-
80A04R-S90LN16-C	80	50	27	38	-	12.4	7	-10.5	-6	4	✓	6800	✓	0.98	GI207	SQ351	AC001
80A06R-S90LN16-C	80	50	27	38	-	12.4	7	-10.5	-6	6	✓	6800	✓	0.89	GI207	SQ351	AC001
100A05R-S90LN16-C	100	50	32	45	-	14.4	8	-10.5	-6	5	✓	6100	✓	0.98	GI207	SQ351	AC002
100A07R-S90LN16-C	100	50	32	45	-	14.4	8	-10.5	-6	7	✓	6100	✓	1.78	GI207	SQ351	AC002
125A06R-S90LN16-C	125	63	40	56	-	16.4	9	-10.5	-6	6	✓	5400	✓	3.39	GI207	SQ351	AC003
125A08R-S90LN16-C	125	63	40	56	-	16.4	9	-10.5	-6	8	✓	5400	✓	3.28	GI207	SQ351	AC003
140A06R-S90LN16-C	140	63	40	56	-	16.4	9	-10.5	-6	6	✓	5100	✓	3.91	GI207	SQ351	AC003
160C08R-S90LN16-C	160	63	40	-	66.7	16.4	9	-10.5	-6	8	✓	4700	✓	6.19	GI207	SQ356	-
175C08R-S90LN16-C	175	63	40	-	66.7	16.4	9	-10.5	-6	8	✓	4500	✓	7.11	GI207	SQ356	-

GI207	LNMU 1607..	LNGU 1607..

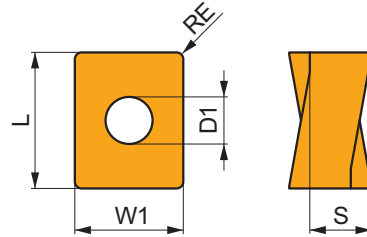
SQ351	US 45012-T20P	5.0	M 5	12	SDR T20P-T	-	-	-	-
SQ353	US 45012-T20P	5.0	M 5	12	SDR T20P-T	HS 1030C	-	-	-
SQ356	US 45012-T20P	5.0	M 5	12	SDR T20P-T	HS 1240C	CAC 160C	HSD 0825C	HXK 5

AC001	KS 1230	K.FMH27
AC002	KS 1635	K.FMH32
AC003	KS 2040	K.FMH40

LNGU 16

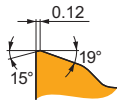
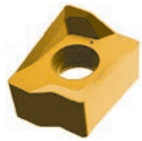


	W1	D1	L	S
	(mm)	(mm)	(mm)	(mm)
1607	13.200	5.70	16.60	7.50



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



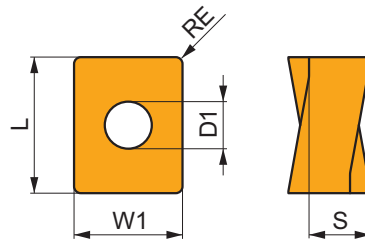
M geometry with highly positive design for medium machining.

LNGU 160708SR-M:8215	0.8	200	0.18	5.0	—	—	—	190	0.18	5.0	—	—	—	—	—	—	40	0.12	1.0
LNGU 160708SR-M:M8340	0.8	180	0.18	5.0	—	—	—	170	0.18	5.0	—	—	—	—	—	—	—	—	—
LNGU 160708SR-M:M9315	0.8	265	0.18	5.0	—	—	—	250	0.18	5.0	—	—	—	—	—	—	50	0.12	1.0
LNGU 160708SR-M:M9325	0.8	250	0.18	5.0	—	—	—	235	0.18	5.0	—	—	—	—	—	—	50	0.12	1.0

LNMU 16



	W1	D1	L	S
	(mm)	(mm)	(mm)	(mm)
1607	13.200	5.70	16.60	7.50



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)

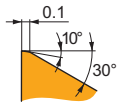


F geometry with highly positive design for light machining.

LNMU 160708ER-F:M8330	0.8	230	0.16	1.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LNMU 160708ER-F:M8340	0.8	210	0.16	1.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

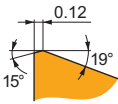
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



M geometry with positive design for medium machining.

LNMU 160708SR-M:8215	0.8	200	0.18	5.0	-	-	-	190	0.18	5.0	-	-	-	-	-	-	-	-
LNMU 160708SR-M:M6330	0.8	170	0.18	5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LNMU 160708SR-M:M8330	0.8	200	0.18	5.0	-	-	-	190	0.18	5.0	-	-	-	-	-	-	-	-
LNMU 160708SR-M:M8340	0.8	180	0.18	5.0	-	-	-	170	0.18	5.0	-	-	-	-	-	-	-	-
LNMU 160708SR-M:M9325	0.8	250	0.18	5.0	-	-	-	235	0.18	5.0	-	-	-	-	-	-	-	-
LNMU 160720SR-M:M8330	2.0	230	0.18	5.0	-	-	-	215	0.18	5.0	-	-	-	-	-	-	-	-
LNMU 160720SR-M:M8340	2.0	210	0.18	5.0	-	-	-	195	0.18	5.0	-	-	-	-	-	-	-	-
LNMU 160730SR-M:M8330	3.0	230	0.18	5.0	-	-	-	215	0.18	5.0	-	-	-	-	-	-	-	-
LNMU 160730SR-M:M8340	3.0	210	0.18	5.0	-	-	-	195	0.18	5.0	-	-	-	-	-	-	-	-
LNMU 160740SR-M:M8340	4.0	210	0.18	5.0	-	-	-	195	0.18	5.0	-	-	-	-	-	-	-	-



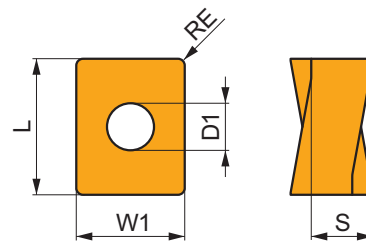
R geometry with positive stable design for medium machining.

LNMU 160708SR-R:M5315	0.8	265	0.18	6.3	-	-	-	250	0.18	6.3	-	-	-	-	-	50	0.12	1.0
LNMU 160708SR-R:M8330	0.8	195	0.18	6.3	-	-	-	185	0.18	6.3	-	-	-	-	35	0.12	1.0	-
LNMU 160708SR-R:M8340	0.8	175	0.18	6.3	-	-	-	165	0.18	6.3	-	-	-	-	-	-	-	-
LNMU 160708SR-R:M9315	0.8	260	0.18	6.3	-	-	-	245	0.18	6.3	-	-	-	-	50	0.12	1.0	-
LNMU 160708SR-R:M9325	0.8	240	0.18	6.3	-	-	-	225	0.18	6.3	-	-	-	-	45	0.12	1.0	-
LNMU 160716SR-R:M8330	1.6	215	0.18	6.3	-	-	-	200	0.18	6.3	-	-	-	-	40	0.12	1.1	-
LNMU 160716SR-R:M8340	1.6	195	0.18	6.3	-	-	-	185	0.18	6.3	-	-	-	-	-	-	-	-
LNMU 160716SR-R:M9315	1.6	285	0.18	6.3	-	-	-	270	0.18	6.3	-	-	-	-	55	0.12	1.1	-
LNMU 160716SR-R:M9325	1.6	265	0.18	6.3	-	-	-	250	0.18	6.3	-	-	-	-	50	0.12	1.1	-

LNGU 16-FA



	W1 (mm)	D1 (mm)	L (mm)	S (mm)
1607	13.200	5.70	16.60	7.50



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



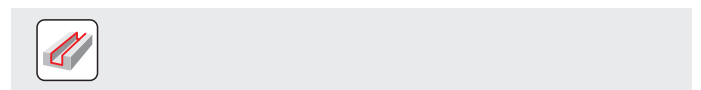
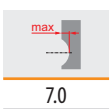
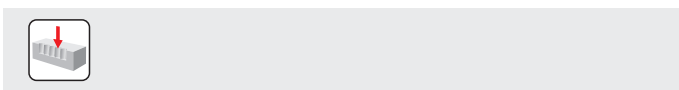
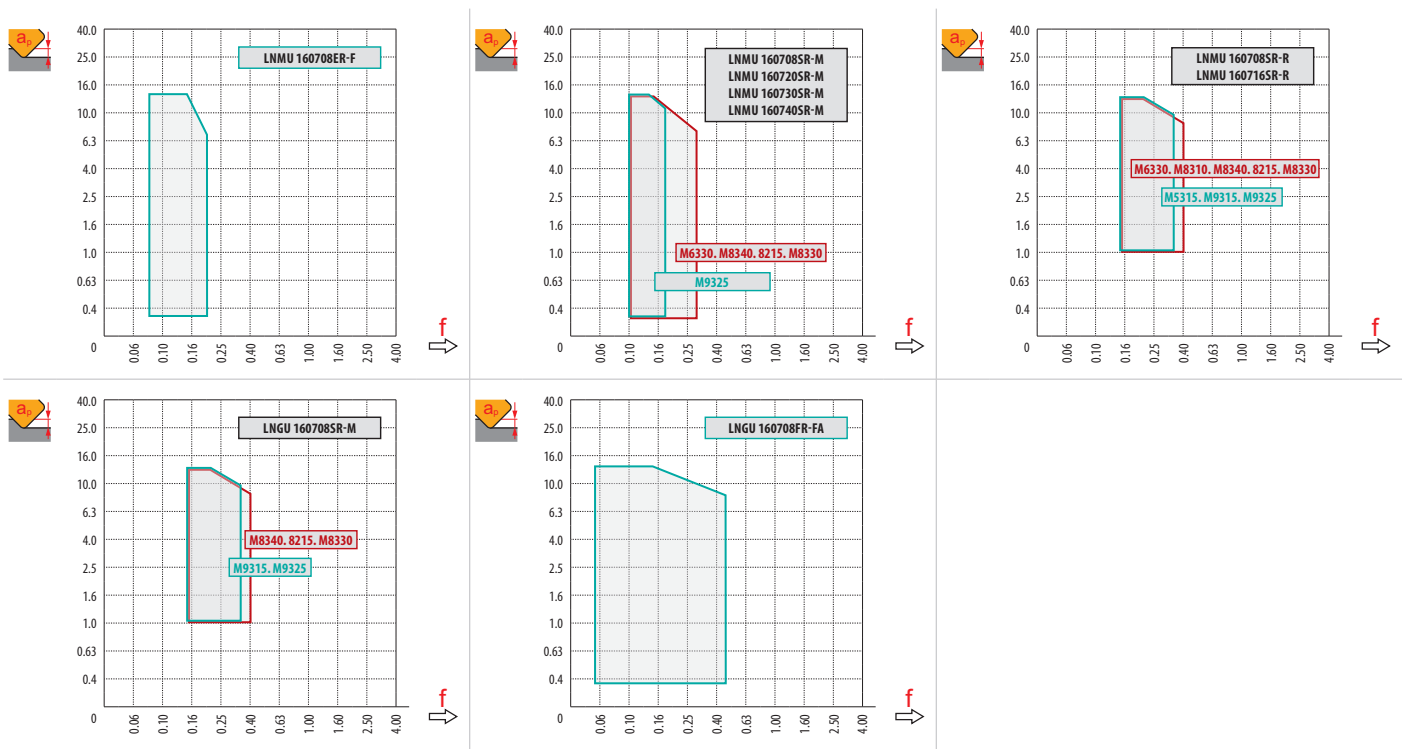
FA geometry with highly positive design for fine-finish to medium machining.

LNGU 160708FR-FA:HF7	0.8	-	-	-	-	-	-	-	-	-	300	0.30	3.0	-	-	-	-	-
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a_e / DC	5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	90%	100%
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	LNMU 16-F	LNMU 16-M			LNMU 16-R		LNGU 16-M	LNGU 16-FA	
	0.8	0.8	2.0	3.0	4.0	0.8	1.6	0.8	0.8
	3.30	3.30	2.11	1.12	0.10	3.30	2.50	3.24	3.30



	1.0	6.0	13.0
	0.31	0.24	0.13

SLN12X



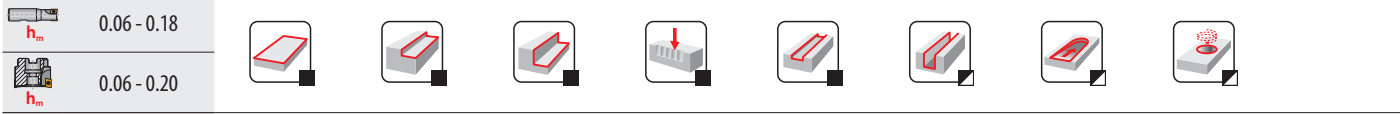
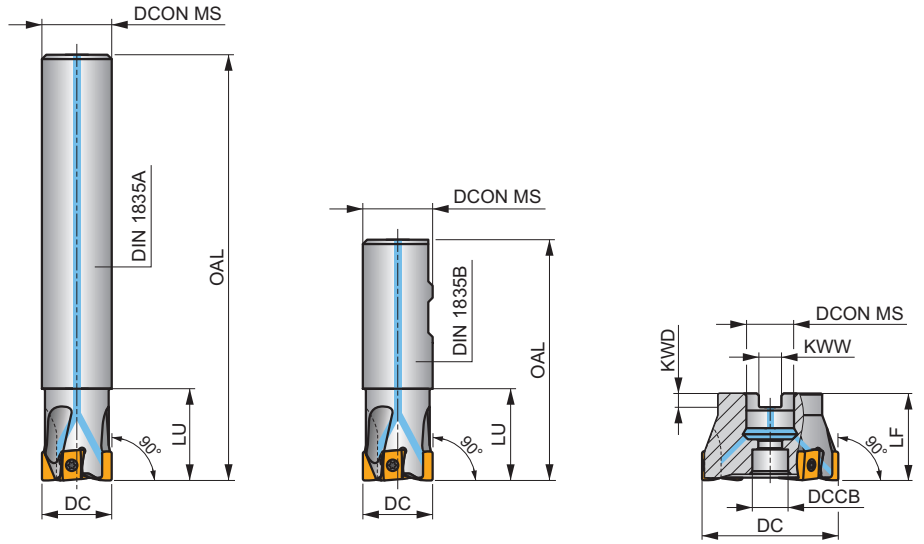
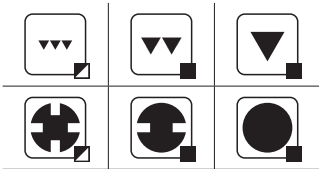
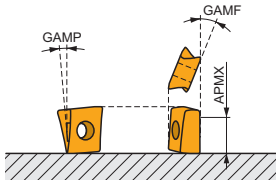
PRAMET



PROD LN12 90° Tangential Square Shoulder Mill with Internal Coolant

90° end and shell mills utilising tangential LNEX 12 insert with four cutting edges and APMX of 10 mm. Suited for a wide range of applications. Available in cylindrical, weldon and arbor style. Robust cutter body supports long tool life and excellent breakage resistance.

KAPR	90°
APMX	10.0 mm



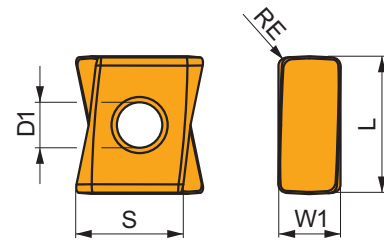
Product	DC	OAL	DCON MS	DCCB	LU	LF	KWW	KWD	GAMP	GAMP					kg		
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)							
25A2R042A25-SLN12X-C	25	170	25	-	42	-	-	-	-30	-5	2	-	17300	✓	0.55	GI206	C0382
25A2R080A25-SLN12X-C	25	170	25	-	80	-	-	-	-30	-5	2	-	17300	✓	0.50	GI206	C0382
32A3R042A32-SLN12X-C	32	195	32	-	42	-	-	-	-22.5	-5	3	-	15300	✓	1.08	GI206	SQ340
32A3R090A32-SLN12X-C	32	195	32	-	90	-	-	-	-22.5	-5	3	-	15300	✓	1.02	GI206	SQ340
40A4R050A32-SLN12X-C	40	195	32	-	50	-	-	-	-22.5	-5	4	-	13700	✓	1.17	GI206	SQ340
25A2R042B25-SLN12X-C	25	100	25	-	42	-	-	-	-30	-5	2	-	17300	✓	0.29	GI206	C0382
32A3R042B32-SLN12X-C	32	110	32	-	42	-	-	-	-22.5	-5	3	-	15300	✓	0.58	GI206	SQ340
40A4R050B32-SLN12X-C	40	120	32	-	50	-	-	-	-22.5	-5	4	-	13700	✓	0.73	GI206	SQ340
40A03R-S90LN12X-C	40	-	16	12.4	-	40	8.4	5.6	-22.5	-5	3	-	13700	✓	0.15	GI206	SQ345
40A04R-S90LN12X-C	40	-	16	12.4	-	40	8.4	5.6	-22.5	-5	4	✓	13700	✓	0.23	GI206	SQ345
50A05R-S90LN12X-C	50	-	22	16.5	-	40	10.4	6.3	-19.5	-5	5	-	12300	✓	0.34	GI206	SQ343
50A06R-S90LN12X-C	50	-	22	16.5	-	40	10.4	6.3	-19.5	-5	6	-	12300	✓	0.34	GI206	SQ343
52A05R-S90LN12X-C	52	-	22	16.5	-	40	10.4	6.3	-19.5	-5	5	-	12300	✓	0.37	GI206	SQ343
63A06R-S90LN12X-C	63	-	22	16.5	-	40	10.4	6.3	-19.5	-5	6	✓	10900	✓	0.61	GI206	SQ343
63A08R-S90LN12X-C	63	-	22	16.5	-	40	10.4	6.3	-19.5	-5	8	-	10900	✓	0.50	GI206	SQ343
66A06R-S90LN12X-C	66	-	22	16.5	-	40	10.4	6.3	-19.5	-5	6	✓	10900	✓	0.54	GI206	SQ343
80A07R-S90LN12X-C	80	-	27	38.1	-	50	12.4	7	-19.5	-5	7	✓	9700	✓	1.00	GI206	SQ341
80A10R-S90LN12X-C	80	-	27	38.1	-	50	12.4	7	-19.5	-5	10	-	9700	✓	0.98	GI206	SQ341
100A08R-S90LN12X-C	100	-	32	45.1	-	50	14.4	8	-17.5	-5	8	✓	8700	✓	1.90	GI206	SQ341
100A11R-S90LN12X-C	100	-	32	45.1	-	50	14.4	8	-17.5	-5	11	-	8700	✓	1.88	GI206	SQ341
125A12R-S90LN12X-C	125	-	40	56.1	-	63	16.4	9	-17.5	-5	12	✓	7800	✓	3.39	GI206	SQ341

C0382	US 44010-T15P	3.5	M 4	10	–	–	–	Flag T15P	–
SQ340	US 44012-T15P	3.5	M 4	12	–	–	–	Flag T15P	–
SQ341	US 44012-T15P	3.5	M 4	12	D-T08P/T15P	FG-15	–	–	–
SQ343	US 44012-T15P	3.5	M 4	12	D-T08P/T15P	FG-15	–	–	HS 1030C
SQ345	US 44012-T15P	3.5	M 4	12	D-T08P/T15P	FG-15	–	–	HS 90835

LNEX 12

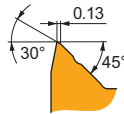


	W1	D1	L	S
	(mm)	(mm)	(mm)	(mm)
1210	6.000	4.40	13.30	10.26



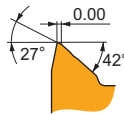
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap
		(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)



F geometry is sharp and used for light and medium machining, suitable for large overhang applications. Designed with highly positive rake, narrow T-land and rounding of cutting edge for light to medium machining.

LNEX 121008SR-F:M6330	✳ 0.8	■ 220	■ 0.17	■ 3.0	■ 155	■ 0.15	■ 3.0	■ –	■ –	■ –	■ –	■ –	■ –	■ –	■ –	■ –	■ –	■ –	■ –
LNEX 121008SR-F:M8310	✳ 0.8	■ 280	■ 0.17	■ 3.0	■ 140	■ 0.15	■ 3.0	■ 265	■ 0.17	■ 3.0	■ –	■ –	■ –	■ –	■ –	■ –	■ 55	■ 0.11	■ 1.0
LNEX 121008SR-F:M8330	✳ 0.8	■ 260	■ 0.17	■ 3.0	■ 155	■ 0.15	■ 3.0	■ 245	■ 0.17	■ 3.0	■ –	■ –	■ –	■ –	■ –	■ –	■ 50	■ 0.11	■ 1.0
LNEX 121008SR-F:M8340	✳ 0.8	■ 235	■ 0.17	■ 3.0	■ 140	■ 0.15	■ 3.0	■ 220	■ 0.17	■ 3.0	■ –	■ –	■ –	■ –	■ –	■ –	■ –	■ –	■ –
LNEX 121012SR-F:M6330	✳ 1.2	■ 230	■ 0.17	■ 3.0	■ 165	■ 0.15	■ 3.0	■ –	■ –	■ –	■ –	■ –	■ –	■ –	■ –	■ –	■ –	■ –	■ –
LNEX 121012SR-F:M8310	✳ 1.2	■ 295	■ 0.17	■ 3.0	■ 150	■ 0.15	■ 3.0	■ 280	■ 0.17	■ 3.0	■ –	■ –	■ –	■ –	■ –	■ –	■ 55	■ 0.11	■ 1.0
LNEX 121012SR-F:M8330	✳ 1.2	■ 270	■ 0.17	■ 3.0	■ 160	■ 0.15	■ 3.0	■ 255	■ 0.17	■ 3.0	■ –	■ –	■ –	■ –	■ –	■ –	■ 50	■ 0.11	■ 1.0



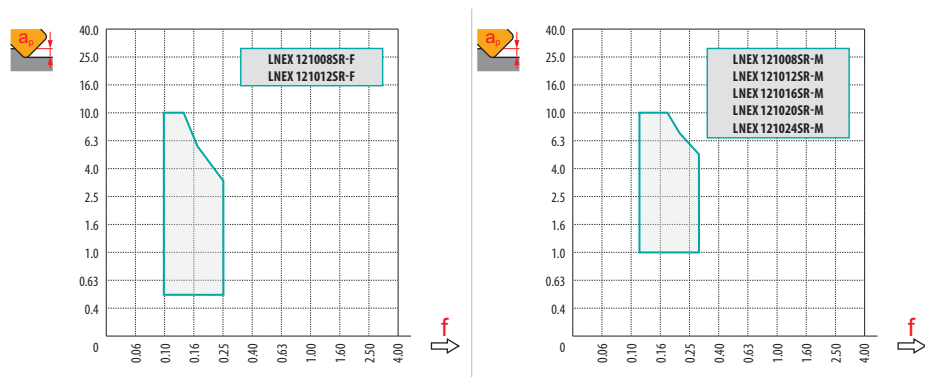
M geometry is versatile and the first choice for a wide range of working conditions. Designed with positive rake, medium T-land and rounding of cutting edge for medium up to semi-roughing machining.

LNEX 121008SR-M:M6330	✳ 0.8	■ 210	■ 0.20	■ 3.5	■ –	■ –	■ –	■ –	■ –	■ –	■ –	■ –	■ –	■ –	■ –	■ –	■ –	■ –	■ –
LNEX 121008SR-M:M8310	✳ 0.8	■ 265	■ 0.20	■ 3.5	■ –	■ –	■ –	■ 250	■ 0.20	■ 3.5	■ –	■ –	■ –	■ –	■ –	■ –	■ 50	■ 0.16	■ 1.0
LNEX 121008SR-M:M8330	✳ 0.8	■ 245	■ 0.20	■ 3.5	■ –	■ –	■ –	■ 230	■ 0.20	■ 3.5	■ –	■ –	■ –	■ –	■ –	■ –	■ 45	■ 0.16	■ 1.0
LNEX 121008SR-M:M8340	✳ 0.8	■ 220	■ 0.20	■ 3.5	■ –	■ –	■ –	■ 205	■ 0.20	■ 3.5	■ –	■ –	■ –	■ –	■ –	■ –	■ –	■ –	■ –
LNEX 121008SR-M:M9315	✳ 0.8	■ 320	■ 0.20	■ 3.5	■ –	■ –	■ –	■ 300	■ 0.20	■ 3.5	■ –	■ –	■ –	■ –	■ –	■ –	■ 60	■ 0.16	■ 1.0
LNEX 121008SR-M:M9325	✳ 0.8	■ 300	■ 0.20	■ 3.5	■ –	■ –	■ –	■ 285	■ 0.20	■ 3.5	■ –	■ –	■ –	■ –	■ –	■ –	■ 60	■ 0.16	■ 1.0
LNEX 121008SR-M:M9340	✳ 0.8	■ 270	■ 0.20	■ 3.5	■ –	■ –	■ –	■ –	■ –	■ –	■ –	■ –	■ –	■ –	■ –	■ –	■ –	■ –	■ –
LNEX 121012SR-M:M8310	✳ 1.2	■ 280	■ 0.20	■ 3.5	■ –	■ –	■ –	■ 265	■ 0.20	■ 3.5	■ –	■ –	■ –	■ –	■ –	■ –	■ 55	■ 0.16	■ 1.0
LNEX 121012SR-M:M8330	✳ 1.2	■ 255	■ 0.20	■ 3.5	■ –	■ –	■ –	■ 240	■ 0.20	■ 3.5	■ –	■ –	■ –	■ –	■ –	■ –	■ 50	■ 0.16	■ 1.0
LNEX 121012SR-M:M8340	✳ 1.2	■ 235	■ 0.20	■ 3.5	■ –	■ –	■ –	■ 220	■ 0.20	■ 3.5	■ –	■ –	■ –	■ –	■ –	■ –	■ –	■ –	■ –
LNEX 121016SR-M:M8310	✳ 1.6	■ 295	■ 0.20	■ 3.5	■ –	■ –	■ –	■ 280	■ 0.20	■ 3.5	■ –	■ –	■ –	■ –	■ –	■ –	■ 55	■ 0.16	■ 1.0
LNEX 121016SR-M:M8330	✳ 1.6	■ 270	■ 0.20	■ 3.5	■ –	■ –	■ –	■ 255	■ 0.20	■ 3.5	■ –	■ –	■ –	■ –	■ –	■ –	■ 50	■ 0.16	■ 1.0
LNEX 121016SR-M:M8340	✳ 1.6	■ 245	■ 0.20	■ 3.5	■ –	■ –	■ –	■ 230	■ 0.20	■ 3.5	■ –	■ –	■ –	■ –	■ –	■ –	■ –	■ –	■ –
LNEX 121020SR-M:M8330	✳ 2.0	■ 285	■ 0.20	■ 3.5	■ –	■ –	■ –	■ 270	■ 0.20	■ 3.5	■ –	■ –	■ –	■ –	■ –	■ –	■ 55	■ 0.16	■ 1.0
LNEX 121020SR-M:M8340	✳ 2.0	■ 255	■ 0.20	■ 3.5	■ –	■ –	■ –	■ 240	■ 0.20	■ 3.5	■ –	■ –	■ –	■ –	■ –	■ –	■ –	■ –	■ –
LNEX 121024SR-M:M8330	✳ 2.4	■ 285	■ 0.20	■ 3.5	■ –	■ –	■ –	■ 270	■ 0.20	■ 3.5	■ –	■ –	■ –	■ –	■ –	■ –	■ 55	■ 0.16	■ 1.0
LNEX 121024SR-M:M8340	✳ 2.4	■ 255	■ 0.20	■ 3.5	■ –	■ –	■ –	■ 240	■ 0.20	■ 3.5	■ –	■ –	■ –	■ –	■ –	■ –	■ –	■ –	■ –



a_e / DC	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	LNEX 12-F		LNEX 12-M				
	0.8	1.2	0.8	1.2	1.6	2.0	2.4
	2.25	1.73	2.25	1.73	1.33	1.15	0.79









		2.0	3.0	4.0	5.0
2.5		0.30	0.20	0.20	0.15

	RPMX	APMX/I
25	0.80°	1.40/100
32	0.60°	1.00/100
40	0.35°	0.60/100
50	0.30°	0.50/100
52	0.30°	0.50/100
63	0.20°	0.35/100

	DMIN	DMAX		
25	44.0	48.0	0.6	0.7
32	58.0	62.0	0.8	1.0
40	74.0	78.0	0.7	0.8
50	94.0	98.0	0.7	0.8
52	98.0	102.0	0.7	0.8
63	120.0	124.0	0.3	0.4





























		3	5	10	15	20	30	40	50	60	80	100
25		0.548	0.707	1.000	1.225	1.414	1.732	2.000	2.236	2.449	2.828	3.162
32		0.620	0.800	1.131	1.386	1.600	1.960	2.263	2.530	2.771	3.200	3.578
40		0.693	0.894	1.265	1.549	1.789	2.191	2.530	2.828	3.098	3.578	4.000
50		0.775	1.000	1.414	1.732	2.000	2.449	2.828	3.162	3.464	4.000	4.472
52		0.869	1.122	1.587	1.944	2.245	2.750	3.175	3.550	3.888	4.490	5.020
63		0.980	1.265	1.789	2.191	2.530	3.098	3.578	4.000	4.382	5.060	5.657

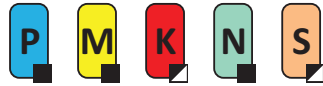
		3	5	10	15	20	30	40	50	60	80	100
0.8		0.155	0.200	0.283	0.346	0.400	0.490	0.566	0.632	0.693	0.800	0.894
1.2		0.170	0.219	0.310	0.379	0.438	0.537	0.620	0.693	0.759	0.876	0.980
1.6		0.196	0.253	0.358	0.438	0.506	0.620	0.716	0.800	0.876	1.012	1.131
2.0		0.219	0.283	0.400	0.490	0.566	0.693	0.800	0.894	0.980	1.131	1.265
2.4		0.245	0.316	0.447	0.548	0.632	0.775	0.894	1.000	1.095	1.265	1.414

SHOULDER MILLING – NAVIGATOR

SHOULDER MILLING – POSITIVE PARALLELOGRAM (A-SHAPE) INSERTS

	SAD07D		SAD11E		SAD16E		SAP10D		SAP16D																		
	90°		90°		90°		90°		90°																		
	APMX (mm)	5.0	APMX (mm)	9.0	APMX (mm)	13.0	APMX (mm)	9.0	APMX (mm)	13.0																	
	DC (mm)	10 – 32	DC (mm)	16 – 125	DC (mm)	25 – 175	DC (mm)	10 – 25	DC (mm)	25 – 125																	
Cylindrical shank		DC = 10 – 25 (mm)		DC = 16 – 35 (mm)		DC = 25, 32 (mm)																					
Weldon				DC = 16 – 32 (mm)		DC = 25 – 40 (mm)		DC = 10 – 25 (mm)		DC = 25 – 40 (mm)																	
Modular		DC = 12 – 32 (mm)		DC = 16 – 40 (mm)		DC = 32, 40 (mm)																					
Shell mill				DC = 40 – 125 (mm)		DC = 40 – 175 (mm)				DC = 40 – 125 (mm)																	
Page	90		97		106		114		117																		
ISO	P	M	K	N	S	P	M	K	N	S	H	P	M	K	N	S	H	P	M	K	N	S	P	M	K	N	S
Insert shape																											
Inserts	AD.X 0702		AD.X 11T3		AD.X 1606		APKT 1003		APT 1604																		
No. of cutting edges	2		2		2		2		2																		
Shallow shoulder milling 	■		■		■		■		■																		
Helical interpolation 	■		■		■		■		■																		
Shallow slot milling 	■		■		■		■		■																		
Plunge milling 	■		■		■		■		■																		
Progressive plunging 	■		■		■		■		■																		
Ramping 	■		■		■		■		■																		
Face milling 	▣		▣		▣		▣		▣																		
Shape surfaces milling (copy milling) 	▣		■		■																						

SAD07D



PRAMET

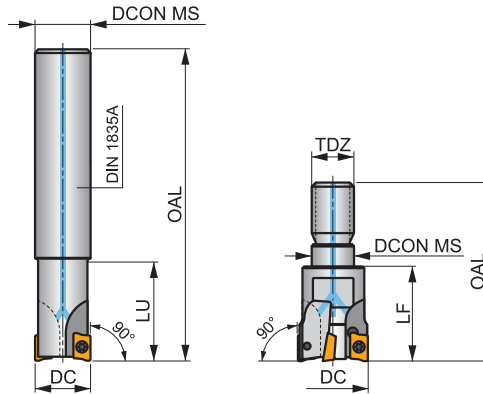
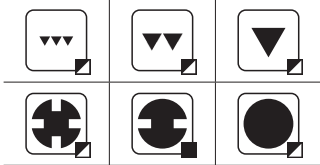
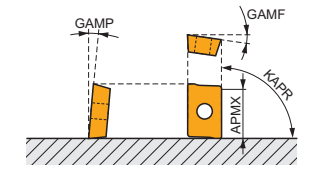


FORCE AD07 Square Shoulder Mill with Internal Coolant

90° end mill utilizing positive AD.. 07 style insert with APMX of 5 mm. Suitable for applications, including face, shoulder, slot, helical, trochoidal, ramping and plunge milling. Available in cylindrical and modular style and with differential tooth pitch. Body treated for longer tool life.

FORCE AD

KAPR	90°
APMX	5.0 mm



h_m 0.03 - 0.08



Product	DC	OAL	DCON MS	LU	LF	TDZ	GAMF	GAMP							
	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)								
10A2R016A08-SAD07D-C	10	100	8	16	-	-	-12	8	2	-	61600	✓	0.05	GI276	SQ010
10A2R016A10-SAD07D-C	10	80	10	16	-	-	-12	8	2	-	61600	✓	0.05	GI276	SQ010
10A2R018A08-SAD07D-CF	10	100	8	18	-	-	-12	8	2	-	61600	✓	0.06	GI276	SQ010
10A2R018A10-SAD07D-CF	10	80	10	18	-	-	-12	8	2	-	61600	✓	0.05	GI276	SQ010
12A2R018A10-SAD07D-C	12	120	10	18	-	-	-10	8	2	-	56300	✓	0.09	GI276	SQ010
12A2R018A12-SAD07D-C	12	90	12	18	-	-	-10	8	2	-	56300	✓	0.09	GI276	SQ010
12A3R018A12-SAD07D-C	12	90	12	18	-	-	-10	8	3	-	56200	✓	0.09	GI276	SQ010
12A3R020A12-SAD07D-CF	12	90	12	20	-	-	-10	8	3	-	56200	✓	0.09	GI276	SQ010
14A3R018A12-SAD07D-C	14	140	12	18	-	-	-9	8	3	-	52100	✓	0.13	GI276	SQ010
14A3R018A14-SAD07D-C	14	90	14	18	-	-	-9	8	3	-	52100	✓	0.11	GI276	SQ010
14A3R020A12-SAD07D-CF	14	140	12	20	-	-	-9	8	3	-	52100	✓	0.14	GI276	SQ010
14A3R020A14-SAD07D-CF	14	90	14	20	-	-	-9	8	3	-	52100	✓	0.11	GI276	SQ010
16A3R019A14-SAD07D-C	16	160	14	19	-	-	-8	8	3	-	48700	✓	0.21	GI276	SQ011
16A3R019A16-SAD07D-C	16	110	16	19	-	-	-8	8	3	-	48700	✓	0.18	GI276	SQ011
16A4R019A16-SAD07D-C	16	110	16	19	-	-	-8	8	4	-	48700	✓	0.18	GI276	SQ011
18A4R019A16-SAD07D-C	18	180	16	19	-	-	-7.5	8	4	✓	45900	✓	0.28	GI276	SQ011
18A4R019A18-SAD07D-C	18	110	18	19	-	-	-7.5	8	4	✓	45900	✓	0.22	GI276	SQ011
20A4R020A18-SAD07D-C	20	200	18	20	-	-	-7	8	4	✓	43600	✓	0.37	GI276	SQ011
20A4R020A20-SAD07D-C	20	125	20	20	-	-	-7	8	4	✓	43600	✓	0.29	GI276	SQ011
20A5R020A20-SAD07D-C	20	125	20	20	-	-	-7	8	5	✓	43600	✓	0.30	GI276	SQ011
25A5R024A25-SAD07D-C	25	140	25	24	-	-	-6.5	8	5	✓	39000	✓	0.51	GI276	SQ011
25A6R024A25-SAD07D-C	25	140	25	24	-	-	-6.5	8	6	✓	39000	✓	0.51	GI276	SQ011
12A2R020M06-SAD07D-C	12	35	6.5	-	20	M6	-10	8	2	-	-	✓	0.04	GI276	SQ010
14A3R020M08-SAD07D-C	14	38	8.5	-	20	M8	-9	8	3	-	-	✓	0.04	GI276	SQ010
14A3R023M08-SAD07D-CF	14	41	8.5	-	23	M8	-9	8	3	-	-	✓	0.05	GI276	SQ010
16A4R023M08-SAD07D-C	16	41	8.5	-	23	M8	-8	8	4	✓	-	✓	0.05	GI276	SQ011
20A5R030M10-SAD07D-C	20	49	10.5	-	30	M10	-7	8	5	✓	-	✓	0.08	GI276	SQ011

Product	DC	OAL	DCONIMS	LU	LF	TDZ	GAMF	GAMP							
	(mm)	(mm)	(mm)	(mm)	(mm)		(°)	(°)			max.		kg		
25A6R035M12-SAD07D-C	25	57	12.5	-	35	M12	-6.5	8	6	✓	-	✓	0.13	GI276	SQ011
32A8R043M16-SAD07D-C	32	66	17	-	43	M16	-6	8	8	✓	-	✓	0.24	GI276	SQ011

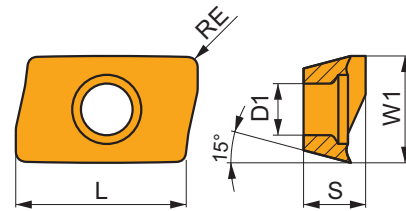
GI276	ADEX 0702..

SQ010	US 62003A-T06P	0.6		M 2	3
SQ011	US 62004A-T06P	0.6		M 2	4

ADMX 07

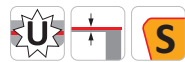
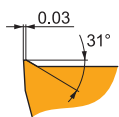


	W1	D1	L	S
	(mm)	(mm)	(mm)	(mm)
0702	4.482	2.20	6.95	2.48



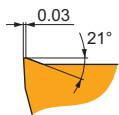
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product		P			M			K			N			S			H		
		vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap
	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)



F geometry with very sharp positive design for light machining.

ADMX 070202SR-F:M8330	●	0.2	220	0.07	2.0	130	0.06	2.0	-	-	-	660	0.08	2.0	55	0.05	1.6	-	-	-
ADMX 070204SR-F:M6330	●	0.4	200	0.07	2.0	140	0.06	2.0	-	-	-	-	-	-	60	0.05	1.6	-	-	-
ADMX 070204SR-F:M8330	●	0.4	235	0.07	2.0	140	0.06	2.0	-	-	-	705	0.08	2.0	55	0.05	1.6	-	-	-
ADMX 070204SR-F:M8340	●	0.4	215	0.07	2.0	125	0.06	2.0	-	-	-	-	-	-	50	0.05	1.6	-	-	-
ADMX 070208SR-F:M8310	⊕	0.8	320	0.07	2.0	160	0.06	2.0	-	-	-	-	-	-	-	-	-	-	-	-
ADMX 070208SR-F:M8330	⊕	0.8	280	0.07	2.0	165	0.06	2.0	-	-	-	840	0.08	2.0	70	0.05	1.6	-	-	-
ADMX 070208SR-F:M8340	⊕	0.8	255	0.07	2.0	150	0.06	2.0	-	-	-	-	-	-	60	0.05	1.6	-	-	-

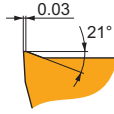


M geometry with positive design for light to medium machining.

ADMX 070202SR-M:M8330	●	0.2	205	0.09	2.2	120	0.08	2.2	190	0.09	2.2	615	0.11	2.2	50	0.06	1.8	-	-	-
ADMX 070202SR-M:M8340	●	0.2	185	0.09	2.2	110	0.08	2.2	175	0.09	2.2	-	-	-	45	0.06	1.8	-	-	-
ADMX 070204SR-M:M8215	●	0.4	225	0.09	2.2	135	0.08	2.2	210	0.09	2.2	675	0.11	2.2	55	0.06	1.8	-	-	-
ADMX 070204SR-M:M6330	●	0.4	190	0.09	2.2	135	0.08	2.2	-	-	-	-	-	-	55	0.06	1.8	-	-	-
ADMX 070204SR-M:M8310	●	0.4	245	0.09	2.2	120	0.08	2.2	230	0.09	2.2	-	-	-	-	-	-	-	-	-
ADMX 070204SR-M:M8330	●	0.4	220	0.09	2.2	130	0.08	2.2	205	0.09	2.2	660	0.11	2.2	55	0.06	1.8	-	-	-
ADMX 070204SR-M:M8340	●	0.4	200	0.09	2.2	120	0.08	2.2	190	0.09	2.2	-	-	-	50	0.06	1.8	-	-	-
ADMX 070204SR-M:M9340	●	0.4	265	0.09	2.2	155	0.08	2.2	-	-	-	-	-	-	65	0.06	1.8	-	-	-
ADMX 070208SR-M:M8215	⊕	0.8	270	0.09	2.2	160	0.08	2.2	255	0.09	2.2	810	0.11	2.2	65	0.06	1.8	-	-	-

Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



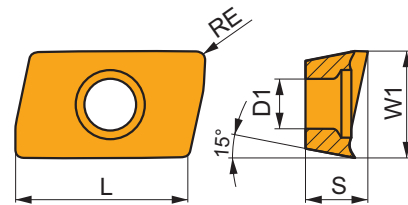
M geometry with positive design for light to medium machining.

ADMX 070208SR-M:M6330	0.8	225	0.09	2.2	160	0.08	2.2	—	—	—	—	—	—	65	0.06	1.8	—	—	—
ADMX 070208SR-M:M8310	0.8	290	0.09	2.2	145	0.08	2.2	275	0.09	2.2	—	—	—	—	—	—	—	—	—
ADMX 070208SR-M:M8330	0.8	260	0.09	2.2	155	0.08	2.2	245	0.09	2.2	780	0.11	2.2	65	0.06	1.8	—	—	—
ADMX 070208SR-M:M8340	0.8	240	0.09	2.2	140	0.08	2.2	225	0.09	2.2	—	—	—	60	0.06	1.8	—	—	—
ADMX 070208SR-M:M9340	0.8	315	0.09	2.2	185	0.08	2.2	—	—	—	—	—	75	0.06	1.8	—	—	—	—
ADMX 070216SR-M:M8330	1.6	290	0.09	2.2	170	0.08	2.2	275	0.09	2.2	870	0.11	2.2	70	0.06	1.8	—	—	—
ADMX 070220SR-M:M8310	2.0	340	0.09	2.2	170	0.08	2.2	320	0.09	2.2	—	—	—	—	—	—	—	—	—
ADMX 070220SR-M:M8330	2.0	300	0.09	2.2	180	0.08	2.2	285	0.09	2.2	900	0.11	2.2	75	0.06	1.8	—	—	—
ADMX 070220SR-M:M8340	2.0	275	0.09	2.2	165	0.08	2.2	260	0.09	2.2	—	—	—	65	0.06	1.8	—	—	—

ADEX 07-FA

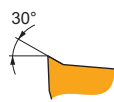


	W1 (mm)	D1 (mm)	L (mm)	S (mm)
0702	4.497	2.20	6.95	2.48



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



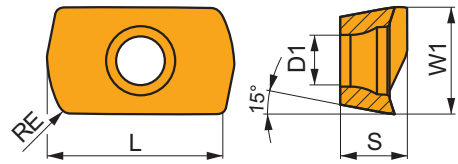
FA geometry with highly positive design for fine-finish to medium machining.

ADEX 070204FR-FA:HF7	0.4	—	—	—	—	—	—	—	—	—	240	0.18	3.0	—	—	—	—	—	—
ADEX 070204FR-FA:M0315	0.4	—	—	—	—	—	—	—	—	—	555	0.18	3.0	—	—	—	—	—	—
ADEX 070208FR-FA:HF7	0.8	—	—	—	—	—	—	—	—	—	285	0.18	3.0	—	—	—	—	—	—

ADEX 07-HF

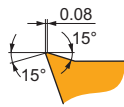


	W1	D1	L	S
	(mm)	(mm)	(mm)	(mm)
0702	4.439	2.20	6.45	2.48



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



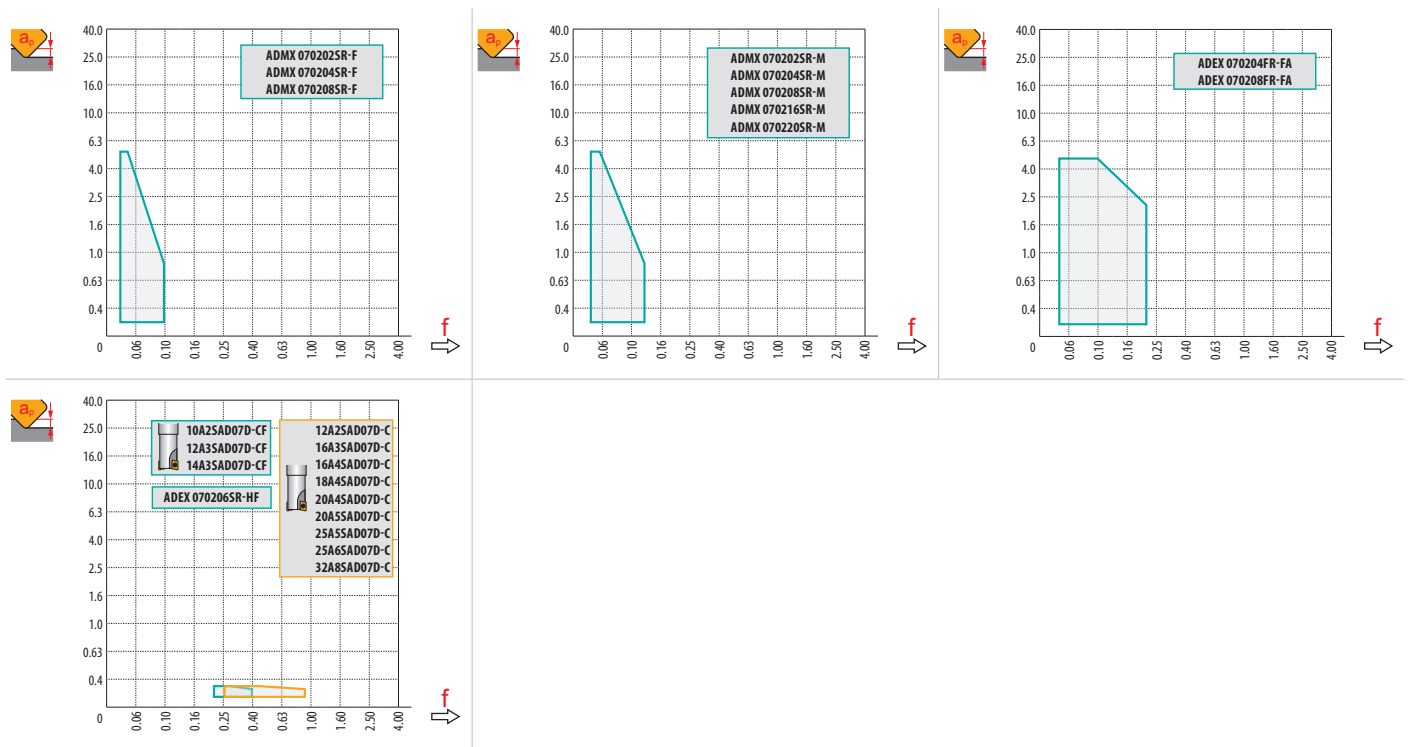
HF geometry with highly positive design for high feed machining.

ADEX 070206SR-HF:M6330	0.6	200	0.60	0.3	140	0.54	0.3	-	-	-	-	-	-	-	-	-	-	-
ADEX 070206SR-HF:M8330	0.6	225	0.60	0.3	135	0.54	0.3	-	-	-	-	-	-	-	-	-	-	-
ADEX 070206SR-HF:M8340	0.6	215	0.60	0.3	125	0.54	0.3	-	-	-	-	-	-	-	-	-	-	-



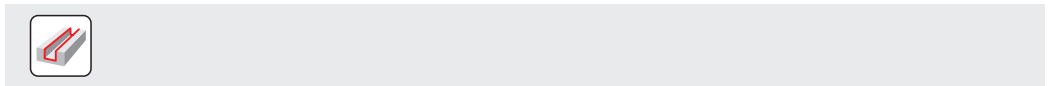
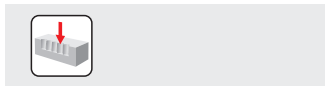
a_e / DC	5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	90%	100%
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	ADMX 07-F			ADMX 07-M					ADEX 07-HF	ADEX 07-FA	
	0.2	0.4	0.8	0.2	0.4	0.8	1.6	2.0	0.6	0.4	0.8
	1.38	0.89	0.54	1.38	0.89	0.54	0.7	0.33	-	0.94	0.55



		ADEX 07-HF			
		0	0.1	0.2	0.3
10		5.6	7.8	8.7	9.4
12		7.6	9.8	10.7	11.4
14		9.6	11.8	12.7	13.4
16		11.6	13.8	14.7	15.4
18		13.6	15.8	16.7	17.4
20		15.6	17.8	18.7	19.4
25		20.6	22.8	23.7	24.4
32		27.6	29.8	30.7	31.4

		HFC		
		0.1	0.2	0.3
		0.9	0.8	0.6



	max
	3.0

	1.0	3.0	5.0
	0.13	0.08	0.05

	HFC		
	0.1	0.2	0.3
	0.7	0.6	0.4



	RPMX	APMX/I
10	5.2°	5.0/56
12	3.4°	5.0/86
14	2.5°	4.2/100
16	1.9°	3.2/100
18	1.7°	2.8/100
20	1.5°	2.5/100
25	1.1°	1.8/100
32	0.8°	1.2/100

HFC		
	RPMX	APMX/I
10	3.5°	0.3/6
12	2.2°	0.3/9
14	1.6°	0.3/12
16	1.3°	0.3/15
18	1.1°	0.3/17
20	0.9°	0.3/21
25	0.7°	0.3/26
32	0.5°	0.3/36



	DMIN	DMAX		
10	12.0	20.0	0.5	2.8
12	16.0	24.0	0.7	2.2
14	20.0	28.0	0.8	1.9
16	24.0	32.0	0.8	1.6
18	28.0	36.0	0.9	1.6
20	32.0	40.0	0.9	1.6
25	42.0	50.0	1.0	1.5
32	56.0	64.0	1.0	1.4

HFC				
	DMIN	DMAX		
10	12	20	0.30	0.30
12	16	24	0.30	0.30
14	20	28	0.30	0.30
16	24	32	0.30	0.30
18	28	36	0.30	0.30
20	32	40	0.30	0.30
25	42	50	0.30	0.30
32	56	64	0.30	0.30

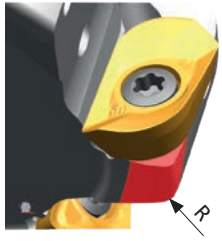


	0.5
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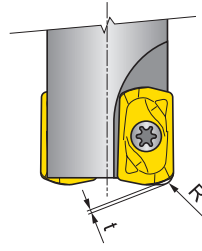
	HFC
	0.3



		3	5	10	15	20	30	40	50	60	80	100
10		0.346	0.447	0.632	0.775	0.894	1.095	1.265	1.414	1.549	1.789	2.000
12		0.379	0.490	0.693	0.849	0.980	1.200	1.386	1.549	1.697	1.960	2.191
14		0.410	0.529	0.748	0.917	1.058	1.296	1.497	1.673	1.833	2.117	2.366
16		0.438	0.566	0.800	0.980	1.131	1.386	1.600	1.789	1.960	2.263	2.530
18		0.465	0.600	0.849	1.039	1.200	1.470	1.697	1.897	2.078	2.400	2.683
20		0.490	0.632	0.894	1.095	1.265	1.549	1.789	2.000	2.191	2.530	2.828
25		0.548	0.707	1.000	1.225	1.414	1.732	2.000	2.236	2.449	2.828	3.162
32		0.620	0.800	1.131	1.386	1.600	1.960	2.263	2.530	2.771	3.200	3.578



ADMX 07	R
ADMX 070216SR-M	1
ADMX 070220SR-M	1.5
ADEX 070206SR-HF	1



ADEX 07	R	t
ADEX 070206SR-HF	0.8	0.18

SAD11E



PRAMET

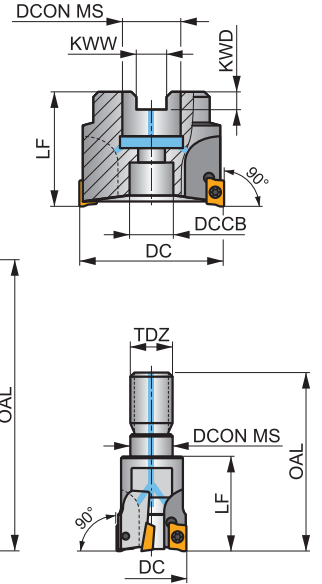
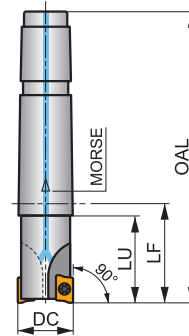
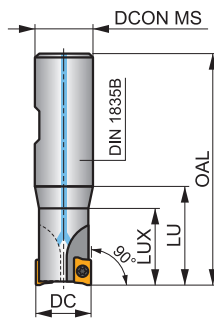
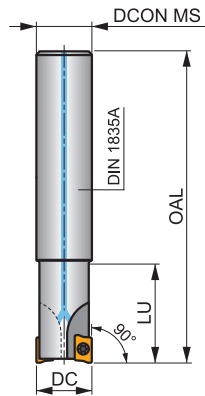
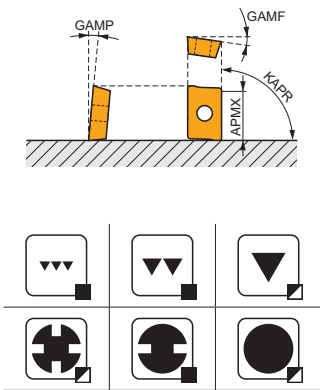


FORCE AD11 Square Shoulder Mill with Internal Coolant

90° end and shell mills utilizing positive AD.. 11 style insert with APMX of 9 mm. Suitable for face, shoulder, slot, helical, trochoidal, ramping and plunge milling. Available in cylindrical, Weldon, morse taper, modular and arbor (with differential tooth pitch) style. Body treated for longer tool life.

FORCE AD

KAPR	90°
APMX	9.0 mm



	0.06 – 0.13
	0.08 – 0.16



Product	DC	OAL	DCON MS	DCCB	LU	LUX	LF	TDZ	CZC MS	KWW	KWD	GAMF	GAMP	max.			kg	Tools		
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)							
16A2R024A14-SAD11E-C	16	160	14	-	24	-	-	-	-	-	-	-12.8	4	2	-	30100	✓	0.19	GI169 SQ025	-
16A2R024A16-SAD11E-C	16	135	16	-	24	-	-	-	-	-	-	-12.8	4	2	-	30100	✓	0.19	GI169 SQ025	-
16A2R050A16-SAD11E-C	16	135	16	-	50	-	-	-	-	-	-	-12.8	4	2	-	30100	✓	0.20	GI169 SQ025	-
18A2R029A20-SAD11E-C	18	150	20	-	29	-	-	-	-	-	-	-12	4.5	2	-	28400	✓	0.35	GI169 SQ025	-
20A2R029A20-SAD11E-C	20	150	20	-	29	-	-	-	-	-	-	-11.5	5	2	-	27000	✓	0.33	GI169 SQ020	-
20A2R070A20-SAD11E-C	20	150	20	-	70	-	-	-	-	-	-	-11.5	5	2	-	27000	✓	0.32	GI169 SQ020	-
20A3R029A18-SAD11E-C	20	200	18	-	29	-	-	-	-	-	-	-11.5	5	3	-	27000	✓	0.36	GI169 SQ025	-
20A3R029A20-SAD11E-C	20	150	20	-	29	-	-	-	-	-	-	-11.5	5	3	-	27000	✓	0.31	GI169 SQ025	-
22A3R029A20-SAD11E-C	22	200	20	-	29	-	-	-	-	-	-	-11.5	5	3	-	25600	✓	0.45	GI169 SQ025	-
25A3R034A25-SAD11E-C	25	170	25	-	34	-	-	-	-	-	-	-10.2	5	3	-	24100	✓	0.42	GI169 SQ020	-
25A3R080A25-SAD11E-C	25	170	25	-	80	-	-	-	-	-	-	-10.2	5	3	-	24100	✓	0.52	GI169 SQ020	-
25A4R034A25-SAD11E-C	25	170	25	-	34	-	-	-	-	-	-	-10.2	5	4	-	24100	✓	0.56	GI169 SQ025	-
25A4R040A25-SAD11E-C	25	250	25	-	40	-	-	-	-	-	-	-10.2	5	4	-	24100	✓	0.85	GI169 SQ025	-
30A3R080A32-SAD11E-C	30	200	32	-	80	-	-	-	-	-	-	-9.3	7	3	-	22000	✓	0.98	GI169 SQ020	-
32A3R090A32-SAD11E-C	32	195	32	-	90	-	-	-	-	-	-	-9	5	3	-	21300	✓	0.99	GI169 SQ020	-
32A5R034A32-SAD11E-C	32	195	32	-	34	-	-	-	-	-	-	-9	8	5	-	21300	✓	1.03	GI169 SQ025	-
35A5R025A32-SAD11E-C	35	200	32	-	25	-	-	-	-	-	-	-9	8	5	-	20300	✓	1.11	GI169 SQ020	-
16A2R027B16-SAD11E-C	16	75	16	-	27	-	-	-	-	-	-	-12.8	4	2	-	30100	✓	0.11	GI169 SQ025	-
20A2R032B20-SAD11E-C	20	82	20	-	32	-	-	-	-	-	-	-11.5	5	2	-	27000	✓	0.13	GI169 SQ020	-
20A3R032B20-SAD11E-C	20	82	20	-	32	-	-	-	-	-	-	-11.5	5	3	-	27000	✓	0.13	GI169 SQ025	-
25A3R042B25-SAD11E-C	25	98	25	-	42	-	-	-	-	-	-	-10.2	5	3	-	24100	✓	0.29	GI169 SQ020	-
25A4R042B25-SAD11E-C	25	98	25	-	42	-	-	-	-	-	-	-10.2	5	4	-	24100	✓	0.31	GI169 SQ025	-
32A4R042B32-SAD11E-C	32	102	32	-	42	-	-	-	-	-	-	-9	8	4	-	21300	✓	0.27	GI169 SQ020	-
32A5R042B32-SAD11E-C	32	102	32	-	42	-	-	-	-	-	-	-9	8	5	-	21300	✓	0.32	GI169 SQ025	-
16A2R030E02-SAD11E-C	16	94	-	-	25	-	30	-	2	-	-	-12.8	4	2	-	30100	✓	0.13	GI169 SQ025	-
20A3R035E03-SAD11E-C	20	116	-	-	30	-	35	-	3	-	-	-11.5	5	3	-	27000	✓	0.27	GI169 SQ025	-
25A4R043E03-SAD11E-C	25	124	-	-	38	-	43	-	3	-	-	-10.2	5	4	-	24100	✓	0.31	GI169 SQ025	-

Product	DC	OAL	D CON MS	DCCB	LU	LUX	LF	TDZ	CZC MS	KWW	KWD	GAMF	GAMP								
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)			(mm)	(mm)	(°)	(°)								
16A2R024M08-SAD11E-C	16	38	8.5	-	-	-	24	M8	-	-	-	-12.8	4	2	-	-	✓	0.04	GI169	SQ025	-
20A2R026M10-SAD11E-C	20	45	11	-	-	-	26	M10	-	-	-	-11.5	5	2	-	-	✓	0.06	GI169	SQ020	-
20A3R026M10-SAD11E-C	20	45	10.5	-	-	-	26	M10	-	-	-	-11.5	5	3	-	-	✓	0.06	GI169	SQ025	-
25A3R033M12-SAD11E-C	25	55	12.5	-	-	-	33	M12	-	-	-	-10.2	5	3	-	-	✓	0.10	GI169	SQ020	-
25A4R033M12-SAD11E-C	25	55	12.5	-	-	-	33	M12	-	-	-	-10.2	5	4	-	-	✓	0.09	GI169	SQ025	-
32A4R043M16-SAD11E-C	32	66	17	-	-	-	43	M16	-	-	-	-9	8	4	-	-	✓	0.20	GI169	SQ020	-
32A5R043M16-SAD11E-C	32	66	17	-	-	-	43	M16	-	-	-	-9	8	5	-	-	✓	0.20	GI169	SQ025	-
40A4R043M16-SAD11E-C	40	66	17	-	-	-	43	M16	-	-	-	-8.1	11	4	-	-	✓	0.27	GI169	SQ020	-
40A6R043M16-SAD11E-C	40	66	17	-	-	-	43	M16	-	-	-	-8.1	11	6	-	-	✓	0.21	GI169	SQ020	-
40A04R-S90AD11E-C	40	-	16	14	-	-	40	-	-	8.4	5.6	-8.1	11	4	✓	19100	✓	0.16	GI169	SQ022	-
40A05R-S90AD11E-C	40	-	16	14	-	-	40	-	-	8.4	5.6	-8.1	11	5	✓	19000	✓	0.31	GI169	SQ022	-
40A06R-S90AD11E-C	40	-	16	14	-	-	40	-	-	8.4	5.6	-8.1	11	6	✓	19100	✓	0.20	GI169	SQ022	-
50A05R-S90AD11E-C	50	-	22	18	-	-	40	-	-	10.4	6.3	-7.2	12	5	✓	17000	✓	0.31	GI169	SQ023	-
50A07R-S90AD11E-C	50	-	22	18	-	-	40	-	-	10.4	6.3	-7.2	12	7	✓	17000	✓	0.44	GI169	SQ023	-
63A06R-S90AD11E-C	63	-	22	18	-	-	40	-	-	10.4	6.3	-6.5	12	6	✓	15200	✓	0.54	GI169	SQ023	-
63A09R-S90AD11E-C	63	-	22	18	-	-	40	-	-	10.4	6.3	-6.5	12	9	✓	15200	✓	0.61	GI169	SQ023	-
80A10R-S90AD11E-C	80	-	27	38	-	-	50	-	-	12.4	7	-6	12	10	✓	13500	✓	1.04	GI169	SQ021	AC001
100A11R-S90AD11E-C	100	-	32	45	-	-	50	-	-	14.4	8	-5.5	12	11	✓	12100	✓	1.89	GI169	SQ021	AC002
125A12R-S90AD11E-C	125	-	40	56	-	-	63	-	-	16.4	9	-5.2	12	12	✓	10800	✓	2.97	GI169	SQ021	AC003

GI169	ADMX 11T3..	ADEX 11T3..

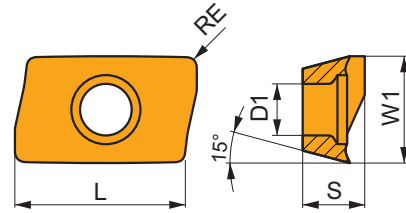
SQ020	US 62506-T07P	1.2	M 2.5	6	-	-	Flag T07P	-
SQ021	US 62506-T07P	1.2	M 2.5	6	D-T07P/T09P	FG-15	-	-
SQ022	US 62506-T07P	1.2	M 2.5	6	D-T07P/T09P	FG-15	-	HS 0830C
SQ023	US 62506-T07P	1.2	M 2.5	6	D-T07P/T09P	FG-15	-	HS 1030C
SQ025	US 62505-T07P	1.2	M 2.5	5	-	-	Flag T07P	-

AC001		KS 1230	K.FMH27
AC002		KS 1635	K.FMH32
AC003		KS 2040	K.FMH40

ADMX 11

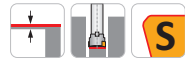
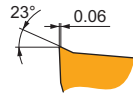
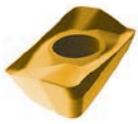


	W1 (mm)	D1 (mm)	L (mm)	S (mm)
11T3	6.530	2.90	11.00	3.97



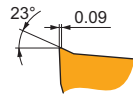
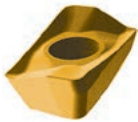
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



F geometry with very sharp positive design for light machining.

ADMX 11T304SR-F:8215	● 0.4	245	0.10	2.0	145	0.09	2.0	230	0.10	2.0	735	0.12	2.0	60	0.08	1.6	–	–	–
ADMX 11T304SR-F:M8330	● 0.4	240	0.10	2.0	140	0.09	2.0	225	0.10	2.0	720	0.12	2.0	60	0.08	1.6	–	–	–
ADMX 11T304SR-F:M8340	● 0.4	220	0.10	2.0	130	0.09	2.0	205	0.10	2.0	–	–	–	55	0.08	1.6	–	–	–
ADMX 11T304SR-F:M9340	● 0.4	285	0.10	2.0	170	0.09	2.0	–	–	–	–	–	70	0.08	1.6	–	–	–	
ADMX 11T308SR-F:8215	⊕ 0.8	290	0.10	2.0	170	0.09	2.0	275	0.10	2.0	870	0.12	2.0	70	0.08	1.6	–	–	–
ADMX 11T308SR-F:M8330	⊕ 0.8	285	0.10	2.0	170	0.09	2.0	270	0.10	2.0	855	0.12	2.0	70	0.08	1.6	–	–	–
ADMX 11T308SR-F:M8340	⊕ 0.8	260	0.10	2.0	155	0.09	2.0	245	0.10	2.0	–	–	–	65	0.08	1.6	–	–	–
ADMX 11T308SR-F:M9340	⊕ 0.8	340	0.10	2.0	200	0.09	2.0	–	–	–	–	–	85	0.08	1.6	–	–	–	

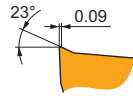
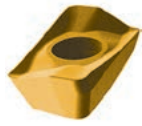


M geometry with positive design for light to medium machining.

ADMX 11T302SR-M:M8330	● 0.2	190	0.15	4.0	110	0.14	4.0	180	0.15	4.0	–	–	–	45	0.12	3.2	–	–	–
ADMX 11T302SR-M:M8340	⊕ 0.2	170	0.15	4.0	100	0.14	4.0	160	0.15	4.0	–	–	–	40	0.12	3.2	–	–	–
ADMX 11T304SR-M:8215	● 0.4	205	0.15	4.0	120	0.14	4.0	190	0.15	4.0	–	–	–	50	0.12	3.2	–	–	–
ADMX 11T304SR-M:M8310	● 0.4	220	0.15	4.0	110	0.14	4.0	205	0.15	4.0	–	–	–	–	–	–	–	–	–
ADMX 11T304SR-M:M8330	⊕ 0.4	205	0.15	4.0	120	0.14	4.0	190	0.15	4.0	–	–	–	50	0.12	3.2	–	–	–
ADMX 11T304SR-M:M8340	⊕ 0.4	185	0.15	4.0	110	0.14	4.0	175	0.15	4.0	–	–	–	45	0.12	3.2	–	–	–
ADMX 11T304SR-M:M9325	● 0.4	255	0.15	4.0	–	–	–	240	0.15	4.0	–	–	–	–	–	–	–	–	–
ADMX 11T304SR-M:M9340	● 0.4	235	0.15	4.0	140	0.14	4.0	–	–	–	–	–	55	0.12	3.2	–	–	–	
ADMX 11T308SR-M:8215	⊕ 0.8	245	0.15	4.0	145	0.14	4.0	230	0.15	4.0	–	–	–	60	0.12	3.2	–	–	–
ADMX 11T308SR-M:M5315	⊕ 0.8	335	0.15	4.0	–	–	–	315	0.15	4.0	–	–	–	–	–	–	–	–	–
ADMX 11T308SR-M:M8310	⊕ 0.8	265	0.15	4.0	135	0.14	4.0	250	0.15	4.0	–	–	–	–	–	–	–	–	–
ADMX 11T308SR-M:M8330	⊕ 0.8	245	0.15	4.0	145	0.14	4.0	230	0.15	4.0	–	–	–	60	0.12	3.2	–	–	–
ADMX 11T308SR-M:M8340	⊕ 0.8	220	0.15	4.0	130	0.14	4.0	205	0.15	4.0	–	–	–	55	0.12	3.2	–	–	–
ADMX 11T308SR-M:M9315	⊕ 0.8	330	0.15	4.0	–	–	–	310	0.15	4.0	–	–	–	–	–	–	–	–	–
ADMX 11T308SR-M:M9325	⊕ 0.8	305	0.15	4.0	–	–	–	285	0.15	4.0	–	–	–	–	–	–	–	–	–
ADMX 11T308SR-M:M9340	⊕ 0.8	275	0.15	4.0	165	0.14	4.0	–	–	–	–	–	65	0.12	3.2	–	–	–	
ADMX 11T310SR-M:M8330	⊕ 1.0	255	0.15	4.0	150	0.14	4.0	240	0.15	4.0	–	–	–	60	0.12	3.2	–	–	–
ADMX 11T310SR-M:M8340	⊕ 1.0	230	0.15	4.0	135	0.14	4.0	215	0.15	4.0	–	–	–	55	0.12	3.2	–	–	–
ADMX 11T312SR-M:8215	⊕ 1.2	255	0.15	4.0	150	0.14	4.0	240	0.15	4.0	–	–	–	60	0.12	3.2	–	–	–
ADMX 11T312SR-M:M8330	⊕ 1.2	255	0.15	4.0	150	0.14	4.0	240	0.15	4.0	–	–	–	60	0.12	3.2	–	–	–
ADMX 11T312SR-M:M8340	⊕ 1.2	230	0.15	4.0	135	0.14	4.0	215	0.15	4.0	–	–	–	55	0.12	3.2	–	–	–
ADMX 11T316SR-M:8215	⊕ 1.6	270	0.15	4.0	160	0.14	4.0	255	0.15	4.0	–	–	–	65	0.12	3.2	–	–	–
ADMX 11T316SR-M:M6330	⊕ 1.6	230	0.15	4.0	165	0.14	4.0	–	–	–	–	–	65	0.12	3.2	–	–	–	
ADMX 11T316SR-M:M8310	⊕ 1.6	295	0.15	4.0	150	0.14	4.0	280	0.15	4.0	–	–	–	–	–	–	–	–	
ADMX 11T316SR-M:M8330	⊕ 1.6	270	0.15	4.0	160	0.14	4.0	255	0.15	4.0	–	–	–	65	0.12	3.2	–	–	–
ADMX 11T316SR-M:M8340	⊕ 1.6	240	0.15	4.0	140	0.14	4.0	225	0.15	4.0	–	–	–	60	0.12	3.2	–	–	–
ADMX 11T320SR-M:M6330	⊕ 2.0	240	0.15	4.0	170	0.14	4.0	–	–	–	–	–	70	0.12	3.2	–	–	–	
ADMX 11T320SR-M:M8330	⊕ 2.0	280	0.15	4.0	165	0.14	4.0	265	0.15	4.0	–	–	–	70	0.12	3.2	–	–	–
ADMX 11T320SR-M:M8340	⊕ 2.0	255	0.15	4.0	150	0.14	4.0	240	0.15	4.0	–	–	–	60	0.12	3.2	–	–	–

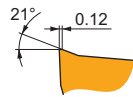
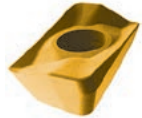
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



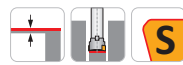
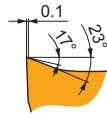
M geometry with positive design for light to medium machining.

ADMX 11T325SR-M:M6330	2.5	240	0.15	4.0	170	0.14	4.0	—	—	—	—	—	—	70	0.12	3.2	—	—	—
ADMX 11T325SR-M:M8340	2.5	255	0.15	4.0	150	0.14	4.0	240	0.15	4.0	—	—	—	60	0.12	3.2	—	—	—
ADMX 11T330SR-M:M6330	3.0	240	0.15	4.0	170	0.14	4.0	—	—	—	—	—	—	70	0.12	3.2	—	—	—
ADMX 11T330SR-M:M8330	3.0	280	0.15	4.0	165	0.14	4.0	265	0.15	4.0	—	—	—	70	0.12	3.2	—	—	—
ADMX 11T330SR-M:M8340	3.0	255	0.15	4.0	150	0.14	4.0	240	0.15	4.0	—	—	—	60	0.12	3.2	—	—	—



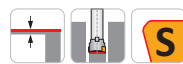
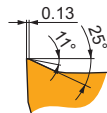
R geometry with positive design for machining conditions in less stable conditions.

ADMX 11T308PR-R:R215	0.8	230	0.18	4.0	135	0.16	4.0	215	0.18	4.0	—	—	—	55	0.16	3.2	45	0.12	0.7
ADMX 11T308PR-R:M5315	0.8	310	0.18	4.0	—	—	—	290	0.18	4.0	—	—	—	—	—	—	60	0.13	0.7
ADMX 11T308PR-R:M8310	0.8	250	0.18	4.0	125	0.16	4.0	235	0.18	4.0	—	—	—	—	—	—	50	0.12	0.7
ADMX 11T308PR-R:M8330	0.8	230	0.18	4.0	135	0.16	4.0	215	0.18	4.0	—	—	—	55	0.16	3.2	45	0.12	0.7
ADMX 11T308PR-R:M8340	0.8	210	0.18	4.0	125	0.16	4.0	195	0.18	4.0	—	—	—	50	0.16	3.2	—	—	—
ADMX 11T308PR-R:M9315	0.8	310	0.18	4.0	—	—	—	290	0.18	4.0	—	—	—	—	—	—	60	0.13	0.7
ADMX 11T308PR-R:M9325	0.8	290	0.18	4.0	—	—	—	275	0.18	4.0	—	—	—	—	—	—	55	0.13	0.7
ADMX 11T316PR-R:R215	1.6	255	0.18	4.0	150	0.16	4.0	240	0.18	4.0	—	—	—	60	0.16	3.2	50	0.12	0.7
ADMX 11T316PR-R:M8330	1.6	255	0.18	4.0	150	0.16	4.0	240	0.18	4.0	—	—	—	60	0.16	3.2	50	0.12	0.7
ADMX 11T316PR-R:M9325	1.6	320	0.18	4.0	—	—	—	300	0.18	4.0	—	—	—	—	—	—	60	0.12	0.7



MF geometry with highly positive design for light to finish machining.

ADMX 11T304SR-MF:M6330	0.4	215	0.08	2.5	150	0.07	2.5	—	—	—	—	—	—	60	0.06	2.0	—	—	—
ADMX 11T304SR-MF:M8340	0.4	220	0.08	2.5	130	0.07	2.5	—	—	—	—	—	—	55	0.06	2.0	—	—	—
ADMX 11T308SR-MF:M6330	0.8	255	0.08	2.5	180	0.07	2.5	—	—	—	—	—	—	75	0.06	2.0	—	—	—
ADMX 11T308SR-MF:M8340	0.8	265	0.08	2.5	155	0.07	2.5	—	—	—	—	—	—	65	0.06	2.0	—	—	—



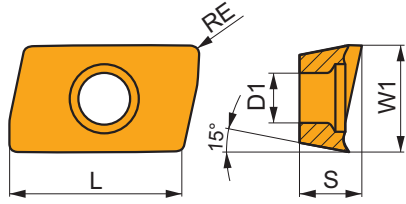
MM geometry with highly positive design for light to medium machining.

ADMX 11T304SR-MM:M6330	0.4	185	0.14	2.5	130	0.13	2.5	—	—	—	—	—	—	55	0.11	2.0	—	—	—
ADMX 11T304SR-MM:M8340	0.4	195	0.14	2.5	115	0.13	2.5	—	—	—	—	—	—	45	0.11	2.0	—	—	—
ADMX 11T308SR-MM:M6330	0.8	225	0.14	2.5	155	0.13	2.5	—	—	—	—	—	—	65	0.11	2.0	—	—	—
ADMX 11T308SR-MM:M8340	0.8	235	0.14	2.5	140	0.13	2.5	—	—	—	—	—	—	55	0.11	2.0	—	—	—
ADMX 11T308SR-MM:M8345	0.8	190	0.14	2.5	110	0.13	2.5	—	—	—	—	—	—	45	0.11	2.0	—	—	—
ADMX 11T308SR-MM:M9340	0.8	300	0.14	2.5	180	0.13	2.5	—	—	—	—	—	—	75	0.11	2.0	—	—	—
ADMX 11T312SR-MM:M6330	1.2	235	0.14	2.5	165	0.13	2.5	—	—	—	—	—	—	70	0.11	2.0	—	—	—
ADMX 11T312SR-MM:M8340	1.2	245	0.14	2.5	145	0.13	2.5	—	—	—	—	—	—	60	0.11	2.0	—	—	—

ADEX 11-FA

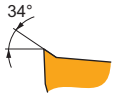


	W1 (mm)	D1 (mm)	L (mm)	S (mm)
11T3	6.450	2.90	9.70	3.91



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



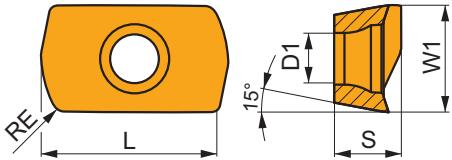
FA geometry with highly positive design for fine-finish to medium machining.

ADEX 11T304FR-FA:HF7	● 0.4	-	-	-	-	-	-	-	-	-	■ 210	0.30	5.0	-	-	-	-	-	-
ADEX 11T304FR-FA:M0315	● 0.4	-	-	-	-	-	-	-	-	-	■ 480	0.30	5.0	-	-	-	-	-	-
ADEX 11T308FR-FA:HF7	● 0.8	-	-	-	-	-	-	-	-	-	■ 240	0.30	5.0	-	-	-	-	-	-
ADEX 11T308FR-FA:M0315	● 0.8	-	-	-	-	-	-	-	-	-	■ 570	0.30	5.0	-	-	-	-	-	-
ADEX 11T312FR-FA:HF7	● 1.2	-	-	-	-	-	-	-	-	-	■ 255	0.30	5.0	-	-	-	-	-	-
ADEX 11T316FR-FA:HF7	● 1.6	-	-	-	-	-	-	-	-	-	■ 270	0.18	5.0	-	-	-	-	-	-

ADEX 11-HF

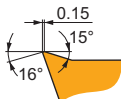
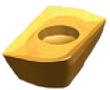


	W1 (mm)	D1 (mm)	L (mm)	S (mm)
11T3	6.450	2.90	10.67	3.82



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)

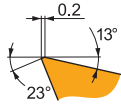


HF geometry with highly positive design for high feed machining.

ADEX 11T308SR-HF:8215	● 0.8	■ 215	0.68	0.4	■ 125	0.61	0.4	-	-	-	-	-	-	-	-	-	-	-	-
ADEX 11T308SR-HF:M6330	● 0.8	■ 185	0.68	0.4	■ 130	0.61	0.4	-	-	-	-	-	-	-	-	-	-	-	-
ADEX 11T308SR-HF:M8310	● 0.8	■ 220	0.68	0.4	■ 110	0.52	0.4	-	-	-	-	-	-	-	-	-	-	-	-
ADEX 11T308SR-HF:M8330	● 0.8	■ 215	0.68	0.4	■ 125	0.61	0.4	-	-	-	-	-	-	-	-	-	-	-	-
ADEX 11T308SR-HF:M8340	● 0.8	■ 200	0.68	0.4	■ 120	0.61	0.4	-	-	-	-	-	-	-	-	-	-	-	-
ADEX 11T308SR-HF:M9340	● 0.8	■ 220	0.68	0.4	■ 130	0.61	0.4	-	-	-	-	-	-	-	-	-	-	-	-

Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.




Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)









HF2 geometry with positive design for high feed machining.

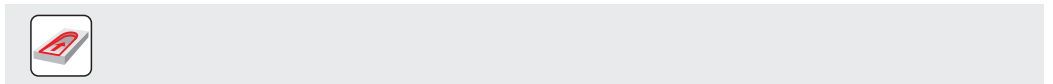
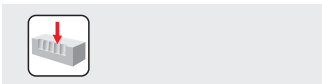
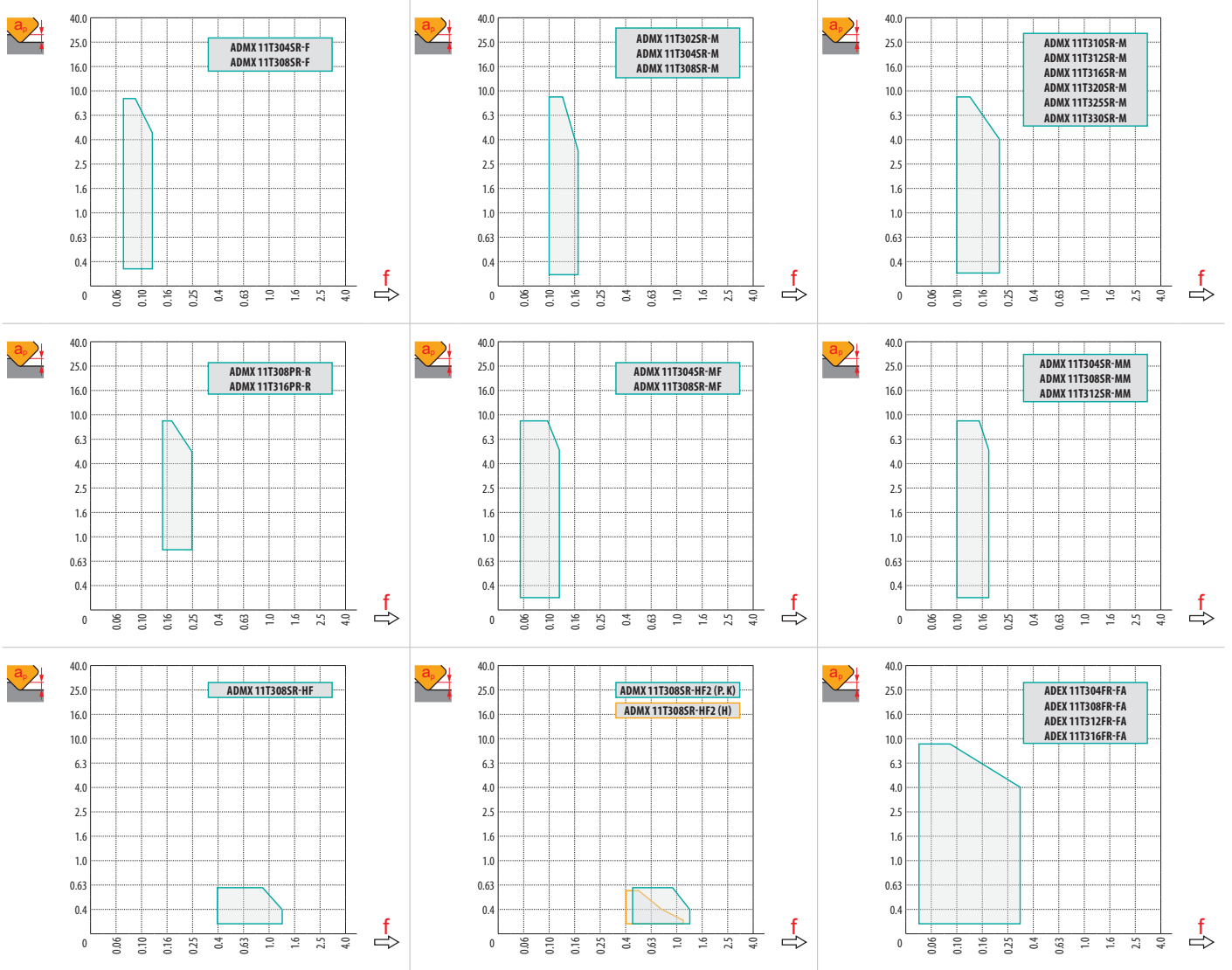
ADEX 11T308SR-HF2:M8310	0.8	220	0.68	0.4	110	0.61	0.4	205	0.68	0.4	—	—	—	—	—	—	40	0.48	0.3
ADEX 11T308SR-HF2:M8330	0.8	215	0.68	0.4	125	0.61	0.4	200	0.68	0.4	—	—	—	50	0.48	0.3	40	0.48	0.3
ADEX 11T308SR-HF2:M8340	0.8	200	0.68	0.4	120	0.61	0.4	190	0.68	0.4	—	—	—	50	0.48	0.3	—	—	—
ADEX 11T308SR-HF2:M9325	0.8	250	0.68	0.4	—	—	—	235	0.68	0.4	—	—	—	—	—	—	50	0.48	0.3



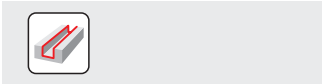
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	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	ADMX 11-F		ADMX 11-M									ADMX 11-R		ADMX 11-MF	
	0.4	0.8	0.2	0.4	0.8	1.0	1.2	1.6	2.0	2.5	3.0	0.8	1.6	0.4	0.8
	1.89	1.48	2.09	1.89	1.48	1.27	1.08	0.68	1.61	1.13	0.66	1.48	0.68	1.89	1.48

	ADMX 11-MM			ADEX 11-HF	ADEX 11-HF2	ADEX 11-FA			
	0.4	0.8	1.2	0.8	0.8	0.4	0.8	1.2	1.6
	1.89	1.48	1.08	0.17	0.17	1.77	1.39	1.0	0.62



max
4.5



	1.0	5.0	9.0
--	-----	-----	-----

	0.20	0.13	0.10
--	------	------	------

DC	RPMX	APMX/I
16	13.5°	9.0/40
18	10.0°	9.0/53
20	9.0°	9.0/59
25	6.0°	9.0/87
32	5.3°	9.0/99
40	3.8°	6.5/100
50	2.8°	4.7/100
63	1.8°	3.0/100
80	1.6°	2.6/100

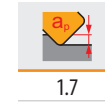
HFC			
DC	RPMX *	RPMX **	APMX/I
16	4.1°	5.7°	0.6/8
18	2.8°	4.5°	0.6/12
20	2.3°	4.3°	0.6/15
25	1.3°	6.7°	0.6/26
32	0.7°	4.3°	0.6/49
40	0.3°	2.9°	0.6/100
50	0.1°	2.1°	0.6/100
63	-	-	-
80	-	-	-

* HFC milling
** Conventional milling



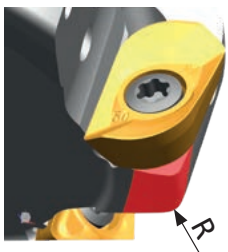
DC	DMIN	DMAX	SMAX DMIN	SMAX DMAX
16	27.0	32.0	8.3	9.0
18	32.0	36.0	7.5	9.0
20	35.0	40.0	7.5	9.0
25	45.0	50.0	6.5	7.5
32	59.0	64.0	4.0	4.5
40	75.0	80.0	1.5	2.0
50	-	-	-	-

HFC				
DC	DMIN	DMAX	SMAX DMIN	SMAX DMAX
16	21.0	32.0	0.6	0.6
18	29.0	36.0	0.6	0.6
20	29.0	40.0	0.6	0.6
25	39.0	50.0	0.6	0.6
32	53.0	64.0	0.6	0.6
40	68.5	80.0	0.6	0.6
50	88.5	100.0	0.6	0.6

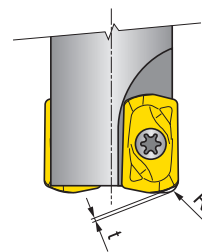


DC	μm	3	5	10	15	20	30	40	50	60	80	100
16		0.438	0.566	0.800	0.980	1.131	1.386	1.600	1.789	1.960	2.263	2.530
18		0.465	0.600	0.849	1.039	1.200	1.470	1.697	1.897	2.078	2.400	2.683
20		0.490	0.632	0.894	1.095	1.265	1.549	1.789	2.000	2.191	2.530	2.828
25		0.548	0.707	1.000	1.225	1.414	1.732	2.000	2.236	2.449	2.828	3.162
32		0.620	0.800	1.131	1.386	1.600	1.960	2.263	2.530	2.771	3.200	3.578
40		0.693	0.894	1.265	1.549	1.789	2.191	2.530	2.828	3.098	3.578	4.000
50		0.775	1.000	1.414	1.732	2.000	2.449	2.828	3.162	3.464	4.000	4.472
63		0.869	1.122	1.587	1.944	2.245	2.750	3.175	3.550	3.888	4.490	5.020
80		0.980	1.265	1.789	2.191	2.530	3.098	3.578	4.000	4.382	5.060	5.657

RE	μm	3	5	10	15	20	30	40	50	60	80	100
1.0		0.155	0.200	0.283	0.346	0.400	0.490	0.566	0.632	0.693	0.800	0.894
1.2		0.170	0.219	0.310	0.379	0.438	0.537	0.620	0.693	0.759	0.876	0.980
1.6		0.196	0.253	0.358	0.438	0.506	0.620	0.716	0.800	0.876	1.012	1.131
2.0		0.219	0.283	0.400	0.490	0.566	0.693	0.800	0.894	0.980	1.131	1.265
2.5		0.245	0.316	0.447	0.548	0.632	0.775	0.894	1.000	1.095	1.265	1.414
3.0		0.268	0.346	0.490	0.600	0.693	0.849	0.980	1.095	1.200	1.386	1.549



ADMX/ADEX 11	R
ADMX 11T320SR-M	1.0
ADMX 11T325SR-M	1.8
ADMX 11T330SR-M	1.8
ADEX 11T308SR-HF	1.4
ADEX 11T308SR-HF2	1.4



ADEX 11	R	t
ADEX 11T308SR-HF	1.42	0.35
ADEX 11T308SR-HF2	1.34	0.38

SAD16E



PRAMET

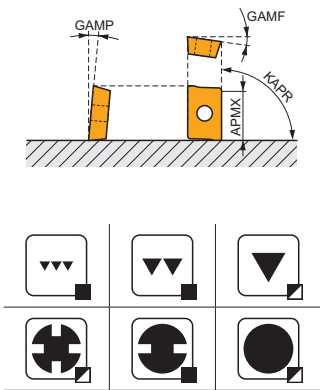
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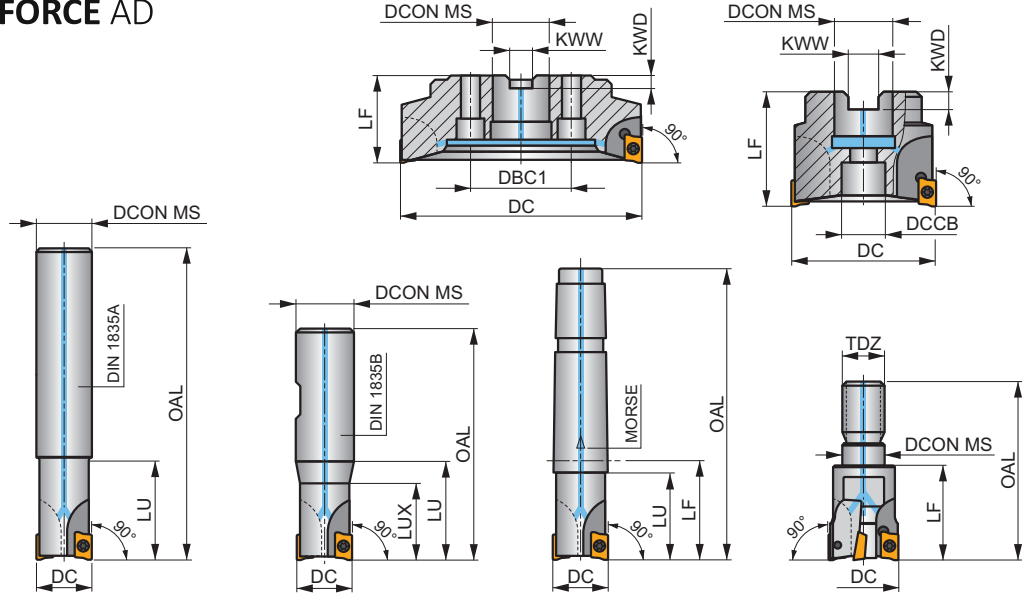
FORCE AD16 Square Shoulder Mill with Internal Coolant

90° end and shell mills utilizing positive AD.. 16 style insert with APMX of 13 mm. Suitable for face, shoulder, slot, helical, trochoidal, ramping and plunge milling. Available in cylindrical, Weldon, morse taper, modular and arbor (with differential tooth pitch) style. Body treated for longer tool life.

KAPR	90°
APMX	13.0 mm



FORCE AD



Product	DC	OAL	DCON MS	DCCB	DBC1	LU	LUX	LF	TDZ	CZC MS	KWW	KWD	GAMF	GAMP	max.			kg	G165		
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)	rpm	fz	min	kg	Series	Part	
25A2R033A25-SAD16E-C	25	165	25	-	-	33	-	-	-	-	-	-	-13	5	2	-	18700	✓	0.52	G165 SQ030	-
25A2R038A25-SAD16E-C	25	200	25	-	-	38	-	-	-	-	-	-	-13	5	2	-	18700	✓	0.66	G165 SQ030	-
32A3R033A32-SAD16E-C	32	195	32	-	-	33	-	-	-	-	-	-	-12	7	3	-	16500	✓	1.03	G165 SQ030	-
32A3R048A32-SAD16E-C	32	250	32	-	-	48	-	-	-	-	-	-	-12	7	3	-	16500	✓	1.35	G165 SQ030	-
25A2R042B25-SAD16E-C	25	98	25	-	-	-	42	-	-	-	-	-	-13	5	2	-	18700	✓	0.29	G165 SQ030	-
32A3R040B32-SAD16E-C	32	100	32	-	-	-	40	-	-	-	-	-	-12	7	3	-	16500	✓	0.51	G165 SQ030	-
40A3R050B32-SAD16E-C	40	110	32	-	-	-	50	-	-	-	-	-	-8.2	10.5	3	-	14800	✓	0.51	G165 SQ030	-
40A4R050B32-SAD16E-C	40	110	32	-	-	-	50	-	-	-	-	-	-8.2	10.5	4	-	14800	✓	0.64	G165 SQ030	-
25A2R043E03-SAD16E-C	25	98	-	-	-	38	-	43	-	3	-	-	-13	5	2	-	18600	✓	0.31	G165 SQ030	-
32A3R043E03-SAD16E-C	32	100	-	-	-	38	-	43	-	3	-	-	-12	7	3	-	16500	✓	0.33	G165 SQ030	-
40A3R054E04-SAD16E-C	40	110	-	-	-	48	-	54	-	4	-	-	-8.2	10.5	3	-	14700	✓	0.74	G165 SQ030	-
40A4R054E04-SAD16E-C	40	110	-	-	-	48	-	54	-	4	-	-	-8.2	10.5	4	-	14700	✓	0.70	G165 SQ030	-
32A3R043M16-SAD16E-C	32	66	17	-	-	-	43	M16	-	-	-	-	-12	7	3	-	-	✓	0.20	G165 SQ030	-
40A4R043M16-SAD16E-C	40	66	17	-	-	-	43	M16	-	-	-	-	-8.2	10.5	4	-	-	✓	0.26	G165 SQ030	-
40A04R-S90AD16E-C	40	-	16	14	-	-	40	-	-	8.4	5.6	-8.2	10.5	4	-	✓	14700	✓	0.21	G165 SQ032	-
50A03R-S90AD16E-C	50	-	22	18	-	-	40	-	-	10.4	6.3	-7	11	3	-	✓	13200	✓	0.43	G165 SQ033	-
50A05R-S90AD16E-C	50	-	22	18	-	-	40	-	-	10.4	6.3	-7	11	5	✓	13200	✓	0.40	G165 SQ033	-	
63A04R-S90AD16E-C	63	-	22	18	-	-	40	-	-	10.4	6.3	-6	12	4	✓	11800	✓	0.60	G165 SQ033	-	
63A06R-S90AD16E-C	63	-	22	18	-	-	40	-	-	10.4	6.3	-6	12	6	✓	11800	✓	0.59	G165 SQ033	-	
80A05R-S90AD16E-C	80	-	27	38	-	-	50	-	-	12.4	7	-5	12	5	✓	10400	✓	1.09	G165 SQ031 AC001	-	
80A07R-S90AD16E-C	80	-	27	38	-	-	50	-	-	12.4	7	-5	13	7	✓	10400	✓	0.97	G165 SQ031 AC001	-	
100A06R-S90AD16E-C	100	-	32	45	-	-	50	-	-	14.4	8	-4	12	6	✓	9300	✓	1.85	G165 SQ031 AC002	-	
100A08R-S90AD16E-C	100	-	32	45	-	-	50	-	-	14.4	8	-4	12	8	✓	9300	✓	1.89	G165 SQ031 AC002	-	
125A09R-S90AD16E-C	125	-	40	56	-	-	63	-	-	16.4	9	-3.8	12	9	✓	8400	✓	3.65	G165 SQ031 AC003	-	
140A08R-S90AD16E-C	140	-	40	56	-	-	63	-	-	16.4	9	-3.8	12	8	✓	7900	✓	4.06	G165 SQ031	-	
160C10R-S90AD16E-C	160	-	40	-	66.7	-	63	-	-	16.4	9.2	-3.8	10	10	✓	7300	✓	6.04	G165 SQ036	-	
175C10R-S90AD16E-C	175	-	40	-	66.7	-	63	-	-	16.4	9.2	-3.8	12	10	✓	7000	✓	6.86	G165 SQ036	-	

GI165	ADMX 1606..	ADEX 1606..
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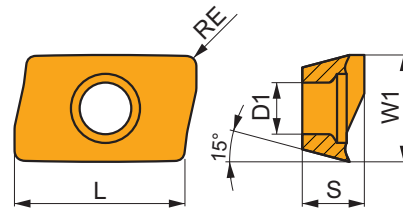
SQ030	US 4008-T15P	3.5	M 4	8	–	–	Flag T15P	–	–	–	–
SQ031	US 4011-T15P	3.5	M 4	10.6	D-T08P/T15P	FG-15	–	–	–	–	–
SQ032	US 4008-T15P	3.5	M 4	8	D-T08P/T15P	FG-15	–	HS 0830C	–	–	–
SQ033	US 4011-T15P	3.5	M 4	10.6	D-T08P/T15P	FG-15	–	HS 1030C	–	–	–
SQ036	US 4011-T15P	3.5	M 4	10.6	D-T08P/T15P	FG-15	–	HS 1240C	CAC 160C	HSD 0825C	HXK 5

AC001	KS 1230	K.FMH27
AC002	KS 1635	K.FMH32
AC003	KS 2040	K.FMH40

ADMX 16

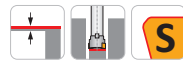
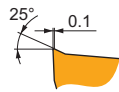
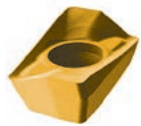


	W1	D1	L	S
	(mm)	(mm)	(mm)	(mm)
1606	9.950	4.50	16.00	6.25



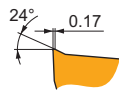
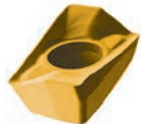
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



F geometry with highly positive design for light to medium machining.

ADMX 160608SR-F:8215	0.8	290	0.10	2.0	170	0.09	2.0	275	0.10	2.0	870	0.12	2.0	70	0.07	1.6	–	–	–
ADMX 160608SR-F:M8310	0.8	320	0.10	2.0	160	0.09	2.0	300	0.10	2.0	–	–	–	–	–	–	–	–	–
ADMX 160608SR-F:M8330	0.8	285	0.10	2.0	170	0.09	2.0	270	0.10	2.0	855	0.12	2.0	70	0.07	1.6	–	–	–
ADMX 160608SR-F:M8340	0.8	260	0.10	2.0	155	0.09	2.0	245	0.10	2.0	–	–	–	65	0.07	1.6	–	–	–
ADMX 160608SR-F:M9340	0.8	340	0.10	2.0	200	0.09	2.0	–	–	–	–	–	–	85	0.07	1.6	–	–	–

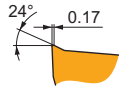
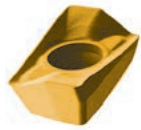


M geometry with positive design for light to medium machining.

ADMX 160604SR-M:8215	0.4	190	0.18	5.0	110	0.16	5.0	180	0.18	5.0	–	–	–	45	0.13	4.0	–	–	–
ADMX 160604SR-M:M8330	0.4	190	0.18	5.0	110	0.16	5.0	180	0.18	5.0	–	–	–	45	0.13	4.0	–	–	–
ADMX 160604SR-M:M8340	0.4	170	0.18	5.0	100	0.16	5.0	160	0.18	5.0	–	–	–	40	0.13	4.0	–	–	–
ADMX 160608SR-M:8215	0.8	225	0.18	5.0	135	0.16	5.0	210	0.18	5.0	–	–	–	55	0.13	4.0	–	–	–
ADMX 160608SR-M:M5315	0.8	305	0.18	5.0	–	–	–	285	0.18	5.0	–	–	–	–	–	–	–	–	–
ADMX 160608SR-M:M8310	0.8	250	0.18	5.0	125	0.16	5.0	235	0.18	5.0	–	–	–	–	–	–	–	–	–
ADMX 160608SR-M:M8330	0.8	225	0.18	5.0	135	0.16	5.0	210	0.18	5.0	–	–	–	55	0.13	4.0	–	–	–
ADMX 160608SR-M:M8340	0.8	205	0.18	5.0	120	0.16	5.0	190	0.18	5.0	–	–	–	50	0.13	4.0	–	–	–
ADMX 160608SR-M:M9315	0.8	305	0.18	5.0	–	–	–	285	0.18	5.0	–	–	–	–	–	–	–	–	–
ADMX 160608SR-M:M9325	0.8	280	0.18	5.0	–	–	–	265	0.18	5.0	–	–	–	–	–	–	–	–	–
ADMX 160608SR-M:M9340	0.8	255	0.18	5.0	150	0.16	5.0	–	–	–	–	–	–	60	0.13	4.0	–	–	–

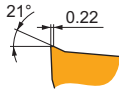
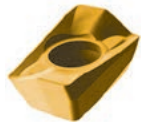
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



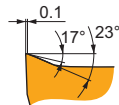
M geometry with positive design for light to medium machining.

ADMX 160616SR-M:8215	1.6	250	0.18	5.0	150	0.16	5.0	235	0.18	5.0	-	-	-	60	0.13	4.0	-	-	-
ADMX 160616SR-M:M8310	1.6	275	0.18	5.0	140	0.16	5.0	260	0.18	5.0	-	-	-	-	-	-	-	-	-
ADMX 160616SR-M:M8330	1.6	250	0.18	5.0	150	0.16	5.0	235	0.18	5.0	-	-	-	60	0.13	4.0	-	-	-
ADMX 160616SR-M:M8340	1.6	225	0.18	5.0	135	0.16	5.0	210	0.18	5.0	-	-	-	55	0.13	4.0	-	-	-
ADMX 160616SR-M:M9325	1.6	310	0.18	5.0	-	-	-	290	0.18	5.0	-	-	-	-	-	-	-	-	-
ADMX 160620SR-M:M8330	2.0	265	0.18	5.0	155	0.16	5.0	250	0.18	5.0	-	-	-	65	0.13	4.0	-	-	-
ADMX 160620SR-M:M8340	2.0	240	0.18	5.0	140	0.16	5.0	225	0.18	5.0	-	-	-	60	0.13	4.0	-	-	-
ADMX 160630SR-M:M8330	3.0	265	0.18	5.0	155	0.16	5.0	250	0.18	5.0	-	-	-	65	0.13	4.0	-	-	-
ADMX 160630SR-M:M8340	3.0	240	0.18	5.0	140	0.16	5.0	225	0.18	5.0	-	-	-	60	0.13	4.0	-	-	-
ADMX 160632SR-M:M6330	3.2	225	0.18	5.0	155	0.16	5.0	-	-	-	-	-	-	65	0.13	4.0	-	-	-
ADMX 160632SR-M:M8330	3.2	265	0.18	5.0	155	0.16	5.0	250	0.18	5.0	-	-	-	65	0.13	4.0	-	-	-
ADMX 160632SR-M:M8340	3.2	240	0.18	5.0	140	0.16	5.0	225	0.18	5.0	-	-	-	60	0.13	4.0	-	-	-
ADMX 160632SR-M:M9325	3.2	325	0.18	5.0	-	-	-	305	0.18	5.0	-	-	-	-	-	-	-	-	-
ADMX 160640SR-M:M8330	4.0	265	0.18	5.0	155	0.16	5.0	250	0.18	5.0	-	-	-	65	0.13	4.0	-	-	-
ADMX 160640SR-M:M8340	4.0	240	0.18	5.0	140	0.16	5.0	225	0.18	5.0	-	-	-	60	0.13	4.0	-	-	-
ADMX 160650SR-M:M8330	5.0	265	0.18	5.0	155	0.16	5.0	250	0.18	5.0	-	-	-	65	0.13	4.0	-	-	-
ADMX 160650SR-M:M8340	5.0	240	0.18	5.0	140	0.16	5.0	225	0.18	5.0	-	-	-	60	0.13	4.0	-	-	-



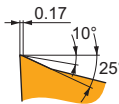
R geometry with positive design for medium to less stable machining conditions.

ADMX 160608PR-R:8215	0.8	205	0.25	6.0	120	0.23	6.0	190	0.25	6.0	-	-	-	50	0.20	4.8	40	0.16	1.1
ADMX 160608PR-R:M5315	0.8	260	0.25	6.0	-	-	-	245	0.25	6.0	-	-	-	-	-	-	50	0.16	1.1
ADMX 160608PR-R:M8310	0.8	220	0.25	6.0	110	0.23	6.0	205	0.25	6.0	-	-	-	40	0.16	1.1	-	-	-
ADMX 160608PR-R:M8330	0.8	205	0.25	6.0	120	0.23	6.0	190	0.25	6.0	-	-	-	50	0.20	4.8	40	0.16	1.1
ADMX 160608PR-R:M8340	0.8	190	0.25	6.0	110	0.23	6.0	180	0.25	6.0	-	-	-	45	0.20	4.8	-	-	-
ADMX 160608PR-R:M9315	0.8	265	0.25	6.0	-	-	-	250	0.25	6.0	-	-	-	-	-	-	50	0.16	1.1
ADMX 160608PR-R:M9325	0.8	250	0.25	6.0	-	-	-	235	0.25	6.0	-	-	-	-	-	-	50	0.16	1.1
ADMX 160616PR-R:M8330	1.6	225	0.25	6.0	135	0.23	6.0	210	0.25	6.0	-	-	-	55	0.20	4.8	45	0.16	1.1
ADMX 160616PR-R:M8340	1.6	210	0.25	6.0	125	0.23	6.0	195	0.25	6.0	-	-	-	50	0.20	4.8	-	-	-
ADMX 160616PR-R:M9315	1.6	295	0.25	6.0	-	-	-	280	0.25	6.0	-	-	-	-	-	-	55	0.16	1.1



MF geometry with highly positive design for finish machining.

ADMX 160608SR-MF:M6330	0.8	215	0.08	4.0	150	0.07	4.0	-	-	-	-	-	-	60	0.06	3.2	-	-	-
ADMX 160608SR-MF:M8340	0.8	225	0.08	4.0	135	0.07	4.0	-	-	-	-	-	-	55	0.06	3.2	-	-	-
ADMX 160608SR-MF:M9340	0.8	305	0.08	4.0	180	0.07	4.0	-	-	-	-	-	-	75	0.06	3.2	-	-	-



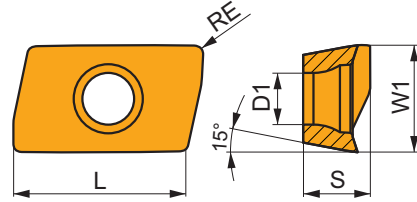
MM geometry with highly positive design for light to medium machining.

ADMX 160604SR-MM:M6330	0.4	145	0.18	4.0	105	0.16	4.0	-	-	-	-	-	-	40	0.14	3.2	-	-	-
ADMX 160604SR-MM:M8340	0.4	160	0.18	4.0	95	0.16	4.0	-	-	-	-	-	-	40	0.14	3.2	-	-	-
ADMX 160608SR-MM:M6330	0.8	175	0.18	4.0	125	0.16	4.0	-	-	-	-	-	-	50	0.14	3.2	-	-	-
ADMX 160608SR-MM:M8340	0.8	190	0.18	4.0	110	0.16	4.0	-	-	-	-	-	-	45	0.14	3.2	-	-	-
ADMX 160608SR-MM:M8345	0.8	150	0.18	4.0	90	0.16	4.0	-	-	-	-	-	-	35	0.14	3.2	-	-	-
ADMX 160608SR-MM:M9340	0.8	235	0.18	4.0	140	0.16	4.0	-	-	-	-	-	-	55	0.14	3.2	-	-	-
ADMX 160616SR-MM:M6330	1.6	195	0.18	4.0	140	0.16	4.0	-	-	-	-	-	-	55	0.14	3.2	-	-	-
ADMX 160616SR-MM:M8340	1.6	210	0.18	4.0	125	0.16	4.0	-	-	-	-	-	-	50	0.14	3.2	-	-	-
ADMX 160616SR-MM:M8345	1.6	165	0.18	4.0	95	0.16	4.0	-	-	-	-	-	-	40	0.14	3.2	-	-	-
ADMX 160616SR-MM:M9340	1.6	260	0.18	4.0	155	0.16	4.0	-	-	-	-	-	-	65	0.14	3.2	-	-	-

ADEX 16

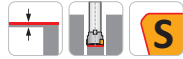
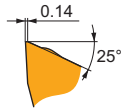


	W1	D1	L	S
	(mm)	(mm)	(mm)	(mm)
1606	9.950	4.50	16.00	6.25



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



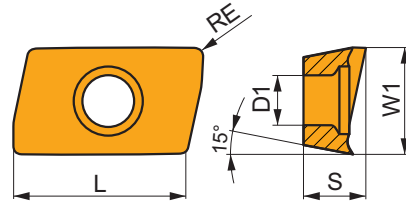
FM geometry with highly positive design for medium machining.

ADEX 160608SR-FM:8215	0.8	260	0.16	2.0	155	0.14	2.0	245	0.16	2.0	-	-	-	65	0.11	1.6	-	-	-
ADEX 160608SR-FM:M8330	0.8	255	0.16	2.0	150	0.14	2.0	240	0.16	2.0	-	-	-	60	0.11	1.6	-	-	-
ADEX 160608SR-FM:M8340	0.8	235	0.16	2.0	140	0.14	2.0	220	0.16	2.0	-	-	-	55	0.11	1.6	-	-	-

ADEX 16-FA

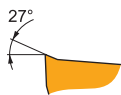


	W1	D1	L	S
	(mm)	(mm)	(mm)	(mm)
1606	9.950	4.50	16.00	6.17



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



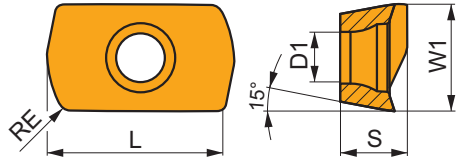
FA geometry with highly positive design for fine-finish to medium machining.

ADEX 160604FR-FA:HF7	0.4	-	-	-	-	-	-	195	0.28	6.0	-	-	-	-	-	-	-	-	-
ADEX 160604FR-FA:M0315	0.4	-	-	-	-	-	-	480	0.28	6.0	-	-	-	-	-	-	-	-	-
ADEX 160608FR-FA:HF7	0.8	-	-	-	-	-	-	240	0.28	6.0	-	-	-	-	-	-	-	-	-
ADEX 160608FR-FA:M0315	0.8	-	-	-	-	-	-	570	0.28	6.0	-	-	-	-	-	-	-	-	-
ADEX 160616FR-FA:HF7	1.6	-	-	-	-	-	-	255	0.28	6.0	-	-	-	-	-	-	-	-	-
ADEX 160616FR-FA:M0315	1.6	-	-	-	-	-	-	630	0.28	6.0	-	-	-	-	-	-	-	-	-
ADEX 160630FR-FA:HF7	3.0	-	-	-	-	-	-	270	0.28	6.0	-	-	-	-	-	-	-	-	-

ADEX 16-HF

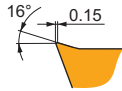


	W1	D1	L	S
	(mm)	(mm)	(mm)	(mm)
1606	9.950	4.50	16.00	5.88



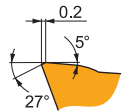
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



HF geometry with highly positive design for high feed machining.

ADEX 160612SR-HF:8215	1.2	195	1.00	0.6	115	0.90	0.6	-	-	-	-	-	-	-	-	-	-	-
ADEX 160612SR-HF:M8310	1.2	205	1.00	0.6	100	0.77	0.6	-	-	-	-	-	-	-	-	-	-	-
ADEX 160612SR-HF:M8330	1.2	200	1.00	0.6	120	0.90	0.6	-	-	-	-	-	-	-	-	-	-	-
ADEX 160612SR-HF:M8340	1.2	185	1.00	0.6	110	0.90	0.6	-	-	-	-	-	-	-	-	-	-	-
ADEX 160612SR-HF:M9340	1.2	195	1.00	0.6	115	0.90	0.6	-	-	-	-	-	-	-	-	-	-	-



HF2 geometry with positive design for high feed machining.

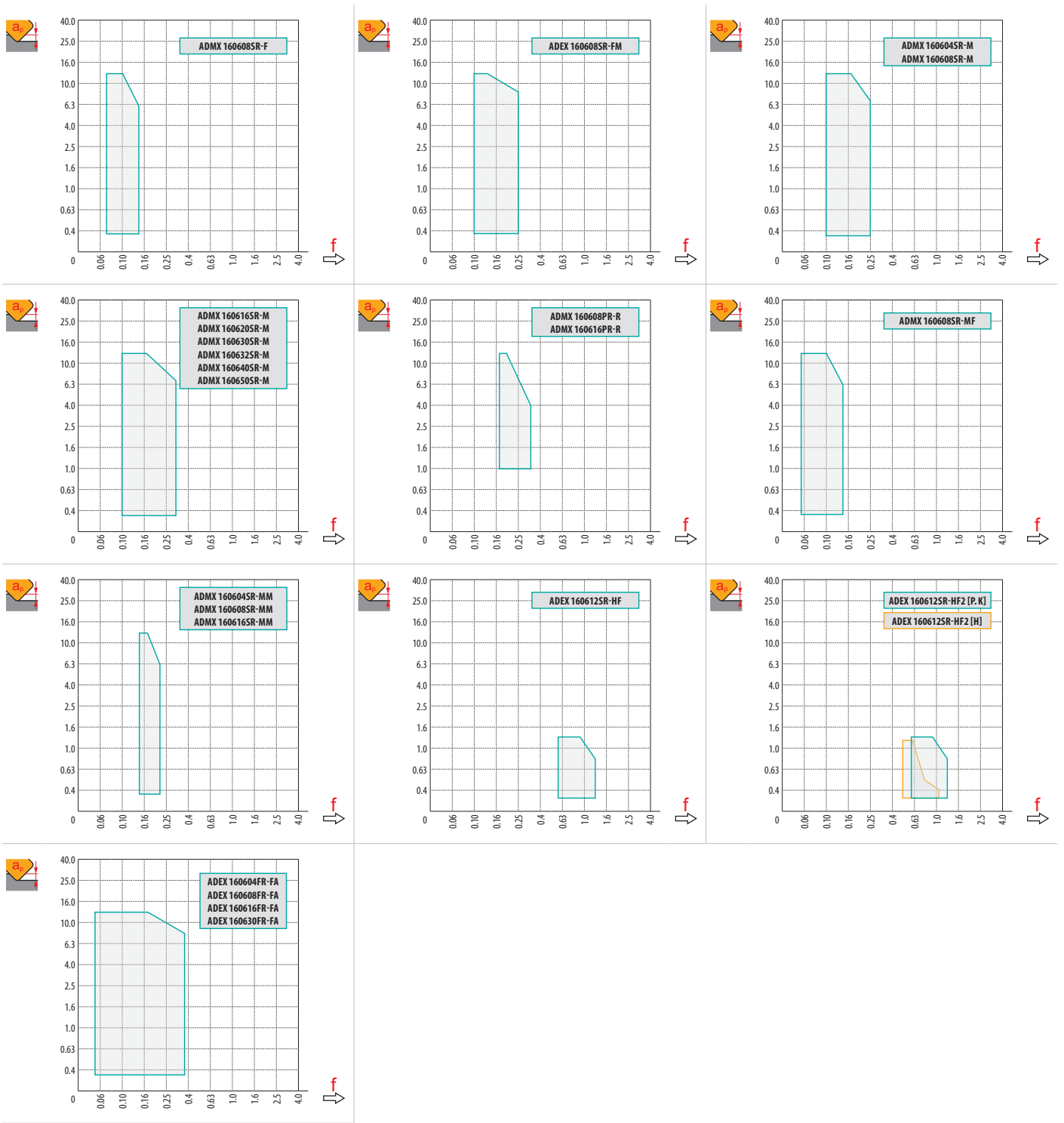
ADEX 160612SR-HF2:M8310	1.2	205	0.90	0.6	100	0.81	0.6	190	0.90	0.6	-	-	-	-	-	-	40	0.63	0.5
ADEX 160612SR-HF2:M8330	1.2	205	0.90	0.6	120	0.81	0.6	190	0.90	0.6	50	0.81	0.5	40	0.63	0.5	-	-	-
ADEX 160612SR-HF2:M8340	1.2	190	0.90	0.6	110	0.81	0.6	180	0.90	0.6	45	0.81	0.5	-	-	-	-	-	-
ADEX 160612SR-HF2:M9325	1.2	230	0.90	0.6	-	-	-	215	0.90	0.6	-	-	-	45	0.63	0.5	-	-	-



a_e / DC	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	ADMX 16-F	ADEX 16-FM	ADMX 16-M									ADMX 16-R	
	0.8	0.8	0.4	0.8	1.6	2.0	3.0	3.2	4.0	5.0	0.8	1.6	
	2.99	2.18	3.39	2.99	1.62	1.23	0.28	0.09	2.69	1.52	2.99	1.62	

	ADMX 16-MF	ADMX 16-MM			ADEX 16-HF	ADEX 16-HF2	ADEX 16-FA			
	0.8	0.4	0.8	1.6	1.2	1.2	0.4	0.8	1.6	3.0
	2.99	3.39	2.99	1.62	0.52	0.52	2.84	2.44	1.65	0.69



	7.5		
	1.0	6.0	13.0
	0.28	0.19	0.10

	RPMX	APMX/I
25	12.5°	13.0/60
32	7.5°	13.0/100
40	5.0°	8.6/100
50	3.5°	6.0/100
63	2.5°	4.2/100
80	2.0°	3.3/100

HFC			
	RPMX *	RPMX **	APMX/I
25	4.0°	8.0°	1.3/19
32	2.0°	7.5°	1.3/38
40	1.2°	4.5°	1.3/65
50	0.8°	3.0°	1.3/100
63	0.5°	2.0°	0.8/100
80	0.4°	1.5°	0.6/100

* HFC milling
 ** Conventional milling



	D _{MIN}	D _{MAX}		
25	42.0	50.0	10.0	12.5
32	55.0	64.0	6.5	9.0
40	72.0	80.0	5.0	8.0
50	92.0	100.0	4.5	6.0
63	118.0	126.0	4.0	5.0
80	136.0	160.0	1.5	2.0

HFC				
	D _{MIN}	D _{MAX}		
25	42.0	50.0	1.3	1.3
32	55.0	64.0	1.3	1.3
40	72.0	80.0	1.3	1.3
50	92.0	100.0	1.3	1.3
63	118.0	126.0	1.3	1.3
80	136.0	160.0	1.3	1.3



2.5

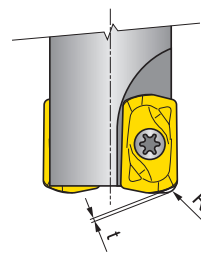


		3	5	10	15	20	30	40	50	60	80	100
25		0.548	0.707	1.000	1.225	1.414	1.732	2.000	2.236	2.449	2.828	3.162
32		0.620	0.800	1.131	1.386	1.600	1.960	2.263	2.530	2.771	3.200	3.578
40		0.693	0.894	1.265	1.549	1.789	2.191	2.530	2.828	3.098	3.578	4.000
50		0.775	1.000	1.414	1.732	2.000	2.449	2.828	3.162	3.464	4.000	4.472
63		0.869	1.122	1.587	1.944	2.245	2.750	3.175	3.550	3.888	4.490	5.020
80		0.980	1.265	1.789	2.191	2.530	3.098	3.578	4.000	4.382	5.060	5.657

		3	5	10	15	20	30	40	50	60	80	100
1.6		0.196	0.253	0.358	0.438	0.506	0.620	0.716	0.800	0.876	1.012	1.131
2.0		0.219	0.283	0.400	0.490	0.566	0.693	0.800	0.894	0.980	1.131	1.265
3.0		0.268	0.346	0.490	0.600	0.693	0.849	0.980	1.095	1.200	1.386	1.549
3.2		0.277	0.358	0.506	0.620	0.716	0.876	1.012	1.131	1.239	1.431	1.600
4.0		0.310	0.400	0.566	0.693	0.800	0.980	1.131	1.265	1.386	1.600	1.789
5.0		0.346	0.447	0.632	0.775	0.894	1.095	1.265	1.414	1.549	1.789	2.000



ADMX/ADEX 16	R
ADMX 160630SR-M	2.5
ADMX 160632SR-M	2.5
ADMX 160640SR-M	4.0
ADMX 160650SR-M	4.5
ADEX 160612SR-HF	3.0
ADEX 160612SR-HF2	3.0



ADEX 16	R	t
ADEX 160612SR-HF	2.59	0.56
ADEX 160612SR-HF2	2.48	0.57

SAP10D

P M K N S

PRAMET

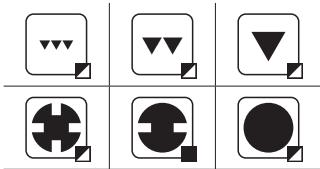
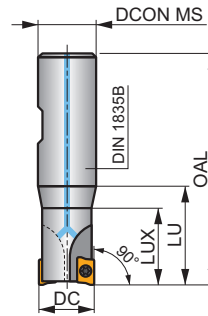
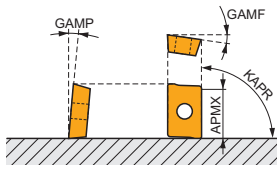
S



Square Shoulder Mill for APKT 10 Insert with Internal Coolant

90° end and shell mills utilising positive APKT 10 style insert with APMX of 9 mm. Suitable for face, shoulder, slot, helical, trochoidal, ramping and plunge milling. Available in weldon and arbor (with differential tooth pitch) style. . Body treated for longer tool life.

KAPR	90°
APMX	9.0 mm



Product	DC	OAL	DCON MS	DCCB	LU	LUX	LF	KWW	KWD	GAMF	GAMP							
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)							
10A1R020B16-SAP10D-C	10	78	16	-	30	20	-	-	-	12	2	1	-	39000	✓	0.09	G1081	SQ215
12A1R027B16-SAP10D-C	12	75	16	-	27	-	-	-	-	12	2	1	-	35600	✓	0.10	G1081	SQ210
16A2R032B16-SAP10D-C	16	80	16	-	32	-	-	-	-	12	4	2	-	30800	✓	0.12	G1081	SQ210
20A3R032B20-SAP10D-C	20	82	20	-	32	-	-	-	-	12	4	3	-	27600	✓	0.13	G1081	SQ210
25A3R042B25-SAP10D-C	25	98	25	-	42	-	-	-	-	12	4	3	-	24700	✓	0.36	G1081	SQ210

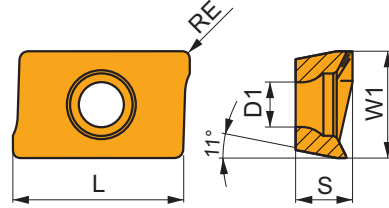
G1081	APKT 1003..

SQ210	US 2506-T07P	1.2	M 2.5	6.3	Flag T07P
SQ215	US 2505-T07P	1.2	M 2.5	5.2	Flag T07P

APKT 10

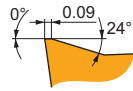
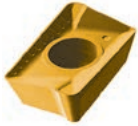


	W1 (mm)	D1 (mm)	L (mm)	S (mm)
1003	6.700	2.88	11.00	3.50



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



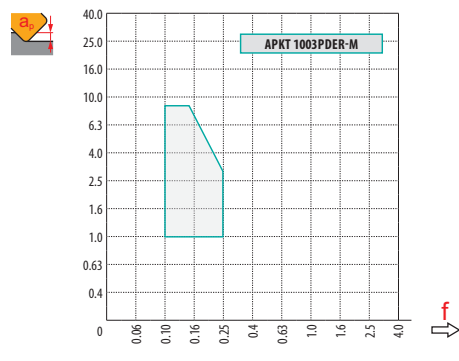
M geometry with highly positive design for light to medium machining.

APKT 1003PDER-M:8215	0.5	285	0.12	4.0	170	0.11	4.0	270	0.12	4.0	-	-	-	70	0.11	3.2	-	-	-
APKT 1003PDER-M:M8330	0.5	285	0.12	4.0	170	0.11	4.0	270	0.12	4.0	-	-	-	70	0.11	3.2	-	-	-
APKT 1003PDER-M:M8340	0.5	255	0.12	4.0	150	0.11	4.0	240	0.12	4.0	-	-	-	60	0.11	3.2	-	-	-
APKT 1003PDER-M:M9325	0.5	360	0.12	4.0	-	-	-	340	0.12	4.0	-	-	-	-	-	-	-	-	-
APKT 1003PDER-M:M9340	0.5	335	0.12	4.0	200	0.11	4.0	-	-	-	-	-	-	80	0.11	3.2	-	-	-



a_e / DC	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	APKT 10-M
	0.5
	0.84



	4.5
--	-----

	1.0	3.0	5.0
	0.20	0.13	0.10

	RPMX	APMX/I
10	7.3°	9.0/72
12	6.2°	9.0/84
16	2.4°	4.0/100
20	2.2°	3.7/100
25	2.2°	3.7/100

	DMIN	DMAX		
10	11.0	20.0	0.4	3.8
12	13.0	24.0	0.3	3.9
16	20.5	32.0	0.6	2.0
20	27.2	40.0	0.9	2.4
25	37.9	50.0	1.6	3.0

	0.3
--	-----

SAP16D



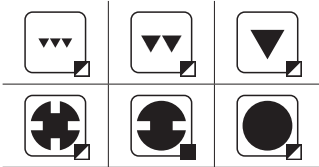
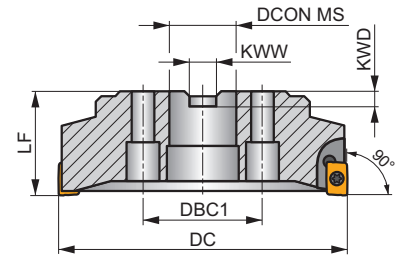
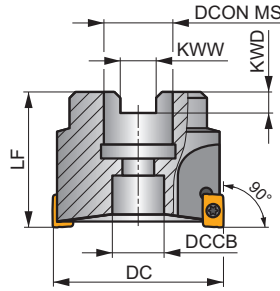
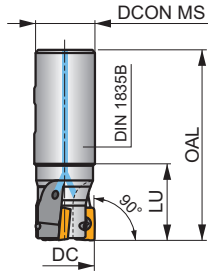
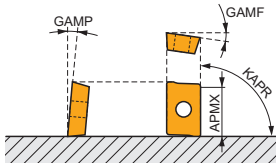
PRAMET



Square Shoulder Mill for APKT 16 Insert with Internal Coolant

90° end and shell mills utilising positive APKT 16 style insert with APMX of 13 mm. Suitable for face, shoulder, slot, helical, trochoidal, ramping and plunge milling. Available in weldon and arbor (with differential tooth pitch) style. . Body treated for longer tool life.

KAPR	90°
APMX	13.0 mm



	0.06 - 0.18
	0.10 - 0.22



Product	DC	OAL	DCON MS	DCCB	DBC1	LU	LF	KWW	KWD	GAMF	GAMP				kg				
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)								
25A2R042B25-SAP16D-C	25	98	25	-	-	42	-	-	-	0	6	2	-	16800	✓	0.31	GI080	SQ030	-
32A3R040B32-SAP16D-C	32	100	32	-	-	50	-	-	-	0	8	3	-	14800	✓	0.51	GI080	SQ220	-
40A4R050B32-SAP16D-C	40	110	32	-	-	50	-	-	-	0	8	4	-	13200	✓	0.67	GI080	SQ220	-
40A4R-S90AP16D	40	40	16	11	-	-	40	8.4	5.6	0	6	4	✓	13200	-	0.23	GI080	SQ031	-
50A5R-S90AP16D	50	40	22	18	-	-	40	10.4	6.3	0	6	5	✓	11800	-	0.35	GI080	SQ031	-
63A6R-S90AP16D	63	40	22	18	-	-	40	10.4	6.3	0	6	6	✓	10600	-	0.50	GI080	SQ031	-
80B5R-S90AP16D	80	50	27	38	-	-	50	12.4	7	0	6	5	✓	9400	-	0.97	GI080	SQ031	AC001
80B7R-S90AP16D	80	50	27	38	-	-	50	12.4	7	0	6	7	✓	9400	-	0.99	GI080	SQ031	AC001
100B8R-S90AP16D	100	50	32	45	-	-	50	14.4	8	0	6	8	✓	8400	-	1.50	GI080	SQ031	AC002
125B9R-S90AP16D	125	63	40	56	-	-	63	16.4	9	0	6	9	✓	7500	-	2.80	GI080	SQ031	AC003

GI080	APKT 1604..	APET 1604..

SQ030	US 4008-T15P	3.5	M 4	8	-	-	Flag T15P
SQ031	US 4011-T15P	3.5	M 4	10.6	D-T08P/T15P	FG-15	-
SQ220	US 4011-T15P	3.5	M 4	10.6	-	-	Flag T15P

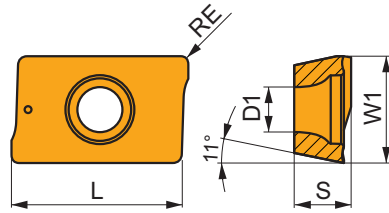
AC001	KS 1230	K.FMH27

AC002	KS 1635	K.FMH32
AC003	KS 2040	K.FMH40

APKT 16

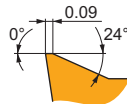
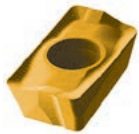


	W1	D1	L	S
	(mm)	(mm)	(mm)	(mm)
1604	9.440	4.60	17.00	5.67



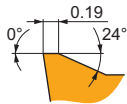
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)			



GM geometry with highly positive design for light to medium machining.

APKT 1604PDR-GM:M8330	0.8	235	0.20	8.0	140	0.18	8.0	220	0.20	8.0	—	—	—	55	0.16	6.4	—	—	—
APKT 1604PDR-GM:M8340	0.8	210	0.20	8.0	125	0.18	8.0	195	0.20	8.0	—	—	—	50	0.16	6.4	—	—	—
APKT 1604PDR-GM:M9315	0.8	310	0.20	8.0	—	—	—	290	0.20	8.0	—	—	—	—	—	—	—	—	—
APKT 1604PDR-GM:M9325	0.8	285	0.20	8.0	—	—	—	270	0.20	8.0	—	—	—	—	—	—	—	—	—
APKT 1604PDR-GM:M9340	0.8	260	0.20	8.0	155	0.18	8.0	—	—	—	—	—	—	65	0.16	6.4	—	—	—



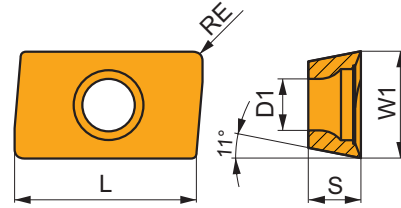
HM geometry with highly positive design for medium and less stable machining conditions.

APKT 160404-HM:M8340	0.4	160	0.30	6.0	95	0.27	6.0	150	0.30	6.0	—	—	—	40	0.24	4.8	—	—	—
APKT 160416-HM:M8340	1.6	210	0.30	6.0	125	0.27	6.0	195	0.30	6.0	—	—	—	50	0.24	4.8	—	—	—
APKT 160431-HM:M8340	3.1	220	0.30	6.0	130	0.27	6.0	205	0.30	6.0	—	—	—	55	0.24	4.8	—	—	—
APKT 1604PDR-HM:8215	0.8	220	0.30	6.0	130	0.27	6.0	205	0.30	6.0	—	—	—	55	0.24	4.8	—	—	—
APKT 1604PDR-HM:M5315	0.8	270	0.30	6.0	—	—	—	255	0.30	6.0	—	—	—	—	—	—	—	—	—
APKT 1604PDR-HM:M8330	0.8	220	0.30	6.0	130	0.27	6.0	205	0.30	6.0	—	—	—	55	0.24	4.8	—	—	—
APKT 1604PDR-HM:M8340	0.8	200	0.30	6.0	120	0.27	6.0	190	0.30	6.0	—	—	—	50	0.24	4.8	—	—	—
APKT 1604PDR-HM:M9325	0.8	260	0.30	6.0	—	—	—	245	0.30	6.0	—	—	—	—	—	—	—	—	—

APET 16-FA

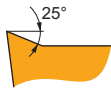


	W1 (mm)	D1 (mm)	L (mm)	S (mm)
1604	9.600	4.50	17.00	4.76



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



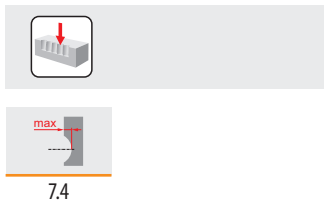
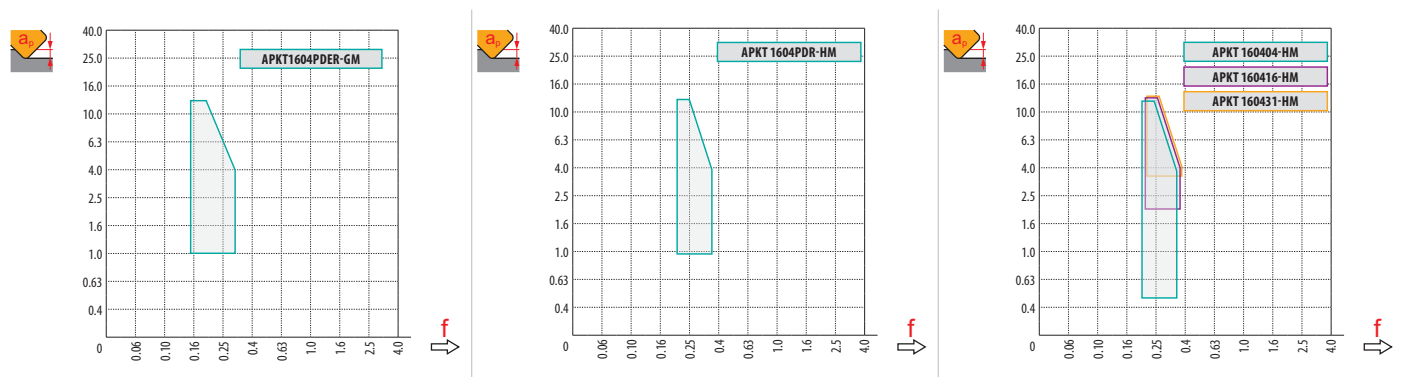
FA geometry with highly positive design for fine-finish to medium machining.

APET 160408FR-FA:HF7	● 0.8	-	-	-	-	-	-	-	-	-	■ 255	0.24	8.0	-	-	-	-	-	-
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a_e / DC	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	APKT 16-GM	APKT 16-HM			
	0.8	0.4	0.8	1.6	3.1
	1.39	1.87	1.48	0.64	1.30



a_p	1.0	6.0	13.0
	0.28	0.19	0.13

	DMIN	DMAX		
25	34.7	50.0	1.2	3.1
32	48.5	64.0	0.9	1.7
40	63.5	80.0	1.3	2.2
50	83.5	100.0	0.9	1.4
63	110.0	126.0	1.0	1.4
80	144.0	160.0	1.1	1.3

	RPMX	APMX/I
25	2.3	3.9/100
32	1.0	1.6/100
40	1.0	1.6/100
50	0.5	0.7/100
63	0.4	0.5/100
80	0.3	0.4/100

a_e
0.2

SS009

P M K S

PRAMET

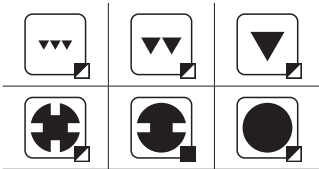
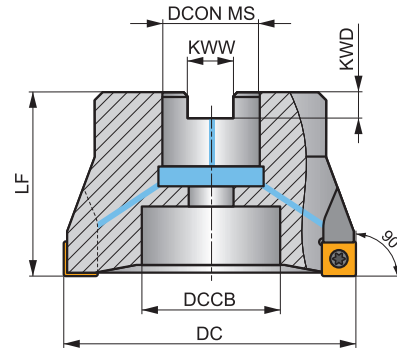
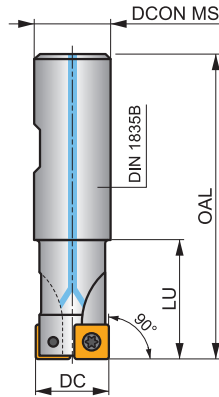
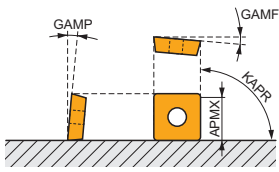
S



90° Square Shoulder Mill for SOMT 09 Insert with Internal Coolant

90° end and shell mills utilising positive SOMT 09 inserts with APMX of 8 mm. Suitable for face, shoulder, slot and plunge milling. Available in weldon and arbor style. Differential tooth pitch available. Body treated for longer tool life.

KAPR	90°
APMX	8.0 mm



	0.07 - 0.18				
	0.07 - 0.22				

Product	DC	OAL	DCON MS	DCCB	LU	LF	KWW	KWD	GAMP	GAMP								
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)				kg				
20A2R032B20-SS009-C	20	82	20	-	32	-	-	-	-12	6	2	-	23800	✓	0.21	GI146	SQ400	-
25A3R042B25-SS009-C	25	98	25	-	42	-	-	-	-12	6	3	-	21300	✓	0.31	GI146	SQ400	-
32A4R042B32-SS009-C	32	102	32	-	42	-	-	-	-10	10	4	✓	18800	✓	0.55	GI146	SQ400	-
40A05R-S90S009-C	40	-	16	14	-	40	8.4	5.6	-9.1	10	5	-	16800	✓	0.29	GI146	SQ402	-
50A06R-S90S009-C	50	-	22	18	-	40	10.4	6.4	-8.8	10	6	-	15100	✓	0.33	GI146	SQ403	-
63A07R-S90S009-C	63	-	22	18	-	40	10.4	6.4	-8.6	10	7	-	13400	✓	0.62	GI146	SQ403	-
80A09R-S90S009-C	80	-	27	38	-	50	12.4	7	-8.1	10	9	-	11900	✓	1.03	GI146	SQ401	AC001

	GI146		SOMT 09T3..
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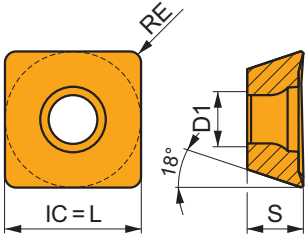
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SQ402	US 3006-T09P	2.0	M 3	6	D-T07P/T09P	FG-15	-	HS 0830C
SQ403	US 3006-T09P	2.0	M 3	6	D-T07P/T09P	FG-15	-	HS 1030C

	AC001		KS 1230		K.FMH27
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SOMT 09

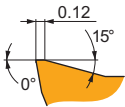
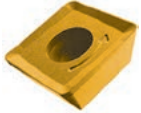


	IC (mm)	D1 (mm)	L (mm)	S (mm)
09T3	9.550	3.50	9.55	3.97



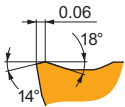
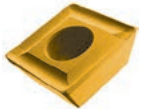
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Conditions are valid for setting angle 90°. Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



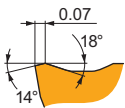
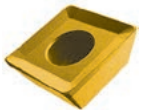
M geometry with positive design for medium machining.

SOMT 09T308-M:8215	0.8	275	0.14	2.5	165	0.13	2.5	260	0.14	2.5	-	-	-	65	0.13	2.0	-	-	-
SOMT 09T308-M:M5315	0.8	390	0.14	2.5	-	-	-	370	0.14	2.5	-	-	-	-	-	-	-	-	-
SOMT 09T308-M:M8330	0.8	270	0.14	2.5	160	0.13	2.5	255	0.14	2.5	-	-	-	65	0.13	2.0	-	-	-
SOMT 09T308-M:M8340	0.8	250	0.14	2.5	150	0.13	2.5	235	0.14	2.5	-	-	-	60	0.13	2.0	-	-	-
SOMT 09T308-M:M9315	0.8	380	0.14	2.5	-	-	-	360	0.14	2.5	-	-	-	-	-	-	-	-	-



MI geometry with stable positive design for medium machining.

SOMT 09T304-MI:8215	0.4	230	0.14	2.5	135	0.13	2.5	215	0.14	2.5	-	-	-	55	0.10	2.0	-	-	-
SOMT 09T304-MI:M8310	0.4	255	0.14	2.5	130	0.13	2.5	240	0.14	2.5	-	-	-	-	-	-	-	-	-
SOMT 09T304-MI:M8330	0.4	230	0.14	2.5	135	0.13	2.5	215	0.14	2.5	-	-	-	55	0.10	2.0	-	-	-
SOMT 09T304-MI:M8340	0.4	210	0.14	2.5	125	0.13	2.5	195	0.14	2.5	-	-	-	50	0.10	2.0	-	-	-
SOMT 09T304-MI:M9315	0.4	320	0.14	2.5	-	-	-	300	0.14	2.5	-	-	-	-	-	-	-	-	-
SOMT 09T304-MI:M9340	0.4	265	0.14	2.5	155	0.13	2.5	-	-	-	-	-	-	65	0.10	2.0	-	-	-



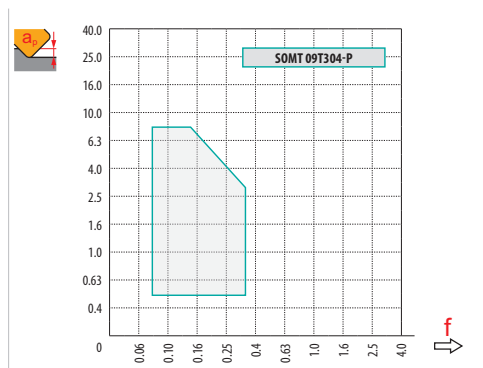
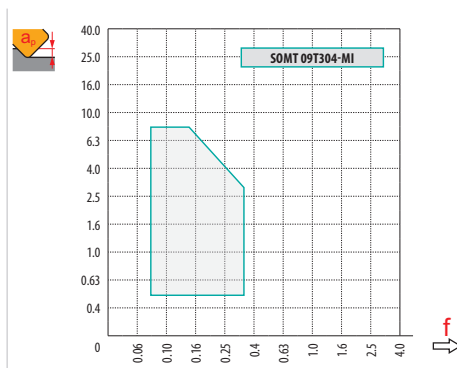
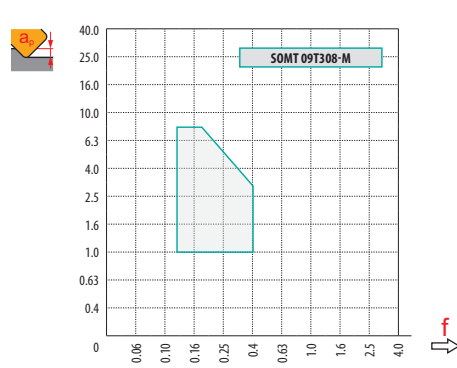
P geometry with highly positive design for medium machining.

SOMT 09T304-P:M8330	0.4	250	0.14	2.5	150	0.13	2.5	235	0.14	2.5	-	-	-	60	0.10	2.0	-	-	-
SOMT 09T304-P:M8340	0.4	230	0.14	2.5	135	0.13	2.5	215	0.14	2.5	-	-	-	55	0.10	2.0	-	-	-
SOMT 09T304-P:M9325	0.4	320	0.14	2.5	-	-	-	300	0.14	2.5	-	-	-	-	-	-	-	-	-



a_e / DC	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	SOMT 09-M	SOMT 09-MI	SOMT 09-P
	0.8	0.4	0.4
	0.90	1.30	1.30



6.0

	1.0	4.0	8.0
	0.28	0.19	0.09

SSD12

P M K N S

PRAMET

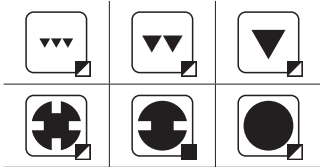
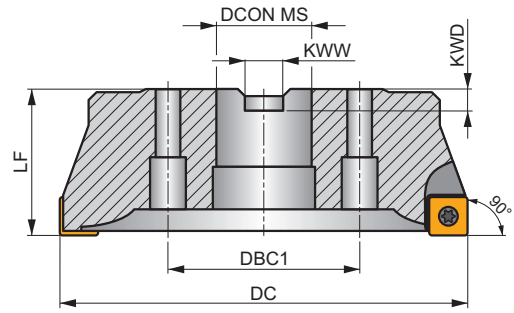
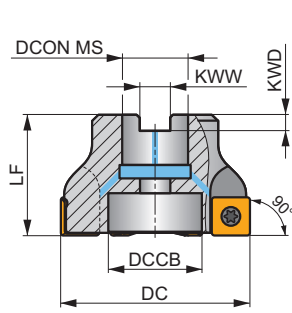
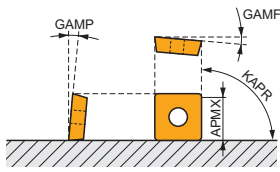
S



90° Square Shoulder Mill for SDMT 12 Insert with Internal Coolant

90° shell mill utilising positive SDMT 12 inserts with APMX of 10 mm. Suitable for face, shoulder, slot and plunge milling. Available in arbor style only. Body treated for longer tool life.

KAPR	90°
APMX	10.0 mm



0.09 - 0.25



Product	DC	LF	DCON MS	DCCB	DBC1	KWW	KWD	GAMP	GAMP					kg			
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)								
50A05R-S90SD12-C	50	40	22	18	-	10.4	6.3	-5	8	5	-	13000	✓	0.34	GI057	SQ413	-
63A06R-S90SD12-C	63	40	22	18	-	10.4	6.3	-5	8	6	-	11600	✓	0.53	GI057	SQ413	-
80A06R-S90SD12-C	80	50	27	38	-	12.4	7	-5	8	6	-	10300	✓	1.16	GI057	SQ411	AC001
100A08R-S90SD12-C	100	50	32	45	-	14.4	8	-5	8	8	-	9200	✓	1.69	GI057	SQ411	AC002
125A09R-S90SD12-C	125	63	40	56	-	16.4	9	-5	8	9	-	8300	✓	3.19	GI057	SQ411	AC003
160C12R-S90SD12	160	63	40	-	66.7	16.4	9	-5	8	12	-	7300	-	5.70	GI057	SQ411	-

	GI057		SDMT 1205..
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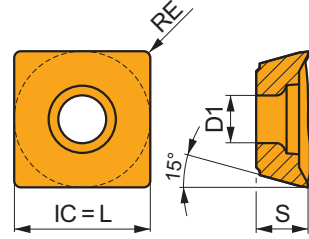
SQ411	SSN 100312	MS 3510	HXK 3.5	US 3511-T15	3.0	M 3.5	11	D-T07/T15	FG-15	-
SQ413	-	-	-	US 3511-T15	3.0	M 3.5	11	D-T07/T15	FG-15	HS 1030C

AC001	KS 1230	K.FMH27
AC002	KS 1635	K.FMH32
AC003	KS 2040	K.FMH40

SDMT 12

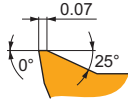


	IC	D1	L	S
	(mm)	(mm)	(mm)	(mm)
1205	12.700	4.40	12.70	5.00



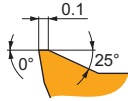
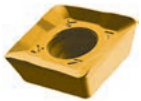
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap
		(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)



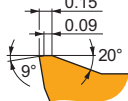
F geometry with positive design for light to medium machining.

SDMT 120508SR-F-M8330	0.8	275	0.10	3.0	165	0.09	3.0	260	0.10	3.0	825	0.12	3.0	65	0.08	2.4	-	-	-
SDMT 120508SR-F-M8340	0.8	250	0.10	3.0	150	0.09	3.0	235	0.10	3.0	-	-	-	60	0.08	2.4	-	-	-



M geometry with positive design for light to medium machining.

SDMT 120508SR-M-8215	0.8	245	0.16	3.5	145	0.14	3.5	230	0.16	3.5	-	-	-	60	0.11	2.8	-	-	-
SDMT 120508SR-M-M8330	0.8	240	0.16	3.5	140	0.14	3.5	225	0.16	3.5	-	-	-	60	0.11	2.8	-	-	-
SDMT 120508SR-M-M8340	0.8	220	0.16	3.5	130	0.14	3.5	205	0.16	3.5	-	-	-	55	0.11	2.8	-	-	-
SDMT 120508SR-M-M9325	0.8	305	0.16	3.5	-	-	-	285	0.16	3.5	-	-	-	-	-	-	-	-	-



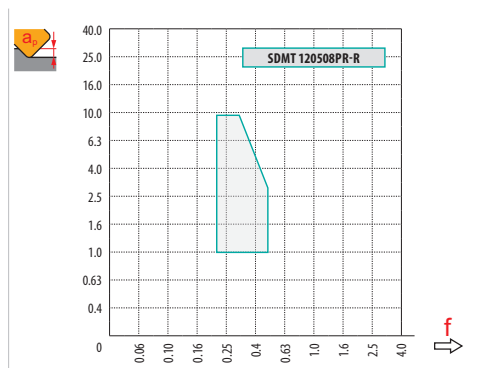
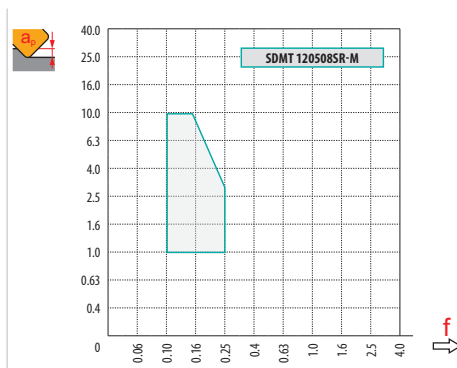
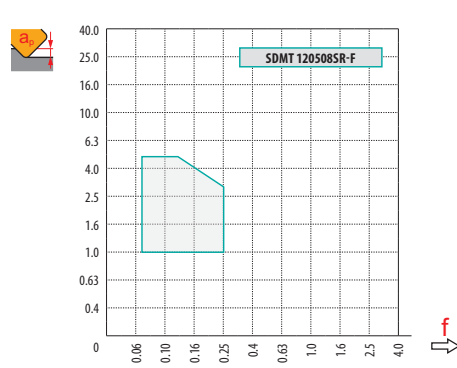
R geometry with stable positive design for medium machining.

SDMT 120508PR-R-M8330	0.8	220	0.25	3.5	130	0.23	3.5	205	0.25	3.5	-	-	-	55	0.23	2.8	-	-	-
SDMT 120508PR-R-M8340	0.8	195	0.25	3.5	115	0.23	3.5	185	0.25	3.5	-	-	-	45	0.23	2.8	-	-	-
SDMT 120508PR-R-M9315	0.8	280	0.25	3.5	-	-	-	265	0.25	3.5	-	-	-	-	-	-	-	-	-
SDMT 120508PR-R-M9325	0.8	265	0.25	3.5	-	-	-	250	0.25	3.5	-	-	-	-	-	-	-	-	-



a_e / DC	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	SDMT 12-F	SDMT 12-M	SDMT 12-R
	0.8	0.8	0.8
	—	—	—



8.0

	1.0	5.0	10.0
	0.39	0.25	0.14

FTB27X



PRAMET

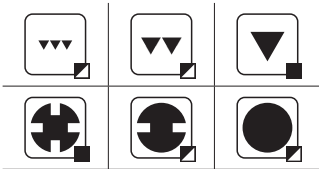
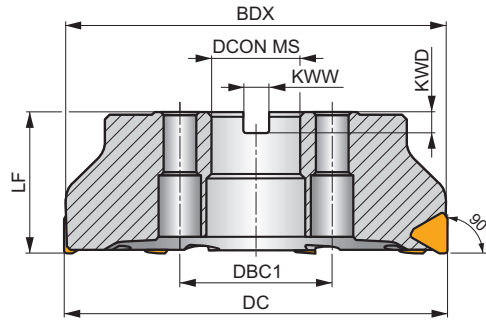
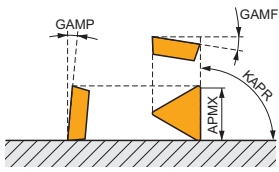


ROUGH TB Square Shoulder Face Mill for TBMR 27 Insert for Heavy Milling

90° shell mill utilising positive TBMR 27 inserts with APMX of 18 mm. Suitable for heavy face, shoulder and slot milling. Available in arbor style only and with differential tooth pitch. Body treated for longer tool life.

ROUGH TB

KAPR	90°
APMX	18.0 mm



0.15 - 0.38



Product	DC	BDX	LF	D CON MS	DCCB	DBC1	KWW	KWD	GAMF	GAMP									
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)									
175C08R-F90TB27X	175	169.6	63	40	-	66.7	16.4	16.4	-9	9	8	✓	-	-	7.59	GI163	SQ424	-	-
260C12R-F90TB27X	260	253.4	63	60	-	101.6	25.7	25.7	-9	9	12	✓	-	-	18.21	GI163	SQ425	-	-

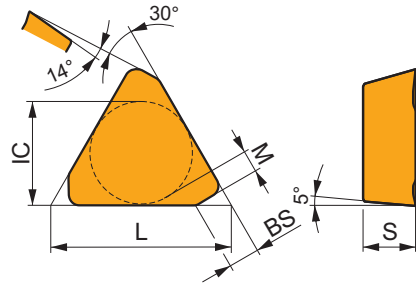
GI163	TBMR 2707PZ..																		

SQ424	LNK 220616	US 6013-T20P	SDR T20P-T	KU TBMR 2707	DS 01Z	KL 04	HS 1240
SQ425	LNK 220616	US 6013-T20P	SDR T20P-T	KU TBMR 2707	DS 01Z	KL 04	HS 1655

TBMR 27

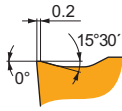


	BS	IC	L	M	S
	(mm)	(mm)	(mm)	(mm)	(mm)
2707	4.61	15.875	27.50	3.2	7.94



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



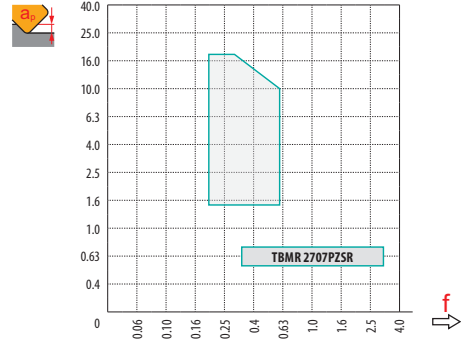
Strong design for heavy machining.

TBMR 2707PZSR:M8326	☹	–	☑	130	0.20	11.0	–	–	–	☑	120	0.20	11.0	–	–	–	–	–	–
TBMR 2707PZSR:M8346	☹	–	☑	110	0.20	11.0	☑	65	0.20	11.0	–	–	–	–	–	–	–	–	–



a_e / DC	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	TBMR 27
	-
	2.70






















	1.5	8.0	18.0
	0.60	0.39	0.24



DEEP SHOULDER MILLING

DEEP SHOULDER MILLING – NAVIGATOR

DEEP SHOULDER MILLING – HELICAL CUTTERS

	J(T)-SAD11E	J(T)-SAD16E	J(T)-SSAP	J(T)-CSD12X	J(T)-SLSN	
	90°		90°		90°	
	APMX (mm) 37.0 – 56.0	APMX (mm) 40.0 – 108.0	APMX (mm) 58.0 – 95.0	APMX (mm) 44.1 – 87.3	APMX (mm) 104.0 – 134.0	
	DC (mm) 25 – 50	DC (mm) 50 – 100	DC (mm) 50 – 80	DC (mm) 40 – 80	DC (mm) 63, 80	
Weldon	 DC = 25 – 40 (mm)					
Morse taper	 DC = 25 – 40 (mm)			 DC = 50 (mm)		
Arbor		 DC = 50 – 80 (mm)		 DC = 40 – 63 (mm)		
Shell mill	 DC = 50 (mm)	 DC = 50 – 100 (mm)		 DC = 50 – 80 (mm)		
Page	134	139	145	150	153	
ISO	P M K N S H	P M K N S H	P M K N S H	P M S	P K	
Insert shape						
Inserts	AD 11T3	AD.. 1606	APE. 150412 SPE. 1204	SD.X 1205	LNET 1606 SN.. 1305	
No. of cutting edges	2	2	2 / 4	4	2 / 8	
Deep shoulder milling 	■	■	■	■	■	
Deep slot milling 	■	■	■	■	■	
Face milling 	▣	▣	▣	▣	▣	
Plunge milling 	▣	▣	▣		▣	

J(T)-SAD11E



PRAMET

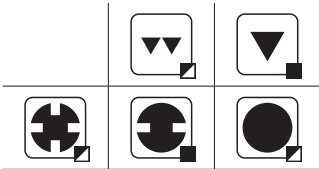
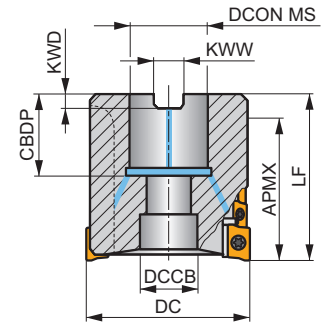
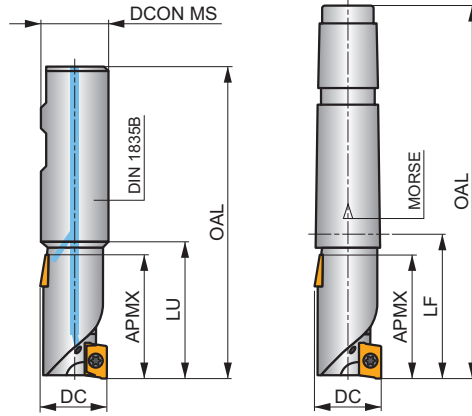
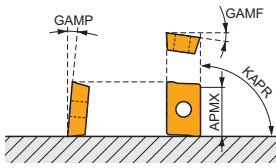


HELICAL AD11 Long Edge Mill with Internal Coolant

90° long edge end mill utilising positive ADMX 11 inserts with APMX of 36 up to 56 mm with internal coolant. Suitable for shoulder, slot, face or plunge milling. Available in weldon, morse taper and arbor style. Body treated for longer tool life.

FORCE AD

KAPR	90°
APMX	37.0 - 56.0 mm



	0.05 - 0.08				
	0.05 - 0.08				

Product	DC	OAL	DCON MS	DCCB	LU	LF	APMX	CBDDP	CZC MS	GAMF	GAMP	NOF					
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)	(mm)						
25J2R50B25-SAD11E38-C	25	106	25	-	50	-	38.00	-	-	-10.5	5	2	8	-	24100	✓	0.32 G1184 SQ210
32J2R60B32-SAD11E47-C	32	120	32	-	60	-	47.00	-	-	-9	8	2	10	-	21300	✓	0.60 G1184 SQ210
40J2R60B40-SAD11E47-C	40	130	40	-	60	-	47.00	-	-	-8.1	11	2	10	-	19100	✓	1.07 G1184 SQ210
40J3R70B32-SAD11E56-C	40	130	32	-	70	-	56.00	-	-	-8.1	11	3	18	-	19100	✓	0.76 G1184 SQ210
40J3R70B40-SAD11E56-C	40	140	40	-	70	-	56.00	-	-	-8.1	11	3	18	-	19100	✓	1.07 G1184 SQ210
25J2R55E03-SAD11E38-C	25	136	-	-	-	55	38.00	-	3	-10.5	5	2	8	-	24100	✓	0.32 G1184 SQ210
32J2R65E04-SAD11E47-C	32	167.5	-	-	-	65	47.00	-	4	-9	8	2	10	-	21300	✓	0.71 G1184 SQ210
40J3R75E04-SAD11E56-C	40	177.5	-	-	-	75	56.00	-	4	-8.1	11	3	18	-	19100	✓	0.85 G1184 SQ210
50T03R-S90AD11E37-C	50	-	22	18	-	58	37.00	21	-	-7.2	12	3	12	-	17000	✓	0.66 G1184 SQ903

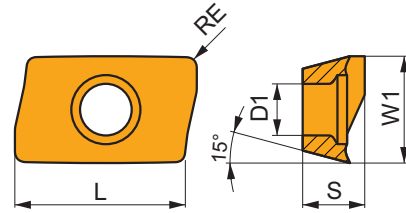
G1184	ADMX 11T3..	ADEX 11T3..-FA

SQ210	US 2506-T07P	1.2	M 2.5	6.3	D-T07P/T09P	FG-15	Flag T07P	HS 1030C
SQ903	US 2506-T07P	1.2	M 2.5	6.3	D-T07P/T09P	FG-15	-	HS 1030C

ADMX 11

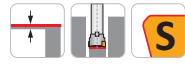
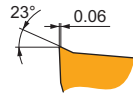
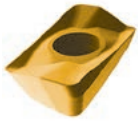


	W1 (mm)	D1 (mm)	L (mm)	S (mm)
11T3	6.530	2.90	11.00	3.97



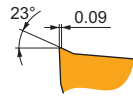
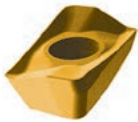
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



P geometry with very sharp positive design for light machining.

ADMX 11T304SR-F:8215	● 0.4	245	0.10	2.0	145	0.09	2.0	230	0.10	2.0	735	0.12	2.0	60	0.08	1.6	-	-	-
ADMX 11T304SR-F:M8330	● 0.4	240	0.10	2.0	140	0.09	2.0	225	0.10	2.0	720	0.12	2.0	60	0.08	1.6	-	-	-
ADMX 11T304SR-F:M8340	● 0.4	220	0.10	2.0	130	0.09	2.0	205	0.10	2.0	-	-	-	55	0.08	1.6	-	-	-
ADMX 11T304SR-F:M9340	● 0.4	285	0.10	2.0	170	0.09	2.0	-	-	-	-	-	70	0.08	1.6	-	-	-	
ADMX 11T308SR-F:8215	⊕ 0.8	290	0.10	2.0	170	0.09	2.0	275	0.10	2.0	870	0.12	2.0	70	0.08	1.6	-	-	-
ADMX 11T308SR-F:M8330	⊕ 0.8	285	0.10	2.0	170	0.09	2.0	270	0.10	2.0	855	0.12	2.0	70	0.08	1.6	-	-	-
ADMX 11T308SR-F:M8340	⊕ 0.8	260	0.10	2.0	155	0.09	2.0	245	0.10	2.0	-	-	-	65	0.08	1.6	-	-	-
ADMX 11T308SR-F:M9340	⊕ 0.8	340	0.10	2.0	200	0.09	2.0	-	-	-	-	-	85	0.08	1.6	-	-	-	

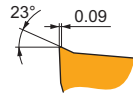
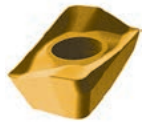


M geometry with positive design for light to medium machining.

ADMX 11T302SR-M:M8330	● 0.2	190	0.15	4.0	110	0.14	4.0	180	0.15	4.0	-	-	-	45	0.12	3.2	-	-	-
ADMX 11T302SR-M:M8340	⊕ 0.2	170	0.15	4.0	100	0.14	4.0	160	0.15	4.0	-	-	-	40	0.12	3.2	-	-	-
ADMX 11T304SR-M:8215	● 0.4	205	0.15	4.0	120	0.14	4.0	190	0.15	4.0	-	-	-	50	0.12	3.2	-	-	-
ADMX 11T304SR-M:M8310	● 0.4	220	0.15	4.0	110	0.14	4.0	205	0.15	4.0	-	-	-	-	-	-	-	-	-
ADMX 11T304SR-M:M8330	⊕ 0.4	205	0.15	4.0	120	0.14	4.0	190	0.15	4.0	-	-	-	50	0.12	3.2	-	-	-
ADMX 11T304SR-M:M8340	⊕ 0.4	185	0.15	4.0	110	0.14	4.0	175	0.15	4.0	-	-	-	45	0.12	3.2	-	-	-
ADMX 11T304SR-M:M9325	● 0.4	255	0.15	4.0	-	-	-	240	0.15	4.0	-	-	-	-	-	-	-	-	-
ADMX 11T304SR-M:M9340	● 0.4	235	0.15	4.0	140	0.14	4.0	-	-	-	-	-	55	0.12	3.2	-	-	-	
ADMX 11T308SR-M:8215	⊕ 0.8	245	0.15	4.0	145	0.14	4.0	230	0.15	4.0	-	-	-	60	0.12	3.2	-	-	-
ADMX 11T308SR-M:M5315	⊕ 0.8	335	0.15	4.0	-	-	-	315	0.15	4.0	-	-	-	-	-	-	-	-	-
ADMX 11T308SR-M:M8310	⊕ 0.8	265	0.15	4.0	135	0.14	4.0	250	0.15	4.0	-	-	-	-	-	-	-	-	-
ADMX 11T308SR-M:M8330	⊕ 0.8	245	0.15	4.0	145	0.14	4.0	230	0.15	4.0	-	-	-	60	0.12	3.2	-	-	-
ADMX 11T308SR-M:M8340	⊕ 0.8	220	0.15	4.0	130	0.14	4.0	205	0.15	4.0	-	-	-	55	0.12	3.2	-	-	-
ADMX 11T308SR-M:M9315	⊕ 0.8	330	0.15	4.0	-	-	-	310	0.15	4.0	-	-	-	-	-	-	-	-	-
ADMX 11T308SR-M:M9325	⊕ 0.8	305	0.15	4.0	-	-	-	285	0.15	4.0	-	-	-	-	-	-	-	-	-
ADMX 11T308SR-M:M9340	⊕ 0.8	275	0.15	4.0	165	0.14	4.0	-	-	-	-	-	65	0.12	3.2	-	-	-	
ADMX 11T310SR-M:M8330	⊕ 1.0	255	0.15	4.0	150	0.14	4.0	240	0.15	4.0	-	-	-	60	0.12	3.2	-	-	-
ADMX 11T310SR-M:M8340	⊕ 1.0	230	0.15	4.0	135	0.14	4.0	215	0.15	4.0	-	-	-	55	0.12	3.2	-	-	-
ADMX 11T312SR-M:8215	⊕ 1.2	255	0.15	4.0	150	0.14	4.0	240	0.15	4.0	-	-	-	60	0.12	3.2	-	-	-
ADMX 11T312SR-M:M8330	⊕ 1.2	255	0.15	4.0	150	0.14	4.0	240	0.15	4.0	-	-	-	60	0.12	3.2	-	-	-
ADMX 11T312SR-M:M8340	⊕ 1.2	230	0.15	4.0	135	0.14	4.0	215	0.15	4.0	-	-	-	55	0.12	3.2	-	-	-
ADMX 11T316SR-M:8215	⊕ 1.6	270	0.15	4.0	160	0.14	4.0	255	0.15	4.0	-	-	-	65	0.12	3.2	-	-	-
ADMX 11T316SR-M:M6330	⊕ 1.6	230	0.15	4.0	165	0.14	4.0	-	-	-	-	-	65	0.12	3.2	-	-	-	
ADMX 11T316SR-M:M8310	⊕ 1.6	295	0.15	4.0	150	0.14	4.0	280	0.15	4.0	-	-	-	-	-	-	-	-	-
ADMX 11T316SR-M:M8330	⊕ 1.6	270	0.15	4.0	160	0.14	4.0	255	0.15	4.0	-	-	-	65	0.12	3.2	-	-	-
ADMX 11T316SR-M:M8340	⊕ 1.6	240	0.15	4.0	140	0.14	4.0	225	0.15	4.0	-	-	-	60	0.12	3.2	-	-	-
ADMX 11T320SR-M:M6330	⊕ 2.0	240	0.15	4.0	170	0.14	4.0	-	-	-	-	-	70	0.12	3.2	-	-	-	
ADMX 11T320SR-M:M8330	⊕ 2.0	280	0.15	4.0	165	0.14	4.0	265	0.15	4.0	-	-	-	70	0.12	3.2	-	-	-
ADMX 11T320SR-M:M8340	⊕ 2.0	255	0.15	4.0	150	0.14	4.0	240	0.15	4.0	-	-	-	60	0.12	3.2	-	-	-

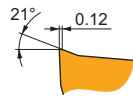
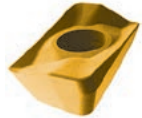
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



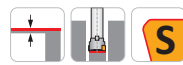
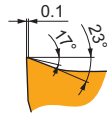
M geometry with positive design for light to medium machining.

ADMX 11T325SR-M:M6330	2.5	240	0.15	4.0	170	0.14	4.0	–	–	–	–	–	–	70	0.12	3.2	–	–	–
ADMX 11T325SR-M:M8340	2.5	255	0.15	4.0	150	0.14	4.0	240	0.15	4.0	–	–	–	60	0.12	3.2	–	–	–
ADMX 11T330SR-M:M6330	3.0	240	0.15	4.0	170	0.14	4.0	–	–	–	–	–	–	70	0.12	3.2	–	–	–
ADMX 11T330SR-M:M8330	3.0	280	0.15	4.0	165	0.14	4.0	265	0.15	4.0	–	–	–	70	0.12	3.2	–	–	–
ADMX 11T330SR-M:M8340	3.0	255	0.15	4.0	150	0.14	4.0	240	0.15	4.0	–	–	–	60	0.12	3.2	–	–	–



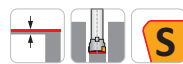
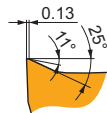
R geometry with positive design for machining conditions in less stable conditions.

ADMX 11T308PR-R:R215	0.8	230	0.18	4.0	135	0.16	4.0	215	0.18	4.0	–	–	–	55	0.16	3.2	45	0.12	0.7
ADMX 11T308PR-R:M5315	0.8	310	0.18	4.0	–	–	–	290	0.18	4.0	–	–	–	–	–	–	60	0.13	0.7
ADMX 11T308PR-R:M8310	0.8	250	0.18	4.0	125	0.16	4.0	235	0.18	4.0	–	–	–	–	–	–	50	0.12	0.7
ADMX 11T308PR-R:M8330	0.8	230	0.18	4.0	135	0.16	4.0	215	0.18	4.0	–	–	–	55	0.16	3.2	45	0.12	0.7
ADMX 11T308PR-R:M8340	0.8	210	0.18	4.0	125	0.16	4.0	195	0.18	4.0	–	–	–	50	0.16	3.2	–	–	–
ADMX 11T308PR-R:M9315	0.8	310	0.18	4.0	–	–	–	290	0.18	4.0	–	–	–	–	–	–	60	0.13	0.7
ADMX 11T308PR-R:M9325	0.8	290	0.18	4.0	–	–	–	275	0.18	4.0	–	–	–	–	–	–	55	0.13	0.7
ADMX 11T316PR-R:R215	1.6	255	0.18	4.0	150	0.16	4.0	240	0.18	4.0	–	–	–	60	0.16	3.2	50	0.12	0.7
ADMX 11T316PR-R:M8330	1.6	255	0.18	4.0	150	0.16	4.0	240	0.18	4.0	–	–	–	60	0.16	3.2	50	0.12	0.7
ADMX 11T316PR-R:M9325	1.6	320	0.18	4.0	–	–	–	300	0.18	4.0	–	–	–	–	–	–	60	0.12	0.7



MF geometry with highly positive design for light to finish machining.

ADMX 11T304SR-MF:M6330	0.4	215	0.08	2.5	150	0.07	2.5	–	–	–	–	–	–	60	0.06	2.0	–	–	–
ADMX 11T304SR-MF:M8340	0.4	220	0.08	2.5	130	0.07	2.5	–	–	–	–	–	–	55	0.06	2.0	–	–	–
ADMX 11T308SR-MF:M6330	0.8	255	0.08	2.5	180	0.07	2.5	–	–	–	–	–	–	75	0.06	2.0	–	–	–
ADMX 11T308SR-MF:M8340	0.8	265	0.08	2.5	155	0.07	2.5	–	–	–	–	–	–	65	0.06	2.0	–	–	–



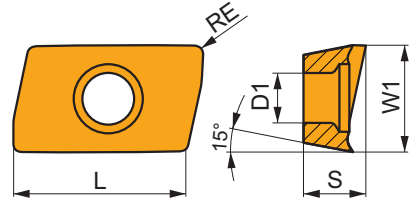
MM geometry with highly positive design for light to medium machining.

ADMX 11T304SR-MM:M6330	0.4	185	0.14	2.5	130	0.13	2.5	–	–	–	–	–	–	55	0.11	2.0	–	–	–
ADMX 11T304SR-MM:M8340	0.4	195	0.14	2.5	115	0.13	2.5	–	–	–	–	–	–	45	0.11	2.0	–	–	–
ADMX 11T308SR-MM:M6330	0.8	225	0.14	2.5	155	0.13	2.5	–	–	–	–	–	–	65	0.11	2.0	–	–	–
ADMX 11T308SR-MM:M8340	0.8	235	0.14	2.5	140	0.13	2.5	–	–	–	–	–	–	55	0.11	2.0	–	–	–
ADMX 11T308SR-MM:M8345	0.8	190	0.14	2.5	110	0.13	2.5	–	–	–	–	–	–	45	0.11	2.0	–	–	–
ADMX 11T308SR-MM:M9340	0.8	300	0.14	2.5	180	0.13	2.5	–	–	–	–	–	–	75	0.11	2.0	–	–	–
ADMX 11T312SR-MM:M6330	1.2	235	0.14	2.5	165	0.13	2.5	–	–	–	–	–	–	70	0.11	2.0	–	–	–
ADMX 11T312SR-MM:M8340	1.2	245	0.14	2.5	145	0.13	2.5	–	–	–	–	–	–	60	0.11	2.0	–	–	–

ADEX 11-FA

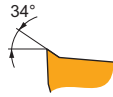


	W1 (mm)	D1 (mm)	L (mm)	S (mm)
11T3	6.450	2.90	9.70	3.91



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



FA geometry with highly positive design for fine-finish to medium machining.

ADEX 11T304FR-FA:HF7	● 0.4	—	—	—	—	—	—	—	—	—	■ 210	0.30	5.0	—	—	—	—	—	—
ADEX 11T304FR-FA:M0315	● 0.4	—	—	—	—	—	—	—	—	—	■ 480	0.30	5.0	—	—	—	—	—	—
ADEX 11T308FR-FA:HF7	● 0.8	—	—	—	—	—	—	—	—	—	■ 240	0.30	5.0	—	—	—	—	—	—
ADEX 11T308FR-FA:M0315	● 0.8	—	—	—	—	—	—	—	—	—	■ 570	0.30	5.0	—	—	—	—	—	—
ADEX 11T312FR-FA:HF7	● 1.2	—	—	—	—	—	—	—	—	—	■ 255	0.30	5.0	—	—	—	—	—	—
ADEX 11T316FR-FA:HF7	● 1.6	—	—	—	—	—	—	—	—	—	■ 270	0.18	5.0	—	—	—	—	—	—



a_e / DC	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	0.89	0.81	0.76	0.73	0.71	0.70	0.67	0.65	0.63	0.62	0.60	0.60	0.60	0.45



	1		2.5		5		7.5		10		15		20	
	f_{min}	f_{max}	f_{min}	f_{max}	f_{min}	f_{max}	f_{min}	f_{max}	f_{min}	f_{max}	f_{min}	f_{max}	f_{min}	f_{max}
25	0.25	0.40	0.16	0.26	0.12	0.19	0.10	0.15	0.09	0.14	0.07	0.12	0.07	0.11
32	0.28	0.45	0.18	0.29	0.13	0.21	0.11	0.17	0.09	0.15	0.08	0.13	0.07	0.12
40	0.32	0.51	0.20	0.32	0.14	0.23	0.12	0.19	0.10	0.17	0.09	0.14	0.08	0.13
50	0.35	0.57	0.23	0.36	0.16	0.26	0.13	0.21	0.12	0.19	0.10	0.15	0.09	0.14

	25		32		40		50	
	f_{min}	f_{max}	f_{min}	f_{max}	f_{min}	f_{max}	f_{min}	f_{max}
25	0.08	0.13	-	-	-	-	-	-
32	0.07	0.11	0.08	0.13	-	-	-	-
40	0.07	0.12	0.07	0.11	0.08	0.13	-	-
50	0.08	0.13	0.07	0.12	0.07	0.11	0.08	0.13

	ADMX 11-F		ADMX 11-M									ADMX 11-R		ADMX 11-MF		ADMX 11-MM			ADEX 11-FA			
	0.4	0.8	0.2	0.4	0.8	1.0	1.2	1.6	2.0	2.5	3.0	0.8	1.6	0.4	0.8	0.4	0.8	1.2	0.4	0.8	1.2	1.6
	1.89	1.48	2.09	1.89	1.48	1.27	1.08	0.68	1.61	1.13	0.66	1.48	0.68	1.89	1.48	1.89	1.48	1.08	1.77	1.39	1.0	0.62



ISO				
25J2R50B25-SAD11E38-C	25	2	38	34.5
32J2R60B32-SAD11E47-C	32	2	47	43.5
40J2R60B40-SAD11E47-C	40	2	47	43.5
40J3R70B32-SAD11E56-C	40	3	56	52.5
40J3R70B40-SAD11E56-C	40	3	56	52.5
25J2R55E03-SAD11E38-C	25	2	38	34.5
32J2R65E04-SAD11E47-C	32	2	47	43.5
40J3R75E04-SAD11E56-C	40	3	56	52.5
50T03R-S90AD11E37-C	50	3	37	33.5



ADMX/ADEX 11	R
ADMX 11T320SR-M	1.0
ADMX 11T325SR-M	1.8
ADMX 11T330SR-M	1.8



	4.5
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J(T)-SAD16E



PRAMET

S

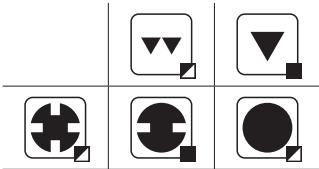
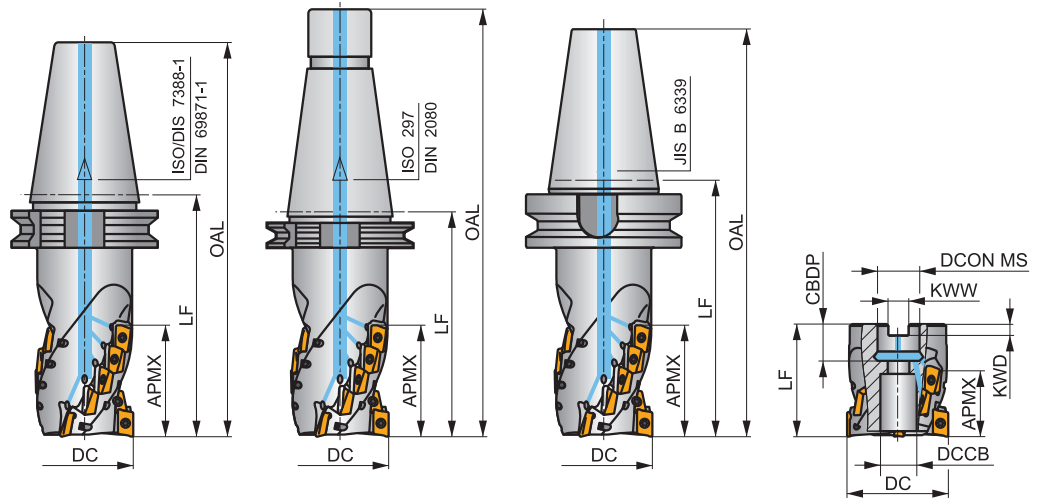
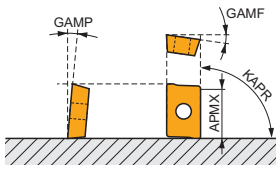


HELICAL AD16 Long Edge Mill with Internal Coolant

90° long edge end mill utilising positive AD.. 16 inserts with APMX of 40 up to 108 mm with internal coolant. Suitable for shoulder, slot, face or plunge milling. Available in arbor, DIN 69871, BT and DIN 2080 taper style, with or without differential tooth pitch. Body treated for longer tool life.

FORCE AD

KAPR	90°
APMX	40.0 - 108.0 mm



	0.08 - 0.1				
	0.08 - 0.1				

Product	DC	OAL	DCON MS	DCCB	LF	APMX	CBDP	CZC MS	GAME	GAMP	NOF						
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)					kg		
50J3R100H50-SAD16E54-C	50	202	-	-	100	54.00	-	50	-6	12	3	12	-	13200	✓	4.08	GI282 SQ031
50J3R140H50-SAD16E80-C	50	242	-	-	140	80.00	-	50	-6	12	3	18	-	13200	✓	4.38	GI282 SQ031
63J3R140H50-SAD16E68-C	63	242	-	-	140	68.00	-	50	-6	12	3	15	-	11700	✓	5.34	GI282 SQ031
63J3R155H50-SAD16E95-C	63	257	-	-	155	95.00	-	50	-6	12	3	21	-	11700	✓	5.43	GI282 SQ031
80J4R165H50-SAD16E108-C	80	257	-	-	165	108.00	-	50	-6	12	4	32	✓	10400	✓	7.37	GI282 SQ031
50J3R140G50-SAD16E80-C	50	267	-	-	140	80.00	-	50	-6	12	3	18	-	13200	✓	4.48	GI282 SQ031
63J3R155G50-SAD16E95-C	63	282	-	-	155	95.00	-	50	-6	12	3	21	-	11700	✓	5.52	GI282 SQ031
80J4R165G50-SAD16E108-C	80	292	-	-	165	108.00	-	50	-6	12	4	32	✓	10400	✓	7.51	GI282 SQ031
50J3R140X50-SAD16E68-C	50	242	-	-	140	68.00	-	50	-6	12	3	15	-	13200	✓	5.28	GI282 SQ031
63J3R155X50-SAD16E80-C	63	257	-	-	155	80.00	-	50	-6	12	3	18	-	11700	✓	6.19	GI282 SQ031
80J4R165X50-SAD16E95-C	80	267	-	-	165	95.00	-	50	-6	12	4	28	✓	10400	✓	7.84	GI282 SQ031
50T03R-S90AD16E40-C	50	-	22	18	70	40.00	21	-	-6	12	3	9	-	13200	✓	0.63	GI282 SQ913
63T04R-S90AD16E40-C	63	-	27	22	70	40.00	22	-	-6	12	4	12	✓	11700	✓	1.14	GI282 SQ914
63T04R-S90AD16E68-C	63	-	27	22	100	68.00	22	-	-6	12	4	20	✓	11700	✓	1.86	GI282 SQ914
80T04R-S90AD16E55-C	80	-	32	30	85	55.00	25	-	-6	12	4	16	✓	10400	✓	2.56	GI282 SQ915
80T04R-S90AD16E80-C	80	-	32	30	115	80.00	25	-	-6	12	4	24	✓	10400	✓	3.17	GI282 SQ915
100T05R-S90AD16E80-C	100	-	40	36	120	80.00	30	-	-6	12	5	30	✓	9300	✓	5.31	GI282 SQ916

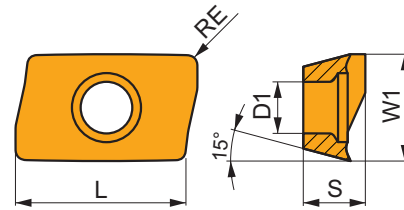
GI282	ADMX 1606..	ADEX 1606..-FA	ADEX 1606..-FM

SQ031	US 4011-T15P	3.5	M 4	10.6	D-T08P/T15P	FG-15	-	
SQ913	US 4011-T15P	3.5	M 4	10.6	D-T08P/T15P	FG-15	HS 1030C	
SQ914	US 4011-T15P	3.5	M 4	10.6	D-T08P/T15P	FG-15	HS 1230C	
SQ915	US 4011-T15P	3.5	M 4	10.6	D-T08P/T15P	FG-15	HS 1630C	
SQ916	US 4011-T15P	3.5	M 4	10.6	D-T08P/T15P	FG-15	HS 2040C	

ADMX 16

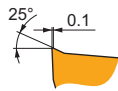
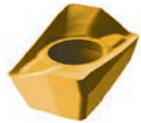


	W1	D1	L	S
	(mm)	(mm)	(mm)	(mm)
1606	9.950	4.50	16.00	6.25



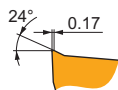
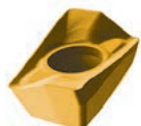
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap
		(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)



F geometry with highly positive design for light to medium machining.

ADMX 160608SR-F:8215	● 0.8	■ 290	■ 0.10	■ 2.0	■ 170	■ 0.09	■ 2.0	■ 275	■ 0.10	■ 2.0	■ 870	■ 0.12	■ 2.0	■ 70	■ 0.07	■ 1.6	-	-	-
ADMX 160608SR-F:M8310	● 0.8	■ 320	■ 0.10	■ 2.0	■ 160	■ 0.09	■ 2.0	■ 300	■ 0.10	■ 2.0	-	-	-	-	-	-	-	-	-
ADMX 160608SR-F:M8330	● 0.8	■ 285	■ 0.10	■ 2.0	■ 170	■ 0.09	■ 2.0	■ 270	■ 0.10	■ 2.0	■ 855	■ 0.12	■ 2.0	■ 70	■ 0.07	■ 1.6	-	-	-
ADMX 160608SR-F:M8340	● 0.8	■ 260	■ 0.10	■ 2.0	■ 155	■ 0.09	■ 2.0	■ 245	■ 0.10	■ 2.0	-	-	-	■ 65	■ 0.07	■ 1.6	-	-	-
ADMX 160608SR-F:M9340	● 0.8	■ 340	■ 0.10	■ 2.0	■ 200	■ 0.09	■ 2.0	-	-	-	-	-	-	■ 85	■ 0.07	■ 1.6	-	-	-

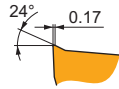
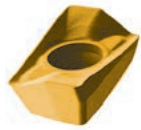


M geometry with positive design for light to medium machining.

ADMX 160604SR-M:8215	● 0.4	■ 190	■ 0.18	■ 5.0	■ 110	■ 0.16	■ 5.0	■ 180	■ 0.18	■ 5.0	-	-	-	■ 45	■ 0.13	■ 4.0	-	-	-
ADMX 160604SR-M:M8330	● 0.4	■ 190	■ 0.18	■ 5.0	■ 110	■ 0.16	■ 5.0	■ 180	■ 0.18	■ 5.0	-	-	-	■ 45	■ 0.13	■ 4.0	-	-	-
ADMX 160604SR-M:M8340	● 0.4	■ 170	■ 0.18	■ 5.0	■ 100	■ 0.16	■ 5.0	■ 160	■ 0.18	■ 5.0	-	-	-	■ 40	■ 0.13	■ 4.0	-	-	-
ADMX 160608SR-M:8215	● 0.8	■ 225	■ 0.18	■ 5.0	■ 135	■ 0.16	■ 5.0	■ 210	■ 0.18	■ 5.0	-	-	-	■ 55	■ 0.13	■ 4.0	-	-	-
ADMX 160608SR-M:M5315	● 0.8	■ 305	■ 0.18	■ 5.0	-	-	-	■ 285	■ 0.18	■ 5.0	-	-	-	-	-	-	-	-	-
ADMX 160608SR-M:M8310	● 0.8	■ 250	■ 0.18	■ 5.0	■ 125	■ 0.16	■ 5.0	■ 235	■ 0.18	■ 5.0	-	-	-	-	-	-	-	-	-
ADMX 160608SR-M:M8330	● 0.8	■ 225	■ 0.18	■ 5.0	■ 135	■ 0.16	■ 5.0	■ 210	■ 0.18	■ 5.0	-	-	-	■ 55	■ 0.13	■ 4.0	-	-	-
ADMX 160608SR-M:M8340	● 0.8	■ 205	■ 0.18	■ 5.0	■ 120	■ 0.16	■ 5.0	■ 190	■ 0.18	■ 5.0	-	-	-	■ 50	■ 0.13	■ 4.0	-	-	-
ADMX 160608SR-M:M9315	● 0.8	■ 305	■ 0.18	■ 5.0	-	-	-	■ 285	■ 0.18	■ 5.0	-	-	-	-	-	-	-	-	-
ADMX 160608SR-M:M9325	● 0.8	■ 280	■ 0.18	■ 5.0	-	-	-	■ 265	■ 0.18	■ 5.0	-	-	-	-	-	-	-	-	-
ADMX 160608SR-M:M9340	● 0.8	■ 255	■ 0.18	■ 5.0	■ 150	■ 0.16	■ 5.0	-	-	-	-	-	-	■ 60	■ 0.13	■ 4.0	-	-	-
ADMX 160616SR-M:8215	● 1.6	■ 250	■ 0.18	■ 5.0	■ 150	■ 0.16	■ 5.0	■ 235	■ 0.18	■ 5.0	-	-	-	■ 60	■ 0.13	■ 4.0	-	-	-
ADMX 160616SR-M:M8310	● 1.6	■ 275	■ 0.18	■ 5.0	■ 140	■ 0.16	■ 5.0	■ 260	■ 0.18	■ 5.0	-	-	-	-	-	-	-	-	-
ADMX 160616SR-M:M8330	● 1.6	■ 250	■ 0.18	■ 5.0	■ 150	■ 0.16	■ 5.0	■ 235	■ 0.18	■ 5.0	-	-	-	■ 60	■ 0.13	■ 4.0	-	-	-
ADMX 160616SR-M:M8340	● 1.6	■ 225	■ 0.18	■ 5.0	■ 135	■ 0.16	■ 5.0	■ 210	■ 0.18	■ 5.0	-	-	-	■ 55	■ 0.13	■ 4.0	-	-	-
ADMX 160616SR-M:M9325	● 1.6	■ 310	■ 0.18	■ 5.0	-	-	-	■ 290	■ 0.18	■ 5.0	-	-	-	-	-	-	-	-	-
ADMX 160620SR-M:M8330	● 2.0	■ 265	■ 0.18	■ 5.0	■ 155	■ 0.16	■ 5.0	■ 250	■ 0.18	■ 5.0	-	-	-	■ 65	■ 0.13	■ 4.0	-	-	-
ADMX 160620SR-M:M8340	● 2.0	■ 240	■ 0.18	■ 5.0	■ 140	■ 0.16	■ 5.0	■ 225	■ 0.18	■ 5.0	-	-	-	■ 60	■ 0.13	■ 4.0	-	-	-
ADMX 160630SR-M:M8330	● 3.0	■ 265	■ 0.18	■ 5.0	■ 155	■ 0.16	■ 5.0	■ 250	■ 0.18	■ 5.0	-	-	-	■ 65	■ 0.13	■ 4.0	-	-	-
ADMX 160630SR-M:M8340	● 3.0	■ 240	■ 0.18	■ 5.0	■ 140	■ 0.16	■ 5.0	■ 225	■ 0.18	■ 5.0	-	-	-	■ 60	■ 0.13	■ 4.0	-	-	-
ADMX 160632SR-M:M6330	● 3.2	■ 225	■ 0.18	■ 5.0	■ 155	■ 0.16	■ 5.0	-	-	-	-	-	-	■ 65	■ 0.13	■ 4.0	-	-	-
ADMX 160632SR-M:M8330	● 3.2	■ 265	■ 0.18	■ 5.0	■ 155	■ 0.16	■ 5.0	■ 250	■ 0.18	■ 5.0	-	-	-	■ 65	■ 0.13	■ 4.0	-	-	-

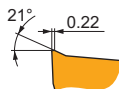
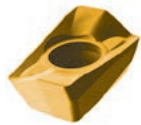
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



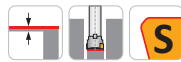
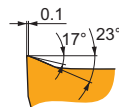
M geometry with positive design for light to medium machining.

ADMX 160632SR-M:M8340	3.2	240	0.18	5.0	140	0.16	5.0	225	0.18	5.0	-	-	-	60	0.13	4.0	-	-	-
ADMX 160632SR-M:M9325	3.2	325	0.18	5.0	-	-	-	305	0.18	5.0	-	-	-	-	-	-	-	-	-
ADMX 160640SR-M:M8330	4.0	265	0.18	5.0	155	0.16	5.0	250	0.18	5.0	-	-	-	65	0.13	4.0	-	-	-
ADMX 160640SR-M:M8340	4.0	240	0.18	5.0	140	0.16	5.0	225	0.18	5.0	-	-	-	60	0.13	4.0	-	-	-
ADMX 160650SR-M:M8330	5.0	265	0.18	5.0	155	0.16	5.0	250	0.18	5.0	-	-	-	65	0.13	4.0	-	-	-
ADMX 160650SR-M:M8340	5.0	240	0.18	5.0	140	0.16	5.0	225	0.18	5.0	-	-	-	60	0.13	4.0	-	-	-



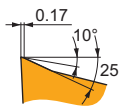
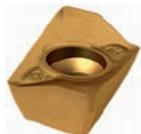
R geometry with positive design for medium to less stable machining conditions.

ADMX 160608PR-R:R215	0.8	205	0.25	6.0	120	0.23	6.0	190	0.25	6.0	-	-	-	50	0.20	4.8	40	0.16	1.1
ADMX 160608PR-R:M5315	0.8	260	0.25	6.0	-	-	-	245	0.25	6.0	-	-	-	-	-	-	50	0.16	1.1
ADMX 160608PR-R:M8310	0.8	220	0.25	6.0	110	0.23	6.0	205	0.25	6.0	-	-	-	-	-	40	0.16	1.1	
ADMX 160608PR-R:M8330	0.8	205	0.25	6.0	120	0.23	6.0	190	0.25	6.0	-	-	-	50	0.20	4.8	40	0.16	1.1
ADMX 160608PR-R:M8340	0.8	190	0.25	6.0	110	0.23	6.0	180	0.25	6.0	-	-	-	45	0.20	4.8	-	-	-
ADMX 160608PR-R:M9315	0.8	265	0.25	6.0	-	-	-	250	0.25	6.0	-	-	-	-	-	-	50	0.16	1.1
ADMX 160608PR-R:M9325	0.8	250	0.25	6.0	-	-	-	235	0.25	6.0	-	-	-	-	-	-	50	0.16	1.1
ADMX 160616PR-R:M8330	1.6	225	0.25	6.0	135	0.23	6.0	210	0.25	6.0	-	-	-	55	0.20	4.8	45	0.16	1.1
ADMX 160616PR-R:M8340	1.6	210	0.25	6.0	125	0.23	6.0	195	0.25	6.0	-	-	-	50	0.20	4.8	-	-	-
ADMX 160616PR-R:M9315	1.6	295	0.25	6.0	-	-	-	280	0.25	6.0	-	-	-	-	-	-	55	0.16	1.1



MF geometry with highly positive design for finish machining.

ADMX 160608SR-MF:M6330	0.8	215	0.08	4.0	150	0.07	4.0	-	-	-	-	-	-	60	0.06	3.2	-	-	-
ADMX 160608SR-MF:M8340	0.8	225	0.08	4.0	135	0.07	4.0	-	-	-	-	-	-	55	0.06	3.2	-	-	-
ADMX 160608SR-MF:M9340	0.8	305	0.08	4.0	180	0.07	4.0	-	-	-	-	-	-	75	0.06	3.2	-	-	-



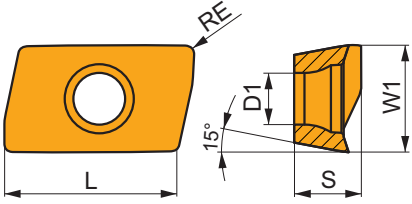
MM geometry with highly positive design for light to medium machining.

ADMX 160604SR-MM:M6330	0.4	145	0.18	4.0	105	0.16	4.0	-	-	-	-	-	-	40	0.14	3.2	-	-	-
ADMX 160604SR-MM:M8340	0.4	160	0.18	4.0	95	0.16	4.0	-	-	-	-	-	-	40	0.14	3.2	-	-	-
ADMX 160608SR-MM:M6330	0.8	175	0.18	4.0	125	0.16	4.0	-	-	-	-	-	-	50	0.14	3.2	-	-	-
ADMX 160608SR-MM:M8340	0.8	190	0.18	4.0	110	0.16	4.0	-	-	-	-	-	-	45	0.14	3.2	-	-	-
ADMX 160608SR-MM:M8345	0.8	150	0.18	4.0	90	0.16	4.0	-	-	-	-	-	-	35	0.14	3.2	-	-	-
ADMX 160608SR-MM:M9340	0.8	235	0.18	4.0	140	0.16	4.0	-	-	-	-	-	-	55	0.14	3.2	-	-	-
ADMX 160616SR-MM:M6330	1.6	195	0.18	4.0	140	0.16	4.0	-	-	-	-	-	-	55	0.14	3.2	-	-	-
ADMX 160616SR-MM:M8340	1.6	210	0.18	4.0	125	0.16	4.0	-	-	-	-	-	-	50	0.14	3.2	-	-	-
ADMX 160616SR-MM:M8345	1.6	165	0.18	4.0	95	0.16	4.0	-	-	-	-	-	-	40	0.14	3.2	-	-	-
ADMX 160616SR-MM:M9340	1.6	260	0.18	4.0	155	0.16	4.0	-	-	-	-	-	-	65	0.14	3.2	-	-	-

ADEX 16

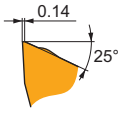


	W1 (mm)	D1 (mm)	L (mm)	S (mm)
1606	9.950	4.50	16.00	6.25



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



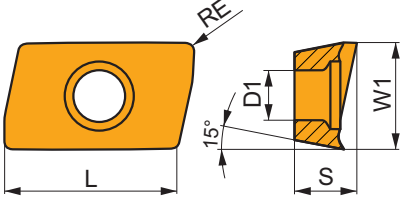
FM geometry with highly positive design for medium machining.

ADEX 160608SR-FM:8215	0.8	260	0.16	2.0	155	0.14	2.0	245	0.16	2.0	-	-	-	65	0.11	1.6	-	-	-
ADEX 160608SR-FM:M8330	0.8	255	0.16	2.0	150	0.14	2.0	240	0.16	2.0	-	-	-	60	0.11	1.6	-	-	-
ADEX 160608SR-FM:M8340	0.8	235	0.16	2.0	140	0.14	2.0	220	0.16	2.0	-	-	-	55	0.11	1.6	-	-	-

ADEX 16-FA

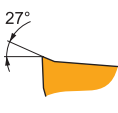


	W1 (mm)	D1 (mm)	L (mm)	S (mm)
1606	9.950	4.50	16.00	6.17



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



FA geometry with highly positive design for fine-finish to medium machining.

ADEX 160604FR-FA:HF7	0.4	-	-	-	-	-	-	195	0.28	6.0	-	-	-	-	-	-	-	-	-
ADEX 160604FR-FA:M0315	0.4	-	-	-	-	-	-	480	0.28	6.0	-	-	-	-	-	-	-	-	-
ADEX 160608FR-FA:HF7	0.8	-	-	-	-	-	-	240	0.28	6.0	-	-	-	-	-	-	-	-	-
ADEX 160608FR-FA:M0315	0.8	-	-	-	-	-	-	570	0.28	6.0	-	-	-	-	-	-	-	-	-
ADEX 160616FR-FA:HF7	1.6	-	-	-	-	-	-	255	0.28	6.0	-	-	-	-	-	-	-	-	-
ADEX 160616FR-FA:M0315	1.6	-	-	-	-	-	-	630	0.28	6.0	-	-	-	-	-	-	-	-	-
ADEX 160630FR-FA:HF7	3.0	-	-	-	-	-	-	270	0.28	6.0	-	-	-	-	-	-	-	-	-



a_e / DC	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	0.89	0.81	0.76	0.73	0.71	0.70	0.66	0.65	0.63	0.62	0.60	0.60	0.60	0.45



	1		2.5		5		7.5		10		15		20	
	f_{min}	f_{max}	f_{min}	f_{max}	f_{min}	f_{max}	f_{min}	f_{max}	f_{min}	f_{max}	f_{min}	f_{max}	f_{min}	f_{max}
50	0.57	0.71	0.36	0.45	0.26	0.32	0.21	0.27	0.19	0.23	0.15	0.19	0.14	0.17
63	0.64	0.80	0.40	0.51	0.29	0.36	0.24	0.30	0.21	0.26	0.17	0.21	0.15	0.19
80	0.72	0.90	0.45	0.57	0.32	0.40	0.27	0.33	0.23	0.29	0.19	0.24	0.17	0.21
100	0.80	1.00	0.51	0.64	0.36	0.45	0.30	0.37	0.26	0.32	0.21	0.27	0.19	0.23

	25		32		40		50		63		80		100	
	f_{min}	f_{max}	f_{min}	f_{max}	f_{min}	f_{max}	f_{min}	f_{max}	f_{min}	f_{max}	f_{min}	f_{max}	f_{min}	f_{max}
50	0.13	0.16	0.12	0.14	0.11	0.14	0.13	0.16	-	-	-	-	-	-
63	0.14	0.17	0.12	0.16	0.12	0.15	0.11	0.14	0.13	0.16	-	-	-	-
80	0.15	0.19	0.14	0.17	0.13	0.16	0.12	0.15	0.11	0.14	0.13	0.16	-	-
100	0.17	0.21	0.15	0.19	0.14	0.17	0.13	0.16	0.12	0.15	0.11	0.14	0.13	0.16

	ADMX 16-F	ADEX 16-FM	ADMX 16-M								ADMX 16-R	
	0.8	0.8	0.4	0.8	1.6	2.0	3.0	3.2	4.0	5.0	0.8	1.6
	2.99	2.18	3.39	2.99	1.62	1.23	0.28	0.09	2.69	1.52	2.99	1.62

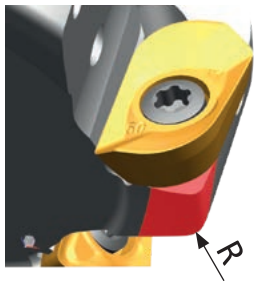
	ADMX 16-MF	ADMX 16-MM			ADEX 16-FA			
	0.8	0.4	0.8	1.6	0.4	0.8	1.6	3.0
	2.99	3.39	2.99	1.62	2.84	2.44	1.65	0.69



ISO				
50J3R100H50-SAD16E54-C	50	3	54	50.5
50J3R140H50-SAD16E80-C	50	3	80	76.5
63J3R140H50-SAD16E68-C	63	3	68	64.5
63J3R155H50-SAD16E95-C	63	3	95	91.5
80J4R165H50-SAD16E108-C	80	4	108	104.5
50J3R140G50-SAD16E80-C	50	3	80	76.5
63J3R155G50-SAD16E95-C	63	3	95	91.5
80J4R165G50-SAD16E108-C	80	4	108	104.5
50J3R140X50-SAD16E68-C	50	3	68	64.5
63J3R155X50-SAD16E80-C	63	3	80	76.5
80J4R165X50-SAD16E95-C	80	4	95	91.5
50T03R-S90AD16E40-C	50	3	40	36.5
63T04R-S90AD16E40-C	63	4	40	36.5
63T04R-S90AD16E68-C	63	4	68	64.5
80T04R-S90AD16E55-C	80	4	55	51.5
80T04R-S90AD16E80-C	80	4	80	76.5
100T05R-S90AD16E80-C	100	5	80	76.5



7.5



ADMX/ADEX 16	R
ADMX 160630SR-M	2.5
ADMX 160632SR-M	2.5
ADMX 160640SR-M	4.0
ADMX 160650SR-M	4.5

J(T)-SSAP



PRAMET

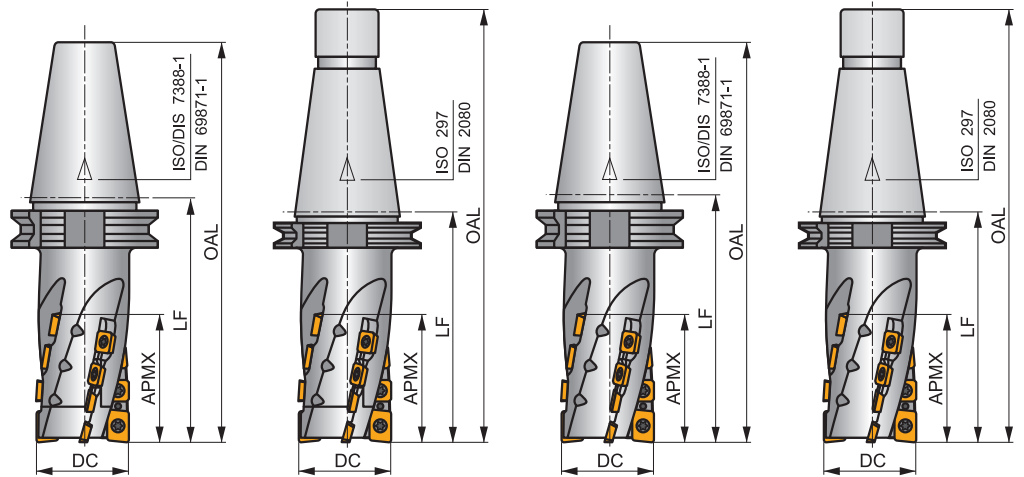
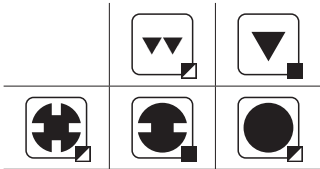
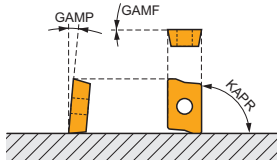
S



Long Edge End Mill for Medium Milling for AP.. 15 and SP.. 12 Inserts

90° long edge end mill utilising AP.. 15 and SP.. 12 inserts with APMX of 58 up to 95 mm. Body has exchangeable end piece. Suitable for shoulder, slot, face and plunge milling. Available in DIN 69871 and DIN 2080 50 taper style, . Body treated for longer tool life.

KAPR	90°
APMX	58.0 - 95.0 mm



h_m 0.07 - 0.1



Product	DC (mm)	OAL (mm)	APMX (mm)	LF (mm)	GAMP (°)	GAMF (°)	CZCMS	NOF	AP	SP	max.	kg	GI128	SQ941
50J4R128H50-SSAP55+21	50	230	76.00	128	0	7	50	4	2	16	9500	3.80	GI128	SQ942
63J4R150H50-SSAP74+21	63	252	95.00	150	0	7	50	4	2	20	8500	4.50	GI128	SQ943
50J4R124X50-SSAP55+21	50	251	76.00	124	0	7	50	4	2	16	9500	4.43	GI128	SQ942
63J4R146X50-SSAP74+21	63	273	95.00	146	0	7	50	4	2	20	8500	4.75	GI128	SQ943
63J4R150H50-SSAP95-A	63	252	95.00	150	0	7	50	4	2	20	8500	5.32	GI128	SQ941
80J6R155H50-SSAP95-A	80	257	95.00	155	0	7	50	6	3	30	7500	6.30	GI128	SQ941
50J4R124X50-SSAP76-A	50	251	76.00	124	0	7	50	4	2	16	9500	3.80	GI128	SQ941
63J4R146X50-SSAP95-A	63	273	95.00	146	0	7	50	4	2	20	8500	4.50	GI128	SQ941
80J6R151X50-SSAP95-A	80	275	95.00	151	0	7	50	6	3	30	7500	6.20	GI128	SQ941

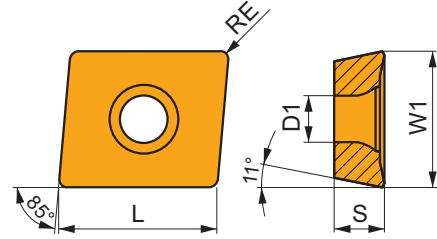
GI128	APE. 1504..	SPE. 1204..
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Product	Insert	Grade	Flute	Thread	Torque (Nm)	Thread	Length	Tool
SQ941	-	-	-	US 4511-T20	5.0	M 4.5	11	SDRT20-T
SQ942	P50X21	SR 25	HXK 6	US 4511-T20	5.0	M 4.5	11	SDRT20-T
SQ943	P63X21	SR 26	HXK 8	US 4511-T20	5.0	M 4.5	11	SDRT20-T

APET 15

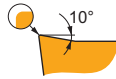
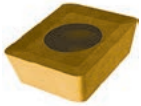


	W1	D1	L	S
	(mm)	(mm)	(mm)	(mm)
1504	12.700	5.50	15.90	4.76



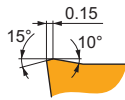
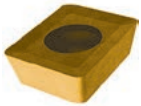
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



EN edge preparation, positive geometry for light to medium machining.

APET 150412EN:M8330	1.2	225	0.20	12.0	135	0.18	12.0	210	0.20	12.0	-	-	-	55	0.14	9.6	-	-	-
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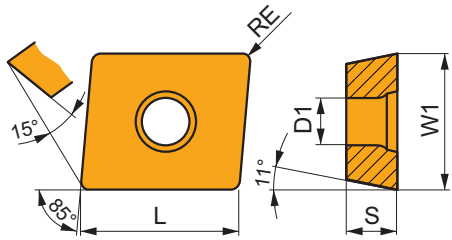
SN edge preparation, positive geometry for medium to heavy machining.

APET 150412SN:M8330	1.2	215	0.25	12.0	125	0.23	12.0	200	0.25	12.0	-	-	-	50	0.25	9.6	-	-	-
APET 150412SN:M8340	1.2	190	0.25	12.0	110	0.23	12.0	180	0.25	12.0	-	-	-	45	0.25	9.6	-	-	-

APEW 15

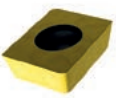


	W1	D1	L	M	S
	(mm)	(mm)	(mm)	(mm)	(mm)
1504	12.700	5.50	15.90	3.7	4.76



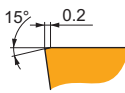
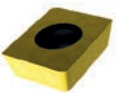
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



ER edge preparation, zero rake angle geometry for light to medium machining.

APEW 150412ER:M8330	1.2	200	0.20	12.0	-	-	-	190	0.20	12.0	-	-	-	-	-	-	40	0.13	1.0
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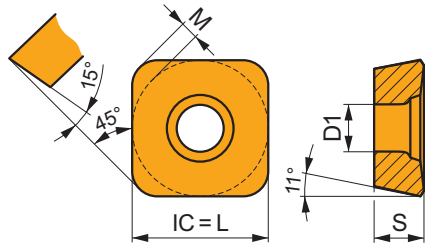
SR edge preparation, zero rake angle geometry for medium to heavy machining.

APEW 150412SR:M8330	1.2	200	0.20	12.0	-	-	-	190	0.20	12.0	-	-	-	-	-	-	40	0.13	1.0
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SPET 12

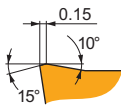


	IC	D1	L	M	S
	(mm)	(mm)	(mm)	(mm)	(mm)
1204	12.700	5.50	12.70	1.9	4.76



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



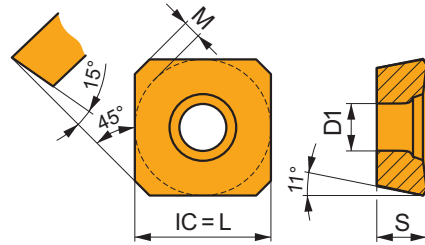
S edge preparation, positive general purpose geometry.

SPET 120408S:M8330	0.8	215	0.20	12.0	125	0.18	12.0	200	0.20	12.0	-	-	-	50	0.18	9.6	-	-	-
SPET 120408S:M8340	0.8	190	0.20	12.0	110	0.18	12.0	180	0.20	12.0	-	-	-	45	0.18	9.6	-	-	-

SPET 12 AD

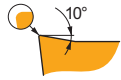
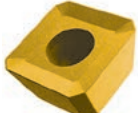


	IC	D1	L	M	S
	(mm)	(mm)	(mm)	(mm)	(mm)
1204	12.700	5.50	12.70	1.9	4.76



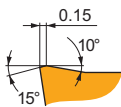
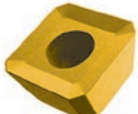
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



ADEN edge preparation, positive geometry for light to medium machining.

SPET 1204ADEN:M8330	-	245	0.20	12.0	145	0.18	12.0	230	0.20	12.0	-	-	-	60	0.14	9.6	-	-	-
SPET 1204ADEN:M8340	-	220	0.20	12.0	130	0.18	12.0	205	0.20	12.0	-	-	-	55	0.14	9.6	-	-	-



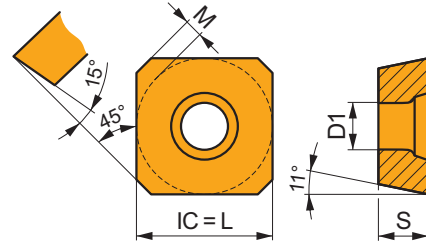
ADSN edge preparation, positive geometry for medium machining.

SPET 1204ADSN:M8330	-	245	0.20	12.0	145	0.18	12.0	230	0.20	12.0	-	-	-	60	0.14	9.6	-	-	-
SPET 1204ADSN:M8340	-	220	0.20	12.0	130	0.18	12.0	205	0.20	12.0	-	-	-	55	0.14	9.6	-	-	-

SPEW 12 AD

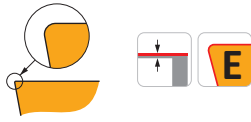
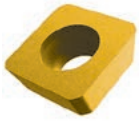


	IC	D1	L	M	S
	(mm)	(mm)	(mm)	(mm)	(mm)
1204	12.700	5.50	12.70	1.9	4.76



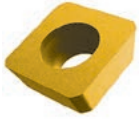
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



ADEN edge preparation, zero rake angle geometry for light to medium machining.

SPEW 1204ADEN:M8330	☐	–	☑	220	0.20	12.0	–	–	–	☑	205	0.20	12.0	–	–	–	–	–	–	☑	40	0.10	1.0
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ADSN edge preparation, zero rake angle geometry for medium machining.

SPEW 1204ADSN:M8330	☐	–	☑	220	0.20	12.0	–	–	–	☑	205	0.20	12.0	–	–	–	–	–	–	☑	40	0.13	1.0
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a_e / DC	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	0.89	0.81	0.76	0.73	0.71	0.70	0.67	0.65	0.63	0.62	0.60	0.60	0.60	0.45



	1	2.5	5	7.5	10	15	20							
	f_{min}	f_{min} f_{max}	f_{min} f_{max}	f_{min} f_{max}	f_{min} f_{max}	f_{min} f_{max}	f_{min} f_{max}							
50	0.50	0.71	0.32	0.45	0.23	0.32	0.19	0.27	0.16	0.23	0.14	0.19	0.12	0.17
63	0.56	0.80	0.35	0.51	0.25	0.36	0.21	0.30	0.18	0.26	0.15	0.21	0.13	0.19
80	0.63	0.90	0.40	0.57	0.28	0.40	0.23	0.33	0.20	0.29	0.17	0.24	0.15	0.21

	25	32	40	50	63	80						
	f_{min}	f_{min} f_{max}	f_{min} f_{max}	f_{min} f_{max}	f_{min} f_{max}	f_{min} f_{max}						
50	0.11	0.16	0.10	0.14	0.10	0.14	0.11	0.16	-	-	-	-
63	0.12	0.17	0.11	0.16	0.10	0.15	0.10	0.14	0.11	0.16	-	-
80	0.13	0.19	0.12	0.17	0.11	0.16	0.10	0.15	0.10	0.14	0.11	0.16

	APET 15	APEW 15	SPET 12	SPET 12AD	SPEW 12AD
	1.2	1.2	0.8	-	-
	-	-	-	-	-



ISO				
50J4R128H50-SSAP55+21	50	2+2	76	73.6
63J4R150H50-SSAP74+21	63	2+2	95	92.6
50J4R124X50-SSAP55+21	50	2+2	76	73.6
63J4R146X50-SSAP74+21	63	2+2	95	92.6
63J4R150H50-SSAP95-A	63	2+2	95	92.6
80J6R155H50-SSAP95-A	80	3+3	95	92.6
50J4R124X50-SSAP76-A	50	2+2	76	73.6
63J4R146X50-SSAP95-A	63	2+2	95	92.6
80J6R151X50-SSAP95-A	80	3+3	95	92.6

J(T)-CSD12X

P **M** **S**

PRAMET

C

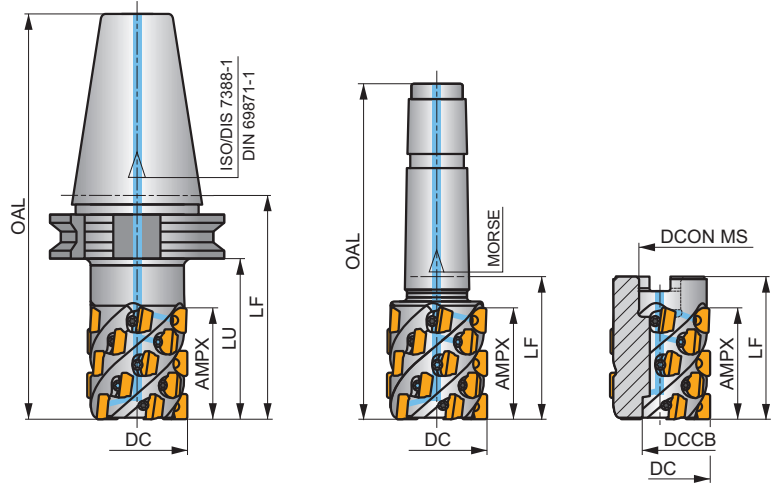
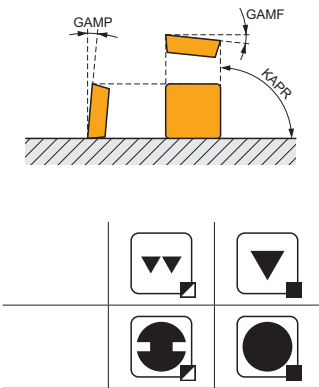


MULTISIDE SD Long Edge Mill

90° long edge end mill utilising positive SD.. 12 inserts with APMX of 44.1 up to 87.3 mm. Suitable for shoulder, slot or face milling. Available in arbor, PSC, Morse or DIN 69871 taper style. . Body treated for longer tool life.

MULTISIDE SD

KAPR	90°
APMX	44.1 - 87.3 mm



h_m	0.025 - 0.05			
h_m	0.025 - 0.05			

Product	DC	OAL	DCON MS	DCCB	LU	LF	APMX	GAMF	GAMP	CZC MS	NOF						
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)					kg			
40J4R090H40-CSD12X44	40	158.4	-	-	70	90	44.10	-5	8	40	4	16	-	4000	✓	1.16	GI271 SQ091
50J5R100H50-CSD12X55	50	201.7	-	-	80	100	54.90	-5	8	50	5	25	-	3200	✓	4.20	GI271 SQ091
63J6R110H50-CSD12X66	63	211.7	-	-	90	110	65.70	-5	8	50	6	36	-	2500	✓	4.90	GI271 SQ091
50J5R065E04-CSD12X55	50	167.5	-	-	-	65	54.90	-5	8	4	5	25	-	3200	✓	1.34	GI271 SQ091
50T05R-C90SD12X55	50	-	22	18	-	78	54.90	-5	8	-	5	25	-	3200	✓	1.21	GI271 SQ923
63T06R-C90SD12X66	63	-	27	22	-	90	65.70	-5	8	-	6	36	-	2500	✓	1.72	GI271 SQ924
80T08R-C90SD12X88	80	-	40	36	-	115	87.30	-5	8	-	8	64	-	2000	✓	3.20	GI271 SQ925

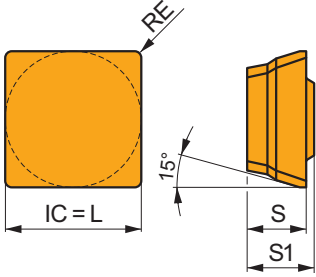
GI271	SDGX 1205..	SDMX 1205..

SQ091	US 63511D-T15P	3.0	M 3.5	11	D-T08P/T15P	FG-15	-
SQ923	US 63511D-T15P	3.0	M 3.5	11	D-T08P/T15P	FG-15	HSD 1070
SQ924	US 63511D-T15P	3.0	M 3.5	11	D-T08P/T15P	FG-15	HS 1280
SQ925	US 63511D-T15P	3.0	M 3.5	11	D-T08P/T15P	FG-15	HS 20100

SDGX 12

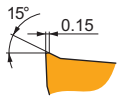
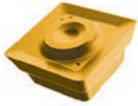


	IC (mm)	L (mm)	S (mm)	S1 (mm)
1205	12.700	12.70	5.56	6.35



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



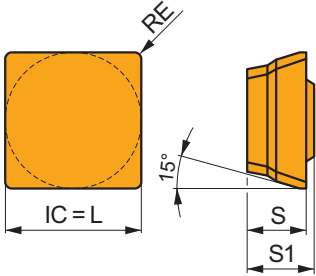
FM geometry with positive design for light to medium heavy machining.

SDGX 120508EN-FM:M8330	0.8	220	0.15	12.0	130	0.14	12.0	-	-	-	-	-	55	0.11	9.6	-	-	-
SDGX 120508EN-FM:M8345	0.8	155	0.15	12.0	90	0.14	12.0	-	-	-	-	-	35	0.11	9.6	-	-	-

SDMX 12

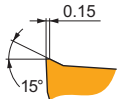
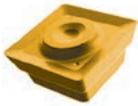


	IC (mm)	L (mm)	S (mm)	S1 (mm)
1205	12.700	12.70	5.56	6.35



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



M geometry with positive design for light to heavy machining.

SDMX 120508EN-M:M8330	0.8	220	0.15	12.0	130	0.14	12.0	-	-	-	-	-	55	0.11	9.6	-	-	-
SDMX 120508EN-M:M8345	0.8	155	0.15	12.0	90	0.14	12.0	-	-	-	-	-	35	0.11	9.6	-	-	-



a_e / DC	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	0.89	0.81	0.76	0.73	0.71	0.70	0.66	0.65	0.63	0.62	0.60	0.60	0.60	0.45



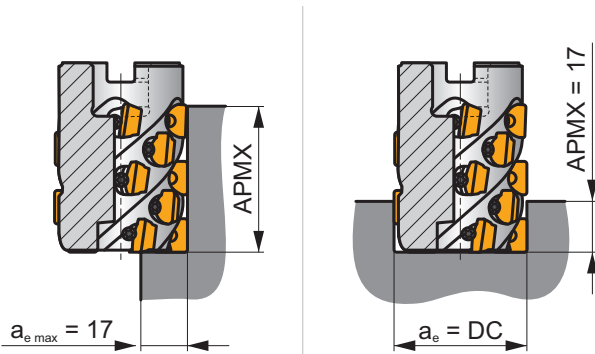
	1	2.5	5	7.5	10	15	20							
	f_{min}	f_{max}	f_{min}	f_{max}	f_{min}	f_{max}	f_{min}	f_{max}	f_{min}	f_{max}	f_{min}	f_{max}	f_{min}	f_{max}
40	0.16	0.32	0.10	0.20	0.07	0.14	0.06	0.12	0.05	0.10	0.04	0.09	0.04	0.08
50	0.18	0.35	0.11	0.23	0.08	0.16	0.07	0.13	0.06	0.12	0.05	0.10	0.04	0.09
63	0.20	0.40	0.13	0.25	0.09	0.18	0.07	0.15	0.06	0.13	0.05	0.11	0.05	0.09
80	0.22	0.45	0.14	0.28	0.10	0.20	0.08	0.17	0.07	0.14	0.06	0.12	0.05	0.10

	25	32	40	50	63	80
	f_{min}	f_{max}	f_{min}	f_{max}	f_{min}	f_{max}
40	0.04	0.07	0.03	0.07	-	-
50	0.04	0.08	0.04	0.07	0.04	0.08
63	0.04	0.09	0.04	0.08	0.03	0.07
80	0.05	0.09	0.04	0.09	0.04	0.07

	SDGX 12-FM	SDMX 12-M
	0.8	0.8
	2.99	2.99



ISO				
40J4R090H40-CSD12X44	40	4	44.1	42.5
50J5R100H50-CSD12X55	50	5	54.9	53.3
63J6R110H50-CSD12X66	63	6	65.7	64.1
80J8R130H50-CSD12X88	80	8	87.3	85.7
40J4R080XC5-CSD12X44	40	4	44.1	42.5
50J5R080XC5-CSD12X55	50	5	54.9	53.3
63J6R095XC6-CSD12X66	63	6	65.7	64.1
50J5R065E04-CSD12X55	50	5	54.9	53.3
50T05R-C90SD12X55	50	5	54.9	53.3
63T06R-C90SD12X66	63	6	65.7	64.1
80T08R-C90SD12X88	80	8	87.3	85.7



J(T)-SLSN

P **K**

PRAMET

S

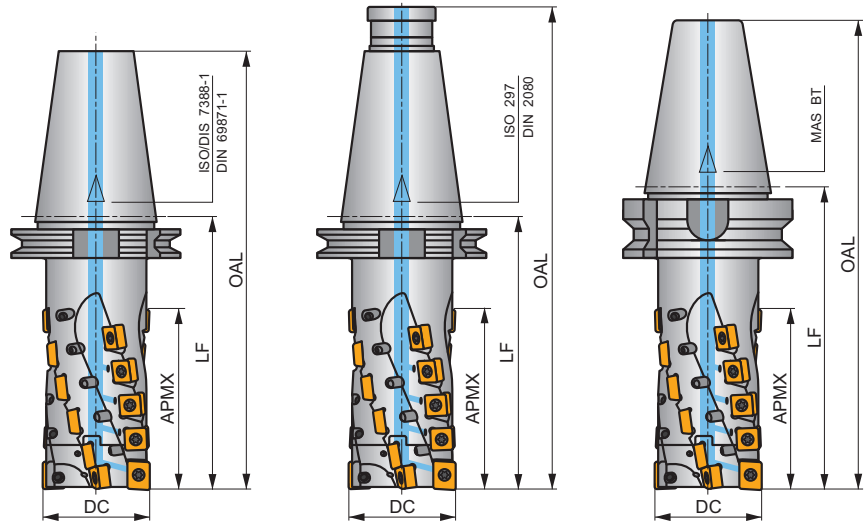
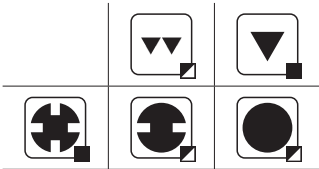
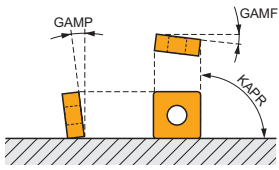


ROUGH SN Long Edge Mill for Heavy Milling with Internal Coolant

90° long edge end mill utilising LNET 16 and SN.. 13 inserts with APMX of 104 up to 134 mm. Body has exchangeable end piece. Suitable for shoulder, slot, face and plunge milling. Available in DIN 69871, BT and DIN 2080 50 taper style, . Body treated for longer tool life.

ROUGH SN

KAPR	90°
APMX	104.0 - 134.0 mm



h_m 0.08 - 0.22



Product	DC (mm)	OAL (mm)	APMX (mm)	LF (mm)	GAMP (°)	GAMP (°)	CZCMS	NOF	LN	SN	max.	kg	GI209	SQ934	SQ935	
63J2R155H50-SLSN104-C	63	257	104.00	155	-9	-10	50	4	2	20	-	8500	✓	5.03	GI209	SQ934
80J2R190H50-SLSN134-C	80	292	134.00	190	-9	-10	50	4	2	26	-	7500	✓	7.45	GI209	SQ935
63J2R155G50-SLSN104-C	63	282	104.00	155	-9	-10	50	4	2	20	-	8500	✓	5.20	GI209	SQ934
80J2R190G50-SLSN134-C	80	317	134.00	190	-9	-10	50	4	2	26	-	7500	✓	7.40	GI209	SQ935
63J2R175X50-SLSN104-C	63	277	104.00	175	-9	-10	50	4	2	20	-	8500	✓	6.10	GI209	SQ934
80J2R210X50-SLSN134-C	80	312	134.00	210	-9	-10	50	4	2	26	-	7500	✓	8.50	GI209	SQ935

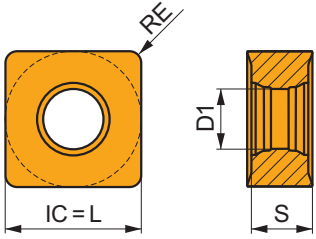
GI209	LNET 1606..	SN.. 1305..

SQ934	EH6326-SL-C	HS 1230	HXK 10	US 45012-T20P	5.0	M 5	12	SDR T20P-T
SQ935	EH8036-SL-C	HS 1640	HXK 14	US 45012-T20P	5.0	M 5	12	SDR T20P-T

SNGX 13

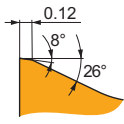


	IC (mm)	D1 (mm)	S (mm)
1305	13.200	5.90	5.96



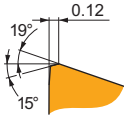
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



M geometry with positive design for light machining.

SNGX 130512SN-M:M8330	1.2	105	0.15	12.0	–	–	–	95	0.15	12.0	–	–	–	–	–	–	–	–	–
SNGX 130512SN-M:M8340	1.2	105	0.15	12.0	–	–	–	95	0.15	12.0	–	–	–	–	–	–	–	–	–



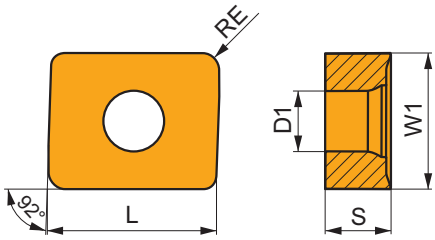
R geometry with positive design for rough machining and unstable conditions.

SNGX 130512PN-R:M8330	1.2	95	0.15	12.0	–	–	–	90	0.15	12.0	–	–	–	–	–	–	–	–	–
SNGX 130512PN-R:M8340	1.2	95	0.15	12.0	–	–	–	90	0.15	12.0	–	–	–	–	–	–	–	–	–

LNET 16

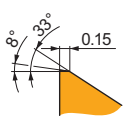


	W1 (mm)	D1 (mm)	L (mm)	S (mm)
1606	13.200	5.90	16.40	6.38



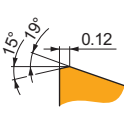
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



M geometry with highly positive design for medium machining.

LNET 160616SR-M:M8340	1.6	105	0.15	15.0	–	–	–	95	0.15	15.0	–	–	–	–	–	–	–	–	–
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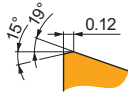


R geometry with highly positive design for medium machining.

LNET 160616SR-R:M8330	1.6	100	0.15	15.0	–	–	–	95	0.15	15.0	–	–	–	–	–	–	–	–	–
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Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



R geometry with highly positive design for medium machining.

LNET 160616SR-R:M8340	1.6	95	0.15	15.0	-	-	-	90	0.15	15.0	-	-	-	-	-	-	-	-
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a_e / DC	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00



	1	2.5	5	7.5	10	15	20							
	f_{min}	f_{min} f_{max}	f_{min} f_{max}	f_{min} f_{max}	f_{min} f_{max}	f_{min} f_{max}	f_{min} f_{max}							
63	0.64	1.75	0.40	1.11	0.29	0.79	0.24	0.65	0.21	0.57	0.17	0.47	0.15	0.41
80	0.72	1.97	0.45	1.25	0.32	0.89	0.27	0.73	0.23	0.64	0.19	0.53	0.17	0.46

	25	32	40	50	63	80
	f_{min}	f_{min} f_{max}	f_{min} f_{max}	f_{min} f_{max}	f_{min} f_{max}	f_{min} f_{max}
63	0.14	0.38	0.12	0.34	0.12	0.32
80	0.15	0.42	0.14	0.38	0.13	0.35

	LNET 16-M	LNET 16-R	SNGX 13-M	SNGX 13-R
RE	1.6	1.6	1.2	1.2
BS	-	-	-	-























ISO				a_e
63J2R155H50-SLSN104-C	63	2+2	104	101.2
80J2R190H50-SLSN134-C	80	2+2	134	131.2
63J2R155G50-SLSN104-C	63	2+2	104	101.2
80J2R190G50-SLSN134-C	80	2+2	134	131.2
63J2R175X50-SLSN104-C	63	2+2	104	101.2
80J2R210X50-SLSN134-C	80	2+2	134	131.2



COPY MILLING

COPY MILLING – NAVIGATOR

COPY MILLING – ROUND INSERT SEAT

	SRD05		SRD07		SRD10		SRD12		SRD16		
	-		-		-		-		-		
	APMX (mm)	1.5	APMX (mm)	2.0	APMX (mm)	2.5	APMX (mm)	3.0	APMX (mm)	4.0	
	DCX (mm)	10 – 15	DCX (mm)	15 – 25	DCX (mm)	20 – 52	DCX (mm)	24 – 80	DCX (mm)	32 – 100	
Cylindrical shank											
Weldon				DCX = 15 (mm)		DCX = 20 (mm)					
Modular				DCX = 15 – 25 (mm)		DCX = 20 – 42 (mm)		DCX = 24 – 42 (mm)		DCX = 32 (mm)	
Shell mill						DCX = 42, 52 (mm)		DCX = 50 – 80 (mm)		DCX = 52 – 100 (mm)	
Page	160		163		168		174		180		
ISO	P	K	H	P M K N S H	P M K N S H	P M K N S H	P M K N S H	P M K N S H	P M K N S H		
Insert shape											
Inserts	RD 0501		RD 0702		RD 1003		RD 12T3		RD 1604		
No. of cutting edges	-		-		-		-		-		
Shape surfaces milling (copy milling) 	■		■		■		■		■		
Face milling 	■		■		■		■		■		
Helical interpolation 	■		■		■		■		■		
Progressive plunging 	■		■		■		■		■		
Ramping 	■		■		■		■		■		

SRD05



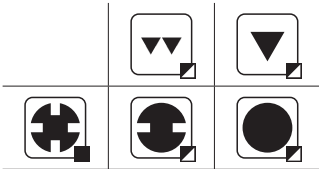
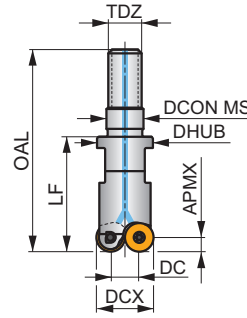
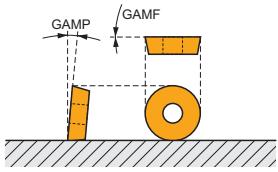
PRAMET



Copy Milling Cutter for Round Inserts RDHX 05 with Internal Coolant

Milling cutter for copy milling utilising positive RDHX 05 inserts with APMX of 1.5 mm. Internal coolant. Suitable for face, helical interpolation, ramping, progressive plunge and copy milling. Available as modular style. Body treated for longer tool life.

APMX	1.5 mm
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h_m 0.03 - 0.1



Product	DCX (mm)	DC (mm)	DHUB (mm)	OAL (mm)	LF (mm)	DCON MS (mm)	TDZ	GAMF (°)	GAMP (°)				kg		
10E2R020M06-SRD05-CF	10	5	9.8	35	20	6.5	M6	5	3	2	-	89300	✓	0.01	GI117 C0352
12E3R020M06-SRD05-CF	12	7	10	35	20	6.5	M6	0	3	3	-	81500	✓	0.01	GI117 C0352
15E4R020M08-SRD05-CF	15	10	13.5	38	20	8.5	M8	0	3	4	-	72900	✓	0.02	GI117 C0352

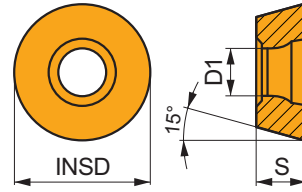
	GI117		RD..0501M0..
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	C0352		US 62003B-T06P		0.9		M 2		3		Flag T06P
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RDHX 05



	INSD	D1	S
	(mm)	(mm)	(mm)
0501	5.000	2.20	1.51



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



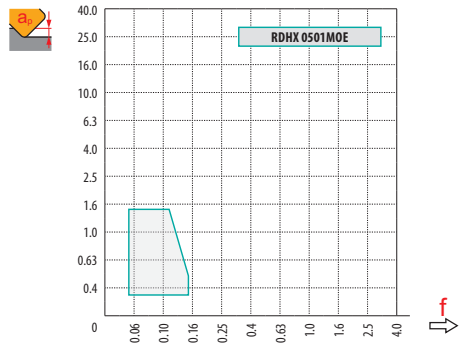
Zero rake angle design for finish machining.

RDHX 0501M0E:M8310	✳	-	<input checked="" type="checkbox"/>	400	0.10	0.5	-	-	-	380	0.10	0.5	-	-	-	-	-	-	80	0.10	0.3
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a_e DCX	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	RDHX 05
	2.5
	-



		0.00	0.30	0.50	0.75	1.00	1.25	1.50	2.00	2.50
10		5.0	7.4	8.0	8.6	9.0	9.3	9.6	9.9	10.0
12		7.0	9.4	10.0	10.6	11.0	11.3	11.6	11.9	12.0
15		10.0	12.4	13.0	13.6	14.0	14.3	14.6	14.9	15.0
		-	0.30	0.50	0.75	1.00	1.25	1.50	2.00	2.50
		-	0.25	0.19	0.16	0.14	0.13	0.12	0.10	0.09

	RPMX	APMX/I
10	15.0	1.3/11
12	11.0	1.3/14
15	7.0	1.3/22

	DMIN	DMAX		
10	12.0	20.0	1.2	1.2
12	16.0	24.0	1.2	1.2
15	22.0	30.0	1.2	1.2

1.0

	μ m	3	5	10	15	20	30	40	50	60	80	100
10		0.346	0.447	0.632	0.775	0.894	1.095	1.265	1.414	1.549	1.789	2.000
12		0.379	0.490	0.693	0.849	0.980	1.200	1.386	1.549	1.697	1.960	2.191
15		0.424	0.548	0.775	0.949	1.095	1.342	1.549	1.732	1.897	2.191	2.449
		3	5	10	15	20	30	40	50	60	80	100
2.5		0.245	0.316	0.447	0.548	0.632	0.775	0.894	1.000	1.095	1.265	1.414

SRD07

P
M
K
N
S
H

PRAMET

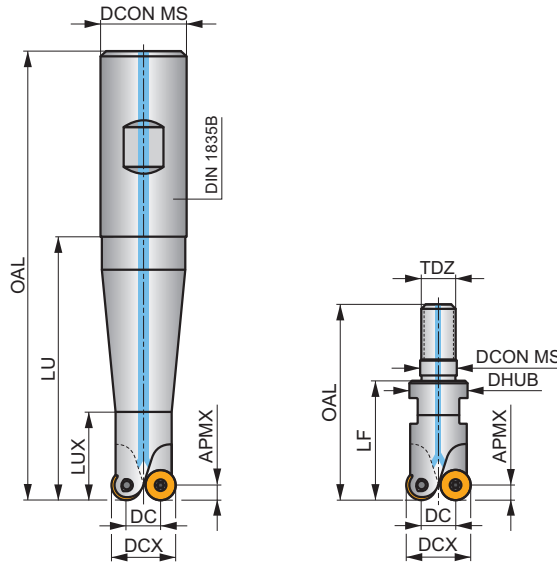
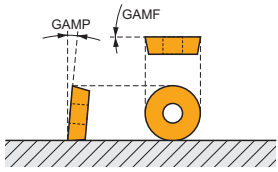
S



Copy Milling Cutter for Round Inserts RD.. 07 with Internal Coolant

Milling cutter for copy milling utilising positive RD.. 07 inserts with APMX of 2 mm. Internal coolant. Suitable for face, helical interpolation, ramping, progressive plunge and copy milling. Available in weldon and modular style. . Body treated for longer tool life.

APMX	2.0 mm
------	--------



h_m 0.065 - 0.13



Product	DCX	DC	OAL	D CON MS	DHUB	LU	LUX	LF	TDZ	GAMF	GAMP								
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)								
15E2R040B16-SRD07-CF	15	8	88	16	-	40	20	-	-	1	0	2	-	44200	✓	0.12	G118	C0354	
15E2R060B16-SRD07-CF	15	8	108	16	-	60	20	-	-	1	0	2	-	44200	✓	0.15	G118	C0354	
15E2R080B20-SRD07-CF	15	8	130	20	-	80	22	-	-	1	0	2	-	44200	✓	0.22	G118	C0354	
15E2R100B20-SRD07-CF	15	8	150	20	-	100	22	-	-	1	0	2	-	44200	✓	0.25	G118	C0354	
15E2R120B25-SRD07-CF	15	8	176	25	-	120	22	-	-	1	0	2	-	44200	✓	0.45	G118	C0354	
15E2R028M08-SRD07-CF	15	8	46	8.5	13.5	-	-	28	M8	1	0	2	-	44200	✓	0.03	G118	C0354	
15E3R028M08-SRD07-CF	15	8	46	10.5	13.5	-	-	28	M8	2	0	3	-	44200	✓	0.05	G118	C0354	
20E4R028M10-SRD07-CF	20	13	47	12.5	18	-	-	28	M10	-8	0	4	-	38200	✓	0.07	G118	C0354	
25E5R028M12-SRD07-CF	25	18	50	12.5	21	-	-	28	M12	-2	0	5	-	34200	✓	0.09	G118	C0354	

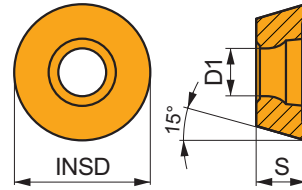
G118	RD..07..MO..

C0354	US 42505-T07P	1.2	M 2.5	5	Flag T07P

RDGT 07

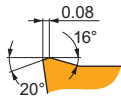


	INSD (mm)	D1 (mm)	S (mm)
0702	7.000	2.80	2.38



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)
	●●●																		
	●●●																		
	●●●																		



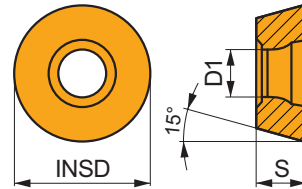
Positive design for finish machining.

RDGT 0702MOT:M8325	●●●	–	■	305	0.15	0.5	▣	145	0.14	0.5	■	–	–	–	–	–	–	–	–	–
RDGT 0702MOT:M8345	●●●	–	■	270	0.15	0.5	▣	160	0.14	0.5	■	–	–	–	▣	65	0.12	0.4	–	–

RDHX 07

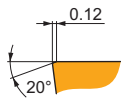


	INSD (mm)	D1 (mm)	S (mm)
0702	7.000	2.80	2.38
07T1	7.000	2.80	1.98



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)
	●●●																		
	●●●																		
	●●●																		



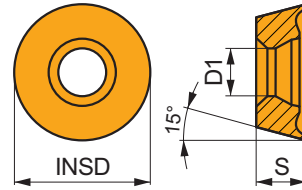
Zero rake angle design for finish machining.

RDHX 0702MOT:M4303	●●●	–	▣	370	0.15	0.5	–	–	–	■	350	0.15	0.5	–	–	–	–	–	–	■	70	0.11	0.5
RDHX 0702MOT:M8310	●●●	–	▣	360	0.15	0.5	–	–	–	■	340	0.15	0.5	–	–	–	–	–	–	■	70	0.11	0.5
RDHX 0702MOT:M8325	●●●	–	▣	275	0.15	0.5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
RDHX 07T1MOT:M8310	●●●	–	▣	360	0.15	0.5	–	–	–	■	340	0.15	0.5	–	–	–	–	–	–	■	70	0.11	0.5

RDHT 07-FA

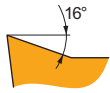
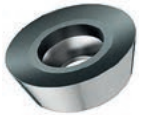


	INSD	D1	S
	(mm)	(mm)	(mm)
0702	7.000	2.80	2.38



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



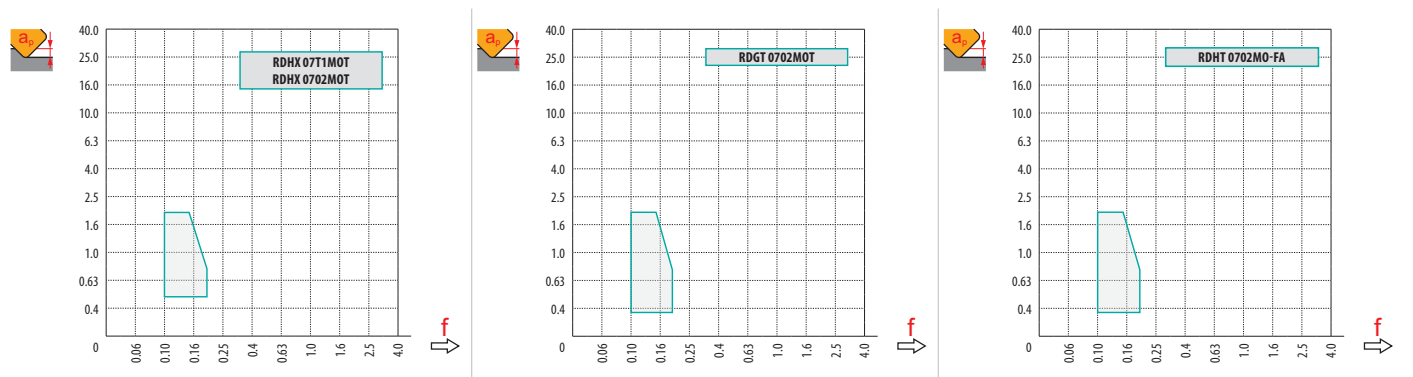
FA geometry with highly positive design for fine-finish to medium machining.

RDHT 0702M0-FA:HF7	●	-	-	-	-	-	-	-	-	-	■	420	0.18	0.5	-	-	-	-	-
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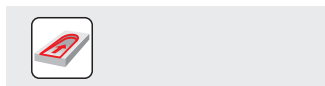


a_e / DCX	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

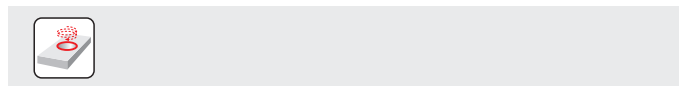
	RDHX 07	RDGT 07	RDHT 07-FA
	3.5	3.5	3.5
	—	—	—



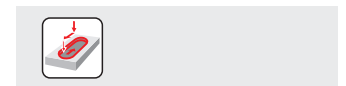
		0.00	0.30	0.50	0.75	1.00	1.25	1.50	2.00	2.50	3.00	3.50
15		8.0	10.8	11.6	12.3	12.9	13.4	13.7	14.3	14.7	14.9	15.0
20		13.0	15.8	16.6	17.3	17.9	18.4	18.7	19.3	19.7	19.9	20.0
25		18.0	20.8	21.6	22.3	22.9	23.4	23.7	24.3	24.7	24.9	25.0
		0.00	0.30	0.50	0.75	1.00	1.25	1.50	2.00	2.50	3.00	3.50
		—	0.29	0.23	0.19	0.16	0.15	0.13	0.12	0.11	0.10	0.09



	RPMX	APMX/I
15	11.0	1.7/20
20	7.0	1.7/30
25	6.0	1.7/35









	DMIN	DMAX		
15	17.0	30.0	0.4	1.7
20	28.0	40.0	1.7	1.7
25	38.0	50.0	1.7	1.7



1.2



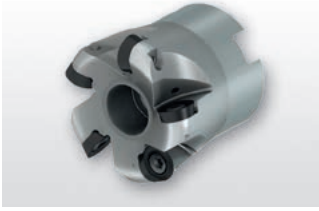
		3	5	10	15	20	30	40	50	60	80	100
15		0.424	0.548	0.775	0.949	1.095	1.342	1.549	1.732	1.897	2.191	2.449
20		0.490	0.632	0.894	1.095	1.265	1.549	1.789	2.000	2.191	2.530	2.828
25		0.548	0.707	1.000	1.225	1.414	1.732	2.000	2.236	2.449	2.828	3.162
		3	5	10	15	20	30	40	50	60	80	100
3.5		0.290	0.374	0.529	0.648	0.748	0.917	1.058	1.183	1.296	1.497	1.673

SRD10

P M K N S H

PRAMET

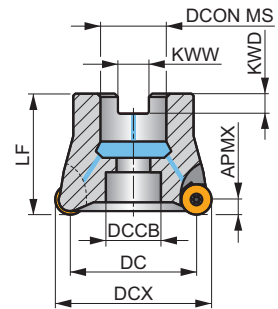
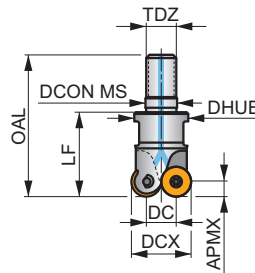
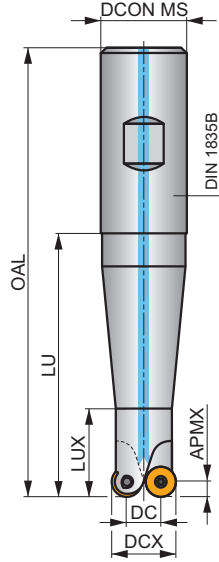
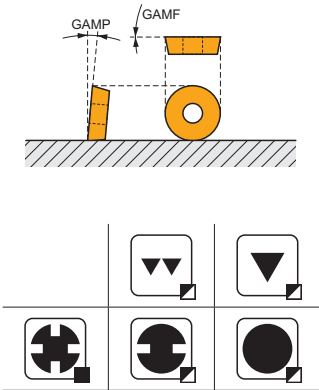
S



Copy Milling Cutter for Round Inserts RD.. 10 with Internal Coolant

Milling cutter for copy milling utilizing positive RD.. 10 inserts with APMX of 2.5 mm. Internal coolant. Suitable for face, helical interpolation, ramping, progressive plunge and copy milling. Available in Weldon, modular and arbor style. Body treated for longer tool life.

APMX	2.5 mm
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h_m 0.065 - 0.19



Product	DCX	DC	OAL	DCON MS	DHUB	DCCB	LU	LUX	LF	TDZ	KWW	KWD	GAMF	GAMP	max.			kg	G1119 C0356	
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)						
20E2R040B20-SRD10-CF	20	10	90	20	-	-	40	20	-	-	-	-	-2	0	2	-	30800	✓	0.20	G1119 C0356
20E2R060B20-SRD10-CF	20	10	110	20	-	-	60	22	-	-	-	-	-2	0	2	-	30800	✓	0.20	G1119 C0356
20E2R080B25-SRD10-CF	20	10	136	25	-	-	80	25	-	-	-	-	-2	0	2	-	30800	✓	0.40	G1119 C0356
20E2R100B25-SRD10-CF	20	10	156	25	-	-	100	25	-	-	-	-	-2	0	2	-	30800	✓	0.45	G1119 C0356
20E2R120B25-SRD10-CF	20	10	176	25	-	-	120	25	-	-	-	-	-2	0	2	-	30800	✓	0.46	G1119 C0356
20E2R028M10-SRD10-CF	20	10	47	10.5	18	-	-	-	28	M10	-	-	-2	0	2	-	30800	✓	0.07	G1119 C0356
25E2R032M12-SRD10-CF	25	15	54	12.5	21	-	-	-	32	M12	-	-	0.5	0.5	2	-	27500	✓	0.08	G1119 C0356
25E3R032M12-SRD10-CF	25	15	54	12.5	21	-	-	-	32	M12	-	-	0.5	0.5	3	-	27500	✓	0.10	G1119 C0356
30E4R042M16-SRD10-CF	30	20	65	17	29	-	-	-	42	M16	-	-	0	0	4	-	25100	✓	0.20	G1119 C0356
32E4R042M16-SRD10-CF	32	22	65	17	29	-	-	-	42	M16	-	-	0	0	4	-	24300	✓	0.19	G1119 C0356
35E5R042M16-SRD10-CF	35	25	65	17	29	-	-	-	42	M16	-	-	0	0	5	-	23200	✓	0.22	G1119 C0356
42E4R042M16-SRD10-CF	42	32	65	17	29	-	-	-	42	M16	-	-	0	0	4	-	21200	✓	0.24	G1119 C0356
42E5R042M16-SRD10-CF	42	32	65	17	29	-	-	-	42	M16	-	-	0	0	5	-	21200	✓	0.24	G1119 C0356
42A05R-SMORD10-CF	42	32	-	16	-	14	-	-	40	-	8.4	8.4	0	0	5	-	21200	✓	0.20	G1119 C0358
52A07R-SMORD10-CF	52	42	-	22	-	18	-	-	40	-	10.4	10.4	0	0	7	-	19100	✓	0.41	G1119 C0360

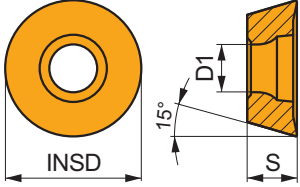
G1119	RD.. 1003MOT	RDHT 1003MO-FA
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C0356	US 63507-T15P	3.0	M 3.5	7	Flag T15P	-	-
C0358	US 63507-T15P	3.0	M 3.5	7	D-T08P/T15P	FG-15	HS 0830C
C0360	US 63507-T15P	3.0	M 3.5	7	D-T08P/T15P	FG-15	HS 1030C

RDGT 10

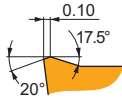


	INSD	D1	S
	(mm)	(mm)	(mm)
1003	10.000	3.90	3.18



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap
		(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)



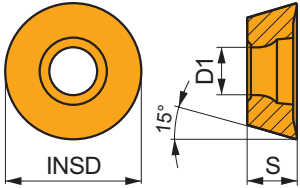
Positive design for finish machining.

RDGT 1003MOT:M6330	☼	–	■	290	0.15	1.0	■	205	0.14	1.0	■	–	–	–	■	85	0.12	0.8	■	–	–	–	
RDGT 1003MOT:M8310	☼	–	■	375	0.15	1.0	■	190	0.14	1.0	■	■	355	0.15	1.0	■	–	–	–	■	–	–	–
RDGT 1003MOT:M8325	☼	–	■	280	0.15	1.0	■	130	0.14	1.0	■	■	–	–	–	■	–	–	–	■	–	–	–
RDGT 1003MOT:M8345	☼	–	■	250	0.15	1.0	■	150	0.14	1.0	■	■	–	–	–	■	60	0.12	0.8	■	–	–	–
RDGT 1003MOT:M9340	☼	–	■	395	0.15	1.0	■	235	0.14	1.0	■	■	–	–	–	■	95	0.12	0.8	■	–	–	–

RDMT 10

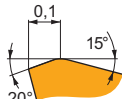


	INSD	D1	S
	(mm)	(mm)	(mm)
1003	10.000	3.90	3.18



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap
		(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)



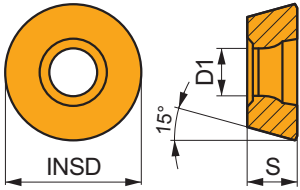
Positive design for finish machining.

RDMT 1003MOT:M8325	☼	–	■	280	0.15	1.0	■	130	0.14	1.0	■	■	–	–	–	■	–	–	–	■	–	–	–
RDMT 1003MOT:M8345	☼	–	■	250	0.15	1.0	■	150	0.14	1.0	■	■	–	–	–	■	–	–	–	■	–	–	–

RDMX 10

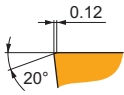
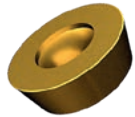


	INSD	D1	S
	(mm)	(mm)	(mm)
1003	10.000	3.90	3.18



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap
		(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)



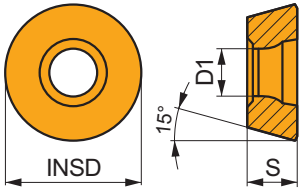
Zero rake angle design for finish machining.

RDMX 1003MOT:M8310	✳	–	✔	335	0.15	1.0	–	–	–	✔	315	0.15	1.0	–	–	–	–	–	–	–	✔	65	0.11	0.7
RDMX 1003MOT:M8325	✳	–	✔	250	0.15	1.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
RDMX 1003MOT:M8345	✳	–	✔	225	0.15	1.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

RDHX 10

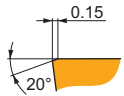


	INSD	D1	S
	(mm)	(mm)	(mm)
1003	10.000	3.90	3.18



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap
		(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)



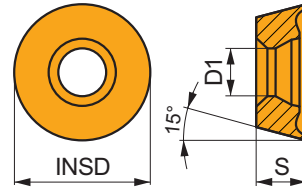
Zero rake angle design for finish machining.

RDHX 1003MOT:M4303	✳	–	✔	340	0.15	1.0	–	–	–	✔	320	0.15	1.0	–	–	–	–	–	–	–	–	–	–	–	–
RDHX 1003MOT:M8310	✳	–	✔	335	0.15	1.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
RDHX 1003MOT:M8325	✳	–	✔	250	0.15	1.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
RDHX 1003MOT:M8345	✳	–	✔	225	0.15	1.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

RDHT 10-FA

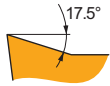
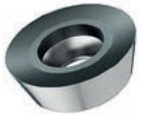


	INSD	D1	S
	(mm)	(mm)	(mm)
1003	10.000	3.90	3.18



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



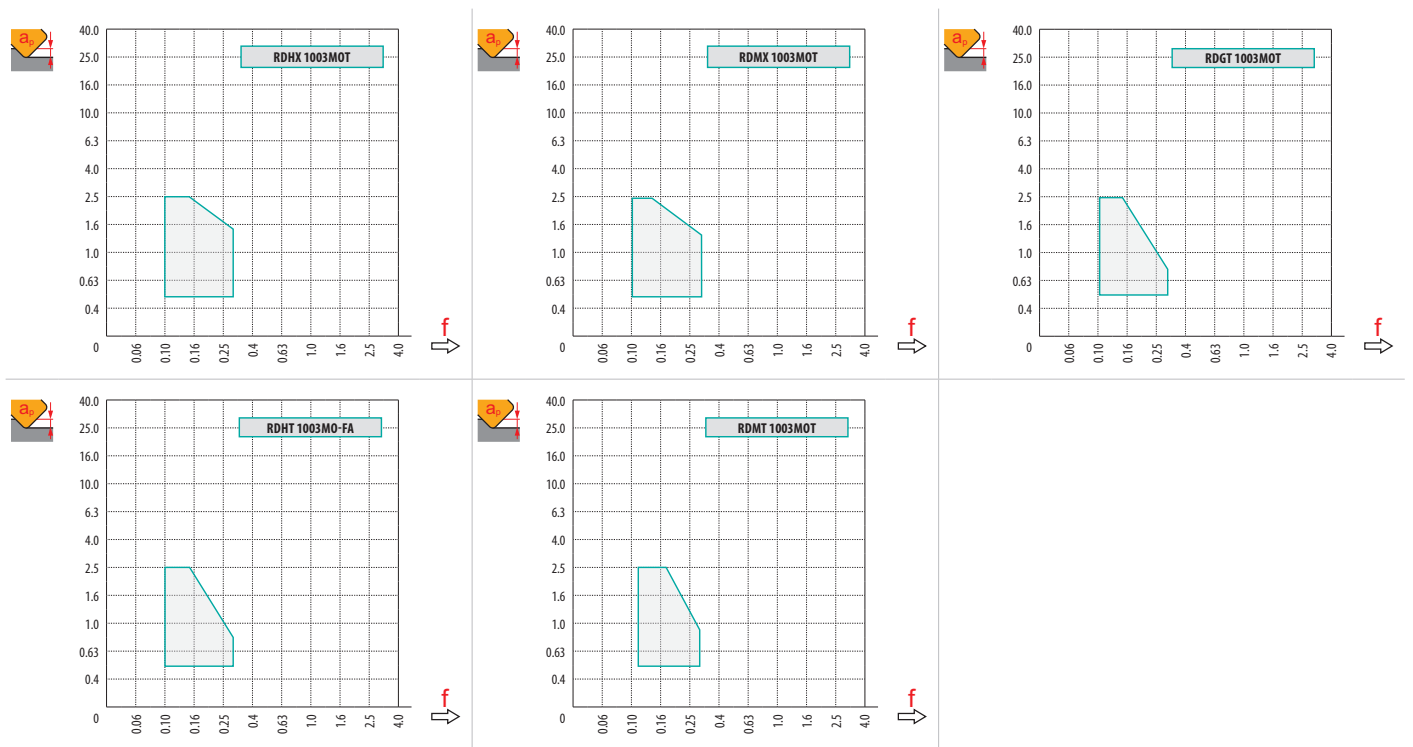
FA geometry with highly positive design for fine-finish to medium machining.

RDHT 1003MO-FA:HF7	●	-	-	-	-	-	-	-	-	-	■	390	0.18	1.0	-	-	-	-	-
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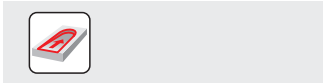


a_e / DCX	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

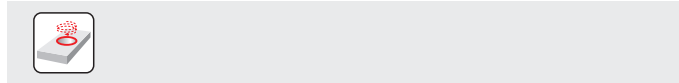
	RDHX 10	RDMX 10	RDGT 10	RDHT 10-FA	RDMT 10
	5.0	5.0	5.0	5.0	5.0
	-	-	-	-	-



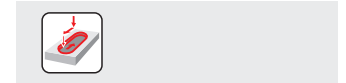
		0.00	0.50	0.75	1.00	1.25	1.50	2.00	2.50	3.00	3.50	4.00	5.00
20		10.0	14.4	15.3	16.0	16.6	17.1	18.0	18.7	19.2	19.5	19.8	20.0
25		15.0	19.4	20.3	21.0	21.6	22.1	23.0	23.7	24.2	24.5	24.8	25.0
30		20.0	24.4	25.3	26.0	26.6	27.1	28.0	28.7	29.2	29.5	29.8	30.0
32		22.0	26.4	27.3	28.0	28.6	29.1	30.0	30.7	31.2	31.5	31.8	32.0
35		25.0	29.4	30.3	31.0	31.6	32.1	33.0	33.7	34.2	34.5	34.8	35.0
42		32.0	36.4	37.3	38.0	38.6	39.1	40.0	40.7	41.2	41.5	41.8	42.0
52		42.0	46.4	47.3	48.0	48.6	49.1	50.0	50.7	51.2	51.5	51.8	52.0
		0.00	0.50	0.75	1.00	1.25	1.50	2.00	2.50	3.00	3.50	4.00	5.00
		-	0.54	0.44	0.39	0.35	0.32	0.28	0.25	0.23	0.22	0.21	0.19



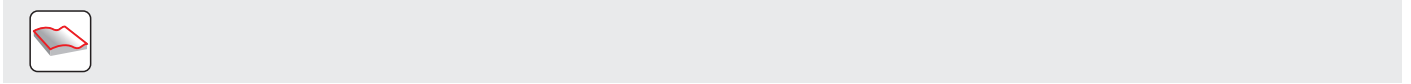
	RPMX	APMX/I
20	20	2.5/15
25	12	2.5/25
30	8	2.5/37
32	7.5	2.5/20
35	7	2.5/42
42	4	2.5/37
52	3	2.5/49



	DMIN	DMAX		
			DMIN	DMAX
20	22.0	40.0	2.5	2.5
25	32.0	50.0	2.5	2.5
30	42.0	60.0	2.5	2.5
32	46.0	64.0	2.5	2.5
35	52.0	70.0	2.5	2.5
42	66.0	84.0	2.5	2.5
52	86.0	104.0	2.5	2.5



2.5



		3	5	10	15	20	30	40	50	60	80	100
20		0.490	0.632	0.894	1.095	1.265	1.549	1.789	2.000	2.191	2.530	2.828
25		0.548	0.707	1.000	1.225	1.414	1.732	2.000	2.236	2.449	2.828	3.162
30		0.600	0.775	1.095	1.342	1.549	1.897	2.191	2.449	2.683	3.098	3.464
32		0.620	0.800	1.131	1.386	1.600	1.960	2.263	2.530	2.771	3.200	3.578
35		0.648	0.837	1.183	1.449	1.673	2.049	2.366	2.646	2.898	3.347	3.742
42		0.710	0.917	1.296	1.587	1.833	2.245	2.592	2.898	3.175	3.666	4.099
52		0.790	1.020	1.442	1.766	2.040	2.498	2.884	3.225	3.533	4.079	4.561
		3	5	10	15	20	30	40	50	60	80	100
5.0		0.346	0.447	0.632	0.775	0.894	1.095	1.265	1.414	1.549	1.789	2.000

SRD12



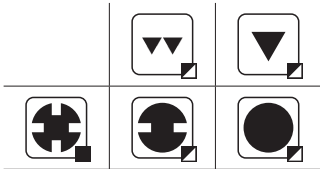
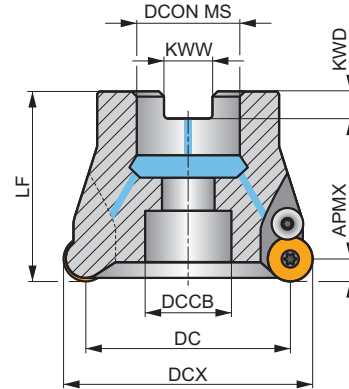
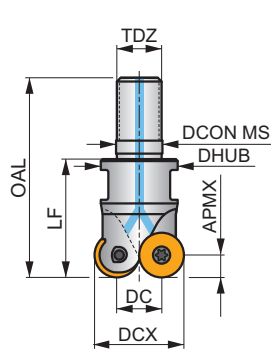
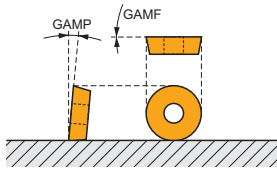
PRAMET



Copy Milling Cutter for Round Inserts RD.. 12 with Internal Coolant

Milling cutter for copy milling utilizing positive RD.. 12 inserts with APMX of 3 mm. Internal coolant. Suitable for face, helical interpolation, ramping, progressive plunge and copy milling. Available in modular and arbor style. Body treated for longer tool life.

APMX	3.0 mm
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	0.065 - 0.25
	0.065 - 0.22



Product	DCX	DC	OAL	DCON MS	DHUB	DCCB	LF	TDZ	KWW	KWD	GAMF	GAMP			max.		kg		
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)							
24E2R032M12-SRD12-CF	24	12	54	12.5	21	-	32	M12	-	-	-3	0	2	-	21900	✓	0.10	GI120	C0362
35E3R042M16-SCRD12-CF	35	23	65	17	29	-	42	M16	-	-	0	0	3	-	18100	✓	0.22	GI120	C0364
35E4R042M16-SRD12-CF	35	23	65	17	29	-	42	M16	-	-	0	0	4	-	18100	✓	0.20	GI120	C0362
42E4R042M16-SCRD12-CF	42	30	65	17	29	-	42	M16	-	-	0	0	4	-	16600	✓	0.21	GI120	C0364
42E5R042M16-SRD12-CF	42	30	65	17	29	-	42	M16	-	-	0	0	5	-	16600	✓	0.22	GI120	C0366
50A05R-SCMORD12-CF	50	38	-	22	-	18	50	-	10.4	10.4	2	7	5	-	15200	✓	0.29	GI120	C0366
52A05R-SCMORD12-CF	52	40	-	22	-	18	50	-	10.4	10.4	2	7	5	-	14900	✓	0.44	GI120	C0366
66A06R-SCMORD12-CF	66	54	-	27	-	22	50	-	12.4	12.4	2	7	6	-	13200	✓	0.54	GI120	C0370
80A07R-SCMORD12-CF	80	68	-	27	-	38	52	-	12.4	12.4	2	7	7	-	12000	✓	0.89	GI120	C0372

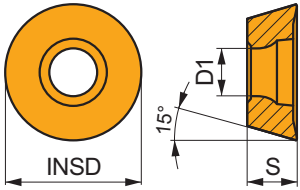
GI120	RD.. 12T3MOT	RDHT 12T3MO-FA

C0362	US 3508-T15P	3.5	M 3.5	8	-	-	Flag T15P	-	-
C0364	US 3006-T09P	2.0	M 3	6	D-T07P/T09P	FG-15	-	CS12P	-
C0366	US 3508-T15P	3.5	M 3.5	8	D-T08P/T15P	FG-15	-	CS12P	HS 1030C
C0370	US 3508-T15P	3.5	M 3.5	8	D-T08P/T15P	FG-15	-	CS12P	HS 1230C
C0372	US 3508-T15P	3.5	M 3.5	8	D-T08P/T15P	FG-15	-	CS12P	-

RDGT 12

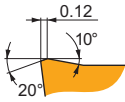


	INSD	D1	S
	(mm)	(mm)	(mm)
12T3	12.000	3.90	3.97



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap
		(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)



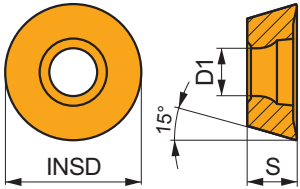
Positive design for finish machining.

RDGT 12T3MOT:M6330	☼	–	■	260	0.20	1.5	■	185	0.18	1.5	■	–	–	–	■	75	0.14	1.2	■	–	–	–	
RDGT 12T3MOT:M8310	☼	–	■	330	0.20	1.5	■	165	0.18	1.5	■	■	310	0.20	1.5	–	–	–	–	–	–	–	–
RDGT 12T3MOT:M8325	☼	–	■	250	0.20	1.5	■	120	0.18	1.5	■	–	–	–	–	–	–	–	–	–	–	–	
RDGT 12T3MOT:M8345	☼	–	■	225	0.20	1.5	■	135	0.18	1.5	■	–	–	–	■	55	0.14	1.2	–	–	–	–	
RDGT 12T3MOT:M9340	☼	–	■	340	0.20	1.5	■	200	0.18	1.5	■	–	–	–	■	85	0.14	1.2	–	–	–	–	

RDMT 12

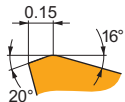
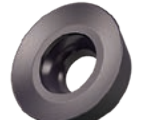


	INSD	D1	S
	(mm)	(mm)	(mm)
12T3	12.000	3.90	3.97



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap
		(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)



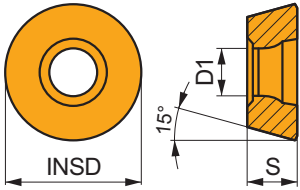
Positive design for finish machining.

RDMT 12T3MOT:M8345	☼	–	■	225	0.20	1.5	■	135	0.18	1.5	■	–	–	–	–	–	–	–	–	–	–	–
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RDMX 12

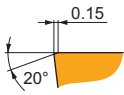
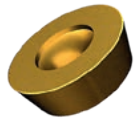


	INSD (mm)	D1 (mm)	S (mm)
12T3	12.000	3.90	3.97



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



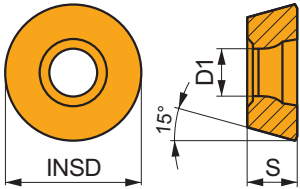
Zero rake angle design for finish machining.

RDMX 12T3MOT:M8310	✳	–	✔	300	0.20	1.5	–	–	–	✔	285	0.20	1.5	–	–	–	–	–	–	✔	60	0.10	0.8
RDMX 12T3MOT:M8325	✳	–	✔	225	0.20	1.5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
RDMX 12T3MOT:M8345	✳	–	✔	200	0.20	1.5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

RDHX 12

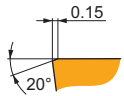


	INSD (mm)	D1 (mm)	S (mm)
12T3	12.000	3.90	3.97



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



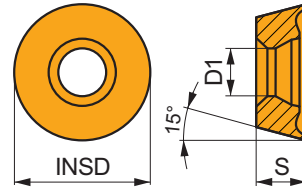
Zero rake angle design for finish machining.

RDHX 12T3MOT:M4303	✳	–	✔	300	0.20	1.5	–	–	–	✔	285	0.20	1.5	–	–	–	–	–	–	✔	60	0.14	0.8	
RDHX 12T3MOT:M8310	✳	–	✔	300	0.20	1.5	–	–	–	✔	285	0.20	1.5	–	–	–	–	–	–	–	✔	60	0.14	0.8
RDHX 12T3MOT:M8325	✳	–	✔	225	0.20	1.5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
RDHX 12T3MOT:M8345	✳	–	✔	200	0.20	1.5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	

RDHT 12-FA

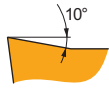
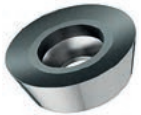


	INSD	D1	S
	(mm)	(mm)	(mm)
12T3	12.000	3.90	3.97



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



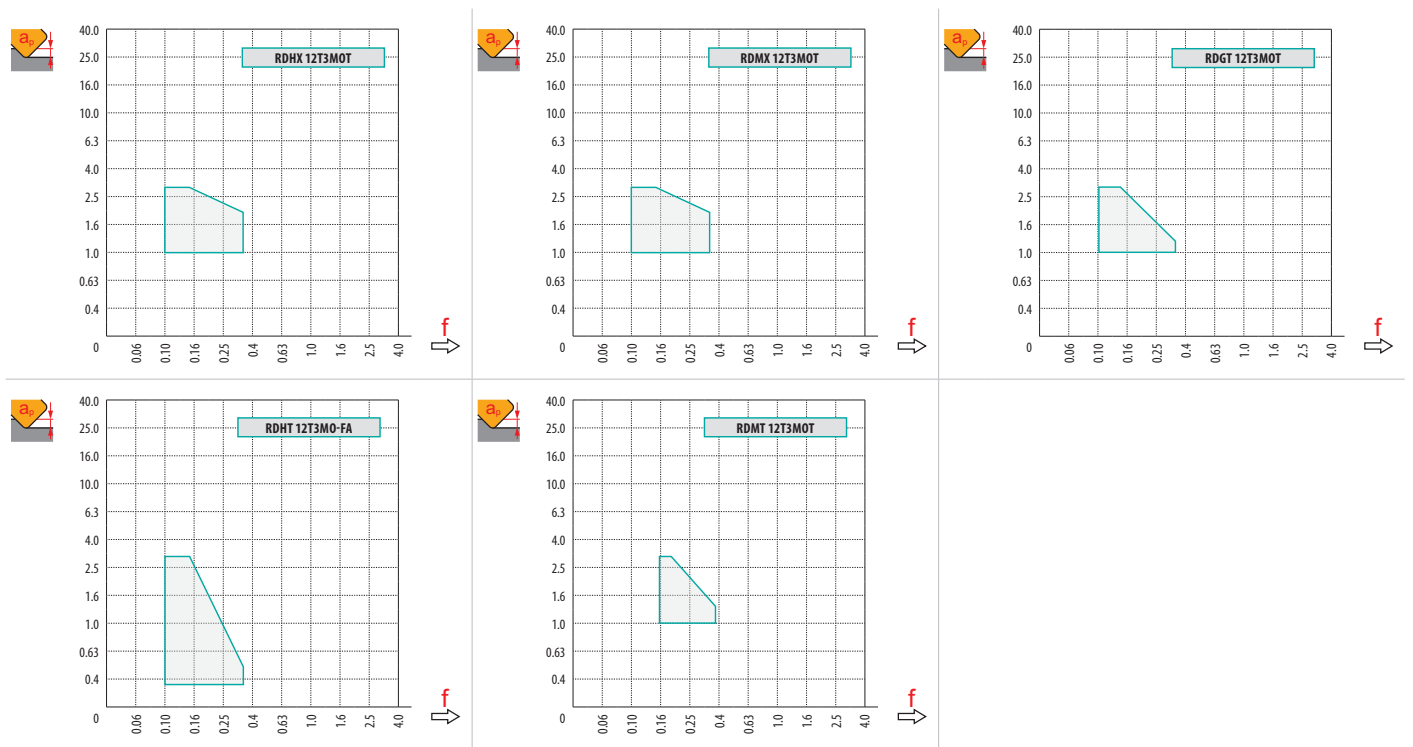
FA geometry with highly positive design for fine-finish to medium machining.

RDHT 12T3M0-FA:HF7	●	-	-	-	-	-	-	-	-	-	■	360	0.24	1.5	-	-	-	-	-
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a_e / DCX	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	RDHX 12	RDMX 12	RDGT 12	RDHT 12-FA	RDMT 12
	6.0	6.0	6.0	6.0	6.0
	-	-	-	-	-



		0.00	0.50	0.75	1.00	1.25	1.50	2.00	2.50	3.00	3.50	4.00	5.00	6.00
24		12.0	16.8	17.8	18.6	19.3	19.9	20.9	21.7	22.4	22.9	23.3	23.8	24.0
35		23.0	27.8	28.8	29.6	30.3	30.9	31.9	32.7	33.4	33.9	34.3	34.8	35.0
42		30.0	34.8	35.8	36.6	37.3	37.9	38.9	39.7	40.4	40.9	41.3	41.8	42.0
50		38.0	42.8	43.8	44.6	45.3	45.9	46.9	47.7	48.4	48.9	49.3	49.8	50.0
52		40.0	44.8	45.8	46.6	47.3	47.9	48.9	49.7	50.4	50.9	51.3	51.8	52.0
66		54.0	58.8	59.8	60.6	61.3	61.9	62.9	63.7	64.4	64.9	65.3	65.8	66.0
80	68.0	72.8	73.8	74.6	75.3	75.9	76.9	77.7	78.4	78.9	79.3	79.8	80.0	
		0.00	0.50	0.75	1.00	1.25	1.50	2.00	2.50	3.00	3.50	4.00	5.00	6.00
		-	0.49	0.40	0.35	0.32	0.29	0.25	0.23	0.21	0.20	0.18	0.17	0.16

	RPMX	APMX/I
24	25.0	3.0/14
35	9.0	3.0/39
42	8.0	3.0/44
50	4.0	3.0/87
52	4.0	3.0/87
66	3.0	3.0/100
80	2.2	3.0/100

	DMIN	DMAX		
			DMIN	DMAX
24	26.0	48.0	3.0	3.0
35	46.0	70.0	3.0	3.0
42	62.0	84.0	3.0	3.0
50	78.0	100.0	2.8	2.8
52	82.0	104.0	2.8	2.8
66	110.0	132.0	2.8	2.8
80	136.0	160.0	2.8	2.8

2.8

		3	5	10	15	20	30	40	50	60	80	100
24		0.537	0.693	0.980	1.200	1.386	1.697	1.960	2.191	2.400	2.771	3.098
35		0.648	0.837	1.183	1.449	1.673	2.049	2.366	2.646	2.898	3.347	3.742
42		0.710	0.917	1.296	1.587	1.833	2.245	2.592	2.898	3.175	3.666	4.099
50		0.775	1.000	1.414	1.732	2.000	2.449	2.828	3.162	3.464	4.000	4.472
52		0.790	1.020	1.442	1.766	2.040	2.498	2.884	3.225	3.533	4.079	4.561
66		0.890	1.149	1.625	1.990	2.298	2.814	3.250	3.633	3.980	4.596	5.138
80		0.980	1.265	1.789	2.191	2.530	3.098	3.578	4.000	4.382	5.060	5.657
		3	5	10	15	20	30	40	50	60	80	100
6.0		0.379	0.490	0.693	0.849	0.980	1.200	1.386	1.549	1.697	1.960	2.191

SRD16

P M K N S H

PRAMET

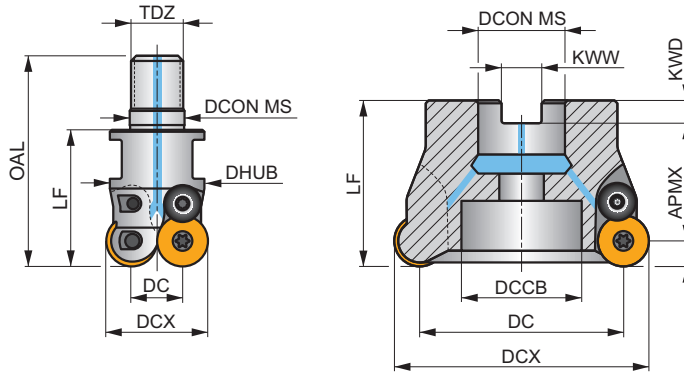
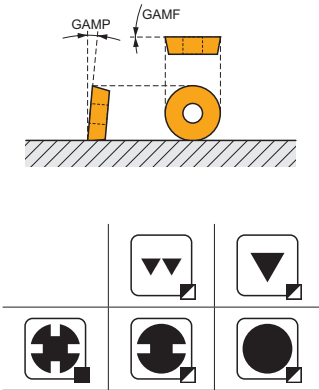
(S(C))



Copy Milling Cutter for Round Inserts RD.. 16 with Internal Coolant

Milling cutter for copy milling utilizing positive RD.. 16 inserts with APMX of 4 mm. Internal coolant. Suitable for face, helical interpolation, ramping, progressive plunge and copy milling. Available in modular and arbor style. Body treated for longer tool life.

APMX	4.0 mm
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h_m	0.11 - 0.25					
h_m	0.1 - 0.2					

Product	DCX	DC	OAL	DCON MS	DHUB	DCCB	LF	TDZ	KWW	KWD	GAMF	GAMP							
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)							
32E2R042M16-SCRD16-CF	32	16	65	17	29	-	42	M16	-	-	-2	0	2	-	12600	✓	0.18	G1121	C0374
52A04R-SCMORD16-CF	52	36	-	22	-	16.5	50	-	10.4	10.4	0	7	4	-	9900	✓	0.41	G1121	C0376
66A05R-SCMORD16-CF	66	50	-	27	-	22	50	-	12.4	12.4	0	7	5	-	8800	✓	0.60	G1121	C0378
80A06R-SCMORD16-CF	80	64	-	27	-	38	52	-	12.4	12.4	0	7	6	-	8000	✓	0.87	G1121	C0380
100A07R-SCMORD16-CF	100	84	-	32	-	45	52	-	14.4	14.4	0	7	7	-	7100	✓	1.41	G1121	C0380

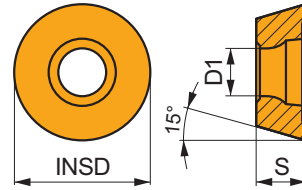
G1121	RD.. 1604MOT	RDHT 1604MO-FA

C0374	US 64510-T20P	4.5	M 4.5	10	-	Flag T20P	CS16P	-
C0376	US 64510-T20P	4.5	M 4.5	10	SDR T20P-T	-	CS16P	HS 1030C
C0378	US 64510-T20P	4.5	M 4.5	10	SDR T20P-T	-	CS16P	HS 1230C
C0380	US 64510-T20P	4.5	M 4.5	10	SDR T20P-T	-	CS16P	-

RDGT 16

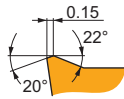


	INSD (mm)	D1 (mm)	S (mm)
1604	16.000	5.20	4.76



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



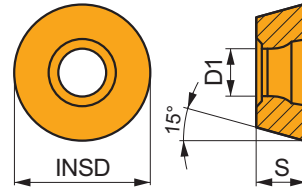
Positive design for finish machining.

RDGT 1604MOT:M8310	☉	–	■	285	0.30	2.0	▣	145	0.27	2.0	■	270	0.30	2.0	–	–	–	–	–	–
RDGT 1604MOT:M8325	☉	–	■	220	0.30	2.0	▣	105	0.27	2.0	–	–	–	–	–	–	–	–	–	–
RDGT 1604MOT:M8345	☉	–	■	200	0.30	2.0	▣	120	0.27	2.0	–	–	–	–	–	–	▣	50	0.21	1.6

RDMX 16

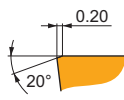


	INSD (mm)	D1 (mm)	S (mm)
1604	16.000	5.20	4.76



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



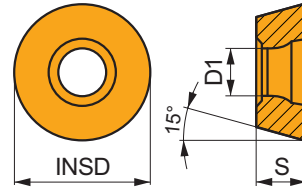
Zero rake angle design for finish machining.

RDMX 1604MOT:M8310	☉	–	▣	255	0.30	2.0	–	–	–	–	■	240	0.30	2.0	–	–	–	–	–	–	■	50	0.15	1.1
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RDHX 16

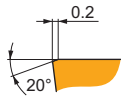


	INSD	D1	S
	(mm)	(mm)	(mm)
1604	16.000	5.20	4.76



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap
		(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)



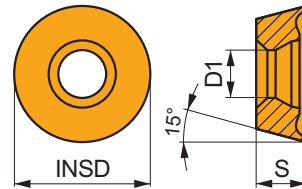
Zero rake angle design for finish machining.

RDHX 1604MOT:M8310	☼	–	☑	255	0.30	2.0	–	–	–	■	240	0.30	2.0	–	–	–	–	–	–	■	50	0.15	1.1
RDHX 1604MOT:M8325	☼	–	☑	195	0.30	2.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
RDHX 1604MOT:M8345	☼	–	☑	180	0.30	2.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
RDHX 1604MOT:M9325	☼	–	☑	290	0.30	2.0	–	–	–	■	275	0.30	2.0	–	–	–	–	–	–	☑	55	0.15	1.1

RDHT 16-FA

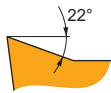


	INSD	D1	S
	(mm)	(mm)	(mm)
1604	16.000	5.20	4.76



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap
		(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)



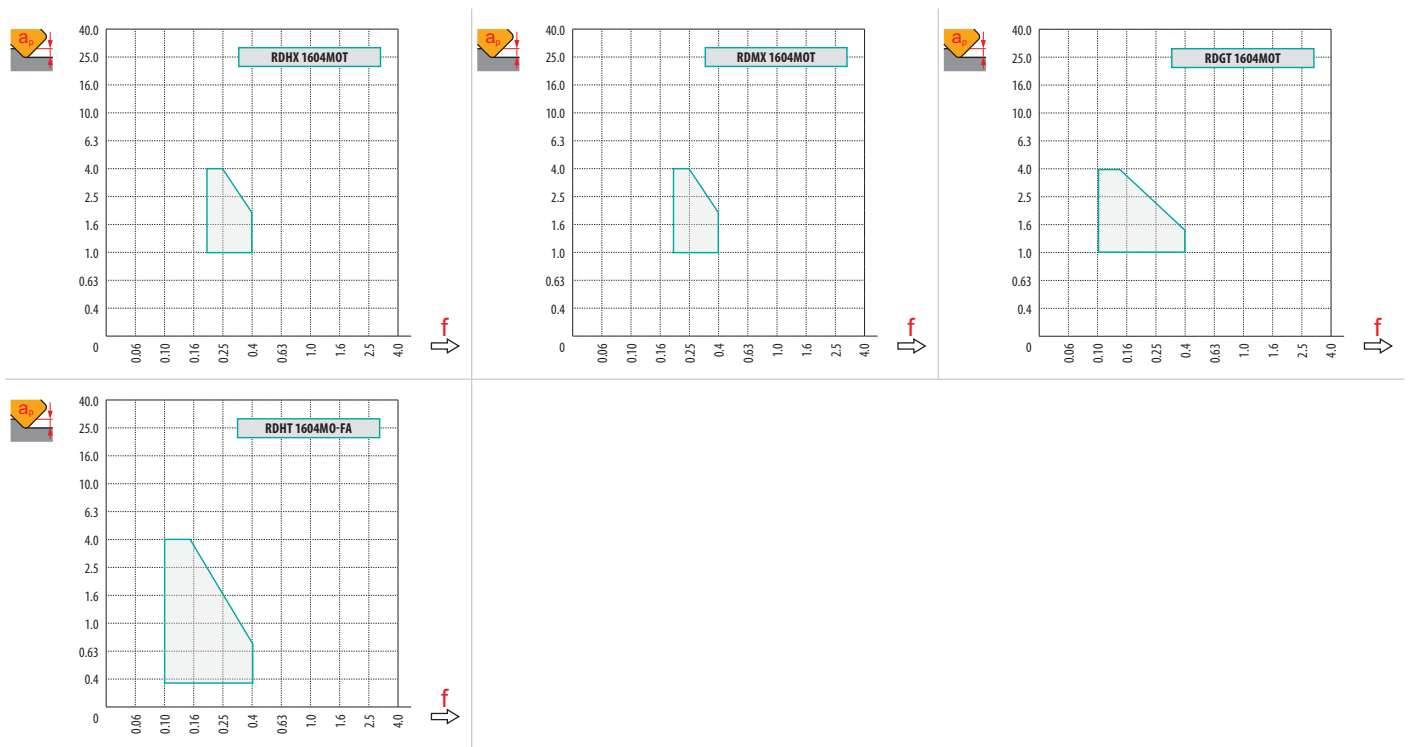
FA geometry with highly positive design for fine-finish to medium machining.

RDHT 1604MO-FA:HF7	●	–	–	–	–	–	–	–	–	–	■	315	0.36	2.0	–	–	–	–	–	–	–	–	–
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a_e / DCX	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	RDHX 16	RDMX 16	RDGT 16	RDHT 16-FA
	8.0	8.0	8.0	8.0
	-	-	-	-



		0.00	0.50	0.75	1.00	1.25	1.50	2.00	2.50	3.00	3.50	4.00	5.00	6.00	7.00	8.00
32		16.0	21.6	22.8	23.7	24.6	25.3	26.6	27.6	28.5	29.2	29.9	30.8	31.5	31.9	32.0
52		36.0	41.6	42.8	43.7	44.6	45.3	46.6	47.6	48.5	49.2	49.9	50.8	51.5	51.9	52.0
66		50.0	55.6	56.8	57.7	58.6	59.3	60.6	61.6	62.5	63.2	63.9	64.8	65.5	65.9	66.0
80		64.0	69.6	70.8	71.7	72.6	73.3	74.6	75.6	76.5	77.2	77.9	78.8	79.5	79.9	80.0
100		84.0	89.6	90.8	91.7	92.6	93.3	94.6	95.6	96.5	97.2	97.9	98.8	99.5	99.9	100.0
		0.00	0.50	0.75	1.00	1.25	1.50	2.00	2.50	3.00	3.50	4.00	5.00	6.00	7.00	8.00
		-	0.91	0.74	0.65	0.58	0.53	0.46	0.42	0.38	0.36	0.34	0.30	0.28	0.26	0.25

	RPMX	APMX/I
32	25.0	4.0/19
52	8.0	4.0/58
66	6.0	4.0/78
80	4.0	4.0/100
100	3.0	4.0/100
















	DMIN	DMAX		
			DMIN	DMAX
32	34.0	64.0	4.0	4.0
52	74.0	104.0	4.0	4.0
66	102.0	132.0	4.0	4.0
80	130.0	160.0	4.0	4.0
100	170.0	200.0	4.0	4.0

4.0

		3	5	10	15	20	30	40	50	60	80	100
32		0.620	0.800	1.131	1.386	1.600	1.960	2.263	2.530	2.771	3.200	3.578
52		0.790	1.020	1.442	1.766	2.040	2.498	2.884	3.225	3.533	4.079	4.561
66		0.890	1.149	1.625	1.990	2.298	2.814	3.250	3.633	3.980	4.596	5.138
80		0.980	1.265	1.789	2.191	2.530	3.098	3.578	4.000	4.382	5.060	5.657
100		1.095	1.414	2.000	2.449	2.828	3.464	4.000	4.472	4.899	5.657	6.325
		3	5	10	15	20	30	40	50	60	80	100
8.0		0.438	0.566	0.800	0.980	1.131	1.386	1.600	1.789	1.960	2.263	2.530

COPY MILLING – NAVIGATOR

COPY MILLING – SEAT WITH LOCATING FLATS

	SRC10	SRC12	SRC16	SRC20		
	-	-	-	-		
	APMX (mm) 5.0	APMX (mm) 6.0	APMX (mm) 8.0	APMX (mm) 10.0		
	DCX (mm) 25 – 66	DCX (mm) 40 – 100	DCX (mm) 63 – 160	DCX (mm) 80 – 160		
Cylindrical shank	 DCX = 25, 32 (mm)					
Weldon						
Modular	 DCX = 25– 35 (mm)					
Shell mill	 DCX = 40 – 66 (mm)					
Page	📖 186	📖 190	📖 194	📖 198		
ISO	P M K S H	P M K S H	P M K S H	P M K S H		
Insert shape						
Inserts	RC 10T3	RC 1204	RC 1606	RC 2006		
No. of cutting edges	8	12	8	8		
Shape surfaces milling (copy milling) 	■	■	■	■		
Face milling 	■	■	■	■		
Helical interpolation 	■	■	■	■		
Progressive plunging 	■	■	■	■		
Ramping 	■	■	■	■		

SRC10

P M K S H

PRAMET

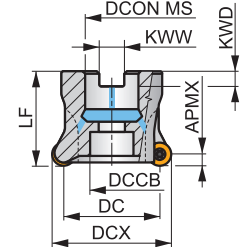
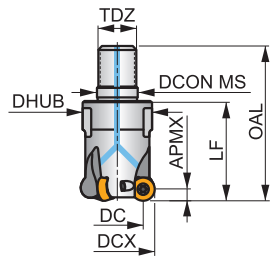
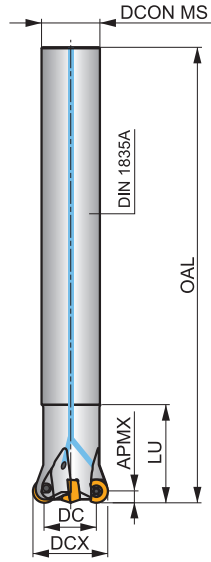
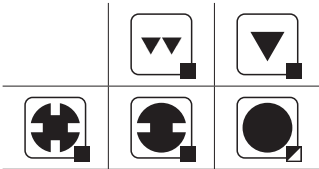
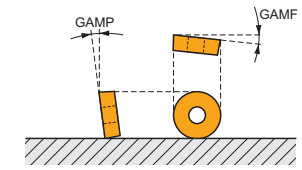
S



Copy Milling Cutter for Round Inserts RCMT 10 with Internal Coolant

Milling cutter for copy milling utilizing positive RCMT 10 inserts with APMX of 5 mm. Internal coolant. Suitable for face, helical interpolation, ramping, progressive plunge and high-feed milling. Available in cylindrical, modular and arbor style. Body treated for longer tool life.

APMX	5.0 mm
------	--------



	0.05 - 0.12
	0.08 - 0.15



Product	DCX	DC	OAL	DCON MS	DHUB	DCCB	LU	LF	TDZ	KWW	KWD	GAMF	GAMP				kg			
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)							
25E2R034A20-SRC10-C	25	15	170	20	-	-	34	-	-	-	-	-3	-7	2	-	20900	✓	0.40	GI328	C0010
25E3R034A20-SRC10-C	25	15	170	20	-	-	34	-	-	-	-	-3	-7	3	-	20900	✓	0.36	GI328	C0010
32E3R042A25-SRC10-C	32	22	200	25	-	-	42	-	-	-	-	-2.6	-7	4	-	18500	✓	0.67	GI328	C0010
32E4R042A25-SRC10-C	32	22	200	25	-	-	42	-	-	-	-	-2.6	-7	3	-	18500	✓	0.70	GI328	C0010
25E2R032M12-SRC10-C	25	15	54	12.5	21	-	-	32	M12	-	-	-3	-7	2	-	20900	✓	0.11	GI328	C0010
25E3R032M12-SRC10-C	25	15	54	12.5	21	-	-	32	M12	-	-	-3	-7	3	-	20900	✓	0.08	GI328	C0010
32E4R042M16-SRC10-C	32	22	65	17	29	-	-	42	M16	-	-	-2.6	-7	4	-	18500	✓	0.20	GI328	C0010
35E4R042M16-SRC10-C	35	25	65	17	29	-	-	42	M16	-	-	-2.4	-7	4	-	17700	✓	0.20	GI328	C0010
40A05R-SMORC10-C	40	30	-	16	-	14	-	40	-	8.4	5.6	-2.2	-7	5	-	16500	✓	0.21	GI328	C0012
50A05R-SMORC10-C	50	40	-	22	-	18	-	40	-	10.4	6.3	-2	-7	5	-	14800	✓	0.34	GI328	C0013
50A06R-SMORC10-C	50	40	-	22	-	18	-	40	-	10.4	6.3	-2	-7	6	-	14800	✓	0.33	GI328	C0013
52A05R-SMORC10-C	52	42	-	22	-	18	-	40	-	10.4	6.3	-2	-7	5	-	14500	✓	0.35	GI328	C0013
52A06R-SMORC10-C	52	42	-	22	-	18	-	40	-	10.4	6.3	-2	-7	6	-	14500	✓	0.28	GI328	C0013
63A06R-SMORC10-C	63	53	-	22	-	18	-	40	-	10.4	6.3	-1.8	-7	6	-	13200	✓	0.52	GI328	C0013
63A07R-SMORC10-C	63	53	-	22	-	18	-	40	-	10.4	6.3	-1.8	-7	7	-	13200	✓	0.52	GI328	C0013
66A06R-SMORC10-C	66	56	-	27	-	22	-	50	-	12.4	7	-1.4	-7	6	-	12800	✓	0.58	GI328	C0014
66A07R-SMORC10-C	66	56	-	27	-	22	-	50	-	12.4	7	-1.4	-7	7	-	12800	✓	0.60	GI328	C0014

	GI328		RCMT 10T3MO..
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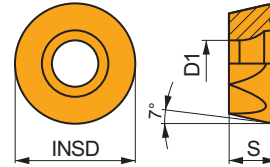
C0010	US 63509-T10P	3.0	M 3.5	9	Flag T10P	-
C0012	US 63509-T10P	3.0	M 3.5	9	Flag T10P	HS 0830C

C0013	US 63509-T10P	3.0	M 3.5	9	Flag T10P	HS 1030C
C0014	US 63509-T10P	3.0	M 3.5	9	Flag T10P	HS 1230C

RCMT 10

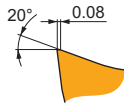


	INSD	D1	S
	(mm)	(mm)	(mm)
10T3	10.000	3.90	3.97



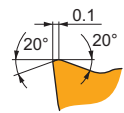
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



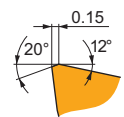
F geometry with highly positive design for light machining.

RCMT 10T3MOSN-F:M6330	✳	-	■	340	0.10	1.0	■	240	0.09	1.0	■	-	-	-	■	100	0.08	0.8	■	-	-	-
RCMT 10T3MOSN-F:M8330	✳	-	■	395	0.10	1.0	■	235	0.09	1.0	■	-	-	-	■	95	0.08	0.8	■	-	-	-



M geometry with highly positive design for medium machining.

RCMT 10T3MOSN-M:M6330	✳	-	■	310	0.12	1.0	■	220	0.11	1.0	■	-	-	-	■	90	0.11	0.8	■	-	-	-
RCMT 10T3MOSN-M:M8310	✳	-	■	400	0.12	1.0	■	200	0.11	1.0	■	380	0.12	1.0	■	-	-	-	■	-	-	-
RCMT 10T3MOSN-M:M8330	✳	-	■	360	0.12	1.0	■	215	0.11	1.0	■	340	0.12	1.0	■	90	0.11	0.8	■	-	-	-
RCMT 10T3MOSN-M:M8340	✳	-	■	330	0.12	1.0	■	195	0.11	1.0	■	310	0.12	1.0	■	80	0.11	0.8	■	-	-	-



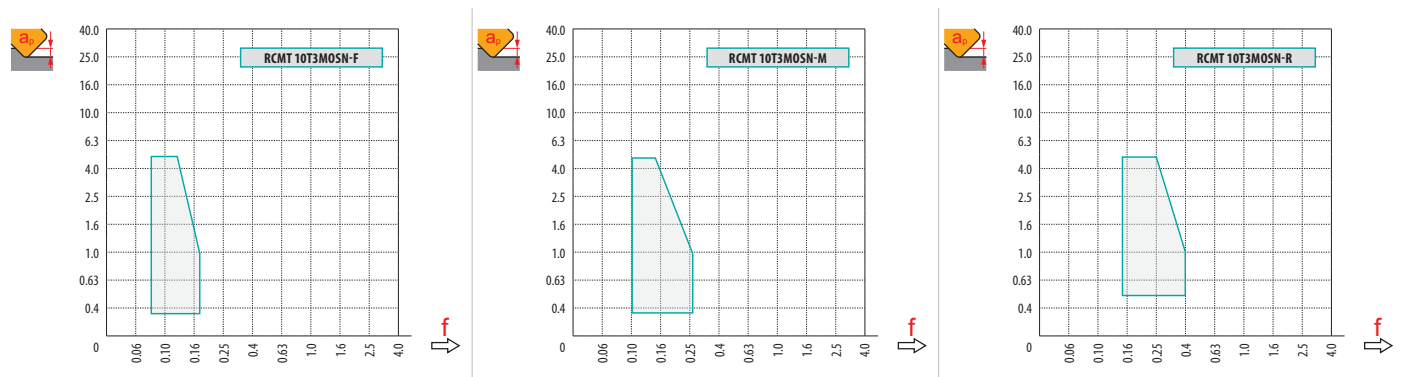
R geometry with positive design for rough copy machining.

RCMT 10T3MOSN-R:M8310	✳	-	■	345	0.17	1.0	■	-	-	-	■	325	0.17	1.0	■	-	-	-	■	65	0.12	0.7
RCMT 10T3MOSN-R:M8330	✳	-	■	310	0.17	1.0	■	-	-	-	■	290	0.17	1.0	■	75	0.17	0.8	■	60	0.12	0.7

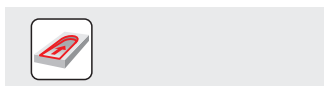


a_e / DCX	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

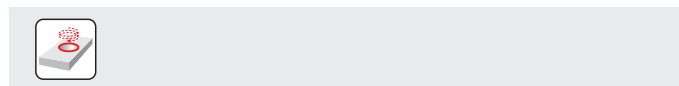
	RCMT 10-F	RCMT 10-M	RCMT 10-R
	5.0	5.0	5.0
	—	—	—



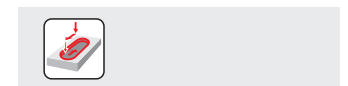
DCX	a_e	0.00	0.15	0.30	0.50	0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00
25		15.00	17.43	18.41	19.36	20.27	21.00	21.61	22.14	23.00	23.66	24.17	24.80	25.00
32		22.00	24.43	25.41	26.36	27.27	28.00	28.61	29.14	30.00	30.66	31.17	31.80	32.00
35		25.00	27.43	28.41	29.36	30.27	31.00	31.61	32.14	33.00	33.66	34.17	34.80	35.00
40		30.00	32.43	33.41	34.36	35.27	36.00	36.61	37.14	38.00	38.66	39.17	39.80	40.00
50		40.00	42.43	43.41	44.36	45.27	46.00	46.61	47.14	48.00	48.66	49.17	49.80	50.00
52		42.00	44.43	45.41	46.36	47.27	48.00	48.61	49.14	50.00	50.66	51.17	51.80	52.00
63		53.00	55.43	56.41	57.36	58.27	59.00	59.61	60.14	61.00	61.66	62.17	62.80	63.00
66	56.00	58.43	59.41	60.36	61.27	62.00	62.61	63.14	64.00	64.66	65.17	65.80	66.00	
	a_e	—	0.15	0.30	0.50	0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00
	f	—	0.90	0.64	0.50	0.41	0.35	0.32	0.29	0.25	0.23	0.21	0.19	0.17



DCX	RPMX	APMX/I
25	13.2	5/23
32	12.6	5/24
35	12.3	5/24
40	9.5	5/31
50	6.4	5/46
52	6.1	5/48
63	4.7	5/62
66	4.4	5/66



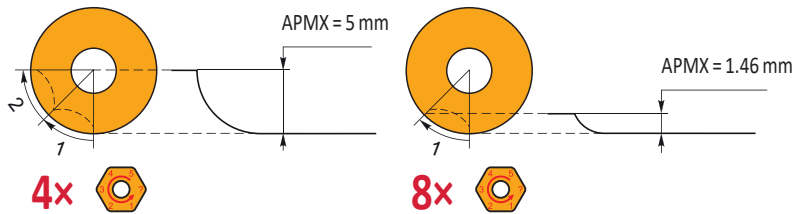
DCX	DMIN	DMAX	SMAX DMIN	SMAX DMAX
25	32.0	50.0	3.0	3.0
32	45.0	64.0	3.0	3.0
35	51.0	70.0	3.0	3.0
40	61.0	80.0	3.0	3.0
50	81.0	100.0	3.0	3.0
52	85.0	104.0	3.0	3.0
63	107.0	126.0	3.0	3.0
66	113.0	132.0	3.0	3.0



a_e
2.24



	μm	3	5	10	15	20	30	40	50	60	80	100
25		0.548	0.707	1.000	1.225	1.414	1.732	2.000	2.236	2.449	2.828	3.162
32		0.620	0.800	1.131	1.386	1.600	1.960	2.263	2.530	2.771	3.200	3.578
35		0.648	0.837	1.183	1.449	1.673	2.049	2.366	2.646	2.898	3.347	3.742
40		0.693	0.894	1.265	1.549	1.789	2.191	2.530	2.828	3.098	3.578	4.000
50		0.775	1.000	1.414	1.732	2.000	2.449	2.828	3.162	3.464	4.000	4.472
52		0.790	1.020	1.442	1.766	2.040	2.498	2.884	3.225	3.533	4.079	4.561
63		0.869	1.122	1.587	1.944	2.245	2.750	3.175	3.550	3.888	4.490	5.020
66	0.890	1.149	1.625	1.990	2.298	2.814	3.250	3.633	3.980	4.596	5.138	
	μm	3	5	10	15	20	30	40	50	60	80	100
5.0		0.346	0.447	0.632	0.775	0.894	1.095	1.265	1.414	1.549	1.789	2.000



SRC12



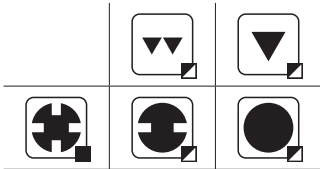
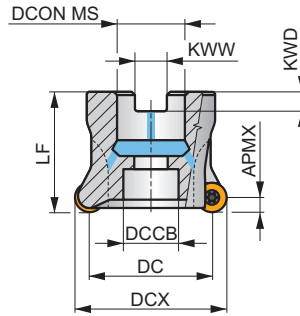
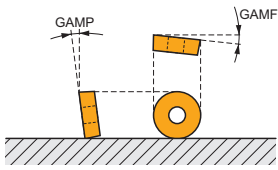
PRAMET



Copy Milling Cutter for Round Inserts RCMT 12 with Internal Coolant

Milling cutter for medium copy milling utilising positive RCMT 12 inserts with APMX of 6 mm. Internal coolant. Suitable for face, helical interpolation, ramping, progressive plunge and high-feed milling. Available in arbor style only. Body treated for longer tool life.

APMX	6.0 mm
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0.1 - 0.2



Product	DCX (mm)	DC (mm)	DCON MS (mm)	DCCB (mm)	Lf (mm)	KWW (mm)	KWD (mm)	GAMF (°)	GAMP (°)								
40A03R-SMORC12-C	40	28	16	12	40	8.4	5.6	-2.1	-7	3	-	14800	✓	0.27	GI279	CO022	-
50A04R-SMORC12-C	50	38	22	18	40	10.4	6.3	-2	-7	4	-	13200	✓	0.36	GI279	CO023	-
52A05R-SMORC12-C	52	40	22	18	40	10.4	6.3	-2	-7	5	-	12900	✓	0.15	GI279	CO023	-
63A05R-SMORC12-C	63	51	22	30	40	10.4	6.3	-2	-7	5	-	11800	✓	0.45	GI279	CO023	-
66A06R-SMORC12-C	66	54	27	22	50	12.4	7	-1.5	-7	6	-	11400	✓	0.65	GI279	CO024	-
80A05R-SMORC12-C	80	68	27	37	50	12.4	7	-1.7	-7	5	-	10400	✓	1.08	GI279	CO024	-
100A06R-SMORC12-C	100	88	32	45	50	14.4	8	-1.8	-7	6	-	9300	✓	1.78	GI279	CO021	AC002

	GI279		RCMT 1204M0..
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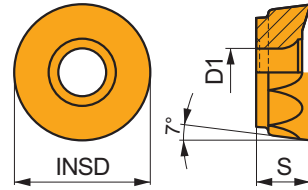
CO021	US 63509-T15P	3.0	M 3.5	10	D-T08P/T15P	FG-15	-
CO022	US 63509-T15P	3.0	M 3.5	10	D-T08P/T15P	FG-15	HS 90835
CO023	US 63509-T15P	3.0	M 3.5	10	D-T08P/T15P	FG-15	HS 1030C
CO024	US 63509-T15P	3.0	M 3.5	10	D-T08P/T15P	FG-15	HS 1230C

	AC002		KS 1635		K.FMH32
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RCMT 12

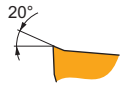


	INSD	D1	S
	(mm)	(mm)	(mm)
1204	12.000	4.40	4.76



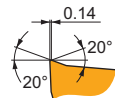
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



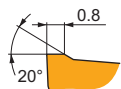
F geometry with highly positive design for light machining.

RCMT 1204MOEN-F:M8310	☹	–	■	420	0.10	1.5	▣	210	0.09	1.5	■	–	–	–	–	–	–	–	–	–
RCMT 1204MOEN-F:M8330	☹	–	■	380	0.10	1.5	▣	225	0.09	1.5	■	–	–	–	▣	95	0.07	1.2	–	–



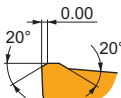
M geometry with highly positive design for medium machining.

RCMT 1204MOSN-M:M6330	☹	–	■	265	0.20	1.5	▣	185	0.18	1.5	■	–	–	–	–	–	–	–	–	–
RCMT 1204MOSN-M:M8310	☹	–	■	335	0.20	1.5	▣	170	0.18	1.5	■	315	0.20	1.5	–	–	–	–	–	–
RCMT 1204MOSN-M:M8330	☹	–	■	305	0.20	1.5	▣	180	0.18	1.5	■	285	0.20	1.5	▣	75	0.16	1.2	–	–
RCMT 1204MOSN-M:M8345	☹	–	■	225	0.20	1.5	▣	135	0.18	1.5	■	–	–	–	–	–	–	–	–	–
RCMT 1204MOSN-M:M9325	☹	–	■	380	0.20	1.5	▣	–	–	–	■	360	0.20	1.5	–	–	–	–	–	–
RCMT 1204MOSN-M:M9340	☹	–	■	345	0.20	1.5	▣	205	0.18	1.5	■	–	–	–	–	–	–	–	–	–



EN-R geometry with positive design for rough copy machining.

RCMT 1204MOEN-R:M8310	☹	–	■	280	0.30	1.5	▣	140	0.27	1.5	■	265	0.30	1.5	–	–	–	–	■	55	0.15	0.8			
RCMT 1204MOEN-R:M8330	☹	–	■	260	0.30	1.5	▣	155	0.27	1.5	■	245	0.30	1.5	–	–	–	▣	65	0.24	1.2	▣	50	0.15	0.8



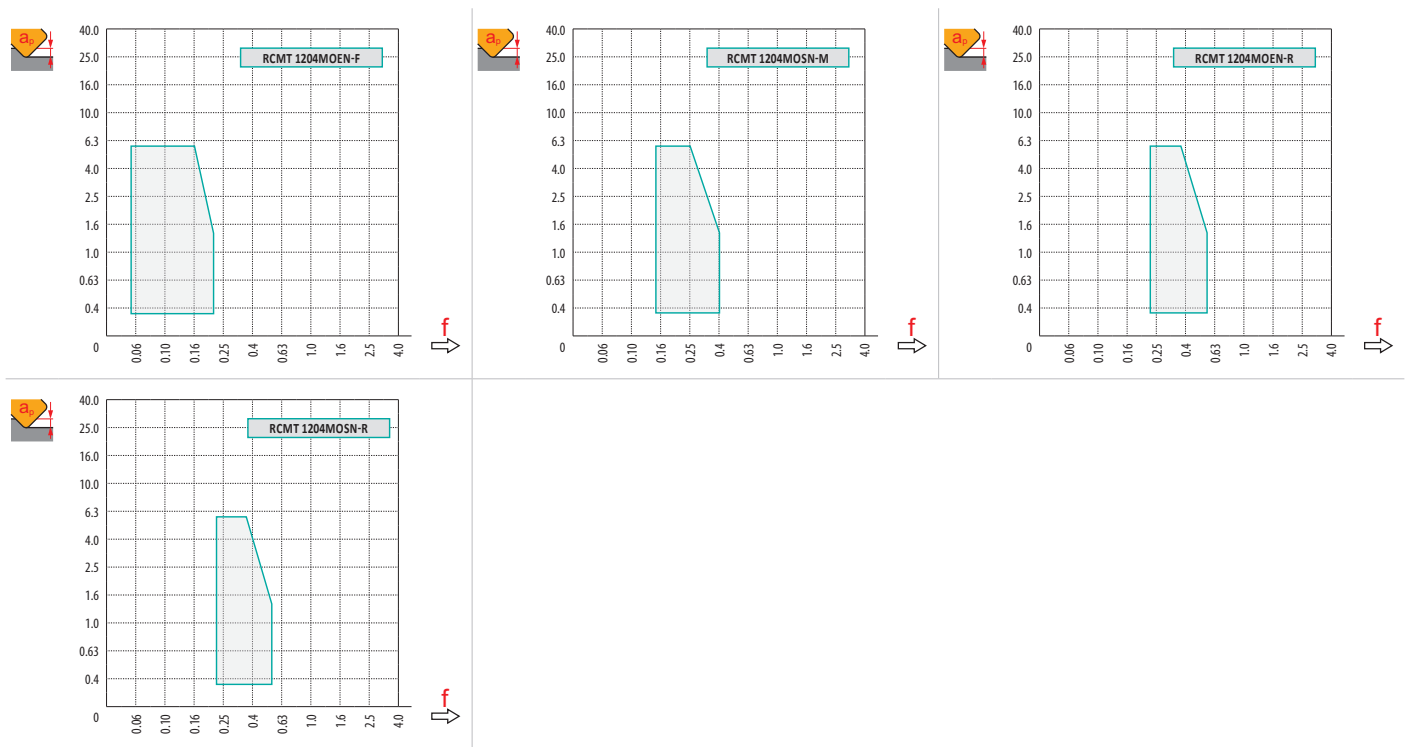
SN-R geometry with positive design for rough copy machining.

RCMT 1204MOSN-R:M8345	☹	–	■	190	0.35	1.5	▣	–	–	–	–	–	–	–	–	–	–	–	▣	45	0.25	1.2	–	–	–	
RCMT 1204MOSN-R:M9315	☹	–	■	315	0.35	1.5	▣	–	–	–	■	295	0.35	1.5	–	–	–	–	–	–	–	–	▣	60	0.18	0.8



a_e / DCX	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	RCMT 12-F	RCMT 12-M	RCMT 12 EN-R	RCMT 12 SN-R
	6.0	6.0	6.0	6.0
	-	-	-	-



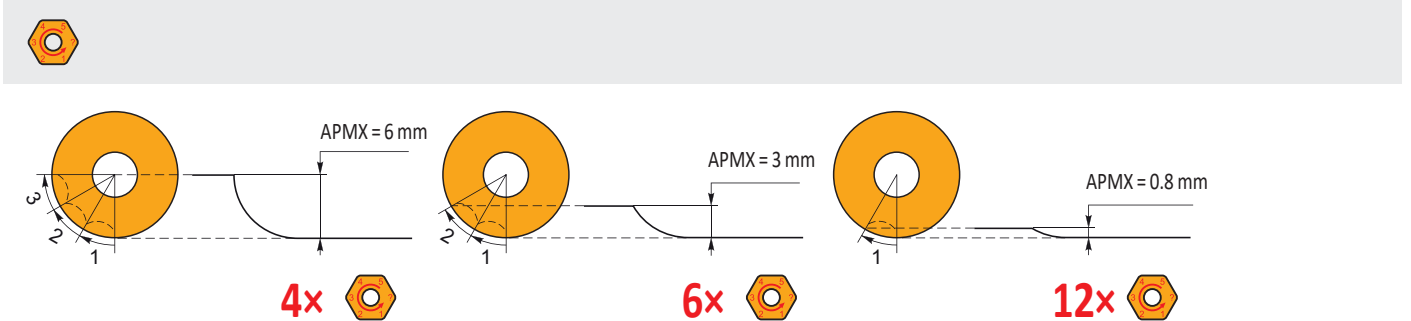
		0.00	0.30	0.50	0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00	6.00
40		28.0	31.7	32.8	33.8	34.6	35.3	35.9	36.9	37.7	38.4	39.3	39.8	40.0
50		38.0	41.7	42.8	43.8	44.6	45.3	45.9	46.9	47.7	48.4	49.3	49.8	50.0
52		40.0	43.7	44.8	45.8	46.6	47.3	47.9	48.9	49.7	50.4	51.3	51.8	52.0
63		51.0	54.7	55.8	56.8	57.6	58.3	58.9	59.9	60.7	61.4	62.3	62.8	63.0
66		54.0	57.7	58.8	59.8	60.6	61.3	61.9	62.9	63.7	64.4	65.3	65.8	66.0
80		68.0	71.7	72.8	73.8	74.6	75.3	75.9	76.9	77.7	78.4	79.3	79.8	80.0
100	88.0	91.7	92.8	93.8	94.6	95.3	95.9	96.9	97.7	98.4	99.3	99.8	100.0	
		-	0.30	0.50	0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00	6.00
		-	0.95	0.74	0.61	0.53	0.47	0.43	0.38	0.34	0.31	0.28	0.25	0.24

DC	RPMX	APMX/I
40	9.0	6.0/39
50	7.0	6.0/50
52	6.5	6.0/53
63	5.0	6.0/70
66	4.5	6.0/76
80	3.0	5.1/100
100	2.0	3.3/100

DC	DMIN	DMAX	SMAX DMIN	SMAX DMAX
40	56.0	80.0	6.0	6.0
50	76.0	100.0	6.0	6.0
52	80.0	104.0	6.0	6.0
63	102.0	126.0	6.0	6.0
66	108.0	132.0	6.0	6.0
80	136.0	160.0	6.0	6.0
100	176.0	200.0	6.0	6.0

3.5

DC	μm	3	5	10	15	20	30	40	50	60	80	100
40		0.693	0.894	1.265	1.549	1.789	2.191	2.530	2.828	3.098	3.578	4.000
50		0.775	1.000	1.414	1.732	2.000	2.449	2.828	3.162	3.464	4.000	4.472
52		0.790	1.020	1.442	1.766	2.040	2.498	2.884	3.225	3.533	4.079	4.561
63		0.869	1.122	1.587	1.944	2.245	2.750	3.175	3.550	3.888	4.490	5.020
66		0.890	1.149	1.625	1.990	2.298	2.814	3.250	3.633	3.980	4.596	5.138
80		0.980	1.265	1.789	2.191	2.530	3.098	3.578	4.000	4.382	5.060	5.657
100		1.095	1.414	2.000	2.449	2.828	3.464	4.000	4.472	4.899	5.657	6.325
RE	μm	3	5	10	15	20	30	40	50	60	80	100
6.0		0.379	0.490	0.693	0.849	0.980	1.200	1.386	1.549	1.697	1.960	2.191



SRC16

P M K S H

PRAMET

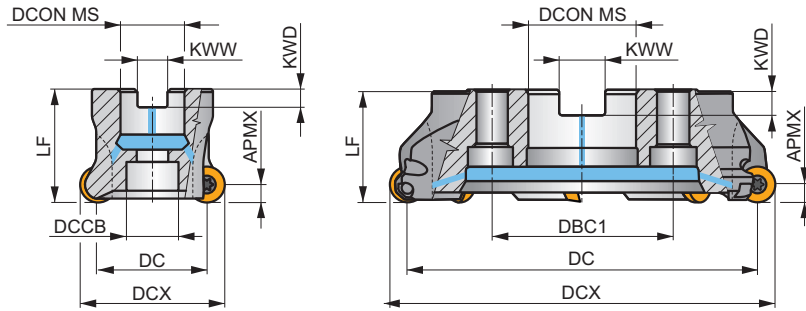
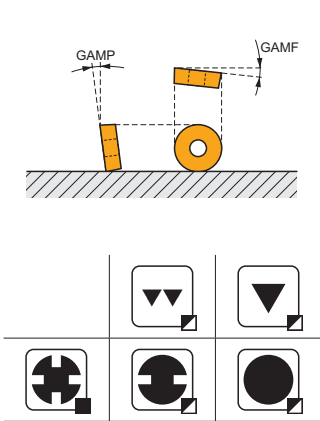
S



Copy Milling Cutter for Round Inserts RCMT 16 with Internal Coolant

Milling cutter for medium to heavy copy milling utilising positive RCMT 16 inserts with APMX of 8 mm. Internal coolant. Suitable for face, helical interpolation, ramping, progressive plunge and high-feed milling. Available in arbor style. Body treated for longer tool life.

APMX	8.0 mm
------	--------



h_{max} 0.1 - 0.25



Product	DCX	DC	DCON MS	DCCB	DBC1	LF	KWW	KWD	GAMP	GAMP													
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)													
63A04R-SMORC16-C	63	47	22	18	-	50	10.4	6.3	-2.6	-7	4	-	9700	✓	0.60	G1280	C0033	-	-	-	-	-	-
66A05R-SMORC16-C	66	50	27	22	-	50	12.4	7	-2.5	-7	5	-	9200	✓	0.59	G1280	C0030	-	-	-	-	-	-
80A05R-SMORC16-C	80	64	27	37	-	50	12.4	7	-1.7	-7	5	-	8600	✓	0.87	G1280	C0030	-	-	-	-	-	-
100A06R-SMORC16-C	100	84	32	45	-	50	14.4	8	-1.7	-7	6	-	7700	✓	1.27	G1280	C0031	AC002	-	-	-	-	-
125A07R-SMORC16-C	125	109	40	36	-	63	16.4	9	-1.2	-7	7	-	6500	✓	3.03	G1280	C0032	-	-	-	-	-	-
160C08R-SMORC16-C	160	144	40	-	66.7	63	16.4	9	-0.9	-7	8	-	5400	✓	5.63	G1280	C0034	-	-	-	-	-	-

G1280	RCMT 1606M0..

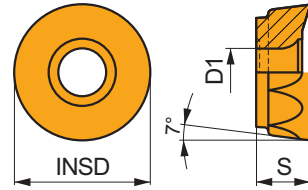
C0030	US 65014-T20P	5.0	M 5	14	SDR T20P-T	HS 1230C	-	-	-
C0031	US 65014-T20P	5.0	M 5	14	SDR T20P-T	-	-	-	-
C0032	US 65014-T20P	5.0	M 5	14	SDR T20P-T	HSD 2040	-	-	-
C0033	US 65014-T20P	5.0	M 5	14	SDR T20P-T	HS 1030C	-	-	-
C0034	US 65014-T20P	5.0	M 5	14	SDR T20P-T	HS 1240C	CAC 160C	HSD 0825C	HXK 5

AC002	KS 1635	K.FMH32

RCMT 16

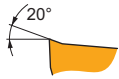


	INSD	D1	S
	(mm)	(mm)	(mm)
1606	16.000	5.50	6.35



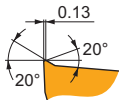
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



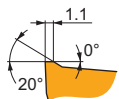
F geometry with highly positive design for light machining.

RCMT 1606MOEN-F:M8310	☹	–	■	410	0.10	2.0	▣	205	0.09	2.0	■	–	–	–	–	–	–	–	–
RCMT 1606MOEN-F:M8330	☹	–	■	370	0.10	2.0	▣	220	0.09	2.0	■	–	–	–	▣	90	0.07	1.6	–



M geometry with highly positive design for medium machining.

RCMT 1606MOSN-M:M6330	☹	–	■	255	0.20	2.0	▣	180	0.18	2.0	■	–	–	–	■	75	0.16	1.6	–
RCMT 1606MOSN-M:M8330	☹	–	■	300	0.20	2.0	▣	180	0.18	2.0	■	285	0.20	2.0	▣	75	0.16	1.6	–
RCMT 1606MOSN-M:M8345	☹	–	■	215	0.20	2.0	▣	125	0.18	2.0	■	–	–	–	■	50	0.16	1.6	–
RCMT 1606MOSN-M:M9325	☹	–	■	370	0.20	2.0	▣	–	–	–	■	350	0.20	2.0	–	–	–	–	–
RCMT 1606MOSN-M:M9340	☹	–	■	335	0.20	2.0	▣	200	0.18	2.0	■	–	–	–	■	80	0.16	1.6	–



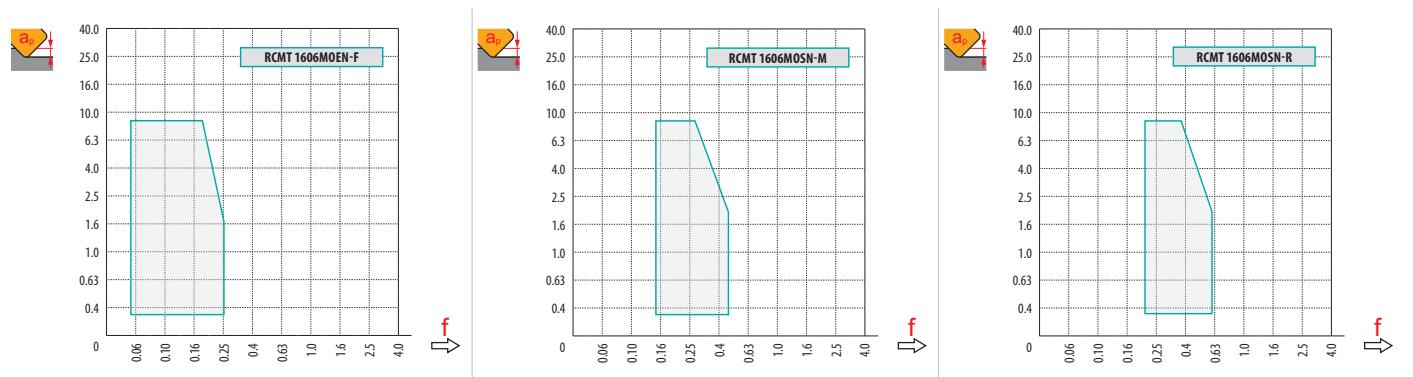
R geometry with positive design for rough copy machining.

RCMT 1606MOSN-R:M8310	☹	–	■	250	0.40	2.0	▣	–	–	–	■	235	0.40	2.0	–	–	–	■	50
RCMT 1606MOSN-R:M8330	☹	–	■	240	0.40	2.0	▣	–	–	–	■	225	0.40	2.0	▣	60	0.28	1.6	▣
RCMT 1606MOSN-R:M8345	☹	–	■	175	0.40	2.0	▣	–	–	–	■	–	–	–	▣	40	0.28	1.6	–

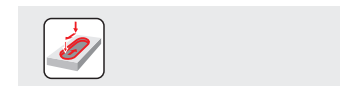
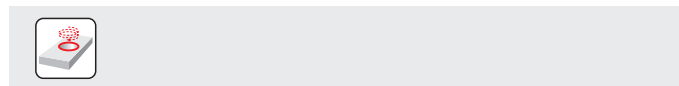
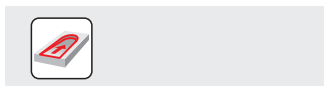


a_e / DCX	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	RCMT 16-F	RCMT 16-M	RCMT 16-R
	8.0	8.0	8.0
	—	—	—



DCX	a_e	0.00	0.30	0.50	0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00	6.00	7.00	8.00
63		47.0	51.3	52.6	53.8	54.7	55.6	56.3	57.6	58.6	59.5	60.9	61.8	62.5	62.9	63.0
66		50.0	54.3	55.6	56.8	57.8	58.6	59.3	60.6	61.6	62.5	63.9	64.8	65.5	65.9	66.0
80		64.0	68.3	69.6	70.8	71.7	72.6	73.3	74.6	75.6	76.5	77.9	78.8	79.5	79.9	80.0
100		84.0	88.3	89.6	90.8	91.7	92.6	93.3	94.6	95.6	96.5	97.9	98.8	99.5	99.9	100.0
125		109.0	113.3	114.6	115.8	116.7	117.6	118.3	119.6	120.6	121.5	122.9	123.8	124.5	124.9	125.0
160		144.0	148.3	149.6	150.8	151.7	152.6	153.3	154.6	155.6	156.5	157.9	158.8	159.5	159.9	160.0
	a_e	—	0.30	0.50	0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00	6.00	7.00	8.00
		—	1.10	0.85	0.70	0.61	0.54	0.50	0.43	0.39	0.36	0.31	0.28	0.26	0.25	0.24



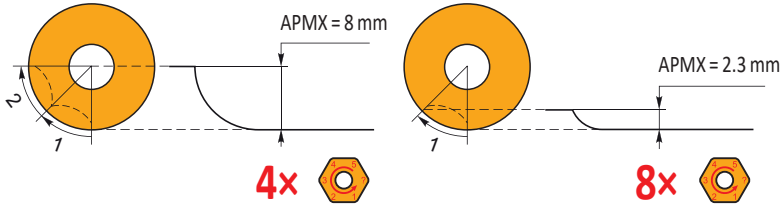
DC	RPMX	APMX/I
63	7.0	8.0/67
66	6.5	8.0/71
80	5.0	8.0/93
100	4.0	6.8/100

DC	DMIN	DMAX	SMAX DMIN	SMAX DMAX
63	94.0	126.0	8.0	8.0
66	100.0	132.0	8.0	8.0
80	128.0	160.0	8.0	8.0
100	168.0	200.0	8.0	8.0

a_e
5.0



		3	5	10	15	20	30	40	50	60	80	100
63		0.869	1.122	1.587	1.944	2.245	2.750	3.175	3.550	3.888	4.490	5.020
66		0.890	1.149	1.625	1.990	2.298	2.814	3.250	3.633	3.980	4.596	5.138
80		0.980	1.265	1.789	2.191	2.530	3.098	3.578	4.000	4.382	5.060	5.657
100		1.095	1.414	2.000	2.449	2.828	3.464	4.000	4.472	4.899	5.657	6.325
125		1.225	1.581	2.236	2.739	3.162	3.873	4.472	5.000	5.477	6.325	7.071
160		1.386	1.789	2.530	3.098	3.578	4.382	5.060	5.657	6.197	7.155	8.000
		3	5	10	15	20	30	40	50	60	80	100
8.0		0.438	0.566	0.800	0.980	1.131	1.386	1.600	1.789	1.960	2.263	2.530



SRC20



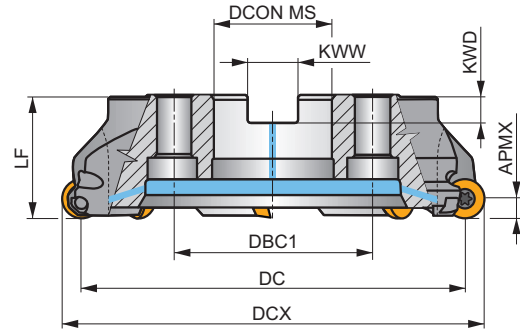
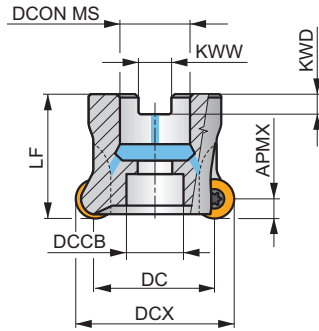
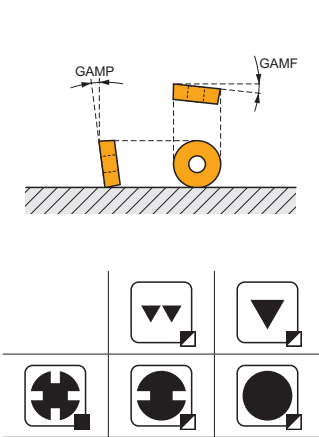
PRAMET



Copy Milling Cutter for Round Inserts RCMT 20 with Internal Coolant

Milling cutter for heavy copy milling utilising positive RCMT 16 inserts with APMX of 10 mm. Internal coolant. Suitable for face, helical interpolation, ramping, progressive plunge and high-feed milling. Available in arbor style. Body treated for longer tool life.

APMX	10.0 mm
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0.11 - 0.32



Product	DCX	DC	D CON MS	DCCB	DBC1	Lf	KWW	KWD	GAMP	GAMP				kg				
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)								
80A04R-SMORC20-C	80	60	27	28	-	50	12.4	7	-2.7	-7	4	-	8500	✓	0.91	G1281	C0040	-
100A05R-SMORC20-C	100	80	32	45	-	50	14.4	8	-1.7	-7	5	-	7600	✓	1.20	G1281	C0041	AC002
125A06R-SMORC20-C	125	105	40	36	-	63	16.4	9	-1	-7	6	-	6500	✓	2.92	G1281	C0042	-
160C07R-SMORC20-C	160	140	40	-	66.7	63	16.4	9	-0.9	-7	7	-	5400	✓	5.37	G1281	C0046	-

G1281	RCMT 2006MO..

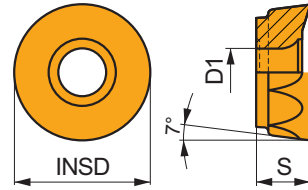
C0040	US 66015-T25P	7.5	M 6	15	SDR T25P-T	HS 1230C	-	-	-
C0041	US 66015-T25P	7.5	M 6	15	SDR T25P-T	-	-	-	-
C0042	US 66015-T25P	7.5	M 6	15	SDR T25P-T	HSD 2040	-	-	-
C0046	US 66015-T25P	7.5	M 6	15	SDR T25P-T	HS 1240C	CAC 160C	HSD 0825C	HXK 5

AC002	KS 1635	K.FMH32

RCMT 20

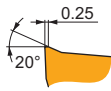


	INSD	D1	S
	(mm)	(mm)	(mm)
2006	20.000	6.50	6.35



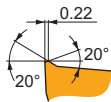
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap
		(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)



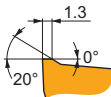
F geometry with highly positive design for light machining.

RCMT 2006MOSN-F:M8330	●	–	■	320	0.15	3.0	▣	190	0.14	3.0	■	–	–	–	■	80	0.11	2.4	■	–	–	–
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M geometry with highly positive design for medium machining.

RCMT 2006MOSN-M:M6330	●	–	■	225	0.30	3.0	▣	155	0.27	3.0	■	–	–	–	■	65	0.21	2.4	■	–	–	–
RCMT 2006MOSN-M:M8330	●	–	■	255	0.30	3.0	▣	150	0.27	3.0	■	240	0.30	3.0	■	60	0.21	2.4	■	–	–	–
RCMT 2006MOSN-M:M8345	●	–	■	190	0.30	3.0	▣	110	0.27	3.0	■	–	–	–	■	45	0.21	2.4	■	–	–	–
RCMT 2006MOSN-M:M9315	●	–	■	330	0.30	3.0	▣	–	–	–	■	310	0.30	3.0	■	–	–	–	■	–	–	–
RCMT 2006MOSN-M:M9325	●	–	■	315	0.30	3.0	▣	–	–	–	■	295	0.30	3.0	■	–	–	–	■	–	–	–
RCMT 2006MOSN-M:M9340	●	–	■	275	0.30	3.0	▣	165	0.27	3.0	■	–	–	–	■	65	0.21	2.4	■	–	–	–



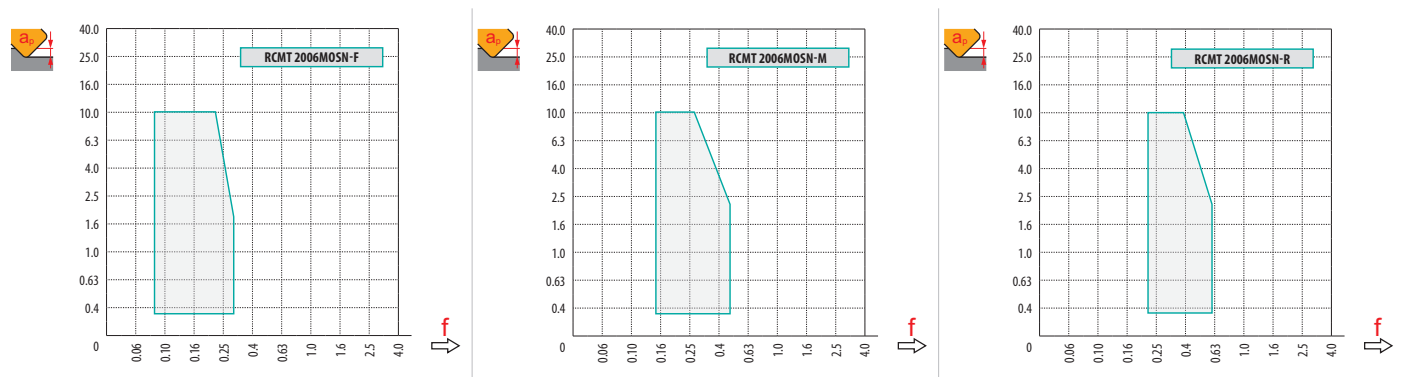
R geometry with positive design for rough copy machining.

RCMT 2006MOSN-R:M8330	●	–	■	225	0.45	3.0	▣	–	–	–	■	210	0.45	3.0	■	55	0.32	2.4	▣	45	0.23	1.3
RCMT 2006MOSN-R:M8345	●	–	■	165	0.45	3.0	▣	–	–	–	■	–	–	–	■	40	0.32	2.4	■	–	–	–
RCMT 2006MOSN-R:M9325	●	–	■	260	0.45	3.0	▣	–	–	–	■	245	0.45	3.0	■	–	–	–	▣	50	0.23	1.3

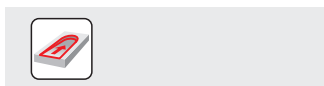


a_e DCX	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

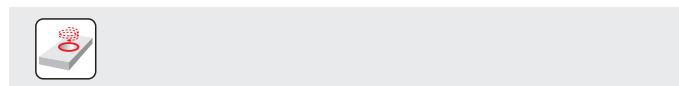
	RCMT 20-F	RCMT 20-M	RCMT 20-R
	10.0	10.0	10.0
	-	-	-



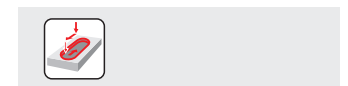
DCX	a_e	0.00	0.30	0.50	0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
80		60.0	64.9	66.2	67.6	68.7	69.7	70.5	72.0	73.2	74.3	76.0	77.3	78.3	79.1	79.6	79.9	80.0
100		80.0	84.9	86.2	87.6	88.7	89.7	90.5	92.0	93.2	94.3	96.0	97.3	98.3	99.1	99.6	99.9	100.0
125		105.0	109.9	111.2	112.6	113.7	114.7	115.5	117.0	118.2	119.3	121.0	122.3	123.3	124.1	124.6	124.9	125.0
160		140.0	144.9	146.2	147.6	148.7	149.7	150.5	152.0	153.2	154.3	156.0	157.3	158.3	159.1	159.6	159.9	160.0
	a_e	-	0.30	0.50	0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
		-	1.23	0.95	0.78	0.68	0.61	0.55	0.48	0.43	0.40	0.35	0.31	0.29	0.27	0.26	0.25	0.24



DCX	RPMX	APMX/I
80	7.0	10.0/83
100	5.0	8.6/100










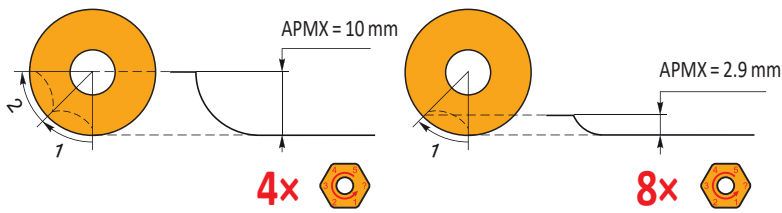
DCX	DMIN	DMAX	SMAX DMIN	SMAX DMAX
80	120.0	160.0	10.0	10.0
100	160.0	200.0	10.0	10.0



a_e
6.0



	μm	3	5	10	15	20	30	40	50	60	80	100
80		0.980	1.265	1.789	2.191	2.530	3.098	3.578	4.000	4.382	5.060	5.657
100		1.095	1.414	2.000	2.449	2.828	3.464	4.000	4.472	4.899	5.657	6.325
125		1.225	1.581	2.236	2.739	3.162	3.873	4.472	5.000	5.477	6.325	7.071
160		1.386	1.789	2.530	3.098	3.578	4.382	5.060	5.657	6.197	7.155	8.000
	μm	3	5	10	15	20	30	40	50	60	80	100
10.0		0.490	0.632	0.894	1.095	1.265	1.549	1.789	2.000	2.191	2.530	2.828
















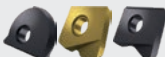










PROFILE MILLING

PROFILE MILLING – NAVIGATOR

PROFILE MILLING – BALL NOSE

	L2-SZP	K2-SRC	K2-SLC	K2-PPH	K3-CXP	
	-	-	90°	-	-	
	APMX (mm) 8.9 – 44.7	APMX (mm) 0.6 – 3.2	APMX (mm) 1.0 – 3.0	APMX (mm) 0.3 – 4.0	APMX (mm) 8.0 – 16.0	
	DCX (mm) 10 – 50	DCX (mm) 8 – 32	DCX (mm) 12 – 20	DCX (mm) 8 – 32	DCX (mm) 16 – 32	
Cylindrical shank	 DCX = 10 – 32 (mm)	 DCX = 8 – 32 (mm)		 DCX = 8 – 32 (mm)	 DCX = 16 – 32 (mm)	
Weldon	 DCX = 12 – 50 (mm)				 DCX = 16 – 25 (mm)	
Modular	 DCX = 10 – 32 (mm)	 DCX = 8 – 20 (mm)		 DCX = 16, 20 (mm)	 DCX = 16 – 25 (mm)	
Morse	 DCX = 12 – 32 (mm)					
Page	206	211	218	222	234	
ISO	P M K S H	P M K H	H P M K	H P M K S H	P M K S H	
Insert shape						
Inserts	ZP	RC LC	LC	PPH PPHF PPHT	XP	
No. of cutting edges	2	2	2	2	1	
Shape surfaces milling (copy milling) 	■	■	■	■	■	
Helical interpolation 			▣	▣		
Progressive plunging 			▣	▣		
Ramping 			▣	▣		
Chamfer milling 			▣	▣		

L2-SZP



PRAMET

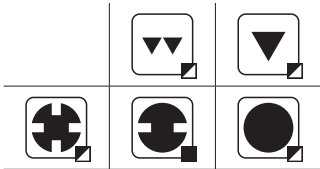
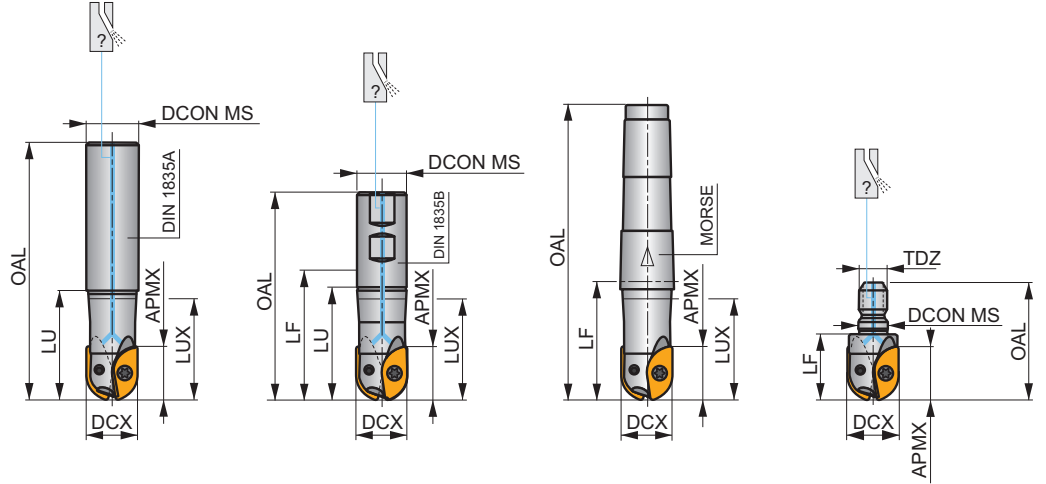
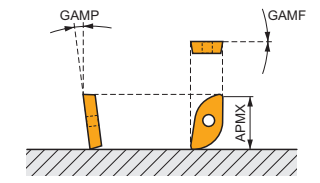
S



Ball nose Profile Milling Cutter for ZP.. Inserts

Ball nose milling cutter utilising ZP.. style inserts with APMX from 8.9 up to 44.7 mm. Suitable for profile milling. Available in cylindrical, weldon, morse taper and modular style. Body treated for longer tool life.

APMX	8.9 - 44.7 mm
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h_m	0.05 - 0.19
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Product	DCX	OAL	DCON MS	LU	LUX	LF	TDZ	CZC MS	APMX	GAMF	GAMP			max.		kg		
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)			(mm)	(°)	(°)							
10L2R030A10-SZP10	10	130	10	30	30	-	-	-	8.90	0	-10	2	-	35800	-	0.11	GI255	C0510
10L2R050A16-SZP10	10	160	16	50	22.3	-	-	-	8.90	0	-10	2	-	35800	-	0.24	GI255	C0510
12L2R035A12-SZP12	12	140	12	35	35	-	-	-	10.70	0	-10	2	-	21000	-	0.15	GI253	C0510
12L2R045A20-SZP12	12	200	20	-	22	-	-	-	10.70	0	-10	2	-	21000	-	0.48	GI253	C0511
16L2R040A16-SZP16-C	16	160	16	40	40	-	-	-	14.40	0	-10	2	-	20000	✓	0.24	GI256	C0510
16L2R045A20-SZP16-C	16	200	20	-	29.4	-	-	-	14.40	0	-10	2	-	20000	✓	0.43	GI256	C0512
20L2R050A20-SZP20-C	20	250	20	50	-	-	-	-	17.90	0	-10	2	-	24000	✓	0.54	GI254	C0513
20L2R055A25-SZP20-C	20	200	25	-	36.1	-	-	-	17.90	0	-10	2	-	24000	✓	0.68	GI254	C0513
25L2R060A25-SZP25-C	25	250	25	60	-	-	-	-	22.30	0	-10	2	-	24000	✓	0.85	GI257	C0514
25L2R065A32-SZP25-C	25	250	32	-	43	-	-	-	22.30	0	-10	2	-	24000	✓	1.34	GI257	C0514
32L2R070A32-SZP32-C	32	250	32	-	-	-	-	-	28.60	0	-10	2	-	18500	✓	1.43	GI258	C0515
12L2R040B20-SZP12	12	91	20	40	21.5	66.5	-	-	10.70	0	-10	2	-	21000	-	0.19	GI253	C0511
12L2R060B20-SZP12	12	111	20	60	23.8	86.5	-	-	10.70	0	-10	2	-	21000	-	0.22	GI253	C0511
16L2R040B20-SZP16-C	16	91	20	40	28.3	66.5	-	-	14.40	0	-10	2	-	20000	✓	0.15	GI256	C0512
16L2R060B20-SZP16-C	16	111	20	60	32.9	86.5	-	-	14.40	0	-10	2	-	20000	✓	0.21	GI256	C0512
20L2R050B25-SZP20-C	20	107	25	50	35.1	75.5	-	-	17.90	0	-10	2	-	24000	✓	0.30	GI254	C0513
20L2R070B25-SZP20-C	20	127	25	70	39.5	95.5	-	-	17.90	0	-10	2	-	24000	✓	0.36	GI254	C0513
25L2R060B25-SZP25-C	25	117	25	60	-	85.5	-	-	22.30	0	-10	2	-	24000	✓	0.36	GI257	C0514
25L2R080B25-SZP25-C	25	137	25	80	-	105	-	-	22.30	0	-10	2	-	24000	✓	0.42	GI257	C0514
32L2R070B32-SZP32-C	32	131	32	70	-	95.5	-	-	28.60	0	-10	2	-	18500	✓	0.72	GI258	C0515
32L2R100B32-SZP32-C	32	161	32	100	-	125.5	-	-	28.60	0	-10	2	-	18500	✓	0.81	GI258	C0515
40L2R070B32-SZP40-C	40	131	32	70	-	95.5	-	-	35.70	0	-10	2	-	8000	✓	0.81	GI259	C0516
40L2R100B40-SZP40-C	40	171	40	100	-	131	-	-	35.70	0	-10	2	-	8000	✓	1.40	GI259	C0516
50L2R100B50-SZP50-C	50	181	50	100	-	136.5	-	-	44.70	0	-10	2	-	7000	✓	2.25	GI260	C0517
12L2R060E02-SZP12	12	124	-	-	25.8	60	-	2	10.70	0	-10	2	-	21000	-	0.17	GI253	C0511
12L2R090E02-SZP12	12	154	-	-	25.8	90	-	2	10.70	0	-10	2	-	21000	-	0.23	GI253	C0511
16L2R060E02-SZP16	16	124	-	-	42.2	60	-	2	14.40	0	-10	2	-	20000	-	0.19	GI256	C0512

Product	DCX	OAL	DCOM MS		LU	LUX	LF	TDZ	CZC MS	APMX	GAMIF	GAMP							
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)	(°)	(°)							
16L2R090E02-SZP16	16	154	-	-	75.9	90	-	2	14.40	0	-10	2	-	20000	-	0.23	G1256	C0512	
20L2R070E03-SZP20	20	151	-	-	-	70	-	3	17.90	0	-10	2	-	24000	-	0.37	G1254	C0513	
20L2R100E03-SZP20	20	181	-	-	77.4	100	-	3	17.90	0	-10	2	-	24000	-	0.42	G1254	C0513	
25L2R080E03-SZP25	25	161	-	-	-	80	-	3	22.30	0	-10	2	-	24000	-	0.44	G1257	C0514	
25L2R110E04-SZP25	25	213	-	-	92.7	110	-	4	22.30	0	-10	2	-	24000	-	0.83	G1257	C0514	
32L2R100E04-SZP32	32	203	-	-	-	100	-	4	28.60	0	-10	2	-	18500	-	0.90	G1258	C0515	
32L2R150E04-SZP32	32	253	-	-	-	150	-	4	28.60	0	-10	2	-	18500	-	1.10	G1258	C0515	
10L2R025M08-SZP10	10	-	8.5	-	-	25	M8	-	8.90	0	-10	2	-	-	-	0.03	G1255	C0510	
12L2R025M06-SZP12	12	-	6.5	-	-	25	M6	-	10.70	0	-10	2	-	-	-	0.05	G1253	C0510	
12L2R025M08-SZP12	12	-	8.5	-	-	25	M8	-	10.70	0	-10	2	-	-	-	0.04	G1253	C0511	
16L2R025M08-SZP16	16	-	8.5	-	-	25	M8	-	14.40	0	-10	2	-	-	-	0.05	G1256	C0512	
20L2R030M10-SZP20-C	20	-	10.5	-	-	30	M10	-	17.90	0	-10	2	-	-	✓	0.07	G1254	C0513	
25L2R035M12-SZP25-C	25	-	12.5	-	-	35	M12	-	22.30	0	-10	2	-	-	✓	0.09	G1257	C0514	
32L2R045M16-SZP32-C	32	-	17	-	-	45	M16	-	27.90	0	-10	2	-	-	✓	0.15	G1258	C0515	

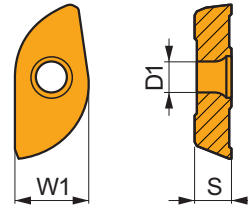
G1253	ZP 12..
G1254	ZP 20..
G1255	ZP 10..
G1256	ZP 16..
G1257	ZP 25..
G1258	ZP 32..
G1259	ZP 40..
G1260	ZP 50..

C0510	-	-	Flag T06P	US 62004-T06P	0.6	M 2	4	-
C0511	-	-	Flag T08P	US 62506-T08P	1.2	M 2.5	6	-
C0512	-	-	Flag T08P	US 62508-T08P	1.2	M 2.5	7	-
C0513	-	-	Flag T10P	US 63510-T10P	2.0	M 3.5	9	-
C0514	-	-	Flag T15P	US 4011A-T15P	3.5	M 4	11	-
C0515	-	-	-	US 65013-T20	5.0	M 5	13	SDR T20
C0516	-	-	-	US 66015-T25P	7.5	M 6	15	SDR T25P
C0517	SZN 400322	US 3508-T15P	Flag T15P	US 68020-T30P	15.0	M 8	20	SDR T30P

ZP



	W1 (mm)	D1 (mm)	S (mm)
10	10.000	2.20	1.70
12	12.000	2.90	2.38
16	16.000	2.90	3.18
20	20.000	4.00	3.97
25	25.000	4.70	4.76
32	32.000	5.90	6.35
40	40.000	7.00	7.94
50	50.000	9.60	7.94



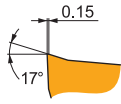
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



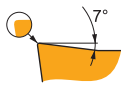
FM geometry with sharp neutral design for light to medium machining.

ZP 10ER-FM:M8310	●	–	■	305	0.36	0.5	–	–	–	■	285	0.36	0.5	–	–	–	–	–	–	■	60	0.25	0.5
ZP 10ER-FM:M8345	●	–	■	210	0.36	0.5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
ZP 12ER-FM:M8310	●	–	■	300	0.36	0.6	–	–	–	■	285	0.36	0.6	–	–	–	–	–	–	■	60	0.25	0.6
ZP 12ER-FM:M8345	●	–	■	205	0.36	0.6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
ZP 16ER-FM:M8310	●	–	■	290	0.36	0.8	–	–	–	■	275	0.36	0.8	–	–	–	–	–	–	■	55	0.25	0.8
ZP 20ER-FM:M8310	●	–	■	285	0.36	1.0	–	–	–	■	270	0.36	1.0	–	–	–	–	–	–	■	55	0.25	1.0
ZP 25ER-FM:M8310	●	–	■	275	0.36	1.3	–	–	–	■	260	0.36	1.3	–	–	–	–	–	–	■	55	0.25	1.3
ZP 32ER-FM:M8310	●	–	■	270	0.36	1.6	–	–	–	■	255	0.36	1.6	–	–	–	–	–	–	■	50	0.25	1.6



M geometry with very positive design for medium machining.

ZP 12ER-M:M8330	●	–	■	280	0.36	0.6	■	165	0.32	0.6	■	265	0.36	0.6	–	–	–	■	70	0.25	0.5	–	–	–	
ZP 12ER-M:M8345	●	–	■	205	0.36	0.6	■	120	0.32	0.6	–	–	–	–	–	–	–	–	■	50	0.25	0.5	–	–	–
ZP 16ER-M:M8330	●	–	■	270	0.36	0.8	■	160	0.32	0.8	■	255	0.36	0.8	–	–	–	■	65	0.25	0.6	–	–	–	
ZP 16ER-M:M8340	●	–	■	250	0.36	0.8	■	150	0.32	0.8	■	235	0.36	0.8	–	–	–	■	60	0.25	0.6	–	–	–	
ZP 16ER-M:M8345	●	–	■	200	0.36	0.8	■	120	0.32	0.8	–	–	–	–	–	–	–	■	50	0.25	0.6	–	–	–	
ZP 20ER-M:M8330	●	–	■	265	0.36	1.0	■	155	0.32	1.0	■	250	0.36	1.0	–	–	–	■	65	0.25	0.8	–	–	–	
ZP 20ER-M:M8345	●	–	■	195	0.36	1.0	■	115	0.32	1.0	–	–	–	–	–	–	–	■	45	0.25	0.8	–	–	–	
ZP 25ER-M:M8330	●	–	■	260	0.36	1.3	■	155	0.32	1.3	■	245	0.36	1.3	–	–	–	■	65	0.25	1.0	–	–	–	
ZP 25ER-M:M8345	●	–	■	190	0.36	1.3	■	110	0.32	1.3	–	–	–	–	–	–	–	■	45	0.25	1.0	–	–	–	
ZP 32ER-M:M8330	●	–	■	255	0.36	1.6	■	150	0.32	1.6	■	240	0.36	1.6	–	–	–	■	60	0.25	1.3	–	–	–	



R geometry with sharp slightly positive design for light to medium machining.

ZP 16ER-R:M8345	●	–	■	190	0.45	0.8	■	110	0.41	0.8	–	–	–	–	–	–	–	■	45	0.32	0.8	–	–	–	
ZP 20ER-R:M8345	●	–	■	185	0.45	1.0	■	110	0.41	1.0	–	–	–	–	–	–	–	■	45	0.32	1.0	–	–	–	
ZP 25ER-R:M8345	●	–	■	180	0.45	1.3	■	105	0.41	1.3	–	–	–	–	–	–	–	■	45	0.32	1.3	–	–	–	
ZP 32ER-R:M8330	●	–	■	240	0.45	1.6	■	140	0.41	1.6	■	225	0.45	1.6	–	–	–	■	60	0.32	1.6	■	45	0.32	1.6
ZP 32ER-R:M8345	●	–	■	175	0.45	1.6	■	105	0.41	1.6	–	–	–	–	–	–	–	■	40	0.32	1.6	–	–	–	
ZP 40ER-R:M8345	●	–	■	170	0.45	2.0	■	100	0.41	2.0	–	–	–	–	–	–	–	■	40	0.32	2.0	–	–	–	
ZP 50ER-R:M8345	●	–	■	165	0.45	2.5	■	95	0.41	2.5	–	–	–	–	–	–	–	■	40	0.32	2.5	–	–	–	

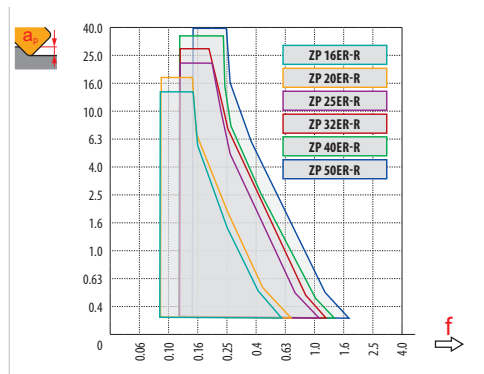
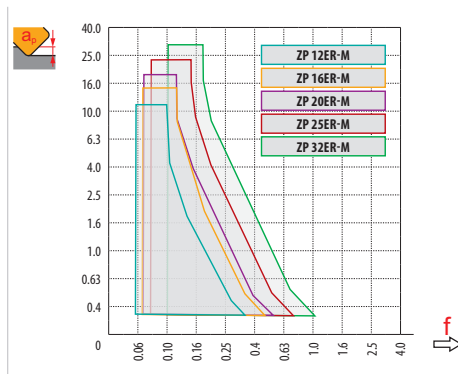
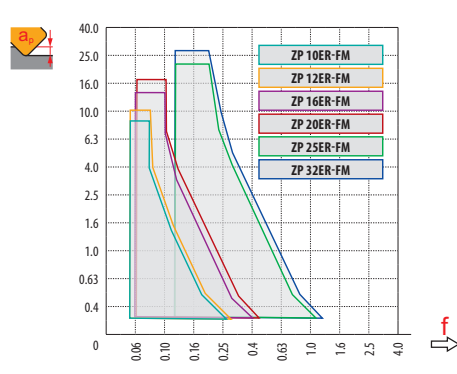


a_e / DCX	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

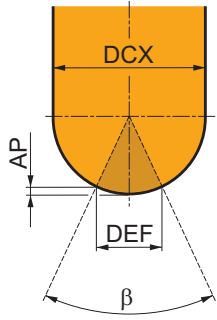
	ZP 10-FM	ZP 12-FM	ZP 16-FM	ZP 20-FM	ZP 25-FM	ZP 32-FM
	5.0	6.0	8.0	10.0	12.5	16.0
	-	-	-	-	-	-

	ZP 12-M	ZP 16-M	ZP 20-M	ZP 25-M	ZP 32-M
	6.0	8.0	10.0	12.5	16.0
	-	-	-	-	-

	ZP 16-R	ZP 20-R	ZP 25-R	ZP 32-R	ZP 40-R	ZP 50-R
	8.0	10.0	12.5	16.0	20.0	25.0
	-	-	-	-	-	-



		0.30	0.40	0.50	0.70	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00	6.00	8.00	10.00	12.00	15.00	16.00	20.00	22.50	25.00			
10		3.4	3.9	4.4	5.1	6.0	6.6	7.1	8.0	8.7	9.2	9.8	10.0	-	-	-	-	-	-	-	-	-	-		
12		3.7	4.3	4.8	5.6	6.6	7.3	7.9	8.9	9.7	10.4	11.3	11.8	12.0	-	-	-	-	-	-	-	-	-	-	
16		4.3	5.0	5.6	6.5	7.7	8.6	9.3	10.6	11.6	12.5	13.9	14.8	15.5	16.0	-	-	-	-	-	-	-	-	-	-
20		4.9	5.6	6.2	7.4	8.7	9.7	10.5	12.0	13.2	14.3	16.0	17.3	18.3	19.6	20.0	-	-	-	-	-	-	-	-	-
25		5.4	6.3	7.0	8.2	9.8	10.9	11.9	13.6	15.0	16.2	18.3	20.0	21.4	23.3	24.5	25.0	-	-	-	-	-	-	-	-
32		6.2	7.1	7.9	9.4	11.1	12.4	13.5	15.5	17.2	18.7	21.2	23.2	25.0	27.7	29.7	31.2	31.9	32.0	-	-	-	-	-	-
40		6.9	8.0	8.9	10.5	12.5	13.9	15.2	17.4	19.4	21.1	24.0	26.5	28.6	32.0	34.6	37.1	38.7	39.2	40.0	-	-	-	-	-
50	7.7	8.9	9.9	11.7	14.0	15.6	17.1	19.6	21.8	23.7	27.1	30.0	32.5	36.7	40.0	43.3	45.8	46.6	49.0	49.7	50.0	-	-	-	

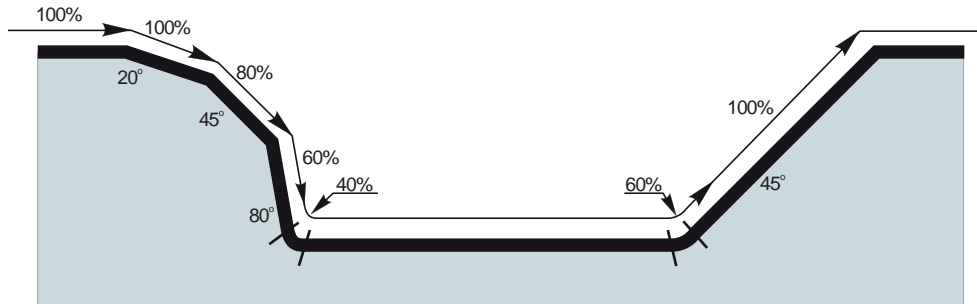


		β		AP
10	FM	41°	3.496	0.322
12	FM	41°	4.194	0.381
16	FM	42°	5.660	0.520
20	FM	42°	7.100	0.650
25	FM	41°	8.756	0.794
35	FM	41°	11.113	0.998
40	R	41°	14.108	1.298
50	R	45°	19.176	1.915



	μm	3	5	10	15	20	30	40	50	60	80	100
10		0.346	0.447	0.632	0.775	0.894	1.095	1.265	1.414	1.549	1.789	2.000
12		0.379	0.490	0.693	0.849	0.980	1.200	1.386	1.549	1.697	1.960	2.191
16		0.438	0.566	0.800	0.980	1.131	1.386	1.600	1.789	1.960	2.263	2.530
20		0.490	0.632	0.894	1.095	1.265	1.549	1.789	2.000	2.191	2.530	2.828
25		0.548	0.707	1.000	1.225	1.414	1.732	2.000	2.236	2.449	2.828	3.162
32		0.620	0.800	1.131	1.386	1.600	1.960	2.263	2.530	2.771	3.200	3.578
40		0.693	0.894	1.265	1.549	1.789	2.191	2.530	2.828	3.098	3.578	4.000
50		0.775	1.000	1.414	1.732	2.000	2.449	2.828	3.162	3.464	4.000	4.472

	a_e	1%	2.5%	5%	7.5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	60%	70%	75%	80%	90%	100%	
19.9%	1.0%	2.86	1.84	1.33	1.12	1.00	0.89	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31.2%	2.5%	3.58	2.28	1.64	1.36	1.20	1.01	0.92	0.88	0.91	-	-	-	-	-	-	-	-	-	-	-
43.6%	5.0%	4.22	2.68	1.92	1.58	1.39	1.16	1.03	0.95	0.90	0.88	0.89	-	-	-	-	-	-	-	-	-
52.7%	7.5%	4.63	2.95	2.10	1.73	1.51	1.26	1.11	1.02	0.96	0.91	0.89	0.88	0.90	-	-	-	-	-	-	-
60.0%	10.0%	4.94	3.14	2.24	1.84	1.61	1.33	1.18	1.07	1.00	0.95	0.91	0.89	0.88	1.00	-	-	-	-	-	-
71.4%	15.0%	5.39	3.42	2.43	2.00	1.74	1.44	1.27	1.15	1.07	1.01	0.96	0.93	0.90	0.88	0.93	-	-	-	-	-
80.0%	20.0%	5.70	3.62	2.57	2.11	1.84	1.52	1.33	1.21	1.12	1.05	1.00	0.96	0.93	0.89	0.88	0.89	1.00	-	-	-
86.6%	25.0%	5.93	3.76	2.67	2.20	1.91	1.58	1.38	1.25	1.16	1.08	1.03	0.99	0.95	0.90	0.88	0.88	0.89	-	-	-
91.7%	30.0%	6.10	3.87	2.75	2.26	1.96	1.62	1.42	1.28	1.18	1.11	1.05	1.01	0.97	0.92	0.89	0.88	0.88	0.93	-	-
95.4%	35.0%	6.23	3.95	2.80	2.30	2.00	1.65	1.44	1.31	1.20	1.13	1.07	1.02	0.98	0.93	0.89	0.88	0.88	0.90	-	-
98.0%	40.0%	6.31	4.00	2.84	2.33	2.03	1.67	1.46	1.32	1.22	1.14	1.08	1.03	0.99	0.93	0.90	0.89	0.88	0.89	-	-
99.5%	45.0%	6.36	4.03	2.86	2.35	2.04	1.68	1.47	1.33	1.23	1.15	1.09	1.04	1.00	0.94	0.90	0.89	0.88	0.88	-	-
100.0%	50.0%	6.38	4.04	2.87	2.35	2.05	1.69	1.48	1.33	1.23	1.15	1.09	1.04	1.00	0.94	0.90	0.89	0.88	0.88	1.00	-



Overhang (multiple of diameter DCX)	< 3.0	3.0 – 3.5	3.6 – 4.0	4.1 – 4.5	> 4.6
Multiplication factor for speed	1.0	0.9	0.8	0.7	0.5

K2-SRC



PRAMET

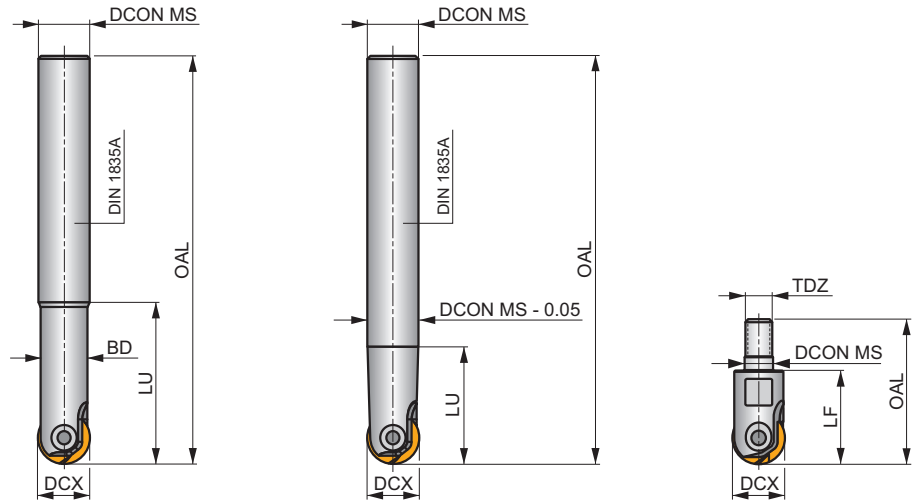
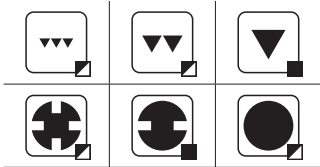
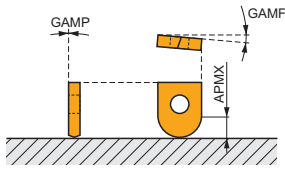
S



Copy and Profile End Mills

Flexible end mill for a wide range of Die & Mold applications. One tool solution for ball-nosed and toroidal inserts. Available in cylindrical and modular style. Body treated for longer tool life.

APMX	0.6 - 3.2 mm
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h_m	0.07 - 0.14
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Product	DCX (mm)	OAL (mm)	DCON MS (mm)	BD (mm)	LU (mm)	LF (mm)	TDZ					kg		
08K2R025A10-SRC08-A	8	110	10	7.5	25	-	-	2	-	56000	-	0.08	GI030	C0530
08K2R050A12-SRC08-A	8	140	12	-	13.5	-	-	2	-	56000	-	0.14	GI030	C0530
10K2R030A12-SRC10-A	10	130	12	9	30	-	-	2	-	42000	-	0.16	GI031	C0531
10K2R060A16-SRC10-A	10	150	16	-	19.5	-	-	2	-	42000	-	0.18	GI031	C0531
12K2R030A12-SRC12-A	12	130	12	10.5	30	-	-	2	-	35000	-	0.11	GI032	C0532
12K2R060A16-SRC12-A	12	160	16	-	24.5	-	-	2	-	35000	-	0.14	GI032	C0532
16K2R035A16-SRC16-A	16	140	16	14	35	-	-	2	-	22000	-	0.23	GI033	C0533
16K2R065A20-SRC16-A	16	175	20	-	31.5	-	-	2	-	22000	-	0.30	GI033	C0533
20K2R045A20-SRC20-A	20	160	20	18	45	-	-	2	-	16000	-	0.40	GI034	C0534
20K2R080A25-SRC20-A	20	190	25	-	33.5	-	-	2	-	16000	-	0.66	GI034	C0534
25K2R045A25-SRC25-A	25	160	25	22.4	45	-	-	2	-	10000	-	0.59	GI035	C0535
32K2R060A32-SRC32-A	32	180	32	28.6	60	-	-	2	-	6000	-	1.10	GI036	C0536
08K2R30M06-SRC08-A	8	45	6.5	-	-	30	M6	2	-	-	-	0.02	GI123	C0530
10K2R30M06-SRC10-A	10	45	6.5	-	-	30	M6	2	-	-	-	0.03	GI124	C0531
12K2R30M06-SRC12-A	12	45	6.5	-	-	30	M6	2	-	-	-	0.15	GI125	C0530
12K2R30M08-SRC12-A	12	48	8.5	-	-	30	M8	2	-	-	-	0.04	GI125	C0532
16K2R35M08-SRC16-A	16	53	8.5	-	-	35	M8	2	-	-	-	0.16	GI033	C0533
20K2R35M10-SRC20-A	20	54	10.5	-	-	35	M10	2	-	-	-	0.08	GI034	C0534

GI030	RC 08	-	LC 08-KP	LC 08-KPF
GI031	RC 10	RC 10-F	LC 10-KP	LC 10-KPF
GI032	RC 12	RC 12-F	-	-
GI033	RC 16	RC 16-F	-	-
GI034	RC 20	-	-	-
GI035	RC 25	-	-	-

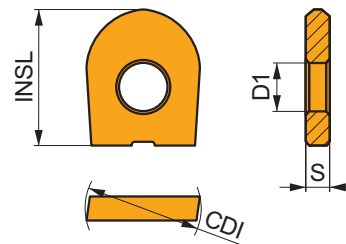
GI036	RC 32	-	-	-
GI123	RC 08	-	-	-
GI124	RC 10	RC 10-F	-	-
GI125	RC 12	RC 12-F	-	-

C0530	CS 3007-T08P	1.2	M 3	7	-	-	-	Flag T08P
C0531	CS 4008-T15P	3.0	M 4	8	-	D-T08P/T15P	FG-15	-
C0532	CS 5009-T20P	5.0	M 5	9	SDRT20P	-	-	-
C0533	CS 5013-T20P	5.0	M 5	13	SDRT20P	-	-	-
C0534	CS 5015-T20P	5.0	M 5	15	SDRT20P	-	-	-
C0535	CS 6020-T20P	7.5	M 6	20	SDRT20P	-	-	-
C0536	CS 8025-T30P	15.0	M 8	25	SDRT30P	-	-	-

RC



	CDI (mm)	D1 (mm)	INSL (mm)	S (mm)
08	8.0	3.00	9.5	2.00
10	10.0	4.00	11.5	2.50
12	12.0	5.00	12.0	2.50
16	16.0	5.00	14.0	3.00
20	20.0	5.00	16.0	3.00
25	25.0	6.00	21.5	4.00
32	32.0	8.00	25.8	5.00



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



Neutral face with a positive cutting edge design.

RC 08:M4310	☹	-	☑	255	0.36	0.4	-	-	-	☹	240	0.36	0.4	-	-	-	-	-	-	☹	50	0.18	0.8
RC 08:M8310	☹	-	☑	295	0.36	0.4	-	-	-	☹	280	0.36	0.4	-	-	-	-	-	-	☹	55	0.18	0.8
RC 10:M4310	☹	-	☑	250	0.36	0.5	-	-	-	☹	235	0.36	0.5	-	-	-	-	-	-	☹	50	0.18	1.0
RC 10:M8310	☹	-	☑	290	0.36	0.5	-	-	-	☹	275	0.36	0.5	-	-	-	-	-	-	☹	55	0.18	1.0
RC 10:M8330	☹	-	☑	270	0.36	0.5	-	-	-	☹	255	0.36	0.5	-	-	-	-	-	-	☑	50	0.18	1.0
RC 12:M4310	☹	-	☑	245	0.36	0.6	-	-	-	☹	230	0.36	0.6	-	-	-	-	-	-	☹	45	0.18	1.2
RC 12:M8310	☹	-	☑	285	0.36	0.6	-	-	-	☹	270	0.36	0.6	-	-	-	-	-	-	☹	55	0.18	1.2
RC 12:M8330	☹	-	☑	265	0.36	0.6	-	-	-	☹	250	0.36	0.6	-	-	-	-	-	-	☑	50	0.18	1.2
RC 16:M4310	☹	-	☑	235	0.36	0.8	-	-	-	☹	220	0.36	0.8	-	-	-	-	-	-	☹	45	0.18	1.1
RC 16:M8310	☹	-	☑	275	0.36	0.8	-	-	-	☹	260	0.36	0.8	-	-	-	-	-	-	☹	55	0.18	1.1
RC 16:M8330	☹	-	☑	255	0.36	0.8	-	-	-	☹	240	0.36	0.8	-	-	-	-	-	-	☑	50	0.18	1.1
RC 20:M4310	☹	-	☑	235	0.36	1.0	-	-	-	☹	220	0.36	1.0	-	-	-	-	-	-	☹	45	0.18	1.3
RC 20:M8310	☹	-	☑	270	0.36	1.0	-	-	-	☹	255	0.36	1.0	-	-	-	-	-	-	☹	50	0.18	1.3
RC 20:M8330	☹	-	☑	250	0.36	1.0	-	-	-	☹	235	0.36	1.0	-	-	-	-	-	-	☑	50	0.18	1.3
RC 25:M8310	☹	-	☑	260	0.36	1.3	-	-	-	☹	245	0.36	1.3	-	-	-	-	-	-	☹	50	0.18	1.7
RC 25:M8330	☹	-	☑	245	0.36	1.3	-	-	-	☹	230	0.36	1.3	-	-	-	-	-	-	☑	45	0.18	1.7
RC 32:M4310	☹	-	☑	220	0.36	1.6	-	-	-	☹	205	0.36	1.6	-	-	-	-	-	-	☹	40	0.18	2.1
RC 32:M8330	☹	-	☑	240	0.36	1.6	-	-	-	☹	225	0.36	1.6	-	-	-	-	-	-	☑	45	0.18	2.1

Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



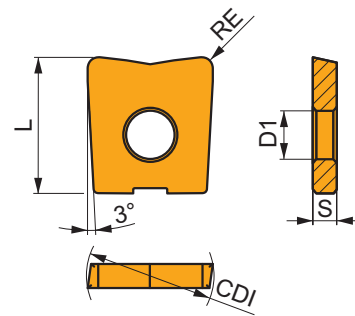
F geometry is sharp and suitable for finish machining.

RC 10-F:M4310	●	–	250	0.36	0.5	125	0.32	0.5	235	0.36	0.5	–	–	–	–	–	–	–	50	0.18	1.0
RC 12-F:M4310	●	–	245	0.36	0.6	120	0.32	0.6	230	0.36	0.6	–	–	–	–	–	–	–	45	0.18	1.2
RC 16-F:M4310	●	–	235	0.36	0.8	115	0.32	0.8	220	0.36	0.8	–	–	–	–	–	–	–	45	0.18	1.1
RC 16-F:M8330	●	–	255	0.36	0.8	150	0.32	0.8	240	0.36	0.8	–	–	–	–	–	–	–	50	0.18	1.1

LC



	CDI (mm)	D1 (mm)	L (mm)	S (mm)
08	8.0	3.00	9.50	2.00
10	10.0	4.00	11.50	2.50

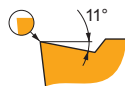
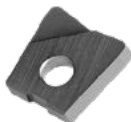


Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



KP geometry with zero rake angle design for light to medium machining.

LC 0806-KP:M4310	●	0.6	280	0.16	0.3	–	–	–	265	0.16	0.3	–	–	–	–	–	–	–	55	0.11	0.6
LC 0806-KP:M8310	●	0.6	325	0.16	0.3	–	–	–	305	0.16	0.3	–	–	–	–	–	–	–	65	0.11	0.6
LC 0810-KP:M4310	●	1.0	280	0.16	0.5	–	–	–	265	0.16	0.5	–	–	–	–	–	–	–	55	0.11	1.0
LC 1008-KP:M4310	●	0.8	270	0.16	0.4	–	–	–	255	0.16	0.4	–	–	–	–	–	–	–	50	0.08	0.8
LC 1008-KP:M8310	●	0.8	315	0.16	0.4	–	–	–	295	0.16	0.4	–	–	–	–	–	–	–	60	0.08	0.8
LC 1010-KP:M4310	●	1.0	280	0.16	0.5	–	–	–	265	0.16	0.5	–	–	–	–	–	–	–	55	0.08	1.0
LC 1010-KP:M8310	●	1.0	325	0.16	0.5	–	–	–	305	0.16	0.5	–	–	–	–	–	–	–	65	0.08	1.0



KPF geometry with positive design for light to medium machining.

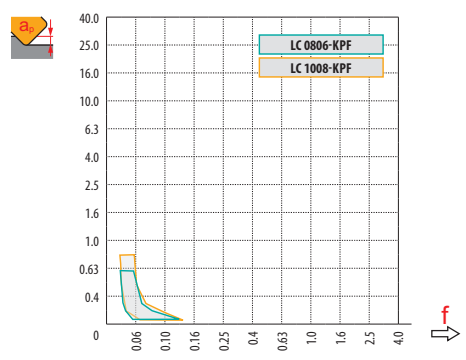
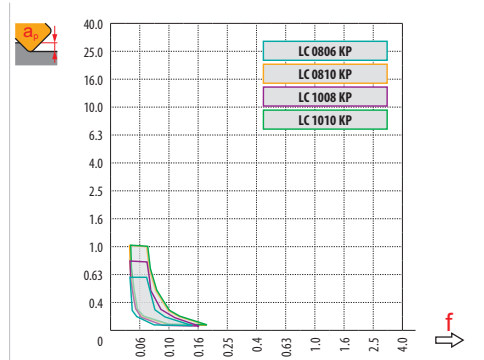
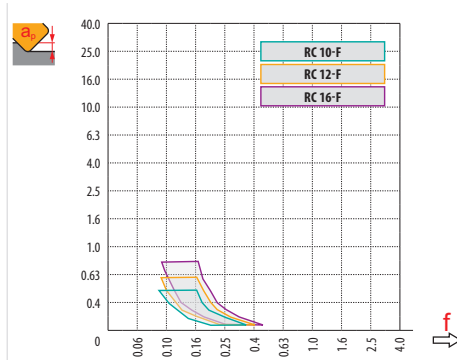
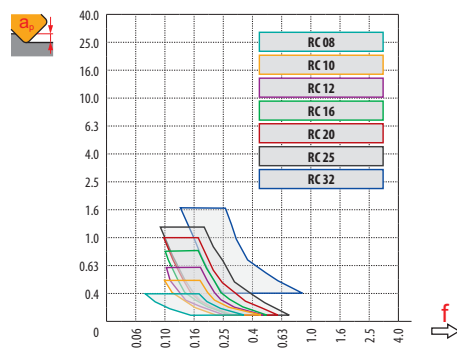
LC 0806-KPF:M4310	●	0.6	280	0.16	0.3	140	0.14	0.3	265	0.16	0.3	–	–	–	–	–	–	–	55	0.08	0.6
LC 1008-KPF:M4310	●	0.8	270	0.16	0.4	135	0.14	0.4	255	0.16	0.4	–	–	–	–	–	–	–	50	0.08	0.8



	RC 08	RC 10	RC 12	RC 16	RC 20	RC 25	RC 32
	4.0	5.0	6.0	8.0	10.0	12.5	16.0
	-	-	-	-	-	-	-

	RC 10-F	RC 12-F	RC 16-F
	5.0	6.0	8.0
	-	-	-

	LC 08-KP	LC 08-KP	LC 10-KP	LC 10-KP	LC 08-KPF	LC 10-KPF
	0.6	1.0	0.8	1.0	0.6	0.8
	-	-	-	-	-	-



RC 08	8
RC 10 / RC 10-F	10
RC 12 / RC 12-F	12
RC 16 / RC 16-F	16
RC 20	20
RC 25	25
RC 32	32

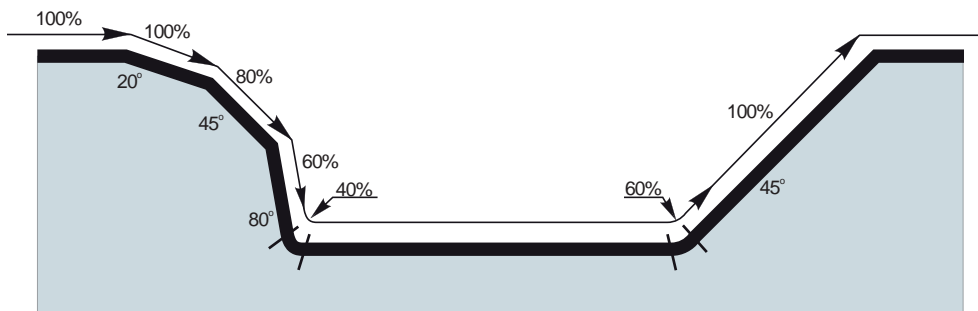
	0.3	0.4	0.5	0.7	1.0	1.25	1.5	2.0	2.5	3.0	4.0	5.0	6.0	8.0	10.0	12.0	15.0	16.0	
	3.0	3.5	3.9	4.5	5.3	5.8	6.2	6.9	7.4	7.7	8.0	-	-	-	-	-	-	-	
	3.4	3.9	4.4	5.1	6.0	6.6	7.1	8.0	8.7	9.2	9.8	10.0	-	-	-	-	-	-	
	3.7	4.3	4.8	5.6	6.6	7.3	7.9	8.9	9.7	10.4	11.3	11.8	12.0	-	-	-	-	-	
	4.3	5.0	5.6	6.5	7.7	8.6	9.3	10.6	11.6	12.5	13.9	14.8	15.5	16.0	-	-	-	-	
	4.9	5.6	6.2	7.4	8.7	9.7	10.5	12.0	13.2	14.3	16.0	17.3	18.3	19.6	20.0	-	-	-	
	5.4	6.3	7.0	8.2	9.8	10.9	11.9	13.6	15.0	16.2	18.3	20.0	21.4	23.3	24.5	25.0	-	-	-
	6.17	7.11	7.94	9.36	11.14	12.40	13.53	15.49	17.18	18.65	21.17	23.24	24.98	27.71	29.66	30.98	31.94	32.00	



RC 08	8
RC 10 / RC 10-F	10
RC 12 / RC 12-F	12
RC 16 / RC 16-F	16
RC 20	20
RC 25	25
RC 32	32

	3	5	10	15	20	30	40	50	60	80	100
	0.310	0.400	0.566	0.693	0.800	0.980	1.131	1.265	1.386	1.600	1.789
	0.346	0.447	0.632	0.775	0.894	1.095	1.265	1.414	1.549	1.789	2.000
	0.379	0.490	0.693	0.849	0.980	1.200	1.386	1.549	1.697	1.960	2.191
	0.438	0.566	0.800	0.980	1.131	1.386	1.600	1.789	1.960	2.263	2.530
	0.490	0.632	0.894	1.095	1.265	1.549	1.789	2.000	2.191	2.530	2.828
	0.548	0.707	1.000	1.225	1.414	1.732	2.000	2.236	2.449	2.828	3.162
	0.620	0.800	1.131	1.386	1.600	1.960	2.263	2.530	2.771	3.200	3.578

	a_e	1.0%	2.5%	5.0%	7.5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	60%	70%	75%	80%	90%	100%
19.9%	1.0%	2.86	1.84	1.33	1.12	1.00	0.89	-	-	-	-	-	-	-	-	-	-	-	-	-
31.2%	2.5%	3.58	2.28	1.64	1.36	1.20	1.01	0.92	0.88	0.91	-	-	-	-	-	-	-	-	-	-
43.6%	5.0%	4.22	2.68	1.92	1.58	1.39	1.16	1.03	0.95	0.90	0.88	0.89	-	-	-	-	-	-	-	-
52.7%	7.5%	4.63	2.95	2.10	1.73	1.51	1.26	1.11	1.02	0.96	0.91	0.89	0.88	0.90	-	-	-	-	-	-
60.0%	10.0%	4.94	3.14	2.24	1.84	1.61	1.33	1.18	1.07	1.00	0.95	0.91	0.89	0.88	1.00	-	-	-	-	-
71.4%	15.0%	5.39	3.42	2.43	2.00	1.74	1.44	1.27	1.15	1.07	1.01	0.96	0.93	0.90	0.88	0.93	-	-	-	-
80.0%	20.0%	5.70	3.62	2.57	2.11	1.84	1.52	1.33	1.21	1.12	1.05	1.00	0.96	0.93	0.89	0.88	0.89	1.00	-	-
86.6%	25.0%	5.93	3.76	2.67	2.20	1.91	1.58	1.38	1.25	1.16	1.08	1.03	0.99	0.95	0.90	0.88	0.88	0.89	-	-
91.7%	30.0%	6.10	3.87	2.75	2.26	1.96	1.62	1.42	1.28	1.18	1.11	1.05	1.01	0.97	0.92	0.89	0.88	0.88	0.93	-
95.4%	35.0%	6.23	3.95	2.80	2.30	2.00	1.65	1.44	1.31	1.20	1.13	1.07	1.02	0.98	0.93	0.89	0.88	0.88	0.90	-
98.0%	40.0%	6.31	4.00	2.84	2.33	2.03	1.67	1.46	1.32	1.22	1.14	1.08	1.03	0.99	0.93	0.90	0.89	0.88	0.89	-
99.5%	45.0%	6.36	4.03	2.86	2.35	2.04	1.68	1.47	1.33	1.23	1.15	1.09	1.04	1.00	0.94	0.90	0.89	0.88	0.88	-
100.0%	50.0%	6.38	4.04	2.87	2.35	2.05	1.69	1.48	1.33	1.23	1.15	1.09	1.04	1.00	0.94	0.90	0.89	0.88	0.88	1.00





	DCX	RE	a _r														
			0.00	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.25	1.50	2.00	2.50	3.00	4.00
LC 0806-KP	8	0.6	6.8	7.8	7.9	8.0	8.0	-	-	-	-	-	-	-	-	-	-
LC 0806-KPF		0.6	6.8	7.8	7.9	8.0	8.0	-	-	-	-	-	-	-	-	-	-
LC 0810-KP		1.0	6.0	7.4	7.6	7.7	7.8	7.9	8.0	8.0	8.0	-	-	-	-	-	-
LC 1008-KP	10	0.8	8.4	9.6	9.8	9.9	9.9	10.0	10.0	-	-	-	-	-	-	-	-
LC 1008-KPF		0.8	8.4	9.6	9.8	9.9	9.9	10.0	10.0	-	-	-	-	-	-	-	-
LC 1010-KP		1.0	8.0	9.4	9.6	9.7	9.8	9.9	10.0	10.0	10.0	-	-	-	-	-	-



DCX	μm	3	5	10	15	20	30	40	50	60	80	100
8	FE	0.310	0.400	0.566	0.693	0.800	0.980	1.131	1.265	1.386	1.600	1.789
	RE	0.346	0.447	0.632	0.775	0.894	1.095	1.265	1.414	1.549	1.789	2.000
DCX	μm	3	5	10	15	20	30	40	50	60	80	100
0.6	FE	0.120	0.155	0.219	0.268	0.310	0.379	0.438	0.490	0.537	0.620	0.693
	RE	0.139	0.179	0.253	0.310	0.358	0.438	0.506	0.566	0.620	0.716	0.800
	FE	0.155	0.200	0.283	0.346	0.400	0.490	0.566	0.632	0.693	0.800	0.89



	DCX	RE	max
LC 0806-KP	8	0.6	3.0
LC 0806-KPF		0.6	2.8
LC 0810-KP		1.0	3.0
LC 1008-KP	10	0.8	3.8
LC 1008-KPF		0.8	3.6
LC 1010-KP		1.0	3.8



	DCX	RE	RPMX	APMX/I
LC 0806-KP	8	0.6	2.5	1.5/35
LC 0806-KPF		0.6	2.2	1.5/39
LC 0810-KP		1.0	2.4	1.5/36
LC 1008-KP	10	0.8	2.6	1.5/33
LC 1008-KPF		0.8	2.3	1.5/38
LC 1010-KP		1.0	2.6	1.5/33



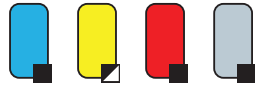
	DCX	RE	DMIN	DMAX	SMAX DMIN	SMAX DMAX
LC 0806-KP	8	0.6	9.8	15.9	0.8	1.0
LC 0806-KPF		0.6	10.2	15.9	0.1	0.1
LC 0810-KP		1.0	9.9	15.9	0.1	0.1
LC 1008-KP	10	0.8	12.2	19.9	0.9	1.1
LC 1008-KPF		0.8	12.6	19.9	0.2	0.2
LC 1010-KP		1.0	12.2	19.9	0.2	0.2



	DCX	RE	a _r
LC 0806-KP	8	0.6	0.15
LC 0806-KPF		0.6	0.13
LC 0810-KP		1.0	0.13
LC 1008-KP	10	0.8	0.2
LC 1008-KPF		0.8	0.18
LC 1010-KP		1.0	0.19

Overhang (multiple of diameter DCX)	< 3.0	3.0 – 3.5	3.6 – 4.0	4.1 – 4.5	> 4.6
Multiplication factor for speed	1.0	0.9	0.8	0.7	0.5

K2-SLC



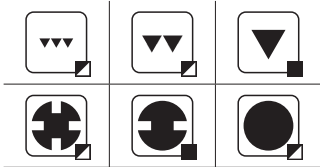
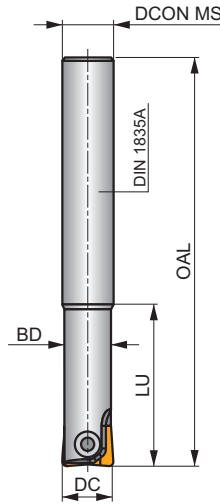
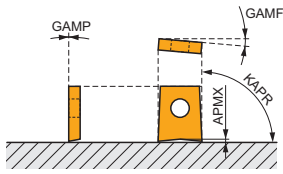
PRAMET



Copy and Profile End Mills for finishing

End mill for finishing operations in a wide range of applications utilising LC inserts. High precision ground inserts provide excellent accuracy. For profiling, chamfering, helical, progressive plunge milling and ramping. Available in cylindrical style only. Body treated for longer tool life.

APMX	1.0 - 3.0 mm
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h_m	0.03 - 0.10
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Product	DC (mm)	OAL (mm)	DCON MS (mm)	LU (mm)	BD (mm)							
12K2R030A12-SLC12-A	12	130	12	30	10.5	2	-	35000	-	0.11	GI037	C0532
16K2R035A16-SLC16-A	16	140	16	35	14	2	-	22000	-	0.20	GI038	C0533
20K2R045A20-SLC20-A	20	160	20	45	18	2	-	16000	-	0.38	GI039	C0534

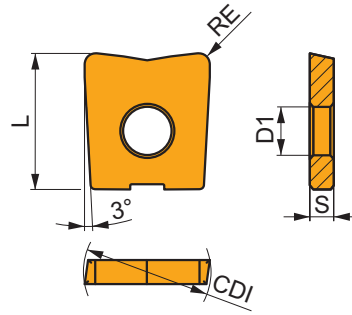
GI037	LC 12-KP	LC 12-KPF
GI038	LC 16-KP	-
GI039	LC 20-KP	-

C0532	CS 5009-T20P	5.0	M 5	9	SDR T20P
C0533	CS 5013-T20P	5.0	M 5	13	SDR T20P
C0534	CS 5015-T20P	5.0	M 5	15	SDRT20P

LC



	CDI (mm)	D1 (mm)	L (mm)	S (mm)
12	12.0	5.00	14.00	2.50
16	16.0	5.00	16.00	3.00
20	20.0	5.00	18.00	3.00



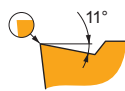
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



KP geometry with zero rake angle design for light to medium machining.

LC 1210-KP:M4310	1.0	280	0.16	0.5	—	—	—	265	0.16	0.5	—	—	—	—	—	—	55	0.08	1.0
LC 1210-KP:M8310	1.0	325	0.16	0.5	—	—	—	305	0.16	0.5	—	—	—	—	—	—	65	0.08	1.0
LC 1210-KP:M8330	1.0	295	0.16	0.5	—	—	—	280	0.16	0.5	—	—	—	—	—	—	55	0.08	1.0
LC 1610-KP:M4310	1.0	280	0.16	0.5	—	—	—	265	0.16	0.5	—	—	—	—	—	—	55	0.08	1.0
LC 1610-KP:M8310	1.0	325	0.16	0.5	—	—	—	305	0.16	0.5	—	—	—	—	—	—	65	0.08	1.0
LC 1610-KP:M8330	1.0	295	0.16	0.5	—	—	—	280	0.16	0.5	—	—	—	—	—	—	55	0.08	1.0
LC 1613-KP:M4310	1.3	270	0.16	0.7	—	—	—	255	0.16	0.7	—	—	—	—	—	—	50	0.08	1.3
LC 1613-KP:M8310	1.3	315	0.16	0.7	—	—	—	295	0.16	0.7	—	—	—	—	—	—	60	0.08	1.3
LC 2010-KP:M4310	1.0	280	0.16	0.5	—	—	—	265	0.16	0.5	—	—	—	—	—	—	55	0.08	1.0
LC 2010-KP:M8310	1.0	325	0.16	0.5	—	—	—	305	0.16	0.5	—	—	—	—	—	—	65	0.08	1.0
LC 2016-KP:M4310	1.6	280	0.16	0.8	—	—	—	265	0.16	0.8	—	—	—	—	—	—	55	0.08	1.1
LC 2016-KP:M8310	1.6	325	0.16	0.8	—	—	—	305	0.16	0.8	—	—	—	—	—	—	65	0.08	1.1
LC 2040-KP:M8330	4.0	285	0.16	2.0	—	—	—	270	0.16	2.0	—	—	—	—	—	—	55	0.08	2.7



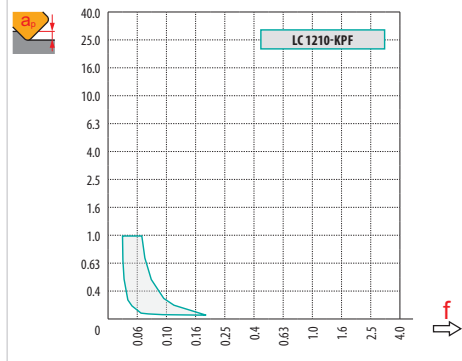
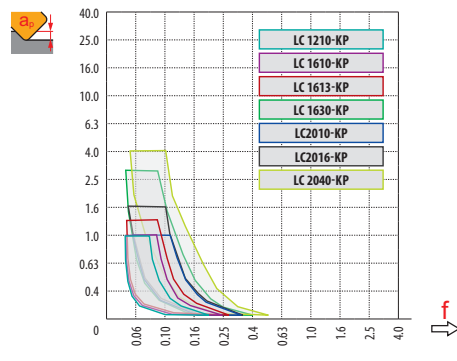
KPF geometry with positive design for light to medium machining.

LC 1210-KPF:M4310	1.0	280	0.16	0.5	140	0.14	0.5	265	0.16	0.5	—	—	—	—	—	—	55	0.08	1.0
LC 1210-KPF:M8330	1.0	295	0.16	0.5	175	0.14	0.5	280	0.16	0.5	—	—	—	—	—	—	55	0.08	1.0



a_e / DC	5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	90%	100%
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	LC 1210-KP	LC 1610-KP	LC 1613-KP	LC 2010-KP	LC 2016-KP	LC 2040-KP	LC 1210-KPF
	1.0	1.3	3.0	1.0	1.6	4.0	1.0
	-	-	-	-	-	-	-



	DC		0.0	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.25	1.5	2.0	2.5	3.0	4.0
LC 1210-KP	12	1.0	10.0	11.4	11.6	11.7	11.8	11.9	12.0	12.0	12.0	-	-	-	-	-	-
LC 1210-KPF		1.0	10.0	11.4	11.6	11.7	11.8	11.9	12.0	12.0	12.0	-	-	-	-	-	-
LC 1610-KP	16	1.0	14.0	15.4	15.6	15.7	15.8	15.9	16.0	16.0	16.0	-	-	-	-	-	-
LC 1613-KP		1.3	13.4	15.1	15.3	15.4	15.6	15.7	15.8	15.9	15.9	16.0	-	-	-	-	-
LC 2010-KP	20	1.0	18.0	19.4	19.6	19.7	19.8	19.9	20.0	20.0	20.0	-	-	-	-	-	-
LC 2016-KP		1.6	16.8	18.7	18.9	19.1	19.3	19.4	19.6	19.7	19.8	19.9	20.0	-	-	-	-
LC 2040-KP		4.0	12.0	15.0	15.5	15.9	16.2	16.5	16.8	17.1	17.3	17.8	18.2	18.9	19.4	-	-



		3	5	10	15	20	30	40	50	60	80	100
12		0.379	0.490	0.693	0.849	0.980	1.200	1.386	1.549	1.697	1.960	2.191
16		0.438	0.566	0.800	0.980	1.131	1.386	1.600	1.789	1.960	2.263	2.530
20		0.490	0.632	0.894	1.095	1.265	1.549	1.789	2.000	2.191	2.530	2.828
		3	5	10	15	20	30	40	50	60	80	100
1.3		0.177	0.228	0.322	0.395	0.456	0.559	0.645	0.721	0.790	0.912	1.020
1.6		0.196	0.253	0.358	0.438	0.506	0.620	0.716	0.800	0.876	1.012	1.131
2.0		0.219	0.283	0.400	0.490	0.566	0.693	0.800	0.894	0.980	1.131	1.265
4.0		0.310	0.400	0.566	0.693	0.800	0.980	1.131	1.265	1.386	1.600	1.789



LC 1210-KP	12	4.8
LC 1210-KPF		4.4
LC 1610-KP	16	6.6
LC 1613-KP		6.6
LC 2010-KP	20	8.5
LC 2016-KP		8.5
LC 2040-KP		8.5



LC 1210-KP	12	4.7	1.5/19
LC 1210-KPF		3.8	1.5/23
LC 1610-KP	16	4.8	1.5/18
LC 1613-KP		4.8	1.5/18
LC 2010-KP	20	5.0	1.5/18
LC 2016-KP		4.9	1.6/19
LC 2040-KP		4.5	4.0/51



		D _{MIN}	D _{MAX}		
LC 1210-KP	12	14.1	23.9	1.0	1.2
LC 1210-KPF		15.0	23.9	0.4	0.4
LC 1610-KP	16	18.6	31.9	1.1	1.4
LC 1613-KP		18.6	31.9	0.6	0.6
LC 2010-KP	20	22.8	39.9	1.3	1.5
LC 2016-KP		22.8	39.9	0.8	0.8
LC 2040-KP		22.8	39.9	0.5	0.5



LC 1210-KP	12	0.44
LC 1210-KPF		0.9
LC 1610-KP	16	0.65
LC 1613-KP		0.62
LC 2010-KP	20	0.85
LC 2016-KP		0.79
LC 2040-KP		0.54

Overhang (multiple of diameter DC)	< 3.0	3 – 3.5	3.6 – 4.0	4.1 – 4.5	> 4.6
Multiplication factor for speed	1.0	0.9	0.8	0.7	0.5

K2-PPH



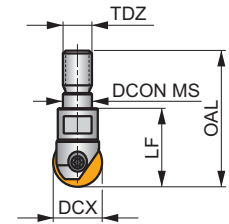
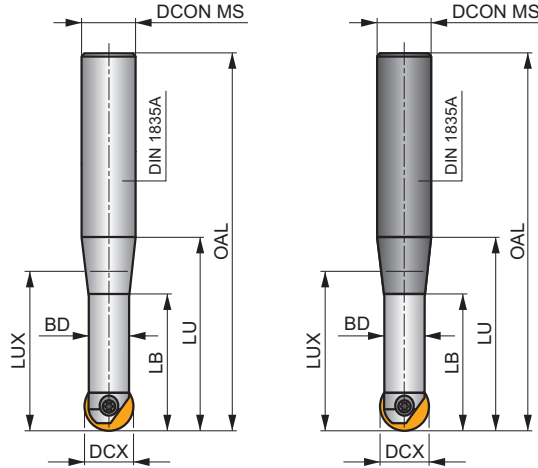
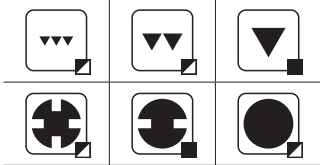
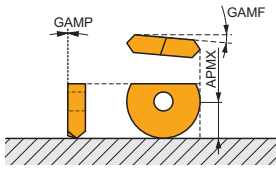
PRAMET



Copy and Profile End Mills

Flexible end mill for a wide range of Die & Mold applications. One tool solution for ball-nosed, toroidal and high-feed inserts. High precision ground inserts provide high accuracy. Available in cylindrical and modular style. Body treated for longer tool life.

APMX	0.3 - 4.0 mm
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h_m	0.07 - 0.14
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Product	DCX (mm)	OAL (mm)	DCON MS (mm)	BD (mm)	LB (mm)	LU (mm)	LUX (mm)	LF (mm)	TDZ	Carbide	v_c max.		kg		
PPH-08/02-QC12-092	8	92	12	6.5	19	35	23.1	-	-	-	40000	-	0.14	G1284	C0540
PPH-08/02-QC12-110	8	110	12	6.5	33.5	53	41.5	-	-	-	33600	-	0.14	G1284	C0540
PPH-08/02-QC12-132	8	132	12	6.5	19	75	41.8	-	-	-	16800	-	0.15	G1284	C0540
PPH-10/02-QC12-092	10	92	12	8	22.4	38	30	-	-	-	40000	-	0.12	G1285	C0541
PPH-10/02-QC12-110	10	110	12	8	38.7	53	51.9	-	-	-	40000	-	0.15	G1285	C0541
PPH-10/02-QC12-132	10	132	12	8	21.8	75	73.6	-	-	-	20300	-	0.16	G1285	C0541
PPH-12/02-QC16-145	12	145	16	10	22.5	85	63.3	-	-	-	19800	-	0.23	G1286	C0542
PPH-16/02-QC20-166	16	166	20	14	29.5	100	75.5	-	-	-	20000	-	0.37	G1287	C0543
PPH-20/02-QC25-191	20	191	25	17	35	115	82.2	-	-	-	18400	-	0.64	G1288	C0544
PPH-25/02-QC32-215	25	215	32	21	42.5	135	97	-	-	-	16500	-	1.07	G1289	C0545
PPH-12/02-QC12-083	12	83	12	10	-	26	-	-	-	-	40000	-	0.15	G1286	C0542
PPH-12/02-QC12-110	12	110	12	10	-	53	-	-	-	-	40000	-	0.15	G1286	C0542
PPH-16/02-QC16-092	16	92	16	14	-	92	-	-	-	-	36000	-	0.20	G1287	C0543
PPH-16/02-QC16-123	16	123	16	14	-	63	-	-	-	-	36000	-	0.24	G1287	C0543
PPH-20/02-QC20-104	20	104	20	17	-	38	-	-	-	-	40000	-	0.34	G1288	C0544
PPH-20/02-QC20-141	20	141	20	17	-	75	-	-	-	-	40000	-	0.41	G1288	C0544
PPH-25/02-QC25-121	25	121	25	21	-	45	-	-	-	-	40000	-	0.53	G1289	C0545
PPH-25/02-QC25-166	25	166	25	21	-	90	-	-	-	-	37100	-	0.57	G1289	C0545
PPH-32/02-QC32-186	32	186	32	26	-	107	-	-	-	-	32500	-	1.09	G1290	C0546
PPH-32/02-QC32-240	32	240	32	26	-	160	-	-	-	-	14500	-	1.37	G1290	C0546
PPH-08/02-QC12-110HSCW	8	110	12	6.5	19	53	30.1	-	-	✓	40000	-	0.21	G1284	C0540
PPH-08/02-QC12-132HSCW	8	132	12	6.5	19	75	37.1	-	-	✓	23400	-	0.22	G1284	C0540
PPH-10/02-QC12-092HSCW	10	92	12	8	21.9	38.1	90.9	-	-	✓	40000	-	0.20	G1285	C0541
PPH-10/02-QC12-132HSCW	10	132	12	8	21.8	75.1	51.1	-	-	✓	23400	-	0.24	G1285	C0541
PPH-12/02-QC16-145HSCW	12	145	16	10	21.5	85	65.6	-	-	✓	21000	-	0.28	G1286	C0542
PPH-16/02-QC20-166HSCW	16	166	20	14	28.5	100	87.2	-	-	✓	25500	-	0.66	G1287	C0543
PPH-20/02-QC25-191HSCW	20	191	25	17	35	115	75.6	-	-	✓	18500	-	1.07	G1288	C0544
PPH-08/02-QC08-130HSCW	8	130	8	6.5	-	20	-	-	-	✓	40000	-	0.17	G1284	C0540

Product	DCX	OAL	DCONIMS	BD	LB	LU	LUX	LF	TDZ	Carbide					
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)							
PPH-10/02-QC10-140HSCW	10	140	10	8	-	25	-	-	-	✓	40000	-	0.22	GI285	C0541
PPH-12/02-QC12-083HSCW	12	83	12	10	-	26	-	-	-	✓	40000	-	0.19	GI286	C0542
PPH-12/02-QC12-110HSCW	12	110	12	10	-	53	-	-	-	✓	40000	-	0.22	GI286	C0542
PPH-16/02-QC16-092HSCW	16	92	16	14	-	32	-	-	-	✓	43000	-	0.29	GI287	C0543
PPH-16/02-QC16-123HSCW	16	123	16	14	-	63	-	-	-	✓	43000	-	0.36	GI287	C0543
PPH-20/02-QC20-104HSCW	20	104	20	17	-	38	-	-	-	✓	40000	-	0.50	GI288	C0544
PPH-20/02-QC20-141HSCW	20	141	20	17	-	75	-	-	-	✓	40000	-	0.62	GI288	C0544
PPH-16/02-025-P08	16	-	8.5	-	-	-	-	25	M8	-	-	-	0.10	GI287	C0543
PPH-20/02-030-P10	20	-	10.5	-	-	-	-	30	M10	-	-	-	0.16	GI288	C0544

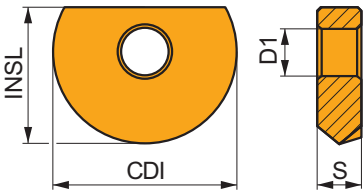
GI284	PPH 08..	-	PPHT 08..	PPHF 08..
GI285	PPH 10..	PPHE 10..	PPHT 10..	PPHF 10..
GI286	PPH 12..	PPHE 12..	PPHT 12..	PPHF 12..
GI287	PPH 16..	PPHE 16..	PPHT 16..	PPHF 16..
GI288	PPH 20..	PPHE 20..	PPHT 20..	PPHF 20..
GI289	PPH 25..	-	PPHT 25..	-
GI290	PPH 32..	-	-	-

C0540	CS 42506-T07P	1.0	M 2.5	6	D-T07P/T09P	FG-15	-	-
C0541	CS 43008-T08P	1.2	M 3	8	D-T08P/T15P	FG-15	-	-
C0542	CS 43509-T10P	2.0	M 3.5	9	-	-	SDRT10P	-
C0543	CS 44013-T15P	3.0	M 4	13	D-T08P/T15P	FG-15	-	-
C0544	CS 45016-T20P	5.0	M 5	16	-	-	SDRT20P	-
C0545	CS 46020-T25P	7.5	M 6	20	-	-	-	SDRT25P-T
C0546	CS 48025-T40P	15.0	M 8	25	-	-	-	SDRT40P-T

PPH



	CDI (mm)	D1 (mm)	INSL (mm)	S (mm)
0800	8.0	2.50	7.0	2.40
1000	10.0	3.00	8.5	2.60
1200	12.0	3.50	10.0	3.00
1600	16.0	4.00	12.0	4.00
2000	20.0	5.00	15.0	5.00
2500	25.0	6.00	18.5	6.00
3000	30.0	8.00	22.5	7.00
3200	32.0	8.00	23.5	7.00



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



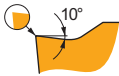
CL1 geometry with sharp design.

PPH 0800-CL1:2003	☺	–	285	0.36	0.4	145	0.32	0.4	270	0.36	0.4	–	–	–	–	–	–	–	55	0.18	0.8
PPH 1000-CL1:2003	☺	–	280	0.36	0.5	140	0.32	0.5	265	0.36	0.5	–	–	–	–	–	–	–	55	0.18	1.0
PPH 1200-CL1:2003	☺	–	275	0.36	0.6	140	0.32	0.6	260	0.36	0.6	–	–	–	–	–	–	–	55	0.18	1.2
PPH 1600-CL1:2003	☺	–	265	0.36	0.8	135	0.32	0.8	250	0.36	0.8	–	–	–	–	–	–	–	50	0.18	1.1
PPH 2000-CL1:2003	☺	–	260	0.36	1.0	130	0.32	1.0	245	0.36	1.0	–	–	–	–	–	–	–	50	0.18	1.3
PPH 2500-CL1:2003	☺	–	250	0.36	1.3	125	0.32	1.3	235	0.36	1.3	–	–	–	–	–	–	–	50	0.18	1.7
PPH 3000-CL1:2003	☺	–	245	0.36	1.5	120	0.32	1.5	230	0.36	1.5	–	–	–	–	–	–	–	45	0.18	2.0
PPH 3200-CL1:2003	☺	–	245	0.36	1.6	120	0.32	1.6	230	0.36	1.6	–	–	–	–	–	–	–	45	0.18	2.1



CL4 geometry with sharp design for interrupted cuts.

PPH 0800-CL4:8215	☺	–	270	0.36	0.4	–	–	–	255	0.36	0.4	–	–	–	–	–	–	–	50	0.18	0.8
PPH 1000-CL4:8215	☺	–	265	0.36	0.5	–	–	–	250	0.36	0.5	–	–	–	–	–	–	–	50	0.18	1.0
PPH 1200-CL4:8215	☺	–	255	0.36	0.6	–	–	–	240	0.36	0.6	–	–	–	–	–	–	–	50	0.18	1.2
PPH 1600-CL4:8215	☺	–	250	0.36	0.8	–	–	–	235	0.36	0.8	–	–	–	–	–	–	–	50	0.18	1.1
PPH 2000-CL4:8215	☺	–	245	0.36	1.0	–	–	–	230	0.36	1.0	–	–	–	–	–	–	–	45	0.18	1.3



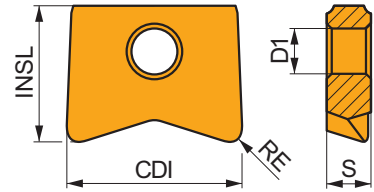
SM1 geometry with sharp design.

PPHE 1000-SM1:8215	☺	–	275	0.31	0.5	165	0.28	0.5	260	0.31	0.5	–	–	–	–	–	–	–	55	0.16	1.0
PPHE 1200-SM1:8215	☺	–	255	0.36	0.6	150	0.32	0.6	240	0.36	0.6	–	–	–	–	–	–	–	50	0.18	1.2
PPHE 1600-SM1:8215	☺	–	260	0.31	0.8	155	0.28	0.8	245	0.31	0.8	–	–	–	–	–	–	–	50	0.16	1.1
PPHE 2000-SM1:8215	☺	–	250	0.31	1.0	150	0.28	1.0	235	0.31	1.0	–	–	–	–	–	–	–	50	0.16	1.3

PPHT

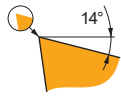


	CDI (mm)	D1 (mm)	INSL (mm)	S (mm)
0800	8.0	2.50	7.0	2.40
1000	10.0	3.00	8.5	2.60
1200	12.0	3.50	10.0	3.00
1600	16.0	4.00	12.0	4.00
2000	20.0	5.00	15.0	5.00
2500	25.0	6.00	18.5	6.00



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



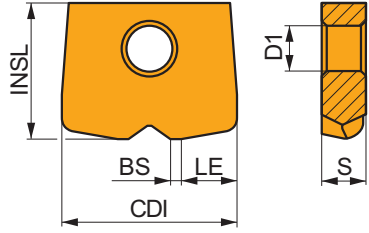
A2 geometry with positive design for light to medium machining.

PPHT 080003-A2:2003	●	0.3	275	0.10	0.3	140	0.09	0.3	260	0.10	0.3	–	–	–	–	–	–	55	0.07	0.3
PPHT 080005-A2:2003	●	0.5	270	0.13	0.3	135	0.12	0.3	255	0.13	0.3	–	–	–	–	–	–	50	0.09	0.5
PPHT 080010-A2:2003	⊕	1.0	315	0.14	0.5	160	0.13	0.5	295	0.14	0.5	–	–	–	–	–	–	60	0.10	1.0
PPHT 100005-A2:2003	●	0.5	270	0.13	0.3	135	0.12	0.3	255	0.13	0.3	–	–	–	–	–	–	50	0.09	0.5
PPHT 100008-A2:2003	⊕	0.8	305	0.14	0.4	155	0.13	0.4	285	0.14	0.4	–	–	–	–	–	–	60	0.10	0.8
PPHT 100010-A2:2003	⊕	1.0	315	0.14	0.5	160	0.13	0.5	295	0.14	0.5	–	–	–	–	–	–	60	0.10	1.0
PPHT 120005-A2:2003	●	0.5	270	0.13	0.3	135	0.12	0.3	255	0.13	0.3	–	–	–	–	–	–	50	0.09	0.5
PPHT 120010-A2:2003	⊕	1.0	315	0.14	0.5	160	0.13	0.5	295	0.14	0.5	–	–	–	–	–	–	60	0.10	1.0
PPHT 120020-A2:2003	⊕	2.0	320	0.14	1.0	160	0.13	1.0	300	0.14	1.0	–	–	–	–	–	–	60	0.10	1.3
PPHT 160010-A2:2003	⊕	1.0	315	0.14	0.5	160	0.13	0.5	295	0.14	0.5	–	–	–	–	–	–	60	0.10	1.0
PPHT 160013-A2:2003	⊕	1.3	300	0.15	0.6	150	0.13	0.6	285	0.15	0.6	–	–	–	–	–	–	60	0.10	1.3
PPHT 160020-A2:2003	⊕	2.0	320	0.14	1.0	160	0.13	1.0	300	0.14	1.0	–	–	–	–	–	–	60	0.10	1.3
PPHT 200010-A2:2003	⊕	1.0	315	0.14	0.5	160	0.13	0.5	295	0.14	0.5	–	–	–	–	–	–	60	0.10	1.0
PPHT 200016-A2:2003	⊕	1.6	310	0.14	0.8	155	0.13	0.8	290	0.14	0.8	–	–	–	–	–	–	60	0.10	1.1
PPHT 200030-A2:2003	⊕	3.0	305	0.14	1.5	155	0.13	1.5	285	0.14	1.5	–	–	–	–	–	–	60	0.10	2.0
PPHT 200040-A2:2003	⊕	4.0	295	0.14	2.0	150	0.13	2.0	280	0.14	2.0	–	–	–	–	–	–	55	0.10	2.7
PPHT 250020-A2:2003	⊕	2.0	320	0.14	1.0	160	0.13	1.0	300	0.14	1.0	–	–	–	–	–	–	60	0.10	1.3

PPHF

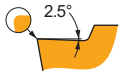


	BS	LE	CDI	D1	INSL	S
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
0800	0.40	2.60	8.0	2.50	7.0	2.40
1000	0.50	3.20	10.0	3.00	8.5	2.60
1200	0.60	3.90	12.0	3.50	10.0	3.00
1600	0.80	5.20	16.0	4.00	12.0	4.00
2000	1.00	6.40	20.0	5.00	15.0	5.00



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap
		(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)



CE1 geometry with strong design for high feed machining.

PPHF 080004-CE1:M8330	●	–	■	200	0.30	0.3	▣	120	0.27	0.3	■	190	0.30	0.3	–	–	–	▣	50	0.27	0.2	▣	40	0.21	0.2
PPHF 100005-CE1:M8330	●	–	■	190	0.35	0.3	▣	110	0.32	0.3	■	180	0.35	0.3	–	–	–	▣	45	0.32	0.2	▣	35	0.25	0.2
PPHF 120006-CE1:M8330	●	–	■	205	0.45	0.4	▣	120	0.41	0.4	■	190	0.45	0.4	–	–	–	▣	50	0.41	0.3	▣	40	0.32	0.3
PPHF 160008-CE1:M8330	●	–	■	190	0.60	0.5	▣	110	0.54	0.5	■	180	0.60	0.5	–	–	–	▣	45	0.54	0.4	▣	35	0.42	0.4
PPHF 200010-CE1:M8330	●	–	■	185	0.75	0.6	▣	110	0.68	0.6	■	175	0.75	0.6	–	–	–	▣	45	0.68	0.5	▣	35	0.53	0.4



a_e DCX	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	PPH 08-CL1	PPH 10-CL1	PPH 12-CL1	PPH 16-CL1	PPH 20-CL1	PPH 25-CL1	PPH 30-CL1	PPH 32-CL1
	4.0	5.0	6.0	8.0	10.0	12.5	15.0	16.0
	-	-	-	-	-	-	-	-

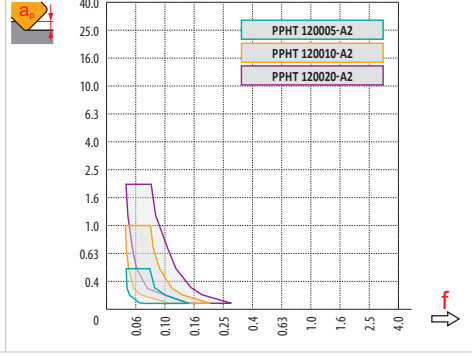
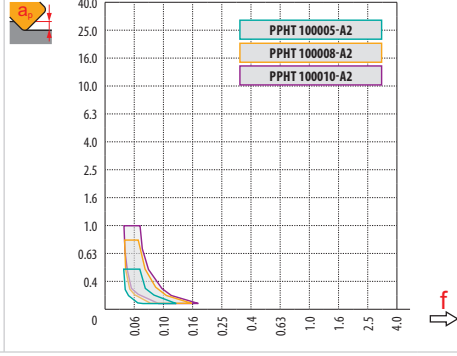
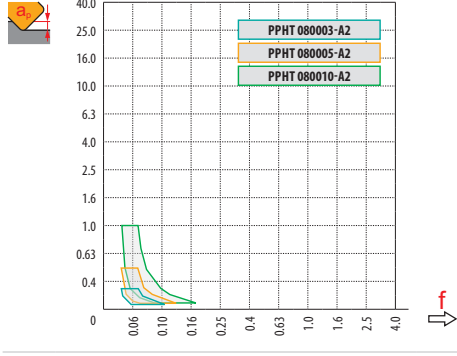
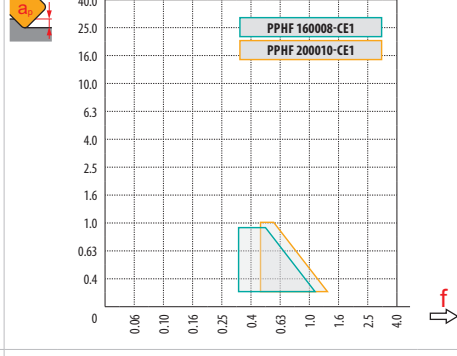
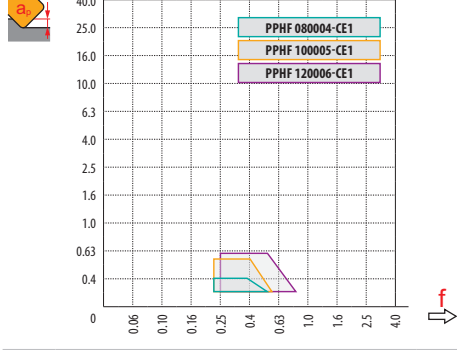
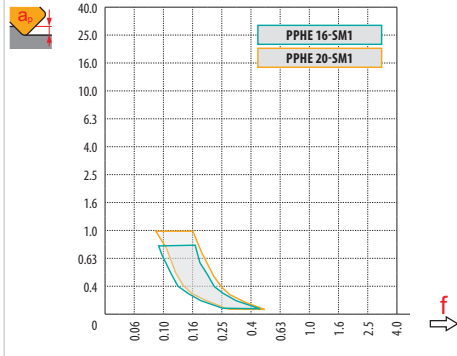
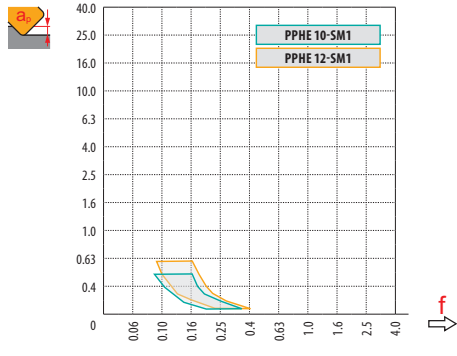
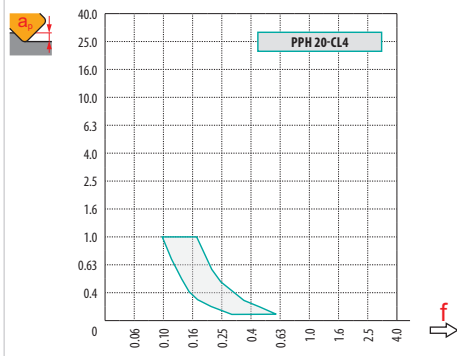
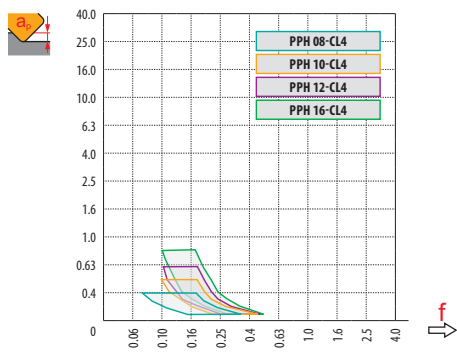
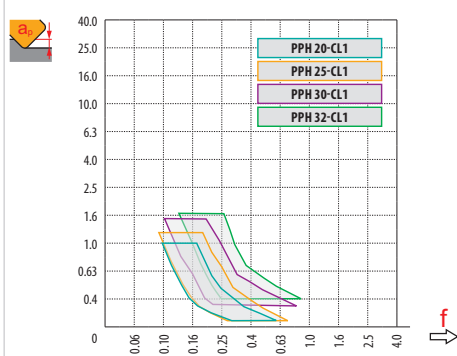
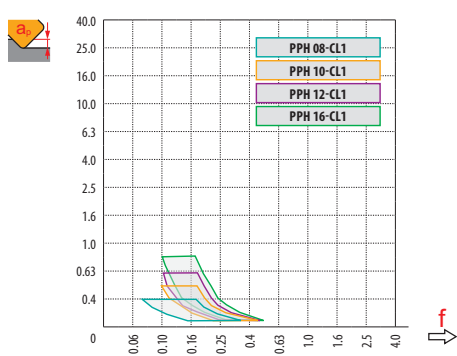
	PPH 08-CL4	PPH 10-CL4	PPH 12-CL4	PPH 16-CL4	PPH 20-CL4
	4.0	5.0	6.0	8.0	10.0
	-	-	-	-	-

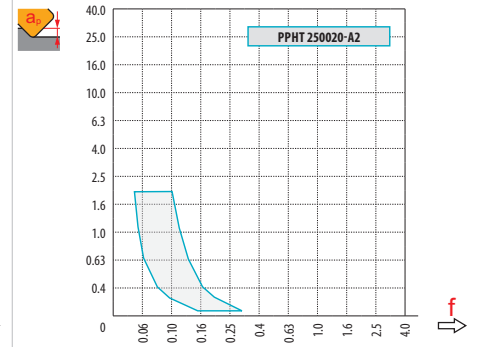
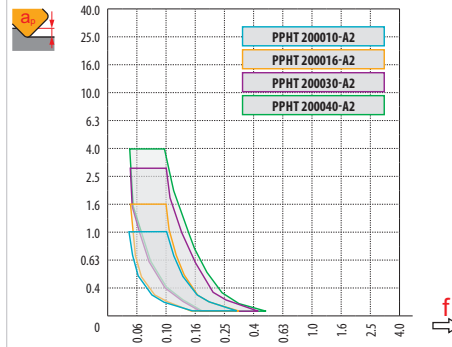
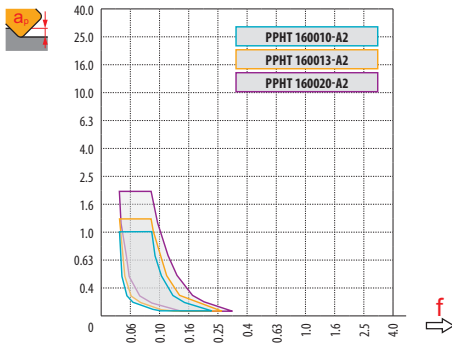
	PPHE 10-SM1	PPHE 12-SM1	PPHE 16-SM1	PPHE 20-SM1
	5.0	6.0	8.0	10.0
	-	-	-	-

	PPHF 08-CE1	PPHF 10-CE1	PPHF 12-CE1	PPHF 16-CE1	PPHF 20-CE1
	0.6	0.8	1.0	1.3	1.6
	0.40	0.50	0.60	0.80	1.00

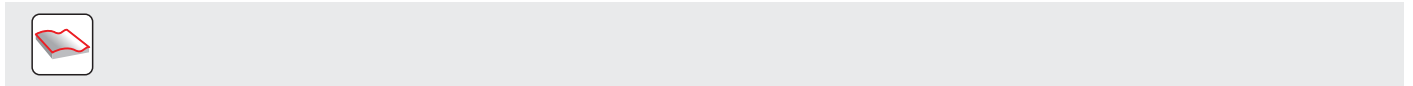
	PPHT 08-A2	PPHT 08-A2	PPHT 08-A2	PPHT 10-A2	PPHT 10-A2	PPHT 10-A2	PPHT 12-A2	PPHT 12-A2	PPHT 12-A2
	0.3	0.5	1.0	0.5	0.8	1.0	0.5	1.0	2.0
	-	-	-	-	-	-	-	-	-

	PPHT 16-A2	PPHT 16-A2	PPHT 16-A2	PPHT 20-A2	PPHT 20-A2	PPHT 20-A2	PPHT 20-A2	PPHT 25-A2
	1.0	1.3	2.0	1.0	1.6	3.0	4.0	2.0
	-	-	-	-	-	-	-	-






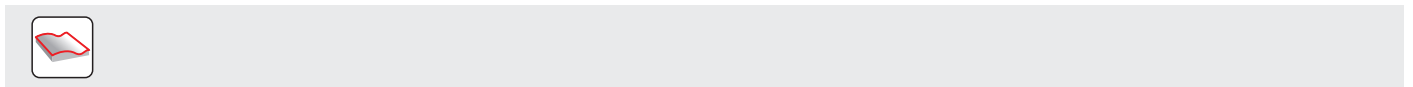





PPH	DCX	DEF	f																	
			0.3	0.4	0.5	0.7	1.0	1.25	1.5	2.0	2.5	3.0	4.0	5.0	6.0	8.0	10.0	12.0	15.0	16.0
PPH 08	8		3.0	3.5	3.9	4.5	5.3	5.8	6.2	6.9	7.4	7.7	8.0	-	-	-	-	-	-	-
PPH 10	10		3.4	3.9	4.4	5.1	6.0	6.6	7.1	8.0	8.7	9.2	9.8	10.0	-	-	-	-	-	-
PPH 12	12		3.7	4.3	4.8	5.6	6.6	7.3	7.9	8.9	9.7	10.4	11.3	11.8	12.0	-	-	-	-	-
PPH 16	16		4.3	5.0	5.6	6.5	7.7	8.6	9.3	10.6	11.6	12.5	13.9	14.8	15.5	16.0	-	-	-	-
PPH 20	20		4.9	5.6	6.2	7.4	8.7	9.7	10.5	12.0	13.2	14.3	16.0	17.3	18.3	19.6	20.0	-	-	-
PPH 25	25		5.4	6.3	7.0	8.2	9.8	10.9	11.9	13.6	15.0	16.2	18.3	20.0	21.4	23.3	24.5	25.0	-	-
PPH 32	32		6.17	7.11	7.94	9.36	11.14	12.40	13.53	15.49	17.18	18.65	21.17	23.24	24.98	27.71	29.66	30.98	31.94	32.00



PPH	DCX	μm	f										
			3	5	10	15	20	30	40	50	60	80	100
PPH 08	8		0.310	0.400	0.566	0.693	0.800	0.980	1.131	1.265	1.386	1.600	1.789
PPH 10	10		0.346	0.447	0.632	0.775	0.894	1.095	1.265	1.414	1.549	1.789	2.000
PPH 12	12		0.379	0.490	0.693	0.849	0.980	1.200	1.386	1.549	1.697	1.960	2.191
PPH 16	16		0.438	0.566	0.800	0.980	1.131	1.386	1.600	1.789	1.960	2.263	2.530
PPH 20	20		0.490	0.632	0.894	1.095	1.265	1.549	1.789	2.000	2.191	2.530	2.828
PPH 25	25		0.548	0.707	1.000	1.225	1.414	1.732	2.000	2.236	2.449	2.828	3.162
PPH 32	32		0.620	0.800	1.131	1.386	1.600	1.960	2.263	2.530	2.771	3.200	3.578

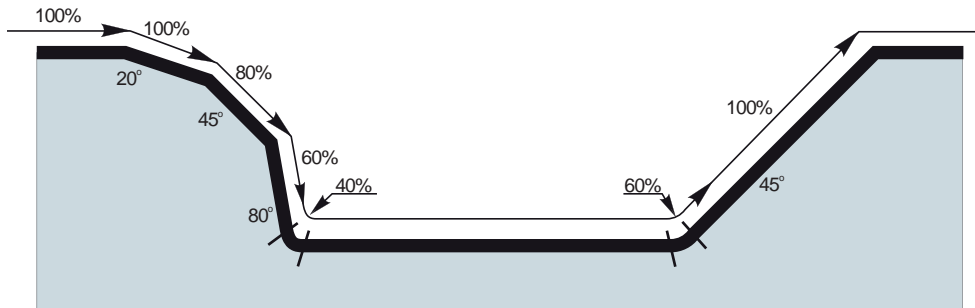
	a_e	1%	2.5%	5%	7.5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	60%	70%	75%	80%	90%	100%
																				
19.9%	1.0%	2.86	1.84	1.33	1.12	1.00	0.89	-	-	-	-	-	-	-	-	-	-	-	-	-
31.2%	2.5%	3.58	2.28	1.64	1.36	1.20	1.01	0.92	0.88	0.91	-	-	-	-	-	-	-	-	-	-
43.6%	5.0%	4.22	2.68	1.92	1.58	1.39	1.16	1.03	0.95	0.90	0.88	0.89	-	-	-	-	-	-	-	-
52.7%	7.5%	4.63	2.95	2.10	1.73	1.51	1.26	1.11	1.02	0.96	0.91	0.89	0.88	0.90	-	-	-	-	-	-
60.0%	10.0%	4.94	3.14	2.24	1.84	1.61	1.33	1.18	1.07	1.00	0.95	0.91	0.89	0.88	1.00	-	-	-	-	-
71.4%	15.0%	5.39	3.42	2.43	2.00	1.74	1.44	1.27	1.15	1.07	1.01	0.96	0.93	0.90	0.88	0.93	-	-	-	-
80.0%	20.0%	5.70	3.62	2.57	2.11	1.84	1.52	1.33	1.21	1.12	1.05	1.00	0.96	0.93	0.89	0.88	0.89	1.00	-	-
86.6%	25.0%	5.93	3.76	2.67	2.20	1.91	1.58	1.38	1.25	1.16	1.08	1.03	0.99	0.95	0.90	0.88	0.88	0.89	-	-
91.7%	30.0%	6.10	3.87	2.75	2.26	1.96	1.62	1.42	1.28	1.18	1.11	1.05	1.01	0.97	0.92	0.89	0.88	0.88	0.93	-
95.4%	35.0%	6.23	3.95	2.80	2.30	2.00	1.65	1.44	1.31	1.20	1.13	1.07	1.02	0.98	0.93	0.89	0.88	0.88	0.90	-
98.0%	40.0%	6.31	4.00	2.84	2.33	2.03	1.67	1.46	1.32	1.22	1.14	1.08	1.03	0.99	0.93	0.90	0.89	0.88	0.89	-
99.5%	45.0%	6.36	4.03	2.86	2.35	2.04	1.68	1.47	1.33	1.23	1.15	1.09	1.04	1.00	0.94	0.90	0.89	0.88	0.88	-
100.0%	50.0%	6.38	4.04	2.87	2.35	2.05	1.69	1.48	1.33	1.23	1.15	1.09	1.04	1.00	0.94	0.90	0.89	0.88	0.88	1.00



			0.0	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.25	1.5	2.0	2.5	3.0	4.0	
PPHT 08-A2	8	0.3	7.4	8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	
		0.5	7.0	7.9	8.0	8.0	-	-	-	-	-	-	-	-	-	-	-	-
		0.8	6.4	7.6	7.8	7.9	7.9	8.0	8.0	-	-	-	-	-	-	-	-	-
		1.0	6.0	7.4	7.6	7.7	7.8	7.9	8.0	8.0	8.0	8.0	-	-	-	-	-	-
PPHT 10-A2	10	0.5	9.0	9.9	10.0	10.0	-	-	-	-	-	-	-	-	-	-	-	
		0.8	8.4	9.6	9.8	9.9	9.9	10.0	10.0	-	-	-	-	-	-	-	-	-
		1.0	8.0	9.4	9.6	9.7	9.8	9.9	10.0	10.0	10.0	-	-	-	-	-	-	-
PPHT 12-A2	12	0.5	11.0	11.9	12.0	12.0	-	-	-	-	-	-	-	-	-	-	-	
		1.0	10.0	11.4	11.6	11.7	11.8	11.9	12.0	12.0	12.0	-	-	-	-	-	-	-
		2.0	8.0	10.1	10.4	10.6	10.9	11.0	11.2	11.3	11.5	11.7	11.9	12.0	-	-	-	-
PPHT 16-A2	16	1.0	14.0	15.4	15.6	15.7	15.8	15.9	16.0	16.0	16.0	-	-	-	-	-	-	
		1.3	13.4	15.1	15.3	15.4	15.6	15.7	15.8	15.9	15.9	16.0	-	-	-	-	-	-
		2.0	12.0	14.1	14.4	14.6	14.9	15.0	15.2	15.3	15.5	15.7	15.9	16.0	-	-	-	-
		3.0	10.0	12.6	13.0	13.3	13.6	13.9	14.1	14.3	14.5	14.9	15.2	15.7	15.9	16.0	-	-
PPHT 20-A2	20	1.0	18.0	19.4	19.6	19.7	19.8	19.9	20.0	20.0	20.0	-	-	-	-	-	-	
		1.6	16.8	18.7	18.9	19.1	19.3	19.4	19.6	19.7	19.8	19.9	20.0	-	-	-	-	-
		3.0	14.0	16.6	17.0	17.3	17.6	17.9	18.1	18.3	18.5	18.9	19.2	19.7	19.9	20.0	-	-
		4.0	12.0	15.0	15.5	15.9	16.2	16.5	16.8	17.1	17.3	17.8	18.2	18.9	19.4	19.7	20.0	-
PPHT 25-A2	25	2.0	21.0	23.1	23.4	23.6	23.9	24.0	24.2	24.3	24.5	24.7	24.9	25.0	-	-	-	
PPHF 08-CE1	8	0.6	2.8	6.0	7.1	-	-	-	-	-	-	-	-	-	-	-	-	
PPHF 10-CE1	10	0.8	3.6	6.8	7.9	9.0	-	-	-	-	-	-	-	-	-	-	-	
PPHF 12-CE1	12	1.0	4.2	7.4	8.5	9.6	10.7	11.8	-	-	-	-	-	-	-	-	-	
PPHF 16-CE1	16	1.3	5.6	8.8	9.9	11.0	12.1	13.2	14.2	15.3	-	-	-	-	-	-	-	
PPHF 20-CE1	20	1.6	7.2	10.4	11.5	12.6	13.7	14.8	15.8	16.9	18.0	-	-	-	-	-	-	
PPHF 25-CE1	25	1.9	9.2	12.4	13.5	14.6	15.7	16.8	17.8	18.9	20.0	22.7	-	-	-	-	-	



	μm	3	5	10	15	20	30	40	50	60	80	100
8		0.310	0.400	0.566	0.693	0.800	0.980	1.131	1.265	1.386	1.600	1.789
10		0.346	0.447	0.632	0.775	0.894	1.095	1.265	1.414	1.549	1.789	2.000
12		0.379	0.490	0.693	0.849	0.980	1.200	1.386	1.549	1.697	1.960	2.191
16		0.438	0.566	0.800	0.980	1.131	1.386	1.600	1.789	1.960	2.263	2.530
20		0.490	0.632	0.894	1.095	1.265	1.549	1.789	2.000	2.191	2.530	2.828
25		0.548	0.707	1.000	1.225	1.414	1.732	2.000	2.236	2.449	2.828	3.162
	μm	3	5	10	15	20	30	40	50	60	80	100
1.3		0.177	0.228	0.322	0.395	0.456	0.559	0.645	0.721	0.790	0.912	1.020
1.6		0.196	0.253	0.358	0.438	0.506	0.620	0.716	0.800	0.876	1.012	1.131
1.9		0.214	0.276	0.390	0.477	0.551	0.675	0.780	0.872	0.955	1.103	1.233
2.0		0.219	0.283	0.400	0.490	0.566	0.693	0.800	0.894	0.980	1.131	1.265
3.0		0.268	0.346	0.490	0.600	0.693	0.849	0.980	1.095	1.200	1.386	1.549
4.0		0.310	0.400	0.566	0.693	0.800	0.980	1.131	1.265	1.386	1.600	1.789



PPHT 08-A2	8	0.3	2.4
PPHT 08-A2		0.5	2.4
PPHT 08-A2		0.8	2.5
PPHT 08-A2		1.0	2.7
PPHT 10-A2	10	0.5	3.2
PPHT 10-A2		0.8	3.3
PPHT 10-A2		1.0	3.4
PPHT 12-A2	12	0.5	4.0
PPHT 12-A2		1.0	4.2
PPHT 12-A2		2.0	4.6
PPHT 16-A2	16	1.0	5.7
PPHT 16-A2		1.3	5.8
PPHT 16-A2		2.0	6.0
PPHT 16-A2		3.0	6.4
PPHT 20-A2	20	1.0	7.2
PPHT 20-A2		1.6	7.4
PPHT 20-A2		3.0	7.8
PPHT 20-A2		4.0	8.2
PPHT 25-A2	25	2.0	9.3

PPHF 08-CE1	8	0.6	2.0
PPHF 10-CE1	10	0.8	2.5
PPHF 12-CE1	12	1.0	3.0
PPHF 16-CE1	16	1.3	4.0
PPHF 20-CE1	20	1.6	5.0
PPHF 25-CE1	25	1.9	6.0



PPHT 08-A2	8	0.3	6.3	1.2/11
PPHT 08-A2		0.5	6.1	1.2/12
PPHT 08-A2		0.8	5.7	1.2/12
PPHT 08-A2		1.0	6.8	1.2/11
PPHT 10-A2	10	0.5	6.9	1.5/13
PPHT 10-A2		0.8	6.6	1.5/13
PPHT 10-A2		1.0	7.5	1.5/12
PPHT 12-A2	12	0.5	7.9	1.8/13
PPHT 12-A2		1.0	7.5	1.8/14
PPHT 12-A2		2.0	9.0	1.8/12
PPHT 16-A2	16	1.0	8.9	2.4/16
PPHT 16-A2		1.3	8.9	2.4/16
PPHT 16-A2		2.0	8.5	2.4/17
PPHT 16-A2		3.0	12.3	2.4/11
PPHT 20-A2	20	1.0	9.3	3/19
PPHT 20-A2		1.6	9.1	3/19
PPHT 20-A2		3.0	8.8	3/20
PPHT 20-A2		4.0	11.4	3/15
PPHT 25-A2	25	2.0	8.3	3.7/26

PPHF 08-CE1	8	0.6	8.0	0.4/3
PPHF 10-CE1	10	0.8	8.0	0.5/4
PPHF 12-CE1	12	1.0	8.0	0.6/5
PPHF 16-CE1	16	1.3	8.0	0.8/6
PPHF 20-CE1	20	1.6	8.0	1.0/8
PPHF 25-CE1	25	1.9	8.0	1.2/9



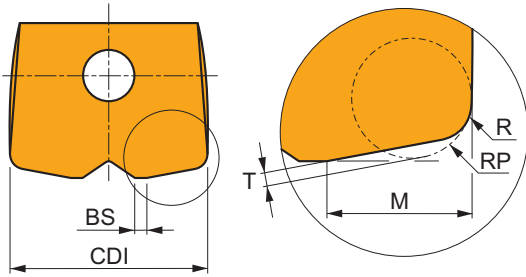
			DMIN	DMAX		
					DMIN	DMAX
PPHT 08-A2	8	0.3	11.0	15.9	0.5	0.5
PPHT 08-A2		0.5	10.9	15.9	0.5	0.5
PPHT 08-A2		0.8	10.7	15.9	0.4	0.4
PPHT 08-A2		1.0	10.3	15.9	0.4	0.4
PPHT 10-A2	10	0.5	13.4	19.9	0.7	0.7
PPHT 10-A2		0.8	13.2	19.9	0.6	0.6
PPHT 10-A2		1.0	12.9	19.9	0.6	0.6
PPHT 12-A2	12	0.5	15.8	23.9	1.0	1.0
PPHT 12-A2		1.0	15.4	23.9	0.8	0.8
PPHT 12-A2		2.0	14.6	23.9	0.7	0.7
PPHT 16-A2	16	1.0	20.4	31.9	1.3	1.3
PPHT 16-A2		1.3	20.2	31.9	1.3	1.3
PPHT 16-A2		2.0	19.7	31.9	1.0	1.0
PPHT 16-A2		3.0	18.9	31.9	1.2	1.2
PPHT 20-A2	20	1.0	25.4	39.9	1.8	1.8
PPHT 20-A2		1.6	24.9	39.9	1.6	1.6
PPHT 20-A2		3.0	24.1	39.9	1.2	1.2
PPHT 20-A2		4.0	23.3	39.9	1.3	1.3
PPHT 25-A2	25	2.0	31.1	49.9	1.8	1.8

			DMIN	DMAX		
					DMIN	DMAX
PPHF 08-CE1	8	0.6	10.0	14.7	0.40	0.40
PPHF 10-CE1	10	0.8	13.0	18.4	0.50	0.50
PPHF 12-CE1	12	1.0	15.7	22.0	0.60	0.60
PPHF 16-CE1	16	1.3	20.9	29.4	0.80	0.80
PPHF 20-CE1	20	1.6	26.2	36.7	1.00	1.00
PPHF 25-CE1	25	1.9	33.0	46.1	1.20	1.20



PPHT 08-A2	8	0.3	0.52
PPHT 08-A2		0.5	0.47
PPHT 08-A2		0.8	0.39
PPHT 08-A2		1.0	0.40
PPHT 10-A2	10	0.5	0.69
PPHT 10-A2		0.8	0.61
PPHT 10-A2		1.0	0.62
PPHT 12-A2	12	0.5	0.97
PPHT 12-A2		1.0	0.79
PPHT 12-A2		2.0	0.68
PPHT 16-A2	16	1.0	1.33
PPHT 16-A2		1.3	1.26
PPHT 16-A2		2.0	1.03
PPHT 16-A2		3.0	1.15
PPHT 20-A2	20	1.0	1.80
PPHT 20-A2		1.6	1.59
PPHT 20-A2		3.0	1.21
PPHT 20-A2		4.0	1.27
PPHT 25-A2	25	2.0	1.83

PPHF 08-CE1	8	0.6	0.40
PPHF 10-CE1	10	0.8	0.50
PPHF 12-CE1	12	1.0	0.60
PPHF 16-CE1	16	1.3	0.80
PPHF 20-CE1	20	1.6	1.00
PPHF 25-CE1	25	1.9	1.20



	R	RP	M	T
08	0.6	1.0	2.6	0.3
10	0.8	1.2	3.2	0.4
12	1.0	1.5	3.9	0.4
16	1.3	2.0	5.2	0.6
20	1.6	2.5	6.4	0.7
25	1.9	3.0	7.9	0.9



Overhang (multiple of diameter DCX)	< 3.0	3.0 – 3.5	3.6 – 4.0	4.1 – 4.5	> 4.6
Multiplication factor for speed	1.0	0.9	0.8	0.7	0.5

K3-CXP



PRAMET

C

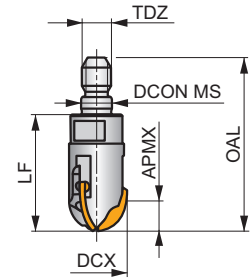
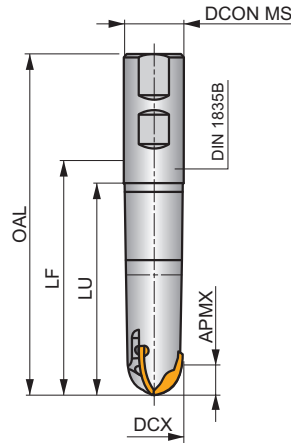
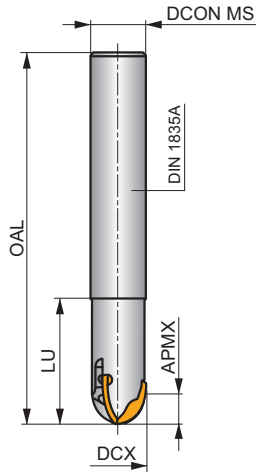
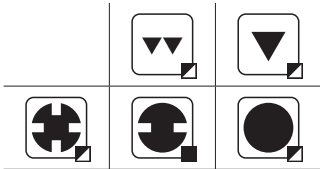
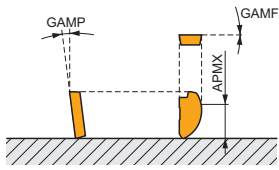


MULTISIDE XP Profile Milling Cutter

Ball nose milling cutter utilising XP.. style inserts with APMX from 8 up to 16 mm. Unique clamping enables use of three inserts. Available in cylindrical and modular style. . Body treated for longer tool life.

MULTISIDE XP

APMX	8.0 - 16.0 mm
------	---------------



h_m 0.05 - 0.19



Product	DCX (mm)	OAL (mm)	DCON MS (mm)	LU (mm)	LUX (mm)	LF (mm)	TDZ	APMX (mm)	GAMF (°)	GAMP (°)						
16K3R050A16-CXP16	16	200	16	50	-	-	-	8.00	0	-5	3	-	22600	-	0.35	GI267 C0520
16K3R050A20-CXP16	16	200	20	50	-	-	-	8.00	0	-5	3	-	22600	-	0.50	GI267 C0520
20K3R050A20-CXP20	20	200	20	50	-	-	-	10.00	0	-5	3	-	20000	-	0.52	GI268 C0521
20K3R060A25-CXP20	20	250	25	60	-	-	-	10.00	0	-5	3	-	20000	-	0.92	GI268 C0521
25K3R060A25-CXP25	25	250	25	60	-	-	-	12.50	0	-5	3	-	20000	-	0.96	GI269 C0522
32K3R080A32-CXP32	32	250	32	80	-	-	-	16.00	0	-5	3	-	15000	-	1.50	GI270 C0523
16K3R060B20-CXP16	16	111	20	60	-	86.5	-	8.00	0	-5	3	-	22600	-	0.23	GI267 C0520
20K3R070B25-CXP20	20	127	25	70	-	95.5	-	10.00	0	-5	3	-	20000	-	0.41	GI268 C0521
25K3R080B25-CXP25	25	137	25	80	-	105	-	12.50	0	-5	3	-	20000	-	0.49	GI269 C0522
16K3R035M10-CXP16	16	-	10.5	-	-	35	M10	8.00	0	-5	3	-	-	-	0.07	GI267 C0520
20K3R040M10-CXP20	20	-	10.5	-	-	40	M10	10.00	0	-5	3	-	-	-	0.07	GI268 C0521
25K3R045M12-CXP25	25	-	12.5	-	-	45	M12	12.50	0	-5	3	-	-	-	0.16	GI269 C0522

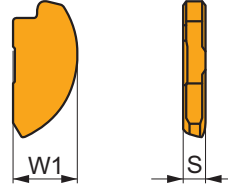
GI267		XP 16..
GI268		XP 20..
GI269		XP 25..
GI270		XP 32..

C0520	US 63009-T09P	1.2	M 3	9	Flag T09P
C0521	US 63513-T15P	3.0	M 3.5	13	Flag T15P
C0522	US 64014-T15P	3.5	M 4	14	Flag T15P
C0523	US 65017-T20P	5.0	M 5	17	Flag T20P

XP



	W1 (mm)	S (mm)
16	16.000	2.00
20	20.000	2.50
25	25.000	3.17
32	32.000	4.00



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)

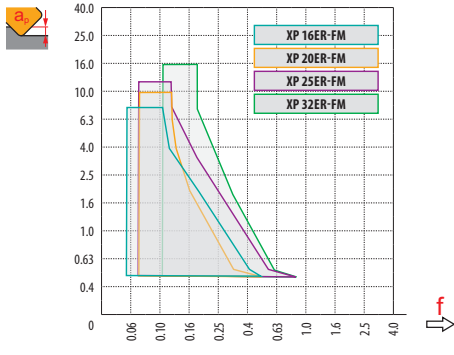


FM geometry with neutral design for light machining.

XP 16ER-FM:M8310	☹	–	■	285	0.27	0.8	☑	145	0.24	0.8	■	270	0.27	0.8	–	–	–	–	–	–	■	55	0.19	0.8	
XP 20ER-FM:M8330	☹	–	■	260	0.27	1.0	☑	155	0.24	1.0	■	245	0.27	1.0	–	–	–	☑	65	0.19	1.0	☑	50	0.19	1.0
XP 20ER-FM:M8345	☹	–	■	190	0.27	1.0	☑	110	0.24	1.0	–	–	–	–	–	–	–	☑	45	0.19	1.0	–	–	–	
XP 25ER-FM:M8310	☹	–	■	270	0.27	1.3	☑	135	0.24	1.3	■	255	0.27	1.3	–	–	–	–	–	–	■	50	0.19	1.3	
XP 32ER-FM:M8345	☹	–	■	180	0.27	1.6	☑	105	0.24	1.6	–	–	–	–	–	–	–	☑	45	0.19	1.6	–	–	–	

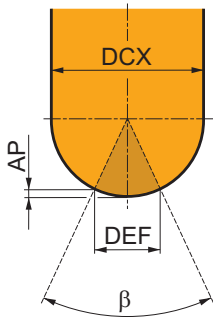


	XP 16-FM	XP 20-FM	XP 25-FM	XP 32-FM
	8.0	10.0	12.5	16.0
	-	-	-	-



		0.3	0.4	0.5	0.7	1.0	1.25	1.5	2.0	2.5	3.0	4.0	5.0	6.0	8.0	10.0	12.0	15.0	
16		4.3	5.0	5.6	6.5	7.7	8.6	9.3	10.6	11.6	12.5	13.9	14.8	15.5	16.0	-	-	-	
20		4.9	5.6	6.2	7.4	8.7	9.7	10.5	12.0	13.2	14.3	16.0	17.3	18.3	19.6	20.0	-	-	
25		5.4	6.3	7.0	8.2	9.8	10.9	11.9	13.6	15.0	16.2	18.3	20.0	21.4	23.3	24.5	25.0	-	-
32		6.2	7.1	7.9	9.4	11.1	12.4	13.5	15.5	17.2	18.7	21.2	23.2	25.0	27.7	29.7	31.2	31.9	-

Effective area for 1 tool cutting edge.

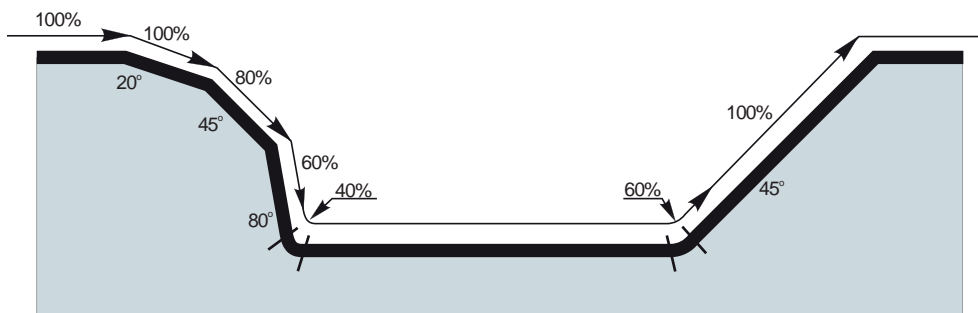


	β		AP
16	41°	5.568	0.51
20	37°	6.314	0.52
25	37°	7.901	0.65
32	37°	10.122	0.83



	μm	3	5	10	15	20	30	40	50	60	80	100
16		0.438	0.566	0.800	0.980	1.131	1.386	1.600	1.789	1.960	2.263	2.530
20		0.490	0.632	0.894	1.095	1.265	1.549	1.789	2.000	2.191	2.530	2.828
25		0.548	0.707	1.000	1.225	1.414	1.732	2.000	2.236	2.449	2.828	3.162
32		0.620	0.800	1.131	1.386	1.600	1.960	2.263	2.530	2.771	3.200	3.578



















DEF	a _e	1.0 %	2.5 %	5.0 %	7.5 %	10 %	15 %	20 %	25 %	30 %	35 %	40 %	45 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %		
19.9 %	1.0 %	2.86	1.84	1.33	1.12	1.00	0.89	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31.2 %	2.5 %	3.58	2.28	1.64	1.36	1.20	1.01	0.92	0.88	0.91	-	-	-	-	-	-	-	-	-	-	-	-
43.6 %	5.0 %	4.22	2.68	1.92	1.58	1.39	1.16	1.03	0.95	0.90	0.88	0.89	-	-	-	-	-	-	-	-	-	-
52.7 %	7.5 %	4.63	2.95	2.10	1.73	1.51	1.26	1.11	1.02	0.96	0.91	0.89	0.88	0.90	-	-	-	-	-	-	-	-
60.0 %	10.0 %	4.94	3.14	2.24	1.84	1.61	1.33	1.18	1.07	1.00	0.95	0.91	0.89	0.88	1.00	-	-	-	-	-	-	-
71.4 %	15.0 %	5.39	3.42	2.43	2.00	1.74	1.44	1.27	1.15	1.07	1.01	0.96	0.93	0.90	0.88	0.93	-	-	-	-	-	-
80.0 %	20.0 %	5.70	3.62	2.57	2.11	1.84	1.52	1.33	1.21	1.12	1.05	1.00	0.96	0.93	0.89	0.88	0.89	1.00	-	-	-	-
86.6 %	25.0 %	5.93	3.76	2.67	2.20	1.91	1.58	1.38	1.25	1.16	1.08	1.03	0.99	0.95	0.90	0.88	0.88	0.89	-	-	-	-
91.7 %	30.0 %	6.10	3.87	2.75	2.26	1.96	1.62	1.42	1.28	1.18	1.11	1.05	1.01	0.97	0.92	0.89	0.88	0.88	0.93	-	-	-
95.4 %	35.0 %	6.23	3.95	2.80	2.30	2.00	1.65	1.44	1.31	1.20	1.13	1.07	1.02	0.98	0.93	0.89	0.88	0.88	0.90	-	-	-
98.0 %	40.0 %	6.31	4.00	2.84	2.33	2.03	1.67	1.46	1.32	1.22	1.14	1.08	1.03	0.99	0.93	0.90	0.89	0.88	0.88	0.89	-	-
99.5 %	45.0 %	6.36	4.03	2.86	2.35	2.04	1.68	1.47	1.33	1.23	1.15	1.09	1.04	1.00	0.94	0.90	0.89	0.88	0.88	-	-	-
100.0 %	50.0 %	6.38	4.04	2.87	2.35	2.05	1.69	1.48	1.33	1.23	1.15	1.09	1.04	1.00	0.94	0.90	0.89	0.88	0.88	1.00	-	-



Overhang (multiple of diameter DCX)	< 3.0	3.1 – 4.0	4.1 – 6.0	> 6.1
Multiplication factor for speed	1.0	0.9	0.7	0.5

PROFILE MILLING – NAVIGATOR

PROFILE MILLING – BULL NOSE

	SVC22C		SCN05C		SWN04C				
	90°		90° (93°)		90° (93°)				
	APMX (mm)	3.0 (16.0)	APMX (mm)	0.5 (1.0)	APMX (mm)	0.5 (2.0)			
	DC (mm)	32 – 80	DC (mm)	12 – 20	DC (mm)	16 – 35			
Cylindrical shank		DC = 32, 40 (mm)		DC = 12 – 20 (mm)		DC = 16 – 32 (mm)			
Weldon									
Modular		DC = 32, 40 (mm)		DC = 12 – 20 (mm)		DC = 16 – 35 (mm)			
Shell mill		DC = 50 – 80 (mm)							
Page	240		243		246				
ISO		N	P	K	H	P	K	H	
Insert shape									
Inserts	VCGT 220530		CN.. 0502		WN.. 0403				
No. of cutting edges	2		4		6				
Shape surfaces milling (copy milling) 			■		■				
Face milling 			■		■				
Helical interpolation 	■								
Progressive plunging 	■								
Ramping 	▣		■		■				
Shallow slot milling 	▣								
Deep shoulder milling 	▣		■		■				
Plunge milling 			■		■				

SVC22C

N

PRAMET

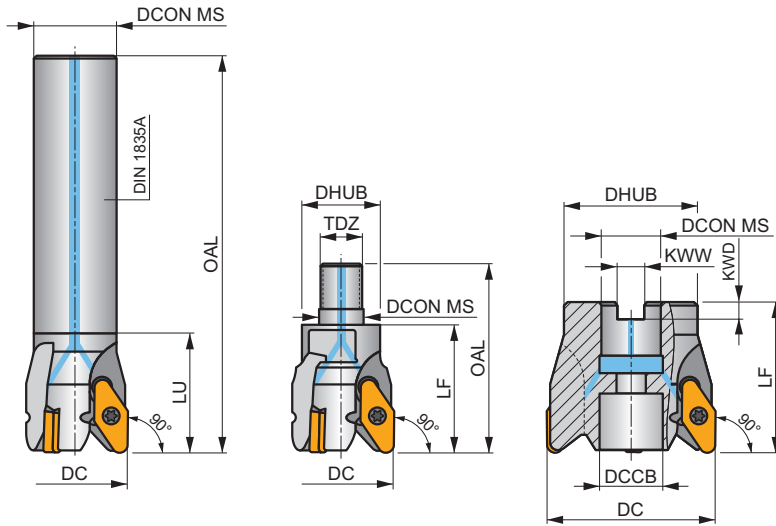
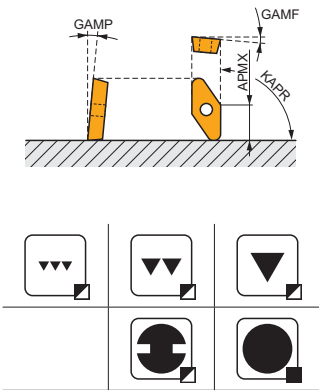
S



Milling Cutters for Machining Non ferrous materials with Internal Coolant

Highly productive cutter for aluminium and non ferrous material utilising VCGT 22 inserts with APMX of 16 mm. Internal coolant. Suitable for face, progressive plunge, shoulder, ramping and slot milling. Available in cylindrical, modular and arbor style. Body treated for longer tool life.

KAPR	90°
APMX	3.0 (16.0) mm



	0.03 - 0.5					
	0.03 - 0.55					

Product	DC	OAL	D CON MS	DCCB	LU	LF	DHUB	TDZ	KWW	KWD	GAMF	GAMP	max.		kg	C0560 C0562 C0563		
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)						
32A2R045A25-SVC22C	32	120	25	-	45	-	-	-	-	-	4	3	-	10400	✓	0.46	GI141 C0560	
40A3R045A32-SVC22C	40	150	32	-	45	-	-	-	-	-	8	3	-	9300	✓	0.91	GI141 C0560	
32A2R048M16-SVC22C	32	71	17	-	-	48	29	M16	-	-	11	3	2	-	✓	0.17	GI141 C0560	
40A3R048M16-SVC22C	40	71	17	-	-	48	29	M16	-	-	13	3	3	-	✓	0.24	GI141 C0560	
50A03R-S90VC22C	50	-	22	18	-	56	40	-	10	6.3	4	3	3	-	8400	✓	0.42	GI141 C0563
63A04R-S90VC22C	63	-	22	18	-	56	50	-	10	6.3	6	3	4	-	7400	✓	0.68	GI141 C0563
80A05R-S90VC22C	80	-	27	20	-	56	63	-	12	7	8	3	5	-	6600	✓	1.12	GI141 C0562

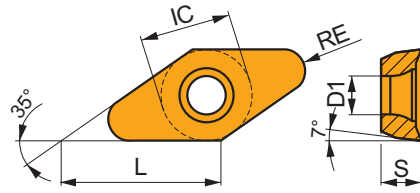
	GI141		VCGT 220530F-FA
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C0560	US 4511-T20	5.0	M 4.5	11	-	-	Flag T20
C0562	US 4511-T20	5.0	M 4.5	11	SDR T20-T	-	-
C0563	US 4511-T20	5.0	M 4.5	11	SDR T20-T	HS 1030C	-

VCGT 22-FA

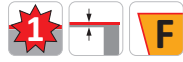
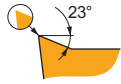


	IC	D1	L	S
	(mm)	(mm)	(mm)	(mm)
2205	12.700	5.20	22.00	5.50



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



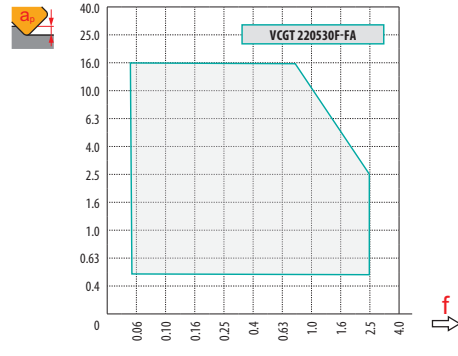
FA geometry with highly positive design for medium to rough machining.

VCGT 220515F-FA:HF7	● 1.5	–	–	–	–	–	–	–	–	–	■ 255	0.24	0.4	–	–	–	–	–	–
VCGT 220520F-FA:HF7	● 2.0	–	–	–	–	–	–	–	–	–	■ 255	0.30	0.5	–	–	–	–	–	–
VCGT 220530F-FA:HF7	● 3.0	–	–	–	–	–	–	–	–	–	■ 210	0.48	1.0	–	–	–	–	–	–



a_e / DC	5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	90%	100%
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

VCGT 22-FA			
	1.5	2.0	3.0
	-	-	-



a_e	0.5	3.0	12.0
f	0.86	0.31	0.05

DC	RPMX	APMX/II
32	8.0	12.0/87
40	8.0	12.0/87
50	6.0	10.4/100
63	4.2	7.2/100
80	3.1	5.3/100

DC	DMIN	DMAX	SMAX DMIN	SMAX DMAX
32	42.0	64.0	4.2	12.0
40	58.0	80.0	7.7	12.0
50	78.0	100.0	9.0	12.0
63	104.0	126.0	9.3	12.0
80	138.0	160.0	9.7	12.0

a_e	9
f	

DC	μm	3	5	10	15	20	30	40	50	60	80	100
32		0.620	0.800	1.131	1.386	1.600	1.960	2.263	2.530	2.771	3.200	3.578
40		0.693	0.894	1.265	1.549	1.789	2.191	2.530	2.828	3.098	3.578	4.000
50		0.775	1.000	1.414	1.732	2.000	2.449	2.828	3.162	3.464	4.000	4.472
63		0.869	1.122	1.587	1.944	2.245	2.750	3.175	3.550	3.888	4.490	5.020
80		0.980	1.265	1.789	2.191	2.530	3.098	3.578	4.000	4.382	5.060	5.657
RE	μm	3	5	10	15	20	30	40	50	60	80	100
3.0		0.268	0.346	0.490	0.600	0.693	0.849	0.980	1.095	1.200	1.386	1.549

SCN05C

P **K** **H**

PRAMET

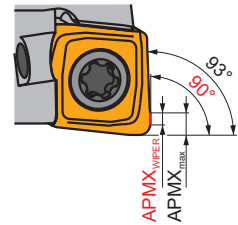
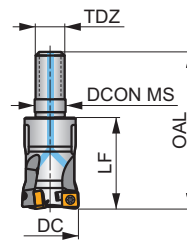
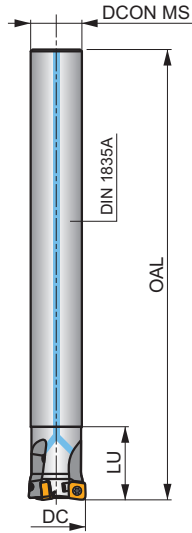
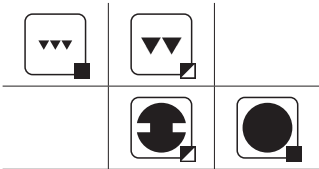
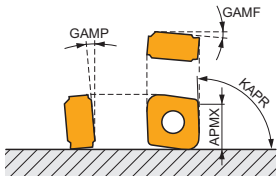
S



End Mills for Die & Mold Applications with Internal Coolant

End mill for a wide range of applications in the finishing area for Die & Mold with APMX of 0.5 mm. High precision ground double-sided CNHX 05 inserts with 4 cutting edges provide high accuracy and economy. Available in cylindrical and modular style. Body treated for longer tool life.

KAPR	90° (93°)
APMX	0.5 (1.0 mm)



h_m 0.02 - 0.07



Product	DC	OAL	DCON MS	LU	LF	TDZ	GAMF	GAMP						
	(mm)	(mm)	(mm)	(mm)	(mm)		(°)	(°)						
12A2R020A10-SCN05C-C	12	100	10	20	-	-	-15	-8	2	-	48700	✓	0.08	G330 C0601
16A3R020A14-SCN05C-C	16	130	14	20	-	-	-13.5	-7.8	3	-	42200	✓	0.16	G330 C0601
20A5R020A18-SCN05C-C	20	160	18	20	-	-	-12.7	-7.5	5	✓	37700	✓	0.31	G330 C0601
12A2R020M06-SCN05C-C	12	35	6.5	-	20	M6	-15	-8	2	-	-	✓	0.04	G330 C0601
16A3R025M08-SCN05C-C	16	43	8.5	-	25	M8	-13.5	-7.8	3	-	-	✓	0.05	G330 C0601
20A5R030M10-SCN05C-C	20	49	10.5	-	30	M10	-12.7	-7.5	5	✓	-	✓	0.08	G330 C0601

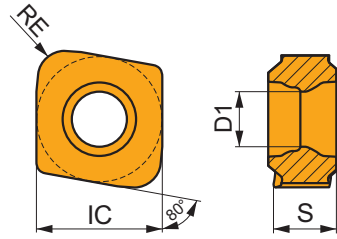
G330	CNHX0502..

C0601	US 62005-T06P	0.9	M2	4.9	Flag T06P

CNHX 05

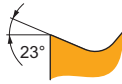
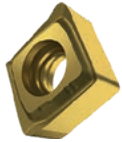


	IC	D1	S
	(mm)	(mm)	(mm)
0502	4.800	2.10	2.40



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



WM geometry with wiper design for semi-finish to finish machining.

CNHX 050205ER-WM:M4310	●	0.5	350	0.10	0.5	—	—	—	335	0.10	0.5	—	—	—	—	—	—	70	0.10	0.5
CNHX 050205ER-WM:M8330	⊕	0.5	310	0.10	0.5	—	—	—	290	0.10	0.5	—	—	—	—	—	—	60	0.10	0.5
CNHX 050210ER-WM:M4310	⊕	1.0	440	0.10	0.5	—	—	—	420	0.10	0.5	—	—	—	—	—	—	85	0.10	0.5
CNHX 050210ER-WM:M8330	⊕	1.0	390	0.10	0.5	—	—	—	370	0.10	0.5	—	—	—	—	—	—	75	0.10	0.5

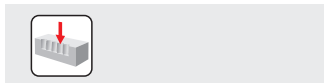
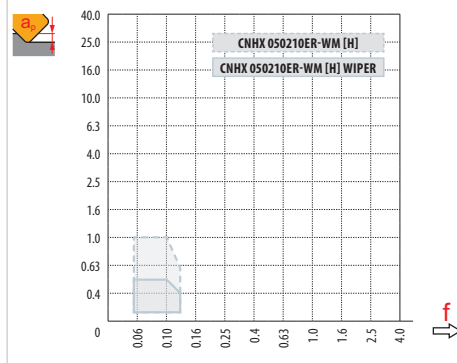
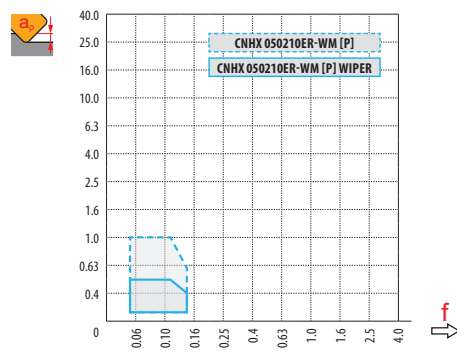


a_e / DC	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
$X.V$	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00

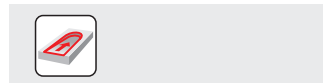


a_e / DC	0.5 %	1.0 %	2.0 %	3.0 %	4.0 %	5.0 %
$X.V$	2.04	1.85	1.68	1.59	1.53	1.48

CNHX 05-WM	
RE	0.5 1.0
BS	0.50 0.50



DC	max
12	0.4
16	0.4
20	0.5



DC	RPMX	APMX/I
12	2.4	1/25
16	1.5	1/40
20	1.1	1/54

SWN04C

P **K** **H**

PRAMET

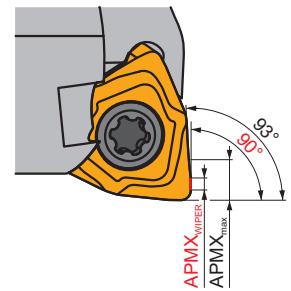
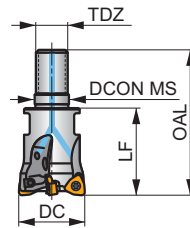
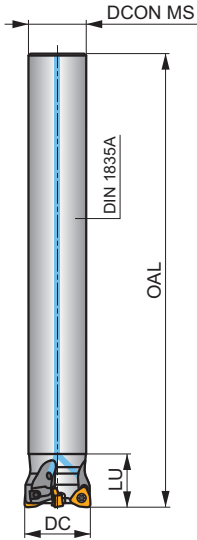
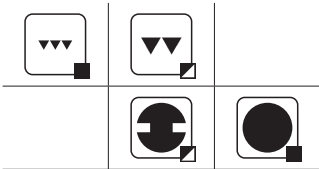
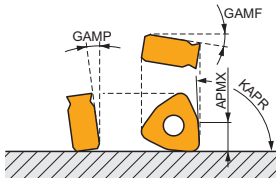
S



End Mills for Die & Mold Applications with Internal Coolant

End mill for a wide range of applications in the finishing area for Die & Mold with APMX of 0.5 mm. High precision ground WNHX 04 inserts with 6 cutting edges, provide high accuracy and economy. Available in cylindrical and modular style. Body treated for longer tool life.

KAPR	90° (93°)
APMX	0.5 (2.0 mm)



h_m 0.02 - 0.07



Product	DC (mm)	OAL (mm)	DCON MS (mm)	LU (mm)	LF (mm)	TDZ	GAMF (°)	GAMP (°)					kg		
16A2R020A14-SWN04C-C	16	140	14	20	-	-	-13.5	-8	2	-	33200	✓	0.14	GI331	C0602
20A3R020A18-SWN04C-C	20	160	18	20	-	-	-12	-8	3	-	19700	✓	0.27	GI331	C0602
25A4R020A22-SWN04C-C	25	180	22	20	-	-	-11.5	-8	4	✓	26600	✓	0.45	GI331	C0602
32A6R020A25-SWN04C-C	32	200	25	20	-	-	-11.2	-8	6	✓	23500	✓	0.69	GI331	C0602
16A2R025M08-SWN04C-C	16	43	8.5	-	25	M08	-13.5	-8	2	-	33200	✓	0.05	GI331	C0602
20A3R030M10-SWN04C-C	20	49	10.5	-	30	M10	-12	-8	3	-	-	✓	0.07	GI331	C0602
25A4R033M12-SWN04C-C	25	55	12.5	-	33	M12	-11.5	-8	4	✓	-	✓	0.10	GI331	C0602
32A6R040M16-SWN04C-C	32	63	17	-	40	M16	-11.2	-8	6	✓	-	✓	0.21	GI331	C0602
35A6R043M16-SWN04C-C	35	66	17	-	43	M16	-11.1	-8	6	✓	-	✓	0.22	GI331	C0602

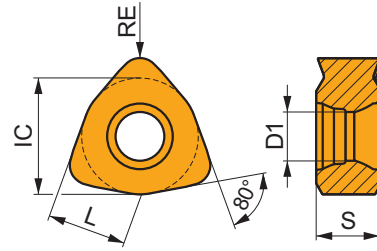
	GI331		WNHX0403..
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	C0602		US 42507-T07P		1.2		M 2.5		7		Flag T07P
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WNHX 04

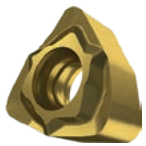


	IC	D1	S
	(mm)	(mm)	(mm)
0403	6.200	2.60	3.38



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



WM geometry with wiper design for semi-finish to finish machining.

WNHX 040305ER-WM:M4310	●	0.5	✓	290	0.15	1.0	–	–	–	■	275	0.15	1.0	–	–	–	–	–	–	■	55	0.10	0.7
WNHX 040305ER-WM:M8330	●	0.5	■	260	0.15	1.0	–	–	–	■	245	0.15	1.0	–	–	–	–	–	–	■	50	0.10	0.7
WNHX 040310ER-WM:M4310	●	1.0	✓	370	0.15	1.0	–	–	–	■	350	0.15	1.0	–	–	–	–	–	–	■	70	0.10	0.7
WNHX 040310ER-WM:M8330	●	1.0	■	330	0.15	1.0	–	–	–	■	310	0.15	1.0	–	–	–	–	–	–	■	65	0.10	0.7
WNHX 040315ER-WM:M4310	●	1.5	✓	390	0.15	1.0	–	–	–	■	370	0.15	1.0	–	–	–	–	–	–	■	75	0.10	0.7
WNHX 040315ER-WM:M8330	●	1.5	■	345	0.15	1.0	–	–	–	■	325	0.15	1.0	–	–	–	–	–	–	■	65	0.10	0.7

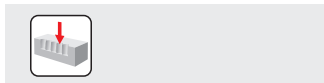
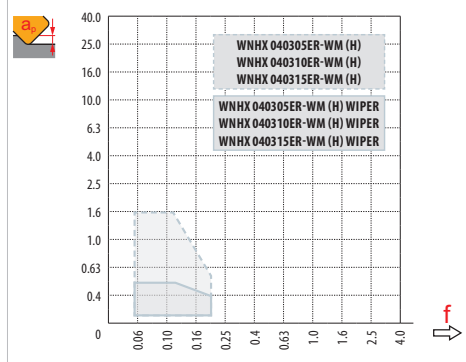
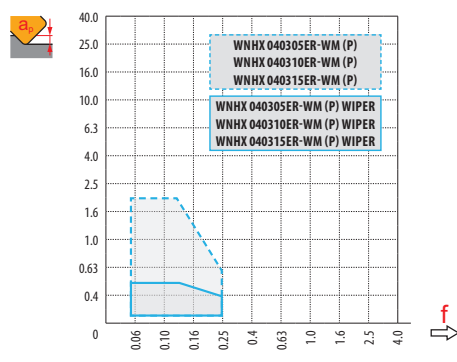


a_e / DC	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
$x.v$	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00

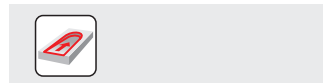


a_e / DC	0.5 %	1.0 %	2.0 %	3.0 %	4.0 %	5.0 %
$x.v$	2.04	1.85	1.68	1.59	1.53	1.48

	WNHX 04-WM		
RE	0.5	1.0	1.5
BS	0.50	0.50	0.50



DC	max
16	
20	0.4
25	0.5
32	0.5
35	0.5



















DC	RPMX	APMX/I
16		
20	0.7	1.1/100
25	0.5	0.75/100
32	0.3	0.4/100
35	0.3	0.4/100



HIGH FEED MILLING

HIGH FEED MILLING – NAVIGATOR

HIGH FEED MILLING – NEGATIVE INSERTS

	SBN10		SSN11				
	20°		18°				
	APMX (mm)	1.0	APMX (mm)	1.7			
	DCX (mm)	16 – 66	DCX (mm)	32 – 125			
Cylindrical shank		DCX = 16 – 35 (mm)		DCX = 32, 35 (mm)			
Weldon							
Modular		DCX = 16 – 40 (mm)		DCX = 32 – 40 (mm)			
Shell mill		DCX = 40 – 66 (mm)		DCX = 40 – 125 (mm)			
Page	📖 252		📖 258				
ISO	P M K S H		P M K S H				
Insert shape							
Inserts	BNGX 10T3 ANHX 10T3		SNGX 1104				
No. of cutting edges	4 / 2		8				
Face milling		■	■				
Helical interpolation		■	▣				
Shallow shoulder milling		■	■				
Plunge milling		■	■				
Progressive plunging		■	▣				
Ramping		■	▣				
Shape surfaces milling (copy milling)		■	■				
Shallow slot milling		▣	▣				

SBN10



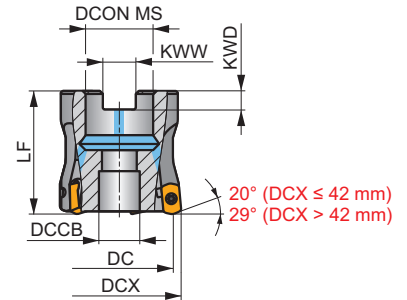
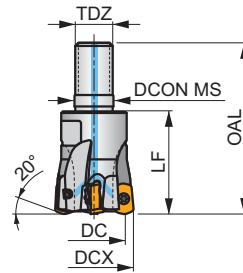
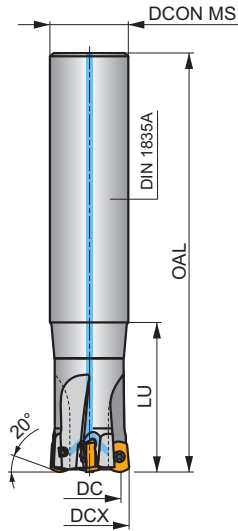
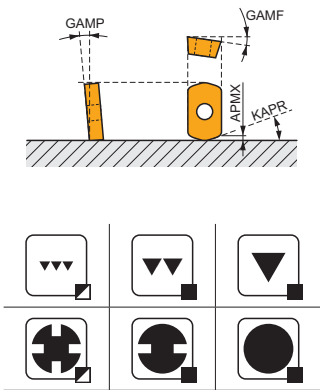
PRAMET



High Feed Milling Cutter for BN.. 10 inserts with Internal Coolant

High-feed milling cutter for smaller diameters utilizing double-sided BNGX 10 inserts with four cutting edges and APMX of 1 mm. Internal coolant. Suitable for a wide range of applications. Available in cylindrical, modular and arbor style. Body treated for longer tool life.

KAPR	20° (29°)
APMX	1.0 mm



	0.17 - 0.41
	0.17 - 0.41



Product	DCX	DC	OAL	DCON MS	DCCB	LU	LF	TDZ	KWW	KWD	KAPR	GAMF	GAMP				kg		
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)	(°)	max.					
16E2R030A16-SBN10-C	16	9.4	100	16	-	30	-	-	-	-	20	-12	-10	2	✓	31100	✓	0.13	GI329 C0310
16E2R050A16-SBN10-C	16	9.4	150	16	-	50	-	-	-	-	20	-12	-10	2	-	31100	✓	0.18	GI329 C0310
16E2R030A14-SBN10-C	16	9.4	150	14	-	30	-	-	-	-	20	-12	-10	2	-	31100	✓	0.18	GI329 C0310
18E2R030A16-SBN10-C	18	11.4	150	16	-	30	-	-	-	-	20	-11	-10	2	-	29200	✓	0.23	GI329 C0310
20E3R040A20-SBN10-C	20	13.4	130	20	-	40	-	-	-	-	20	-10	-10	3	-	27700	✓	0.25	GI329 C0310
20E3R080A20-SBN10-C	20	13.4	160	20	-	80	-	-	-	-	20	-10	-10	3	-	27700	✓	0.29	GI329 C0310
20E3R040A18-SBN10-C	20	13.4	180	18	-	40	-	-	-	-	20	-10	-10	3	-	27700	✓	0.29	GI329 C0310
20E4R040A20-SBN10-C	20	13.4	130	20	-	40	-	-	-	-	20	-10	-10	4	-	27700	✓	0.28	GI329 C0310
25E4R050A25-SBN10-C	25	18.4	140	25	-	50	-	-	-	-	20	-9	-10	4	✓	24800	✓	0.42	GI329 C0310
25E4R100A25-SBN10-C	25	18.4	180	25	-	100	-	-	-	-	20	-9	-10	4	✓	24800	✓	0.51	GI329 C0310
25E4R050A22-SBN10-C	25	18.4	220	22	-	50	-	-	-	-	20	-9	-10	4	✓	24800	✓	0.58	GI329 C0310
25E5R050A25-SBN10-C	25	18.4	140	25	-	50	-	-	-	-	20	-9	-10	5	-	24800	✓	0.42	GI329 C0310
32E5R070A32-SBN10-C	32	25.4	150	32	-	70	-	-	-	-	20	-8	-10	5	✓	21900	✓	0.73	GI329 C0310
32E6R070A32-SBN10-C	32	25.4	150	32	-	70	-	-	-	-	20	-8	-10	6	✓	21900	✓	0.76	GI329 C0310
32E5R120A32-SBN10-C	32	25.4	200	32	-	120	-	-	-	-	20	-8	-10	5	✓	21900	✓	0.96	GI329 C0310
35E5R050A32-SBN10-C	35	28.4	200	32	-	50	-	-	-	-	20	-7.5	-10	5	✓	21000	✓	1.08	GI329 C0310
35E6R050A32-SBN10-C	35	28.4	200	32	-	50	-	-	-	-	20	-7.5	-10	6	✓	21000	✓	1.08	GI329 C0310
16E2R025M08-SBN10-C	16	9.4	43	8.5	-	25	M8	-	-	-	20	-12	-10	2	-	31100	✓	0.05	GI329 C0310
18E2R025M08-SBN10-C	18	11.4	43	8.5	-	25	M8	-	-	-	20	-11	-10	2	-	29200	✓	0.05	GI329 C0310
20E3R030M10-SBN10-C	20	13.4	49	10.5	-	30	M10	-	-	-	20	-10	-10	3	-	27700	✓	0.07	GI329 C0310
20E4R030M10-SBN10-C	20	13.4	49	10.5	-	30	M10	-	-	-	20	-10	-10	4	-	27700	✓	0.06	GI329 C0310
25E4R033M12-SBN10-C	25	18.4	55	12.5	-	33	M12	-	-	-	20	-9	-10	4	✓	24800	✓	0.08	GI329 C0310
25E5R033M12-SBN10-C	25	18.4	55	12.5	-	33	M12	-	-	-	20	-9	-10	5	-	24800	✓	0.10	GI329 C0310
28E5R035M12-SBN10-C	28	21.4	57	12.5	-	35	M12	-	-	-	20	-8.5	-10	5	✓	23400	✓	0.12	GI329 C0310
32E5R040M16-SBN10-C	32	25.4	63	17	-	40	M16	-	-	-	20	-8	-10	5	✓	21900	✓	0.21	GI329 C0310
32E6R040M16-SBN10-C	32	25.4	63	17	-	40	M16	-	-	-	20	-8	-10	6	✓	21900	✓	0.21	GI329 C0310
35E6R043M16-SBN10-C	35	28.4	66	17	-	43	M16	-	-	-	20	-7.5	-10	6	✓	21000	✓	0.23	GI329 C0310

Product	DCX	DC	OAL	D CONIMS	DCCB	LU	LF	TDZ	KWW	KWD	KAPR	GAMF	GAMP							
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)	(°)							
40E6R043M16-SBN10-C	40	33.4	66	17	-	-	43	M16	-	-	20	-7	-10	6	✓	19600	✓	0.27	GI329	C0310
40E7R043M16-SBN10-C	40	33.4	66	17	-	-	43	M16	-	-	20	-7	-10	7	✓	19600	✓	0.26	GI329	C0310
40A05R-SMOBN10-C	40	33.4	-	16	14.1	-	40	-	8.4	5.6	20	-7	-10	5	✓	19600	✓	0.23	GI329	C0312
40A07R-SMOBN10-C	40	33.4	-	16	14.1	-	40	-	8.4	5.6	20	-7	-10	7	✓	19600	✓	0.27	GI329	C0312
42A05R-SMOBN10-C	42	35.4	-	16	14.1	-	40	-	8.4	5.6	20	-7	-10	5	✓	19100	✓	0.23	GI329	C0312
42A07R-SMOBN10-C	42	35.4	-	16	14.1	-	40	-	8.4	5.6	20	-7	-10	7	✓	19100	✓	0.36	GI329	C0312
50A07R-SMOBN10-C	50	45	-	22	18.1	-	40	-	10.4	6.3	29	-6	-7	7	✓	17500	✓	0.46	GI343	C0311
50A08R-SMOBN10-C	50	45	-	22	18.1	-	40	-	10.4	6.3	29	-6	-7	8	✓	17500	✓	0.34	GI343	C0311
52A07R-SMOBN10-C	52	47	-	22	18.1	-	40	-	10.4	6.3	29	-6	-7	7	✓	17200	✓	0.49	GI343	C0311
52A08R-SMOBN10-C	52	47	-	22	18.1	-	40	-	10.4	6.3	29	-6	-7	8	✓	17200	✓	0.37	GI343	C0311
66A08R-SMOBN10-C	66	61	-	27	22.1	-	50	-	12.4	7	29	-6	-7	8	✓	15200	✓	0.89	GI343	C0313

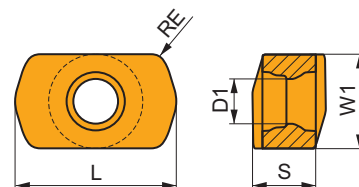
GI329		BNGX 10T3...	ANHX 10T3..
GI343		BNGX 10T3...	-

C0310	US 42507-T07P	1.2	M 2.5	7	Flag T07P	-	-	-	-
C0313	US 42507-T07P	1.2	M 2.5	7	-	D-T07P/T09P	FG-15	HS 1230C	-
C0312	US 42507-T07P	1.2	M 2.5	7	-	D-T07P/T09P	FG-15	HS 0830C	-
C0311	US 42507-T07P	1.2	M 2.5	7	-	D-T07P/T09P	FG-15	HS 1030C	-

BNGX 10

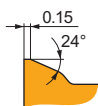


	W1	D1	L	S
	(mm)	(mm)	(mm)	(mm)
10T3	5.800	2.76	9.92	3.90



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap
		(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)

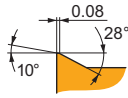


M geometry with positive design for high feed machining.

BNGX 10T308SR-M:8215	0.8	240	0.65	0.7	-	-	-	225	0.65	0.7	-	-	-	-	-	-	45	0.36	0.5
BNGX 10T308SR-M:M6330	0.8	210	0.65	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BNGX 10T308SR-M:M8310	0.8	250	0.65	0.7	-	-	-	235	0.65	0.7	-	-	-	-	-	-	50	0.36	0.5
BNGX 10T308SR-M:M8330	0.8	240	0.65	0.7	-	-	-	225	0.65	0.7	-	-	-	-	-	-	45	0.36	0.5
BNGX 10T308SR-M:M8340	0.8	225	0.65	0.7	-	-	-	210	0.65	0.7	-	-	-	-	-	-	-	-	-
BNGX 10T308SR-M:M8345	0.8	180	0.65	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BNGX 10T308SR-M:M9325	0.8	275	0.65	0.7	-	-	-	260	0.65	0.7	-	-	-	-	-	-	55	0.36	0.5

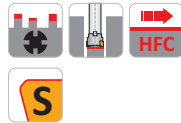
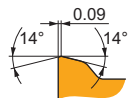
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



MM geometry with highly positive design for high feed machining.

BNGX 10T308SR-MM:M6330	0.8	215	0.65	0.6	150	0.59	0.6	-	-	-	-	-	-	60	0.46	0.5	-	-	-
BNGX 10T308SR-MM:M8310	0.8	255	0.65	0.6	130	0.59	0.6	-	-	-	-	-	-	-	-	-	-	-	-
BNGX 10T308SR-MM:M8330	0.8	245	0.65	0.6	145	0.59	0.6	-	-	-	-	-	-	60	0.46	0.5	-	-	-
BNGX 10T308SR-MM:M8340	0.8	230	0.65	0.6	135	0.59	0.6	-	-	-	-	-	-	55	0.46	0.5	-	-	-
BNGX 10T308SR-MM:M8345	0.8	180	0.65	0.6	105	0.59	0.6	-	-	-	-	-	-	45	0.46	0.5	-	-	-
BNGX 10T308SR-MM:M9325	0.8	280	0.65	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BNGX 10T308SR-MM:M9340	0.8	250	0.65	0.6	150	0.59	0.6	-	-	-	-	-	-	60	0.46	0.5	-	-	-



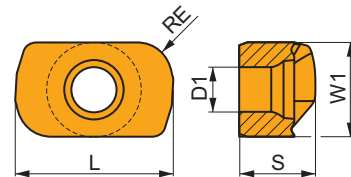
HM geometry with strong design for high feed machining.

BNGX 10T308SR-HM:8215	0.8	-	-	-	-	-	-	240	0.65	0.4	-	-	-	-	-	-	50	0.65	0.4
BNGX 10T308SR-HM:M8310	0.8	-	-	-	-	-	-	250	0.65	0.4	-	-	-	-	-	-	50	0.65	0.4
BNGX 10T308SR-HM:M8330	0.8	-	-	-	-	-	-	240	0.65	0.4	-	-	-	-	-	-	50	0.65	0.4

ANHX 10

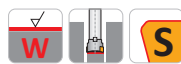
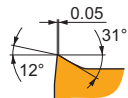
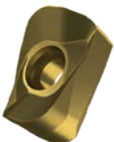


	W1 (mm)	D1 (mm)	L (mm)	S (mm)
10T3	5.800	2.76	9.72	4.70



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



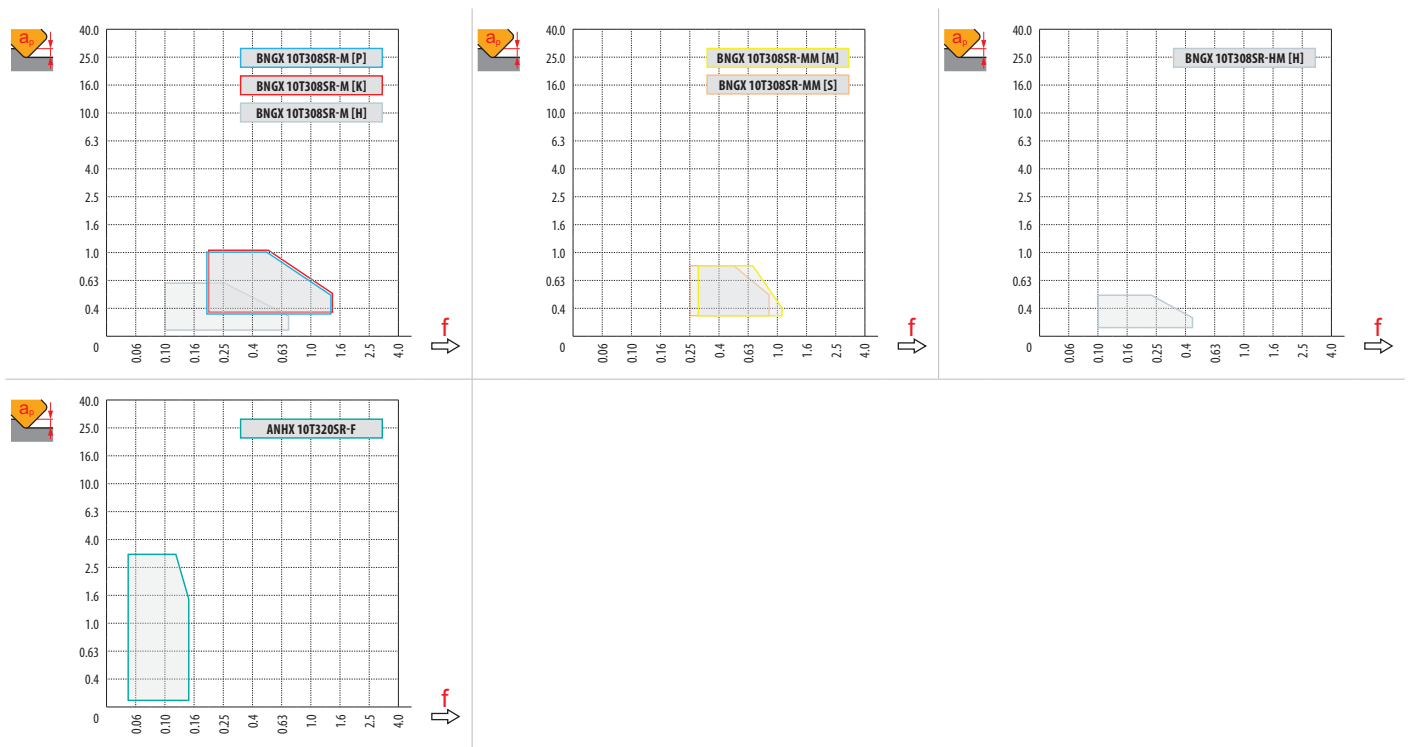
F geometry with positive design for finish and semi-finish machining.

ANHX 10T320SR-F:M8310	2.0	380	0.10	2.5	190	0.09	2.5	-	-	-	-	-	-	-	-	-	-	-	-
ANHX 10T320SR-F:M8330	2.0	340	0.10	2.5	200	0.09	2.5	-	-	-	-	-	-	-	-	-	-	-	-



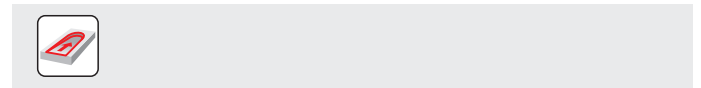
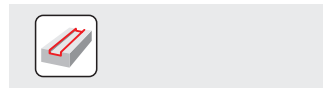
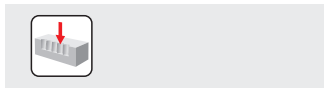
a_e / DCX	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	BNGX 10-M	BNGX 10-MM	BNGX 10-HM		ANHX 10-F
	0.8	0.8	0.8		2.0
	-	-	-		0.92



BNGX 10 (HFC)

		0.00	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00
16		9.40	12.85	13.36	13.80	14.20	14.56	14.88	15.19	15.47
18		11.40	14.85	15.36	15.80	16.20	16.56	16.88	17.19	17.47
20		13.40	16.85	17.36	17.80	18.20	18.56	18.88	19.19	19.47
25		18.40	21.85	22.36	22.80	23.20	23.56	23.88	24.19	24.47
32		25.40	28.85	29.36	29.80	30.20	30.56	30.88	31.19	31.47
35		28.40	31.85	32.36	32.80	33.20	33.56	33.88	34.19	34.47
40		33.40	36.85	37.36	37.80	38.20	38.56	38.88	39.19	39.47
42		35.40	38.85	39.36	39.80	40.20	40.56	40.88	41.19	41.47
50		43.98	46.09	46.45	46.82	47.18	47.54	47.90	48.26	48.56
52		45.98	48.09	48.45	48.82	49.18	49.54	49.90	50.26	50.56
66		59.98	62.09	62.45	62.82	63.18	63.54	63.90	64.26	64.56
		0.00	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00
		–	1.30	1.10	0.90	0.80	0.72	0.68	0.65	0.50



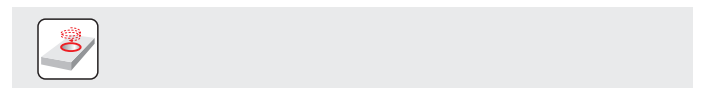
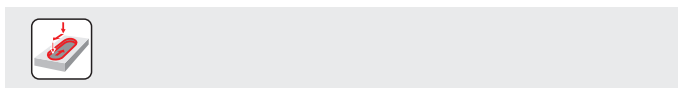
BNGX 10

		f_{max}
16	3.5	0.12
18	3.5	0.12
20	4.0	0.15
25	4.0	0.15
32	4.0	0.17
35	4.0	0.17
40	4.0	0.17
42	4.0	0.17
50	4.5	0.30
52	4.5	0.30
66	4.5	0.30

BNGX 10 (HFC)

	0.3	0.6	1.0
	1.10	0.60	0.30

	BNGX 10 (HFC)		ANHX 10	
	RPMX	APMX/I	RPMX	APMX/I
16	3.8	1/17	1.6°	2.65/100
18	3.8	1/17	1.3°	2.15/100
20	3.8	1/17	1.1°	1.80/100
25	2.6	1/24	0.8°	1.25/100
32	1.8	1/33	0.5°	0.75/100
35	1.6	1/37	0.5°	0.75/100
40	1.3	1/46	0.4°	0.55/100
42	1.3	1/46	0.4°	0.55/100
50	0.4	0.55/100	–	–
52	0.4	0.55/100	–	–
66	0.3	0.4/100	–	–



BNGX 10 (HFC)

		f_{max}
16	0.4	0.15
18	0.7	0.15
20	0.7	0.15
25	0.7	0.15
32	0.7	0.2
35	0.7	0.2
40	0.7	0.2
42	0.7	0.2
50	0.3	0.2
52	0.3	0.2
66	0.3	0.2

BNGX 10 (HFC)

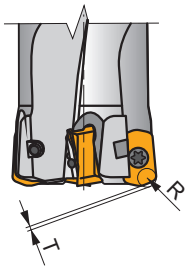
	DMIN	DMAX		
16	22.4	31.8	0.5	0.5
18	25.4	35.8	0.5	0.5
20	29.4	39.8	0.5	0.5
25	39.4	49.8	0.5	0.5
32	53.4	63.8	0.5	0.5
35	59.4	69.8	0.5	0.5
40	69.4	79.8	0.5	0.5
42	73.4	83.8	0.5	0.5
50	89.6	99.6	0.5	0.5
52	93.6	103.6	0.5	0.5
66	121.6	131.6	0.5	0.5



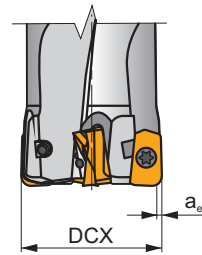
	μm	3	5	10	15	20	30	40	50	60	80	100
16		0.438	0.566	0.800	0.980	1.131	1.386	1.600	1.789	1.960	2.263	2.530
18		0.465	0.600	0.849	1.039	1.200	1.470	1.697	1.897	2.078	2.400	2.683
20		0.490	0.632	0.894	1.095	1.265	1.549	1.789	2.000	2.191	2.530	2.828
25		0.548	0.707	1.000	1.225	1.414	1.732	2.000	2.236	2.449	2.828	3.162
32		0.620	0.800	1.131	1.386	1.600	1.960	2.263	2.530	2.771	3.200	3.578
35		0.648	0.837	1.183	1.449	1.673	2.049	2.366	2.646	2.898	3.347	3.742
40		0.693	0.894	1.265	1.549	1.789	2.191	2.530	2.828	3.098	3.578	4.000
42		0.710	0.917	1.296	1.587	1.833	2.245	2.592	2.898	3.175	3.666	4.099

ANHX 10

	μm	3	5	10	15	20	30	40	50	60	80	100
2.0		0.219	0.283	0.400	0.490	0.566	0.693	0.800	0.894	0.980	1.131	1.265



	R	T
BNGX 10T308	1.60	0.44



	max a _e /DCX
ANHX 10T320	0.05

SSN11



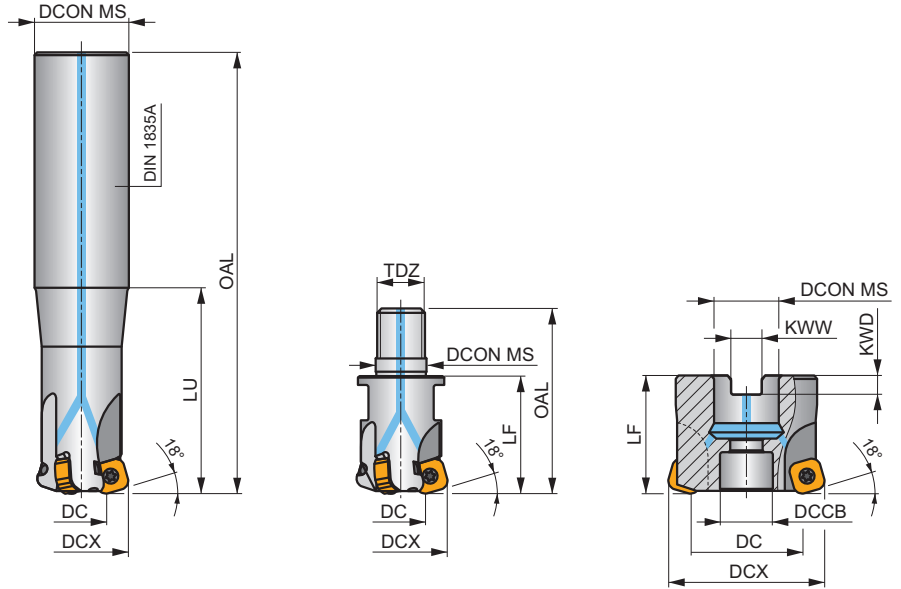
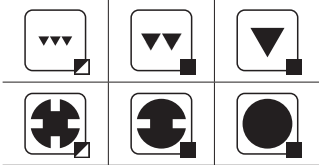
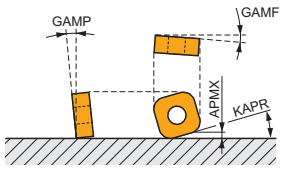
PRAMET



High Feed Milling Cutter for SN.. 11 inserts with Internal Coolant

High-feed milling cutter for bigger diameters utilizing double-sided SNXG 11 inserts with eight cutting edges and APMX of 1.7 mm. Internal coolant. Suitable for a wide range of applications. Available in cylindrical, modular and arbor style. Body treated for longer tool life.

KAPR	18°
APMX	1.7 mm



Product	DCX	DC	OAL	DCON MS	DCCB	LU	LF	TDZ	KWW	KWD	GAMP	GAMP				kg				
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)								
32E3R070A32-SSN11-C	32	18.3	150	32	-	70	-	-	-	-11.5	-10	3	-	17500	✓	0.69	GI339	C0314	-	
32E3R120A32-SSN11-C	32	18.3	200	32	-	120	-	-	-	-11.5	-10	3	-	17500	✓	0.89	GI339	C0314	-	
35E3R050A32-SSN11-C	35	21.2	200	32	-	50	-	-	-	-11	-10	3	-	16800	✓	1.08	GI339	C0314	-	
32E3R040M16-SSN11-C	32	18.3	63	17	-	40	M16	-	-	-11.5	-10	3	-	17500	✓	0.19	GI339	C0314	-	
35E3R040M16-SSN11-C	35	21.2	63	17	-	40	M16	-	-	-11	-10	3	-	16800	✓	0.19	GI339	C0314	-	
40E4R043M16-SSN11-C	40	26.2	66	17	-	43	M16	-	-	-10.5	-10	4	✓	15700	✓	0.26	GI339	C0314	-	
40A04R-SMOSN11-C	40	26.2	-	16	12.4	-	40	-	8.4	5.6	-10.5	-10	4	✓	15700	✓	0.19	GI339	C0316	-
42A04R-SMOSN11-C	42	28.2	-	16	14.1	-	40	-	8.4	5.6	-10.5	-10	4	✓	15300	✓	0.21	GI339	C0318	-
50A05R-SMOSN11-C	50	36.1	-	22	18.1	-	40	-	10.4	6.3	-10	-10	5	✓	14000	✓	0.31	GI339	C0320	-
50A06R-SMOSN11-C	50	36.1	-	22	18.1	-	40	-	10.4	6.3	-10	-10	6	✓	14000	✓	0.43	GI339	C0320	-
52A05R-SMOSN11-C	52	38.1	-	22	18.1	-	40	-	10.4	6.3	-10	-10	5	✓	13800	✓	0.47	GI339	C0320	-
52A06R-SMOSN11-C	52	38.1	-	22	18.1	-	40	-	10.4	6.3	-10	-10	6	✓	13800	✓	0.46	GI339	C0320	-
63A06R-SMOSN11-C	63	49.1	-	22	18.1	-	40	-	10.4	6.3	-10	-10	6	✓	12500	✓	0.46	GI339	C0320	-
63A08R-SMOSN11-C	63	49.1	-	22	18.1	-	40	-	10.4	6.3	-10	-10	8	✓	12500	✓	0.60	GI339	C0320	-
66A06R-SMOSN11-C	66	52.1	-	27	18.1	-	50	-	12.4	7	-10	-10	6	✓	12200	✓	0.88	GI339	C0322	-
66A08R-SMOSN11-C	66	52.1	-	27	18.1	-	50	-	12.4	7	-10	-10	8	✓	12200	✓	0.88	GI339	C0322	-
80A07R-SMOSN11-C	80	66.1	-	27	38.1	-	50	-	12.4	7	-10	-10	7	✓	11100	✓	0.95	GI339	C0324 AC001	
80A09R-SMOSN11-C	80	66.1	-	27	38.1	-	50	-	12.4	7	-10	-10	9	✓	11100	✓	1.03	GI339	C0324 AC001	
100A08R-SMOSN11-C	100	86.1	-	32	45.1	-	50	-	14.4	8	-10	-10	8	✓	9900	✓	1.83	GI339	C0324 AC002	
115A08R-SMOSN11-C	115	101.1	-	32	45.1	-	50	-	14.4	8	-10	-10	8	✓	9200	✓	2.30	GI339	C0324 AC002	
125A08R-SMOSN11-C	125	111.1	-	40	56.1	-	63	-	16.4	9	-10	-10	8	✓	8900	✓	3.34	GI339	C0324 AC003	

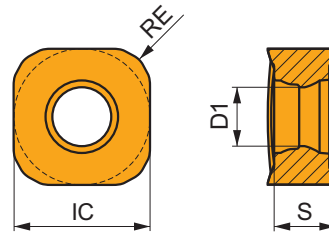
C0314	US 44012-T15P	3.5	M 4	12	–	–	–	Flag T15P	–
C0316	US 44012-T15P	3.5	M 4	12	D-T08P/T15P	FG-15	–	–	HCS 0840C
C0318	US 44012-T15P	3.5	M 4	12	D-T08P/T15P	FG-15	–	–	HS 90835
C0320	US 44012-T15P	3.5	M 4	12	D-T08P/T15P	FG-15	–	–	HS 1030C
C0322	US 44012-T15P	3.5	M 4	12	D-T08P/T15P	FG-15	–	–	HS 1230C
C0324	US 44012-T15P	3.5	M 4	12	D-T08P/T15P	FG-15	–	–	–

AC001		KS 1230		K.FMH27
AC002		KS 1635		K.FMH32
AC003		KS 2040		K.FMH40

SNGX 11

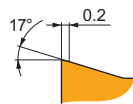


	IC	D1	S
	(mm)	(mm)	(mm)
1104	10.600	4.56	4.76



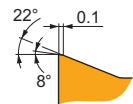
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



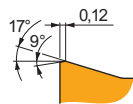
M geometry with positive design for high feed machining.

SNGX 110416SR-M:8215	1.6	260	0.60	1.0	–	–	–	245	0.60	1.0	–	–	–	–	–	–	–	–	–
SNGX 110416SR-M:M8310	1.6	275	0.60	1.0	–	–	–	260	0.60	1.0	–	–	–	–	–	–	–	–	–
SNGX 110416SR-M:M8330	1.6	260	0.60	1.0	–	–	–	245	0.60	1.0	–	–	–	–	–	–	–	–	–
SNGX 110416SR-M:M8340	1.6	245	0.60	1.0	–	–	–	230	0.60	1.0	–	–	–	–	–	–	–	–	–
SNGX 110416SR-M:M9325	1.6	305	0.60	1.0	–	–	–	285	0.60	1.0	–	–	–	–	–	–	–	–	–
SNGX 110416SR-M:M9340	1.6	270	0.60	1.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–



MM geometry with highly positive design for high feed machining.

SNGX 110416SR-MM:M6330	1.6	175	0.60	1.0	125	0.54	1.0	–	–	–	–	–	–	50	0.42	0.8	–	–	–
SNGX 110416SR-MM:M8340	1.6	190	0.60	1.0	110	0.54	1.0	–	–	–	–	–	–	45	0.42	0.8	–	–	–
SNGX 110416SR-MM:M8345	1.6	150	0.60	1.0	90	0.54	1.0	–	–	–	–	–	–	35	0.42	0.8	–	–	–
SNGX 110416SR-MM:M9340	1.6	210	0.60	1.0	125	0.54	1.0	–	–	–	–	–	–	50	0.42	0.8	–	–	–

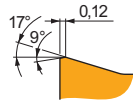
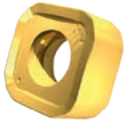


HM geometry with strong design for high feed machining.

SNGX 110416SR-HM:8215	1.6	230	1.00	1.0	–	–	–	215	1.00	1.0	–	–	–	–	–	–	45	0.70	0.7
SNGX 110416SR-HM:M8310	1.6	240	1.00	1.0	–	–	–	225	1.00	1.0	–	–	–	–	–	–	45	0.70	0.7

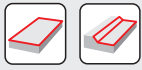
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



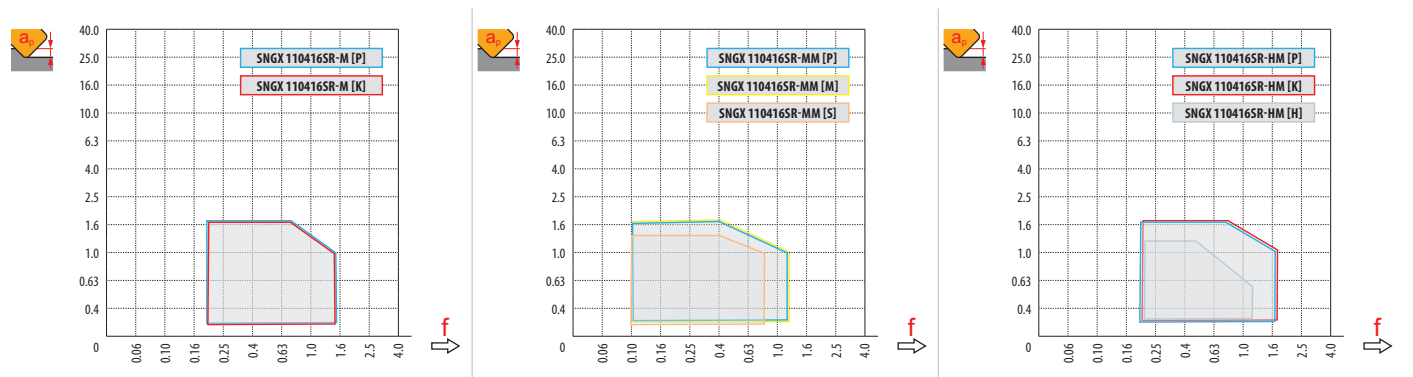
HM geometry with strong design for high feed machining.

SNGX 110416SR-HM:M8330	1.6	235	1.00	1.0	-	-	-	220	1.00	1.0	-	-	-	-	-	-	45	0.70	0.7
SNGX 110416SR-HM:M9325	1.6	260	1.00	1.0	-	-	-	245	1.00	1.0	-	-	-	-	-	-	50	0.70	0.7



a_e / DCX	5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	90%	100%
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	SNGX 11 - M	SNGX 11 - MM	SNGX 11 - HM
	1.6	1.6	1.6
	-	-	-



HFC														
DCX	a_e	0.00	0.20	0.40	0.60	0.80	1.00	1.10	1.20	1.30	1.40	1.50	1.60	1.70
32		18.30	19.53	20.76	21.99	23.22	24.46	25.07	25.69	26.30	26.92	27.53	28.15	28.76
35		21.20	22.43	23.66	24.89	26.12	27.36	27.97	28.59	29.20	29.82	30.43	31.05	31.66
40		26.20	27.43	28.66	29.89	31.12	32.36	32.97	33.59	34.20	34.82	35.43	36.05	36.66
42		28.20	29.43	30.66	31.89	33.12	34.36	34.97	35.59	36.20	36.82	37.43	38.05	38.66
50		36.10	37.33	38.56	39.79	41.02	42.26	42.87	43.49	44.10	44.72	45.33	45.95	46.56
52		38.10	39.33	40.56	41.79	43.02	44.26	44.87	45.49	46.10	46.72	47.33	47.95	48.56
63		49.10	50.33	51.56	52.79	54.02	55.26	55.87	56.49	57.10	57.72	58.33	58.95	59.56
66		52.10	53.33	54.56	55.79	57.02	58.26	58.87	59.49	60.10	60.72	61.33	61.95	62.56
80		66.10	67.33	68.56	69.79	71.02	72.26	72.87	73.49	74.10	74.72	75.33	75.95	76.56
100		86.10	87.33	88.56	89.79	91.02	92.26	92.87	93.49	94.10	94.72	95.33	95.95	96.56
115		101.10	102.33	103.56	104.79	106.02	107.26	107.87	108.49	109.10	109.72	110.33	110.95	111.56
125		111.10	112.33	113.56	114.79	116.02	117.26	117.87	118.49	119.10	119.72	120.33	120.95	121.56
		-	0.20	0.40	0.60	0.80	1.00	1.10	1.20	1.30	1.40	1.50	1.60	1.70
		-	1.37	0.98	0.81	0.71	0.64	0.62	0.59	0.58	0.56	0.54	0.53	0.52

SNGX

32	5.0	0.25
35	5.0	0.25
40	5.2	0.30
42	5.2	0.30
50	5.3	0.30
52	5.3	0.30
63	5.4	0.30
66	5.4	0.30
80	5.5	0.35
100	5.5	0.35
115	5.5	0.35
125	5.5	0.35

SNGX (HFC)

32	0.8	1.4/100
35	0.8	1.4/100
40	0.7	1.2/100
42	0.7	1.2/100
50	0.5	0.9/100
52	0.5	0.9/100
63	0.4	0.7/100
66	0.4	0.7/100
80	0.3	0.5/100
100	0.2	0.3/100
115	0.2	0.3/100
125	0.2	0.3/100

SNGX (HFC)

32	0.2	0.3
35	0.2	0.3
40	0.2	0.3
42	0.2	0.3
50	0.3	0.4
52	0.3	0.4
63	0.3	0.4
66	0.3	0.4
80	0.3	0.4
100	0.3	0.4
115	0.3	0.4
125	0.3	0.4

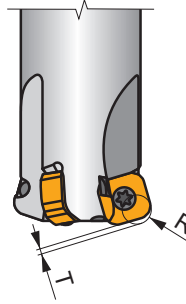
		3	5	10	15	20	30	40	50	60	80	100
32		0.620	0.800	1.131	1.386	1.600	1.960	2.263	2.530	2.771	3.200	3.578
35		0.648	0.837	1.183	1.449	1.673	2.049	2.366	2.646	2.898	3.347	3.742
40		0.693	0.894	1.265	1.549	1.789	2.191	2.530	2.828	3.098	3.578	4.000
42		0.710	0.917	1.296	1.587	1.833	2.245	2.592	2.898	3.175	3.666	4.099
50		0.775	1.000	1.414	1.732	2.000	2.449	2.828	3.162	3.464	4.000	4.472
52		0.790	1.020	1.442	1.766	2.040	2.498	2.884	3.225	3.533	4.079	4.561
63		0.869	1.122	1.587	1.944	2.245	2.750	3.175	3.550	3.888	4.490	5.020
66		0.890	1.149	1.625	1.990	2.298	2.814	3.250	3.633	3.980	4.596	5.138
80		0.980	1.265	1.789	2.191	2.530	3.098	3.578	4.000	4.382	5.060	5.657
100		1.095	1.414	2.000	2.449	2.828	3.464	4.000	4.472	4.899	5.657	6.325
115		1.175	1.517	2.145	2.627	3.033	3.715	4.290	4.796	5.254	6.066	6.782
125		1.225	1.581	2.236	2.739	3.162	3.873	4.472	5.000	5.477	6.325	7.071

	SNGX			
	0.2	0.5	1.0	1.7
	1.20	1.00	0.50	0.25



SNGX (HFC)










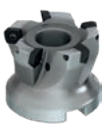














	D _{MIN}	D _{MAX}		
32	48.0	63.8	0.7	1.4
35	54.0	69.8	0.8	1.5
40	64.0	79.8	0.9	1.5
42	68.0	83.8	1.0	1.6
50	84.0	99.8	0.9	1.4
52	88.0	103.8	1.0	1.4
63	109.0	125.8	1.0	1.4
66	115.0	131.8	1.1	1.4
80	143.0	159.8	1.0	1.3
100	183.0	199.8	0.9	1.1
115	213.0	229.8	1.1	1.3
125	233.0	249.8	1.2	1.4



SNGX	R	T
SNGX 110416	4.6	0.92

HIGH FEED MILLING – NAVIGATOR

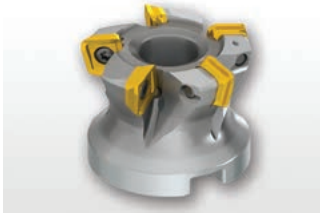
HIGH FEED MILLING – POSITIVE INSERTS

	SSO12		SPD09		SZD07		SZD09		SZD12								
	12°		19°		-		-		-								
	APMX (mm)	1.9	APMX (mm)	2.0	APMX (mm)	1.0	APMX (mm)	1.0	APMX (mm)	1.6							
	DCX (mm)	35 – 125	DCX (mm)	32 – 140	DCX (mm)	16 – 25	DCX (mm)	25 – 63	DCX (mm)	32 – 80							
Cylindrical shank		DC = 35, 40 (mm)		DCX = 32, 40 (mm)		DCX = 16 – 25 (mm)											
Weldon		DC = 35, 40 (mm)						DCX = 25, 32 (mm)									
Modular								DCX = 25, 32 (mm)		DCX = 32, 40 (mm)							
Shell mill		DC = 42 – 125 (mm)		DCX = 42 – 140 (mm)				DCX = 40 – 63 (mm)		DCX = 50 – 80 (mm)							
Page	266		270		276		280		284								
ISO	P	M	K	N	S	H	P	M	K	S	H	P	K	H	P	K	H
Insert shape																	
Inserts	SOHT 1205		PD.. 0905		ZDCW 0703		ZDCW 09T3		ZDEW 1204								
No. of cutting edges	4		5		4		4		4								
Face milling 	■		■		■		■		■								
Helical interpolation 	■		■		▣		▣		▣								
Shallow shoulder milling 	■		■		▣		▣		▣								
Plunge milling 	■		■		▣		▣		▣								
Progressive plunging 	■		■		▣		▣		▣								
Ramping 	■		■														
Shape surfaces milling (copy milling) 			▣		▣		▣		▣								
Shallow slot milling 	■		▣		▣		▣		▣								

SS012



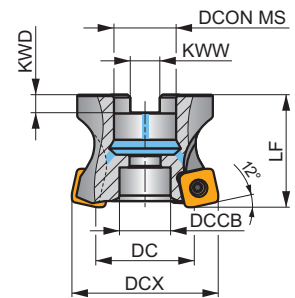
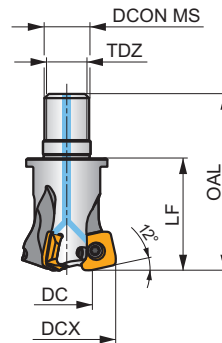
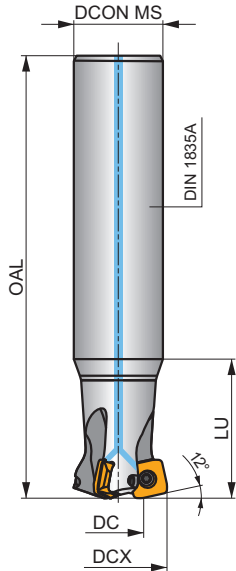
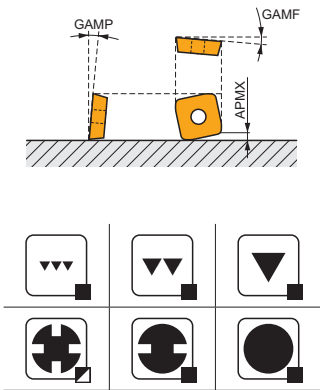
PRAMET



VER S012 12° High Feed Milling with Internal Coolant

Highly versatile 12° high feed mill utilising single sided SO.. 12 style inserts with APMX of 1.9 mm. Suited for a wide range of applications in most workpiece materials. Cylindrical, modular and arbor style available, with differential tooth pitch. Coolant through channels and body treated for longer tool life.

KAPR	12°
APMX	1.9 mm



	0.09-0.93
	0.09-0.93



Product	DCX	DC	OAL	DCON MS	DCCB	LU	LF	TDZ	KWW	KWD	GAMF	GAMP			kg			
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)						
35E3R050A32-SS012-C	35	17.3	200	32	-	50	-	-	-	-	-5	5	3	-	15700	✓	1.07	GI350 SQ501 -
35E3R120A32-SS012-C	35	17.3	200	32	-	120	-	-	-	-	-5	5	3	-	15700	✓	0.95	GI350 SQ501 -
40E4R120A32-SS012-C	40	22.3	200	32	-	120	-	-	-	-	-5	5	4	-	14700	✓	1.00	GI350 SQ501 -
35E3R040M16-SS012-C	35	17.3	63	17	-	-	40	M16	-	-	-5	5	3	-	15700	✓	0.15	GI350 SQ501 -
40E4R043M16-SS012-C	40	22.3	66	17	-	-	43	M16	-	-	-5	5	4	-	14700	✓	0.18	GI350 SQ501 -
42A04R-SM0S012-C	42	24.3	-	16	12.4	-	40	-	8.4	5.6	-5	5	4	-	14300	✓	0.16	GI350 SQ502 -
50A05R-SM0S012-C	50	32.3	-	22	18.1	-	40	-	10.4	6.3	-5	5	5	✓	13100	✓	0.23	GI350 SQ503 -
52A05R-SM0S012-C	52	34.3	-	22	18.1	-	40	-	10.4	6.3	-5	5	5	✓	12800	✓	0.35	GI350 SQ503 -
63A06R-SM0S012-C	63	45.3	-	27	22.1	-	50	-	12.4	7	-5	5	6	✓	11700	✓	0.48	GI350 SQ504 -
66A06R-SM0S012-C	66	48.3	-	27	22.1	-	50	-	12.4	7	-5	5	6	✓	11400	✓	0.51	GI350 SQ504 -
80A07R-SM0S012-C	80	62.3	-	27	22.1	-	50	-	12.4	7	-5	5	7	✓	10400	✓	0.76	GI350 SQ504 -
100A08R-SM0S012-C	100	82.3	-	32	45.1	-	50	-	14.4	8	-5	5	8	✓	9300	✓	1.32	GI350 SQ505 AC002
125A10R-SM0S012-C	125	107.3	-	40	56.1	-	63	-	16.4	9	-5	5	10	✓	8300	✓	2.46	GI350 SQ505 AC003

	SOHT 1205..
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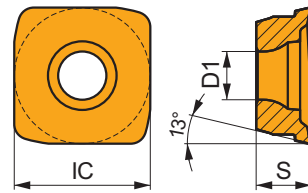
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SQ502	US 4011-T15P	3.5	M 4	10.6	- SDR T15P-T HCS 0840C
SQ503	US 4011-T15P	3.5	M 4	10.6	- SDR T15P-T HS 1030C
SQ504	US 4011-T15P	3.5	M 4	10.6	- SDR T15P-T HS 1230C
SQ505	US 4011-T15P	3.5	M 4	10.6	- SDR T15P-T -

AC002	KS 1635	K.FMH32
AC003	KS 2040	K.FMH40

SOHT 12

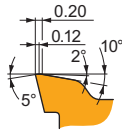


	IC	D1	S
	(mm)	(mm)	(mm)
1205	12.700	4.50	5.15



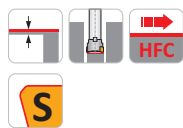
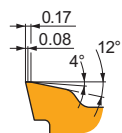
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



M geometry is versatile for a wide range of working conditions. Designed with positive rake, medium T-land and rounding of cutting edge for smooth HFC milling. First choice for steels, cast irons and hardened steels.

SOHT 120514SR-M:8215	✱	1.4	■	215	1.00	1.0	▣	125	0.90	1.0	■	200	1.00	1.0	■	50	0.70	0.8	■	40	0.68	0.8
SOHT 120514SR-M:M8310	✱	1.4	■	225	1.00	1.0	▣	110	0.90	1.0	■	210	1.00	1.0	■	—	—	—	■	45	0.68	0.8
SOHT 120514SR-M:M8330	✱	1.4	■	220	1.00	1.0	▣	130	0.90	1.0	■	205	1.00	1.0	■	55	0.70	0.8	▣	40	0.68	0.8
SOHT 120514SR-M:M8340	✱	1.4	■	205	1.00	1.0	▣	120	0.90	1.0	▣	190	1.00	1.0	■	50	0.70	0.8	■	—	—	—
SOHT 120514SR-M:M9325	✱	1.4	■	245	1.00	1.0	■	—	—	—	■	230	1.00	1.0	■	—	—	—	▣	45	0.68	0.8
SOHT 120514SR-M:M9340	✱	1.4	■	215	1.00	1.0	▣	125	0.90	1.0	■	—	—	—	■	50	0.70	0.8	■	—	—	—



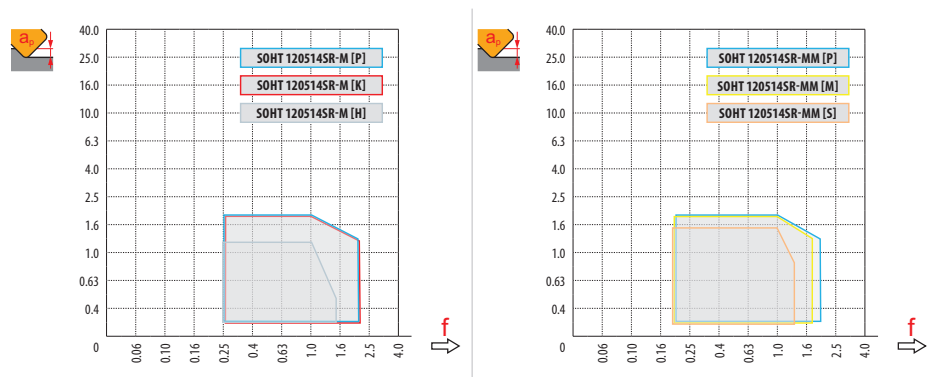
MM geometry is sharp and suitable for large overhang or thin walled and slim workpiece applications. Designed with positive rake, narrow T-land and rounding of cutting edge for smooth HFC milling. First choice for stainless steels and super alloys.

SOHT 120514SR-MM:M6330	✱	1.4	■	190	1.00	1.0	■	135	0.90	1.0	■	—	—	—	■	55	0.70	0.8	■	—	—	—
SOHT 120514SR-MM:M8340	✱	1.4	■	205	1.00	1.0	■	120	0.90	1.0	■	—	—	—	■	50	0.70	0.8	■	—	—	—
SOHT 120514SR-MM:M8345	✱	1.4	■	165	1.00	1.0	■	95	0.90	1.0	■	—	—	—	■	40	0.70	0.8	■	—	—	—
SOHT 120514SR-MM:M9325	✱	1.4	■	245	1.00	1.0	■	—	—	—	■	—	—	—	■	—	—	—	■	—	—	—
SOHT 120514SR-MM:M9340	✱	1.4	■	215	1.00	1.0	▣	125	0.90	1.0	■	—	—	—	■	50	0.70	0.8	■	—	—	—



a_e / DCX	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	SOHT 12-M	SOHT 12-MM
	1.4	1.4
	2.00	2.00



HFC														
DCX	a_p	0.00	0.20	0.40	0.60	0.80	1.00	1.20	1.40	1.50	1.60	1.70	1.80	1.90
35		17.3	19.2	21.1	22.9	24.8	26.7	28.6	30.5	31.4	32.4	33.1	33.5	33.9
40		22.3	24.2	26.1	27.9	29.8	31.7	33.6	35.5	36.4	37.4	38.1	38.5	38.9
42		24.3	26.2	28.1	29.9	31.8	33.7	35.6	37.5	38.4	39.4	40.1	40.5	40.9
50		32.3	34.2	36.1	37.9	39.8	41.7	43.6	45.5	46.4	47.4	48.1	48.5	48.9
52		34.3	36.2	38.1	39.9	41.8	43.7	45.6	47.5	48.4	49.4	50.1	50.5	50.9
63		45.3	47.2	49.1	50.9	52.8	54.7	56.6	58.5	59.4	60.4	61.1	61.5	61.9
66		48.3	50.2	52.1	53.9	55.8	57.7	59.6	61.5	62.4	63.4	64.1	64.5	64.9
80		62.3	64.2	66.1	67.9	69.8	71.7	73.6	75.5	76.4	77.4	78.1	78.5	78.9
100		82.3	84.2	86.1	87.9	89.8	91.7	93.6	95.5	96.4	97.4	98.1	98.5	98.9
125		107.3	109.2	111.1	112.9	114.8	116.7	118.6	120.5	121.4	122.4	123.1	123.5	123.9
	a_p	0.00	0.20	0.40	0.60	0.80	1.00	1.20	1.40	1.50	1.60	1.70	1.80	1.90
		-	2.20	2.00	1.80	1.60	1.40	1.20	1.10	1.00	0.90	0.80	0.70	0.60

DCX	$d_{e\max}$	f_{\max}
35	10.0	0.10
40	10.0	0.10
42	10.0	0.12
50	10.0	0.12
52	10.0	0.12
63	10.0	0.15
66	10.0	0.15
80	10.0	0.20
100	10.0	0.20
125	10.0	0.20

DCX	RPMX	APMX/I
35	9.6	1.9/11
40	6.9	1.9/16
42	6.1	1.9/18
50	4.3	1.9/25
52	4.0	1.9/27
63	2.6	1.9/41
66	2.5	1.9/44
80	1.9	1.9/59
100	1.4	1.9/79
125	1.0	1.9/105

DCX	a	f_{\max}
35	1.6	0.17
40	1.6	0.17
42	1.6	0.15
50	1.6	0.10
52	1.6	0.10
63	1.6	0.05
66	1.6	0.05
80	1.6	0.05
100	1.6	0.05
125	1.6	0.05

DCX	μm	3	5	10	15	20	30	40	50	60	80	100
35		0.648	0.837	1.183	1.449	1.673	2.049	2.366	2.646	2.898	3.347	3.742
40		0.693	0.894	1.265	1.549	1.789	2.191	2.530	2.828	3.098	3.578	4.000
42		0.710	0.917	1.296	1.587	1.833	2.245	2.592	2.898	3.175	3.666	4.099
50		0.775	1.000	1.414	1.732	2.000	2.449	2.828	3.162	3.464	4.000	4.472
52		0.790	1.020	1.442	1.766	2.040	2.498	2.884	3.225	3.533	4.079	4.561
63		0.869	1.122	1.587	1.944	2.245	2.750	3.175	3.550	3.888	4.490	5.020
66		0.890	1.149	1.625	1.990	2.298	2.814	3.250	3.633	3.980	4.596	5.138
80		0.980	1.265	1.789	2.191	2.530	3.098	3.578	4.000	4.382	5.060	5.657
100		1.095	1.414	2.000	2.449	2.828	3.464	4.000	4.472	4.899	5.657	6.325
125		1.225	1.581	2.236	2.739	3.162	3.873	4.472	5.000	5.477	6.325	7.071

a	0.2	0.6	1.0	1.5	1.9
f	2.0	1.6	1.2	0.8	0.5

DCX	DMIN	DMAX	SMAX DMIN	SMAX DMAX
35	46.0	69.8	1.9	1.9
40	56.0	79.8	1.9	1.9
42	60.0	83.8	1.9	1.9
50	76.0	99.8	1.9	1.9
52	80.0	103.8	1.9	1.9
63	102.0	125.8	1.9	1.9
66	108.0	131.8	1.9	1.9
80	136.0	159.8	1.9	1.9
100	176.0	199.8	1.9	1.9
125	226.0	249.8	1.9	1.9

i

SOHT	R	T
SOHT 120514	3.37	1.21

SPD09

P M K S H

PRAMET

S

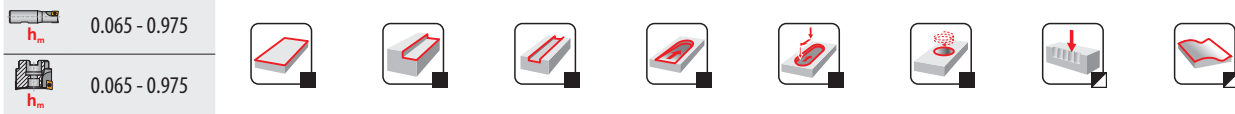
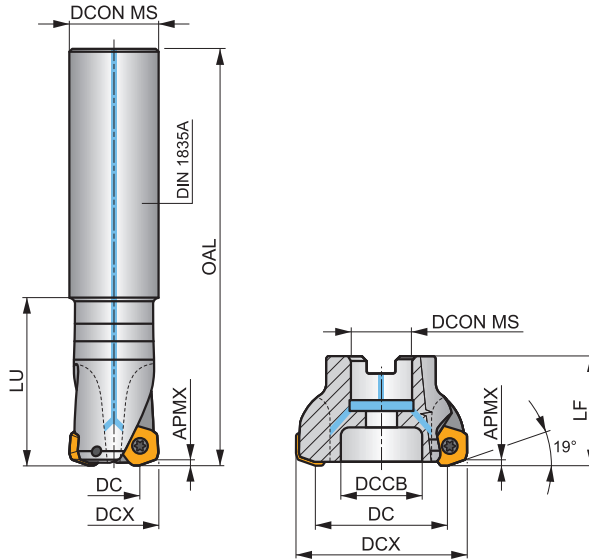
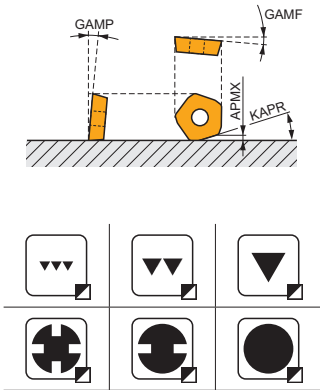


PENTA HF High-Feed Milling Cutter with Internal Coolant

Productive high-feed milling cutter utilizing single-sided positive PD.. 09 insert with 5 cutting edges and APMX of 2 mm. Internal coolant. Suitable for a wide range of applications. Available in cylindrical and arbor style. Body treated for longer tool life.

PENTA HF

KAPR	19°
APMX	2.0 mm



Product	DCX	DC	OAL	DCON MS	DCCB	LU	LF	GAMP	GAMP				kg		
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)	max.					
32E2R060A32-SPD09-C	32	18.4	250	32	-	60	-	-24	10	2	-	13100	✓	1.34	GI245 C0340 -
40E3R060A32-SPD09-C	40	25.5	250	32	-	60	-	-11	10	3	-	11700	✓	1.43	GI245 C0340 -
42A03R-S19PD09-C	42	27.5	-	16	12	-	40	-8	10	3	-	11500	✓	0.18	GI245 C0342 -
50A04R-S19PD09-C	50	35.3	-	22	18	-	40	-3	10	4	-	10500	✓	0.23	GI245 C0343 -
50A05R-S19PD09-C	50	35.3	-	22	18	-	40	-3	10	5	-	10500	✓	0.33	GI245 C0343 -
52A04R-S19PD09-C	52	37.3	-	22	18	-	40	-3	10	4	-	10300	✓	0.25	GI245 C0343 -
63A05R-S19PD09-C	63	48.2	-	22	18	-	40	-1	10	5	-	9400	✓	0.44	GI245 C0343 -
63A06R-S19PD09-C	63	48.2	-	22	18	-	40	-1	10	6	-	9300	✓	0.45	GI245 C0343 -
66A06R-S19PD09-C	66	51.2	-	22	18	-	40	-1	10	6	-	9200	✓	0.35	GI245 C0343 -
66A06R-S19PD09-CF	66	51.2	-	27	22	-	50	-1	10	6	-	9100	✓	0.67	GI245 C0344 -
80A05R-S19PD09-C	80	65.3	-	27	37	-	50	-1	10	5	-	8300	✓	0.84	GI245 C0341 AC001
80A06R-S19PD09-C	80	65.3	-	27	37	-	50	-1	10	6	-	8300	✓	0.86	GI245 C0341 AC001
100A06R-S19PD09-C	100	58.3	-	32	45	-	50	-1	10	6	-	7400	✓	1.46	GI245 C0341 AC002
100A08R-S19PD09-C	100	85.3	-	32	45	-	50	-1	10	8	-	7400	✓	1.40	GI245 C0341 AC002
125A08R-S19PD09-C	125	110.3	-	40	36	-	63	-1	10	8	-	6600	✓	3.10	GI245 C0349 -
125A10R-S19PD09-C	125	110.3	-	40	36	-	63	-1	10	10	-	6600	✓	3.11	GI245 C0349 -
140A08R-S19PD09-C	140	125.3	-	40	36	-	63	-1	10	8	-	6200	✓	3.57	GI245 C0349 -

GI245	PD.X 0905ZE..	PDKT 0905..	PDMW 0905..

C0340	US 45011-T20P	5.0	M 5	11	-	Flag T20P
C0341	US 45011-T20P	5.0	M 5	11	SDR T20P-T	-

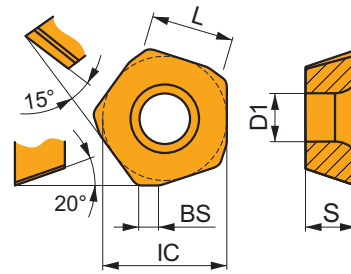
C0342	US 45011-T20P	5.0	M 5	11	SDR T20P-T	HS 90835	-
C0343	US 45011-T20P	5.0	M 5	11	SDR T20P-T	HS 1030C	-
C0344	US 45011-T20P	5.0	M 5	11	SDR T20P-T	HS 1230C	-
C0349	US 45011-T20P	5.0	M 5	11	SDR T20P-T	HSD 2040	-

AC001	KS 1230	K.FMH27
AC002	KS 1635	K.FMH32

PDMX 09

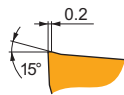


	BS	IC	D1	L	S
	(mm)	(mm)	(mm)	(mm)	(mm)
0905	2.00	13.500	5.50	9.00	5.47



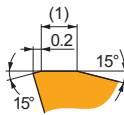
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



M geometry with positive design for medium high feed machining.

PDMX 0905ZEER-M:8215	☹	-	█	215	1.00	1.2	█	125	0.90	1.2	█	200	1.00	1.2	-	-	-	-	-	-
PDMX 0905ZEER-M:M8330	☹	-	█	220	1.00	1.2	█	130	0.90	1.2	█	205	1.00	1.2	-	-	-	-	-	-
PDMX 0905ZEER-M:M8345	☹	-	█	165	1.00	1.2	█	95	0.90	1.2	█	-	-	-	-	-	-	-	-	-
PDMX 0905ZEER-M:M9340	☹	-	█	215	1.00	1.2	█	125	0.90	1.2	█	-	-	-	-	-	-	-	-	-



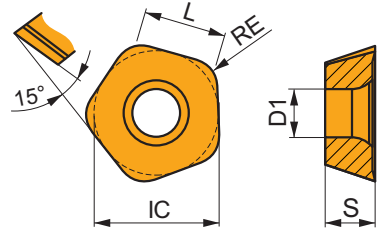
R geometry with strong design for high feed machining.

PDMX 0905ZESR-R:8215	☹	-	█	215	1.00	1.3	-	-	-	█	200	1.00	1.3	-	-	-	-	-	█	40	0.70	0.9
PDMX 0905ZESR-R:M8330	☹	-	█	215	1.00	1.3	-	-	-	█	200	1.00	1.3	-	-	-	-	-	█	40	0.70	0.9
PDMX 0905ZESR-R:M8345	☹	-	█	165	1.00	1.3	-	-	-	█	-	-	-	-	-	-	-	-	█	-	-	-
PDMX 0905ZESR-R:M9325	☹	-	█	245	1.00	1.3	-	-	-	█	230	1.00	1.3	-	-	-	-	-	█	45	0.70	0.9

PDKT 09

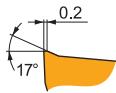


	IC (mm)	D1 (mm)	L (mm)	S (mm)
0905	13.500	5.50	9.00	5.47



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



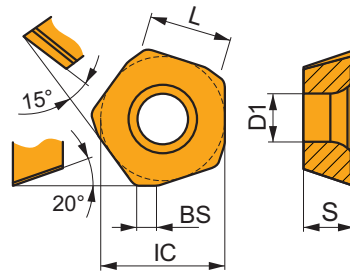
FM geometry with highly positive design for light to medium high feed machining.

PDKT 090530ER-FM:8215	3.0	240	1.00	1.2	140	0.90	1.2	225	1.00	1.2	60	0.70	1.0			
PDKT 090530ER-FM:M6330	3.0	210	1.00	1.2	150	0.90	1.2				60	0.70	1.0			
PDKT 090530ER-FM:M8310	3.0	250	1.00	1.2	125	0.90	1.2	235	1.00	1.2						
PDKT 090530ER-FM:M8330	3.0	245	1.00	1.2	145	0.90	1.2	230	1.00	1.2	60	0.70	1.0			
PDKT 090530ER-FM:M8345	3.0	180	1.00	1.2	105	0.90	1.2				45	0.70	1.0			
PDKT 090530ER-FM:M9325	3.0	275	1.00	1.2				260	1.00	1.2						

PDKX 09

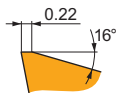


	BS (mm)	IC (mm)	D1 (mm)	L (mm)	S (mm)
0905	2.00	13.500	5.50	9.00	5.47



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



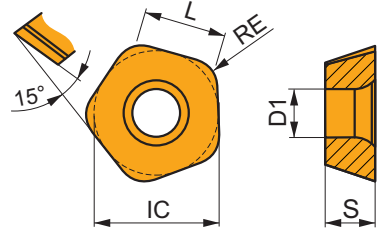
FM geometry with highly positive design for medium high feed machining.

PDKX 0905ZEER-FM:M6330		195	1.00	1.2	135	0.90	1.2				55	0.70	1.0			
PDKX 0905ZEER-FM:M8345		165	1.00	1.2	95	0.90	1.2				40	0.70	1.0			
PDKX 0905ZEER-FM:M9340		215	1.00	1.2	125	0.90	1.2				50	0.70	1.0			

PDMW 09

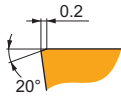


	IC (mm)	D1 (mm)	L (mm)	S (mm)
0905	13.500	5.50	9.00	5.47



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



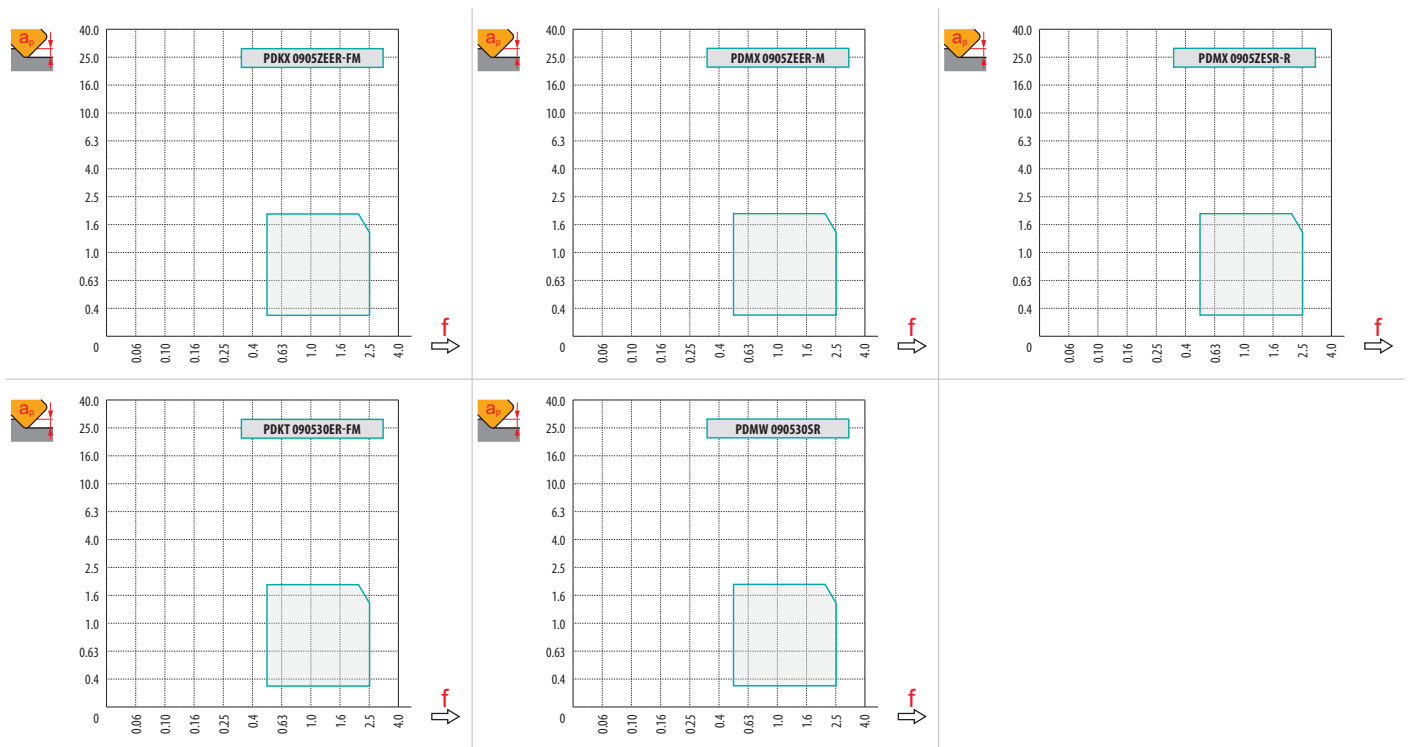
Zero rake angle design for high feed machining.

PDMW 090530SR:M8310	✳ 3.0	✓ 245	1.00	1.4	–	–	–	■ 230	1.00	1.4	–	–	–	–	–	–	■ 45	0.70	1.0
PDMW 090530SR:M8345	✳ 3.0	✓ 180	1.00	1.4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
PDMW 090530SR:M9325	✳ 3.0	✓ 270	1.00	1.4	–	–	–	■ 255	1.00	1.4	–	–	–	–	–	–	✓ 50	0.70	1.0



a_e / DCX	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	PDKX 09-FM	PDMX 09-M	PDMX 09-R	PDKT 09-FM	PDMW 09
	-	-	-	3.0	3.0
	2.00	2.00	2.00	-	-



		0.00	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.25	1.50	2.00
32		18.4	20.1	20.7	21.3	21.9	22.5	23.0	23.6	24.2	25.7	27.1	30.0
40		25.5	27.2	27.8	28.4	29.0	29.6	30.1	30.7	31.3	32.8	34.2	37.1
42		27.5	29.2	29.8	30.4	31.0	31.6	32.1	32.7	33.3	34.8	36.2	39.1
50		35.3	37.0	37.6	38.2	38.8	39.4	39.9	40.5	41.1	42.6	44.0	46.9
52		37.3	39.0	39.6	40.2	40.8	41.4	41.9	42.5	43.1	44.6	46.0	48.9
63		48.2	49.9	50.5	51.1	51.7	52.3	52.8	53.4	54.0	55.5	56.9	59.8
66		51.2	52.9	53.5	54.1	54.7	55.3	55.8	56.4	57.0	58.5	59.9	62.8
80		65.3	67.0	67.6	68.2	68.8	69.4	69.9	70.5	71.1	72.6	74.0	76.9
100		85.3	87.0	87.6	88.2	88.8	89.4	89.9	90.5	91.1	92.6	94.0	96.9
125		110.3	112.3	112.9	113.5	114.1	114.6	115.2	115.8	116.4	117.9	119.3	122.2
140	125.3	127.3	127.9	128.5	129.1	129.7	130.2	130.8	131.4	132.9	134.3	137.2	
		0.00	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.25	1.50	2.00
		-	3.00	3.00	2.90	2.80	2.70	2.60	2.50	2.40	2.25	1.50	1.50



Follow instructions provided for flat surface milling. When milling close to vertical surfaces. decrease feed per tooth (f_z) by 50 % to prevent vibrations and damage of the cutting edge.



DCX	f_{max}	f_{max}
32	5.0	0.20
40	5.0	0.20
42	5.0	0.20
50	6.0	0.20
52	6.0	0.20
63	7.0	0.25
66	7.0	0.25
80	8.0	0.30
100	8.0	0.30



DCX	RPMX	APMX/I
40	8.0	1.80/16
42	8.0	2.00/16
50	8.0	2.00/16
52	8.0	2.00/16
63	7.0	2.00/18
66	6.0	2.00/21
80	5.0	2.00/24
100	3.0	2.00/40



HFC			
a_p	0.5	1.0	2.0
f	3.0	2.3	1.5



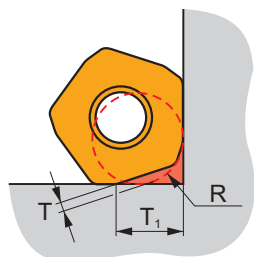
DCX	DMIN	DMAX	SMAX DMIN	SMAX DMAX
40	63.7	80.0	2.00	2.00
42	67.5	84.0	2.00	2.00
50	83.3	100.0	2.00	2.00
52	87.3	104.0	2.00	2.00
63	109.2	126.0	2.00	2.00
66	115.2	132.0	2.00	2.00
80	143.3	160.0	2.00	2.00
100	183.3	200.0	2.00	2.00



DCX	a_p	f_{max}
32	1.8	0.20
40	1.8	0.20
42	2.0	0.20
50	2.0	0.20
52	2.0	0.20
63	2.0	0.25
66	2.0	0.25
80	2.0	0.30
100	2.0	0.30



DCX	μm	3	5	10	15	20	30	40	50	60	80	100
32		0.620	0.800	1.131	1.386	1.600	1.960	2.263	2.530	2.771	3.200	3.578
40		0.693	0.894	1.265	1.549	1.789	2.191	2.530	2.828	3.098	3.578	4.000
42		0.710	0.917	1.296	1.587	1.833	2.245	2.592	2.898	3.175	3.666	4.099
50		0.775	1.000	1.414	1.732	2.000	2.449	2.828	3.162	3.464	4.000	4.472
52		0.790	1.020	1.442	1.766	2.040	2.498	2.884	3.225	3.533	4.079	4.561
63		0.869	1.122	1.587	1.944	2.245	2.750	3.175	3.550	3.888	4.490	5.020
66		0.890	1.149	1.625	1.990	2.298	2.814	3.250	3.633	3.980	4.596	5.138
80		0.980	1.265	1.789	2.191	2.530	3.098	3.578	4.000	4.382	5.060	5.657



DCX	R	T	T ₁
32	4.5	1.1	6.8
40 - 140	4.5	1.1	7.3

SZD07

P **K** **H**

PRAMET

S

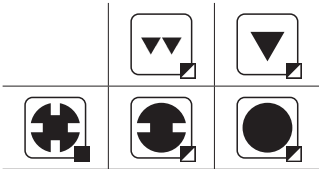
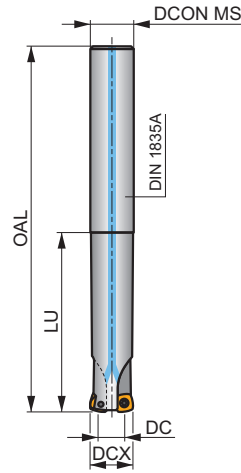
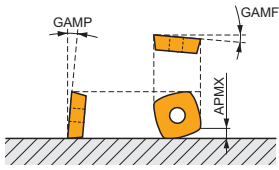


FEED ZD07 High-Feed Milling Cutter with Internal Coolant

Productive high-feed milling cutter utilising single-sided ZD..07 insert with 4 cutting edges and a APMX of 1 mm. Internal coolant. Suitable for a wide range of applications. Available in cylindrical and modular style. Body treated for longer tool life.

FEED ZD

APMX	1.0 mm
------	--------



h_m 0.175 - 0.44



Product	DCX (mm)	DC (mm)	OAL (mm)	DCON MS (mm)	LU (mm)	LF (mm)	GAMF (°)	GAMP (°)					kg		
16E2R030A16-SZD07	16	6	100	16	30	-	-5	8	2	-	47400	✓	0.13	GI201	C0350
16E2R065A16-SZD07	16	6	145	16	65	-	-5	8	2	-	47400	✓	0.22	GI201	C0350
20E3R040A20-SZD07	20	10	120	20	40	-	-5	8	3	-	42400	✓	0.25	GI201	C0350
20E3R080A20-SZD07	20	10	165	20	80	-	-5	8	3	-	42400	✓	0.33	GI201	C0350
25E3R050A25-SZD07	25	15	140	25	50	-	-5	8	3	-	37900	✓	0.47	GI201	C0350
25E3R100A25-SZD07	25	15	190	25	100	-	-5	8	3	-	37900	✓	0.60	GI201	C0350

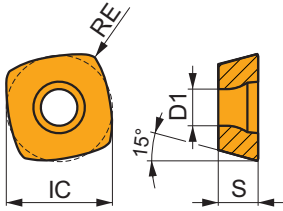
	GI201		ZDCW 0703..
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	C0350		US 2205-T07P		0.9		M 2.2		5		Flag T07P
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ZDCW 07

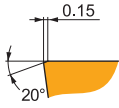
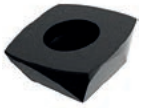


	IC	D1	S
	(mm)	(mm)	(mm)
0703	6.800	2.60	3.18



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap
		(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)



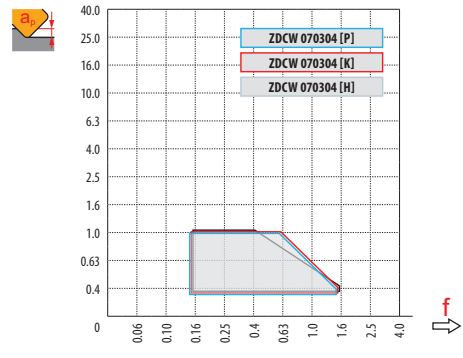
Special geometry for high feed machining.

ZDCW 070304:M8310	0.4	420	0.60	0.4	—	—	—	395	0.60	0.4	—	—	—	—	—	—	80	0.42	0.3
ZDCW 070304:M8325	0.4	325	0.60	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
ZDCW 070304:M8345	0.4	305	0.60	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

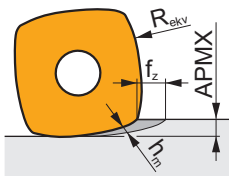


a_e / DCX	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	ZDCW 07
	0.4
	-



		0.00	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00
16		6.0	12.0	12.9	13.7	14.4	15.1	15.7	16.2	16.8
20		10.0	16.0	16.9	17.7	18.4	19.1	19.7	20.2	20.8
25		15.0	21.0	21.9	22.7	23.4	24.1	24.7	25.2	25.8
		0.00	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00
		-	1.50	1.50	1.13	1.00	0.88	0.75	0.61	0.60



$$f_z = h_m \times \sqrt{\frac{2R_{ekv}}{APMX}} \quad (\text{mm/tooth})$$



Follow instructions provided for flat surface milling. When milling close to vertical surfaces, decrease feed per tooth (f_z) by 50 % to prevent vibrations and damage of the cutting edge.

	f_{max}	f_{max}
16	5.6	0.12
20	5.6	0.15
25	5.6	0.17

HFC			
	0.3	0.6	1.0
	1.50	0.80	0.40

	RPMX	APMX/I
16	7.8	1.0/9
20	9.7	1.0/7
25	4.9	1.0/13

	RPMX	APMX/I
16	0.5	0.75/100
20	0.3	0.40/100
25	0.2	0.20/100



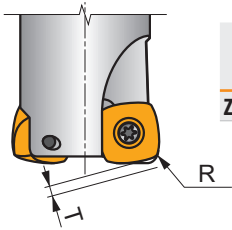
	DMIN	DMAX		
16	21.0	32.0	0.10	0.40
20	29.0	40.0	0.10	0.30
25	39.0	50.0	0.15	0.25



		f_{max}
16	0.05	0.12
20	0.05	0.15
25	0.05	0.17



	μm	3	5	10	15	20	30	40	50	60	80	100
16		0.438	0.566	0.800	0.980	1.131	1.386	1.600	1.789	1.960	2.263	2.530
20		0.490	0.632	0.894	1.095	1.265	1.549	1.789	2.000	2.191	2.530	2.828
25		0.548	0.707	1.000	1.225	1.414	1.732	2.000	2.236	2.449	2.828	3.162



	R	T
ZDCW 070304	1.70	0.60

SZD09



PRAMET

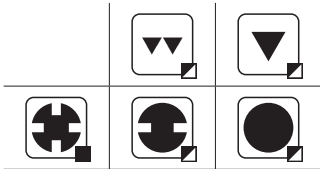
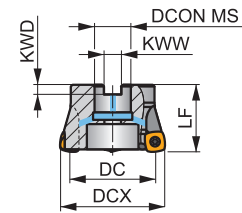
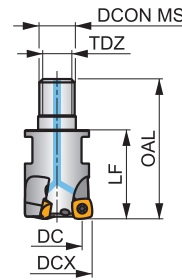
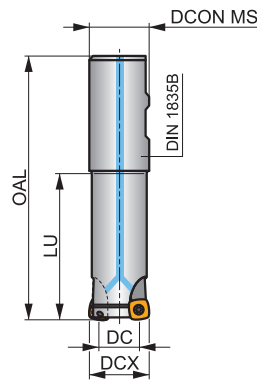
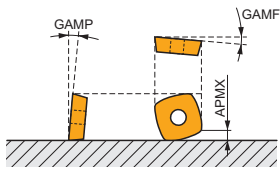


FEED ZD09 High-Feed Milling Cutter with Internal Coolant

Productive high-feed milling cutter utilising single-sided ZD.. 09 insert with 4 cutting edges and APMX of 1 mm. Internal coolant. Suited for a wide range of applications. Available in cylindrical, modular and arbor style. Body treated for longer tool life.

FEED ZD

APMX	1.0 mm
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	0.31 - 0.618
	0.31 - 0.618



Product	DCX	DC	OAL	DCON MS	LU	LF	TDZ	KWW	KWD	GAMF	GAMP							
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)							
25E2R080B25-SZD09-C	25	11.6	140	25	80	-	-	-	-	-6	10	2	-	22800	✓	0.46	GI191	SQ400
25E2R140B25-SZD09-C	25	11.6	200	25	140	-	-	-	-	-6	10	2	-	22800	✓	0.63	GI191	SQ400
32E2R080B32-SZD09-C	32	18.7	140	32	80	-	-	-	-	-6	10	2	-	20100	✓	0.76	GI191	SQ400
25E3R032M12-SZD09-C	25	11.6	54	12.5	-	32	M12	-	-	-6	10	3	-	-	✓	0.11	GI191	SQ400
32E3R040M16-SZD09-C	32	18.7	63	17	-	40	M16	-	-	-6	10	3	-	-	✓	0.21	GI191	SQ400
40A04R-SMOZD09-C	40	26.7	-	16	-	40	-	8.4	5.6	-6	10	4	✓	18000	✓	0.34	GI191	SQ402
50A05R-SMOZD09-C	50	36.7	-	22	-	40	-	10.4	6.4	-6	10	5	✓	16000	✓	0.41	GI191	SQ403
63A06R-SMOZD09-C	63	49.7	-	22	-	40	-	10.4	6.4	-6	10	6	✓	14300	✓	0.60	GI191	SQ403

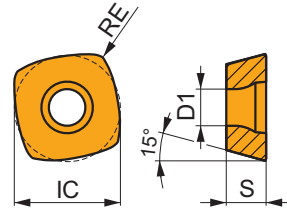
	GI191		ZDCW 09T3..
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SQ400	US 3006-T09P	2.0	M 3	6	-	-	Flag T09P	-
SQ402	US 3006-T09P	2.0	M 3	6	D-T07P/T09P	FG-15	-	HS 0830C
SQ403	US 3006-T09P	2.0	M 3	6	D-T07P/T09P	FG-15	-	HS 1030C

ZDCW 09

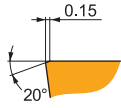
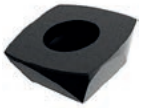


	IC	D1	S
	(mm)	(mm)	(mm)
09T3	9.525	3.40	3.97



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



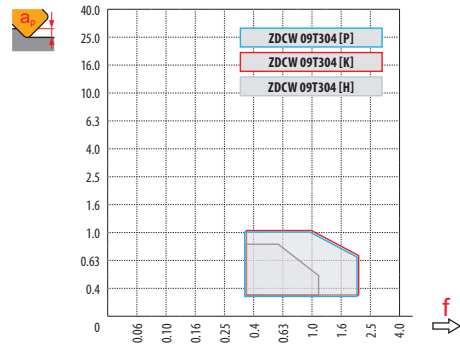
Special geometry for high feed machining.

ZDCW 09T304:M8310	0.4	320	1.00	0.6	—	—	—	300	1.00	0.6	—	—	—	—	—	—	60	0.70	0.4
ZDCW 09T304:M8325	0.4	250	1.00	0.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
ZDCW 09T304:M8345	0.4	235	1.00	0.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

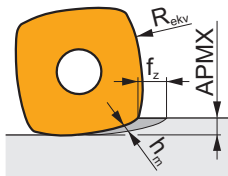


a_e DCX	5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	90%	100%
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	ZDCW 09
	0.4
	-



		0.00	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00
25		11.6	17.4	18.2	19.0	19.7	20.3	20.9	21.5	22.0
32		18.7	24.5	25.3	26.1	26.8	27.4	28.0	28.6	29.1
40		27.7	33.5	34.3	35.1	35.8	36.4	37.0	37.6	38.1
50		36.7	42.3	43.1	43.8	44.5	45.1	45.7	46.2	46.7
63		49.7	55.3	56.1	56.8	57.5	58.1	58.7	59.2	59.7
		0.00	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00
		-	2.00	2.00	2.00	1.75	1.50	1.25	1.13	1.00



$$f_z = h_m \times \sqrt{\frac{2R_{ekv}}{APMX}} \quad (\text{mm/tooth})$$



Follow instructions provided for flat surface milling. When milling close to vertical surfaces, decrease feed per tooth (f_z) by 50 % to prevent vibrations and damage of the cutting edge.

		f_{max}
25	7.7	0.15
32	7.7	0.17
40	7.7	0.20

	HFC		
	0.3	0.6	1.0
	2.00	1.50	1.00

	HFC		HFC	
	RPMX	APMX/I	RPMX	APMX/I
25	12.0	1.0/6	0.9	1.00/65
32	7.5	1.0/11	0.5	0.75/100
40	3.6	1.0/17	0.4	0.55/100



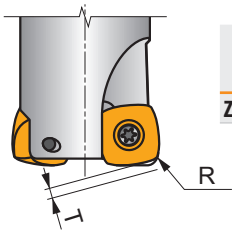
	DMIN	DMAX	DMIN	DMAX
25	35.0	50.0	0.45	1.00
32	49.0	64.0	0.45	0.85
40	65.0	80.0	0.50	0.85



		f_{max}
25	0.15	0.15
32	0.15	0.17
40	0.15	0.20



	μm	3	5	10	15	20	30	40	50	60	80	100	
25		0.548	0.707	1.000	1.225	1.414	1.732	2.000	2.236	2.449	2.828	3.162	
32		0.620	0.800	1.131	1.386	1.600	1.960	2.263	2.530	2.771	3.200	3.578	
40		0.693	0.894	1.265	1.549	1.789	2.191	2.530	2.828	3.098	3.578	4.000	
50													
63		0.869	1.122	1.587	1.944	2.245	2.750	3.175	3.550	3.888	4.490	5.020	



	R	T
ZDCW 09T304	2.27	0.52

SZD12



PRAMET

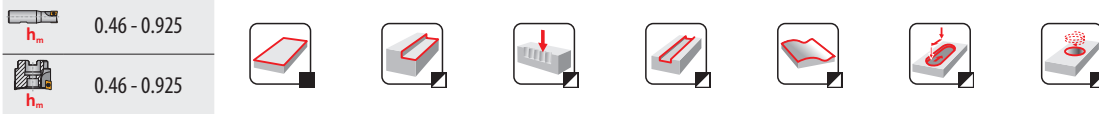
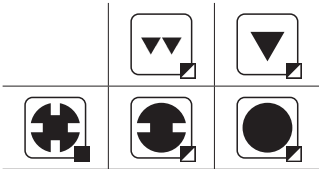
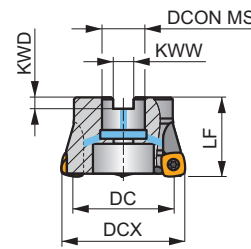
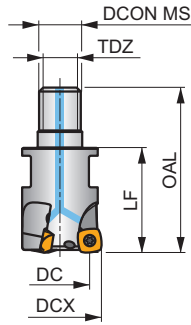
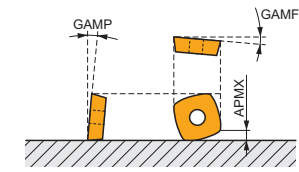


FEED ZD12 High-Feed Milling Cutter with Internal Coolant

Highly productive high-feed milling cutter utilising single-sided ZD.. 12 insert with 4 cutting edges and APMX of 1.6 mm. Internal coolant. Suitable for a wide range of applications. Available in cylindrical, modular and arbor style, . Body treated for longer tool life.

FEED ZD

APMX	1.6 mm
------	--------



Product	DCX	DC	OAL	DCON MS	LU	LF	TDZ	KWW	KWD	GAMF	GAMP						
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)						
32E3R040M16-SZD12-C	32	14.5	63	17	-	40	M16	-	-	-6	10	3	-	✓	0.19	GI192 SQ220 -	
40E4R040M16-SZD12-C	40	22.5	63	17	-	40	M16	-	-	-6	10	4	-	✓	0.22	GI192 SQ220 -	
50A04R-SMOZD12-C	50	32.5	-	22	-	40	-	10.4	6.4	-6	10	4	✓	14000	✓	0.38	GI192 SQ033 -
63A05R-SMOZD12-C	63	45.5	-	22	-	40	-	10.4	6.4	-6	10	5	✓	12500	✓	0.57	GI192 SQ033 -
80A05R-SMOZD12-C	80	62.5	-	27	-	50	-	12	7	-6	10	5	✓	11100	✓	1.07	GI192 C0371 AC001

GI192	ZDEW 1204..

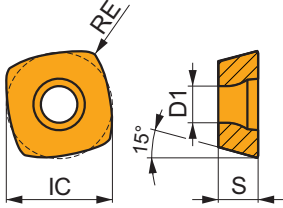
C0371	US 4011-T15P	3.5	M 4	10.6	D-T08P/T15P	FG-15	-	-
SQ033	US 4011-T15P	3.5	M 4	10.6	D-T08P/T15P	FG-15	-	HS 1030C
SQ220	US 4011-T15P	3.5	M 4	10.6	-	-	Flag T15P	-

AC001	KS 1230	K.FMH27

ZDEW 12

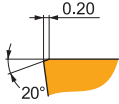
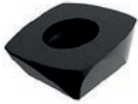


	IC	D1	S
	(mm)	(mm)	(mm)
1204	12.700	4.40	4.76



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap
		(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)



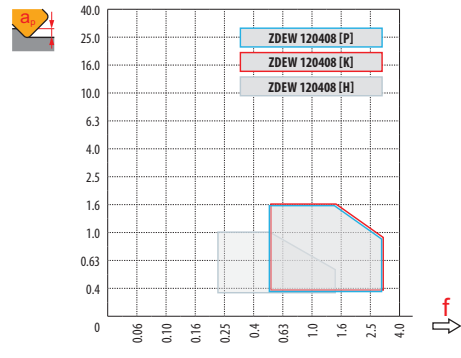
Special geometry for high feed machining.

ZDEW 120408:M8310	0.8	270	1.00	1.0	—	—	—	255	1.00	1.0	—	—	—	—	—	—	50	0.70	0.7
ZDEW 120408:M8325	0.8	205	1.00	1.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
ZDEW 120408:M8345	0.8	195	1.00	1.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

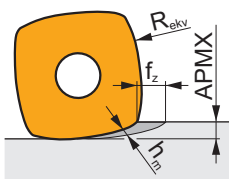


a_e DCX	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	ZDEW 12
	0.8
	-



		0.00	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20	1.30	1.40	1.50	1.60
32		14.5	22.7	23.5	24.2	24.8	25.4	26.0	26.5	27.0	27.5	28.0	28.5	28.9
40		22.5	30.7	31.5	32.2	32.8	33.4	34.0	34.5	35.0	35.5	36.0	36.5	36.9
50		32.5	40.7	41.5	42.2	42.8	43.4	44.0	44.5	45.0	45.5	46.0	46.5	46.9
63		45.5	53.7	54.5	55.2	55.8	56.4	57.0	57.5	58.0	58.5	59.0	59.5	59.9
80		62.5	70.7	71.5	72.2	72.8	73.4	74.0	74.5	75.0	75.5	76.0	76.5	76.9
		0.00	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20	1.30	1.40	1.50	1.60
		-	3.00	3.00	3.00	3.00	3.00	3.00	2.50	2.25	2.00	1.80	1.65	1.50



$$f_z = h_m \times \sqrt{\frac{2R_{ekv}}{APMX}} \quad (\text{mm/tooth})$$



Follow instructions provided for flat surface milling. When milling close to vertical surfaces, decrease feed per tooth (f_z) by 50 % to prevent vibrations and damage of the cutting edge.

		f_{max}
32	10.0	0.15
40	10.0	0.17
50	10.0	0.20
63	10.0	0.20
80	10.0	0.25

	HFC		
	0.5	1.0	1.6
	3.00	2.00	1.50

	RPMX	APMX/l	RPMX	APMX/l
32	10	1.6/11	1.2	1.60/78
40	5.5	1.6/18	0.7	1.10/100
50	3.3	1.6/29	0.5	0.75/100
63	2.2	1.6/43	0.3	0.40/100
80	1.5	1.6/63	0.2	0.20/100



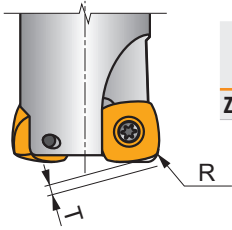
DCX	DMIN	DMAX	SMAX DMIN	SMAX DMAX
32	44.0	64.0	0.75	1.60
40	60.0	80.0	0.75	1.50
50	80.0	100.0	0.80	1.35
63	106.0	126.0	0.70	1.00
80	140.0	160.0	0.65	0.85



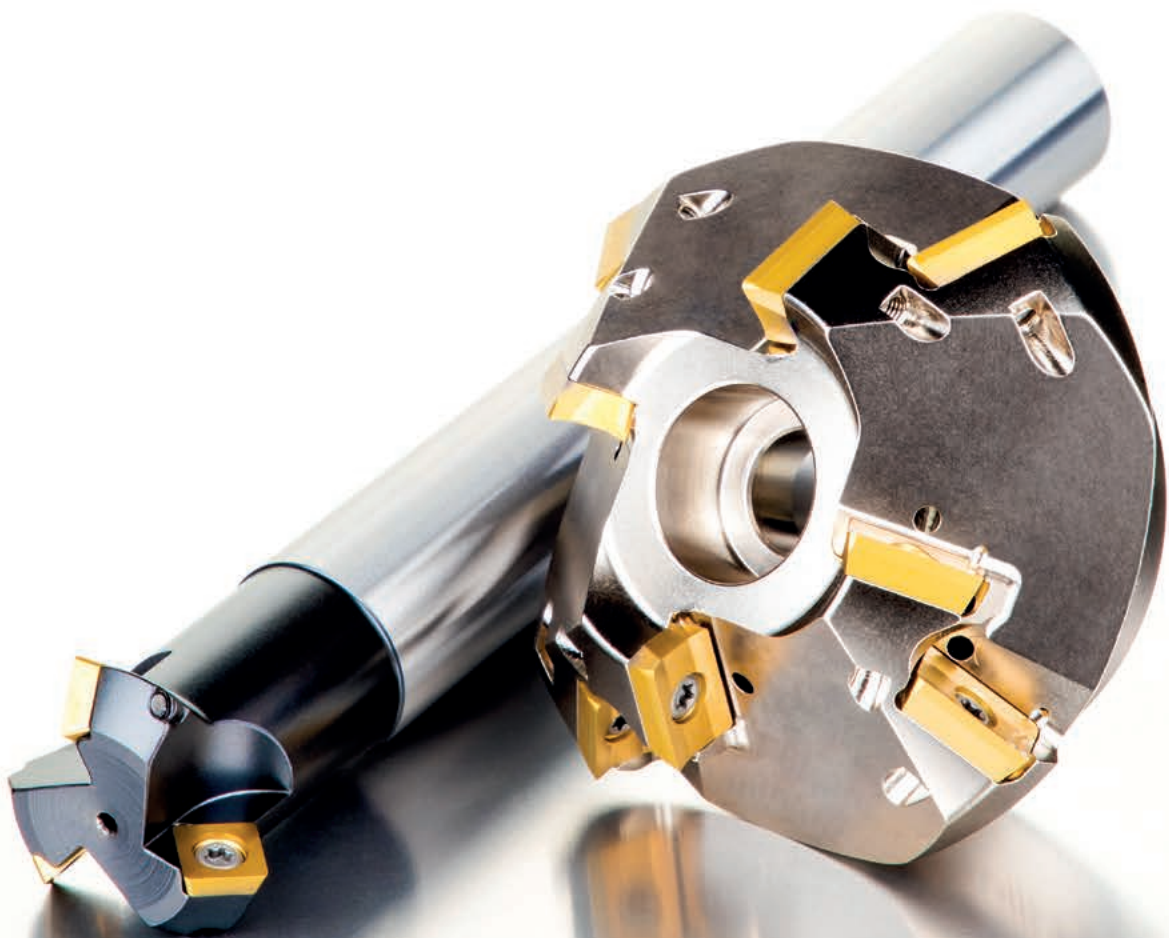
DCX	a_p	f_{max}
32	0.25	0.15
40	0.25	0.17
50	0.25	0.20
63	0.25	0.20
80	0.25	0.25



DCX	μm	3	5	10	15	20	30	40	50	60	80	100
32		0.620	0.800	1.131	1.386	1.600	1.960	2.263	2.530	2.771	3.200	3.578
40		0.693	0.894	1.265	1.549	1.789	2.191	2.530	2.828	3.098	3.578	4.000
50		0.775	1.000	1.414	1.732	2.000	2.449	2.828	3.162	3.464	4.000	4.472
63		0.869	1.122	1.587	1.944	2.245	2.750	3.175	3.550	3.888	4.490	5.020
80		0.980	1.265	1.789	2.191	2.530	3.098	3.578	4.000	4.382	5.060	5.657


















	R	T
ZDEW 120408	3.52	0.64



CHAMFERING

CHAMFERING – NAVIGATOR

CHAMFERING – POSITIVE INSERTS

	SSD09		N-SS009		STC		2516		2636		J(T)-SXP16		
	45°		45°		45°		45°		10°–80°		15°–75°		
	APMX (mm)	4.5	APMX (mm)	4.5	APMX (mm)	8.0	APMX (mm)	8.5	APMX (mm)	8.5	APMX (mm)	7.0–28.0	
	DC (mm)	10–25	DC (mm)	8–25	DC (mm)	20	DC (mm)	11–19	DC (mm)	5–23	DC (mm)	35–45	
Cylindrical shank	 DC = 16, 25 (mm)												
Weldon	 DC = 10–25 (mm)												
Morse	 DC = 16, 25 (mm)												
Shell mill													
Page	292		295		298		301		304		307		
ISO	P	M	K	S	H	P	M	K	S	P	M	K	N
Insert shape													
Inserts	SDE. 0903		SOMT 09T3		TCTX 16 STC		TCMT 16T3		TCMT 16T3		XPHT 1604		
No. of cutting edges	4		4		3		3		3		2		
Chamfer milling 	■		■		■		■		■		■		

SSD09

P M K S H

PRAMET

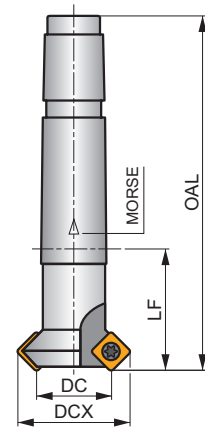
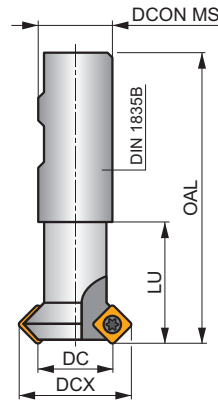
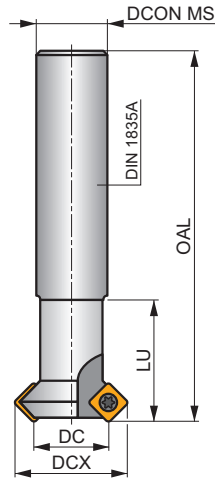
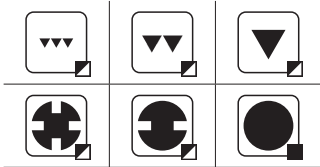
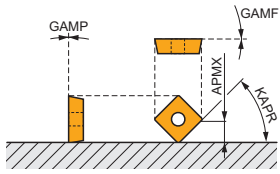
S



45° Chamfer Milling Cutter for Square Insert SD.. 09

A 45° chamfer milling cutter utilising single-sided SD.. 09 inserts with APMX of 4.5 mm. Suitable for top and bottom side chamfering. Available in cylindrical, Weldon and Morse taper style and outside. Body treated for longer tool life.

KAPR	45°
APMX	4.5 mm



h_m 0.095 - 0.15



Product	DC (mm)	DCX (mm)	OAL (mm)	DCON MS (mm)	LU (mm)	LF (mm)	CZC MS	GAMF (°)	GAMP (°)		max.		kg			
16N2R027A16-SSD09	16	28	200	16	27	-	-	0	0	2	-	32200	-	0.34	GI129	C0070
25N3R042A25-SSD09	25	37	200	25	42	-	-	0	0	3	-	25800	-	0.77	GI129	CH011
10N1R027B16-SSD09-A	10	22	75	16	27	-	-	0	0	1	-	40700	-	0.13	GI129	C0070
16N2R027B16-SSD09-A	16	28	75	16	27	-	-	0	0	2	-	32200	-	0.14	GI129	C0070
25N3R042B25-SSD09-A	25	37	98	25	42	-	-	0	0	3	-	25800	-	0.37	GI129	CH011
16N2R030E02-SSD09-A	16	28	94	-	-	30	2	0	0	2	-	32200	-	0.14	GI129	C0070
25N3R043E03-SSD09-A	25	37	124	-	-	43	3	0	0	3	-	25800	-	0.38	GI129	CH011

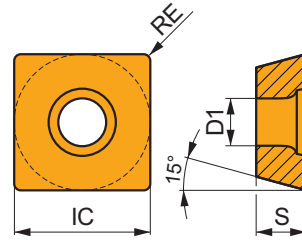
GI129	SDEW 0903..	SDEX 0903..

C0070	US 3507-T15	3.0	M 3.5	7	Flag T15
CH011	US 3509-T15	3.0	M 3.5	9	Flag T15

SDEW 09



	IC (mm)	D1 (mm)	S (mm)
0903	9.525	4.40	3.18



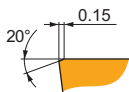
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



EN geometry with zero rake angle design for 45° chamfer milling.

SDEW 090308EN:M8330	0.8	235	0.10	4.5	–	–	–	220	0.10	4.5	–	–	–	–	–	–	45	0.09	0.7
SDEW 090308EN:M8340	0.8	210	0.10	4.5	–	–	–	195	0.10	4.5	–	–	–	–	–	–	–	–	–



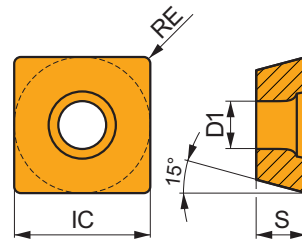
SN geometry with zero rake angle design for 45° chamfer milling.

SDEW 090308SN:M8330	0.8	215	0.15	4.5	–	–	–	200	0.15	4.5	–	–	–	–	–	–	40	0.11	0.7
SDEW 090308SN:M8340	0.8	195	0.15	4.5	–	–	–	185	0.15	4.5	–	–	–	–	–	–	–	–	–

SDEX 09

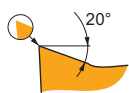


	IC (mm)	D1 (mm)	S (mm)
0903	9.525	4.40	3.18



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)

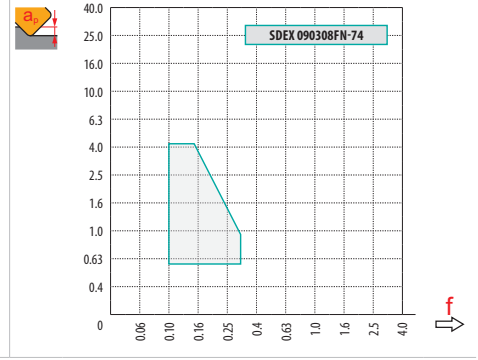
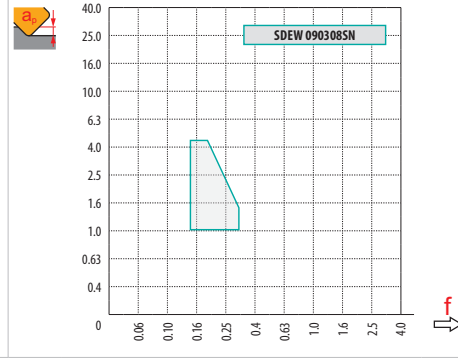
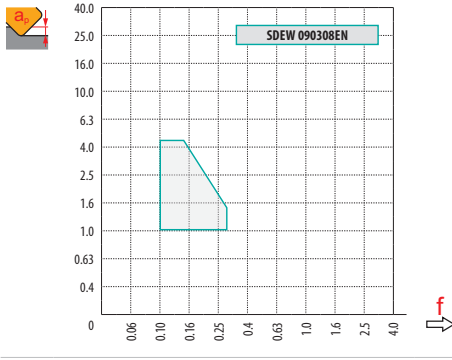


Geometry 74 with positive design for 45° chamfer milling.

SDEX 090308FN-74:M8330	0.8	305	0.12	4.5	180	0.11	4.5	285	0.12	4.5	–	–	–	75	0.11	3.6	–	–	–
------------------------	-----	-----	------	-----	-----	------	-----	-----	------	-----	---	---	---	----	------	-----	---	---	---



	SDEW 09 EN	SDEW 09 SN	SDEX 09-74
	0.8	0.8	0.8
	-	-	-



			f_{min}	f_{max}
10	22	1.09	0.20	0.30
16	28	1.17	0.25	0.34
25	37	1.24	0.32	0.39



a_e / DC	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.50 – 1.00																
	f																							
45°	0.42	0.54	0.67	0.35	0.44	0.55	0.30	0.38	0.47	0.27	0.34	0.42	0.25	0.31	0.39	0.23	0.29	0.36	0.21	0.27	0.34	0.19	0.24	0.30
	1.35		1.27		1.22		1.19		1.16		1.13		1.11		1.00									

N-SS009



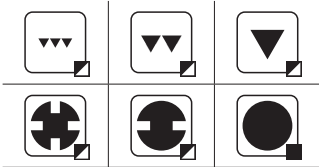
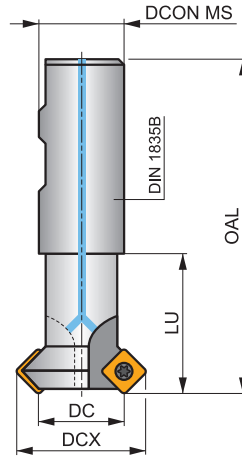
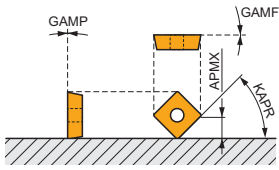
PRAMET



45° Chamfer Milling Cutter for Square Insert SOMT 09 with Internal Coolant

A 45° chamfer milling cutter utilising single-sided SOMT 09 inserts with APMX of 4.5 mm. Internal coolant. Suitable for top and bottom side chamfering. Available in Weldon style and outside. Body treated for longer tool life.

KAPR	45°
APMX	4.5 mm



h_m 0.095 - 0.18



Product	DC (mm)	DCX (mm)	OAL (mm)	DCON MS (mm)	LU (mm)	GAMF (°)	GAMP (°)							
16N2R027B16-SS009-C	16	28.8	110	16	27	0	0	2	-	26600	✓	0.23	G146	SQ500
25N3R042B25-SS009-C	25	37.8	125	25	42	0	0	3	-	21300	✓	0.49	G146	SQ500
8N1R027B16-SS009-C	8	20.5	90	16	27	0	0	1	-	37700	✓	0.16	G146	SQ500

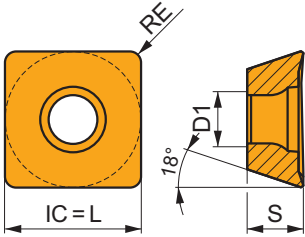
	G146		SOMT 09T3..
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	SQ500		US 3006-T09P		2.0		M3		6		Flag T09P
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SOMT 09

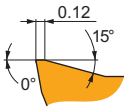
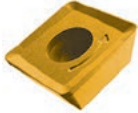


	IC (mm)	D1 (mm)	L (mm)	S (mm)
09T3	9.550	3.50	9.55	3.97



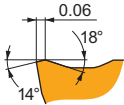
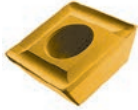
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Conditions are valid for setting angle 90°. Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



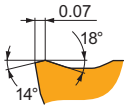
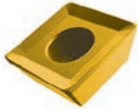
M geometry with positive design for medium machining.

SOMT 09T308-M:8215	0.8	275	0.14	2.5	165	0.13	2.5	260	0.14	2.5	-	-	-	65	0.13	2.0	-	-	-
SOMT 09T308-M:M5315	0.8	390	0.14	2.5	-	-	-	370	0.14	2.5	-	-	-	-	-	-	-	-	-
SOMT 09T308-M:M8330	0.8	270	0.14	2.5	160	0.13	2.5	255	0.14	2.5	-	-	-	65	0.13	2.0	-	-	-
SOMT 09T308-M:M8340	0.8	250	0.14	2.5	150	0.13	2.5	235	0.14	2.5	-	-	-	60	0.13	2.0	-	-	-
SOMT 09T308-M:M9315	0.8	380	0.14	2.5	-	-	-	360	0.14	2.5	-	-	-	-	-	-	-	-	-



MI geometry with stable positive design for medium machining.

SOMT 09T304-MI:8215	0.4	230	0.14	2.5	135	0.13	2.5	215	0.14	2.5	-	-	-	55	0.10	2.0	-	-	-
SOMT 09T304-MI:M8310	0.4	255	0.14	2.5	130	0.13	2.5	240	0.14	2.5	-	-	-	-	-	-	-	-	-
SOMT 09T304-MI:M8330	0.4	230	0.14	2.5	135	0.13	2.5	215	0.14	2.5	-	-	-	55	0.10	2.0	-	-	-
SOMT 09T304-MI:M8340	0.4	210	0.14	2.5	125	0.13	2.5	195	0.14	2.5	-	-	-	50	0.10	2.0	-	-	-
SOMT 09T304-MI:M9315	0.4	320	0.14	2.5	-	-	-	300	0.14	2.5	-	-	-	-	-	-	-	-	-
SOMT 09T304-MI:M9340	0.4	265	0.14	2.5	155	0.13	2.5	-	-	-	-	-	-	65	0.10	2.0	-	-	-

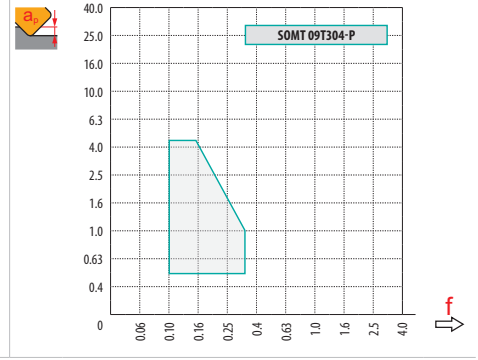
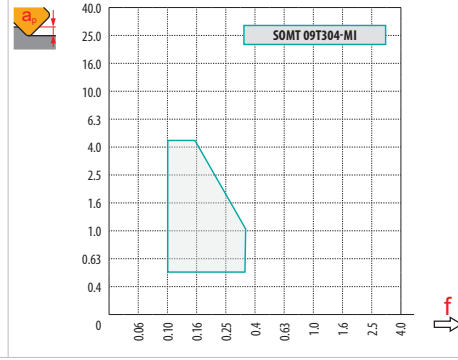
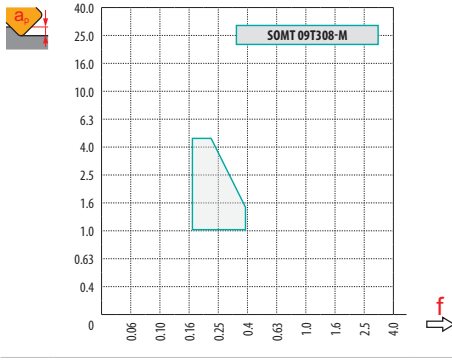


P geometry with highly positive design for medium machining.

SOMT 09T304-P:M8330	0.4	250	0.14	2.5	150	0.13	2.5	235	0.14	2.5	-	-	-	60	0.10	2.0	-	-	-
SOMT 09T304-P:M8340	0.4	230	0.14	2.5	135	0.13	2.5	215	0.14	2.5	-	-	-	55	0.10	2.0	-	-	-
SOMT 09T304-P:M9325	0.4	320	0.14	2.5	-	-	-	300	0.14	2.5	-	-	-	-	-	-	-	-	-



	SOMT 09-M	SOMT 09-MI	SOMT 09-P
	0.8	0.4	0.4
	-	-	-



			f_{min}	f_{max}
8	20.5	1.06	0.18	0.29
16	28.8	1.17	0.25	0.34
25	37.8	1.24	0.32	0.39



a_e / DC	0.10		0.15		0.20		0.25		0.30		0.35		0.40		0.50 – 1.00									
	f																							
45°	0.42	0.63	0.80	0.35	0.51	0.66	0.30	0.44	0.57	0.27	0.40	0.51	0.25	0.36	0.46	0.23	0.33	0.43	0.21	0.31	0.40	0.19	0.28	0.36
	1.35		1.27		1.22		1.19		1.16		1.13		1.11		1.00									

STC



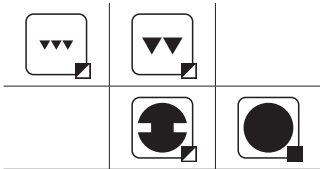
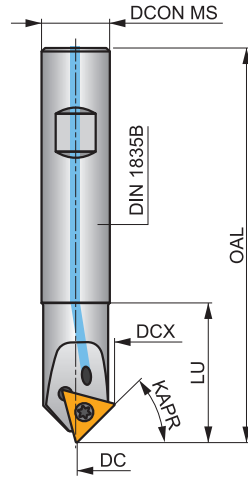
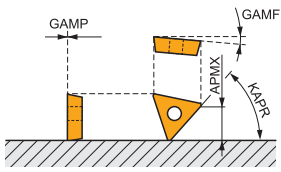
PRAMET



45° Chamfer and Engraving Milling Cutter for TC.T 16 insert with Internal Coolant

A 45° chamfer and engraving milling cutter utilizing single-sided TC.T 16 inserts with APMX of 8.5 mm. Internal coolant. Suitable for top side chamfering and engraving. Available in Weldon style only. Body treated for longer tool life.

KAPR	45°
------	-----



Product	DCX (mm)	DC (mm)	OAL (mm)	DCON MS (mm)	LU (mm)					
20N1R040B20-STC-000887	22.8	1.1	114	20	40	1	✓	0.26	GI223	SQ222

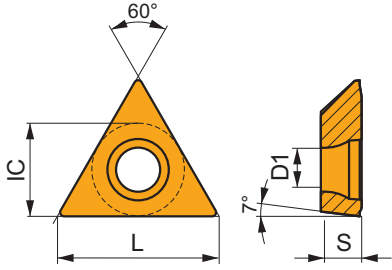
	GI223		TC.T 16 STC
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SQ222	US 2002-T15P	3.0	4	8.5	Flag T15P

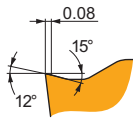
TCXT 16 STC



	IC	D1	L	S
	(mm)	(mm)	(mm)	(mm)
16	9.525	4.60	16.50	3.97



Product	Intermittent/ Continuous cut	RE (mm)	P			M			K			N			S			H		
			vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



328 chip breaker is sharp and the first choice for fine-finishing of Steels. It features slightly positive rake angle without T-land. It's also suitable for Cast irons.

TCMT 16-001328:M8330	–	0.4	■	150	0.13	8.5	■	90	0.12	8.5	■	140	0.13	8.5	■	–	–	–	■	–	–	–	■	–	–	–
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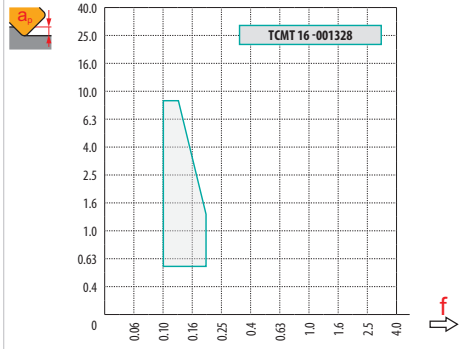
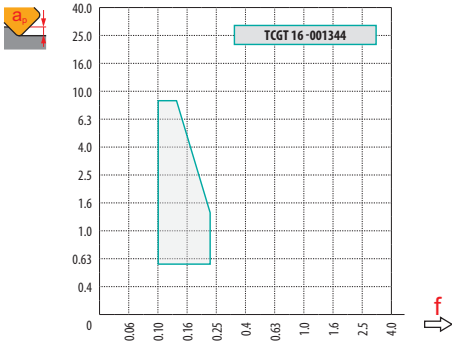


344 chip breaker is sharp and the first choice for all-around machining of Non-ferrous alloys. It features highly positive rake angle without T-land. It's also conditionally suitable for Super-alloys.

TCGT 16-001344:HF7	–	0.4	■	–	–	–	■	–	–	–	■	225	0.10	8.5	■	–	–	–	■	–	–	–	■	–	–	–
---------------------------	---	-----	---	---	---	---	---	---	---	---	---	-----	------	-----	---	---	---	---	---	---	---	---	---	---	---	---



	TCGT 16-001344	TCMT 16-001328
	0.4	0.4
	-	-



1.1	22.8	1.1	0.1	.018

2516

P **M** **K** **N**

PRAMET

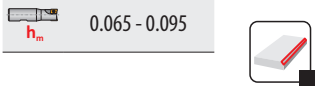
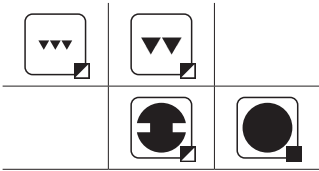
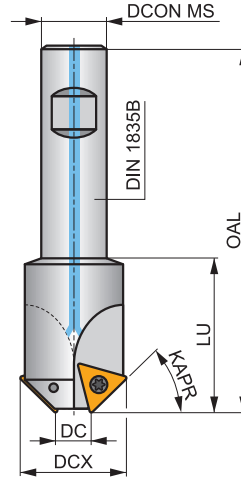
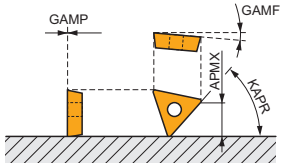
S



45° Chamfer Milling Cutter for TCMT 16 insert with Internal Coolant

A 45° chamfer milling cutter utilising single-sided TCMT 16 inserts with APMX of 8.5 mm. Internal coolant. Suitable for top side chamfering. Available in weldon style only and outside. Body treated for longer tool life.

KAPR	45°
APMX	8.5 mm



Product	DCX (mm)	DC (mm)	OAL (mm)	DCON MS (mm)	LU (mm)							
2516-45-11	31	11	100	16	30	2	-	18100	✓	0.20	G155	SQ220
2516-45-19	39	19	100	20	30	2	-	16200	✓	0.31	G155	SQ220

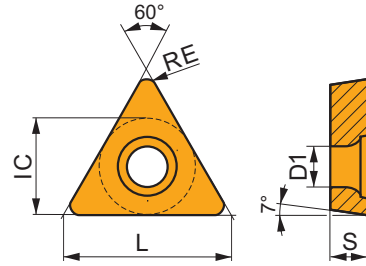
G155	TCMT 16T308E-FM:T8..

SQ220	US 4011-T15P	3.5	M 4	10.6	Flag T15P

TCMT

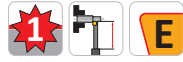
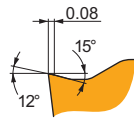


	IC (mm)	D1 (mm)	L (mm)	S (mm)
16T3	9.525	4.40	16.50	3.97



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/rev)	ap (mm)	vc (m/min)	f (mm/rev)	ap (mm)	vc (m/min)	f (mm/rev)	ap (mm)	vc (m/min)	f (mm/rev)	ap (mm)	vc (m/min)	f (mm/rev)	ap (mm)	vc (m/min)	f (mm/rev)	ap (mm)

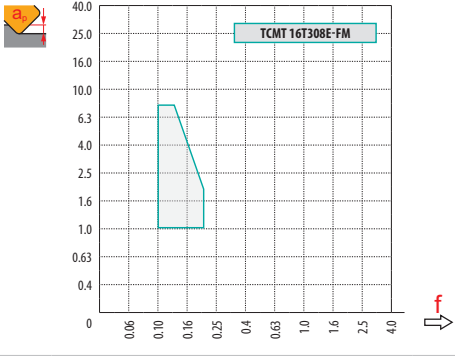


FM chip breaker is versatile and the first choice for finishing of Steels. It features positive rake angle and positive, narrow T-land. It's also suitable for Stainless steels, and conditionally for Cast irons and Non-ferrous alloys.

TCMT 16T308E-FM:T8315	● 0.8	✔ 170	0.17	1.7	■ 100	0.15	1.7	✔ 160	0.17	1.7	✔ 510	0.20	1.7	—	—	—	—	—	—
TCMT 16T308E-FM:T8415	● 0.8	✔ 210	0.17	1.7	■ 110	0.15	1.7	✔ 190	0.17	1.7	✔ 525	0.20	1.7	—	—	—	—	—	—
TCMT 16T308E-FM:T8430	● 0.8	✔ 185	0.17	1.7	■ 100	0.15	1.7	✔ 150	0.17	1.7	✔ 510	0.20	1.7	—	—	—	—	—	—



	TCMT 16-FM
	0.8
	-



11.0	31.0	1.02	0.10	0.18
19.0	39.0	1.10	0.14	0.20

2636



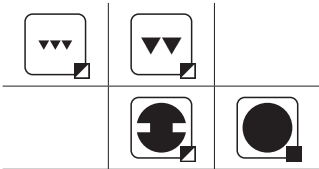
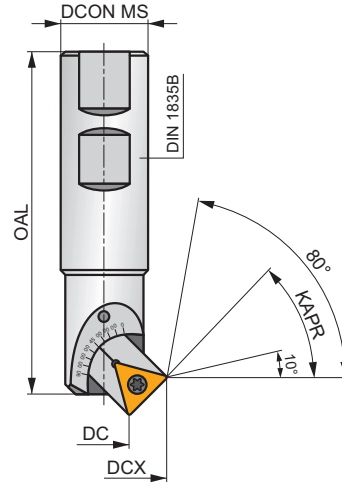
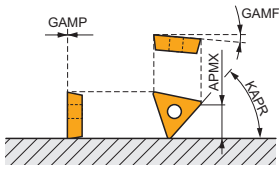
PRAMET



Adjustable Milling Cutter for TCMT 16 insert

Adjustable chamfering milling cutter utilising TCMT 16 inserts with APMX of 8.5 mm. Adjustable angle range from 10° up to 80°. Available in weldon style only. Body treated for longer tool life.

KAPR	10° – 80°
APMX	8.5 mm



h_m 0.03 – 0.08



Product	DCN (mm)	DCX (mm)	OAL (mm)	DCON MS (mm)	KAPR (°)	GAMP (°)	GAMP (°)							
2636-05-25	5.0	31.0			10									
	5.5	31.0			15									
	7.0	29.5			30									
	11.0	29.5	100	25	45	-8	0	1	-	18100	-	0.35	GI294	CH040
	16.0	28.5			60									
	21.0	26.5			75									
	23.0	26.0			80									

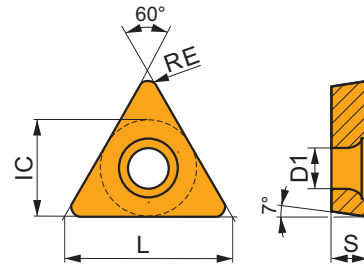
GI294	TCMT 16T304E-FM:T8...	TCMT 16T308E-FM:T8...

CH040	USI 0614	CA 2669	US 4011-T15P	3.5	M 4	10.6	Flag T15

TCMT

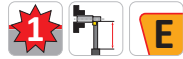
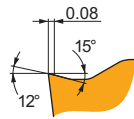


	IC (mm)	D1 (mm)	L (mm)	S (mm)
16T3	9.525	4.40	16.50	3.97



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	● ● ● ● ● ●	RE (mm)	P			M			K			N			S			H		
			vc (m/min)	f (mm/rev)	ap (mm)	vc (m/min)	f (mm/rev)	ap (mm)	vc (m/min)	f (mm/rev)	ap (mm)	vc (m/min)	f (mm/rev)	ap (mm)	vc (m/min)	f (mm/rev)	ap (mm)	vc (m/min)	f (mm/rev)	ap (mm)

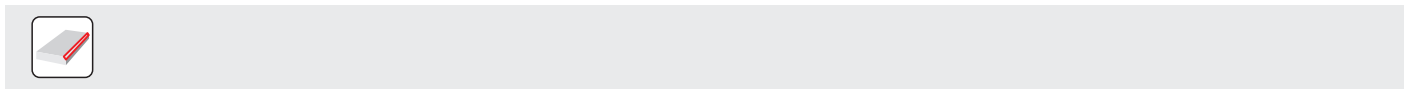
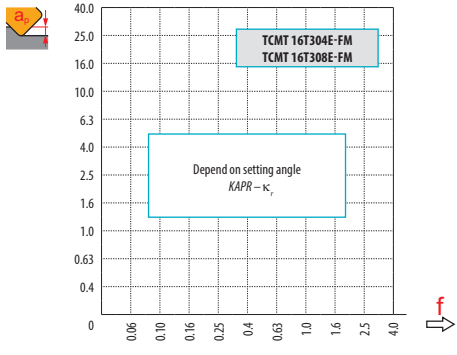


FM chip breaker is versatile and the first choice for finishing of Steels. It features positive rake angle and positive, narrow T-land. It's also suitable for Stainless steels, and conditionally for Cast irons and Non-ferrous alloys.

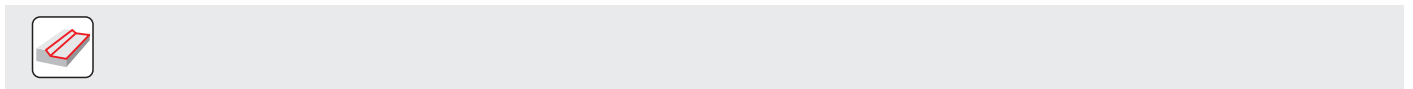
TCMT 16T304E-FM:T8315	●	0.4	155	0.12	1.7	90	0.11	1.7	145	0.12	1.7	465	0.14	1.7	—	—	—	—	—	—
TCMT 16T304E-FM:T8415	●	0.4	190	0.12	1.7	100	0.11	1.7	170	0.12	1.7	480	0.14	1.7	—	—	—	—	—	—
TCMT 16T304E-FM:T8430	●	0.4	180	0.12	1.7	95	0.11	1.7	145	0.12	1.7	495	0.14	1.7	—	—	—	—	—	—
TCMT 16T308E-FM:T8315	●	0.8	170	0.17	1.7	100	0.15	1.7	160	0.17	1.7	510	0.20	1.7	—	—	—	—	—	—
TCMT 16T308E-FM:T8415	●	0.8	210	0.17	1.7	110	0.15	1.7	190	0.17	1.7	525	0.20	1.7	—	—	—	—	—	—
TCMT 16T308E-FM:T8430	●	0.8	185	0.17	1.7	100	0.15	1.7	150	0.17	1.7	510	0.20	1.7	—	—	—	—	—	—



TCMT 16-FM		
	0.8	0.4
	-	-



10°	2.6	5.0	31.0	1.38	0.24	0.59
15°	3.9	5.5	31.0	1.30	0.17	0.40
30°	7.6	7.0	29.5	1.18	0.10	0.20
45°	10.7	11.0	29.5	1.13	0.09	0.14
60°	13.2	16.0	28.5	1.09	0.09	0.11
75°	14.7	21.0	26.5	1.06	0.09	0.10
80°	15.0	23.0	26.0	1.06	0.09	0.10



a_p / DC	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.50 - 1.00																
10°	0.55	0.91	1.46	0.45	0.74	1.19	0.39	0.64	1.03	0.35	0.58	0.92	0.32	0.53	0.84	0.29	0.49	0.78	0.27	0.46	0.73	0.24	0.41	0.65
15°	0.37	0.61	0.98	0.30	0.50	0.80	0.26	0.43	0.69	0.23	0.39	0.62	0.21	0.35	0.56	0.20	0.33	0.52	0.18	0.31	0.49	0.16	0.27	0.44
30°	0.19	0.32	0.51	0.15	0.26	0.41	0.13	0.22	0.36	0.12	0.20	0.32	0.11	0.18	0.29	0.10	0.17	0.27	0.09	0.16	0.25	0.08	0.14	0.23
45°	0.13	0.22	0.36	0.11	0.18	0.29	0.09	0.16	0.25	0.08	0.14	0.23	0.08	0.13	0.21	0.07	0.12	0.19	0.07	0.11	0.18	0.06	0.10	0.16
60°	0.11	0.18	0.29	0.09	0.15	0.24	0.08	0.13	0.21	0.07	0.12	0.18	0.06	0.11	0.17	0.06	0.10	0.16	0.05	0.09	0.15	0.05	0.08	0.13
75°	0.10	0.16	0.26	0.08	0.13	0.21	0.07	0.12	0.19	0.06	0.10	0.17	0.06	0.09	0.15	0.05	0.09	0.14	0.05	0.08	0.13	0.04	0.07	0.12
80°	0.10	0.16	0.26	0.08	0.13	0.21	0.07	0.11	0.18	0.06	0.10	0.16	0.06	0.09	0.15	0.05	0.09	0.14	0.05	0.08	0.13	0.04	0.07	0.11
	1.35		1.27		1.22		1.19		1.16		1.13		1.11		1.00									

J(T)-SXP16



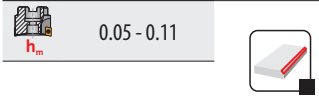
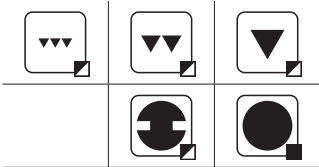
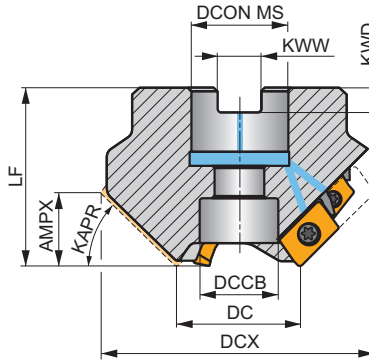
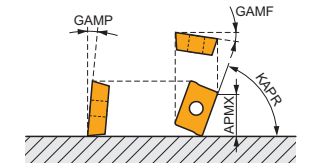
PRAMET



Long Edge Chamfer Milling Cutter for XPHT 16 insert with Internal Coolant

Chamfer milling cutter utilising single-sided XPHT 16 inserts with APMX from 7 up to 28 mm. Internal coolant. Suitable for top chamfering. Available in arbor style in range of 15°, 25°, 30°, 35°, 40°, 45°, 50°, 55°, 60° and 75° chamfer angle. Body treated for longer tool life.

KAPR	15° - 75°
APMX	7.0 - 28.0 mm



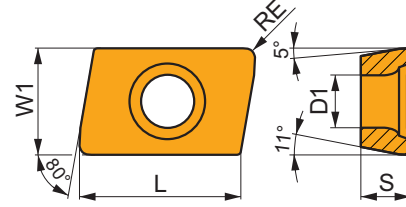
Product	DC	DCX	LF	DCON MS	DCCB	KAPR	KWW	KWD	APMX	GAMF	GAMP	NOF							
	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(mm)	(mm)	(mm)	(°)	(°)								
35T03R-S15XP1607-C	35	90.6	50	27	22	15	12.4	7	7.00	-6	-1	3	6	-	15200	✓	1.32	GI208	CH050
35T03R-S25XP1612-C	35	87.3	50	27	22	25	12.4	7	12.00	-6	0	3	6	-	15200	✓	1.15	GI208	CH050
35T03R-S30XP1614-C	35	85.1	50	27	22	30	12.4	7	14.00	-6	0	3	6	-	15200	✓	1.11	GI208	CH050
35T03R-S35XP1616-C	35	82.4	50	27	22	35	12.4	7	16.00	-6	0	3	6	-	15200	✓	1.04	GI208	CH050
35T03R-S40XP1618-C	35	79.4	50	27	22	40	12.4	7	18.00	-6	1	3	6	-	15200	✓	0.96	GI208	CH050
35T03R-S45XP1620-C	35	76.1	50	27	22	45	12.4	7	20.00	-6	2	3	6	-	15200	✓	0.90	GI208	CH050
35T03R-S50XP1622-C	35	72.4	50	27	22	50	12.4	7	22.00	-6	2	3	6	-	15200	✓	0.83	GI208	CH050
35T03R-S55XP1623-C	35	68.4	50	27	22	55	12.4	7	23.00	-6	2	3	6	-	15200	✓	0.72	GI208	CH050
35T03R-S60XP1625-C	35	64.2	50	27	22	60	12.4	7	25.00	-5	4	3	6	-	15200	✓	0.63	GI208	CH050
45T03R-S75XP1628-C	45	60.1	50	27	22	75	12.4	7	28.00	-5	5	3	6	-	13400	✓	0.64	GI208	CH050
45T04R-S25XP1612-C	45	97.3	50	27	22	25	12.4	7	12.00	-6	0	4	8	✓	13400	✓	1.24	GI208	CH050
45T04R-S30XP1614-C	45	95.1	50	27	22	30	12.4	7	14.00	-6	0	4	8	✓	13400	✓	1.21	GI208	CH050
45T04R-S35XP1616-C	45	92.4	50	27	22	35	12.4	7	16.00	-6	2	4	8	✓	13400	✓	1.30	GI208	CH050
45T04R-S40XP1618-C	45	89.5	50	27	22	40	12.4	7	18.00	-6	2	4	8	✓	13400	✓	1.08	GI208	CH050
45T04R-S45XP1620-C	45	86.1	50	27	22	45	12.4	7	20.00	-6	2	4	8	✓	13400	✓	1.03	GI208	CH050
45T04R-S50XP1622-C	45	82.4	50	27	22	50	12.4	7	22.00	-6	2	4	8	✓	13400	✓	0.96	GI208	CH050
45T04R-S55XP1623-C	45	78.4	50	27	22	55	12.4	7	23.00	-6	2	4	8	✓	13400	✓	0.88	GI208	CH050
45T04R-S60XP1625-C	45	74.2	50	27	22	60	12.4	7	25.00	-5	4	4	8	✓	13400	✓	0.78	GI208	CH050

CH050	US 3509-T15	3.0	M 3.5	9	D-T07/T15	FG-15	HS 1230C
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XPHT 16-FA

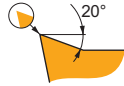


	W1	D1	L	S
	(mm)	(mm)	(mm)	(mm)
1604	9.525	4.40	15.88	4.76



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap
		(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)



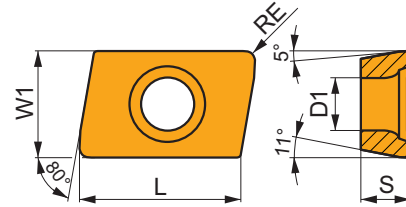
FA geometry with highly positive design for chamfer milling.

XPHT 160408F-FA:HF7	● 0.8	-	-	-	-	-	-	-	-	-	■ 255	0.12	15.0	-	-	-	-	-	-
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XPHT 16

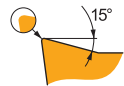


	W1	D1	L	S
	(mm)	(mm)	(mm)	(mm)
1604	9.525	4.40	15.88	4.76



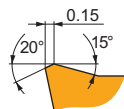
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap
		(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)



E geometry with highly positive design for chamfer milling.

XPHT 160412E:8215	● 1.2	■ 225	0.10	15.0	■ 135	0.09	15.0	■ 210	0.10	15.0	-	-	-	-	-	-	-	-	-
XPHT 160412E:M6330	● 1.2	■ 190	0.10	15.0	■ 135	0.09	15.0	-	-	-	-	-	-	-	-	-	-	-	-
XPHT 160412E:M8330	● 1.2	■ 220	0.10	15.0	■ 130	0.09	15.0	■ 205	0.10	15.0	-	-	-	-	-	-	-	-	-
XPHT 160412E:M8340	● 1.2	■ 195	0.10	15.0	■ 115	0.09	15.0	■ 185	0.10	15.0	-	-	-	-	-	-	-	-	-

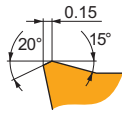


S geometry with highly positive design for chamfer milling.

XPHT 160412S:8215	● 1.2	■ 210	0.12	15.0	■ 125	0.11	15.0	■ 195	0.12	15.0	-	-	-	-	-	-	-	-	-
XPHT 160412S:M8330	● 1.2	■ 210	0.12	15.0	■ 125	0.11	15.0	■ 195	0.12	15.0	-	-	-	-	-	-	-	-	-
XPHT 160412S:M8340	● 1.2	■ 190	0.12	15.0	■ 110	0.11	15.0	■ 180	0.12	15.0	-	-	-	-	-	-	-	-	-

Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)

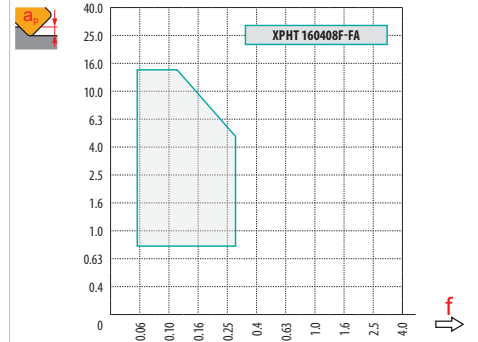
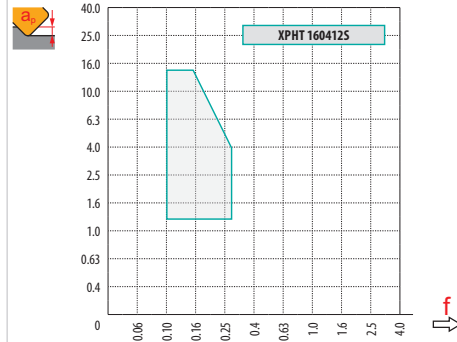
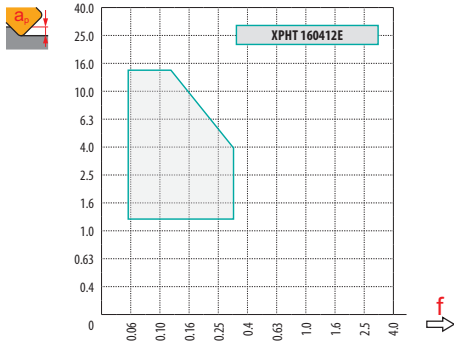


S geometry with highly positive design for chamfer milling.

XPHT 160412S:M9325	1.2	270	0.12	15.0	–	–	–	255	0.12	15.0	–	–	–	–	–	–	–	–
XPHT 160412S:M9340	1.2	245	0.12	15.0	145	0.11	15.0	–	–	–	–	–	–	–	–	–	–	–



	XPHT 16 E	XPHT 16 S	XPHT 16-FA
	1.2	1.2	0.8
	-	-	-



a_p / DC	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.50 - 1.00																
	f																							
15°	0.61	0.98	1.34	0.50	0.80	1.10	0.43	0.69	0.95	0.39	0.62	0.85	0.35	0.56	0.78	0.33	0.52	0.72	0.31	0.49	0.67	0.27	0.44	0.60
25°	0.37	0.60	0.82	0.31	0.49	0.67	0.26	0.42	0.58	0.24	0.38	0.52	0.22	0.35	0.48	0.20	0.32	0.44	0.19	0.30	0.41	0.17	0.27	0.37
30°	0.32	0.51	0.70	0.26	0.41	0.57	0.22	0.36	0.49	0.20	0.32	0.44	0.18	0.29	0.40	0.17	0.27	0.37	0.16	0.25	0.35	0.14	0.23	0.31
35°	0.28	0.44	0.61	0.23	0.36	0.50	0.19	0.31	0.43	0.17	0.28	0.38	0.16	0.25	0.35	0.15	0.24	0.32	0.14	0.22	0.30	0.12	0.20	0.27
40°	0.25	0.39	0.54	0.20	0.32	0.44	0.17	0.28	0.38	0.16	0.25	0.34	0.14	0.23	0.31	0.13	0.21	0.29	0.12	0.20	0.27	0.11	0.18	0.24
45°	0.22	0.36	0.49	0.18	0.29	0.40	0.16	0.25	0.35	0.14	0.23	0.31	0.13	0.21	0.28	0.12	0.19	0.26	0.11	0.18	0.25	0.10	0.16	0.22
50°	0.21	0.33	0.45	0.17	0.27	0.37	0.15	0.23	0.32	0.13	0.21	0.29	0.12	0.19	0.26	0.11	0.18	0.24	0.10	0.17	0.23	0.09	0.15	0.20
55°	0.19	0.31	0.42	0.16	0.25	0.35	0.14	0.22	0.30	0.12	0.20	0.27	0.11	0.18	0.25	0.10	0.17	0.23	0.10	0.15	0.21	0.09	0.14	0.19
60°	0.18	0.29	0.40	0.15	0.24	0.33	0.13	0.21	0.28	0.12	0.18	0.25	0.11	0.17	0.23	0.10	0.16	0.21	0.09	0.15	0.20	0.08	0.13	0.18
75°	0.16	0.26	0.36	0.13	0.21	0.29	0.12	0.19	0.25	0.10	0.17	0.23	0.09	0.15	0.21	0.09	0.14	0.19	0.08	0.13	0.18	0.07	0.12	0.16
	1.35		1.27		1.22		1.19		1.16		1.13		1.11		1.00									



	a_p	DC	DCX	X.V	f_{min}	f_{max}
15°	7	35.0	90.6	1.16	0.43	0.70
25°	12	35.0	87.3	1.16	0.20	0.32
30°	14	35.0	85.1	1.17	0.16	0.25
35°	16	35.0	82.4	1.17	0.13	0.20
40°	18	35.0	79.4	1.17	0.11	0.16
45°	20	35.0	76.0	1.18	0.09	0.14
50°	22	35.0	72.4	1.18	0.08	0.12
55°	23	35.0	68.4	1.20	0.08	0.11
60°	25	35.0	64.1	1.20	0.07	0.09
25°	12	45.0	97.3	1.18	0.23	0.34
30°	14	45.0	95.0	1.18	0.18	0.26
35°	16	45.0	92.4	1.19	0.15	0.21
40°	18	45.0	89.5	1.19	0.12	0.17
45°	20	45.0	86.0	1.20	0.11	0.15
50°	22	45.0	82.4	1.21	0.09	0.13

	a_p	DC	DCX	X.V	f_{min}	f_{max}
55°	23	45.0	78.4	1.22	0.09	0.11
60°	25	45.0	74.1	1.23	0.08	0.10
75°	28	45.0	60.1	1.31	0.07	0.08
















Cutters with setting angle 15° can be used as HFC. Use feeds from chamfers table.



SLOT MILLING

SLOT MILLING – NAVIGATOR

SLOT MILLING – DISC & T-SLOT MILLS

	S90SN	S90CN(XN)	F-SCC			
	90°		90°		90°	
	APMX (mm) 4.0 – 14.0	APMX (mm) 14.0 – 30.5	APMX (mm) 11.0 – 18.0			
	DC (mm) 63 – 200	DC (mm) 125 – 315	DC (mm) 25 – 40			
Disc	 DC = 80 – 200 (mm)	 DC = 125 – 315 (mm)				
Shell mill	 DC = 63 – 160 (mm)	 DC = 125 – 200 (mm)				
Page	314	320	325			
ISO	P M K	P M K	P M K			
Insert shape						
Inserts	SNHQ 11 SNHQ 12	CNHQ 1005 XNHQ 1205 XNHQ 1606	CCMX			
No. of cutting edges	4	2	2			
Deep slot milling 	■	■				
Deep shoulder milling 	▣	▣				
Face milling 	▣	▣				
Rear face milling 	▣	▣	■			
T-slot milling 			■			
Shallow shoulder milling 			▣			
Shallow slot milling 			▣			

S90SN



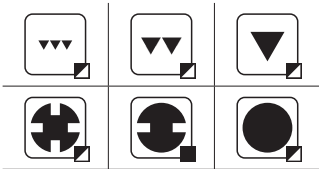
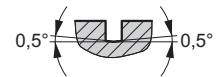
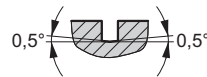
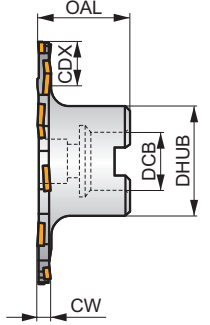
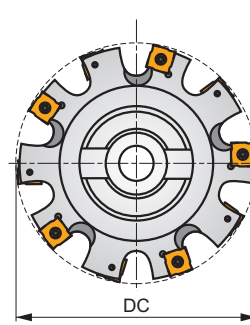
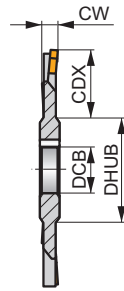
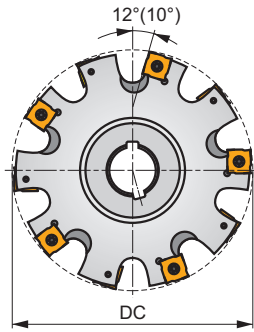
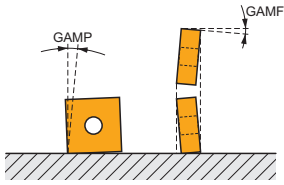
PRAMET



Side and Face Disk Milling Cutter

90° disc mill utilising SNHQ inserts. Suitable for slot, shoulder, rear side and face milling. Available in arbor or stub arbor style. Body treated for longer tool life.

KAPR	90°
CW	4.0 – 14.0 mm



	0.07 – 0.09
	0.07 – 0.09



Product	DC	OAL	DCB	DHUB	CDX	CW	λ	GAMF	GAMP								
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)	(°)								
80F8N-S90SN11N4	80	-	27	42	16	4.00	-	2.5	-0.5	8	-	12300	-	0.21	G1151	DI011	-
80F8N-S90SN11N5	80	-	27	42	16	5.00	-	2.5	-0.5	8	-	12300	-	0.22	G1152	DI019	-
80F8N-S90SN12N6	80	-	27	42	16	6.00	-	2.5	-0.5	8	-	8400	-	0.25	G1153	DI012	-
80F8N-S90SN12N8	80	-	27	42	16	8.00	-	2.5	-0.5	8	-	8400	-	0.25	G1157	DI013	-
100G10N-S90SN12N6	100	-	32	48	24	6.00	-	2.5	-0.5	10	-	7500	-	0.43	G1153	DI012	-
100G10N-S90SN12N8	100	-	32	48	24	8.00	-	2.5	-0.5	10	-	7500	-	0.42	G1157	DI013	-
100G10N-S90SN12N10	100	-	32	48	24	10.00	-	2.5	-0.5	10	-	7500	-	0.46	G1154	DI014	-
100G10N-S90SN12N12	100	-	32	48	24	12.00	-	2.5	-0.5	10	-	7500	-	0.66	G1158	DI015	-
125H12N-S90SN12N6	125	-	40	58	31	6.00	-	2.5	-0.5	12	-	6700	-	0.62	G1153	DI012	-
125H12N-S90SN12N8	125	-	40	58	31	8.00	-	2.5	-0.5	12	-	6700	-	0.73	G1157	DI013	-
125H12N-S90SN12N10	125	-	40	58	31	10.00	-	2.5	-0.5	12	-	6700	-	0.66	G1154	DI014	-
125H12N-S90SN12N12	125	-	40	58	31	12.00	-	2.5	-0.5	12	-	6700	-	0.76	G1158	DI015	-
160H16N-S90SN12N6	160	-	40	58	43	6.00	-	2.5	-0.5	16	-	5900	-	0.86	G1153	DI012	-
160H16N-S90SN12N8	160	-	40	58	43	8.00	-	2.5	-0.5	16	-	5900	-	1.10	G1157	DI013	-
160H16N-S90SN12N10	160	-	40	58	43	10.00	-	2.5	-0.5	16	-	5900	-	1.14	G1154	DI014	-
160H16N-S90SN12N12	160	-	40	58	43	12.00	-	2.5	-0.5	16	-	5900	-	1.30	G1158	DI015	-
160H15N-S90SN12N14	160	-	40	58	43	14.00	-	2.5	-0.5	15	-	5900	-	1.40	G1158	DI015	-
200J18N-S90SN12N6	200	-	50	72	62	6.00	-	2.5	-0.5	18	-	5300	-	1.40	G1153	DI012	-
200J18N-S90SN12N8	200	-	50	72	62	8.00	-	2.5	-0.5	18	-	5300	-	1.78	G1157	DI013	-
200J18N-S90SN12N10	200	-	50	72	62	10.00	-	2.5	-0.5	18	-	5300	-	1.89	G1154	DI014	-
200J18N-S90SN12N12	200	-	50	72	62	12.00	-	2.5	-0.5	18	-	5300	-	2.23	G1158	DI015	-
200J18N-S90SN12N14	200	-	50	72	62	14.00	-	2.5	-0.5	18	-	5300	-	2.67	G1158	DI015	-
63A03R-S90SN11N4	63	40	16	34	10.5	4.00	3	2.5	-0.5	6	-	13900	-	0.37	G1151	DI021	-
63A03R-S90SN11N5	63	40	16	34	10.5	5.00	3	2.5	-0.5	6	-	13900	-	0.36	G1152	DI021	-
63A03R-S90SN12N6	63	40	16	34	10.5	6.00	3	2.5	-0.5	6	-	9500	-	0.37	G1153	DI022	-
80A04R-S90SN11N5	80	40	22	40	17.5	5.00	4	2.5	-0.5	8	-	12300	-	0.48	G1152	DI023	-
80A04R-S90SN12N6	80	40	22	40	17.5	6.00	4	2.5	-0.5	8	-	8400	-	0.50	G1153	DI024	-

Product	DC	OAL	DCB	DHUB	CDX	CW		GAMF	GAMP									
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)									
100A05R-S90SN12N6	100	50	27	48	23.5	6.00	5	2.5	-0.5	10	-	7500	-	0.86	G1153	DI025	-	-
125B06R-S90SN12N6	125	50	40	56	24	6.00	6	2.5	-0.5	12	-	6700	-	1.20	G1153	DI012	AC003	-
160B08R-S90SN12N10	160	50	40	70	41	10.00	8	2.5	-0.5	16	-	5900	-	1.83	G1154	DI014	-	-

G1151	SNHQ 1102..
G1152	SNHQ 1103..
G1153	SNHQ 1203..
G1154	SNHQ 1205..
G1157	SNHQ 1204..
G1158	SNHQ 1207

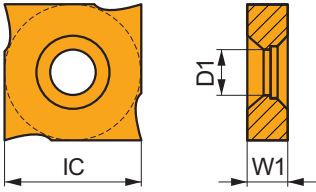
DI011	US 3504-T09P	3.0	M 3.5	4	D-T07P/T09P	FG-15	-
DI012	US 70	5.0	M 4	5	D-T07/T15	FG-15	-
DI013	US 71	5.0	M 4	7	D-T07/T15	FG-15	-
DI014	US 72	5.0	M 4	9	D-T07/T15	FG-15	-
DI015	US 73	5.0	M 4	11	D-T07/T15	FG-15	-
DI019	US 3505-T09P	3.0	M 3.5	5	D-T07P/T09P	FG-15	HS 0830
DI021	US 3504-T09P	3.0	M 3.5	4	D-T07P/T09P	FG-15	HS 0830
DI022	US 70	5.0	M 4	5	D-T07/T15	FG-15	HS 0830
DI023	US 3505-T09P	3.0	M 3.5	5	D-T07P/T09P	FG-15	HS 1030
DI024	US 70	5.0	M 4	5	D-T07/T15	FG-15	HS 1030
DI025	US 70	5.0	M 4	5	D-T07/T15	FG-15	HS 1230

AC003	KS 2040	K.FMH40

SNHQ AZ

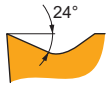
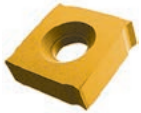


	IC (mm)	D1 (mm)	W1 (mm)
1102	11.000	4.30	2.300
1103	11.000	4.30	2.700
1203	12.700	5.00	3.200
1204	12.700	5.00	4.500
1205	12.700	5.00	5.400
1207	12.700	5.00	7.000
12T3	12.700	5.00	3.400



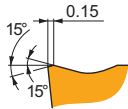
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



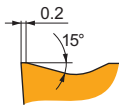
EN geometry with special design for slot milling.

SNHQ 1203AZEN:8215	☹	–	■	415	0.10	–	▣	245	0.10	–	■	390	0.10	–	–	–	–	–	–	–
SNHQ 1203AZEN:M8340	☹	–	■	370	0.10	–	▣	220	0.10	–	▣	350	0.10	–	–	–	–	–	–	–
SNHQ 1204AZEN:8215	☹	–	■	405	0.10	–	▣	240	0.10	–	■	380	0.10	–	–	–	–	–	–	–
SNHQ 1204AZEN:M8340	☹	–	■	355	0.10	–	▣	210	0.10	–	▣	335	0.10	–	–	–	–	–	–	–
SNHQ 1205AZEN:8215	☹	–	■	390	0.10	–	▣	230	0.10	–	■	370	0.10	–	–	–	–	–	–	–
SNHQ 1205AZEN:M8340	☹	–	■	345	0.10	–	▣	205	0.10	–	▣	325	0.10	–	–	–	–	–	–	–
SNHQ 1207AZEN:8215	☹	–	■	380	0.10	–	▣	225	0.10	–	■	360	0.10	–	–	–	–	–	–	–
SNHQ 1207AZEN:M8340	☹	–	■	335	0.10	–	▣	200	0.10	–	▣	315	0.10	–	–	–	–	–	–	–



TN geometry with special design for slot milling.

SNHQ 1102AZTN:M8330	☹	–	■	365	0.20	–	▣	215	0.18	–	■	345	0.20	–	–	–	–	–	–	–
SNHQ 1102AZTN:M8340	☹	–	■	335	0.20	–	▣	200	0.18	–	▣	315	0.20	–	–	–	–	–	–	–
SNHQ 1103AZTN:M8330	☹	–	■	345	0.20	–	▣	205	0.18	–	■	325	0.20	–	–	–	–	–	–	–
SNHQ 1103AZTN:M8340	☹	–	■	315	0.20	–	▣	185	0.18	–	▣	295	0.20	–	–	–	–	–	–	–



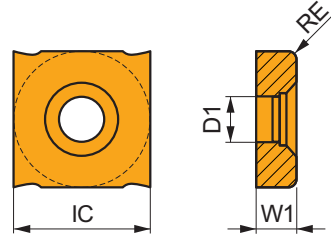
TN geometry with special design for slot milling.

SNHQ 1203AZTN:M8330	☹	–	■	345	0.20	–	▣	205	0.18	–	■	325	0.20	–	–	–	–	–	–	–
SNHQ 1203AZTN:M8340	☹	–	■	315	0.20	–	▣	185	0.18	–	▣	295	0.20	–	–	–	–	–	–	–
SNHQ 1204AZTN:M8330	☹	–	■	335	0.20	–	▣	200	0.20	–	■	315	0.20	–	–	–	–	–	–	–
SNHQ 1204AZTN:M8340	☹	–	■	300	0.20	–	▣	180	0.20	–	▣	285	0.20	–	–	–	–	–	–	–
SNHQ 1205AZTN:M8330	☹	–	■	330	0.20	–	▣	195	0.20	–	■	310	0.20	–	–	–	–	–	–	–
SNHQ 1205AZTN:M8340	☹	–	■	295	0.20	–	▣	175	0.20	–	▣	280	0.20	–	–	–	–	–	–	–
SNHQ 1207AZTN:M8330	☹	–	■	320	0.20	–	▣	190	0.20	–	■	300	0.20	–	–	–	–	–	–	–
SNHQ 1207AZTN:M8340	☹	–	■	290	0.20	–	▣	170	0.20	–	▣	275	0.20	–	–	–	–	–	–	–
SNHQ 12T3AZTN:M8340	☹	–	■	300	0.20	–	▣	180	0.18	–	▣	285	0.20	–	–	–	–	–	–	–

SNHQ TRL

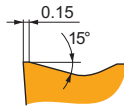
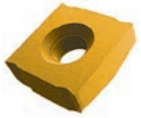


	IC (mm)	D1 (mm)	L (mm)	W1 (mm)
1203	12.700	5.00	12.70	3.200
1204	12.700	5.00	12.70	4.500
1205	12.700	5.00	12.70	5.400
1207	12.700	5.00	12.70	7.000



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



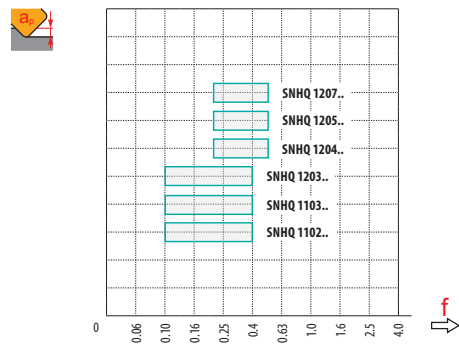
TRL geometry with special design for slot milling.

SNHQ 120305TRL:M8340	0.5	230	0.20	135	0.18	215	0.20	-	-	-	-	-	-	-	-	-	-	-
SNHQ 120310TRL:M8340	1.0	285	0.20	170	0.18	270	0.20	-	-	-	-	-	-	-	-	-	-	-
SNHQ 120315TRL:M8340	1.5	300	0.20	180	0.18	285	0.20	-	-	-	-	-	-	-	-	-	-	-
SNHQ 120405TRL:M8340	0.5	220	0.20	130	0.20	205	0.20	-	-	-	-	-	-	-	-	-	-	-
SNHQ 120415TRL:M8340	1.5	290	0.20	170	0.20	275	0.20	-	-	-	-	-	-	-	-	-	-	-
SNHQ 120505TRL:M8340	0.5	215	0.20	125	0.20	200	0.20	-	-	-	-	-	-	-	-	-	-	-
SNHQ 120515TRL:M8340	1.5	280	0.20	165	0.20	265	0.20	-	-	-	-	-	-	-	-	-	-	-
SNHQ 120705TRL:M8340	0.5	210	0.20	125	0.20	195	0.20	-	-	-	-	-	-	-	-	-	-	-
SNHQ 120710TRL:M8340	1.0	265	0.20	155	0.20	250	0.20	-	-	-	-	-	-	-	-	-	-	-



a_e / DC	0.05	0.10	0.15	0.20	0.25	0.30	0.40	0.50	0.60	0.70	0.75	0.80	0.90	1.00
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00












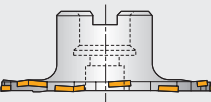
	SNHQ AZEN	SNHQ AZTN	SNHQ 12TRL
	-	-	0.5 – 1.5
	-	-	-








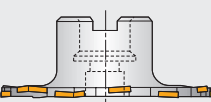


	80	4	16	16
	100	5	24	24
	125	6	31	31
	160	5	43	43
	200	9	62	62
	63	3	10.5	63
	80	4	17.5	80
	100	5	23.5	100
	125	6	24	125
	160	8	41	160



	a_e	5		10		15		20		25	
		f_{min}	f_{max}	f_{min}	f_{max}	f_{min}	f_{max}	f_{min}	f_{max}	f_{min}	f_{max}
	80	0.28	0.36	0.20	0.26	0.17	0.21	-	-	-	-
	100	0.32	0.41	0.23	0.29	0.19	0.24	0.16	0.21	-	-
	125	0.35	0.45	0.25	0.32	0.21	0.27	0.18	0.23	0.16	0.21
	160	0.40	0.51	0.28	0.36	0.23	0.30	0.20	0.26	0.18	0.23
	200	0.44	0.57	0.32	0.41	0.26	0.33	0.23	0.29	0.20	0.26
	63	0.25	0.32	0.18	0.23	0.15	0.19	0.13	0.17	0.12	0.15
	80	0.28	0.36	0.20	0.26	0.17	0.21	0.15	0.19	0.13	0.17
	100	0.32	0.41	0.23	0.29	0.19	0.24	0.16	0.21	0.15	0.19
	125	0.35	0.45	0.25	0.32	0.21	0.27	0.18	0.23	0.16	0.21
	160	0.40	0.51	0.28	0.36	0.23	0.30	0.20	0.26	0.18	0.23

	a _e	32		40		50		63		80	
			f_{min} 	f_{max} 	f_{min} 	f_{max} 	f_{min} 	f_{max} 	f_{min} 	f_{max} 	f_{min} 
	80	-	-	-	-	-	-	-	-	-	-
	100	-	-	-	-	-	-	-	-	-	-
	125	-	-	-	-	-	-	-	-	-	-
	160	0.16	0.21	0.15	0.19	-	-	-	-	-	-
	200	0.18	0.23	0.16	0.21	0.15	0.19	-	-	-	-
	63	0.11	0.14	0.10	0.13	0.10	0.12	0.10	0.11	-	-
	80	0.12	0.15	0.11	0.14	0.10	0.13	0.10	0.12	0.10	0.11
	100	0.13	0.17	0.12	0.15	0.11	0.14	0.10	0.13	0.10	0.12
	125	0.15	0.19	0.13	0.17	0.12	0.15	0.11	0.14	0.10	0.13
	160	0.16	0.21	0.15	0.19	0.13	0.17	0.12	0.16	0.11	0.14

	a _e	100		125		160	
			f_{min} 	f_{max} 	f_{min} 	f_{max} 	f_{min} 
	80	-	-	-	-	-	-
	100	-	-	-	-	-	-
	125	-	-	-	-	-	-
	160	-	-	-	-	-	-
	200	-	-	-	-	-	-
	63	-	-	-	-	-	-
	80	-	-	-	-	-	-
	100	0.10	0.11	-	-	-	-
	125	0.10	0.12	0.10	0.11	-	-
	160	0.10	0.13	0.10	0.12	0.10	0.11

S90CN(XN)



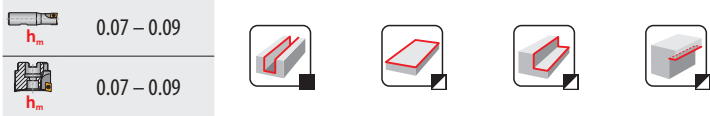
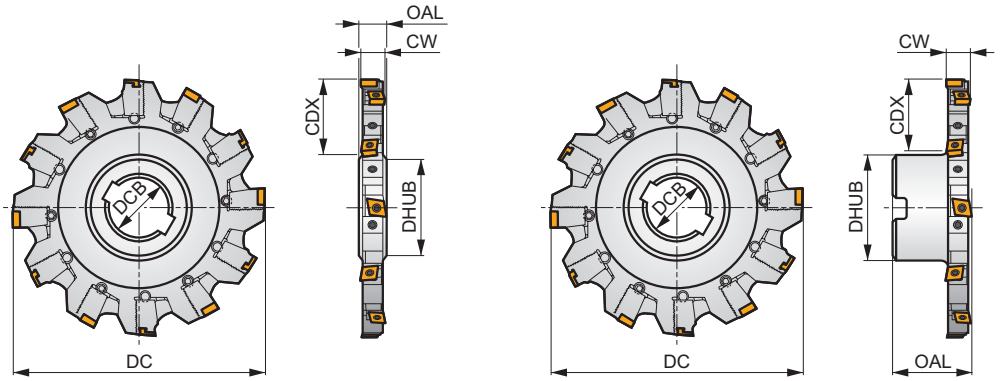
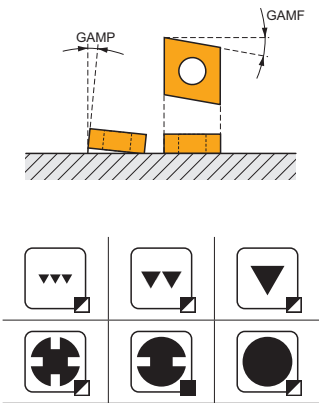
PRAMET



Side and Face Disk Milling Cutter with Adjustable Width
















90° disc mill utilising CNHQ and XNHQ inserts. Suitable for slot, shoulder, rear side and face milling. Available in arbor or stub arbor style. Body treated for longer tool life.



KAPR	90°
CW	14.0 – 30.5 mm



Product	DC	OAL	DCB	DHUB	CDX	CW	GAMF	GAMP	x	Z	max.	kg	G1195	D1051	AC003		
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)									
125H04N-S90CN10N18	125	18	40	56	34	14.0 – 18.5	-10	4	4	8	-	7800	-	1.19	G1195	D1051	-
160H06N-S90CN10N18	160	18	40	56	50	14.0 – 18.5	-8	4	6	12	-	6900	-	1.80	G1195	D1052	-
160H05N-S90XN12N24	160	24	40	56	50	19.0 – 24.3	-8	5	5	10	-	5200	-	2.50	G1196	D1056	-
200J07N-S90CN10N18	200	18	50	71	60	14.0 – 18.5	-8	4	7	14	-	6100	-	2.85	G1195	D1053	-
200J06N-S90XN12N24	200	24	50	71	60	19.0 – 24.3	-8	5	6	12	-	4700	-	3.60	G1196	D1057	-
200J06N-S90XN16N30	200	30	50	71	60	24.5 – 30.5	-9	5	6	12	-	4000	-	6.00	G1197	D1060	-
250J09N-S90CN10N18	250	18	50	71	85	14.0 – 18.5	-8	4	9	18	-	5500	-	5.30	G1195	D1054	-
250J08N-S90XN12N24	250	24	50	71	85	19.0 – 24.3	-8	5	8	16	-	4200	-	7.50	G1196	D1058	-
250J08N-S90XN16N30	250	30	50	71	85	24.5 – 30.5	-8	5	8	16	-	3600	-	8.00	G1197	D1061	-
315J12N-S90CN10N18	315	18	50	71	110	14.0 – 18.5	-8	4	12	24	-	4900	-	7.80	G1195	D1055	-
315J10N-S90XN12N24	315	24	50	71	110	19.0 – 24.3	-8	5	10	20	-	3700	-	10.70	G1196	D1059	-
315K10N-S90XN16N30	315	30	60	85	110	24.5 – 30.5	-8	5	10	20	-	3200	-	13.00	G1197	D1062	-
125B04R-S90CN10N18	125	50	40	70	25	14.0 – 18.5	-10	4	4	8	-	7800	-	1.65	G1195	D1071	AC003
160B06R-S90CN10N18	160	50	40	70	44	14.0 – 18.5	-8	5	6	12	-	6900	-	2.55	G1195	D1072	-
160B05R-S90XN12N24	160	50	40	70	44	19.0 – 24.3	-8	5	5	10	-	5200	-	2.50	G1196	D1074	-
200C06R-S90XN12N24	200	50	40	90	52	19.0 – 24.3	-8	5	6	12	-	6100	-	4.70	G1196	D1075	-
200C07R-S90CN10N18	200	50	40	90	52	14.0 – 18.5	-8	4	7	14	-	6100	-	4.05	G1195	D1073	-

G1195	CNHQ 1005..
G1196	XNHQ 1205..
G1197	XNHQ 1606..

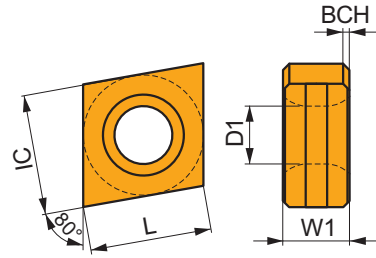
															
DI051	125H04N-S-14-08	KL-1418-CN10	KR-1418-CN10	KS 613F	DS 6018F	SDR T20	SS 6005-T09P	SDR T09	US 4011-T15P	3.5	M 4	10.6	SDR T15P	-	
DI052	160H06N-S-14-12	KL-1418-CN10	KR-1418-CN10	KS 613F	DS 6018F	SDR T20	SS 6005-T09P	SDR T09	US 4011-T15P	3.5	M 4	10.6	SDR T15P	-	
DI053	200J07N-S-14-14	KL-1418-CN10	KR-1418-CN10	KS 613F	DS 6018F	SDR T20	SS 6005-T09P	SDR T09	US 4011-T15P	3.5	M 4	10.6	SDR T15P	-	
DI054	250J09N-S-14-18	KL-1418-CN10	KR-1418-CN10	KS 613F	DS 6018F	SDR T20	SS 6005-T09P	SDR T09	US 4011-T15P	3.5	M 4	10.6	SDR T15P	-	
DI055	315J12N-S-14-24	KL-1418-CN10	KR-1418-CN10	KS 613F	DS 6018F	SDR T20	SS 6005-T09P	SDR T09	US 4011-T15P	3.5	M 4	10.6	SDR T15P	-	
DI056	160H05N-S-19-10	KL-1924-XN12	KR-1924-XN12	KS 617M	DS 6500	-	SS 6005-T09P	SDR T09	US 4011-T15P	3.5	M 4	10.6	SDR T15P	HXX 4	
DI057	200J06N-S-19-12	KL-1924-XN12	KR-1924-XN12	KS 617M	DS 6500	-	SS 6005-T09P	SDR T09	US 4011-T15P	3.5	M 4	10.6	SDR T15P	HXX 4	
DI058	250J08N-S-19-16	KL-1924-XN12	KR-1924-XN12	KS 617M	DS 6500	-	SS 6005-T09P	SDR T09	US 4011-T15P	3.5	M 4	10.6	SDR T15P	HXX 4	
DI059	315J10N-S-19-20	KL-1924-XN12	KR-1924-XN12	KS 617M	DS 6500	-	SS 6005-T09P	SDR T09	US 4011-T15P	3.5	M 4	10.6	SDR T15P	HXX 4	
DI060	200J06N-S-25-12	KL-2530-XN16	KR-2530-XN16	KS 623M	DS 6500	-	SS 6005-T09P	SDR T09	US 4011-T15P	3.5	M 4	10.6	SDR T15P	HXX 4	
DI061	250J08N-S-25-16	KL-2530-XN16	KR-2530-XN16	KS 623M	DS 6500	-	SS 6005-T09P	SDR T09	US 4011-T15P	3.5	M 4	10.6	SDR T15P	HXX 4	
DI062	315K10N-S-25-20	KL-2530-XN16	KR-2530-XN16	KS 623M	DS 6500	-	SS 6005-T09P	SDR T09	US 4011-T15P	3.5	M 4	10.6	SDR T15P	HXX 4	
DI071	125B04R-S-14-08	KL-1418-CN10	KR-1418-CN10	KS 613F	DS 6018F	SDR T20	SS 6005-T09P	SDR T09	US 4011-T15P	3.5	M 4	10.6	SDR T15P	-	
DI072	160B06R-S-14-12	KL-1418-CN10	KR-1418-CN10	KS 613F	DS 6018F	SDR T20	SS 6005-T09P	SDR T09	US 4011-T15P	3.5	M 4	10.6	SDR T15P	-	
DI073	200C07R-S-14-14	KL-1418-CN10	KR-1418-CN10	KS 613F	DS 6018F	SDR T20	SS 6005-T09P	SDR T09	US 4011-T15P	3.5	M 4	10.6	SDR T15P	-	
DI074	160B05R-S-19-10	KL-1924-XN12	KR-1924-XN12	KS 617M	DS 6500	-	SS 6005-T09P	SDR T09	US 4011-T15P	3.5	M 4	10.6	SDR T15P	HXX 4	
DI075	200C06R-S-19-12	KL-1924-XN12	KR-1924-XN12	KS 617M	DS 6500	-	SS 6005-T09P	SDR T09	US 4011-T15P	3.5	M 4	10.6	SDR T15P	HXX 4	

		
AC003	KS 2040	K.FMH40

CNHQ

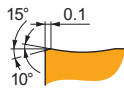
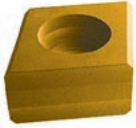


	BCH	IC	D1	L	W1
	(mm)	(mm)	(mm)	(mm)	(mm)
1005	0.50	10.000	4.70	10.00	5.400



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



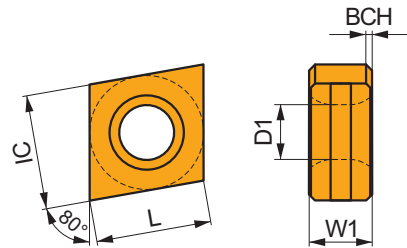
Special design for slot milling with light to heavy cutting conditions.

CNHQ 1005AZTN:M8330	☺	-	■	310	0.15	-	■	185	0.14	-	■	290	0.15	-	-	-	-	-	-	-
CNHQ 1005AZTN:M8340	☺	-	■	280	0.15	-	■	165	0.14	-	■	265	0.15	-	-	-	-	-	-	-

XNHQ

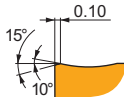


	BCH	IC	D1	L	W1
	(mm)	(mm)	(mm)	(mm)	(mm)
1205	0.50	10.000	4.70	12.70	5.400
1606	0.50	12.000	5.90	16.00	6.400



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



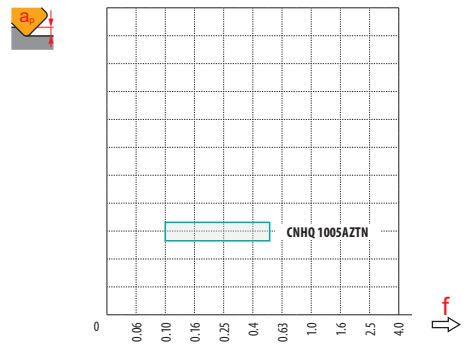
Special design for slot milling.

XNHQ 1205AZTN:M8330	☺	-	■	310	0.15	-	■	185	0.14	-	■	290	0.15	-	-	-	-	-	-	-
XNHQ 1205AZTN:M8340	☺	-	■	275	0.15	-	■	165	0.14	-	■	260	0.15	-	-	-	-	-	-	-
XNHQ 1606AZTN:M8330	☺	-	■	300	0.15	-	■	180	0.14	-	■	285	0.15	-	-	-	-	-	-	-
XNHQ 1606AZTN:M8340	☺	-	■	270	0.15	-	■	160	0.14	-	■	255	0.15	-	-	-	-	-	-	-



a_e / DC	0.05	0.10	0.15	0.20	0.25	0.30	0.40	0.50	0.60	0.70	0.75	0.80	0.90	1.00
$X.V$	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00












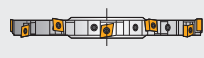

	XNHQ 10
	-
	-










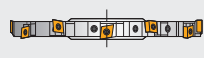



			\varnothing_{max}
	125	4	34
	160	6	50
	200	7	60
	250	9	85
	315	12	110
	125	4	25
	160	6	44
	200	7	52



	a_e	5		10		15		20		25	
		f_{min}	f_{max}	f_{min}	f_{max}	f_{min}	f_{max}	f_{min}	f_{max}	f_{min}	f_{max}
	125	0.35	0.45	0.25	0.32	0.21	0.27	0.18	0.23	0.16	0.21
	160	0.40	0.51	0.28	0.36	0.23	0.30	0.20	0.26	0.18	0.23
	200	0.44	0.57	0.32	0.41	0.26	0.33	0.23	0.29	0.20	0.26
	250	0.50	0.64	0.35	0.45	0.29	0.37	0.25	0.32	0.23	0.29
	315	0.56	0.72	0.39	0.51	0.32	0.42	0.28	0.36	0.25	0.32
	125	0.35	0.45	0.25	0.32	0.21	0.27	0.18	0.23	0.16	0.21
	160	0.40	0.51	0.28	0.36	0.23	0.30	0.20	0.26	0.18	0.23
	200	0.44	0.57	0.32	0.41	0.26	0.33	0.23	0.29	0.20	0.26

	a _e	32		40		50		63		80	
											
	125	0.15	0.19	–	–	–	–	–	–	–	–
	160	0.16	0.21	0.15	0.19	–	–	–	–	–	–
	200	0.18	0.23	0.16	0.21	0.15	0.19	–	–	–	–
	250	0.20	0.26	0.18	0.23	0.16	0.21	0.15	0.19	0.13	0.17
	315	0.22	0.29	0.20	0.26	0.18	0.23	0.16	0.21	0.15	0.19
	125	0.15	0.19	0.13	0.17	0.12	0.15	0.11	0.14	0.10	0.13
	160	0.16	0.21	0.15	0.19	0.13	0.17	0.12	0.16	0.11	0.14
	200	0.18	0.23	0.16	0.21	0.15	0.19	0.13	0.17	0.12	0.15

	a _e	100		125		160		200	
									
	125	–	–	–	–	–	–	–	–
	160	–	–	–	–	–	–	–	–
	200	–	–	–	–	–	–	–	–
	250	–	–	–	–	–	–	–	–
	315	0.13	0.17	–	–	–	–	–	–
	125	0.10	0.12	0.10	0.11	–	–	–	–
	160	0.10	0.13	0.10	0.12	0.10	0.11	–	–
	200	0.11	0.14	0.10	0.13	0.10	0.12	0.10	0.11

F-SCC

P M K

PRAMET

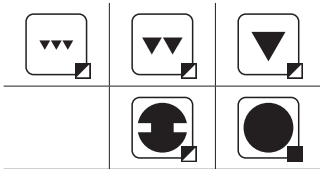
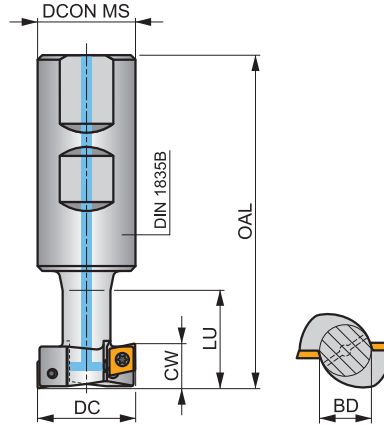
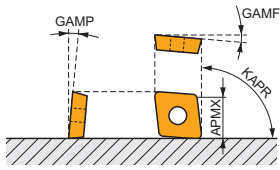
S



T-Slot Milling Cutter for CCMX insert with Internal Coolant

T-slot milling cutter utilising single-sided CCMX inserts. Internal coolant. Suitable for T-slot, back-face, shallow shoulder and shallow slot milling. Available in weldon style only in outside. Body treated for longer tool life.

KAPR	90°
APMX	11.0 – 18.0 mm



h_m 0.05 – 0.08



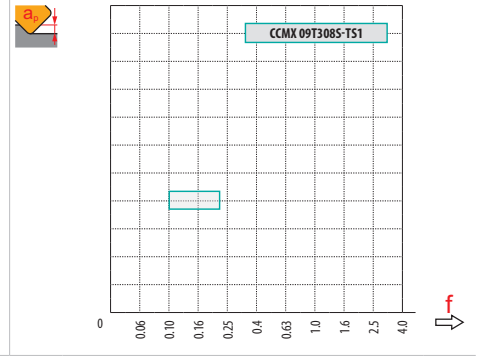
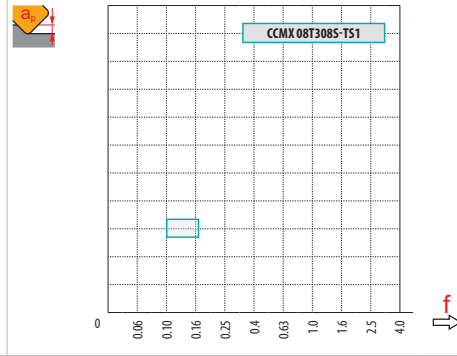
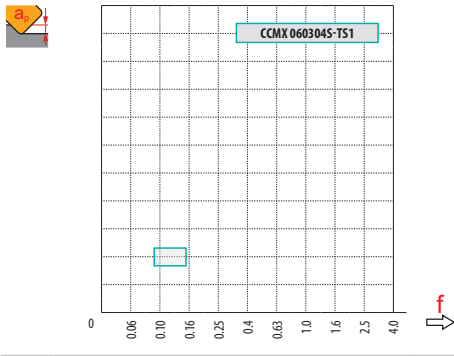
Product	DC (mm)	BD (mm)	OAL (mm)	DCON MS (mm)	LU (mm)	CW (mm)	$\frac{x}{1}$					kg		
25F1R030B25-SCC06-C	25	12	86	25	25	11.00	1	2	–	28100	✓	0.26	G148	SQ213
32F1R038B32-SCC08-C	32	16	98	32	33	14.00	1	2	–	19100	✓	0.50	G149	SQ212
40F2R046B32-SCC09-C	40	20	105	32	41	18.00	2	4	–	14900	✓	0.56	G150	SQ212

G148	CCMX 060304
G149	CCMX 08T308
G150	CCMX 09T308

SQ212	US 3007-T09P	2.0	M 3	7.3	Flag T09P
SQ213	US 2506-T07P	1.2	M 2.5	6.3	Flag T07P



	CCMX 06-TS1	CCMX 08-TS1	CCMX 09-TS1
	0.4	0.8	0.8
	-	-	-



a_e / DC	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00



	$a_e = 1$		$a_e = 2$		$a_e = 3$		$a_e = 4$		$a_e = 5$		$a_e = 8$		$a_e = 10$	
	f_{min}	f_{max}	f_{min}	f_{max}	f_{min}	f_{max}	f_{min}	f_{max}	f_{min}	f_{max}	f_{min}	f_{max}	f_{min}	f_{max}
25	0.25	0.40	0.18	0.29	0.15	0.24	0.13	0.21	0.12	0.19	0.09	0.15	0.09	0.14
32	0.28	0.45	0.20	0.32	0.17	0.27	0.14	0.23	0.13	0.21	0.10	0.17	0.09	0.15
40	0.32	0.51	0.23	0.36	0.18	0.30	0.16	0.26	0.14	0.23	0.12	0.19	0.10	0.17

	$a_e = 12$		$a_e = 16$		$a_e = 20$		$a_e = 25$		$a_e = 32$		$a_e = 40$	
	f_{min}	f_{max}	f_{min}	f_{max}	f_{min}	f_{max}	f_{min}	f_{max}	f_{min}	f_{max}	f_{min}	f_{max}
25	0.08	0.13	0.07	0.12	0.07	0.11	0.08	0.13	-	-	-	-
32	0.09	0.14	0.08	0.13	0.07	0.12	0.07	0.11	0.08	0.13	-	-
40	0.10	0.15	0.09	0.14	0.08	0.13	0.07	0.12	0.07	0.11	0.08	0.13

- Valid for T-slot milling
- Valid for shoulder and inverse face milling
- Valid for shoulder milling



25	1	11	6.4
32	1	14	8.0
40	2	18	9.7

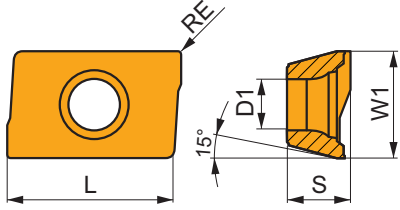


OTHER MILLING INSERTS

ADKT 15

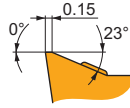


	W1 (mm)	D1 (mm)	L (mm)	S (mm)
1505	9.525	4.40	15.55	5.60



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



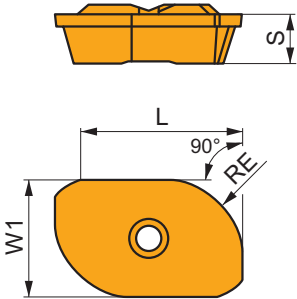
M geometry with highly positive design for medium machining.

ADKT 1505PDER-M:M8330	0.8	235	0.20	5.0	140	0.18	5.0	220	0.20	5.0	-	-	-	55	0.16	4.0	-	-	-
ADKT 1505PDER-M:M8340	0.8	210	0.20	5.0	125	0.18	5.0	195	0.20	5.0	-	-	-	50	0.16	4.0	-	-	-
ADKT 1505PDER-M:M9325	0.8	290	0.20	5.0	-	-	-	275	0.20	5.0	-	-	-	-	-	-	-	-	-

ADKX 15

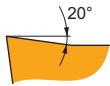


	W1 (mm)	L (mm)	S (mm)
15T3	9.525	12.20	3.97



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



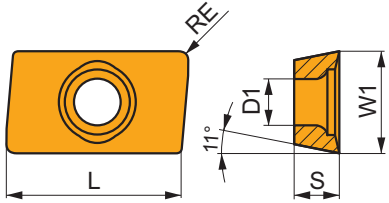
F geometry with very sharp positive design for light to medium machining.

ADKX 15T308ER-F:M8345	0.8	170	0.10	10.0	100	0.09	10.0	-	-	-	-	-	-	40	0.07	8.0	-	-	-
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APMT 16



	W1	D1	L	S
	(mm)	(mm)	(mm)	(mm)
1604	9.600	4.50	17.00	4.76



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)

F geometry with positive design for light machining.

APMT 1604PDER-F:M8330	☹	–	■	320	0.10	2.0	■	190	0.09	2.0	■	300	0.10	2.0	■	80	0.07	1.6	■	–	–	–
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FM geometry with positive design for light to medium machining.

APMT 1604PDER-FM:M8330	☹	–	■	285	0.16	2.0	■	170	0.14	2.0	■	270	0.16	2.0	■	70	0.13	1.6	■	–	–	–
APMT 1604PDER-FM:M8345	☹	–	■	205	0.16	2.0	■	120	0.14	2.0	■	–	–	–	■	50	0.13	1.6	■	–	–	–

ER-R geometry with positive design for rough machining.

APMT 1604PDER-R:M8330	☹	–	■	255	0.16	5.0	■	–	–	–	■	240	0.16	5.0	■	–	–	–	■	–	–	–
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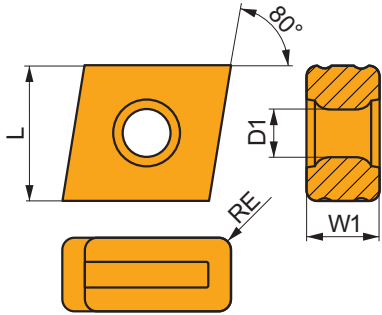
SR-R geometry with positive design for rough machining.

APMT 1604PDSR-R:M8330	☹	–	■	255	0.18	5.0	■	–	–	–	■	240	0.18	5.0	■	–	–	–	■	–	–	–
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CNM

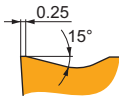


	D1 (mm)	L (mm)	S (mm)
63	5.50	15.00	8.00



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H			
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	
	●																			
	⊕																			



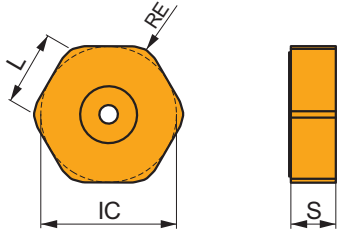
Universal geometry.

CNM 563:M8330	●	1.2	185	0.30	10.0	–	–	–	175	0.30	10.0	–	–	–	–	–	–	–	–	–
CNM 563:M8340	⊕	1.2	220	0.30	10.0	–	–	–	205	0.30	10.0	–	–	–	–	–	–	–	–	

HNEF 09

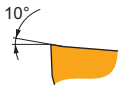


	IC (mm)	L (mm)	S (mm)
0905	16.200	9.40	5.64



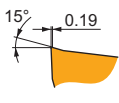
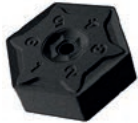
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H			
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	
	●																			
	⊕																			



R geometry with negative design for light and heavy machining.

HNMF 090516SN-R:8215	●	1.6	–	–	–	–	–	–	380	0.15	1.5	–	–	–	–	–	–	–	–
HNMF 090516SN-R:M5315	⊕	1.6	–	–	–	–	–	–	265	0.30	3.0	–	–	–	–	–	–	–	–



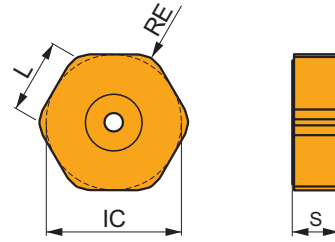
M geometry with positive design for light to medium machining.

HNEF 090508EN-M:M5315	⊕	0.8	–	–	–	–	–	–	290	0.18	3.0	–	–	–	–	–	–	–	–
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HNMF 09

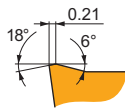


	IC (mm)	L (mm)	S (mm)
0905	16.200	9.40	5.64



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



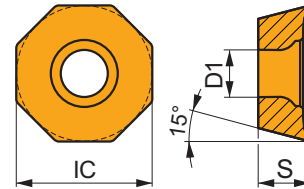
R geometry with negative design for light and heavy machining.

HNMF 090516SN-R:8215	✳	1.6	–	–	–	–	–	–	–	210	0.30	3.0	–	–	–	–	–	–	–
HNMF 090516SN-R:M5315	✳	1.6	–	–	–	–	–	–	–	265	0.30	3.0	–	–	–	–	–	–	–

ODMT 05

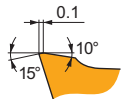


	IC (mm)	D1 (mm)	S (mm)
0504	12.700	4.40	4.76



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



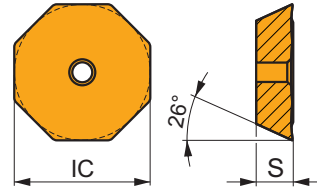
Slightly positive design for medium machining.

ODMT 0504ZZN:M8340	✳	–	195	0.25	1.5	–	–	–	–	185	0.25	1.5	–	–	–	–	–	–	–
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OFKR 07

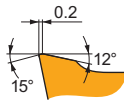
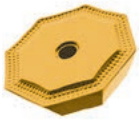


	IC (mm)	D1 (mm)	S (mm)
0704	17.845	2.65	4.56



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



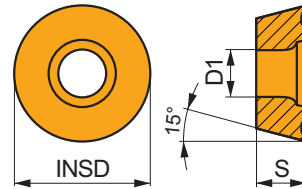
M geometry with positive design for light to medium machining.

OFKR 0704SN-M:M8330	☹	–	■	235	0.25	1.5	■	140	0.23	1.5	■	220	0.25	1.5	–	–	–	–	–	–
OFKR 0704SN-M:M8340	☹	–	■	215	0.25	1.5	■	125	0.23	1.5	■	200	0.25	1.5	–	–	–	–	–	–

RDET

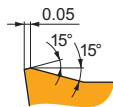


	INSD (mm)	D1 (mm)	S (mm)
0802	8.000	3.40	2.38
1003	10.000	4.40	3.18
12T3	12.000	4.40	3.97



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



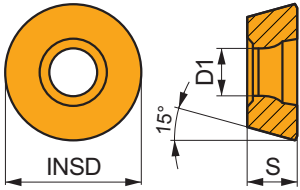
Positive design for finish machining.

RDET 0802MOSN:M8340	☹	–	■	335	0.15	0.5	■	200	0.14	0.5	■	315	0.15	0.5	–	–	–	■	80	0.12	0.4	–	–	–
RDET 1003MOSN:M8340	☹	–	■	310	0.15	1.0	■	185	0.14	1.0	■	290	0.15	1.0	–	–	–	■	75	0.12	0.8	–	–	–
RDET 12T3MOSN:M8340	☹	–	■	280	0.20	1.5	■	165	0.18	1.5	■	265	0.20	1.5	–	–	–	■	70	0.14	1.2	–	–	–

RDHX 20

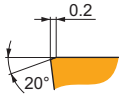


	INSD (mm)	D1 (mm)	S (mm)
2006	20.000	5.20	6.35



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



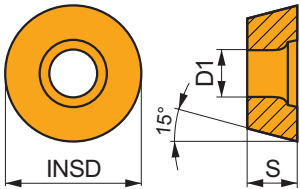
Zero rake angle design for finish machining.

RDHX 2006MOT:M8310	✳	–	✔	240	0.35	3.0	–	–	–	✔	225	0.35	3.0	–	–	–	–	–	–	–	✔	45	0.18	1.3
RDHX 2006MOT:M8325	✳	–	✔	180	0.35	3.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

RPET 12

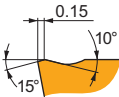


	INSD (mm)	D1 (mm)	S (mm)
1204	12.000	4.40	4.76



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



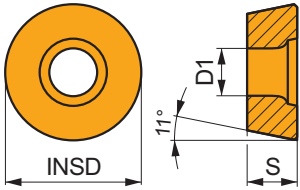
Positive design for finish machining.

RPET 1204MOSN:8215	✳	–	✔	325	0.20	1.5	✔	195	0.18	1.5	✔	305	0.20	1.5	–	–	–	✔	80	0.14	1.2	–	–	–
RPET 1204MOSN:M8330	✳	–	✔	320	0.20	1.5	✔	190	0.18	1.5	✔	300	0.20	1.5	–	–	–	✔	80	0.14	1.2	–	–	–
RPET 1204MOSN:M8340	✳	–	✔	295	0.20	1.5	✔	175	0.18	1.5	✔	280	0.20	1.5	–	–	–	✔	70	0.14	1.2	–	–	–

RPEW 12

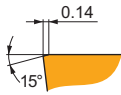


	INSD	D1	S
	(mm)	(mm)	(mm)
1204	12.000	4.40	4.76



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap
		(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)



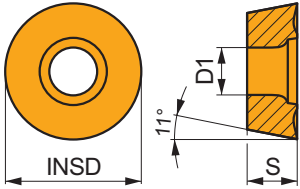
Zero rake angle design for finish machining.

RPEW 1204MOSN:M8330	☼	–	☑	285	0.20	1.5	–	–	–	☑	270	0.20	1.5	–	–	–	–	–	–	☑	55	0.10	0.8
RPEW 1204MOSN:M8340	☼	–	☑	265	0.20	1.5	–	–	–	☑	250	0.20	1.5	–	–	–	–	–	–	–	–	–	–

RPEX

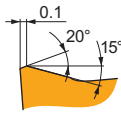


	INSD	D1	S
	(mm)	(mm)	(mm)
1204	12.000	4.40	4.76



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap
		(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)



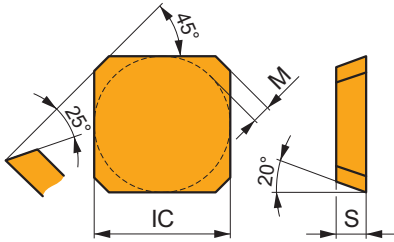
Positive design for finish machining.

RPEX 1204MOSN-12:M8340	☼	–	☑	215	0.30	1.5	☑	125	0.27	1.5	☑	200	0.30	1.5	–	–	–	☑	50	0.21	1.2	–	–	–
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SEEN

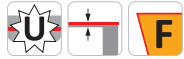
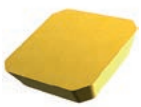


	IC (mm)	M (mm)	S (mm)
1203	12.700	1.6	3.18
1504	15.875	2.0	4.76



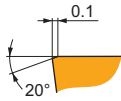
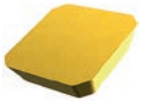
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



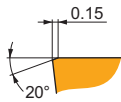
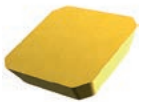
AFFN edge preparation, zero rake angle geometry for light to medium machining.

SEEN 1203AFFN:M8330	☉	–	270	0.15	2.0	160	0.14	2.0	255	0.15	2.0	–	–	–	–	–	–	–	–
SEEN 1203AFFN:M8340	☉	–	245	0.15	2.0	145	0.14	2.0	230	0.15	2.0	–	–	–	–	–	–	–	–



AFSN edge preparation, zero rake angle geometry for medium to heavy machining.

SEEN 1203AFSN:8215	☉	–	255	0.20	2.0	–	–	–	240	0.20	2.0	–	–	–	–	–	–	50	0.13	1.0
SEEN 1203AFSN:M8330	☉	–	255	0.20	2.0	–	–	–	240	0.20	2.0	–	–	–	–	–	–	50	0.13	1.0
SEEN 1203AFSN:M8340	☉	–	230	0.20	2.0	–	–	–	215	0.20	2.0	–	–	–	–	–	–	–	–	–
SEEN 1203AFSN:M9315	☉	–	340	0.20	2.0	–	–	–	320	0.20	2.0	–	–	–	–	–	–	65	0.13	1.0
SEEN 1203AFSN:M9325	☉	–	315	0.20	2.0	–	–	–	295	0.20	2.0	–	–	–	–	–	–	60	0.13	1.0



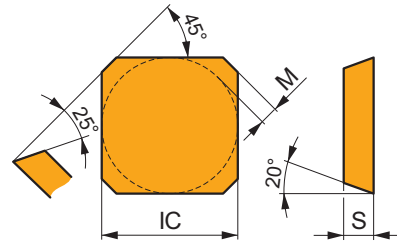
AFSN edge preparation, zero rake angle geometry for medium to heavy machining.

SEEN 1504AFSN:M8330	☉	–	240	0.20	3.0	–	–	–	225	0.20	3.0	–	–	–	–	–	–	45	0.13	1.3
SEEN 1504AFSN:M8340	☉	–	225	0.20	3.0	–	–	–	210	0.20	3.0	–	–	–	–	–	–	–	–	–

SEER

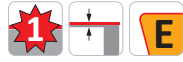
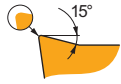


	IC (mm)	M (mm)	S (mm)
1203	12.700	1.6	3.18
1204	12.700	1.6	4.76
1504	15.875	2.0	4.76



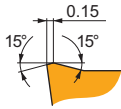
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



AFEN edge preparation, chipbreaker geometry for medium to heavy machining.

SEER 1203AFEN:M8330	☺	-	265	0.24	2.5	155	0.22	2.5	250	0.24	2.5	-	-	-	65	0.22	2.0	-	-	-
SEER 1203AFEN:M8340	☺	-	245	0.24	2.5	145	0.22	2.5	230	0.24	2.5	-	-	-	60	0.22	2.0	-	-	-



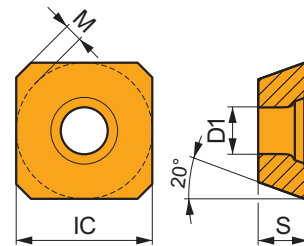
AFSN edge preparation, chipbreaker geometry for medium to heavy machining.

SEER 1203AFSN:M8330	☺	-	265	0.25	2.5	155	0.23	2.5	250	0.25	2.5	-	-	-	65	0.20	2.0	-	-	-
SEER 1203AFSN:M8340	☺	-	240	0.25	2.5	140	0.23	2.5	225	0.25	2.5	-	-	-	60	0.20	2.0	-	-	-
SEER 1204AFSN:M8330	☺	-	265	0.25	2.5	155	0.23	2.5	250	0.25	2.5	-	-	-	65	0.20	2.0	-	-	-
SEER 1504AFSN:M8330	☺	-	255	0.25	3.5	150	0.23	3.5	240	0.25	3.5	-	-	-	60	0.20	2.8	-	-	-
SEER 1504AFSN:M8340	☺	-	230	0.25	3.5	135	0.23	3.5	215	0.25	3.5	-	-	-	55	0.20	2.8	-	-	-

SEET 12

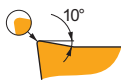


	IC (mm)	D1 (mm)	M (mm)	S (mm)
1204	12.700	5.50	1.6	4.76



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)

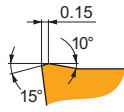
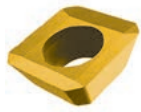


AFEN edge preparation, positive all purpose geometry.

SEET 1204AFEN:M8330	☺	-	265	0.24	2.5	155	0.22	2.5	250	0.24	2.5	-	-	-	65	0.22	2.0	-	-	-
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Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



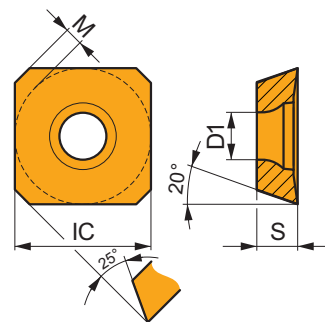
AFSN edge preparation, positive all purpose geometry.

SEET 1204AFSN:8215	☹	–	■	265	0.23	2.5	☑	155	0.21	2.5	■	250	0.23	2.5	–	–	–	☑	65	0.21	2.0	–	–	–
SEET 1204AFSN:M8330	☹	–	■	265	0.24	2.5	☑	155	0.22	2.5	■	250	0.24	2.5	–	–	–	☑	65	0.22	2.0	–	–	–
SEET 1204AFSN:M8340	☹	–	■	240	0.25	2.5	☑	140	0.23	2.5	■	225	0.25	2.5	–	–	–	☑	60	0.23	2.0	–	–	–
SEET 1204AFSN:M9325	☹	–	■	340	0.20	2.5	–	–	–	–	■	320	0.20	2.5	–	–	–	–	–	–	–	–	–	–

SEET 12-PM

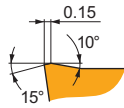
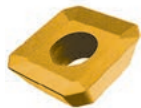


	IC (mm)	D1 (mm)	M (mm)	S (mm)
12T3	13.400	4.20	1.5	3.97



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



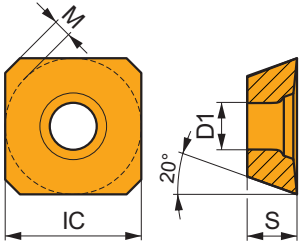
PM geometry with positive all purpose design.

SEET 12T3M-PM:M8330	☹	–	■	265	0.25	2.0	☑	155	0.23	2.0	■	250	0.25	2.0	–	–	–	☑	65	0.20	1.6	–	–	–
SEET 12T3M-PM:M8340	☹	–	■	245	0.25	2.0	☑	145	0.23	2.0	☑	230	0.25	2.0	–	–	–	☑	60	0.20	1.6	–	–	–
SEET 12T3M-PM:M9325	☹	–	■	325	0.25	2.0	–	–	–	–	■	305	0.25	2.0	–	–	–	–	–	–	–	–	–	–
SEET 12T3M-PM:M9340	☹	–	■	290	0.25	2.0	☑	170	0.23	2.0	–	–	–	–	–	–	–	☑	70	0.20	1.6	–	–	–

SEET 12-FA

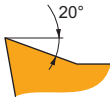
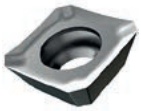


	IC (mm)	D1 (mm)	M (mm)	S (mm)
1204	12.700	5.50	1.6	4.76



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



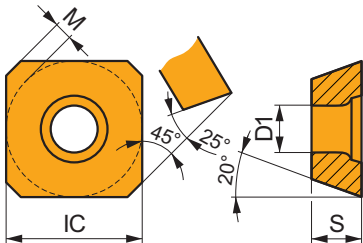
FA geometry with highly positive design for fine-finish to medium machining.

SEET 1204AFN-FA:HF7	●	-	-	-	-	-	-	-	-	-	■	330	0.18	3.0	-	-	-	-	-
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SEEW 12

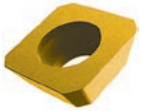


	IC (mm)	D1 (mm)	M (mm)	S (mm)
1204	12.700	5.50	1.6	4.76



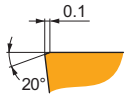
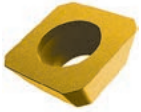
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



AFEN edge preparation with zero rake angle geometry for light to medium machining.

SEEW 1204AFEN:M8330	●	-	■	265	0.15	2.5	-	-	-	■	250	0.15	2.5	-	-	-	-	-	-
SEEW 1204AFEN:M8340	●	-	■	240	0.15	2.5	-	-	-	■	225	0.15	2.5	-	-	-	-	-	-



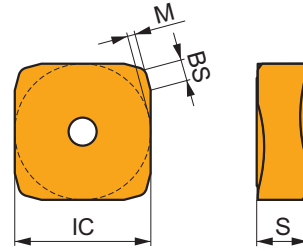
AFSN edge preparation with zero rake angle geometry for light to medium machining.

SEEW 1204AFSN:8215	●	-	■	250	0.20	2.5	-	-	-	■	235	0.20	2.5	-	-	-	-	-	■	50	0.13	1.0
SEEW 1204AFSN:M8330	●	-	■	245	0.20	2.5	-	-	-	■	230	0.20	2.5	-	-	-	-	-	■	45	0.13	1.0
SEEW 1204AFSN:M8340	●	-	■	225	0.20	2.5	-	-	-	■	210	0.20	2.5	-	-	-	-	-	-	-	-	-
SEEW 1204AFSN:M9325	●	-	■	305	0.20	2.5	-	-	-	■	285	0.20	2.5	-	-	-	-	-	■	60	0.13	1.0

SNHF

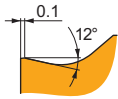


	BS (mm)	IC (mm)	M (mm)	S (mm)
1204	2.00	12.700	0.5	4.76
1504	1.40	15.875	1.1	4.76



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



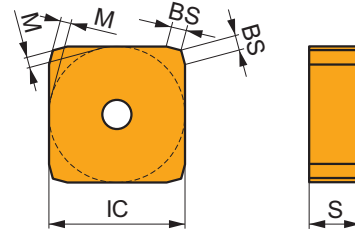
M geometry with positive design for light to medium machining.

SNHF 1204ENSR-M:M8330	☼	–	■	235	0.15	4.0	–	–	–	■	220	0.15	4.0	–	–	–	–	–	–
SNHF 1504ENSR-M:M8340	☼	–	■	220	0.15	6.0	–	–	–	■	205	0.15	6.0	–	–	–	–	–	–

SNHN

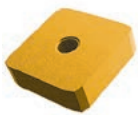


	BS (mm)	IC (mm)	M (mm)	S (mm)
1204	1.40	12.700	0.9	4.76
1504	1.40	15.875	1.3	4.76



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



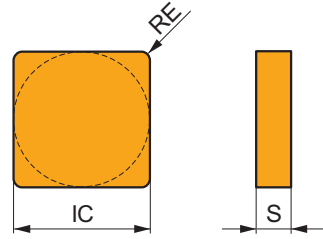
Standard negative milling geometry for 75° face milling.

SNHN 1204ENEN:8215	☼	–	■	275	0.15	6.0	–	–	–	■	260	0.15	6.0	–	–	–	–	–	■	55	0.11	1.0
SNHN 1204ENEN:M8330	☼	–	■	270	0.15	6.0	–	–	–	■	255	0.15	6.0	–	–	–	–	–	■	50	0.11	1.0
SNHN 1204ENEN:M8340	☼	–	■	245	0.15	6.0	–	–	–	■	230	0.15	6.0	–	–	–	–	–	–	–	–	–
SNHN 1204ENEN:S26	☼	–	■	110	0.15	6.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
SNHN 1504ENEN:8215	☼	–	■	260	0.15	9.0	–	–	–	■	245	0.15	9.0	–	–	–	–	–	■	50	0.11	1.3
SNHN 1504ENEN:M8330	☼	–	■	260	0.15	9.0	–	–	–	■	245	0.15	9.0	–	–	–	–	–	■	50	0.11	1.3
SNHN 1504ENEN:M8340	☼	–	■	235	0.15	9.0	–	–	–	■	220	0.15	9.0	–	–	–	–	–	–	–	–	–
SNHN 1504ENEN:S26	☼	–	■	105	0.15	9.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

SNUN

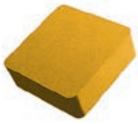


	IC (mm)	S (mm)
1204	12.700	4.76
1504	15.875	4.76



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



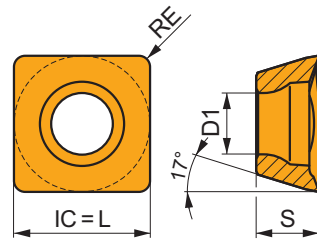
Negative geometry milling insert, can also be used for turning.

SNUN 120408:M8330	0.8	260	0.13	4.5	–	–	–	245	0.13	4.5	–	–	–	–	–	–	50	0.10	1.0
SNUN 120412:M8330	1.2	275	0.13	4.5	–	–	–	260	0.13	4.5	–	–	–	–	–	–	55	0.10	1.0
SNUN 150412:M8330	1.2	255	0.15	6.0	–	–	–	240	0.15	6.0	–	–	–	–	–	–	50	0.12	1.3

SOMT 05

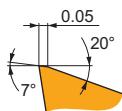


	IC (mm)	D1 (mm)	L (mm)	S (mm)
0502	5.570	2.50	5.57	2.63



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



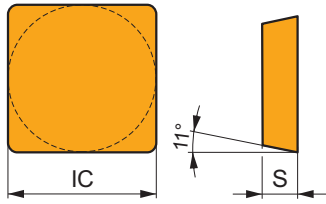
M geometry with positive design for light to medium machining.

SOMT 050204SR-M:M6330	0.4	255	0.05	2.5	180	0.05	2.5	–	–	–	–	–	–	75	0.04	2.0	–	–	–
SOMT 050204SR-M:M8330	0.4	290	0.05	2.5	170	0.05	2.5	275	0.05	2.5	–	–	–	70	0.04	2.0	–	–	–
SOMT 050208SR-M:M8330	0.8	350	0.05	2.5	210	0.05	2.5	330	0.05	2.5	–	–	–	85	0.04	2.0	–	–	–

SPGN

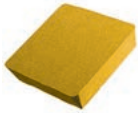


	IC (mm)	S (mm)
0903	9.525	3.18
1203	12.700	3.18
1504	15.875	4.76



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



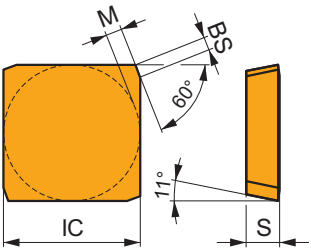
Zero rake angle design milling insert, can also be used for turning.

SPGN 090308:M8340	0.8	225	0.15	2.0	–	–	–	210	0.15	2.0	–	–	–	–	–	–	–	–	–
SPGN 120308:M8330	0.8	230	0.15	4.0	–	–	–	215	0.15	4.0	–	–	–	–	–	–	–	–	–
SPGN 150412:M8330	1.2	225	0.20	5.0	–	–	–	210	0.20	5.0	–	–	–	–	–	–	–	–	–

SPGN 25 DZ

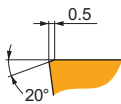
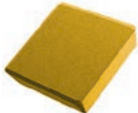


	IC (mm)	M (mm)	S (mm)	BS (mm)
2506	25.000	3.5	6.35	2.40



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



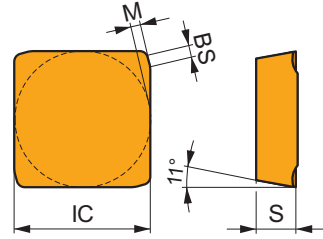
DZ geometry with zero rake angle design for heavy machining.

SPGN 2506DZSR:M8326	–	110	0.50	12.0	–	–	–	100	0.50	12.0	–	–	–	–	–	–	–	–	–
SPGN 2506DZSR:M8346	–	90	0.50	12.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

SPKR

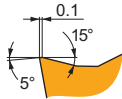
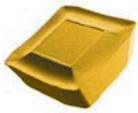


	IC (mm)	L (mm)	M (mm)	S (mm)
1203	12.700	12.70	0.9	3.18
1504	15.875	15.88	1.2	4.76



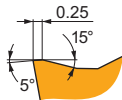
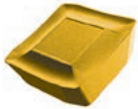
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



EDSR edge preparation, chipbreaker geometry for medium to heavy machining.

SPKR 1203EDSR:M8330	☹	–	■	265	0.20	4.0	▣	155	0.18	4.0	■	250	0.20	4.0	–	–	–	–	–	–
SPKR 1203EDSR:M8340	☹	–	■	240	0.20	4.0	▣	140	0.18	4.0	▣	225	0.20	4.0	–	–	–	–	–	–



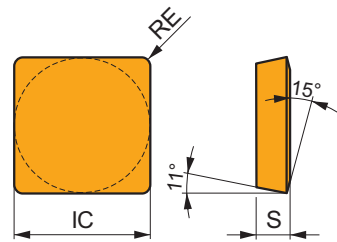
EDSR edge preparation, chipbreaker geometry for medium to heavy machining.

SPKR 1504EDSR:M8330	☹	–	■	245	0.25	5.0	▣	145	0.25	5.0	■	230	0.25	5.0	–	–	–	–	–	–
SPKR 1504EDSR:M8340	☹	–	■	225	0.25	5.0	▣	135	0.25	5.0	▣	210	0.25	5.0	–	–	–	–	–	–

SPUN



	IC (mm)	S (mm)
1203	12.700	3.18
1504	15.875	4.76
1904	19.050	4.76
2506	25.400	6.35



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



Zero rake geometry milling insert, can also be used for turning.

SPUN 120304:M8330	☹	0.4	■	195	0.15	4.0	–	–	–	▣	185	0.15	4.0	–	–	–	–	–	–	–
SPUN 120308:M8330	☹	0.8	■	230	0.15	4.0	–	–	–	▣	215	0.15	4.0	–	–	–	–	–	–	–
SPUN 120308:S26	☹	0.8	■	95	0.15	4.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–
SPUN 120312:M8330	☹	1.2	■	245	0.15	4.0	–	–	–	▣	230	0.15	4.0	–	–	–	–	–	–	–

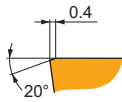
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



Zero rake geometry milling insert, can also be used for turning.

SPUN 150412:M8330	✳ 1.2	225	0.20	5.0	–	–	–	210	0.20	5.0	–	–	–	–	–	–	–	–	–
SPUN 190408:M8330	✳ 0.8	210	0.20	6.0	–	–	–	195	0.20	6.0	–	–	–	–	–	–	–	–	–
SPUN 190412:M8330	✳ 1.2	220	0.20	6.0	–	–	–	205	0.20	6.0	–	–	–	–	–	–	–	–	–



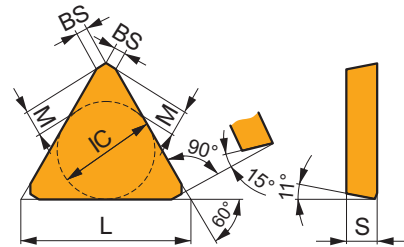
Zero rake geometry milling insert, can also be used for turning.

SPUN 250616S:M8326	✳ 1.6	115	0.40	12.0	–	–	–	105	0.40	12.0	–	–	–	–	–	–	–	–	–
SPUN 250620S:M5326	✳ 2.0	145	0.40	12.0	–	–	–	135	0.40	12.0	–	–	–	–	–	–	–	–	–
SPUN 250620S:M8326	✳ 2.0	120	0.40	12.0	–	–	–	110	0.40	12.0	–	–	–	–	–	–	–	–	–
SPUN 250620S:M8346	✳ 2.0	100	0.40	12.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
SPUN 250620S:S26	✳ 2.0	45	0.40	12.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

TPCN 16

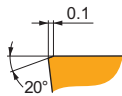
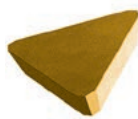


	BS (mm)	IC (mm)	L (mm)	M (mm)	S (mm)
1603	1.20	9.530	16.10	2.5	3.18



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



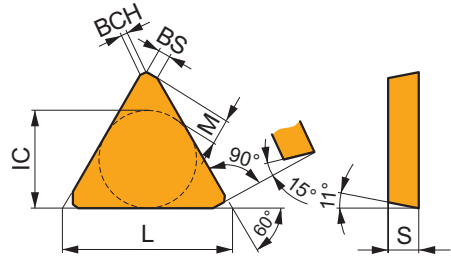
Special design for disc milling.

TPCN 1603PDSN:M8330	✳ –	195	0.20	–	–	–	–	185	0.20	–	–	–	–	–	–	–	–	–	–
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TPKN

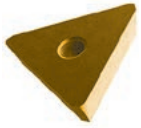


	IC (mm)	L (mm)	M (mm)	S (mm)	BCH (mm)	BS (mm)
1603	9.530	16.50	2.5	3.18	1.20	1.30
2204	12.700	22.00	3.5	4.76	1.20	1.50



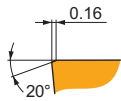
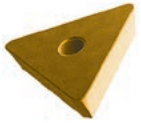
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



PDER edge preparation, zero rake angle geometry for light to medium machining.

TPKN 1603PDER:M8330	●	–	☑	195	0.15	4.0	–	–	–	☑	185	0.15	4.0	–	–	–	–	–	–	–	–	–	–
TPKN 1603PDER:M8340	●	–	☑	175	0.15	4.0	–	–	–	☑	165	0.15	4.0	–	–	–	–	–	–	–	–	–	–
TPKN 2204PDER:8215	●	–	☑	190	0.15	5.5	–	–	–	☑	180	0.15	5.5	–	–	–	–	–	–	–	–	–	–
TPKN 2204PDER:M8330	●	–	☑	190	0.15	5.5	–	–	–	☑	180	0.15	5.5	–	–	–	–	–	–	–	–	–	–
TPKN 2204PDER:M8340	●	–	☑	170	0.15	5.5	–	–	–	☑	160	0.15	5.5	–	–	–	–	–	–	–	–	–	–



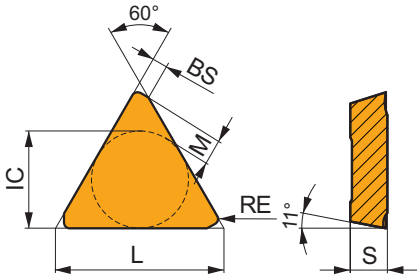
PDSR edge preparation, zero rake angle geometry for medium machining.

TPKN 1603PDSR:M8330	●	–	☑	185	0.20	4.0	–	–	–	☑	175	0.20	4.0	–	–	–	–	–	–	☑	35	0.13	0.8	
TPKN 1603PDSR:M8340	●	–	☑	165	0.20	4.0	–	–	–	☑	155	0.20	4.0	–	–	–	–	–	–	–	–	–	–	
TPKN 1603PDSR:S26	●	–	☑	75	0.20	4.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
TPKN 2204PDSR:M8310	●	–	☑	195	0.20	5.5	–	–	–	☑	185	0.20	5.5	–	–	–	–	–	–	–	☑	35	0.13	1.0
TPKN 2204PDSR:M8330	●	–	☑	175	0.20	5.5	–	–	–	☑	165	0.20	5.5	–	–	–	–	–	–	–	☑	35	0.13	1.0
TPKN 2204PDSR:M8340	●	–	☑	160	0.20	5.5	–	–	–	☑	150	0.20	5.5	–	–	–	–	–	–	–	–	–	–	–
TPKN 2204PDSR:M9325	●	–	☑	220	0.20	5.5	–	–	–	☑	205	0.20	5.5	–	–	–	–	–	–	–	☑	40	0.13	1.0
TPKN 2204PDSR:S26	●	–	☑	75	0.20	5.5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	

TPKR

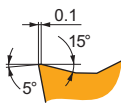


	IC (mm)	L (mm)	M (mm)	S (mm)	BS (mm)
1603	9.530	16.50	2.5	3.18	1.40
2204	12.700	22.00	3.5	4.76	1.40



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



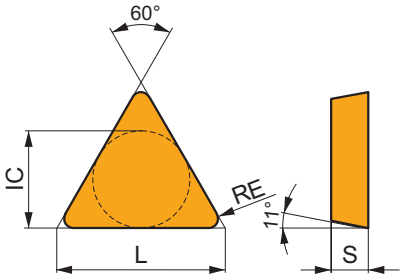
PDSR edge preparation, chipbreaker geometry for medium to heavy machining.

TPKR 1603PDSR:M8330	●	–	■	185	0.20	4.0	▣	110	0.18	4.0	■	175	0.20	4.0	–	–	–	–	–	–
TPKR 1603PDSR:M8340	●	–	■	165	0.20	4.0	▣	95	0.18	4.0	■	155	0.20	4.0	–	–	–	–	–	–
TPKR 2204PDSR:M8330	●	–	■	175	0.20	5.5	▣	105	0.18	5.5	■	165	0.20	5.5	–	–	–	–	–	–
TPKR 2204PDSR:M8340	●	–	■	160	0.20	5.5	▣	95	0.18	5.5	■	150	0.20	5.5	–	–	–	–	–	–
TPKR 2204PDSR:M9325	●	–	■	220	0.20	5.5	–	–	–	–	■	205	0.20	5.5	–	–	–	–	–	–

TPUN



	IC (mm)	L (mm)	S (mm)
1103	6.350	11.00	3.18
1603	9.525	16.50	3.18
2204	12.700	22.00	4.76



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



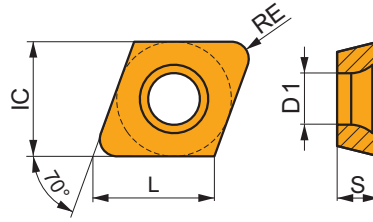
Zero rake geometry milling insert, can also be used for turning.

TPUN 110304:M8330	●	0.4	–	–	–	–	–	–	–	–	■	150	0.10	1.2	–	–	–	–	–	▣	30	0.10	0.4	
TPUN 160304:8215	●	0.4	▣	155	0.15	4.0	–	–	–	–	■	145	0.15	4.0	–	–	–	–	–	–	–	–	–	
TPUN 160304:H10	●	0.4	–	–	–	–	–	–	–	–	■	65	0.15	4.0	–	–	–	–	–	–	–	–	–	
TPUN 160304:M8330	●	0.4	▣	155	0.15	4.0	–	–	–	–	■	145	0.15	4.0	–	–	–	–	–	–	–	–	–	
TPUN 160304:S26	●	0.4	▣	65	0.15	4.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
TPUN 160308:8215	●	0.8	▣	185	0.15	4.0	–	–	–	–	■	175	0.15	4.0	–	–	–	–	–	–	–	–	–	
TPUN 160308:M8330	●	0.8	–	–	–	–	–	–	–	–	■	155	0.18	1.5	–	–	–	–	–	–	▣	30	0.11	0.6
TPUN 160312:M8330	●	1.2	–	–	–	–	–	–	–	–	■	155	0.20	1.5	–	–	–	–	–	–	▣	30	0.11	0.8
TPUN 220408:M8330	●	0.8	▣	170	0.20	5.0	–	–	–	–	■	160	0.20	5.0	–	–	–	–	–	–	–	–	–	
TPUN 220412:M8330	●	1.2	–	–	–	–	–	–	–	–	■	155	0.20	2.0	–	–	–	–	–	–	▣	30	0.11	1.0

XDHW

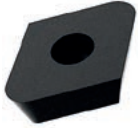


	IC (mm)	D1 (mm)	L (mm)	S (mm)
0702	6.500	2.95	6.90	2.38
10T3	10.000	3.95	10.60	3.97



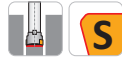
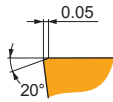
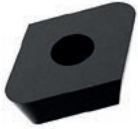
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)



EN geometry with zero rake angle design for slot milling.

XDHW 070210EN:M8310	1.0	310	0.10	1.0	–	–	–	290	0.10	1.0	–	–	–	–	–	–	60	0.05	1.0
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SN geometry with zero rake angle design for slot milling.

XDHW 070210SN:M8310	1.0	310	0.10	1.0	–	–	–	290	0.10	1.0	–	–	–	–	–	–	60	0.05	1.0
XDHW 070210SN:M8325	1.0	230	0.10	1.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
XDHW 10T310SN:M8310	1.0	275	0.15	1.0	–	–	–	260	0.15	1.0	–	–	–	–	–	–	55	0.08	1.0
XDHW 10T310SN:M8325	1.0	210	0.15	1.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–



INSTRUCTIONS

INDEXABLE MILLS – PAGE OVERVIEW

1 SAD11E

P M K N S H 2

PRAMET 3 S

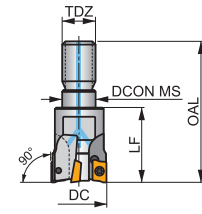
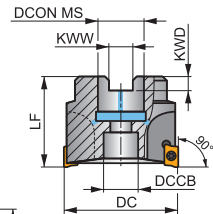
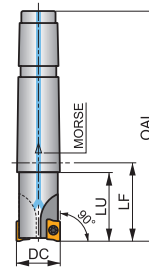
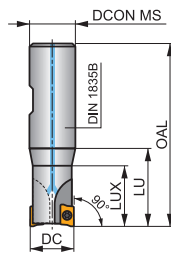
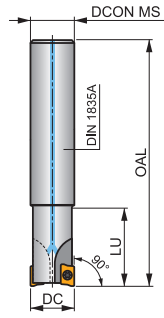
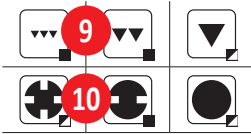
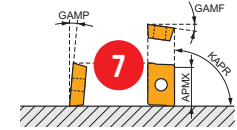


FORCE AD11 Square Shoulder Mill with Internal Coolant

90° end and shell mills utilizing positive AD.. 11 style insert with APMX of 9 mm. Suitable for face, shoulder, slot, helical, trochoidal, ramping and plunge milling. Available in cylindrical, Weldon, morse taper, modular and arbor (with differential tooth pitch) style. Body treated for longer tool life.

FORCE AD

KAPR	90°
APMX	9.0 mm



h_a	0.06 – 0.13
h_b	0.08 – 0.16



Product	DC	OAL	DCON MS	DCCB	LU	LUX	LF	TDZ	CZC MS	KWW	KWD	GAMP	GAMP	16	18	20	22
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)				
16A2R024A14-SAD11E-C	16	160	14	-	24	-	-	-	-	-	-	-12.8	4	2	30100	0.19	G1169 SQ025
16A2R024A16-SAD11E-C	16	135	16	-	24	-	-	-	-	-	-	-12.8	4	2	30100	0.19	G1169 SQ025
16A2R050A16-SAD11E-C	16	135	16	-	50	-	-	-	-	-	-	-12.8	4	2	30100	0.20	G1169 SQ025
18A2R029A20-SAD11E-C	18	150	20	-	29	-	-	-	-	-	-	-12	4.5	2	28400	✓	0.35 G1169 SQ025
20A2R029A20-SAD11E-C	20	150	20	-	29	-	-	-	-	-	-	-11.5	5	2	27000	✓	0.33 G1169 SQ020
20A2R077A20-SAD11E-C	20	150	20	-	70	-	-	-	-	-	-	-11.5	5	2	27000	✓	0.32 G1169 SQ020
20A3R018A20-SAD11E-C	20	200	18	-	29	-	-	-	-	-	-	-11.5	5	3	27000	✓	0.36 G1169 SQ025
20A3R029A20-SAD11E-C	20	150	20	-	29	-	-	-	-	-	-	-11.5	5	3	27000	✓	0.31 G1169 SQ025
22A3R029A20-SAD11E-C	22	200	20	-	29	-	-	-	-	-	-	-11.5	5	3	25600	✓	0.45 G1169 SQ025
25A3R034A25-SAD11E-C	25	170	25	-	34	-	-	-	-	-	-	-10.2	5	3	24100	✓	0.42 G1169 SQ020
25A3R080A25-SAD11E-C	25	170	25	-	80	-	-	-	-	-	-	-10.2	5	3	24100	✓	0.52 G1169 SQ020
25A4R034A25-SAD11E-C	25	170	25	-	34	-	-	-	-	-	-	-10.2	5	4	24100	✓	0.56 G1169 SQ025
25A4R040A25-SAD11E-C	25	250	25	-	40	-	-	-	-	-	-	-10.2	5	4	24100	✓	0.85 G1169 SQ025
30A3R080A32-SAD11E-C	30	200	32	-	80	-	-	-	-	-	-	-9.3	7	3	22000	✓	0.98 G1169 SQ020

G1169	ADMX 11T3..	24	ADEX 11T3..
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SQ020	US 62S06-T07P	1.2	M 2.5	6	25	-	-	Flag T07P	-
SQ021	US 62S06-T07P	1.2	M 2.5	6	-	D-T07P/T09P	FG-15	-	-
SQ022	US 62S06-T07P	1.2	M 2.5	6	-	D-T07P/T09P	FG-15	-	HS 0830C
SQ023	US 62S06-T07P	1.2	M 2.5	6	-	D-T07P/T09P	FG-15	-	HS 1030C
SQ025	US 62S05-T07P	1.2	M 2.5	5	-	-	-	Flag T07P	-

AC001	KS 1230	26	K.FMH27
AC002	KS 1635	-	K.FMH32
AC003	KS 2040	-	K.FMH40

INDEXABLE MILLS – PAGE OVERVIEW

Pos.	Description	Pos.	Description
1	Designation of cutter	14	ISO code of cutter
2	Material group recommendations	15	Dimensions (mm), angles ¹⁾ (°) and connection size code
3	Clamping system of insert	16	Number of teeth
4	Illustrative picture	17	Irregular teeth pitch
5	Tool description	18	Maximum revolutions of cutter
6	Setting angle and maximum theoretical depth of cut (mm)	19	Internal supply of coolant
7	Tool geometry	20	Weight (kg)
8	Schematic drawing of tool	21	Group of compatible inserts ²⁾
9	Achievable quality of surface	22	Group of spare parts ²⁾
10	Character of cut/working conditions	23	Group of special accessories ²⁾
11	Maximum range of mean chip thickness (mm) for end milling cutters and/or shell milling cutters	24	Compatible inserts
12	Product applications	25	Spare parts
13	Shank type	26	Special accessories

¹⁾ γ_f = Radial rake setting angle (GAMF) of insert pocket – see indexable mills technical information

γ_p = Axial rake setting angle (GAMP) of insert pocket – see indexable mills technical information

²⁾ Spare parts and special accessories icons are designed schematically for their ease of understanding. They aren't included in the list of icons. Screws are, in some cases, completed with info on torque value in Nm, length of screw and size of thread.

MILLING INSERTS – PAGE OVERVIEW

1

ADMX 11

	W1	D1	L	S
	(mm)	(mm)	(mm)	(mm)
11T3	6.530	2.90	11.00	3.97

Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P			M			K			N			S			H		
		vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap
		(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)

4

5

6

F geometry with very sharp positive design for light machining.

10

ADMX 11T304SR-F:8215	● 0.4	■ 245	0.10	2.0	■ 145	0.09	2.0	■ 230	0.10	2.0	■ 735	0.12	2.0	■ 60	0.08	1.6	–	–	–
ADMX 11T304SR-F:M8330	● 0.4	■ 240	0.10	2.0	■ 140	0.09	2.0	■ 225	0.10	2.0	■ 720	0.12	2.0	■ 60	0.08	1.6	–	–	–
ADMX 11T304SR-F:M8340	● 0.4	■ 220	0.10	2.0	■ 130	0.09	2.0	■ 205	0.10	2.0	–	–	–	■ 55	0.08	1.6	–	–	–
ADMX 11T308SR-F:M9340	● 0.8	■ 285	0.10	2.0	■ 170	0.09	2.0	–	–	–	–	–	■ 70	0.08	1.6	–	–	–	
ADMX 11T308SR-F:8215	● 0.8	■ 290	0.10	2.0	■ 170	0.09	2.0	■ 275	0.10	2.0	■ 870	0.12	2.0	■ 70	0.08	1.6	–	–	–
ADMX 11T308SR-F:M8330	● 0.8	■ 285	0.10	2.0	■ 170	0.09	2.0	■ 270	0.10	2.0	■ 855	0.12	2.0	■ 70	0.08	1.6	–	–	–
ADMX 11T308SR-F:M8340	● 0.8	■ 260	0.10	2.0	■ 155	0.09	2.0	■ 245	0.10	2.0	–	–	–	■ 65	0.08	1.6	–	–	–
ADMX 11T308SR-F:M9340	● 0.8	■ 340	0.10	2.0	■ 200	0.09	2.0	–	–	–	–	–	■ 85	0.08	1.6	–	–	–	

7

8

9

11

Pos.	Description
1	Designation of insert
2	Table with insert sizes (mm)
3	Schematic drawing of insert
4	Picture of representative insert
5	Profile of main cutting edge
6	Icons – specific features and cutting edge type

Pos.	Description
7	ISO insert code:Grade
8	Working conditions
9	Insert radii (mm)
10	Geometry description
11	Application area of insert ¹⁾

¹⁾ Recommendations for cutting speed corrections can be found at the end of Milling chapter in the technical section.

Technical information follows immediately after the milling cutter pages, their compatible inserts and info on starting cutting speeds. These will help you to use the tools in the correct way. If you are unsure how to use or interpret this information, either refer to the technical section at the end of the milling chapter or contact your Dormer Pramet representative.

Typical page with milling inserts displayed – specific page details will differ. Most of inserts can be found in this catalogue just immediately after the relevant milling cutter or, alternatively, in the separate inserts chapter.

ICONS OVERVIEW

General icons

	Primary use		Finishing – very good surface quality		Suitable for stable working conditions
	Possible use		Medium machining – good surface quality		Suitable for unstable working conditions
			Roughing – unlimited surface roughness		Suitable for very unstable working conditions

Milling operations

	Face milling		Plunge milling		Chamfer milling
	Shallow shoulder milling		Progressive plunging		T-slot milling
	Deep shoulder milling		Ramping		Rear face milling
	Shallow slot milling		Helical interpolation		Contoured surfaces (copy milling)
	Deep slot milling		Helical interpolation in a pre-drilled hole		

Features

	First choice		Thin-walled and slim workpieces		Heavy working conditions
	Universal wide range option		Long overhang		
	Insert with Wiper geometry		High feed cutting		

Cutting edge condition code (CECC)

	Sharp edge		Edge with facet		Rounded edge with double facet
	Rounded edge		Rounded edge with facet		

Clamping Type Code (MTP)

	S – Screw clamp		System F		Clamping torque of screw (Nm)
	C – Top clamping		System SC		

ICONS OVERVIEW

Shank

DIN 1835A cylindrical shank	Arbor DIN 69871-1	Shell mill DIN 8030 – helical mill
DIN 1835B Weldon shank	Arbor DIN 2080-1	Shell mill DIN 8030 – disc mill
Morse shank DIN 228-1	Arbor MAS BT (JIS-B-6339)	
Threaded coupling	Shell mill DIN 8030	

Technical parts

Ratio (%) of radial width of cut to cutting diameter	Depth of cut (mm)	Number of teeth
Ratio (%) of radial width of cut to maximal cutting diameter	Diameter of cutter (mm)	Effective working length of tool (mm)
Multiplication factor for cutting speed	Maximum diameter of cutter (mm)	Number of teeth (helical cutters)
Multiplication factor for feed (machining on centre line)	Effective diameter of cutter (mm)	Effective reach of tool (mm)
Multiplication factor for feed (machining off centre line)	Maximum width of machined area (mm)	Effective number of teeth
Chipbreaker	Cutting depth for plunging (mm)	Chamfering angle (°)
Corner radius of insert (mm)	Maximal angle for ramping (°)	Number of edges in use
Wiper edge length (mm)	Maximum cutting depth over the length of cut (mm)	Hole diameter (mm)
Feed (mm/tooth)	Maximal depth per revolution for maximal diameter of hole (mm)	Roughness of machined surface R_a (mm)
Starting feed (mm/tooth)	Maximal depth per revolution for minimal diameter of hole (mm)	Thread pitch
Minimal feed (mm/tooth)	Contouring step in conventional milling (mm)	Threads per inch
Maximal feed (mm/tooth)	Contouring step in up/down cross milling (mm)	Time (min)

ISO CODE DESIGNATION – SHELL MILL BODIES

ISO	1 63	2 A	3 06	4 R	-	5	6 S	7 90	8 A	9 D	10 16	11 E	12
ANSI	1 300	2 F	3 04	4 N	-	5 I	6 S	7 90	8 S	9 N	10 12	11 N	12 4

1	1	2	2	3	3	5	6	6	7	7																				
Cutting diameter		Cutting type, designation and/or size of clamping			No. of working edges		Standard		Clamping designation		Setting angle (KAPR)																			
					4 4		I (")		C		90°																			
		A ISO 6462/A DIN 8030/A B ISO 6462/B DIN 8030/B C ISO 6462/C DIN 8030/C			Direction of cut				S		75°																			
		<table border="1" style="font-size: 8px; width: 100%;"> <tr> <td>F</td><td>DC = 27 mm</td><td>DC = 1.000</td></tr> <tr> <td>G</td><td>DC = 32 mm</td><td>DC = 1.250</td></tr> <tr> <td>H</td><td>DC = 40 mm</td><td>-</td></tr> <tr> <td>J</td><td>DC = 50 mm</td><td>-</td></tr> <tr> <td>K</td><td>DC = 60 mm</td><td>-</td></tr> <tr> <td>M</td><td>DC = 80 mm</td><td>-</td></tr> </table>			F	DC = 27 mm			DC = 1.000	G	DC = 32 mm	DC = 1.250	H	DC = 40 mm	-	J	DC = 50 mm	-	K	DC = 60 mm	-	M	DC = 80 mm	-			R		60°	
F	DC = 27 mm	DC = 1.000																												
G	DC = 32 mm	DC = 1.250																												
H	DC = 40 mm	-																												
J	DC = 50 mm	-																												
K	DC = 60 mm	-																												
M	DC = 80 mm	-																												
		T			L		W		45°																					
					N		F		MO																					

8	8	9	9	10	10														
Insert shape		Insert clearance angle		Cutting edge length															
H	O	A	B	IC	H	O	P	S	T	C	D	E	M	V	W	R	K		
S	T	C	D	(mm)	3.97			03	06	04			06	02					
E	M	V	F	(")	4.76	5/32"		04	08	04	05	04	04	08	L3				
L	A	B	G	5.56	3/16"	3/16"		05	09	05	06	05	05	09	03				
L	A	B	N	6.35	7/32"	7/32"	03	02	04	08	11	06	07	08	08	11	04	06	
L	A	B	O	7.94	1/4"	1/4"	04	03	05	07	13	08	09	06	07	13	05	07	
L	A	B	P	9.525	5/16"	5/16"	05	04	07	09	16	09	11	09	09	16	06	09	19
L	A	B	Special	12.7	3/8"	3/8"	07	05	09	12	22	12	15	13	12	22	08	12	
L	A	B	Special	15.875	1/2"	1/2"	09	06	11	15	27	16	19	16	15	27	10	15	
L	A	B	Special	19.05	5/8"	5/8"	11	07	13	19	33	19	23	19	19	33	13	19	
L	A	B	Special	25.4	3/4"	3/4"	14	10	18	25	44	25	31	26	25	44	17	25	
L	A	B	Special	31.75	5/1"	5/1"	18	13	23	31	54	32	38	32	31	54	21	31	
L	A	B	Special	31.75	1 1/4"	1 1/4"	18	13	23	31	54	32	38	32	31	54	21	31	

11	11	WIPER edge clearance angle	
		N ALP = 0°	C ALP = 7°
D ALP = 15°	E ALP = 20°	P ALP = 11°	F ALP = 25°

12	12	Cutting edge length (width)													
		CW (mm) / (")	APMX												
		<table border="1" style="font-size: 8px; width: 100%;"> <tr> <td>CW</td><td>1/16"</td></tr> <tr> <td>0.156</td><td>2.5</td></tr> <tr> <td>0.187</td><td>3</td></tr> <tr> <td>0.250</td><td>4</td></tr> <tr> <td>0.313</td><td>5</td></tr> <tr> <td>0.375</td><td>6</td></tr> </table>	CW	1/16"	0.156	2.5	0.187	3	0.250	4	0.313	5	0.375	6	
CW	1/16"														
0.156	2.5														
0.187	3														
0.250	4														
0.313	5														
0.375	6														

ISO CODE DESIGNATION – END SHOULDER MILL BODIES

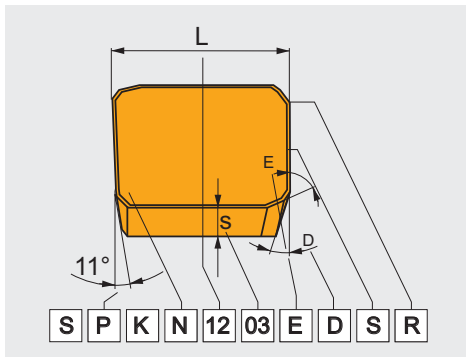
ISO	1	2	3	4	5	6	7	-	8	9	10	11	12	13
ANSI	1	2	3	4	5	6	7	-	8	9	10	11	12	13
	32	A	4	R	042	B	32	-		S	A	D	11	E
	125	A	4	R	150	W	125	-	I	S	A	D	11	E

1	1	2	2					5	5	6	6			7	7				
Cutting diameter		Cutter type and setting angle						Overhang		Shank designation				Shank size					
 DC		A	E	J	N	H	K	(mm)			A	C	DIN 1835A	6–40 mm	.250"–1.250"				
 DC								(")			B	W	ISO 3338-2, DIN 1835B	6–50 mm	.375"–2.000"				
 DC		3			3			4		4			E	-	ISO 296, DIN 228-1	1–6	–		
 DC		No. of working edges						Direction of cut				G	-	ISO 297, DIN 208-1	40–50 mm	–			
 DC		R			L			N				H	-	ISO/DIS 7388-1, DIN 69871-1	30–50 mm	–			
 DCX															X	-	MAS BT	30–50	–
															XC	-	CAPTO	3–10	–
															CA	-	ANSI B5.50	–	40 / 50

10	10			11	11		12													12																	
Insert shape				Insert clearance angle				Cutting edge length																													
H	O	P	R	A		B		IC	H	O	P	S	T	C	D	E	M	V	W	R	K																
								(mm)	(")																												
								3.97	5/32"						03	06	04				06	02															
								4.76	3/16"						04	08	04	05	04	04	08	L3															
								5.56	7/32"						05	09	05	06	05	05	09	03															
								6.35	1/4"		03	02	04	08	11	06	07	08	08	11	04	06															
								7.94	5/16"		04	03	05	07	13	08	09	06	07	13	05	07															
								9.525	3/8"		05	04	07	09	16	09	11	09	09	16	06	09	19														
								12.7	1/2"		07	05	09	12	22	12	15	13	12	22	08	12															
								15.875	5/8"		09	06	11	15	27	16	19	16	15	27	10	15															
								19.05	3/4"		11	07	13	19	33	19	23	19	19	33	13	19															
								25.4	1"		14	10	18	25	44	25	31	26	25	44	17	25															
								31.75	1 1/4"		18	13	23	31	54	32	38	32	31	54	21	31															
										10"																											

8	9		9		13	13	
Standard		Clamping designation				Wiper edge clearance angle	
I	(")	C		W			
		S		F			
N	ALP = 0°	C	ALP = 7°	P	ALP = 11°		
D	ALP = 15°	E	ALP = 20°	F	ALP = 25°		

ISO CODE DESIGNATION – MILLING INSERTS

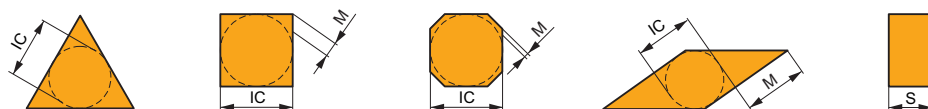


ISO	1	2	3	4
	S	P	G	N
	S	P	K	N
ANSI	1	2	3	4
	S	P	G	
	S	P	K	N

1				2		4			
Insert shape				Insert clearance angle		Insert type			
H 	O 	P 	R 	A 	B 	N 			
S 	T 	C 	D 	C 	D 	R 			
E 	M 	V 	W 	E 	F 	F 			
L 	A 	B 	K 	G 	N 	A 			
				P 	O Special	M 			
						W 40–60°			
						T			
						Q			
						U			
						B 70–90°			
						H			
						C			
						J			
						X	Special		

3 Tolerances

	(mm)			(")		
	M(±)	S(±)	IC(±)	M(±)	S(±)	IC(±)
A	0.005	0.025	0.025	0.0002"	0.001"	0.0010"
F	0.005	0.025	0.013	0.0002"	0.001"	0.0005"
C	0.013	0.025	0.025	0.0005"	0.001"	0.0010"
H	0.013	0.025	0.013	0.0005"	0.001"	0.0005"
E	0.025	0.025	0.025	0.0010"	0.001"	0.0010"
G	0.025	0.130	0.025	0.0010"	0.005"	0.0010"
J	0.005	0.025	0.05 – 0.13	0.0002"	0.001"	0.002" – 0.005"
K	0.013	0.025	0.05 – 0.13	0.0005"	0.001"	0.002" – 0.005"
L	0.025	0.025	0.05 – 0.13	0.0010"	0.001"	0.002" – 0.005"
M	0.08 – 0.18	0.130	0.05 – 0.13	0.003" – 0.007"	0.005"	0.002" – 0.005"
N	0.08 – 0.18	0.025	0.05 – 0.13	0.003" – 0.007"	0.001"	0.002" – 0.005"
U	0.05 – 0.38	0.130	0.05 – 0.13	0.005" – 0.015"	0.005"	0.003" – 0.010"



ISO CODE DESIGNATION – MILLING INSERTS

5		6		7		8		9		10	
12	12	03	03	08	ED	S	R	-			
5a	6a	7a	8	9							
4	2	2	S	R							
4	2	ED									

5													
Cutting edge length													
I.C.	H	O	P	S	T	C	D	E	M	V	W	R	K
(mm)													
(")													
3.97				03	06		04			06	02		
5/32"							1.2"						
4.76				04	08	04	05	04	04	08	L3		
3/16"							1.5"						
5.56				05	09	05	06	05	05	09	03		
7/32"							1.8"						
6.35	03	02	04	08	11	06	07	08	08	11	04	06	
1/4"							2"						
7.94	04	03	05	07	13	08	09	06	07	13	05	07	
5/16"							2.5"						
9.525	05	04	07	09	16	09	11	09	09	16	06	09	19
3/8"							3"						
12.7	07	05	09	12	22	12	15	13	12	22	08	12	
1/2"							4"						
15.875	09	06	11	15	27	16	19	16	15	27	10	15	
5/8"							5"						
19.05	11	07	13	19	33	19	23	19	19	33	13	19	
3/4"							6"						
25.4	14	10	18	25	44	25	31	26	25	44	17	25	
5/1"							8"						
31.75	18	13	23	31	54	32	38	32	31	54	21	31	
1 1/4"							10"						

6		7																																																																										
Thickness		Cutting edge angles																																																																										
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8		8	
Cutting edge design			
	F Sharp edges		E Rounded edges
	T Edges with facet		S Rounded edges with facet
	K Edges with double facet		P Rounded edges with double facet

9		9	
Feed direction			
	R		N
	L		

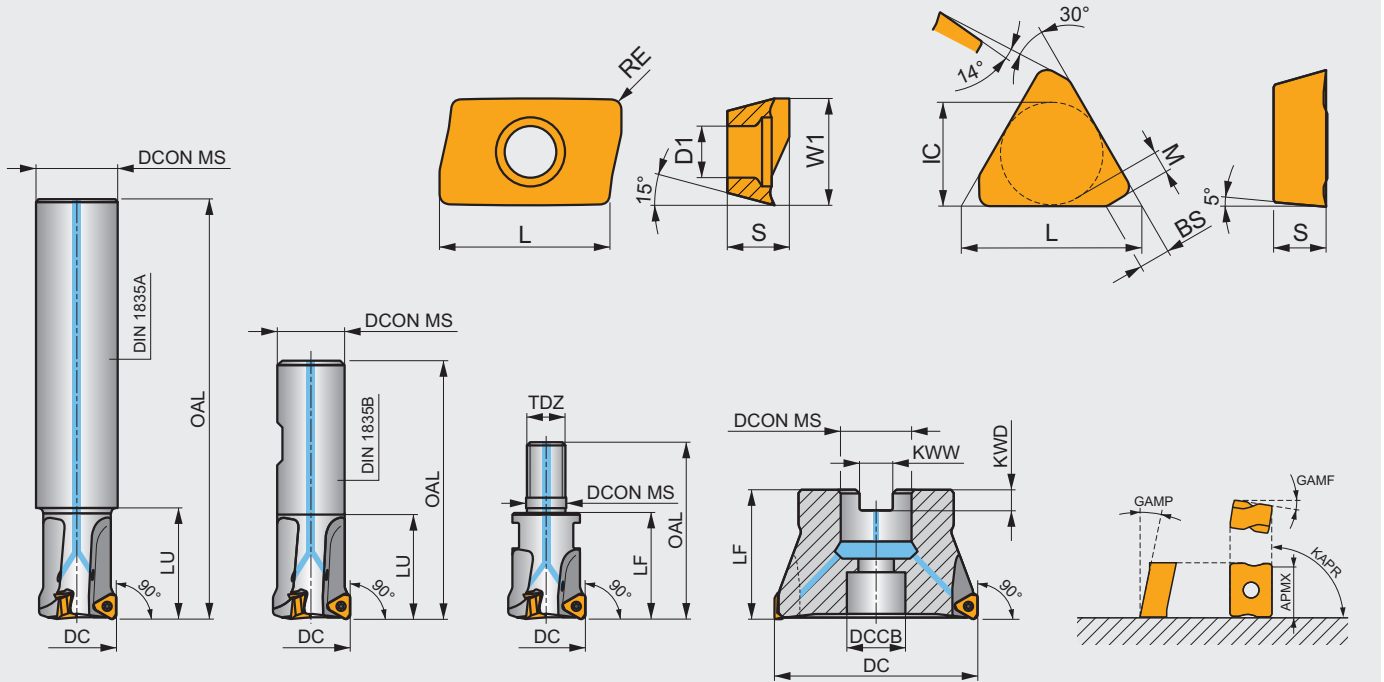
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Chip breaker designation			

CUTTING TOOL PARAMETERS ACCORDING TO ISO 13399

All cutting tools are defined by a number of parameters according to the standard ISO 13399. This list contains all the parameters used in this catalogue and their definitions.

ISO 13399 is an international cutting tool information standard. It provides dimensions and parameters in a neutral format that is independent of any particular system or company nomenclature. When cutting tools are clearly defined according to a global standard, all types of software can process the electronic data more quickly, improving the quality of communication and helping to make the exchange of information run smoothly. Supporting a common language in our cutting tool descriptions this will assist system to system communication. It will save you a significant amount of time, providing an easier gathering of high-quality data across our 40,000 solid and indexable tools. By using an ISO 13399 compliant system, there will be no need to manually interpret data and key-enter it into your system.

EXAMPLES ONLY!



ISO 13399 code	Description
APMX	Depth of cut maximum
BD	Body diameter
BDX	Body diameter maximum
BCH	Corner chamfer length
BS	Wiper edge length
CBDP	Connection bore depth
CDI	Insert cutting diameter
CDX	Cutting depth maximum
CW	Cutting width
CZC MS	Connection size code machine side
D1	Fixing hole diameter
DAH4	Diameter access hole
DAH5	Diameter access hole
DAH6	Diameter access hole
DBC1	Diameter bolt circle 1
DBC2	Diameter bolt circle 2
DBC4	Diameter bolt circle
DBC5	Diameter bolt circle
DBC6	Diameter bolt circle

ISO 13399 code	Description
DC	Cutting diameter
DCB	Connection bore diameter
DCCB	Counterbore diameter connection bore
DCN	Cutting diameter minimum
DCON MS	Connection diameter
DCX	Cutting diameter maximum
DHUB	Hub diameter
DN	Neck diameter
GAMF	Radial rake angle
GAMP	Axial rake angle
CHW	Corner chamfer width
IC	Inscribed circle diameter
INSD	Insert diameter
INSL	Insert length
KAPR	Tool cutting edge angle
KWD	Keyway depth
KWW	Keyway width
L	Cutting edge length
LB	Body length
LE	Cutting edge effective length

ISO 13399 code	Description
LF	Functional length
LH	Head length
LU	Usable length
LUX	Usable length maximum
M	M-dimension
NOF	Number of flutes
OAL	Overall length
P	Pitch of the blade
PRFA	Profile angle
PRFRAD(2)	Profile radius
RE	Radius
S	Insert thickness
S1	Insert thickness total
TDZ	Thread diameter size
TP	Thread pitch
TPI	Threads per inch
W1	Insert width
ZNP	Number of peripheral edges in the tool

MILLING GRADES – OVERVIEW

Group	Cemented carbide with MTCVD	Cemented carbide with PVD	Uncoated
P01			
P05		M8310	
P10	M9315	8215	
P15	M9325		
P20		M8330	
P25		M8340	
P30		M8345	
P35			
P40			
P45			
P50			

Group	Cemented carbide with MTCVD	Cemented carbide with PVD	Uncoated
M01			
M05			
M10			
M15			
M20		M6330	
M25		M8340	
M30	M9340	M8345	
M35			
M40			
M45			
M50			

Group	Cemented carbide with MTCVD	Cemented carbide with PVD	Uncoated
K01		M4303	
K05		M8310	
K10		M4310	
K15	M5315	8215	
K20		M8330	
K25			
K30			
K35			
K40			
K45			
K50			

Group	Cemented carbide with MTCVD	Cemented carbide with PVD	Uncoated
N01			
N05			
N10		M0315	
N15		8215	
N20			HF7
N25			
N30			
N35			
N40			
N45			
N50			

Group	Cemented carbide with MTCVD	Cemented carbide with PVD	Uncoated
S01			
S05			
S10			
S15	M9340		
S20		M6330	
S25		M8340	
S30		M8345	
S35			
S40			
S45			
S50			

Group	Cemented carbide with MTCVD	Cemented carbide with PVD	Uncoated
H01		M4303	
H05		2003	
H10	M5315	M4310	
H15		M8310	
H20		8215	
H25			
H30			
H35			
H40			
H45			
H50			

MILLING GRADES – OVERVIEW

Grade Identification	Area of Application	Application	Feed	Cutting speed	Resistance to adverse Working Conditions	Coating	Colour	Substrate	Coolant benefit	Grade description
M8345	P30 – P50	■	▴	▴	▴	PVD	Dark Purple	H	-	This grade has exceptional operational reliability and is designed for heavy cuts in unfavourable conditions in difficult and tough materials.
	M30 – M40	■	▴	▴	▴					
M6330	P20 – P35	■	▴	▴	▴	PVD	Yellow	H	+ / -	Milling grade with extraordinary service reliability. Especially suitable for machining of hard to machine materials. Powerful in applications where unfavourable conditions and heavy cuts dominate.
	M20 – M35	■	▴	▴	▴					
	S20 – S30	■	▴	▴	▴					
M4303	P01 – P10	▣	▴	▴	▴	PVD	Dark Purple	ultra-submicron H	-	The most wear resistant grade for mold & die applications. Offers exceptional performance at high cutting speeds and low feeds in stable cutting conditions. Suitable for finishing operations in difficult workpiece materials.
	K01 – K10	■	▴	▴	▴					
	N01 – N10	▣	▴	▴	▴					
	H01 – H10	■	▴	▴	▴					
M4310	P05 – P15	▣	▴	▴	▴	PVD	Dark Purple	ultra-submicron H	-	Universal grade for mold & die applications. Suitable for finishing as well as semi-roughing operations. This grade combines high wear resistance with extraordinary operational reliability.
	M05 – M15	▣	▴	▴	▴					
	K05 – K15	■	▴	▴	▴					
	S05 – S10	■	▴	▴	▴					
	H05 – H15	■	▴	▴	▴					
2003	P01 – P10	▣	▴	▴	▴	PVD	Dark Purple	ultra-submicron H	-	Milling grade with excellent wear resistance. Most suitable in a machining of hard and high strength materials under stable cutting conditions and moderate/higher cutting speeds. Suitable for cutting other workpiece group materials except non-ferrous metals.
	M01 – M10	▣	▴	▴	▴					
	K01 – K10	■	▴	▴	▴					
	S05 – S10	■	▴	▴	▴					
M0315	N05 – N25	■	▴	▴	▴	PVD	Grey	submicron H	-	Submicron grade for milling non-ferrous metals and their alloys with a balanced ratio of wear resistance and toughness. It is provided with a unique coating with excellent friction properties.
M8326	P20 – P40	■	▴	▴	▴	PVD	Dark Purple	H	-	Special grade for heavy duty. The main application area of this grade is machining all kinds of steels (including stainless) in the „soft state“. It can also be used for machining softer cast irons. Suitable for M15 – M30 machining at medium speeds under average cutting conditions.
	M15 – M30	▣	▴	▴	▴					
M8346	P30 – P50	■	▴	▴	▴	PVD	Dark Purple	H	-	Special grade for heavy duty. This grade has exceptional operational reliability and is designed for heavy cuts in unfavourable conditions in difficult and tough materials.
	M30 – M40	■	▴	▴	▴					
S26	P15 – P30	■	▴	▴	▴	-	Grey	S	++	Uncoated milling grade with excellent resistance to erosion of the cutting face. It is intended solely for machining carbon and alloy steels at low cutting speeds.
S45	P30 – P45	■	▴	▴	▴	-	Grey	S	++	Uncoated, tough cutting grade suitable for machining applications where low cutting speed and unfavourable cutting conditions dominate
HF7	M10 – M20	▣	▴	▴	▴	-	Dark Purple	submicron H	++	Uncoated grade which is primarily designed for machining non-ferrous metals; can also be used for other machined materials (except steel). This grade can be used in turning, milling, and even boring.
	K10 – K25	■	▴	▴	▴					
	N10 – N25	■	▴	▴	▴					

MILLING GRADES – OVERVIEW

Grade Identification	Area of Application	Application	Feed	Cutting speed	Resistance to adverse Working Conditions	Coating	Colour	Substrate	Coolant benefit	Grade description
M9315	P05 – P25	■				MT-CVD	█	H	---	Milling grade with high abrasion resistance even at high thermal loads, main application area is higher cutting speeds with medium or small depths of cut.
	K10 – K30	■	▄	▄	▄					
	H10 – H20	▣								
M9325	P10 – P30	■				MT-CVD	█	H	---	This grade has an ideal balance between wear resistance and toughness, it is mainly designed for roughing operations. Advantages are excellent wear resistance even at relatively high cutting speeds with excellent reliability, this grade is more suitable for applications using higher speeds and lower feed rates.
	K10 – K30	■	▄	▄	▄					
	H15 – H20	▣								
M9340	P35 – P50	■				MT-CVD	█	H	---	A very tough grade, where the main advantage is the high strength of the cutting edge and resistance to adverse cutting conditions. Although this material has an MT-CVD M30 – M40 coating, it is possible to use emulsion cooling for its application, especially in optimum cutting conditions.
	M30 – M40	■	▄	▄	▄					
	S15 – S20	■								
M5315	P05 – P20	▣				MT-CVD	█	H	---	One of the most abrasion-resistant milling grades which should be used under stable conditions. Its main advantage is the extremely high resistance to thermal stress and abrasive K05 – K25 wear. It is mainly used for machining hard and very hard materials, particularly cast iron.
	K05 – K25	■	▄	▄	▄					
	H05 – H20	■								
M8310	P01 – P10	■				PVD	█	ultra submicron H	-	Grade specially developed for copy milling, featuring high resistance to abrasion. It is suitable for machining at higher cutting speeds under stable cutting conditions, and for machining virtually all groups of machined materials (particularly stronger and harder materials).
	M01 – M10	▣	▄	▄	▄					
	K01 – K10	■	▄	▄	▄					
	H05 – H15	▣								
8215	P10 – P20	■				PVD	█	submicron H	+/-	One of the most versatile milling grades, in terms of both the range of workpiece materials and the range of possible applications. It is characterised by high wear resistance and operational reliability. Its other advantages include excellent resistance to cracking induced by temperature shock. With its unique properties, this material is undoubtedly one of the pillars of the milling range.
	M10 – M20	▣	▄	▄	▄					
	K10 – K25	■	▄	▄	▄					
	N10 – N25	■	▄	▄	▄					
	S10 – S15	▣								
M8325	P20 – P40	■				PVD	█	S	-	The main application area of this grade is machining all kinds of steels (including stainless) in the "soft state". It can also be used for machining softer cast irons. Suitable for M15 – M30 machining at medium speeds under average cutting conditions.
	M15 – M30	▣	▄	▄	▄					
M8330	P20 – P40	■				PVD	█	submicron H	+/-	This grade is universal and can be used for machining various types of materials. However, it's priority application area lies within steels and ductile cast irons. It is recommended for milling at medium speeds under unstable cutting conditions.
	M20 – M35	■	▄	▄	▄					
	K20 – K40	■	▄	▄	▄					
	N15 – N30	▣	▄	▄	▄					
	S15 – S25	▣								
M8340	P25 – P50	■				PVD	█	submicron H	+/-	One of the toughest grade dedicated for machining with lower cutting speed and unfavorable conditions. This grade is ideal for all operations where the main requirement is for a tough cutting edge.
	M20 – M40	■	▄	▄	▄					
	K20 – K40	▣	▄	▄	▄					
	S20 – S30	■								

MILLING GRADES – OVERVIEW

Marking of grades

M		9		3		2		5	
Operation type		Coating/Substrate		Generation		ISO range			
D	Drilling	0 PVD 1 CVD	Special application	1–9			01–05		
M	Milling	2 PVD 3 CVD	Free				05–10		
T	Turning	4 PVD 5 CVD	Group K, H				10–20		
G	Grooving and Parting off	6 PVD 7 CVD	Group M, S				20–30		
		8 PVD 9 CVD	Universal				30–40		
		B	CBN				40–50		
		D	PCD						

Substrate

H	WC-Co based substrate
submicron H	WC-Co based substrate, fine-grained (< 1 µm)
ultra submicron H	WC-Co based substrate, very fine-grained (< 0.5 µm)
S	Substrate with cubic carbides

Coating

MT-CVD	Medium-temperature chemical method of coating
PVD	Low-temperature physical method of coating
–	Uncoated grade

Coolant Benefit

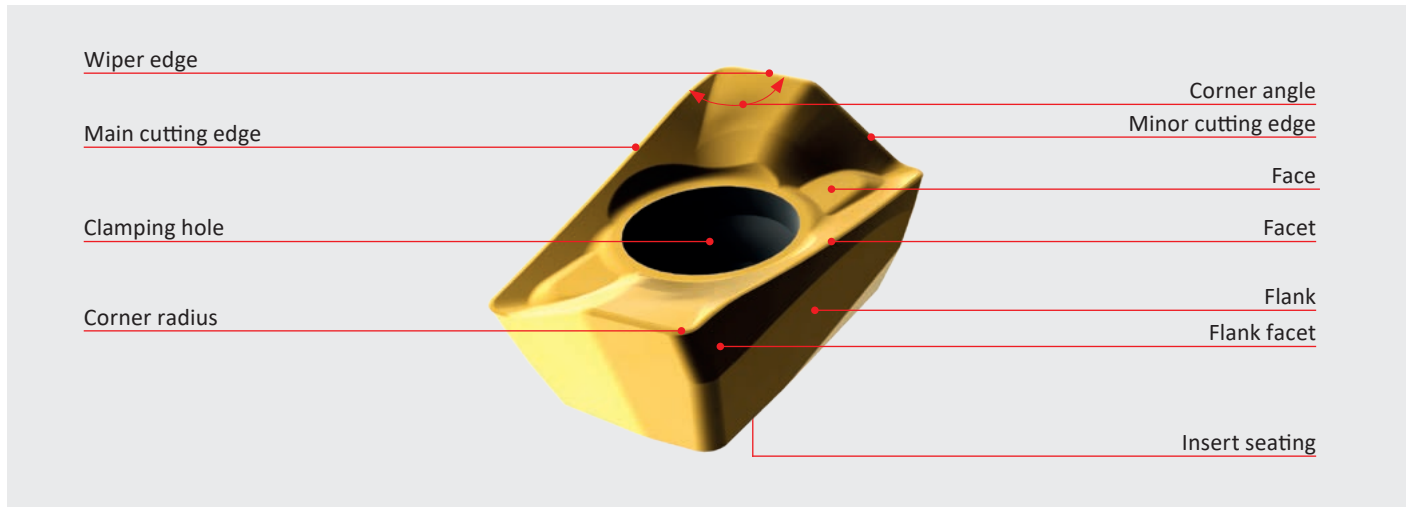
---	Very negative effect on tool life – cooling is not recommended
-	Slightly negative effect on tool life
+ / -	Influence of cooling may be both positive and negative – decisive factor is specific working conditions
++	Positive effect on tool life – cooling is recommended

Level of influence



DEFINITION OF BASIC TERMS

Parts of an Indexable Insert



Geometry of milling tool

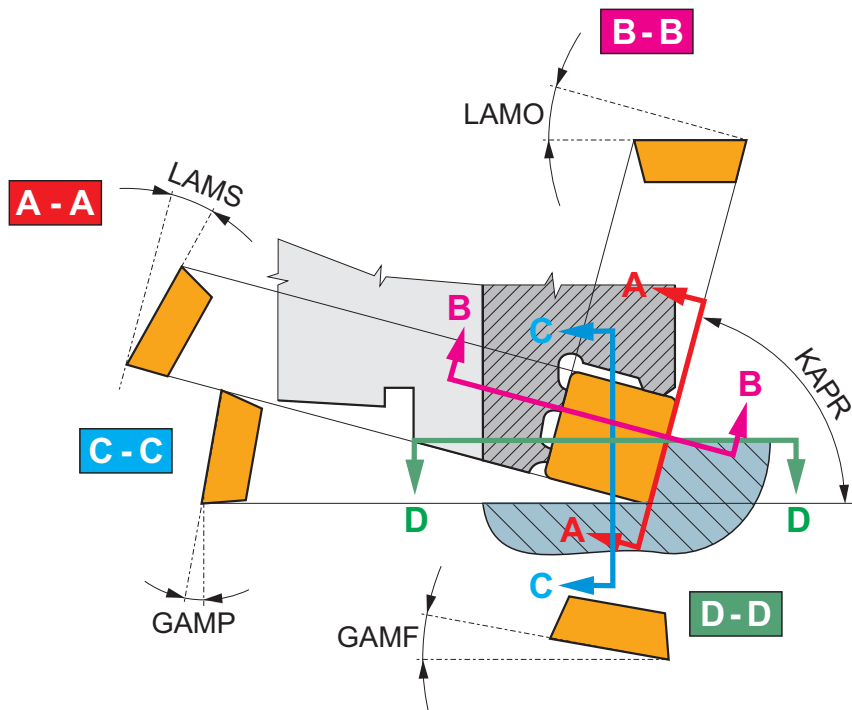
Constructional angles determine the basic orientation of the seat position that the cutting insert is clamped in and are therefore important for the design of the milling cutter body. There are two angles: axial face angle $GAMP - \gamma_p$ (tool back rake) and radial face angle $GAMF - \gamma_f$ (tool side rake) – see picture below.

Working angles are the setting angle $KAPR - \kappa_r$, the orthogonal face angle $GAMO - \gamma_o$ and the rake angle of the cutting edge $LAMS - \lambda_s$.

- **Orthogonal face angle** $GAMO - \gamma_o$ affects not only the extent of plastic deformation of the cut chip but also the cutting force and temperature. The bigger the rake angle $GAMO - \gamma_o$, the lower the cutting force and power demand of the spindle motor (and vice versa).

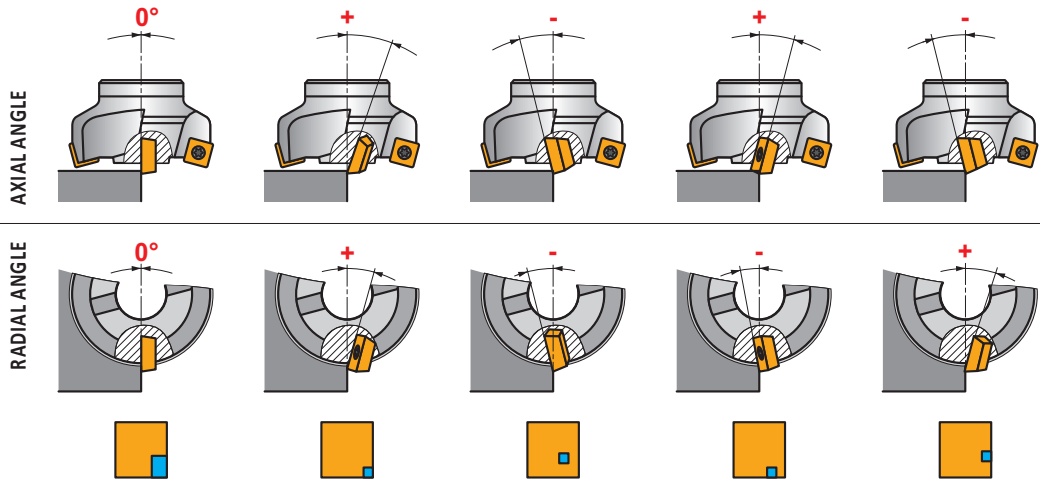
- **Setting angle** $KAPR - \kappa_r$ determines the thickness of the chip at a specific feed per tooth f_z and axial depth of cut a_p . It therefore affects cutting forces, specifically load, wear and tool service life. Reducing the setting angle $KAPR - \kappa_r$ at a constant feed f_z causes a decrease in the chip thickness h .
 - **Rake angle of cutting edge** $LAMS - \lambda_s$ together with setting angle $KAPR - \kappa_r$ and face angle $GAMO - \gamma_o$, this determines the point of first contact between the edge and work piece. That is why it affects the resistance of the edge to chipping during interrupted cut. At the same time, it affects the direction of chip evacuation.
- Working angles of the tool you can determine the bed using the formulas or diagrams below.

Working and constructional angles of milling tool



CHOICE OF TOOL

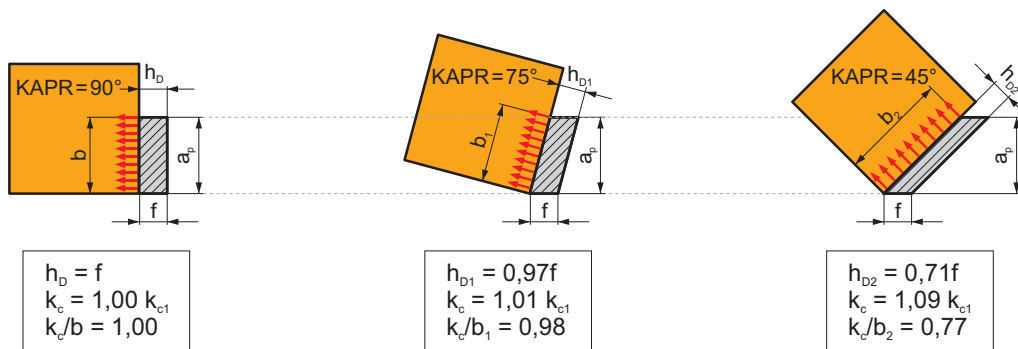
Milling Cutter Geometry



When choosing a tool, it is necessary to take many criteria into account. One of the primary requirements is that the place of first contact between the cutting wedge and the workpiece lie further away from the tip and the cutting edge. That, however, is dependent on the basic geometry of the cutting wedge i.e. angles $GAMO - \gamma$, $LAMS - \lambda_s$, $KAPR - \kappa_r$, as well as the mutual position of the milling cutter and the entry edge of the workpiece. The following figure shows individual milling cutter geometries (or rather, the combinations of radial and axial angles) at some of the most adverse engagement conditions (i.e. when the axis of the milling cutter is in line with the edge of the workpiece). At the bottom of the figure is a depiction of the indexable insert with an indication of the area where the insert makes first contact with the workpiece. The figure shows that in such adverse engagement conditions, tools with negative – negative

geometry perform the best, while tools with positive – positive geometry will be the most problematic. Another criterion is chip removal. Negative – negative tools push the chip into the work surface (towards the workpiece) while positive – positive tools do the opposite, leading the chip away from the work surface, i.e. away from the workpiece. It is thus an optimal compromise to combine negative and positive angles.

Entering Angle



When choosing the entering angle for face milling, you should, among other things, account for the power and rigidity of the machine (size and type of tool holder), its dynamic capabilities and maximum depth of removal. For instance, if you have a high-performance (50 – 100 kW) machine at your disposal with an ISO 50 tool holder and you cut at high depth, your first choice should be a milling cutter with an entering angle between 90° – 58°. On the other hand, if you have a low-power machine (up to 10 kW) with an ISO 40 (HSK 63) tool holder and you expect to cut at 2 – 3 mm depth, you should choose a tool with an entering angle of 45° – 10° (i.e. HFC) or with round inserts. It would thus be an ideal compromise to choose a tool with an entering angle of 45°, which can also handle higher depths of cut and, when compared to a tool with an entering angle of 90°, can cut at the same depth at up to 30% higher feed and at approximately the same

load. Finally, it is important to emphasise that the lower the entering angle, the thinner the chip and the longer the engaged section of the cutting wedge, which is important with regard to heat dissipation and the distribution of force across the edge of the insert. Also worth mentioning is the change in the direction of the resultant cutting forces, which, in simplified terms, can be visualised as perpendicular to the edge. (Decreasing the entering angle increases the passive component of the cutting force leading into the spindle and decreases the active radial component of the cutting force).

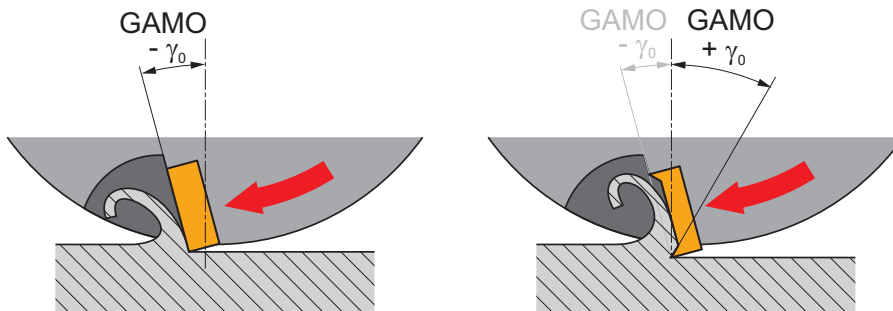
CHOICE OF TOOL

The following figure shows the assortment of Pramet milling cutters with regard to the entering angle and the basic geometry of the cutter body (i.e. the axial and radial angle of the face). However, it must be pointed out that insert geometry may change the resulting geometry of the tool as indicated in the following figure.

	Negative – Negative	Negative – Positive	Positive – Positive
93°	SWN04C SCN05C		
90°	STN10 STN16 SLN12 SLN16 SLN12X J(T)-SLSN	SAD07D SAD11E SAD16E SAP10D SAP16D SS009 SSD12 FTB27X F-SCC S905N S90CN(XN) J(T)-SAD11E J(T)-SAD16E J(T)-SSAP J(T)-CSD12X	SAP10D SVC22C
57° – 60°	SPN13	FSB22X	
45°	SHN06C SHN09C SSD09 N-SS009 2516	SSF13F SOD05 SOD06D SSE09 SSN12Z	
43°	SON06C		SOE06Z
12° – 20°	SBN10 SSN11	SPD09 SS012	
I	SRC10 SRC12 SRC16 SRC20 SRD10 SRD12 L2-SZP K3-CXP K2-PPH K2-SLC K2-SRC	SRD05 SRD07 SRD10 SRD12 SRD16 SZD07 SZD09 SZD12 2636 J(T)-SXP16	

CHOICE OF TOOL

Resulting Geometry (Milling Cutter + Indexable Insert)



The following table lists the three basic milling cutter geometries and the approximate priority of their use with regard to the type of machined material. More detailed information about individual tool families with consideration of insert geometries can be found in the catalogue section.

Conditions		Selection of cutter geometry according to application		
		Negative – Negative	Negative – Positive	Positive – Positive
Structural parameter of the body	GAMP (A.R.)	-	+	+
	GAMF (R.R.)	-	-	+
	GAMO	-	+	+
Machined material	Carbon steels, alloy steels (< 300 HB)	■	■	■
	Stainless steels (< 300 HB)		■	■
	Stainless steels (> 300 HB)		■	■
	Cast iron, ductile iron	■	■	■
	Al alloys		■	■
	Copper and its alloys		■	■
	Titanium and its alloys		■	■
	Hardened steels (40 – 55 HRC)	■	■	

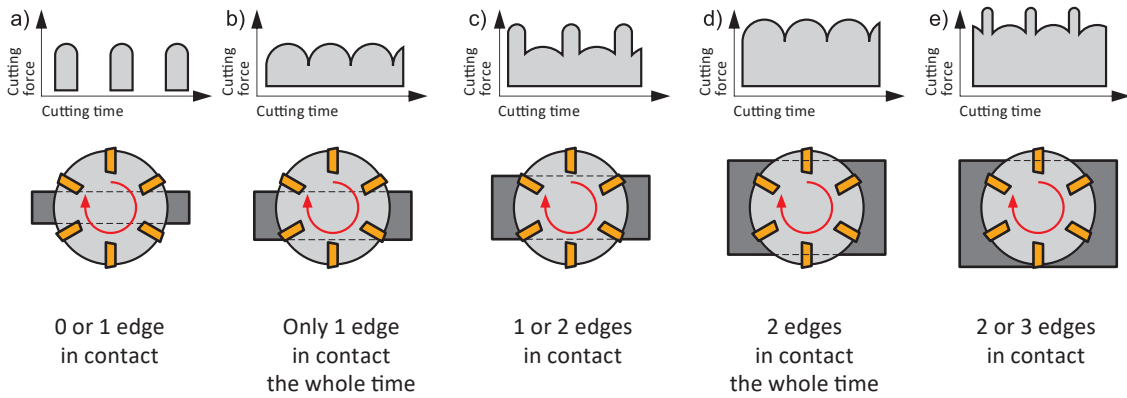
Number of Teeth on the Milling Cutter

The number of teeth on the milling cutter is also important in relation to the width of the milled surface, where it determines the force (and acoustic) characteristics of the cut, as indicated in the following figure.

Feed per minute	+	++	+++
Tough materials	+++	++	+
Power requirement	+	++	+++
Resulting roughness	+++	++	+

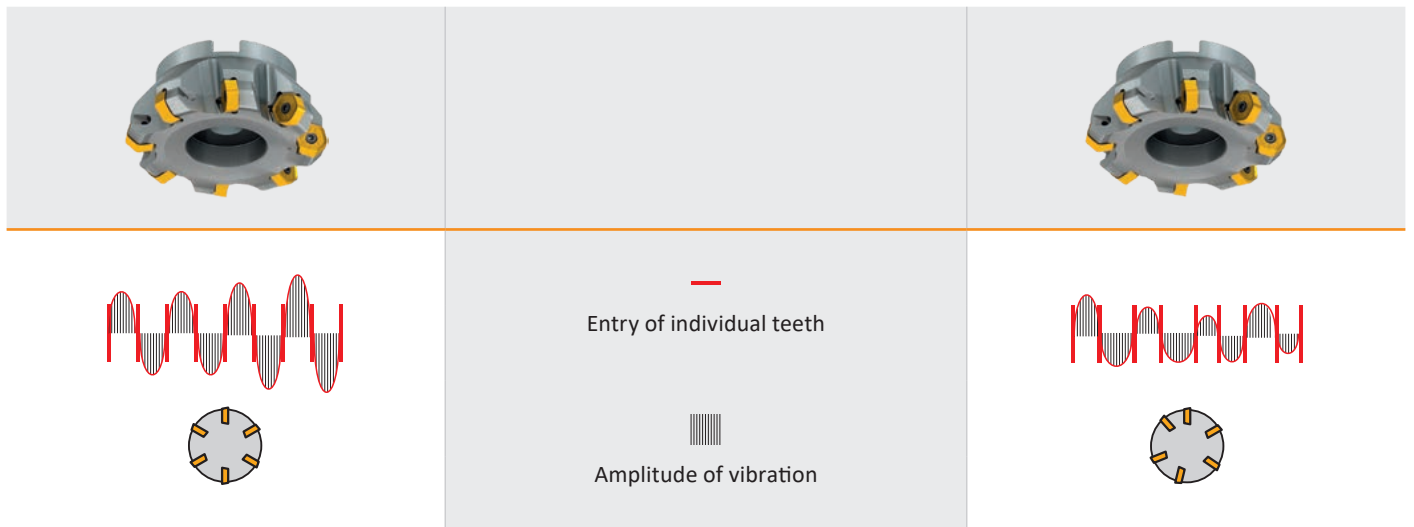
CHOICE OF TOOL

Tooth Pitch



In addition, some tool families offer the option to choose between even and uneven tooth pitch. Using a tool with an uneven tooth pitch interferes with harmonic oscillation and, as a result, helps improve stability and reduce the risk of vibration. That means you should choose uneven tooth pitch if you anticipate a risk of vibration, i.e.

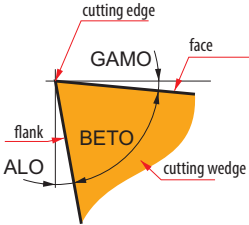
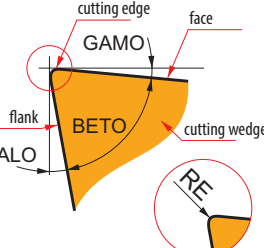
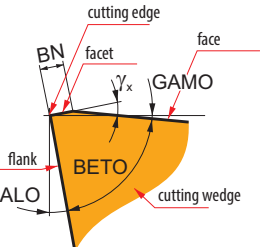
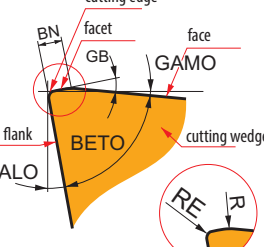
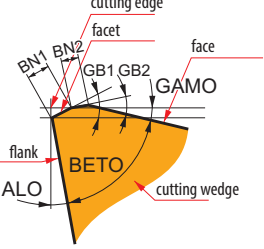
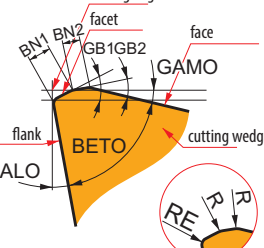
primarily when working at higher overhang or when machining at high radial depth of cut and under conditions which are not entirely stable.



CHOICE OF CUTTING INSERT

When choosing an indexable insert, please also pay attention to its microgeometry, which is indicated by icons directly in the catalogue section. Below is an overview of the types of cutting edges you can find on our inserts.

Overview of Cutting Edge Designs

<p>F</p>		<p>Sharp cutting edges – recommended for inserts designed for use with milling cutters for Al alloys. Sharp cutting wedges result in minimal deformation of the cut layer, reduced build-up on the edge and a lower cutting force requirement. However, the strength of the cutting wedge is lower compared to other types.</p>
<p>E</p>		<p>Rounded cutting edges – a slight rounding of the wedge with the aim of eliminating micro-imperfections on its surface. Rectifying the wedge at a certain very low radius (RE) improves the cutting edge's resistance to mechanical damage, i.e. brittle fracture or so-called micro-crumbling. This modification is currently used on all indexable inserts without a facet (F modification previously), which are used for milling almost all types of material.</p>
<p>T</p>		<p>Faceted cutting edges – a facet with width of x and angle of γ_x increases the angle γ_n of the cutting wedge in the immediate vicinity of the cutting edge, thus also increasing its strength, i.e. its resistance to mechanical load, brittle damage or fracture. Currently used only rarely, as it has been replaced by the S modification.</p>
<p>S</p>		<p>Rounded edges with facet – compared to the T modification, the insert has undergone rectification which results in rounding of the cutting edge and thickening by a facet. This modification increases the resistance of the wedge against mechanical damage to a greater degree.</p>
<p>K</p>		<p>Edges with double facet – double facet with widths of x_1, x_2 and angle of γ_{x1}, γ_{x2} further increases the strength of the edge, i.e. its resistance to mechanical stress, brittle damage or fracture. Rarely used for milling inserts, only for the most difficult cuts.</p>
<p>P</p>		<p>Rounded edges with double facet – compared to the K modification, the insert has undergone rectification which results in rounding of the cutting edge and thickening by a double facet. This modification provides the wedge with maximum resistance to mechanical damage.</p>

CORRECTION FACTORS

Correction factors for specific type of cutter and operation C_{VcO}

Face mills with <i>KAPR</i> 45° – 60° and negative inserts (SON06C, SHN06C, SHN09C)	1.15	1.00	0.85
Face mills with <i>KAPR</i> 45° and positive inserts (SSD13F, SSE09, SSN12Z, FSB22X, SOD05, SOD06D, SOE06Z)	1.15	1.00	0.85
Shoulder mills with <i>KAPR</i> 90° (SAD07/10/16, STN10/16, SLN12/16, SAP10/16, SS009, SSD12)	1.10	1.00	0.90
Copy face mills (SRC10 – SRC20, SRD05 – SRD16, ...)	1.10	1.00	0.90
Copy end mills (K2-PPH, K2-SLC, K2-SRC, K3-CXP...)	1.10	1.00	0.90
Disc mills (S90CN(XN), S90SN...)	1.10	1.00	0.90
Shoulder mills with extended flute J(T)-CSD12X, J(T)-SAD11E, J(T)-SAD16E...)	1.25	1.00	0.80
Face mills for heavy duty (FSB22X, SPN13..)	1.30	1.00	0.85
Shoulder mills for heavy duty (FTB27X..)	1.25	1.00	0.85

Correction factors for required durability C_{VcT}

	minutes	15	20	30	45	60	90	120
General machining operations (fine finishing up to roughing)		1.23	1.13	1.00	0.89	0.81	0.72	–
Heavy machining operations (heavy roughing)		–	–	1.23	1.13	1.00	0.89	0.81

Additional correction factors C_{VcA}

Machining environment	C_{VcA}
Condition of the work-material (hard skin due to forging or casting)	0.70
Unstable machining conditions	0.85
Common machining conditions	1.00
Stable machining conditions	1.20

Correction factors for cutting speed when face and shoulder milling with < 100 % radial immersion C_{VcRCT}

a_e / DC	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00

Correction factors to compensate for chip-thinning when face and shoulder milling with < 100 % radial immersion C_{fzRCT}

a_e / DC	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

Resulting corrected cutting speed v_{cc}

$$v_{cc} = v_c \times k_{VG} \times C_{VcO} \times C_{VcT} \times C_{VcA} \times C_{VcRCT} \times C_{fzRCT}$$

k_{VG} – coefficient of used material

v_c – starting speed from catalogue page

FORMULAS

Value	Unit	Formula
Number of revolutions	(rev/min)	$n = \frac{v_c \times 1000}{DC \times \pi}$
Cutting speed	(m/min)	$v_c = \frac{\pi \times DC \times n}{1000}$
Feed per revolution	(mm/rev)	$f_{rev} = \frac{f_{min}}{n} = f_z \times z$
Feed per minute (speed of feed)	(mm/min)	$f_{min} = v_f = f_{rev} \times n = f_z \times z \times n$
Feed per tooth	(mm/tooth)	$f_z = \frac{f_{rev}}{z} = \frac{f_{min}}{n \times z}$
Chip cross section	(mm ²)	$A = f_z \times a_p$
Chip thickness (for inserts with a straight edge)	(mm)	$h = f_z \times \sin KAPR$
Chip thickness (for round cutting inserts)	(mm)	$h = f_z \times \sqrt{\frac{a_p}{INSD}}$
Metal removal rate	(cm ³ /min)	$Q = \frac{a_p \times a_e \times f_{min}}{1000}$
Power demand	(kW)	$P_c = \frac{a_p \times a_e \times f_{min}}{60 \times 10^6 \times \eta} \times k_c \times k_\gamma$
Approximate power demand	(kW)	$P_c = \frac{a_p \times a_e \times f_{min}}{x}$

Note:

	Quantity	Unit
n	Number of revolutions	(rev/min)
DC	Diameter (of tool or work piece)	(mm)
v_c	Cutting speed	(m/min)
f_{rev}	Feed per revolution	(mm/rev)
A	Chip cross section	(mm ²)
a_p	Axial depth of cut (depth of cut)	(mm)
a_e	Radial depth of cut (width of cut)	(mm)
KAPR	Setting angle	(°)
f_{min}	Feed per minute (sometimes called speed of feed)	(mm/min)
f_z	Feed per tooth	(mm/tooth)
z	Number of teeth	(-)
INSD	Diameter of insert	(mm)

	Quantity	Unit
h	Chip thickness	(mm)
Q	Material removal rate per minute	(cm ³ /min)
P_c	Power demand	(kW)
k_c	Cutting force per mm ²	(MPa)
k_γ	Coefficient of influence of angle γ ₀	(°)
η	Machine efficiency usually η = 0.75	(-)
x	Coefficient of influence of work piece material	(-)


Material	Steel	Cast iron	Al
Coefficient x	24 000	30 000	120 000

RECOMMENDED TORQUE OF CLAMPING SCREWS

Clamping screw	Torque	Thread	Length
	(Nm)	–	(mm)
US 20	0.9	M 2	3
US 2205-T07P	0.9	M 2.2	5
US 25	1.2	M 2.5	5
US 2505-T08P	1.2	M 2.5	5
US 2506-T07P	1.2	M 2.5	6
US 3006-T09P	2	M 3	6
US 3007-T09P	2	M 3	7
US 3504-T09P	3	M 3.5	4
US 3507-T15	3	M 3.5	7
US 3509-T15	3	M 3.5	9
US 3511-T15	3	M 3.5	11
US 3512-T15P	3	M 3.5	12
US 4008-T15P	3.5	M 4	8
US 4011-T15P	3.5	M 4	11
US 4511-T20	5	M 4.5	11
US 5012-T15P	5	M 5	12
US 70	5	M 4	5
US 71	5	M 4	7
US 72	5	M 4	9
US 73	5	M 4	11
CS 3007-T08P	1.2	M 3	7
CS 4008-T15P	3	M 4	8
CS 42506-T07P	1	M 2.5	6
CS 43008-T08P	1.2	M 3	8
CS 43509-T10P	2	M 3.5	9
CS 44013-T15P	3	M 4	13
CS 45016-T20P	5	M 5	16
CS 46020-T25P	7.5	M 6	20
CS 48025-T40P	15	M 8	25
CS 5009-T20P	5	M 5	9
CS 5013-T20P	5	M 5	13
CS 5015-T20P	5	M 5	15
CS 6020-T20P	7.5	M 6	20
CS 8025-T30P	15	M 8	25
US 2505-T07P	1.2	M 2.5	5
US 2506-T07P	1.2	M 2.5	6
US 3007-T09P	2	M 3	7
US 3505-T09P	3	M 3.5	5
US 4011A-T15P	3.5	M 4	11
US 4011-T15P	3.5	M 4	11
US 44010-T15P	3.5	M 4	10
US 44012-T15P	3.5	M 4	12
US 45011-T20P	5	M 5	11
US 45012-T20P	5	M 5	12
US 5011-T20P	5	M 5	11
US 5018-T20P	5	M 5	18
US 52506-T07P	0.8	M 2.5	6
US 54511-T15P	5	M 4.5	11
US 62003A-T06P	0.6	M 2	3
US 62004A-T06P	0.6	M 2	4
US 62004-T06P	0.6	M 2	4
US 62505-T07P	1.2	M 2.5	5
US 62506-T07P	1.2	M 2.5	6
US 62506-T08P	1.2	M 2.5	6
US 62508-T08P	1.2	M 2.5	7
US 63009-T09P	1.2	M 3	9
US 63509-T15P	3	M 3.5	10
US 63510-T10P	2	M 3.5	9
US 63511D-T15P	3	M 3.5	11

Clamping screw	Torque	Thread	Length
	(Nm)	–	(mm)
US 63513-T15P	3	M 3.5	12
US 64014-T15P	3.5	M 4	14
US 65013-T20	5	M 5	13
US 65014-T20P	5	M 5	14
US 65017-T20P	5	M 5	17
US 66015-T25P	7.5	M 6	15
US 68020-T30P	15	M 8	20
US 68026-T30P	15	M 8	26
US 74016-T15P	3.5	M 4	16

Torque screwdrivers

Torque handle 	Torque (Nm)	Clamping screw thread
MR-0.8-2.0 Vario	0.5 – 2.0	M 2 – M 3
MR-1.0-5.0 Vario	0.8 – 5.0	M 2.5 – M 5
MR-0.9 fix	0.9	M 2
MR-2.0 fix	2.0	M 3
MR-3.0 fix	3.0	M 3.5
MR-3.5 fix	3.5	M 4
MR-5.0 fix	5.0	M 5

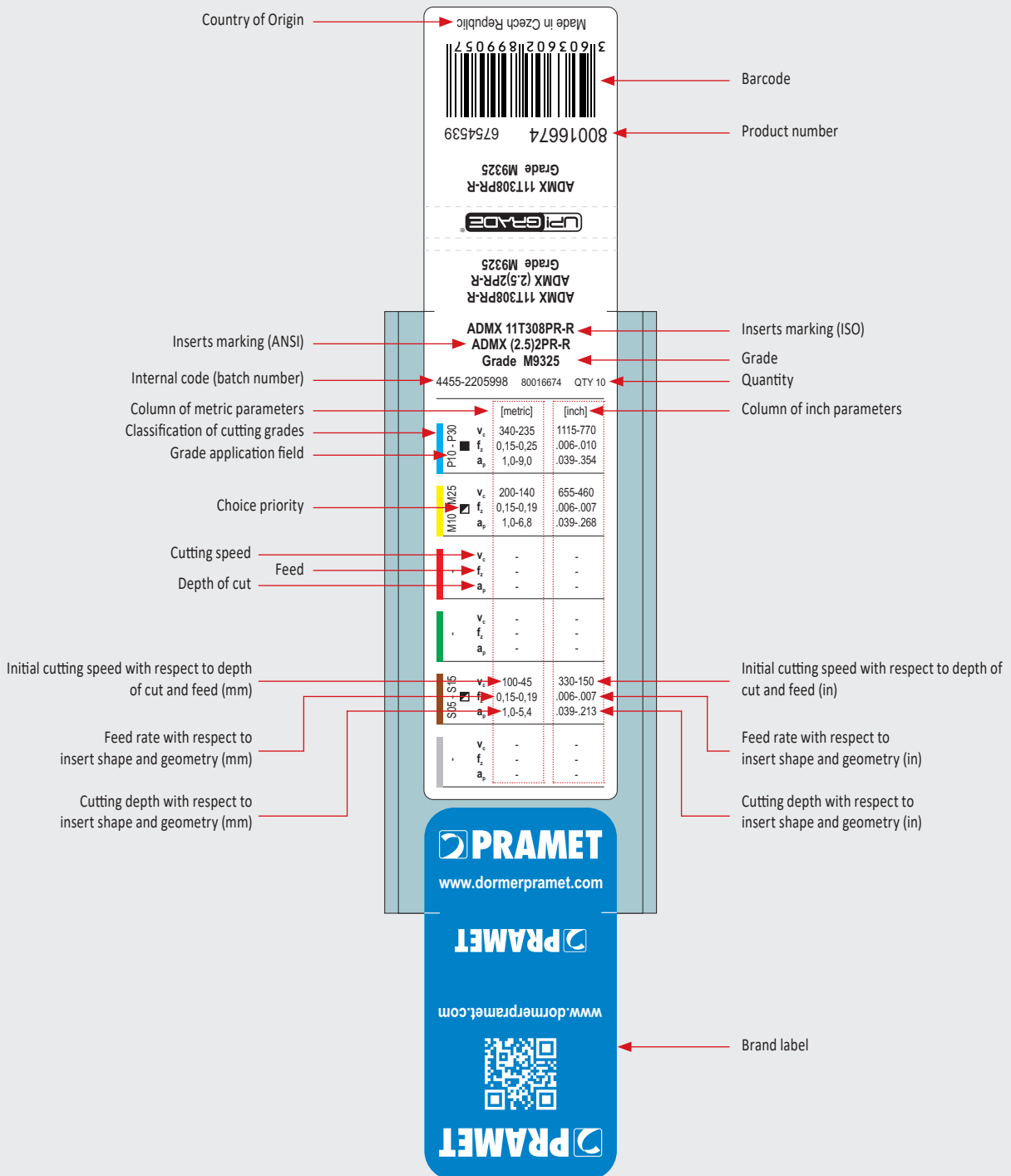
Replaceable shanks

Replaceable shanks 
D-T6
D-T6P
D-T7
D-T7P
D-T8
D-T8P
D-T9
D-T9P
D-T15
D-T15P
D-T20
D-T20P

Screw lubrication

Insert clamping screws are subject to high thermal stresses. It is recommended that all screws be lubricated with a high quality paste such as MOLYKOTE 1000.

TECHNICAL INFORMATION ON INSERT BOX



WMG (WORK MATERIAL GROUP)

ISO group	WMG (Work Material Group)	Hardness (HB or HRC)	Ultimate Tensile Strength (MPa)	Correction factor kvG		
P	P1 P1.1 Free machining steel P1.2 (carbon steels with increased machinability) P1.3	Sulfurized	< 240 HB	≤ 830	1.33	
		Sulfurized and phosphorized	< 180 HB	≤ 620	1.49	
		Sulfurized/phosphorized and leaded	< 180 HB	≤ 620	1.53	
	P2 P2.1 Plain carbon steel P2.2 (steels comprised of mainly iron and carbon) P2.3	Containing <0.25 % C	< 180 HB	≤ 620	1.14	
		Containing <0.55 % C	< 240 HB	≤ 830	1.00	
		Containing >0.55 % C	< 300 HB	≤ 1030	0.89	
	P3 P3.1 Alloy steel P3.2 (carbon steels with an alloying content ≤ 10%) P3.3	Annealed	< 180 HB	≤ 620	0.92	
		Hardened and tempered	180 – 260 HB	> 620 ≤ 900	0.74	
			260 – 360 HB	> 900 ≤ 1240	0.63	
	P4 P4.1 Tool steel P4.2 (special alloy steel for tools, dies and molds) P4.3	Annealed	< 26 HRC	≤ 900	0.55	
		Hardened and tempered	26 – 39 HRC	> 900 ≤ 1240	0.47	
			39 – 45 HRC	> 1240 ≤ 1450	0.38	
M	M1 M1.1 Ferritic stainless steel M1.2 (straight chromium non-hardenable alloys)	< 160 HB	≤ 520	1.22		
		160 – 220 HB	> 520 ≤ 700	1.03		
	M2 M2.1 Martensitic stainless steel M2.2 (straight chromium hardenable alloys) M2.3	Annealed	< 200 HB	≤ 670	1.08	
		Quenched and tempered	200 – 280 HB	> 670 ≤ 950	0.89	
		Precipitation-hardened	280 – 380 HB	> 950 ≤ 1300	0.75	
	M3 M3.1 Austenitic stainless steel M3.2 (chromium-nickel and chromium-nickel-manganese alloys) M3.3	< 200 HB	≤ 750	1.00		
		200 – 260 HB	> 750 ≤ 870	0.86		
		260 – 300 HB	> 870 ≤ 1040	0.77		
	M4 M4.1 Austenitic-ferritic (DUPLIX) or super-austenitic stainless steel M4.2 Precipitation hardening austenitic stainless steel	< 300 HB	≤ 990	0.75		
		300 – 380 HB	≤ 1320	0.64		
	K	K1 K1.1 Gray iron or Automotive Gray iron (GG) K1.2 (iron-carbon castings with a lamellar graphite microstructure) K1.3	Ferritic or ferritic-pearlitic	< 180 HB	≤ 190	1.35
			Ferritic-pearlitic or pearlitic	180 – 240 HB	> 190 ≤ 310	1.00
Pearlitic			240 – 280 HB	> 310 ≤ 390	0.75	
K2 K2.1 Malleable iron (GTS/GTW) K2.2 (iron-carbon castings with a graphite-free microstructure) K2.3		Ferritic	< 160 HB	≤ 400	1.39	
		Ferritic or pearlitic	160 – 200 HB	> 400 ≤ 550	1.13	
		Pearlitic	200 – 240 HB	> 550 ≤ 660	0.90	
K3 K3.1 Ductile iron (GGG) K3.2 (iron-carbon castings with a nodular graphite microstructure) K3.3		Ferritic	< 180 HB	≤ 560	1.23	
		Ferritic or pearlitic	180 – 220 HB	> 560 ≤ 680	0.94	
		Pearlitic	220 – 260 HB	> 680 ≤ 800	0.76	
K4 K4.1 Austenitic gray iron (ASTM A436) K4.2 (iron-carbon alloy castings with an austenitic lamellar graphite microstructure) K4.3 K4.4 Austempered ductile iron (ASTM A897) K4.5 (iron-carbon alloy castings with an ausferrite microstructure)		< 180 HB	≤ 190	1.14		
		< 240 HB	≤ 740	0.86		
		< 280 HB	> 840 ≤ 980	0.63		
		280 – 320 HB	> 980 ≤ 1130	0.54		
		320 – 360 HB	> 1130 ≤ 1280	0.45		
K5 K5.1 Compacted graphite iron CGI (ASTM A842) K5.2 (iron-carbon castings with a vermicular graphite structure) K5.3		Ferritic	< 180 HB	≤ 400	1.29	
	Ferritic-pearlitic	180 – 220 HB	> 400 ≤ 450	0.97		
	Pearlitic	220 – 260 HB	> 450 ≤ 500	0.75		
N	N1 N1.1 Commercially pure wrought aluminium N1.2 Wrought aluminium alloys N1.3	Half hard tempered	60 – 100 HB	> 240 ≤ 400	1.00	
		Full hard tempered	100 – 150 HB	> 400 ≤ 590	0.67	
		< 75 HB	≤ 240	0.67		
	N2 N2.1 Cast aluminium alloys N2.2 N2.3	75 – 90 HB	> 240 ≤ 270	0.60		
		90 – 140 HB	> 270 ≤ 440	0.43		
		–	–	0.70		
	N3 N3.1 Free-cutting copper-alloys materials with excellent machining properties N3.2 Short-chip copper-alloys with good to moderate machining properties N3.3 Electrolytic copper and long-chip copper-alloys with moderate to poor machining properties	–	–	0.41		
		–	–	0.21		
		–	–	0.70		
	N4 N4.1 Thermoplastic polymers N4.2 Thermosetting polymers N4.3 Reinforced polymers or composites	–	–	0.27		
		–	–	0.29		
		–	–	1.00		
S	S1 S1.1 Titanium or titanium alloys S1.2 S1.3	< 200 HB	≤ 660	1.94		
		200 – 280 HB	> 660 ≤ 950	1.72		
		280 – 360 HB	> 950 ≤ 1200	1.44		
	S2 S2.1 Fe-based high-temperature alloys S2.2	< 200 HB	≤ 690	1.33		
		200 – 280 HB	> 690 ≤ 970	1.17		
	S3 S3.1 Ni-based high-temperature alloys S3.2	< 280 HB	≤ 940	1.00		
		280 – 360 HB	> 940 ≤ 1200	0.83		
	S4 S4.1 Co-based high-temperature alloys S4.2	< 240 HB	≤ 800	0.78		
240 – 320 HB		> 800 ≤ 1070	0.67			
H	H1 H1.1 Chilled cast iron	< 440 HB	–	1.52		
		< 55 HRC	–	0.90		
	H2 H2.1 Hardened cast iron H2.2	> 55 HRC	–	0.77		
		< 51 HRC	–	1.00		
	H3 H3.1 Hardened steel < 55 HRC H3.2	51 – 55 HRC	–	0.82		
		55 – 59 HRC	–	0.64		
	H4 H4.1 Hardened steel > 55 HRC H4.2	> 59 HRC	–	0.54		

HARDNESS CONVERSION TABLE

Strength (MPa)	Hardness			
	BRINELL	VICKERS	ROCKWELL	ROCKWELL
R_m	HB	HV	HRB	HRC
285	86	90	1190	–
320	95	100	56.2	–
350	105	110	62.3	–
385	114	120	66.7	–
415	124	130	71.2	–
450	133	140	75.0	–
480	143	150	78.7	–
510	152	160	81.7	–
545	162	170	85.8	–
575	171	180	87.1	–
610	181	190	89.5	–
640	190	200	91.5	–
675	199	210	93.5	–
705	209	220	95	–
740	219	230	96.7	–
770	228	240	98.1	–
800	238	250	99.5	–
820	242	255	–	23.1
850	252	265	–	24.8
880	261	275	–	26.4
900	266	280	–	27.1
930	276	290	–	28.5
950	280	295	–	29.2
995	295	310	–	31.0
1030	304	320	–	32.2
1060	314	330	–	33.3
1095	323	340	–	34.4
1125	333	350	–	35.5
1155	342	360	–	36.6

Strength (MPa)	Hardness			
	BRINELL	VICKERS	ROCKWELL	ROCKWELL
R_m	HB	HV	HRB	HRC
1190	352	370	–	37.7
1220	361	380	–	38.8
1255	371	390	–	39.8
1290	380	400	–	40.8
1320	390	410	–	41.8
1350	399	420	–	42.7
1385	409	430	–	43.6
1420	418	440	–	44.5
1455	428	450	–	45.3
1485	437	460	–	46.1
1520	447	470	–	46.9
1555	456	480	–	47.7
1595	466	490	–	48.4
1630	475	500	–	49.1
1665	485	510	–	49.8
1700	494	520	–	50.5
1740	504	530	–	51.1
1775	513	540	–	51.7
1810	523	550	–	52.3
1845	532	560	–	53.0
1880	542	570	–	53.6
1920	551	580	–	54.1
1955	561	590	–	54.7
1995	570	600	–	55.2
2030	580	610	–	55.7
2070	589	620	–	56.3
2105	599	630	–	56.8
2145	608	640	–	57.3
2180	618	650	–	57.8

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