

DORMER PRAMET

DEĞİŞTİRİLEBİLİR FREZE UÇLARI

2024



 PRAMET

DEĞİŞTİRİLEBİLİR FREZE UÇLARI – GENEL İÇERİK

Yüzey frezeleme		Negatif uçlar	SON06C 16 ^{APMX} 4	SHN06C 12 ^{APMX} 3	SHN09C 12 ^{APMX} 5	SPN13 10 ^{APMX} 10				7
		Pozitif kare uçlar	SSD13F 4 ^{APMX} 6.4	SSE09 4 ^{APMX} 4.5	SSN12Z 4 ^{APMX} 6.5	FSB22X 4 ^{APMX} 15				25
		Pozitif sekizgen ve yuvarlak uçlar	SOD05 8 ^{APMX} 2.7	SOD06D 8 ^{APMX} 3.1	SOE06Z 8 ^{APMX} 3.3					41
Duvar frezeleme		Negatif uçlar	STN10 6 ^{APMX} 5	STN16 6 ^{APMX} 10	SLN12 4 ^{APMX} 9	SLN16 4 ^{APMX} 13	SLN12X 4 ^{APMX} 10			65
		Pozitif paralelkenar (A-şekilli) uçlar	SAD07D 2 ^{APMX} 5	SAD11E 2 ^{APMX} 9	SAD16E 2 ^{APMX} 13	SAP10D 2 ^{APMX} 9	SAP16D 2 ^{APMX} 13			89
		Pozitif kare ve üçgen uçlar	SSO09 4 ^{APMX} 8	SSD12 4 ^{APMX} 12	FTB27X 3 ^{APMX} 18					121
Derin duvar frezeleme		Helisel kesiciler	J(T)-SAD11E	J(T)-SAD16E	J(T)-SSAP	J(T)-CSD12X	J(T)-SLSN			133
Kopya frezeleme (boncuk kesiciler)		Yuvarlak kesici uç yuvası (RD.. 15° flanşlı kesici uçlar)	SRD05 a _s 1.5	SRD07 a _s 2	SRD10 a _s 2.5	SRD12 a _s 3	SRD16 a _s 4			159
		Yerleştirme düzlüklü yuva (RC. 7° flanşlı kesici uçlar)	SRC10 a _s 1.46	SRC12 a _s 3	SRC16 a _s 2.3	SRC20 a _s 2.9				185
Profil frezeleme		Küre	L2-SZP	K2-SRC	K2-SLC	K2-PPH	K3-CXP			205
		Köşe radyüslü	SVC22C 2 ^{APMX} 16	SCN05C 4 ^{APMX} 0.5	SWN04 6 ^{APMX} 0.5					239
Yüksek ilerlemeli frezeleme		Negatif uçlar	SBN10 4 ^{APMX} 1	SSN11 8 ^{APMX} 1.7						251
		Pozitif uçlar	SSO12 4 ^{APMX} 1.9	SPD09 5 ^{APMX} 2	SZD07 4 ^{APMX} 1	SZD09 4 ^{APMX} 1				265
Pah kırma		Pozitif uçlar	SSD09 4 ^{APMX} 4.5	N-SSO09 4 ^{APMX} 4.5	STC 3 ^{APMX} 8.5	2516 3 ^{APMX} 8.5	2636 3 ^{APMX} 8.5	J(T)-SXP16		291
Kanal Frezeleme		Disk ve T kanallı frezeler	S90SN	S90CN (XN)	F-SCC					313
Diğer frezeleme uçları										330

AÇIKLAMALAR	Katalog verileri nasıl okunur? (ISO 13399, simgeler, navigasyon)									352
	Notlar navigatörü ve ayrıntılı açıklama									362
	Değiştirilebilir freze uçları – Teknik bilgi									366
	İşleme formülleri, düzeltmeler ve teknik detaylar									372
	İş parçası malzeme grupları (WMG)									376

ÜRÜN GRUBU	
2	
2516	301
2636	304
F	
FSB22X	38
F-SCC	325
FTB27X	128
J(T)	
J(T)-CSD12X	150
J(T)-SAD11E	134
J(T)-SAD16E	139
J(T)-SLSN	153
J(T)-SSAP	145
J(T)-SXP16	307
K2	
K2-PPH	222
K2-SLC	218
K2-SRC	211
K3-CXP	234
L2	
L2-SZP	206
N	
N-SS009	295

ÜRÜN GRUBU	
S90	
S90CN(XN)	320
S90SN	314
SAD	
SAD07D	90
SAD11E	97
SAD16E	106
SAP	
SAP10D	114
SAP16D	117
SBN	
SBN10	252
SCN	
SCN05C	243
SHN	
SHN06C	13
SHN09C	17
SLN	
SLN12	75
SLN12X	85
SLN16	81
SOD	
SOD05	42
SOD06D	51

ÜRÜN GRUBU	
SOE	
SOE06Z	55
SON	
SON06C	8
SPD	
SPD09	270
SPN	
SPN13	21
SRC	
SRC10	186
SRC12	190
SRC16	194
SRC20	198
SRD	
SRD05	160
SRD07	163
SRD10	168
SRD12	174
SRD16	180
SSD	
SSD09	292
SSD12	125
SSD13F	26

ÜRÜN GRUBU	
SSE	
SSE09	31
SSN	
SSN11	258
SSN12Z	35
SSO	
SSO09	122
SSO12	266
STC	
STC	298
STN	
STN10	66
STN16	70
SVC	
SVC22C	240
SWN	
SWN04C	246
SZD	
SZD07	276
SZD09	280
SZD12	284

ÜRÜN GRUBU		ÜRÜN GRUBU		ÜRÜN GRUBU		ÜRÜN GRUBU	
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				



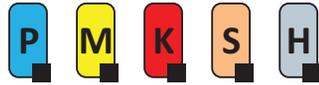
YÜZEY FREZELEME

DEĞİŞTİRİLEBİLİR UÇLU FREZELER – REHBER

YÜZEY FREZELEME

	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		
Silindirik şaft						
Weldon		 DC = 25, 32 (mm)				
Modüler						
Frezeleme kafası		 DC = 40 – 125 (mm)				
Sayfa	8	13	17	21		
ISO	P M K S H	P M K	H P M K	H P M K S H		
Kesici uç şekli						
Kesici uçlar	ONMX 0605 SNMX 1705	HNGX 0604 XNGX 0604	HNGX 0906 XNGX 0906	PNM. 1308 XN.. 1308		
Kesme kenarlarının sayısı	16 / 8	12 / 1	12 / 1	10 / 1		
Yüzey frezeleme 	■	■	■	■		
Havşa frezeleme 	■	■	■			
Aşamalı dalma 		■	■			
Açılı frezeleme 	▣	■	■			

SON06C



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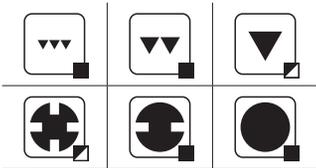
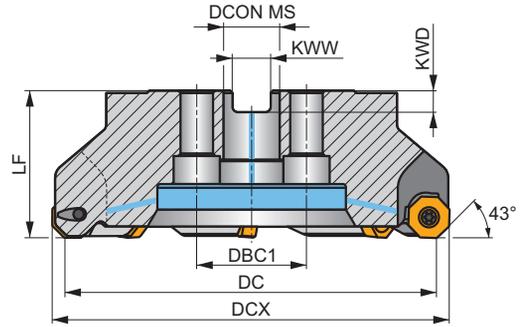
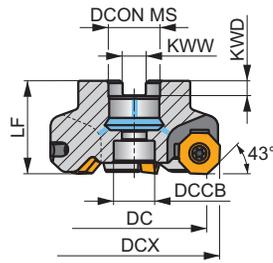
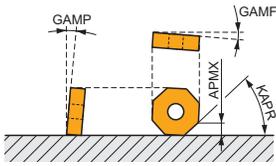
S



ECON ON06 43° Yüzey Frezeleme Takımı, Çift Negatif Tasarım ve İçten Su Vermeli

İki tip çift kenarlı negatif kesici uç kullanan çok ekonomik ve verimli yüzey frezeleme takımı. 16 kesme köşeli ve 4 mm APMX'e sahip ekonomik sekizgen ON..06 kesici uçlar ve 8 kesme kenarlı ve 7 mm APMX'e sahip verimli SN..17 kare kesici uçlar. Farklı dış hatvesine sahip arbor tipi mevcuttur. Gövde uzun takım ömrü için işlem görmüştür.

KAPR	43°
APMX	4.0 (7.0) mm



h_{min} 0.04 - 0.25



Product	DC	DCX	DCON MS	DCCB	DBC1	LF	KWW	KWD	GAMP	GAMP	max.	kg	GI342	C0621	C0622	AC002	AC003	
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)								
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..
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C0620	US 45013A-T20P	5.0	M 5	13	SDR T20P-T	-	-	-	-
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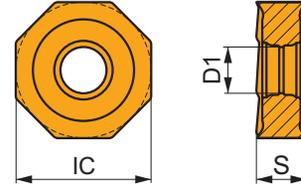
Icon	Icon	Icon	Icon	Icon	Icon	Icon	Icon	Icon	Icon
CO621	US 45013A-T20P	5.0	M 5	13	SDR T20P-T	HS 1030C	-	-	-
CO622	US 45013A-T20P	5.0	M 5	13	SDR T20P-T	HS 1230C	-	-	-
CO623	US 45013A-T20P	5.0	M 5	13	SDR T20P-T	HS 1240C	CAC 160C	HSD 0825C	HXK 5
CO624	US 45013A-T20P	5.0	M 5	13	SDR T20P-T	HS 1655C	CAC 200C	HSD 1025C	HXK 7
CO625	US 45013A-T20P	5.0	M 5	13	SDR T20P-T	HS 1655C	CAC 250C	HSD 1025C	HXK 7

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

ONMX 06

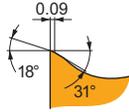
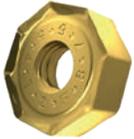
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Icon	IC	D1	S
	(mm)	(mm)	(mm)
0605	17.000	5.70	7.08



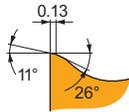
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



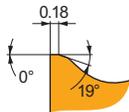
F geometrisi keskindir ve finiş işleme için kullanılır, uzun kullanma mesafesi veya ince duvarlı ve ince iş parçası uygulamaları için uygundur. Çok pozitif eğimli tasarlanmıştır, dar T alanına ve yuvarlatılmış kesme kenarına sahiptir ve hafif işleme için uygundur.

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 geometrisi çok yönlüdür ve çok çeşitli çalışma koşulları için ilk tercihtir. Pozitif eğimli tasarlanmıştır, orta boyutlu T alanına ve yuvarlatılmış kesme kenarına sahiptir ve orta işleme için uygundur.

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	-	-	-

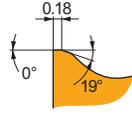


R geometrisi güçlüdür ve kaba talaş işleme ve ağır çalışma koşulları için kullanılır. Hafif pozitif eğimli tasarlanmıştır, geniş boyutlu T alanına ve yuvarlatılmış kesme kenarına sahiptir ve kaba işleme için uygundur.

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

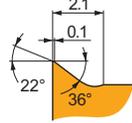
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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



R geometrisi güçlüdür ve kaba talaş işleme ve ağır çalışma koşulları için kullanılır. Hafif pozitif eğimli tasarlanmıştır, geniş boyutlu T alanına ve yuvarlatılmış kesme kenarına sahiptir ve kaba işleme için uygundur.

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

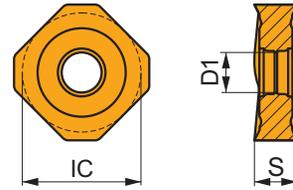


W büyük kesiciler ve yüksek ilerleme hızı ile işleme yaparken daha iyi yüzey kalitesi sağlayan silici tasarımı.

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	–	–	–	–	–	–	–	–	–	–	–	–

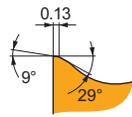
SNMX 17

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



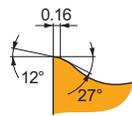
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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 geometrisi çok yönlüdür ve çok çeşitli çalışma koşulları için ilk tercihtir. Pozitif eğimli tasarlanmıştır, orta boyutlu T alanına ve yuvarlatılmış kesme kenarına sahiptir ve orta işleme için uygundur.

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	–	–	–



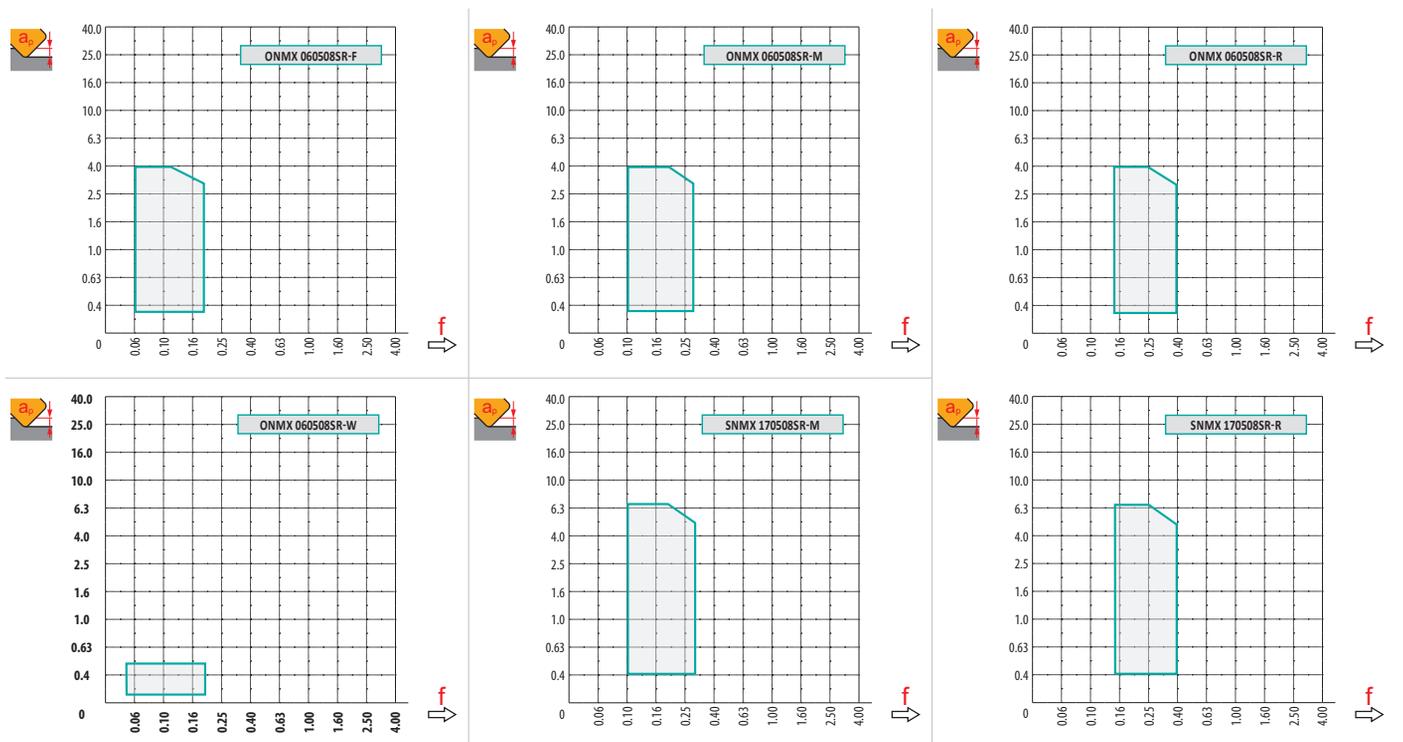
R geometrisi güçlüdür ve kaba talaş işleme ve ağır çalışma koşulları için kullanılır. Hafif pozitif eğimli tasarlanmıştır, geniş boyutlu T alanına ve yuvarlatılmış kesme kenarına sahiptir ve kaba işleme için uygundur.

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



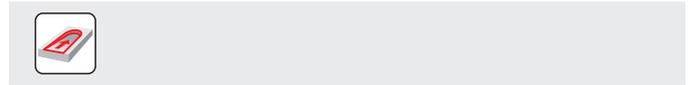
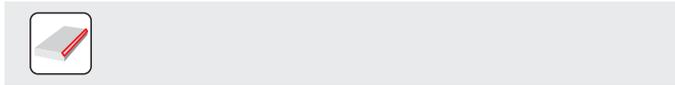
a_e / DC	5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	90%	100%
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	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

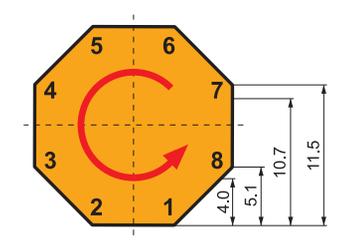
DC		S								
		0.00	1.00	2.00	3.00	4.00	5.00	6.00	7.00	
50	DEF	47.24	49.40	51.56	53.73	55.90	58.06	60.23	62.40	
63		60.24	62.40	64.56	66.73	68.90	71.06	73.23	75.40	
80		77.24	79.40	81.56	83.73	85.90	88.06	90.23	92.40	
100		97.24	99.40	101.56	103.73	105.90	108.06	110.23	112.40	
125		122.24	124.40	126.56	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	



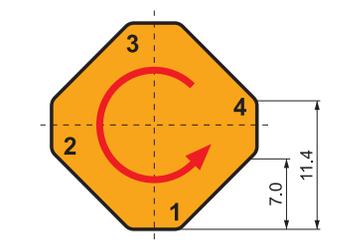
DC	X.V	f _{max}
50	1.35	0.36
63	1.39	0.40
80	1.44	0.45
100	1.48	0.51
125	1.53	0.57
160	1.58	0.64
200	1.63	0.72
250	1.68	0.80

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

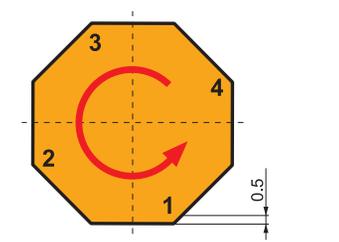
DC	S	
	RPMX	APMX/I
47.24	0.1	0.1/100
60.24	0.1	0.05/100
77.24	0.1	0.05/100



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

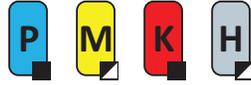


-> 7.0	8
-> 11.4	4



ONMX 06-W	
-> 0.5	8

SHN06C



PRAMET

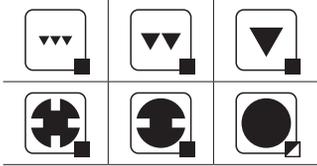
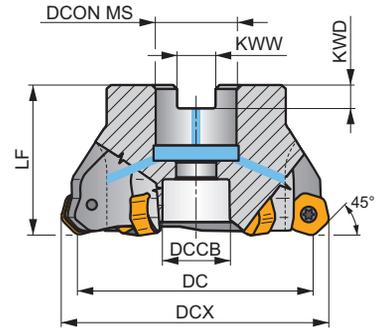
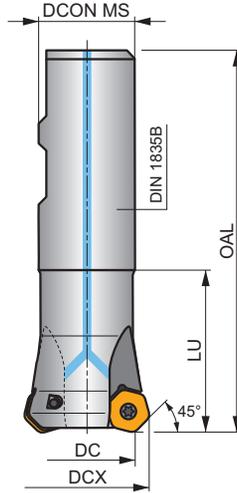
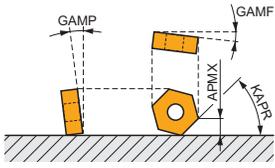
S



ECON HN06 45° Yüzeyleme Takımı, Çift Negatif Tasarım, İçten Su Vermeli

3 mm'lik APMX'li çift taraflı HN..06 tarzı kesici uçlar kullanan son derece verimli 45° yüzeyleme frezesi. Kaba işleme, ince işleme ve pah kırma. 12 kesme kenarlı ekonomik kesici uç. Veldon, modüler ve göbekten bağlamalı olarak bulunur. Gövde uzun takım ömrü için işlem görmüştür.

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..

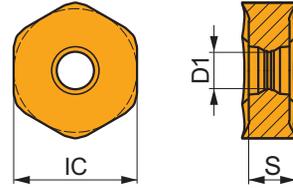
FA010	US 3007-T09P	2.0	M 3	7.3	-	-	Flag T09P	-
FA011	US 3007-T09P	2.0	M 3	7.3	D-T07P/T09P	FG-15	-	-
FA012	US 3007-T09P	2.0	M 3	7.3	D-T07P/T09P	FG-15	-	HS 0830C
FA013	US 3007-T09P	2.0	M 3	7.3	D-T07P/T09P	FG-15	-	HS 1030C

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

HNGX 06

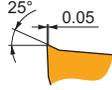


IC	D1	S
(mm)	(mm)	(mm)
0604	10.500	3.70



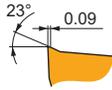
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



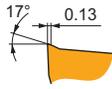
F geometri, hafif işleme için çok pozitif tasarım.

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 geometri, orta işleme için çok pozitif tasarım.

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	■	–	–	–	–	–	–	–	–	–



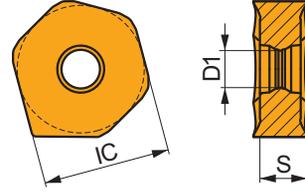
R geometri, orta ve ağır işleme için çok pozitif tasarım.

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

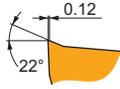


	IC	D1	S
	(mm)	(mm)	(mm)
0604	10.500	3.70	4.76



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



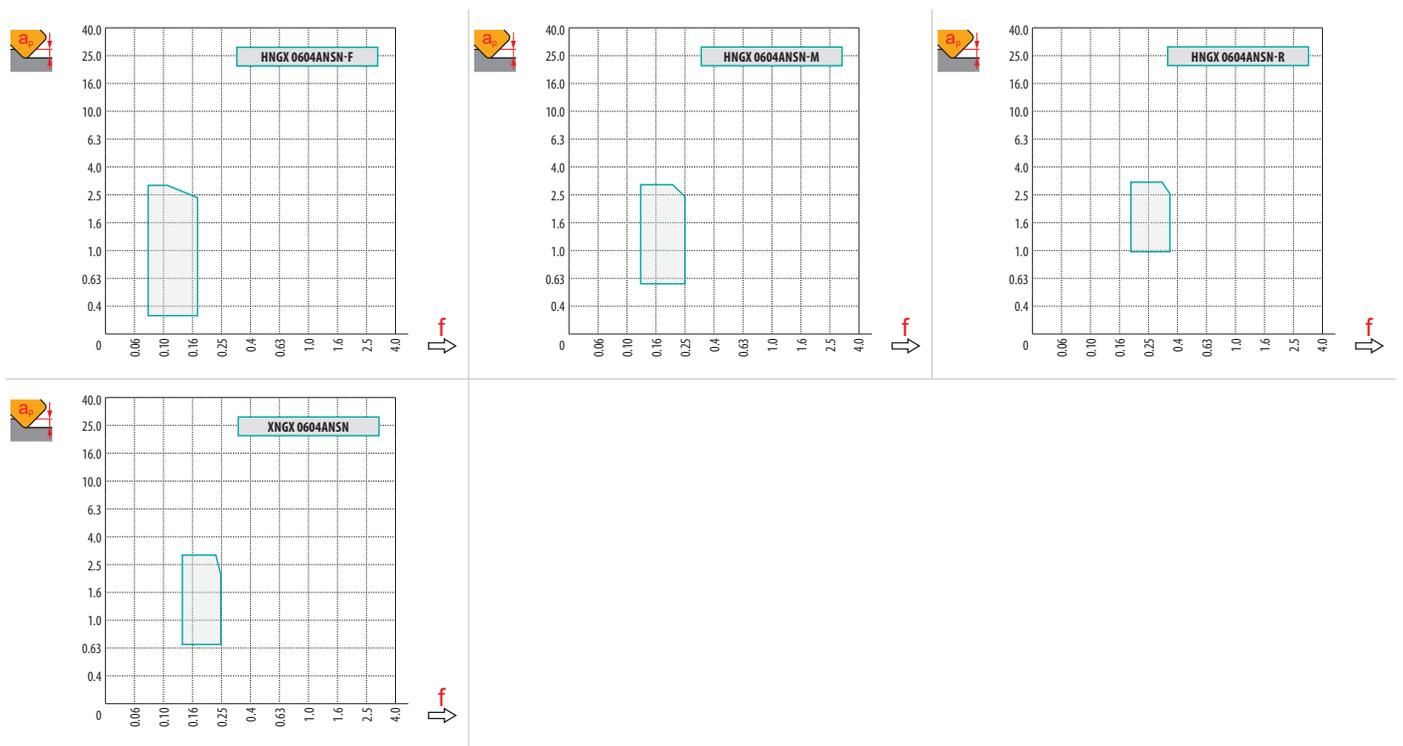
W silicili tasarım, daha iyi yüzey finışı için.

XNGX 0604ANSN:8215	RE	-	290	0.13	1.8	170	0.12	1.8	275	0.13	1.8	-	-	-	-	-	-	-
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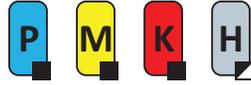
a_e / DC	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

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



DC	X.V	f_{max}	DC	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



PRAMET

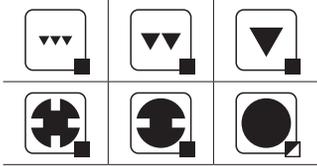
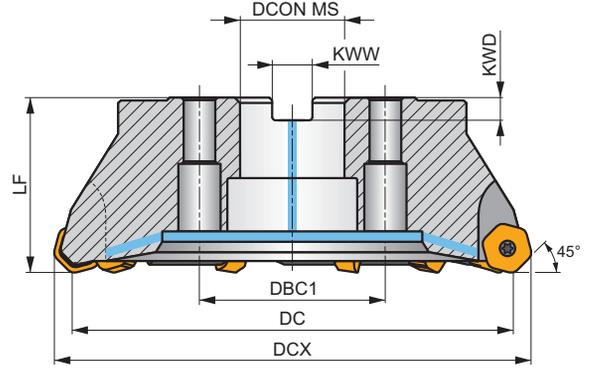
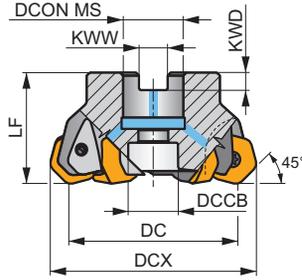
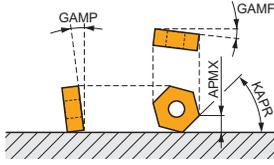
S



ECON HN09 45° Yüzey Frezeleme Takımı, Çift Negatif Tasarım, İçten Su Vermeli

5 mm APMX'li çift taraflı HN..09 stili kesici uçlar kullanan son derece verimli 45° yüzey frezesi. 12 kesme kenarlı ekonomik kesici uç. Kaba, finiş ve pah işleme için uygundur. Göbekten bağlamalı olarak bulunur. Gövde uzun takım ömrü için işlem görmüştür.

KAPR	45°
APMX	5.0 mm



0.08 - 0.25



Product	DC	DCX	LF	DCON MS	DCCB	DBC1	KWW	KWD	GAMF	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	G125 FA023 -
63A06R-S45HN09C-CF	63	74.7	40	22	18	-	10.4	6.3	-7	-7	6	✓	7000	✓	0.54	G125 FA023 -
80A06R-S45HN09C-CF	80	91.7	50	27	38	-	12.4	7	-7	-7	6	✓	6200	✓	1.06	G125 FA021 AC001
80A08R-S45HN09C-CF	80	91.7	50	27	38	-	12.4	7	-7	-7	8	✓	6200	✓	1.06	G125 FA021 AC001
100A06R-S45HN09C-CF	100	111.7	50	32	45	-	14.4	8	-7	-7	6	✓	5600	✓	1.95	G125 FA021 AC002
100A08R-S45HN09C-CF	100	111.7	50	32	45	-	14.4	8	-7	-7	8	✓	5600	✓	1.99	G125 FA021 AC002
100A10R-S45HN09C-CF	100	111.7	50	32	45	-	14.4	8	-8	-7	10	-	5600	✓	1.99	G125 FA021 AC002
125A06R-S45HN09C-CF	125	136.7	63	40	56	-	16.4	9	-7	-7	6	✓	5000	✓	3.36	G125 FA021 AC003
125A08R-S45HN09C-CF	125	136.7	63	40	56	-	16.4	9	-7	-7	8	✓	4900	✓	3.66	G125 FA021 AC003
125A10R-S45HN09C-CF	125	136.7	63	40	56	-	16.4	9	-7	-7	10	✓	5000	✓	3.52	G125 FA021 AC003
125A12R-S45HN09C-CF	125	136.7	63	40	56	-	16.4	9	-8	-7	12	-	5000	✓	3.36	G125 FA021 AC003
160C08R-S45HN09C-CF	160	171.7	63	40	-	66.7	16.4	9	-7	-7	8	✓	4400	✓	6.24	G125 FA026 -
160C12R-S45HN09C-CF	160	171.7	63	40	-	66.7	16.4	9	-7	-7	12	✓	4400	✓	6.45	G125 FA026 -
160C14R-S45HN09C-CF	160	171.7	63	40	-	66.7	16.4	9	-7	-7	14	✓	4400	✓	6.39	G125 FA026 -
200C10R-S45HN09C-CF	200	211.7	63	60	-	101.6	25.7	14	-7	-7	10	✓	3900	✓	11.37	G125 FA027 -
250C14R-S45HN09C-CF	250	261.7	63	60	-	101.6	25.7	14	-7	-7	14	✓	3500	✓	18.50	G125 FA028 -
315C16R-S45HN09C-CF	315	326.7	80	60	-	101.6	25.7	14	-7	-7	16	✓	3100	✓	37.00	G125 FA029 -



G125



HNGX 0906AN..



XNGX 0906AN..



FA021



US 54511-T15P



5.0



M 4.5



11



D-T08P/T15P



FG-15



HS 1030C



-



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-



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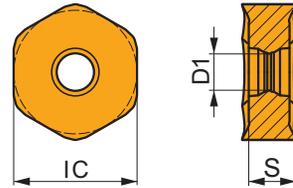
FA026	US 54511-T15P	5.0	M 4.5	11	D-T08P/T15P	FG-15	HS 1240C	CAC 160C	HSD 0825C	HXK 5	-	-
FA027	US 54511-T15P	5.0	M 4.5	11	D-T08P/T15P	FG-15	HS 1655C	CAC 200C	HSD 1025C	HXK 7	-	-
FA028	US 54511-T15P	5.0	M 4.5	11	D-T08P/T15P	FG-15	HS 1655C	CAC 250C	HSD 1025C	HXK 7	-	-
FA029	US 54511-T15P	5.0	M 4.5	11	D-T08P/T15P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

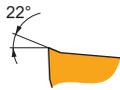


	IC	D1	S
	(mm)	(mm)	(mm)
0906	16.500	4.90	6.35



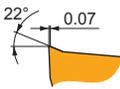
Kesme hızı (v_c), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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



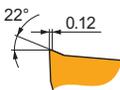
FF geometri, hafif işleme için çok pozitif tasarım.

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 geometri, hafif ve orta işleme için çok pozitif tasarım.

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	■	-	-	-	-	-	-	-

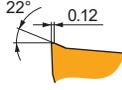


M geometri, orta işleme için çok pozitif tasarım.

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	-	-	-	-

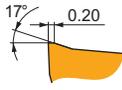
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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 geometri, orta işleme için çok pozitif tasarım.

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	-	-	-	-	-	-	-	-	-	-



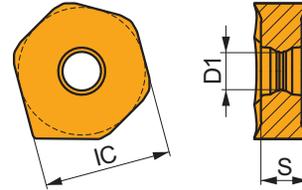
R geometri, orta ve ağır işleme için pozitif tasarım.

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

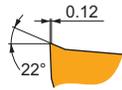
PRAMET

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



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



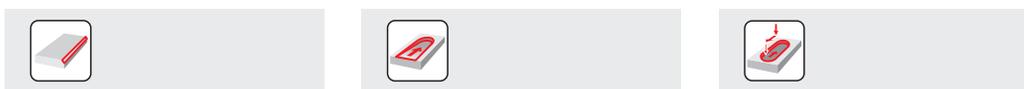
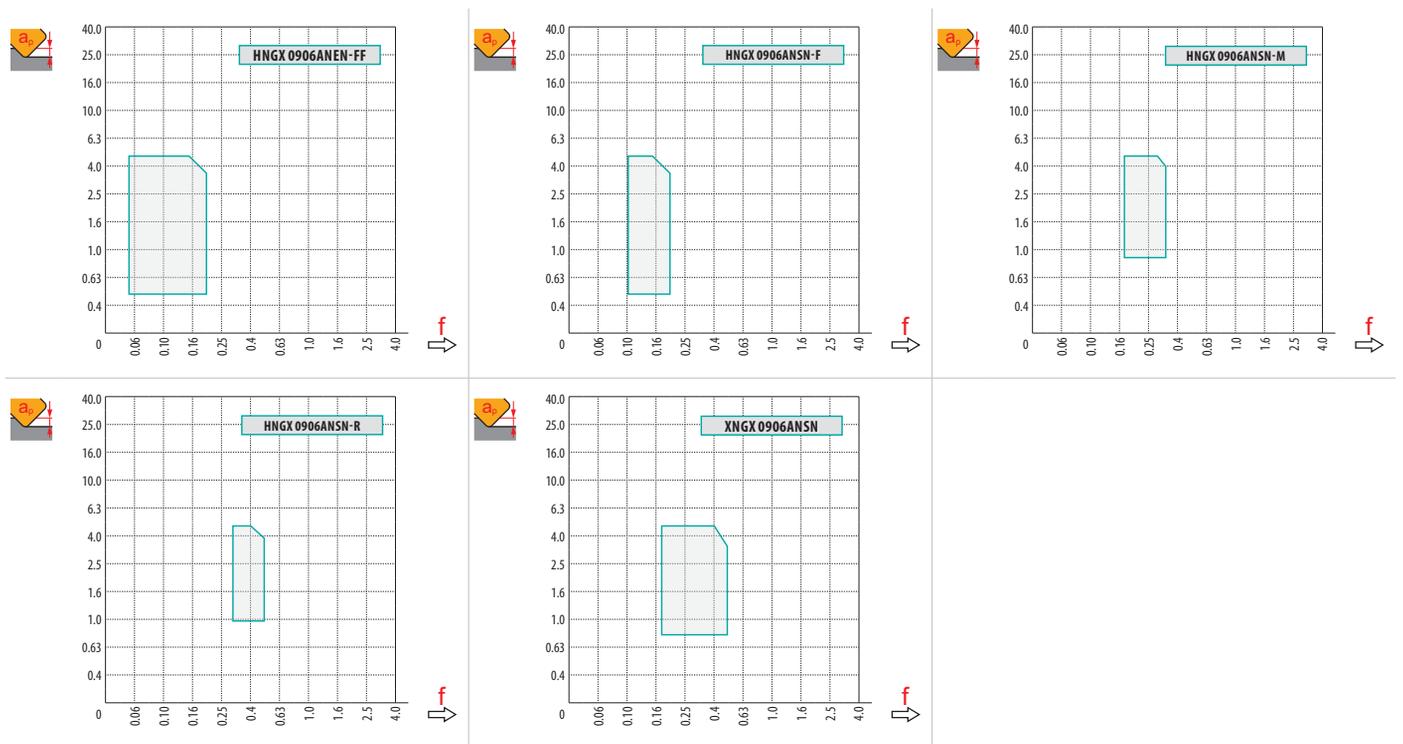
W silicili tasarım, daha iyi yüzey finışı için.

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

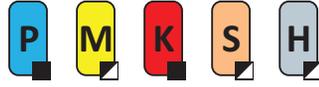


DC	X.V	f_{max}
50	1.35	0.36
63	1.39	0.40
80	1.44	0.45
100	1.48	0.51
125	1.53	0.57
160	1.58	0.64
200	1.63	0.72
250	1.68	0.80
315	1.74	0.90

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

S

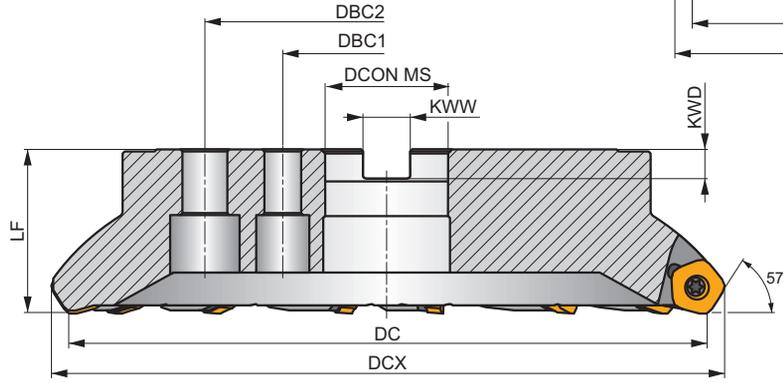
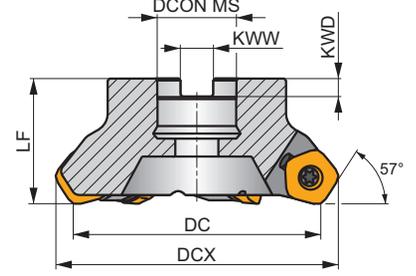
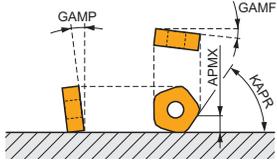


PENTA HD 57° Ağır İş Yüzey Frezeleme Takımı, Çift Negatif Tasarım

10 mm APMX'li çift taraflı PN..13 ve XN..13 stili kesici uçlar kullanan son derece verimli 57° yüzey frezesi. Yüzey frezeleme için uygundur. Yalnızca göbekten bağlamalı gövde stili. Uç yuvasını korumak için altlıklıdır. Gövde uzun takım ömrü için işlem görmüştür.

PENTA HD

KAPR	57°
APMX	10.0 mm



0.20 - 0.50



Product	DC	DCX	LF	DCON MS	DBC1	DBC2	KWW	KWD	GAMF	GAMP								
	(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..

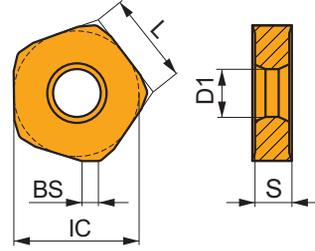
FA081	SPN 13T3DN	US 64010-T15P	SDRT15P	US 68026-T30P	15.0	M 8	26	SDRT30P-T

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

PNMU 13

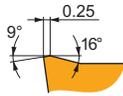
PRAMET

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



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



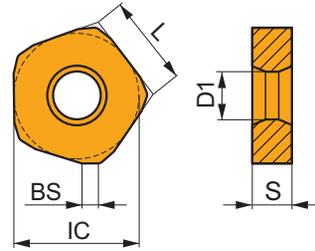
M geometri, kaba işleme için pozitif tasarım.

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

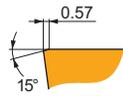
PRAMET

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



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



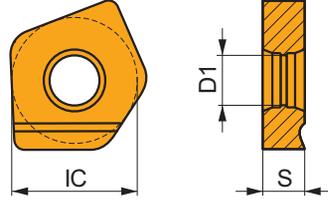
SN sıfır talaş açısı tasarımı, özellikle kaba işleme için uygun.

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

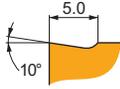
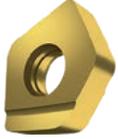
PRAMET

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



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



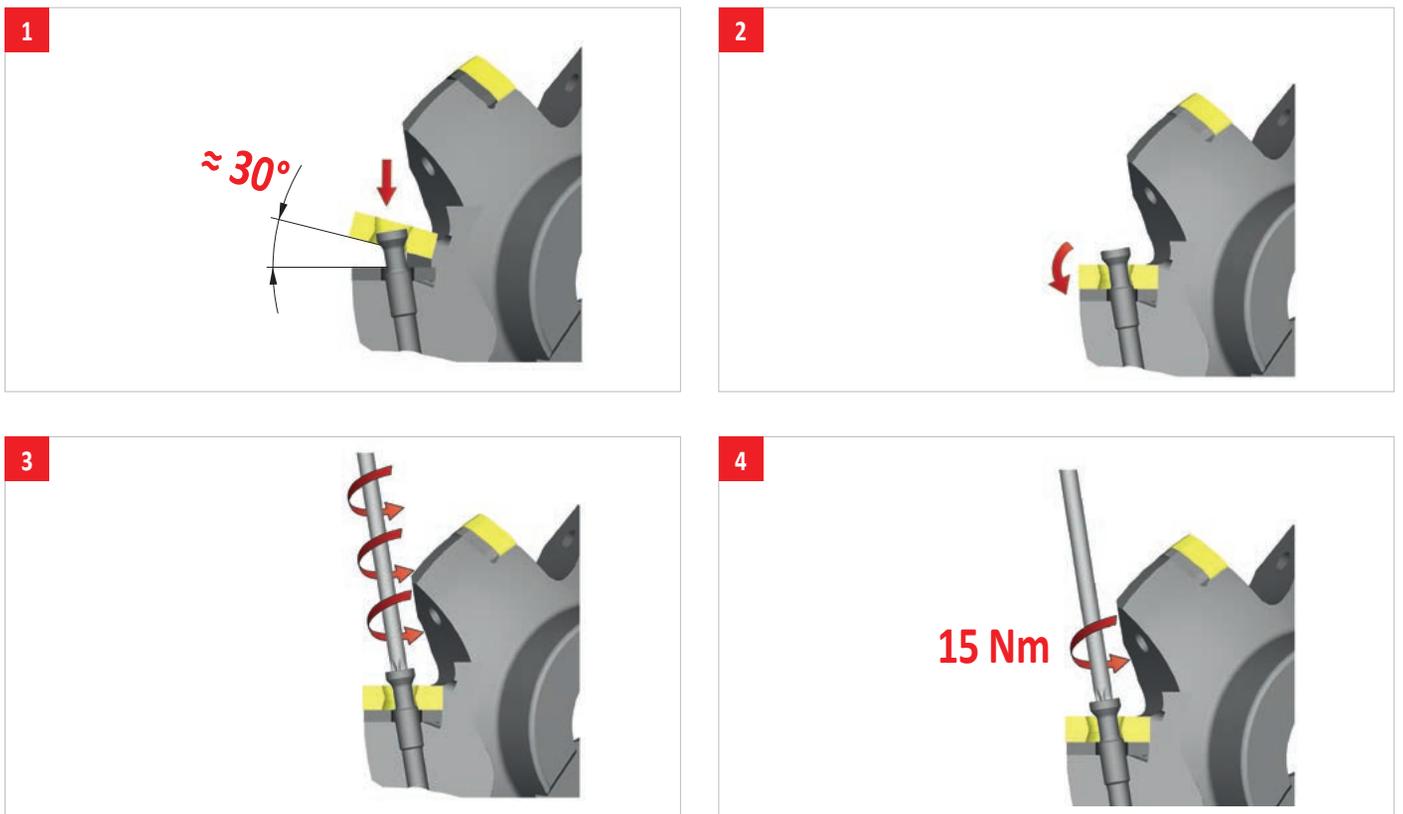
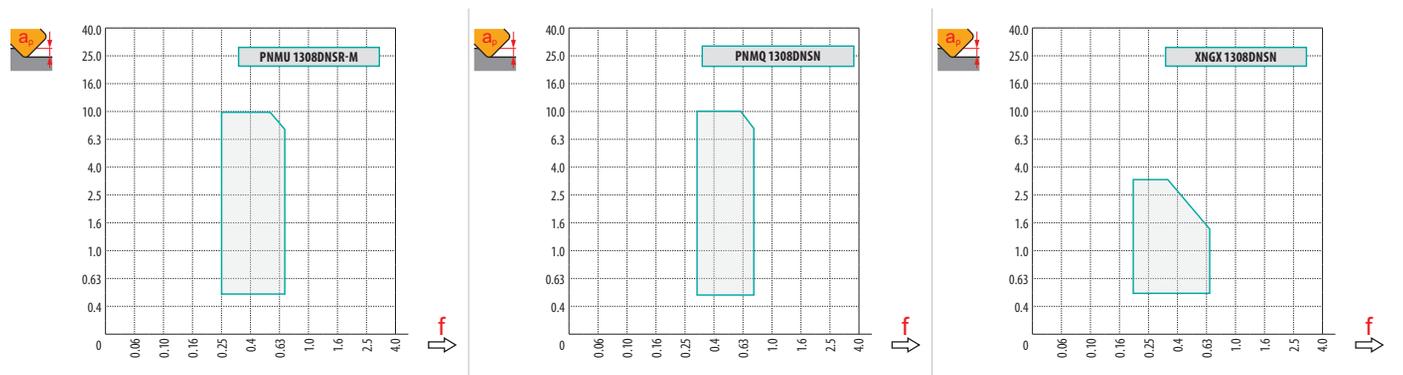
W silicili tasarım, daha iyi yüzey finışı için.

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

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



DEĞİŞTİRİLEBİLİR UÇLU FREZELER – REHBER

YÜZEY FREZELEME

	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		
Silindirik shaft										
Weldon		DC = 32, 40 (mm)		DC = 20 – 32 (mm)						
Modüler										
Frezeleme kafası		DC = 40 – 250 (mm)		DC = 32 – 160 (mm)						
Sayfa	26		31		35		38			
ISO	P M K N S H	P M K S	P M K S	P M K S	P M K					
Kesici uç şekli										
Kesici uçlar	SDET 13T3 SDMT 13T3 XDET 13T3	SE.T 09T3	SN.T 1205	SB.. 2207						
Kesme kenarlarının sayısı	4 / 4 / 1		4		4		4 / 1			
Yüzey frezeleme 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
Havşa frezeleme 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
Helisel interpolasyon 	<input checked="" type="checkbox"/>									
Aşamalı dalma 	<input checked="" type="checkbox"/>									
Açılı frezeleme 	<input checked="" type="checkbox"/>									

SSD13F

P M K N S H

PRAMET

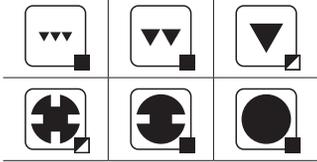
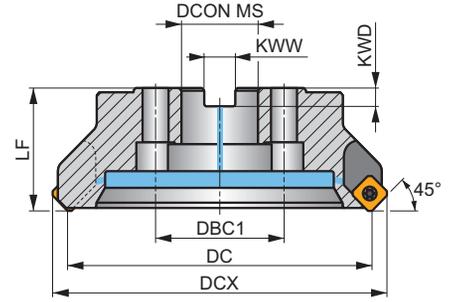
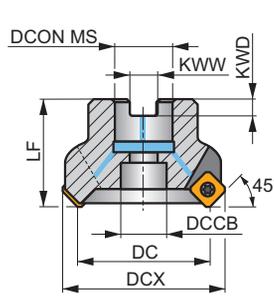
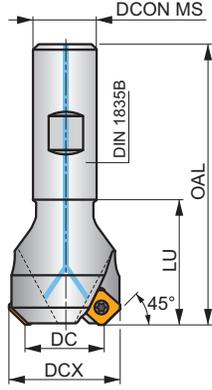
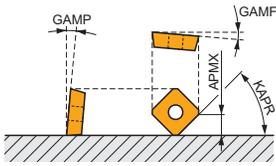
S



VER SD13 45° Yüzy Frezeleme Takımı, Pozitif Tasarım, İçten Su Vermeli

6,4 mm APMX ile tek taraflı SD.. 13 tipi kesici uçlar kullanan çok yönlü 45° yüzy frezeleme takımı. Tüm iş parçası malzemelerindeki çok çeşitli uygulamalar için uygundur. Farklı diş hatvesine sahip Weldon ve arbor tipi mevcuttur. Gövde, daha uzun takım ömrü sağlamak üzere işlem görmüştür, uygulama güvenliği için yuvada karbür altlıklar bulunur.

KAPR	45°
APMX	6.4 mm



	0.04 - 0.28
	0.04 - 0.32



Product	DC	DCX	OAL	DCON MS	DCCB	DBC1	LU	LF	KWW	KWD	GAMF	GAMP	max.		kg	G1341		C0610		
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)								
32N3R045B25-SSD13F-C	32	44.9	120	25	-	-	45	-	-	-	-15	15	3	-	16100	✓	0.43	G1341	C0610	-
40N3R045B32-SSD13F-C	40	53.5	120	32	-	-	45	-	-	-	-7	15	3	-	14400	✓	0.72	G1341	C0610	-
40A03R-S45SD13F-C	40	53.5	-	16	14	-	-	40	8.4	5.6	-7	15	3	-	14400	✓	0.27	G1341	C0611	-
50A04R-S45SD13F-C	50	63.5	-	22	18	-	-	40	10.4	6.3	-7	15	4	✓	12900	✓	0.51	G1341	C0612	-
63A05R-S45SD13F-C	63	76.4	-	22	18	-	-	40	10.4	6.3	-7	15	5	✓	11500	✓	0.53	G1341	C0612	-
80A07R-S45SD13F-C	80	93.4	-	27	22	-	-	50	12.4	7	-7	15	7	✓	10200	✓	1.21	G1341	C0613	AC001
100A08R-S45SD13F-C	100	112.9	-	32	45	-	-	50	14.4	8	-12	15	8	✓	9100	✓	1.83	G1341	C0613	AC002
100A10R-S45SD13F-C	100	112.9	-	32	45	-	-	50	14.4	8	-12	15	10	-	9100	✓	1.94	G1341	C0613	AC002
125A08R-S45SD13F-C	125	137.8	-	40	56	-	-	63	16.4	9	-12	15	8	✓	8100	✓	3.41	G1341	C0613	AC003
125A12R-S45SD13F-C	125	137.8	-	40	56	-	-	63	16.4	9	-12	15	12	-	8100	✓	3.31	G1341	C0613	AC003
160C10R-S45SD13F-C	160	172.8	-	40	-	66.7	-	63	16.4	9	-12	15	10	✓	7200	✓	6.68	G1341	C0614	-
160C14R-S45SD13F-C	160	172.8	-	40	-	66.7	-	63	16.4	9	-12	15	14	✓	7200	✓	6.62	G1341	C0614	-
200C12R-S45SD13F-C	200	212.8	-	60	-	101.6	-	63	25.7	14	-12	15	12	✓	6400	✓	9.06	G1341	C0615	-
200C16R-S45SD13F-C	200	212.8	-	60	-	101.6	-	63	25.7	14	-12	15	16	✓	6400	✓	11.85	G1341	C0615	-
250C14R-S45SD13F-C	250	262.8	-	60	-	101.6	-	63	25.7	14	-12	15	14	✓	5700	✓	19.50	G1341	C0616	-
250C20R-S45SD13F-C	250	262.8	-	60	-	101.6	-	63	25.7	14	-12	15	20	✓	5700	✓	19.20	G1341	C0616	-

G1341	SD13	SD13	XDET
G1341	SD13T3..	SDMT 13T3..	XDET 13T3..

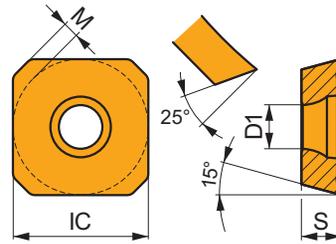
Icon	Icon	Icon	Icon	Icon	Icon	Icon	Icon	Icon	Icon	Icon	Icon	Icon	Icon	
C0610	US 63513-T15P	3.0	M 3.5	13	Flag T15P	-	-	-	SDW 1103AF	MS 3507	HXK 3.5	-	-	
C0611	US 63513-T15P	3.0	M 3.5	13	-	D-T08P/T15P	FG-15	HS 0830C	SDW 1103AF	MS 3507	HXK 3.5	-	-	
C0612	US 63513-T15P	3.0	M 3.5	13	-	D-T08P/T15P	FG-15	HSD 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

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

SDET 13

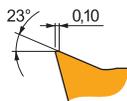
PRAMET

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



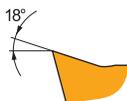
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



F geometrisi keskindir ve finiş işleme için kullanılır, uzun kullanma mesafesi veya ince duvarlı ve ince iş parçası uygulamaları için uygundur. Çok pozitif eğimli tasarlanmıştır, dar T alanına ve yuvarlatılmış kesme kenarına sahiptir ve hafif işleme için uygundur.

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	-	-	-



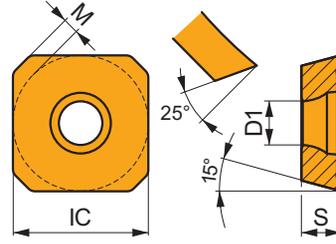
FA geometrisi keskindir ve demir içermeyen alaşımları işleme için kullanılır, uzun kullanma mesafesi veya ince duvarlı ve ince iş parçası uygulamaları için uygundur. Çok pozitif eğimli, parlatılmış ve taşlanmış tasarımı.

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

SDMT 13

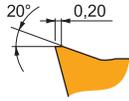
PRAMET

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



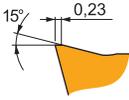
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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 geometrisi çok yönlüdür ve çok çeşitli çalışma koşulları için ilk tercihtir. Pozitif eğimli tasarlanmıştır, orta boyutlu T alanına ve yuvarlatılmış kesme kenarına sahiptir ve orta işleme için uygundur.

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	–	–	–	



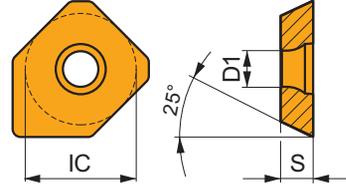
R geometrisi güçlüdür ve kaba talaş işleme ve ağır çalışma koşulları için kullanılır. Hafif pozitif eğimli tasarlanmıştır, geniş boyutlu T alanına ve yuvarlatılmış kesme kenarına sahiptir ve kaba işleme için uygundur.

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

PRAMET

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



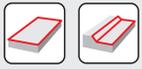
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



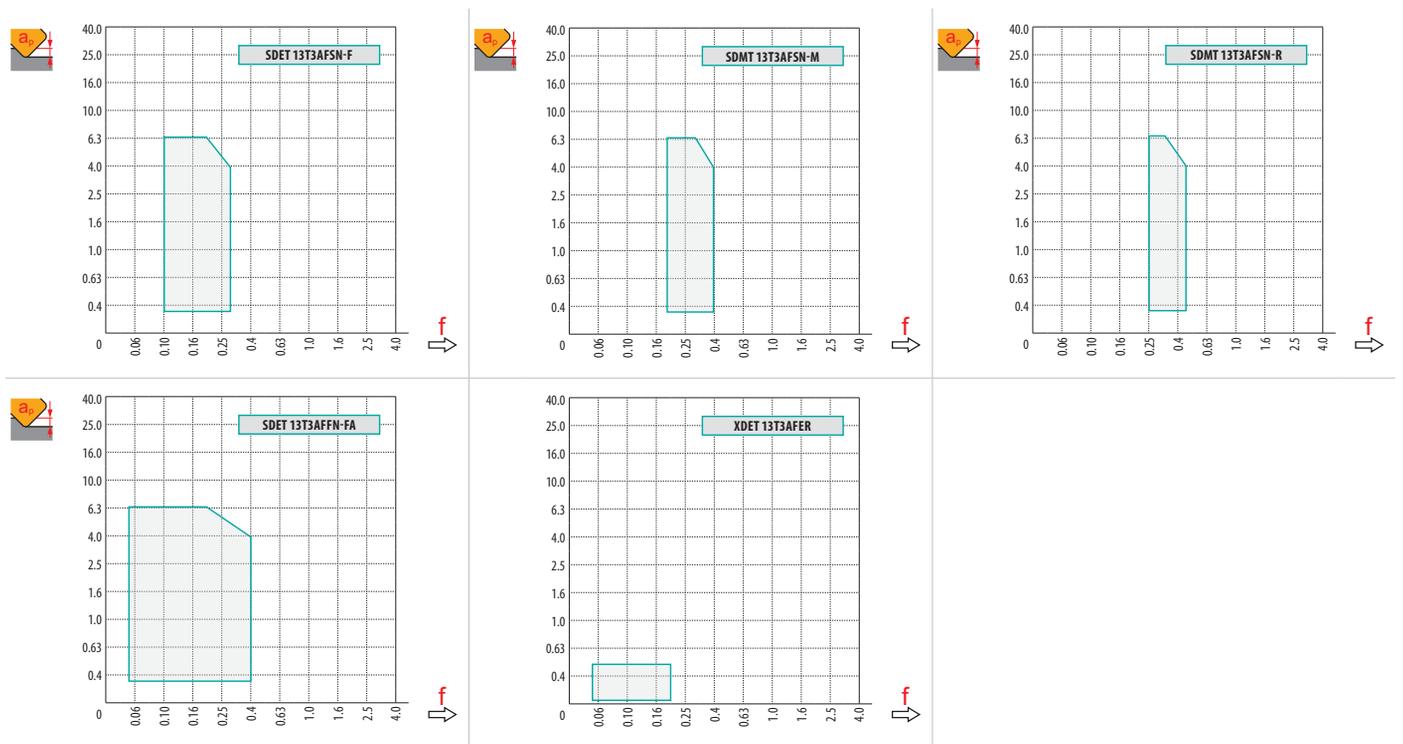
W büyük kesiciler ve yüksek ilerleme hızları ile işleme yaparken daha iyi yüzey kalitesi sağlayan silici tasarımı.

XDET 13T3AFER:8215	RE	-	420	0.10	0.2	250	0.09	0.2	395	0.10	0.2	-	-	-	-	-	-	-
XDET 13T3AFER:M8330	RE	-	395	0.10	0.2	235	0.09	0.2	375	0.10	0.2	-	-	-	-	-	-	-



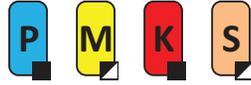
a_e / DC	5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	90%	100%
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	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	1.5
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

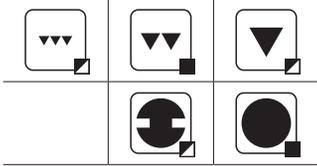
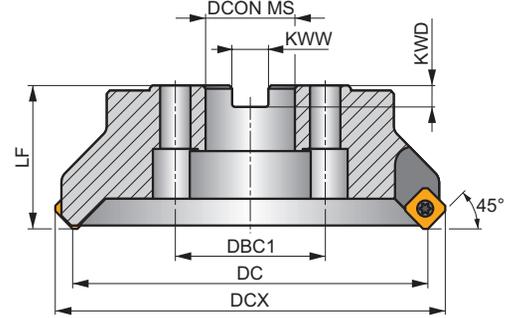
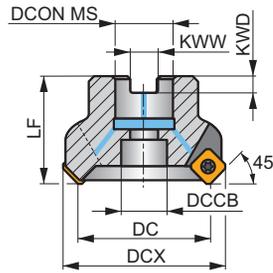
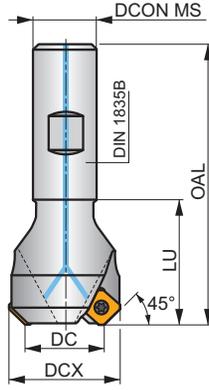
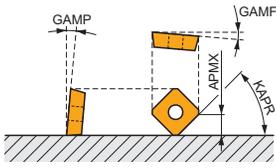
S



45° Yüze Frezeleme Takımı, Pozitif Tasarım, İçten Su Vermeli

4,5 mm APMX'li tek taraflı SE..09 tarzı kesici uçlar kullanan son derece verimli 45° yüze frezesi. Yüze frezeleme ve pah kırma için uygundur. Veldon ve göbekten bağlamalı olarak bulunur. Gövde uzun takım ömrü için işlem görmüştür.

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	G117		FA010		FA011		FA012		FA013		
	(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	G117	FA010	-	-	-	-	-	-	-
25N3R042B25-SSE09-C	25	34.8	98	25	-	-	42	-	-	-	-5	20	3	-	22000	✓	0.44	G117	FA010	-	-	-	-	-	-	-
32N4R042B32-SSE09-C	32	42	102	32	-	-	42	-	-	-	-5	20	4	-	19400	✓	0.68	G117	FA010	-	-	-	-	-	-	
32A04R-S45SE09F-C	32	42	-	16	14	-	-	40	8.4	6.4	-5	20	4	✓	19400	✓	0.24	G117	FA012	-	-	-	-	-	-	
40A04R-S45SE09F-C	40	53.2	-	16	14	-	-	40	8.4	6.4	-5	20	4	✓	17400	✓	0.30	G117	FA012	-	-	-	-	-	-	
50A05R-S45SE09F-C	50	59.6	-	22	18	-	-	40	10.4	6.4	-5	20	5	✓	15600	✓	0.55	G117	FA013	-	-	-	-	-	-	
63A05R-S45SE09F-C	63	75.8	-	22	18	-	-	40	10.4	6.4	-5	20	5	✓	13900	✓	0.66	G117	FA013	-	-	-	-	-	-	
63A06R-S45SE09F-C	63	75.8	-	22	18	-	-	40	10.4	6.4	-5	20	6	✓	13900	✓	0.58	G117	FA013	-	-	-	-	-	-	
80A06R-S45SE09F-C	80	89.6	-	27	38	-	-	50	12.4	7	-5	20	6	✓	12300	✓	1.14	G117	FA011	AC001	-	-	-	-	-	
80A08R-S45SE09F-C	80	89.6	-	27	38	-	-	50	12.4	7	-5	20	8	✓	12300	✓	1.13	G117	FA011	AC001	-	-	-	-	-	
100A08R-S45SE09F-C	100	110	-	32	45	-	-	50	14.4	8	-5	20	8	✓	11000	✓	1.83	G117	FA011	AC002	-	-	-	-	-	
100A10R-S45SE09F-C	100	110	-	32	45	-	-	50	14.4	8	-5	20	10	✓	10900	✓	1.82	G117	FA011	AC002	-	-	-	-	-	
125A09R-S45SE09F-C	125	134.5	-	40	60	-	-	63	16.4	9	-5	20	9	✓	9800	✓	3.87	G117	FA011	AC003	-	-	-	-	-	
125A12R-S45SE09F-C	125	134.5	-	40	60	-	-	63	16.4	9	-5	20	12	✓	9800	✓	3.87	G117	FA011	AC003	-	-	-	-	-	
160C10R-S45SE09F	160	169.6	-	40	-	66.7	-	63	16.4	9	-5	20	10	✓	8700	-	6.21	G117	FA014	-	-	-	-	-	-	

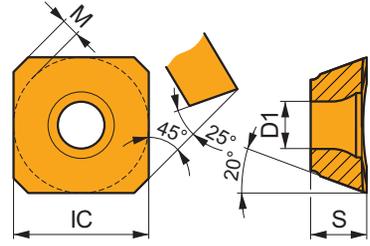
G117	SEET 09T3AF.	SEMT 09T3AF.

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

SEET 09

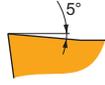


	IC	D1	M	S
	(mm)	(mm)	(mm)	(mm)
09T3	9.525	3.50	1.2	3.97



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



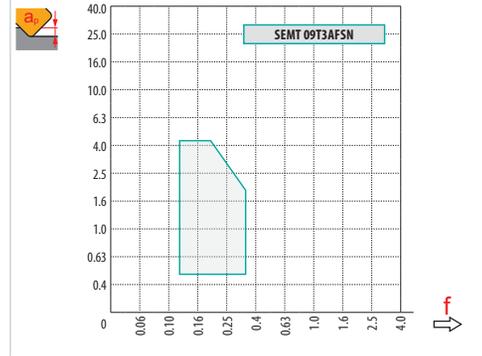
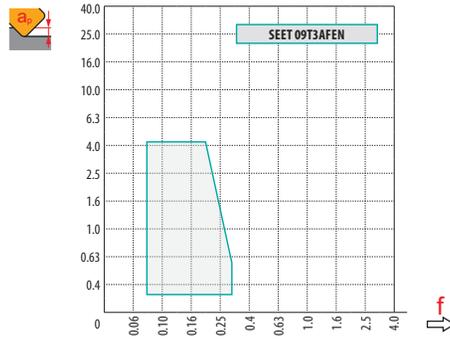
AFEN hafif ve orta işleme için pozitif tasarım.

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	■	–	–	–



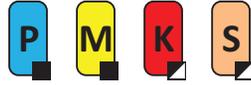
a_e / DC	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	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

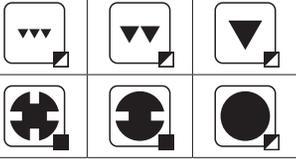
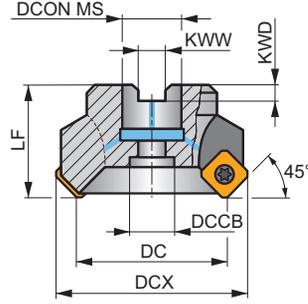
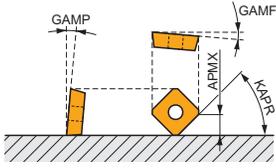
S



45° Yüze Frezeleme Takımı, Pozitif Tasarım, İçten Su Vermeli

Tek taraflı SN.. 6,5 mm APMX'li 12 stil kesici uç kullanan son derece verimli 45° yüze frezesi. Yüze frezeleme ve pah kırma için uygundur. Göbekten bağlamalı olarak bulunur. Gövde uzun takım ömrü için işlem görmüştür.

KAPR	45°
APMX	6.5 mm



0.12 - 0.35



Product	DC	DCX	LF	DCON MS	DCCB	DBC1	KWW	KWD	GAMP	GAMP								
	(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	G156	FA071	-
80A06R-S45SN12Z-C	80	95	50	27	38	-	12.4	7	-5.5	7.5	6	-	7700	✓	1.36	G156	FA071	AC001
100A07R-S45SN12Z-C	100	115	50	32	45	-	14.4	8	-5.5	7.5	7	-	6900	✓	1.70	G156	FA071	AC002
125A08R-S45SN12Z-C	125	140	63	40	56	-	16.4	9	-5.5	7.5	8	-	6100	✓	3.42	G156	FA071	AC003

G156	SNKT 1205AZ..	SNMT 1205AZ..

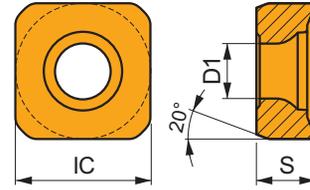
FA071	US 4511-T20	5.0	M 4.5	11	SDRT20-T

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

SNMT 12

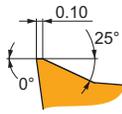
PRAMET

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



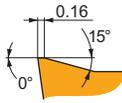
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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 geometri, orta işleme için çok pozitif tasarım.

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	–	–	–	–	–	–	–	–	–



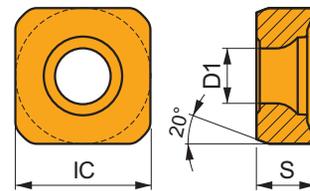
R geometri, orta ve ağır işleme için pozitif tasarım.

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

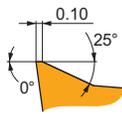
PRAMET

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



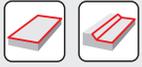
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



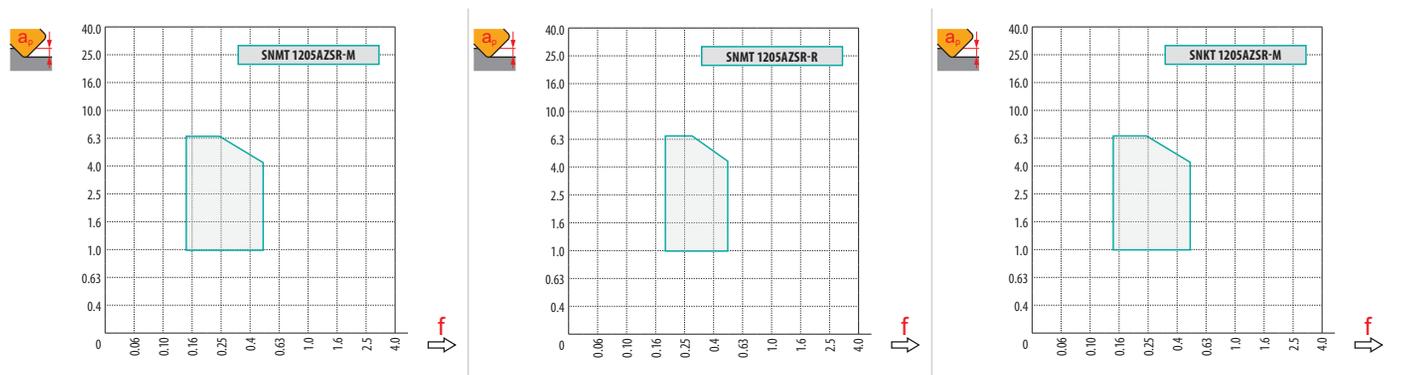
M geometri, orta işleme için çok pozitif tasarım.

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

F

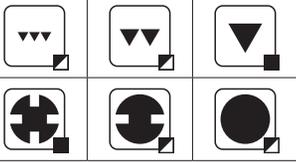
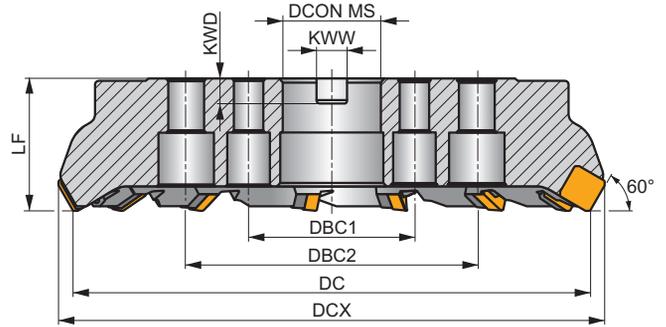
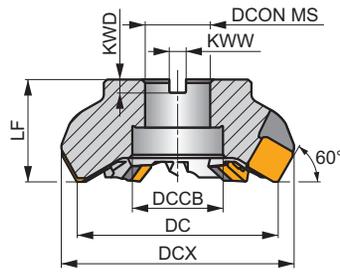
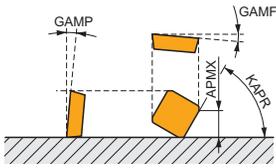


ROUGH SB 60° Ağır İş Yüze Frezeleme Takımı, Pozitif Tasarım

15 mm APMX'li tek taraflı SB..22 tipi kesici uçlar kullanan son derece verimli 60° yüze frezesi. Pürüzsüz kesme hareketi ile ağır yüze frezeleme için optimize edilmiştir. Ağır frezeleme için özel tasarım. Gövde uzun takım ömrü için işlem görmüştür.

ROUGH SB

KAPR	60°
APMX	15.0 mm



0.15 - 0.5



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			-	-	3.73	GI144	FA111	AC003
160C08R-F60SB22X	160	178.7	63	40	-	66.7	-	16.4	9	-9	9			-	-	6.46	GI144	FA114	-
200C08R-F60SB22X	200	217.9	63	60	-	101.6	-	25.7	14	-9	9			-	-	10.59	GI144	FA115	-
250C09R-F60SB22X	250	267.4	63	60	-	101.6	-	25.7	14	-9	9			-	-	17.54	GI144	FA115	-

GI144	SBKX 2207DZ..	SBMR 2207DZ..

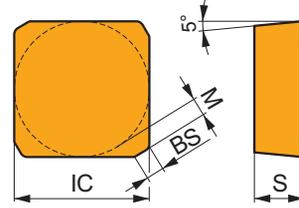
FA111	LNX 220616	US 6013-T20P	SDR T20P-T	KU SBMR 2207	DS 01Z	KL 04	-
FA114	LNX 220616	US 6013-T20P	SDR T20P-T	KU SBMR 2207	DS 01Z	KL 04	HS 1240
FA115	LNX 220616	US 6013-T20P	SDR T20P-T	KU SBMR 2207	DS 01Z	KL 04	HS 1655

AC003	KS 2040	K.FMH40

SBMR 22

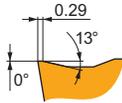
PRAMET

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



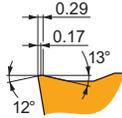
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



DZSR stabil tasarım, ağır işleme için.

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	–	–	–	–	–	–	–	–	–



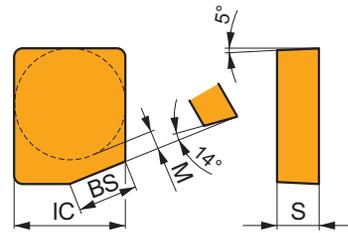
R geometri, ağır işleme için stabil tasarım.

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

PRAMET

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



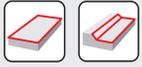
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



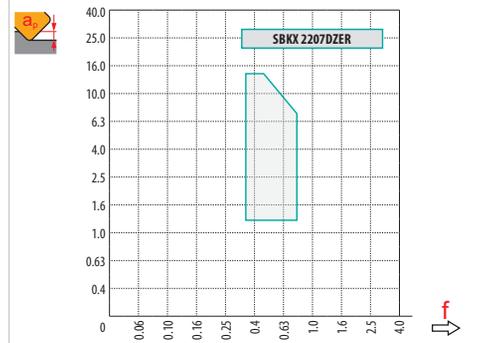
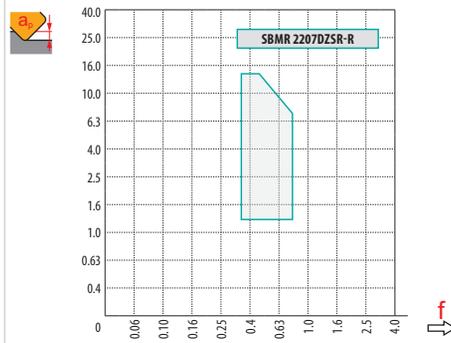
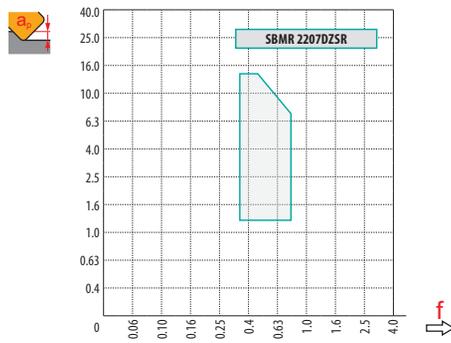
DZER sıfır talaş açılı ve silicili tasarım, daha iyi yüzey finışı için.

SBKX 2207DZER:M8326	☹	–	✓	100	0.60	8.5	–	–	–	✓	95	0.60	8.5	–	–	–	–	–	–
---------------------	---	---	---	-----	------	-----	---	---	---	---	----	------	-----	---	---	---	---	---	---



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

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

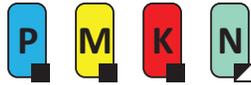


DEĞİŞTİRİLEBİLİR UÇLU FREZELER – REHBER

YÜZEY FREZELEME

	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			
Silindirik shaft	 DC = 32, 40 (mm)					
Weldon						
Modüler						
Frezeleme kafası	 DC = 40 – 125 (mm)					
Sayfa	42	51	55			
ISO	P M K N	P M K S H	P M N S			
Kesici uç şekli						
Kesici uçlar	OD.. 0505 RD.. 1205 SD.. 1205	OD.. 0605 RPE. 1505	OEHT 0604 REHT 1604 XEHT 0604			
Kesme kenarlarının sayısı	8 / 8 / 4	8 / 8	8 / 8 / 1			
Yüzey frezeleme	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Havşa frezeleme	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Helisel interpolasyon	<input type="checkbox"/>		<input checked="" type="checkbox"/>			
Aşamalı dalma	<input type="checkbox"/>		<input checked="" type="checkbox"/>			
Açılı frezeleme	<input type="checkbox"/>		<input checked="" type="checkbox"/>			
Şekil yüzeyleri frezeleme (kopya frezeleme)	<input type="checkbox"/>		<input checked="" type="checkbox"/>			
Siğ kenar frezeleme	<input type="checkbox"/>					
Siğ oluk frezeleme	<input type="checkbox"/>					
Dalma frezeleme	<input type="checkbox"/>					

SOD05



PRAMET

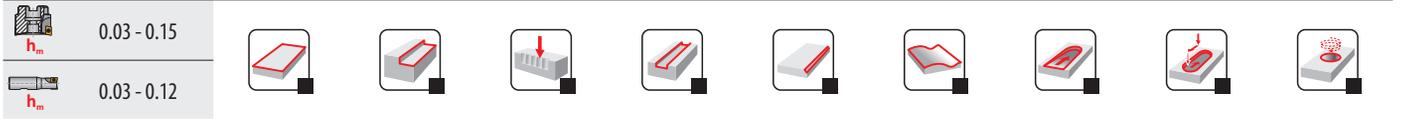
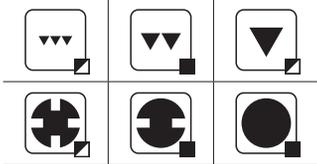
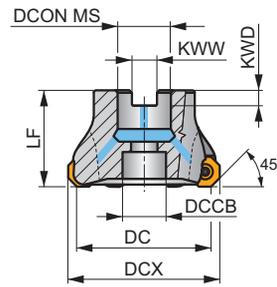
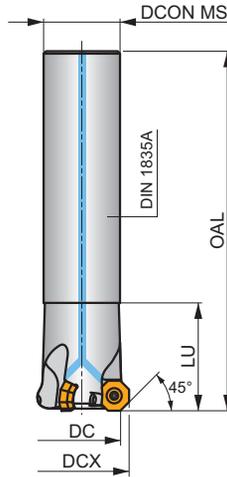
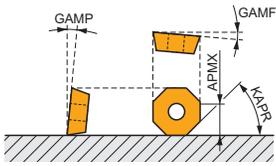
S



Üniversal Freze Takımı, Pozitif Tasarım, İçten Su Vermeli

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				kg				
	(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

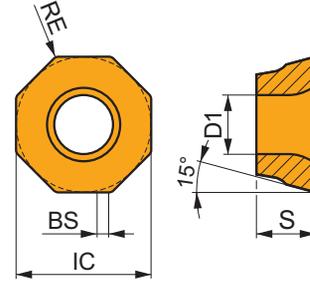
FA040	US 45014-T20P	5.0	M 5	13	Flag T20P	-	-	-
FA041	US 45014-T20P	5.0	M 5	13	-	SDR T20P-T	-	-
FA042	US 45014-T20P	5.0	M 5	13	-	SDR T20P-T	HS 90835	-
FA043	US 45014-T20P	5.0	M 5	13	-	SDR T20P-T	HS 1030C	-
FA049	US 45011-T20P	5.0	M 5	11	Flag T20P	-	-	-

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

ODKT 05IM

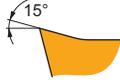


	IC	D1	S	BS
	(mm)	(mm)	(mm)	(mm)
0505	12.700	5.50	5.56	1.00



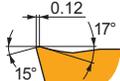
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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 geometri, 45° yüzey frezeleme ucu, hafif işleme için çok pozitif geometri.

ODKT 0505ADFR-F:M8310	● 0.8	■ 275	■ 0.15	■ 2.5	■ 140	■ 0.14	■ 2.5	■ -	■ -	■ -	■ -	■ -	■ -	■ -	■ -	■ -	■ -	■ -	■ -
------------------------------	-------	-------	--------	-------	-------	--------	-------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----



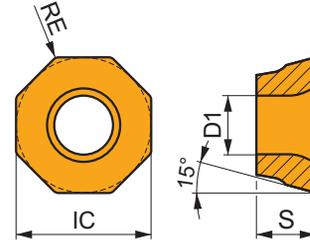
FM geometri, 45° yüzey frezeleme ucu, hafif ve orta işleme için pozitif geometri.

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

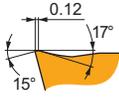
PRAMET

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



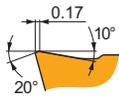
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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 geometri, 45° yüzey frezeleme ucu, hafif ve orta işleme için pozitif geometri.

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	-	-	-	-	-	-	-	-	-	-	-	-



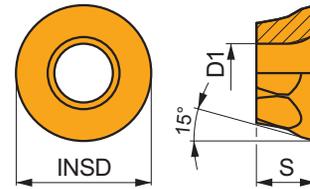
R geometri, 45° yüzey frezeleme ucu, stabil olmayan şartlar için pozitif tasarım.

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

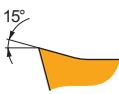
PRAMET

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



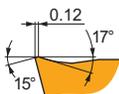
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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 geometri, hafif işleme için çok pozitif tasarım.

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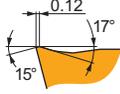


FM geometri, hafif ve orta işleme için pozitif tasarım.

RDGT 120500SN-FM:M8330	-	190	0.20	1.5	110	0.18	1.5	180	0.20	1.5	-	-	-	-	-	-	-	-	-
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Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



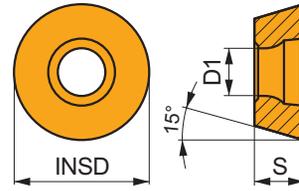
FM geometri, hafif ve orta işleme için pozitif tasarım.

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

RDMT 12IM

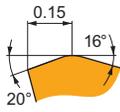


	INSD (mm)	D1 (mm)	S (mm)
1205	12.700	5.50	5.56



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



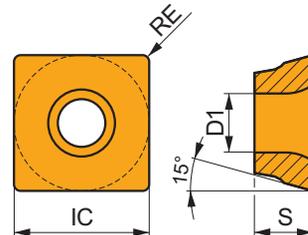
R geometri, kopya ve profil frezeleme ucu, stabil olmayan şartlar için pozitif tasarım.

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

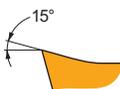


	IC (mm)	D1 (mm)	S (mm)
1205	12.700	5.50	5.56



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)

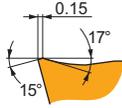


F geometri, 90° kenar frezeleme ucu, hafif işleme için çok pozitif geometri.

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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Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



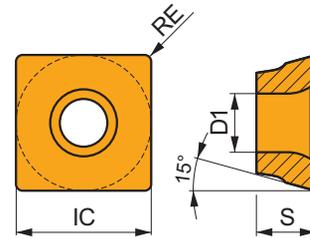
FM geometri, 90° kenar frezeleme ucu, hafif ve orta işleme için pozitif geometri.

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

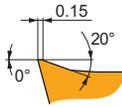


	IC (mm)	D1 (mm)	S (mm)
1205	12.700	5.50	5.56



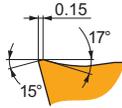
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



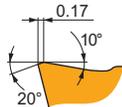
F geometri, 90° kenar frezeleme ucu, hafif ve orta işleme için pozitif geometri.

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 geometri, 90° kenar frezeleme ucu, orta işleme için pozitif geometri.

SDMT 120508SN-FM:M8345	0.8	175	0.15	4.0	105	0.15	4.0	-	-	-	-	-	-	-	-	-	-	-
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R geometri, 90° kenar frezeleme ucu, stabil olmayan şartlar için pozitif tasarım.

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	-	-	-	-	-	-	-	-

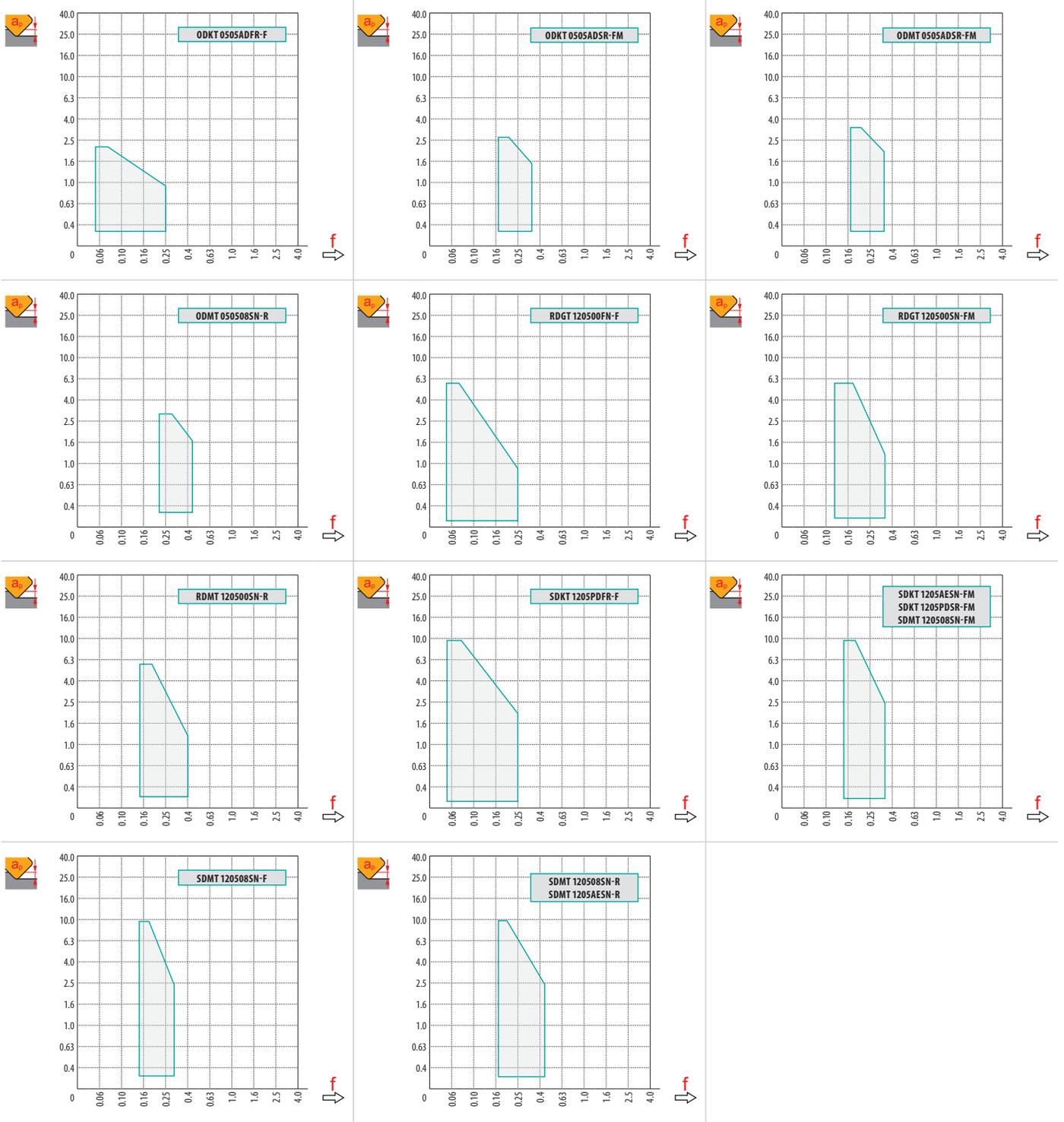


a_e / DCX	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	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/l
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/l
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



3

5

10

15

20

30

40

50

60

80

100

32

40

50

63

80

100

125



0.620

0.800

1.131

1.386

1.600

1.960

2.263

2.530

2.771

3.200

3.578

0.693

0.894

1.265

1.549

1.789

2.191

2.530

2.828

3.098

3.578

4.000

0.775

1.000

1.414

1.732

2.000

2.449

2.828

3.162

3.464

4.000

4.472

0.869

1.122

1.587

1.944

2.245

2.750

3.175

3.550

3.888

4.490

5.020

0.980

1.265

1.789

2.191

2.530

3.098

3.578

4.000

4.382

5.060

5.657

1.095

1.414

2.000

2.449

2.828

3.464

4.000

4.472

4.899

5.657

6.325

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

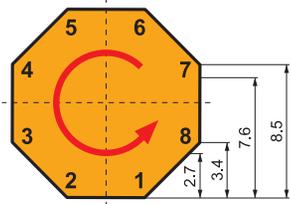
1.960

2.191

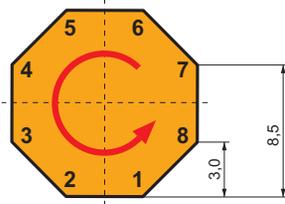


ODKT 05

ODMT 05



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



-> 3.0	8
-> 8.5	4

SOD06D

P M K S H

PRAMET

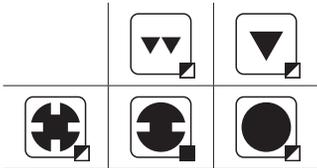
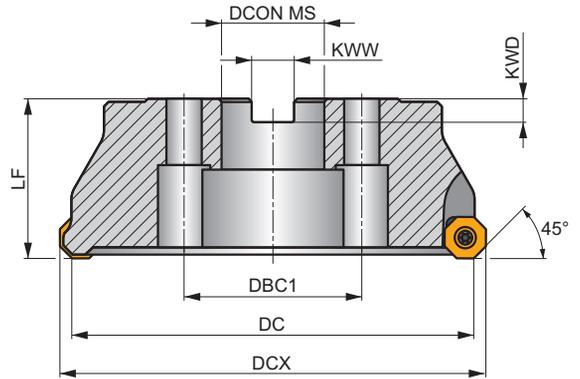
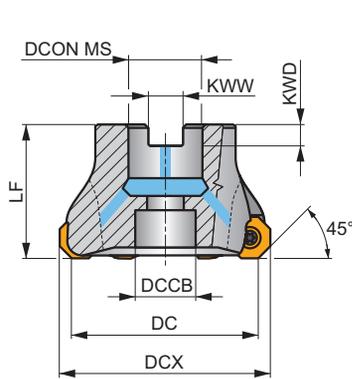
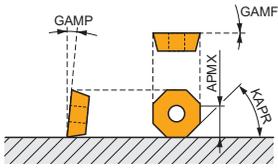
S



Üniversal Freze Takımı, Pozitif Tasarım, İçten Su Vermeli

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

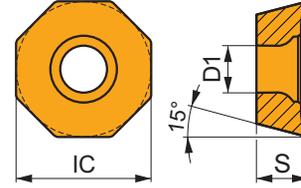
GI059	OD.. 0605ZZ..	RP.. 1505MO..

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

ODMT 06

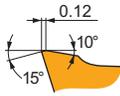
PRAMET

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



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



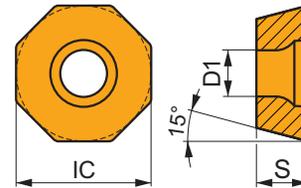
ZZN hafif pozitif tasarım, 45° yüzey frezeleme ucu, orta işleme için.

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

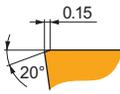
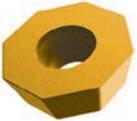
PRAMET

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



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



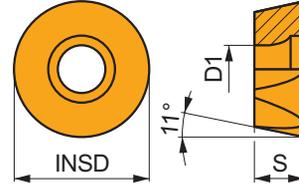
ZZN sıfır talaş açısı tasarımı, 45° yüzey frezeleme ucu, orta işleme için uygun.

ODEW 0605ZZN:M8330	☹	–	✓	210	0.26	2.5	–	–	–	■	195	0.26	2.5	–	–	–	–	–	–	–	–	–	–	–
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RPET 15

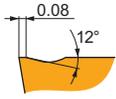


	INSD	D1	S
	(mm)	(mm)	(mm)
1505	15.785	5.50	5.56



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



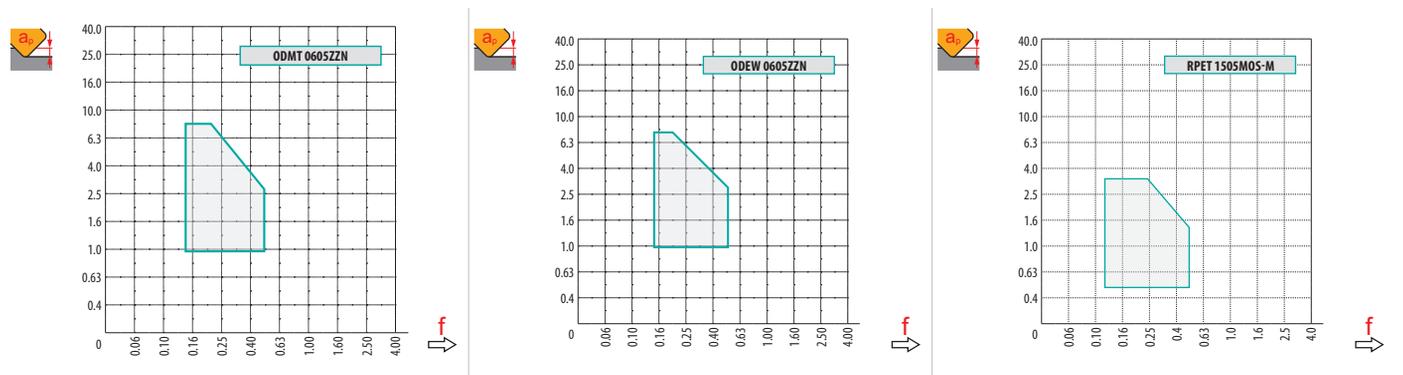
M geometri, kopya ve profil frezeleme ucu, hafiften kaba işlemeye kadar uygun pozitif tasarım.

RPET 1505MOS-M:M8330	✳	-	■	230	0.40	1.0	■	135	0.36	1.0	■	215	0.40	1.0	■	55	0.28	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
	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

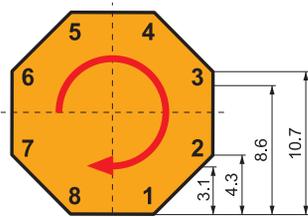
	ODMT 06	ODEW 06	RPET 15-M
	-	-	7.89
	1.73	5.92	-



	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

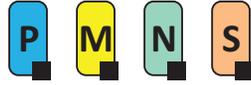


		f_{max}
63	1.49	0.78
80	1.54	0.88
100	1.59	0.98
125	1.64	1.10
160	1.70	1.24



→ 3.1	8
→ 4.3	7
→ 8.6	4
→ 10.7	2

SOE06Z



PRAMET

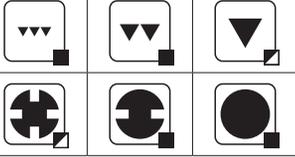
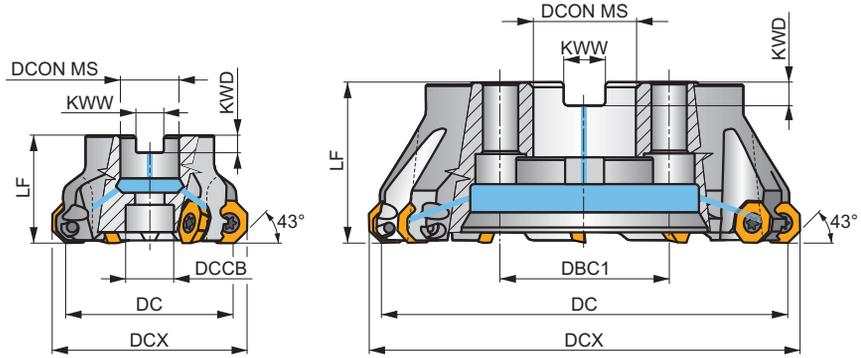
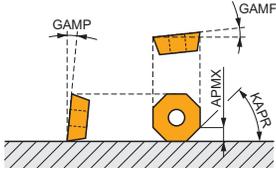
S



Üniversal Freze Takımı, Pozitif Tasarım, İçten Su Vermeli

RE.. 16 için 4 mm'lik APMX'li pozitif tek taraflı kesici uçlar kullanan son derece verimli üniversal yüzey frezesi. Benzersiz kesici uç yuvası OE.. 06, RE.. 16 ve XE.. 06 tarzı kesici uçlara uygundur ve çok çeşitli uygulamalara uygundur. Göbekten bağlamalı gövde. Gövde uzun takım ömrü için işlem görmüştür.

KAPR	43°
APMX	3.3 (9.9) mm



h_{max} 0.06 - 0.20



Product	DC	DCX	LF	DCON MS	DCCB	DBC1	KWW	KWD	GAMP	GAMP	max.	kg	GI283	FA053		
	(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	GI283 FA053 -
50A05R-S450E06Z-C	50	60	40	22	18	-	10.4	6.3	1	10	5	✓	10700	✓	0.47	GI283 FA053 -
56A05R-S450E06Z-C	56	66	40	22	18	-	10.4	6.3	6	10	5	✓	10100	✓	0.52	GI283 FA053 -
63A04R-S450E06Z-C	63	73.2	40	22	18	-	10.4	6.3	6	10	4	✓	9600	✓	0.58	GI283 FA053 -
63A06R-S450E06Z-C	63	73	40	22	18	-	10.4	6.3	1	10	6	✓	9600	✓	0.60	GI283 FA053 -
70A06R-S450E06Z-C	70	80	40	22	18	-	10.4	6.3	6	10	6	✓	9100	✓	0.69	GI283 FA053 -
80A05R-S450E06Z-C	80	90.2	50	27	38	-	12.4	7	6	10	5	✓	8500	✓	1.02	GI283 FA051 AC001
80A06R-S450E06Z-C	80	90.2	50	27	38	-	12.4	7	6	10	6	✓	8500	✓	1.03	GI283 FA051 AC001
90A07R-S450E06Z-C	90	100	50	32	45	-	14.4	8	6	10	7	✓	8000	✓	1.59	GI283 FA051 AC002
100A06R-S450E06Z-C	100	110.2	50	32	45	-	14.4	8	6	10	6	✓	7600	✓	1.85	GI283 FA051 AC002
100A08R-S450E06Z-C	100	109.9	50	32	45	-	14.4	8	1	10	8	✓	7600	✓	1.87	GI283 FA051 AC002
125A07R-S450E06Z-C	125	135.2	63	40	56	-	16.4	9	6	10	7	✓	6800	✓	3.31	GI283 FA051 AC003
125A09R-S450E06Z-C	125	134.9	63	40	56	-	16.4	9	1	10	9	✓	6800	✓	3.35	GI283 FA051 AC003
160C09R-S450E06Z-C	160	170.2	63	40	-	66.7	16.4	9	6	10	9	✓	6000	✓	6.08	GI283 FA056 -
160C12R-S450E06Z-C	160	169.9	63	40	-	66.7	16.4	9	1	10	12	✓	6000	✓	7.06	GI283 FA056 -
200C11R-S450E06Z-C	200	210.2	63	60	-	101.6	25.7	14	6	10	11	✓	5300	✓	10.80	GI283 FA057 -
200C14R-S450E06Z-C	200	209.9	63	60	-	101.6	25.7	14	1	10	14	✓	5300	✓	11.15	GI283 FA057 -

GI283	OEHT 0604AE..	REHT 1604M0..	XEHT 0604AE..
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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	-	-	-

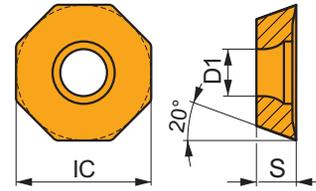
FA056	US 5011-T20P	5.0	M 5	11	SDR T20P-T	HS 1240C	CAC 160C	HSD 0825C	HXK 5
FA057	US 5011-T20P	5.0	M 5	11	SDR T20P-T	HS 1655C	CAC 200C	HSD 1025C	HXK 7

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



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)			



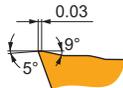
MF geometri, 45° yüzey frezeleme ucu, hafif, orta ve finiş işleme için keskin pozitif geometri.

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 geometri, 45° yüzey frezeleme ucu, hafif ve orta işleme için keskin pozitif geometri.

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	-	-	-



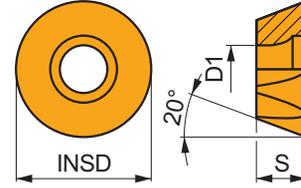
M geometri, 45° yüzey frezeleme ucu, hafif, orta ve yarı ağır işleme için yarı pozitif geometri.

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

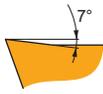
PRAMET

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



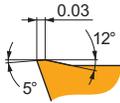
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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 geometri, kopya ve profil frezeleme ucu, hafif ve orta için yarı pozitif tasarım.

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	–	–	–



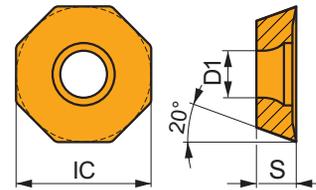
M geometri, kopya ve profil frezeleme ucu, hafif ve orta işleme için pozitif tasarım.

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

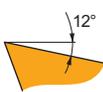
PRAMET

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



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



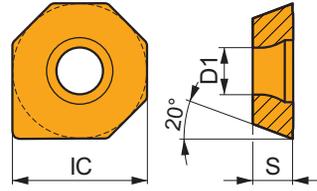
FA geometri, ince finişten orta işleme kadar 45° yüzey frezelemeye uygun çok pozitif tasarım.

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

XEHT 06

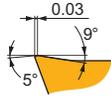
PRAMET

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



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



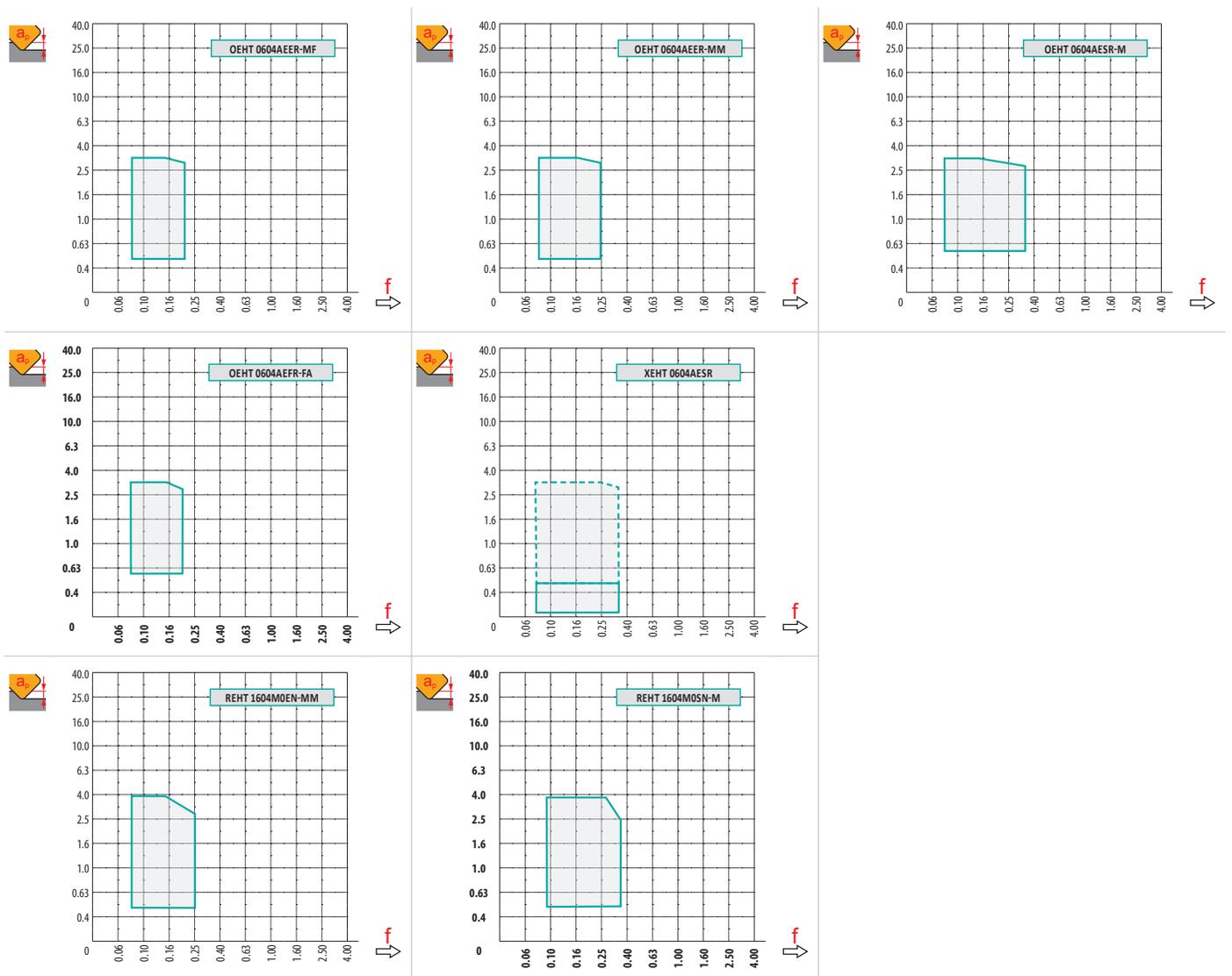
W hafif pozitif silicili tasarım, daha iyi yüzey finışı için.

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	-	-	-	-	-	-	-	-	-	-

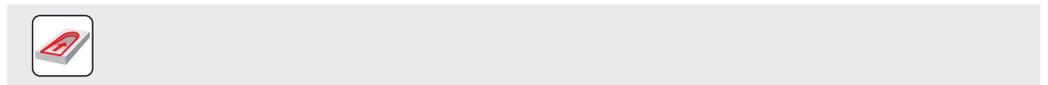
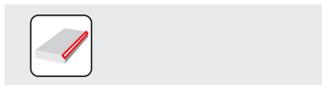


a_e / DC	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	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	-	-



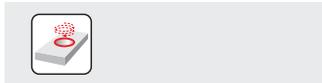
	R									
		0.00	0.50	0.75	1.25	1.50	2.00	2.50	3.00	4.00
50		43.90	49.47	50.66	52.49	53.23	54.48	55.52	56.39	57.76
56		49.80	55.37	56.56	58.39	59.13	60.38	61.42	62.29	63.66
63		56.90	62.47	63.66	65.49	66.23	67.48	68.52	69.39	70.76
70		63.80	69.37	70.56	72.39	73.13	74.38	75.42	76.29	77.66
80		73.90	79.47	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

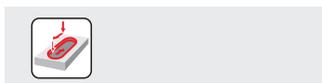
O		
	RPMX	APMX/I
50	4.9°	8.4/100
56	4.2°	7.2/100
63	3.6°	6.1/100
70	3.1°	5.3/100
80	2.6°	4.4/100
90	2.3°	3.9/100
100	2.0°	3.3/100
125	1.5°	2.5/100

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

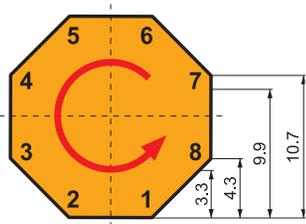


R

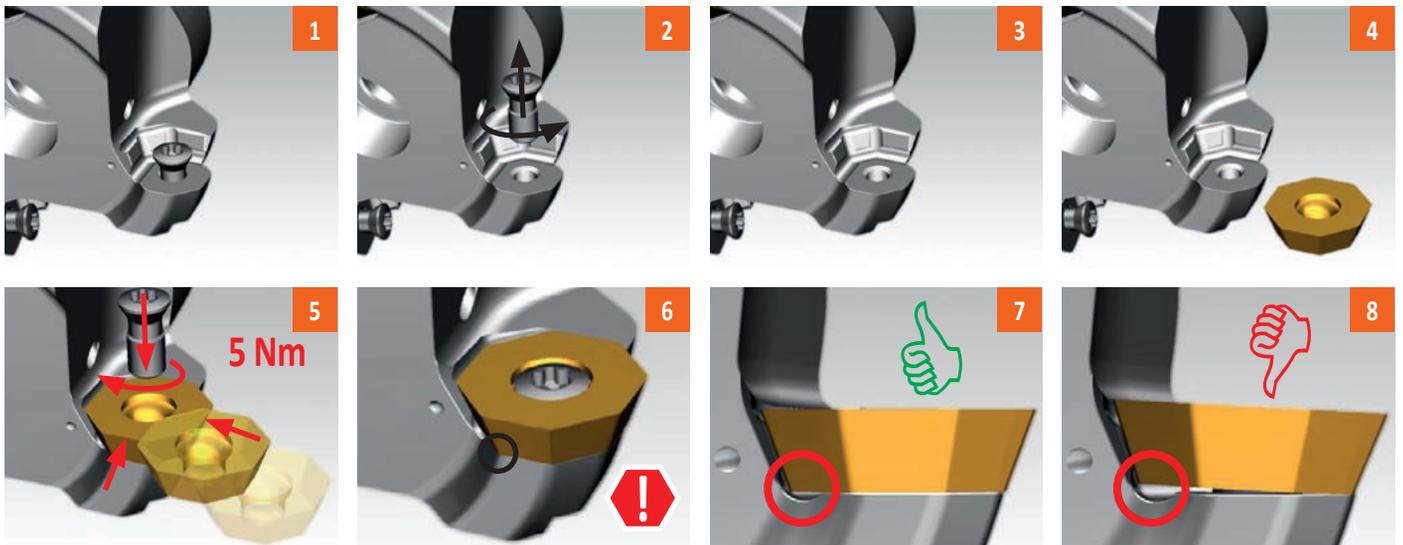
DCX	μm	3	5	10	15	20	30	40	50	60	80	100
59.9		0.848	1.095	1.548	1.896	2.189	2.681	3.096	3.461	3.792	4.378	4.895
65.8		0.889	1.147	1.622	1.987	2.294	2.810	3.245	3.628	3.974	4.589	5.130
72.9		0.935	1.207	1.708	2.091	2.415	2.958	3.415	3.818	4.183	4.830	5.400
79.8		0.979	1.263	1.787	2.188	2.527	3.095	3.573	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



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





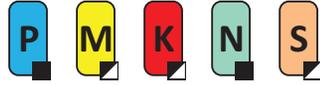
DUVAR FREZELEME

DEĞİŞTİRİLEBİLİR UÇLU FREZELER – REHBER

YÜZEY FREZELEME

	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						
Silindirik shaft		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)						
Modüler		DC = 20 – 32 (mm)		DC = 25 – 40 (mm)		DC = 25 – 40 (mm)										
Frezeleme kafası		DC = 40 – 80 (mm)		DC = 40 – 175 (mm)		DC = 40 – 125 (mm)				DC = 40 – 125 (mm)						
Sayfa	66		70		75		81		85							
ISO	P	M	K	N	P	M	K	N	P	K	N	H	P	M	K	H
Kesici uç şekli																
Kesici uçlar	TNGX 1004		TNGX 1606		LNG. 1205		LN.U 1607		LNEX 1210							
Kesme kenarlarının sayısı	6		6		4		4		4							
Yüzey frezeleme	■		■		■		■		■							
Havşa frezeleme	▣		▣		▣		▣		▣							
Helisel interpolasyon	■		■		■		■		■							
Aşamalı dalma	▣		▣		■		■		■							
Açılı frezeleme	▣		▣		▣											
Şekil yüzeyleri frezeleme (kopya frezeleme)	▣				▣				▣							
Siğ kenar frezeleme	■		■		▣				■							
Siğ oluk frezeleme					▣		▣									

STN10



PRAMET

S

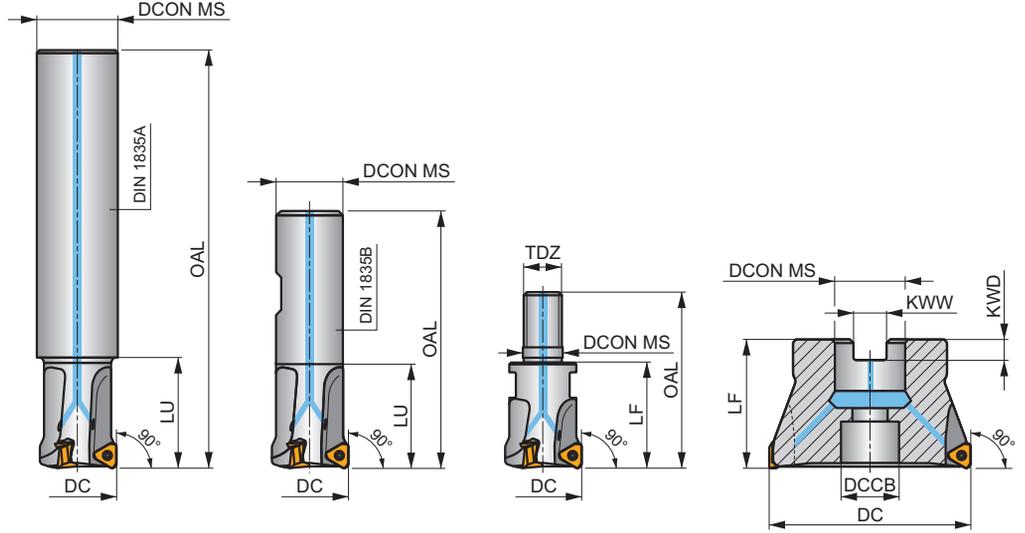
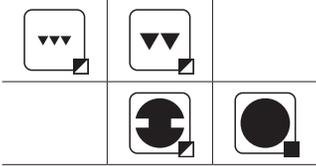
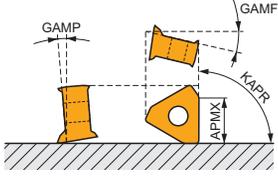


ECO TN10 Duvar Frezeleme Takımı, İçten Su Vermeli

6 kesme kenarlı ve 5 mm APMX'li çift taraflı TNGX 10 kesici uç kullanan 90° parmak ve kenar frezeleri. Çok çeşitli uygulamalar için uygundur. Silindirik, veldon, modüler ve göbekten bağlamalı tipinde mevcuttur. Gövde uzun takım ömrü için işlem görmüştür.

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	G1292	SQ300	-
20A2R029A20-STN10-C	20	150	20	-	29	-	-	-	-	-16.5	-11	2	-	27600	✓	0.35	G1292	SQ300	-
20A3R029A20-STN10-C	20	150	20	-	29	-	-	-	-	-16.5	-11	3	-	27600	✓	0.34	G1292	SQ300	-
22A3R050A25-STN10-C	22	180	25	-	50	-	-	-	-	-16.5	-11	3	-	26300	✓	0.58	G1292	SQ300	-
25A3R034A25-STN10-C	25	170	25	-	34	-	-	-	-	-16	-11	3	-	24700	✓	0.58	G1292	SQ300	-
DIN 1835A 25A4R034A25-STN10-C	25	170	25	-	34	-	-	-	-	-16	-11	4	✓	24700	✓	0.58	G1292	SQ300	-
30A4R050A32-STN10-C	30	200	32	-	50	-	-	-	-	-16	-11	4	✓	22500	✓	1.06	G1292	SQ300	-
32A4R037A32-STN10-C	32	195	32	-	37	-	-	-	-	-16	-11	4	✓	21800	✓	1.08	G1292	SQ300	-
32A5R037A32-STN10-C	32	195	32	-	37	-	-	-	-	-16	-11	5	✓	21800	✓	1.08	G1292	SQ300	-
35A5R080A32-STN10-C	35	200	32	-	80	-	-	-	-	-16	-11	5	✓	20800	✓	1.07	G1292	SQ300	-
20A2R032B20-STN10-C	20	90	20	-	32	-	-	-	-	-16.5	-11	2	-	27600	✓	0.20	G1292	SQ300	-
20A3R032B20-STN10-C	20	90	20	-	32	-	-	-	-	-16.5	-11	3	-	27600	✓	0.19	G1292	SQ300	-
DIN 1835B 25A3R042B25-STN10-C	25	100	25	-	42	-	-	-	-	-16	-11	3	-	24700	✓	0.31	G1292	SQ300	-
DIN 1835B 25A4R042B25-STN10-C	25	100	25	-	42	-	-	-	-	-16	-11	4	✓	24700	✓	0.31	G1292	SQ300	-
32A4R042B32-STN10-C	32	110	32	-	42	-	-	-	-	-16	-11	4	✓	21800	✓	0.57	G1292	SQ300	-
32A5R042B32-STN10-C	32	110	32	-	42	-	-	-	-	-16	-11	5	✓	21800	✓	0.56	G1292	SQ300	-
20A2R026M10-STN10-C	20	45	10.5	-	-	26	M10	-	-	-16.5	-11	2	-	-	✓	0.06	G1292	SQ300	-
20A3R026M10-STN10-C	20	45	10.5	-	-	26	M10	-	-	-16.5	-11	3	-	-	✓	0.06	G1292	SQ300	-
MODULAR 25A3R033M12-STN10-C	25	55	12.5	-	-	33	M12	-	-	-16	-11	3	-	-	✓	0.10	G1292	SQ300	-
MODULAR 25A4R033M12-STN10-C	25	55	12.5	-	-	33	M12	-	-	-16	-11	4	✓	-	✓	0.10	G1292	SQ300	-
MODULAR 32A4R043M16-STN10-C	32	66	17	-	-	43	M16	-	-	-16	-11	4	✓	-	✓	0.21	G1292	SQ300	-
MODULAR 32A5R043M16-STN10-C	32	66	17	-	-	43	M16	-	-	-16	-11	5	✓	-	✓	0.21	G1292	SQ300	-
ISO 6462 DIN 8030 40A04R-S90TN10-C	40	-	16	14	-	40	-	8.4	5.6	-15	-11	4	✓	19500	✓	0.34	G1292	SQ302	-
ISO 6462 DIN 8030 40A06R-S90TN10-C	40	-	16	14	-	40	-	8.4	5.6	-15	-11	6	✓	19500	✓	0.34	G1292	SQ302	-
ISO 6462 DIN 8030 50A05R-S90TN10-C	50	-	22	18	-	40	-	10.4	6.3	-15	-11	5	✓	17400	✓	0.48	G1292	SQ303	-
ISO 6462 DIN 8030 50A07R-S90TN10-C	50	-	22	18	-	40	-	10.4	6.3	-15	-11	7	✓	17400	✓	0.49	G1292	SQ303	-
ISO 6462 DIN 8030 63A06R-S90TN10-C	63	-	22	18	-	40	-	10.4	6.3	-15	-11	6	✓	15500	✓	0.63	G1292	SQ303	-

Product	DC	OAL	D CONIMS	DCB	LU	LF	TDZ	KWW	KWD	GAMF	GAMP	max.		kg	GI292	SQ303	AC001		
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)	15500	13800						
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..

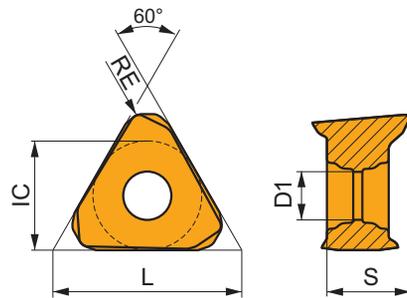
SQ300	US 52506-T07P	0.8	M 2.5	6	-	-	Flag T07P	-
SQ301	US 52506-T07P	0.8	M 2.5	6	D-T07P/T09P	FG-15	-	-
SQ302	US 52506-T07P	0.8	M 2.5	6	D-T07P/T09P	FG-15	-	HS 0830C
SQ303	US 52506-T07P	0.8	M 2.5	6	D-T07P/T09P	FG-15	-	HS 1030C

AC001	KS 1230	K.FMH27

TNGX 10

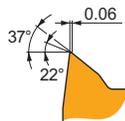


	IC	D1	L	S
	(mm)	(mm)	(mm)	(mm)
1004	6.000	2.80	10.39	4.69



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

Product	RE	P			M			K			N			S			H		
		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)

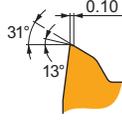


F geometri, hafif işleme için çok pozitif tasarım.

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	-	-	-	-	-	-	-	-	-	-	-

Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



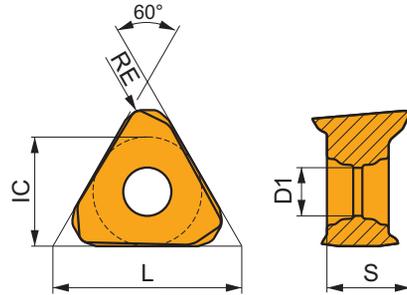
M geometri, hafif ve orta işleme için pozitif tasarım.

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

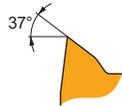
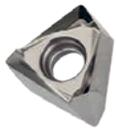
PRAMET

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



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



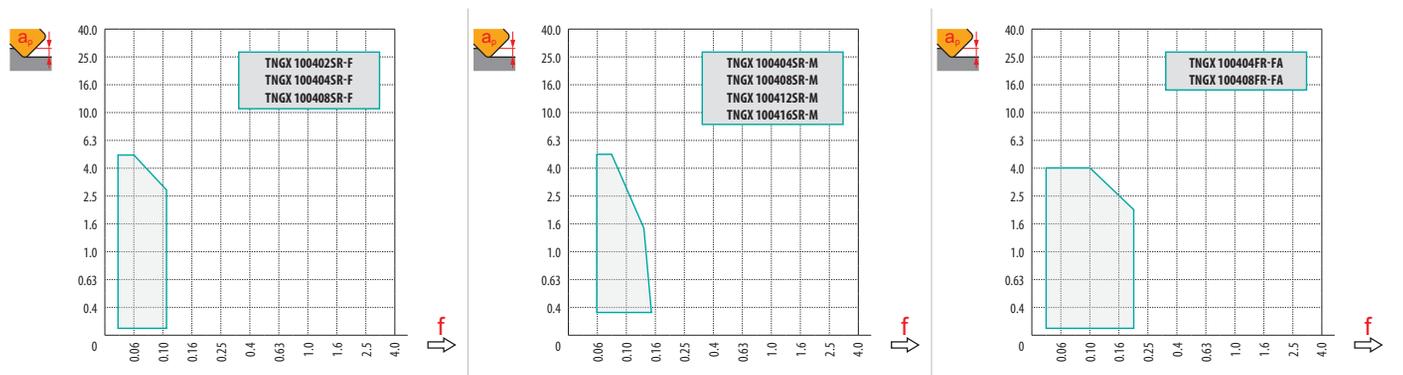
FA geometri, ince finiştin orta işleme kadar uygun çok pozitif tasarım.

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

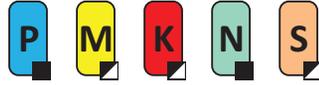
	TNGX 10-F			TNGX 10-M				TNGX 10-FA	
	0.2	0.4	0.8	0.4	0.8	1.2	1.6	0.4	0.8
	1.53	1.34	0.92	1.34	0.92			1.33	0.93



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

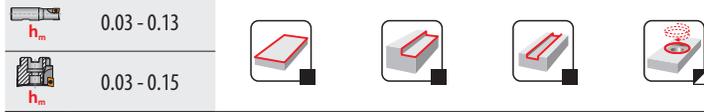
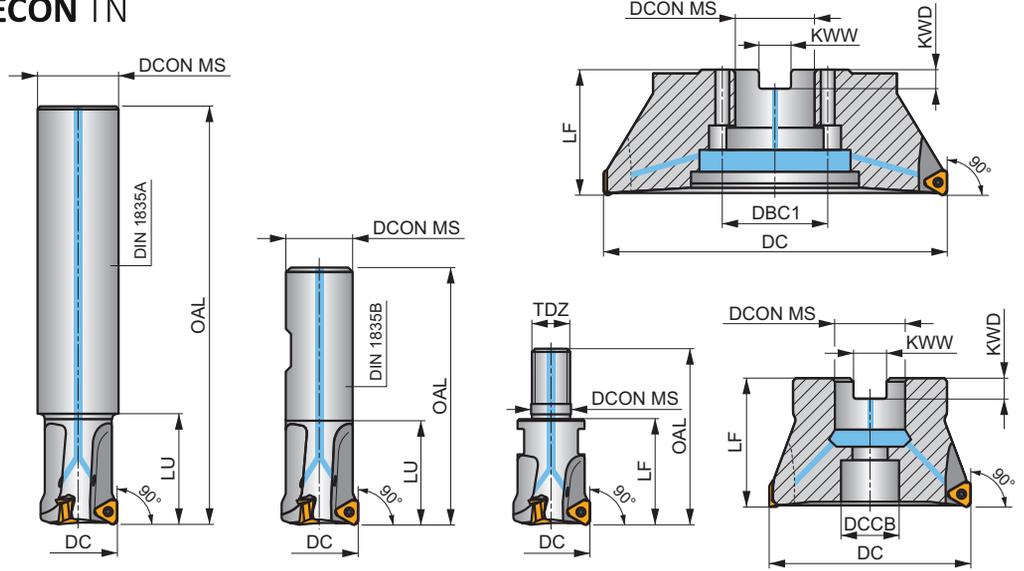
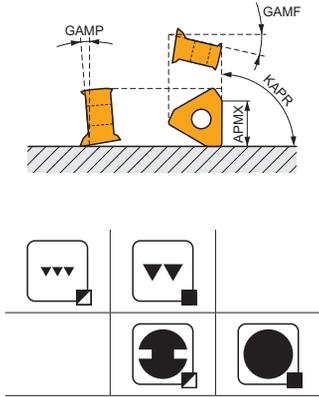


ECO TN16 Duvar Frezeleme Takımı, İçten Su Vermeli

Çift taraflıyla 6 kesme kenarlı ve 10 mm APMX'li TNGX 16 kesici uç kullanan 90° silindirik ve veldonlu freze gövdeleri. Çok çeşitli uygulamalar için uygundur. Silindirik, Veldon, modüler ve vidalı (diferansiyel diş adimli) tarzında mevcuttur. Daha uzun takım ömrü için gövde işlem görmüştür.

ECON TN

KAPR	90°
APMX	10.0 mm



Product	DC (mm)	OAL (mm)	DCON MS (mm)	DCCB (mm)	DBC1 (mm)	LU (mm)	LF (mm)	TDZ	KWW (mm)	KWD (mm)	GAMP (°)	GAMP (°)	max.	kg	G	C			
																	(mm)	(mm)	(mm)
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

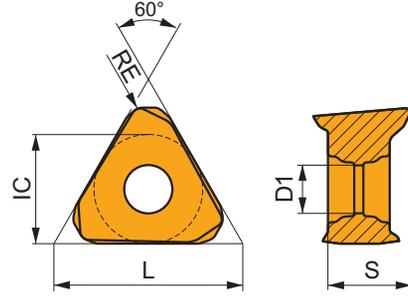
GI340	TNGX 1606..
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C0382	US 44010-T15P	3.5	M 4	10	-	-	Flag T15P	-	-	-
C0384	US 44010-T15P	3.5	M 4	10	D-T08P/T15P	FG-15	-	HS 90835	-	-
C0386	US 44010-T15P	3.5	M 4	10	D-T08P/T15P	FG-15	-	HS 1030C	-	-
C0388	US 44010-T15P	3.5	M 4	10	D-T08P/T15P	FG-15	-	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

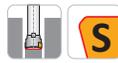
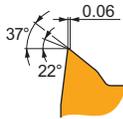
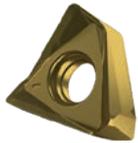


	IC	D1	L	S
	(mm)	(mm)	(mm)	(mm)
1606	9.525	4.40	16.50	6.58



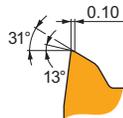
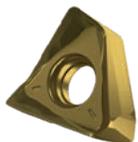
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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 geometri, hafif işleme için çok pozitif tasarım.

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	-	-	-	-	-	-	-	-	-

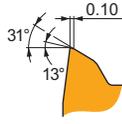
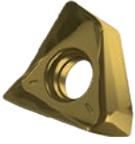


M geometri, hafif ve orta işleme için pozitif tasarım.

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	-	-	-

Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



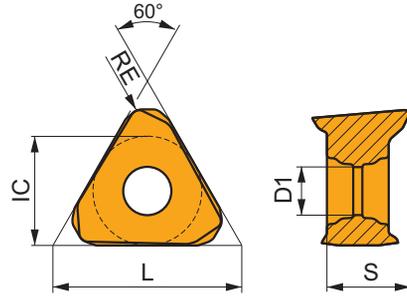
M geometri, hafif ve orta işleme için pozitif tasarım.

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

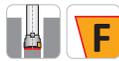
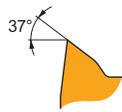
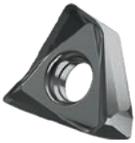
PRAMET

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



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



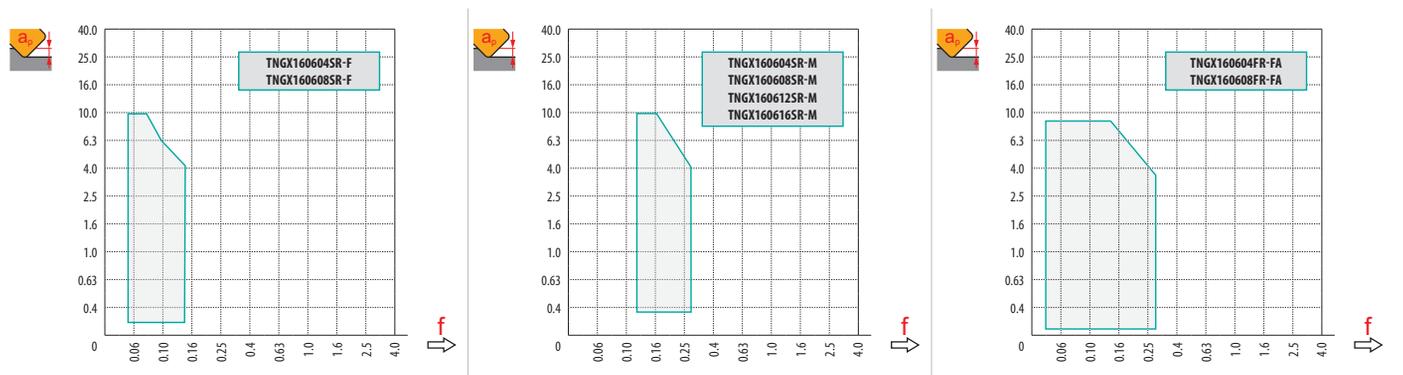
FA geometri, ince finiştan orta işleme kadar uygun çok pozitif tasarım.

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

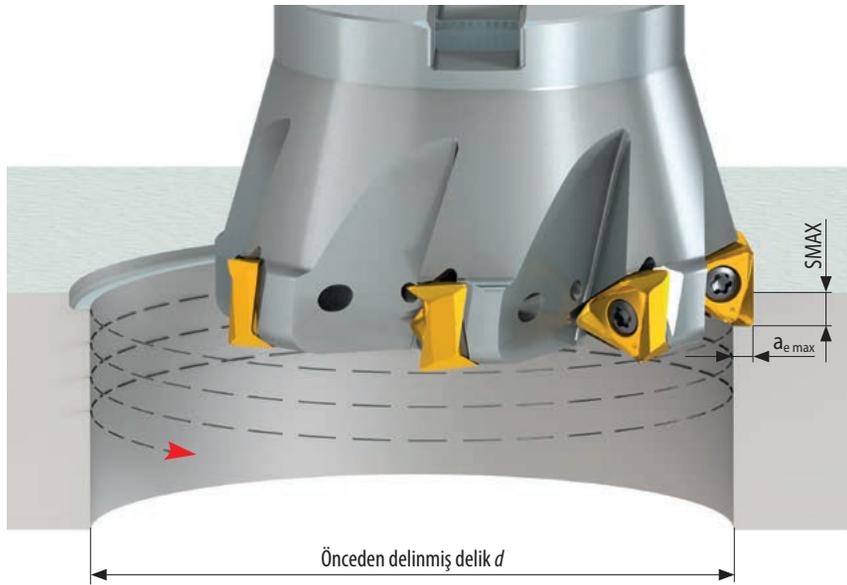


	3.0	4.5	6.0
	0.18	0.14	0.10

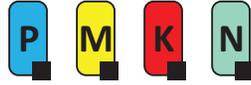


DC	min	$d_{min} = DC^*$		min	$d = 1.25 DC$		min	$d = 1.5 DC$		min	$d = 1.75 DC$		min	$d \geq 2 DC$	
		SMAX	$a_{e max}$		SMAX	$a_{e max}$		SMAX	$a_{e max}$		SMAX	$a_{e max}$		SMAX	$a_{e max}$
25	25	0.14	1.3	31	0.22	2.2	38	0.33	3.0	44	0.60	4.0	50	0.70	5.0
32	32	0.16	1.5	40	0.33	2.8	48	0.44	4.0	56	0.70	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

* Delik çapı aşağıdakiler arasında olduğunda ilerleme hızı düşüşünü kontrol edin $d_{min} - 1.5 DC$.



SLN12



PRAMET

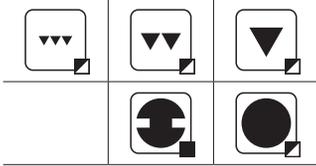
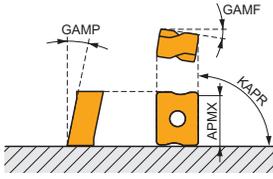
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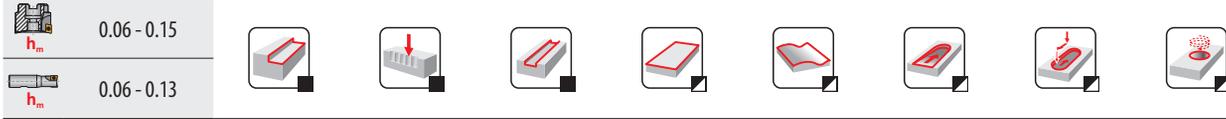
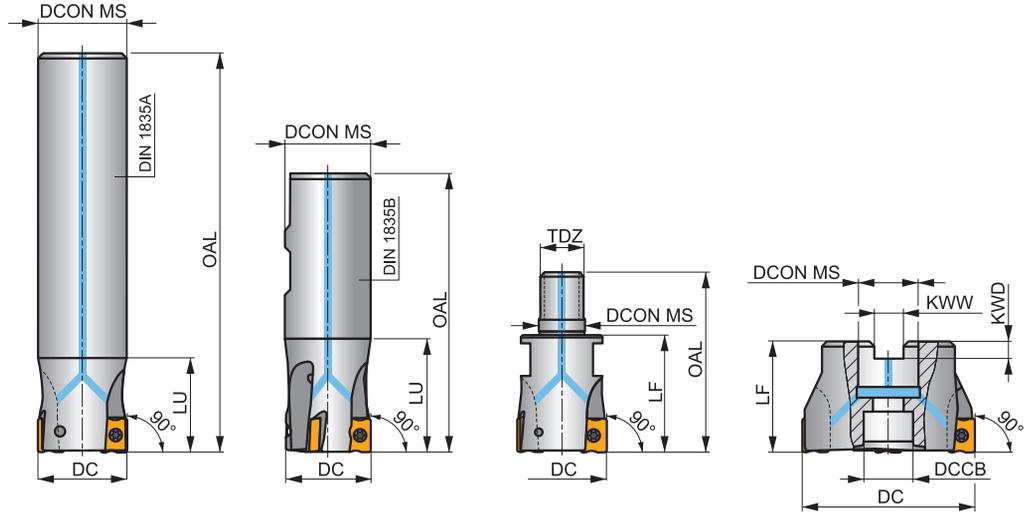
ECON LN12 Duvar Frezeleme Takımı, İçten Su Vermeli

Çift taraflı LN kullanan 90° uçlu ve kenar frezeler.. 9 mm APMX'li 12 kesici uç. Çok çeşitli uygulamalar için uygundur. Silindirik, veldon, modüler ve göbekten bağlamalı olarak bulunur. Gövde uzun takım ömrü için işlem görmüştür.

KAPR	90°
APMX	9.0 mm



ECON LN



Product	DC (mm)	OAL (mm)	DCON MS (mm)	DCCB (mm)	LU (mm)	LF (mm)	TDZ (mm)	KWW (mm)	KWD (mm)	GAMF (°)	GAMP (°)	max.	kg	GI205	SQ340	AC001	AC002	AC003	
																			max.
25A2R034A25-SLN12-C	25	170	25	-	34	-	-	-	-	-23	-8	2	-	19500	✓	0.58	GI205	SQ340	-
25A2R080A25-SLN12-C	25	170	25	-	80	-	-	-	-	-23	-8	2	-	19500	✓	0.54	GI205	SQ340	-
32A2R034A32-SLN12-C	32	195	32	-	34	-	-	-	-	-15	-6	2	-	17300	✓	1.05	GI205	SQ340	-
32A2R090A32-SLN12-C	32	195	32	-	90	-	-	-	-	-15	-6	2	-	17300	✓	0.98	GI205	SQ340	-
25A2R042B25-SLN12-C	25	99	25	-	42	-	-	-	-	-23	-8	2	-	19500	✓	0.30	GI205	SQ340	-
32A3R042B32-SLN12-C	32	103	32	-	42	-	-	-	-	-15	-6	3	-	17300	✓	0.50	GI205	SQ340	-
40A4R050B32-SLN12-C	40	111	32	-	50	-	-	-	-	-15	-6	4	✓	15500	✓	0.62	GI205	SQ340	-
25A2R033M12-SLN12-C	25	55	12.5	-	-	33	-	-	-	-22	-6	2	-	-	✓	0.11	GI205	SQ340	-
32A2R043M16-SLN12-C	32	66	17	-	-	43	-	-	-	-15	-6	2	-	-	✓	0.22	GI205	SQ340	-
32A3R043M16-SLN12-C	32	66	17	-	-	43	-	-	-	-15	-6	3	-	-	✓	0.22	GI205	SQ340	-
40A3R043M16-SLN12-C	40	66	17	-	-	43	-	-	-	-15	-6	3	-	-	✓	0.28	GI205	SQ340	-
40A04R-S90LN12-C	40	-	16	14	-	40	-	8.4	5.6	-15	-6	4	✓	15500	✓	0.33	GI205	SQ342	-
50A04R-S90LN12-C	50	-	22	18	-	40	-	10.4	6.3	-14.5	-6	4	✓	13800	✓	0.47	GI205	SQ343	-
50A05R-S90LN12-C	50	-	22	18	-	40	-	10.4	6.3	-14.5	-6	5	✓	13800	✓	0.40	GI205	SQ343	-
63A04R-S90LN12-C	63	-	22	18	-	40	-	10.4	6.3	-14	-6	4	✓	12300	✓	0.55	GI205	SQ343	-
63A06R-S90LN12-C	63	-	22	18	-	40	-	10.4	6.3	-14	-6	6	✓	12300	✓	0.50	GI205	SQ343	-
80A05R-S90LN12-C	80	-	27	38	-	50	-	12.4	7	-14	-6	5	✓	10900	✓	1.16	GI205	SQ341	AC001
80A07R-S90LN12-C	80	-	27	38	-	50	-	12.4	7	-14	-6	7	✓	10900	✓	1.11	GI205	SQ341	AC001
100A06R-S90LN12-C	100	-	32	45	-	50	-	14.4	8	-14	-6	6	✓	9800	✓	1.78	GI205	SQ341	AC002
100A08R-S90LN12-C	100	-	32	45	-	50	-	14.4	8	-14	-6	8	✓	9800	✓	1.93	GI205	SQ341	AC002
110A06R-S90LN12-C	110	-	32	45	-	50	-	14.4	8	-14	-6	6	✓	9300	✓	2.09	GI205	SQ341	AC002
125A07R-S90LN12-C	125	-	40	56	-	63	-	16.4	9	-14	-6	7	✓	8700	✓	3.40	GI205	SQ341	AC003
125A09R-S90LN12-C	125	-	40	56	-	63	-	16.4	9	-14	-6	9	✓	8700	✓	3.35	GI205	SQ341	AC003



GI205

LNGX 1205..

LNGU 1205..

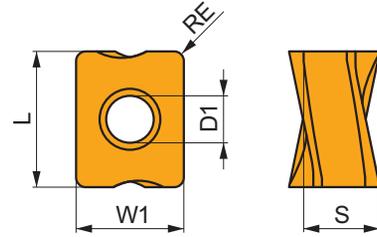
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SQ341	US 44012-T15P	3.5	M 4	12	D-T08P/T15P	FG-15	-	-	-
SQ342	US 44012-T15P	3.5	M 4	12	D-T08P/T15P	FG-15	-	HS 0830C	
SQ343	US 44012-T15P	3.5	M 4	12	D-T08P/T15P	FG-15	-	HS 1030C	

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

LNGX 12

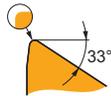


	W1	D1	L	S
	(mm)	(mm)	(mm)	(mm)
1205	9.500	4.50	12.00	5.96



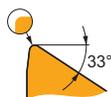
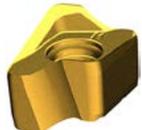
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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 geometri, hafif işleme için çok pozitif tasarım.

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	-	-	-	-	-	-	-	-	-

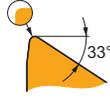


M geometri, hafif ve orta işleme için pozitif tasarım.

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	-	-	-	-	-	-	-	-	-

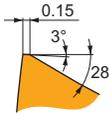
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



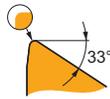
M geometri, hafif ve orta işleme için pozitif tasarım.

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	-	-	-	-	-	-	-	-	-



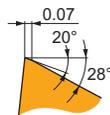
R geometri, stabil olmayan şartlar için pozitif tasarım.

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 geometri, hafif işleme için çok pozitif tasarım.

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	-	-	-	-	-	-	-	-	-	-	-	-



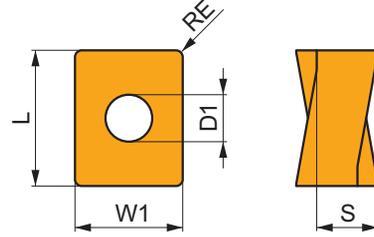
MM geometri, hafif ve orta işleme için pozitif tasarım.

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

PRAMET

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



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



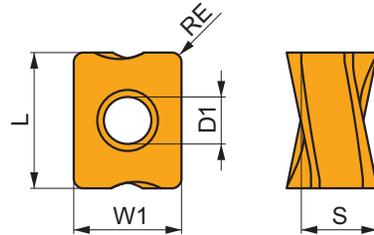
M geometri, orta işleme için pozitif tasarım.

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

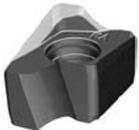
PRAMET

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



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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 geometri, ince finiştin orta işleme kadar uygun çok pozitif tasarım.

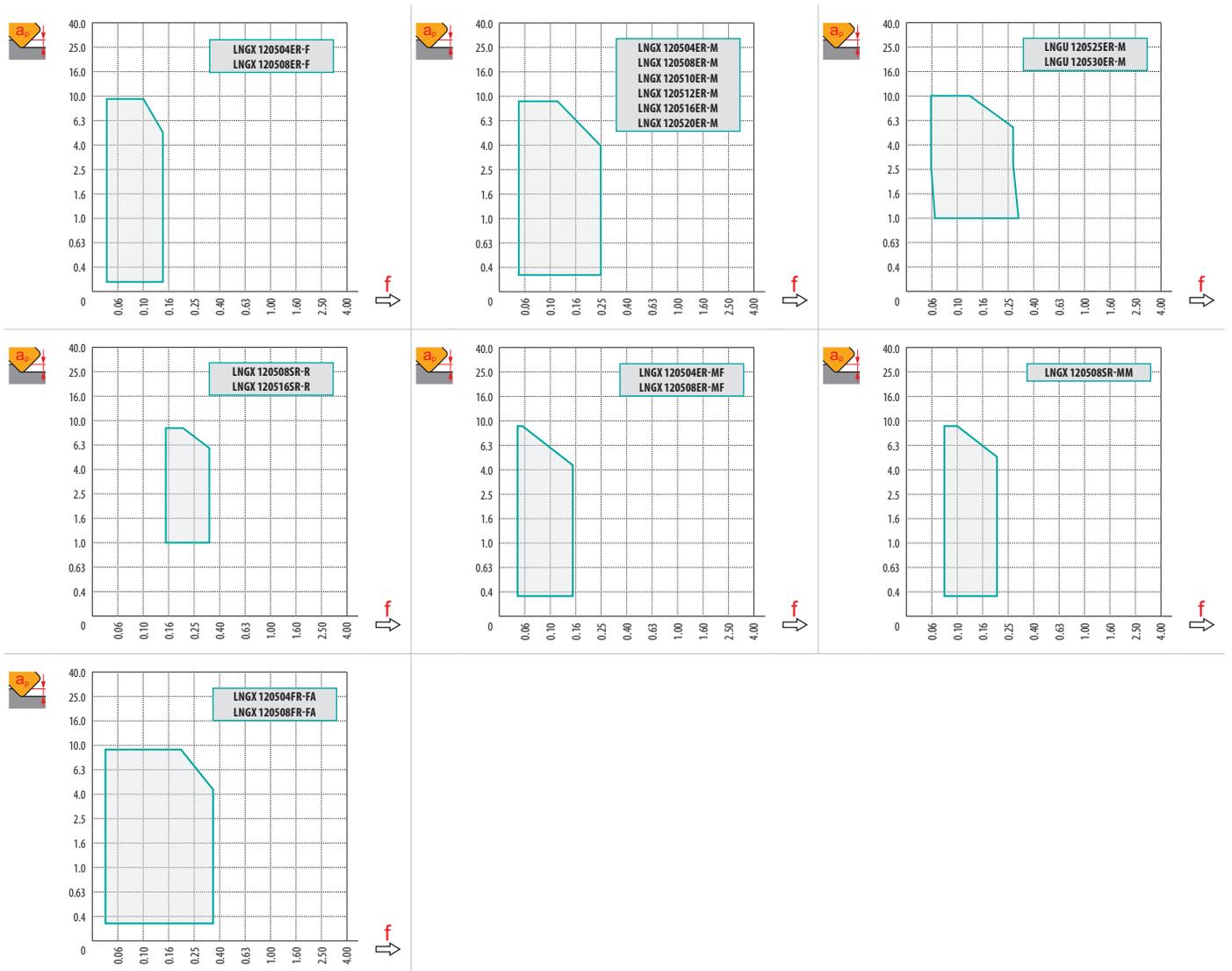
LNGX 120504FR-FA:HF7	●	0.4	–	–	–	–	–	–	–	–	–	270	0.30	2.0	–	–	–	–	–
LNGX 120508FR-FA:HF7	●	0.8	–	–	–	–	–	–	–	–	–	315	0.30	2.0	–	–	–	–	–
LNGX 120508FR-FA:M0315	●	0.8	–	–	–	–	–	–	–	–	–	720	0.30	2.0	–	–	–	–	–



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

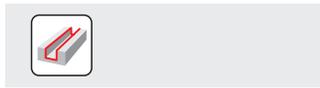
	LNGX 12-F		LNGX 12-M						LNGU 12-M	
	0.4	0.8	0.4	0.8	1.0	1.2	1.6	2.0	2.5	3.0
	2.29	1.89	2.29	1.89	1.69	1.49	1.09	0.68	0.87	0.36

	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

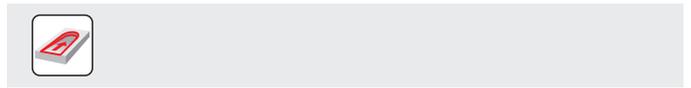




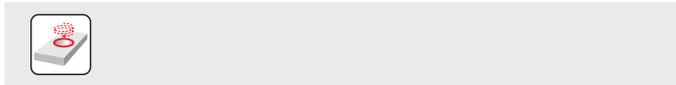
max
3.5



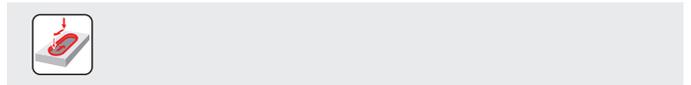
	1.0	5.0	9.0
	0.19	0.13	0.08



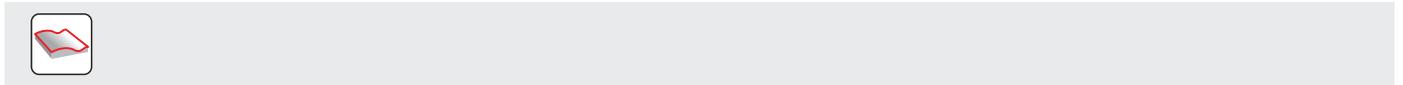
LNGX 12		
	RPMX	APMX//
25	1.3°	2.1/100
32	0.7°	1.1/100
40	0.5°	0.7/100
50	0.4°	0.5/100
63	0.2°	0.3/100
80	0.2°	0.2/100



LNGX 12				
	DMIN	DMAX		
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



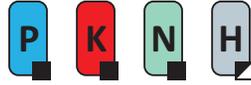
0.2



		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



PRAMET

S

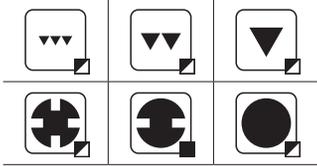
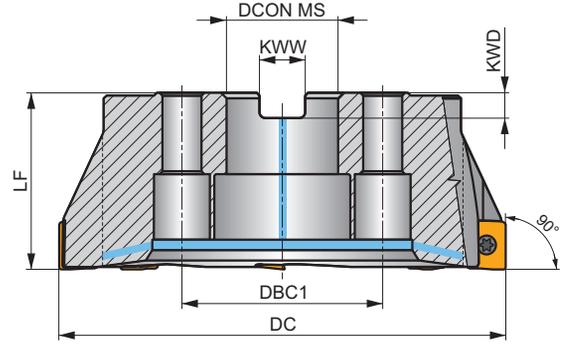
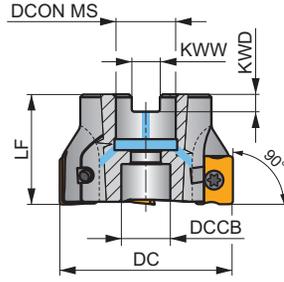
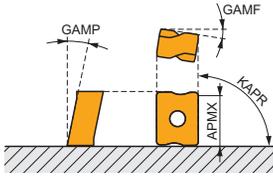


ECON LN16 Duvar Frezeleme Takımı, İçten Su Vermeli

Çift taraflı LN.. 16 uç kullanan 90° kenar freze.. 13 mm APMX'li kesici uç. Çok çeşitli uygulamalar için uygundur. Göbekten bağlamalı takım stili de mevcuttur. Gövde uzun takım ömrü için işlem görmüştür.

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	-

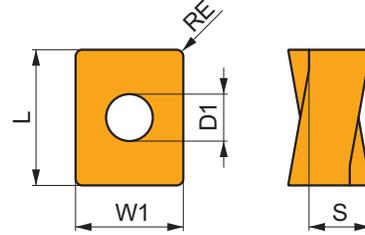
GI207	LNMU 1607..	LNGU 1607..

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

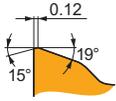
LNGU 16

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



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)

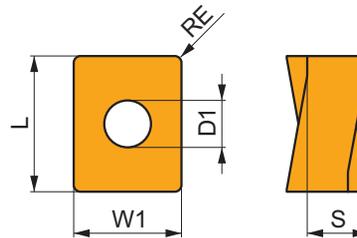


M geometri, orta işleme için çok pozitif tasarım.

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



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)

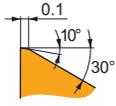


F geometri, hafif işleme için çok pozitif tasarım.

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

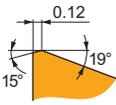
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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 geometri, orta işleme için pozitif tasarım.

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	-	-	-	-	-	-	-	-



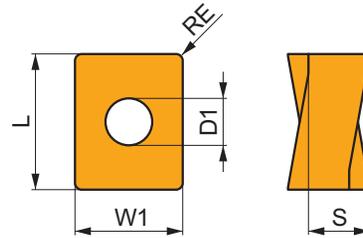
R geometri, orta işleme için stabil pozitif tasarım.

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

PRAMET

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



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



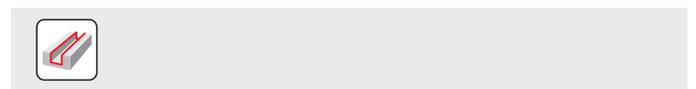
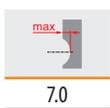
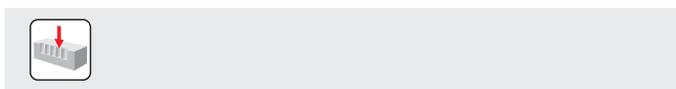
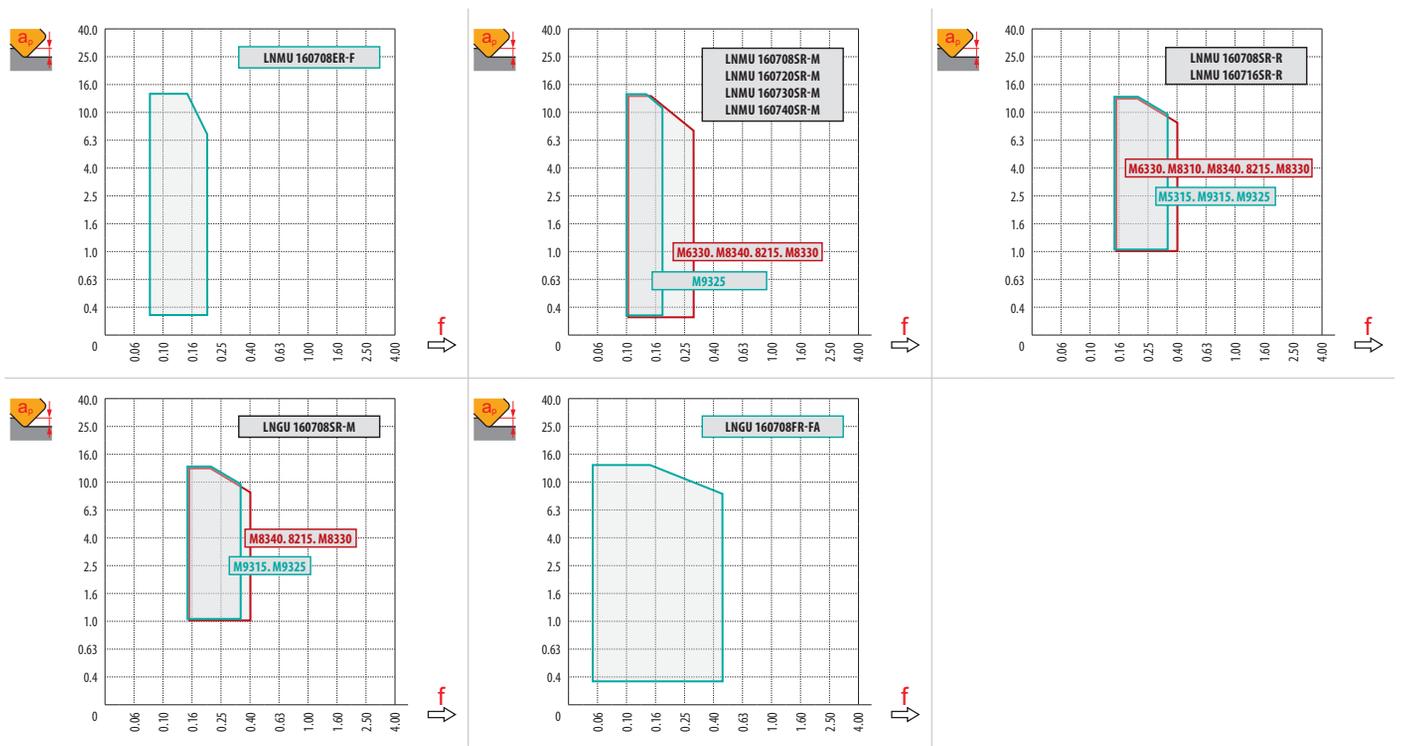
FA geometri, ince finişten orta işleme kadar uygun çok pozitif tasarım.

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



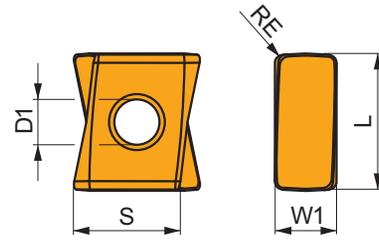
	1.0	6.0	13.0
	0.31	0.24	0.13

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

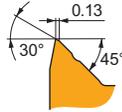
PRAMET

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



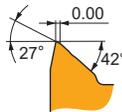
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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 geometrisi keskindir ve hafif ve orta işleme için kullanılır, uzun kullanma mesafesine sahip uygulamalar için uygundur. Çok pozitif eğimli tasarlanmıştır, dar T alanına ve yuvarlatılmış kesme kenarına sahiptir, hafif ve orta işleme için uygundur.

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



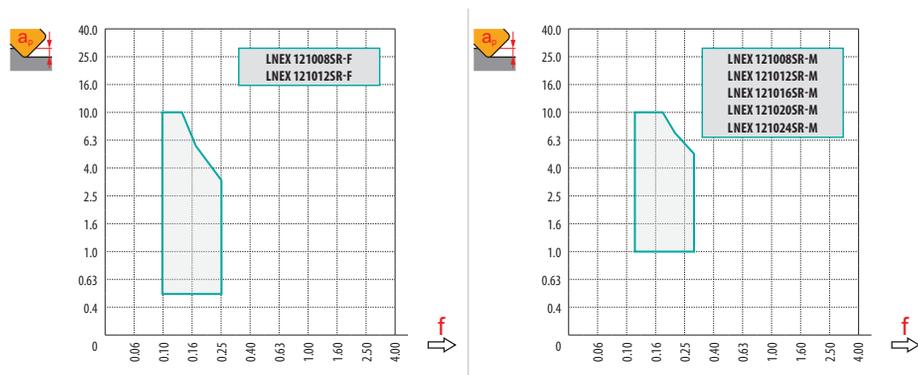
M geometrisi çok yönlüdür ve çok çeşitli çalışma koşulları için ilk tercihtir. Pozitif eğimli tasarlanmıştır, orta boyutlu T alanına ve yuvarlatılmış kesme kenarına sahiptir ve orta ila yarı kaba işleme için uygundur.

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

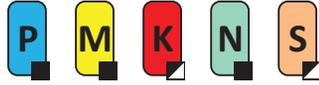
		3	5	10	15	20	30	40	50	60	80	100
0.8		0.155	0.200	0.283	0.346	0.400	0.490	0.566	0.632	0.693	0.800	0.894
1.2		0.170	0.219	0.310	0.379	0.438	0.537	0.620	0.693	0.759	0.876	0.980
1.6		0.196	0.253	0.358	0.438	0.506	0.620	0.716	0.800	0.876	1.012	1.131
2.0		0.219	0.283	0.400	0.490	0.566	0.693	0.800	0.894	0.980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

DEĞİŞTİRİLEBİLİR UÇLU FREZELER – REHBER

YÜZEY FREZELEME

	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
Silindirik shaft		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)
Modüler		DC = 12 – 32 (mm)		DC = 16 – 40 (mm)		DC = 32, 40 (mm)				
Frezeleme kafası				DC = 40 – 125 (mm)		DC = 40 – 175 (mm)				DC = 40 – 125 (mm)
Sayfa	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	
Kesici uç şekli										
Kesici uçlar	AD.X 0702		AD.X 11T3		AD.X 1606		APKT 1003		APT 1604	
Kesme kenarlarının sayısı	2		2		2		2		2	
Yüzey frezeleme 	■		■		■		■		■	
Havşa frezeleme 	■		■		■		■		■	
Helisel interpolasyon 	■		■		■		■		■	
Aşamalı dalma 	■		■		■		■		■	
Açılı frezeleme 	■		■		■		■		■	
Şekil yüzeyleri frezeleme (kopya frezeleme) 	■		■		■		■		■	
Siğ kenar frezeleme 	▣		▣		▣		▣		▣	
Siğ oluk frezeleme 	▣		■		■					

SAD07D



PRAMET

S

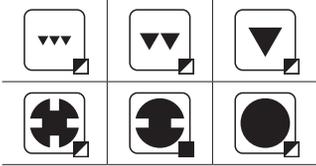
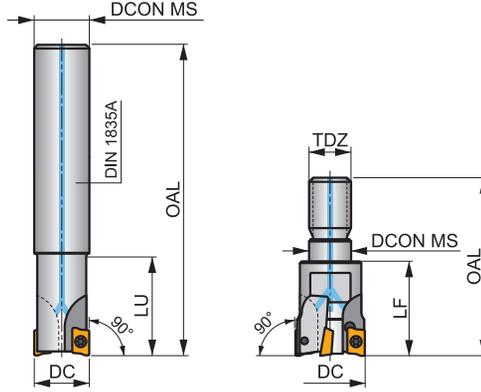
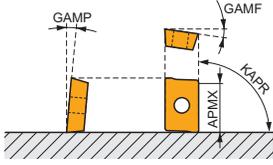


FORCE AD07 Duvar Frezeleme Takımı, İçten Su Vermeli

5 mm APMX'li pozitif AD..07 stili kesici uç kullanan 90° parmak freze. Alın, kenar, kanal, helisel, trokoidal, açılı frezeleme ve dalma frezeleme gibi uygulamalar için uygundur. Silindirik ve modüler tarzda olarak mevcuttur. Gövde uzun takım ömrü için işlem görmüştür.

FORCE AD

KAPR	90°
APMX	5.0 mm



h_m 0.03 - 0.08



Product	DC (mm)	OAL (mm)	DCON MS (mm)	LU (mm)	LF (mm)	TDZ	GAMF (°)	GAMP (°)								
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	DCOMMS	LU	LF	TDZ	GAMF	GAMP								
	(mm)	(mm)	(mm)	(mm)	(mm)		(°)	(°)								
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	

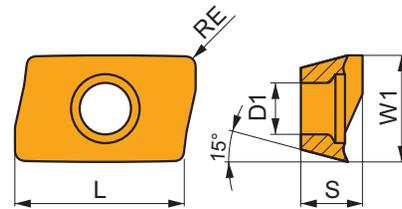
GI276	ADMX 0702..	ADEX 0702..

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

ADMX 07

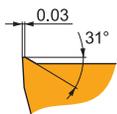


	W1	D1	L	S
	(mm)	(mm)	(mm)	(mm)
0702	4.482	2.20	6.95	2.48



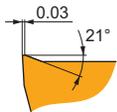
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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 geometri, hafif işleme için çok keskin tasarım.

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	-	-	-

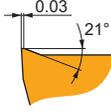


M geometri, hafif ve orta işleme için pozitif tasarım.

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:8215	●	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:8215	●	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	-	-	-

Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



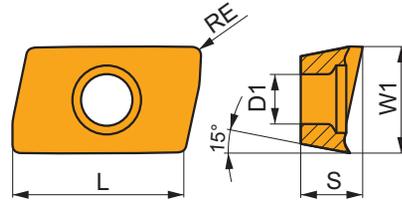
M geometri, hafif ve orta işleme için pozitif tasarım.

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

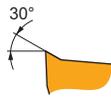
PRAMET

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



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



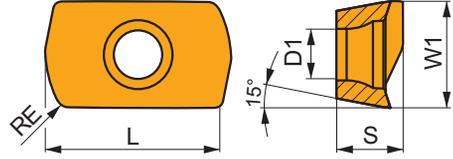
FA geometri, ince finiştan orta işleme kadar uygun çok pozitif tasarım.

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

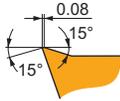


	W1 (mm)	D1 (mm)	L (mm)	S (mm)
0702	4.439	2.20	6.45	2.48



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



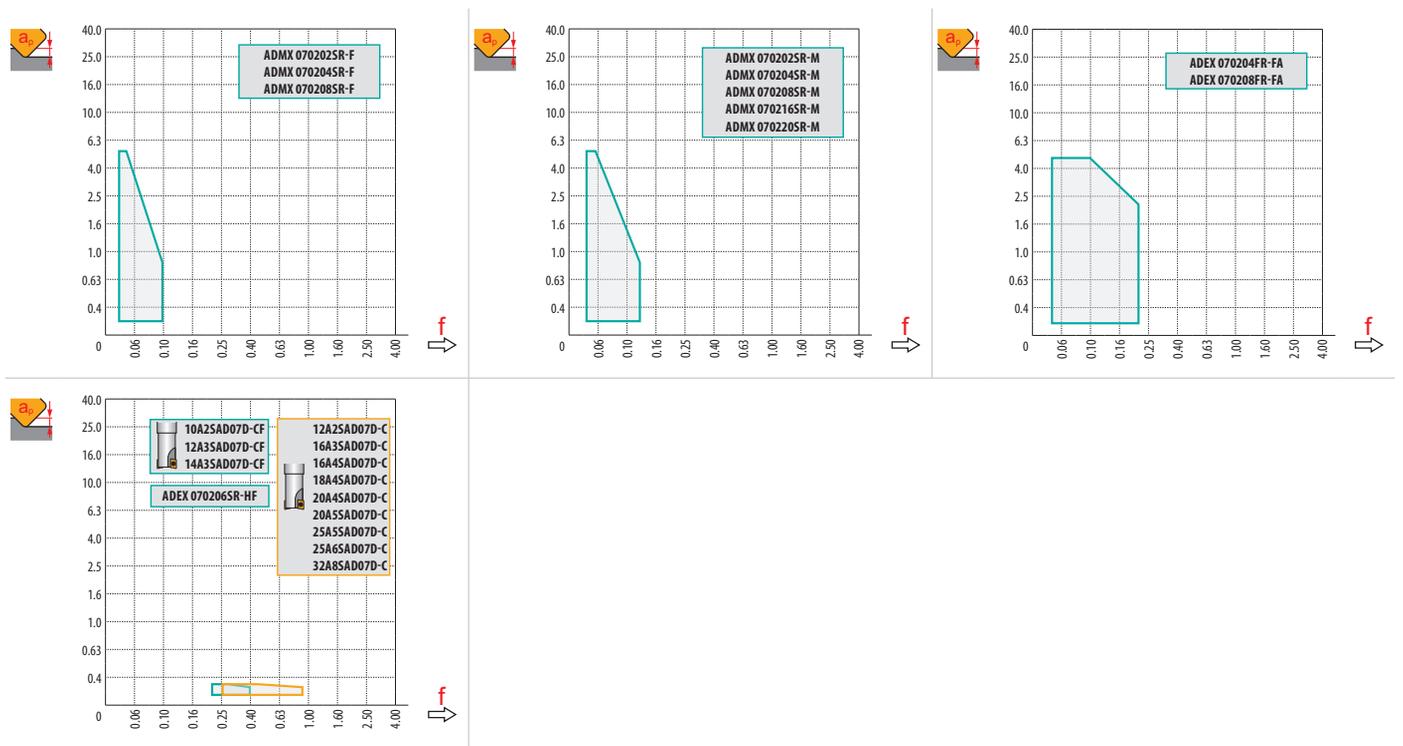
HF geometri, yüksek hızlı frezeleme için çok pozitif tasarım.

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	-	-	-	-	-	-	-	-	-	-	-



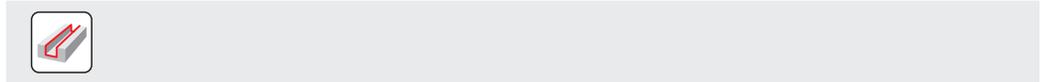
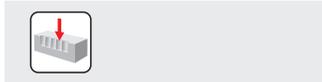
a_e / DC	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	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/l
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/l
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

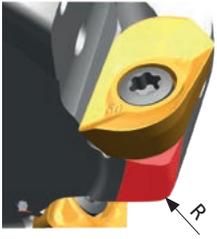


	0.5
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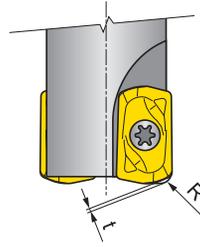
	HFC
	0.3



		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

P M K N S H

PRAMET

S

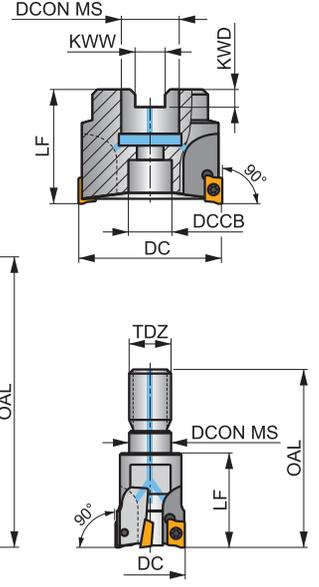
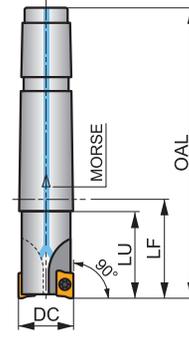
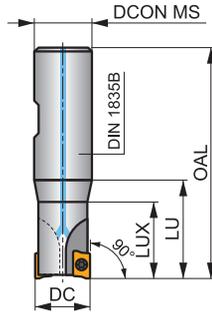
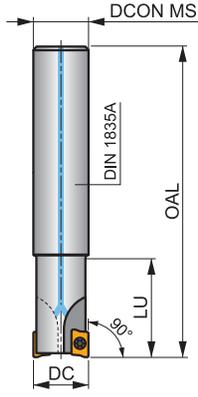
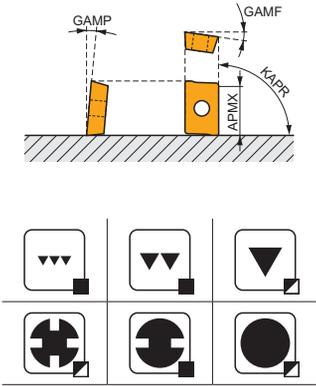


FORCE AD11 Duvar Frezeleme Takımı, İçten Su Vermeli

9 mm APMX'li pozitif AD.. 11 stil kesici uç kullanan 90° uç ve kabuk frezeleri. Yüzey, kenar, kanal, helisel, trokoidal, açılı frezeleme ve dalma frezeleme için uygundur.. ilindirik, veldon, modüler, morsk konik ve göbekten bağlamalı olarak bulunur. Gövde uzun takım ömrü için işlem görmüştür.

FORCE AD

KAPR	90°
APMX	9.0 mm



	0.06 – 0.13
	0.08 – 0.16



Product	DC (mm)	OAL (mm)	DCON MS (mm)	DCCB (mm)	LU (mm)	LUX (mm)	LF (mm)	TDZ	CZC MS	KWW (mm)	KWD (mm)	GAMF (°)	GAMP (°)	max.	kg	G1169	SQ025	-		
																			(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	-
20A2R070A20-SAD11E-C	20	150	20	-	70	-	-	-	-	-	-	-11.5	5	2	-	27000	✓	0.32	G1169 SQ020	-
20A3R029A18-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	-
32A3R090A32-SAD11E-C	32	195	32	-	90	-	-	-	-	-	-	-9	5	3	-	21300	✓	0.99	G1169 SQ020	-
32A5R034A32-SAD11E-C	32	195	32	-	34	-	-	-	-	-	-	-9	8	5	-	21300	✓	1.03	G1169 SQ025	-
35A5R025A32-SAD11E-C	35	200	32	-	25	-	-	-	-	-	-	-9	8	5	-	20300	✓	1.11	G1169 SQ020	-
16A2R027B16-SAD11E-C	16	75	16	-	27	-	-	-	-	-	-	-12.8	4	2	-	30100	✓	0.11	G1169 SQ025	-
20A2R032B20-SAD11E-C	20	82	20	-	32	-	-	-	-	-	-	-11.5	5	2	-	27000	✓	0.13	G1169 SQ020	-
20A3R032B20-SAD11E-C	20	82	20	-	32	-	-	-	-	-	-	-11.5	5	3	-	27000	✓	0.13	G1169 SQ025	-
25A3R042B25-SAD11E-C	25	98	25	-	42	-	-	-	-	-	-	-10.2	5	3	-	24100	✓	0.29	G1169 SQ020	-
25A4R042B25-SAD11E-C	25	98	25	-	42	-	-	-	-	-	-	-10.2	5	4	-	24100	✓	0.31	G1169 SQ025	-
32A4R042B32-SAD11E-C	32	102	32	-	42	-	-	-	-	-	-	-9	8	4	-	21300	✓	0.27	G1169 SQ020	-
32A5R042B32-SAD11E-C	32	102	32	-	42	-	-	-	-	-	-	-9	8	5	-	21300	✓	0.32	G1169 SQ025	-
16A2R030E02-SAD11E-C	16	94	-	-	25	-	30	-	2	-	-	-12.8	4	2	-	30100	✓	0.13	G1169 SQ025	-
20A3R035E03-SAD11E-C	20	116	-	-	30	-	35	-	3	-	-	-11.5	5	3	-	27000	✓	0.27	G1169 SQ025	-
25A4R043E03-SAD11E-C	25	124	-	-	38	-	43	-	3	-	-	-10.2	5	4	-	24100	✓	0.31	G1169 SQ025	-

Product	DC	OAL	D CON MS	DCCB	LU	LUX	LF	TDZ	CZC MS	KWW	KWD	GAMF	GAMP				kg				
	(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..

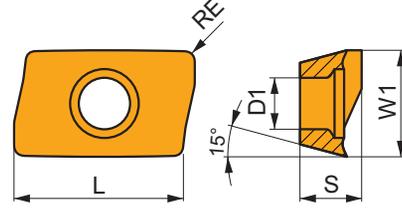
SQ020	US 62506-T07P	1.2	M 2.5	6	-	-	Flag T07P	-
SQ021	US 62506-T07P	1.2	M 2.5	6	D-T07P/T09P	FG-15	-	-
SQ022	US 62506-T07P	1.2	M 2.5	6	D-T07P/T09P	FG-15	-	HS 0830C
SQ023	US 62506-T07P	1.2	M 2.5	6	D-T07P/T09P	FG-15	-	HS 1030C
SQ025	US 62505-T07P	1.2	M 2.5	5	-	-	Flag T07P	-

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

ADMX 11

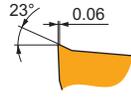
PRAMET

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



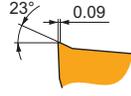
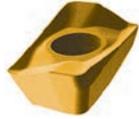
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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 geometri, hafif işleme için çok keskin tasarım.

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	-	-	-	

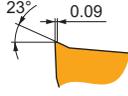
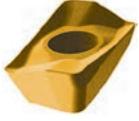


M geometri, hafif ve orta işleme için pozitif tasarım.

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	-	-	-

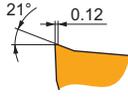
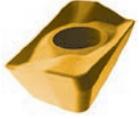
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



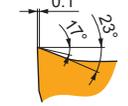
M geometri, hafif ve orta işleme için pozitif tasarım.

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	-	-	-



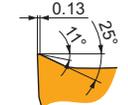
R geometri, az stabil şartlar için pozitif tasarım.

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 geometri, hafif ve finiş işleme için çok pozitif tasarım.

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	-	-	-



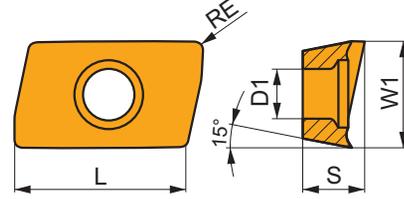
MM geometri, hafif ve orta işleme için çok pozitif tasarım.

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

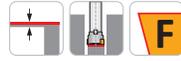
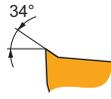
PRAMET

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



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



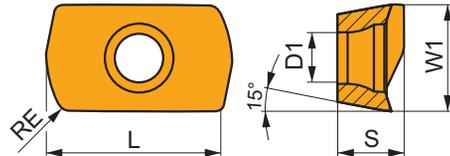
FA geometri, ince finiştan orta işleme kadar uygun çok pozitif tasarım.

ADEX 11T304FR-FA:HF7	● 0.4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
ADEX 11T304FR-FA:M0315	● 0.4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
ADEX 11T308FR-FA:HF7	● 0.8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
ADEX 11T308FR-FA:M0315	● 0.8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
ADEX 11T312FR-FA:HF7	● 1.2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
ADEX 11T316FR-FA:HF7	● 1.6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

ADEX 11-HF

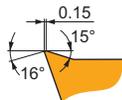
PRAMET

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



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)

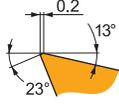


HF geometri, yüksek hızlı frezeleme için çok pozitif tasarım.

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	–	–	–	–	–	–	–	–	–	–	–	–

Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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 geometri, yüksek hızlı frezeleme için pozitif tasarım.

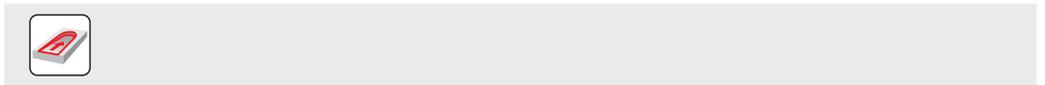
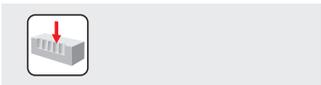
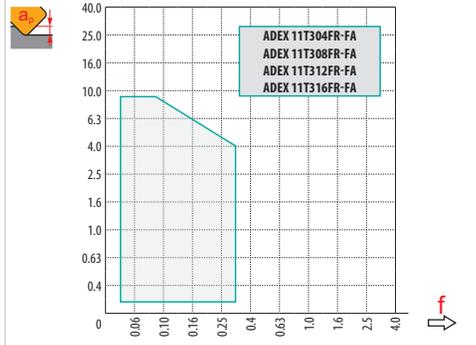
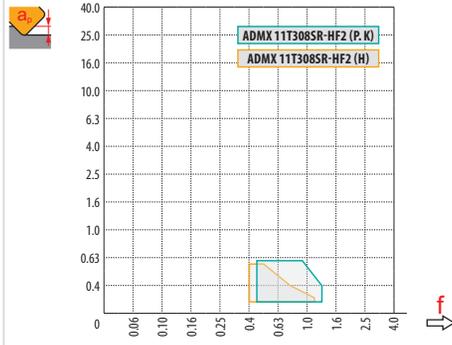
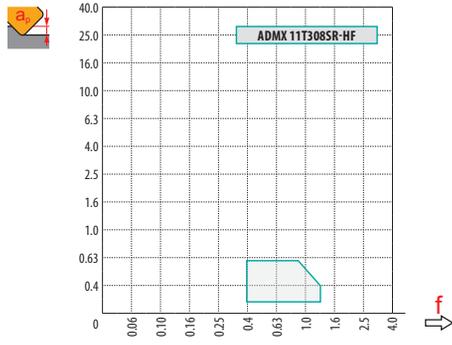
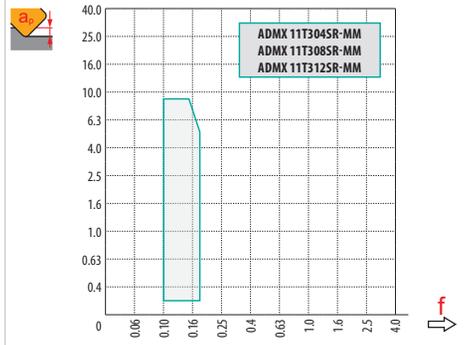
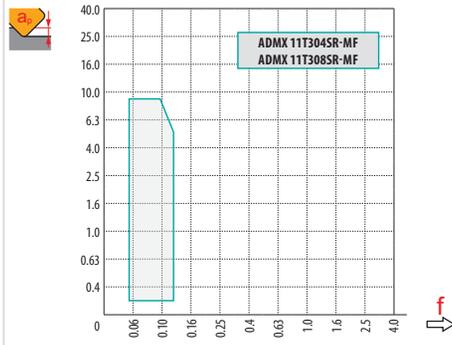
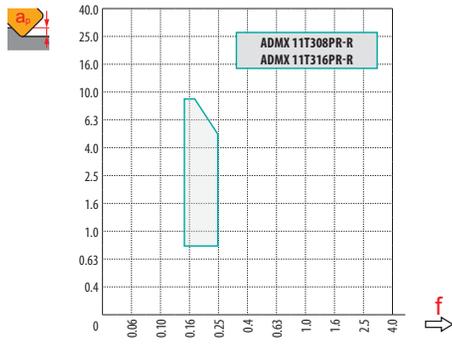
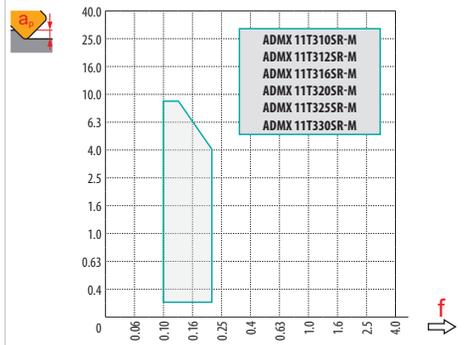
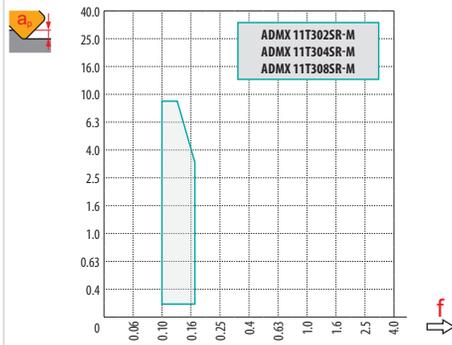
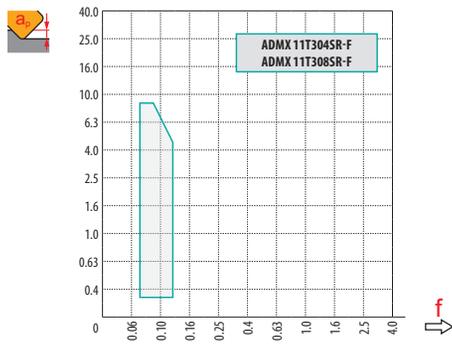
ADEX 11T308SR-HF2:M8310	0.8	220	0.68	0.4	110	0.61	0.4	205	0.68	0.4	—	—	—	—	—	—	40	0.48	0.3
ADEX 11T308SR-HF2:M8330	0.8	215	0.68	0.4	125	0.61	0.4	200	0.68	0.4	—	—	—	50	0.48	0.3	40	0.48	0.3
ADEX 11T308SR-HF2:M8340	0.8	200	0.68	0.4	120	0.61	0.4	190	0.68	0.4	—	—	—	50	0.48	0.3	—	—	—
ADEX 11T308SR-HF2:M9325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



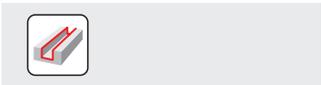
a_e / DC	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	ADMX 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 frezeleme
** Konvansiyonel frezeleme



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



1.7

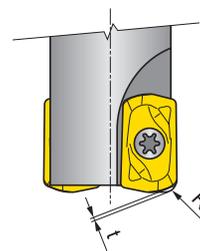


DC	μm	3	5	10	15	20	30	40	50	60	80	100
16		0.438	0.566	0.800	0.980	1.131	1.386	1.600	1.789	1.960	2.263	2.530
18		0.465	0.600	0.849	1.039	1.200	1.470	1.697	1.897	2.078	2.400	2.683
20		0.490	0.632	0.894	1.095	1.265	1.549	1.789	2.000	2.191	2.530	2.828
25		0.548	0.707	1.000	1.225	1.414	1.732	2.000	2.236	2.449	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

P M K N S H

PRAMET

S

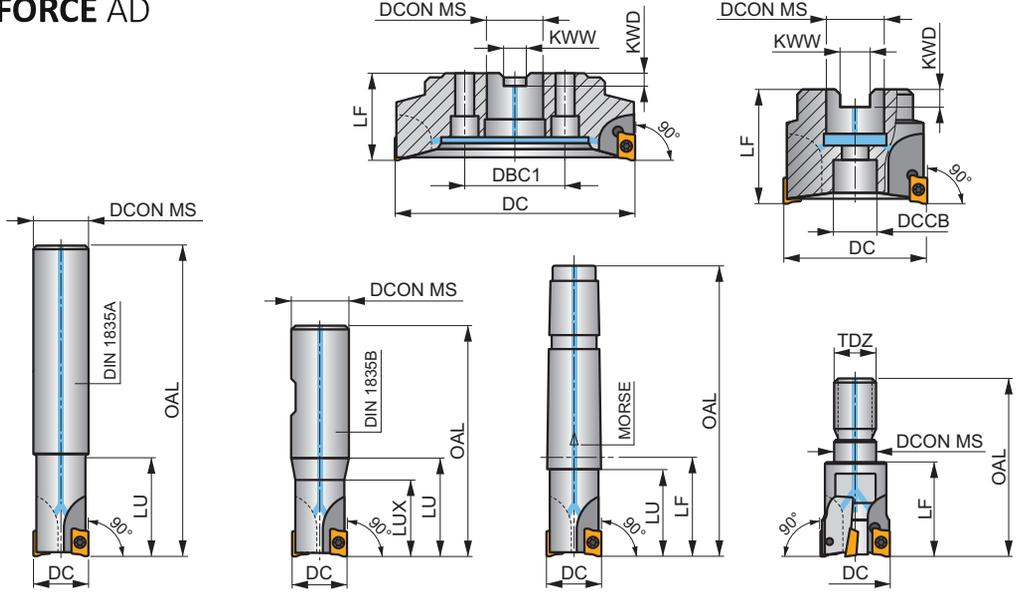
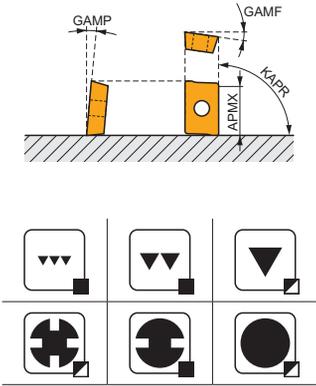


FORCE AD16 Duvar Frezeleme Takımı, İçten Su Vermeli

13 mm APMX'li pozitif AD.. 16 stil kesici uç kullanan 90° uç ve kabuk frezeleri. Yüzey, kenar, kanal, helisel, trokoidal, açılı frezeleme ve dalma frezeleme için uygundur. Silindirik, veldon, modüler, mors konik ve göbekten bağlamalı olarak bulunur. Gövde uzun takım ömrü için işlem görmüştür.

FORCE AD

KAPR	90°
APMX	13.0 mm



Product	DC	OAL	DCON MS	DCCB	DBC1	LU	LUX	LF	TDZ	CZC MS	KWW	KWD	GAMF	GAMP	max.	kg	G	S	Q	AC		
																					(mm)	(mm)
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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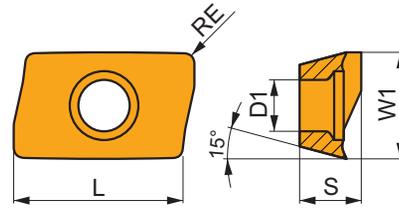
SQ030	US 4008-T15P	3.5	M 4	8	-	-	Flag T15P	-	-	-	-
SQ031	US 4011-T15P	3.5	M 4	10.6	D-T08P/T15P	FG-15	-	-	-	-	-
SQ032	US 4008-T15P	3.5	M 4	8	D-T08P/T15P	FG-15	-	HS 0830C	-	-	-
SQ033	US 4011-T15P	3.5	M 4	10.6	D-T08P/T15P	FG-15	-	HS 1030C	-	-	-
SQ036	US 4011-T15P	3.5	M 4	10.6	D-T08P/T15P	FG-15	-	HS 1240C	CAC 160C	HSD 0825C	HXK 5

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

ADMX 16

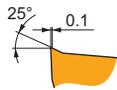
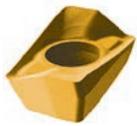


	W1	D1	L	S
	(mm)	(mm)	(mm)	(mm)
1606	9.950	4.50	16.00	6.25



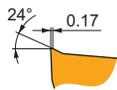
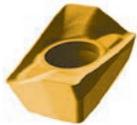
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)			



F geometri, hafif ve orta işleme için çok pozitif tasarım.

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	-	-	-

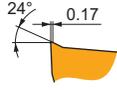


M geometri, hafif ve orta işleme için pozitif tasarım.

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	-	-	-

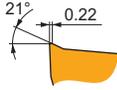
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



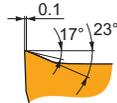
M geometri, hafif ve orta işleme için pozitif tasarım.

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	-	-	-



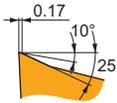
R geometri, orta işleme ve az stabil şartlar için pozitif tasarım.

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 geometri, finiş işleme için çok pozitif tasarım.

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	-	-	-



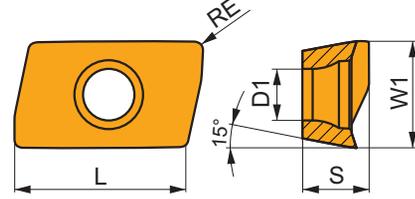
MM geometri, hafif ve orta işleme için çok pozitif tasarım.

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

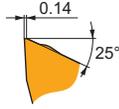
PRAMET

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



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



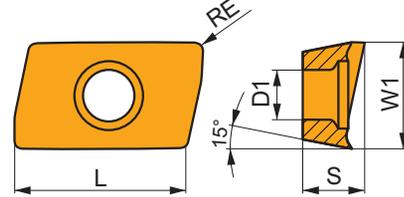
FM geometri, orta işleme için çok pozitif tasarım.

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

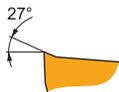
PRAMET

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



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



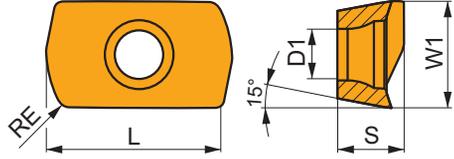
FA geometri, ince finiştin orta işleme kadar uygun çok pozitif tasarım.

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

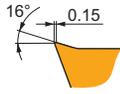


	W1 (mm)	D1 (mm)	L (mm)	S (mm)
1606	9.950	4.50	16.00	5.88



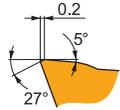
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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 geometri, yüksek hızlı frezeleme için çok pozitif tasarım.

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 geometri, yüksek hızlı frezeleme için pozitif tasarım.

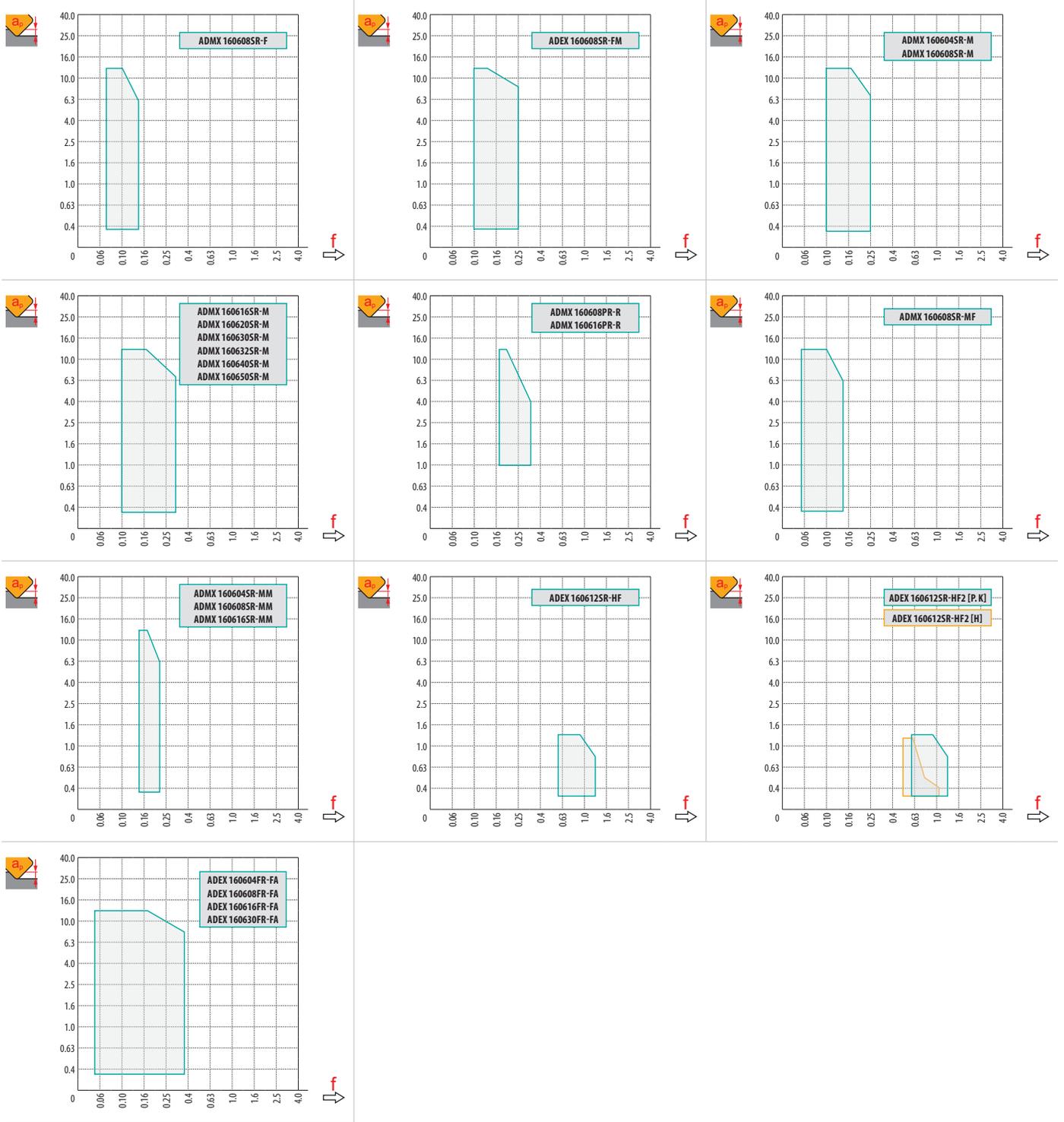
ADEX 160612SR-HF2:M8310	1.2	205	0.90	0.6	100	0.81	0.6	190	0.90	0.6	-	-	-	-	-	-	40	0.63	0.5
ADEX 160612SR-HF2:M8330	1.2	205	0.90	0.6	120	0.81	0.6	190	0.90	0.6	50	0.81	0.5	40	0.63	0.5	-	-	-
ADEX 160612SR-HF2:M8340	1.2	190	0.90	0.6	110	0.81	0.6	180	0.90	0.6	45	0.81	0.5	-	-	-	-	-	-
ADEX 160612SR-HF2:M9325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

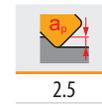
HFC			
	RPMX	RPMX	APMX/I
	*	**	
25	4.0°	8.0°	1.3/19
32	2.0°	7.5°	1.3/38
40	1.2°	4.5°	1.3/65
50	0.8°	3.0°	1.3/100
63	0.5°	2.0°	0.8/100
80	0.4°	1.5°	0.6/100

* HFC frezeleme
 ** Konvansiyonel frezeleme



	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

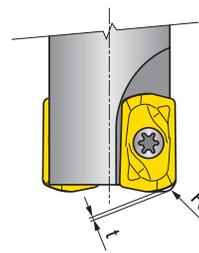


		3	5	10	15	20	30	40	50	60	80	100
25		0.548	0.707	1.000	1.225	1.414	1.732	2.000	2.236	2.449	2.828	3.162
32		0.620	0.800	1.131	1.386	1.600	1.960	2.263	2.530	2.771	3.200	3.578
40		0.693	0.894	1.265	1.549	1.789	2.191	2.530	2.828	3.098	3.578	4.000
50		0.775	1.000	1.414	1.732	2.000	2.449	2.828	3.162	3.464	4.000	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

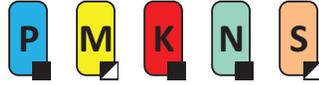


ADMX/ADEX 16	R
ADMX 160630SR-M	2.5
ADMX 160632SR-M	2.5
ADMX 160640SR-M	4.0
ADMX 160650SR-M	4.5
ADEX 160612SR-HF	3.0
ADEX 160612SR-HF2	3.0



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

SAP10D



PRAMET

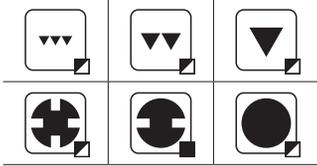
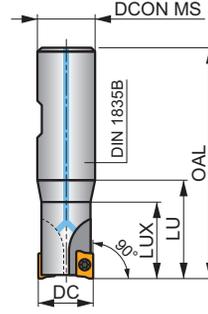
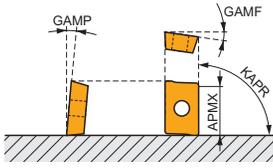
S



APKT 10 için Duvar Frezeleme Takımı, İçten Su Vermeli

9 mm APMX'li pozitif APKT 10 tarzı kesici uç kullanan 90° parmak ve kabuk frezeleri. Yüzey, kenar, kanal, helisel, trokoidal, açılı frezeleme ve dalma frezeleme için uygundur. Veldon, ve göbekten bağlamalı olarak bulunur. Gövde uzun takım ömrü için işlem görmüştür.

KAPR	90°
APMX	9.0 mm



Product	DC	OAL	DCON MS	DCCB	LU	LUX	LF	KWW	KWD	GAMF	GAMP	max.	kg	SQ210	SQ215			
	(mm) m)	(mm)	(°)	(°)														
10A1R020B16-SAP10D-C	10	78	16	-	30	20	-	-	-	12	2	1	-	39000	✓	0.09	GI081	SQ215
12A1R027B16-SAP10D-C	12	75	16	-	27	-	-	-	-	12	2	1	-	35600	✓	0.10	GI081	SQ210
16A2R032B16-SAP10D-C	16	80	16	-	32	-	-	-	-	12	4	2	-	30800	✓	0.12	GI081	SQ210
20A3R032B20-SAP10D-C	20	82	20	-	32	-	-	-	-	12	4	3	-	27600	✓	0.13	GI081	SQ210
25A3R042B25-SAP10D-C	25	98	25	-	42	-	-	-	-	12	4	3	-	24700	✓	0.36	GI081	SQ210

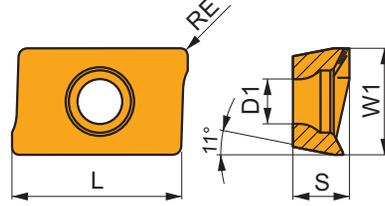
GI081	APKT 1003..
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SQ210	US 2506-T07P	1.2	M 2.5	6.3	Flag T07P
SQ215	US 2505-T07P	1.2	M 2.5	5.2	Flag T07P

APKT 10

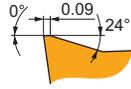
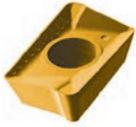
PRAMET

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



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



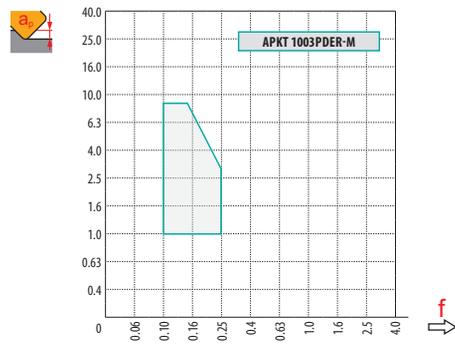
M geometri, hafif ve orta işleme için çok pozitif tasarım.

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



	max
	4.5

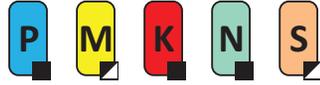
	1.0	3.0	5.0
	0.20	0.13	0.10

	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
	0.3

SAP16D



PRAMET

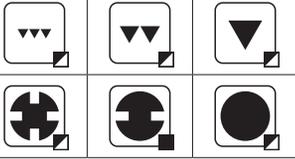
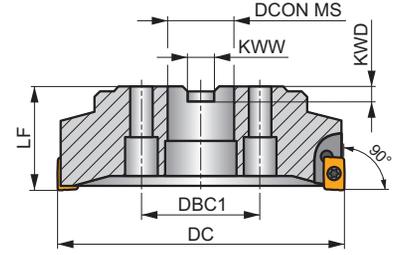
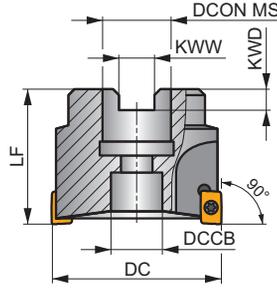
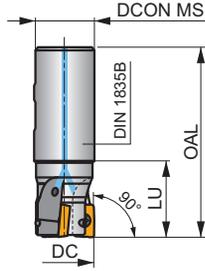
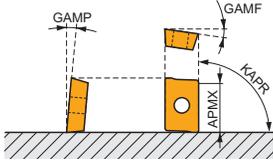
S



APKT 16 için Duvar Frezeleme Takımı, İçten Su Vermeli

13 mm APMX'li pozitif APKT 16 tarzı kesici uç kullanan 90° parmak ve kenar frezeleri. Yüzey, kenar, kanal, helisel, trokoidal, açılı frezeleme ve dalma frezeleme için uygundur. Weldon ve göbekten bağlamalı tarzında mevcuttur. Gövde uzun takım ömrü için işlem görmüştür.

KAPR	90°
APMX	13.0 mm



	0.06 - 0.18
	0.10 - 0.22



Product	DC (mm)	OAL (mm)	DCON MS (mm)	DCCB (mm)	DBC1 (mm)	LU (mm)	LF (mm)	KWW (mm)	KWD (mm)	GAMF (°)	GAMP (°)						
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..

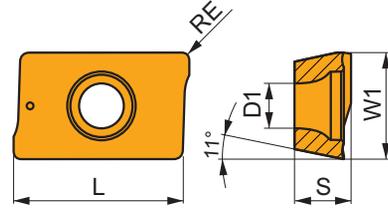
SQ030	US 4008-T15P	3.5	M 4	8	-	-	Flag T15P
SQ031	US 4011-T15P	3.5	M 4	10.6	D-T08P/T15P	FG-15	-
SQ220	US 4011-T15P	3.5	M 4	10.6	-	-	Flag T15P

AC001	KS 1230	K.FMH27

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

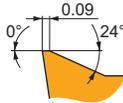
APKT 16

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



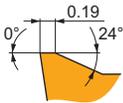
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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 geometri, hafif ve orta işleme için çok pozitif tasarım.

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	—	—	—



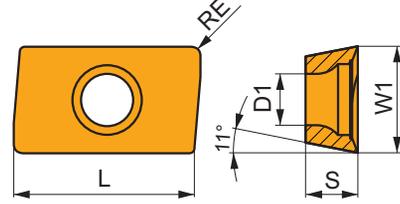
HM geometri, orta ve az stabil işleme koşulları için çok pozitif tasarım.

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

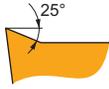


	W1 (mm)	D1 (mm)	L (mm)	S (mm)
1604	9.600	4.50	17.00	4.76



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



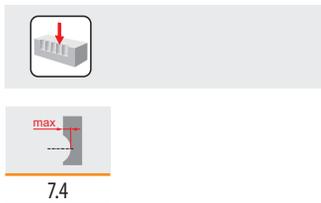
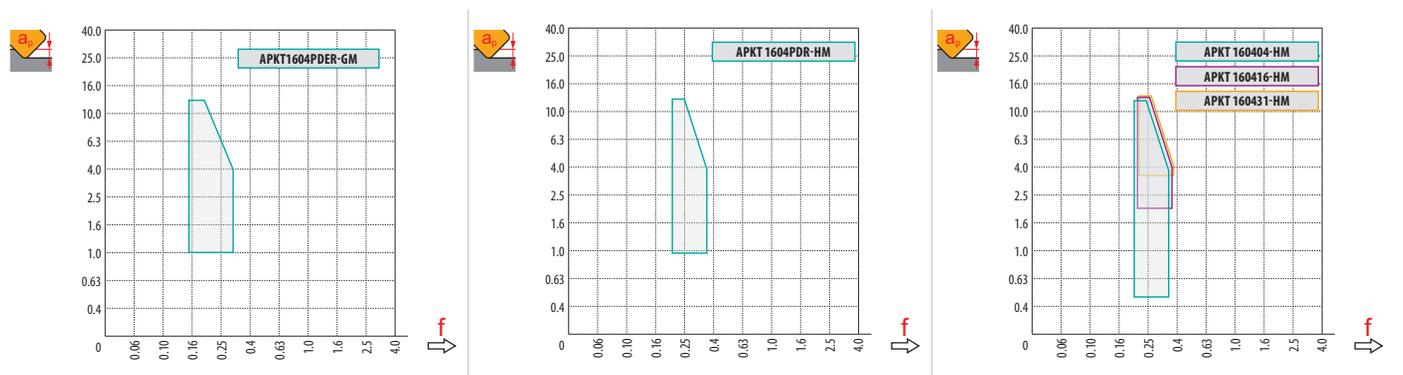
FA geometri, ince finiştten orta işlemeye kadar uygun çok pozitif tasarım.

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

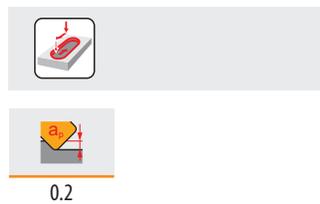
	APKT 16-GM	APKT 16-HM			
	0.8	0.4	0.8	1.6	3.1
	1.39	1.87	1.48	0.64	1.30



	1.0	6.0	13.0
	0.28	0.19	0.13

DC	DMIN	DMAX		
			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

DC	RPMX	APMX/I
	25	2.3
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

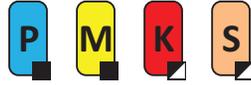


DEĞİŞTİRİLEBİLİR UÇLU FREZELER – REHBER

YÜZEY FREZELEME

	SSO09	SSD12	FTB27X						
	90°		90°		90°				
	APMX (mm) 8.0	APMX (mm) 10.0	APMX (mm) 18.0						
	DC (mm) 20 – 80	DC (mm) 50 – 160	DC (mm) 175, 260						
Silindirik şaft									
Weldon		DC = 20 – 32 (mm)							
Modüler									
Frezeleme kafası		DC = 40 – 80 (mm)							
Sayfa	122	125	128						
ISO	P M K S	P M K N S	P M K						
Kesici uç şekli									
Kesici uçlar	SOMT 09T3	SDMT 1205	TBMR 2707						
Kesme kenarlarının sayısı	4	4	3						
Siğ kenar frezeleme 	■	■	■						
Siğ oluk frezeleme 	■	■	▣						
Dalma frezeleme 	■	■							
Yüzey frezeleme 	▣	▣	▣						

SS009



PRAMET

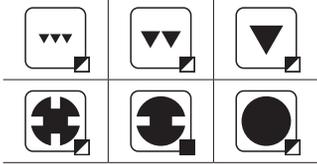
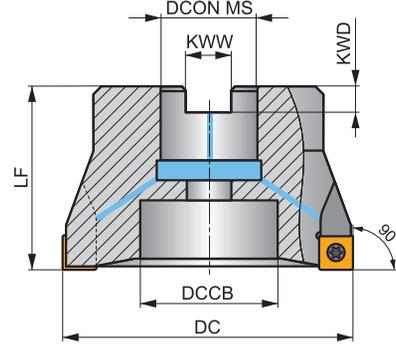
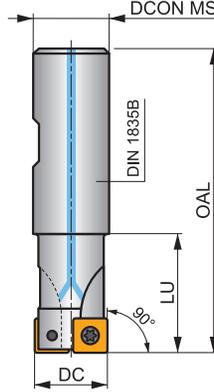
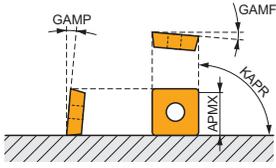
S



SOMT 09 için 90° Duvar Frezeleme Takımı, İçten Su Vermeli

8 mm APMX'li pozitif SOMT 09 kesici uçlar kullanan 90° parmak ve kenar frezeleri. Yüzey, kenar, kanal ve dalma frezeleme için uygundur. Birçok uygulama için uygundur. Veldon ve göbektan bağlamalı olarak bulunur. Gövde uzun takım ömrü için işlem görmüştür.

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) m)	(°)	(°)																
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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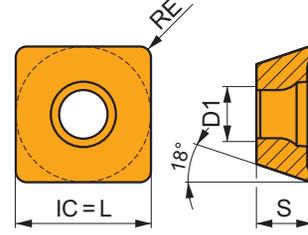
SQ400	US 3006-T09P	2.0	M 3	6	-	-	Flag T09P	-
SQ401	US 3006-T09P	2.0	M 3	6	D-T07P/T09P	FG-15	-	-
SQ402	US 3006-T09P	2.0	M 3	6	D-T07P/T09P	FG-15	-	HS 0830C
SQ403	US 3006-T09P	2.0	M 3	6	D-T07P/T09P	FG-15	-	HS 1030C

	AC001		KS 1230		K.FMH27
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SOMT 09

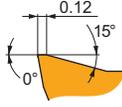
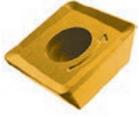
PRAMET

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



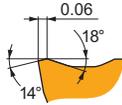
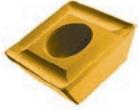
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Şartlar 90°ayar açısı içindir. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



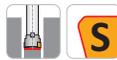
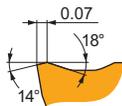
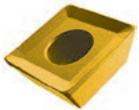
M geometri, orta işleme için pozitif tasarım.

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 geometri, orta işleme için stabil pozitif tasarım.

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			



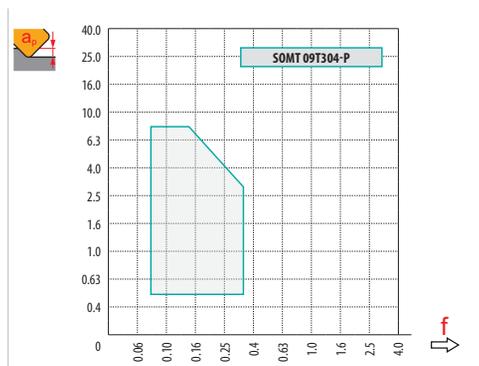
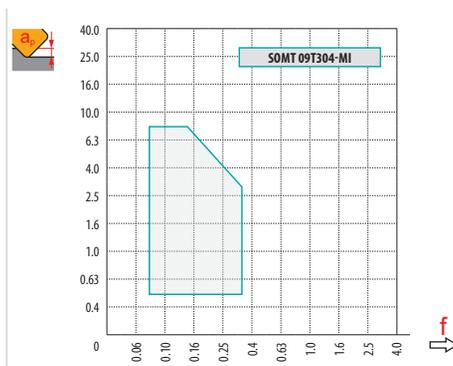
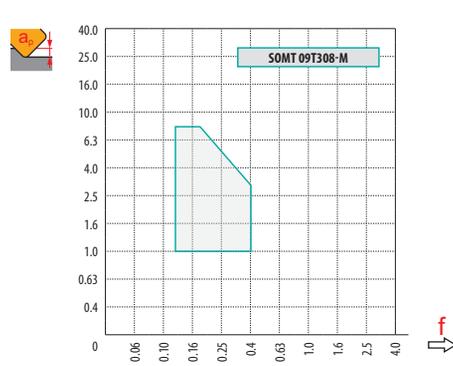
P geometri, orta işleme için çok pozitif tasarım.

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

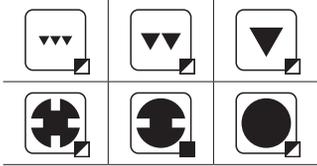
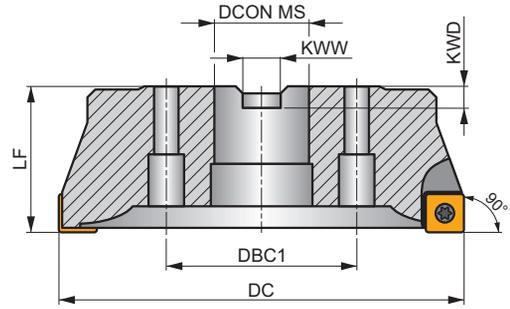
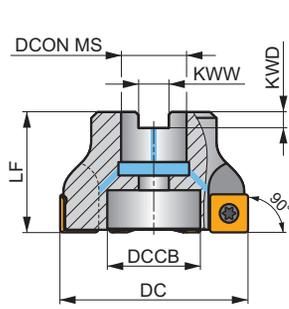
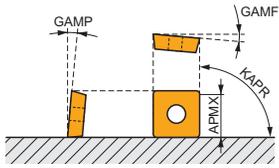
S



SDMT 12 için 90° Duvar Frezeleme Takımı, İçten Su Vermeli

10 mm APMX'li pozitif SDMT 12 kesici uç kullanan 90° kabuk frezesi. Yüzey, kenar, kanal ve dalma frezeleme için uygundur. Yalnızca göbekten bağlamalı olarak bulunur. Gövde uzun takım ömrü için işlem görmüştür.

KAPR	90°
APMX	10.0 mm



h_{min} 0.09 - 0.25



Product	DC (mm)	LF (mm)	DCON MS (mm)	DCCB (mm)	DBC1 (mm)	KWW (mm)	KWD (mm)	GAMF (°)	GAMP (°)	max.	kg	ISO 6462 DIN 9130	ISO 6462 DIN 9130	ISO 6462 DIN 9130			
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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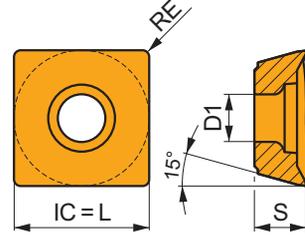
SQ411	SSN 100312	MS 3510	HXK 3.5	US 3511-T15	3.0	M 3.5	11	D-T07/T15	FG-15	-
SQ413	-	-	-	US 3511-T15	3.0	M 3.5	11	D-T07/T15	FG-15	HS 1030C

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

SDMT 12

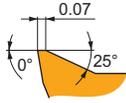


	IC	D1	L	S
	(mm)	(mm)	(mm)	(mm)
1205	12.700	4.40	12.70	5.00



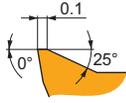
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



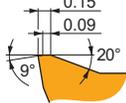
F geometri, hafif ve orta işleme için pozitif tasarım.

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 geometri, hafif ve orta işleme için pozitif tasarım.

SDMT 120508SR-M-M8215	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	-	-	-	-	-	-	-	-	-



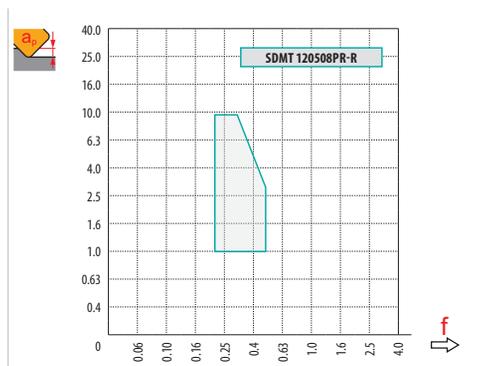
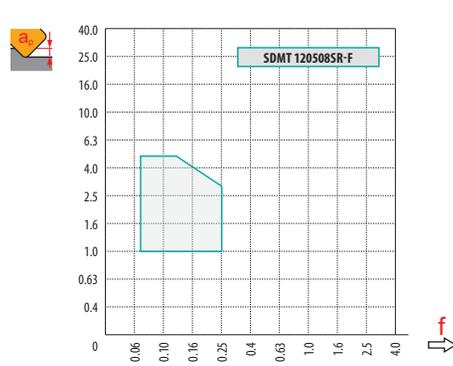
R geometri, orta işleme için stabil pozitif tasarım.

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

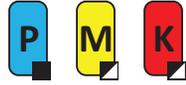
	SDMT 12-F	SDMT 12-M	SDMT 12-R
	0.8	0.8	0.8
	—	—	—



8.0

	1.0	5.0	10.0
	0.39	0.25	0.14

FTB27X



PRAMET

F

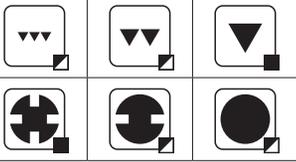
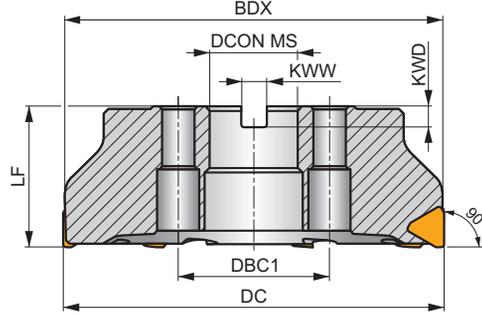
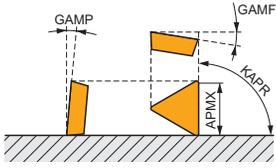


TBMR 27 Ağır Frezeleme Ucu için ROUGH TB Kenar ve Yüzey İşleme Takımı

18 mm APMX'li pozitif TBMR 27 uçlar kullanan 90° freze. Ağır yüzey işleme, kenar ve kanal frezeleme için uygundur. Göbekten bağlamalı olarak bulunur. Gövde uzun takım ömrü için işlem görmüştür.

ROUGH TB

KAPR	90°
APMX	18.0 mm



0.15 - 0.38



Product	DC	BDX	LF	DCON 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	G1163	SQ424	-
260C12R-F90TB27X	260	253.4	63	60	-	101.6	25.7	25.7	-9	9	12	✓	-	-	18.21	G1163	SQ425	-

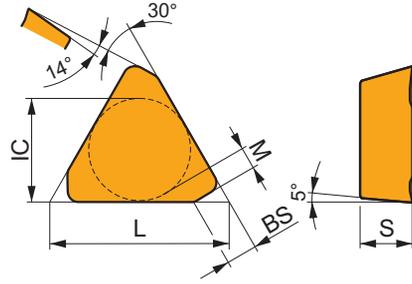
G1163	TBMR 2707PZ..

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

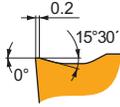


	BS (mm)	IC (mm)	L (mm)	M (mm)	S (mm)
2707	4.61	15.875	27.50	3.2	7.94



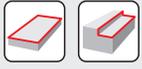
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



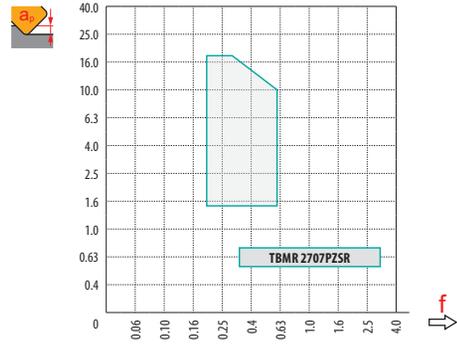
PZSR güçlü tasarım, ağır işleme için.

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



DERIN DUVAR FREZELEME

DEĞİŞTİRİLEBİLİR UÇLU FREZELER – REHBER

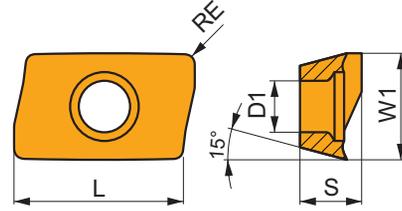
YÜZEY FREZELEME

	J(T)-SAD11E	J(T)-SAD16E	J(T)-SSAP	J(T)-CSD12X	J(T)-SLSN	
	90°	90°	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	
Silindirik şaft	 DC = 25 – 40 (mm)					
Weldon	 DC = 25 – 40 (mm)			 DC = 50 (mm)		
Modüler		 DC = 50 – 80 (mm)		 DC = 40 – 63 (mm)		
Frezeleme kafası	 DC = 50 (mm)	 DC = 50 – 100 (mm)		 DC = 50 – 80 (mm)		
Sayfa	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	
Kesici uç şekli						
Kesici uçlar	AD 11T3	AD.. 1606	APE. 150412 SPE. 1204	SD.X 1205	LNET 1606 SN.. 1305	
Kesme kenarlarının sayısı	2	2	2 / 4	4	2 / 8	
Derin kenar frezeleme 	■	■	■	■	■	
Derin oluk frezeleme 	■	■	■	■	■	
Yüzey frezeleme 	▣	▣	▣	▣	▣	
Dalma frezeleme 	▣	▣	▣		▣	

ADMX 11

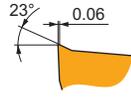
PRAMET

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



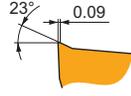
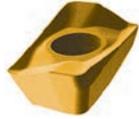
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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 geometri, hafif işleme için çok keskin tasarım.

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	-	-	-	

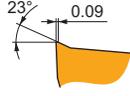


M geometri, hafif ve orta işleme için pozitif tasarım.

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	-	-	-

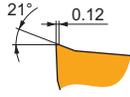
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



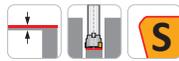
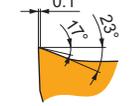
M geometri, hafif ve orta işleme için pozitif tasarım.

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	■ -	■ -	■ -		



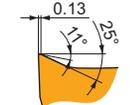
R geometri, az stabil şartlar için pozitif tasarım.

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 geometri, hafif ve finiş işleme için çok pozitif tasarım.

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	■ -	■ -	■ -



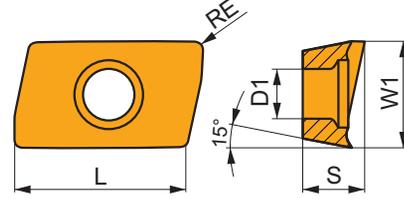
MM geometri, hafif ve orta işleme için çok pozitif tasarım.

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

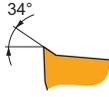
PRAMET

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



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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 geometri, ince finiştten orta işlemeye kadar uygun çok pozitif tasarım.

ADEX 11T304FR-FA:HF7	● 0.4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
ADEX 11T304FR-FA:M0315	● 0.4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
ADEX 11T308FR-FA:HF7	● 0.8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
ADEX 11T308FR-FA:M0315	● 0.8	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
ADEX 11T312FR-FA:HF7	● 1.2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
ADEX 11T316FR-FA:HF7	● 1.6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–



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	0.67	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}								
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

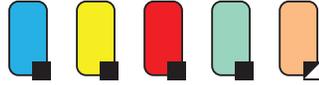


ADMX/ADEX 11	R
ADMX 11T320SR-M	1.0
ADMX 11T325SR-M	1.8
ADMX 11T330SR-M	1.8



	4.5
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J(T)-SAD16E



PRAMET

S

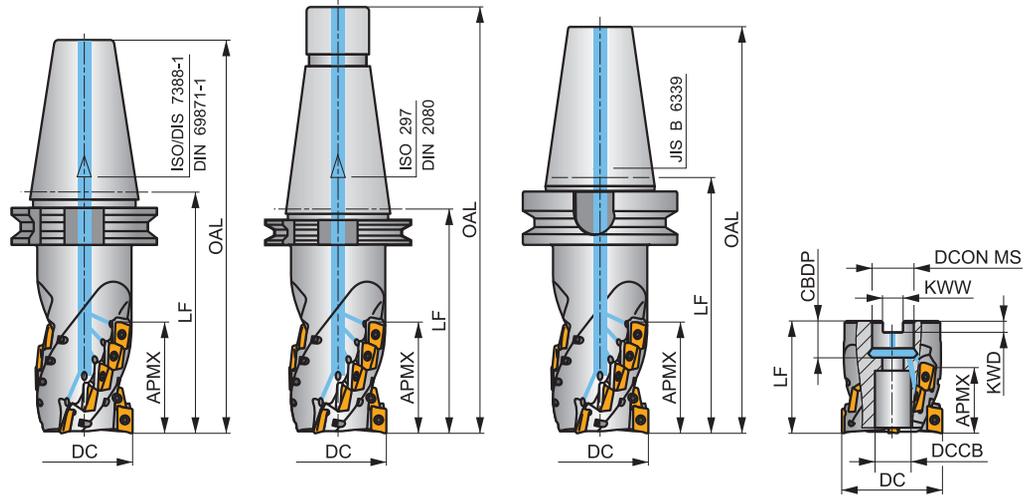
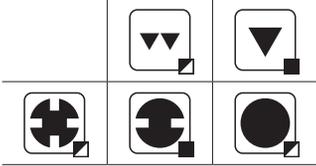
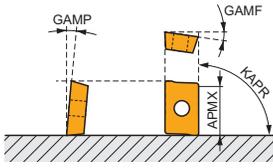


HELICAL AD16 Uzun Kesme Boylu Freze Takımı, İçten Su Vermeli

Pozitif AD..16 kullanan 90° uzun kenarlı parmak freze. İçten soğutmalı, 40'tan 108 mm'ye kadar APMX'li kesici uç. Kenar, kanal, yüzey veya dalma frezeleme için uygundur. Göbekten bağlama, DIN 69871, BT ve DIN 2080 konik stilinde mevcuttur. Gövde uzun takım ömrü için işlem görmüştür.

FORCE AD

KAPR	90°
APMX	40.0 - 108.0 mm



	0.08 - 0.1
	0.08 - 0.1



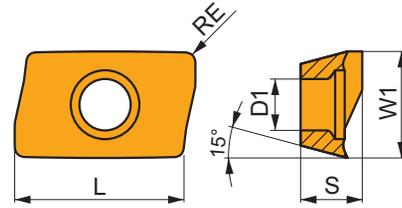
Product	DC	OAL	D CON MS	DCCB	LF	APMX	CBDP	CZC MS	GAMP	GAMP	NOF						
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(°)	(°)					kg		
50J3R100H50-SAD16E54-C	50	202	-	-	100	54.00	-	50	-6	12	3	12	-	13200	✓	4.08	GI282 SQ031
50J3R140H50-SAD16E80-C	50	242	-	-	140	80.00	-	50	-6	12	3	18	-	13200	✓	4.38	GI282 SQ031
63J3R140H50-SAD16E68-C	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	

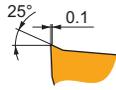
ADMX 16

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



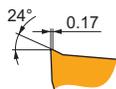
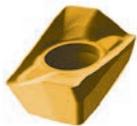
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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



F geometri, hafif ve orta işleme için çok pozitif tasarım.

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	-	-	-

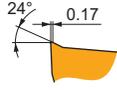


M geometri, hafif ve orta işleme için pozitif tasarım.

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	-	-	-

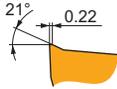
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



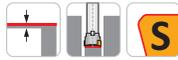
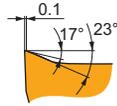
M geometri, hafif ve orta işleme için pozitif tasarım.

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	-	-	-



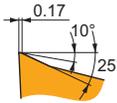
R geometri, orta işleme ve az stabil şartlar için pozitif tasarım.

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 geometri, finiş işleme için çok pozitif tasarım.

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	-	-	-



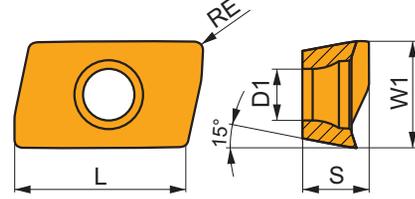
MM geometri, hafif ve orta işleme için çok pozitif tasarım.

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

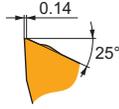
PRAMET

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



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



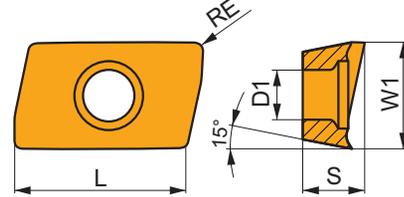
FM geometri, orta işleme için çok pozitif tasarım.

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

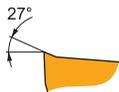
PRAMET

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



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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 geometri, ince finiştin orta işleme kadar uygun çok pozitif tasarım.

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}										
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}										
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

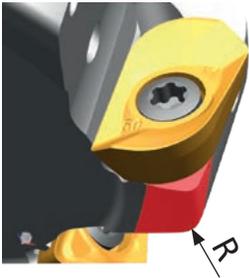
	ADMX 16-MF	ADMX 16-MM			ADEX 16-FA			
	0.8	0.4	0.8	1.6	0.4	0.8	1.6	3.0
	2.99	3.39	2.99	1.62	2.84	2.44	1.65	0.69



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

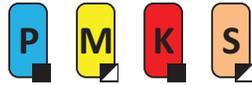


7.5



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

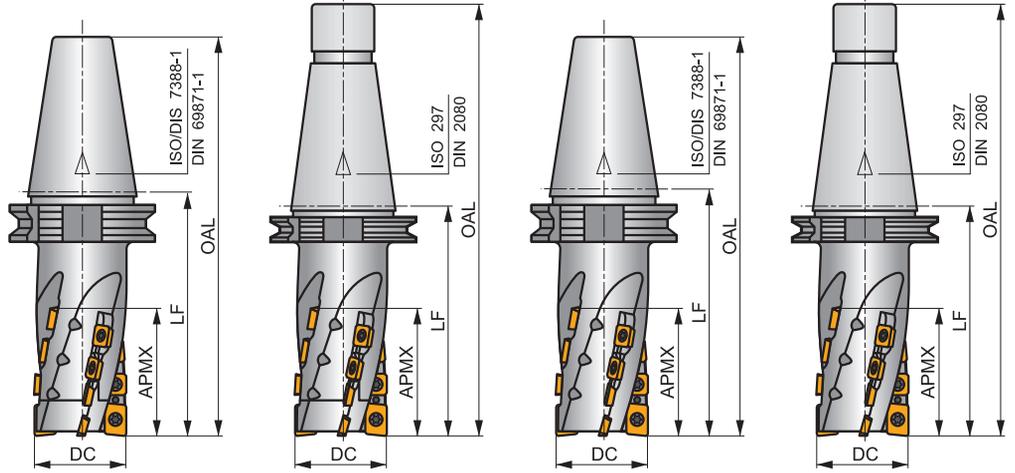
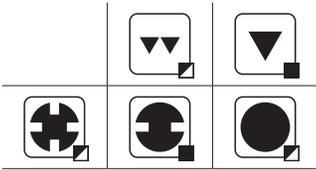
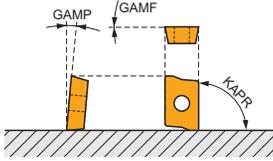
S



AP. 15 ve SP. 12 için Uzun Kesme Boylu Frezeleme Takımı

58'den 95 mm'ye kadar APMX'li AP.15 ve SP.12 kesici uçlar kullanan 90° uzun kenarlı parmak freze. Gövde değiştirilebilir uç parçasına sahiptir. Kenar, kanal, yüzey ve dalma frezeleme için uygundur. DIN 69871 ve DIN 2080 50 konik stilinde mevcuttur. Gövde uzun takım ömrü için işlem görmüştür.

KAPR	90°
APMX	58.0 - 95.0 mm



h_m 0.07 - 0.1



Product	DC (mm)	OAL (mm)	APMX (mm)	Lf (mm)	GAMF (°)	GAMP (°)	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

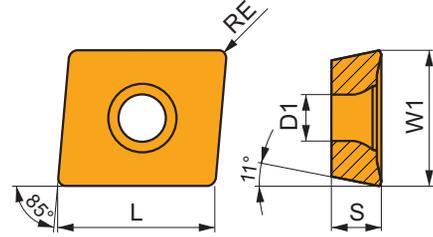
GI128	APE. 1504..	SPE. 1204..
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SQ941	SQ942	SQ943
-	P50X21	P63X21
-	SR 25	SR 26
-	HXK 6	HXK 8
US 4511-T20	US 4511-T20	US 4511-T20
5.0	5.0	5.0
M 4.5	M 4.5	M 4.5
11	11	11
SDRT20-T	SDRT20-T	SDRT20-T

APET 15

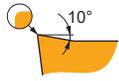
PRAMET

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



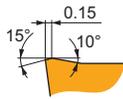
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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



EN kenar hazırlığı, hafif ve orta işleme için pozitif geometri.

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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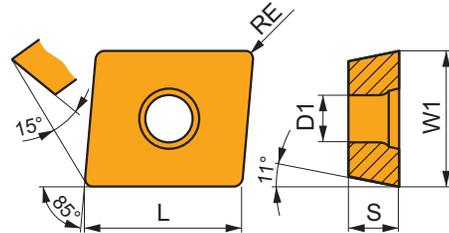
SN kenar hazırlığı, orta ve kaba işleme için pozitif geometri.

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

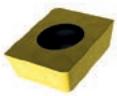
PRAMET

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



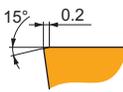
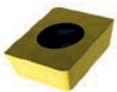
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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



ER kenar hazırlığı, hafif ve orta işleme için sıfır talaş açısı.

APEW 150412ER:M8330	1.2	200	0.20	12.0	-	-	-	190	0.20	12.0	-	-	-	-	-	-	40	0.13	1.0
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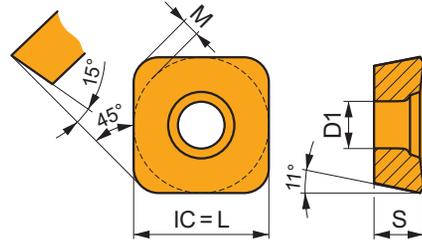
SR kenar hazırlığı, orta ve ağır işleme için sıfır talaş açısı geometrisi.

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

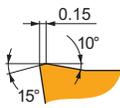


	IC	D1	L	M	S
	(mm)	(mm)	(mm)	(mm)	(mm)
1204	12.700	5.50	12.70	1.9	4.76



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



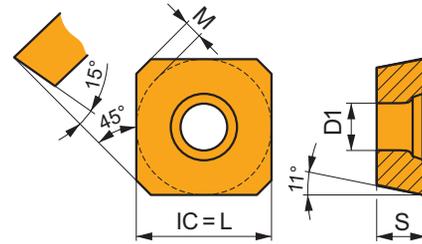
S kenar hazırlığı, genel amaçlı pozitif geometri.

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

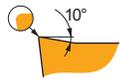
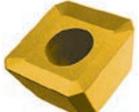


	IC	D1	L	M	S
	(mm)	(mm)	(mm)	(mm)	(mm)
1204	12.700	5.50	12.70	1.9	4.76



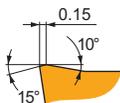
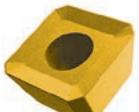
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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 kenar hazırlığı, hafif ve orta işleme için pozitif geometri.

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	-	-	-



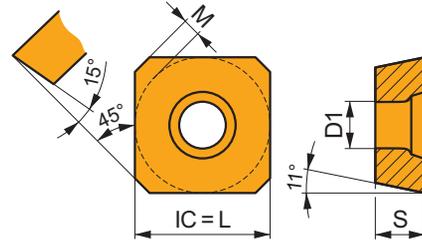
ADSN kenar hazırlığı, orta işleme için pozitif geometri.

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

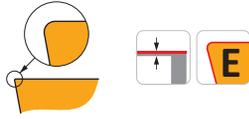
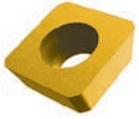


	IC	D1	L	M	S
	(mm)	(mm)	(mm)	(mm)	(mm)
1204	12.700	5.50	12.70	1.9	4.76



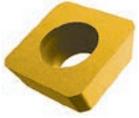
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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



ADEN kenar hazırlığı, hafif ve orta işleme için sıfır talaş açısı.

SPEW 1204ADEN:M8330	RE	220	0.20	12.0	–	–	–	205	0.20	12.0	–	–	–	–	–	–	40	0.10	1.0
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ADSN kenar hazırlığı, orta işleme için sıfır talaş açısı.

SPEW 1204ADSN:M8330	RE	220	0.20	12.0	–	–	–	205	0.20	12.0	–	–	–	–	–	–	40	0.13	1.0
----------------------------	----	-----	------	------	---	---	---	-----	------	------	---	---	---	---	---	---	----	------	-----



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} →
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_{max} →	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

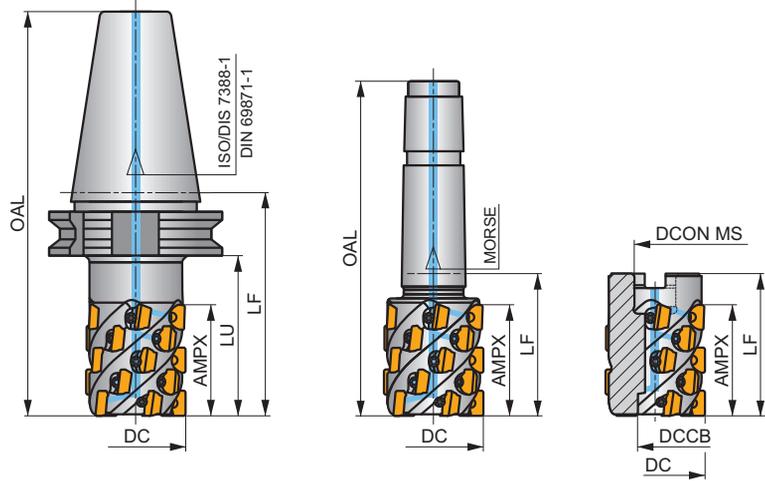
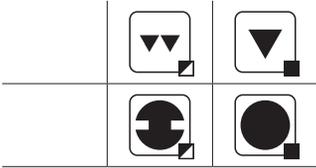
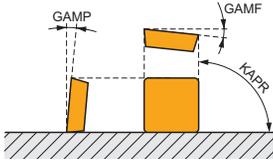


MULTISIDE SD Uzun Kesme Boylu Freze Takımı

Pozitif SD.. 44.1'den 87.3 mm'ye kadar APMX'li 12 kesici uç kullanan 90° uzun kenarlı parmak freze. Kenar, kanal veya yüzey frezeleme için uygundur. Göbekten bağlama, PSC, Mors veya DIN 69871 konik stilinde mevcuttur. Gövde uzun takım ömrü için işlem görmüştür.

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)	(°)	(°)								
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

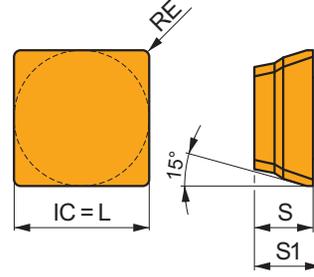
GI271	SDGX 1205..	SDMX 1205..

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

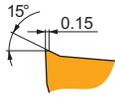
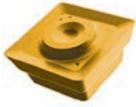


	IC (mm)	L (mm)	S (mm)	S1 (mm)
1205	12.700	12.70	5.56	6.35



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



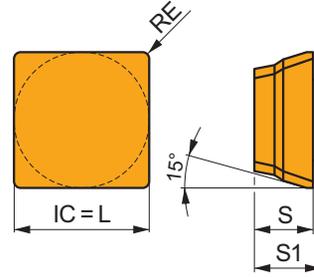
FM geometri, hafif ve orta-ağır işleme için pozitif tasarım.

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

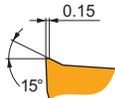
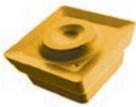


	IC (mm)	L (mm)	S (mm)	S1 (mm)
1205	12.700	12.70	5.56	6.35



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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 geometri, hafiften kaba işleme kadar uygun pozitif tasarım.

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



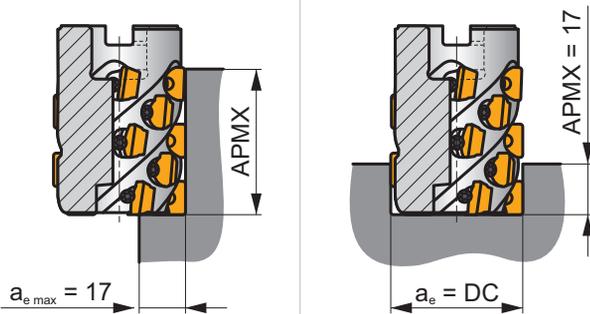
	1		2.5		5		7.5		10		15		20	
	f_{min}	f_{max}	f_{min}	f_{max}										
40	0.16	0.32	0.10	0.20	0.07	0.14	0.06	0.12	0.05	0.10	0.04	0.09	0.04	0.08
50	0.18	0.35	0.11	0.23	0.08	0.16	0.07	0.13	0.06	0.12	0.05	0.10	0.04	0.09
63	0.20	0.40	0.13	0.25	0.09	0.18	0.07	0.15	0.06	0.13	0.05	0.11	0.05	0.09
80	0.22	0.45	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}	f_{min}	f_{max}	f_{min}	f_{max}	f_{min}	f_{max}
40	0.04	0.07	0.03	0.07	0.04	0.08	-	-	-	-	-	-
50	0.04	0.08	0.04	0.07	0.03	0.07	0.04	0.08	-	-	-	-
63	0.04	0.09	0.04	0.08	0.04	0.07	0.03	0.07	0.04	0.08	-	-
80	0.05	0.09	0.04	0.09	0.04	0.08	0.04	0.07	0.03	0.07	0.04	0.08

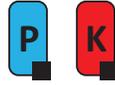
	SDGX 12-FM	SDMX 12-M
	0.8	0.8
	2.99	2.99



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



PRAMET

S

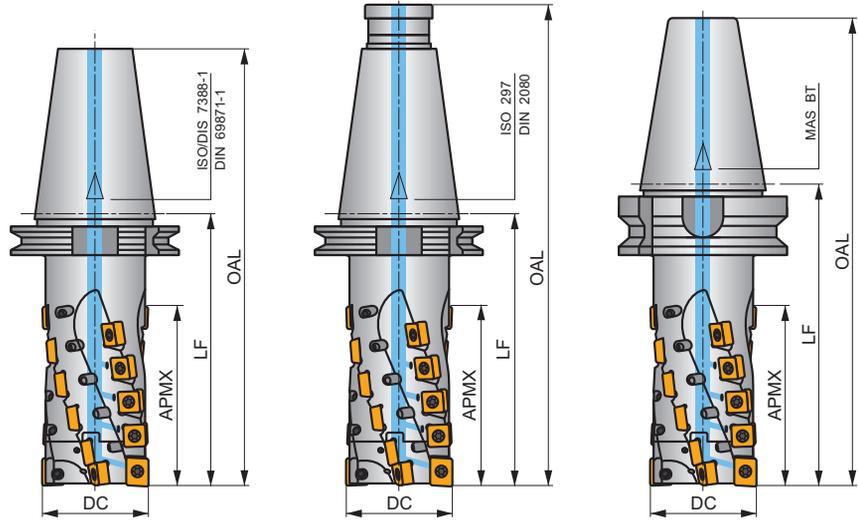
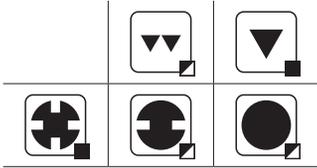
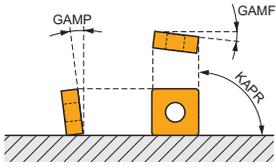


ROUGH SN Uzun Kesme Boylu Ağır Freze Takımı, İçten Su Vermeli

104'ten 134 mm'ye kadar APMX'li LNET 16 ve SN.. 13 kesici uçlar kullanan 90° uzun kenarlı parmak freze. Gövde değiştirilebilir uç parçasına sahiptir. Kenar, kanal, yüzey ve dalma frezeleme için uygundur. DIN 69871, BT ve DIN 2080 50 konik stilinde mevcuttur. Gövde uzun takım ömrü için işlem görmüştür.

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)	GAMF (°)	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

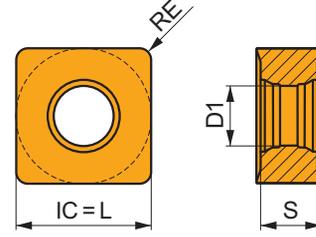
GI209	LNET 1606..	SN.. 1305..

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

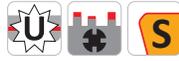
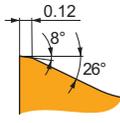
PRAMET

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



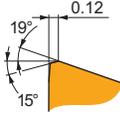
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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 geometri, hafif işleme için pozitif tasarım.

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	-	-	-	-	-	-	-	-



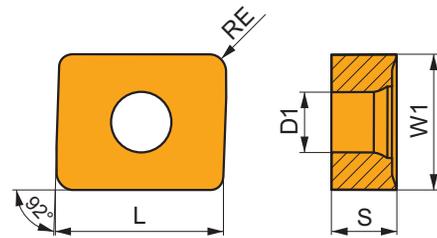
R geometri, kaba işleme ve stabil olmayan şartlar için pozitif tasarım.

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

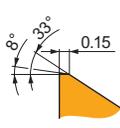
PRAMET

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



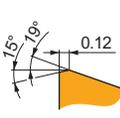
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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 geometri, orta işleme için çok pozitif tasarım.

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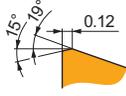


R geometri, orta işleme için çok pozitif tasarım.

LNET 160616SR-R:M8330	1.6	100	0.15	15.0	-	-	-	95	0.15	15.0	-	-	-	-	-	-	-	-
-----------------------	-----	-----	------	------	---	---	---	----	------	------	---	---	---	---	---	---	---	---

Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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 geometri, orta işleme için çok pozitif tasarım.

LNET 160616SR-R:M8340	1.6	95	0.15	15.0	-	-	-	90	0.15	15.0	-	-	-	-	-	-	-	-
------------------------------	-----	----	------	------	---	---	---	----	------	------	---	---	---	---	---	---	---	---



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



	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



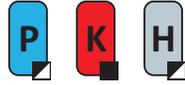
KOPYA FREZELEME

DEĞİŞTİRİLEBİLİR UÇLU FREZELER – REHBER

YÜZEY FREZELEME

	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	
Silindirik şaft											
Weldon				DCX = 15 (mm)		DCX = 20 (mm)					
Modüler				DCX = 15 – 25 (mm)		DCX = 20 – 42 (mm)		DCX = 24 – 42 (mm)		DCX = 32 (mm)	
Frezeleme kafası						DCX = 42, 52 (mm)		DCX = 50 – 80 (mm)		DCX = 52 – 100 (mm)	
Sayfa	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		
Kesici uç şekli											
Kesici uçlar	RD 0501		RD 0702		RD 1003		RD 12T3		RD 1604		
Kesme kenarlarının sayısı	-		-		-		-		-		
Konturlu yüzeyler (kopya frezeleme)		■	■		■		■		■		
Yüzey frezeleme		■	■		■		■		■		
Helisel interpolasyon		■	■		■		■		■		
Aşamalı dalma		■	■		■		■		■		
Açılı frezeleme		■	■		■		■		■		

SRD05



PRAMET

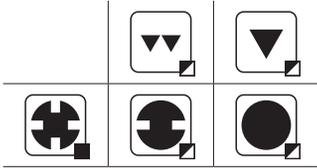
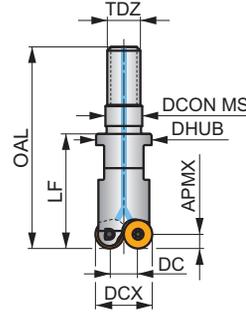
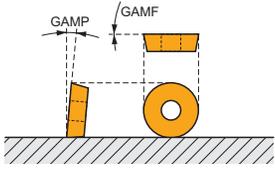
S



RDHX 05 Uçlar için Kopya Frezeleme Takımı, İçten Su Vermeli

1,5 mm APMX'li pozitif RDHX 05 uçlar kopya frezeleme için frezeleme takımı. İçten soğutmalı Yüzey, helisel enterpolasyon, rampalama, dalma ve kopya frezeleme için uygundur. Modüler tarzda mevcuttur. Daha uzun takım ömrü için gövde bakımı yapılmıştır.

APMX	1.5 mm
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h_m	0.03 - 0.1
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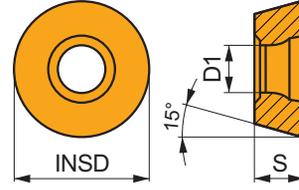
Product	DCX (mm)	DC (mm)	DHUB (mm)	OAL (mm)	LF (mm)	DCON MS (mm)	TDZ	GAMF (°)	GAMP (°)							
10E2R020M06-SRD05-CF	10	5	9.8	35	20	6.5	M6	5	3	2	-	89300	✓	0.01	GI117	C0352
12E3R020M06-SRD05-CF	12	7	10	35	20	6.5	M6	0	3	3	-	81500	✓	0.01	GI117	C0352
15E4R020M08-SRD05-CF	15	10	13.5	38	20	8.5	M8	0	3	4	-	72900	✓	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



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



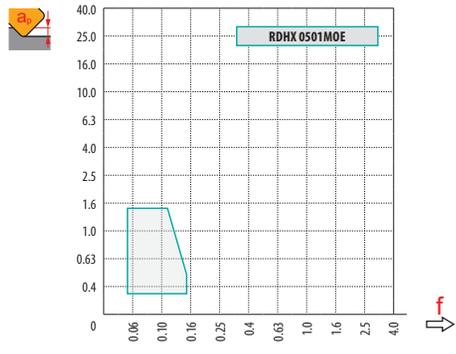
MOE sıfır talaş açısı tasarımı, finiş işleme için.

RDHX 0501M0E:M8310	✳	-	400	0.10	0.5	-	-	-	380	0.10	0.5	-	-	-	-	-	-	-	80	0.10	0.3
---------------------------	---	---	-----	------	-----	---	---	---	-----	------	-----	---	---	---	---	---	---	---	----	------	-----



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

	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

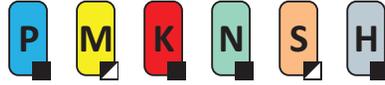
	DMIN	DMAX		
10	12.0	20.0	1.2	1.2
12	16.0	24.0	1.2	1.2
15	22.0	30.0	1.2	1.2

1.0



	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
15		0.424	0.548	0.775	0.949	1.095	1.342	1.549	1.732	1.897	2.191	2.449
	μm	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



PRAMET

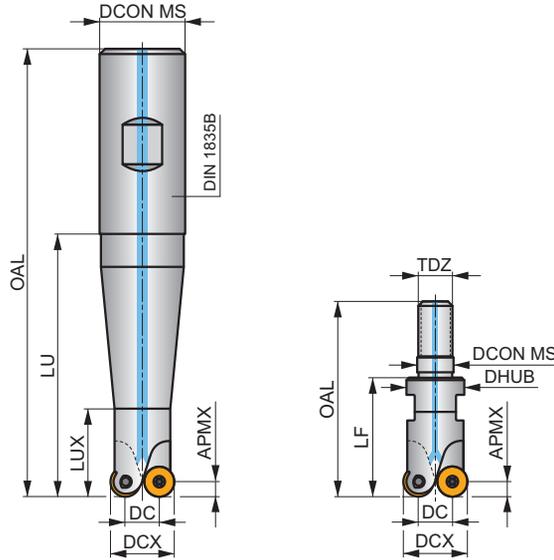
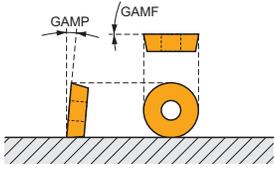
S



RD.. 07 uçlar için Kopya Frezeleme Takımı, İçten Su Vermeli

RD.. 07 uçlar için APMX 2mm içten su vermeli kopya frezeleme takımları. Birçok uygulama için uygundur. Veldon ve modüler olarak bulunur. Gövde uzun takım ömrü için işlem görmüştür.

APMX	2.0 mm
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h_m 0.065 - 0.13



Product	DCX	DC	OAL	D CON MS	DHUB	LU	LUX	LF	TDZ	GAMF	GAMP	max.	kg	G118	C0354			
	(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

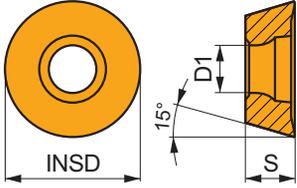


Flag T07P

RDGT 07

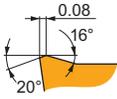


	INSD (mm)	D1 (mm)	S (mm)
0702	7.000	2.80	2.38



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)
● ● ●																			
● ● ●																			
● ● ●																			



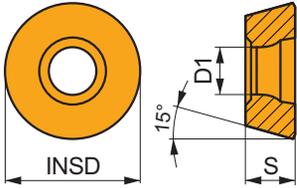
MOT finiş işleme için pozitif tasarımı.

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

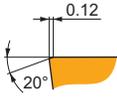


	INSD (mm)	D1 (mm)	S (mm)
0702	7.000	2.80	2.38
07T1	7.000	2.80	1.98



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)
● ● ●																			
● ● ●																			
● ● ●																			



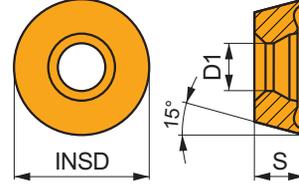
MOT sıfır talaş açısı tasarımı, finiş işleme için.

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

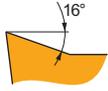
PRAMET

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



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



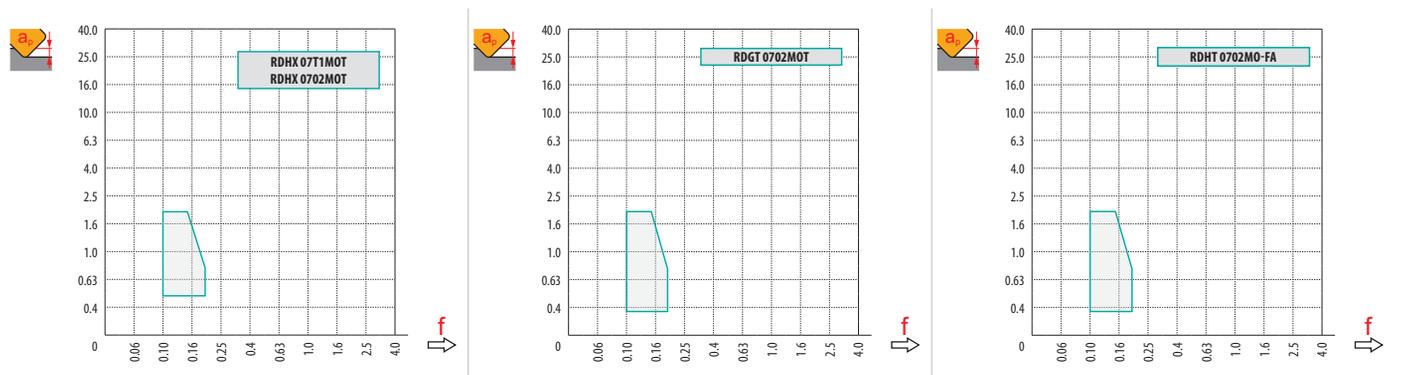
FA geometri, ince finiştten orta işlemeye kadar uygun çok pozitif tasarım.

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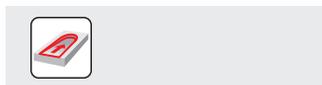


a_e / DCX	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

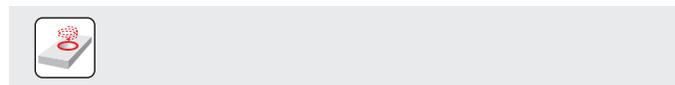
	RDHX 07	RDGT 07	RDHT 07-FA
	3.5	3.5	3.5
	—	—	—



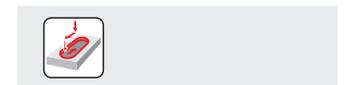
		0.00	0.30	0.50	0.75	1.00	1.25	1.50	2.00	2.50	3.00	3.50
15		8.0	10.8	11.6	12.3	12.9	13.4	13.7	14.3	14.7	14.9	15.0
20		13.0	15.8	16.6	17.3	17.9	18.4	18.7	19.3	19.7	19.9	20.0
25		18.0	20.8	21.6	22.3	22.9	23.4	23.7	24.3	24.7	24.9	25.0
		0.00	0.30	0.50	0.75	1.00	1.25	1.50	2.00	2.50	3.00	3.50
		—	0.29	0.23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

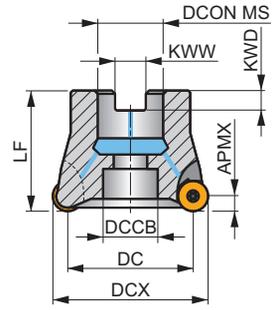
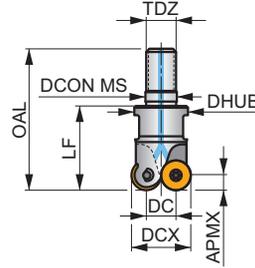
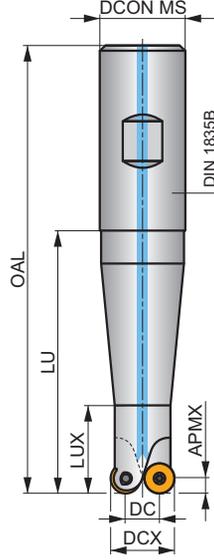
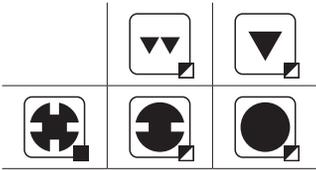
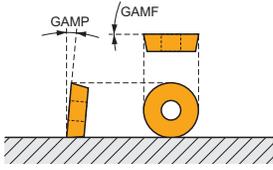
S



RD.. 10 Uçlar için Kopya Frezeleme Takımı, İçten Su Vermeli

RD.. 10 uçlar için APMX 2.5mm içten su vermeli kopya frezeleme takımları. Birçok uygulama için uygundur. Veldon, modüler ve göbekten bağlama olarak bulunur. Gövde uzun takım ömrü için işlem görmüştür.

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	Material	
	(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 GI119 C0356
20E2R060B20-SRD10-CF	20	10	110	20	-	-	60	22	-	-	-	-	-2	0	2	-	30800	✓ 0.20 GI119 C0356
20E2R080B25-SRD10-CF	20	10	136	25	-	-	80	25	-	-	-	-	-2	0	2	-	30800	✓ 0.40 GI119 C0356
20E2R100B25-SRD10-CF	20	10	156	25	-	-	100	25	-	-	-	-	-2	0	2	-	30800	✓ 0.45 GI119 C0356
20E2R120B25-SRD10-CF	20	10	176	25	-	-	120	25	-	-	-	-	-2	0	2	-	30800	✓ 0.46 GI119 C0356
20E2R028M10-SRD10-CF	20	10	47	10.5	18	-	-	-	28	M10	-	-	-2	0	2	-	30800	✓ 0.07 GI119 C0356
25E2R032M12-SRD10-CF	25	15	54	12.5	21	-	-	-	32	M12	-	-	0.5	0.5	2	-	27500	✓ 0.08 GI119 C0356
25E3R032M12-SRD10-CF	25	15	54	12.5	21	-	-	-	32	M12	-	-	0.5	0.5	3	-	27500	✓ 0.10 GI119 C0356
30E4R042M16-SRD10-CF	30	20	65	17	29	-	-	-	42	M16	-	-	0	0	4	-	25100	✓ 0.20 GI119 C0356
32E4R042M16-SRD10-CF	32	22	65	17	29	-	-	-	42	M16	-	-	0	0	4	-	24300	✓ 0.19 GI119 C0356
35E5R042M16-SRD10-CF	35	25	65	17	29	-	-	-	42	M16	-	-	0	0	5	-	23200	✓ 0.22 GI119 C0356
42E4R042M16-SRD10-CF	42	32	65	17	29	-	-	-	42	M16	-	-	0	0	4	-	21200	✓ 0.24 GI119 C0356
42E5R042M16-SRD10-CF	42	32	65	17	29	-	-	-	42	M16	-	-	0	0	5	-	21200	✓ 0.24 GI119 C0356
42A05R-SMORD10-CF	42	32	-	16	-	14	-	-	40	-	8.4	8.4	0	0	5	-	21200	✓ 0.20 GI119 C0358
52A07R-SMORD10-CF	52	42	-	22	-	18	-	-	40	-	10.4	10.4	0	0	7	-	19100	✓ 0.41 GI119 C0360

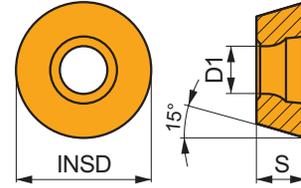
GI119	RD.. 1003MOT	RDHT 1003MO-FA
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	US 63507-T15P	Nm	M 3.5	7	Flag T15P	-	-
C0356	US 63507-T15P	3.0	M 3.5	7	Flag T15P	-	-
C0358	US 63507-T15P	3.0	M 3.5	7	D-T08P/T15P	FG-15	HS 0830C
C0360	US 63507-T15P	3.0	M 3.5	7	D-T08P/T15P	FG-15	HS 1030C

RDGT 10

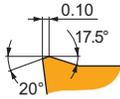
PRAMET

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



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



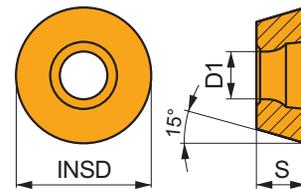
MOT finiş işleme için pozitif tasarım.

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

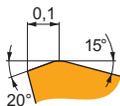
PRAMET

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



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



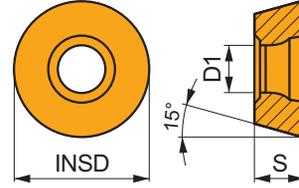
MOT finiş işleme için pozitif tasarım.

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

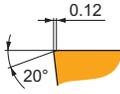
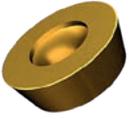


	INSD	D1	S
	(mm)	(mm)	(mm)
1003	10.000	3.90	3.18



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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



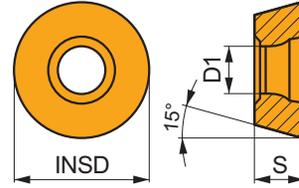
MOT sıfır talaş açısı tasarımı, finiş işleme için.

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

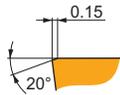


	INSD	D1	S
	(mm)	(mm)	(mm)
1003	10.000	3.90	3.18



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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

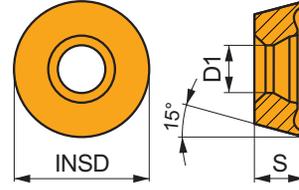


MOT sıfır talaş açısı tasarımı, finiş işleme için.

RDHX 1003MOT:M4303	✳	-	340	0.15	1.0	-	-	-	320	0.15	1.0	-	-	-	-	-	-	-	65	0.12	0.7
RDHX 1003MOT:M8310	✳	-	335	0.15	1.0	-	-	-	315	0.15	1.0	-	-	-	-	-	-	-	65	0.12	0.7
RDHX 1003MOT:M8325	✳	-	250	0.15	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RDHX 1003MOT:M8345	✳	-	225	0.15	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

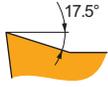
RDHT 10-FA

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



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



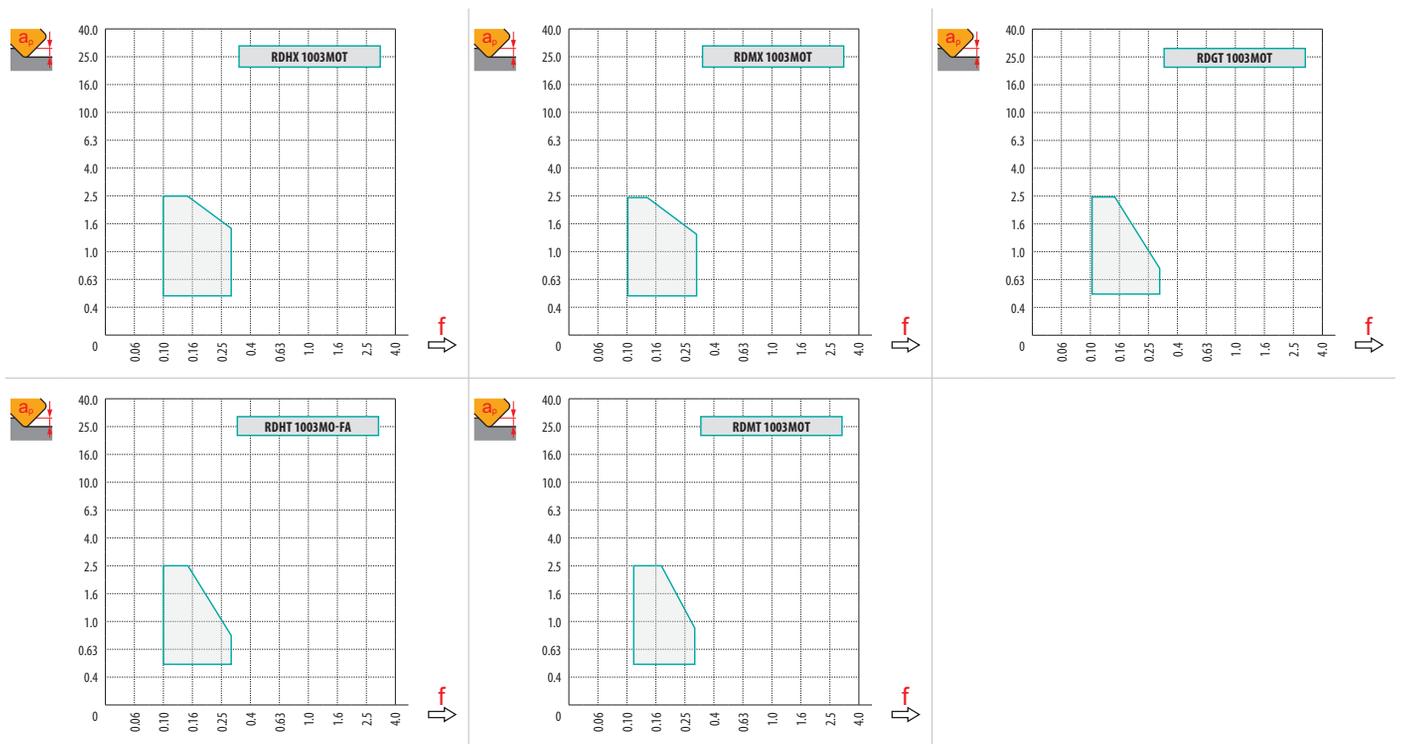
FA geometri, ince finişten orta işlemeye kadar uygun çok pozitif tasarım.

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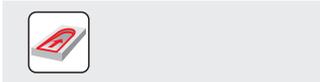


a_e / DCX	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

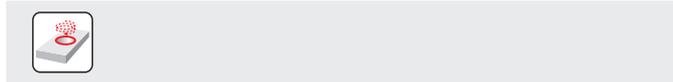
	RDHX 10	RDMX 10	RDGT 10	RDHT 10-FA	RDMT 10
	5.0	5.0	5.0	5.0	5.0
	-	-	-	-	-



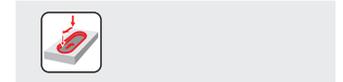
		0.00	0.50	0.75	1.00	1.25	1.50	2.00	2.50	3.00	3.50	4.00	5.00
20		10.0	14.4	15.3	16.0	16.6	17.1	18.0	18.7	19.2	19.5	19.8	20.0
25		15.0	19.4	20.3	21.0	21.6	22.1	23.0	23.7	24.2	24.5	24.8	25.0
30		20.0	24.4	25.3	26.0	26.6	27.1	28.0	28.7	29.2	29.5	29.8	30.0
32		22.0	26.4	27.3	28.0	28.6	29.1	30.0	30.7	31.2	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



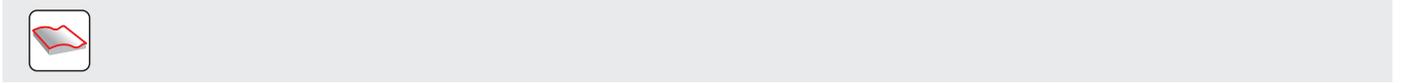
	RPMX	APMX/I
20	20	2.5/15
25	12	2.5/25
30	8	2.5/37
32	7.5	2.5/20
35	7	2.5/42
42	4	2.5/37
52	3	2.5/49



	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

P M K N S H

PRAMET

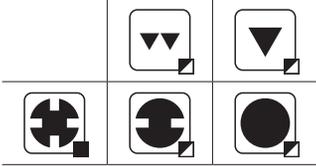
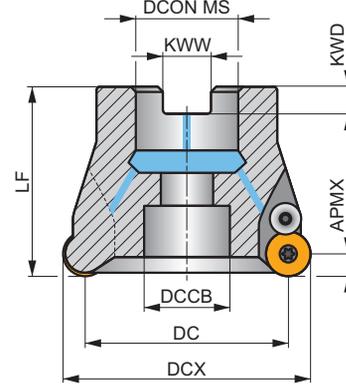
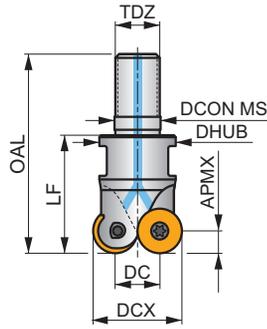
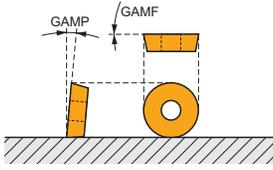
(S(C))



RD.. 12 uçlar için Kopya Frezeleme Takımı, İçten Su Vermeli

RD.. 12 uçlar için APMX 3mm içten su vermeli kopya frezeleme takımları. Birçok uygulama için uygundur. Modüler ve göbekten bağlama olarak bulunur. Gövde uzun takım ömrü için işlem görmüştür.

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					
	(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 G120 C0362
35E3R042M16-SCRD12-CF	35	23	65	17	29	-	42	M16	-	-	0	0	3	-	18100	✓	0.22 G120 C0364
35E4R042M16-SRD12-CF	35	23	65	17	29	-	42	M16	-	-	0	0	4	-	18100	✓	0.20 G120 C0362
42E4R042M16-SCRD12-CF	42	30	65	17	29	-	42	M16	-	-	0	0	4	-	16600	✓	0.21 G120 C0364
42E5R042M16-SRD12-CF	42	30	65	17	29	-	42	M16	-	-	0	0	5	-	16600	✓	0.22 G120 C0366
50A05R-SCMORD12-CF	50	38	-	22	-	18	50	-	10.4	10.4	2	7	5	-	15200	✓	0.29 G120 C0366
52A05R-SCMORD12-CF	52	40	-	22	-	18	50	-	10.4	10.4	2	7	5	-	14900	✓	0.44 G120 C0366
66A06R-SCMORD12-CF	66	54	-	27	-	22	50	-	12.4	12.4	2	7	6	-	13200	✓	0.54 G120 C0370
80A07R-SCMORD12-CF	80	68	-	27	-	38	52	-	12.4	12.4	2	7	7	-	12000	✓	0.89 G120 C0372

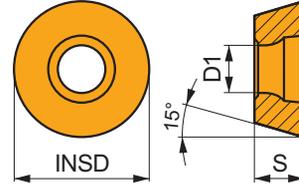
G120	RD.. 12T3MOT	RDHT 12T3MO-FA

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

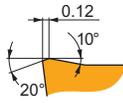


	INSD	D1	S
	(mm)	(mm)	(mm)
12T3	12.000	3.90	3.97



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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



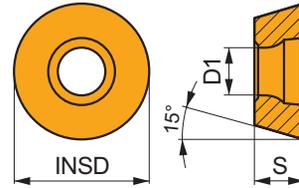
MOT finiş işleme için pozitif tasarım.

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

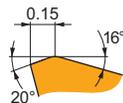


	INSD	D1	S
	(mm)	(mm)	(mm)
12T3	12.000	3.90	3.97



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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



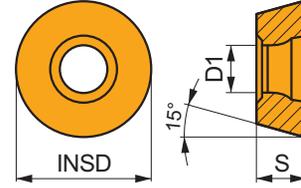
MOT finiş işleme için pozitif tasarım.

RDMT 12T3MOT:M8345	✳	–	■	225	0.20	1.5	■	135	0.18	1.5	■	■	–	–	–	■	–	–	–	■	–	–	–
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RDMX 12

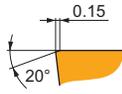
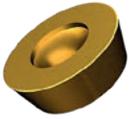
PRAMET

	INSD	D1	S
	(mm)	(mm)	(mm)
12T3	12.000	3.90	3.97



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



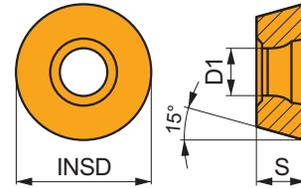
MOT sıfır talaş açısı tasarımı, finiş işleme için.

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

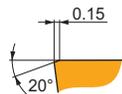
PRAMET

	INSD	D1	S
	(mm)	(mm)	(mm)
12T3	12.000	3.90	3.97



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)

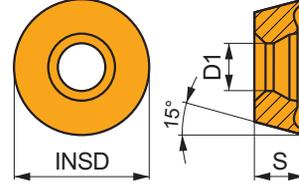


MOT sıfır talaş açısı tasarımı, finiş işleme için.

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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

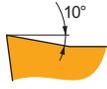
RDHT 12-FA

	INSD	D1	S
	(mm)	(mm)	(mm)
12T3	12.000	3.90	3.97



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



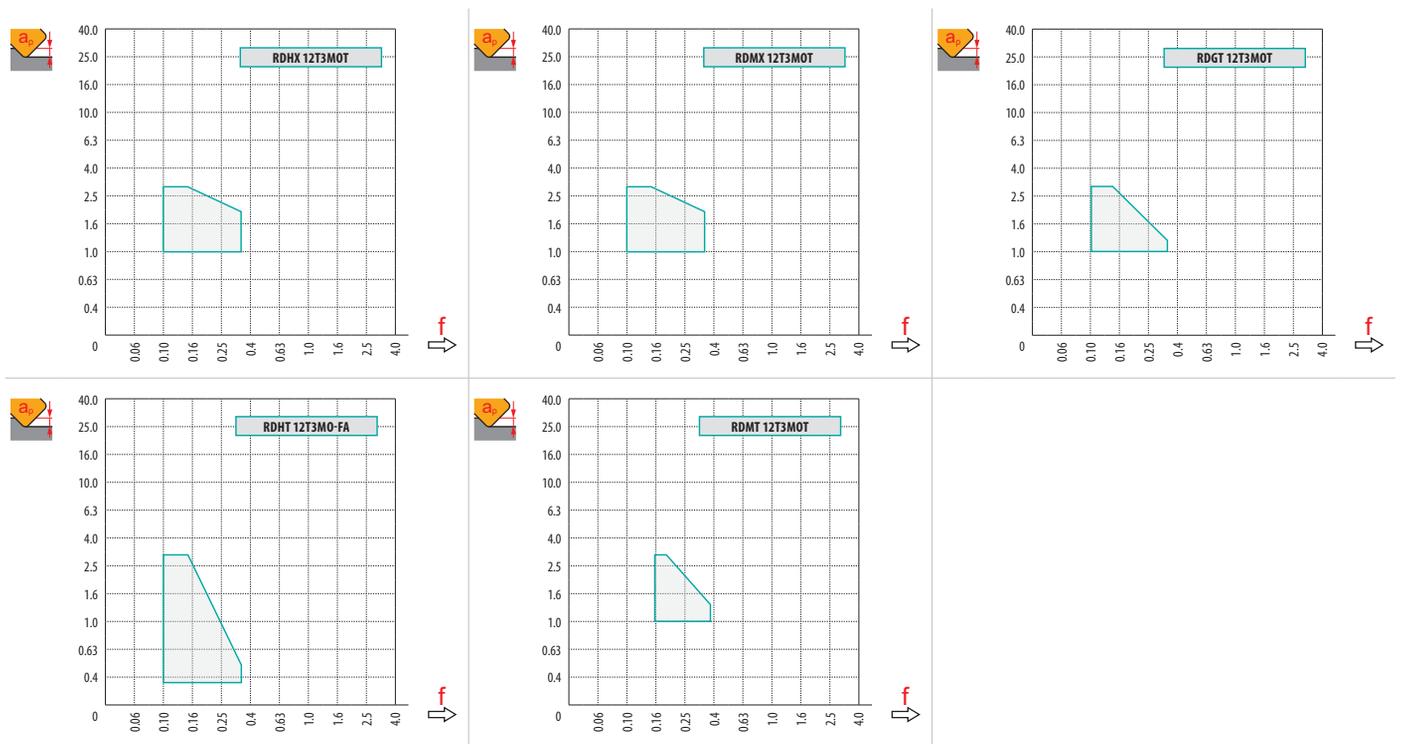
FA geometri, ince finiştten orta işlemeye kadar uygun çok pozitif tasarım.

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

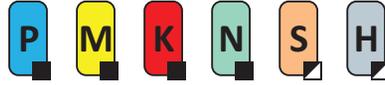
	RPMX	APMX/I
24	25.0	3.0/14
35	9.0	3.0/39
42	8.0	3.0/44
50	4.0	3.0/87
52	4.0	3.0/87
66	3.0	3.0/100
80	2.2	3.0/100

	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



PRAMET

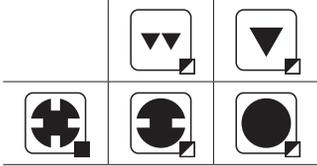
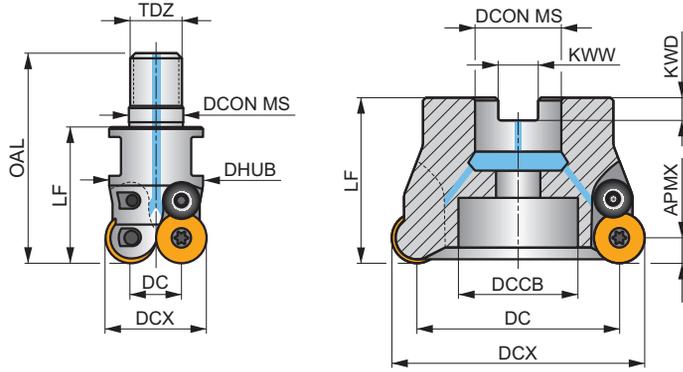
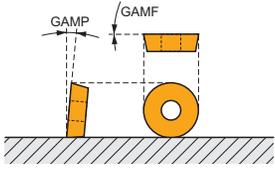
(S(C))



RD.. 16 Uçlar için Kopya Frezeleme Takımı, İçten Su Vermeli

RD.. 16 uçlar için APMX 4mm içten su vermeli kopya frezeleme takımları. Birçok uygulama için uygundur. Modüler ve göbekten bağlama olarak bulunur. Gövde uzun takım ömrü için işlem görmüştür.

APMX	4.0 mm
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	0.11 - 0.25					
	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

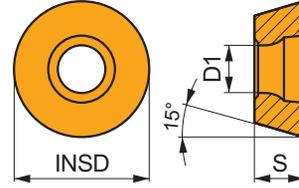
G1121	RD.. 1604MOT	RDHT 1604MO-FA

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

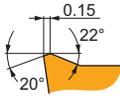


	INSD (mm)	D1 (mm)	S (mm)
1604	16.000	5.20	4.76



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



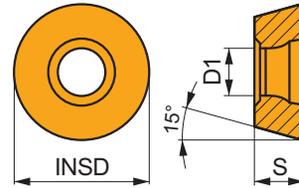
MOT finiş işleme için pozitif tasarımı.

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

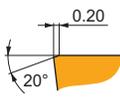
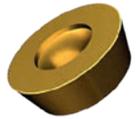


	INSD (mm)	D1 (mm)	S (mm)
1604	16.000	5.20	4.76



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



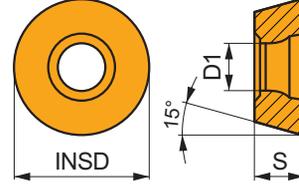
MOT sıfır talaş açısı tasarımı, finiş işleme için.

RDMX 1604MOT:M8310	☼	–	▣	255	0.30	2.0	–	–	–	■	240	0.30	2.0	–	–	–	–	–	–	■	50	0.15	1.1
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RDHX 16

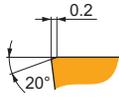
PRAMET

	INSD	D1	S
	(mm)	(mm)	(mm)
1604	16.000	5.20	4.76



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)	



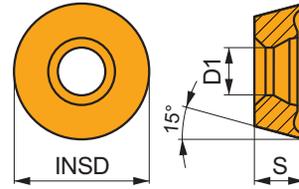
MOT sıfır talaş açısı tasarımı, finiş işleme için.

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

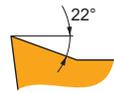
PRAMET

	INSD	D1	S
	(mm)	(mm)	(mm)
1604	16.000	5.20	4.76



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)	



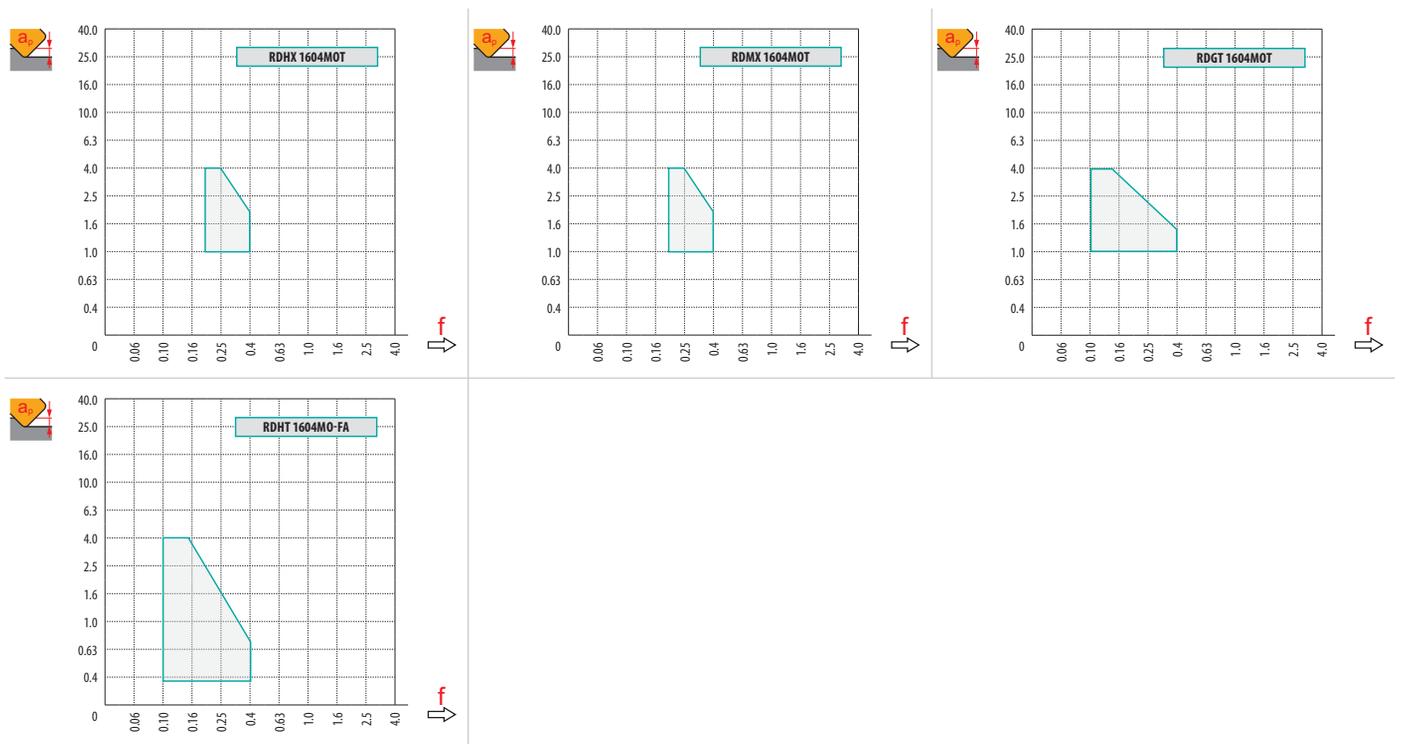
FA geometri, ince finişten orta işlemeye kadar uygun çok pozitif tasarım.

RDHT 1604MO-FA:HF7	●	–	–	–	–	–	–	–	–	■	315	0.36	2.0	–	–	–	–	–	–	–	–	–	–
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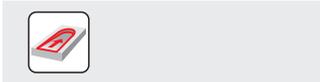


a_e / DCX	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

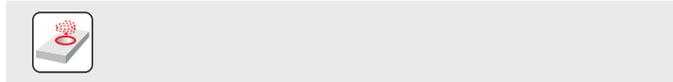
	RDHX 16	RDMX 16	RDGT 16	RDHT 16-FA
	8.0	8.0	8.0	8.0
	-	-	-	-



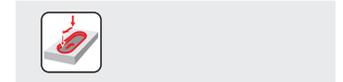
		0.00	0.50	0.75	1.00	1.25	1.50	2.00	2.50	3.00	3.50	4.00	5.00	6.00	7.00	8.00
32		16.0	21.6	22.8	23.7	24.6	25.3	26.6	27.6	28.5	29.2	29.9	30.8	31.5	31.9	32.0
52		36.0	41.6	42.8	43.7	44.6	45.3	46.6	47.6	48.5	49.2	49.9	50.8	51.5	51.9	52.0
66		50.0	55.6	56.8	57.7	58.6	59.3	60.6	61.6	62.5	63.2	63.9	64.8	65.5	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



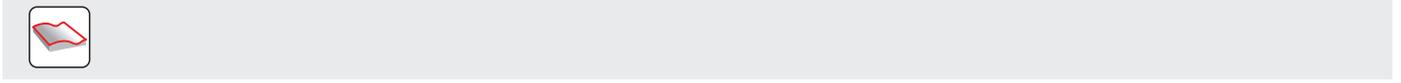
	RPMX	APMX/I
32	25.0	4.0/19
52	8.0	4.0/58
66	6.0	4.0/78
80	4.0	4.0/100
100	3.0	4.0/100



	DMIN	DMAX		
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



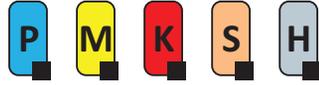
		3	5	10	15	20	30	40	50	60	80	100
32		0.620	0.800	1.131	1.386	1.600	1.960	2.263	2.530	2.771	3.200	3.578
52		0.790	1.020	1.442	1.766	2.040	2.498	2.884	3.225	3.533	4.079	4.561
66		0.890	1.149	1.625	1.990	2.298	2.814	3.250	3.633	3.980	4.596	5.138
80		0.980	1.265	1.789	2.191	2.530	3.098	3.578	4.000	4.382	5.060	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

DEĞİŞTİRİLEBİLİR UÇLU FREZELER – REHBER

YÜZEY FREZELEME

	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		
Silindirik şaft	 DCX = 25, 32 (mm)					
Weldon						
Modüler	 DCX = 25– 35 (mm)					
Frezeleme kafası	 DCX = 40 – 66 (mm)					
Sayfa	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		
Kesici uç şekli						
Kesici uçlar	RC 10T3	RC 1204	RC 1606	RC 2006		
Kesme kenarlarının sayısı	8	12	8	8		
Konturlu yüzeyler (kopya frezeleme) 	■	■	■	■		
Yüzey frezeleme 	■	■	■	■		
Helisel interpolasyon 	■	■	■	■		
Aşamalı dalma 	■	■	■	■		
Açılı frezeleme 	■	■	■	■		

SRC10



PRAMET

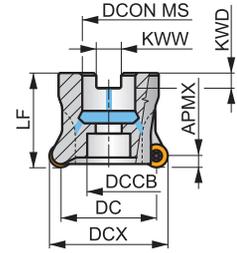
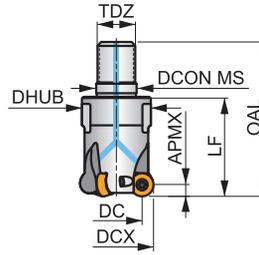
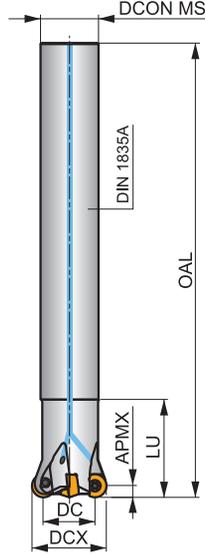
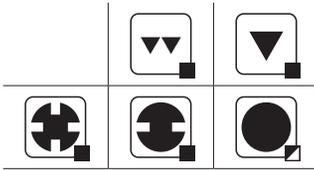
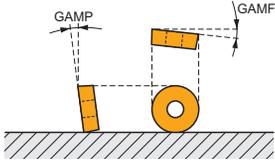
S



RCMT 10 Uçlar için Kopya Frezeleme Takımı, İçten Su Vermeli

RCMT 10 uçlar için APMX 5mm kopya frezeleme takımları. İçten soğutmalı. Yüze, helisel enterpolasyon, rampalama, dalma ve yüksek hızlı frezeleme için uygundur. Silindirik, modüler ve göbekten bağlamalı olarak bulunur. Gövde uzun takım ömrü için işlem görmüştür.

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	max.		kg	Icons		
	(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..

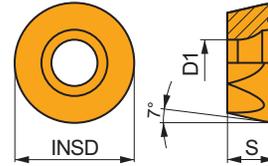
Icon	Icon	Nm	Icon	Icon	Icon	Icon
C0010	US 63509-T10P	3.0	M 3.5	9	Flag T10P	-
C0012	US 63509-T10P	3.0	M 3.5	9	Flag T10P	HS 0830C

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

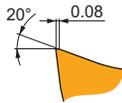


	INSD	D1	S
	(mm)	(mm)	(mm)
10T3	10.000	3.90	3.97



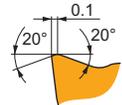
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



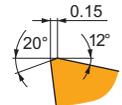
F geometri, hafif işleme için çok pozitif tasarım.

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 geometri, orta işleme için çok pozitif tasarım.

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	-	-	-



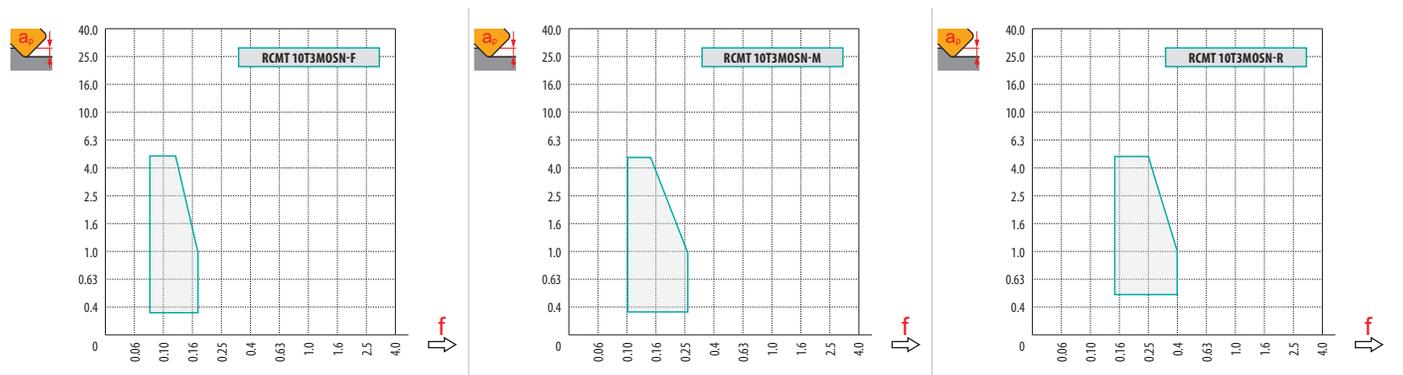
R geometri, kaba kopya frezeleme için pozitif tasarım.

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	-	-	-	■	60	0.12	0.7

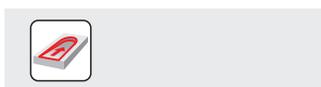


a_e / DCX	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	RCMT 10-F	RCMT 10-M	RCMT 10-R
	5.0	5.0	5.0
	—	—	—



		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	
		—	0.15	0.30	0.50	0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00
		—	0.90	0.64	0.50	0.41	0.35	0.32	0.29	0.25	0.23	0.21	0.19	0.17



	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



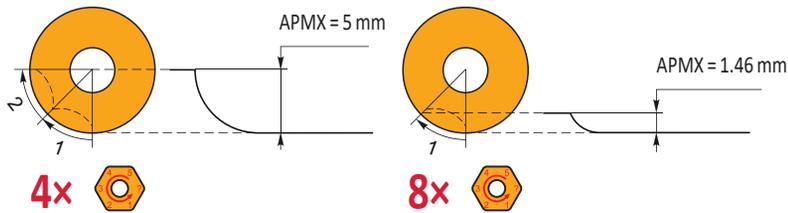
	DMIN	DMAX		
25	32.0	50.0	3.0	3.0
32	45.0	64.0	3.0	3.0
35	51.0	70.0	3.0	3.0
40	61.0	80.0	3.0	3.0
50	81.0	100.0	3.0	3.0
52	85.0	104.0	3.0	3.0
63	107.0	126.0	3.0	3.0
66	113.0	132.0	3.0	3.0



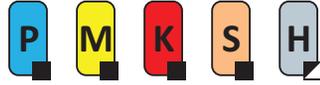
2.24



	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

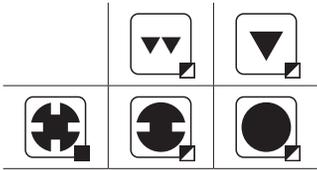
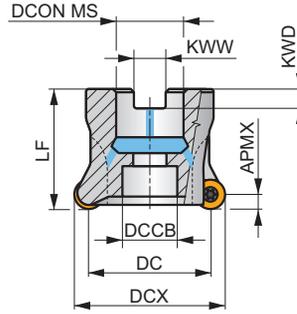
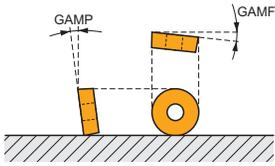
S



RCMT 12 Uçlar için Kopya Frezeleme Takımı, İçten Su Vermeli

RCMT 12 uçlar için APMX 6mm içten su vermeli kopya frezeleme takımları. Yüze, helisel enterpolasyon, rampalama, dalma ve yüksek hızlı frezeleme için uygundur Göbekten bağlamalı olarak bulunur. Gövde uzun takım ömrü için işlem görmüştür.

APMX	6.0 mm
------	--------



h_{max} 0.1 - 0.2



Product	DCX (mm)	DC (mm)	DCON MS (mm)	DCCB (mm)	LF (mm)	KWW (mm)	KWD (mm)	GAMF (°)	GAMP (°)	max.	kg	GI279	CO022	CO023	CO024	AC002	
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..

Icon	Part Number	Nm	Thread	Length	Material	Material	Material
Wrench	US 63509-T15P	3.0	M 3.5	10	D-T08P/T15P	FG-15	-
Wrench	US 63509-T15P	3.0	M 3.5	10	D-T08P/T15P	FG-15	HS 90835
Wrench	US 63509-T15P	3.0	M 3.5	10	D-T08P/T15P	FG-15	HS 1030C
Wrench	US 63509-T15P	3.0	M 3.5	10	D-T08P/T15P	FG-15	HS 1230C



AC002



KS 1635

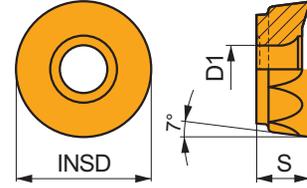


K.FMH32

RCMT 12

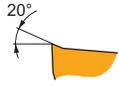
PRAMET

	INSD (mm)	D1 (mm)	S (mm)
1204	12.000	4.40	4.76



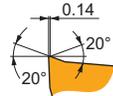
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



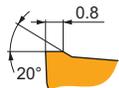
F geometri, hafif işleme için çok pozitif tasarım.

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	–	–



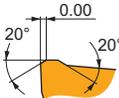
M geometri, orta işleme için çok pozitif tasarım.

RCMT 1204MOSN-M:M6330	☹	–	■	265	0.20	1.5	▣	185	0.18	1.5	■	–	–	–	–	–	–	■	75	0.16	1.2	
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	■	–	–	–	–	–	–	–	■	55	0.16	1.2
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	■	–	–	–	–	–	–	■	85	0.16	1.2	



EN-R geometri, kaba kopya frezeleme için pozitif tasarım.

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



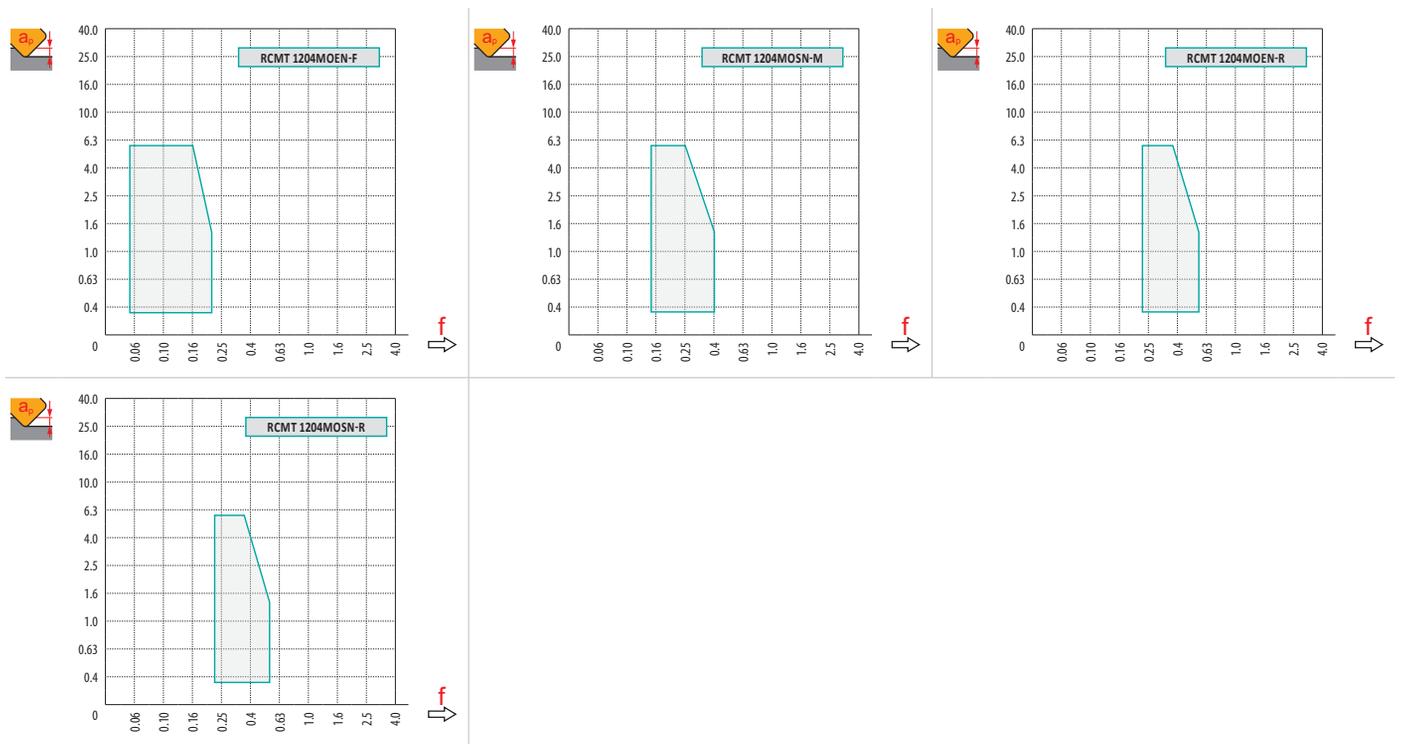
SN-R geometri, kaba kopya işleme için pozitif tasarım.

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
	-	-	-	-



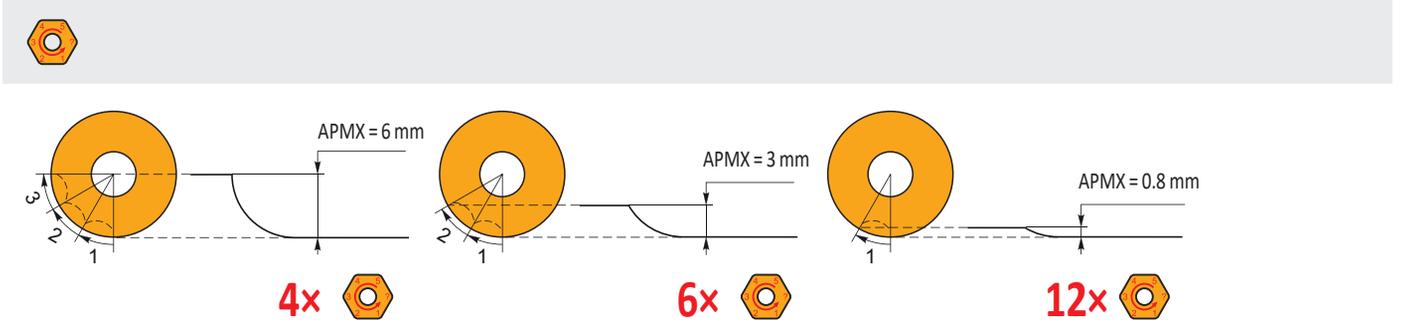
		0.00	0.30	0.50	0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00	6.00
40		28.0	31.7	32.8	33.8	34.6	35.3	35.9	36.9	37.7	38.4	39.3	39.8	40.0
50		38.0	41.7	42.8	43.8	44.6	45.3	45.9	46.9	47.7	48.4	49.3	49.8	50.0
52		40.0	43.7	44.8	45.8	46.6	47.3	47.9	48.9	49.7	50.4	51.3	51.8	52.0
63		51.0	54.7	55.8	56.8	57.6	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

a
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

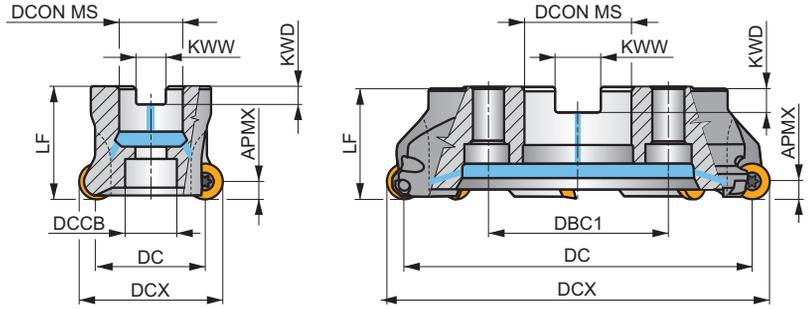
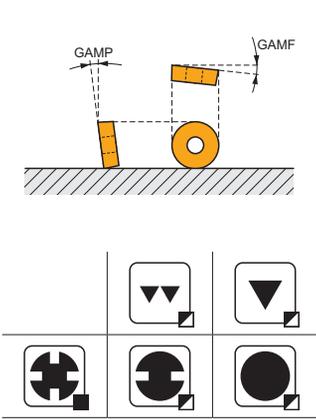
S



RCMT 16 Uçlar için Kopya Frezeleme Takımı, İçten Su Vermeli

RCMT 16 uçlar için APMX 8mm içten su vermeli kopya frezeleme takımları. Yüzey, helisel enterpolasyon, rampalama, dalma ve yüksek hızlı frezeleme için uygundur. Göbekten bağlamalı olarak bulunur. Gövde uzun takım ömrü için işlem görmüştür.

APMX	8.0 mm
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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	-

	RCMT 1606M0..
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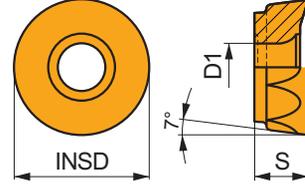
C0030	US 65014-T20P	5.0	M 5	14	SDR T20P-T	HS 1230C	-	-	-
C0031	US 65014-T20P	5.0	M 5	14	SDR T20P-T	-	-	-	-
C0032	US 65014-T20P	5.0	M 5	14	SDR T20P-T	HSD 2040	-	-	-
C0033	US 65014-T20P	5.0	M 5	14	SDR T20P-T	HS 1030C	-	-	-
C0034	US 65014-T20P	5.0	M 5	14	SDR T20P-T	HS 1240C	CAC 160C	HSD 0825C	HXK 5

AC002	KS 1635	K.FMH32
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RCMT 16

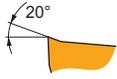
PRAMET

	INSD	D1	S
	(mm)	(mm)	(mm)
1606	16.000	5.50	6.35



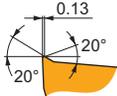
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



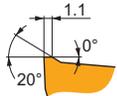
F geometri, hafif işleme için çok pozitif tasarım.

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 geometri, orta işleme için çok pozitif tasarım.

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



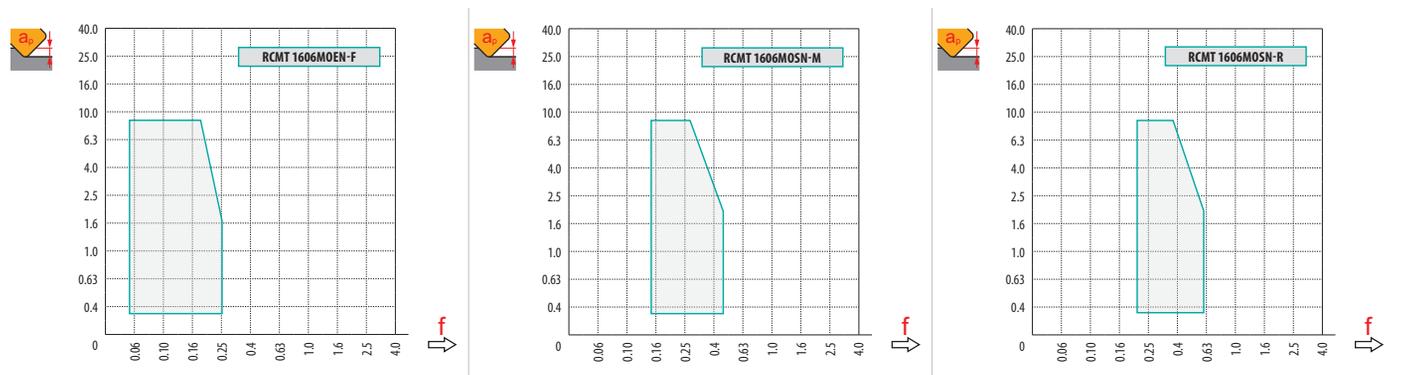
R geometri, kaba kopya frezeleme için pozitif tasarım.

RCMT 1606MOSN-R:M8310	☹	–	■	250	0.40	2.0	–	–	–	–	■	235	0.40	2.0	–	–	–	–	■	50	0.20	1.1			
RCMT 1606MOSN-R:M8330	☹	–	■	240	0.40	2.0	–	–	–	–	■	225	0.40	2.0	–	–	–	▣	60	0.28	1.6	▣	45	0.20	1.1
RCMT 1606MOSN-R:M8345	☹	–	■	175	0.40	2.0	–	–	–	–	–	–	–	–	–	–	–	▣	40	0.28	1.6	–	–	–	

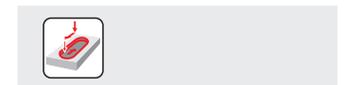
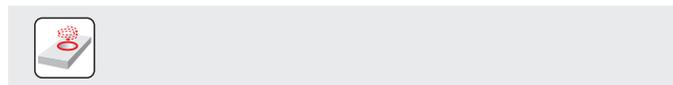
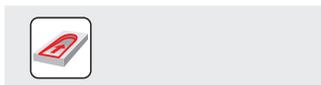


a_e / DCX	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	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



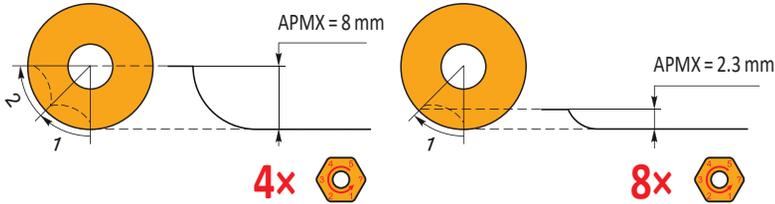
DC	RPMX	APMX/I
63	7.0	8.0/67
66	6.5	8.0/71
80	5.0	8.0/93
100	4.0	6.8/100

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

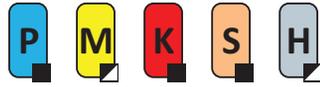
a_e
5.0



	μm	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
	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



SRC20



PRAMET

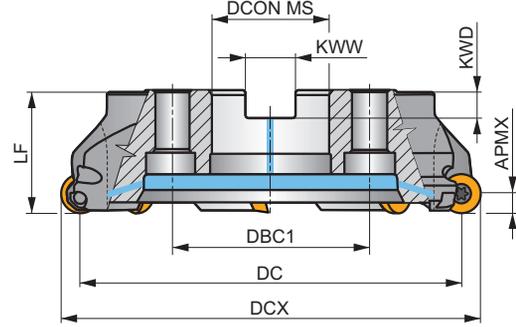
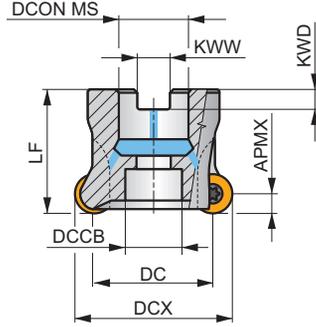
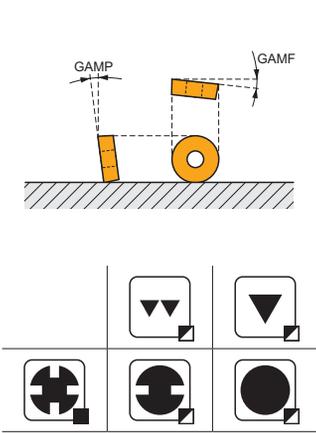
S



RCMT 20 Uçlar için Kopya Frezeleme Takımı, İçten Su Vermeli

RCMT 20 uçlar için APMX 10mm içten su vermeli kopya frezeleme takımları. Yüze, helisel enterpolasyon, rampalama, dalma ve yüksek hızlı frezeleme için uygundur. Göbekten bağlamalı olarak bulunur. Gövde uzun takım ömrü için işlem görmüştür.

APMX	10.0 mm
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h_{max} 0.11 - 0.32



Product	DCX (mm)	DC (mm)	D CON MS (mm)	DCCB (mm)	DBC1 (mm)	Lf (mm)	KWW (mm)	KWD (mm)	GAMP (°)	GAMP (°)	max.	kg	GI281	C0040	C0041	C0042	C0046
80A04R-SMORC20-C	80	60	27	28	-	50	12.4	7	-2.7	-7	4	8500	✓	0.91	GI281	C0040	-
100A05R-SMORC20-C	100	80	32	45	-	50	14.4	8	-1.7	-7	5	7600	✓	1.20	GI281	C0041	AC002
125A06R-SMORC20-C	125	105	40	36	-	63	16.4	9	-1	-7	6	6500	✓	2.92	GI281	C0042	-
160C07R-SMORC20-C	160	140	40	-	66.7	63	16.4	9	-0.9	-7	7	5400	✓	5.37	GI281	C0046	-

GI281	RCMT 2006MO..
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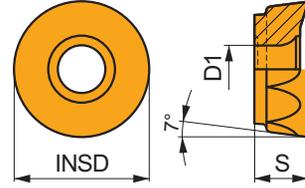
C0040	C0041	C0042	C0046
US 66015-T25P	US 66015-T25P	US 66015-T25P	US 66015-T25P
7.5	7.5	7.5	7.5
M 6	M 6	M 6	M 6
15	15	15	15
SDR T25P-T	SDR T25P-T	SDR T25P-T	SDR T25P-T
HS 1230C	-	HSD 2040	HS 1240C
-	-	-	CAC 160C
-	-	-	HSD 0825C
-	-	-	HXK 5

AC002	KS 1635	K.FMH32
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RCMT 20

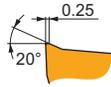


	INSD (mm)	D1 (mm)	S (mm)
2006	20.000	6.50	6.35



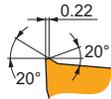
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



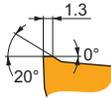
F geometri, hafif işleme için çok pozitif tasarım.

RCMT 2006MOSN-F:M8330	☉	-	■	320	0.15	3.0	▣	190	0.14	3.0	■	-	-	-	▣	80	0.11	2.4	■	-	-	-
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M geometri, orta işleme için çok pozitif tasarım.

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	■	-	-	-



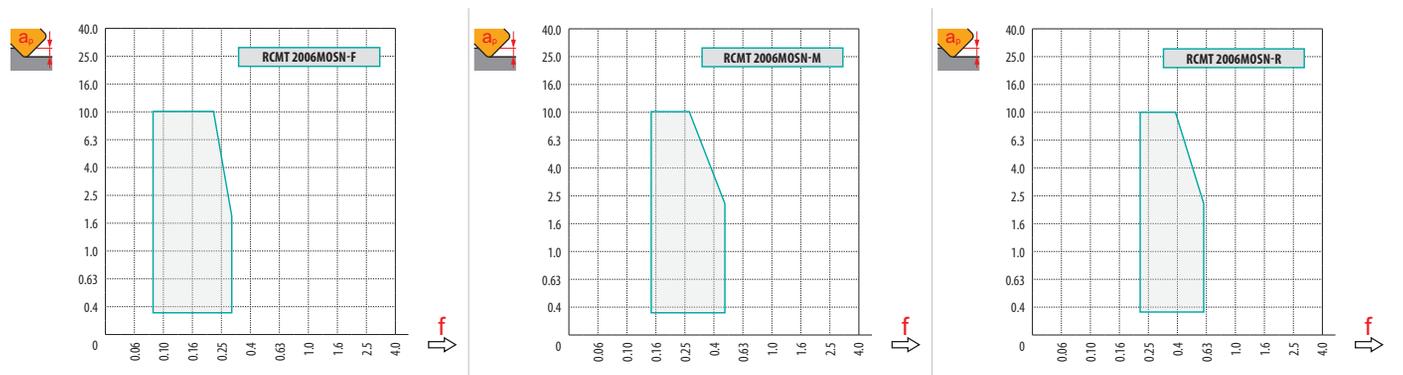
R geometri, kaba kopya frezeleme için pozitif tasarım.

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

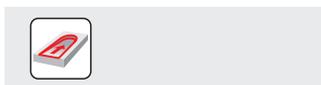


a_e / DCX	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

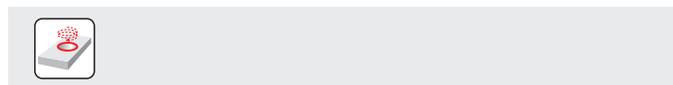
	RCMT 20-F	RCMT 20-M	RCMT 20-R
	10.0	10.0	10.0
	-	-	-



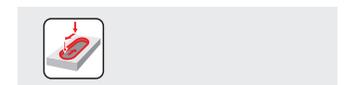
DCX	a_e	0.00	0.30	0.50	0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
80		60.0	64.9	66.2	67.6	68.7	69.7	70.5	72.0	73.2	74.3	76.0	77.3	78.3	79.1	79.6	79.9	80.0
100		80.0	84.9	86.2	87.6	88.7	89.7	90.5	92.0	93.2	94.3	96.0	97.3	98.3	99.1	99.6	99.9	100.0
125		105.0	109.9	111.2	112.6	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



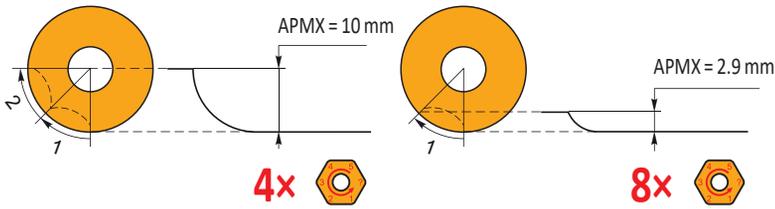
DCX	DMIN	DMAX	SMAX DMIN	SMAX DMAX
80	120.0	160.0	10.0	10.0
100	160.0	200.0	10.0	10.0



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





PROFIL FREZELEME

DEĞİŞTİRİLEBİLİR UÇLU FREZELER – REHBER

YÜZEY FREZELEME

	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	
Silindirik şaft	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)	
Modüler	DCX = 10 – 32 (mm)	DCX = 8 – 20 (mm)		DCX = 16, 20 (mm)	DCX = 16 – 25 (mm)	
Morse	DCX = 12 – 32 (mm)					
Sayfa	206	211	218	222	234	
ISO	P M K S H	P M K S H	H P M K S H	H P M K S H	P M K S H	
Kesici uç şekli						
Kesici uçlar	ZP	RC LC	LC	PPH PPHF PPHT	XP	
Kesme kenarlarının sayısı	2	2	2	2	1	
Konturlu yüzeyler (kopya frezeleme)	■	■	■	■	■	
Helisel interpolasyon			▣	▣		
Aşamalı dalma			▣	▣		
Açılı frezeleme			▣	▣		
Havşa frezeleme			▣	▣		

Product	DCX	OAL	DCOM MS		LU	LUX	LF	TDZ	CZC MS	APMX	GAMF	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	

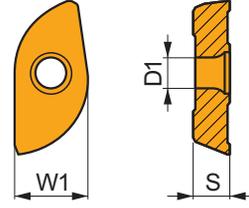
G1253	ZP 12..
G1254	ZP 20..
G1255	ZP 10..
G1256	ZP 16..
G1257	ZP 25..
G1258	ZP 32..
G1259	ZP 40..
G1260	ZP 50..

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

PRAMET

	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



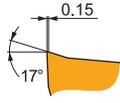
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



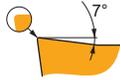
FM geometri, hafif ve orta işleme için keskin nötr tasarım.

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 geometri, orta işleme için çok pozitif tasarım.

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 geometri, hafif ve orta keskin pozitif geometri.

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	–	–	–	

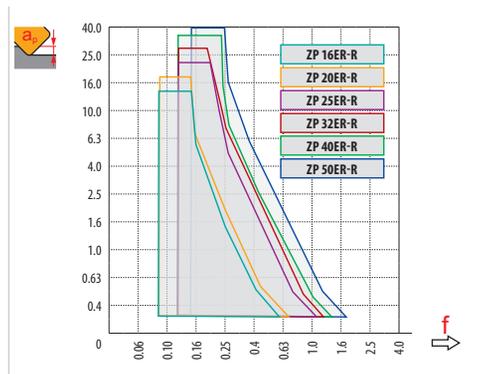
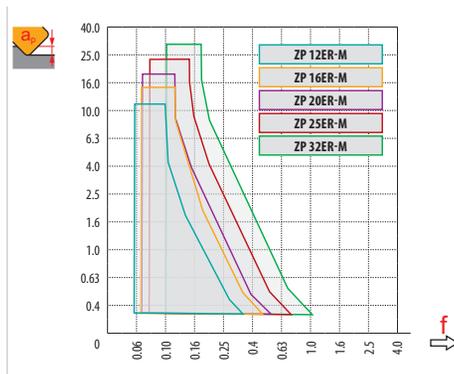
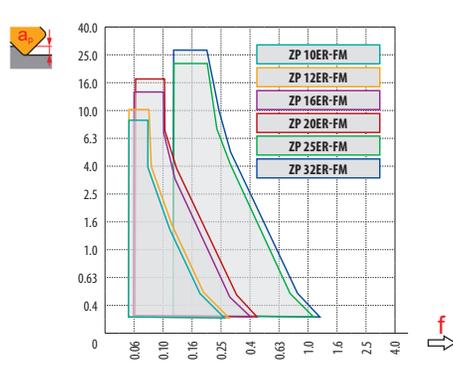


a_e / DCX	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

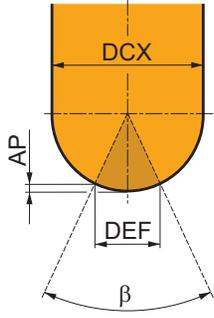
	ZP 10-FM	ZP 12-FM	ZP 16-FM	ZP 20-FM	ZP 25-FM	ZP 32-FM
	5.0	6.0	8.0	10.0	12.5	16.0
	-	-	-	-	-	-

	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	-	-	-	

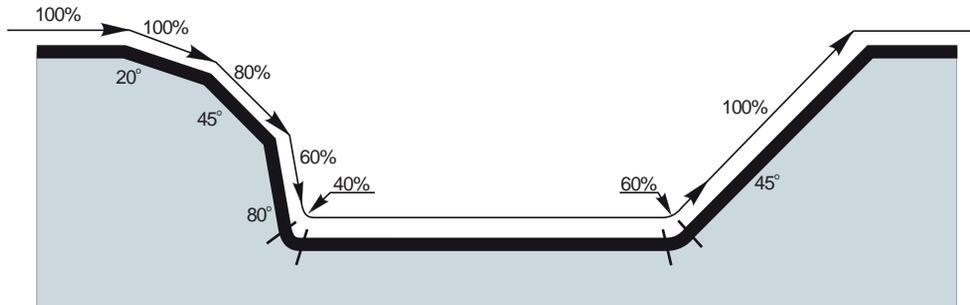


DCX		β	DEF	AP
10	FM	41°	3.496	0.322
12	FM	41°	4.194	0.381
16	FM	42°	5.660	0.520
20	FM	42°	7.100	0.650
25	FM	41°	8.756	0.794
35	FM	41°	11.113	0.998
40	R	41°	14.108	1.298
50	R	45°	19.176	1.915



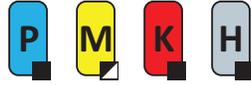
DCX	μm	3	5	10	15	20	30	40	50	60	80	100
10		0.346	0.447	0.632	0.775	0.894	1.095	1.265	1.414	1.549	1.789	2.000
12		0.379	0.490	0.693	0.849	0.980	1.200	1.386	1.549	1.697	1.960	2.191
16	FE	0.438	0.566	0.800	0.980	1.131	1.386	1.600	1.789	1.960	2.263	2.530
20	FE	0.490	0.632	0.894	1.095	1.265	1.549	1.789	2.000	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

DEF	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



Takım boyu (DCX çapın çarpımı)	< 3.0	3.0 - 3.5	3.6 - 4.0	4.1 - 4.5	> 4.6
Kesme hızı için çarpan katsayısı	1.0	0.9	0.8	0.7	0.5

K2-SRC



PRAMET

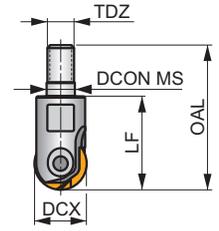
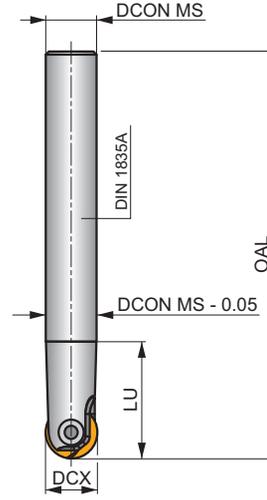
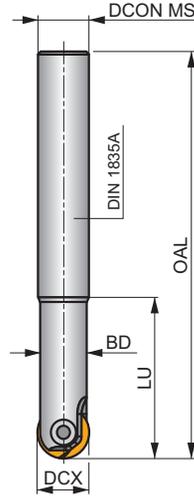
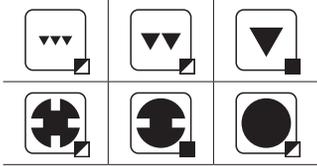
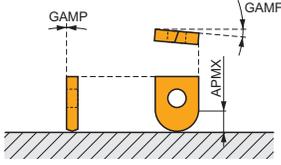
S



Kopya ve Profil İşleme için Parmak Frezeler

Çok çeşitli Kalıp ve Kalıp uygulamaları için esnek parmak freze. Küresel ve toroidal kesici uçlar için tek takım çözümü. Silindirik ve modüler tarzda mevcuttur. Gövde uzun takım ömrü için işlem görmüştür.

APMX	0.6 - 3.2 mm
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0.07 - 0.14



Product	DCX	OAL	DCON MS	BD	LU	LF	TDZ						
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)							
08K2R025A10-SRC08-A	8	110	10	7.5	25	-	-	2	-	56000	-	0.08	G1030 C0530
08K2R050A12-SRC08-A	8	140	12	-	13.5	-	-	2	-	56000	-	0.14	G1030 C0530
10K2R030A12-SRC10-A	10	130	12	9	30	-	-	2	-	42000	-	0.16	G1031 C0531
10K2R060A16-SRC10-A	10	150	16	-	19.5	-	-	2	-	42000	-	0.18	G1031 C0531
12K2R030A12-SRC12-A	12	130	12	10.5	30	-	-	2	-	35000	-	0.11	G1032 C0532
12K2R060A16-SRC12-A	12	160	16	-	24.5	-	-	2	-	35000	-	0.14	G1032 C0532
16K2R035A16-SRC16-A	16	140	16	14	35	-	-	2	-	22000	-	0.23	G1033 C0533
16K2R065A20-SRC16-A	16	175	20	-	31.5	-	-	2	-	22000	-	0.30	G1033 C0533
20K2R045A20-SRC20-A	20	160	20	18	45	-	-	2	-	16000	-	0.40	G1034 C0534
20K2R080A25-SRC20-A	20	190	25	-	33.5	-	-	2	-	16000	-	0.66	G1034 C0534
25K2R045A25-SRC25-A	25	160	25	22.4	45	-	-	2	-	10000	-	0.59	G1035 C0535
32K2R060A32-SRC32-A	32	180	32	28.6	60	-	-	2	-	6000	-	1.10	G1036 C0536
08K2R30M06-SRC08-A	8	45	6.5	-	-	30	M6	2	-	-	-	0.02	G1123 C0530
10K2R30M06-SRC10-A	10	45	6.5	-	-	30	M6	2	-	-	-	0.03	G1124 C0531
12K2R30M06-SRC12-A	12	45	6.5	-	-	30	M6	2	-	-	-	0.15	G1125 C0530
12K2R30M08-SRC12-A	12	48	8.5	-	-	30	M8	2	-	-	-	0.04	G1125 C0532
16K2R35M08-SRC16-A	16	53	8.5	-	-	35	M8	2	-	-	-	0.16	G1033 C0533
20K2R35M10-SRC20-A	20	54	10.5	-	-	35	M10	2	-	-	-	0.08	G1034 C0534

G1030	RC 08	-	-	-	LC 08-KP	LC 08-KPF
G1031	RC 10	RC 10-F	-	-	LC 10-KP	LC 10-KPF
G1032	RC 12	RC 12-F	-	-	-	-
G1033	RC 16	RC 16-F	-	-	-	-
G1034	RC 20	-	-	-	-	-
G1035	RC 25	-	-	-	-	-

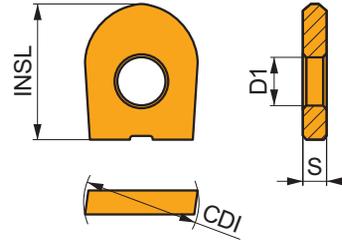
GI036	RC 32	-	-	-
GI123	RC 08	-	-	-
GI124	RC 10	RC 10-F	-	-
GI125	RC 12	RC 12-F	-	-

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	SDR T20P	-	-	-
C0533	CS 5013-T20P	5.0	M 5	13	SDR T20P	-	-	-
C0534	CS 5015-T20P	5.0	M 5	15	SDR T20P	-	-	-
C0535	CS 6020-T20P	7.5	M 6	20	SDR T20P	-	-	-
C0536	CS 8025-T30P	15.0	M 8	25	SDR T30P	-	-	-

RC



	CDI	D1	INSL	S
	(mm)	(mm)	(mm)	(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



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



N nötr yüzey, pozitif kesme kenarı tasarımı.

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

Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)									



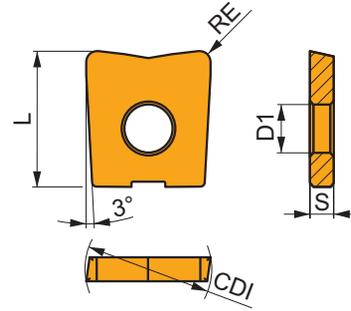
F geometri, keskin ve finiş işleme için uygun.

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

PRAMET

	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

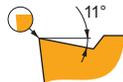


Product	RE (mm)	P			M			K			N			S			H		
		vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)	vc (m/min)	f (mm/tooth)	ap (mm)									



KP geometri, hafif ve orta işleme için sıfır talaş açısı.

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 geometri, hafif ve orta işleme için pozitif tasarım.

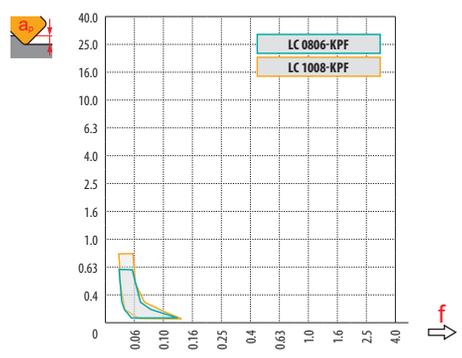
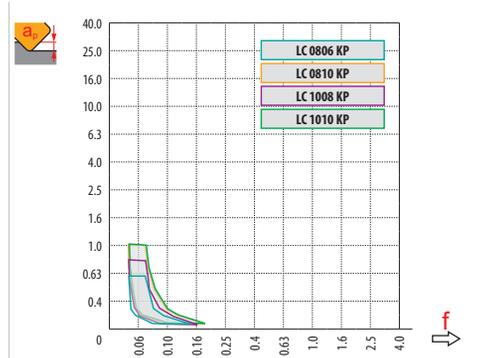
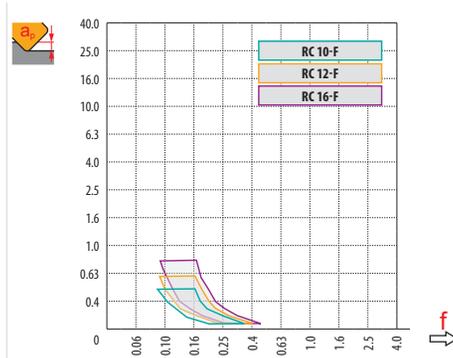
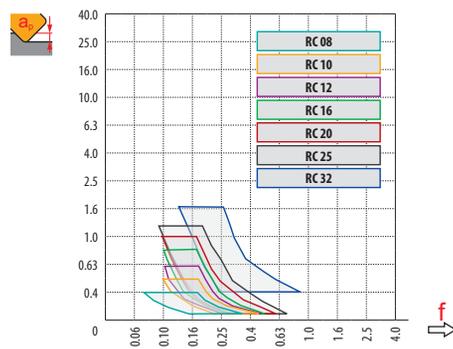
LC 0806-KPF:M4310	●	0.6	280	0.16	0.3	140	0.14	0.3	265	0.16	0.3	-	-	-	-	-	-	55	0.08	0.6
LC 1008-KPF:M4310	●	0.8	270	0.16	0.4	135	0.14	0.4	255	0.16	0.4	-	-	-	-	-	-	50	0.08	0.8



	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

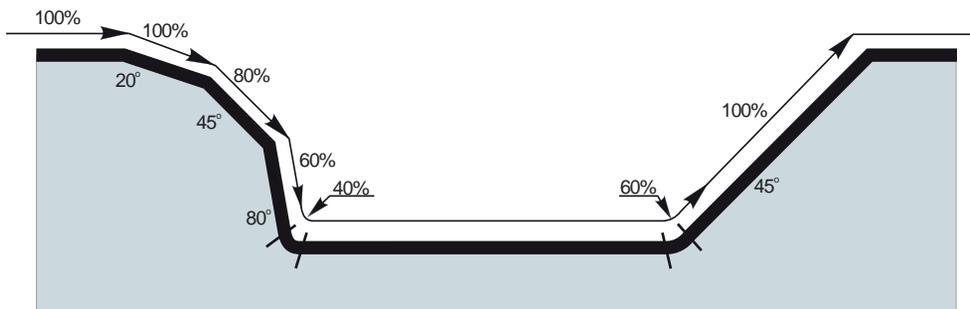
	0.3	0.4	0.5	0.7	1.0	1.25	1.5	2.0	2.5	3.0	4.0	5.0	6.0	8.0	10.0	12.0	15.0	16.0
	3.0	3.5	3.9	4.5	5.3	5.8	6.2	6.9	7.4	7.7	8.0	-	-	-	-	-	-	-
	3.4	3.9	4.4	5.1	6.0	6.6	7.1	8.0	8.7	9.2	9.8	10.0	-	-	-	-	-	-
	3.7	4.3	4.8	5.6	6.6	7.3	7.9	8.9	9.7	10.4	11.3	11.8	12.0	-	-	-	-	-
	4.3	5.0	5.6	6.5	7.7	8.6	9.3	10.6	11.6	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
	RE	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



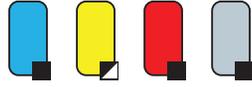
	DCX	RE	DMIN	DMAX	SMAX DMIN	SMAX DMAX
LC 0806-KP	8	0.6	9.8	15.9	0.8	1.0
LC 0806-KPF		0.6	10.2	15.9	0.1	0.1
LC 0810-KP		1.0	9.9	15.9	0.1	0.1
LC 1008-KP	10	0.8	12.2	19.9	0.9	1.1
LC 1008-KPF		0.8	12.6	19.9	0.2	0.2
LC 1010-KP		1.0	12.2	19.9	0.2	0.2



	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

Takım boyu (DCX çapın çarpımı)	< 3.0	3.0 – 3.5	3.6 – 4.0	4.1 – 4.5	> 4.6
Kesme hızı için çarpan katsayısı	1.0	0.9	0.8	0.7	0.5

K2-SLC



PRAMET

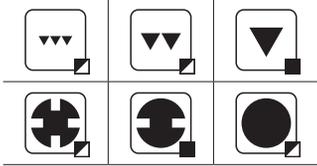
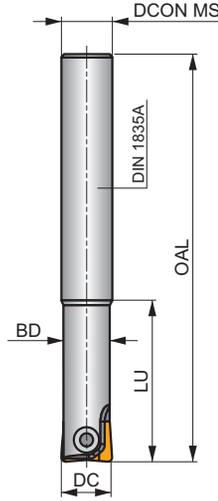
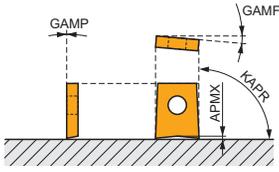
S



Kopya ve Profil İşleme için Finitiş Parmak Freze

LC kesici uçların kullanıldığı çok çeşitli uygulamalarda ince talaş işleme işlemleri için parmak freze. Yüksek hassasiyetli taşlanmış kesici uçlar mükemmel doğruluk sağlar. Profil işleme, pah kırma, helisel, dalma frezeleme ve rampalama için. Yalnızca silindirik tarzda mevcuttur. Gövde uzun takım ömrü için işlem görmüştür.

APMX	1.0 - 3.0 mm
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	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	G1037	C0532
16K2R035A16-SLC16-A	16	140	16	35	14	2	-	22000	-	0.20	G1038	C0533
20K2R045A20-SLC20-A	20	160	20	45	18	2	-	16000	-	0.38	G1039	C0534

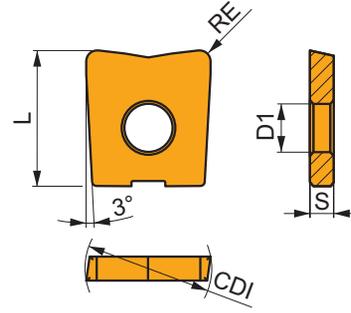
G1037	LC 12-KP	LC 12-KPF
G1038	LC 16-KP	-
G1039	LC 20-KP	-

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

PRAMET

	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



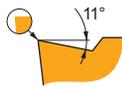
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)									



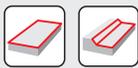
KP geometri, hafif ve orta işleme için sıfır talaş açısı.

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



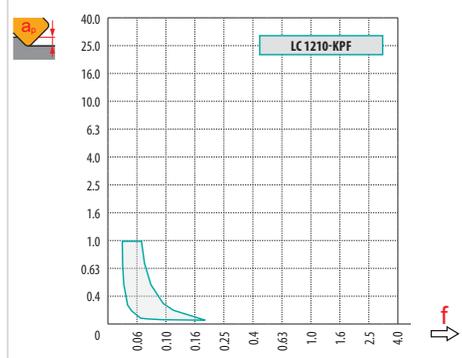
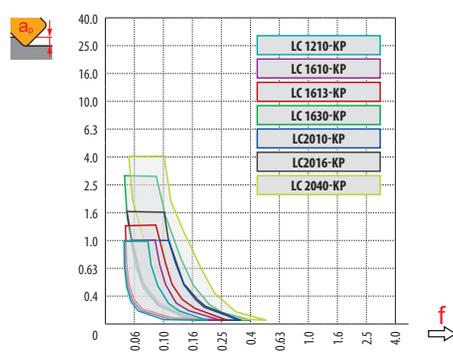
KPF geometri, hafif ve orta işleme için pozitif tasarım.

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	RE															
			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	12	4.4
LC 1610-KP	16	6.6
LC 1613-KP	16	6.6
LC 2010-KP	20	8.5
LC 2016-KP	20	8.5
LC 2040-KP	20	8.5



LC 1210-KP	12	4.7	1.5/19
LC 1210-KPF	12	3.8	1.5/23
LC 1610-KP	16	4.8	1.5/18
LC 1613-KP	16	4.8	1.5/18
LC 2010-KP	20	5.0	1.5/18
LC 2016-KP	20	4.9	1.6/19
LC 2040-KP	20	4.5	4.0/51



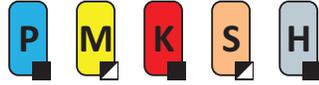
		D _{MIN}	D _{MAX}		
LC 1210-KP	12	14.1	23.9	1.0	1.2
LC 1210-KPF	12	15.0	23.9	0.4	0.4
LC 1610-KP	16	18.6	31.9	1.1	1.4
LC 1613-KP	16	18.6	31.9	0.6	0.6
LC 2010-KP	20	22.8	39.9	1.3	1.5
LC 2016-KP	20	22.8	39.9	0.8	0.8
LC 2040-KP	20	22.8	39.9	0.5	0.5



LC 1210-KP	12	0.44
LC 1210-KPF	12	0.9
LC 1610-KP	16	0.65
LC 1613-KP	16	0.62
LC 2010-KP	20	0.85
LC 2016-KP	20	0.79
LC 2040-KP	20	0.54

Takım boyu (DCX çapın çarpımı)	< 3.0	3 – 3.5	3.6 – 4.0	4.1 – 4.5	> 4.6
Kesme hızı için çarpan katsayısı	1.0	0.9	0.8	0.7	0.5

K2-PPH



PRAMET

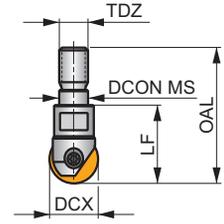
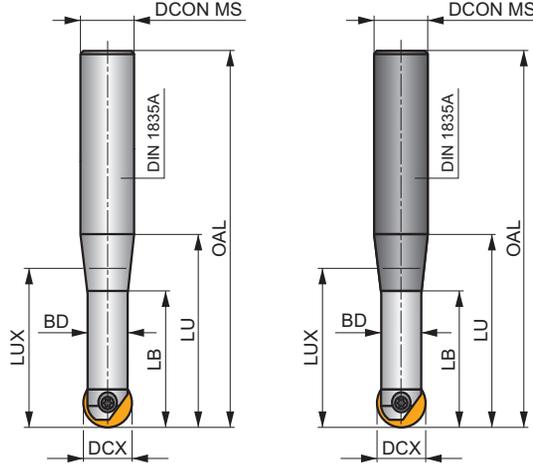
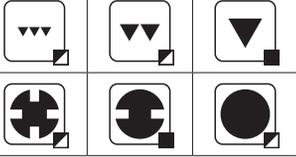
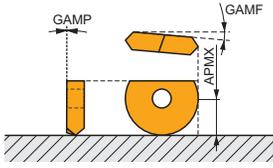
S



Kopya ve Profil İşleme için Parmak Frezeler

Çok çeşitli Kalıp ve Kalıp uygulamaları için esnek parmak freze. Yuvarlak uçlu, toroidal ve yüksek ilerlemeli kesici uçlar için tek takım çözümü. Yüksek hassasiyetli taşlanmış kesici uçlar yüksek doğruluk sağlar. Silindirik ve modüler tarzda mevcuttur. Gövde uzun takım ömrü için işlem görmüştür.

APMX	0.3 - 4.0 mm
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h_m	0.07 - 0.14
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Product	DCX	OAL	DCON MS	BD	LB	LU	LUX	LF	TDZ	Carbide	max.	kg	GI284	C0540
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)					
PPH-08/02-QC12-092	8	92	12	6.5	19	35	23.1	-	-	-	40000	-	0.14	GI284 C0540
PPH-08/02-QC12-110	8	110	12	6.5	33.5	53	41.5	-	-	-	33600	-	0.14	GI284 C0540
PPH-08/02-QC12-132	8	132	12	6.5	19	75	41.8	-	-	-	16800	-	0.15	GI284 C0540
PPH-10/02-QC12-092	10	92	12	8	22.4	38	30	-	-	-	40000	-	0.12	GI285 C0541
PPH-10/02-QC12-110	10	110	12	8	38.7	53	51.9	-	-	-	40000	-	0.15	GI285 C0541
PPH-10/02-QC12-132	10	132	12	8	21.8	75	73.6	-	-	-	20300	-	0.16	GI285 C0541
PPH-12/02-QC16-145	12	145	16	10	22.5	85	63.3	-	-	-	19800	-	0.23	GI286 C0542
PPH-16/02-QC20-166	16	166	20	14	29.5	100	75.5	-	-	-	20000	-	0.37	GI287 C0543
PPH-20/02-QC25-191	20	191	25	17	35	115	82.2	-	-	-	18400	-	0.64	GI288 C0544
PPH-25/02-QC32-215	25	215	32	21	42.5	135	97	-	-	-	16500	-	1.07	GI289 C0545
PPH-12/02-QC12-083	12	83	12	10	-	26	-	-	-	-	40000	-	0.15	GI286 C0542
PPH-12/02-QC12-110	12	110	12	10	-	53	-	-	-	-	40000	-	0.15	GI286 C0542
PPH-16/02-QC16-092	16	92	16	14	-	92	-	-	-	-	36000	-	0.20	GI287 C0543
PPH-16/02-QC16-123	16	123	16	14	-	63	-	-	-	-	36000	-	0.24	GI287 C0543
PPH-20/02-QC20-104	20	104	20	17	-	38	-	-	-	-	40000	-	0.34	GI288 C0544
PPH-20/02-QC20-141	20	141	20	17	-	75	-	-	-	-	40000	-	0.41	GI288 C0544
PPH-25/02-QC25-121	25	121	25	21	-	45	-	-	-	-	40000	-	0.53	GI289 C0545
PPH-25/02-QC25-166	25	166	25	21	-	90	-	-	-	-	37100	-	0.57	GI289 C0545
PPH-32/02-QC32-186	32	186	32	26	-	107	-	-	-	-	32500	-	1.09	GI290 C0546
PPH-32/02-QC32-240	32	240	32	26	-	160	-	-	-	-	14500	-	1.37	GI290 C0546
PPH-08/02-QC12-110HSCW	8	110	12	6.5	19	53	30.1	-	-	✓	40000	-	0.21	GI284 C0540
PPH-08/02-QC12-132HSCW	8	132	12	6.5	19	75	37.1	-	-	✓	23400	-	0.22	GI284 C0540
PPH-10/02-QC12-092HSCW	10	92	12	8	21.9	38.1	90.9	-	-	✓	40000	-	0.20	GI285 C0541
PPH-10/02-QC12-132HSCW	10	132	12	8	21.8	75.1	51.1	-	-	✓	23400	-	0.24	GI285 C0541
PPH-12/02-QC16-145HSCW	12	145	16	10	21.5	85	65.6	-	-	✓	21000	-	0.28	GI286 C0542
PPH-16/02-QC20-166HSCW	16	166	20	14	28.5	100	87.2	-	-	✓	25500	-	0.66	GI287 C0543
PPH-20/02-QC25-191HSCW	20	191	25	17	35	115	75.6	-	-	✓	18500	-	1.07	GI288 C0544
PPH-08/02-QC08-130HSCW	8	130	8	6.5	-	20	-	-	-	✓	40000	-	0.17	GI284 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

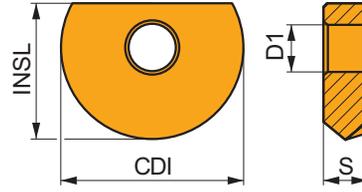
GI284	PPH 08..	-	PPHT 08..	PPHF 08..
GI285	PPH 10..	PPHE 10..	PPHT 10..	PPHF 10..
GI286	PPH 12..	PPHE 12..	PPHT 12..	PPHF 12..
GI287	PPH 16..	PPHE 16..	PPHT 16..	PPHF 16..
GI288	PPH 20..	PPHE 20..	PPHT 20..	PPHF 20..
GI289	PPH 25..	-	PPHT 25..	-
GI290	PPH 32..	-	-	-

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

PRAMET

	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



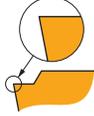
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)									



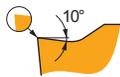
CL1 geometri, keskin tasarım.

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 geometri, darbeli işleme için keskin tasarım.

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



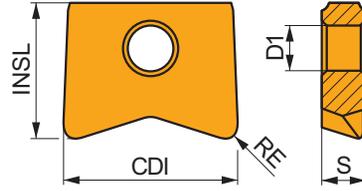
SM1 geometri, keskin tasarım.

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

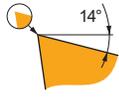


	CDI (mm)	D1 (mm)	INSL (mm)	S (mm)
0800	8.0	2.50	7.0	2.40
1000	10.0	3.00	8.5	2.60
1200	12.0	3.50	10.0	3.00
1600	16.0	4.00	12.0	4.00
2000	20.0	5.00	15.0	5.00
2500	25.0	6.00	18.5	6.00



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)									



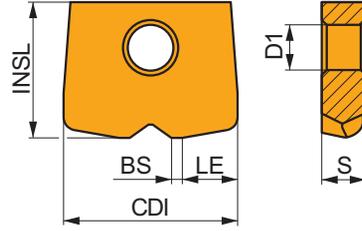
A2 geometri, hafif ve orta işleme için pozitif tasarım.

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 (mm)	LE (mm)	CDI (mm)	D1 (mm)	INSL (mm)	S (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



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)									



CE1 geometri, yüksek hızlı işleme için güçlü tasarım.

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
	-	-	-	-	-	-	-	-

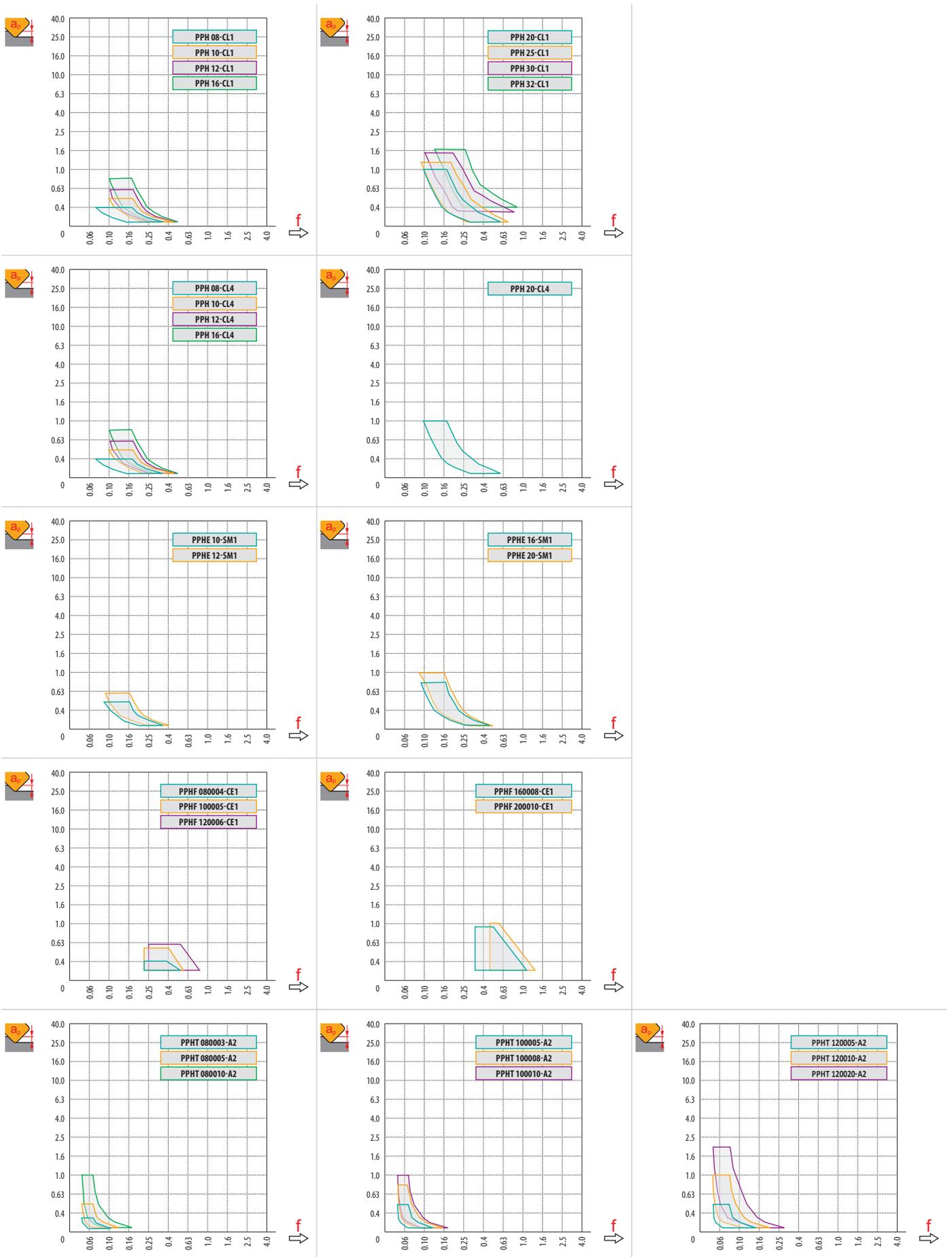
	PPH 08-CL4	PPH 10-CL4	PPH 12-CL4	PPH 16-CL4	PPH 20-CL4
	4.0	5.0	6.0	8.0	10.0
	-	-	-	-	-

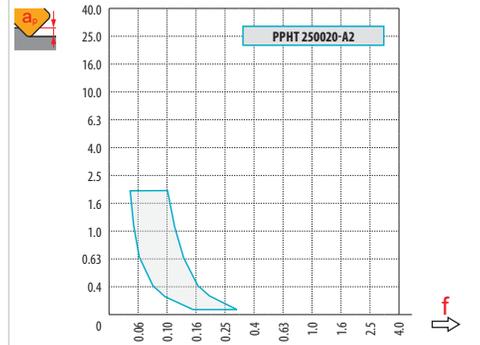
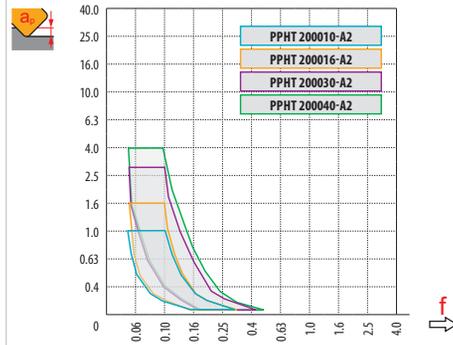
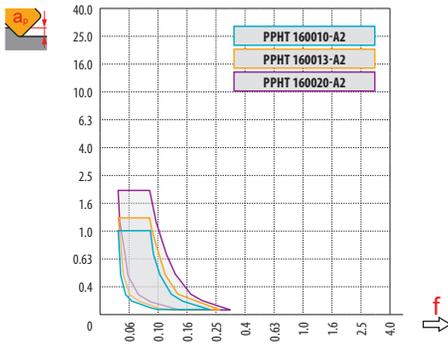
	PPHE 10-SM1	PPHE 12-SM1	PPHE 16-SM1	PPHE 20-SM1
	5.0	6.0	8.0	10.0
	-	-	-	-

	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

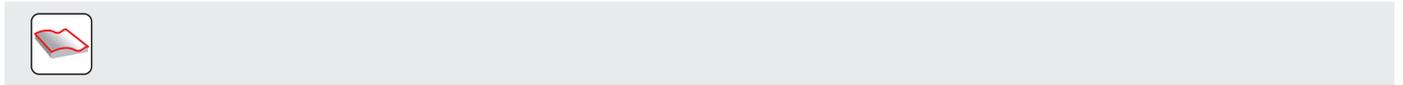
	PPHT 08-A2	PPHT 08-A2	PPHT 08-A2	PPHT 10-A2	PPHT 10-A2	PPHT 10-A2	PPHT 12-A2	PPHT 12-A2	PPHT 12-A2
	0.3	0.5	1.0	0.5	0.8	1.0	0.5	1.0	2.0
	-	-	-	-	-	-	-	-	-

	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	FE										
			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

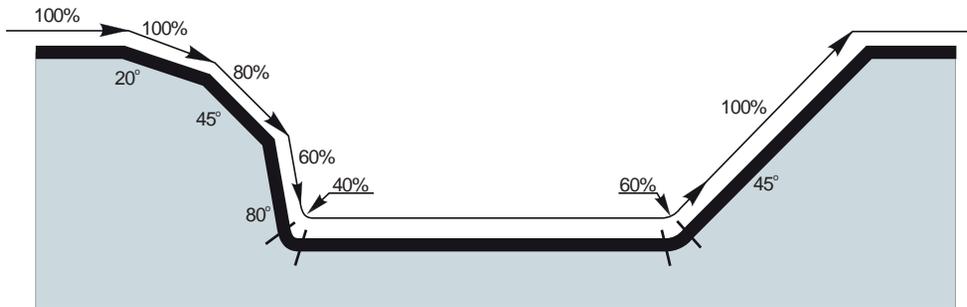
DEF	a _e	1%	2.5%	5%	7.5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	60%	70%	75%	80%	90%	100%	
19.9%	1.0%	2.86	1.84	1.33	1.12	1.00	0.89	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31.2%	2.5%	3.58	2.28	1.64	1.36	1.20	1.01	0.92	0.88	0.91	-	-	-	-	-	-	-	-	-	-	-
43.6%	5.0%	4.22	2.68	1.92	1.58	1.39	1.16	1.03	0.95	0.90	0.88	0.89	-	-	-	-	-	-	-	-	-
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	-



	DCX	RE																				
			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	-	-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-	-	-	
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	-	-	-	-	-	-	-	-		



		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
		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
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



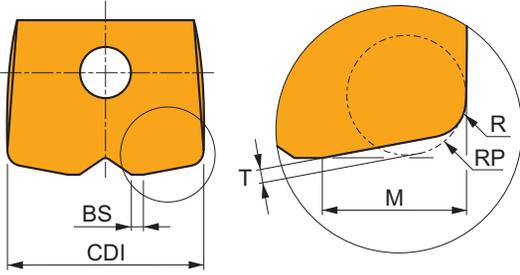
			DMIN	DMAX		
					DMIN	DMAX
PPHT 08-A2	8	0.3	11.0	15.9	0.5	0.5
PPHT 08-A2		0.5	10.9	15.9	0.5	0.5
PPHT 08-A2		0.8	10.7	15.9	0.4	0.4
PPHT 08-A2		1.0	10.3	15.9	0.4	0.4
PPHT 10-A2	10	0.5	13.4	19.9	0.7	0.7
PPHT 10-A2		0.8	13.2	19.9	0.6	0.6
PPHT 10-A2		1.0	12.9	19.9	0.6	0.6
PPHT 12-A2	12	0.5	15.8	23.9	1.0	1.0
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

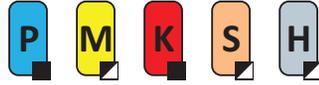


	R	RP	M	T
08	0.6	1.0	2.6	0.3
10	0.8	1.2	3.2	0.4
12	1.0	1.5	3.9	0.4
16	1.3	2.0	5.2	0.6
20	1.6	2.5	6.4	0.7
25	1.9	3.0	7.9	0.9



Takım boyu (DCX çapın çarpımı)	< 3.0	3.0 – 3.5	3.6 – 4.0	4.1 – 4.5	> 4.6
Kesme hızı için çarpan katsayısı	1.0	0.9	0.8	0.7	0.5

K3-CXP



PRAMET

C

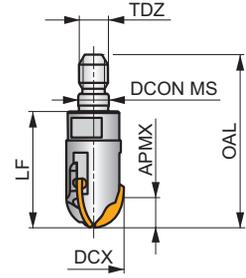
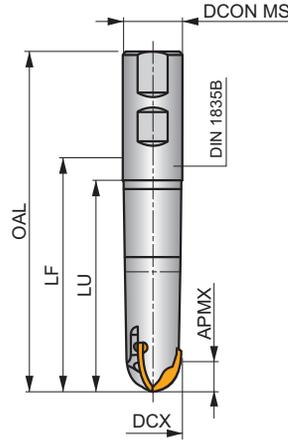
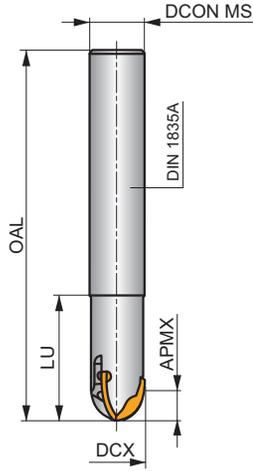
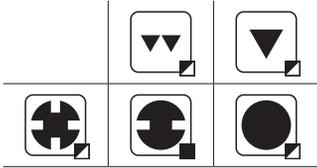
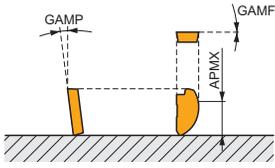


MULTISIDE XP Profil Frezeleme Takımı

XP.. uçlar için APMX 8-16mm küre ağızlı freze takımı. Benzersiz sıkma sistemi üç adet uç bağlayabilir. Silindirik ve modüler olarak bulunur. Gövde uzun takım ömrü için işlem görmüştür.

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..

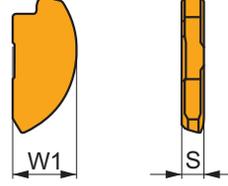


C0520	US 63009-T09P	1.2	M 3	9	Flag T09P
C0521	US 63513-T15P	3.0	M 3.5	13	Flag T15P
C0522	US 64014-T15P	3.5	M 4	14	Flag T15P
C0523	US 65017-T20P	5.0	M 5	17	Flag T20P

XP

PRAMET

	W1 (mm)	S (mm)
16	16.000	2.00
20	20.000	2.50
25	25.000	3.17
32	32.000	4.00



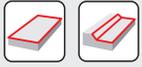
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)									

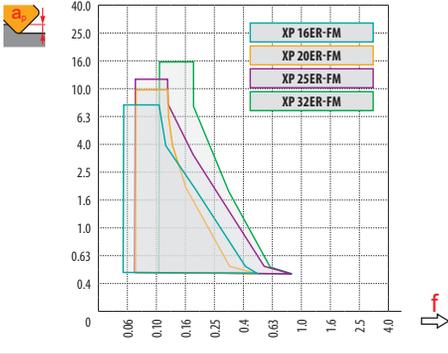


FM geometri, hafif işleme için nötr tasarım.

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	-	-	-	

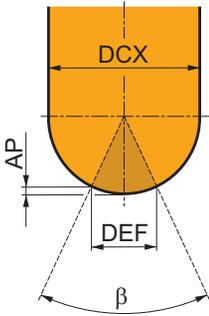


	XP 16-FM	XP 20-FM	XP 25-FM	XP 32-FM
	8.0	10.0	12.5	16.0
	-	-	-	-



		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	-

Gerçek talaş derinliğinde kesme çapı.

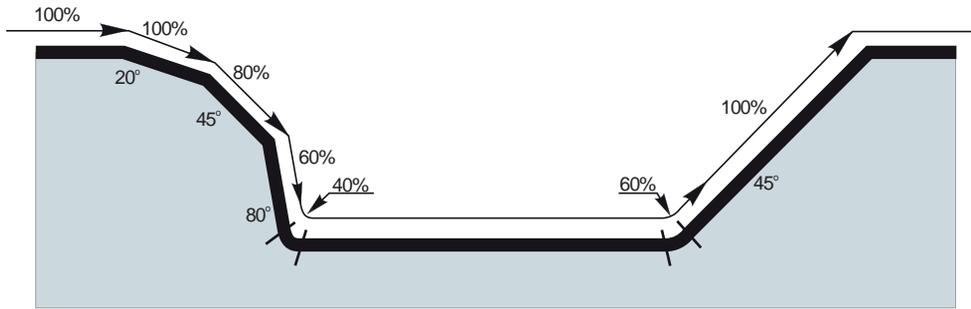


	β		AP
16	41°	5.568	0.51
20	37°	6.314	0.52
25	37°	7.901	0.65
32	37°	10.122	0.83



		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	-	-



Takım boyu (DCX çapın çarpımı)	< 3.0	3.1 – 4.0	4.1 – 6.0	> 6.1
Kesme hızı için çarpan katsayısı	1.0	0.9	0.7	0.5

DEĞİŞTİRİLEBİLİR UÇLU FREZELER – REHBER

YÜZEY FREZELEME

	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				
Silindirik shaft		DC = 32, 40 (mm)		DC = 12 – 20 (mm)		DC = 16 – 32 (mm)			
Weldon									
Modüler		DC = 32, 40 (mm)		DC = 12 – 20 (mm)		DC = 16 – 35 (mm)			
Frezeleme kafası		DC = 50 – 80 (mm)							
Sayfa	240		243		246				
ISO		N	P	K	H	P	K	H	
Kesici uç şekli									
Kesici uçlar	VCGT 220530		CN.. 0502		WN.. 0403				
Kesme kenarlarının sayısı	2		4		6				
Konturlu yüzeyler (kopya frezeleme)			■		■				
Yüzey frezeleme			■		■				
Helisel interpolasyon		■							
Aşamalı dalma		■							
Açılı frezeleme		■	■		■				
Siğ oluk frezeleme		■							
Derin kenar frezeleme		■	■		■				
Dalma frezeleme			■		■				

SVC22C

N

PRAMET

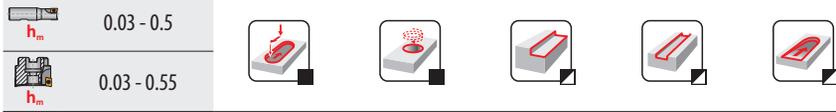
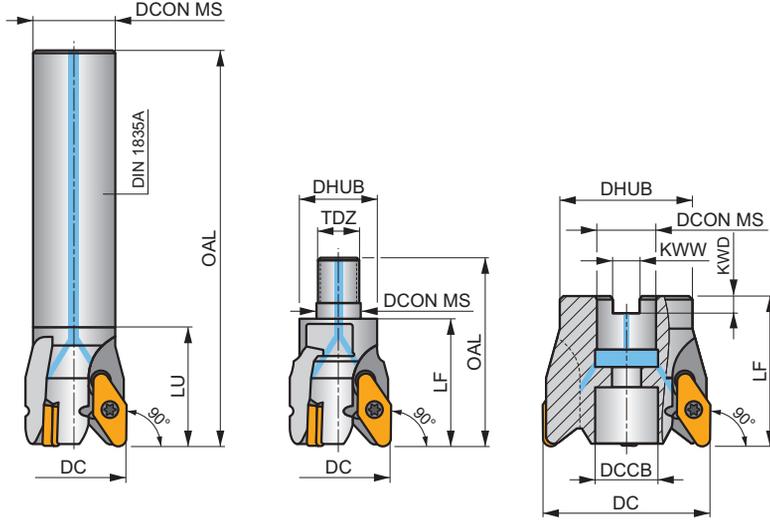
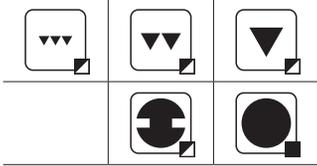
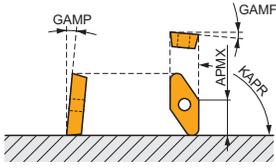
S



Demir içermeyen malzemeler için Frezeleme Takımları, İçten Su Vermeli

16 mm APMX'li VCGT 22 uçlar kullanan alüminyum ve demir dışı malzemeler için son derece verimli kesici. İçten soğutmalı. Yüzey, dalma, kenar frezeleme, ağılı frezeleme ve kanal frezeleme için uygundur. Silindirik, modüler ve göbekten bağlamalı tarzında mevcuttur. Gövde uzun takım ömrü için işlem görmüştür.

KAPR	90°
APMX	3.0 (16.0) mm



Product	DC (mm)	OAL (mm)	DCON MS (mm)	DCCB (mm)	LU (mm)	LF (mm)	DHUB (mm)	TDZ (mm)	KWW (mm)	KWD (mm)	GAMP (°)	GAMP (°)	max.	kg	C0560	C0562	C0563	
																		10400
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

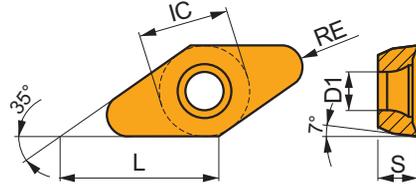
GI141	VCGT 220530F-FA
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C0560	US 4511-T20	5.0	M 4.5	11	-	-	Flag T20
C0562	US 4511-T20	5.0	M 4.5	11	SDR T20-T	-	-
C0563	US 4511-T20	5.0	M 4.5	11	SDR T20-T	HS 1030C	-

VCGT 22-FA

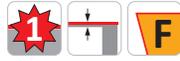
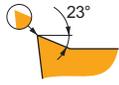
PRAMET

	IC	D1	L	S
	(mm)	(mm)	(mm)	(mm)
2205	12.700	5.20	22.00	5.50



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)									



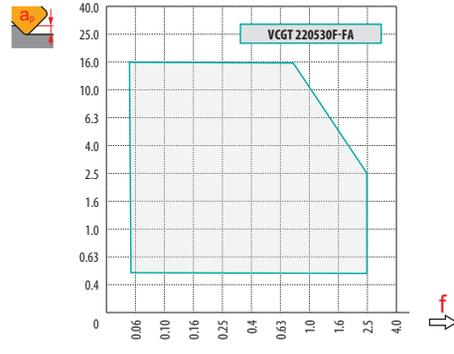
FA geometri, orta ve kaba frezeleme için çok pozitif tasarım.

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	D _{MIN}	D _{MAX}		
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



PRAMET

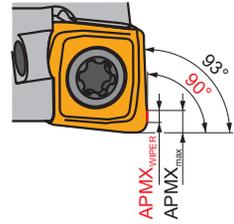
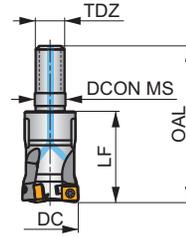
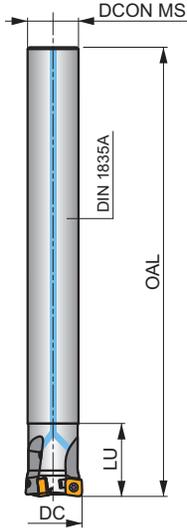
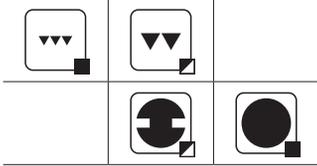
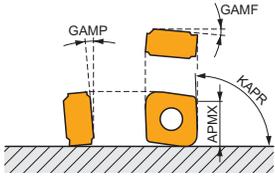
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Kalıplılık Uygulamaları için Parmak Frezeler, İçten Su Vermeli

0.5 mm APMX'li Die & Mold'un son işlem alanında geniş bir uygulama yelpazesine yönelik parmak freze. 4 kesme kenarına sahip yüksek hassasiyetli taşlanmış çift taraflı CNHX 05 kesici uçlar, yüksek doğruluk ve ekonomi sağlar. Silindirik ve modüler olarak bulunur. Gövde uzun takım ömrü için işlem görmüştür.

KAPR	90° (93°)
APMX	0.5 (1.0 mm)



h_m 0.02 - 0.07



Product	DC (mm)	OAL (mm)	DCON MS (mm)	LU (mm)	LF (mm)	TDZ	GAMF (°)	GAMP (°)			max. 		kg		
12A2R020A10-SCN05C-C	12	100	10	20	-	-	-15	-8	2	-	48700	✓	0.08	GI330	C0601
16A3R020A14-SCN05C-C	16	130	14	20	-	-	-13.5	-7.8	3	-	42200	✓	0.16	GI330	C0601
20A5R020A18-SCN05C-C	20	160	18	20	-	-	-12.7	-7.5	5	✓	37700	✓	0.31	GI330	C0601
12A2R020M06-SCN05C-C	12	35	6.5	-	20	M6	-15	-8	2	-	-	✓	0.04	GI330	C0601
16A3R025M08-SCN05C-C	16	43	8.5	-	25	M8	-13.5	-7.8	3	-	-	✓	0.05	GI330	C0601
20A5R030M10-SCN05C-C	20	49	10.5	-	30	M10	-12.7	-7.5	5	✓	-	✓	0.08	GI330	C0601



GI330



CNHX0502..



C0601



US 62005-T06P



0.9



M 2



4.9

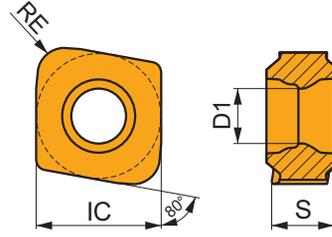


Flag T06P

CNHX 05

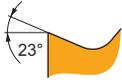


	IC	D1	S
	(mm)	(mm)	(mm)
0502	4.800	2.10	2.40



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)												



WM geometri, yarı finiş ve finiş işleme için silicili tasarım.

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

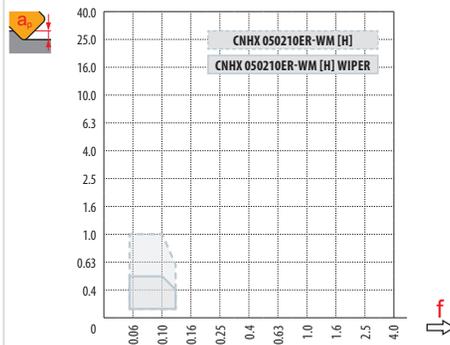
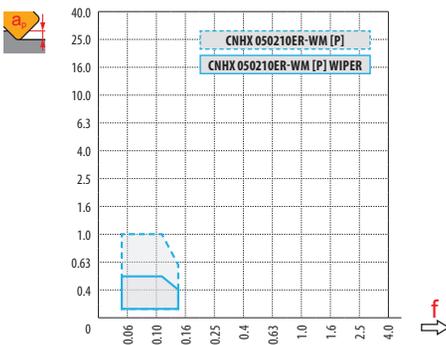


a_e / DC	0.5 %	1.0 %	2.0 %	3.0 %	4.0 %	5.0 %
$X.V$	2.04	1.85	1.68	1.59	1.53	1.48



CNHX 05-WM

RE	0.5	1.0
BS	0.50	0.50

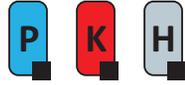


DC	max
12	0.4
16	0.4
20	0.5



DC	RPMX	APMX/I
12	2.4	1/25
16	1.5	1/40
20	1.1	1/54

SWN04C



PRAMET

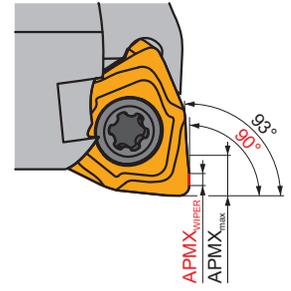
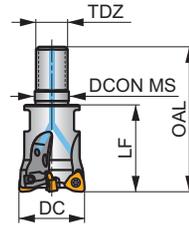
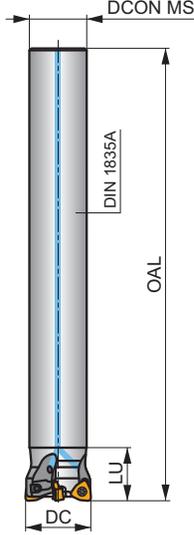
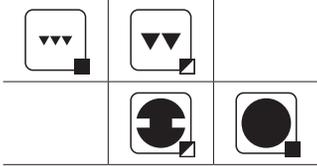
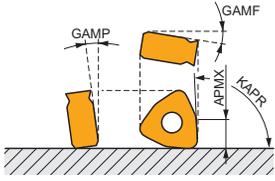
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Kalıplık Uygulamaları için Parmak Frezeler, İçten Su Vermeli

0.5 mm APMX'li Die & Mold'un son işlem alanında geniş bir uygulama yelpazesine yönelik parmak freze. 6 kesme kenarına sahip, yüksek hassasiyetli taşlanmış WNHX 04 kesici uçlar, yüksek doğruluk ve ekonomi sağlar. Silindirik ve modüler olarak bulunur. Gövde uzun takım ömrü için işlem görmüştür.

KAPR	90° (93°)
APMX	0.5 (2.0 mm)



h_m 0.02 - 0.07



Product	DC	OAL	DCON MS	LU	LF	TDZ	GAMF	GAMP	GAMF	GAMP	max.	kg	G331	C0602
	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)							
16A2R020A14-SWN04C-C	16	140	14	20	-	-	-13.5	-8	2	-	33200	0.14	G331	C0602
20A3R020A18-SWN04C-C	20	160	18	20	-	-	-12	-8	3	-	19700	0.27	G331	C0602
25A4R020A22-SWN04C-C	25	180	22	20	-	-	-11.5	-8	4	✓	26600	0.45	G331	C0602
32A6R020A25-SWN04C-C	32	200	25	20	-	-	-11.2	-8	6	✓	23500	0.69	G331	C0602
16A2R025M08-SWN04C-C	16	43	8.5	-	25	M08	-13.5	-8	2	-	33200	0.05	G331	C0602
20A3R030M10-SWN04C-C	20	49	10.5	-	30	M10	-12	-8	3	-	-	0.07	G331	C0602
25A4R033M12-SWN04C-C	25	55	12.5	-	33	M12	-11.5	-8	4	✓	-	0.10	G331	C0602
32A6R040M16-SWN04C-C	32	63	17	-	40	M16	-11.2	-8	6	✓	-	0.21	G331	C0602
35A6R043M16-SWN04C-C	35	66	17	-	43	M16	-11.1	-8	6	✓	-	0.22	G331	C0602



G331



WNHX0403..



C0602



US 42507-T07P



1.2



M 2.5



7

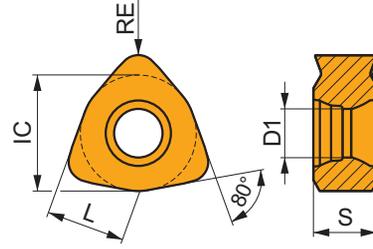


Flag T07P

WNHX 04

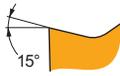
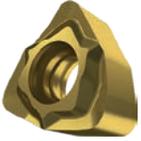


	IC	D1	S
	(mm)	(mm)	(mm)
0403	6.200	2.60	3.38



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)									



WM geometri, yarı finiş ve finiş işleme için silicili tasarım.

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

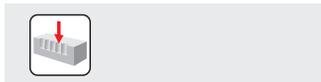
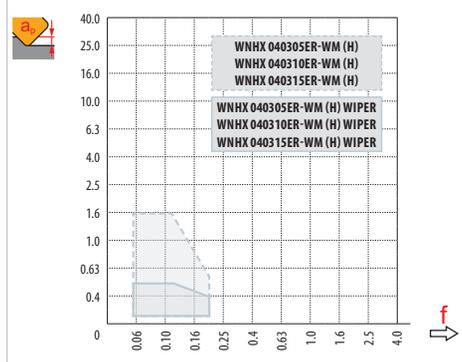
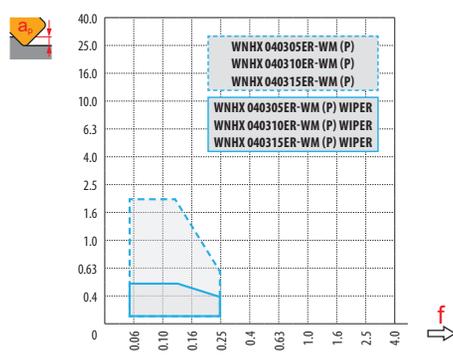


a_e / DC	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
$x.v$	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00

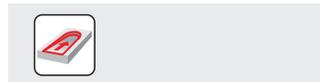


a_e / DC	0.5 %	1.0 %	2.0 %	3.0 %	4.0 %	5.0 %
$x.v$	2.04	1.85	1.68	1.59	1.53	1.48

	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



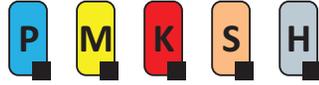
YÜKSEK İLERLEMELİ FREZELEME

DEĞİŞTİRİLEBİLİR UÇLU FREZELER – REHBER

YÜZEY FREZELEME

	SBN10		SSN11							
	20°		18°							
	APMX (mm)	1.0	APMX (mm)	1.7						
	DCX (mm)	16 – 66	DCX (mm)	32 – 125						
Silindirik shaft		DCX = 16 – 35 (mm)		DCX = 32, 35 (mm)						
Weldon										
Modüler		DCX = 16 – 40 (mm)		DCX = 32 – 40 (mm)						
Freze kafası		DCX = 40 – 66 (mm)		DCX = 40 – 125 (mm)						
Sayfa	252		258							
ISO	P	M	K	S	H	P	M	K	S	H
Kesici uç şekli										
Kesici uçlar	BNGX 10T3 ANHX 10T3		SNGX 1104							
Kesme kenarlarının sayısı	4/2		8							
Yüzey frezeleme		■	■							
Helisel interpolasyon		■	▣							
Siğ kenar frezeleme		■	■							
Dalma frezeleme		■	■							
Aşamalı dalma		■	▣							
Açılı frezeleme		■	▣							
Şekil yüzeyleri frezeleme (kopya frezeleme)		■	■							
Siğ oluk frezeleme		▣	▣							

SBN10



PRAMET

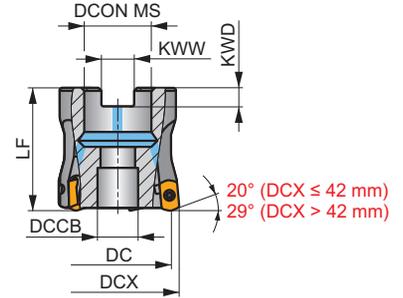
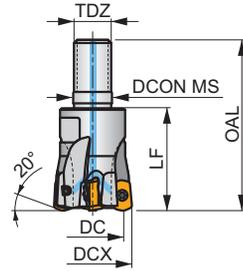
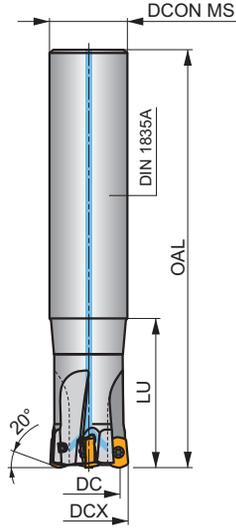
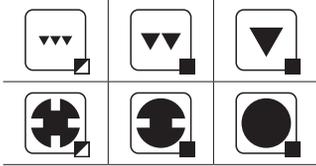
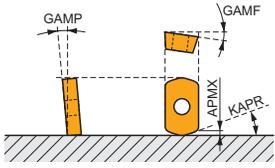
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BN.. 10 Uçlar için Yüksek Hızlı Freze Takımı, İçten Su Vermeli, Yeni Nesil

Dört kesme kenarlı ve 1 mm APMX'li çift taraflı BNGX 10 uçlar kullanan daha küçük çaplar için yüksek ilerlemeli frezeleme takımı. İçten su vermeli. Birçok uygulama için uygundur. Silindirik, modüler ve göbektan bağlamalı olarak Ø16-42mm çaplarında bulunur. Gövde uzun takım ömrü için işlem görmüştür.

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	GAMP	GAMP	GAMP	max.	kg	G1329	C0310	
																			(mm)
16E2R030A16-SBN10-C	16	9.4	100	16	-	30	-	-	-	-	20	-12	-10	2	✓	31100	✓	0.13	G1329 C0310
16E2R050A16-SBN10-C	16	9.4	150	16	-	50	-	-	-	-	20	-12	-10	2	-	31100	✓	0.18	G1329 C0310
16E2R030A14-SBN10-C	16	9.4	150	14	-	30	-	-	-	-	20	-12	-10	2	-	31100	✓	0.18	G1329 C0310
18E2R030A16-SBN10-C	18	11.4	150	16	-	30	-	-	-	-	20	-11	-10	2	-	29200	✓	0.23	G1329 C0310
20E3R040A20-SBN10-C	20	13.4	130	20	-	40	-	-	-	-	20	-10	-10	3	-	27700	✓	0.25	G1329 C0310
20E3R080A20-SBN10-C	20	13.4	160	20	-	80	-	-	-	-	20	-10	-10	3	-	27700	✓	0.29	G1329 C0310
20E3R040A18-SBN10-C	20	13.4	180	18	-	40	-	-	-	-	20	-10	-10	3	-	27700	✓	0.29	G1329 C0310
20E4R040A20-SBN10-C	20	13.4	130	20	-	40	-	-	-	-	20	-10	-10	4	-	27700	✓	0.28	G1329 C0310
25E4R050A25-SBN10-C	25	18.4	140	25	-	50	-	-	-	-	20	-9	-10	4	✓	24800	✓	0.42	G1329 C0310
25E4R100A25-SBN10-C	25	18.4	180	25	-	100	-	-	-	-	20	-9	-10	4	✓	24800	✓	0.51	G1329 C0310
25E4R050A22-SBN10-C	25	18.4	220	22	-	50	-	-	-	-	20	-9	-10	4	✓	24800	✓	0.58	G1329 C0310
25E5R050A25-SBN10-C	25	18.4	140	25	-	50	-	-	-	-	20	-9	-10	5	-	24800	✓	0.42	G1329 C0310
32E5R070A32-SBN10-C	32	25.4	150	32	-	70	-	-	-	-	20	-8	-10	5	✓	21900	✓	0.73	G1329 C0310
32E6R070A32-SBN10-C	32	25.4	150	32	-	70	-	-	-	-	20	-8	-10	6	✓	21900	✓	0.76	G1329 C0310
32E5R120A32-SBN10-C	32	25.4	200	32	-	120	-	-	-	-	20	-8	-10	5	✓	21900	✓	0.96	G1329 C0310
35E5R050A32-SBN10-C	35	28.4	200	32	-	50	-	-	-	-	20	-7.5	-10	5	✓	21000	✓	1.08	G1329 C0310
35E6R050A32-SBN10-C	35	28.4	200	32	-	50	-	-	-	-	20	-7.5	-10	6	✓	21000	✓	1.08	G1329 C0310
16E2R025M08-SBN10-C	16	9.4	43	8.5	-	25	M8	-	-	-	20	-12	-10	2	-	31100	✓	0.05	G1329 C0310
18E2R025M08-SBN10-C	18	11.4	43	8.5	-	25	M8	-	-	-	20	-11	-10	2	-	29200	✓	0.05	G1329 C0310
20E3R030M10-SBN10-C	20	13.4	49	10.5	-	30	M10	-	-	-	20	-10	-10	3	-	27700	✓	0.07	G1329 C0310
20E4R030M10-SBN10-C	20	13.4	49	10.5	-	30	M10	-	-	-	20	-10	-10	4	-	27700	✓	0.06	G1329 C0310
25E4R033M12-SBN10-C	25	18.4	55	12.5	-	33	M12	-	-	-	20	-9	-10	4	✓	24800	✓	0.08	G1329 C0310
25E5R033M12-SBN10-C	25	18.4	55	12.5	-	33	M12	-	-	-	20	-9	-10	5	-	24800	✓	0.10	G1329 C0310
28E5R035M12-SBN10-C	28	21.4	57	12.5	-	35	M12	-	-	-	20	-8.5	-10	5	✓	23400	✓	0.12	G1329 C0310
32E5R040M16-SBN10-C	32	25.4	63	17	-	40	M16	-	-	-	20	-8	-10	5	✓	21900	✓	0.21	G1329 C0310
32E6R040M16-SBN10-C	32	25.4	63	17	-	40	M16	-	-	-	20	-8	-10	6	✓	21900	✓	0.21	G1329 C0310
35E6R043M16-SBN10-C	35	28.4	66	17	-	43	M16	-	-	-	20	-7.5	-10	6	✓	21000	✓	0.23	G1329 C0310

Product	DCX	DC	OAL	D CONIMS	DCCB	LU	LF	TDZ	KWW	KWD	KAPR	GAMF	GAMP	max.			kg			
	(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

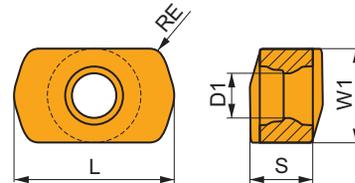
GI329	BNGX 10T3...	ANHX 10T3..
GI343	BNGX 10T3...	-

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

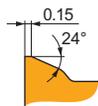


10T3	W1 (mm)	D1 (mm)	L (mm)	S (mm)
10T3	5.800	2.76	9.92	3.90



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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

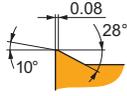


M geometri, yüksek hızlı frezeleme için pozitif tasarım.

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

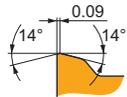
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)									



MM geometri, yüksek hızlı frezeleme için çok pozitif tasarım.

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	-	-	-



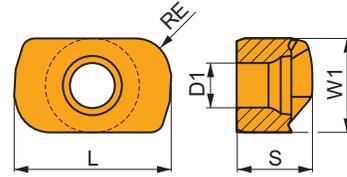
HM geometri, yüksek hızlı frezeleme için güçlü tasarım.

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

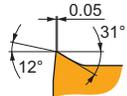
PRAMET

	W1 (mm)	D1 (mm)	L (mm)	S (mm)
10T3	5.800	2.76	9.72	4.70



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)									



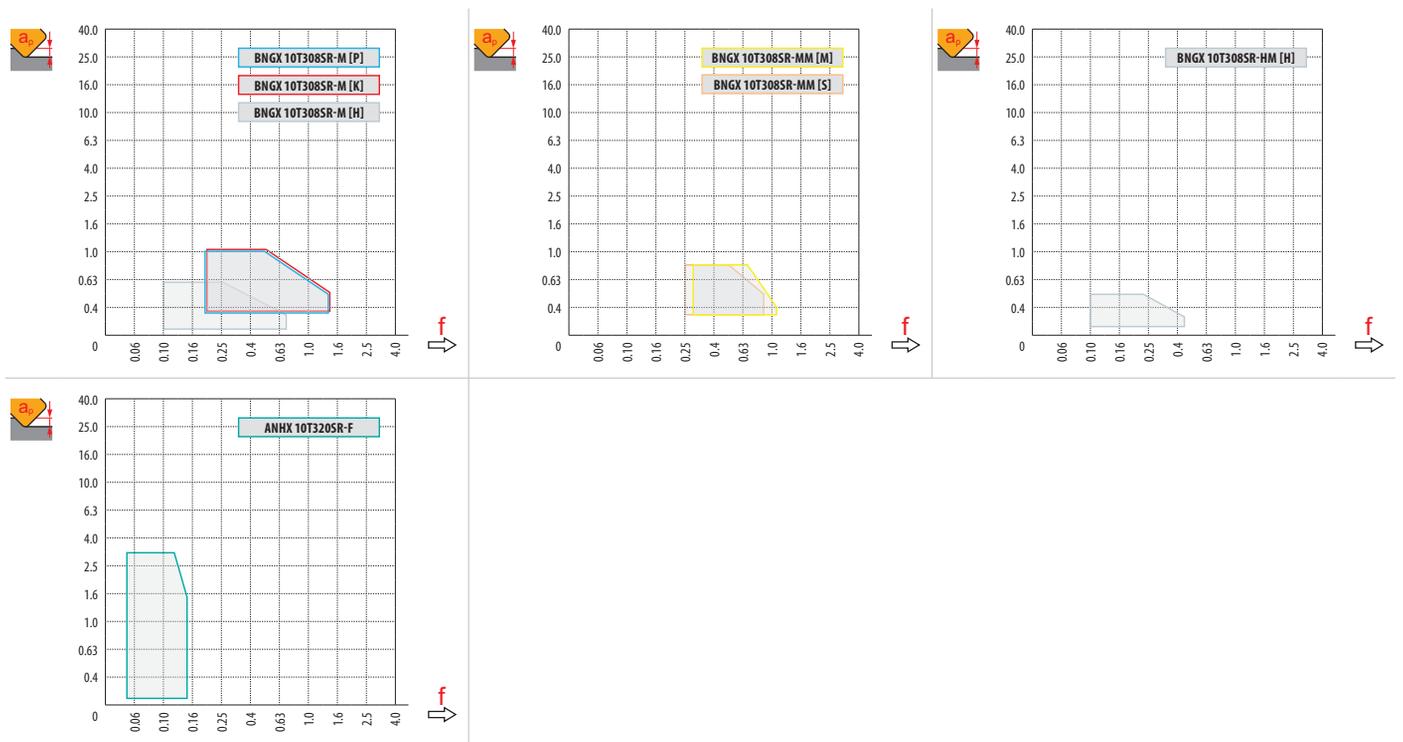
F geometri, finiş ve yarı finiş işleme için pozitif tasarım.

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	-	-	-	-	-	-	-	-	-	-	-	-



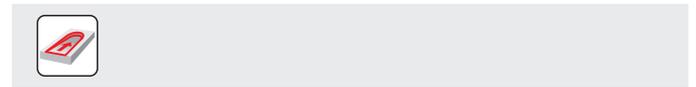
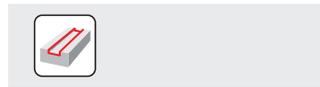
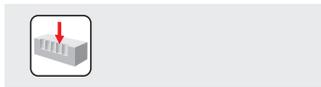
a_e / DCX	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	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



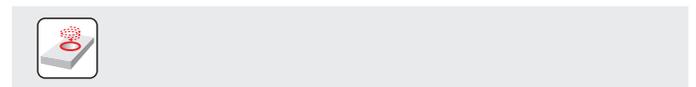
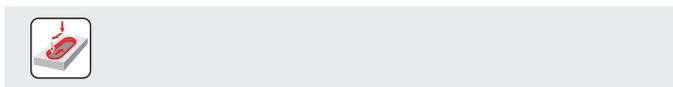
BNGX 10

		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)

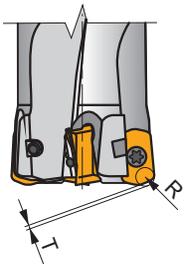
	DMIN	DMAX		
16	22.4	31.8	0.5	0.5
18	25.4	35.8	0.5	0.5
20	29.4	39.8	0.5	0.5
25	39.4	49.8	0.5	0.5
32	53.4	63.8	0.5	0.5
35	59.4	69.8	0.5	0.5
40	69.4	79.8	0.5	0.5
42	73.4	83.8	0.5	0.5
50	89.6	99.6	0.5	0.5
52	93.6	103.6	0.5	0.5
66	121.6	131.6	0.5	0.5



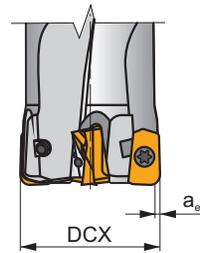
	μm	3	5	10	15	20	30	40	50	60	80	100
16		0.438	0.566	0.800	0.980	1.131	1.386	1.600	1.789	1.960	2.263	2.530
18		0.465	0.600	0.849	1.039	1.200	1.470	1.697	1.897	2.078	2.400	2.683
20		0.490	0.632	0.894	1.095	1.265	1.549	1.789	2.000	2.191	2.530	2.828
25		0.548	0.707	1.000	1.225	1.414	1.732	2.000	2.236	2.449	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

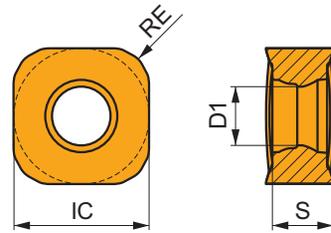
C0314	US 44012-T15P	3.5	M 4	12	–	–	–	Flag T15P	–
C0316	US 44012-T15P	3.5	M 4	12	D-T08P/T15P	FG-15	–	–	HCS 0840C
C0318	US 44012-T15P	3.5	M 4	12	D-T08P/T15P	FG-15	–	–	HS 90835
C0320	US 44012-T15P	3.5	M 4	12	D-T08P/T15P	FG-15	–	–	HS 1030C
C0322	US 44012-T15P	3.5	M 4	12	D-T08P/T15P	FG-15	–	–	HS 1230C
C0324	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

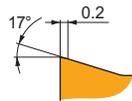


	IC (mm)	D1 (mm)	S (mm)
1104	10.600	4.56	4.76



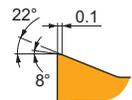
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)									



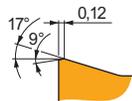
M geometri, yüksek ilerlemeli frezeleme için pozitif tasarım.

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 geometri, yüksek ilerlemeli frezeleme için çok pozitif tasarım.

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	–	–

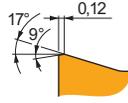


HM geometri, yüksek ilerlemeli frezeleme için güçlü tasarım.

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

Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)									



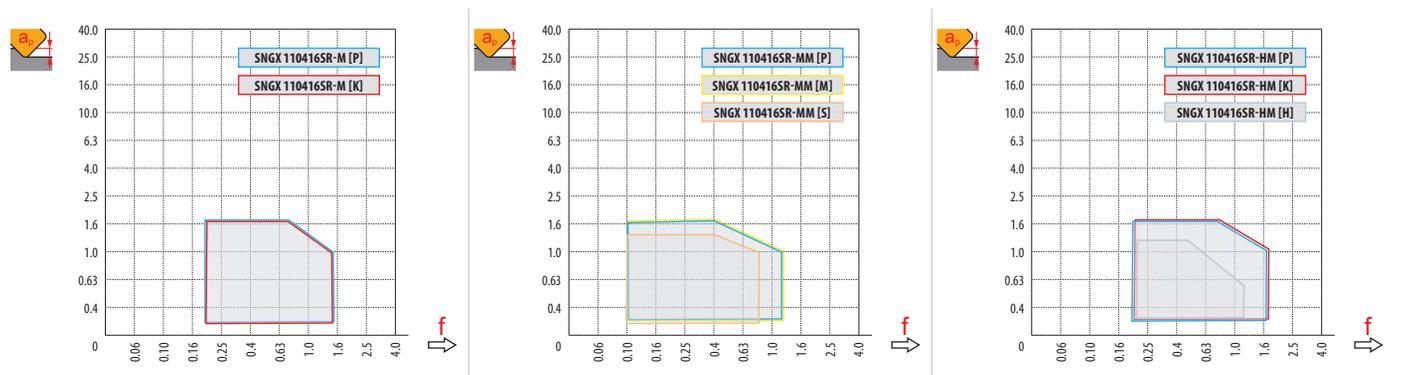
HM geometri, yüksek ilerlemeli frezeleme için güçlü tasarım.

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

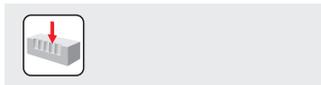


a_e / DCX	5%	10%	15%	20%	25%	30%	40%	50%	60%	70%	75%	80%	90%	100%
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	SNGX 11 - M	SNGX 11 - MM	SNGX 11 - HM
	1.6	1.6	1.6
	-	-	-

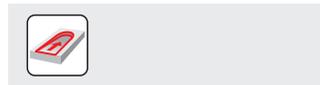


HFC														
DCX	a_p	0.00	0.20	0.40	0.60	0.80	1.00	1.10	1.20	1.30	1.40	1.50	1.60	1.70
32		18.30	19.53	20.76	21.99	23.22	24.46	25.07	25.69	26.30	26.92	27.53	28.15	28.76
35		21.20	22.43	23.66	24.89	26.12	27.36	27.97	28.59	29.20	29.82	30.43	31.05	31.66
40		26.20	27.43	28.66	29.89	31.12	32.36	32.97	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



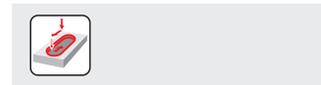
SNGX

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



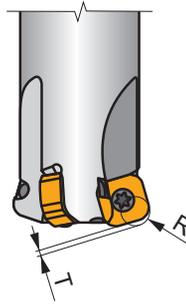
SNGX

	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

DEĞİŞTİRİLEBİLİR UÇLU FREZELER – REHBER

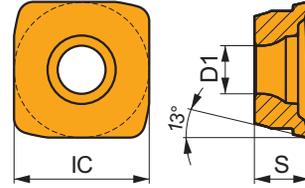
YÜZEY FREZELEME

	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							
Silindirik shaft		DC = 35, 40 (mm)		DCX = 32, 40 (mm)		DCX = 16 – 25 (mm)											
Weldon		DC = 35, 40 (mm)						DCX = 25, 32 (mm)									
Modüler								DCX = 25, 32 (mm)		DCX = 32, 40 (mm)							
Freze kafası		DC = 42 – 125 (mm)		DCX = 42 – 140 (mm)				DCX = 40 – 63 (mm)		DCX = 50 – 80 (mm)							
Sayfa	266		270		276		280		284								
ISO	P	M	K	N	S	H	P	M	K	S	H	P	K	H	P	K	H
Kesici uç şekli																	
Kesici uçlar	SOHT 1205		PD.. 0905		ZDCW 0703		ZDCW 09T3		ZDEW 1204								
Kesme kenarlarının sayısı	4		5		4		4		4								
Yüzey frezeleme	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>								
Helisel interpolasyon	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>								
Siğ kenar frezeleme	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>								
Dalma frezeleme	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>								
Aşamalı dalma	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>								
Açılı frezeleme	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>								
Şekil yüzeyleri frezeleme (kopya frezeleme)	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>								
Siğ oluk frezeleme	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>								

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

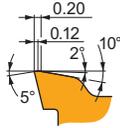
SOHT 12

	IC	D1	S
	(mm)	(mm)	(mm)
1205	12.700	4.50	5.15



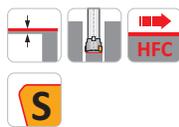
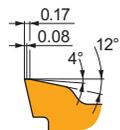
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)									



M geometrisi, çok çeşitli çalışma koşulları için çok yönlüdür. Pürüzsüz HFC frezeleme için pozitif eğim, orta T-land ve yuvarlatılmış kesme kenarı ile tasarlanmıştır. Çelikler, dökme demirler ve sertleştirilmiş çelikler için ilk tercihtir.

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	■	—	—	—



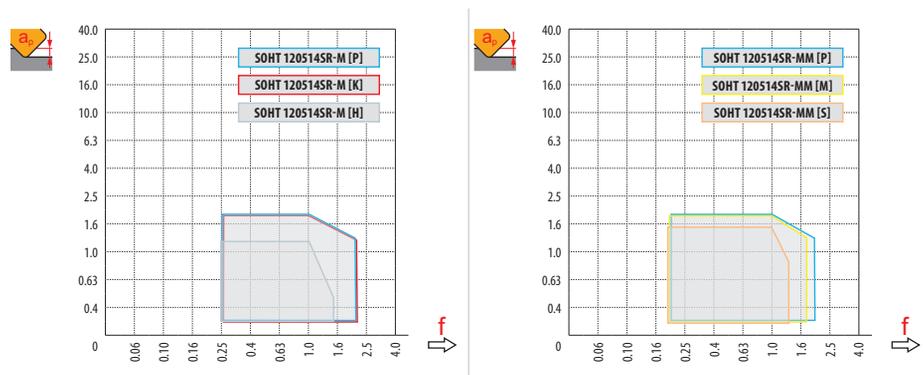
MM geometrisi keskindir ve büyük çıkıntı veya ince duvarlı ve ince iş parçası uygulamaları için uygundur. Pürüzsüz HFC frezeleme için pozitif eğim, dar T-land ve yuvarlatılmış kesme kenarı ile tasarlanmıştır. Paslanmaz çelikler ve süper alaşımlar için ilk tercihtir.

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_e	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_e	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	D _{MIN}	D _{MAX}	S _{MAX} D _{MIN}	S _{MAX} D _{MAX}
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

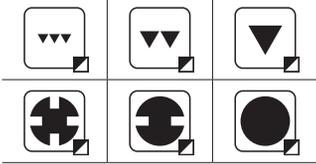
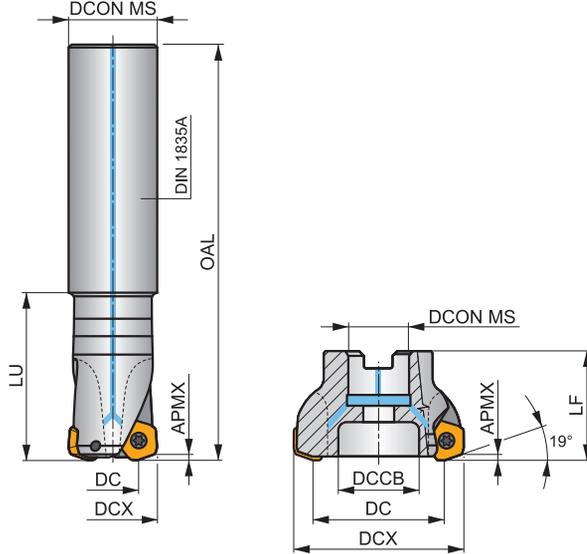
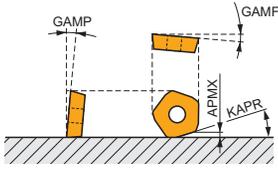


PENTA HF Yüksek Hızlı Frezeleme Takımı, İçten Su Vermeli

PD.. 09 uçlar için APMX 2mm tek taraflı içten su vermeli, yüksek hızlı son derece verimli frezeleme takımları. Birçok uygulama için uygundur. Silindirik ve göbekten bağlamalı olarak bulunur. Gövde uzun takım ömrü için işlem görmüştür.

PENTA HF

KAPR	19°
APMX	2.0 mm



Product	DCX (mm)	DC (mm)	OAL (mm)	DCON MS (mm)	DCCB (mm)	LU (mm)	LF (mm)	GAMP (°)	GAMP (°)	max.	kg	GI245	C0340	C0341	C0342	C0343	C0344	AC001	AC002	
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..
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C0340	US 45011-T20P	5.0	M 5	11	-	-	Flag T20P
C0341	US 45011-T20P	5.0	M 5	11	SDR T20P-T	-	-

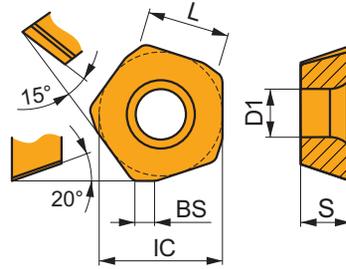
C0342	US 45011-T20P	5.0	M 5	11	SDR T20P-T	HS 90835	-
C0343	US 45011-T20P	5.0	M 5	11	SDR T20P-T	HS 1030C	-
C0344	US 45011-T20P	5.0	M 5	11	SDR T20P-T	HS 1230C	-
C0349	US 45011-T20P	5.0	M 5	11	SDR T20P-T	HSD 2040	-

AC001		KS 1230	K.FMH27
AC002		KS 1635	K.FMH32

PDMX 09

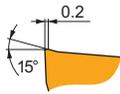


	BS	IC	D1	L	S
	(mm)	(mm)	(mm)	(mm)	(mm)
0905	2.00	13.500	5.50	9.00	5.47



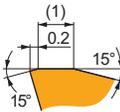
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)									



M geometri, yüksek hızlı frezeleme için pozitif tasarım.

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	█	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



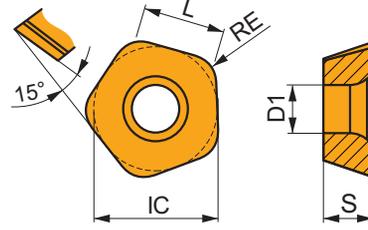
R geometri, yüksek hızlı işleme için güçlü tasarım.

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

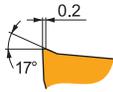
PRAMET

	IC (mm)	D1 (mm)	L (mm)	S (mm)
0905	13.500	5.50	9.00	5.47



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)									



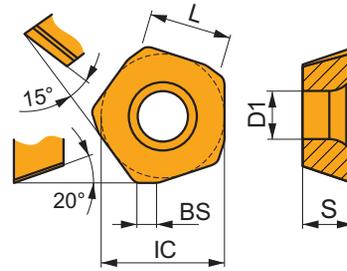
FM geometri, hafif ve orta işlemeye uygun yüksek hızlı frezeleme için çok pozitif tasarım.

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

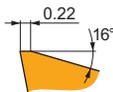
PRAMET

	BS (mm)	IC (mm)	D1 (mm)	L (mm)	S (mm)
0905	2.00	13.500	5.50	9.00	5.47



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)									



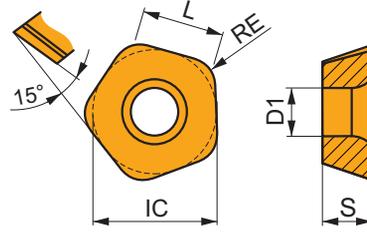
FM geometri, orta işlemeye uygun yüksek hızlı frezeleme için çok pozitif tasarım.

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

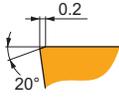


	IC (mm)	D1 (mm)	L (mm)	S (mm)
0905	13.500	5.50	9.00	5.47



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)												



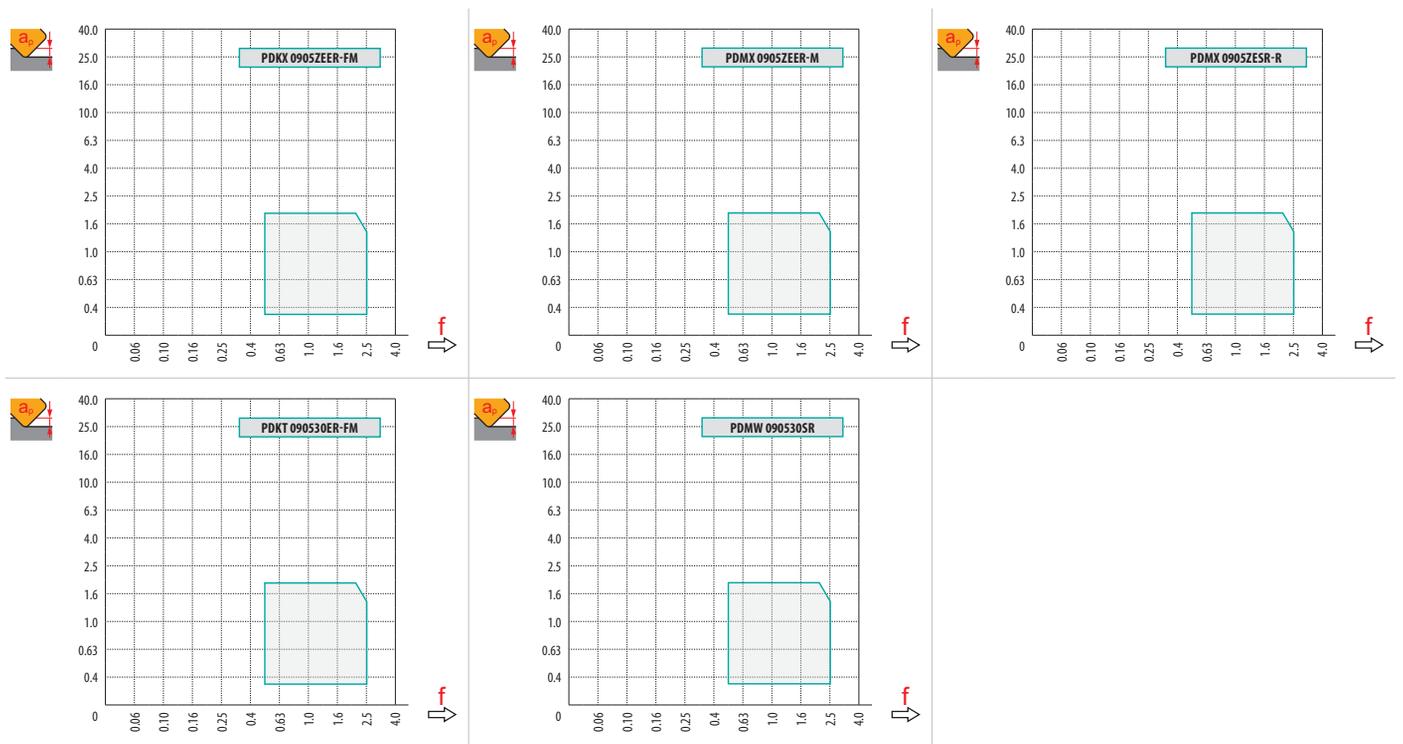
SR sıfır talaş açısı tasarımı, yüksek hızlı işleme için.

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



Urmați instrucțiunile furnizate pentru frezare suprafețe plane. În cazul frezării aproape de suprafață verticală, reduceți avansul per dinte (f_z) până la 50%, pentru a preveni vibrațiile și deteriorarea muchiilor aschietoare.



DCX	v_{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



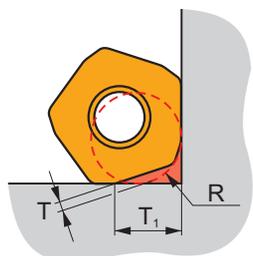
DCX	DMIN	DMAX	SMAX DMIN	SMAX DMAX
40	63.7	80.0	2.00	2.00
42	67.5	84.0	2.00	2.00
50	83.3	100.0	2.00	2.00
52	87.3	104.0	2.00	2.00
63	109.2	126.0	2.00	2.00
66	115.2	132.0	2.00	2.00
80	143.3	160.0	2.00	2.00
100	183.3	200.0	2.00	2.00



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

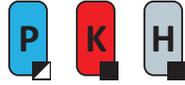


DCX	μm	3	5	10	15	20	30	40	50	60	80	100
32		0.620	0.800	1.131	1.386	1.600	1.960	2.263	2.530	2.771	3.200	3.578
40		0.693	0.894	1.265	1.549	1.789	2.191	2.530	2.828	3.098	3.578	4.000
42		0.710	0.917	1.296	1.587	1.833	2.245	2.592	2.898	3.175	3.666	4.099
50		0.775	1.000	1.414	1.732	2.000	2.449	2.828	3.162	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



PRAMET

S

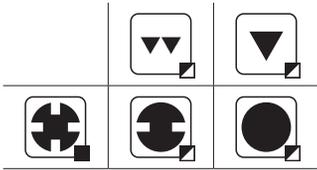
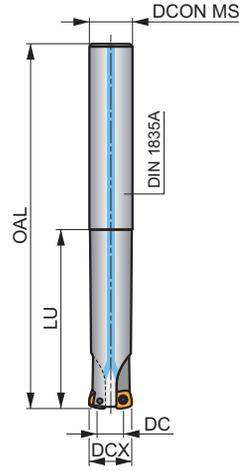
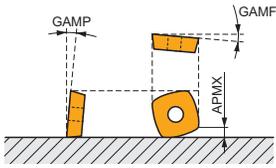


FEED ZD07 Yüksek Hızlı Frezeleme Takımı, İçten Su Vermeli

ZD.. 07 uçlar için APMX 1mm 4 köşeli içten su vermeli, yüksek hızlı son derece verimli frezeleme takımları. Birçok uygulama için uygundur. Silindirik ve modüler olarak bulunur. Gövde uzun takım ömrü için işlem görmüştür.

FEED ZD

APMX	1.0 mm
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h_m 0.175 - 0.44



Product	DCX (mm)	DC (mm)	OAL (mm)	DCON MS (mm)	LU (mm)	LF (mm)	GAMP (°)	GAMP (°)	��	��	max.	Icon	kg	GI201	C0350
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..



C0350



US 2205-T07P



0.9 Nm



M 2.2



5

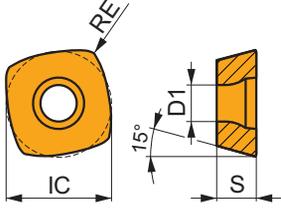


Flag T07P

ZDCW 07

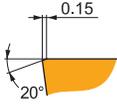


	IC	D1	S
	(mm)	(mm)	(mm)
0703	6.800	2.60	3.18



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)												



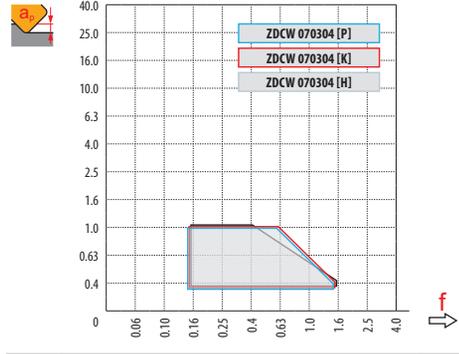
ZDCW özel tasarım, yüksek hızlı işleme için.

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

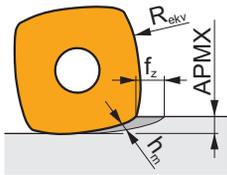


a_e / DCX	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	ZDCW 07
	0.4
	-



	a_e	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
	a_e	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



$$f_z = h_m \times \sqrt{\frac{2R_{ekv}}{APMX}} \quad (\text{mm/ağız})$$



Düz yüzeylerin frezelenmesi için verilen talimatları izleyin. Dik yüzeye yakın frezeleme durumunda, titreşimleri ve kesici kenarın hasarını önlemek için ağız başına ilerleme miktarını (f_z) % 50'ye düşürün.

	f_{max}	f_{max}
16	5.6	0.12
20	5.6	0.15
25	5.6	0.17

HFC			
a_e	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



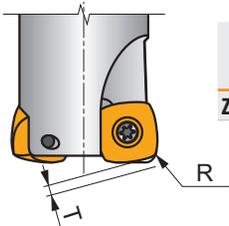
	DMIN	DMAX	DMIN	DMAX
16	21.0	32.0	0.10	0.40
20	29.0	40.0	0.10	0.30
25	39.0	50.0	0.15	0.25



		f_{max}
16	0.05	0.12
20	0.05	0.15
25	0.05	0.17

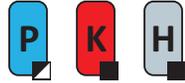


	μm	3	5	10	15	20	30	40	50	60	80	100
16		0.438	0.566	0.800	0.980	1.131	1.386	1.600	1.789	1.960	2.263	2.530
20		0.490	0.632	0.894	1.095	1.265	1.549	1.789	2.000	2.191	2.530	2.828
25		0.548	0.707	1.000	1.225	1.414	1.732	2.000	2.236	2.449	2.828	3.162



	R	T
ZDCW 070304	1.70	0.60

SZD09



PRAMET

S

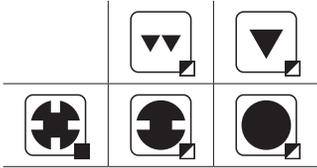
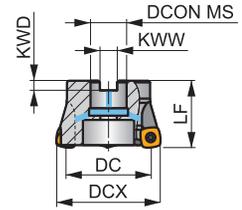
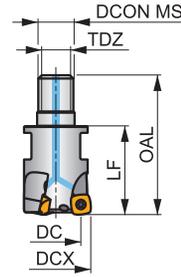
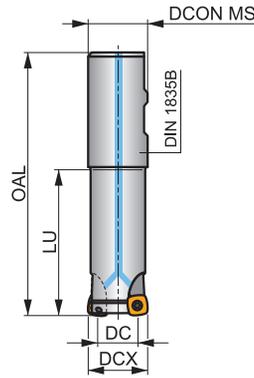
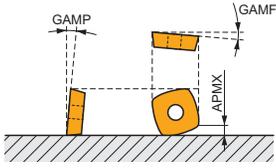


FEED ZD09 Yüksek Hızlı Frezeleme Takımı, İçten Su Vermeli

4 kesme kenarlı ve 1 mm APMX'li tek taraflı ZD..09 kesici uç kullanan üretken, yüksek ilerlemeli frezeleme takımı. İçten soğutmalı. Çok çeşitli uygulamalar için uygundur. Silindirik, modüler ve göbekten bağlamalı olarak bulunur. Gövde uzun takım ömrü için işlem görmüştür.

FEED ZD

APMX	1.0 mm
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 h_m	0.31 - 0.618
 h_m	0.31 - 0.618



Product	DCX	DC	OAL	DCON MS	LU	LF	TDZ	KWW	KWD	GAMF	GAMP							
	(mm) m)	(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

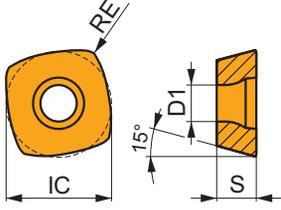
ZDCW 09T3..

								
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

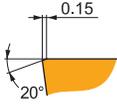


	IC	D1	S
	(mm)	(mm)	(mm)
09T3	9.525	3.40	3.97



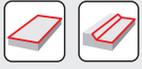
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



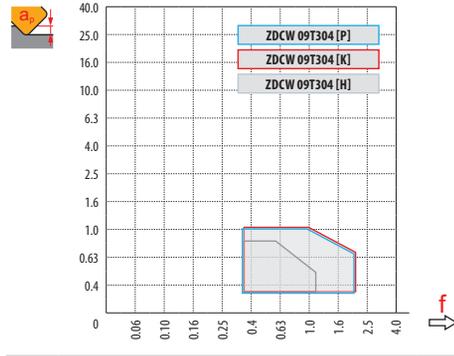
ZDCW özel tasarım, yüksek hızlı işleme için.

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

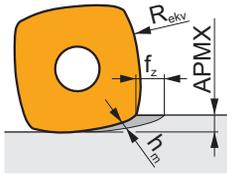


a_e / DCX	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	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



$$f_z = h_m \times \sqrt{\frac{2R_{ekv}}{APMX}} \quad (\text{mm/ağız})$$



Düz yüzeylerin frezelenmesi için verilen talimatları izleyin. Dik yüzeye yakın frezelenme durumunda, titreşimleri ve kesici kenarın hasarını önlemek için ağız başına ilerleme miktarını (f_z) % 50'ye düşürün.

		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			
	RPMX	APMX/l	RPMX	APMX/l
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



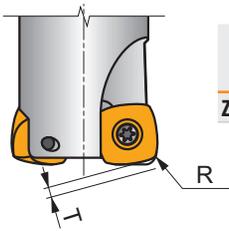
DCX	DMIN	DMAX	SMAX DMIN	SMAX DMAX
25	35.0	50.0	0.45	1.00
32	49.0	64.0	0.45	0.85
40	65.0	80.0	0.50	0.85



DCX	a_p	f_{max}
25	0.15	0.15
32	0.15	0.17
40	0.15	0.20

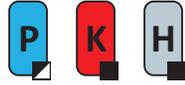


DCX	μm	3	5	10	15	20	30	40	50	60	80	100	
25		0.548	0.707	1.000	1.225	1.414	1.732	2.000	2.236	2.449	2.828	3.162	
32		0.620	0.800	1.131	1.386	1.600	1.960	2.263	2.530	2.771	3.200	3.578	
40		0.693	0.894	1.265	1.549	1.789	2.191	2.530	2.828	3.098	3.578	4.000	
50													
63													



	R	T
ZDCW 09T304	2.27	0.52

SZD12



PRAMET

S

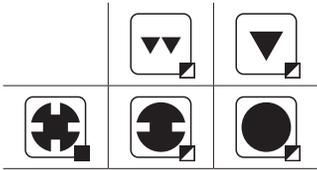
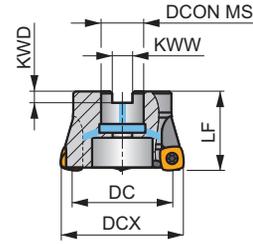
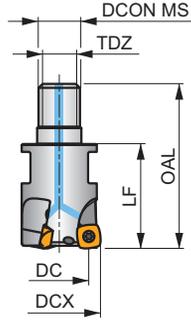
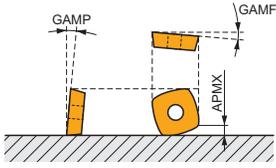


FEED ZD 12 Yüksek Hızlı Freze Takımı, İçten Su Vermeli

4 kesme kenarlı tek taraflı ZD..12 kesici uç ve 1.6 mm APMX kullanan son derece verimli, yüksek ilerlemeli frezleme takımı. İçten soğutmalı. Çok çeşitli uygulamalar için uygundur. Birçok uygulama için uygundur. Silindirik, modüler ve göbekten bağlamalı gövde. Gövde uzun takım ömrü için işlem görmüştür.

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

	ZDEW 1204..
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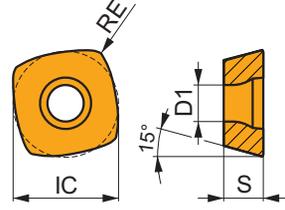
C0371	US 4011-T15P	3.5	M 4	10.6	D-T08P/T15P	FG-15	-	-
SQ033	US 4011-T15P	3.5	M 4	10.6	D-T08P/T15P	FG-15	-	HS 1030C
SQ220	US 4011-T15P	3.5	M 4	10.6	-	-	Flag T15P	-

AC001	KS 1230	K.FMH27

ZDEW 12

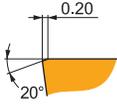


	IC	D1	S
	(mm)	(mm)	(mm)
1204	12.700	4.40	4.76



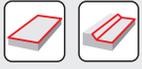
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)												



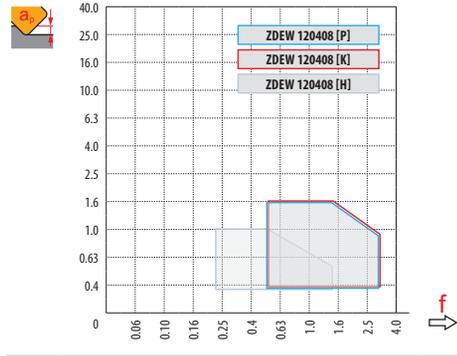
ZDEW özel tasarımı, yüksek hızlı işleme için.

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

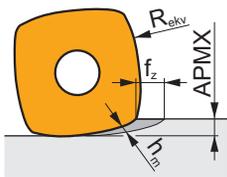


a_e DCX	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	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



$$f_z = h_m \times \sqrt{\frac{2R_{ekv}}{APMX}} \quad (\text{mm/ağız})$$



Düz yüzeylerin frezelenmesi için verilen talimatları izleyin. Dik yüzeye yakın frezeleme durumunda, titreşimleri ve kesici kenarın hasarını önlemek için ağız başına ilerleme miktarını (f_z) % 50'ye düşürün.

		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



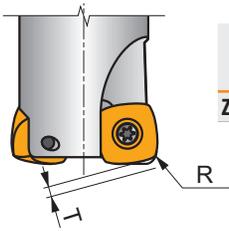
DCX	D _{MIN}	D _{MAX}	S _{MAX} D _{MIN}	S _{MAX} D _{MAX}
32	44.0	64.0	0.75	1.60
40	60.0	80.0	0.75	1.50
50	80.0	100.0	0.80	1.35
63	106.0	126.0	0.70	1.00
80	140.0	160.0	0.65	0.85



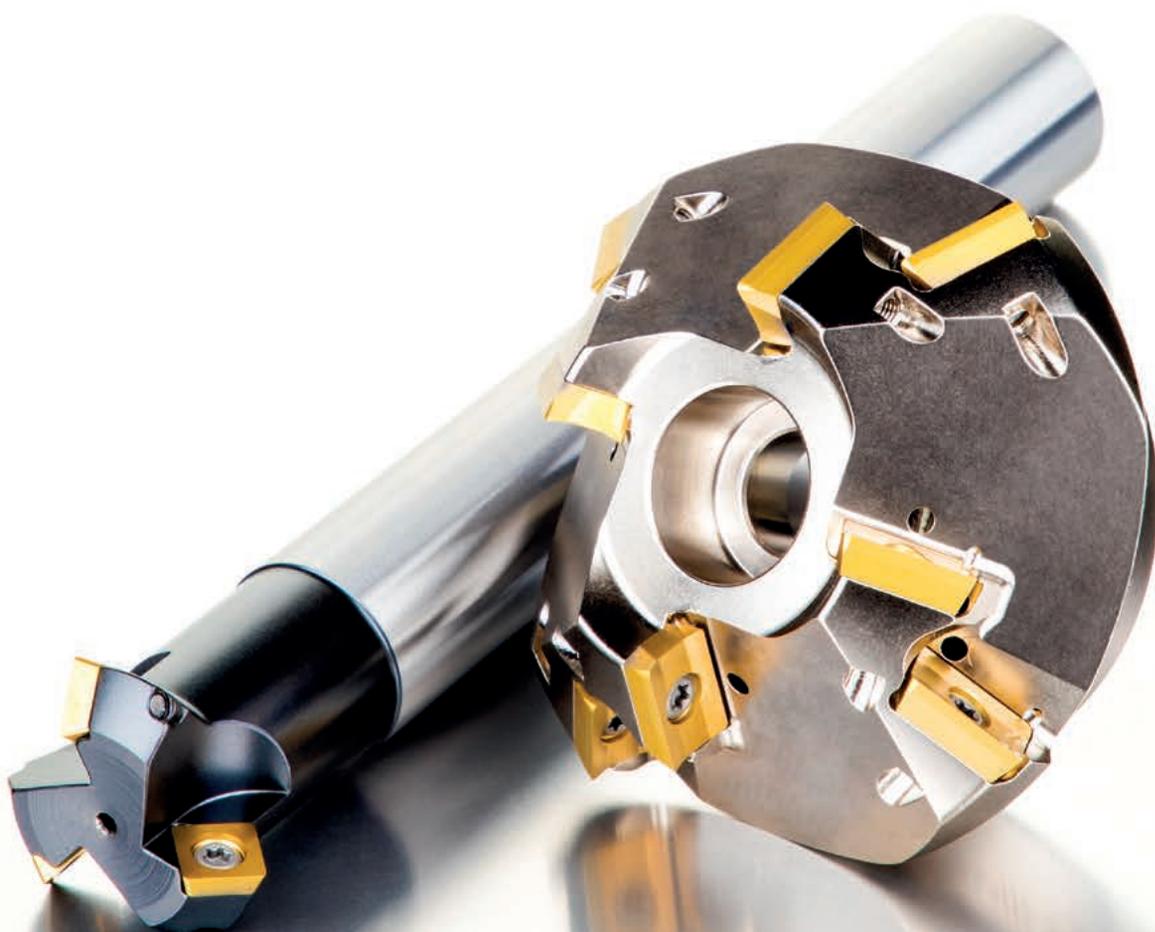
DCX	a _p	f _{max}
32	0.25	0.15
40	0.25	0.17
50	0.25	0.20
63	0.25	0.20
80	0.25	0.25



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



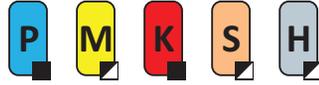
PAH KIRMA

DEĞİŞTİRİLEBİLİR UÇLU FREZELER – REHBER

YÜZEY FREZELEME

	SSD09	N-SSO09	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
Silindirik şaft	 DC = 16, 25 (mm)					
Weldon	 DC = 10–25 (mm)					
Modüler	 DC = 16, 25 (mm)					
Frezeleme kafası						
Sayfa	292	295	298	301	304	307
ISO	P M K S H	P M K S	P M K N	P M K N	P M K N	P M K N
Kesici uç şekli						
Kesici uçlar	SDE. 0903	SOMT 09T3	TCTX 16 STC	TCMT 16T3	TCMT 16T3	XPHT 1604
Kesme kenarlarının sayısı	4	4	3	3	3	2
Havşa frezeleme 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SSD09



PRAMET

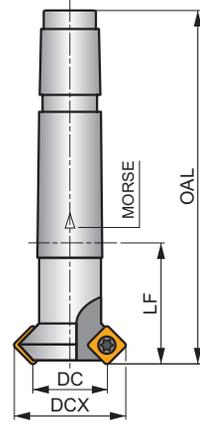
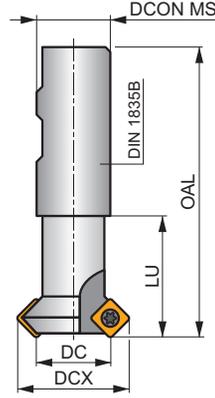
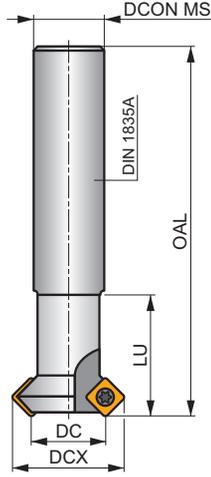
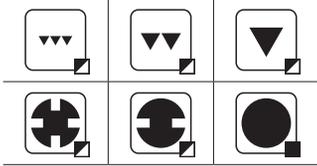
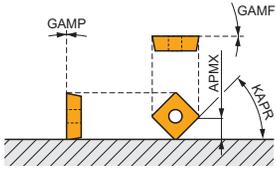
S



SD..09 Uç için 45° Pah Freze Takımı

4.5 mm APMX'li tek taraflı SD..09 kesici uçlar kullanan 45° pah frezeleme takımı. Üst ve alt yan pah kırmaya uygundur. Silindirik, veldon ve mors konik stilde mevcuttur. Gövde uzun takım ömrü için işlem görmüştür.

KAPR	45°
APMX	4.5 mm



h_m 0.095 - 0.15



Product	DC	DCX	OAL	DCON MS	LU	LF	CZC MS	GAMF	GAMP							
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(°)	(°)							
16N2R027A16-SSD09	16	28	200	16	27	-	-	0	0	2	-	32200	-	0.34	G1129	C0070
25N3R042A25-SSD09	25	37	200	25	42	-	-	0	0	3	-	25800	-	0.77	G1129	CH011
10N1R027B16-SSD09-A	10	22	75	16	27	-	-	0	0	1	-	40700	-	0.13	G1129	C0070
16N2R027B16-SSD09-A	16	28	75	16	27	-	-	0	0	2	-	32200	-	0.14	G1129	C0070
25N3R042B25-SSD09-A	25	37	98	25	42	-	-	0	0	3	-	25800	-	0.37	G1129	CH011
16N2R030E02-SSD09-A	16	28	94	-	-	30	2	0	0	2	-	32200	-	0.14	G1129	C0070
25N3R043E03-SSD09-A	25	37	124	-	-	43	3	0	0	3	-	25800	-	0.38	G1129	CH011

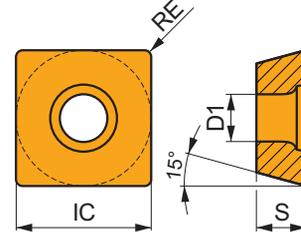
G1129	SDEW 0903..	SDEX 0903..

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

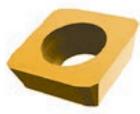
PRAMET

	IC (mm)	D1 (mm)	S (mm)
0903	9.525	4.40	3.18



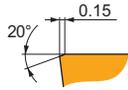
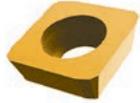
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)												



EN geometri, 45° pah frezeleme için sıfır talaş açısı.

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	–	–	–	–	–	–	–	–	–	–	–



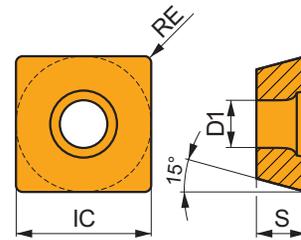
SN geometri, 45° pah frezeleme için sıfır talaş açısı tasarımı.

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

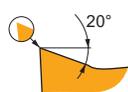
PRAMET

	IC (mm)	D1 (mm)	S (mm)
0903	9.525	4.40	3.18



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)												

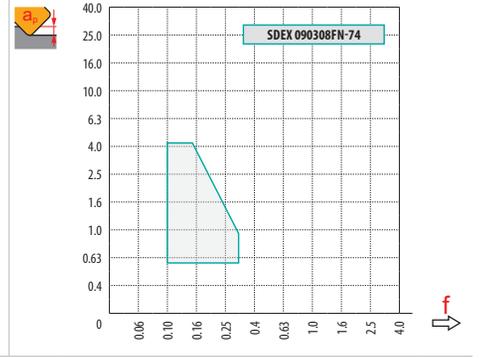
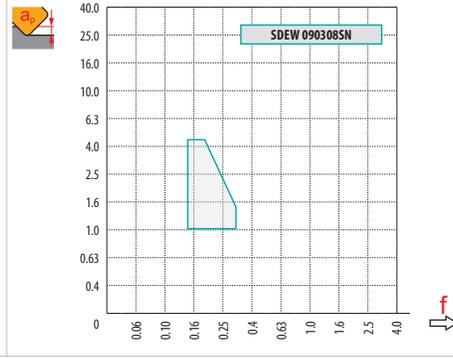
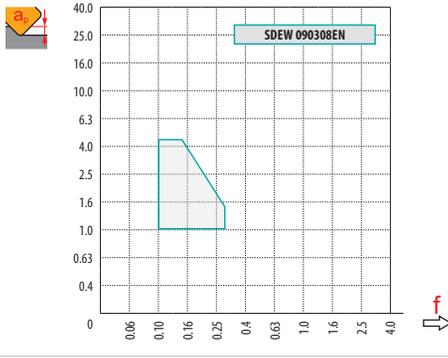


74 geometri 45° pah frezeleme için pozitif tasarım.

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	–	–	–	–	–
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	SDEW 09 EN	SDEW 09 SN	SDEX 09-74
	0.8	0.8	0.8
	-	-	-

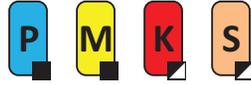


DC	DCX	X.V	f _{min}	f _{max}
10	22	1.09	0.20	0.30
16	28	1.17	0.25	0.34
25	37	1.24	0.32	0.39



a _s / DC	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.50 – 1.00																
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
X.V	1.35		1.27		1.22		1.19		1.16		1.13		1.11		1.00									

N-SS009



PRAMET

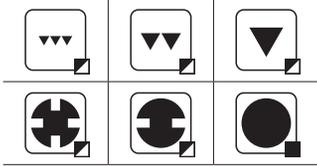
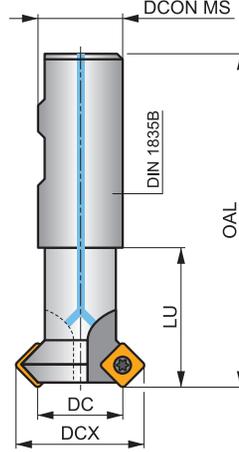
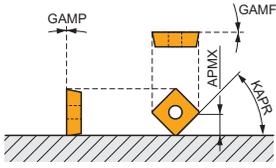
S



SOMT 09 Uç için 45° Pah Freze Takımı, İçten Su Vermeli

4.5 mm APMX'li tek taraflı SOMT 09 kesici uçlar kullanan 45° pah frezeleme takımı. Dahili soğutucu. Üst ve alt yan pah kırmaya uygundur. Veldon tarzında mevcuttur. Gövde uzun takım ömrü için işlem görmüştür.

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 (°)			max.		kg		
16N2R027B16-SS009-C	16	28.8	110	16	27	0	0	2	-	26600	✓	0.23	G1146	SQ500
25N3R042B25-SS009-C	25	37.8	125	25	42	0	0	3	-	21300	✓	0.49	G1146	SQ500
8N1R027B16-SS009-C	8	20.5	90	16	27	0	0	1	-	37700	✓	0.16	G1146	SQ500



G1146



SOMT 09T3..



SQ500



US 3006-T09P



2.0



M3



6

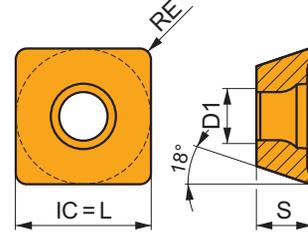


Flag T09P

SOMT 09

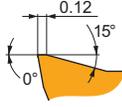
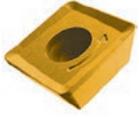
PRAMET

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



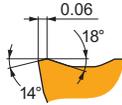
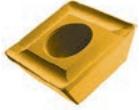
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Şartlar 90°ayar açısı içindir. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)												



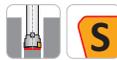
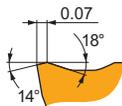
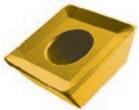
M geometri, orta işleme için pozitif tasarım.

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 geometri, orta işleme için stabil pozitif tasarım.

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			

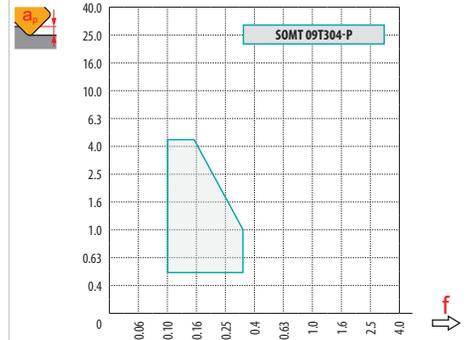
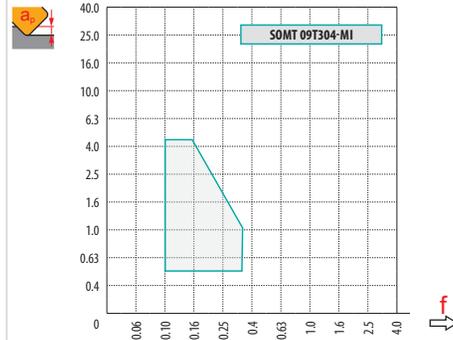
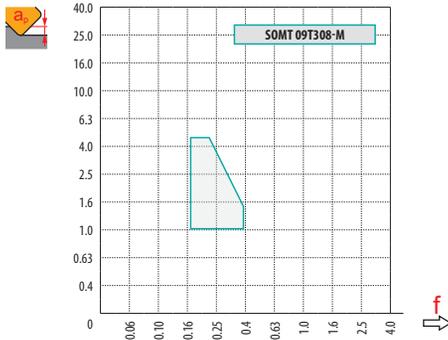


P geometri, orta işleme için çok pozitif tasarım.

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
	-	-	-

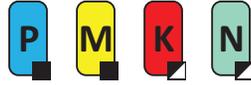


			f_{min}	f_{max}
8	20.5	1.06	0.18	0.29
16	28.8	1.17	0.25	0.34
25	37.8	1.24	0.32	0.39



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

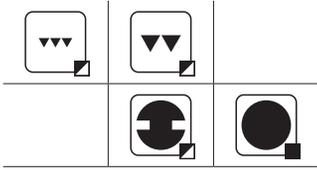
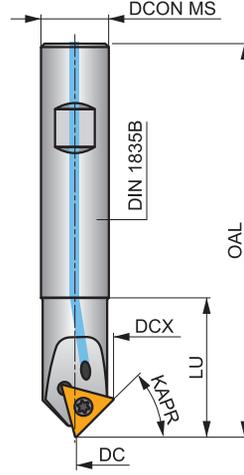
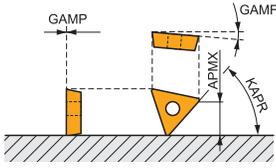
S



TC.T 16 Uç için 45° Pah Freze Takımı, İçten Su Vermeli

TC.T 16 uçlar için APMX 8.5mm 45° içten su vermeli pah ve oyma frezesi. Veldon olarak Ø31 ve Ø39mm çaplarında bulunur. Gövde uzun takım ömrü için işlem görmüştür.

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

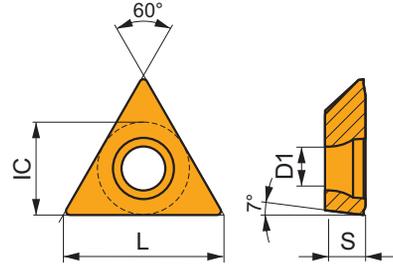
	GI223		TC.T 16 STC
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SQ222	US 2002-T15P	3.0	4	8.5	Flag T15P

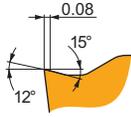
TCXT 16 STC

PRAMET

	IC	D1	L	S
	(mm)	(mm)	(mm)	(mm)
16	9.525	4.60	16.50	3.97

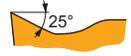


Product	Intermittent/ Continuous cut	RE (mm)	P			M			K			N			S			H		
			vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap
		(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)



328 talaş kırıcı, çeliklerin ince finiş işlemleri için ilk tercihtir. T-land olmadan hafif pozitif eğim açısına sahiptir. Dökme demirler için de uygundur.

TCMT 16-001328:M8330	–	0.4	■	150	0.13	8.5	■	90	0.12	8.5	■	140	0.13	8.5	–	–	–	–	–	–	–
-----------------------------	---	-----	---	-----	------	-----	---	----	------	-----	---	-----	------	-----	---	---	---	---	---	---	---

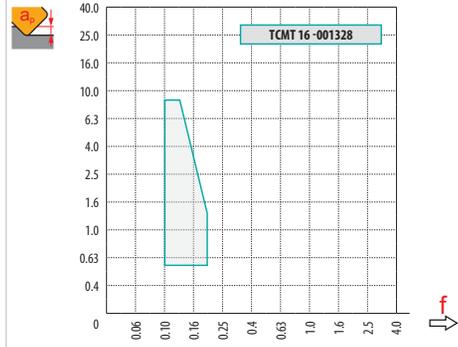
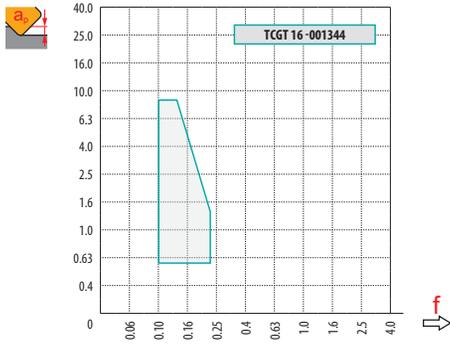


344 talaş kırıcı keskindir ve demir dışı alaşımların çok yönlü işlenmesi için ilk tercihtir. T-land olmadan son derece pozitif eğim açısına sahiptir. Süper alaşımlar için de şartlı olarak uygundur.

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

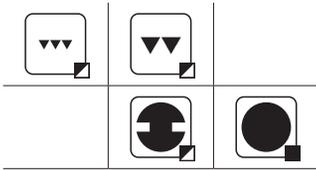
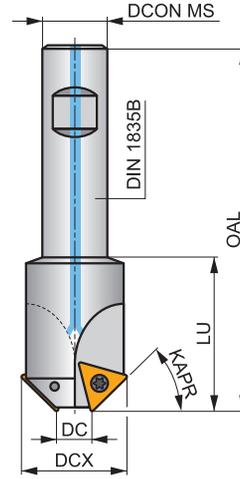
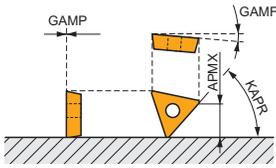
S



TCMT 16 Uç için 45° Pah Freze Takımı, İçten Su Vermeli

8.5 mm APMX'li tek taraflı TCMT 16 kesici uçlar kullanan 45° pah frezeleme takımı. İçten Soğutmalı. Üst tarafta pah kırmaya uygundur. Yalnızca veldon tarzında mevcuttur. Gövde uzun takım ömrü için işlem görmüştür.

KAPR	45°
APMX	8.5 mm



h_m 0.065 - 0.095



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

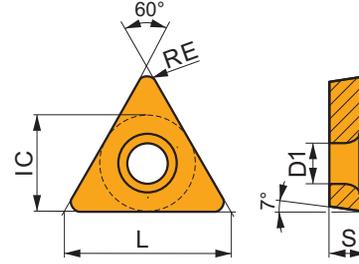
G155	TCMT 16T308E-FM:T8..

SQ220	US 4011-T15P	3.5	M 4	10.6	Flag T15P

TCMT

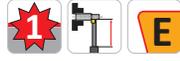
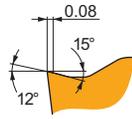
PRAMET

	IC	D1	L	S
	(mm)	(mm)	(mm)	(mm)
16T3	9.525	4.40	16.50	3.97



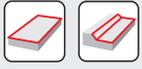
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)												

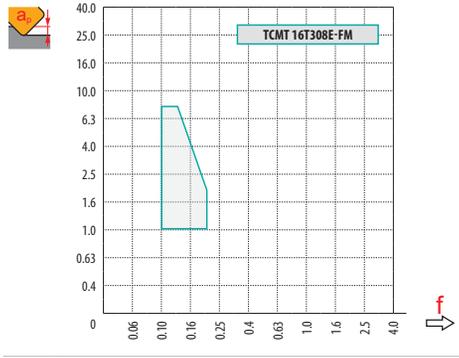


FM talaş kırıcı çok yönlüdür ve çeliklerin finiş işlemleri için ilk tercihtir. Pozitif eğim açısı ve pozitif, dar T-land özelliğine sahiptir. Paslanmaz çelikler için ve şartlara bağlı oalrak dökme demirler ve demir dışı alaşımlar için de uygundur.

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	—	—	—	—	—	—

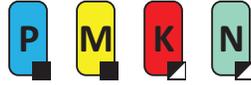


	TCMT 16-FM
	0.8
	-



			f_{min}	f_{max}
11.0	31.0	1.02	0.10	0.18
19.0	39.0	1.10	0.14	0.20

2636



PRAMET

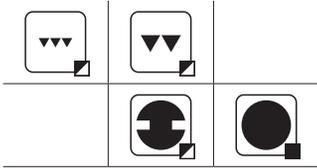
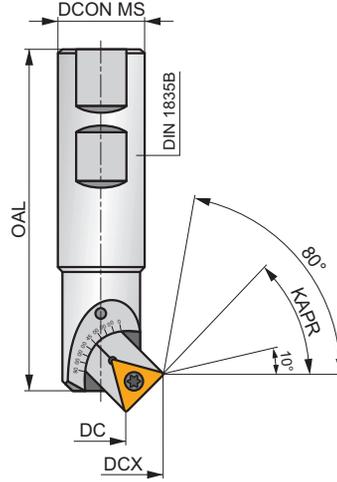
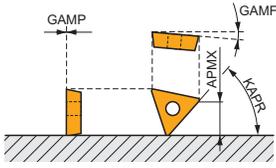
S



TCMT 16 Uç için Ayarlanabilir Freze Takımı

TCMT 16 uçlar için APMX 8.5 mm 45° içten su vermeli ayarlanabilir pah freze takımları. 10° – 80° ayarlanabilir. Sadece veldon olarak bulunur. Gövde uzun takım ömrü için işlem görmüştür.

KAPR	10° – 80°
APMX	8.5 mm



h_m 0.03 – 0.08



Product	DCN	DCX	OAL	DCON MS	KAPR	GAMF	GAMP					kg		
	(mm)	(mm)	(mm)	(mm)	(°)	(°)	(°)							
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									

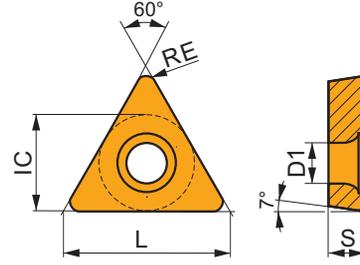
GI294	TCMT 16T304E-FM:T8...	TCMT 16T308E-FM:T8...

CH040	USI 0614	CA 2669	US 4011-T15P	3.5	M 4	10.6	FlagT15

TCMT

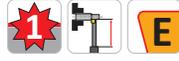
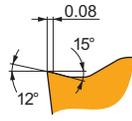
PRAMET

	IC	D1	L	S
	(mm)	(mm)	(mm)	(mm)
16T3	9.525	4.40	16.50	3.97



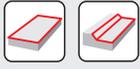
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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

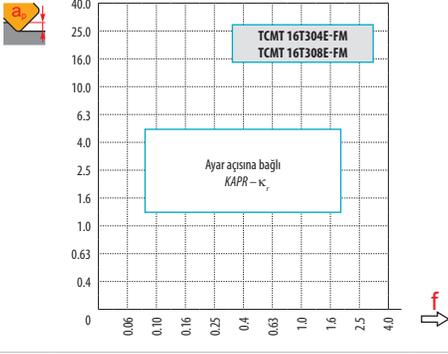


FM talaş kırıcı çok yönlüdür ve çeliklerin finiş işlemleri için ilk tercihtir. Pozitif eğim açısı ve pozitif, dar T-land özelliğine sahiptir. Paslanmaz çelikler için ve şartlara bağlı oalrak dökme demirler ve demir dışı alaşımlar için de uygundur.

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
	-	-

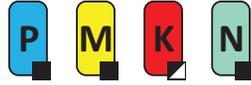


10°	2.6	5.0	31.0	1.38	0.24	0.59
15°	3.9	5.5	31.0	1.30	0.17	0.40
30°	7.6	7.0	29.5	1.18	0.10	0.20
45°	10.7	11.0	29.5	1.13	0.09	0.14
60°	13.2	16.0	28.5	1.09	0.09	0.11
75°	14.7	21.0	26.5	1.06	0.09	0.10
80°	15.0	23.0	26.0	1.06	0.09	0.10



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

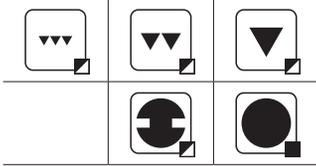
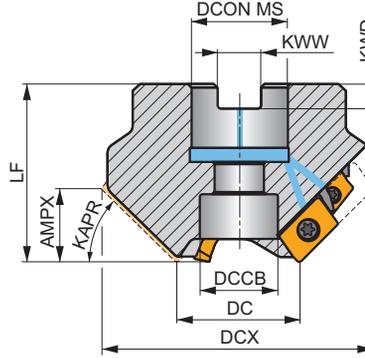
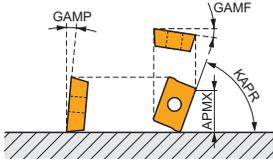
S



XPHT 16 Uç için Uzun Kenar Pah Frezeleme Takımı, İçten Su Vermeli

7'den 28 mm'ye kadar APMX'li tek taraflı XPHT 16 kesici uçlar kullanan pah frezeleme takımı. İçten soğutmalı. Üst pah kırma için uygundur. 15°, 25°, 30°, 35°, 40°, 45°, 50°, 55°, 60° ve 75° pah açısı aralığında göbekten bağlamalı mevcuttur. Gövde uzun takım ömrü için işlem görmüştür.

KAPR	15° - 75°
APMX	7.0 - 28.0 mm



h_{min} 0.05 - 0.11



Product	DC	DCX	Lf	DCON MS	DCCB	KAPR	KWW	KWD	APMX	GAMF	GAMP	NOF	ISO 5462 DIN 8030	max.	kg	GI208	CH050	
	(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



GI208



XPHT 1604..



CH050



US 3509-T15



3.0



M 3.5



9



D-T07/T15



FG-15

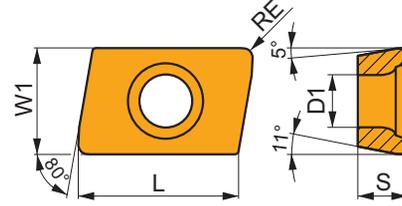


HS 1230C

XPHT 16-FA

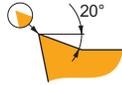
PRAMET

	W1	D1	L	S
	(mm)	(mm)	(mm)	(mm)
1604	9.525	4.40	15.88	4.76



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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



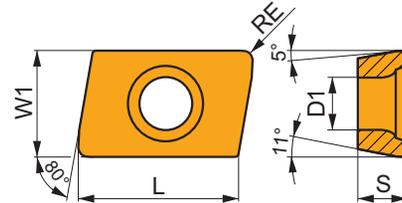
FA geometri, pah frezeleme için çok pozitif tasarım.

XPHT 160408F-FA:HF7	● 0.8	-	-	-	-	-	-	-	-	■ 255	0.12	15.0	-	-	-	-	-	-
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XPHT 16

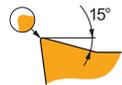
PRAMET

	W1	D1	L	S
	(mm)	(mm)	(mm)	(mm)
1604	9.525	4.40	15.88	4.76



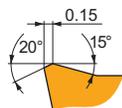
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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



E geometri, pah frezeleme için çok pozitif tasarım.

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	-	-	-	-	-	-	-

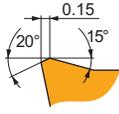


S geometri, pah frezeleme için çok pozitif tasarım.

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	-	-	-	-	-	-	-

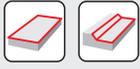
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)												

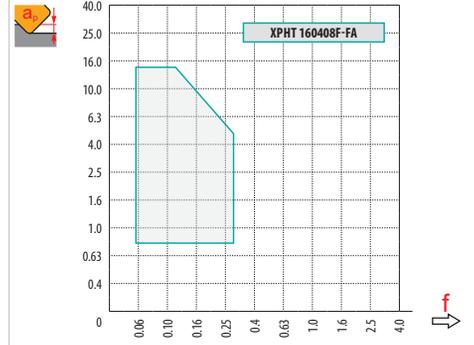
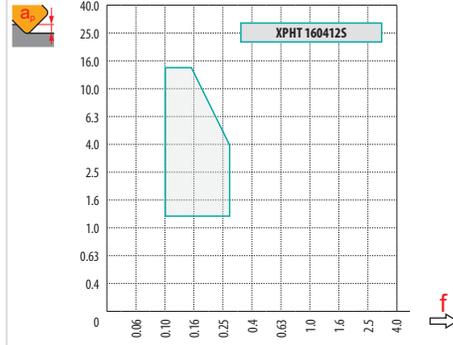
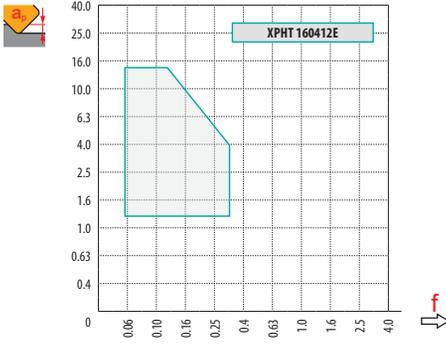


S geometri, pah frezeleme için çok pozitif tasarım.

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	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	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	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	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	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	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	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	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	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

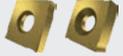
Ayar açısı 15° olan kesiciler HFC olarak kullanılabilir. Pah tablosundan beslemeleri kullanın.



KANAL FREZELEME

DEĞİŞTİRİLEBİLİR UÇLU FREZELER – REHBER

YÜZEY FREZELEME

	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			
Silindirik shaft	 DC = 80 – 200 (mm)	 DC = 125 – 315 (mm)				
Weldon	 DC = 63 – 160 (mm)	 DC = 125 – 200 (mm)				
Modüler						
Frezeleme kafası						
Sayfa	314	320	325			
ISO	P M K	P M K	P M K			
Kesici uç şekli						
Kesici uçlar	SNHQ 11 SNHQ 12	CNHQ 1005 XNHQ 1205 XNHQ 1606	CCMX			
Kesme kenarlarının sayısı	4	2	2			
Derin oluk frezeleme		■	■			
Derin kenar frezeleme		▣	▣			
Yüzey frezeleme		▣	▣			
Arka yüzey frezeleme		▣	▣	■		
T oluk frezeleme				■		
Siğ kenar frezeleme				▣		
Siğ oluk frezeleme				▣		

S90SN



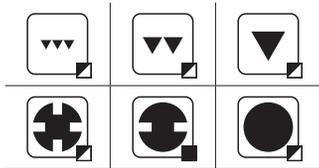
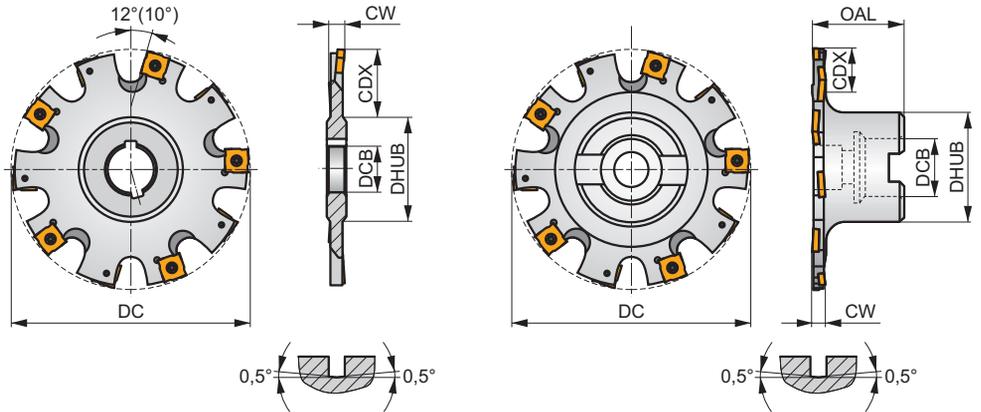
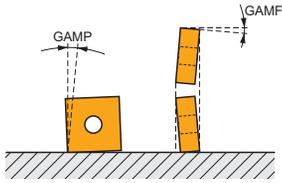
PRAMET



Kenar ve Yüzey Disk Freze Takımı

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	α	GAMF	GAMP								
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)	(°)								
80F8N-S90SN11N4	80	-	27	42	16	4.00	-	2.5	-0.5	8	-	12300	-	0.21	GI151	DI011	-
80F8N-S90SN11N5	80	-	27	42	16	5.00	-	2.5	-0.5	8	-	12300	-	0.22	GI152	DI019	-
80F8N-S90SN12N6	80	-	27	42	16	6.00	-	2.5	-0.5	8	-	8400	-	0.25	GI153	DI012	-
80F8N-S90SN12N8	80	-	27	42	16	8.00	-	2.5	-0.5	8	-	8400	-	0.25	GI157	DI013	-
100G10N-S90SN12N6	100	-	32	48	24	6.00	-	2.5	-0.5	10	-	7500	-	0.43	GI153	DI012	-
100G10N-S90SN12N8	100	-	32	48	24	8.00	-	2.5	-0.5	10	-	7500	-	0.42	GI157	DI013	-
100G10N-S90SN12N10	100	-	32	48	24	10.00	-	2.5	-0.5	10	-	7500	-	0.46	GI154	DI014	-
100G10N-S90SN12N12	100	-	32	48	24	12.00	-	2.5	-0.5	10	-	7500	-	0.66	GI158	DI015	-
125H12N-S90SN12N6	125	-	40	58	31	6.00	-	2.5	-0.5	12	-	6700	-	0.62	GI153	DI012	-
125H12N-S90SN12N8	125	-	40	58	31	8.00	-	2.5	-0.5	12	-	6700	-	0.73	GI157	DI013	-
125H12N-S90SN12N10	125	-	40	58	31	10.00	-	2.5	-0.5	12	-	6700	-	0.66	GI154	DI014	-
125H12N-S90SN12N12	125	-	40	58	31	12.00	-	2.5	-0.5	12	-	6700	-	0.76	GI158	DI015	-
160H16N-S90SN12N6	160	-	40	58	43	6.00	-	2.5	-0.5	16	-	5900	-	0.86	GI153	DI012	-
160H16N-S90SN12N8	160	-	40	58	43	8.00	-	2.5	-0.5	16	-	5900	-	1.10	GI157	DI013	-
160H16N-S90SN12N10	160	-	40	58	43	10.00	-	2.5	-0.5	16	-	5900	-	1.14	GI154	DI014	-
160H16N-S90SN12N12	160	-	40	58	43	12.00	-	2.5	-0.5	16	-	5900	-	1.30	GI158	DI015	-
160H15N-S90SN12N14	160	-	40	58	43	14.00	-	2.5	-0.5	15	-	5900	-	1.40	GI158	DI015	-
200J18N-S90SN12N6	200	-	50	72	62	6.00	-	2.5	-0.5	18	-	5300	-	1.40	GI153	DI012	-
200J18N-S90SN12N8	200	-	50	72	62	8.00	-	2.5	-0.5	18	-	5300	-	1.78	GI157	DI013	-
200J18N-S90SN12N10	200	-	50	72	62	10.00	-	2.5	-0.5	18	-	5300	-	1.89	GI154	DI014	-
200J18N-S90SN12N12	200	-	50	72	62	12.00	-	2.5	-0.5	18	-	5300	-	2.23	GI158	DI015	-
200J18N-S90SN12N14	200	-	50	72	62	14.00	-	2.5	-0.5	18	-	5300	-	2.67	GI158	DI015	-
63A03R-S90SN11N4	63	40	16	34	10.5	4.00	3	2.5	-0.5	6	-	13900	-	0.37	GI151	DI021	-
63A03R-S90SN11N5	63	40	16	34	10.5	5.00	3	2.5	-0.5	6	-	13900	-	0.36	GI152	DI021	-
63A03R-S90SN12N6	63	40	16	34	10.5	6.00	3	2.5	-0.5	6	-	9500	-	0.37	GI153	DI022	-
80A04R-S90SN11N5	80	40	22	40	17.5	5.00	4	2.5	-0.5	8	-	12300	-	0.48	GI152	DI023	-
80A04R-S90SN12N6	80	40	22	40	17.5	6.00	4	2.5	-0.5	8	-	8400	-	0.50	GI153	DI024	-

Product	DC	OAL	DCB	DHUB	CDX	CW		GAMF	GAMP								
	(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	GI153	DI025	-
125B06R-S90SN12N6	125	50	40	56	24	6.00	6	2.5	-0.5	12	-	6700	-	1.20	GI153	DI012	AC003
160B08R-S90SN12N10	160	50	40	70	41	10.00	8	2.5	-0.5	16	-	5900	-	1.83	GI154	DI014	-

GI151	SNHQ 1102..
GI152	SNHQ 1103..
GI153	SNHQ 1203..
GI154	SNHQ 1205..
GI157	SNHQ 1204..
GI158	SNHQ 1207

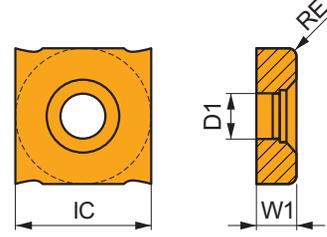
DI011	US 3504-T09P	3.0	M 3.5	4	D-T07P/T09P	FG-15	-
DI012	US 70	5.0	M 4	5	D-T07/T15	FG-15	-
DI013	US 71	5.0	M 4	7	D-T07/T15	FG-15	-
DI014	US 72	5.0	M 4	9	D-T07/T15	FG-15	-
DI015	US 73	5.0	M 4	11	D-T07/T15	FG-15	-
DI019	US 3505-T09P	3.0	M 3.5	5	D-T07P/T09P	FG-15	HS 0830
DI021	US 3504-T09P	3.0	M 3.5	4	D-T07P/T09P	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 TRL

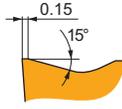
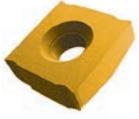
PRAMET

	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



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)												



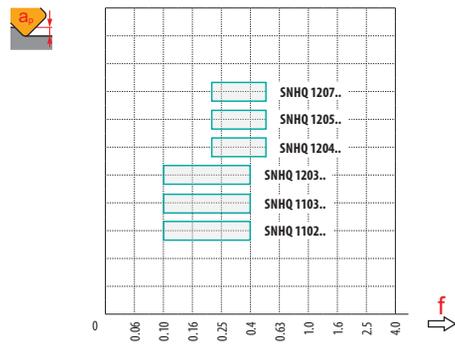
TRL geometri, kanal frezeleme için özel tasarım.

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

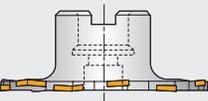
	SNHQ AZEN	SNHQ AZTN	SNHQ 12TRL
	-	-	0.5 – 1.5
	-	-	-

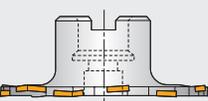


	80	4	16	16
	100	5	24	24
	125	6	31	31
	160	5	43	43
	200	9	62	62
	63	3	10.5	63
	80	4	17.5	80
	100	5	23.5	100
	125	6	24	125
	160	8	41	160

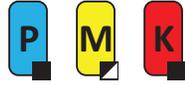


	a_e	5		10		15		20		25	
		f_{min}	f_{max}	f_{min}	f_{max}	f_{min}	f_{max}	f_{min}	f_{max}	f_{min}	f_{max}
	80	0.28	0.36	0.20	0.26	0.17	0.21	-	-	-	-
	100	0.32	0.41	0.23	0.29	0.19	0.24	0.16	0.21	-	-
	125	0.35	0.45	0.25	0.32	0.21	0.27	0.18	0.23	0.16	0.21
	160	0.40	0.51	0.28	0.36	0.23	0.30	0.20	0.26	0.18	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

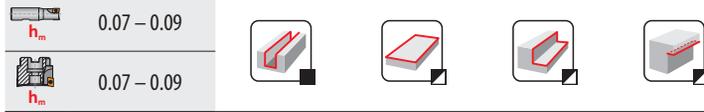
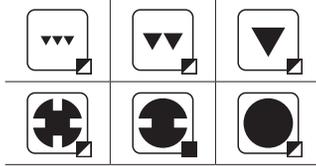
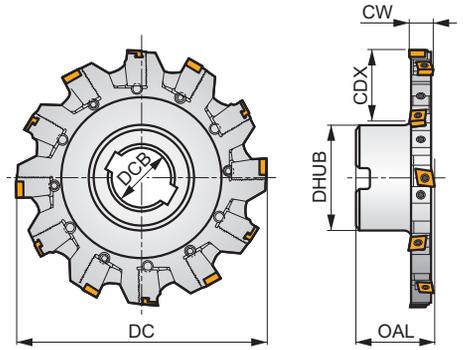
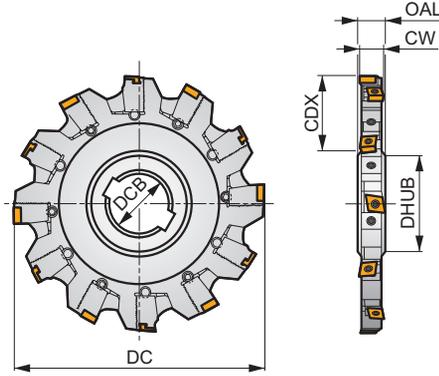
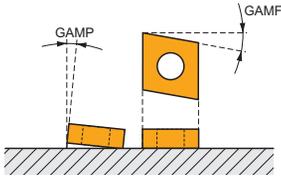
S



Geniřlięi Ayarlanabilir Kenar ve Yüzey Disk Freze Takımı

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	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
G1196
G1197

CNHQ 1005..
XNHQ 1205..
XNHQ 1606..

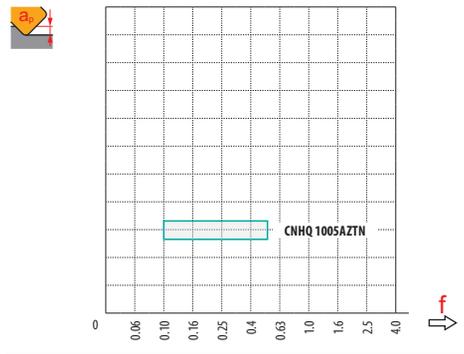
              														
DI051	125H04N-S-14-08	KL-1418-CN10	KR-1418-CN10	KS 613F	DS 6018F	SDR T20	SS 6005-T09P	SDR T09	US 4011-T15P	3.5	M 4	10.6	SDR T15P	-
DI052	160H06N-S-14-12	KL-1418-CN10	KR-1418-CN10	KS 613F	DS 6018F	SDR T20	SS 6005-T09P	SDR T09	US 4011-T15P	3.5	M 4	10.6	SDR T15P	-
DI053	200J07N-S-14-14	KL-1418-CN10	KR-1418-CN10	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



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

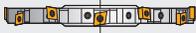
	XNHQ 10
	-
	-



	125	4	34	34
	160	6	50	50
	200	7	60	60
	250	9	85	85
	315	12	110	110
	125	4	25	125
	160	6	44	160
	200	7	52	200



	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	
		 f _{min} ⇨	f _{max} ⇨	f _{min} ⇨	f _{max} ⇨	f _{min} ⇨	f _{max} ⇨	f _{min} ⇨	f _{max} ⇨	f _{min} ⇨	f _{max} ⇨
	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	
		 f _{min} ⇨	f _{max} ⇨	f _{min} ⇨	f _{max} ⇨	f _{min} ⇨	f _{max} ⇨	f _{min} ⇨	f _{max} ⇨
	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

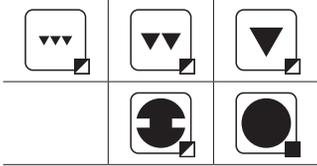
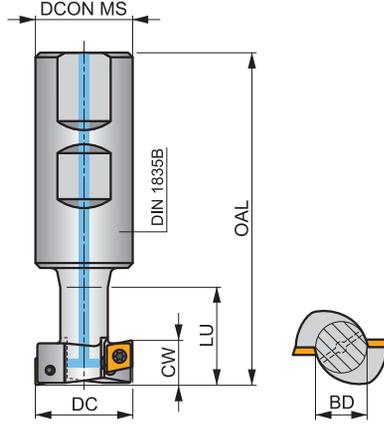
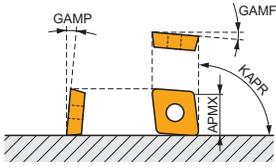
S



CCMX Uç için T-Kanal Freze Takımı, İçten Su Vermeli

CCMX uçlar için içten su vermeli T-kanal frezeleme takımı. T-kanal, ters yüzey, dar kenar ve sıg kanal açmak için uygundur. Veldon olarak bulunur. Gövde uzun takım ömrü için işlem görmüştür.

KAPR	90°
APMX	11.0 – 18.0 mm



h_m 0.05 – 0.08



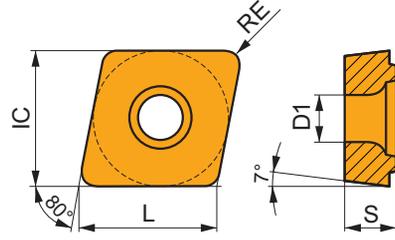
Product	DC (mm)	BD (mm)	OAL (mm)	DCON MS (mm)	LU (mm)	CW (mm)	X 1	max.	kg	SQ212	SQ213			
25F1R030B25-SCC06-C	25	12	86	25	25	11.00	1	2	–	28100	✓	0.26	GI148	SQ213
32F1R038B32-SCC08-C	32	16	98	32	33	14.00	1	2	–	19100	✓	0.50	GI149	SQ212
40F2R046B32-SCC09-C	40	20	105	32	41	18.00	2	4	–	14900	✓	0.56	GI150	SQ212

GI148	CCMX 060304
GI149	CCMX 08T308
GI150	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

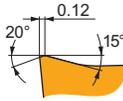
CCMX

	IC	D1	L	S
	(mm)	(mm)	(mm)	(mm)
0603	6.350	2.80	6.40	3.50
08T3	8.030	3.50	8.10	4.40
09T3	9.525	3.50	9.70	3.97



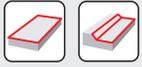
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)

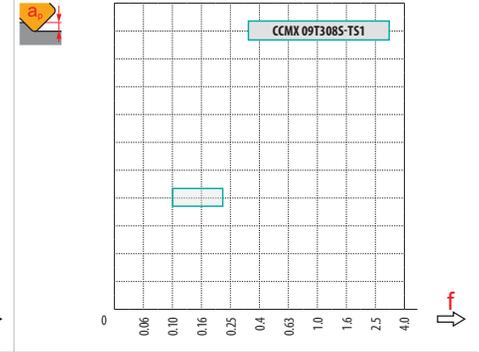
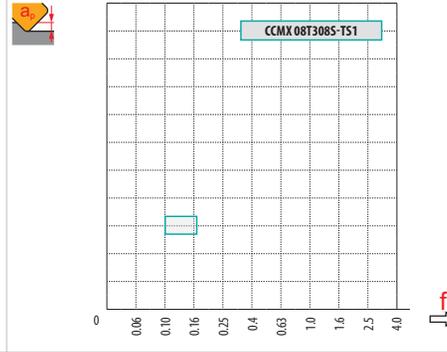
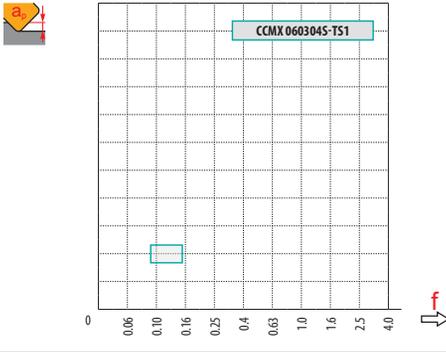


TS1 özel tasarım, T-kanal frezeleme için, hafif ve orta işleme şartlarına uygun.

CCMX 060304S-TS1:M8330	●	0.4	240	0.10	—	140	0.09	—	225	0.10	—	—	—	—	—	—	—	—	—
CCMX 060304S-TS1:M8340	●	0.4	215	0.10	—	125	0.09	—	200	0.10	—	—	—	—	—	—	—	—	—
CCMX 08T308S-TS1:M8330	●	0.8	275	0.10	—	165	0.10	—	260	0.10	—	—	—	—	—	—	—	—	—
CCMX 09T308S-TS1:M8330	●	0.8	270	0.10	—	160	0.10	—	255	0.10	—	—	—	—	—	—	—	—	—
CCMX 09T308S-TS1:M8340	●	0.8	240	0.10	—	140	0.10	—	225	0.10	—	—	—	—	—	—	—	—	—



	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

- T kanal frezeleme için geçerlidir
- Kenar ve ters yüzey frezeleme için geçerlidir
- Kenar frezeleme için geçerlidir



25	1	11	6.4
32	1	14	8.0
40	2	18	9.7

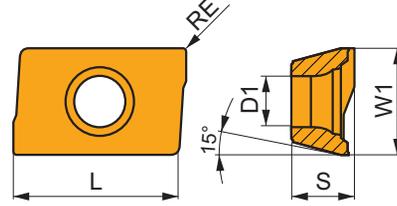


DIĞER FREZELEME UÇLARI

ADKT 15

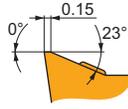
PRAMET

	W1 (mm)	D1 (mm)	L (mm)	S (mm)
1505	9.525	4.40	15.55	5.60



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)												



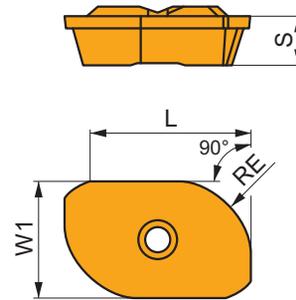
M geometri, orta işleme için çok pozitif tasarım.

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

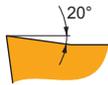
PRAMET

	W1 (mm)	L (mm)	S (mm)
15T3	9.525	12.20	3.97



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)												



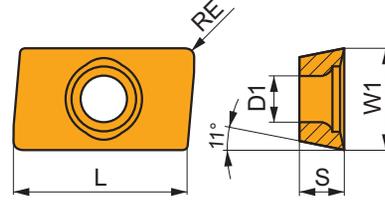
F geometri, hafif ve orta işleme için çok keskin tasarım.

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

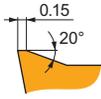
PRAMET

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



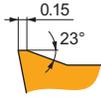
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)												



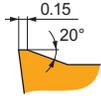
F geometri, hafif işleme için pozitif tasarım.

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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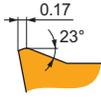
FM geometri, hafif ve orta işleme için pozitif tasarım.

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 geometri, kaba işleme için pozitif işleme.

APMT 1604PDER-R:M8330	☹	–	■	255	0.16	5.0	■	–	–	–	■	240	0.16	5.0	■	–	–	–	■	–	–	–
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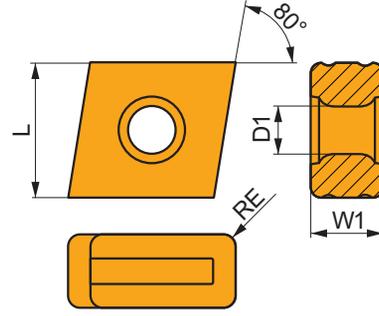
SR-R geometri, kaba işleme için pozitif tasarımı.

APMT 1604PDSR-R:M8330	☹	–	■	255	0.18	5.0	■	–	–	–	■	240	0.18	5.0	■	–	–	–	■	–	–	–
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CNM

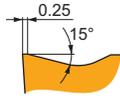
PRAMET

	D1 (mm)	L (mm)	S (mm)
63	5.50	15.00	8.00



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)													
	●																			
	⊕																			



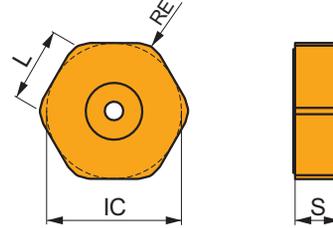
563 üniversal geometri.

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

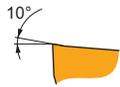
PRAMET

	IC (mm)	L (mm)	S (mm)
0905	16.200	9.40	5.64



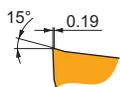
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)													
	●																			
	⊕																			



R geometri, hafif, orta ve ağır işleme için negatif tasarım.

HNMF 090516SN-R:R215	●	1.6	–	–	–	–	–	–	380	0.15	1.5	–	–	–	–	–	–	–	–	–
HNMF 090516SN-R:M5315	⊕	1.6	–	–	–	–	–	–	265	0.30	3.0	–	–	–	–	–	–	–	–	–



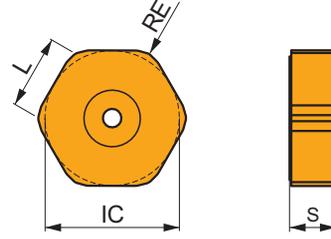
M geometri, hafif ve orta işleme için pozitif tasarım.

HNEF 090508EN-M:M5315	⊕	0.8	–	–	–	–	–	–	290	0.18	3.0	–	–	–	–	–	–	–	–	–
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HNMF 09

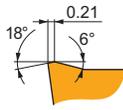
PRAMET

	IC (mm)	L (mm)	S (mm)
0905	16.200	9.40	5.64



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)												



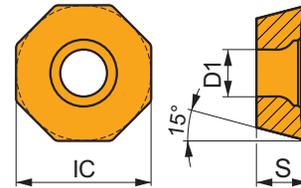
R geometri, hafif, orta ve ağır işleme için negatif tasarım.

HNMF 090516SN-R:8215	✳	1.6	-	-	-	-	-	-	210	0.30	3.0	-	-	-	-	-	-	-
HNMF 090516SN-R:M5315	✳	1.6	-	-	-	-	-	-	265	0.30	3.0	-	-	-	-	-	-	-

ODMT 05

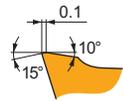
PRAMET

	IC (mm)	D1 (mm)	S (mm)
0504	12.700	4.40	4.76



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)												



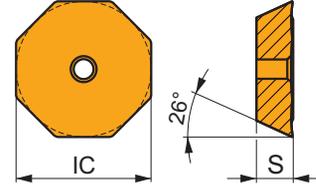
ZZN hafif pozitif tasarım, orta işleme için.

ODMT 0504ZZN:M8340	✳	-	195	0.25	1.5	-	-	-	185	0.25	1.5	-	-	-	-	-	-	-
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OFKR 07

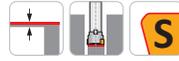
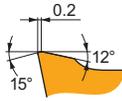
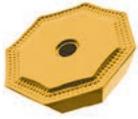
PRAMET

	IC	D1	S
	(mm)	(mm)	(mm)
0704	17.845	2.65	4.56



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)												



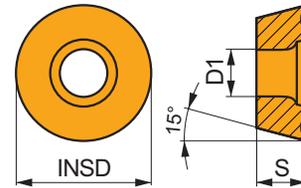
M geometri, hafif ve orta işleme için pozitif tasarım.

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

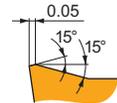
PRAMET

	INSD	D1	S
	(mm)	(mm)	(mm)
0802	8.000	3.40	2.38
1003	10.000	4.40	3.18
12T3	12.000	4.40	3.97



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)												



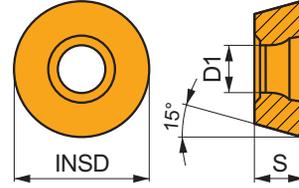
SN finiş işleme için pozitif tasarım.

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

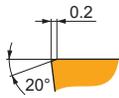
PRAMET

	INSD	D1	S
	(mm)	(mm)	(mm)
2006	20.000	5.20	6.35



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)												



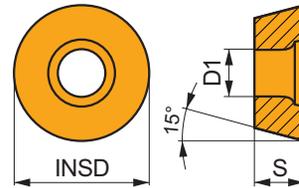
MOT sıfır talaş açısı tasarımı, finiş işleme için.

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

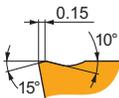
PRAMET

	INSD	D1	S
	(mm)	(mm)	(mm)
1204	12.000	4.40	4.76



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)												



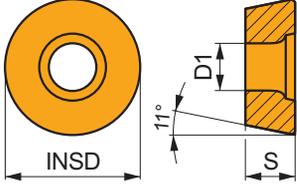
MOSN finiş işleme için pozitif tasarım.

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

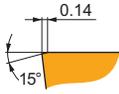


	INSD (mm)	D1 (mm)	S (mm)
1204	12.000	4.40	4.76



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)												



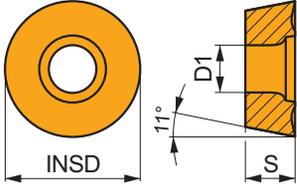
MOSN sıfır talaş açısı tasarımı, finiş işleme için.

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

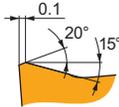


	INSD (mm)	D1 (mm)	S (mm)
1204	12.000	4.40	4.76



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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



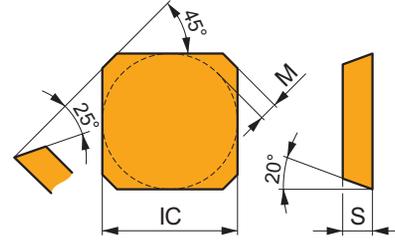
12 finiş işleme için pozitif tasarım.

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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SEER

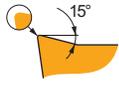
PRAMET

	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



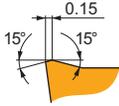
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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



AFEN kenar hazırlığı, orta ve ağır işleme için talaş kırıcı geometrisi.

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	-	-	-



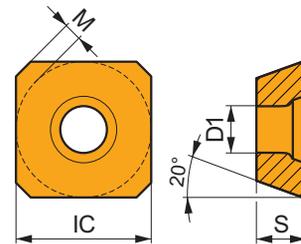
AFSN kenar hazırlığı, orta ve ağır işleme için talaş kırıcı geometrisi.

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

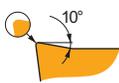
PRAMET

	IC (mm)	D1 (mm)	M (mm)	S (mm)
1204	12.700	5.50	1.6	4.76



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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

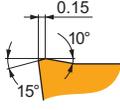
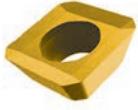


AFEN kenar hazırlığı, çok amaçlı pozitif geometri.

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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Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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



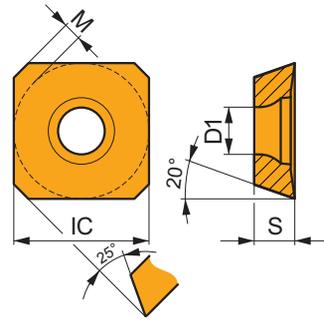
AFSN kenar hazırlığı, çok amaçlı pozitif geometri.

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

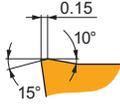
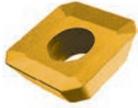
PRAMET

	IC (mm)	D1 (mm)	M (mm)	S (mm)
12T3	13.400	4.20	1.5	3.97



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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



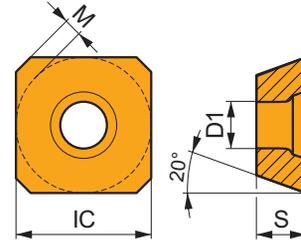
PM geometri, çok amaçlı pozitif tasarım.

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

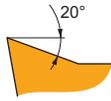
PRAMET

	IC (mm)	D1 (mm)	M (mm)	S (mm)
1204	12.700	5.50	1.6	4.76



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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



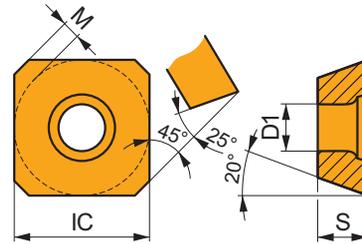
FA geometri, ince finiştan orta işleme kadar uygun çok pozitif tasarım.

SEET 1204AFN-FA:HF7	●	-	-	-	-	-	-	-	-	-	330	0.18	3.0	-	-	-	-	-	-
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SEEW 12

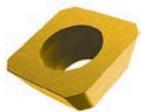
PRAMET

	IC (mm)	D1 (mm)	M (mm)	S (mm)
1204	12.700	5.50	1.6	4.76



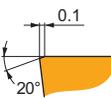
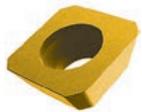
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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



AFEN kenar hazırlığı, hafif ve orta işleme için sıfır talaş açısı.

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	-	-	-	-	-	-	-	-



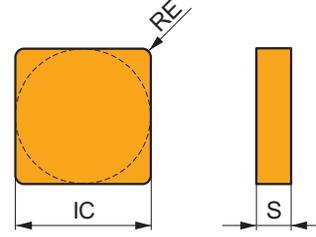
AFSN kenar hazırlığı, hafif ve orta işleme için sıfır talaş açısı.

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

SNUN

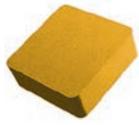
PRAMET

	IC (mm)	S (mm)
1204	12.700	4.76
1504	15.875	4.76



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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



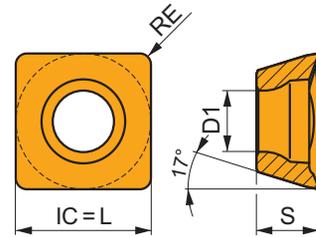
N negatif geometrili freze ucu, tornalama için de kullanılabilir.

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

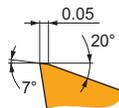
PRAMET

	IC (mm)	D1 (mm)	L (mm)	S (mm)
0502	5.570	2.50	5.57	2.63



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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



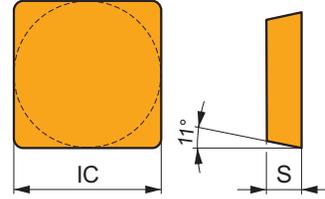
M geometri, hafif ve orta işleme için pozitif tasarım.

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



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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



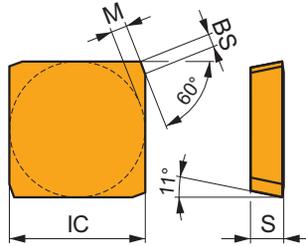
N sıfır talaş açılı freze ucu, tornalama için de kullanılabilir.

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

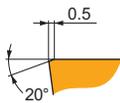


	IC (mm)	M (mm)	S (mm)	BS (mm)
2506	25.000	3.5	6.35	2.40



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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



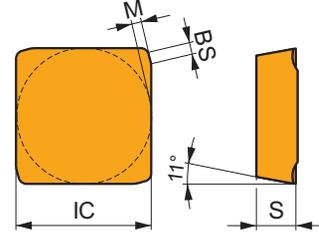
DZ geometri, ağır işleme için sıfır talaş açısı.

SPGN 2506DZSR:M8326	–	110	0.50	12.0	–	–	–	100	0.50	12.0	–	–	–	–	–	–	–	–	–
SPGN 2506DZSR:M8346	–	90	0.50	12.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

SPKR

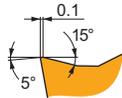
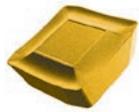
PRAMET

	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



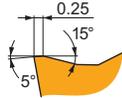
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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



EDSR (sağ yönlü kesim) kenar hazırlığı, orta ve kaba işleme için talaş kırıcı geometrisi.

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	–	–	–	–	–	–



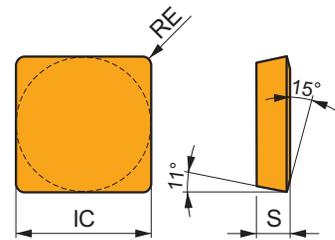
EDSR (sağ yönlü kesim) kenar hazırlığı, orta ve kaba işleme için talaş kırıcı geometrisi.

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

PRAMET

	IC (mm)	S (mm)
1203	12.700	3.18
1504	15.875	4.76
1904	19.050	4.76
2506	25.400	6.35



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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

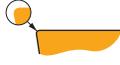


N sıfır talaş açılı freze ucu, tornalama için de kullanılabilir.

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	–	–	–	–	–	–	–

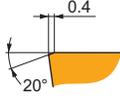
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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



N sınıfı talaş açılı freze ucu, tornalama için de kullanılabilir.

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	–	–	–	–	–	–	–	–



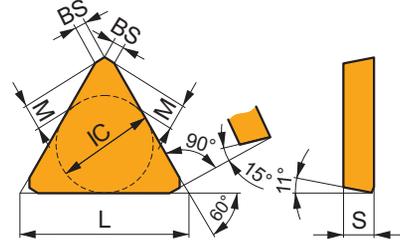
N sınıfı talaş açılı freze ucu, tornalama için de kullanılabilir.

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

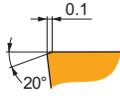
PRAMET

	BS (mm)	IC (mm)	L (mm)	M (mm)	S (mm)
1603	1.20	9.530	16.10	2.5	3.18



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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



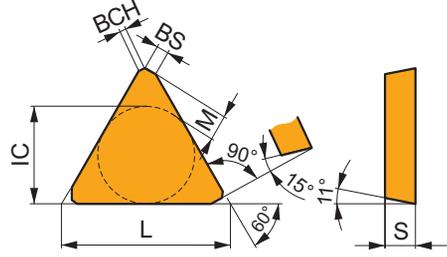
XNCB özel tasarım, disk frezeleme için.

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



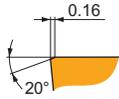
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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



PDER kenar hazırlığı, hafif ve orta işleme için sıfır talaş açısı.

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	–	–	–	–	–	–



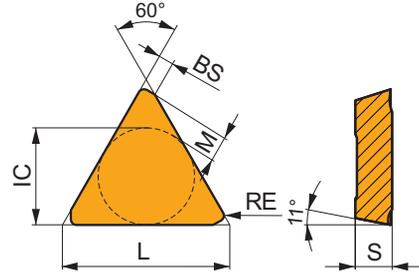
PDSR kenar hazırlığı, orta işleme için sıfır talaş açısı.

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

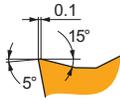


	IC	L	M	S	BS
	(mm)	(mm)	(mm)	(mm)	(mm)
1603	9.530	16.50	2.5	3.18	1.40
2204	12.700	22.00	3.5	4.76	1.40



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



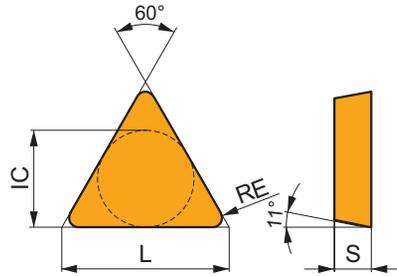
PDSR kenar hazırlığı, orta ve ağır işleme için talaş kırıcı geometrisi.

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	L	S
	(mm)	(mm)	(mm)
1103	6.350	11.00	3.18
1603	9.525	16.50	3.18
2204	12.700	22.00	4.76



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)

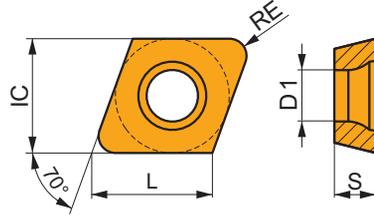


N sıfır talaş açılı freze ucu, tornalama için de kullanılabilir.

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	D1	L	S
	(mm)	(mm)	(mm)	(mm)
0702	6.500	2.95	6.90	2.38
10T3	10.000	3.95	10.60	3.97



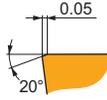
Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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)



EN geometri, kanal frezeleme için sıfır talaş açısı.

XDHW 070210EN:M8310	1.0	310	0.10	1.0	-	-	-	290	0.10	1.0	-	-	-	-	-	-	60	0.05	1.0
----------------------------	-----	-----	------	-----	---	---	---	-----	------	-----	---	---	---	---	---	---	----	------	-----



SN geometri, kanal frezeleme için sıfır talaş açısı tasarımı.

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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



AÇIKLAMALAR

DEĞİŞTİRİLEBİLİR UÇLU FREZELER – GENEL BAKIŞ SAYFASI

1 SAD11E

P M K N S H **2**

PRAMET **3** **S**

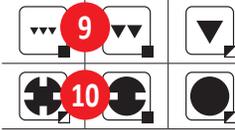
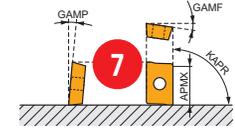


FORCE AD11 Duvar Frezeleme Takımı, İçten Su Vermeli

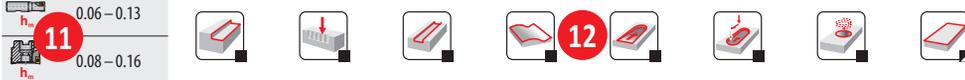
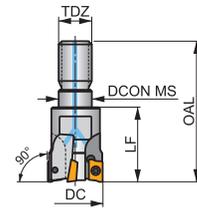
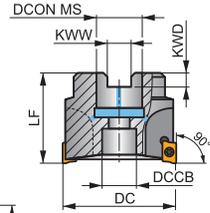
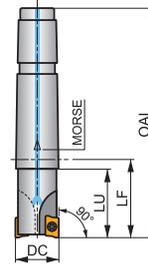
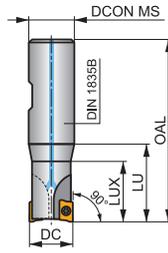
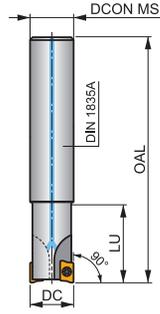
9 mm APMX'li pozitif AD.. 11 stil kesici uç kullanan 90° uç ve kabuk frezeleri. Yüzey, kenar, kanal, helisel, trokoidal, açılı frezleme ve dalma frezleme için uygundur.. ilindirik, veldon, modüler, mors konik ve göbekten bağlamalı olarak bulunur. Gövde uzun takım ömrü için işlem görmüştür.

FORCE AD

KAPR 90°
APMX 9.0 mm



11 0.06 – 0.13
0.08 – 0.16



Product	DC	OAL	DCON MS	DCCB	LU	LUX	LF	TDZ	CZC MS	KWW	KWD	GAMF	GAMP	16	18	20	22
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(°)	(°)	17	19	21	23
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	0.20	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 62506-T07P	1.2	M 2.5	6	25	-	-	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	26	K.FMH27
AC002	KS 1635	-	K.FMH32
AC003	KS 2040	-	K.FMH40

DEĞİŞTİRİLEBİLİR UÇLU FREZELER – GENEL BAKIŞ SAYFASI

Poz.	Açıklama	Poz.	Açıklama
1	Kesicinin işareti	14	ISO kesici kodu
2	Malzeme grubu önerileri	15	Boyutlar (mm), açılar ¹⁾ (°) ve bağlantı boyut kodu
3	Kesici ucun bağlama sistemi	16	Diş sayısı
4	Açıklayıcı resim	17	Düzensiz diş hatvesi
5	Takım açıklaması	18	Kesicinin maksimum devir sayısı
6	Ayar açısı ve maksimum teorik kesme derinliği (mm)	19	İçten kesme sıvısı beslemesi
7	Takım geometrisi	20	Ağırlık (kg)
8	Takımın şematik çizimi	21	Uyumlu kesici uç grubu ²⁾
9	Ulaşılabilir yüzey kalitesi	22	Yedek parça grubu ²⁾
10	Kesim karakteri/çalışma koşulları	23	Özel aksesuarlar grubu ²⁾
11	Parmak frezeleme takımları ve/veya kabuk freze takımları için maksimum ortalama talaş kalınlık aralığı (mm)	24	Uyumlu kesici uçlar
12	Ürün uygulamaları	25	Yedek parçalar
13	Şaft tipi	26	Özel aksesuarlar

¹⁾ γ_f = Kesici uç cebinin radyal eğim ayarı açısı (GAMF) – bkz. değiştirilebilir frezeler teknik bilgileri

γ_p = Kesici uç cebinin aksel eğim ayarı açısı (GAMP) – bkz. değiştirilebilir frezeler teknik bilgileri

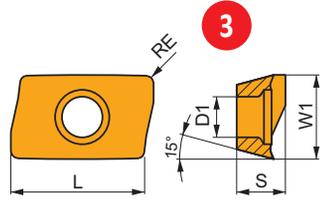
²⁾ Yedek parçalara ve özel aksesuara ait simgeler kolay anlaşılması için şematik olarak tasarlanmıştır. Bunlar simge listesine dahil edilmemiştir. Bazı durumlarda vida bilgilerine ek olarak Nm cinsinden tork değeri, vida uzunluğu ve diş boyutu da verilmiştir.

FREZELEME KESİCİ UÇLARI – GENEL BAKIŞ SAYFASI

1
ADMX 11

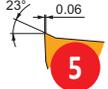


	W1	D1	L	S
	(mm)	(mm)	(mm)	(mm)
11T3	6.530	2.90	11.00	3.97



Kesme hızı (vc), ilerleme (f) ve kesme derinliği (ap) için uygunluk ve başlangıç değerleri. Daha ileri hesaplamalar için İşleme Hesaplayıcısı uygulamasına başvurun.

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/min)	(mm/tooth)	(mm)
4																						

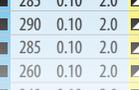




F geometri, hafif işleme için çok keskin tasarım.











Poz.	Açıklama
1	Kesici uç işareti
2	Kesici uç boyutları tablosu (mm)
3	Kesici ucun şematik çizimi
4	Temsili kesici uç resmi
5	Ana kesme kenarının profili
6	Simgeler – spesifik özellikler ve kesme kenarı tipi

Poz.	Açıklama
7	ISO kesici uç kodu:Kalite
8	Çalışma koşullarına uygun
9	Kesici uç yarıçapı (mm)
10	Geometri açıklaması
11	Kesici ucun uygulama alanı ¹⁾

¹⁾ Kesme hızı düzeltmelerine ait öneriler teknik bölümde, Frezeleme'nin sonunda bulunabilir.



Teknik bilgiler, frezeleme takımı sayfalarından ve ilgili uyumlu kesici uçlardan hemen sonra ve kesme hızlarına başlama bilgilerinde sunulur. Bu bilgiler takımları doğru şekilde kullanmanıza yardımcı olacaktır. Bu bilgilerin nasıl kullanılacağı veya yorumlanacağı konusunda emin değilseniz frezeleme bölümünün sonundaki teknik bölüme bakın veya Dormer Pramet temsilcinizle iletişime geçin.

ŞİMGELERE GENEL BAKIŞ

Genel Simgeler

	Birincil kullanım		Finiş işleme – çok iyi yüzey kalitesi		Stabil çalışma koşullarına uygun
	Olası kullanım		Orta talaş işleme – iyi yüzey kalitesi		Stabil olmayan çalışma koşullarına uygun
			Kaba talaş işleme – sınırlanmamış yüzey pürüzlülüğü		Çok dengesiz çalışma koşullarına uygun

Frezeleme İşlemleri

	Yüzey frezeleme		Dalma frezeleme		Havşa frezeleme
	Sığ kenar frezeleme		Aşamalı dalma		T oluk frezeleme
	Derin kenar frezeleme		Açılı frezeleme		Arka yüzey frezeleme
	Sığ oluk frezeleme		Helisel interpolasyon		Konturlu yüzeyler (kopya frezeleme)
	Derin oluk frezeleme		Önceden delinen delikte helisel interpolasyon		

Özellikler

	İlk tercih		İnce duvarlı ve ince iş parçaları		Ağır çalışma koşulları
	Üniversal geniş aralık seçeneği		Uzun kullanma mesafesi		
	Silici geometrisine sahip kesici uç		Yüksek ilerlemeli Kesim		

Kesme kenarı durum kodu (CECC)

	Keskin kenar		Fazlı kenar		Çift fazlı yuvarlatılmış kenar
	Yuvarlatılmış kenar		Fazlı yuvarlatılmış kenar		

Bağlama Tipi Kodu (MTP)

	S – Vida sıkmalı		System F		Vidanın bağlama torku (Nm)
	C – Üstten sıkmalı		System SC		

SİMGELERE GENEL BAKIŞ

Şaft

DIN 1835A Silindirik Şaft	Arbor DIN 69871-1	Kabuk freze DIN 8030 – helisel freze
DIN 1835B Weldon Şaft	Arbor DIN 2080-1	Kabuk freze DIN 8030 – disk freze
Mors şaft DIN 228-1	Arbor MAS BT (JIS-B-6339)	
Vida dişli bağlama	Kabuk freze DIN 8030	

Teknik Parçalar

Radyal kesme genişliğinin kesme çapına oranı (%)	Kesme derinliği (mm)	Diş sayısı
Radyal kesme genişliğinin maksimum kesme çapına oranı (%)	Kesicinin çapı (mm)	Takımın etkin çalışma uzunluğu (mm)
Kesme hızı için çarpım faktörü	Kesicinin maksimum çapı (mm)	Diş sayısı (helisel kesiciler)
İlerleme için çarpım faktörü (merkez hattında işleme)	Kesicinin etkin çapı (mm)	Takımın etkin erişimi (mm)
İlerleme için çarpım faktörü (merkez hattı dışında işleme)	Maksimum işlenmiş alan genişliği (mm)	Etkin diş sayısı
Talaş kırıcı	Dalma için kesme derinliği (mm)	Pah açısı (°)
Kesici ucun köşe yarıçapı (mm)	Maksimum açılı frezeleme açısı (°)	Kullanılan kenar sayısı
Silici kenar uzunluğu (mm)	Kesme uzunluğu boyunca maksimum kesme derinliği (mm)	Delik çapı (mm)
İlerleme (mm/diş)	Maksimum delik çapı için devir başına maksimum derinlik (mm)	İşlenmiş yüzeyin pürüzlülüğü R _a (mm)
Başlangıç ilerlemesi (mm/diş)	Minimum delik çapı için devir başına maksimum derinlik (mm)	Diş hatvesi
Minimum ilerleme (mm/diş)	Geleneksel frezelemede konturlama adımı (mm)	İnce başına dişler
Maksimum ilerleme (mm/diş)	Yukarı/aşağı çapraz frezelemede konturlama adımı (mm)	Süre (dak)

ISO KODLAMA SİSTEMİ – FREZE KAFALARI

ISO	1	2	3	4	-	5	6	7	8	9	10	11	12
	63	A	06	R	-		S	90	A	D	16	E	
ANSI	1	2	3	4	-	5	6	7	8	9	10	11	12
	300	F	04	N	-	I	S	90	S	N	12	N	4

1	1	2			3	3	5	6	6	7	7
Takım çapı	Takım tipi	Kenar sayısı			Standart	Sıkma tipi	Giriş açısı (KAPR)				
					I	C	90°				
	A ISO 6462/A DIN 8030/A	B ISO 6462/B DIN 8030/B			Kesme yönü			S			
	F DC = 27 mm	DC = 1.000			R			W			
	G DC = 32 mm	DC = 1.250			L			45°			
	H DC = 40 mm	-			N			MO			
	J DC = 50 mm	-									
	K DC = 60 mm	-									
	M DC = 80 mm	-									
	T										

8				8			
Uç şekli							
H	O	P	R				
S	T	C	D				
E	M	V	W				
L	A	B	K				

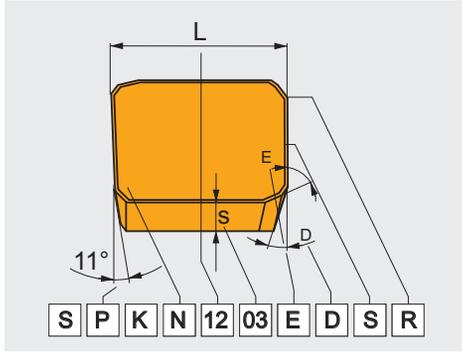
9		9	
Serbest aç			
A	B		
C	D		
E	F		
G	N		
P	O	Special	

10													10			
Kesici kenar boyu																
		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"							

11		11	
Serbest aç			
N ALP = 0°	C ALP = 7°	P ALP = 11°	
D ALP = 15°	E ALP = 20°	F ALP = 25°	

12		12	
Kesici kenar uzunluğu (geniřliđi)			
CW (mm) / (")	APMX		
		CW	1/16"
		0.156	2.5
		0.187	3
		0.250	4
		0.313	5
		0.375	6

ISO KODLAMA SİSTEMİ – FREZE UÇLARI



ISO	1	2	3	4
	S	P	G	N
ANSI	1	2	3	4
	S	P	G	N

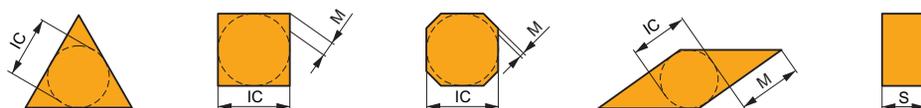
1		1	
Uç şekli			
H	O	P	R
S	T	C	D
E	M	V	W
L	A	B	K

2		2	
Serbest açı			
A		B	
C		D	
E		F	
G		N	
P		O	Özel

4		4	
Talaş kırıcı, sıkma tipi			
N			
R			
F			
A			
M			
G			
W	40–60°		
T			
Q			
U			
B	70–90°		
H			
C			
J			
X			Özel

3 3 Toleranslar

	(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 KODLAMA SİSTEMİ – FREZE UÇLARI

5	6	7	8	9	10
12	03	08			
12	03	ED	S	R	-
5a	6a	7a	8	9	
4	2	2			
4	2	ED	S	R	-

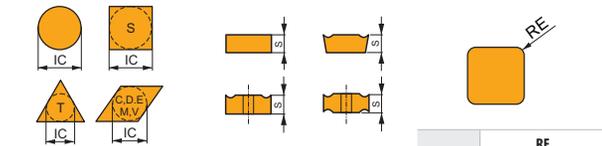
5		5												
Kesici kenar uzunluğu														
I.C.	H	O	P	S	T	C	D	E	M	V	W	R	K	
(mm)	(")													
3.97	5/32"				03	06		04			06	02		
4.76	3/16"				04	08	04	05	04	04	08	L3		
5.56	7/32"				05	09	05	06	05	05	09	03		
6.35	1/4"	03	02	04	08	11	06	07	08	08	11	04	06	
7.94	5/16"	04	03	05	07	13	08	09	06	07	13	05	07	
9.525	3/8"	05	04	07	09	16	09	11	09	09	16	06	09	
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"						

6	7
Uç kalınlığı	Kesici kenar açısı
Symbol	S
	(mm) (")
01	1.59 1/16"
T1	1.98 5/64"
02	2.38 3/32"
03	3.18 1/8"
T3	3.97 5.32"
04	4.76 3/16"
05	5.56 7/32"
06	6.35 1/4"
07	7.94 5/16"
09	9.52 3/8"

	KAPR		ALP
A	45°	A	3°
D	60°	B	5°
E	75°	C	7°
F	85°	D	15°
P	90°	E	20°
Z	Özel	F	25°
		G	30°
		N	0°
		P	11°
Z	Özel	Z	Özel
ZZ – Özel			

ANSI

5a	6a	7a
İç teğet çapı	Uç kalınlığı	Kesici kenar köşesi



Symbol	I.C.		Symbol	S		Symbol	RE	
	(mm)	(")		(mm)	(")		(mm)	(")
1	3.175	1/8"	1	1.588	1/16"	0	0	0"
1.2	3.969	5/32"	1.2	1.984	5/64"	0.2	0.099	1/256"
1.5	4.763	3/16"	1.5	2.381	3/32"	0.5	0.198	1/128"
1.8	5.556	7/32"	2	3.175	1/8"	1	0.397	1/64"
2	6.350	1/4"	2.5	3.969	5/32"	2	0.794	1/32"
2.5	7.938	5/16"	3	4.763	3/16"	3	1.191	3/64"
3	9.525	3/8"	3.5	5.556	7/32"	4	1.588	1/16"
4	12.700	1/2"	4	6.350	1/4"	5	1.984	5/64"
5	15.875	5/8"	5	7.938	5/16"	6	2.381	3/32"
6	19.050	3/4"	6	9.525	3/8"	7	2.778	7/64"
7	22.225	7/8"	7	11.113	7/16"	8	3.175	1/8"
8	25.400	1"	8	12.700	1/2"	10	3.969	5/32"
10	31.750	5/4"	9	14.288	9/16"	12	4.763	3/16"
12	38.100	6/4"	10	15.875	5/8"	14	5.556	7/32"
						16	6.350	1/4"

8

Kesme kenar tasarımı

	Keskin kesme kenarlı		Yuvarlatılmış kesme kenarlı
	Pahlı kesme kenarlı		Pahlı ve yuvarlatılmış kesme kenarlı
	Çift pahlı kesme kenarlı		Çift pahlı ve yuvarlatılmış kesme kenarlı

9

Kesme yönü



10

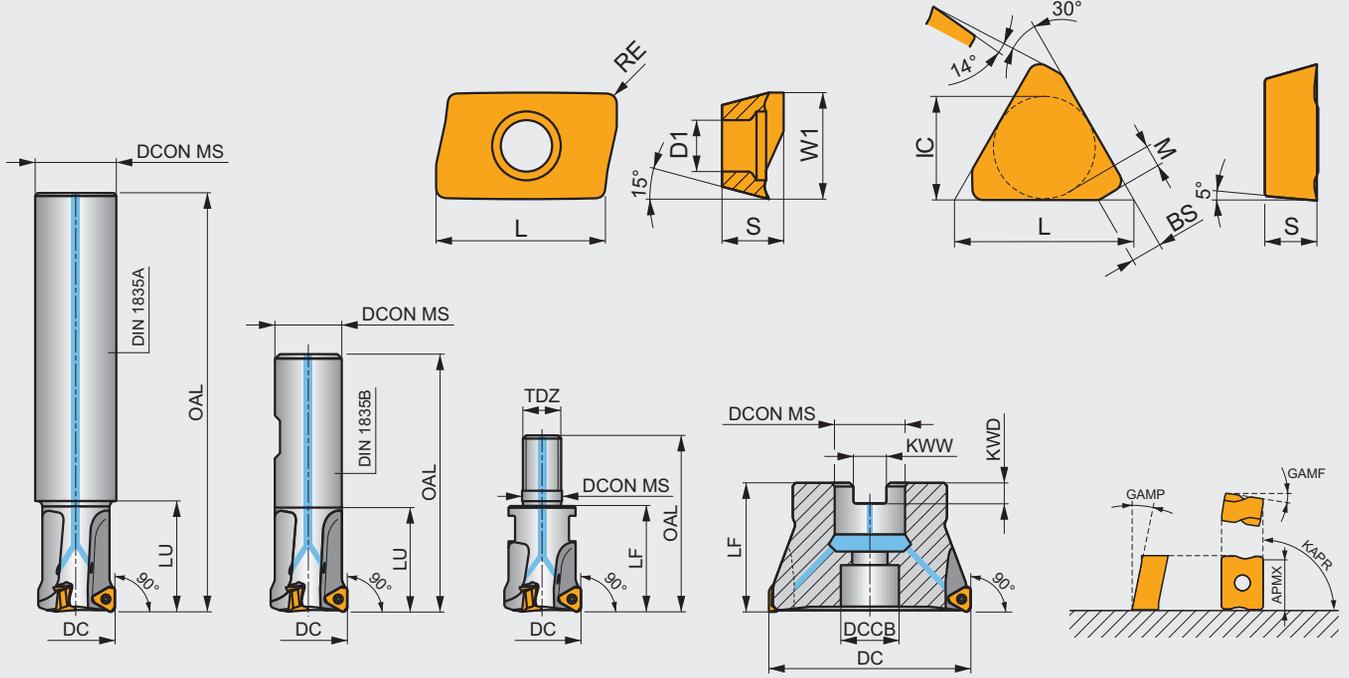
Talaş kırıcı tasarımı

ISO 13399'A GÖRE KESİCİ TAKIM PARAMETRELERİ

Tüm kesici takımlar ISO 13399 standardına göre çeşitli parametreler ile tanımlanır. Bu listede, bu katalogta kullanılan tüm parametreler ve bunların tanımları yer alır.

ISO 13399, uluslararası kesici takım bilgisi standardıdır. Belirli bir sistem veya şirket terminolojisinden bağımsız, nötr formatta boyutlar ve parametreler sağlar. Kesici takımlar global bir standarda göre net bir biçimde tanımlandığında, tüm yazılım türleri elektronik verileri daha hızlı bir şekilde işleyebilir, böylece iletişimin kalitesi artar ve bilgi alışverişinin sorunsuz çalışması sağlanır. Kesici takım açıklamalarımızda ortak bir dili destekleyerek sistem iletişimde bu sisteme yardımcı olur. 40.000 farklı yekpare ve değiştirilebilir takımımız ile yüksek kalitede verilerin daha kolay toplanmasını sağlayarak size önemli miktarda zaman tasarrufu sağlar. ISO 13399 uyumlu bir sistem kullandığınızda verileri manuel olarak yorumlamanız ve sisteminize girmeniz gerekmez.

SADECE NUMUNELER!



ISO 13399 kodu	Açıklama
APMX	Maksimum kesme derinliği
BD	Gövde çapı
BDX	Maksimum gövde çapı
BCH	Köşe pahı uzunluğu
BS	Silici kenar uzunluğu
CBDP	Bağlantı delik derinliği
CDI	Kesici uç kesme çapı
CDX	Maksimum kesme derinliği
CW	Kesme genişliği
CZC MS	Bağlantı boyut kodu tezgah tarafı
D1	Sabitleme deliği çapı
DAH4	Erişim deliği çapı
DAH5	Erişim deliği çapı
DAH6	Erişim deliği çapı
DBC1	Cıvata çemberi 1 çapı
DBC2	Cıvata çemberi 2 çapı
DBC4	Cıvata çemberi çapı
DBC5	Cıvata çemberi çapı
DBC6	Cıvata çemberi çapı

ISO 13399 kodu	Açıklama
DC	Kesme çapı
DCB	Bağlantı deliği çapı
DCCB	Bağlantı deliği havşa açma çapı
DCN	Minimum kesme çapı
DCON MS	Bağlantı çapı
DCX	Maksimum kesme çapı
DHUB	Kasnak çapı
DN	Boyun çapı
GAMF	Radyal kesme açısı
GAMP	Eksenel kesme açısı
CHW	Köşe pahı genişliği
IC	İç teğet daire çapı
INSD	Kesici uç çapı
INSL	Kesici uç uzunluğu
KAPR	Takım kesme kenarı açısı
KWD	Kama yuvası derinliği
KWW	Kama yuvası genişliği
L	Kesme kenarı uzunluğu
LB	Gövde uzunluğu
LE	Kesme kenarı etkin uzunluğu

ISO 13399 kodu	Açıklama
LF	Fonksiyonel uzunluk
LH	Kafa uzunluğu
LU	Kullanılabilir Uzunluk
LUX	Kullanılabilir maksimum uzunluk
M	M-ölçüsü
NOF	Kanal Sayısı
OAL	Toplam uzunluk
P	Bıçağın hatvesi
PRFA	Profil açısı
PRFRAD(2)	Profil yarıçapı
RE	Yarıçap
S	Kesici uç kalınlığı
S1	Toplam kesici uç kalınlığı
TDZ	Diş çapı boyutu
TP	Diş hatvesi
TPI	İnç başına dişler
W1	Kesici uç genişliği
ZNP	Takımdaki çevresel kenarların sayısı

FREZELEME KALİTELERİ – GENEL BAKIŞ

Grup	MTCVD'li sement karbür	PVD'li sement karbür	Kaplamasız
P01			
P05		M8310	
P10	M9315		
P15		8215	
P20	M9325		
P25		M8330	
P30		M8340	
P35		M8345	
P40			
P45			
P50			

Grup	MTCVD'li sement karbür	PVD'li sement karbür	Kaplamasız
M01			
M05			
M10			
M15			
M20			
M25		M6330	
M30		M8340	
M35	M9340	M8345	
M40			
M45			
M50			

Grup	MTCVD'li sement karbür	PVD'li sement karbür	Kaplamasız
K01		M4303	
K05		M8310	
K10		M4310	
K15	M5315		
K20		8215	
K25			
K30		M8330	
K35			
K40			
K45			
K50			

Grup	MTCVD'li sement karbür	PVD'li sement karbür	Kaplamasız
N01			
N05			
N10		M0315	
N15		8215	
N20			HF7
N25			
N30			
N35			
N40			
N45			
N50			

Grup	MTCVD'li sement karbür	PVD'li sement karbür	Kaplamasız
S01			
S05			
S10			
S15			
S20	M9340		
S25		M6330	
S30		M8340	
S35		M8345	
S40			
S45			
S50			

Grup	MTCVD'li sement karbür	PVD'li sement karbür	Kaplamasız
H01		M4303	
H05		2003	
H10		M4310	
H15	M5315	M8310	
H20		8215	
H25			
H30			
H35			
H40			
H45			
H50			

FREZELEME KALİTELERİ – GENEL BAKIŞ

Kalite Tanımlama	Uygulama Alanı	Uygulama	İlerleme	Kesme hızı	Olumsuz Çalışma Koşullarına Direnç	Kaplama	Renk	Altyapı	Kesme sıvısı avantajı	Kalite açıklaması
M8345	P30 – P50	■	▲	▲	▲+	PVD	H	H	-	Olağanüstü operasyonel güvenilirliğe sahip olan bu kalite zor ve sert malzemelerde elverişsiz koşullar altında yapılan ağır kesimler için tasarlanmıştır.
	M30 – M40	■	▲	▲	▲+					
M6330	P20 – P35	■	▲	▲	▲	PVD	H	H	+ / -	Olağanüstü hizmet güvenilirliğine sahip frezeleme kalitesi. Özellikle işlenmesi zor malzemelerin işlenmesi için uygundur. Olumsuz koşulların ve ağır kesimlerin hakim olduğu uygulamalarda güçlüdür.
	M20 – M35	■	▲	▲	▲					
	S20 – S30	■	▲	▲	▲					
M4303	P01 – P10	■	▲	▲	▲	PVD	ultra submicron	H	-	Kalıp ve pafta uygulamaları için aşınmaya en dayanıklı kalitedir. Stabil kesme şartlarında, yüksek kesme hızlarında ve düşük ilerlemelerde olağanüstü performans sunar. Zor iş parçası malzemelerinde finiş işleme operasyonları için uygundur.
	K01 – K10	■	▲	▲	▲					
	N01 – N10	■	▲	▲	▲					
	H01 – H10	■	▲	▲	▲					
M4310	P05 – P15	■	▲	▲	▲	PVD	ultra submicron	H	-	Kalıp ve pafta uygulamaları için universal kalitedir. Finiş işleme ve yarı kaba işleme operasyonları için uygundur. Bu kalite, yüksek aşınma direncini ve olağanüstü operasyonel güvenilirliği birlikte sunar.
	M05 – M15	■	▲	▲	▲					
	K05 – K15	■	▲	▲	▲					
	S05 – S10	■	▲	▲	▲					
	H05 – H15	■	▲	▲	▲					
2003	P01 – P10	■	▲	▲	▲	PVD	ultra submicron	H	-	Mükemmel aşınma direncine sahip frezeleme kalitesi. Stabil kesme şartları ve orta/ yüksek kesme hızları altında sert ve yüksek mukavemetli malzemelerin işlenmesinde en uygun çözümdür. Demir dışı metaller dışındaki diğer iş parçası grubu malzemelerini kesmek için uygundur.
	M01 – M10	■	▲	▲	▲					
	K01 – K10	■	▲	▲	▲					
	S05 – S10	■	▲	▲	▲					
M0315	N05 – N25	■	▲	▲	▲	PVD	submicron	H	-	Demir dışı metalleri ve alaşımlarını dengeli bir aşınma direnci ve tokluk oranıyla frezelemek için mikron altı kalitedir. Mükemmel sürtünme özelliklerine sahip benzersiz bir kaplama ile sunulur.
M8326	P20 – P40	■	▲	▲	▲	PVD	H	H	-	Ağır işler için özel kalite. Bu kalitenin ana uygulama alanı her tür çeliğin (paslanmaz dahil) "yumuşak durumda" işlemesidir. Daha yumuşak dökme demirlerin işlenmesinde de kullanılabilir. Ortalama kesme şartlarında orta hızlarda M15 – M30 işleme için uygundur.
	M15 – M30	■	▲	▲	▲					
M8346	P30 – P50	■	▲	▲	▲+	PVD	H	H	-	Ağır işler için özel kalite. Olağanüstü operasyonel güvenilirliğe sahip olan bu kalite zor ve sert malzemelerde elverişsiz koşullar altında yapılan ağır kesimler için tasarlanmıştır.
	M30 – M40	■	▲	▲	▲+					
S26	P15 – P30	■	▲	▲	▲	-		S	++	Kesme yüzeyinin erozyonuna karşı mükemmel dirençli kaplamasız frezeleme kalitesidir. Sadece karbon ve alaşımli çelikleri düşük kesme hızlarında işlemek için tasarlanmıştır.
S45	P30 – P45	■	▲	▲	▲+	-		S	++	Düşük kesme hızının ve olumsuz kesme şartlarının hakim olduğu işleme uygulamaları için uygun kaplamasız, sert kesme kalitesidir
HF7	M10 – M20	■	▲	▲	▲	-	submicron	H	++	Esas olarak demir dışı metallerin işlenmesi için tasarlanmış kaplamasız kalitedir; diğer işlenmiş malzemeler için de kullanılabilir (çelik hariç). Bu kalite tormalama, frezeleme ve hatta delik işlemede kullanılabilir.
	K10 – K25	■	▲	▲	▲					
	N10 – N25	■	▲	▲	▲					

FREZELEME KALİTELERİ – GENEL BAKIŞ

Kalite Tanımlama	Uygulama Alanı	Uygulama	İlerleme	Kesme hızı	Olumsuz Çalışma Koşullarına Direnç	Kaplama	Renk	Altyapı	Kesme sıvısı avantajı	Kalite açıklaması
M9315	P05 – P25	■				MT-CVD	■	H	---	Yüksek termal yüklerde bile yüksek aşınma direncine sahip frezeleme kalitesi, ana uygulama alanı orta veya küçük kesme derinliklerine sahip yüksek kesme hızlarıdır.
	K10 – K30	■	▴	▴	▴					
	H10 – H20	▣								
M9325	P10 – P30	■				MT-CVD	■	H	---	Bu kalite, aşınma direnci ve tokluk arasında ideal bir dengeye sahiptir, esas olarak kaba talaş işleme operasyonları için tasarlanmıştır. Avantajları, nispeten yüksek kesme hızlarında bile mükemmel güvenilirlik ve mükemmel aşınma direncidir; bu kalite, yüksek hızlar ve düşük ilerleme hızları kullanan uygulamalar için daha uygundur.
	K10 – K30	■	▴	▴	▴					
	H15 – H20	▣								
M9340	P35 – P50	■				MT-CVD	■	H	---	Çok tok bir kalitedir ve ana avantajı kesme kenarının yüksek mukavemeti ve olumsuz kesme şartlarına karşı dirençli olmasıdır. Bu malzeme MT-CVD M30 – M40 kaplamaya sahiptir; ancak özellikle optimum kesme şartlarında uygulama için emülsiyon soğutma kullanılabilir.
	M30 – M40	■	▴	▴	▴					
	S15 – S20	■								
M5315	P05 – P20	▣				MT-CVD	■	H	---	Stabil koşullar altında kullanılması gereken, aşınmaya en dayanıklı frezeleme kalitelerinden biridir. Başlıca avantajı, termal gerilime ve aşındırıcı K05 – K25 aşınmasına karşı son derece yüksek dirençtir. Esas olarak sert ve çok sert malzemelerin, özellikle de dökme demirin işlenmesinde kullanılır.
	K05 – K25	■	▴	▴	▴					
	H05 – H20	■								
M8310	P01 – P10	■				PVD	■	ultra submicron H	-	Kopya frezeleme için özel olarak geliştirilmiş, aşınmaya karşı yüksek dirençli kalite. Stabil kesme şartları altında yüksek kesme hızlarında işleme ve neredeyse tüm işlenmiş malzeme gruplarını (özellikle güçlü ve sert malzemeler) işlemek için uygundur.
	M01 – M10	▣	▴	▴	▴					
	K01 – K10	■								
	H05 – H15	▣								
8215	P10 – P20	■				PVD	■	submicron H	+ / -	Hem iş parçası malzemeleri aralığı hem de mümkün uygulama aralığı açısından en çok yönlü frezeleme kalitelerinden biridir. Karakteristik özellikleri, yüksek aşınma direnci ve operasyonel güvenilirliktir. Diğer avantajlarından biri de, sıcaklık şoku kaynaklı çatlama karşı mükemmel dirençtir. Eşsiz özelliklere sahip bu malzeme, frezeleme alanındaki temel malzemelerden biridir.
	M10 – M20	▣	▴	▴	▴					
	K10 – K25	■								
	N10 – N25	■								
	S10 – S15	▣								
M8325	P20 – P40	■				PVD	■	S	-	Bu kalitenin ana uygulama alanı her tür çeliğin (paslanmaz dahil) "yumuşak durumda" işlenmesidir. Daha yumuşak dökme demirlerin işlenmesinde de kullanılabilir. Ortalama kesme şartlarında orta hızlarda M15 – M30 işleme için uygundur.
	M15 – M30	▣	▴	▴	▴					
M8330	P20 – P40	■				PVD	■	submicron H	+ / -	Bu kalite universal özelliktedir ve çeşitli malzeme tiplerini işlemek için kullanılabilir. Bununla birlikte öncelikli uygulama alanı çelikler ve sünek dökme demirlerdir. Stabil olmayan kesme şartları altında orta hızlarda frezeleme için tavsiye edilir.
	M20 – M35	■								
	K20 – K40	■	▴	▴	▴					
	N15 – N30	▣								
	S15 – S25	▣								
M8340	P25 – P50	■				PVD	■	submicron H	+ / -	Düşük kesme hızları ve olumsuz kesme koşulları için özel olarak üretilmiş en sünek kaliteleden biridir. Bu kalite, kesme kenarının çok güçlü olması gerektiği bütün işlemler için idealdir.
	M20 – M40	■	▴	▴	▴					
	K20 – K40	▣								
	S20 – S30	■								

FREZELEME KALİTELERİ – GENEL BAKIŞ

Kalitelerin işareti

M		9		3		2		5	
İşlem tipi		Kaplama/Altyapı		Nesil		ISO aralığı			
D	Delik delme	0 PVD 1 CVD	Özel uygulama	1–9			01–05		
M	Frezeleme	2 PVD 3 CVD	Serbest				05–10		
T	Tornalama	4 PVD 5 CVD	Grup K, H				10–20		
G	Kanal açma ve Dilimleme	6 PVD 7 CVD	Grup M, S				20–30		
		8 PVD 9 CVD	Üniversal				30–40		
		B	CBN				40–50		
		D	PCD						

Alt yapı

H	WC-Co bazlı alt yapı
submicron H	İnce tanecikli (< 1 µm) WC-Co bazlı alt yapı
ultra submicron H	Çok ince tanecikli (< 0.5 µm) WC-Co bazlı alt yapı
S	Kübik karbürü alt yapı

Kaplama

MT-CVD	Orta sıcaklıkta kimyasal kaplama
PVD	Düşük sıcaklıkta fiziksel kaplama
–	Kaplamasız kalite

Soğutma faydası

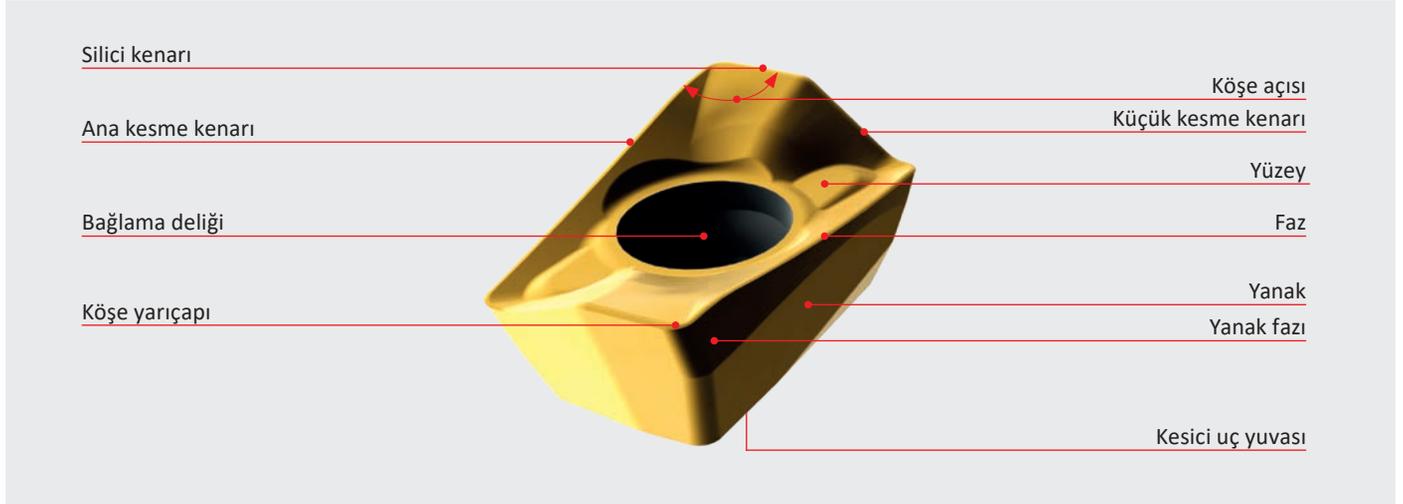
---	Very negative effect on tool life – cooling is not recommended
-	Slightly negative effect on tool life
+ / -	Influence of cooling may be both positive and negative – decisive factor is specific working conditions
++	Positive effect on tool life – cooling is recommended

Attribute Strength



TEMEL TERİMLERİN TANIMI

Bir değiştirilebilir kesici ucun parçaları



Freze takımının geometrisi

Yapısal açıları, kesici ucun sıkıştırıldığı yuva konumunun temel yönünü belirler ve bu nedenle frezeleme takımı gövdesinin tasarımı için önemlidir. İki açı vardır: Eksenel yüz açısı $GAMP - \gamma_p$ (takım arka eğimi) ve radyal yüz açısı $GAMF - \gamma_f$ (takım yan eğimi) – aşağıdaki resme bakın.

Çalışma açıları, ayar açısı $KAPR - \kappa_r$, dikey yüz açısı $GAMO - \gamma_o$ ve kesme kenarının eğim açısı $LAMS - \lambda_s$ şeklindedir.

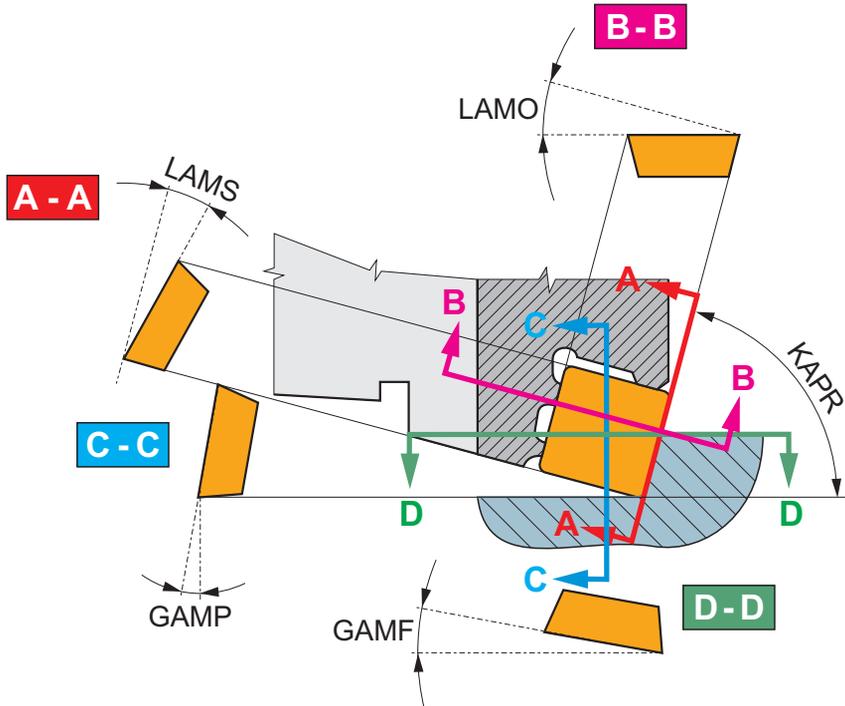
- **Dikey yüz açısı** $GAMO - \gamma_o$ sadece kesilen talaştaki plastik deformasyon boyutunu değil, aynı zamanda kesme kuvvetini ve sıcaklığını da etkiler. Eğim açısı $GAMO - \gamma_o$ büyüdükçe, iş mili motorunun kesme kuvveti ve güç talebi de azalır (ve tersi).
- **Ayar açısı** $KAPR - \kappa_r$ diş başına belirli bir ilerlemedeki talaşın kalınlığını f_z ve eksenel kesme derinliğini a_p belirler. Bununla kesme kuvvetlerini ve özellikle yükü, aşınmayı ve takım hizmet ömrünü

etkiler. $KAPR - \kappa_r$ ayar açısının f_z sabit ilerlemesiyle düşürülmesi h talaş kalınlığını azaltır.

- **Kesme kenarının** $LAMS - \lambda_s$ eğim açısı, $KAPR - \kappa_r$ ayar açısı ve $GAMO - \gamma_o$ yüz açısı hep birlikte kenar ile iş parçası arasındaki ilk temas noktasını belirler. Darbeli kesim sırasında kesme kenarının çentiklenme direncini etkilemesinin nedeni de budur. Aynı zamanda talaş tahliyesinin yönünü de etkiler.

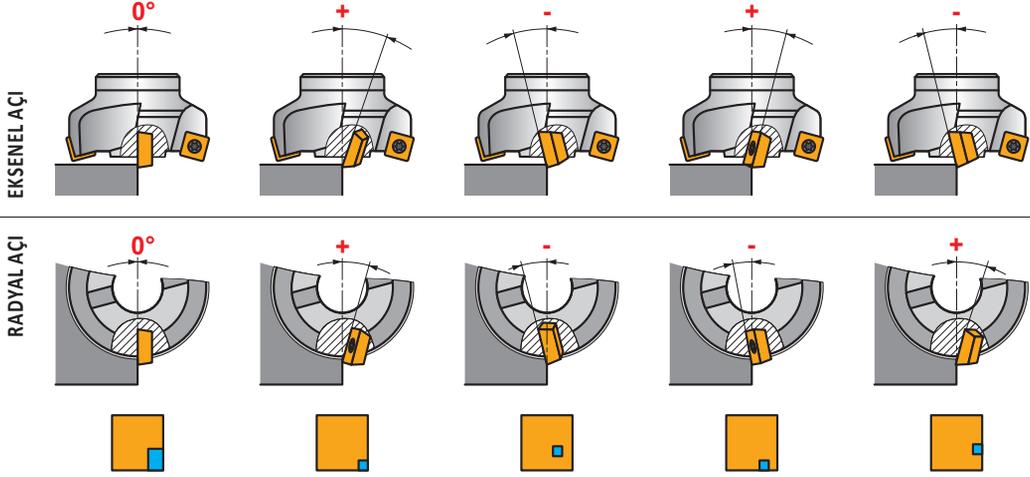
Takım çalışma açıları; aşağıdaki formülleri ve şemaları kullanarak yatağı belirleyebilirsiniz.

Freze takımının çalışma ve yapısal açıları



TAKIM SEÇİMİ

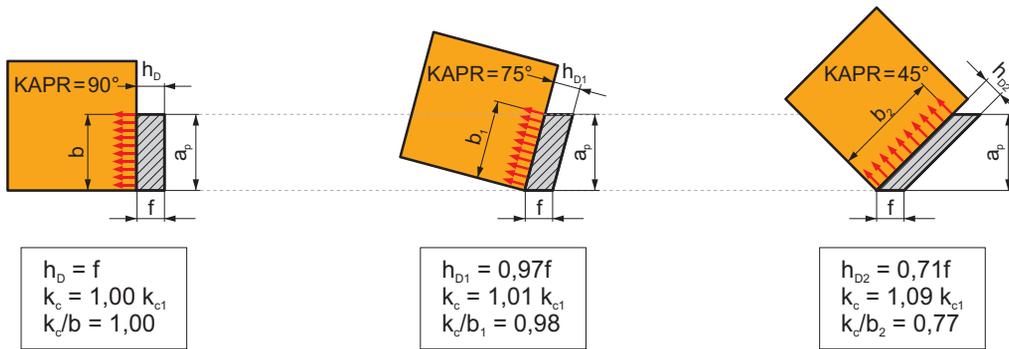
Frezeleme Takımı Geometrisi



Takım seçerken birçok kriteri hesaba katmak gerekir. Temel gereksinimlerden biri, kesme kaması ile iş parçası arasındaki ilk temas yerinin uçtan ve kesme kenarından daha uzakta olmasıdır. Ancak bu durum kesme kamasının temel geometrisine, yani $GAMO - \gamma_o$, $LAMS - \lambda_s$, $KAPR - \kappa_r$ açlarına ve ayrıca frezeleme takımıyla iş parçası giriş kenarının karşılıklı konumuna bağlıdır. Aşağıdaki şekil, bazı çok olumsuz kavrama koşullarında (yani frezeleme takımının eksenini iş parçasının kenarı ile aynı hizada olduğunda) bireysel frezeleme takımı geometrilerini (veya daha doğrusu, radyal ve eksoyel açıların kombinasyonlarını) göstermektedir. Şeklin alt kısmında, değiştirilebilir kesici ucun iş parçasıyla ilk temas kurduğu alanın bir göstergesiyle birlikte değiştirilebilir ek parçanın bir gösterimi bulunur. Şekilde, bu tür olumsuz etkileşim koşullarında negatif – negatif geometriye sahip takımların en iyi, pozitif – pozitif geometriye sahip

takımların ise en sorunlu performansı sağladığı görülmektedir. Diğer bir kriter talaş kaldırmadır. Negatif – negatif takımlar talaşı çalışma yüzüne (iş parçasına doğru) iterken, pozitif – pozitif takımlar bunun tersini yaparak talaşı çalışma yüzeyinden, yani iş parçasından uzağa yönlendirir. Bu nedenle, negatif ve pozitif açıları birleştirmek optimal bir uzlaşmadır.

Giriş Açısı



Yüzey frezeleme için giriş açısını seçerken, diğer şeylerin yanı sıra, tezgahın gücü ve rijitliği (takım tutucunun boyutu ve tipi), dinamik yetenekleri ve maksimum kaldırma derinliği hesaba katılmalıdır. Örneğin, elinizde yüksek performanslı (50–100 kW) bir tezgah ve ISO 50 takım tutucu varsa ve yüksek derinlikli kesim yapıyorsanız ilk tercihiniz, giriş açısı 90° – 58° arasında olan bir frezeleme takımı olmalıdır. Öte yandan, ISO 40 (HSK 63) takım tutucuya sahip düşük güçlü bir tezgahınız (10 kW'a kadar) varsa ve 2-3 mm derinlikte kesim yapmayı planlıyorsanız, 45° – 10° aralığında (ör. HFC) giriş açısı olan veya yuvarlak kesici uçlu bir takım seçmelisiniz. Bu nedenle, giriş açısı 45° olan, aynı zamanda daha yüksek kesme derinliklerini işleyebilen ve 90° giriş açısına sahip bir takımla karşılaştırıldığında % 30'a kadar daha yüksek ilerlemeyle ve yaklaşık olarak aynı yükte ve aynı derinlikte kesim yapabilen bir takım seçmek ideal bir uzlaşma olacaktır. Son

olarak, giriş açısı ne kadar düşük olursa, talaş o kadar ince ve kesme kamasının takılan kısmı o kadar uzun olur; bu da ısı yayılımı ve kesici ucun kenarı boyunca kuvvet dağılımı açısından önemlidir. Belirtilmesi yararlı olan diğer bir konu da, kesme kuvvetleri bileşkesinin yönündeki değişikliklerdir. Basitçe bu yön, kenara dik olarak görselleştirilebilir. (Giriş açısının düşürülmesi, iş miline giden kesme kuvvetinin pasif parçasını artırır ve kesme kuvvetinin aktif radyal parçasını azaltır).

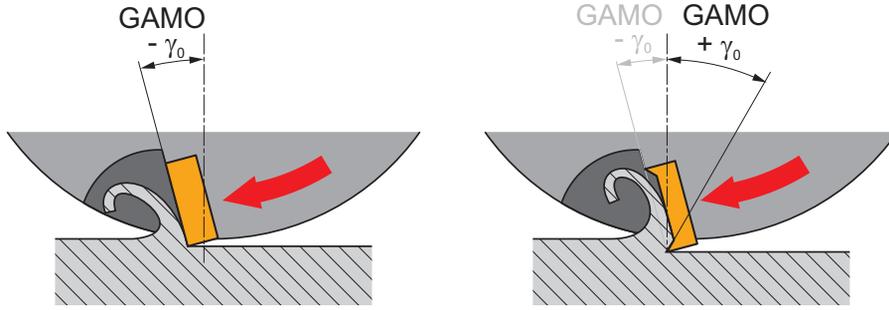
TAKIM SEÇİMİ

Aşağıdaki resimde kesici gövdesinin giriş açısına ve temel geometrisine (yani yüzün ekstenel ve radyal açısı) göre Pramet frezeleme takımlarının çeşitleri gösterilmiştir. Bununla birlikte kesici uç geometrisinin, takımın sonuçta ortaya çıkan geometrisini aşağıdaki şekilde değiştirebileceğine dikkat edilmelidir.

	Negatif – Negatif	Negatif – Pozitif	Pozitif – Pozitif
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 Z516	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	

TAKIM SEÇİMİ

Sonuç Geometrisi (Frezeleme Takımı + Değiştirilebilir Kesici Uç)



Aşağıdaki tabloda, üç temel frezeleme takımının geometrisi ve işlenen malzeme türüne göre yaklaşık kullanım önceliği listelenmiştir. Kesici uç geometrilere göre farklı takım aileleri hakkında ayrıntılı bilgi katalog bölümünde bulunabilir.

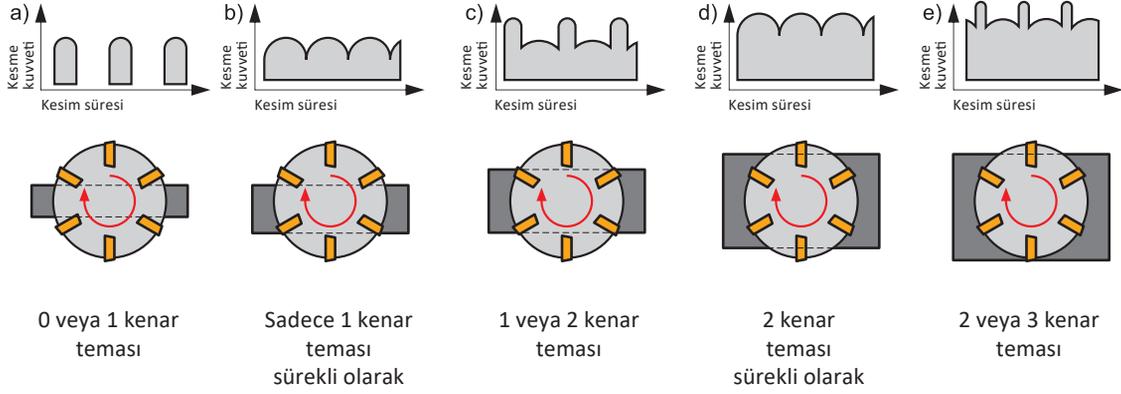
Koşullar		Uygulamaya göre kesici geometrisi seçimi		
		Negatif – Negatif	Negatif – Pozitif	Pozitif – Pozitif
Gövdenin yapısal parametresi	GAMP (A.R.)	-	+	+
	GAMF (R.R.)	-	-	+
	GAMO	-	+	+
İşlenen malzeme	Karbon çelikleri, alaşımlı çelikler (< 300 HB)	■	■	■
	Paslanmaz çelikler (< 300 HB)		■	■
	Paslanmaz çelikler (> 300 HB)		■	■
	Dökme demir, sünek demir	■	■	■
	Al alaşımları		■	■
	Bakır ve alaşımları		■	■
	Titanyum ve alaşımları		■	■
	Sertleştirilmiş çelikler (40 – 55 HRC)	■	■	

Frezeleme Takımındaki Diş Sayısı

Frezelenmiş yüzeyin genişliğiyle ilişkili olarak, frezeleme takımı üzerindeki diş sayısı da önemlidir. Diş sayısı aşağıdaki şekilde gösterildiği gibi, kesimin kuvvetini ve akustik özelliklerini belirler.

			
Dakikadaki ilerleme	+	++	+++
Sert malzemeler	+++	++	+
Güç gereksinimi	+	++	+++
Sonuçtaki pürüzlülük	+++	++	+
			

Diş Hatvesi



Ek olarak, bazı takım ailelerinde eşit ve düzgün olmayan diş hatvesi arasında seçim yapma olanağı sunulur. Düzgün olmayan diş hatvesine sahip bir takım kullanılması harmonik salınımı engeller ve sonuç olarak stabiliteyi artırmaya ve titreşim riskini azaltmaya yardımcı olur. Buna göre, titreşim riski öngörüyorsanız yani öncelikle yüksek kullanma

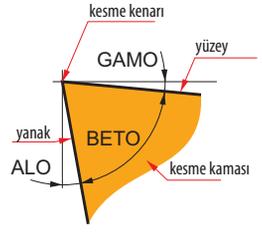
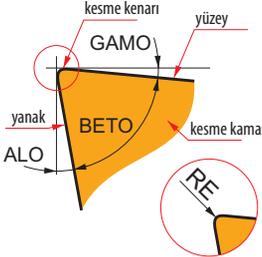
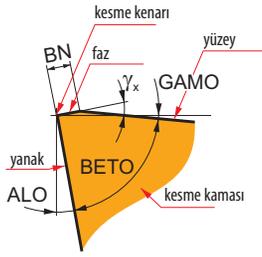
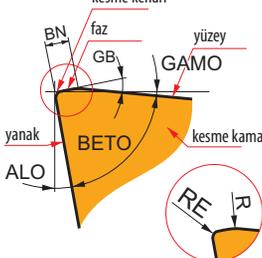
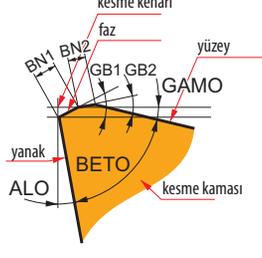
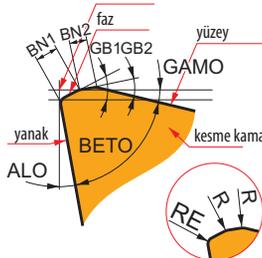
mesafelerinde veya yüksek radyal kesme derinliğinde ve tamamen stabil olmayan koşullar altında çalışırken düzgün olmayan diş hatvesini seçmeniz gerekir.



KESİCİ UÇ SEÇİMİ

Değiştirilebilir bir kesici uç seçerken ucun, katalog bölümünde simgelerle gösterilen mikro geometrisine de dikkat edilmelidir. Aşağıda, kesici uçlarımızda bulabileceğiniz kesme kenarı tiplerine genel bir bakış verilmiştir.

Kesme Kenarı Tasarımlarına Genel Bakış

F		<p>Keskin kesme kenarları – Al alaşımları için tasarlanmış frezeleme takımlarıyla kullanılan kesici uçlar için önerilir. Keskin kesme kamaları, kesilen tabakada minimum deformasyon, kenarda daha az talaş birikmesi ve daha düşük kesme kuvveti gereksinimi sağlar. Ancak kesme kamasının mukavemeti diğer tiplere göre daha düşüktür.</p>
E		<p>Yuvarlatılmış kesme kenarları – kamadaki hafif bir yuvarlatma sayesinde kama yüzeyindeki mikro kusurlar ortadan kaldırılır. Kamanın belirli bir çok düşük yarıçapta (RE) düzeltilmesi, kesme kenarının mekanik hasara, yani gevrek kırılma veya mikro parçalanmaya karşı direncini artırır. Bu modifikasyon şu anda hemen tüm malzeme tiplerini frezelemede kullanılan, faz içermeyen (önceki F modifikasyonu) tüm değiştirilebilir kesici uçlarda kullanılmaktadır.</p>
T		<p>Fazlı kesme kenarları – x genişliği ve γ_x açısı olan bir faz, kesme kenarının hemen yakınındaki kesme kamasının γ_n açısını artırır, böylece aynı zamanda mukavemetini, yani mekanik yüklere ve gevrek kırılmaya karşı direncini de artırır. Şu anda S modifikasyonu ile değiştirildiği için nadiren kullanılmaktadır.</p>
S		<p>Fazlı yuvarlatılmış kenarlar – T modifikasyonuna kıyasla kesici uç, kesme kenarının yuvarlanmasını ve bir fazının kalınlaşmasını sağlayan bir düzeltmeye tabi tutulmuştur. Bu modifikasyon kamanın mekanik hasarlara karşı direncini büyük ölçüde artırır.</p>
K		<p>Çift fazlı kenarlar – x_1, x_2 genişliğinde ve γ_{x1}, γ_{x2} açılı çift faz, kenarın gücünü yani mekanik gerilmelere ve gevrek kırılmaya karşı direncini daha da artırır. Frezeleme kesici uçları için sadece en zor kesimlerde ve nadiren kullanılır.</p>
P		<p>Çift fazlı yuvarlatılmış kenarlar – K modifikasyonuna kıyasla kesici uç, kesme kenarının yuvarlanmasını ve iki fazının kalınlaşmasını sağlayan bir düzeltmeye tabi tutulmuştur. Bu modifikasyon, kamanın mekanik hasarlara karşı maksimum dirençli olmasını sağlar.</p>

DÜZELTME FAKTÖRLERİ

Belirli kesici tipi ve operasyon için düzeltme faktörleri C_{VcO}

KAPR 45° – 60° ve negatif kesici uçlu yüzey frezeleri (SON06C, SHN06C, SHN09C)	1.15	1.00	0.85
KAPR 45° ve pozitif kesici uçlu yüzey frezeleri (SSD13F, SSE09, SSN12Z, FSB22X, SOD05, SOD06D, SOE06Z)	1.15	1.00	0.85
KAPR 90° kenar frezeleri (SAD07/10/16, STN10/16, SLN12/16, SAP10/16, SS009, SSD12)	1.10	1.00	0.90
Kopya yüzey frezeleri (SRC10 – SRC20, SRD05 – SRD16, ...)	1.10	1.00	0.90
Kopya parmak frezeler (K2-PPH, K2-SLC, K2-SRC, K3-CXP...)	1.10	1.00	0.90
Disk frezeler (S90CN(XN), S90SN...)	1.10	1.00	0.90
Uzatılmış kanallı kenar frezeleri (J(T)-CSD12X, J(T)-SAD11E, J(T)-SAD16E...)	1.25	1.00	0.80
Ağır hizmet için yüzey frezeleri (FSB22X, SPN13...)	1.30	1.00	0.85
Ağır hizmet için kenar frezeleri (FTB27X...)	1.25	1.00	0.85

Gerekli dayanıklılık için düzeltme faktörleri C_{VcT}

	dakika	15	20	30	45	60	90	120
Genel işleme (finitiş işlemeden kaba talaş işlemeye)		1.23	1.13	1.00	0.89	0.81	0.72	–
Ağır işleme (ağır kaba işleme)		–	–	1.23	1.13	1.00	0.89	0.81

Ek düzeltme faktörleri C_{VcA}

İşleme ortamı	C_{VcA}
İş malzemesinin durumu (dövme veya döküm nedeniyle bozuk yüzey)	0.70
Stabil olmayan işleme şartları	0.85
Yaygın işleme şartları	1.00
Stabil işleme şartları	1.20

< % 100 radyal daldırma ile yüzey ve kenar frezeleme sırasında kesme hızı için düzeltme faktörleri 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

< % 100 radyal daldırma ile yüzey ve kenar frezeleme sırasında talaş incelmesini telafi etmek için düzeltme faktörleri 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

Ortaya çıkan düzeltilmiş kesme hızı 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} – kullanılan malzemenin katsayısı

v_c – katalog sayfasından başlangıç hızı

FORMÜLLER

Değer	Birim	Formül
Fener mili hızı	(dev/dk)	$n = \frac{v_c \times 1000}{DC \times \pi}$
Kesme hızı	(m/dk)	$v_c = \frac{\pi \times DC \times n}{1000}$
Devir başına ilerleme	(mm/dev)	$f_{rev} = \frac{f_{min}}{n} = f_z \times z$
Dakika başına ilerleme (ilerleme hızı)	(mm/dk)	$f_{min} = v_f = f_{rev} \times n = f_z \times z \times n$
Dış başına ilerleme	(mm/ağız)	$f_z = \frac{f_{rev}}{z} = \frac{f_{min}}{n \times z}$
Talaş kesiti	(mm ²)	$A = f_z \times a_p$
Talaş kalınlığı (düz kenarlı uçlar için)	(mm)	$h = f_z \times \sin KAPR$
Talaş kalınlığı (yuvarlak kesici uçlar için)	(mm)	$h = f_z \times \sqrt{\frac{a_p}{INSD}}$
Talaş kaldırma oranı	(cm ³ /dk)	$Q = \frac{a_p \times a_e \times f_{min}}{1000}$
Güç gereksinimi	(kW)	$P_c = \frac{a_p \times a_e \times f_{min}}{60 \times 10^6 \times \eta} \times k_c \times k_y$
Ortalama güç gereksinimi	(kW)	$P_c = \frac{a_p \times a_e \times f_{min}}{x}$

Not:

	Değer	Birim
n	Fener mili hızı	(dev/dk)
DC	Çap	(mm)
v_c	Kesme hızı	(m/dk)
f_{rev}	Devir başına ilerleme	(mm/dev)
A	Talaş kesiti	(mm ²)
a_p	Eksenel kesme derinliği (kesme derinliği)	(mm)
a_e	Radyal kesme derinliği (kesme genişliği)	(mm)
$KAPR$	Ana kenar giriş açısı	(°)
f_{min}	Dakika başına ilerleme (ilerleme hızı)	(mm/dk)
f_z	Dış başına ilerleme	(mm/ağız)
z	Ağız sayısı	(-)
$INSD$	Çap kesici uçlar	(mm)

	Değer	Birim
h	Talaş kalınlığı	(mm)
Q	Dakikada talaş kaldırma hacmi	(cm ³ /dk)
P_c	Güç gereksinimi	(kW)
k_c	mm ² başına kesme kuvveti	(MPa)
k_y	γ_0 açısının etki katsayısı	(°)
η	Tezgaah verimliliği genellikle $\eta = 0.75$	(-)
x	İş parçası malzemesi etki katsayısı	(-)

Malzeme	Çelik	Dökme	Alüminyum
x katsayısı	24 000	30 000	120 000

TAVSİYE EDİLEN SIKMA VİDASI TORK DEĞERLERİ

Sıkma vidası	Tork	Vida	Boy
	(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

Sıkma vidası	Tork	Vida	Boy
	(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

Tork anahtarları

Tork kolu	Tork (Nm)	Vida dişi sıkma
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

Değiştirilebilir gövdeler

Değiştirilebilir gövdeler
D-T6
D-T6P
D-T7
D-T7P
D-T8
D-T8P
D-T9
D-T9P
D-T15
D-T15P
D-T20
D-T20P

Vida yağlama

Uç sıkma vidaları yüksek ısıl gerilime maruz kalır. Tüm vidaların MOLYKOTE 1000 gibi yüksek kaliteli macun ile yağlanması tavsiye edilir.

UÇ KUTUSU ÜZERİNDEKİ TEKNİK BİLGİLER

Menşei Ülkesi → Made in Czech Republic

Barkod → 3 16036021189057

Ürün numarası → 80016674 6754539

ADMX 11T308PR-R
Grade M9325

Uç markalama (ISO) → ADMX 11T308PR-R
ANSI Kodu → ADMX (2.5)2PR-R
Kalite → Grade M9325

İç kodu (parti no) → 4455-2205998 80016674 QTY 10

Miktar → QTY 10

	[metric]	[inch]
P10 - P30		
v _c	340-235	1115-770
f _s	0,15-0,25	.006-.010
a	1,0-9,0	.039-.354
M10 - M25		
v _c	200-140	655-460
f _s	0,15-0,19	.006-.007
a	1,0-6,8	.039-.268
v _c	-	-
f _s	-	-
a	-	-
v _c	-	-
f _s	-	-
a	-	-
S15 - S16		
v _c	100-45	330-150
f _s	0,15-0,19	.006-.007
a	1,0-5,4	.039-.213
v _c	-	-
f _s	-	-
a	-	-

İnce birim sütunu → [metric]

Uç şekli ve talaş oluşumuna bağlı olarak ilerleme (metrik) → v_c

Uç şekli ve talaş oluşumuna bağlı olarak ilerleme (inç) → v_c

Uç şekli ve talaş oluşumuna bağlı olarak kesme derinliği (metrik) → f_s

Uç şekli ve talaş oluşumuna bağlı olarak kesme derinliği (inç) → f_s

Uç şekli ve talaş oluşumuna bağlı olarak kesme derinliği (metrik) → a

Uç şekli ve talaş oluşumuna bağlı olarak kesme derinliği (inç) → a

Kesme derinliği ve ilerlemeye bağlı başlangıç kesme hızı (metrik) → v_c

Kesme derinliği ve ilerlemeye bağlı başlangıç kesme hızı (inç) → v_c

Uyarı etiketi

Marka etiketi

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WMG (İŞ PARÇASI MALZEME GRUPLARI)

ISO grup	WMG (İş Parçası Malzeme Grupları)	Sertlik (HB veya HRC)	Toplam Gerilme Dayanımı (MPa)	Düzeltilme fakt. kvG		
P	P1.1	Sülfürlü	< 240 HB	≤ 830	1.33	
	P1.2	Kolay işlenebilir çelik (İşlenebilirliği artırılmış karbon çeliği)	Sülfürlü ve fosforlu	< 180 HB	≤ 620	1.49
	P1.3		Sülfürlü/fosforlu ve kurşunlu	< 180 HB	≤ 620	1.53
	P2.1	Yalın karbon çeliği (demir ve karbon ağırlıklı çelik)	İçerik < 0.25 % C	< 180 HB	≤ 620	1.14
	P2.2		İçerik < 0.55 % C	< 240 HB	≤ 830	1.00
	P2.3		İçerik > 0.55 % C	< 300 HB	≤ 1030	0.89
	P3.1	Alaşımli çelik (karbonlu çelik, alaşım ≤ %10)	Tavlanmış	< 180 HB	≤ 620	0.92
	P3.2		Sertleştirilmiş ve tavlanmış	180 – 260 HB	> 620 ≤ 900	0.74
	P3.3			260 – 360 HB	> 900 ≤ 1240	0.63
	P4.1	Takım çeliği (kalıp için özel alaşımli çelikler)	Tavlanmış	< 26 HRC	≤ 900	0.55
P4.2		Sertleştirilmiş ve tavlanmış	26 – 39 HRC	> 900 ≤ 1240	0.47	
P4.3			39 – 45 HRC	> 1240 ≤ 1450	0.38	
M	M1.1	Ferritik paslanmaz çelik (sertleştirilemeyen düz krom alaşımı)	< 160 HB	≤ 520	1.22	
	M1.2		160 – 220 HB	> 520 ≤ 700	1.03	
	M2.1	Martensitik paslanmaz çelik (sertleştirilebilir düz krom alaşımı)	Tavlanmış	< 200 HB	≤ 670	1.08
	M2.2		Sertleştirilmiş ve tavlanmış	200 – 280 HB	> 670 ≤ 950	0.89
	M2.3		Yaş sertleştirme	280 – 380 HB	> 950 ≤ 1300	0.75
	M3.1	Östenitik paslanmaz çelik (krom nikel ve krom nikel manganlı alaşımlar)	< 200 HB	≤ 750	1.00	
	M3.2		200 – 260 HB	> 750 ≤ 870	0.86	
	M3.3		260 – 300 HB	> 870 ≤ 1040	0.77	
	M4.1	Östenitik ferritik (DUPLEX) veya süper östenitik paslanmaz çelik	< 300 HB	≤ 990	0.75	
	M4.2	Yaş sertleştirilmiş östenitik paslanmaz çelik	300 – 380 HB	≤ 1320	0.64	
K	K1.1	Pik döküm (ASTM A48) veya Otomotiv Pik döküm (ASTM A159) (lamelli grafit mikroyapılı demir karbon döküm)	Ferritik veya ferritik perlitik	< 180 HB	≤ 190	1.35
	K1.2		Ferritik perlitik veya perlitik	180 – 240 HB	> 190 ≤ 310	1.00
	K1.3		Perlitik	240 – 280 HB	> 310 ≤ 390	0.75
	K2.1	Dövülebilir demir (ASTM A602) (grafitsiz mikroyapılı demir karbon dökümü)	Ferritik	< 160 HB	≤ 400	1.39
	K2.2		Ferritik veya perlitik	160 – 200 HB	> 400 ≤ 550	1.13
	K2.3		Perlitik	200 – 240 HB	> 550 ≤ 660	0.90
	K3.1	Sfero döküm (ASTM A536) (sfero grafit mikroyapılı demir karbon dökümü)	Ferritik	< 180 HB	≤ 560	1.23
	K3.2		Ferritik veya perlitik	180 – 220 HB	> 560 ≤ 680	0.94
	K3.3		Perlitik	220 – 260 HB	> 680 ≤ 800	0.76
	K4.1	Östenitik pik döküm (ASTM A436) (östenitik lamelli grafit mikroyapılı demir-karbon alaşımli döküm)		< 180 HB	≤ 190	1.14
K4.2	Östenitik sfero döküm (ASTM A439 veya ASTM A571) (östenitik sfero grafit mikroyapılı demir karbon alaşımli döküm)		< 240 HB	≤ 740	0.86	
K4.3	Östempelenmiş pik döküm (ASTM A897) (ösferrit mikroyapılı demir karbon alaşımli döküm)		< 280 HB	> 840 ≤ 980	0.63	
K4.4			280 – 320 HB	> 980 ≤ 1130	0.54	
K4.5			320 – 360 HB	> 1130 ≤ 1280	0.45	
K5.1	Sıkıştırılmış grafit demir CGI (ASTM A842) (kıvrımlı grafit yapıli demir karbon döküm)	Ferritik	< 180 HB	≤ 400	1.29	
K5.2		Ferritik-perlitik	180 – 220 HB	> 400 ≤ 450	0.97	
K5.3		Perlitik	220 – 260 HB	> 450 ≤ 500	0.75	
N	N1.1	Saf dövme alüminyum	< 60 HB	≤ 240	1.33	
	N1.2	Dövme alüminyum alaşımları	Yarı sert tavlanmış	60 – 100 HB	> 240 ≤ 400	1.00
	N1.3		Tam sert tavlanmış	100 – 150 HB	> 400 ≤ 590	0.67
	N2.1	Döküm alüminyum alaşımları		< 75 HB	≤ 240	0.67
	N2.2			75 – 90 HB	> 240 ≤ 270	0.60
	N2.3			90 – 140 HB	> 270 ≤ 440	0.43
	N3.1	Kolay işlenebilir bakır alaşımları		–	–	0.70
	N3.2	Orta zorlukta işlenebilir, kısa talaş veren bakır alaşımları		–	–	0.41
	N3.3	Zor işlenebilir, uzun talaş veren bakır alaşımları		–	–	0.21
	N4.1	Termoplastik polimerler		–	–	0.70
N4.2	Termoset polimerler		–	–	0.27	
N4.3	Camelyaf polimer veya kompozitler		–	–	0.29	
N5	N5.1	Grafit		–	1.00	
S	S1.1	Titanyum ya da titanyum alaşımları	< 200 HB	≤ 660	1.94	
	S1.2		200 – 280 HB	> 660 ≤ 950	1.72	
	S1.3		280 – 360 HB	> 950 ≤ 1200	1.44	
	S2.1	Fe-bazlı sıcak iş alaşımları	< 200 HB	≤ 690	1.33	
	S2.2		200 – 280 HB	> 690 ≤ 970	1.17	
	S3.1	Ni-bazlı sıcak iş alaşımları	< 280 HB	≤ 940	1.00	
	S3.2		280 – 360 HB	> 940 ≤ 1200	0.83	
	S4.1	Co-bazlı sıcak iş alaşımları	< 240 HB	≤ 800	0.78	
S4.2		240 – 320 HB	> 800 ≤ 1070	0.67		
H	H1.1	Soğutulmuş dökme demir	< 440 HB	–	1.52	
	H2.1	Sertleştirilmiş dökme demir	< 55 HRC	–	0.90	
	H2.2		> 55 HRC	–	0.77	
	H3.1	Sertleştirilmiş çelik < 55 HRC	< 51 HRC	–	1.00	
	H3.2		51 – 55 HRC	–	0.82	
	H4.1	Sertleştirilmiş çelik > 55 HRC	55 – 59 HRC	–	0.64	
	H4.2		> 59 HRC	–	0.54	

SERTLİK ÇEVİRİM TABLOSU

Dayanım (MPa)	Sertlik			
	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

Dayanım (MPa)	Sertlik			
	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

SIMPLY RELIABLE

Profesyoneller sadece talaşa bakarak işin kalitesini değerlendirebilir. Bizim talaşımız kendi öyküsünü anlatan pürüzsüz ve basit şekillidir. Açık ve istikrarlı işaretinden dolayı basitçe güvenilir olmak için sembolümüz olarak talaş **şeklini kullanıyoruz.**

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