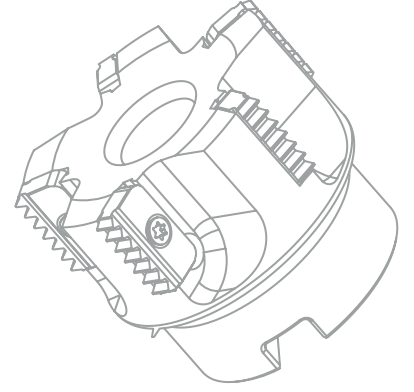
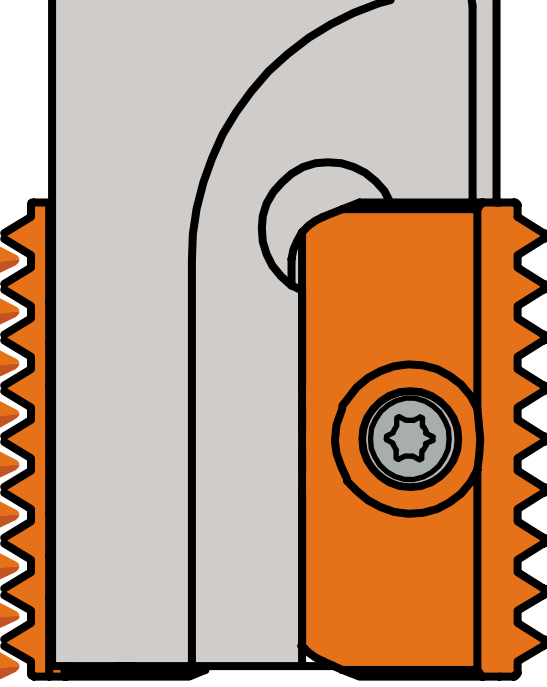
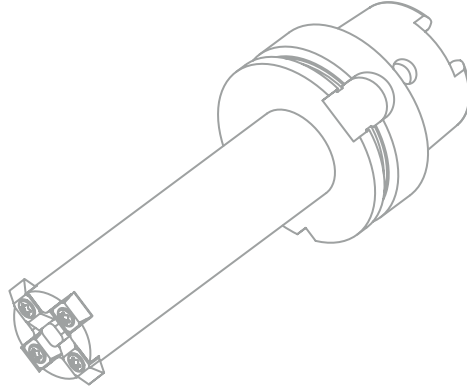




Pratik El Kitabı



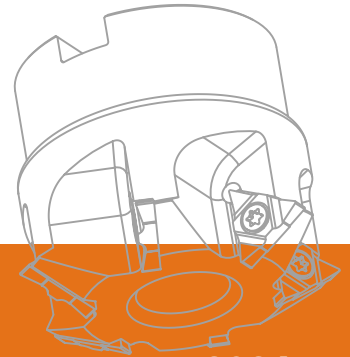
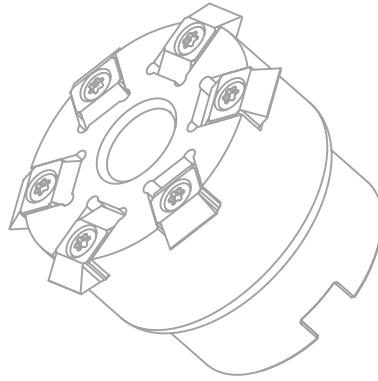
Diş açma freze takımları

Petrol diş açma aletleri

Diş açma aletleri

Freze kanal açma aletleri

Kanal açma ve ayırma aletleri



DIŞ AÇMA FREEZE TAKIMLARI

● Ayakta stok ○ Olağanüstü stok

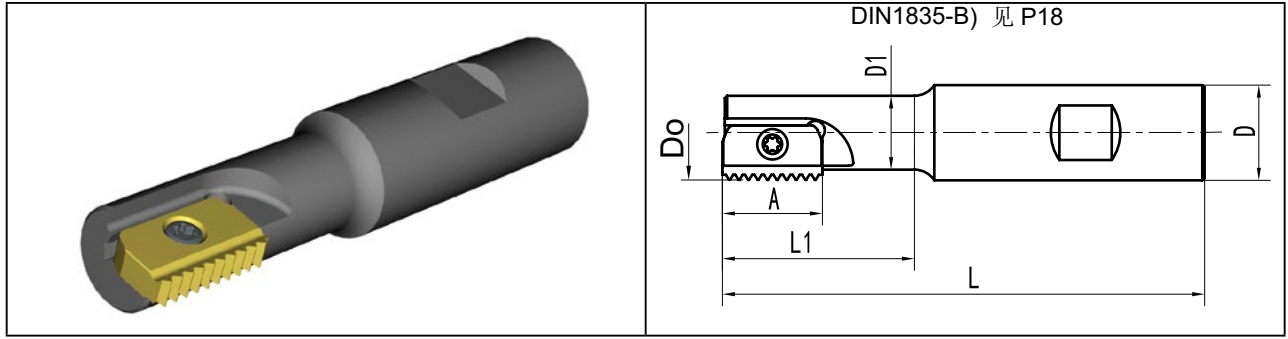
DİSACMA FREZE TAKIMI AR

● Ayakta stok ○ Olağanüstü stok

DISAGMA FREZE TAKIMI ARI

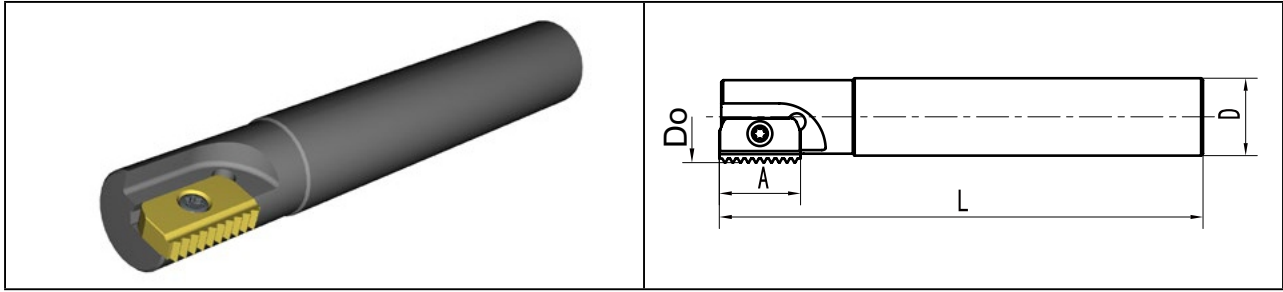
● Ayakta stok ○ Olağanüstü stok

Tek uçlu takım tutucular



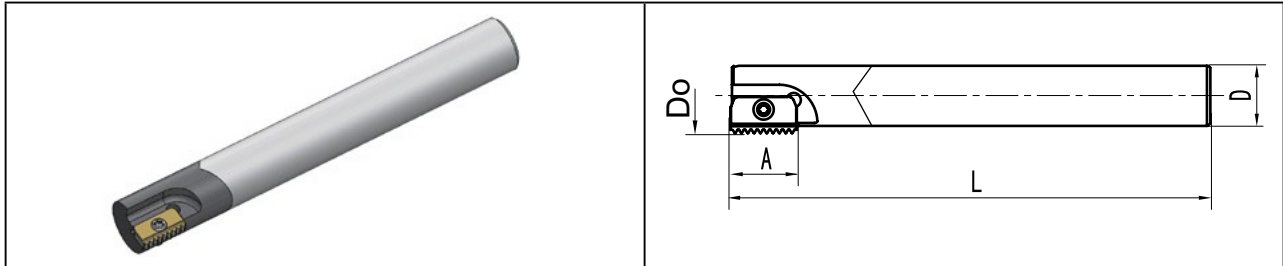
Takım Tutucu Tipi	Ekleme Türü	Boyutlar (mm)						Vidayı Takın	Torx Anahtarı
		Do	L1	D	D1	L	A		
SR0010H12	12N**	9.5	20	16	7.6	85	12	L60M2.5x6	T-8
SR0012F14	14N/E**	12	23	20	8.9	80	14	L60M3*6.5	T-8
SR0014H14		14.5	26	20	11.2	85	14	L60M3*8	T-10
SR0017H14		17	35	20	13.4	85	14	L60M3*8	T-10
SR0018H21	21N/E**	18	35	20	13.8	85	21	L60M3.5*8	T-15
SR0021H21		21	44	20	15.5	94	21	L60M3.5*10	T-15
SR0029J30	30N/E**	29	52	25	22	110	30	L60M4*0.5*11.5	T-15
SR0048M40	40N/E**	48	83	40	35	153	40	L60M5*0.8*14	T-20

Tek uçlu takım tutucular-ekstra uzatma



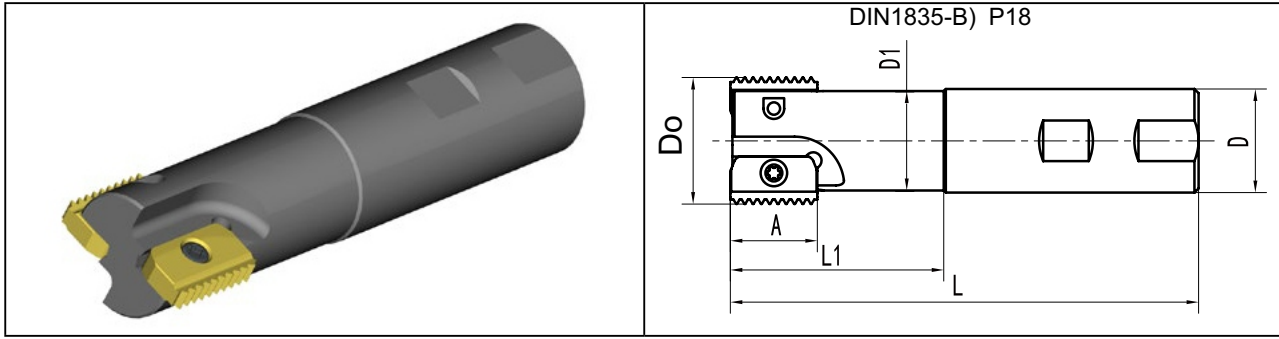
Takım Tutucu Tipi	Ekleme Tür	Boyutlar (mm)				Vidayı Takın	Torx Anahtarı
		Do	D	L	A		
SR0025K21	21N/E**	25	20	125	21	L60M3.5x10	T-15
SR0031M30	30N/E**	31	25	150	30	L60M4*0.5*11.5	T-15
SR0038M30		38	32	150	30	L60M4*0.5*11.5	T-15
SR0038Q40	40N/E**	38	32	180	40	L60M5*0.8*14	T-20
SR0048R40		48	40	210	40	L60M5*0.8*14	T-20

Karbür anti-sismik tarzı



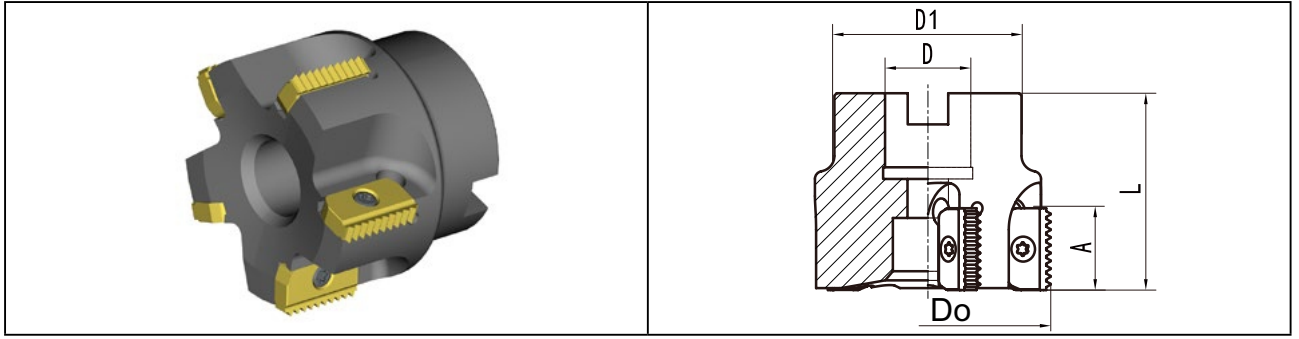
Takım Tutucu Tipi	Ekleme Tür	Boyutlar (mm)				Vidayı Takın	Torx Anahtarı
		Do	D	L	A		
SR0010K12-WH	12N**	9.9	8	125	12	L60M2.5x6	T-8
SR0013J14-WH	14N**	13.2	10	110	14	L60M3*6.5	T-10
SR0013M14-WH		13.2	10	150	14	L60M3*6.5	T-10
SR0015P14-WH		15.2	12	175	14	L60M3*8	T-10
SR0021R21-WH	21N**	21.0	16	200	21	L60M3.5*10	T-15
SR0027Q30-WH	30N/E**	27.0	20	180	30	L60M4*0.5*11.5	T-15
SR0027S30-WH		27.0	20	270	30	L60M4*0.5*11.5	T-1

İkiz kesici takım tutucuları



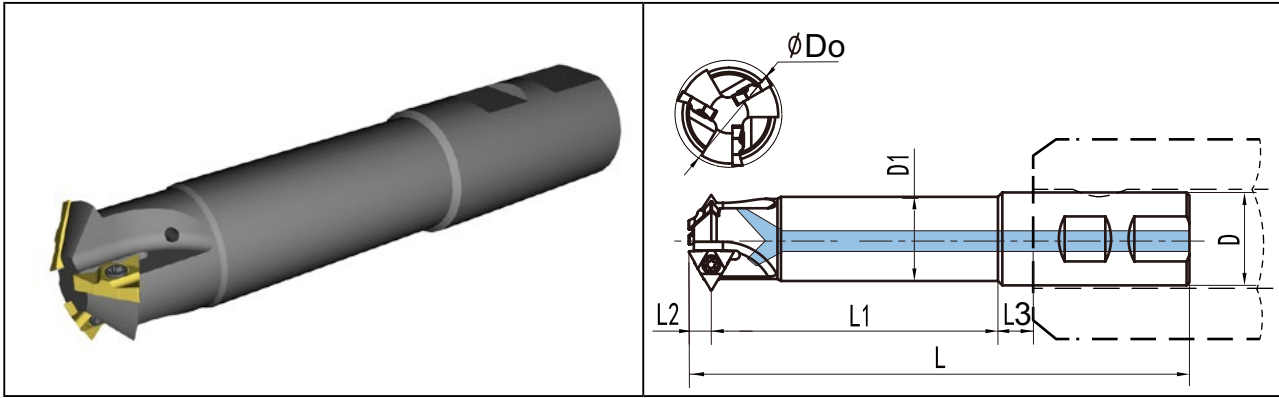
Takım Tutucu Tipi	Ekleme Türü		Boyutlar (mm)						Vidayı Takın	Torx Anahtarı
			Do	L1	D	D1	L	A		
SR0020G14-2	14N/E**	2	20	37	20	16	93	14	L60M3x7	T-10
SR0020J14-2		2	20	57	20	16	113	14	L60M3*7	T-10
SR0030J21-2	21N/E**	2	30	52	25	24	113	21	L60M3.5*10	T-15
SR0030L21-2		2	30	80	25	24	140	21	L60M3.5*10	T-15
SR0040L30-2	30N/E**	2	40	70	32	30	135	30	L60M4*0.5*11.5	T-15
SR0040P30-2		2	40	103	32	30	170	30	L60M4*0.5*11.5	T-15
SR0050M40-2	40N/E**	2	50	80	40	38	153	40	L60M5*0.8*14	T-20

Diş açma frezeleme takımları



Takım Tutucu Tipi	Ekleme Tür	Ekleme yok	Boyutlar (mm)					Vida Tutar	Torx Anahtarı
			Do	D	D1	L	A		
SR0063C21-5	21N/E**	5	63	22	48	50	21	L60M3.5x10	T-15
SR0063C30-4	30N/E**	4	63	22	48	50	30	L60M4*0.5*11.5	T-15
SR0080D30-4		4	80	27	60	55	30	L60M4*0.5*11.5	T-15
SR0100D30-4		4	100	32	78	60	30	L60M4*0.5*11.5	T-15
SR0080D40-4	40N/E**	4	80	27	60	65	40	L60M5*0.8*14	T-20
SR0100E40-4		4	100	32	78	70	40	L60M5*0.8*14	T-20

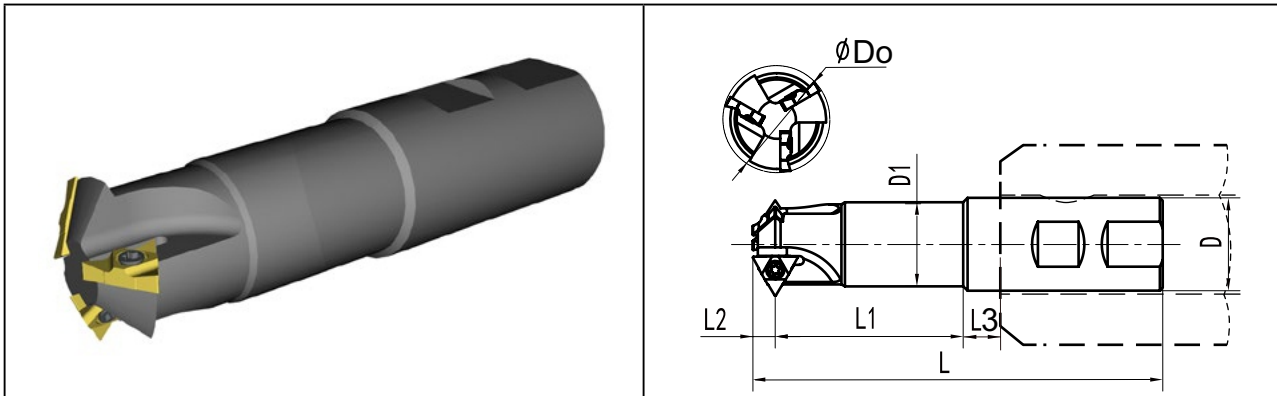
Diş açma frezeleme takımları



Yeni Takım Tutucu Tipi	Ekleme Türü	Ekleme Tür	Boyutlar (mm)						Vidayı Takın	Torx Anahtarı
			DO	L1	L2	D	D1	L		
SMT15-16H11U-1C	11UI**	1	14.75	40	5.4	16	11	100	L60M2.5*8	T-8
SMT21-25K11U-2C	11UI**	2	21	60		25	16	125		
SMT23-25L11U-2C	11UI**		23	70			17.7	140		
SMT26-25M11U-3C	11UI**	3	26	80			20	150		
SMT26-25P11U-3C	11UI**			110		32	25	170		
SMT31-32P11U-4C	11UI**	4	31	95	8		29			
SMT36-32P16U-3C	16UI**	3	36.5	95		40	34.2	200	L60M3.5*10	T-15
SMT42-40R16U-4C	16UI**	4	42	120	250					
SMT42-40S16U-4C	16UI**			160						
SMT50-40T22U-4C	22UI**	4	50	190	11	40	39	300	L60M4.5*14	T-20

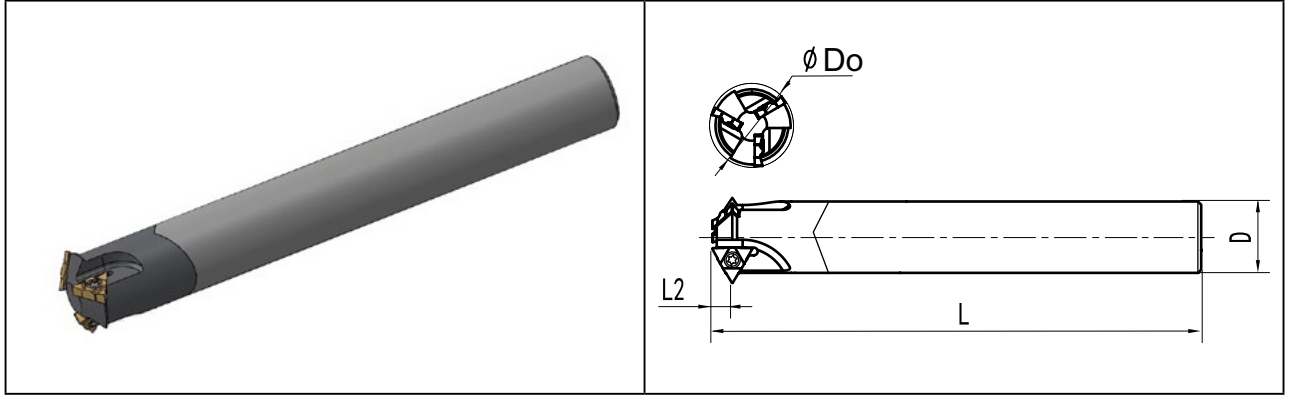
Not: soğutma suyu deliği olmayan araç çubuğu özelleştirilebilir. Araç çubuğu modeli, "C" son karakterini kaldırmaktır.

Diş açma frezeleme takımları



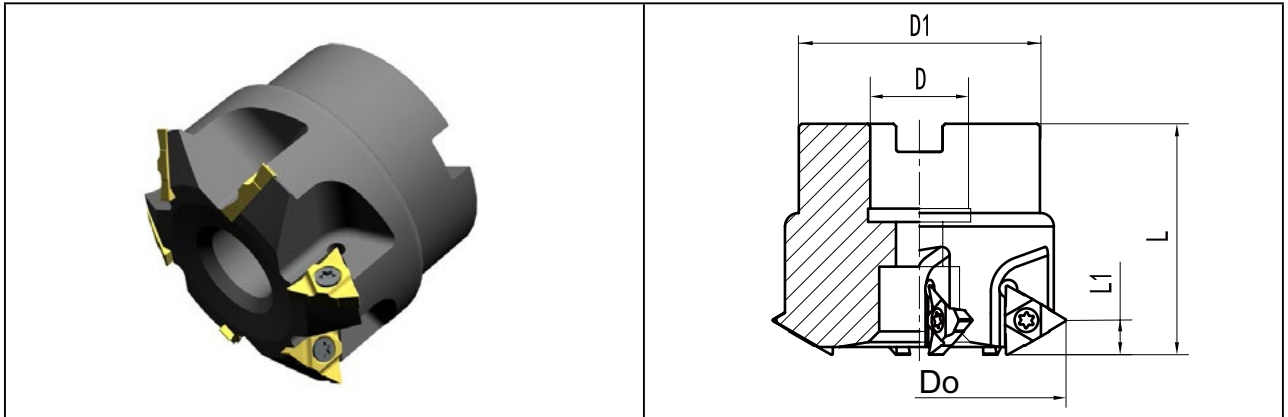
Yeni Takım Tutucu Tipi	Ekleme Türü	Ekleme Tür	Boyutlar (mm)						Vidayı Takın	Torx Anahtarı
			DO	L1	L2	D	D1	L		
SMT15-16H11U-1	11UI**	1	14.75	40	5.4	16	11	100	L60M2.5*8	T-8
SMT21-25H11U-2	11UI**	2	21	40		25	16	105		
SMT26-25K11U-3	11UI**	3	26	60		25	20	125		
SMT31-32M11U-4	11UI**	4	31	75	8	32	25	150	L60M3.5*10	T-15
SMT36-32M16U-3	16UI**	3	36.5	75		32	29	150		
SMT42-40P16U-4	16UI**	4	42	90		40	34.2	170		

karbür anti-sismik tarzı



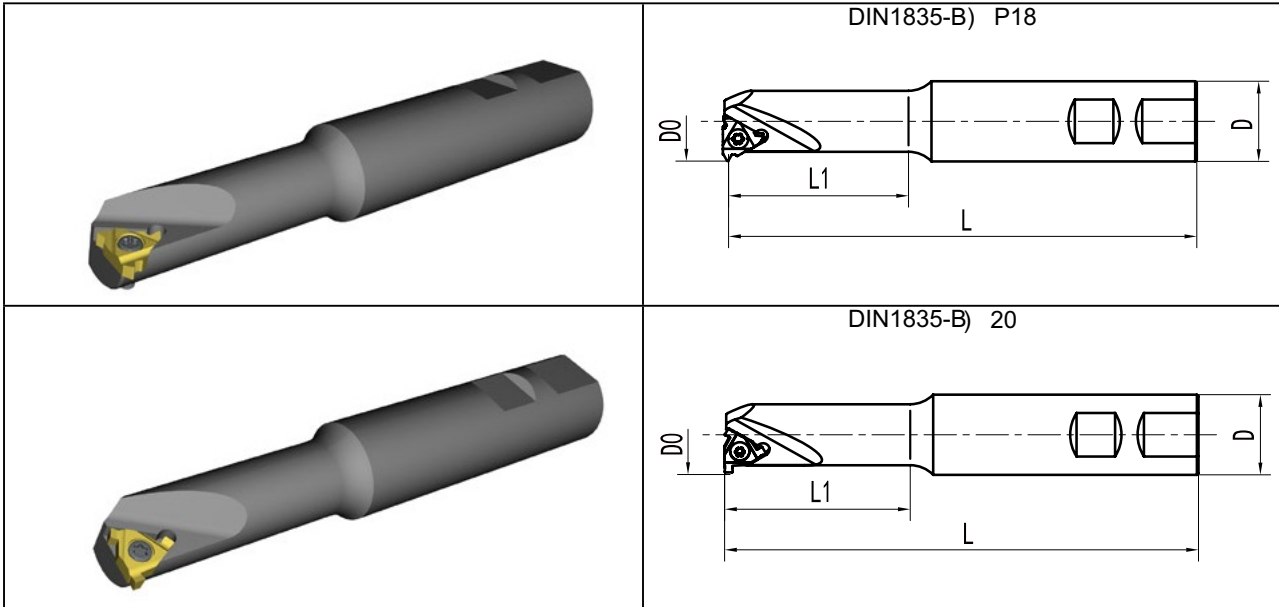
Yeni Takım Tutucu Tipi	Ekleme Türü	Ekleme Tür	Boyutlar (mm)				Vidayı Takın	Torx Anahtarı
			Do	L2	D	L		
SMT21-14L11U-2-WH	11UI**	2	21	5.4	14	136	L60M2.5*8	T-8
SMT26-20P11U-3-WH	11UI**	3	26		20	175		

Diş açma frezeleme takımları



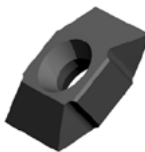
Takım Tutucu Tipi	Ekleme Türü	Ekleme Tür	Boyutlar (mm)					Vidayı Takın	Torx Anahtarı
			Do	L1	D	D1	L		
SMT48-22C16U-4	16UI**	4	48	8	22	40	50	L60M3.5*10	T-15
SMT50-22C16U-4		4	50	8	22	42	50		
SMT56-22C16U-6		6	56	8	22	48	50		
SMT63-22C16U-6		6	63	8	22	50	50		
SMT68-22C16U-6		6	68	8	22	54	50		
SMT68-22C22U-5	22UI**	5	68	11	22	54	50	L60M4.5*14	T-20

Tek uçlu takım tutucular



Yeni Takım Tutucu Tipi	Ekleme Türü		Boyutlar (mm)				Vidaı Takın	Torx Anahtarı
			Do	L1	D	L		
SMT09-12F08	08NR**	-	8.2	12	12	80	L60M2.0*6	T-6
SMT12-12F11	11NR**	T11N**	12	25	12	80	L60M2.5*6	T-8
SMT18-20K16	16NR**	T16N**	18	35	20	125	L60M3.5*8	T-15
SMT25-25M16			25	65	25	150		
SMT35-32S22	22NR**	T22N**	35	110	32	250	L60M4.5*12	T-20

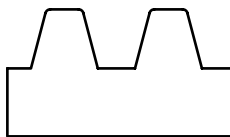
Diş Frezeleme Uçları

Model	h (mm)	b (mm)	T (mm)	iyi tavsiye Genel							
DV07**	7	5	3.18	önerilen malzeme		P	😊				
DV09**	9.52	6.35	3.18			M	😊				
DV13**	13.5	8.5	3.98			K	😞				
DV15**	15.5	9.5	5			N				😊	
DV19**	19	12.5	6.4								
Insert	İçsel			saha		BR215	DK110		Takım Tutucuyu Takın		
				mm	tpi					α	
	DV076001			1.0-3.0	24-8	60			SMT**V07-**		
	DV096001			1.0-3.0	24-8	60			SMT**V09-**		
	DV136001			1.5-4.0	16-6	60			SMT**V13-**		
	DV156001			1.5-4.5	16-6	60	●		SMT**V15-**		
	DV156002			3.5-6.0	7-4	60	●				
	DV196002			3.0-6.5	8-4	60	●		SMT**V19-**		
	DV155501			2.0-5.0	7-4	55			SMT**V15-**		
	DV195502			3.0-6.5	8-4	55			SMT**V19-**		

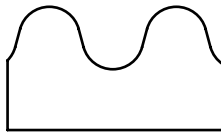
* Diğer standart iplik döndürme aletleri özelleştirilebilir

● Ayakta stok ○ Olağanüstü stok

Diğer iplik tipi özelleştirilebilir:



TR/ACME



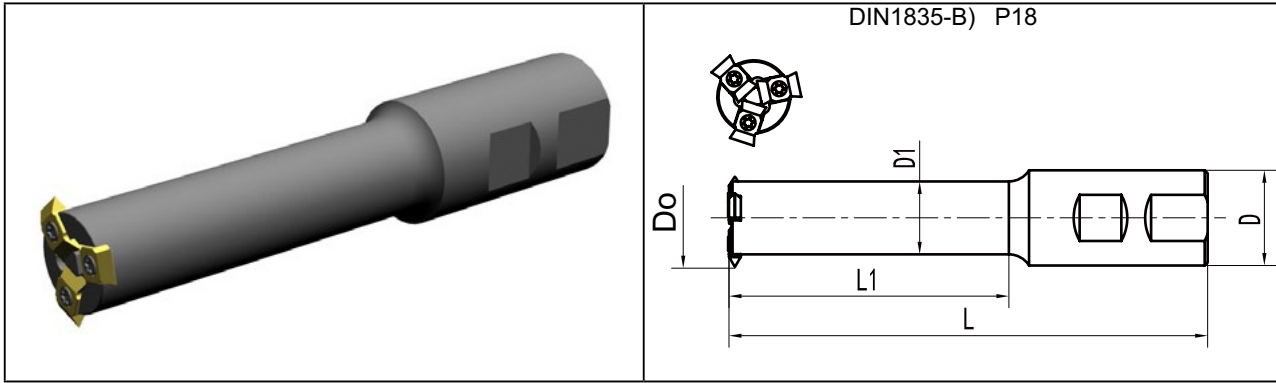
RD



payanda ipliği



Dış açma frezeleme takımları

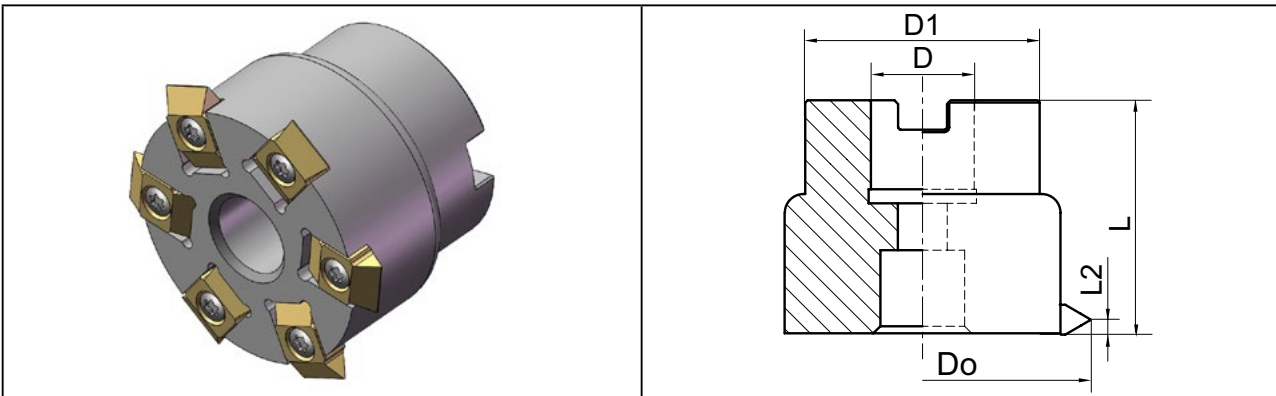


Yeni Takım Tutucu Tipi	Ekleme Türü		Boyutlar (mm)						Vidayı Takın	Torx Anahtarı
			Do	L1	L2	D	D1	L		
SMT17-20GV07-2	DV07**	2	17	37	1.4	16	12	90	L60M2.5*8	T-7
SMT21-25HV07-3		3	20.5	45	1.4	20	15.9	100		
SMT24-25LV09-3	DV09**		23.85	75	1.4	25	19	140	L60M3.5*12	T-9
SMT33-32NV13-3	DV13**		32.85	90	2.2	32	24.5	158		
SMT40-32LV15-4	DV15**	4	40	70	2.6	32	30.5	135	L60M4*14	T-15
SMT40-32QV15-4			40	110	2.6	32	31	180		
SMT40-32RV15-4			40	145	2.6	32	31	210		
SMT48-40TV15-6	DV19**	6	47.55	205	2.6	40	38	280	L60M5*14	T-20
SMT53-40RV19-4		4	52.55	130	3.3	40	40	200		

“

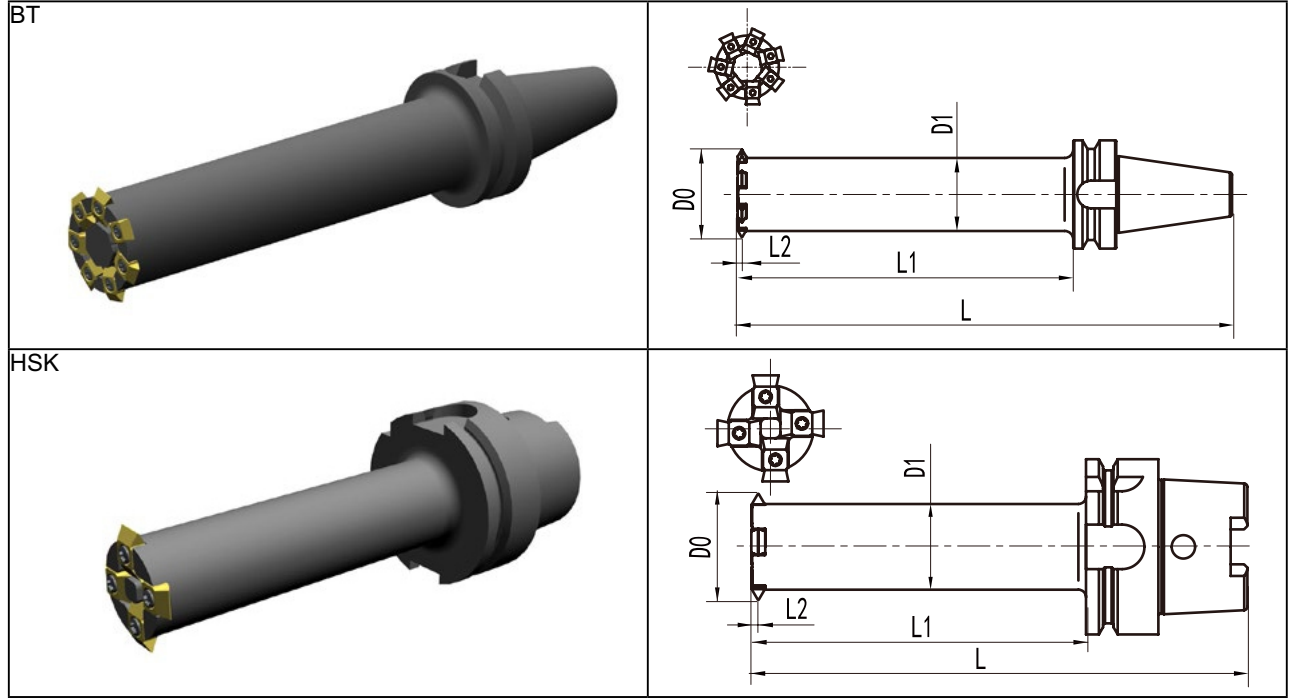
SMT40-32QV15-4C”

Dış açma frezeleme takımları



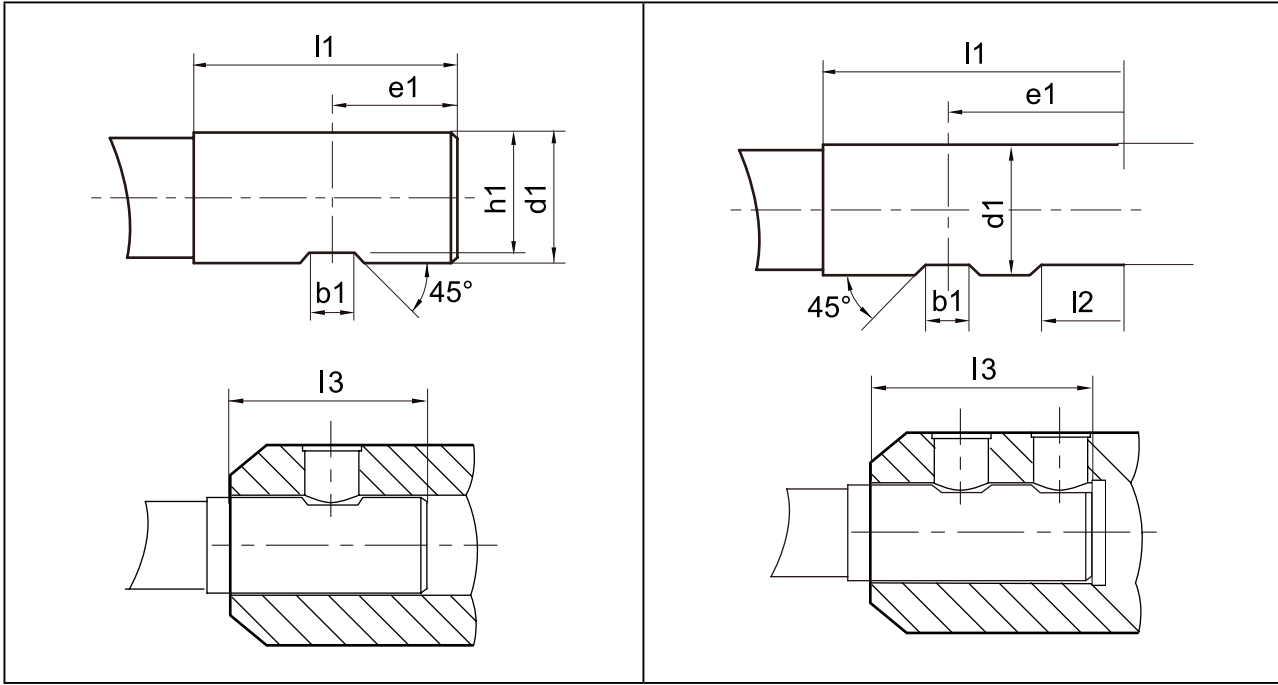
Yeni Takım Tutucu Tipi	Ekleme Türü		Boyutlar (mm)					Vidayı Takın	Torx Anahtarı
			Do	L2	D	D1	L		
SMT57-22CV15-6	DV15**	6	57	2.5	22	48	50	L60M4*13	T-15
SMT57-22CV15-8	DV15**	8	57	2.5	22	48	50	L60M4*13	T-15
SMT72-22CV19-6	DV19**	6	71.5	3.2	22	50	50	L60M5*15	T-20
SMT95-27CV19-8	DV19**	8	95	3.2	27	68	50	L60M5*15	T-20

Diş açma frezeleme takımları

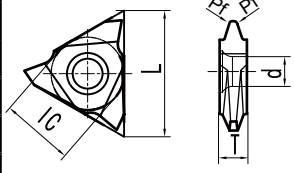
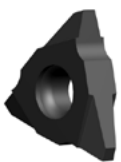


Takım Tutucu Tipi	Ekleme Türü		Boyutlar (mm)						Vidayı Takın	Torx Anahtarı
			Do	L1	L2	D1	L			
HSK63A-MT40QV15-4	DV15**	4	52.55	120	2.5	30.8	178	HSK63A	L60M4*14	T-15
BT40-MT53TV15-7		7	52.55	195	2.5	42.5	290	BT40		
BT50-MT63VV15-9		9	63	250	2.5	53	390	BT50		
BT40-MT58TV19-5	DV19**	5	57.5	200	3.2	45.5	295	BT40	L60M5*14	T-20
BT50-MT67VV19-7		7	66.55	250	3.2	54.4	390	BT50		
BT50-MT72WV19-8		8	71.5	300	3.2	59.5	450	BT50		

68 Düzleştirilmiş paralel şaft ((DIN1835-B)



Boyutlar (mm)						
d1	$l1(^{+2}_0)$	$b1(^{+0.1}_0)$	$l2(^{+1}_0)$	$e1(^0_1)$	h1	$l3(\pm 1)$
6	36	4.2	-	18.0	4.8	35
8	36	5.5	-	18.0	6.6	35
10	40	7.0	-	12.0	8.4	39
12	45	8.0	-	22.5	10.4	44
14	45	8.0	-	22.5	12.7	44
16	48	10.0	-	24.0	14.2	47
18	48	10.0	-	24.0	16.2	47
20	50	11.0	-	25.0	18.2	49
25	56	12.0	17	32.0	23.0	54
32	60	14.0	19	36.0	30.0	58
40	70	14.0	19	40.0	38.0	

Model	L (mm)	IC (mm)	d (mm)														
22**	22	12.7	5.1	önerilen malzeme		P	😊	😊	😊								
27**	27	15.87	6.35			M	😊	😊									
35**	35	20	6.35			K	😊	😊									
						N								😊			
	Model	Modül	mm	DM215		DM415		DP220		Dk110		Boyutlar (mm)					
			mm	R	L	R	L	R	L	R	L	Pf	T				
	22VER1.57-M0.5	0.5	1.57	●				○				0.15	4.9				
	22VER1.88-M0.6	0.6	1.88	●				○				0.18	4.9				
	22VER2.20-M0.7	0.7	2.20	●				○				0.21	4.9				
	22VER2.36-M0.75	0.75	2.36	●				○				0.23	4.9				
	22VER2.51-M0.8	0.8	2.51	●				○				0.24	4.9				
	22VER2.83-M0.9	0.9	2.83	●				○				0.27	4.9				
	22VER3.14-M1.0	1.0	3.14	●				○				0.3	4.9				
	22VER3.93-M1.25	1.25	3.93	●				○				0.38	4.9				
	22VER4.71-M1.5	1.5	4.71	●				○				0.45	4.9				
	22VER5.03-M1.6	1.6	5.03	●				○				0.48	4.9				
	22VER5.50-M1.75	1.75	5.50	●				○				0.53	4.9				
	22VER6.28-M2.0	2.0	6.28	●				○				0.6	4.9				
	27VER6.28-M2.0	2.0	6.28	●				○				0.6	6.4				
	27VER7.07-M2.25	2.25	7.07	●				○				0.68	6.4				
	27VER7.85-M2.5	2.5	7.85	●				○				0.75	6.4				
	27VER8.64-M2.75	2.75	8.64	●								0.83	8.7				
	27VER9.42-M3.0	3.0	9.42	●								0.9	8.7				
	27VER9.90-M3.15	3.15	9.90	●								0.95	8.7				
	27VER10.21-M3.25	3.25	10.21	●								0.98	8.7				
	27VER11.00-M3.5	3.5	11.0	●								1.05	10.0				
	35VER12.57-M4.0	4.0	12.57	●								1.2	10.7				
	35VER14.14-M4.5	4.5	14.14	●								1.35	12.5				
	35VER15.71-M5.0	5.0	15.71	●								1.5	12.5				
	35VER17.28-M5.5	5.5	17.28	●								1.65	15.2				
	35VER18.85-M6.0	6.0	18.85	●								1.8	15.2				

● Ayakta stok

○ Olağanüstü stok

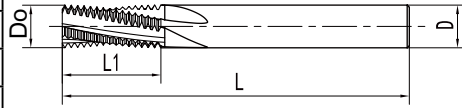
Temsil yöntemi

H	MT	06	0430	D	11	-0.50	ISO	BR215
①	②	③	④	⑤	⑥	⑦	⑧	⑨

① - araç türü	② - Sistem	③ - Şaft Çapı.	④ - Kesme Çapı.	⑤ - Hayır. flütlerin	⑥ - Kesme uzunluğu
H-Helisel S-Düz Oluklar D-Bir diş D3- Üç diş	MT- Diş Frezeleme	06 - 6mm 08 - 8mm 10 - 10mm 12 - 12mm 14 - 14mm 16 - 16mm 18 - 18mm	0330-0.33mm 0430-0.43mm 0315-0.315mm ...	C-3 D-4 E-5 F-6	09 - 9mm 11 - 11mm 13 - 13mm ...
⑦ Saha	⑧ Saha	⑨ Karbür Sınıfı			
(mm) 0.50 - 0.5mm 0.75 - 0.75mm 0.80 - 0.7mm ... (tpi) 11 - 11 tpi 14 - 14 tpi 18 - 18 tpi ...	ISO - ISO UN - UN W - NPT - BSPT - TR -30° ...	BR205 - paslanmaz çelik ve çeliğe uygulayın DK110 -alüminyum alaşımı ve demir dışı için geçerlidir			

ISO-60°

Katı karbür iplik freze kesicisi

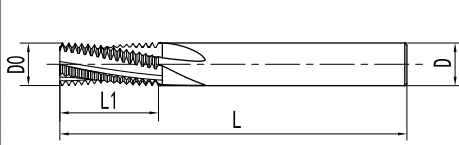
			😊 İyi tavsiye 😐 Genel									
			önerilen malzeme		P						😊	
					M						😊	
					K						😐	
		N		😊								
saha			Sipariş Kodu	Br205	Dk110	Boyutlar (mm)						
mm						Do	D	L1	L	Flütler		
0.50		M4x0.5	HMT060330D09-0.50ISO	●	○	3.3	6	9	50	4		
0.50		M5x0.5	HMT060430D11-0.50ISO	●	○	4.3	6	11	50	4		
0.70	M4x0.7		HMT060315D09-0.70ISO	●	○	3.15	6	9	50	4		
0.75		M6x0.75	HMT060500D13-0.75ISO	●	○	5.0	6	13	50	4		
0.80	M5x0.8		HMT060400D11-0.80ISO	●	○	4.0	6	11	50	4		
1.00	M6x1		HMT060480D13-1.00ISO	●	○	4.8	6	13	50	4		
1.00		M8x1	HMT080670D17-1.00ISO	●	○	6.7	8	17	60	4		
1.00		M10x1	HMT100870D21-1.00ISO	●	○	8.7	10	21	75	4		
1.00		M12x1	HMT121070D25-1.00ISO	●	○	10.7	12	25	75	4		
1.25	M8x1.25		HMT080650D17-1.25ISO	●	○	6.5	8	17	60	4		
1.25		M10x1.25	HMT100850D21-1.25ISO	●	○	8.5	10	21	75	4		
1.25		M12x1.25	HMT101000D25-1.25ISO	●	○	10.0	10	25	75	4		
1.50	M10x1.5		HMT100820D21-1.50ISO	●	○	8.2	10	21	75	4		
1.50		M12x1.5	HMT101000D25-1.50ISO	●	○	10.0	10	25	75	4		
1.50		M14x1.5	HMT121200D29-1.50ISO	●	○	12.0	12	29	75	4		
1.50		M16x1.5	HMT141400D33-1.50ISO	●	○	14.0	14	33	84	4		
1.50		M18x1.5	HMT161600F37-1.50ISO	●	○	16.0	16	37	100	6		
1.50		M20x1.5	HMT181800F41-1.50ISO	●	○	18.0	18	41	100	6		
1.75	M12x1.75		HMT101000D25-1.75ISO	●	○	10.0	10	25	75	4		
2.00	M14x2.0		HMT121160D29-2.00ISO	●	○	11.6	12	29	75	4		
2.00	M16x2.0		HMT141360D33-2.00ISO	●	○	13.6	14	33	84	4		
2.50	M18x2.5		HMT161500F37-2.50ISO	○	○	15.0	16	37	100	6		
2.50	M20x2.5		HMT181710F41-2.50ISO	○	○	17.1	18	41	105			

"L" ve "L1" gerçek talebe göre özelleştirilebilir

● Ayakta stok

○ Olağanüstü stok

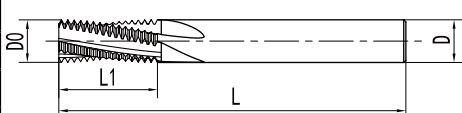
UN-60 ° Katı karbür diş freze kesicisi

			İyi tavsiye Genel									
			önerilen malzeme		P	😊						
					M	😊						
					K	😐						
					N							😊
saha			Sipariş Kodu	BR205	Dk110	Boyutlar (mm)						
tpi						Do	D	L1	L	flütler		
32		NO.10-32	HMT040380D10-32UN	○	○	3.8	4	10	50	4		
32		NO.10-32	HMT060380D10-32UN	○	○	3.8	6	10	50	4		
32		NO.12-32	HMT060440D11-32UN	○	○	4.4	6	11	50	4		
28		NO.12-28	HMT060430D11-28UN	○	○	4.3	6	11	50	4		
28		1/4"-28	HMT060520D13-28UN	○	○	5.2	6	13	50	4		
28		7/16,1/2"-28	HMT100990D22-28UN	○	○	9.9	10	22	75	4		
24	NO.10-24		HMT040350D10-24UN	○	○	3.5	4	10	50	4		
24	NO.10-24		HMT060350D10-24UN	○	○	3.5	6	10	50	4		
24	NO.10-24		HMT060420D11-24UN	○	○	4.2	6	11	50	4		
24		5/16"-24	HMT080670D16-24UN	○	○	6.7	8	16	60	4		
24		3/8"-24	HMT100820D19-24UN	○	○	8.2	10	19	75	4		
24		9/16",11/16"-24	HMT141290D29-24UN	○	○	12.9	14	29	75	4		
20	1/4"-20		HMT060480D13-20UN	○	○	4.8	6	13	60	4		
20	1/4"-20		HMT060480E13-20UN	○	○	4.8	6	13	60	5		
20		7/16"-20	HMT100960D23-20UN	○	○	9.6	10	23	75	4		
20		1/2"-20	HMT121110D26-20UN	○	○	11.1	12	26	75	4		
20		3/4",1"-20	HMT181710D38-20UN	○	○	17.1	18	38	100	4		
18	5/16"-18		HMT080635D16-18UN	○	○	6.35	8	16	60	4		
18		9/16"-18	HMT141250D28-18UN	○	○	12.5	14	28	75	4		
18		5/8",11/16"-18	HMT161410D31-18UN	○	○	14.1	16	31	90	4		
16	3/16"-16		HMT080760D19-16UN	○	○	7.6	8	19	60	4		
16		3/4"-16	HMT181700D38-16UN	○	○	17.0	18	38	100	4		
14	7/16"-14		HMT100900D22-14UN	○	○	9.0	10	22	75	4		
14		7/8"-14	HMT202000D45-14UN	○	○	20.0	20	45	105	4		
14		7/8"-14	HMT202000F45-14UN	○	○	20.0	20	45	105	6		
13	1/2"-13		HMT121040D26-13UN	○	○	10.4	12	26	75	4		
12	9/16"-12		HMT121180D29-12UN	○	○	11.8	12	29	75	4		
12		1",1-1/2"-12	HMT202000D51-12UN	○	○	20.0	20	51	108	4		
12		1",1-1/2"-12	HMT202000F51-12UN	○	○	20.0	20	51	108	6		
12		1",1-1/2"-12	HMT202000G51-12UN	○	○	20.0	20	51	108	8		
11	5/8"-11		HMT141310D33-11UN	○	○	13.1	14	33	90	4		
10	3/4"-10		HMT161600D39-10UN	○	○	16.0	16	39	100	4		
9	7/8"-9		HMT201900D46-9UN	○	○	19.0	20	46	105	4		
9	7/8"-9		HMT201900F46-9UN	○	○	19.0	20	46	105	6		
9	7/8"-9		HMT201900G46-9UN	○	○	19.0	20	46	105	8		
8	1"-8		HMT202000D52-8UN	○	○	20.0	20	52	108	4		
8	1"-8		HMT202000F52-8UN	○	○	20.0	20	52	108	6		
8	1"-8		HMT202000G52-8UN	○	○	20.0	20	52	108			

"L" ve "L1" gerçek talebe göre özelleştirilebilir

● Ayakta stok ○ Olağanüstü stok

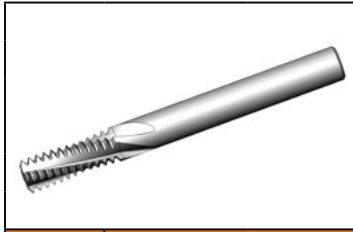
NPT-60 ° Katı karbür diş freze kesicisi

		önerilen malzeme	☺ İyi tavsiye ☹ Genel						
			P	☺					
			M	☺					
			K	☹					
			N	☺					
saha	tpi	Sipariş Kodu	Br205	Dk110	Boyutlar (mm)				
					Do	D	L1	L	flütler
27	1/16"-27	HMT060590D10-27NPT	○	○	5.9	6	10	50	4
27	1/8"-27	HMT080760D10-27NPT	○	○	7.6	8	10	60	4
18	1/4"-18	HMT100990D15-18NPT	○	○	9.9	10	15	75	4
18	3/8"-18	HMT121110D15-18NPT	○	○	11.1	12	15	75	4
14	1/2, 3/4"-14	HMT161550F19-14NPT	○	○	15.5	16	19	90	6
11.5	1", 1 1/4"-11.5	HMT201960F23-11.5NPT	○	○	19.6	20	23	100	6
8	2 1/2", 3"-8	HMT201960F33-8NPT	○	○	19.6	20	33	100	6

"L" ve "L1" gerçek talebe göre özelleştirilebilir

● Ayakta stok ○ Olağanüstü stok

W-55 ° Katı karbür diş freze kesicisi



😊 İyi tavsiye
☹ Genel

önerilen
malzeme

P

😊

M

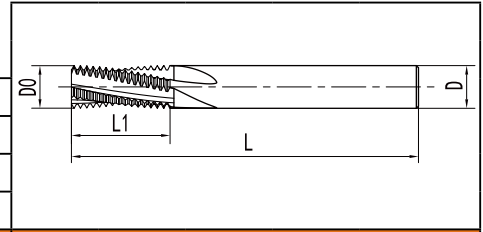
😊

K

☹

N

😊

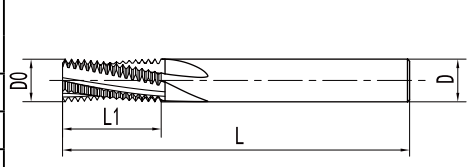


saha			Sipariş Kodu	Br205	Dk110	Boyutlar (mm)				
tpi						Do	D	L1	L	flütler
26		1/4"-26	HMT060500D13-26W	○	○	5.0	6	13	50	4
22		5/16"-22	HMT080630D16-22W	○	○	6.3	8	16	60	4
20	1/4"-20		HMT060440D13-20W	○	○	4.4	6	13	50	4
20		3/8"-20	HMT080760D19-20W	○	○	7.6	8	19	60	4
19		G1/4"-19	HMT121100F28-19W	○	○	11.0	12	28	75	6
19		G3/8"-19	HMT161450F34-19W	○	○	14.5	16	34	90	6
18	5/16"-18		HMT060580D16-18W	○	○	5.8	6	16	50	4
18		7/16"-18	HMT100920D23-18W	○	○	9.2	10	23	75	4
18		7/16"-18	HMT100920F23-18W	○	○	9.2	10	23	75	6
16	3/8"-16		HMT080720D19-16W	○	○	7.2	8	19	60	4
16		1/2"-16	HMT121050D26-16W	○	○	10.5	12	26	75	4
16		1/2"-16	HMT121050F26-16W	○	○	10.5	12	26	75	6
16		9/16"-16	HMT141220D29-16W	○	○	12.2	14	29	80	4
16		9/16"-16	HMT141220F29-16W	○	○	12.2	14	29	80	6
14	7/16"-14		HMT100850D22-14W	○	○	8.5	10	22	75	4
14		5/8"-14	HMT141340D31-14W	○	○	13.4	14	31	100	4
14		5/8"-14	HMT141340F31-14W	○	○	13.4	14	31	100	6
14		11/16"-14	HMT161500D35-14W	○	○	15.0	16	35	100	4
14		11/16"-14	HMT161500F35-14W	○	○	15.0	16	35	100	6
12	1/2"-12		HMT100960D26-12W	○	○	9.6	10	26	75	4
12	1/2"-12		HMT100960F26-12W	○	○	9.6	10	26	75	6
12	9/16"-12		HMT121130D28-12W	○	○	11.3	12	28	75	4
12	9/16"-12		HMT121130F28-12W	○	○	11.3	12	28	75	6
12		3/4"-12	HMT181620D39-12W	○	○	16.2	18	39	100	4
12		3/4"-12	HMT181620F39-12W	○	○	16.2	18	39	100	6
11	5/8"-11	7/8"-11	HMT141260D33-11W	○	○	12.6	14	33	90	4
11	5/8"-11	7/8"-11	HMT141260F33-11W	○	○	12.6	14	33	90	6
11	11/16"-11		HMT161420D35-11W	○	○	14.2	16	35	100	4
11	11/16"-11		HMT161420F35-11W	○	○	14.2	16	35	100	6

"L" "L1" ve "L1" gerçek talebe göre özelleştirilebilir

● Ayakta stok ○ Olağanüstü stok

BSPT-55 ° Katı karbür diş freze kesicisi

		 İyi tavsiye  Genel			önerilen malzeme P M K 😊 😊 😊 😊		Br205 Dk110		Boyutlar (mm) Do D L1 Lflütler	
saha	tpi	Sipariş Kodu	Br205	Dk110	Do	D	L1		Lflütler	
28	1/16"-28	HMT060580D16-28BSPT	○	○	5.8	6	16	50	4	
28	1/8"-28	HMT080770D20-28BSPT	○	○	7.7	8	20	60	4	
19	1/4"-19	HMT100990E27-19BSPT	○	○	9.9	10	26.7	75	5	
19	3/8"-19	HMT141340E33-19BSPT	○	○	13.4	14	33.4	90	5	
14	1/2, 3/4"-14	HMT161570F44-14BSPT	○	○	15.7	16	43.5	100	6	
11.5	1", 1 1/2", 2"-11	HMT201990F42-11BSPT	○	○	19.9	20	41.6	100	6	

"L" "L" ve "L1" gerçek talebe göre özelleştirilebilir

● Ayakta stok ○ Olağanüstü stok

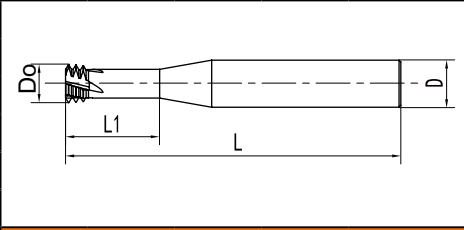
D3MT-ISO Katı karbür diş freze kesicisi



☺ İyi tavsiye
☹ Genel

önerilen
malzeme

P	☺
M	☺
K	☹
N	☺



saha			Sipariş Kodu	Br205	Dk110	Boyutlar (mm)				
mm						Do	D	L1	L	
0.5	M3x0.5		D3MT060240D07-0.5ISO	○	○	2.4	6	7	50	4
0.6	M3.5x0.6		D3MT060270D08-0.6ISO	○	○	2.7	6	8	50	4
0.7	M4x0.7		D3MT060315D09-0.7ISO	○	○	3.15	6	9	50	4
0.75		M6x0.75	D3MT060500D13-0.75ISO	○	○	5.0	6	13	50	4
0.8	M5x0.8		D3MT060400D11-0.8ISO	○	○	4.0	6	11	50	4
1.0	M6x1.0		D3MT060480D13-1.0ISO	○	○	4.8	6	13	50	4
1.0		M8x1.0	D3MT080670D17-1.0ISO	○	○	6.7	8	17	60	4
1.0		M10x1.0	D3MT100870D21-1.0ISO	○	○	8.7	10	21	75	4
1.0		M12x1.0	D3MT121070D25-1.0ISO	○	○	10.7	12	25	80	4
1.25	M8x1.25		D3MT080650D17-1.25ISO	○	○	6.5	8	17	60	4
1.25		M10x1.25	D3MT100850D21-1.25ISO	○	○	8.5	10	21	75	4
1.5	M10x1.5		D3MT100820D21-1.5ISO	○	○	8.2	10	21	75	4
1.5		M12x1.5	D3MT101000D25-1.5ISO	○	○	10.0	10	25	75	4
1.5		M14x1.5	D3MT121200D29-1.5ISO	○	○	12.0	12	29	75	4
1.5		M14x1.5	D3MT121200F29-1.5ISO	○	○	12.0	12	29	75	6
1.5		M16x1.5	D3MT141400D33-1.5ISO	○	○	14.0	14	33	80	4
1.5		M16x1.5	D3MT141400F33-1.5ISO	○	○	14.0	14	33	80	6
1.75	M12x1.75		D3MT101000D25-1.75ISO	○	○	10.0	10	25	75	4
1.75	M12x1.75		D3MT101000F25-1.75ISO	○	○	10.0	10	25	75	6
2.0	M14x2		D3MT121160D29-2.0ISO	○	○	11.6	12	29	75	4
2.0	M14x2		D3MT121160F29-2.0ISO	○	○	11.6	12	29	75	6
2.0	M16x2		D3MT141360D33-2.0ISO	○	○	13.6	14	33	80	4
2.0	M16x2		D3MT141360F33-2.0ISO	○	○	13.6	14	33	80	6
2.5	M20x2.5		D3MT181710D41-2.5ISO	○	○	17.1	18	41	105	4
2.5	M20x2.5		D3MT181710F41-2.5ISO	○	○	17.1	18	41	105	6

"L" "L1" ve "L1" gerçek talebe göre özelleştirilebilir

● Ayakta stok ○ Olağanüstü stok

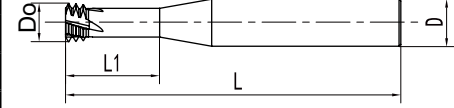
D3MT-ISO Katı karbür diş freze kesicisi



☺ İyi tavsiye
☹ Genel

önerilen
malzeme

P	☺
M	☺
K	☹
N	☺



saha			Sipariş Kodu	Br205	Dk110	Boyutlar (mm)				
mm						Do	D	L1	L	
0.5	M3x0.5		D3MT060240D07-0.5ISO	○	○	2.4	6	7	50	4
0.6	M3.5x0.6		D3MT060270D08-0.6ISO	○	○	2.7	6	8	50	4
0.7	M4x0.7		D3MT060315D09-0.7ISO	○	○	3.15	6	9	50	4
0.75		M6x0.75	D3MT060500D13-0.75ISO	○	○	5.0	6	13	50	4
0.8	M5x0.8		D3MT060400D11-0.8ISO	○	○	4.0	6	11	50	4
1.0	M6x1.0		D3MT060480D13-1.0ISO	○	○	4.8	6	13	50	4
1.0		M8x1.0	D3MT080670D17-1.0ISO	○	○	6.7	8	17	60	4
1.0		M10x1.0	D3MT100870D21-1.0ISO	○	○	8.7	10	21	75	4
1.0		M12x1.0	D3MT121070D25-1.0ISO	○	○	10.7	12	25	80	4
1.25	M8x1.25		D3MT080650D17-1.25ISO	○	○	6.5	8	17	60	4
1.25		M10x1.25	D3MT100850D21-1.25ISO	○	○	8.5	10	21	75	4
1.5	M10x1.5		D3MT100820D21-1.5ISO	○	○	8.2	10	21	75	4
1.5		M12x1.5	D3MT101000D25-1.5ISO	○	○	10.0	10	25	75	4
1.5		M14x1.5	D3MT121200D29-1.5ISO	○	○	12.0	12	29	75	4
1.5		M14x1.5	D3MT121200F29-1.5ISO	○	○	12.0	12	29	75	6
1.5		M16x1.5	D3MT141400D33-1.5ISO	○	○	14.0	14	33	80	4
1.5		M16x1.5	D3MT141400F33-1.5ISO	○	○	14.0	14	33	80	6
1.75	M12x1.75		D3MT101000D25-1.75ISO	○	○	10.0	10	25	75	4
1.75	M12x1.75		D3MT101000F25-1.75ISO	○	○	10.0	10	25	75	6
2.0	M14x2		D3MT121160D29-2.0ISO	○	○	11.6	12	29	75	4
2.0	M14x2		D3MT121160F29-2.0ISO	○	○	11.6	12	29	75	6
2.0	M16x2		D3MT141360D33-2.0ISO	○	○	13.6	14	33	80	4
2.0	M16x2		D3MT141360F33-2.0ISO	○	○	13.6	14	33	80	6
2.5	M20x2.5		D3MT181710D41-2.5ISO	○	○	17.1	18	41	105	4
2.5	M20x2.5		D3MT181710F41-2.5ISO	○	○	17.1	18	41	105	6

"L" "L1" ve "L1" gerçek talebe göre özelleştirilebilir

● Ayakta stok ○ Olağanüstü stok

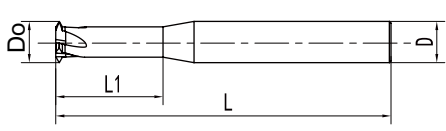
D1MT-60 ° Katı karbür diş freze kesicisi



 İyi tavsiye

 Genel

önerilen malzeme	P		
	M		
	K		
	N		

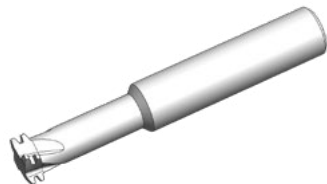
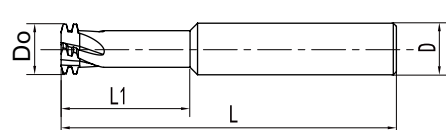


saha			Sipariş Kodu	Br205	Dk110	Boyutlar (mm)				
mm						Do	D	L1	L	Flütler
0.5-1.0	M4x0.7		D1MT060310C13-60			3.1	6	13	50	3
0.5-1.0	M6x1		D1MT060480C14-60			4.8	6	14	50	3
0.75-1.5	M8x1.25		D1MT060600C16-60			6.0	6	16	50	3
1.0-1.75	M10x1.5		D1MT080800D18-60			8.0	8	18	60	4
1.25-2.0	M12x1.75		D1MT101000D26-60			10.0	10	26	75	4
1.5-2.5	M16x2		D1MT121200D30-60			12.0	12	30	75	4

"L" "L" ve "L1" gerçek talebe göre özelleştirilebilir

● Ayakta stok ○ Olağanüstü stok

D2MT-TR30 ° Katı karbür diş freze kesicisi

		😊 İyi tavsiye ☹ Genel							
		önerilen malzeme	P			😊			
			M			☹			
			K			☹			
							😊		
saha		Sipariş Kodu	Br205	Dk110	Boyutlar (mm)				
mm					Do	D	L1		L
1.5	TR8x1.5	D2MT060550D17-1.5TR	😊	😊	5.5	6	17	60	4
1.5	TR9x1.5	D2MT080700D19-1.5TR	😊	😊	7.0	8	19	60	4
2.0	TR10x2.0	D2MT080760D21-2.0TR	😊	😊	7.6	8	21	60	4
2.0	TR12x2.0	D2MT100960D25-2.0TR	😊	😊	9.6	10	25	75	4
2.0	TR14x2.0	D2MT121160F29-2.0TR	😊	😊	11.6	12	29	75	4
3.0	TR12x3.0	D2MT100860D25-3.0TR	😊	😊	8.6	10	25	75	4
3.0	TR14x3.0	D2MT101000F29-3.0TR	😊	😊	10.0	10	29	75	4
3.0	TR22x3.0	D2MT181800F45-3.0TR	😊	😊	18.0	18	45	105	4
4.0	TR16x4.0	D2MT121160F33-4.0TR	😊	😊	11.6	12	33	75	4
4.0	TR18x4.0	D2MT141360F37-4.0TR	😊	😊	13.6	14	37	90	4
4.0	TR20x4.0	D2MT161560F41-4.0TR	😊	😊	15.6	16	41	100	4

"L" "L" ve "L1" gerçek talebe göre özelleştirilebilir

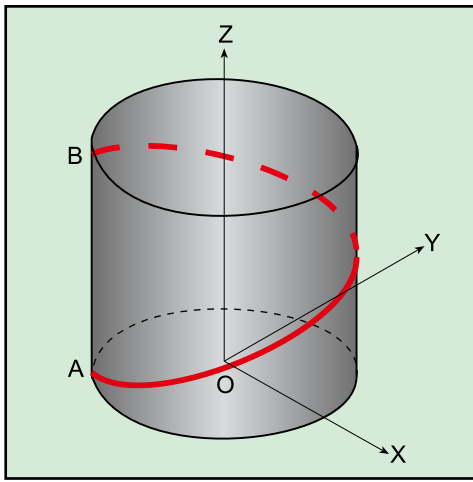
● Ayakta stok ○ Olağanüstü stok

Diş frezeleme hakkında uygulama bilgileri

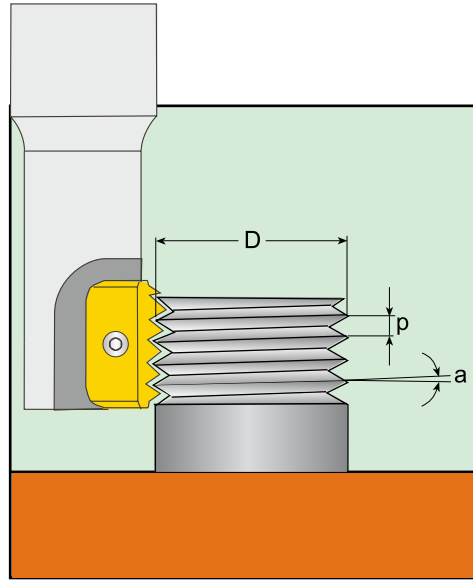
Diş frezelemeyi gerçekleştirmek için takım tezgahının üç eksenli bağlantı işlevine sahip olması gerekir. Spiral enterpolasyon, CNC takım tezgahlarının bir işlevidir ve takım, takım tezgahı tarafından kontrol edilir. Spiral yörüngeyi gerçekleştirmek için spiral enterpolasyon, düzlem ark enterpolasyonunun bağlanması ve düzleme dik doğrusal hareket ile oluşturulur. Örneğin: A noktasından B noktasına (Şekil 1) Spiral yörünge, XY düzlem ark enterpolasyon hareketinin ve Z ekseninin doğrusal doğrusal hareketinin bağlanmasıyla oluşur. Çoğu CNC sistemi için bu işlev aşağıdaki iki farklı talimatla sağlanabilir.

G02: Saat yönünde ark enterpolasyon komutu

G03: Saat yönünün tersine ark enterpolasyonu komutu



1



2

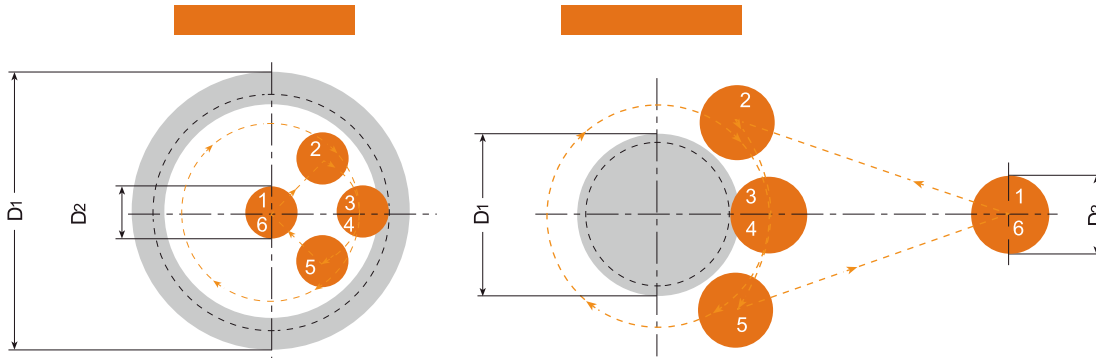
Diş frezeleme hareketi (Şekil 2), aletin kendisinin dönmesi ve makinenin spiral enterpolasyon hareketi ile oluştuğunu göstermektedir. In bir çevrenin enterpolasyonu süreci, Bir perdeyi Z eksen yönü boyunca hareket ettirmek için aletin hareketi ile birlikte geometrik destek formu kullanılarak gerekli iplik işlenir. Diş frezeleme kullanılabilir. Aşağıdaki üç giriş yöntemi.

① circle kesme yöntemi

② dially kesme yöntemi

Teğetsel giriş yöntemi

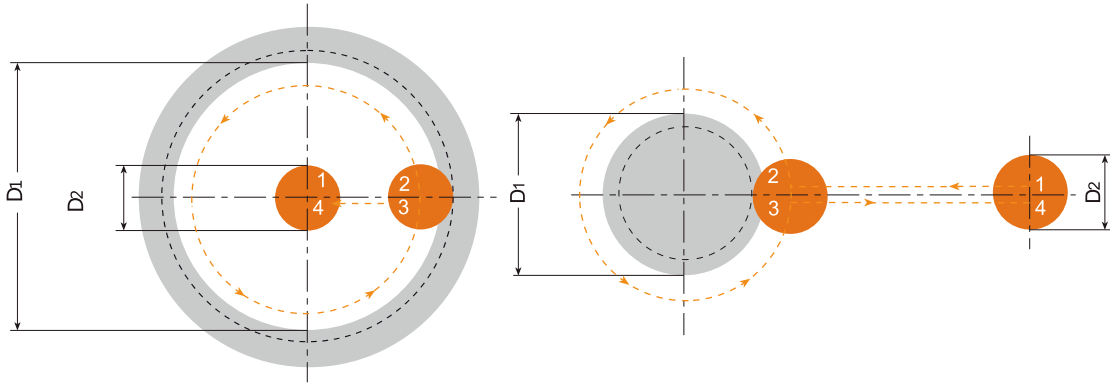
① circle kesme yöntemi Bu yöntemi kullanarak alet kesilir, sökme işlemi pürüzsüzdür, sert malzemeler işlenirken bile kesme izi kalmaz ve titreşim oluşmaz. Yöntemin prosedürü Hazırlık, radyal kesme yönteminden daha karmaşıktır ve hassas dişleri işlerken bu yöntemin kullanılması önerilir.



Diş frezeleme hakkında uygulama bilgileri

kesme yöntemi Bu yöntem kullanımı en kolay olanıdır, ancak bazen aşağıdaki iki durum ortaya çıkar

1. Kesme ve kesme noktalarında küçük dikey izler bırakılacaktır, ancak ipliğin kalitesini etkilemeyecektir.
2. Çok sert malzemeler işlenirken, kesim tam diş tipine yakın olduğunda, takım ile iş parçası arasındaki temas alanı artar ve takım titreşimi oluşabilir. Kesim tam diş tipine yakın olduğunda titreşimi önlemek için besleme, spiral enterpolasyon beslemesinin 1 / 3'üne kadar mümkün olduğunca düşük olmalıdır.

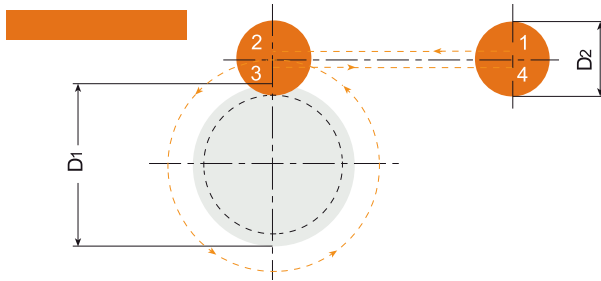


1-2: Hızlı konumlandırma

2-3: 360 ° tüm daire spiral enterpolasyon hareketi yapar ve bir ucu eksel olarak hareket ettirir

3-4: Radyal dönüş

Teğetsel giriş yöntemi Bu yöntem çok basittir ve ark kesme yönteminin avantajlarına sahiptir, ancak yalnızca dış dişlerin frezelenmesi için uygundur.



1-2: Hızlı konumlandırma

2-3: 360 ° tüm daire spiral enterpolasyon hareketi yapar ve bir ucu eksel olarak hareket ettirir

3-4: Radyal dönüş Teğetsel giriş yöntemi Bu yöntem çok basittir ve ark kesme yönteminin avantajlarına sahiptir, ancak yalnızca dış dişlerin frezelenmesi için uygundur.

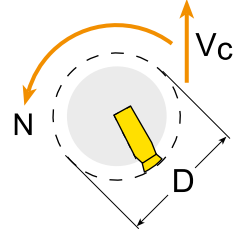
Diş frezeleme verilerinin hesaplanması

① Aletin besleme hızını ve besleme hacmini hesaplayın

$$n = \frac{1000 \times V_c}{\pi \times D}$$

$$V_f = f_z \times n \times Z$$

V_c = kesme hattı hızı
(m / dak)
 n = takım hızı
(RPM)
 D = Takım kesme çapı
(mm)
 V_f = Takım kesme kenarı besleme hızı
(mm)
 Z = Aletin kesici kenar sayısı
 f_z = devir başına diş başına besleme (mm / r)



Diş frezeleme veri hesaplama örneği1.

İş mili hızının hesaplanması (n)

Formülü uygulayın $n = (1000 \times V_c) / (\pi \times D)$

V_c : Doğrusal hız (m / dak) π : p1 3.14159 D : takım çapı (mm)

n : Dönüş hızı (rpm)

Örnek: 25 mm çapında bir diş freze bıçağı kullanarak önerilen doğrusal hız 100 m / dak'dır

$$n = 1000 \times 100 / \pi \times 25 = 1280 \text{ rpm}$$

Takım kesme besleme hızı V_f 'sinin hesaplanması

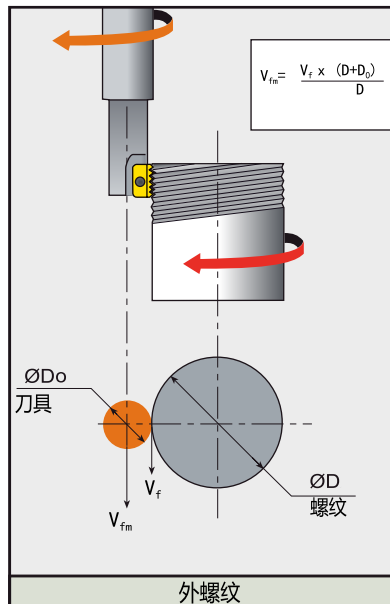
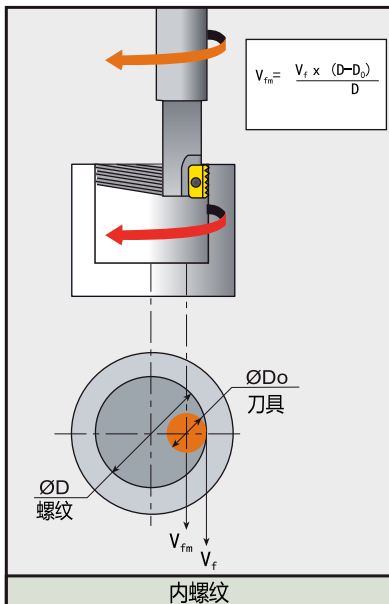
$V_f = f_z \times n \times Z$ formülünü uygulayın V_f : Besleme hacmi (mm / dak)

n : Dönüş hızı (rpm) Z : bıçak sayısı f_z : bıçak başına besleme

Örnek: Tek kenarlı bir dişli tarak kesici, bir iş parçasını 1500 rpm hızında keser.

Aletin kesme ilerleme hızı (V_f değeri) nedir? f önerilen değer 0.05mm $V_f = 0.05 \times 1500 \times 1 = 75 \text{ mm / dak}$

② Aletin merkez beslemesini hesaplayın



Çoğu CNC takım tezgahı şunları gerektirir
Takım merkezi besleme programlaması
kullanılır. Bıçakların Besleme hızı, aletin
merkezinden gelen besleme hızıdır
Boyut belirlenir ve aletin merkezi girer
Hız doğrudan verilmez, ancak bıçak tarafından
belirlenebilir Takım besleme hızı ve takım
merkezi besleme hızı ilişki denklemi hesaplanır.

V_{fm} = merkez besleme hızı mm / dak

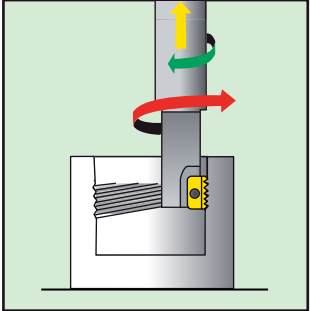
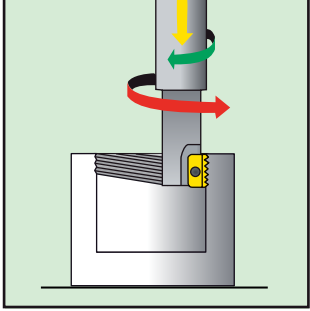
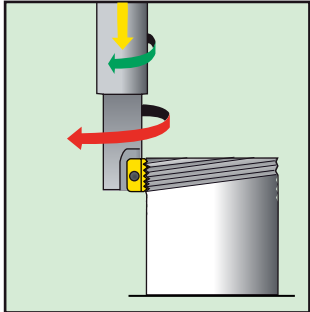
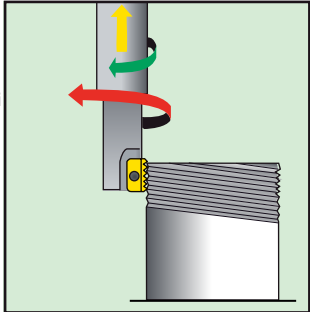
V_f = besleme hacmi mm / dak

D = nominal diş çapı mm

D_o = Diş freze çapı mm

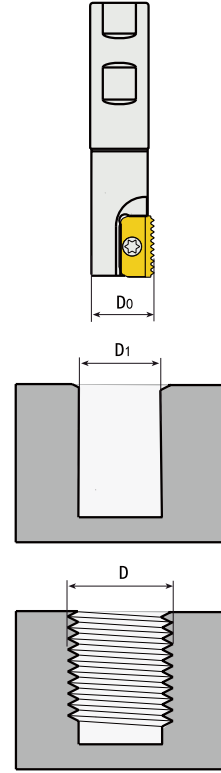
Uygulama verileri

Yaygın frezeleme yöntemleri  — Bıçak yolu  — Mil dönüş yönü  — Bıçağın yönüne git

İç iş parçacıklarının işlenmesi Sağlak iplik SOLA.Besleme ve CW.Frezeleme 	İç iş parçacıklarının işlenmesi Sağlak iplik SOLA.Besleme ve CW.Frezeleme 
Dış iş parçacıklarının işlenmesi Sağlak iplik Saat yönünde besleme ve frezeleme 	Dış iş parçacıklarının işlenmesi Sağlak iplik Saat yönünde besleme ve frezeleme 

Örnek ①: İplik tarama bıçağının programlama yöntemi

İplik boyutu	M30X1.5-6H	
Nominal dış çapı D	30.000mm	
Diş aralığı P	1.500mm	
Delinmiş delik çapı D1	28.500mm	
Diş uzunluğu b	20.000mm	
Malzeme	SUS 304	
Kaplama	TIN	
Madde NO.	21N1.5ISO	SR0025K21
Hayır. dişlerin Z	1	
Kesici çapı D0	25.000mm	
Kesme uzunluğu l2	21.000mm	
Kesici yarıçap kompanzasyonu K 1)	0.075mm	0.05*P
Programlanacak kesici yarıçapı 2)	7.925mm	0.5*d1-k1
Kesme hızı Vc	86.35m/min	
Diş başına besleme (frezeleme)	0.050mm	
Speed n	S=1100r/min	$n=(Vc*1000)/(D0*\pi)$
Besleme hızı (kontur) Vf	Vf=55mm/min	$Vf=fz*Z*n$
Besleme hızı (merkez noktası) Vfm	Vfm=2.75mm/min	$Vfm=Vf*(D-D1)/D$



Önerilen program :

```

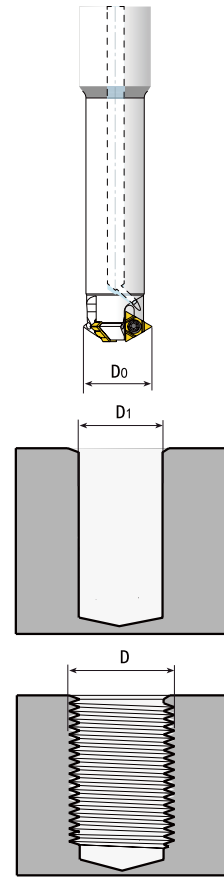
G00 G90 G55 X0.0 Y0.0 S1100M03
G43 Z130 H01
M08
Z0.0
G01 Y2.5 F55
G02 X0.0 Y2.5 Z-1.5 I0.0 J-2.5
X0.0 Y2.5 Z-3. I0.0 J-2.5
X0.0 Y2.5 Z-4.5 I0.0 J-2.5
X0.0 Y2.5 Z-6. I0.0 J-2.5
X0.0 Y2.5 Z-7.5 I0.0 J-2.5
X0.0 Y2.5 Z-9 I0.0 J-2.5
X0.0 Y2.5 Z-10.5 I0.0 J-2.5
X0.0 Y2.5 Z-12. I0.0 J-2.5
X0.0 Y2.5 Z-13.5 I0.0 J-2.5
X0.0 Y2.5 Z-15. I0.0 J-2.5
X0.0 Y2.5 Z-55. I0.0 J-2.5
X0.0 Y2.5 Z-16.5 I0.0 J-2.5
X0.0 Y2.5 Z-18. I0.0 J-2.5
X0.0 Y2.5 Z-19.5 I0.0 J-2.5
X2.165 Y-1.25 Z-20. I0.0 J-2.5
G0.1 X0.0 Y0.0
G00 Z130
M05
M09
G91 G28 Z0.0
G28
M30

```

- ① Diş tepeleri üzerinde ölçülen kesici yarıçapı dişli parçanın miktarı azaltılmalıdır kesici yarıçap telafisinin.bunu yapmak için gereklidir 6H / ISO2 somunun ortasına kadar bir kesme derinliği lde edin hoşgörü, lütfen unutmayın.ancak, bunun da bağlı olduğu aletin radyal sapması üzerine (çekme mukavemeti malzeme, aletin projeksiyon uzunluğu).
- ② Programlanacak kesici yarıçapı normalde araç belleğine dahi
- ③ Kontrolünüz merkez nokta beslemesini hesaplamıyorsa lütfen otomatik olarak yazdırılan besleme değerlerini kullanınbrackets.
- ④ N 30'dan N 90'a kadar olan blok numaraları çağrılmalıdır tekrar sayısına göre.

Örnek ①: Derin delik dişli freze bıçağının programlama yöntemi

İplik boyutu	M48-6H	
Nominal diş çapı D	48.000mm	
Diş aralığı P	5.000mm	
Delinmiş delik çapı D1	43.000mm	
Diş uzunluğu b	63.000mm	
Malzeme	2Cr13	
Kaplama	TIN	
Madde NO.	16UIDH60	SMT36-32P16U-3C
hayır. dişlerin Z	3	
Kesici çapı D0	36.500mm	
Kesici yarıçap kompanzasyonu K 1)	0.174mm	acc.werk case
Programlanacak kesici yarıçapı 2)	16.251mm	0.5*d1-k1
Kesme hızı Vc	91.7m/min	
Diş başına besleme (frezeleme)	0.050mm	
Hız n	S=800r/min	$n=(Vc*1000)/(D0*\pi)$
Besleme hızı (kontur) Vf	Vf=120mm/min	$Vf=fz*Z*n$
Besleme hızı (merkez noktası) Vfm	Vfm=12.5mm/min	$Vfm=Vf*(D-D1)/D$

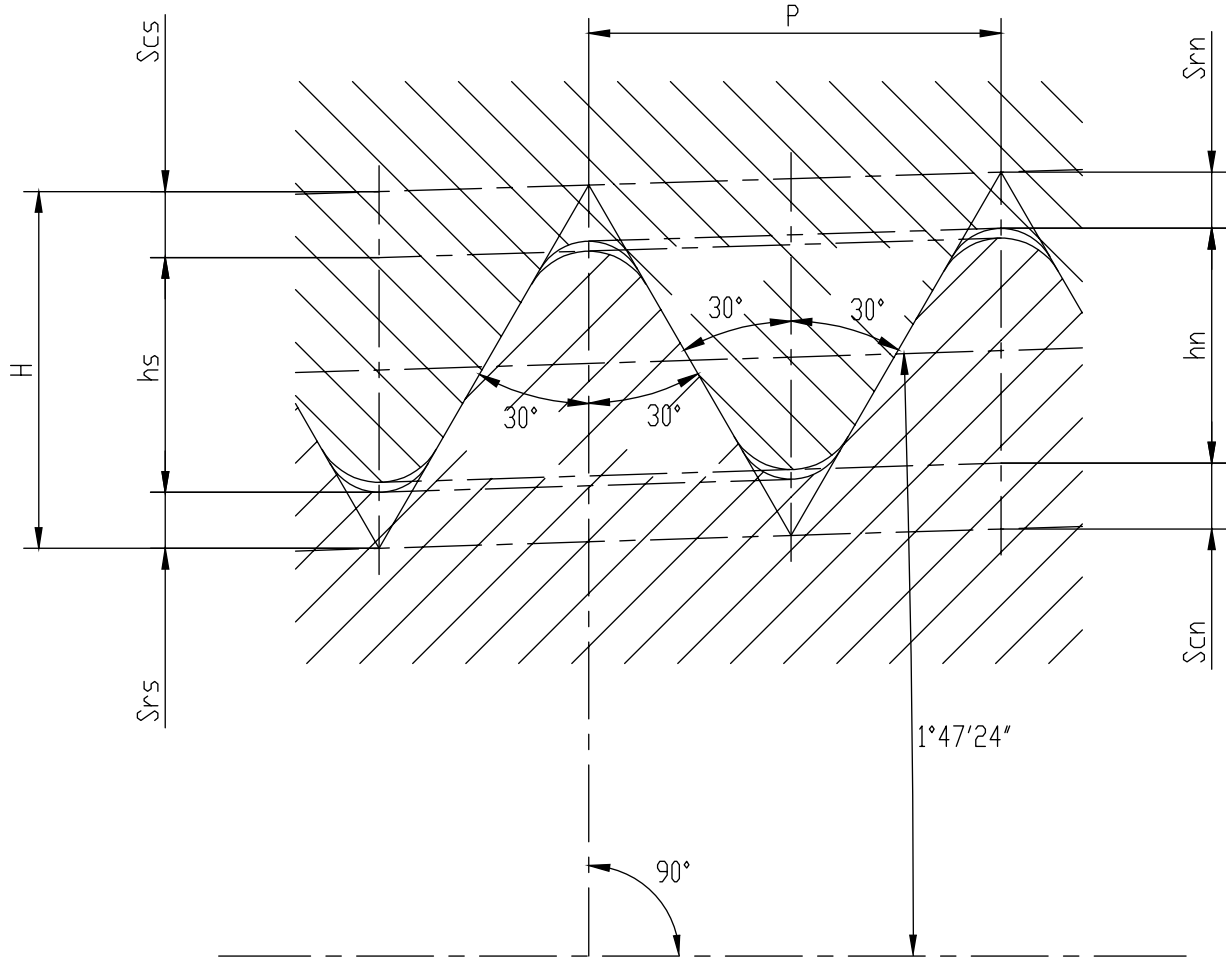


Önerilen program :

```
G00 G90 G55 X0.0 Y0.0 S800 M03
G43 Z130 H01
M08
Z0.0
G01 Y5.75 F120
G02 X0.0 Y5.75 Z-5. I0.0 J-5.75
X0.0 Y5.75 Z-10. I0.0 J5.75
X0.0 Y5.75 Z-15. I0.0 J5.75
X0.0 Y5.75 Z-20. I0.0 J5.75
X0.0 Y5.75 Z-25. I0.0 J5.75
X0.0 Y5.75 Z-30. I0.0 J5.75
X0.0 Y5.75 Z-35. I0.0 J5.75
X0.0 Y5.75 Z-40. I0.0 J5.75
X0.0 Y5.75 Z-45. I0.0 J5.75
X0.0 Y5.75 Z-50. I0.0 J5.75
X0.0 Y5.75 Z-55. I0.0 J5.75
X0.0 Y5.75 Z-60. I0.0 J5.75
X-3.38Y-4.652 Z-63. I0.0 J-5.75
G0.1 X0.0 Y0.0
G00 Z130
M05
M09
G91 G28 Z0.0
G28
M30
```

- ① Programlanacak kesici yarıçapı aşağıdaki gibi olmalıdır: iş durumuna bağlı olarak, iş parçacığına kadar düzeltildi gerekli somun toleransını sağlar, örneğin 6H / ISO2.lütfen bununla birlikte, bunun radyal sapmaya da bağlı olduğunu unutmayın aletin (malzemenin gerilme mukavemeti, izdüşüm uzunluğu aracı)
- ② Programlanacak kesici yarıçapı normalde dahildir araç belleğinde
- ③ Girilen diş derinliği b, aşağıdakilerle bölünebilir olmalıdır: adım P.4 Kontrol merkez nokta beslemesini hesaplamıyorsa lütfen parantez içinde yazdırılan besleme değerlerini otomatik olarak kullanın.
- ⑤ N 30'dan N 90'a kadar olan blok numaraları yeniden çağrılmalıdır tekrar sayısına göre.

ABD yapımı API boru yuvarlak diş tasarımı diş şekli ve parametreleri

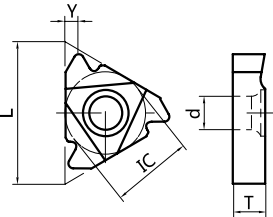


Boru yuvarlak iplik tasarım parametreleri		
İplik özellikleri	1/8"	1/10"
Saha	3.175	2.54
Orijinal üçgen yüksekliği $H=0.866P$	2.75	2.20
Diş yüksekliği $hs=hn=0.626P-0.178$	1.81	1.412
Diş üstü tesviye yüksekliği $Scs=Scn=0.120P+0.051$	0.508	0.432
Diş üstü tesviye yüksekliği $Srs=Srn=0.120P+0.127$	0.432	0.356

Dış Dış Açma Eki

API SPEC 5B

GB/T 9253

Model	L (mm)	IC (mm)	İyi tavsiye Genel								
16**	16	9.525	önerilen malzeme		P	😊	😊				
					M	😊					
					K						
bıçak ağızı		Bıçak modeli	İplik Standardı	tpi	IPF	Y	Dm215	Dp220	Boyutlar (mm)		
		16ER10APIRD	API Yuvarlak iplik	10	1:16	1.5	●	○	4.0	3.65	
		16ER8APIRD	API Yuvarlak iplik	8	1:16	1.6	●	○	4.0	3.65	

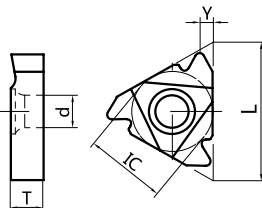
● Ayakta stok

○ Olağanüstü stok

İç Dış Açma Eki

API SPEC 5B

GB/T 9253

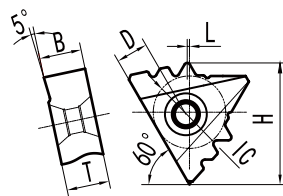
Model	L (mm)	IC (mm)	İyi tavsiye Genel							
16**	16	9.525								
			Önerilen malzeme	P					😊	😊
				M					😊	
				K						
bıçak ağızı	Bıçak modeli	İplik Standardı	tpi	IPF	Y	Dm215	Dp220	Boyutlar (mm)		
								d	T	
	16NR10APIRD	API yuvarlak iplik	10	1:16	1.5	●	○	4.0	3.65	
	16NR8APIRD	API yuvarlak iplik	8	1:16	1.6	●	○	4.0	3.65	

● Ayakta stok

○ Olağanüstü stok

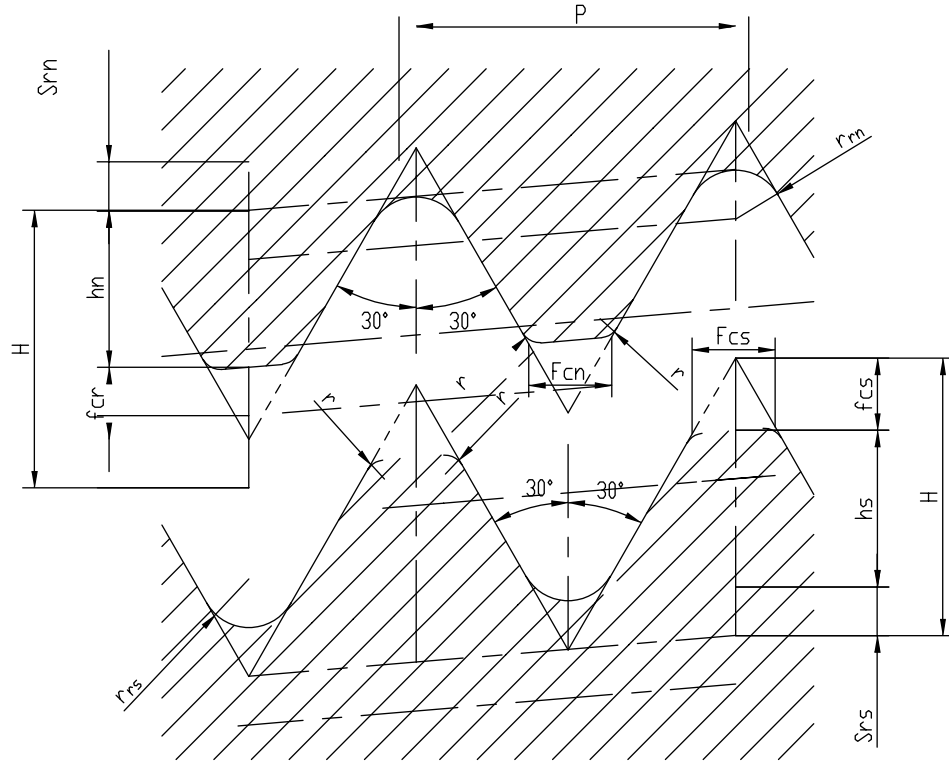
Dış Diş Açma Eki

API SPEC 5B
GB/T 9253

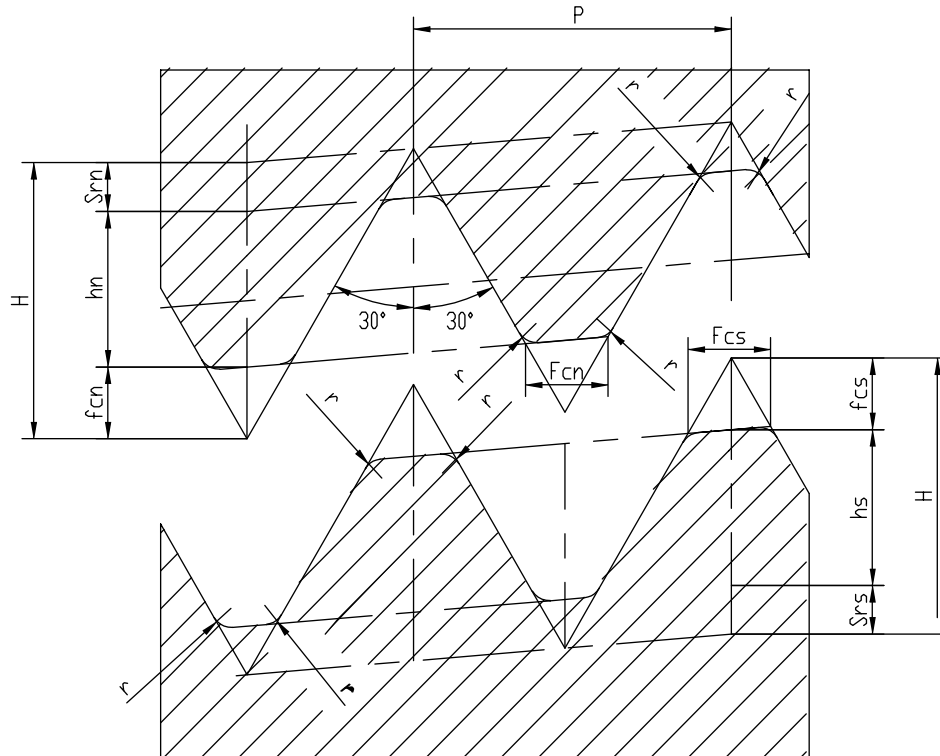
IC (mm)	D (mm)	B (mm)	İyi tavsiye Genel						
10.17	4.5	5.92	önerilen malzeme		P	😊	😬		
					M	😊			
					K				
					N				
									
bıçak ağızı	Bıçak modeli	Eski Tip				BR402	BR405	Boyutlar (mm)	
			tpi	IPF				d	T
	22ER10APIRD-4	B10W2-4	10	1:16	4	●	○	4.0	6.0
	22ER8APIRD-3	B8W2-3	8	1:16	3	●	○	4.0	6.0

ABD yapımı API petrol sondaj borusu dış tasarımı diş şekli ve parametreleri

API SPEC 5B
GB/T 9253



V-0.038R V-0.040和V0.050



V-0.055 V-0.065和V0.076

	V-0. 038R	V-0. 038R	V-0. 040	V-0. 050	V-0. 050	V-0. 055	V-0. 065
Tpi	4	4	5	4	4	6	4
P	6. 35	6. 35	5. 08	6. 35	6. 35	4. 23	6. 35
	30°/30°	30°/30°	30°/30°	30°/30°	30°/30°	30°/30°	30°/30°
2tg ϕ	1:6	1:4	1:4	1:6	1:4	1:8	1:8
(F _{cn} /f _{cs})	1. 65	1. 65	1. 02	1. 27	1. 27	1. 4	1. 65
(r _{rn} /r _f)	0. 965	0. 965	0. 508	0. 635	0. 635	1. 031	1. 229
H	5. 487	5. 471	4. 376	5. 487	5. 471	3. 660	5. 487
(S _{rn} /S _{rs})	1. 426	1. 423	0. 875	1. 097	1. 094	1. 209	1. 426
(S _{rn} /S _{rs})						1. 19	1. 42
Hh/Hs	3. 095	3. 083	2. 993	3. 755	3. 743	1. 420	2. 831
r	0. 38	0. 38	0. 38	0. 38	0. 38	0. 38	0. 38
	NC23-NC50	NC56-NC77	2-3/8"~4-1/2"REG 3-1/2"FH 4-1/2"FH	6-5/8"REG 5-1/2"FH 6-5/8"FH	5-1/2"REG 7-5/8"REG 8-5/8"REG	NC10-NC16	4"FH 2-3/8"~5-1/2"FH

Dış Dış Açma Eki

API SPEC 5B
GB/T 9253

Model	L (mm)	IC (mm)	T (mm)	d (mm)						
22ER**	22	12.7	4.9	5						
27ER**	27	15.875	6.4	6.5						
					önerilen malzeme		P	😊	😊	
							M		😊	
							K			
							N			

😊 İyi tavsiye
😊 Genel

bıçak ağızı	Bıçak modeli	İplik Standardı	tpi	IPF	Y	DP220	DM215	Dışlı boru özellikleri
	22ER4API382	V-0.038R	4	1:6	2.5	●	○	Nc23 ~ NC50
	22ER4API383	V-0.038R	4	1:4	2.6	●	○	Nc56 ~ NC77
	22ER4API502	V-0.050	4	1:6	2.8	●	○	6-5/8REG,5-1/2FH",6-5/8FH"
	22ER4API503	V-0.050	4	1:4	2.8	●	○	5-1/2",7-5/8",8-5/8"REG
	22ER5API403	V-0.040	5	1:4	2.3	●	○	2-3/8" ~ 4-1/2"REG 3-1/2"FH,4-1/2"FH
	22ER6API551	V-0.055	6	1:8	1.5	●	○	Nc10 ~ NC16
	27ER4API382	V-0.038R	4	1:6	2.6	●	○	Nc23 ~ NC50
	27ER4API383	V-0.038R	4	1:4	2.8	●	○	Nc56 ~ NC77
	27ER4API502	V-0.050	4	1:6		●	○	6-5/8REG,5-1/2FH",6-5/8FH"
	27ER4API503	V-0.050	4	1:4	2.8	●	○	5-1/2",7-5/8",8-5/8"REG
	27ER5API403	V-0.040	5	1:4	2.3	●	○	2-3/8" ~ 4-1/2"REG

● Ayakta stok ○ Olağanüstü stok

İç Dış Açma Ek

API SPEC 5B
GB/T 9253

Model	L (mm)	IC (in)	T (mm)	d (mm)						
22NR**	22	12.7	4.9	5						
27NR**	27	15.875	6.4	6.5						
					önerilen malzeme		P	😊	😊	
							M		😊	
							K			
							N			

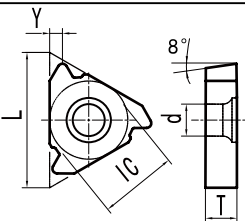
😊 İyi tavsiye
😊 Genel

bıçak ağızı	Bıçak modeli	İplik Standardı	tpi	IPF	Y	DP220	DM215	Dışlı boru özellikleri
	22NR4API382	V-0.038R	4	1:6	2.5	●	○	Nc23 ~ NC50
	22NR4API383	V-0.038R	4	1:4	2.6	●	○	Nc56 ~ NC77
	22NR4API502	V-0.050	4	1:6	2.8	●	○	6-5/8REG,5-1/2"FH,6-5/8FH
	22NR4API503	V-0.050	4	1:4	2.8	●	○	5-1/2",7-5/8",8-5/8"REG
	22NR5API403	V-0.040	5	1:4	2.3	●	○	2-3/8" ~ 4-1/2"REG 3-1/2"FH 4-1/2"FH
	22NR6API551	V-0.055	6	1:8	1.5	●	○	Nc10 ~ NC16
	27NR4API382	V-0.038R	4	1:6	2.6	●	○	Nc23 ~ NC50
	27NR4API383	V-0.038R	4	1:4	2.8	●	○	Nc56 ~ NC77
	27NR4API502	V-0.050	4	1:6		●	○	6-5/8REG,5-1/2FH",6-5/8FH"
	27NR4API503	V-0.050	4	1:4	2.8	●		5-1/2",7-5/8",8-5/8"REG
	27NR5API403	V-0.040	5	1:4	2.3	●	○	2-3/8" ~ 4-1/2"REG

● Ayakta stok ○ Olağanüstü stok

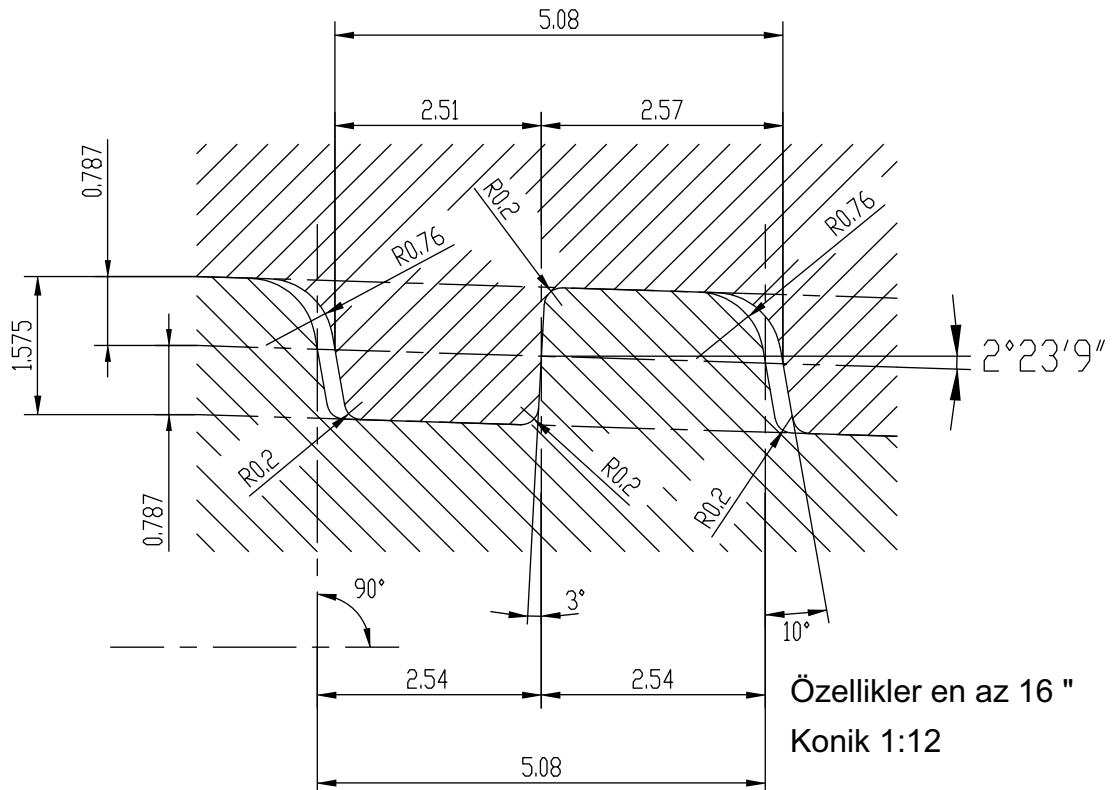
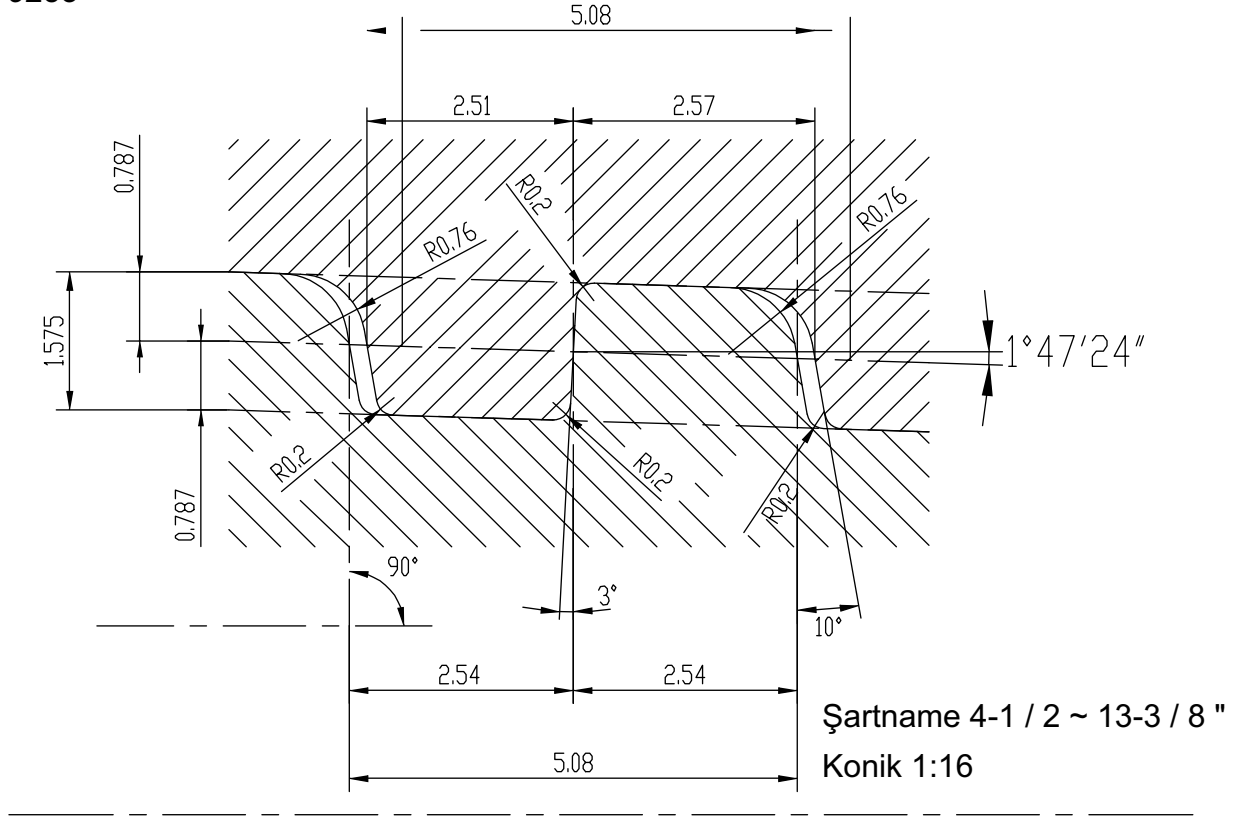
Dış Dış Açma Eki

API SPEC 5B
GB/T 9253

L (mm)	IC (mm)	T (mm)	d (mm)	İyi tavsiye Genel					
29	17	5.5	6.2						
				önerilen malzeme	P	😊	😞		
					M		😊		
					K				
					N				
bıçak ağızı	Bıçak modeli	İplik Standardı		tpi	IPF	Y	DP220	BR402	Dişli boru özellikleri
	4Y1W3	V-0.038R	4	1:6	3.7	●	●	NC23~ NC50	
	4Y2W3	V-0.038R	4	1:4	3.7	●	●	NC56~ NC77	
	5Y3W3	V-0.040	5	1:4	3.7	●	●	2-3/8" ~ 4-1/2"REG 3-1/2"FH 4-1/2"FH	
	4Y4W3	V-0.050	4	1:4	3.7	●	●	5-1/2",7-5/8",8-5/8"REG	
	4Y5W3	V-0.050	4	1:6	3.7	●	●	6-5/8REG,5-1/2FH",6-5/8FH"	
	4Y5W3-1T	V-0.050	4	1:12	3.7			6-5/8REG,5-1/2FH",6-5/8FH"	
	4Y7W3	V-0.065	4	1:6	3.7			4"FH 2-3/8" ~ 5-1/2"IF	
	MZ4Y1W3	V-0.038R	4	1:16	3.7			NC23~ NC50	

Amerikan apı payanda gövdesi diş açma diş profili ve parametresi:

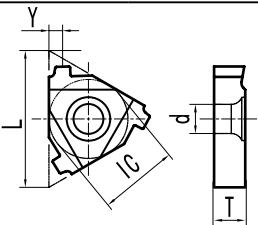
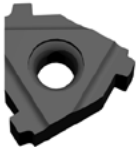
API SPEC 5B
GB/T 9253



DIŞ DIŞ AÇMA Eki

API SPEC 5B

GB/T 9253

Model	L (mm)	IC (mm)	☺ İyi tavsiye ☹ Genel						
22**	22	12.7	önerilen malzeme	P	☺	☹			
				M	☺				
				K					
				N					
bıçak ağızı	Bıçak modeli	İplik Standardı				Dm215	Dp220	Boyutlar (mm)	
			tpi	IPF	Y			d	T
	22ER5BUT75	API	5	1:16	1.9	●	●	5.0	4.9
	22ER5BUT1	API	5	1:12	1.9			5.0	4.9

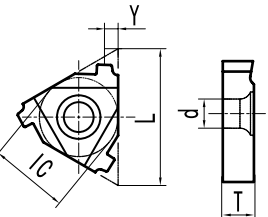
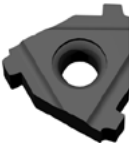
● Ayakta stok

○ Olağanüstü stok

İÇ DIŞ AÇMA Eki

API SPEC 5B

GB/T 9253

Model	L (mm)	IC (mm)	İyi tavsiye Genel							
22**	22	12.7	önerilen malzeme		P	😊	😊			
					M	😊				
					K					
					N					
bıçak ağızı	Bıçak modeli	İplik Standardı				Dm215	Dp220	Boyutlar (mm)		
			tpi	IPF	Y			d	T	
	22NR5BUT75	API	5	1:16	1.9	●	●	5.0	4.9	
	22NR5BUT1	API	5	1:12	1.9			5.0	4.9	

● Ayakta stok

○ Olağanüstü stok

Dış Diş Açma Eki

API SPEC 5B

GB/T 9253

L (mm)	H (mm)	T (mm)	d (mm)								
22	17.09	6	4.2					😊 İyi tavsiye	😊 Genel		
				önerilen malzeme				P	😊	😊	
								M	😊		
								K			
								N			
bıçak ağzı	Tip	Eski Tip	tpi	IPF		Dm215	Dp220	Dişli boru boyutu			
	22ER5BUT75-2	B5BW2-2	5	1:16	2			4-1/2"~13-3/8"			

● Ayakta stok

○ Olağanüstü stok

İç Diş Açma Eki

API SPEC 5B

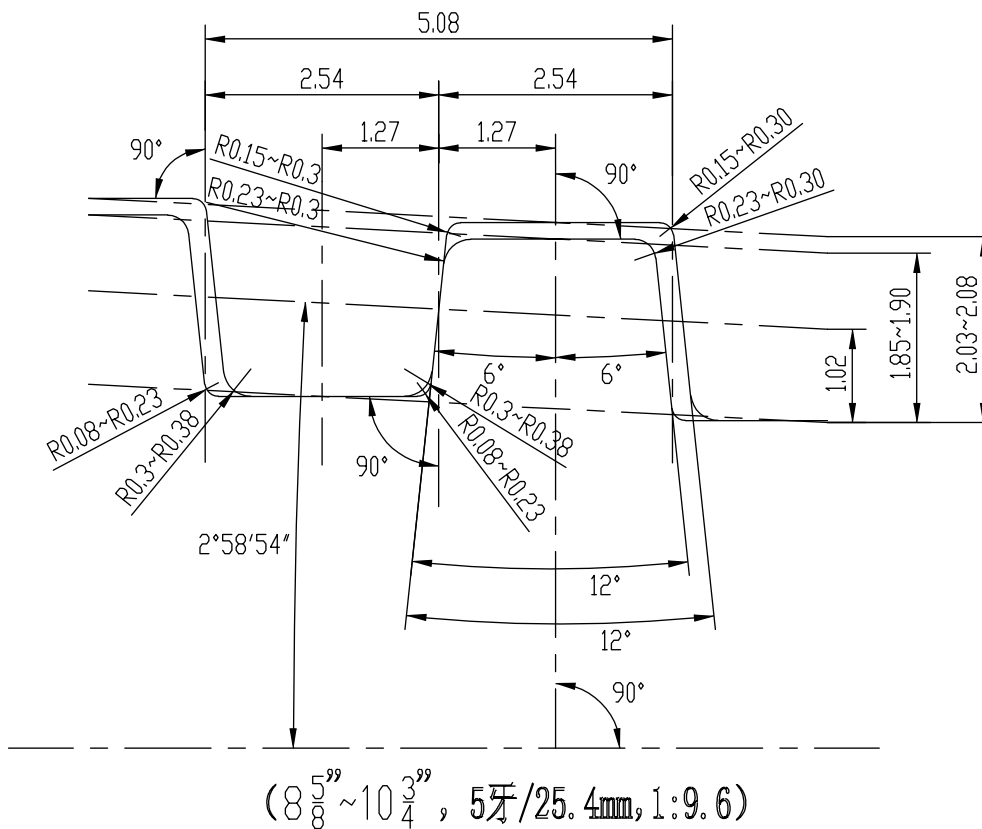
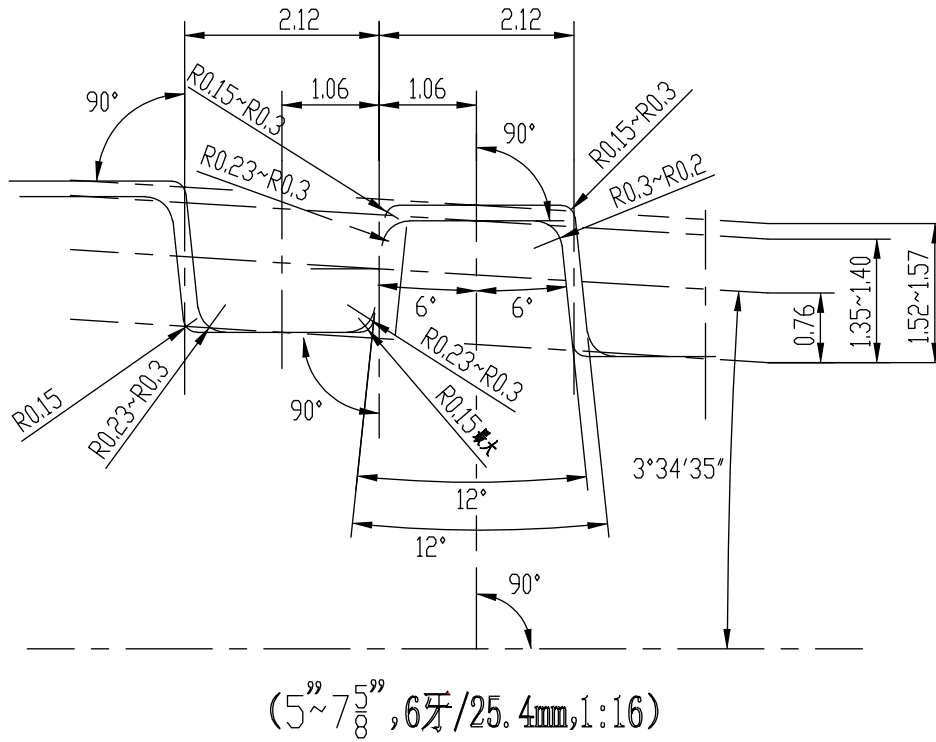
GB/T 9253

L (mm)	H (mm)	T (mm)	d (mm)								
22	17.09	6	4.2					😊 İyi tavsiye	😊 Genel		
				önerilen malzeme				P	😊	😊	
								M	😊		
								K			
bıçak ağzı	Tip	Eski Tip	tpi	IPF		Dm215	Dp220	Dişli boru boyutu			
	22NR5BUT75-2	B5BN2-2	5	1:16	2			4-1/2"~13-3/8"			
	27NR5BUT75-3	B5BN2-3	5	1:16	3						

● Ayakta stok

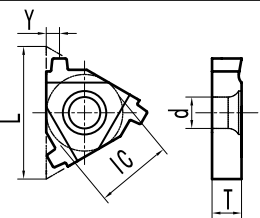
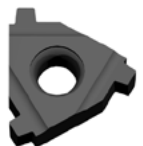
○ Olağanüstü stok

API SPEC 5B
GB/T 9253



Dış Dış Açma Eki

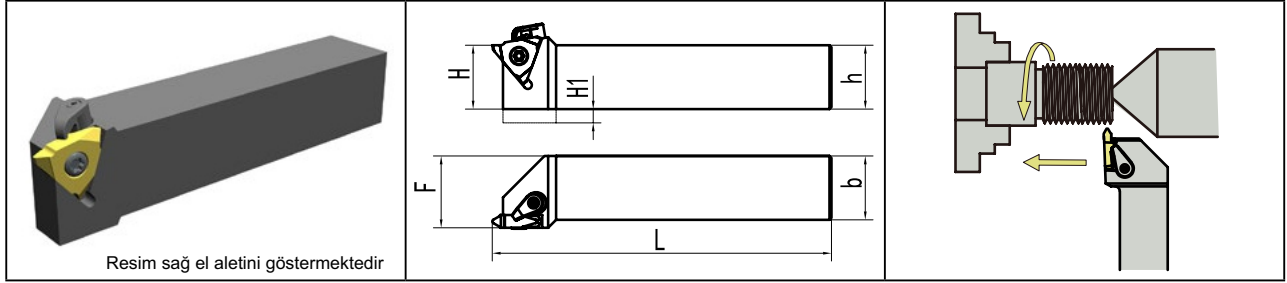
API SPEC 5B GB/T 9253

Model	L (mm)	IC (mm)	İyi tavsiye Genel							
22**	22	12.7	önerilen malzeme	P	😊	☹️				
				M	😊					
				K						
				N						
bıçak ağızı	Bıçak modeli	Eski Tip				Dm215	Dp220	Boyutlar (mm)		
			tpi	IPF	Y			d	T	
	22ER6EL		6	1:16	1.9			5.0	4.9	
	22ER5EL		5	1:9.6	1.9			5.0	4.9	

DISAGMA FREZE TAKIMI AR

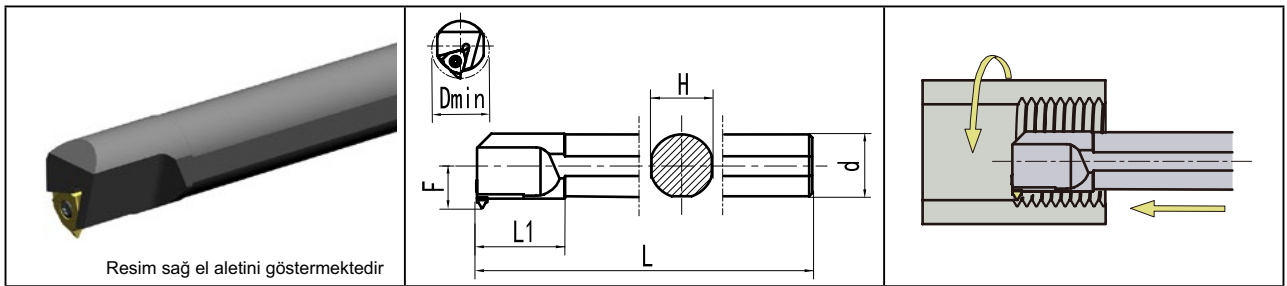
47

Dış dişli takım tutucu-dikey tip



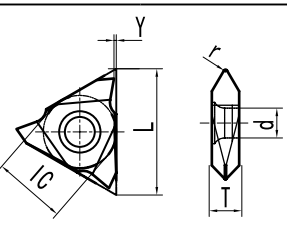
Takım tutucu modeli		Bıçak modeli	Boyutlar (mm)						Vidayı Takın	Torx Anahtarı	Kelepçe	Kelepçe Vidası	Altıgen Anahtar
			h	b	H	F	L	H1					
MTHR	1616H43	MTTR43**	16	16	16	20	100	3	L60M4.5*12	T-20	HL1814	ML0620	L3
	2020K43		20	20	20	25	125	-	L60M4.5*12	T-20	HL1814	ML0620	L3
	2525M43		25	25	25	32	150	-	L60M4.5*12	T-20	HL1814	ML0620	L3
	3225P43		32	25	32	32	170	-	L60M4.5*12	T-20	HL1814	ML0620	L3
	3232P43		32	32	32	40	170	-	L60M4.5*12	T-20	HL1814	ML0620	L3
MTHL	1616H43	MTTL43**	16	16	16	20	100	3	L60M4.5*12	T-20	HL1814	ML0620	L3
	2020K43		20	20	20	25	125	-	L60M4.5*12	T-20	HL1814	ML0620	L3
	2525M43		25	25	25	32	150	-	L60M4.5*12	T-20	HL1814	ML0620	L3
	3225P43		32	25	32	32	170	-	L60M4.5*12	T-20	HL1814	ML0620	L3
	3232P43		32	32	32	40	170	-	L60M4.5*12	T-20	HL1814	ML0620	L3

İç dişli takım tutucu-dikey tip



Takım tutucu modeli		Bıçak modeli	Boyutlar (mm)						Vidayı Takın	Torx Anahtarı
			Dmin	h	l1	d	F	L		
SVNR	0025R-T43	MTTL43**	32	23	20	25	17.5	220	L60M4.5*12	T-20
	0032S-T43		41	30	30	30	22.5	250	L60M4.5*12	T-20
	0040S-T43		48	38	38	40	25	250	L60M4.5*12	T-20

TT Kısmi Profil V tarzı Kesici Uç

Model	L (mm)	IC (mm)	d (mm)	İyi tavsiye Genel									
TT32R60**	16	9.525	4.5	önerilen malzeme	P	😊							
TT32R55**	16	9.525	4.5		M	😊							
					K	☹							
					N		😊						
bıçak ağızı	Sağ el bıçağı	Sol el bıçağı	Saha		PM125		Dk110			Boyutlar (mm)			
			mm	tpi	R	L	R	L		r	T		
	TT32R6000	TT32L6000	0.5-1.0	48-32	○	○	○			0	3.18		
	TT32R6001	TT32L6001	1.0-2.5	28-14	●	○	●			0.1	3.18		
	TT32R6002	TT32L6002	1.5-2.5	16-10	●	○	●			0.2	3.18		
	TT32R6003	TT32L6003	2.5	11-10	○	○	○			0.3	3.18		
	TT32R5501	TT32L5501	-	28-10	○	○	○			0.1	3.18		
	TT32R5502	TT32L5502	-	14-10	○	○	○			0.2	3.18		

● Ayakta stok

○ Olağanüstü stok

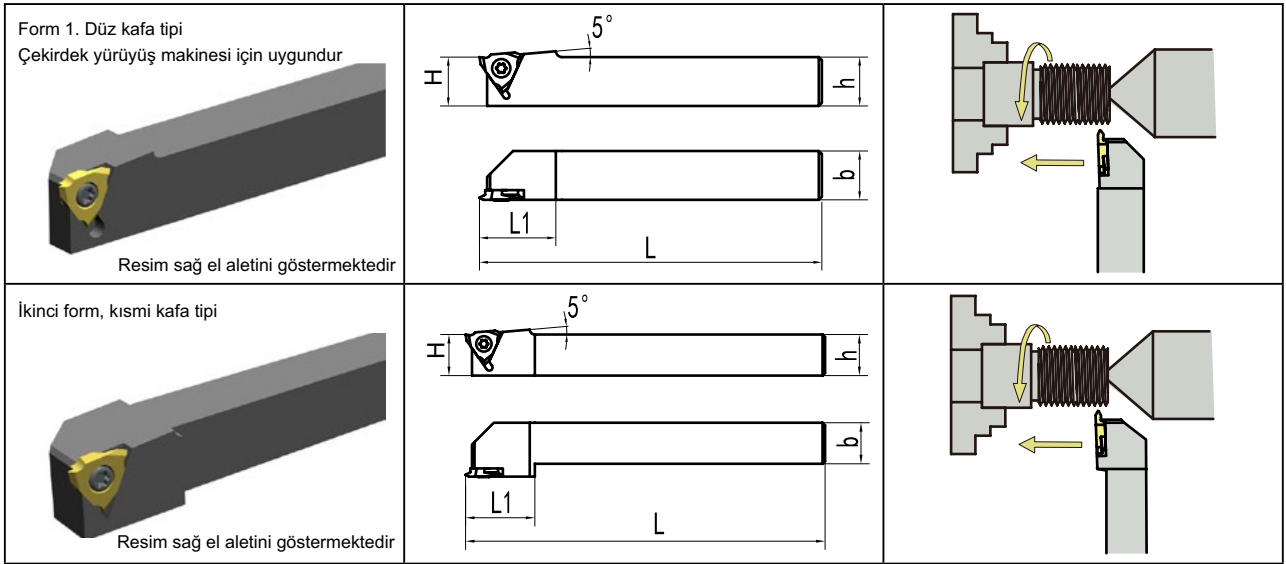
TTX Kısmi Profil V tarzı Kesici Uç

Model	L (mm)	IC (mm)	d (mm)														
TTX32R60**	16	9.525	4.5	önerilen malzeme		P	😊										
TTX32R55**	16	9.525	4.5			M	😊										
						K	☹										
						N		😊									
bıçak ağızı	Sağ el bıçağı	Sol el bıçağı	Saha		PM125		DK110				Boyutlar (mm)						
			mm	tpi	R	L	R	L			r	S1	S2	T			

● Ayakta stok

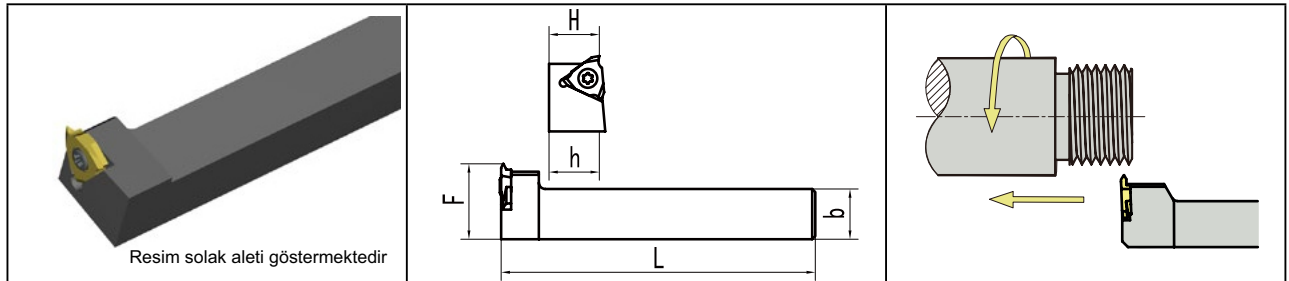
○ Olağanüstü stok

TT32 serisi dişli takım tutucu



Takım tutucu modeli		Bıçak modeli	Boyutlar (mm)					Tip	Vida'yı Takın	Torx Anahtarı
			h	b	H	L1	L			
KTTR	1010K-16F	TT32R** TTX32R**	10	10	10	20	125	Birinci form	L60M4*8	T-15
	1212K-16F		12	12	12	25	125		L60M4*8	T-15
	1616M-16F		16	16	16	30	150		L60M4*8	T-15
	2020K-16		20	20	20	20	125	İkinci form	L60M4*8	T-15
	2525M-16		25	25	25	30	150		L60M4*8	T-15
KTTL	1010K-16F	TT32L** TTX32L**	10	10	10	20	125	Birinci form	L60M4*8	T-15
	1212K-16F		12	12	12	25	125		L60M4*8	T-15
	1616M-16F		16	16	16	30	150		L60M4*8	T-15
	2020K-16		20	20	20	20	125	İkinci form	L60M4*8	T-15
	2525M-16		25	25	25	30	150		L60M4*8	T-15

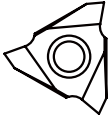
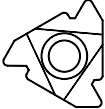
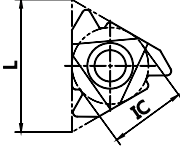
TT32 serisi dişli takım tutucu-takım sırası makinesi için özel



Takım tutucu modeli		Bıçak modeli	Boyutlar (mm)					Vida'yı Takın	Torx Anahtarı
			h	b	H	F	L		
KTTL	1010H16-A90	TT32R** TTX32R**	10	10	10	18	100	L60M4*8	T-15
	1212H16-A90		12	12	12	20	100	L60M4*8	T-15
	1616K16-A90		16	16	16	24	125	L60M4*8	T-15
	2020K16-A90		20	20	20	28	125	L60M4*8	T-15

DİSACMA FREZE TAKIMI AR

● Ayakta stok ○ Olağanüstü stok

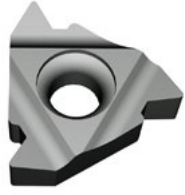
1. Bıçak boyutu		2. Bıçak formu	3. Bıçak tipi	4. İplik kılavuzu
L(mm)	IC	İşaretlenmemiş -  U şeklinde -  V tipi - 	E External Dış N Internal Dahili  E N Resim sağ bıçağı göstermektedir	R sağ el bıçağı L sol el bıçağı  R L Resim harici dişli bıçağı göstermektedir
06	5/32"			
08	3/16"			
11	1/4"			
16	3/8"			
22	1/2"			
27	5/8"			
				

16		E	R	1.50	ISO	-M	DM215
1	2	3	4	5	6	7	8

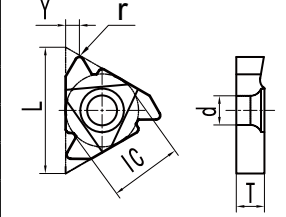
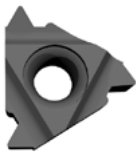
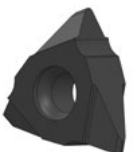
5. Saha	6. İplik standardı	7. Oluk tip
Tam diş tipi (sabit hatve)	60-60°Kısmi profil 60 °	M-presleme oluğu tipi, talaş kırma oluğu
Tam profil aralığı aralığı	55-55° Kısmi profil 55 °	talaş kırıcı
mm tpi	ISO-ISO ISO metriği	No-ince öğütme oluk tipi
0.6-6.0 48-4	BM-60 ° Amerikan BM	cıvalı oluk tipi
Evrensel adım (evrensel tip)	BSW BSP için W-55 ° Whitworth	
Kısmi profil aralığı aralığı	NPT-60°NPT	
mm tpi	NPTF-60°NPTF	
A 0.5-1.5 48-16	BSPT-55 ° İngiliz standart boru dişi	
AG 0.5-3.0 48-8	TR-30° Trapez DIN103	
G 1.75-3.0 14-8	ACME-29° Amerikan ACME	
N 3.5-5.0 7-5	STACME-29 ° Amerikan SAPLAMA ACME	
Q 5.5-6.0 4.5-4	RD-30 ° Yuvarlak DIN403	
V 6.0-10.0 4-2.5	SAGE- Alman standart zikzak ipliği DIN513	

8. malzeme kodu
DM215 DM215-Evrensel malzeme, paslanmaz çelik ilk tercihtir
genel demirci, paslanmazçelik tercih edildi
DM415-Tercih edilen paslanmaz çelik tercih edilen paslanmaz çelik
DP220-Çelik parçalar, dökme demir çelik, dökme demir
DK110-Alüminyum alaşımlı, demir dışı metal alüminyum alaşım, demir dışı metal

Bıçak malzemesi açıklaması					
Kesici uç malzemesi için talimat					
	← Aşınma direnci		Dayanıklılık →		
	01	10	20	30	40
P çelik				DM415	
		DP220		DM215	
M Paslanmaz çelik				DM415	
				DM215	
K Dökme demir				DM415	
				DM215	
N Demir dışı metaller					DK110

			
Dm215 Katman sistemi: PVD TiAlN	Dm415 Katman sistemi: PVD TiAlN	DP220(P30,M40) Katman sistemi: PVD Kalay	Model Numarası.: DK110(K15) Tanecilik : 0.6µm Sertlik: HV1670
Vc = 120 ~ 180m / dak. Dm215 ilk tercihtir paslanmaz çeliklerde üstün diğer çelikler için makine yüksek hız. Önerilen parametreVc: Paslanmaz için 60 ~ 120m / dakçelik; Vc = 100 ~ 180m / dakçelik	DM415 daha iyi bir seçimdir paslanmaz çeliklerde üstün eşleşen diğer çeliklere yüksek hız.Önerilen parametreVc: Paslanmaz için 60 ~ 120m / dakçelik; Vc = 100 ~ 180m / dakçelik	DP220 hiç iyi değil mükemmel uygulama dayanıklılık. Önerilen parametre Vc = 90 ~ 180m / dak.	DK110 en iyi seçimdir Alüminyum alaşımı ve demir dışı metaller (örn. alaşım)eşleştirme. Önerilen parametreVc = 100 ~ 300m / dak.

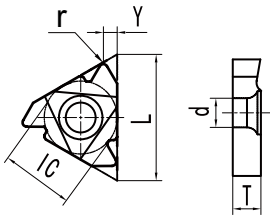
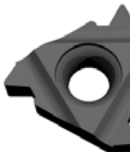
Diş Kısmi Profil 60 ° Diş Açma Eki

Model	L (mm)	IC (mm)	d (mm)	😊 İyi tavsiye ☹ Genel												
08**	8	4.76	2.1	önerilen malzeme												
11**	11	6.35	3.0		P	😊	😊	😊								
16**	16	9.525	4.0		M	😊	😊									
22**	22	12.7	5.1		K	😊	😊									
27**	27	15.875	6.35		N							😊				
bıçak ağızı	Sağ el bıçağı	Sol el bıçağı	Saha mm	Dm215	DM415	DP220	Dk110	Boyutlar (mm)								
				R	L	R	L	R	L	R	L	r	Y	T		
	16ERAG60-M		0.5-3.0	●	○							0.07	1.7	3.65		
	16ERG60-M		1.75-3.0	●	○							0.25	1.7	3.65		
	22ERN60-M		3.5-5.0	●	○							0.4	1.7	3.65		
	11ERA60	11ELA60	0.5-1.5	●	○			●		●		0.07	0.9	3.18		
	16ERA60	16ELA60	0.5-1.5	●	○			●		●		0.07	0.9	3.65		
	16ERAG60	16ELAG60	0.5-3.0	●	○			●		●		0.07	1.7	3.65		
	16ERG60	16ELG60	1.75-3.0	●	○			●		●		0.25	1.7	3.65		
	22ERN60	22ELN60	3.5-5.0	●	○			●		●		0.4	2.5	4.9		
	27ERQ60	27ELQ60	5.5-6.0	○	○			○		○		0.79		6.4		
	16VERAG60	16VELAG60	0.5-3.0	●	○			○		○		0.07		3.65		
	27VERV60	27VELV60	6.0-9.0	○	○			○		○		0.87		8.7		

● Ayakta stok

○ Olağanüstü stok

Dahili Kısmi Profil 60 ° Diş Açma Eki

Model	L (mm)	IC (mm)	d (mm)	İyi tavsiye Genel												
08**	8	4.76	2.1	önerilen malzeme		P	😊	😊	😊							
11**	11	6.35	3.0			M	😊	😊								
16**	16	9.525	4.0			K	☹	☹								
22**	22	12.7	5.1													
27**	27	15.875	6.35			N						😊				
bıçak ağızı	Sağ el bıçağı	Sol el bıçağı	Saha	Dm215		DM415		DP220		Dk110		Boyutlar (mm)				
			mm	R	L	R	L	R	L	R	L	r	Y	T		
	11NRA60-M		0.5-1.5	●		○						0.07	0.9	3.18		
	16NRAG60-M		0.5-3.0	●		○						0.07	1.7	3.65		
	16NRG60-M		1.75-3.0	●		○						0.2	1.7	3.65		
	22NRN60-M		3.5-5.0	●		○						0.4	1.7	3.65		
	06NRA60	06NLA60	0.5-1.5	○	○			○		○		0.07		1.91		
	08NRA60	08NLA60	0.5-1.5	●	○			●		●		0.07	0.9	2.38		
	11NRA60	11NLA60	0.5-1.5	●	○			●		●		0.07	0.9	3.18		
	16NRA60	16NLA60	0.5-1.5	●	○			●		●		0.07	0.9	3.65		
	16NRAG60	16NLAG60	0.5-3.0	●	○			●		●		0.07	1.7	3.65		
	16NRG60	16NLG60	1.75-3.0	●	○			●		●		0.2	1.7	3.65		
	22NRN60	22NLN60	3.5-5.0	●	○			○		○		0.4	2.5	4.9		
	27NRQ60	27NLQ60	5.5-6.0	○	○			○		○		0.4		6.4		
	16VNRAG60	16VNLAG60	0.5-3.0	●	○			○		○		0.07		3.65		
	27VNRV60	27VNLV60	6.0-9.0	○	○			○		○		0.43		8.7		

● Ayakta stok

○ Olağanüstü stok

DISAGMA FREZE TAKIMI AR

● Ayakta stok ○ Olağanüstü stok

PETROL DİŞ AÇMA ALETLERİ

☒ Ayakta stok ☐ Olağanüstü stok

ISO 68-1
GB/T 192

Model

L (mm)

IC (mm)

d (mm)

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11**

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16**

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22**

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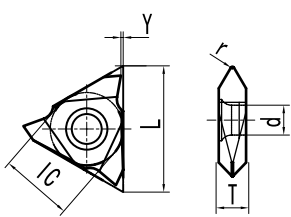
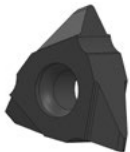
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☒ Ayakta stok ☐ Olağanüstü stok

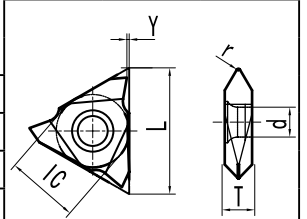
Harici ISO Metrik V tarzı

ISO 68-1
GB/T 192

Model	L (mm)	IC (mm)	d (mm)	İyi tavsiye Genel												
08**	8	4.76	2.1	önerilen malzeme		P	😊	😊	😊							
11**	11	6.35	3.0			M	😊	😊								
16**	16	9.525	4.0			K	😊	😊								
22**	22	12.7	5.1			N						😊				
27**	27	15.875	6.35													
bıçak ağızı	Sağ el bıçağı	Sol el bıçağı	Saha	Dm215		DM415		DP220		DK110		Boyutlar (mm)				
			mm	R	L	R	L	R	L	R	L	r	Y	T		
	16VER1.00ISO	-	1.0	●		○		○				0.07	0.7	3.65		
	16VER1.50ISO	-	1.5	●		○		○				0.11	1.0	3.65		
	16VER2.00ISO	-	2.0	●		○		○				0.14	1.3	3.65		
	16VER2.50ISO	-	2.5	●		○		○				0.18	1.5	3.65		
	16VER3.00ISO	-	3.0	●		○		○				0.22	1.6	3.65		
	22VER4.00ISO	-	4.0	●		○		○				0.29	2.0	4.76		
	22VER5.00ISO	-	5.0	●		○		○				0.36	2.4	4.76		
	27VER6.00ISO	-	6.0	●		○		○				0.43	2.7	6.4		
	27VER8.00ISO	-	8.0											8.7		
	27VER10.0ISO	-	10.0											10.0		

● Ayakta stok

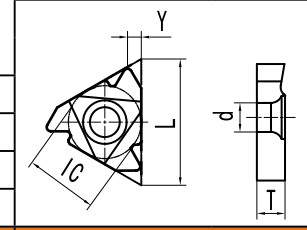
○ Olağanüstü stok



Dahili ISO Metrik Diş Açma Parçası

ISO 68-1
GB/T 192

😊 İyi tavsiye
☹ Genel



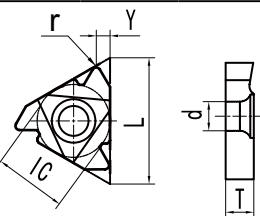
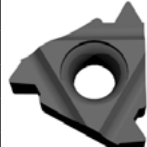
Model	L (mm)	IC (mm)	d (mm)											
08**	8	4.76	2.1	önerilen malzeme		P	😊	😊	😊					
11**	11	6.35	3.0			M	😊	😊						
16**	16	9.525	4.0			K	😊	😊						
22**	22	12.7	5.1			N					😊			
27**	27	15.875	6.35											
bıçak ağızı	Sağ el bıçağı	Sol el bıçağı	Saha	Dm215		DM415		DP220		Dk110		Boyutlar (mm)		
			mm	R	L	R	L	R	L	R	L	r	Y	T
	11NR1.00ISO-M		1.0									0.07	0.7	3.18
	11NR1.50ISO-M		1.5									0.11	1.0	3.18
	11NR2.00ISO-M		2.0									0.14	1.0	3.18
	16NR1.00ISO-M		1.0	●	○	○						0.07	0.7	3.65
	16NR1.50ISO-M		1.5	●	○	○						0.11	1.0	3.65
	16NR2.00ISO-M		2.0	●	○	○						0.14	1.3	3.65
	16NR2.50ISO-M		2.5	●	○	○						0.18	1.5	3.65
	16NR3.00ISO-M		3.0	●	○	○						0.22	1.6	3.65
	22NR3.50ISO-M		3.5	●	○	○						0.25	2.0	4.9
	22NR4.00ISO-M		4.0	●	○	○						0.29	2.0	4.9
	22NR5.00ISO-M		5.0	●	○	○						0.36	2.4	4.9
	22NR6.00ISO-M		6.0	●	○	○						0.43	2.7	4.9
	06NR0.50ISO	06NL0.50ISO	0.5	●								0.04		2.38
	06NR0.75ISO	06NL0.75ISO	0.75	●								0.05		2.38
	06NR1.00ISO	06NL1.00ISO	1.0	●								0.07		2.38
	06NR1.25ISO	06NL1.25ISO	1.25	●								0.09		2.38
	06NR1.50ISO	06NL1.50ISO	1.5	●								0.11		2.38
	08NR1.75ISO	08NL1.75ISO	0.5	●	○			○		●		0.04		2.38
	08NR0.75ISO	08NL0.75ISO	0.75	●	○			○		●		0.05		2.38
	08NR1.00ISO	08NL1.00ISO	1.0	●	○			○		●		0.07		2.38
	08NR1.25ISO	08NL1.25ISO	1.25	●	○			○		●		0.09		2.38
	08NR1.50ISO	08NL1.50ISO	1.5	●	○			○		●		0.11		2.38
	08NR1.75ISO	08NL1.75ISO	1.75	●	○			○		●		0.13		2.38
	11NR0.50ISO	11NL0.50ISO	0.5	●	○			○		●		0.04	0.6	3.18
	11NR0.75ISO	11NL0.75ISO	0.75	●	○			○		●		0.05	0.6	3.18
	11NR1.00ISO	11NL1.00ISO	1.0	●	○			○		●		0.07	0.7	3.18
	11NR1.25ISO	11NL1.25ISO	1.25	●	○			○		●		0.09	0.9	3.18
	11NR1.50ISO	11NL1.50ISO	1.5	●	○			○		●		0.11	1.0	3.18
	11NR1.75ISO	11NL1.75ISO	1.75	●	○			○		●		0.13	1.1	3.18
	11NR2.00ISO	11NL2.00ISO	2.0	●	○			○		●		0.14	1.0	3.18
	11NR2.50ISO	11NL2.50ISO	2.5	●	○			○		●		0.18	1.0	3.18
	16NR0.50ISO	16NL0.50ISO	0.5	●	○			○		●		0.04	0.6	3.65
	16NR0.75ISO	16NL0.75ISO	0.75	●	○			○		●		0.05	0.6	3.65
	16NR1.00ISO	16NL1.00ISO	1	●	○			○		●		0.07	0.7	3.65
	16NR1.25ISO	16NL1.25ISO	1.25	●	○			○		●		0.09	0.9	3.65
	16NR1.50ISO	16NL1.50ISO	1.5	●	○			○		●		0.11	1.0	3.65
	16NR1.75ISO	16NL1.75ISO	1.75	●	○			○		●		0.13	1.2	3.65
	16NR2.00ISO	16NL2.00ISO	2	●	○			○		●		0.14	1.3	3.65
	16NR2.50ISO	16NL2.50ISO	2.5	●	○			○		●		0.18	1.5	3.65
	16NR3.00ISO	16NL3.00ISO	3.0	●	○			○		●		0.22	1.6	3.65
	16NR3.50ISO	16NL3.50ISO	3.5	●	○			○		●		0.25	1.6	3.65

● Ayakta stok

○ Olağanüstü stok

Dahili ISO Metrik Dış Açma Parçası

GB/T 192
ISO 68-1

Model	L (mm)	IC (mm)	d (mm)	İyi tavsiye Genel														
08**	8	4.76	2.1	önerilen malzeme		P	😊		😊		😊							
11**	11	6.35	3.0			M	😊		😊									
16**	16	9.525	4.0			K	😊		😊									
22**	22	12.7	5.1			N											😊	
27**	27	15.875	6.35															
bıçak ağızı	Sağ el bıçağı	Sol el bıçağı	Saha	Dm215	DM415		DP220		Dk110		Boyutlar (mm)							
			mm	R	L	R	L	R	L	R	L	r	Y	T				
	22NR3.00ISO	22NL3.00ISO	3.0	●	○	○		○		●		0.22	2.0	4.9				
	22NR3.50ISO	22NL3.50ISO	3.5	●	○	○		○		●		0.25	2.0	4.9				
	22NR4.00ISO	22NL4.00ISO	4.0	●	○	○		○		●		0.29	2.0	4.9				
	22NR4.50ISO	22NL4.50ISO	4.5	●	○	○		○		●		0.32	2.2	4.9				
	22NR5.00ISO	22NL5.00ISO	5.0	●	○			○		●		0.36	2.4	4.9				
	22NR5.50ISO	22NL5.50ISO	5.5									0.4	2.5	4.9				
	22NR6.00ISO	22NL6.00ISO	6.0									0.43	2.7	4.9				
	27NR5.50ISO	27NL5.50ISO	5.5									0.4		6.4				
	27NR6.00ISO	27NL6.00ISO	6.0									0.43		6.4				

● Ayakta stok ○ Olağanüstü stok

Dahili ISO Metrik V tarzı

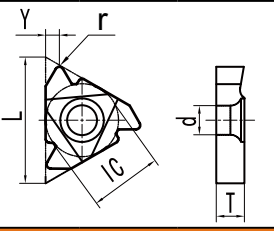
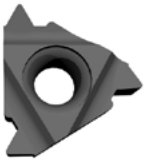
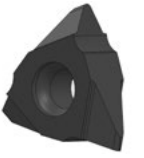
ISO 68-1
GB/T 192

[illegible]

● Ayakta stok ○ Olağanüstü stok

Dış 60° Amerikan UN UNC UNF UNEF UNS

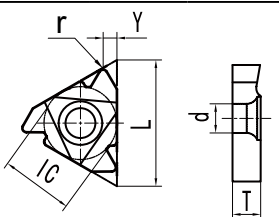
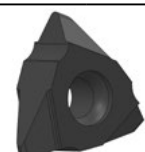
ISO 68
GB/T 20667~20670

Model	L (mm)	IC (mm)	d (mm)	İyi tavsiye Genel												
11**	11	6.35	3.0	önerilen malzeme		P	😊	😊	😊							
16**	16	9.525	4.0			M	😊	😊								
22**	22	12.7	5.1			K	😊	😊								
27**	27	15.875	6.35			N						😊				
bıçak ağızı	Sağ el bıçağı	Sol el bıçağı	Saha	Dm215	DM415	DP220	Dk110	Boyutlar (mm)								
			tpi	R	L	R	L	R	L	R	L	r	Y	T		
	11ER32UN	11EL32UN	32									0.11	0.8	3.18		
	11ER28UN	11EL28UN	28									0.13	0.8	3.18		
	11ER24UN	11EL24UN	24									0.16	0.8	3.18		
	11ER20UN	11EL20UN	20									0.18	0.8	3.18		
	11ER18UN	11EL18UN	18									0.2	0.8	3.18		
	11ER16UN	11EL16UN	16									0.23	1.0	3.18		
	11ER14UN	11EL14UN	14									0.26	1.0	3.18		
	11ER12UN	11EL12UN	12									0.3	1.1	3.18		
	16ER32UN	16EL32UN	32									0.11	0.8	3.65		
	16ER28UN	16EL28UN	28									0.13	0.8	3.65		
	16ER24UN	16EL24UN	24	●	○			○		○		0.16	0.8	3.65		
	16ER20UN	16EL20UN	20	●	○			○		○		0.18	0.8	3.65		
	16ER18UN	16EL18UN	18	●	○			○		○		0.2	0.8	3.65		
	16ER16UN	16EL16UN	16	●	○			○		○		0.23	1.0	3.65		
	16ER14UN	16EL14UN	14	●	○			○		○		0.26	1.2	3.65		
	16ER12UN	16EL12UN	12	●	○			○		○		0.3	1.2	3.65		
	16ER11UN	16EL11UN	11									0.33	1.4	3.65		
	16ER10UN	16EL10UN	10	●	○			○		○		0.36	1.4	3.65		
	16ER9UN	16EL9UN	9									0.41	1.6	3.65		
	16ER8UN	16EL8UN	8	●	○			○		○		0.46	1.6	3.65		
	22ER7UN	22EL7UN	7									0.52	2.3	4.9		
	22ER6UN	22EL6UN	6	○	○							0.61	2.3	4.9		
	22ER5UN	22EL5UN	5									0.75	2.5	4.9		
	22ER4.5UN	22EL4.5UN	4.5									0.83	2.6	4.9		
	22ER4UN	22EL4UN	4	○	○			○				0.93	2.9	4.9		
	27ER4.5UN	27EL4.5UN	4.5										2.6	6.4		
	27ER4UN	27EL4UN	4										2.9	6.4		
	27VER4UN	27VEL4UN	4									4.35	8.7			
	27VER3UN	27VEL3UN	3									5.0	10.0			

● Ayakta stok ○ Olağanüstü stok

İç 60 ° Amerikan UN UNC UNF UNEF UNS

ISO 68
GB/T 20667~20670

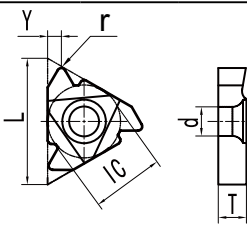
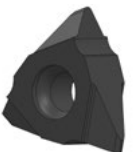
Model	L (mm)	IC (mm)	d (mm)	İyi tavsiye Genel												
11**	11	6.35	3.0	önerilen malzeme		P	😊	😊	😊							
16**	16	9.525	4.0			M	😊	😊								
22**	22	12.7	5.1			K	☹	☹								
27**	27	15.875	6.35			N						😊				
bıçak ağızı	Sağ el bıçağı	Sol el bıçağı	Saha	Dm215		DM415		DP220		Dk110		Boyutlar (mm)				
				tpi	R	L	R	L	R	L	R	L	r	Y	T	
	11NR32UN	11NL32UN	32	○					○		○		0.05	0.8	3.18	
	11NR28UN	11NL28UN	28	○					○		○		0.07	0.8	3.18	
	11NR24UN	11NL24UN	24	●					○		○		0.08	0.8	3.18	
	11NR20UN	11NL20UN	20	●					○		○		0.09	0.8	3.18	
	11NR18UN	11NL18UN	18	●					○		○		0.1	0.8	3.18	
	11NR16UN	11NL16UN	16	●					○		○		0.11	1.0	3.18	
	11NR14UN	11NL14UN	14	●					○		○		0.13	1.0	3.18	
	11NR12UN	11NL12UN	12	●					○		○		0.15	1.1	3.18	
	16NR32UN	16NL32UN	32										0.05	0.8	3.65	
	16NR28UN	16NL28UN	28										0.07	0.8	3.65	
	16NR24UN	16NL24UN	24	●					○		○		0.08	0.8	3.65	
	16NR20UN	16NL20UN	20	●					○		○		0.09	0.8	3.65	
	16NR18UN	16NL18UN	18	●					○		○		0.1	0.8	3.65	
	16NR16UN	16NL16UN	16	●					○		○		0.11	1.0	3.65	
	16NR14UN	16NL14UN	14	●					○		○		0.13	1.2	3.65	
	16NR12UN	16NL12UN	12	●					○		○		0.15	1.2	3.65	
	16NR11UN	16NL11UN	11										0.16	1.4	3.65	
	16NR10UN	16NL10UN	10	●					○		○		0.18	1.4	3.65	
	16NR9UN	16NL9UN	9										0.2	1.4	3.65	
	16NR8UN	16NL8UN	8	●					○		○		0.23	1.4	3.65	
	22NR7UN	22NL7UN	7										0.26	2.3	4.9	
	22NR6UN	22NL6UN	6										0.32	2.3	4.9	
	22NR5UN	22NL5UN	5										0.38	2.5	4.9	
	22NR4.5UN	22NL4.5UN	4.5										0.41	2.5	4.9	
	22NR4UN	22NL4UN	4										0.46	2.5	4.9	
27NR4.5UN	27NL4.5UN	4.5											2.5	6.4		
27NR4UN	27NL4UN	4											2.5	6.4		
	27VNR4UN	27VNL4UN	4											8.7		
	27VNR3UN	27VNL3UN	3											10.0		

● Ayakta stok

○ Olağanüstü stok

55 ° Dış Whitworth Tam Profil

BS 84
GB/T 7307

Model	L (mm)	IC (mm)	d (mm)	İyi tavsiye Genel												
11**	11	6.35	3.0	önerilen malzeme		P	😊	😊	😊							
16**	16	9.525	4.0			M	😊	😊								
22**	22	12.7	5.1			K	😊	😊								
27**	27	15.875	6.35			N					😊					
bıçak ağızı	Sağ el bıçağı	Sol el bıçağı	Saha	Dm215	DM415		DP220		Dk110		Boyutlar (mm)					
			tpi	R	L	R	L	R	L	R	L	r	Y	T		
	16ER14W-M		14	●		○	○					0.18	0.9	3.65		
	16ER11W-M		11	●		○	○					0.25	1.1	3.65		
	11ER28W	11EL28W	28				○	○				0.13	0.8	3.18		
	11ER26W	11EL26W	26				○	○				0.14	0.8	3.18		
	11ER24W	11EL24W	24				○	○				0.15	0.8	3.18		
	11ER20W	11EL20W	20				○	○				0.18	1.0	3.18		
	11ER19W	11EL19W	19				○	○				0.19	1.0	3.18		
	11ER18W	11EL18W	18				○	○				0.2	1.0	3.18		
	11ER16W	11EL16W	16				○	○				0.22	1.0	3.18		
	11ER14W	11EL14W	14				○	○				0.25	1.0	3.18		
	16ER28W	16EL28W	28	●			○	○				0.13	0.9	3.65		
	16ER26W	16EL26W	26									0.14	0.9	3.65		
	16ER24W	16EL24W	24	●			○	○				0.15	0.9	3.65		
	16ER20W	16EL20W	20	●			○	○				0.18	0.9	3.65		
	16ER19W	16EL19W	19	●			○	○				0.19	0.9	3.65		
	16ER18W	16EL18W	18	●			○	○				0.2	0.9	3.65		
	16ER16W	16EL16W	16	●			○	○				0.22	0.9	3.65		
	16ER14W	16EL14W	14	●			○	○				0.25	1.1	3.65		
	16ER12W	16EL12W	12	●			○	○				0.29	1.4	3.65		
	16ER11W	16EL11W	11	●			○	○				0.32	1.4	3.65		
	16ER10W	16EL10W	10	●			○	○				0.35	1.4	3.65		
	16ER9W	16EL9W	9	●			○	○				0.39	1.7	3.65		
	16ER8W	16EL8W	8	●			○	○				0.44	1.7	3.65		
	16ER7W	16EL7W	7									0.5	1.7	3.65		
	22ER7W	22EL7W	7									0.5	2.4	3.65		
	22ER6W	22EL6W	6	●			○	○				0.59	2.4	4.9		
	22ER5W	22EL5W	5	●			○	○				0.7	2.6	4.9		
	22ER4.5W	22EL4.5W	4.5									0.79	2.7	4.9		
	22ER4W	22EL4W	4	●			○	○				0.89	2.7	4.9		
	27ER4.5W	27EL4.5W	4.5									0.79		6.4		
	27ER4W	27EL4W	4									0.89		6.4		
	27VER4W	27VEL4W	4													
	27VER3W	27VEL3W	3													
	27VER2.5W	27VEL2.5W	2.5													

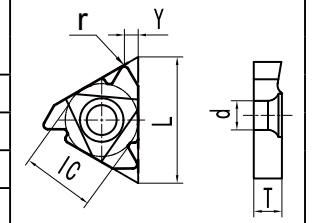
● Ayakta stok

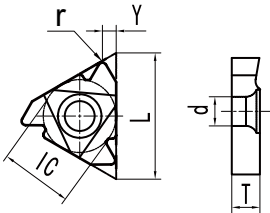
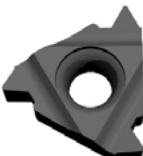
○ Olağanüstü stok

55 ° Dahili Whitworth Tam Profili

BS 84
GB/T 7307

☺ İyi tavsiye
☹ Genel



Model	L (mm)	IC (mm)	d (mm)	İyi tavsiye Genel												
11**	11	6.35	3.0	önerilen malzeme		P	😊	😊	😊							
16**	16	9.525	4.0			M	😊	😊								
22**	22	12.7	5.1			K	😊	😊								
27**	27	15.875	6.35			N						😊				
bıçak ağızı	Sağ el bıçağı	Sol el bıçağı	Saha	Dm215	DM415	DP220	Dk110	Boyutlar (mm)								
								tpi	R	L	R	L	R	L	R	L
	16NR14W-M		14	●	○	○						0.25	0.9	3.65		
	16NR11W-M		11	●	○	○						0.32	1.1	3.65		
	11NR28W	11NL28W	28	○		○	○					0.13	0.8	3.18		
	11NR26W	11NL26W	26	○		○	○					0.14	0.8	3.18		
	11NR24W	11NL24W	24	○		○	○					0.15	0.8	3.18		
	11NR20W	11NL20W	20	○		○	○					0.18	1.0	3.18		
	11NR19W	11NL19W	19	●		○	○					0.19	1.0	3.18		
	11NR18W	11NL18W	18	○		○	○					0.2	1.0	3.18		
	11NR16W	11NL16W	16	○		○	○					0.22	1.0	3.18		
	11NR14W	11NL14W	14	●		○	○					0.25	1.0	3.18		
	16NR28W	16NL28W	28	●		○	○					0.13	0.9	3.65		
	16NR26W	16NL26W	26			○	○					0.14	0.9	3.65		
	16NR24W	16NL24W	24	●		○	○					0.15	0.9	3.65		
	16NR20W	16NL20W	20	●		○	○					0.18	0.9	3.65		
	16NR19W	16NL19W	19	●		○	○					0.19	0.9	3.65		
	16NR18W	16NL18W	18	●		○	○					0.2	0.9	3.65		
	16NR16W	16NL16W	16	●		○	○					0.22	0.9	3.65		
	16NR14W	16NL14W	14	●		○	○					0.25	1.1	3.65		
	16NR12W	16NL12W	12	●		○	○					0.29	1.4	3.65		
	16NR11W	16NL11W	11	●		○	○					0.32	1.4	3.65		
	16NR10W	16NL10W	10	●		○	○					0.35	1.4	3.65		
	16NR9W	16NL9W	9	●		○	○					0.39	1.7	3.65		
	16NR8W	16NL8W	8	●		○	○					0.44	1.7	3.65		
	16NR7W	16NL7W	7									0.51	1.7	3.65		
	22NR7W	22NL7W	7									0.51	2.4	3.65		
	22NR6W	22NL6W	6	●		○	○					0.59	2.4	4.9		
	22NR5W	22NL5W	5	●		○	○					0.71	2.6	4.9		
	22NR4.5W	22NL4.5W	4.5									0.79	2.7	4.9		
	22NR4W	22NL4W	4	●		○	○					0.89	2.7	4.9		
	27NR4.5W	27NL4.5W	4.5									0.79		6.4		
	27NR4W	27NL4W	4									0.89		6.4		
	27VNR4W	27VNL4W	4													
	27VNR3W	27VNL3W	3													
	27VNR2.5W	27VNL2.5W	2.5													

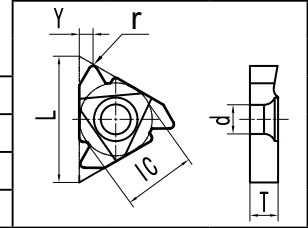
● Ayakta stok

○ Olağanüstü stok

Dış NPT-60 °

ASME B.20.1
GB/T 12716

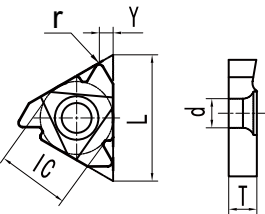
Model	L (mm)	IC (mm)	d (mm)											
11**	11	9.525	3.0											
16**	16	12.7	4.0											
				önerilen malzeme	P	😊	😊	😊						
					M	😊	😊							
					K	😊	😊							
					N					😊				
bıçak ağzı	Sağ el bıçağı	Sol el bıçağı	Saha tpi	Dm215		DM415		DP220		Dk110		Boyutlar (mm)		
				R	L	R	L	R	L	R	L	r	Y	T
	11ER27NPT	11EL27NPT	27	●	○			○		○			1.0	3.18
	11ER18NPT	11EL18NPT	18	●	○			○		○		0.03	1.0	3.18
	11ER14NPT	11EL14NPT	14	●	○			○		○		0.04	1.1	3.18
	16ER27NPT	16EL27NPT	27	●	○			○		○			1.0	3.65
	16ER18NPT	16EL18NPT	18	●	○			○		○		0.03	1.0	3.65
	16ER14NPT	16EL14NPT	14	●	○			○		○		0.04	1.3	3.65
	16ER11.5NPT	16EL11.5NPT	11.5	●	○			○		○		0.05	1.5	4.9
	16ER8NPT	16EL8NPT	8	●	○			○		○		0.07	1.8	4.9



● Ayakta stok ○ Olağanüstü stok

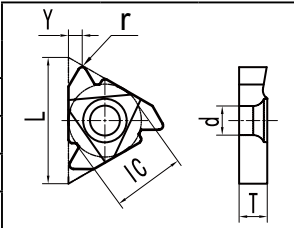
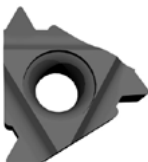
55 ° Dahili Whitworth Tam Profili

ASME B.20.1
GB/T 12716

Model	L (mm)	IC (mm)	d (mm)	İyi tavsiye Genel														
11**	11	9.525	3.0	önerilen malzeme		P	😊		😊		😊							
16**	16	12.7	4.0			M	😊		😊									
						K	😊		😊									
						N								😊				
bıçak ağızı	Sağ el bıçağı	Sol el bıçağı	Saha	Dm215		DM415		DP220		Dk110		Boyutlar (mm)						
			tpi	R	L	R	L	R	L	R	L	r	Y	T				
	11NR27NPT	11NL27NPT	27	●					○		○			1.0	3.18			
	11NR18NPT	11NL18NPT	18	●	○				○		○		0.03	1.0	3.18			
	11NR14NPT	11NL14NPT	14	●	○				○		○		0.04	1.1	3.18			
	16NR27NPT	16NL27NPT	27	●	○				○		○			1.0	3.65			
	16NR18NPT	16NL18NPT	18	●	○				○		○		0.03	1.0	3.65			
	16NR14NPT	16NL14NPT	14	●	○				○		○		0.04	1.3	3.65			
	16NR11.5NPT	16NL11.5NPT	11.5	●	○				○		○		0.05	1.5	3.65			
	16NR8NPT	16NL8NPT	8	●	○				○		○		0.07	1.8	3.65			

Dış BSPT-55 °

BS 21
GB/T 7306.1~7306.2

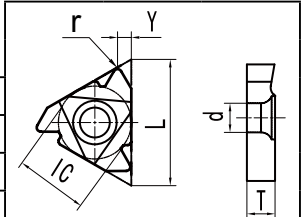
Model	L (mm)	IC (mm)	d (mm)	İyi tavsiye Genel												
11**	11	9.525	3.0	önerilen malzeme		P	😊	😊	😊							
16**	16	12.7	4.0			M	😊	😊								
						K	☹	☹								
						N					😊					
bıçak ağızı	Sağ el bıçağı	Sol el bıçağı	Saha	Dm215		DM415		DP220		Dk110		Boyutlar (mm)				
				tpi	R	L	R	L	R	L	R	L	r	Y	T	
	11ER28BSPT	11EL28BSPT	28	●	○			○		○		0.13	0.8	3.18		
	11ER19BSPT	11EL19BSPT	19	●	○			○		○		0.19	1.0	3.18		
	11ER14BSPT	11EL14BSPT	14	●	○			○		○		0.25	1.0	3.18		
	16ER28BSPT	16EL28BSPT	28	●	○			○		○		0.13	1.0	3.65		
	16ER19BSPT	16EL19BSPT	19	●	○			○		○		0.19	1.0	3.65		
	16ER14BSPT	16EL14BSPT	14	●	○			○		○		0.25	1.0	3.65		
	16ER11BSPT	16EL11BSPT	11	●	○			○		○		0.32	1.0	3.65		

● Ayakta stok

○ Olağanüstü stok

Dahili BSPT-55 °

BS 21
GB/T 7306.1~7306.2

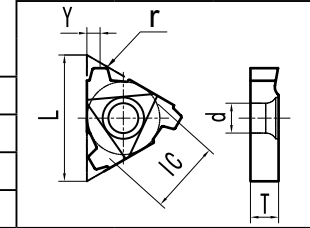
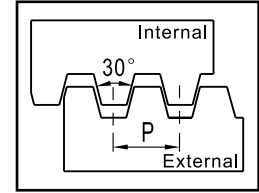
Model	L (mm)	IC (mm)	d (mm)	😊 İyi tavsiye ☹ Genel										
11**	11	9.525	3.0	önerilen malzeme	P	😊	😊	😊						
16**	16	12.7	4.0		M	😊	😊							
					K	😊	😊							
					N					😊				
bıçak ağızı	Sağ el bıçağı	Sol el bıçağı	Saha tpi	Dm215		DM415		DP220		Dk110		Boyutlar (mm)		
				R	L	R	L	R	L	R	L	r	Y	T
	11NR28BSPT	11NL28BSPT	28	●				○		○		0.13	0.8	3.18
	11NR19BSPT	11NL19BSPT	19	●	○			○		○		0.19	1.0	3.18
	11NR14BSPT	11NL14BSPT	14	●	○			○		○		0.25	1.0	3.18
	16NR28BSPT	16NL28BSPT	28	●	○			○		○		0.13	1.0	3.65
	16NR19BSPT	16NL19BSPT	19	●	○			○		○		0.19	1.0	3.65
	16NR14BSPT	16NL14BSPT	14	●	○			○		○		0.25	1.0	3.65
	16NR11BSPT	16NL11BSPT	11	●	○			○		○		0.32	1.0	3.65

● Ayakta stok

○ Olağanüstü stok

Dış Trapez DIN 103

ISO 2901~2904
GB/T 5796;GB/T 12359



Model	L (mm)	IC (mm)	d (mm)
11**	11	6.35	3.0
16**	16	9.525	4.0
22**	22	12.7	5.1
27**	27	15.875	6.35

☺ İyi tavsiye
☹ Genel

önerilen malzeme

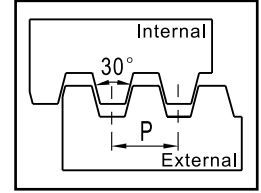
P	☺	☺	☺
M	☺	☺	
K	☹	☹	
N			☺

bıçak ağızı	Sağ el bıçağı	Sol el bıçağı	Saha	Dm215		DM415		DP220		Dk110		Boyutlar (mm)		
			mm	R	L	R	L	R	L	R	L	r	Y	T
	16ER1.5TR	16EL1.5TR	1.50	●				○		○		0.1	1.1	3.65
	16ER2.0TR	16EL2.0TR	2.00	●				○		○		0.1	1.3	3.65
	16ER3.0TR	16EL3.0TR	3.00	●				○		○		0.1	1.5	3.65
	22ER4.0TR	22EL4.0TR	4.00	●				○				0.1	1.9	4.9
	22ER5.0TR	22EL5.0TR	5.00	●				○				0.1	2.2	4.9
	22ER6.0TR	22EL6.0TR	6.00	●				○				0.25	2.3	4.9
	27ER6.0TR	27EL6.0TR	6.00	●				○				0.25	2.5	6.4
	27ER7.0TR	27EL7.0TR	7.00	●				○				0.3	2.7	6.4
	22VER4.0TR	22VEL4.0TR	4.00	●				○				0.1		4.76
	22VER5.0TR	22VEL5.0TR	5.00	●				○				0.1		4.76
	22VER6.0TR	22VEL6.0TR	6.00	●				○				0.25		4.76
	27VER6.0TR	27VEL6.0TR	6.00	●				○				0.25		6.4
	27VER7.0TR	27VEL7.0TR	7.00	●				○				0.25		6.4
	27VER8.0TR	27VEL8.0TR	8.00	●				○				0.25		6.4
	27VER9.0TR	27VEL9.0TR	9.00	●				○				0.25		6.4
	27VER10TR	27VEL10TR	10.00	●								0.3		8.7
	22UER7.0TR	22UEL7.0TR	7.00	○								0.3		4.9
	27UER8.0TR		8.0	●								0.25		6.4
	27UER10TR		10.0									0.3		6.4

● Ayakta stok ○ Olağanüstü stok

İç Trapez DIN103

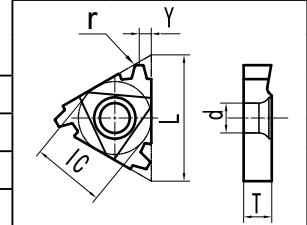
ISO 2901~2904
GB/T 5796;GB/T 12359



Model	L (mm)	IC (mm)	d (mm)
11**	11	6.35	3.0
16**	16	9.525	4.0
22**	22	12.7	5.1
27**	27	15.875	6.35

😊 İyi tavsiye
☹ Genel

önerilen malzeme	P	😊	😊	😊	
	M	😊	😊		
	K	☹	☹		
	N				😊



bıçak ağızı	Sağ el bıçağı	Sol el bıçağı	Saha	Dm215		DM415		DP220		Dk110		Boyutlar (mm)		
			mm	R	L	R	L	R	L	R	L	r	Y	T
	11NR1.5TR	11NL1.5TR	1.5	●				○		○		0.1		3.18
	11NR2.0TR	11NL2.0TR	2.0	●				○		○		0.1		3.18
	16NR1.5TR	16NL1.5TR	1.50	●				○		○		0.1	1.1	3.65
	16NR2.0TR	16NL2.0TR	2.00	●				○		○		0.1	1.3	3.65
	16NR3.0TR	16NL3.0TR	3.00	●				○		○		0.1	1.5	3.65
	22NR4.0TR	22NL4.0TR	4.00	●				○		○		0.1	1.9	4.9
	22NR5.0TR	22NL5.0TR	5.00	●				○		○		0.1	2.2	4.9
	22NR6.0TR	22NL6.0TR	6.00	●				○		○		0.25	2.3	4.9
	27NR6.0TR	27NL6.0TR	6.00	●				○		○		0.25	2.5	6.4
	27NR7.0TR	27NL7.0TR	7.00	●				○		○		0.3	2.7	6.4
	22VNR4.0TR	22VNL4.0TR	4.00	●				○		○		0.1		4.76
	22VNR5.0TR	22VNL5.0TR	5.00	●				○		○		0.1		4.76
	22VNR6.0TR	22VNL6.0TR	6.00	●				○		○		0.25		4.76
	27VNR6.0TR	27VNL6.0TR	6.00	●				○		○		0.25		6.4
	27VNR7.0TR	27VNL7.0TR	7.00	●				○		○		0.25		6.4
	27VNR8.0TR	27VNL8.0TR	8.00	●				○		○		0.25		6.4
	27VNR9.0TR	27VNL9.0TR	9.00	●				○		○		0.25		6.4
	27VNR10TR	27VNL10TR	10.00	●								0.3		8.7
	27VNR12TR	27VNL12TR	12.00	●								0.5		8.7
	22UNR7.0TR	22UNL7.0TR	7.00	○								0.3		4.9
	27UNR8.0TR		8.0									0.25		6.4
	27UNR10.0TR		10.0									0.3		6.4

● Ayakta stok

○ Olağanüstü stok

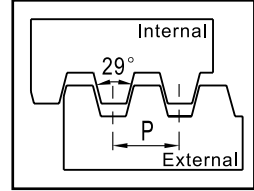
DİSACMA FREZE TAKIMI AR

Diagram illustrating the geometry of a double-flute end mill. The internal diameter is labeled "Internal", and the external diameter is labeled "External". The angle between the flutes is labeled 29° . The pitch between the flutes is labeled P .

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İç Amerikan ACME

ASME B1.5
BS 1104

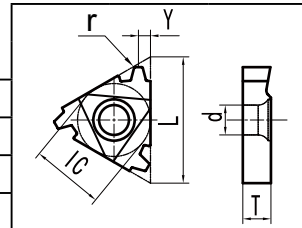


Model	L (mm)	IC (mm)	d (mm)
11**	11	6.35	3.0
16**	16	9.525	4.0
22**	22	12.7	5.1
27**	27	15.875	6.35

😊 İyi tavsiye
☹ Genel

önerilen
malzeme

P	😊	😊	😊	
M	😊	😊		
K	☹	☹		
N				😊



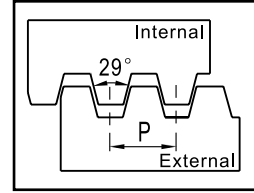
bıçak ağızı	Sağ el bıçağı	Sol el bıçağı	Saha	Dm215		DM415		DP220		DK110		Boyutlar (mm)		
			tpi	R	L	R	L	R	L	R	L	r	Y	T
	11NR16ACME	11NL16ACME	16	●	○			○		○		0.06		3.18
	11NR14ACME	11NL14ACME	14	●	○			○		○		0.08		3.18
	16NR16ACME	16NL16ACME	16	●	○			○		○		0.08	1.1	3.65
	16NR14ACME	16NL14ACME	14	●	○			○		○		0.08	1.2	3.65
	16NR12ACME	16NL12ACME	12	●	○			○		○		0.1	1.2	3.65
	16NR10ACME	16NL10ACME	10	●	○			○		○		0.12	1.4	3.65
	16NR8ACME	16NL8ACME	8	●	○			○		○		0.12	1.5	3.65
	16NR6ACME	16NL6ACME	6	●	○			○		○		0.2	1.5	3.65
	22NR6ACME	22NL6ACME	6	●	○			○		○		0.2	2.1	4.9
	22NR5ACME	22NL5ACME	5	●	○			○		○		0.25	2.1	4.9
	22NR4ACME	22NL4ACME	4	●	○			○		○		0.3	2.3	4.9
	27NR4ACME	27NL4ACME	4	●	○			○		○		0.3	2.1	6.4
	22VNR6ACME	22VNL6ACME	6	●	○			○		○		0.2		4.76
	22VNR5ACME	22VNL5ACME	5	●								0.25		4.76
	22VNR4ACME	22VNL4ACME	4	●								0.3		4.76
	27VNR3.5ACME	27VNL3.5ACME	3.5									0.3	2.4	6.4
	27VNR3ACME	27VNL3ACME	3	●								0.3	2.4	6.4

● Ayakta stok

○ Olağanüstü stok

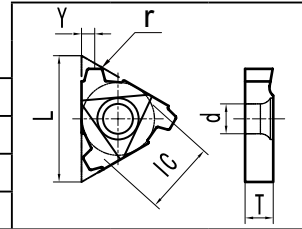
Dış Amerikan Saplama ACME

ANSI B1.8



Model	L (mm)	IC (mm)	d (mm)
11**	11	6.35	3.0
16**	16	9.525	4.0
22**	22	12.7	5.1
27**	27	15.875	6.35

😊 İyi tavsiye
☹ Genel



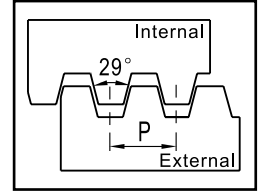
bıçak ağızı	Sağ el bıçağı	Sol el bıçağı	Saha tpi	Dm215		DM415		DP220		Dk110		Boyutlar (mm)		
				R	L	R	L	R	L	R	L	r	Y	T
	16ER16STACME	16EL16STACME	16	●	○			○		○		0.08	1.0	3.65
	16ER14STACME	16EL14STACME	14	●	○			○		○		0.08	1.1	3.65
	16ER12STACME	16EL12STACME	12	●	○			○		○		0.1	1.2	3.65
	16ER10STACME	16EL10STACME	10	●	○			○		○		0.1	1.3	3.65
	16ER8STACME	16EL8STACME	8	●	○			○		○		0.16	1.5	3.65
	16ER6STACME	16EL6STACME	6	●	○			○		○		0.2	1.5	3.65
	22ER6STACME	22EL6STACME	6	●	○			○		○		0.2	1.8	4.9
	22ER5STACME	22EL5STACME	5	●	○			○		○		0.25	2.3	4.9
	22ER4STACME	22EL4STACME	4	●	○			○		○		0.3	2.3	4.9
	27ER4STACME	27EL4STACME	4	●	○			○		○		0.3	2.5	6.4
	27VER3STACME	27VEL3STACME	3	●	○			○		○		0.3		6.4

● Ayakta stok

○ Olağanüstü stok

İç Amerikan Saplama ACME

ANSI B1.8

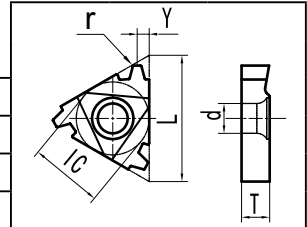


Model	L (mm)	IC (mm)	d (mm)
11**	11	6.35	3.0
16**	16	9.525	4.0
22**	22	12.7	5.1
27**	27	15.875	6.35

😊 İyi tavsiye
☹ Genel

önerilen
malzeme

P
M
K
N



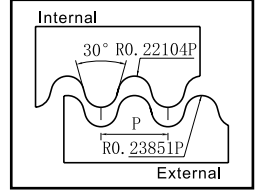
bıçak ağızı	Sağ el bıçağı	Sol el bıçağı	Saha tpi	Dm215		DM415		DP220		Dk110		Boyutlar (mm)		
				R	L	R	L	R	L	R	L	r	Y	T
	11NR16STACME	11NL16STACME	16	●				○		○		0.06		3.18
	11NR14STACME	11NL14STACME	14	●	○			○		○		0.08		3.18
	16NR16STACME	16NL16STACME	16	●	○			○		○		0.06	1.0	3.65
	16NR14STACME	16NL14STACME	14	●	○			○		○		0.08	1.1	3.65
	16NR12STACME	16NL12STACME	12	●	○			○		○		0.1	1.2	3.65
	16NR10STACME	16NL10STACME	10	●	○			○		○		0.1	1.3	3.65
	16NR8STACME	16NL8STACME	8	●	○			○		○		0.16	1.5	3.65
	16NR6STACME	16NL6STACME	6	●	○			○		○		0.2	1.5	3.65
	22NR6STACME	22NL6STACME	6	●	○			○		○		0.2	1.8	4.9
	22NR5STACME	22NL5STACME	5	●	○			○		○		0.25	2.3	4.9
	22NR4STACME	22NL4STACME	4	●	○			○		○		0.3	2.3	4.9
	27NR4STACME	27NL4STACME	4	●	○			○		○		0.3	2.5	6.4
	27VNR3STACME	27VNL3STACME	3	●	○			○		○		0.3		6.4

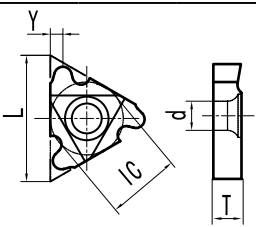
● Ayakta stok

○ Olağanüstü stok

Harici RD-DIN405

DIN405 T1~T2



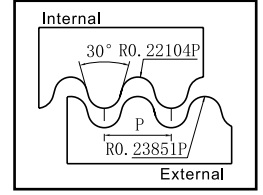
Model	L (mm)	IC (mm)	d (mm)	☺ İyi tavsiye ☹ Genel												
16**	16	9.525	4.0	önerilen malzeme		P	☺	☺	☺							
22**	22	12.7	5.1			M	☺	☺								
						K	☹	☹								
						N								☺		
bıçak ağızı	Sağ el bıçağı	Sol el bıçağı	Saha	Dm215	DM415		DP220		DK110		Boyutlar (mm)					
			tpi	R	L	R	L	R	L	R	L	r	Y	T		
	16ER10RD	16EL10RD	10	●								0.61	1.2	3.65		
	16ER8RD	16EL8RD	8	●								0.76	1.3	3.65		
	16ER6RD	16EL6RD	6	●								1.01	1.7	3.65		
	22ER6RD	22EL6RD	6	●								1.01	2.0	4.9		
	22ER5RD	22EL5RD	5	●								1.21	2.0	4.9		
	22ER4RD	22EL4RD	4	●								1.51	2.3	4.9		

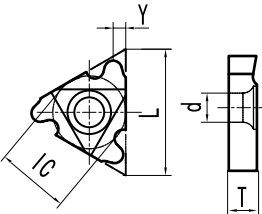
● Ayakta stok

○ Olağanüstü stok

Dahili RD-DIN405

DIN405 T1~T2



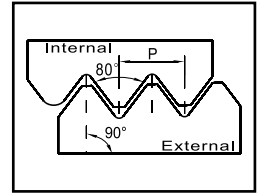
Model	L (mm)	IC (mm)	d (mm)	İyi tavsiye Genel												
16**	16	9.525	4.0	önerilen malzeme		P	😊	😊	😊							
22**	22	12.7	5.1			M	😊	😊								
						K	😊	😊								
						N						😊				
bıçak ağızı	Sağ el bıçağı		Sol el bıçağı		Saha	Dm215		DM415		DP220		Dk110		Boyutlar (mm)		
					tpi	R	L	R	L	R	L	R	L	r	Y	T
	16NR10RD		16NL10RD		10	●								0.56	1.2	3.65
	16NR8RD		16NL8RD		8	●								0.7	1.3	3.65
	16NR6RD		16NL6RD		6	●								0.94	1.7	3.65
	22NR6RD		22NL6RD		6	●								0.94	2.0	4.9
	22NR5RD		22NL5RD		5	●								1.12	2.0	4.9
	22NR4RD		22NL4RD		4	●								1.4	2.3	4.9

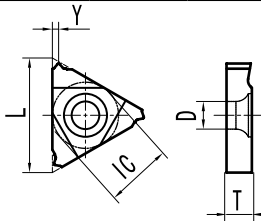
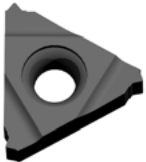
● Ayakta stok

○ Olağanüstü stok

Dış Pg DIN40430

DIN40430



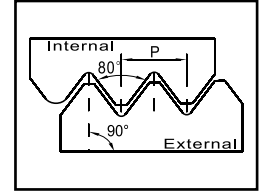
Model	L (mm)	IC (mm)	d (mm)	İyi tavsiye Genel														
16**	16	9.525	4.0	önerilen malzeme		P	😊	😊	😊									
22**	22	12.7	5.1			M	😊	😊										
						K	☹	☹										
						N									😊			
bıçak ağzı	Sağ el bıçağı	Sol el bıçağı	Saha	Dm215	DM415		DP220		Dk110		Boyutlar (mm)							
					tpi	R	L	R	L	R	L	R	L	r	Y	T		
	11ER20Pg	11EL20Pg	20	○					○						0.9	3.18		
	11ER18Pg	11EL18Pg	18	○					○						1	3.18		
	11ER16Pg	11EL16Pg	16	●					○						1.1	3.18		
	16ER20Pg	16EL20Pg	20	○					○						0.9	3.65		
	16ER18Pg	16EL18Pg	18	●					○						1	3.65		
	16ER16Pg	16EL16Pg	16	●					○						1.1	3.65		

● Ayakta stok

○ Olağanüstü stok

Dahili Pg DIN40430

DIN40430



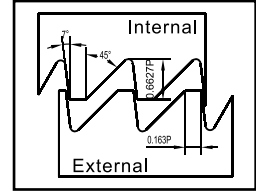
Model	L (mm)	IC (mm)	d (mm)												
16**	16	9.525	4.0												
22**	22	12.7	5.1												
				önerilen malzeme		P	😊	😊	😊						
						M	😊	😊							
						K	😊	😊							
						N									
bıçak ağzı	Sağ el bıçağı	Sol el bıçağı	Saha	tpi	Dm215		DM415		DP220		Dk110		Boyutlar (mm)		
					R	L	R	L	R	L	R	L	r	Y	T
	11NR20Pg	11NL20Pg	20	○					○				0.9	3.18	
	11NR18Pg	11NL18Pg	18	○					○				1.0	3.18	
	11NR16Pg	11NL16Pg	16	●					○				1.1	3.18	
	16NR20Pg	16NL20Pg	20	○					○				0.9	3.65	
	16NR18Pg	16NL18Pg	18	●					○				1.0	3.65	
	16NR16Pg	16NL16Pg	16	●					○				1.1	3.65	

● Ayakta stok

○ Olağanüstü stok

Dış Amerikan Payandası

ANSI/ASME B1.9

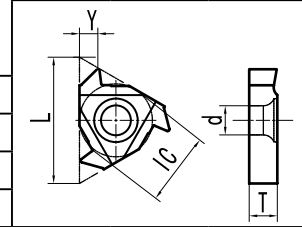


Model	L (mm)	IC (mm)	d (mm)
11**	11	6.35	3.0
16**	16	9.525	4.0
22**	22	12.7	5.1

😊 İyi tavsiye
☹ Genel

önerilen malzeme

P	😊	😊	😊	
M	😊	😊		
K	☹	☹		
N				😊



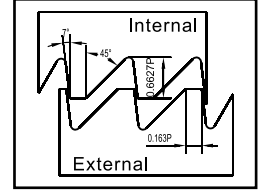
bıçak ağızı	Sağ el bıçağı	Sol el bıçağı	Saha	Dm215		DM415		DP220		Dk110		Boyutlar (mm)		
			tpi	R	L	R	L	R	L	R	L	r	Y	T
	11ER20ABUT	11EL20ABUT	20	○				○					0.9	3.18
	11ER16ABUT	11EL16ABUT	16	○				○					0.9	3.18
	16ER20ABUT	16EL20ABUT	20	○				○					0.9	3.65
	16ER16ABUT	16EL16ABUT	16	●				○					0.9	3.65
	16ER12ABUT	16EL12ABUT	12	●				○					1.0	3.65
	16ER10ABUT	16EL10ABUT	10	●				○					1.2	3.65
	22ER8ABUT	22EL8ABUT	8	○				○					1.3	4.9
	22ER6ABUT	22EL6ABUT	6	○				○					1.5	4.9

● Ayakta stok

○ Olağanüstü stok

İç Amerikan Payandası

ANSI/ASME B1.9

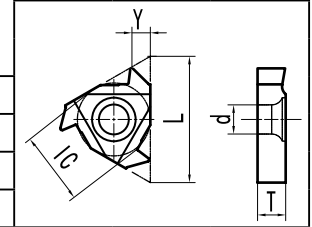


Model	L (mm)	IC (mm)	d (mm)
11**	11	6.35	3.0
16**	16	9.525	4.0
22**	22	12.7	5.1

😊 İyi tavsiye
☹ Genel

önerilen malzeme

P	😊	😊	😊	
M	😊	😊		
K	☹	☹		
N				😊



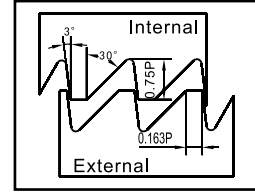
bıçak ağızı	Sağ el bıçağı	Sol el bıçağı	Saha	Dm215		DM415		DP220		Dk110		Boyutlar (mm)		
			tpi	R	L	R	L	R	L	R	L	r	Y	T
	11NR20ABUT	11NL20ABUT	20	○				○					0.9	3.18
	11NR16ABUT	11NL16ABUT	16	○				○					0.9	3.18
	16NR20ABUT	16NL20ABUT	20	○				○					0.9	3.65
	16NR16ABUT	16NL16ABUT	16	●				○					0.9	3.65
	16NR12ABUT	16NL12ABUT	12	●				○					1.0	3.65
	16NR10ABUT	16NL10ABUT	10	●				○					1.2	3.65
	22NR8ABUT	22NL8ABUT	8	○				○					1.3	4.9
	22NR6ABUT	22NL6ABUT	6	○				○					1.5	4.9

● Ayakta stok

○ Olağanüstü stok

Harici DIN513

DIN 513
GB/T 13576
GOST 10177

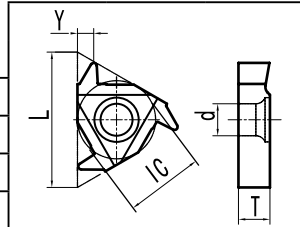


Model	L (mm)	IC (mm)	d (mm)
16**	16	9.525	4.0
22**	22	12.7	5.1
27**	27	15.875	6.35

😊 İyi tavsiye
😊 Genel

önerilen malzeme

P	😊	😊	😊	
M	😊	😊		
K	😊	😊		
N				😊



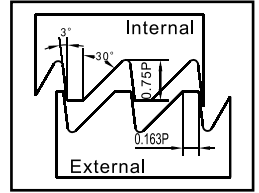
bıçak ağızı	Sağ el bıçağı	Sol el bıçağı	Saha mm	Dm215		DM415		DP220		Dk110		Boyutlar (mm)		
				R	L	R	L	R	L	R	L	r	Y	T
	16ER2.0SAGE	16EL2.0SAGE	2.0	●				○				0.25	1.3	3.65
	22ER3.0SAGE	22EL3.0SAGE	3.0	○				○				0.37	1.9	4.9
	22ER4.0SAGE	22EL4.0SAGE	4.0	●				○				0.5	2.4	4.9
	27ER5.0SAGE	27EL5.0SAGE	5.0	○				○				0.62	3.3	6.4
	22UER5.0SAGE	22UEL5.0SAGE	5.0	○				○				0.62	11	4.9
	22UER6.0SAGE	22UEL6.0SAGE	6.0	○				○				0.75	11	4.9
	22VER2.0SAGE	22VEL2.0SAGE	2.0	○				○				0.25	-	4.9
	22VER3.0SAGE	22VEL3.0SAGE	3.0	○				○				0.37	-	4.9
	22VER4.0SAGE	22VEL4.0SAGE	4.0	○				○				0.5	-	4.9
	27VER5.0SAGE	27VEL5.0SAGE	5.0	○				○				0.62	-	6.4
	27VER6.0SAGE	27VEL5.0SAGE	6.0	●				○				0.75	2.0	6.4
	27VER7.0SAGE	27VEL7.0SAGE	7.0	●				○				0.87	2.5	6.4
	27VER8.0SAGE	27VEL8.0SAGE	8.0	○				○				0.99	3.0	8.7

● Ayakta stok

○ Olağanüstü stok

Dahili DIN513

DIN 513
GB/T 13576
GOST 10177

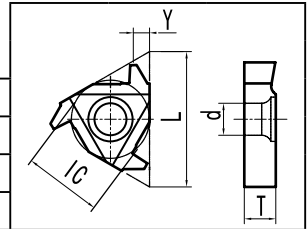


Model	L (mm)	IC (mm)	d (mm)
16**	16	9.525	4.0
22**	22	12.7	5.1
27**	27	15.875	6.35

😊 İyi tavsiye
☹ Genel

önerilen
malzeme

P	😊	😊	😊	
M	😊	😊		
K	☹	☹		
N				😊

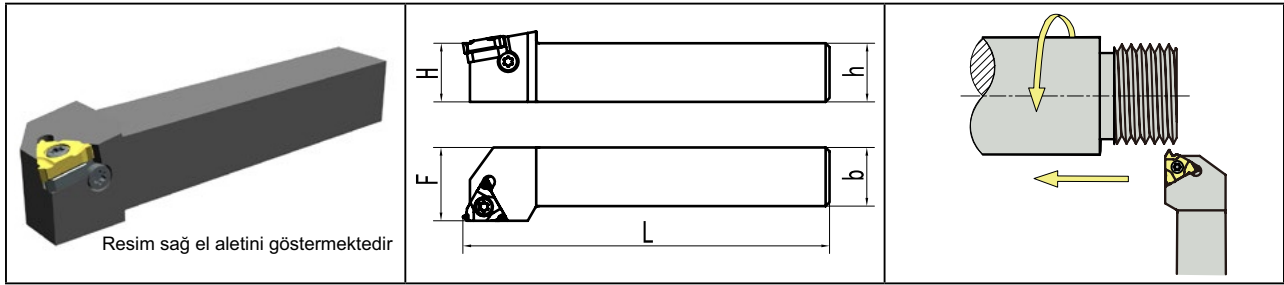


bıçak ağızı	Sağ el bıçağı	Sol el bıçağı	Saha	Dm215		DM415		DP220		Dk110		Boyutlar (mm)		
			mm	R	L	R	L	R	L	R	L	r	Y	T
	16NR2.0SAGE	16NL2.0SAGE	2.0	●				○				0.08	1.3	3.65
	22NR3.0SAGE	22NL3.0SAGE	3.0	○				○				0.1	1.9	4.9
	22NR4.0SAGE	22NL4.0SAGE	4.0	●				○				0.1	2.4	4.9
	27NR5.0SAGE	27NL5.0SAGE	5.0	○				○				0.1	3.3	6.4
	22UNR5.0SAGE	22UNL5.0SAGE	5.0	○				○				0.1	11	4.9
	22UNR6.0SAGE	22UNL6.0SAGE	6.0	○				○				0.2	11	4.9
	22VNR2.0SAGE	22VNL2.0SAGE	2.0	○				○				0.08	-	4.9
	22VNR3.0SAGE	22VNL3.0SAGE	3.0	●				○				0.1	-	4.9
	22VNR4.0SAGE	22VNL4.0SAGE	4.0	○				○				0.1	-	4.9
	27VNR5.0SAGE	27VNL5.0SAGE	5.0	○				○				0.1	-	6.4
	27VNR6.0SAGE	27VNL5.0SAGE	6.0	●				○				0.2	2.0	6.4
	27VNR7.0SAGE	27VNL7.0SAGE	7.0	●				○				0.2	2.5	6.4
	27VNR8.0SAGE	27VNL8.0SAGE	8.0	○				○				0.2	3.0	8.7

● Ayakta stok

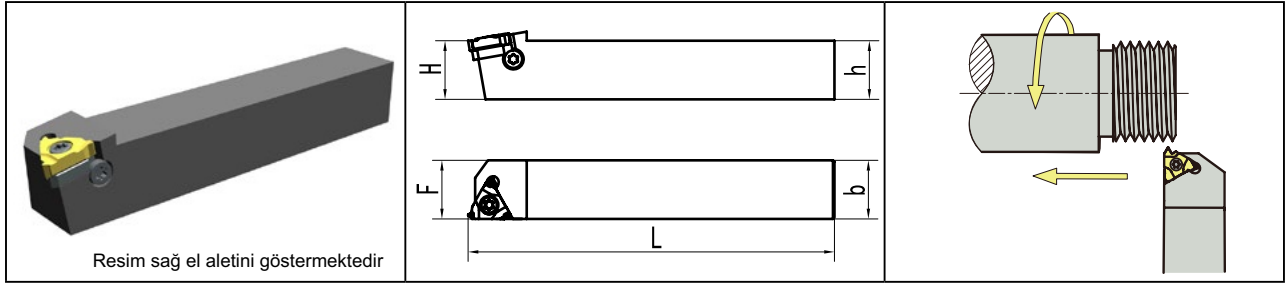
○ Olağanüstü stok

Dış Diş Açma Takım Tutucu



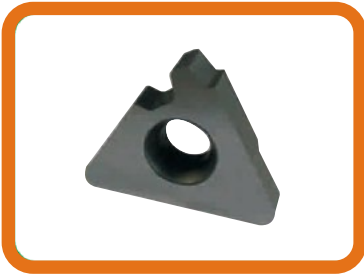
Takım Tutucu Tipi	Tip	Boyutlar (mm)					Vidayı Takın	Torx Anahtarı	Örs	Örs Vidası	Altıgen Anahtar
		h	b	H	F	L					
SER	1212F16	12	12	12	16	80	L60M3.5*12	T-15	-	-	-
	1616H16	16	16	16	20	100	L60M3.5*12	T-15	-	-	-
	2020K16	20	20	20	25	125	L60M3.5*12	T-15	EGM-16	MQ030080	T10
	2525M16	25	25	25	32	150	L60M3.5*12	T-15	EGM-16	MQ030080	T10
	3225P16	32	32	32	32	170	L60M3.5*12	T-15	EGM-16	MQ030080	T10
	3232P16	32	32	32	40	170	L60M3.5*12	T-15	EGM-16	MQ030080	T10
	2020K22	20	20	20	27	125	L60M4.5*14	T-20	EGM-22	MQ040080	S2.5
	2525M22	25	25	25	32	150	L60M4.5*14	T-20	EGM-22	MQ040080	S2.5
	3225P22	32	25	32	32	170	L60M4.5*14	T-20	EGM-22	MQ040080	S2.5
	3232P22	32	32	32	40	170	L60M4.5*14	T-20	EGM-22	MQ040080	S2.5
	4040R22	40	40	40	50	200	L60M4.5*14	T-20	EGM-22	MQ040080	S2.5
	2525M27	25	25	25	32	150	L60M6*16	T-20	EGM-27	MQ040080	S2.5
	3232P27	32	32	32	32	170	L60M6*16	T-20	EGM-27	MQ040080	S2.5
	4040R27	40	40	40	40	200	L60M6*16	T-20	EGM-27	MQ040080	S2.5
	5050S27	50	50	50	50	250	L60M6*16	T-20	EGM-27	MQ040080	S2.5
SEL	1212F16	12	12	12	16	80	L60M3.5*12	T-15	-	-	-
	1616H16	16	16	16	20	100	L60M3.5*12	T-15	-	-	-
	2020K16	20	20	20	25	125	L60M3.5*12	T-15	NGM-16	MQ030080	T10
	2525M16	25	25	25	32	150	L60M3.5*12	T-15	NGM-16	MQ030080	T10
	3225P16	32	25	32	32	170	L60M3.5*12	T-15	NGM-16	MQ030080	T10
	3232P16	32	32	32	40	170	L60M3.5*12	T-15	NGM-16	MQ030080	T10
	2020K22	20	20	20	27	125	L60M4.5*14	T-20	NGM-22	MQ040080	S2.5
	2525M22	25	25	25	32	150	L60M4.5*14	T-20	NGM-22	MQ040080	S2.5
	3225P22	32	25	32	32	170	L60M4.5*14	T-20	NGM-22	MQ040080	S2.5
	3232R22	32	32	32	40	200	L60M4.5*14	T-20	NGM-22	MQ040080	S2.5
	4040R22	40	40	40	50	200	L60M4.5*14	T-20	NGM-22	MQ040080	S2.5
	2525M27	25	25	25	32	150	L60M6*16	T-20	NGM-27	MQ040080	S2.5
	3232P27	32	32	32	32	170	L60M6*16	T-20	NGM-27	MQ040080	S2.5
	4040R27	40	40	40	40	200	L60M6*16	T-20	NGM-27	MQ040080	S2.5
	5050S27	50	50	50	50	250	L60M6*16	T-20	NGM-27	MQ040080	S2.5

Dış Diş Açma Takım Tutucusu (b = F)



Takım Tutucu Tipi	Tip	Boyutlar (mm)					Vidayı Takın	Torx Anahtarı	Örs	Örs Vidası	Altıgen Anahtar
		h	b	H	F	L					
SER	1010H11-A	10	10	10	10	100	L60M2.5*6	T-08	-	-	-
	1212K11-A	12	12	12	12	125	L60M2.5*6	T-08	-	-	-
	1616H11-A	16	16	16	16	100	L60M2.5*6	T-08	-	-	-
	1616H16-A	16	16	16	16	100	L60M3.5*12	T-15	-	-	-
	2020K16-A	20	20	20	20	125	L60M3.5*12	T-15	EGM-16	MQ030080	T10
	2525M16-A	25	25	25	25	150	L60M3.5*12	T-15	EGM-16	MQ030080	T10
SEL	1010H11-A	10	10	10	10	100	L60M2.5*6	T-08	-	-	-
	1212K11-A	12	12	12	12	125	L60M2.5*6	T-08	-	-	-
	1616H11-A	16	16	16	16	100	L60M2.5*6	T-08	-	-	-
	1616H16-A	16	16	16	16	100	L60M3.5*12	T-15	-	-	-
	2020K16-A	20	20	20	20	125	L60M3.5*12	T-15	EGM-16	MQ030080	T10
	2525M16-A	25	25	25	25	150	L60M3.5*12	T-15	EGM-16	MQ030080	T10

Trapez diş açma uçları için örs



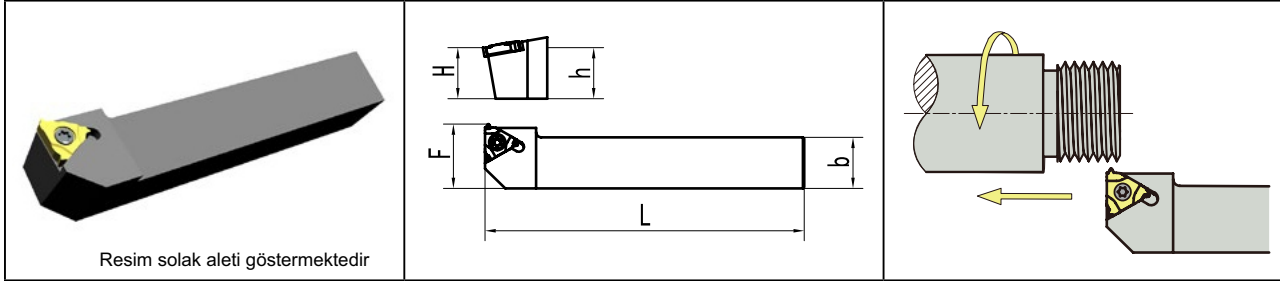
Sipariş Kodu: NGM-22T



Sipariş Kodu: EGM-22T

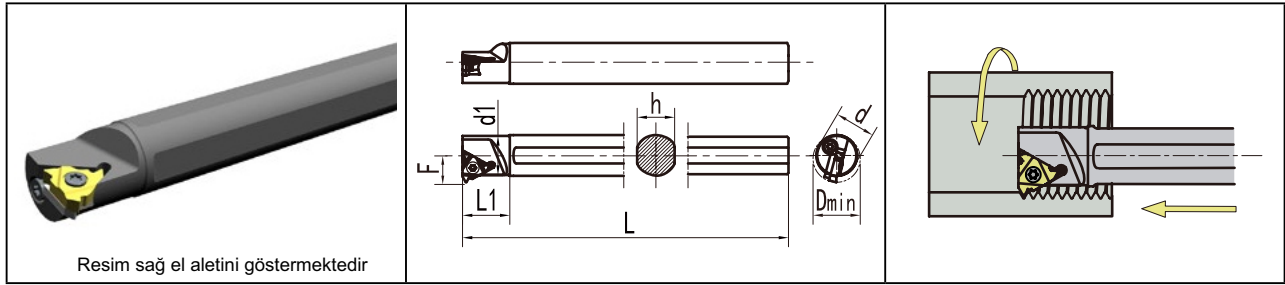
- ★ Trapez dişli özel takım pedi 22 serisi 6.0TR, 5.0TR, 4ACME ve 4STACME modelleri için uygundur
- ★ Ayrı sipariş vermeniz gerekiyor

Çete tipi Dış Diş Açma Takım Tutucu



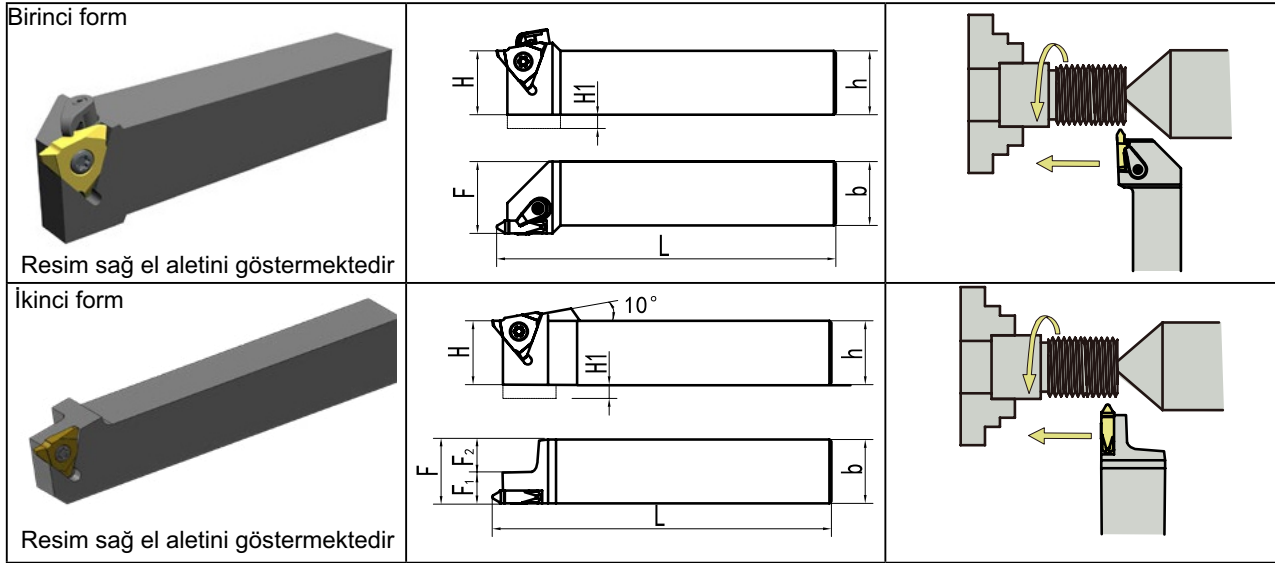
Takım Tutucu Tipi		Ekleme Türü	Boyutlar (mm)					Vidayı Takın	Torx Anahtarı
			h	b	H	F	L		
SEL	1010K11-A90	11ER**	10	10	10	12	125	L60M2.5*6	T-08
	1212K11-A90		12	12	12	16	125	L60M2.5*6	T-08
	1616K11-A90		16	16	16	20	125	L60M2.5*6	T-08
	1616H16-A90	16ER**	16	16	16	20	100	L60M3.5*12	T-15
	2020K16-A90		20	20	20	25	125	L60M3.5*12	T-15
	2525M16-A90		25	25	25	32	150	L60M3.5*12	T-15
	2525M22-A90	22ER**	25	25	25	32	150	L60M4.5*14	T-20

İç Diş Açma Takım Tutucu



Takım Tutucu Tipi		Tip	Boyutlar (mm)							Vidayı Takın	Torx Anahtarı	Örs	Örs Vidası	Altıgen Anahtar	
			Dmin	L1	d1	d	F	L	h						
SNR	0612H06	06NR**	6.5	16	5.3	12	3.65	100	11.4	L60M2*4	T-06	-	-	-	
	0712H06		7.2	18	6	12	4	100	11.4	L60M2*4	T-06	-	-	-	
	0912H06		8.8	24	7.6	12	4.8	100	11.4	L60M2*4	T-06	-	-	-	
	0008H08	08NR**	8.5	15	7	8	5	100	7.4	L60M2*5	T-06	-	-	-	
	0010H11		11NR** T11N**	12	12	10	10	7.4	100	9	L60M2.5*6	T-08	-	-	-
	0012K11			15	15	12	12	8.4	125	11	L60M2.5*6	T-08	-	-	-
	0013M11	15		25	13	13	8.9	150	12	L60M2.5*6	T-08	-	-	-	
	0013M16	16NR** T16N**	16	25	13	16	10.2	150	15	L60M3.5*12	T-15	-	-	-	
	0013M16-Z		16	25	13	13	10.2	150	12	L60M3.5*12	T-15	-	-	-	
	0016M16		19	25	15	16	11.7	150	15	L60M3.5*12	T-15	-	-	-	
	0020Q16		24	24	19	20	13.7	180	18	L60M3.5*12	T-15	NGM-16	MQ030080	T10	
	0025R16		29	29	24	25	16.2	200	23	L60M3.5*12	T-15	NGM-16	MQ030080	T10	
	0032S16		36	36	31	32	19.7	250	30	L60M3.5*12	T-15	NGM-16	MQ030080	T10	
	0040T16		44	44	38	40	23.7	300	37	L60M3.5*12	T-15	NGM-16	MQ030080	T10	
	0050U16	22NR**	54	54	47	50	28.7	350	46	L60M3.5*12	T-15	NGM-16	MQ030080	T10	
	0020Q22		24	24	19	20	15.6	180	18	L60M4.5*14	T-20	NGM-22	MQ040080	S2.5	
	0025R22		29	29	24	25	18.1	200	23	L60M4.5*14	T-20	NGM-22	MQ040080	S2.5	
	0032S22		38	38	31	32	21.6	250	30	L60M4.5*14	T-20	NGM-22	MQ040080	S2.5	
	0040T22		46	46	38	40	25.6	300	37	L60M4.5*14	T-20	NGM-22	MQ040080	S2.5	
	0050U22		56	56	47	50	30.6	350	46	L60M4.5*14	T-20	NGM-22	MQ040080	S2.5	
	0032T27		27NR**	37	65	30	32	21.6	300	30	L60M6*16	T-20	NGM-27	MQ040080	S2.5
	0040U27	46		70	38	40	26.6	350	38	L60M6*16	T-20	NGM-27	MQ040080	S2.5	
	SNL	0008H08	08NL**	8.5	15	7	8	5	100	7.4	L60M2*5	T-06	-	-	-
	0010H11	11NL**		12	12	10	10	7.4	100	9	L60M2.5*6	T-08	-	-	-
	0012K11			15	15	12	12	8.4	125	11	L60M2.5*6	T-08	-	-	-
	0013M11			15	25	13	16	8.9	150	15	L60M2.5*6	T-08	-	-	-
0013M16	16NL**	16	25	13	16	10.2	150	15	L60M3.5*12	T-15	-	-	-		
0016M16		19	25	15	16	11.7	150	15	L60M3.5*12	T-15	-	-	-		
0020Q16		24	24	19	20	13.7	180	18	L60M3.5*12	T-15	NGM-16	MQ030080	T10		
0025R16		29	29	24	25	16.2	200	23	L60M3.5*12	T-15	NGM-16	MQ030080	T10		
0032S16		36	36	31	32	19.7	250	30	L60M3.5*12	T-15	NGM-16	MQ030080	T10		
0040T16		44	44	38	40	23.7	300	37	L60M3.5*12	T-15	NGM-16	MQ030080	T10		
0050U16		54	54	47	50	28.7	350	46	L60M3.5*12	T-15	NGM-16	MQ030080	T10		
0020Q22	22NL**	24	24	19	20	15.6	180	18	L60M4.5*14	T-20	NGM-22	MQ040080	S2.5		
0025R22		29	29	24	25	18.1	200	23	L60M4.5*14	T-20	NGM-22	MQ040080	S2.5		
0032S22		38	38	31	32	21.6	250	30	L60M4.5*14	T-20	NGM-22	MQ040080	S2.5		
0040T22		46	46	38	40	25.6	300	37	L60M4.5*14	T-20	NGM-22	MQ040080	S2.5		
0050U22	27NL**	56	56	47	50	30.6	350	46	L60M4.5*14	T-20	NGM-22	MQ040080	S2.5		
0040T27		48	46	38	40	25.6	300	37	L60M6*16	T-20	NGM-27	MQ040080	S2.5		
0050U27		58	56	47	50	30.6	350	46	L60M6*16	T-20	NGM-27	MQ040080	S2.5		

Dış Diş Açma Takım Tutucu (V Tarzı)



Takım Tutucu Tipi		Ekleme Türü	tip	Boyutlar (mm)							Vidayı Takın	Torx Anahtar	Kelepçe	Kelepçe Vidası	Altıgen Anahtar
				F1	F2	h	b	H	F	L					
SVER	1616H16	16VER**	Birinci form	-	-	16	16	16	16	100	L60M3.5*12	T-15	-	-	-
	2020K16			-	-	20	20	20	20	125	L60M3.5*12	T-15	-	-	-
	2525M16			-	-	25	25	25	25	150	L60M3.5*12	T-15	-	-	-
	3232P16			-	-	32	32	32	32	170	L60M3.5*12	T-15	-	-	-
	2020K22	22VER**	Birinci form	-	-	20	20	20	25	125	L60M4.5*14	T-20	HL1814	ML0620	L3
	2525M22			-	-	25	25	25	30	150	L60M4.5*14	T-20	HL1814	ML0620	L3
	2525M27-6	27VER**	Birinci form	-	-	25	25	25	30	150	L60M6*20	T-20	HL1814	ML0620	L3
	3232P27-6			-	-	32	32	32	36	170	L60M6*20	T-20	HL1814	ML0620	L3
	3232P27-8			-	-	32	32	32	36	170	L60M6*20	T-20	HL1814	ML0620	L3
	3232P27-10			-	-	32	32	32	36	170	L60M6*20	T-20	HL1814	ML0620	L3
	4040R27-6			-	-	40	40	40	45	200	L60M6*20	T-20	HL1814	ML0620	L3
	4040R27-8			-	-	40	40	40	45	200	L60M6*20	T-20	HL1814	ML0620	L3
	4040R27-10			-	-	40	40	40	45	200	L60M6*20	T-20	HL1814	ML0620	L3
SVER	1616H16AH	16VER**	İkinci form	8	8	16	16	16	16	100	L60M3.5*7	T-15	-	-	-
	2020K16AH			8	12	20	20	20	20	125	L60M3.5*7	T-15	-	-	-
	2525M16AH			8	17	25	25	25	25	150	L60M3.5*7	T-15	-	-	-
	3232P16AH			8	24	32	32	32	32	170	L60M3.5*7	T-15	-	-	-