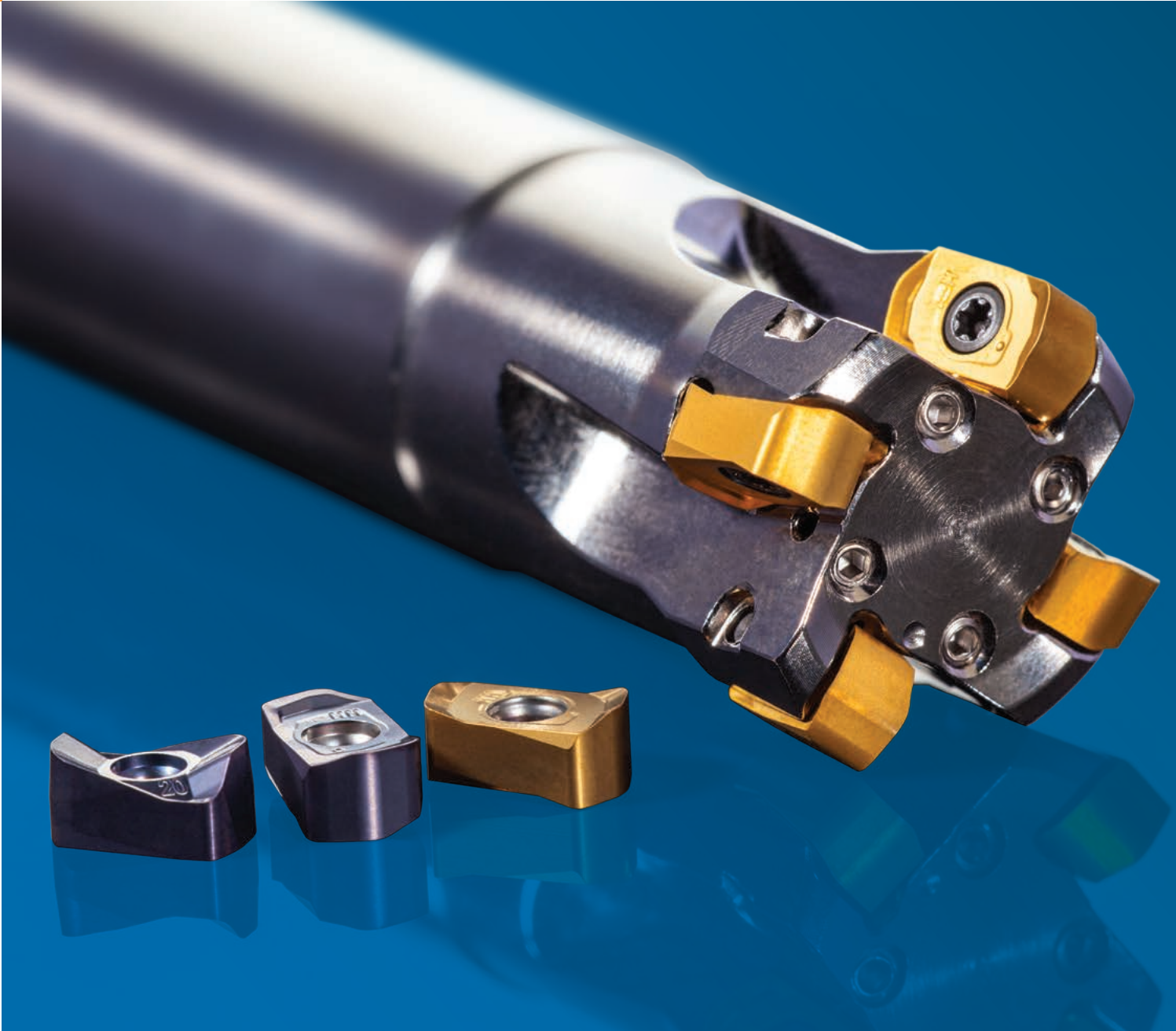




Yeni ürünler

2017.2





## FREZELEME TAKIM VE UÇLARI

4

- SBN10 / BNGX10  
Ekonomik yüksek ilerleme frezeleme takımları

15

- SRC10 / RCMT10  
Verimli kopya frezeleme takımları



## FREZELEME UÇLARI

23

- M8330  
Çelikler için çok yönlü frezeleme kalitesi



## TORNA UÇLARI

78

- KNUX16  
Boyuna ve kopya tornalama uçları



# FREZELEME TAKIM VE UÇLARI

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### EKONOMİK HIZLI İLERLEME FREZELEME TAKIMLARI

Geniş aralıktaki malzemelerin verimli işlenmesi için dört kesici kenar içeren HFC uçlar çok yönlü yeni nesil takımlar. Benzersiz yuva tasarımı, ayrıca kenar frezeleme uçlarının takılabilmesini sağlar ve model ve kalıp uygulamaları için kaba frezelemeden finiş uygulamalara kadar komple çözüm sunar.

### ÖZELLİKLER VE FAYDALAR

- Kopya frezeleme, rampalama, helisel enterpolasyon, kanal ve dalma frezeleme takımları. Ayrıca yüzey ve kenar frezeleme
- BNGX10 uçlar hızlı ilerleme, kaba frezeleme için
- ANHX10 uçlar finiş frezeleme uygulamaları için
- Geniş yelpazedeki malzemeler için uygun üç geometri (detaylar için aşağıya bakınız)
- Düzgün kesim için eşsiz tasarım
- 16-42 mm arası geniş aralıkta takım çapları (parmak frezeler, vidalı ve tarama kafaları)
- Kesici kenarlara yakın yönlendirilmiş özel içten soğutma tasarımı
- **Model ve kalıp komple çözüm** - Kabadan finiş tek takım ile işleme seçeneği
- **Verimlilik** - 1 mm'ye varan aksel kesme derinliklerinde yüksek ilerleme oranları
- **Proses güvenliği** - Talaş tahliyesini iyileştiren daha yüksek rampalama açısı
- **Uyumlu** - Düşük rijitlikteki fiştürler ve uzun takım boyları için uygundur
- **Maliyet tasarrufu** - Dört kesici kenar özelliğine sahip BNGX10 uçlu çok yönlü takımlar

### UÇ TİPLERİ

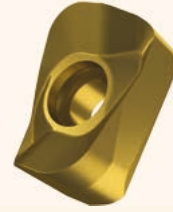


BNGX

#### BNGX 10

Hızlı ilerleme kaba

- Dört kesme kenarlı çift taraflı uç
- HFC tasarımı, uzun takım boylarında dahi yüksek ilerlemeye sahip kaba uygulamalar için uygundur
- En çok işlenen malzemeleri kapsayan üç geometriyle uyumlu



ANHX

#### ANHX 10

Finiş, kenar ve yüzey frezeleme

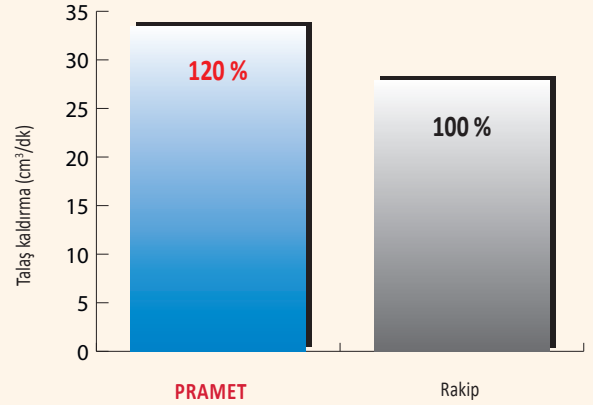
- İki kesme kenarlı tek taraflı uç
- Uzun takım boyları için uygun, titreşimleri azaltır ve finiş işlemler sırasında daha düşük ses oluşturan pozitif geometri

### BNGX10 - ÖRNEK UYGULAMA

Malzeme: DIN 1.4541 (900Mpa)  
 Malzeme grubu: M  
 İş parçası: HAVACILIK PARÇALARI  
 Uç: BNGX 10T308SR-MM:M8345  
 Soğutma: Evet



			PRAMET	Rakip
Operasyon			<b>Hızlı ilerleme kopya frezeleme</b>	
Takım			32E6R040M16- -SBN10-C	D=32 mm; 5 teeth
Kesme hızı	$v_c$	m/dk	80	80
Ağız başı ilerleme	$f_z$	mm/ağız	0,5	0,5
İlerleme	f	mm/dk	2389	1990
Eksenel paso	$a_p$	mm	0,7	0,7
Radial paso	$a_e$	mm	20	20
Talaş kaldırma	Q	cm <sup>3</sup> /dk	<b>33,4</b>	<b>27,9</b>
Dayanıklılık	T	dk	44	19,5
		adet	<b>8</b>	<b>3</b>



8 parça sonra

3 parça sonra

## BNGX10 UÇ GEOMETRİLERİ



**M**

### M GEOMETRİ

- Çelikler ve dökme demirler



**MM**

### MM GEOMETRİ

- Düşük karbonlu çelikler, paslanmaz çelikler ve süper alaşımlar



**HM**

### HM GEOMETRİ

- Sertleştirilmiş çelikler

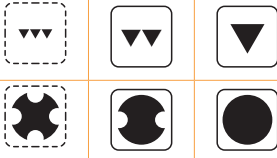
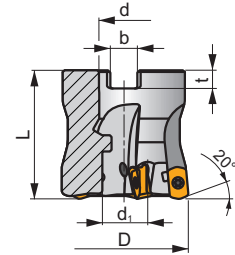
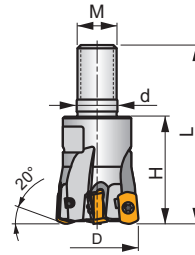
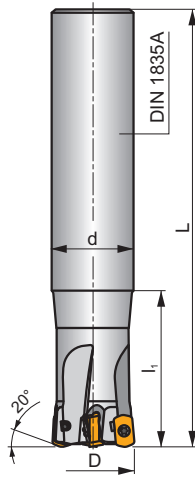
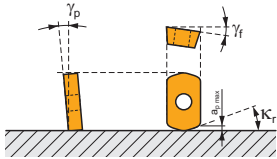
**SBN10**

**P M K S H**

**S**



$\kappa_r$	20°
$a_{pmax}$	1,0 mm



0,17-0,41  
 $h_m$

0,17-0,41  
 $h_m$



ISO	D	L	d	d <sub>1</sub>	l <sub>1</sub>	H	M	b	t	$\gamma_p^\circ$	$\gamma_f^\circ$								
16E2R030A16-SBN10-C	16	100	16	-	30	-	-	-	-	-10	-12	2	-	31100	✓	0,12	GI329	CO310	
16E2R050A16-SBN10-C	16	150	16	-	50	-	-	-	-	-10	-12	2	-	31100	✓	0,18	GI329	CO310	
16E2R030A14-SBN10-C	16	150	14	-	30	-	-	-	-	-10	-12	2	-	31100	✓	0,15	GI329	CO310	
18E2R030A16-SBN10-C	18	150	16	-	30	-	-	-	-	-10	-11	2	-	29200	✓	0,20	GI329	CO310	
20E3R040A20-SBN10-C	20	130	20	-	40	-	-	-	-	-10	-10	3	-	27700	✓	0,25	GI329	CO310	
20E3R080A20-SBN10-C	20	160	20	-	80	-	-	-	-	-10	-10	3	-	27700	✓	0,29	GI329	CO310	
20E3R040A18-SBN10-C	20	180	18	-	40	-	-	-	-	-10	-10	3	-	27700	✓	0,30	GI329	CO310	
20E4R040A20-SBN10-C	20	130	20	-	40	-	-	-	-	-10	-10	4	-	27700	✓	0,26	GI329	CO310	
25E4R050A25-SBN10-C	25	140	25	-	50	-	-	-	-	-10	-9	4	✓	24800	✓	0,42	GI329	CO310	
25E4R100A25-SBN10-C	25	180	25	-	100	-	-	-	-	-10	-9	4	✓	24800	✓	0,51	GI329	CO310	
25E4R050A22-SBN10-C	25	220	22	-	50	-	-	-	-	-10	-9	4	✓	24800	✓	0,54	GI329	CO310	
25E5R050A25-SBN10-C	25	140	25	-	50	-	-	-	-	-10	-9	5	-	24800	✓	0,50	GI329	CO310	
32E5R070A32-SBN10-C	32	150	32	-	70	-	-	-	-	-10	-8	5	✓	21900	✓	0,73	GI329	CO310	
32E6R070A32-SBN10-C	32	150	32	-	70	-	-	-	-	-10	-8	6	✓	21900	✓	0,73	GI329	CO310	
32E5R120A32-SBN10-C	32	200	32	-	120	-	-	-	-	-10	-8	5	✓	21900	✓	0,94	GI329	CO310	
35E5R050A32-SBN10-C	35	200	32	-	50	-	-	-	-	-10	-7,5	5	✓	21000	✓	1,08	GI329	CO310	
35E6R050A32-SBN10-C	35	200	32	-	50	-	-	-	-	-10	-7,5	6	✓	21000	✓	1,08	GI329	CO310	
16E2R025M08-SBN10-C	16	43	8,5	-	-	25	M8	-	-	-10	-12	2	-	31100	✓	0,03	GI329	CO310	
18E2R025M08-SBN10-C	18	43	8,5	-	-	25	M8	-	-	-10	-11	2	-	29200	✓	0,03	GI329	CO310	
20E3R030M10-SBN10-C	20	49	10,5	-	-	30	M10	-	-	-10	-10	3	-	27700	✓	0,05	GI329	CO310	
20E4R030M10-SBN10-C	20	49	10,5	-	-	30	M10	-	-	-10	-10	4	-	27700	✓	0,05	GI329	CO310	
25E4R033M12-SBN10-C	25	55	12,5	-	-	33	M12	-	-	-10	-9	4	✓	24800	✓	0,08	GI329	CO310	
25E5R033M12-SBN10-C	25	55	12,5	-	-	33	M12	-	-	-10	-9	5	-	24800	✓	0,19	GI329	CO310	
28E5R035M12-SBN10-C	28	57	12,5	-	-	35	M12	-	-	-10	-8,5	5	✓	23400	✓	0,10	GI329	CO310	
32E5R040M16-SBN10-C	32	63	17	-	-	40	M16	-	-	-10	-8	5	✓	21900	✓	0,19	GI329	CO310	
32E6R040M16-SBN10-C	32	63	17	-	-	40	M16	-	-	-10	-8	6	✓	21900	✓	0,19	GI329	CO310	
35E6R043M16-SBN10-C	35	66	17	-	-	43	M16	-	-	-10	-7,5	6	✓	21000	✓	0,22	GI329	CO310	



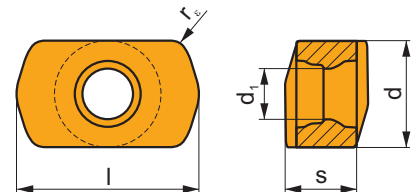
ISO	D	L	d	d <sub>1</sub>	l <sub>1</sub>	H	M	b	t	γ <sub>p</sub> °	γ <sub>f</sub> °							
40E6R043M16-SBN10-C	40	66	17	-	-	43	M16	-	-	-10	-7	6	✓	19600	✓	0,26	GI329	CO310
40E7R043M16-SBN10-C	40	66	17	-	-	43	M16	-	-	-10	-7	7	✓	19600	✓	0,26	GI329	CO310
40A05R-SMOBN10-C	40	40	16	14,1	-	-	-	8,4	5,6	-10	-7	5	✓	19600	✓	0,21	GI329	CO312
40A07R-SMOBN10-C	40	40	16	14,1	-	-	-	8,4	5,6	-10	-7	7	✓	19600	✓	0,22	GI329	CO312
42A05R-SMOBN10-C	42	40	16	14,1	-	-	-	8,4	5,6	-10	-7	5	✓	19100	✓	0,23	GI329	CO312
42A07R-SMOBN10-C	42	40	16	14,1	-	-	-	8,4	5,6	-10	-7	7	✓	19100	✓	0,24	GI329	CO312

GI329	BNGX 10T3..	ANHX 10T3..

CO310	US42507-T07P	0,9	M 2,5	7	-	-	Flag T07P	-
CO312	US42507-T07P	0,9	M 2,5	7	D-T07P/T09P	FG-15	-	HS0830C

## BNGX 10

	d	d <sub>1</sub>	l	s
10T3	5,800	2,76	9,92	3,90



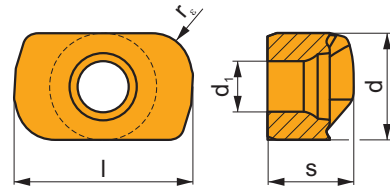
		ISO		P	M	K	N	S	H			r <sub>c</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
   		BNGX 10T308SR-M		M9325	■	□				⊗	---	0,8	0,20	1,05	0,3	1,0
				M8310	■	□	■		▣	⊗	-	0,8	0,20	1,40	0,3	1,0
				M8330	■	□	■		▣	⊗	-	0,8	0,20	1,40	0,3	1,0
				M8340	■	□	▣			⊗	+/-	0,8	0,20	1,40	0,3	1,0
				M8345	■	□			▣	⊗	+/-	0,8	0,20	1,40	0,3	1,0
				8215	■	□	■		▣	⊗	-	0,8	0,20	1,40	0,3	1,0
    		BNGX 10T308SR-MM		M9325	▣	▣			▣	⊗	---	0,8	0,20	0,83	0,3	1,0
				M9340	▣	■			■	⊗	---	0,8	0,20	0,83	0,3	1,0
				M6330	▣	■			■	⊗	-	0,8	0,25	1,10	0,3	1,0
				M8310	▣	▣	□		□	⊗	-	0,8	0,25	1,10	0,3	1,0
				M8330	▣	▣	□	□	□	⊗	-	0,8	0,25	1,10	0,3	1,0
				M8340	▣	■	□		■	⊗	+/-	0,8	0,25	1,10	0,3	1,0
M8345	▣	■			■	⊗	+/-	0,8	0,25	1,10	0,3	1,0				

		ISO		P	M	K	N	S	H			$r_\epsilon$	$f_{min}$	$f_{max}$	$a_{p min}$	$a_{p max}$	
		BNGX 10T308SR-HM	M8310	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-	0,8	0,10	1,00	0,1	1,0
			M8330	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-	0,8	0,10	1,00	0,1	1,0
			8215	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-	0,8	0,10	1,00	0,1	1,0

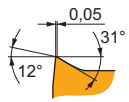
ISO	$f_{min}$	$f_{max}$	M9325	M9340	M6330	M8310	M8330	M8340	M8345	8215	
P		0,20	1,40	296	264	212	267	244	222	177	257
		0,20	1,16	272	243	195	246	224	204	162	236
		0,20	0,93	234	209	167	205	187	175	140	194
M		0,25	1,10	149	155	149	127	137	132	104	142
		0,25	0,88	137	143	137	117	126	121	95	130
		0,25	0,66	117	123	117	100	108	104	82	112
K		0,20	1,50	-	-	-	253	230	208	-	242
		0,20	1,25	-	-	-	233	211	191	-	223
		0,20	1,00	-	-	-	200	181	164	-	191
S		0,20	0,90	68	72	65	59	63	59	47	-
		0,20	0,77	62	66	60	54	58	54	43	-
		0,10	0,66	53	57	52	46	50	46	37	-
H		0,05	0,70	-	-	-	53	48	-	-	51
		0,05	0,56	-	-	-	49	45	-	-	47
		0,05	0,42	-	-	-	42	38	-	-	40

## ANHX 10

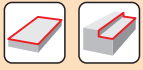
	d	d <sub>1</sub>	l	s
10T3	5,800	2,76	9,72	4,70



i	ISO	M8310	P	M	K	N	S	H	?	r <sub>ε</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>	
															W
	ANHX 10T320SR-F	M8310	■	■	□	□	□	■	●	-	2,0	0,05	0,15	0,1	3,0
		M8330	■	■	□	□	□	■	✘	-	2,0	0,05	0,15	0,1	3,0
		M8340	■	■	□	□	■	□	✘	+/-	2,0	0,05	0,15	0,1	3,0



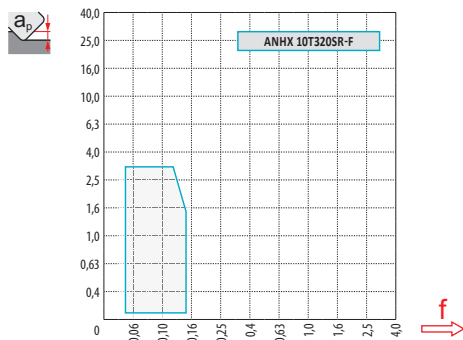
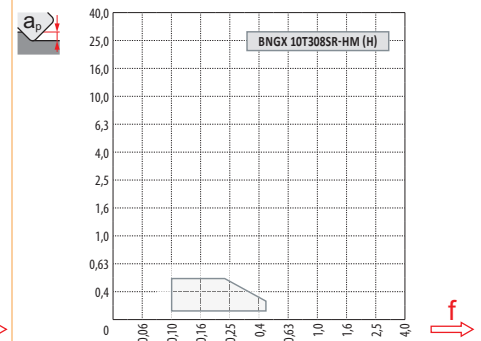
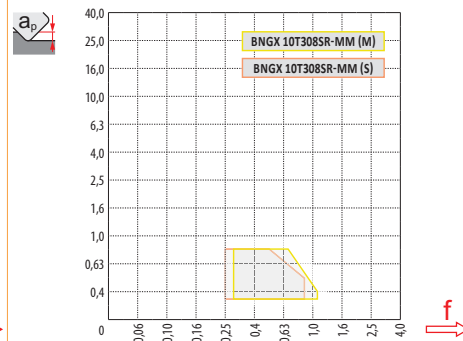
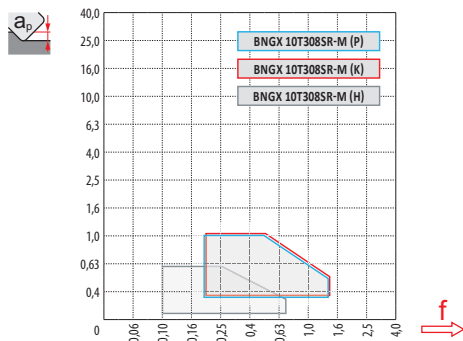
ISO	f <sub>min</sub>	f <sub>max</sub>	M8310	M8330	M8340
P	●	0,05	400	323	323
	●	0,05	368	297	297
	✘	0,05	316	255	255
M	●	0,05	203	190	213
	●	0,05	186	175	196
	✘	0,05	160	150	168
K	●	0,05	378	303	340
	●	0,05	347	278	313
	✘	0,05	298	239	269
S	●	0,05	90	85	95
	●	0,05	83	78	87
	✘	0,05	71	67	75
H	●	0,05	78	70	-
	●	0,05	71	64	-
	✘	0,05	61	55	-



$\frac{a_e}{D}$	0,05	0,10	0,15	0,20	0,25	0,30	0,40	0,50	0,60	0,70	0,75	0,80	0,90	1,00
	1,48	1,35	1,27	1,22	1,19	1,16	1,11	1,08	1,05	1,03	1,00	1,00	1,00	1,00
	2,87	2,05	1,69	1,48	1,33	1,23	1,09	0,75	0,94	0,90	0,89	0,88	0,88	1,00
	0,64	0,64	0,64	0,64	0,64	0,65	0,65	0,67	0,68	0,71	0,72	0,74	0,79	1,00

	BNGX 10-M	BNGX 10-MM	BNGX 10-HM
$r_\epsilon$	0,8	0,8	0,8
$a$	-	-	-

	ANHX 10 - F
$r_\epsilon$	2,0
$a$	0,92



**BNGX 10 (HFC)**

		0,00	0,30	0,40	0,50	0,60	0,70	0,80	0,90	1,00
16		9,40	12,85	13,36	13,80	14,20	14,56	14,88	15,19	15,47
18		11,40	14,85	15,36	15,80	16,20	16,56	16,88	17,19	17,47
20		13,40	16,85	17,36	17,80	18,20	18,56	18,88	19,19	19,47
25		18,40	21,85	22,36	22,80	23,20	23,56	23,88	24,19	24,47
32		25,40	28,85	29,36	29,80	30,20	30,56	30,88	31,19	31,47
35		28,40	31,85	32,36	32,80	33,20	33,56	33,88	34,19	34,47
40		33,40	36,85	37,36	37,80	38,20	38,56	38,88	39,19	39,47
42		35,40	38,85	39,36	39,80	40,20	40,56	40,88	41,19	41,47

	0,00	0,30	0,40	0,50	0,60	0,70	0,80	0,90	1,00
	-	1,30	1,10	0,90	0,80	0,72	0,68	0,65	0,50


**BNGX 10**

16	3,5	0,12
18	3,5	0,12
20	4,0	0,15
25	4,0	0,15
28	4,0	0,17
32	4,0	0,17
35	4,0	0,17
40	4,0	0,17
42	4,0	0,17

**BNGX 10 (HFC)**

	0,3	0,6	1,0
	1,10	0,60	0,30


**BNGX 10 (HFC)**

16	4,0	1/16
18	4,0	1/16
20	4,0	1/16
25	2,8	1/22
28	2,3	1/26
32	1,9	1/32
35	1,7	1/35
40	1,3	1/46
42	1,3	1/46

**ANHX 10**

16	1,6	2,65/100
18	1,3	2,15/100
20	1,1	1,80/100
25	0,8	1,25/100
28	0,7	1,10/100
32	0,5	0,75/100
35	0,5	0,75/100
40	0,4	0,55/100
42	0,4	0,55/100


**BNGX 10 (HFC)**

16	0,4	0,15
18	0,7	0,15
20	0,7	0,15
25	0,7	0,15
32	0,7	0,2
35	0,7	0,2
40	0,7	0,2
42	0,7	0,2

**BNGX 10 (HFC)**

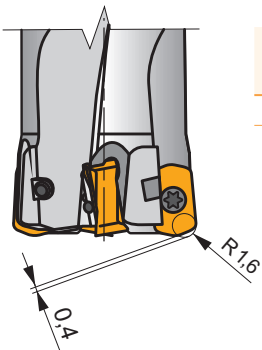
	$d_{min}$	$d_{max}$		
16	22,4	31,8	0,5	0,5
18	25,4	35,8	0,5	0,5
20	29,4	39,8	0,5	0,5
25	39,4	49,8	0,5	0,5
28	45,4	55,8	0,5	0,5
32	53,4	63,8	0,5	0,5
35	59,4	69,8	0,5	0,5
40	69,4	79,8	0,5	0,5
42	73,4	83,8	0,5	0,5



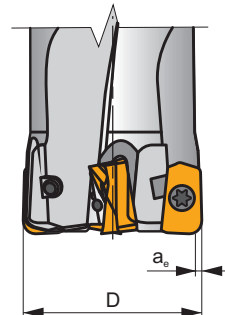
		3	5	10	15	20	30	40	50	60	80	100
16		0,438	0,566	0,800	0,980	1,131	1,386	1,600	1,789	1,960	2,263	2,530
18		0,465	0,600	0,849	1,039	1,200	1,470	1,697	1,897	2,078	2,400	2,683
20		0,490	0,632	0,894	1,095	1,265	1,549	1,789	2,000	2,191	2,530	2,828
25		0,548	0,707	1,000	1,225	1,414	1,732	2,000	2,236	2,449	2,828	3,162
32		0,620	0,800	1,131	1,386	1,600	1,960	2,263	2,530	2,771	3,200	3,578
35		0,648	0,837	1,183	1,449	1,673	2,049	2,366	2,646	2,898	3,347	3,742
40		0,693	0,894	1,265	1,549	1,789	2,191	2,530	2,828	3,098	3,578	4,000
42		0,710	0,917	1,296	1,587	1,833	2,245	2,592	2,898	3,175	3,666	4,099

**ANHX 10**

		3	5	10	15	20	30	40	50	60	80	100
2,0		0,219	0,283	0,400	0,490	0,566	0,693	0,800	0,894	0,980	1,131	1,265

**i**


	R	t
<b>BNGX 10T308</b>	1,60	0,44



	max $a_e/D$
<b>ANHX 10T320</b>	0,05









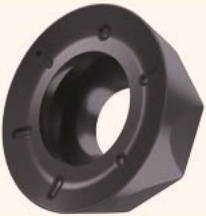
## VERİMLİ KOPYA FREZELEME TAKIMLARI

Mevcut kopya frezeleme takımları SRC'yi daha küçük çaplı yeni bir seri ile genişledi. Ayrıca, çok yönlü ve verimli işleme sunan çeşitli takımları desteklemek için RCMT10 uç serisini ekledik.

## ÖZELLİKLER VE FAYDALAR

- Yüzey frezeleme, helisel enterpolasyon, rampalama, kademeli frezeleme ve hızlı ilerleme uygulamaları için uygun
- RCMT10 uç tasarımı ağız başına yüksek ilerleme, 5 mm'ye varan daha büyük pasolar ve yüksek dayanıklılık için tasarlandı
- Geniş yelpazedeki malzemeler için uygun üç geometri (detaylar için aşağıya bakınız)
- Stabil kesme işlemi için çift negatif tasarım
- 25-66 mm arası yoğun kapsamlı takım çapları (parmak frezeler, vidalı ve tarama kafaları)
- Tüm takımlarda içten soğutma özelliği mevcuttur
- **Üniversal** - Kaba uygulamalardan finiş uygulamalara kadar kopya frezeleme için tasarlandı
- **Verimlilik** - sık ağız sayısına sahip kopya frezeleme takımları
- **Yüksek talaş kaldırma hacmi** - 5 mm kesme derinliğine varan kaba frezeleme
- **Güvenilirlik** - Maksimum destek için sekiz destek yüzeyli uç yuvası tasarımı

## UÇ GEOMETRİLERİ


**F**

### F GEOMETRİ

- Paslanmaz çelikler, süper alaşımlar, düşük karbonlu çelikler


**M**

### M GEOMETRİ

- Çelikler, paslanmaz çelikler


**R**

### R GEOMETRİ

- Dökme demirler, sertleştirilmiş malzemeler

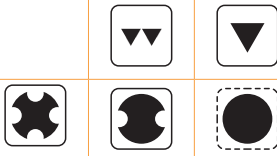
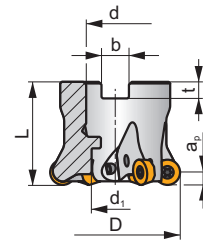
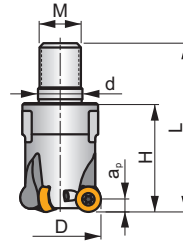
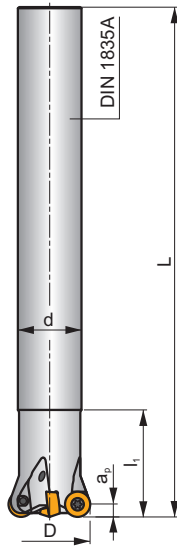
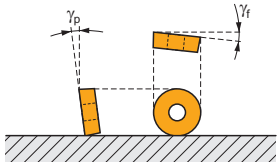
**SRC10**

**P M K N S H**

**S**



$a_{pmax}$  5,0 mm



$h_m$  0,08-0,15

$h_m$  0,05-0,12



ISO	D	D <sub>1</sub>	L	d	d <sub>1</sub>	l <sub>1</sub>	H	M	b	t	$\gamma_p^\circ$	$\gamma_f^\circ$			max.		kg		
25E2R034A20-SRC10-C	25	-	170	20	-	34	-	-	-	-	-7	-3	2	-	20900	✓	0,37	GI328	CO010
25E3R034A20-SRC10-C	25	-	170	20	-	34	-	-	-	-	-7	-3	3	-	20900	✓	0,36	GI328	CO010
32E3R042A25-SRC10-C	32	-	200	25	-	42	-	-	-	-	-7	-2,6	4	-	18500	✓	0,67	GI328	CO010
32E4R042A25-SRC10-C	32	-	200	25	-	42	-	-	-	-	-7	-2,6	3	-	18500	✓	0,67	GI328	CO010
25E2R032M12-SRC10-C	25	21	54	12,5	-	-	32	M12	-	-	-7	-3	2	-	20900	✓	0,08	GI328	CO010
25E3R032M12-SRC10-C	25	21	54	12,5	-	-	32	M12	-	-	-7	-3	3	-	20900	✓	0,08	GI328	CO010
32E3R042M16-SRC10-C	32	29	65	17	-	-	42	M16	-	-	-7	-2,6	3	-	18500	✓	0,18	GI328	CO010
32E4R042M16-SRC10-C	32	29	65	17	-	-	42	M16	-	-	-7	-2,6	4	-	18500	✓	0,18	GI328	CO010
35E4R042M16-SRC10-C	35	29	65	17	-	-	42	M16	-	-	-7	-2,4	4	-	17700	✓	0,20	GI328	CO010
42E4R042M16-SRC10-C	42	29	65	17	-	-	42	M16	-	-	-7	-2,1	4	-	16100	✓	0,22	GI328	CO010
42E5R042M16-SRC10-C	42	29	65	17	-	-	42	M16	-	-	-7	-2,1	5	-	16100	✓	0,22	GI328	CO010
40A05R-SMORC10-C	40	-	40	16	14	-	-	-	8,4	5,6	-7	-2,2	5	-	16500	✓	0,14	GI328	CO012
50A05R-SMORC10-C	50	-	40	22	18	-	-	-	10,4	6,3	-7	-2	5	-	14800	✓	0,25	GI328	CO013
50A06R-SMORC10-C	50	-	40	22	18	-	-	-	10,4	6,3	-7	-2	6	-	14800	✓	0,24	GI328	CO013
52A05R-SMORC10-C	52	-	40	22	18	-	-	-	10,4	6,3	-7	-2	5	-	14500	✓	0,26	GI328	CO013
52A06R-SMORC10-C	52	-	40	22	18	-	-	-	10,4	6,3	-7	-2	6	-	14500	✓	0,26	GI328	CO013
63A06R-SMORC10-C	63	-	40	22	18	-	-	-	10,4	6,3	-7	-1,8	6	-	13200	✓	0,43	GI328	CO013
63A07R-SMORC10-C	63	-	40	22	18	-	-	-	10,4	6,3	-7	-1,8	7	-	13200	✓	0,42	GI328	CO013
66A06R-SMORC10-C	66	-	50	27	22	-	-	-	12,4	7	-7	-1,4	6	-	12800	✓	0,54	GI328	CO014
66A07R-SMORC10-C	66	-	50	27	22	-	-	-	12,4	7	-7	-1,4	7	-	12800	✓	0,52	GI328	CO014



GI328

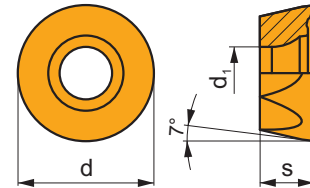


RCMT 10T3MO..

CO010	US 63509-T10P	3,0	M 3,5	9	Flag T10P	-
CO012	US 63509-T10P	3,0	M 3,5	9	Flag T10P	HS 8030C
CO013	US 63509-T10P	3,0	M 3,5	9	Flag T10P	HS 1030C
CO014	US 63509-T10P	3,0	M 3,5	9	Flag T10P	HS 1230C

## RCMT 10

	d	d <sub>1</sub>	s
10T3	10,00	3,90	3,97

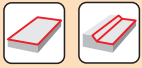


		ISO		P	M	K	N	S	H			r <sub>c</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
  	 0,08	RCMT 10T3MOSN-F	M6330	▣	■			■		✘	-	-	0,08	0,18	0,3	5,0
			M8310	■	▣	□		□		✘	-	-	0,08	0,18	0,3	5,0
			M8330	■	▣	□	□	□		✘	-	-	0,08	0,18	0,3	5,0
			M8340	■	■	□		■		✘	+/-	-	0,08	0,18	0,3	5,0
    	 0,1	RCMT 10T3MOSN-M	M9325	■	▣			▣		✘	---	-	0,10	0,24	0,3	5,0
			M9340	▣	■			■		✘	---	-	0,10	0,24	0,3	5,0
			M6330	▣	■			■		✘	-	-	0,10	0,27	0,3	5,0
			M8310	■	▣	■		□	□	✘	-	-	0,10	0,27	0,3	5,0
			M8330	■	▣	■	□	□	□	✘	-	-	0,10	0,27	0,3	5,0
			M8340	■	■	▣		■		✘	+/-	-	0,10	0,27	0,3	5,0
  	 0,15	RCMT 10T3MOSN-R	M5315	▣		■		■		✘	---	-	0,15	0,38	0,5	5,0
			M9325	■	▣			▣		✘	---	-	0,15	0,38	0,5	5,0
			M8310	■	▣	■		□	■	✘	-	-	0,15	0,40	0,5	5,0
			M8330	■	▣	■		□	▣	✘	-	-	0,15	0,40	0,5	5,0
			M8340	■	▣	▣		▣		✘	+/-	-	0,15	0,40	0,5	5,0

ISO		f <sub>min</sub>	f <sub>max</sub>	M5315	M9325	M9340	M6330	M8310	M8330	M8340	M8345
P	●	0,10	0,35	373	383	380	299	358	322	293	235
	⊗	0,10	0,25	335	344	342	269	322	290	257	212
	✘	0,10	0,15	298	306	304	239	286	257	221	188

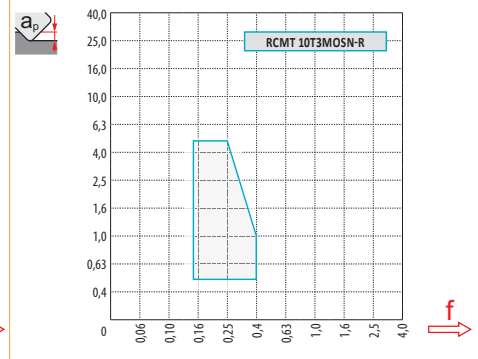
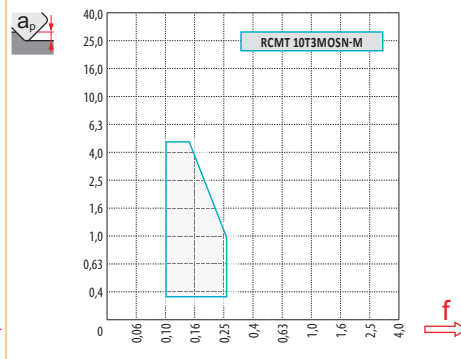
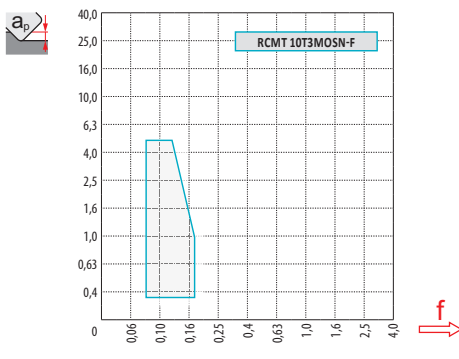
ISO		$f_{\min}$	$f_{\max}$	M5315	M9325	M9340	M6330	M8310	M8330	M8340	M8345
M	●	0,10	0,25	-	193	225	211	179	192	176	138
	●	0,10	0,20	-	173	203	190	161	173	153	124
	✱	0,10	0,15	-	154	180	169	143	153	131	110
K	●	0,10	0,35	353	-	-	-	338	303	275	-
	●	0,10	0,25	317	-	-	-	304	272	243	-
	✱	0,10	0,15	282	-	-	-	270	242	212	-
S	●	0,10	0,25	-	84	100	91	78	83	86	60
	●	0,10	0,20	-	75	90	82	71	74	77	54
	✱	0,10	0,15	-	67	80	73	63	66	63	48
H	●	0,10	0,20	73	-	-	-	64	59	-	-
	●	0,10	0,15	65	-	-	-	57	53	-	-
	✱	0,10	0,12	58	-	-	-	51	47	-	-





$\frac{a_e}{D}$	0,05	0,10	0,15	0,20	0,25	0,30	0,40	0,50	0,60	0,70	0,75	0,80	0,90	1,00
$X.v$	1,48	1,35	1,27	1,22	1,19	1,16	1,11	1,08	1,05	1,03	1,00	1,00	1,00	1,00
$X.f$	2,87	2,05	1,69	1,48	1,33	1,23	1,09	0,75	0,94	0,90	0,89	0,88	0,88	1,00
$X.f$	0,64	0,64	0,64	0,64	0,64	0,65	0,65	0,67	0,68	0,71	0,72	0,74	0,79	1,00

	RCMT 10-F	RCMT 10-M	RCMT 10-R
$r_\xi$	5,0	5,0	5,0
$a$	-	-	-



$\frac{D}{D_{ef}}$	$a_p$	0,00	0,15	0,30	0,50	0,75	1,00	1,25	1,50	2,00	2,50	3,00	4,00	5,00
25		15,00	17,43	18,41	19,36	20,27	21,00	21,61	22,14	23,00	23,66	24,17	24,80	25,00
32		22,00	24,43	25,41	26,36	27,27	28,00	28,61	29,14	30,00	30,66	31,17	31,80	32,00
35		25,00	27,43	28,41	29,36	30,27	31,00	31,61	32,14	33,00	33,66	34,17	34,80	35,00
40		30,00	32,43	33,41	34,36	35,27	36,00	36,61	37,14	38,00	38,66	39,17	39,80	40,00
42	$\frac{D}{D_{ef}}$	32,00	34,43	35,41	36,36	37,27	38,00	38,61	39,14	40,00	40,66	41,17	41,80	42,00
50		40,00	42,43	43,41	44,36	45,27	46,00	46,61	47,14	48,00	48,66	49,17	49,80	50,00
52		42,00	44,43	45,41	46,36	47,27	48,00	48,61	49,14	50,00	50,66	51,17	51,80	52,00
63		53,00	55,43	56,41	57,36	58,27	59,00	59,61	60,14	61,00	61,66	62,17	62,80	63,00
66		56,00	58,43	59,41	60,36	61,27	62,00	62,61	63,14	64,00	64,66	65,17	65,80	66,00
$a_p$		-	0,15	0,30	0,50	0,75	1,00	1,25	1,50	2,00	2,50	3,00	4,00	5,00
$\frac{D}{D_{ef}}$		-	0,90	0,64	0,50	0,41	0,35	0,32	0,29	0,25	0,23	0,21	0,19	0,17



$\varnothing D$	$\alpha_{\max}^{\circ}$	$a_p/l$
25	13,2	5/23
32	12,6	5/24
35	12,3	5/24
40	9,5	5/31
42	6,5	5/45
50	6,4	5/46
52	6,1	5/48
63	4,7	5/62
66	4,4	5/66



$\varnothing D$	$d_{\min}$	$d_{\max}$	$S_{\max}$ $d_{\min}$	$S_{\max}$ $d_{\max}$
25	32,0	50,0	3,0	3,0
32	45,0	64,0	3,0	3,0
35	51,0	70,0	3,0	3,0
40	61,0	80,0	3,0	3,0
42	65,0	84,0	3,0	3,0
50	81,0	100,0	3,0	3,0
52	85,0	104,0	3,0	3,0
63	107,0	126,0	3,0	3,0
66	113,0	132,0	3,0	3,0

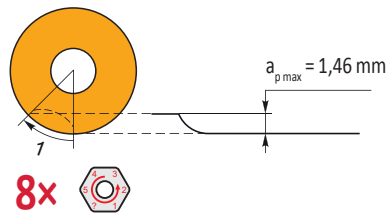
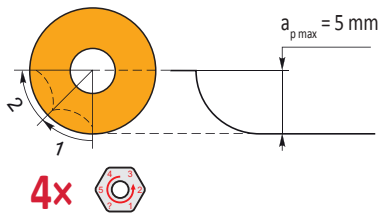


2,24



$\varnothing D$	$\mu m$	3	5	10	15	20	30	40	50	60	80	100
25		0,548	0,707	1,000	1,225	1,414	1,732	2,000	2,236	2,449	2,828	3,162
32		0,620	0,800	1,131	1,386	1,600	1,960	2,263	2,530	2,771	3,200	3,578
35		0,648	0,837	1,183	1,449	1,673	2,049	2,366	2,646	2,898	3,347	3,742
40		0,693	0,894	1,265	1,549	1,789	2,191	2,530	2,828	3,098	3,578	4,000
42		0,710	0,917	1,296	1,587	1,833	2,245	2,592	2,898	3,175	3,666	4,099
50		0,775	1,000	1,414	1,732	2,000	2,449	2,828	3,162	3,464	4,000	4,472
52		0,790	1,020	1,442	1,766	2,040	2,498	2,884	3,225	3,533	4,079	4,561
63		0,869	1,122	1,587	1,944	2,245	2,750	3,175	3,550	3,888	4,490	5,020
66		0,890	1,149	1,625	1,990	2,298	2,814	3,250	3,633	3,980	4,596	5,138

$r_{\epsilon}$	$\mu m$	3	5	10	15	20	30	40	50	60	80	100
5,0		0,346	0,447	0,632	0,775	0,894	1,095	1,265	1,414	1,549	1,789	2,000





# FREZELEME UÇLARI

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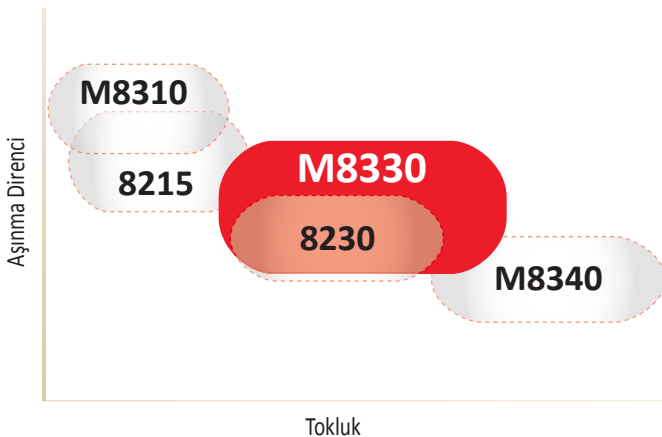
### ÇELİKLER İÇİN YENİ ÇOK YÖNLÜ FREZELEME KALİTESİ

Genel işleme için yeni kalite, mevcut kalite 8230'un yerini alıyor. Esasen çelikler için geliştirilen M8330, arttırılmış verimlilik ve aşınma dayanımı sunuyor.

#### ÖZELLİKLER VE FAYDALAR

- Çelikler ve dökme demirler için çok yönlü seçim
- Paslanmaz çelikler, süper alaşımlar ve sertleştirilmiş çelikler için ikinci seçim
- Nano katmanlı PVD kaplamalı yeni frezeleme kalitesi
- 90 farklı tip uçtan daha fazlasına uygulandı
- 8230 ile karşılaştırıldığında **DAHA FAZLASINI** sunuyor
  - Isıya bağlı çatlaklara karşı direnç
  - Aşınma dayanımı
  - Tokluk ve darbe mukavemeti
- **Çok yönlülük** - düşük olumsuz koşullardaki kaba uygulamalardan finiş frezelemeye kadar uygun
- **Yüksek performanslı ve güvenilirlikte işleme** soğutma ile veya soğutma olmadan
- **Yüksek dayanıklılık** orta-yüksek kesme hızlarında çelik işlemede
- **Kullanım kolaylığı** - aşınmanın gözlemlenebilmesine yardımcı olmak için görsel olarak altın yüzey kaplaması

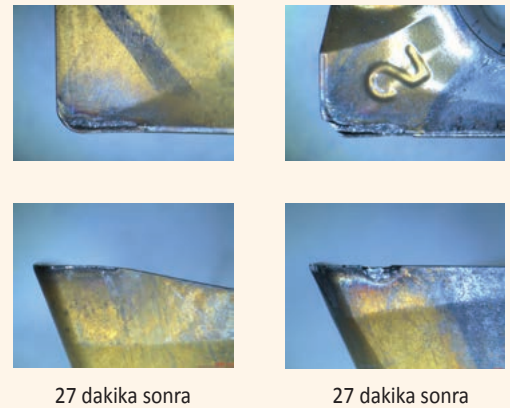
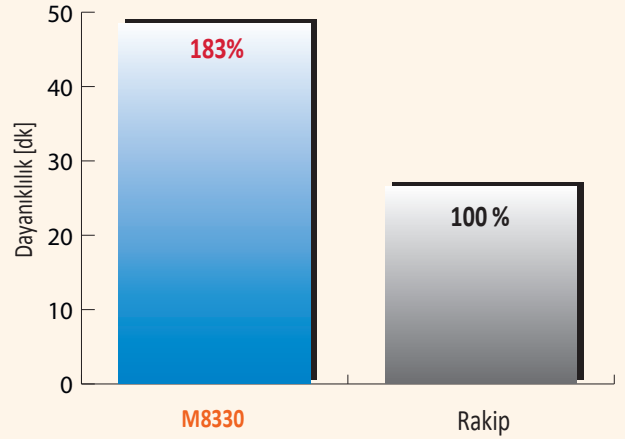
#### UYGULAMA ALANI



#### M8330 KALİTE - ÖRNEK UYGULAMA

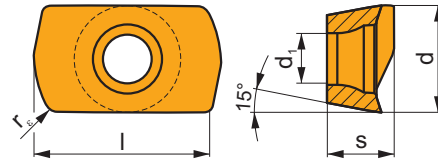
Malzeme: 12050.9  
 Malzeme grubu: P  
 Uç: ADMX 160608SR-M  
 Soğutma: Hayır

			PRAMET	Rakip
Kalite			M8330	
Kesme hızı	$v_c$	m/dk	280	280
Ağız başı ilerleme	$f_z$	mm/ağız	0,2	0,2
Eksenel paso	$a_p$	mm	2,5	2,5
Dayanıklılık	T	dk	<b>48,5</b>	<b>26,5</b>



## ADEX 11-HF

	d	d <sub>1</sub>	l	s
11T3	6,450	2,90	10,67	3,82

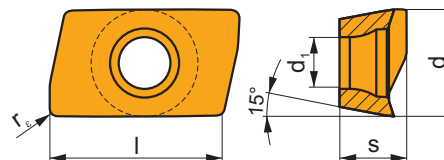


2017  
M98

i	ISO	M8330	P	M	K	N	S	H	?	r <sub>s</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>	
															?
	ADEX 11T308SR-HF	M8330	■	▣	□		□	□	⊛	-	0,8	0,40	1,30	0,1	0,6
	ADEX 11T308SR-HF2	M8330	■	▣	■		□	▣	⊛	-	0,8	0,40	1,30	0,2	0,6

## ADEX 16

	d	d <sub>1</sub>	l	s
1606	10,000	4,50	16,00	6,25



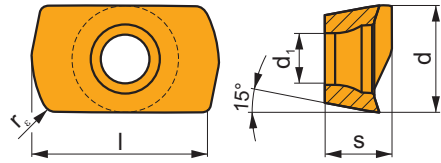
2017  
M107, M136

i	ISO	M8330	P	M	K	N	S	H	?	r <sub>s</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>	
															?
	ADEX 160608SR-FM	M8330	■	▣	■		□		⊛	-	0,8	0,10	0,25	0,3	13,0

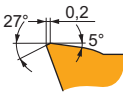
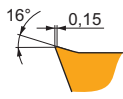


## ADEX 16-HF

	d	d <sub>1</sub>	l	s
1606	10,000	4,50	16,00	5,88

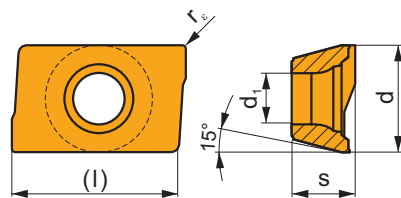


		ISO		P	M	K	N	S	H			r <sub>c</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
		ADEX 160612SR-HF	M8330	■	▣	□		□	□		-	1,2	0,60	1,30	0,3	1,3
		ADEX 160612SR-HF2	M8330	■	▣	■		□	▣		-	1,2	0,60	1,30	0,3	1,3

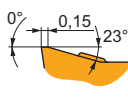


## ADKT 15

	d	d <sub>1</sub>	l	s
1505	9,525	4,40	15,55	5,60

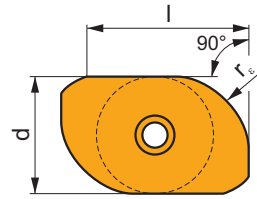


		ISO		P	M	K	N	S	H			r <sub>c</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
		ADKT 1505PDER-M	M8330	■	▣	■		□			-	0,8	0,15	0,30	1,0	13,0



## ADKX 15

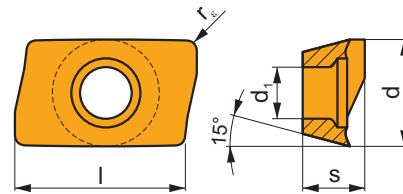
	d	l	s
15T3	9,525	12,20	3,97



		ISO		P	M	K	N	S	H			$r_c$	$f_{min}$	$f_{max}$	$a_{p\ min}$	$a_{p\ max}$
		ADKX 15T304ER-F	M8330	■	▣	□	□	□		●	-	0,4	0,05	0,09	0,3	10,0
		ADKX 15T308ER-F	M8330	■	▣	□	□	□		●	-	0,8	0,05	0,12	0,3	10,0
		ADKX 15T330ER-F	M8330	■	▣	□	□	□		●	-	3,0	0,05	0,15	0,3	10,0
		ADKX 15T340ER-F	M8330	■	▣	□	□	□		●	-	4,0	0,05	0,19	0,3	10,0
		ADKX 15T360ER-F	M8330	■	▣	□	□	□		●	-	6,0	0,05	0,26	0,3	10,0

## ADMX 07

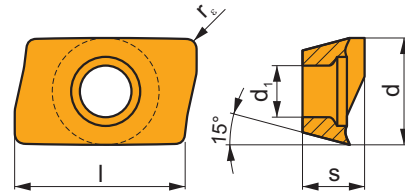
	d	d <sub>i</sub>	l	s
0702	4,482	2,20	6,95	2,48



		ISO		P	M	K	N	S	H			$r_c$	$f_{min}$	$f_{max}$	$a_{p\ min}$	$a_{p\ max}$
		ADMX 070202SR-M	M8330	■	▣	■		□		●	-	0,2	0,03	0,12	0,1	5,0
		ADMX 070204SR-M	M8330	■	▣	■		□		●	-	0,4	0,03	0,12	0,1	5,0
		ADMX 070208SR-M	M8330	■	▣	■		□		●	-	0,8	0,03	0,12	0,1	5,0
		ADMX 070220SR-M	M8330	■	▣	■		□		✘	-	2,0	0,03	0,12	0,1	5,0

# ADMX 11

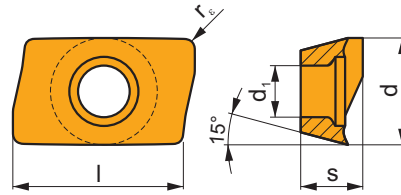
	d	d <sub>1</sub>	l	s
11T3	6,530	2,90	11,00	3,97



i	ISO	M8330	P	M	K	N	S	H	?	r <sub>e</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>	
	ADMX 11T304SR-F	M8330	■	▣	▣	□	□		●	-	0,4	0,07	0,12	0,2	9,0
	ADMX 11T308SR-F	M8330	■	▣	▣	□	□		●	-	0,8	0,07	0,12	0,2	9,0
	ADMX 11T302SR-M	M8330	■	▣	■		□		●	-	0,2	0,10	0,14	0,2	9,0
	ADMX 11T304SR-M	M8330	■	▣	■		□		●	-	0,4	0,10	0,18	0,2	9,0
	ADMX 11T308SR-M	M8330	■	▣	■		□		●	-	0,8	0,10	0,18	0,2	9,0
	ADMX 11T310SR-M	M8330	■	▣	■		□		✘	-	1,0	0,10	0,22	0,2	9,0
	ADMX 11T312SR-M	M8330	■	▣	■		□		✘	-	1,2	0,10	0,22	0,2	9,0
	ADMX 11T316SR-M	M8330	■	▣	■		□		✘	-	1,6	0,10	0,22	0,2	9,0
	ADMX 11T320SR-M	M8330	■	▣	■		□		✘	-	2,0	0,10	0,22	0,2	9,0
	ADMX 11T325SR-M	M8330	■	▣	■		□		✘	-	2,5	0,10	0,22	0,2	9,0
	ADMX 11T330SR-M	M8330	■	▣	■		□		✘	-	3,0	0,10	0,22	0,2	9,0
	ADMX 11T308PR-R	M8330	■	▣	■		□	▣	✘	-	0,8	0,15	0,25	0,8	9,0
ADMX 11T316PR-R	M8330	■	▣	■		□	▣	✘	-	1,6	0,15	0,25	0,8	9,0	

# ADMX 16

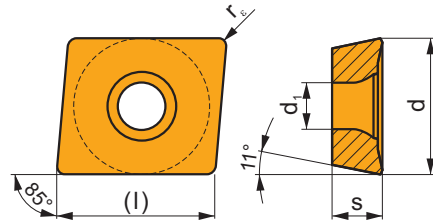
	d	d <sub>1</sub>	l	s
1606	9,950	4,50	16,00	6,25



i	ISO	M8330	P	M	K	N	S	H	?	Water	r <sub>ε</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
 	ADMX 160608SR-F	M8330	■	▣	▣	□	□	□	☉	-	0,8	0,07	0,15	0,3	13,0
	ADMX 160604SR-M	M8330	■	▣	■	□	□	□	☉	-	0,4	0,10	0,25	0,3	13,0
	ADMX 160608SR-M	M8330	■	▣	■	□	□	□	☉	-	0,8	0,10	0,25	0,3	13,0
	ADMX 160616SR-M	M8330	■	▣	■	□	□	□	☉	-	1,6	0,10	0,30	0,3	13,0
	ADMX 160620SR-M	M8330	■	▣	■	□	□	□	☉	-	2,0	0,10	0,30	0,3	13,0
	ADMX 160630SR-M	M8330	■	▣	■	□	□	□	☉	-	3,0	0,10	0,30	0,3	13,0
	ADMX 160632SR-M	M8330	■	▣	■	□	□	□	☉	-	3,2	0,10	0,30	0,3	13,0
	ADMX 160640SR-M	M8330	■	▣	■	□	□	□	☉	-	4,0	0,10	0,30	0,3	13,0
	ADMX 160650SR-M	M8330	■	▣	■	□	□	□	☉	-	5,0	0,10	0,30	0,3	13,0
	 	ADMX 160608PR-R	M8330	■	▣	■	□	▣	▣	☉	-	0,8	0,17	0,35	1,0
ADMX 160616PR-R		M8330	■	▣	■	□	▣	▣	☉	-	1,6	0,17	0,35	1,0	13,0

## APET 15

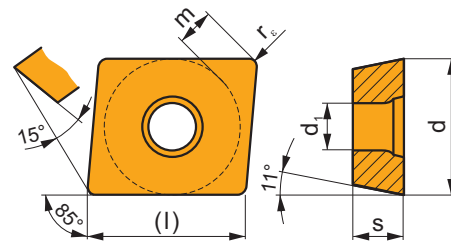
	d	d <sub>1</sub>	l	s
1504	12,700	5,50	15,90	4,76



		ISO		P	M	K	N	S	H			r <sub>c</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
		APET 150412EN	M8330	■	▣	▣		□	□		-	1,2	0,10	0,35	1,5	12,0
		APET 150412SN	M8330	■	▣	▣		□	□		-	1,2	0,20	0,35	1,5	12,0

## APEW 15

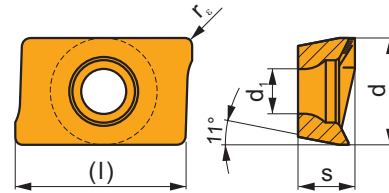
	d	d <sub>1</sub>	l	m	s
1504	12,700	5,50	15,90	3,71	4,76



		ISO		P	M	K	N	S	H			r <sub>c</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
		APEW 150412ER	M8330	▣	□	■			▣		-	1,2	0,10	0,30	1,2	12,0
		APEW 150412SR	M8330	▣	□	■			▣		-	1,2	0,20	0,40	1,2	12,0

## APKT 10

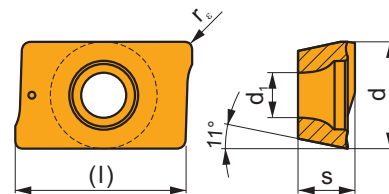
	d	d <sub>1</sub>	l	s
1003	6,700	2,88	11,00	3,50



i		ISO		P	M	K	N	S	H	?		r <sub>s</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
1		APKT 1003PDER-M	M8330	■	▣	■		□		☞	-	0,5	0,10	0,25	1,0	9,0
U																
E																

## APKT 16

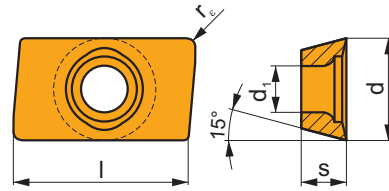
	d	d <sub>1</sub>	l	s
1604	9,440	4,60	17,00	5,67



i		ISO		P	M	K	N	S	H	?		r <sub>s</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
1		APKT 1604PDR-GM	M8330	■	▣	■		□		☞	-	0,8	0,15	0,30	1,0	13,0
U																
S																
		APKT 1604PDR-HM	M8330	■	▣	■		□		☞	-	0,8	0,20	0,35	1,0	13,0
S																

# APMT 16

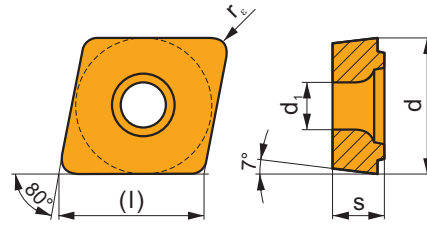
	d	d <sub>1</sub>	l	s
1604	9,600	4,50	17,00	4,76



i	ISO	M8330	P	M	K	N	S	H	?	-	r <sub>c</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
	APMT 1604PDER-F	M8330	■	▣	▣	□	□			-	-	0,07	0,15	0,3	13,0
	APMT 1604PDER-FM	M8330	■	▣	▣	□	□			-	-	0,12	0,25	0,6	13,0
	APMT 1604PDER-R	M8330	■	□	■					-	-	0,15	0,30	0,8	13,0
	APMT 1604PDSR-R	M8330	■	□	■					-	-	0,17	0,40	0,8	13,0

## CCMX

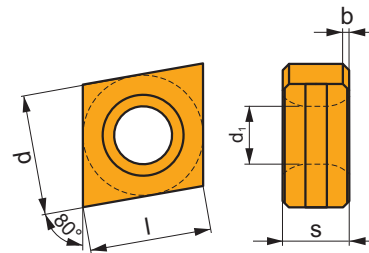
	d	d <sub>1</sub>	l	s
0603	6,350	2,80	6,40	3,50
08T3	8,030	3,50	8,10	4,40
09T3	9,525	3,50	9,70	3,97



i		ISO		P	M	K	N	S	H	?		r <sub>e</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
U		CCMX 060304S-TS1	M8330	■	▣	■	□	□	□	●	-	0,4	0,08	0,14	-	-
S		CCMX 08T308S-TS1	M8330	■	▣	■	□	□	□	●	-	0,8	0,10	0,16	-	-
		CCMX 09T308S-TS1	M8330	■	▣	■	□	□	□	●	-	0,8	0,10	0,18	-	-

## CNHQ

	b	d	d <sub>1</sub>	l	s
1005	0,5 x 45°	10,00	4,70	10,00	5,40

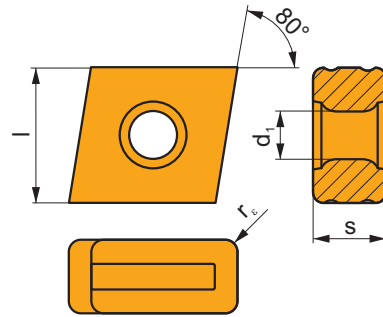


i		ISO		P	M	K	N	S	H	?		r <sub>e</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
U		CNHQ 1005AZTN	M8330	■	▣	■	□	□	□	●	-	-	0,10	0,50	-	-
T																



## CNM

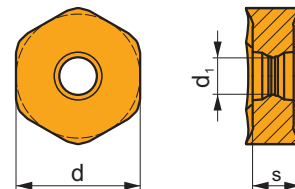
	$d_1$	$l$	$s$
63	5,50	15,00	8,00



<b>i</b>		ISO		P	M	K	N	S	H			$r_\epsilon$	$f_{min}$	$f_{max}$	$a_{p min}$	$a_{p max}$
		CNM 563	M8330	■	■	■	■	■	■	●	-	1,2	0,20	0,40	2,0	14,0
<b>T</b>																

## HNGX 06

	$d$	$d_1$	$s$
0604	10,500	3,70	4,76

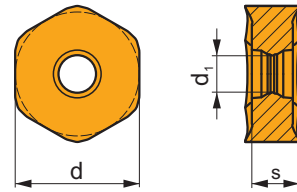


<b>i</b>		ISO		P	M	K	N	S	H			$r_\epsilon$	$f_{min}$	$f_{max}$	$a_{p min}$	$a_{p max}$
		HNGX 0604ANSN-F	M8330	■	▣	□	□	□	□	●	-	-	0,08	0,17	0,3	3,0
<b>S</b>																
<b>1</b>		HNGX 0604ANSN-M	M8330	■	▣	■	□	□	□	✱	-	-	0,13	0,25	0,6	3,0
<b>U</b>																
<b>S</b>																

		ISO		P	M	K	N	S	H			$r_\epsilon$	$f_{min}$	$f_{max}$	$a_{p, min}$	$a_{p, max}$
		HNGX 0604ANSN-R	M8330	■	▣	■			▣	✱	-	-	0,18	0,30	1,0	3,0

## HNGX 09

	d	$d_1$	s
0906	16,500	4,90	6,35

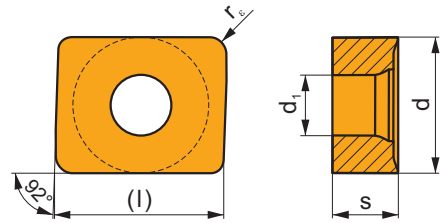


2017  
M36

		ISO		P	M	K	N	S	H			$r_\epsilon$	$f_{min}$	$f_{max}$	$a_{p, min}$	$a_{p, max}$
		HNGX 0906ANEN-FF	M8330	■	▣	□	□			●	-	-	0,05	0,20	0,5	5,0
		HNGX 0906ANSN-F	M8330	■	▣	□	□			☉	-	-	0,10	0,20	0,5	5,0
		HNGX 0906ANSN-M	M8330	■	▣	■	□		□	✱	-	-	0,17	0,35	0,8	5,0
		HNGX 0906ANSN-R	M8330	■	▣	■			▣	✱	-	-	0,30	0,50	1,0	5,0

## LNET 16

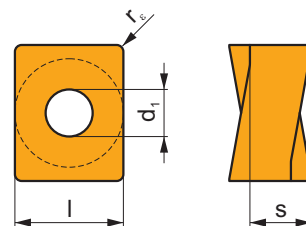
	d	d <sub>1</sub>	l	s
1606	13,200	5,90	16,40	6,38



<b>i</b>		ISO		P	M	K	N	S	H			r <sub>E</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
		LNET 160616SR-M	M8330	■	□	■				✱	-	1,6	0,15	0,35	1,6	15,0
		LNET 160616SR-R	M8330	■	□	■				✱	-	1,6	0,15	0,40	1,6	15,0

## LNGU 12

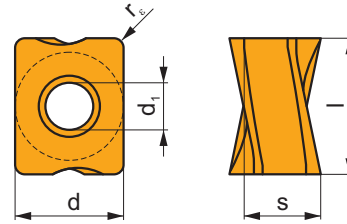
	d	d <sub>1</sub>	l	s
1205	9,500	4,50	12,00	5,96



<b>i</b>		ISO		P	M	K	N	S	H			r <sub>E</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
		LNGU 120525ER-M	M8330	■	□	■		□	□	✱	-	2,5	0,05	0,25	0,2	9,0
		LNGU 120530ER-M	M8330	■	□	■		□	□	✱	-	3,0	0,05	0,25	0,2	9,0

# LNGX 12

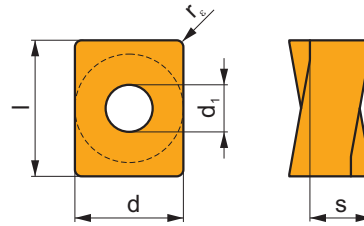
	d	d <sub>1</sub>	l	s
1205	9,500	4,50	12,00	5,96



		ISO		P	M	K	N	S	H			r <sub>ε</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
		LNGX 120504ER-F	M8330	■	▣	▣		□		●	-	0,4	0,04	0,15	0,2	9,0
		LNGX 120508ER-F	M8330	■	▣	▣		□		●	-	0,8	0,04	0,15	0,2	9,0
		LNGX 120504ER-M	M8330	■	□	■		□	□	●	-	0,4	0,05	0,25	0,2	9,0
		LNGX 120508ER-M	M8330	■	□	■		□	□	●	-	0,8	0,05	0,25	0,2	9,0
		LNGX 120510ER-M	M8330	■	□	■		□	□	●	-	1,0	0,05	0,25	0,2	9,0
		LNGX 120512ER-M	M8330	■	□	■		□	□	●	-	1,2	0,05	0,25	0,2	9,0
		LNGX 120516ER-M	M8330	■	□	■		□	□	●	-	1,6	0,05	0,25	0,2	9,0
		LNGX 120520ER-M	M8330	■	□	■		□	□	✘	-	2,0	0,05	0,25	0,2	9,0
		LNGX 120508SR-R	M8330	■	□	■		□	□	●	-	0,8	0,15	0,35	1,0	9,0
		LNGX 120516SR-R	M8330	■	□	■		□	□	✘	-	1,6	0,15	0,35	1,0	9,0

## LNMU 16

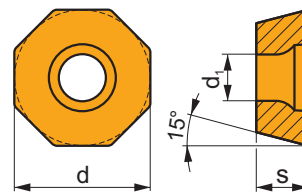
	d	d <sub>1</sub>	l	s
1607	13,200	5,70	16,60	7,50



i		ISO		P	M	K	N	S	H	?		r <sub>ε</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>	
		LNMU 160708ER-F	M8330	■	■	■	■	■	■	■	●	-	0,8	0,08	0,20	0,3	13,0
		LNMU 160708SR-M	M8330	■	■	■	■	□	□	✘	-	0,8	0,10	0,30	0,3	13,0	
		LNMU 160720SR-M	M8330	■	■	■	■	□	□	✘	-	2,0	0,10	0,30	0,3	13,0	
		LNMU 160730SR-M	M8330	■	■	■	■	□	□	✘	-	3,0	0,10	0,30	0,3	13,0	
		LNMU 160740SR-M	M8330	■	■	■	■	□	□	✘	-	4,0	0,10	0,30	0,3	13,0	
		LNMU 160708SR-R	M8330	■	■	■	■	□	■	✘	-	0,8	0,15	0,40	1,0	13,0	
		LNMU 160716SR-R	M8330	■	■	■	■	□	■	✘	-	1,6	0,15	0,40	1,0	13,0	

## ODEW 06

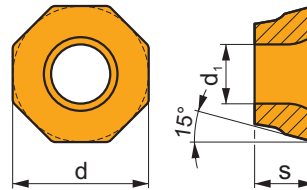
	d	d <sub>1</sub>	s
0605	15,875	5,50	5,56



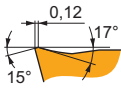
i		ISO		P	M	K	N	S	H	?		r <sub>ε</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
		ODEW 0605ZZN	M8330	■	□	■	■	■	■	✘	-	-	0,15	0,45	1,0	3,1

## ODKT 05IM

	d	d <sub>1</sub>	s
0505	12,700	5,5	5,56

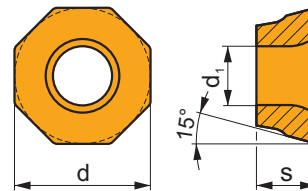


i	ISO		P	M	K	N	S	H	?		r <sub>e</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
1	ODKT 0505ADSR-FM	M6330	■	■			□		✘	-	0,8	0,17	0,35	0,3	2,7
		M8330	■	■	■		□		●	-	0,8	0,17	0,35	0,3	2,7
S															

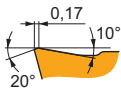


## ODMT 05IM

	d	d <sub>1</sub>	s
0505	12,700	5,5	5,56

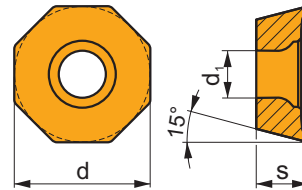


i	ISO		P	M	K	N	S	H	?		r <sub>e</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
1	ODMT 050508SN-R	M8330	■		■				✘	-	0,8	0,23	0,45	0,3	3,0
S															



## ODMT 06

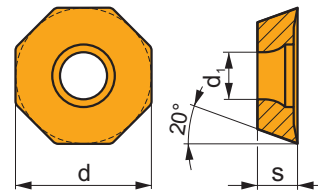
	d	d <sub>1</sub>	s
0605	15,875	5,50	5,56



i		ISO		P	M	K	N	S	H	?		r <sub>c</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
1		ODMT 0605ZZN	M8330	■		■			□	☛	-	-	0,15	0,45	1,0	3,1
S																

## OEHT 06

	d	d <sub>1</sub>	s
0604	16,050	5,50	4,76

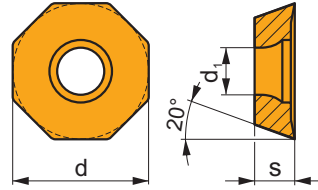


i		ISO		P	M	K	N	S	H	?		r <sub>c</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
		OEHT 0604AEER-MF	M8330	■	■			□	□	☛	-	-	0,08	0,20	0,5	3,3
E																
1		OEHT 0604AEER-MM	M8330	■	■			□	□	☛	-	-	0,08	0,25	0,5	3,3
E																
		OEHT 0604AESR-M	M8330	■	■				□	☛	-	-	0,08	0,35	0,5	3,3
S																



## OEHT 09

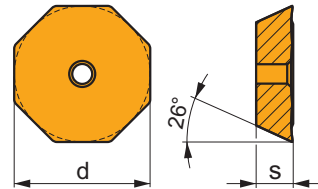
	d	d <sub>1</sub>	s
0906	24,100	8,60	7,15



i	ISO	M8330	P	M	K	N	S	H	?	r <sub>ε</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
1	OEHT 0906AEER-MM	M8330	☑	☑		☐	☐		☛	-	0,12	0,35	1,0	5,0
E														
	OEHT 0906AESR-M	M8330	☐	☑			☐		☛	-	0,12	0,45	1,2	5,0
S														

## OFKR 07

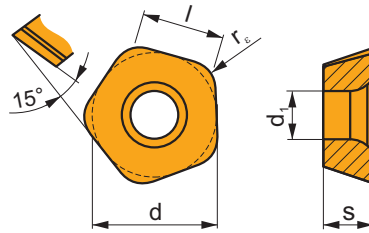
	d	d <sub>1</sub>	s
0704	17,845	2,65	4,56



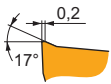
i	ISO	M8330	P	M	K	N	S	H	?	r <sub>ε</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
	OFKR 0704SN-M	M8330	☐	☑	☑				☛	-	0,10	0,30	0,5	12,0
S														

## PDKT 09

	d	d <sub>1</sub>	l	s
0905	13,500	5,50	9,00	5,47

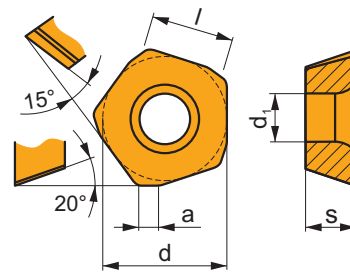


i	ISO	M8330	P	M	K	N	S	H	?	r <sub>e</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>	
U	PDKT 090530ER-FM	M8330	■	■	■	□	□		☉	-	3,0	0,50	2,50	0,3	2,0
HFC															
S															

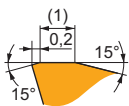


## PDMX 09

	a	d	d <sub>1</sub>	l	s
0905	2,00	13,500	5,50	9,00	5,47

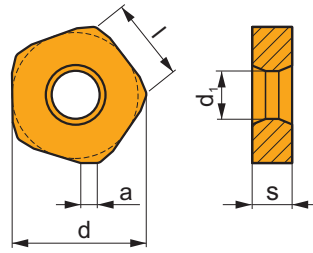


i	ISO	M8330	P	M	K	N	S	H	?	r <sub>e</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>	
1	PDMX 0905ZEER-M	M8330	■	■	■	□	□		☉	-	-	0,50	2,50	0,3	2,0
HFC															
S															
	PDMX 0905ZESR-R	M8330	■	□	■			■	☉	-	-	0,50	2,50	0,3	2,0
HFC															
P															



## PNMQ 13

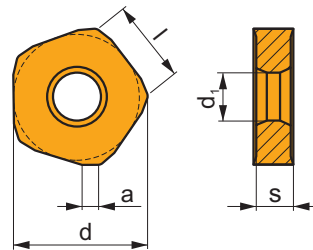
	a	d	d <sub>1</sub>	l	s
1308	3,00	24,400	10,00	13,00	7,94



i	ISO	M8330	P	M	K	N	S	H	?	r <sub>c</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
PNMQ 1308DNSN	M8330	☑	■	■	■	■	■	■	☒	-	0,30	0,70	0,5	10,0

## PNMU 13

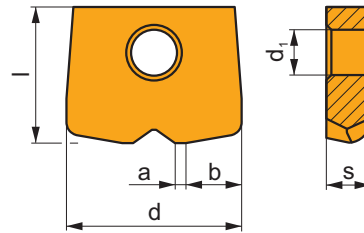
	a	d	d <sub>1</sub>	l	s
1308	3,00	24,400	10,00	13,00	7,94



i	ISO	M8330	P	M	K	N	S	H	?	r <sub>c</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
PNMU 1308DNSR-M	M8330	☑	■	☑	■	■	□	□	☒	-	0,25	0,70	0,5	10,0

## PPHF

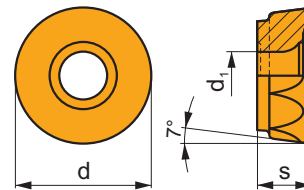
	a	b	d	d <sub>1</sub>	l	s
0800	0,40	2,60	8,000	2,50	7,0	2,40
1000	0,50	3,20	10,000	3,00	8,5	2,60
1200	0,60	3,90	12,000	3,50	10,0	3,00
1600	0,80	5,20	16,000	4,00	12,0	4,00
2000	1,00	6,40	20,000	5,00	15,0	5,00
2500	1,20	7,90	25,000	6,00	18,5	6,00



i		ISO		P	M	K	N	S	H	?		r <sub>ε</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
		PPHF 080004-CE1	M8330	■	▣	■	□	□	▣	●	-	-	0,20	0,40	0,1	0,4
HFC		PPHF 100005-CE1	M8330	■	▣	■	□	□	▣	●	-	-	0,20	0,50	0,1	0,5
E	2.5°	PPHF 120006-CE1	M8330	■	▣	■	□	□	▣	●	-	-	0,30	0,60	0,1	0,6
		PPHF 160008-CE1	M8330	■	▣	■	□	□	▣	●	-	-	0,40	0,80	0,1	0,8
		PPHF 200010-CE1	M8330	■	▣	■	□	□	▣	●	-	-	0,50	1,00	0,1	1,0
		PPHF 250012-CE1	M8330	■	▣	■	□	□	▣	●	-	-	0,60	1,50	0,2	1,2

## RCMT 12

	d	d <sub>1</sub>	s
1204	12,000	4,40	4,76

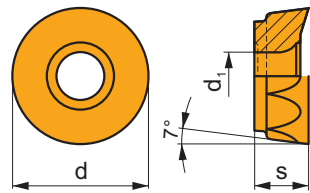


i		ISO		P	M	K	N	S	H	?		r <sub>ε</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
		RCMT 1204MOEN-F	M8330	■	▣	□	□	□		●	-	-	0,05	0,20	0,3	6,0
	20°															
		RCMT 1204MOSN-M	M8330	■	▣	■	□	□	□	✱	-	-	0,15	0,40	0,3	6,0
	0,14 20°															

		ISO		P	M	K	N	S	H			$r_\epsilon$	$f_{min}$	$f_{max}$	$a_{p\ min}$	$a_{p\ max}$
		RCMT 1204MOEN-R	M8330	■	▣	■	□	▣	▣	✘	-	-	0,20	0,50	0,3	6,0

## RCMT 16

	d	d <sub>1</sub>	s
1606	16,000	5,50	6,35

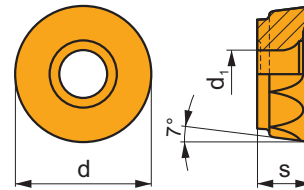


2017  
M201

		ISO		P	M	K	N	S	H			$r_\epsilon$	$f_{min}$	$f_{max}$	$a_{p\ min}$	$a_{p\ max}$
		RCMT 1606MOEN-F	M8330	■	▣	□	□	□	□	✘	-	-	0,05	0,25	0,3	8,0
		RCMT 1606MOSN-M	M8330	■	▣	■	□	□	□	✘	-	-	0,15	0,45	0,3	8,0
		RCMT 1606MOSN-R	M8330	■	▣	■	□	▣	▣	✘	-	-	0,20	0,60	0,3	8,0

## RCMT 20

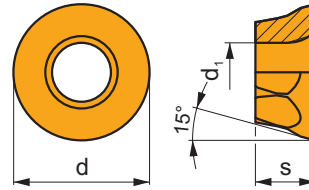
	d	d <sub>1</sub>	s
2006	20,00	5,50	6,35



i	ISO	M8330	P	M	K	N	S	H	?	r <sub>c</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
  	RCMT 2006MOSN-F	M8330	■	▣	□	□	□		✱	-	0,08	0,30	0,3	10,0
   	RCMT 2006MOSN-M	M8330	■	▣	■	□	□	□	✱	-	0,15	0,45	0,3	10,0
  	RCMT 2006MOSN-R	M8330	■	▣	■		□	▣	✱	-	0,20	0,60	0,3	10,0

## RDGT 12IM

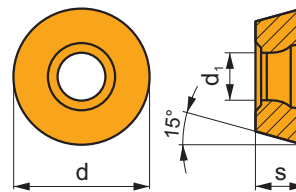
	d	d <sub>1</sub>	s
1205	12,700	5,5	5,56



		ISO		P	M	K	N	S	H			r <sub>ε</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
		RDGT 120500SN-FM	M8330	■	■	■		□		●	-	-	0,12	0,35	0,2	6,0

## RDHX 16

	d	d <sub>1</sub>	s
1604	16,000	5,20	4,76

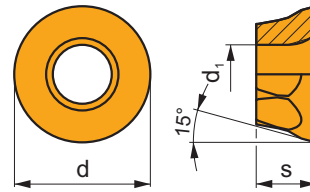


		ISO		P	M	K	N	S	H			r <sub>ε</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
		RDHX 1604MOT	M9325							✘	---	-	0,20	0,40	1,0	4,0
				■	□											



## RDMT 12IM

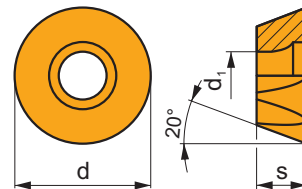
	d	d <sub>1</sub>	s
1205	12,700	5,5	5,56



i		ISO		P	M	K	N	S	H			r <sub>ε</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
		RDMT 120500SN-R	M8330	■	■	■	■	■	■		-	-	0,17	0,45	0,3	6,0

## REHT 16

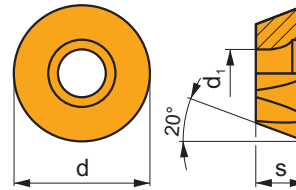
	d	d <sub>1</sub>	s
1604	16,000	5,50	4,76



i		ISO		P	M	K	N	S	H			r <sub>ε</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
		REHT 1604MOEN-MM	M8330	■	■	■	■	■	■		-	-	0,08	0,25	0,5	4,0
		REHT 1604MOSN-M	M8330	■	■	■	■	■	■		-	-	0,08	0,35	0,5	4,0

## REHT 24

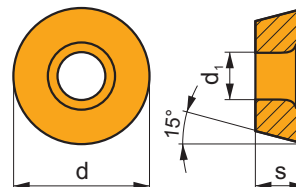
	d	d <sub>1</sub>	s
2406	24,000	8,60	7,15



i		ISO		P	M	K	N	S	H	?		r <sub>e</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
		REHT 2406M0EN-MM	M8330	☑	☑		☐	☐		☒	-	-	0,12	0,35	0,6	6,0
		REHT 2406M0SN-M	M8330	☐	☑			☐		☒	-	-	0,12	0,45	0,5	6,0

## RPET 12

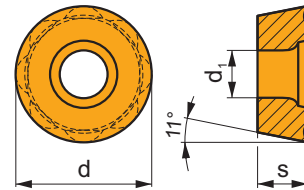
	d	d <sub>1</sub>	s
1204	12,000	4,40	4,76



i		ISO		P	M	K	N	S	H	?		r <sub>e</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
		RPET 1204MOSN	M8330	☐	☑	☑		☐	☐	☒	-	-	0,12	0,40	0,5	3,0

## RPET 15

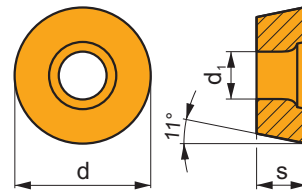
	d	d <sub>1</sub>	s
1505	15,785	5,50	5,56



i		ISO		P	M	K	N	S	H	?		r <sub>ε</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
		RPET 1505MOS-M	M8330	■	▣	▣		□	□	✖	-	-	0,12	0,50	0,5	3,5

## RPEW 12

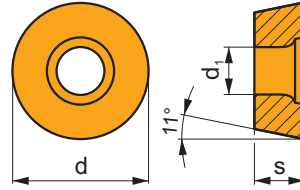
	d	d <sub>1</sub>	s
1204	12,000	4,40	4,76



i		ISO		P	M	K	N	S	H	?		r <sub>ε</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
		RPEW 1204MOSN	M8330	▣	□	■			▣	✖	-	-	0,10	0,40	0,5	3,0

## RPEW 15

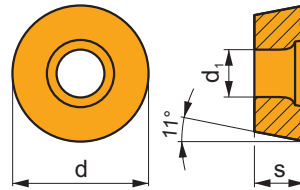
	d	d <sub>1</sub>	s
1505	15,785	5,50	5,56



i		ISO		P	M	K	N	S	H	?		r <sub>s</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
		RPEW 1505MOS	M8330	■	□	■			■	✘	-	-	0,15	0,50	0,5	3,5
HFC																
S																

## RPEX

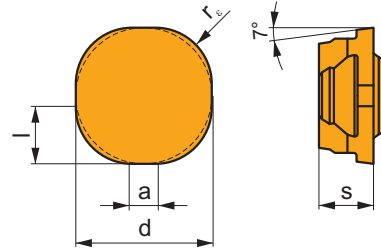
	d	d <sub>1</sub>	s
1204	12,000	4,40	4,76



i		ISO		P	M	K	N	S	H	?		r <sub>s</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
		RPEX 1204MOSN-12	M8330	■	■	■		□	□	✘	-	-	0,12	0,40	0,5	3,0
HFC																
S																

## SCKR 09

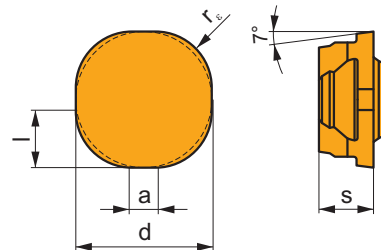
	a	d	l	s
09T3	1,50	9,525	4,000	3,97



<b>i</b>		ISO		P	M	K	N	S	H			$r_e$	$f_{min}$	$f_{max}$	$a_{p min}$	$a_{p max}$
		SCKR 09T340EN-F	M8330	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			-	4,0	0,08	0,26	0,3	4,0

## SCKR 12

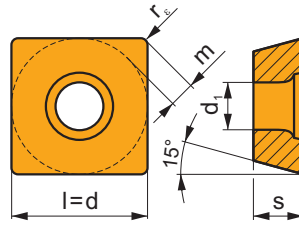
	a	d	l	s
12T3	1,10	12,700	6,000	3,97



<b>i</b>		ISO		P	M	K	N	S	H			$r_e$	$f_{min}$	$f_{max}$	$a_{p min}$	$a_{p max}$
		SCKR 12T360EN-F	M8330	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			-	6,0	0,08	0,26	0,3	6,0

## SDEW 09

	d	d <sub>1</sub>	l	m	s
0903	9,525	4,40	9,525	1,64	3,18

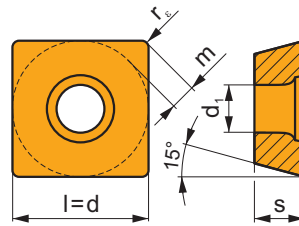


2017  
M302

i		ISO		P	M	K	N	S	H	?		r <sub>c</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
U		SDEW 090308EN	M8330	☑	☐	☐				☑	☑	0,8	0,10	0,30	1,0	4,5
E																
S		SDEW 090308SN	M8330	☑	☐	☐				☑	☑	0,8	0,15	0,30	1,0	4,5

## SDEX 09

	d	d <sub>1</sub>	l	m	s
0903	9,525	4,40	9,525	1,64	3,18

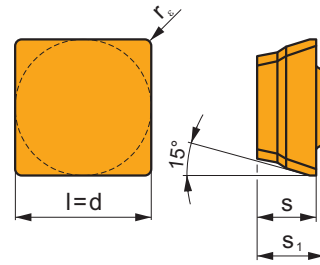


2017  
M302

i		ISO		P	M	K	N	S	H	?		r <sub>c</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
F		SDEX 090308FN-74	M8330	☐	☑	☑	☐	☐		☑	☑	0,8	0,10	0,30	0,5	4,5

## SDGX 12

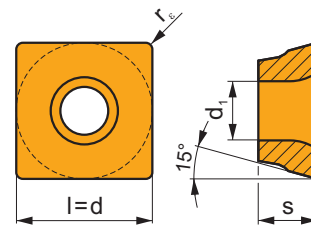
	d	l	s	s <sub>1</sub>
1205	12,700	12,700	5,56	6,35



		ISO		P	M	K	N	S	H			r <sub>c</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
		SDGX 120508EN-FM	M8330	■	▣	■		□			-	0,8	0,07	0,15	1,0	12,0

## SDKT 12IM

	d	d <sub>1</sub>	l	s
1205	12,700	5,5	12,700	5,56

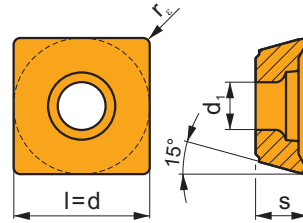


		ISO		P	M	K	N	S	H			r <sub>c</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
		SDKT 1205PDSR-FM	M8330	■	▣	▣		□			-	0,8	0,15	0,35	0,2	10,0
		SDKT 1205AESN-FM	M8330	■	▣	▣		□			-	-	0,15	0,35	0,2	10,0



## SDMT 12

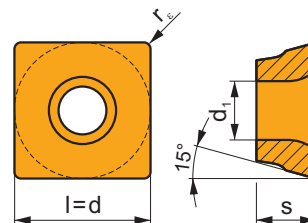
	d	d <sub>1</sub>	l	s
1205	12,700	4,40	12,700	5,00



i	ISO	M8330	P	M	K	N	S	H	?	r <sub>ε</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>	
	SDMT 120508SR-F	M8330	■	▣	▣	□	□			-	0,8	0,07	0,25	1,0	5,0
	SDMT 120508SR-M	M8330	■	▣	▣	□	□			-	0,8	0,10	0,25	1,0	10,0
	SDMT 120508PR-R	M8330	■	▣	▣		□			-	0,8	0,20	0,45	1,0	10,0

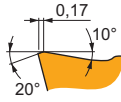
## SDMT 12IM

	d	d <sub>1</sub>	l	s
1205	12,700	5,5	12,700	5,56



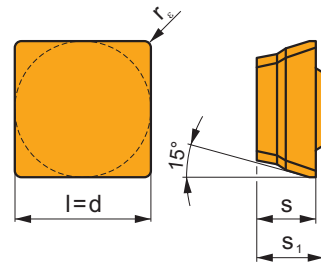
i	ISO	M8330	P	M	K	N	S	H	?	r <sub>ε</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>	
	SDMT 120508SN-F	M8330	■	▣		□	□			-	0,8	0,15	0,30	0,3	10,0

i		ISO		P	M	K	N	S	H			$r_c$	$f_{min}$	$f_{max}$	$a_{p min}$	$a_{p max}$
		SDMT 120508SN-R	M8330	■	■	■	■	■	■	✘	-	0,8	0,17	0,45	0,3	10,0
		SDMT 1205AESN-R	M8330	■	■	■	■	■	■	■	✘	-	-	0,17	0,45	0,3



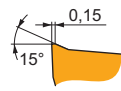
## SDMX 12

	d	l	s	$s_1$
1205	12,700	12,700	5,56	6,35



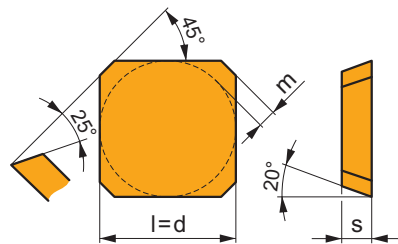
2017  
M168

i		ISO		P	M	K	N	S	H			$r_c$	$f_{min}$	$f_{max}$	$a_{p min}$	$a_{p max}$
		SDMX 120508EN-M	M8330	■	■	□	□	□	□	☉	-	0,8	0,07	0,15	1,0	12,0



## SEEN

	d	l	m	s
1203	12,700	12,700	1,60	3,18
1204	12,700	12,700	1,60	4,76
1504	15,875	15,875	2,00	4,76



2017  
M329

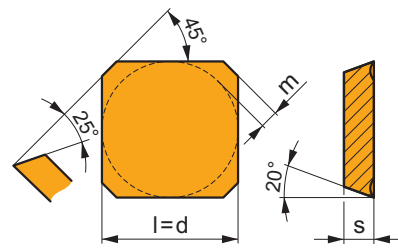
i		ISO		P	M	K	N	S	H			$r_c$	$f_{min}$	$f_{max}$	$a_{p min}$	$a_{p max}$
		SEEN 1203AFFN	M8330	■	■	□	□	□	□	☉	-	-	0,05	0,30	0,5	6,5
		SEEN 1204AFFN	M8330	■	■	□	□	□	□	□	☉	-	-	0,05	0,40	0,5



		ISO		P	M	K	N	S	H			$r_\epsilon$	$f_{min}$	$f_{max}$	$a_{p min}$	$a_{p max}$
		SEEN 1203AFSN	M8330	■	▣	□	□			✘	-	-	0,15	0,40	1,0	6,5
		SEEN 1204AFSN	M8330	■	▣	□	□			✘	-	-	0,15	0,40	1,0	6,5
		SEEN 1504AFSN	M8330	■	▣	□	□			✘	-	-	0,20	0,40	1,0	9,0

## SEER

	d	l	m	s
1203	12,700	12,700	1,60	3,18
1204	12,700	12,700	1,60	4,76
1504	15,875	15,875	2,00	4,76

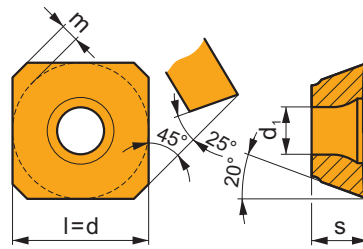


2017  
M330

		ISO		P	M	K	N	S	H			$r_\epsilon$	$f_{min}$	$f_{max}$	$a_{p min}$	$a_{p max}$
		SEER 1203AFEN	M8330	■	▣	▣	□	□		✘	-	-	0,20	0,30	0,5	6,5
		SEER 1204AFEN	M8330	■	▣	▣	□	□		✘	-	-	0,20	0,40	0,5	6,5
		SEER 1504AFEN	M8330	■	▣	▣	□	□		✘	-	-	0,20	0,40	0,5	9,0
		SEER 1203AFSN	M8330	■	▣	▣	□	□		✘	-	-	0,20	0,40	1,0	6,5
		SEER 1204AFSN	M8330	■	▣	▣	□	□		✘	-	-	0,20	0,40	1,0	6,5
		SEER 1504AFSN	M8330	■	▣	▣	□	□		✘	-	-	0,20	0,40	0,5	9,0

## SEET 09

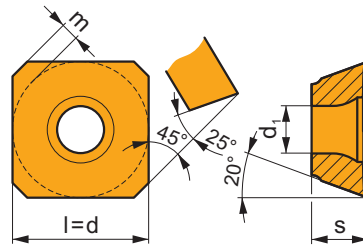
	d	d <sub>1</sub>	l	m	s
09T3	9,525	3,50	9,525	1,21	3,97



i		ISO		P	M	K	N	S	H			r <sub>ε</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
		SEET 09T3AFEN	M8330	■	■		□	□			-	-	0,08	0,30	0,3	4,5

## SEET 12

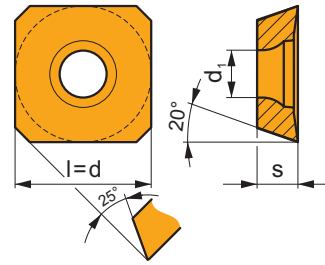
	d	d <sub>1</sub>	l	m	s
1204	12,700	5,50	12,700	1,60	4,76



i		ISO		P	M	K	N	S	H			r <sub>ε</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
		SEET 1204AFEN	M8330	■	■	■		□	□		-	-	0,20	0,40	0,5	6,5
		SEET 1204AFSN	M8330	■	■	■		□	□		-	-	0,20	0,40	1,0	6,5

## SEET 12-PM

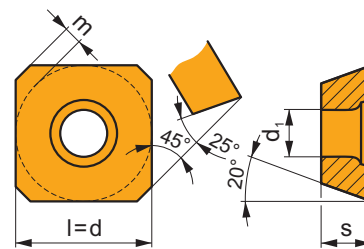
	d	d <sub>1</sub>	l	s
12T3	13,400	4,20	13,400	3,97



i	ISO	M8330	P	M	K	N	S	H	?	r <sub>ε</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
SEET 12T3M-PM	M8330	■	■	■	□	□	□	□	☹	-	0,20	0,35	1,0	6,5

## SEEW 12

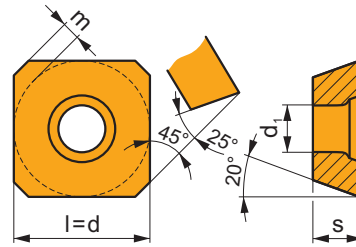
	d	d <sub>1</sub>	l	m	s
1204	12,700	5,50	12,700	1,60	4,76



i	ISO	M8330	P	M	K	N	S	H	?	r <sub>ε</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
SEEW 1204AFEN	M8330	■	□	■	□	□	□	□	☹	-	0,10	0,40	0,5	6,5
SEEW 1204AFSN	M8330	■	□	■	□	□	□	□	☹	-	0,15	0,40	1,0	6,5

## SEMT 09

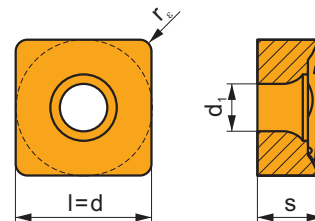
	d	d <sub>1</sub>	l	m	s
09T3	9,525	3,50	9,525	1,21	3,97



		ISO		P	M	K	N	S	H			r <sub>c</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
		SEMT 09T3AFSN	M8330	■	▣	■	□	□			-	-	0,12	0,35	0,5	4,5

## SNET 13

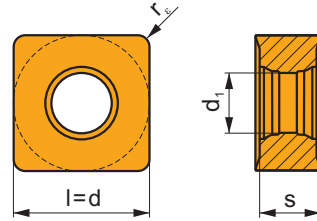
	d	d <sub>1</sub>	l	s
1305	13,200	5,90	13,200	6,33



		ISO		P	M	K	N	S	H			r <sub>c</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
		SNET 130512SR-M	M8330	■	□	■					-	1,2	0,15	0,35	1,2	12,0

## SNGX 13

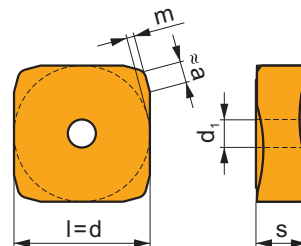
	d	d <sub>1</sub>	l	s
1305	13,200	5,90	13,200	5,96



i		ISO		P	M	K	N	S	H	?		r <sub>ε</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
U		SNGX 130512SN-M	M8330	■	□	■				✘	-	1,2	0,15	0,35	1,2	12,0
S																
1		SNGX 130512PN-R	M8330	■	□	■				✘	-	1,2	0,15	0,40	1,2	12,0
S																

## SNHF

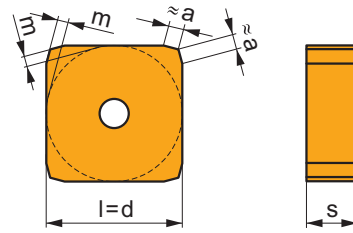
	a	d	l	m	s
1204	2,00	12,700	12,700	0,50	4,76
1504	1,40	15,875	15,875	1,10	4,76



i		ISO		P	M	K	N	S	H	?		r <sub>ε</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
1		SNHF 1204ENSR-M	M8330	■	▣	■		□		✘	-	-	0,15	0,40	1,0	6,0
S																
1		SNHF 1504ENSR-M	M8330	■	▣	■		□		✘	-	-	0,15	0,40	1,0	9,0

## SNHN

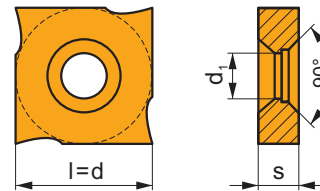
	a	d	l	m	s
1204	1,40	12,700	12,700	0,95	4,76
1504	1,40	15,875	15,875	1,30	4,76



i		ISO		P	M	K	N	S	H	?		$r_c$	$f_{min}$	$f_{max}$	$a_{p min}$	$a_{p max}$
		SNHN 1204ENEN	M8330	█	□	█			█	☉	-	-	0,10	0,40	0,5	9,0
		SNHN 1504ENEN	M8330	█	□	█			█	☉	-	-	0,10	0,40	0,5	13,5
E																

## SNHQ AZ

	d	$d_1$	l	s
1102	11,000	4,30	11,000	2,30
1103	11,000	4,30	11,000	2,70
1203	12,700	5,00	12,700	3,20
1204	12,700	5,00	12,700	4,50
1205	12,700	5,00	12,700	5,40
1207	12,700	5,00	12,700	7,00

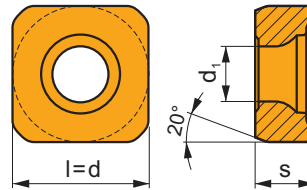


i		ISO		P	M	K	N	S	H	?		$r_c$	$f_{min}$	$f_{max}$	$a_{p min}$	$a_{p max}$
		SNHQ 1102AZTN	M8330	█	█	█	□	□	□	☉	-	-	0,10	0,40	-	-
		SNHQ 1103AZTN	M8330	█	█	█	□	□	□	☉	-	-	0,10	0,40	-	-
U																
T																
		SNHQ 1203AZTN	M8330	█	█	█	□	□	□	☉	-	-	0,10	0,40	-	-
		SNHQ 1204AZTN	M8330	█	█	█	□	□	□	☉	-	-	0,20	0,50	-	-
		SNHQ 1205AZTN	M8330	█	█	█	□	□	□	☉	-	-	0,20	0,50	-	-
		SNHQ 1207AZTN	M8330	█	█	█	□	□	□	☉	-	-	0,20	0,50	-	-



## SNKT 12

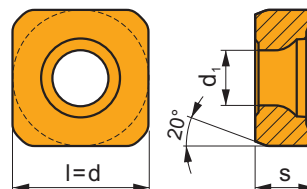
	d	d <sub>1</sub>	l	s
1205	12,700	5,20	12,700	5,56



i		ISO		P	M	K	N	S	H	?		r <sub>ε</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
1		SNKT 1205AZSR-M	M8330	■	▣	▣		□	□	✘	-	-	0,15	0,50	3,2	3,2
S																

## SNMT 12

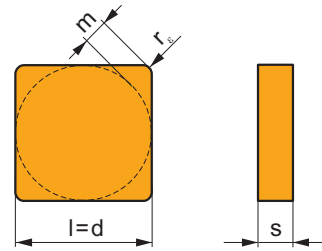
	d	d <sub>1</sub>	l	s
1205	12,700	5,20	12,700	5,56



i		ISO		P	M	K	N	S	H	?		r <sub>ε</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
		SNMT 1205AZSR-M	M8330	■	▣	▣		□	□	✘	-	-	0,15	0,50	1,0	6,5
S																
		SNMT 1205AZSR-R	M8330	■	▣	▣		□	□	✘	-	-	0,18	0,50	1,0	6,5
S																

## SNUN

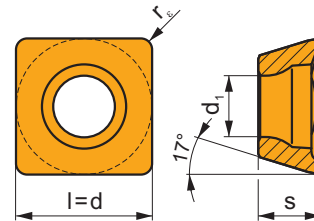
	d	l	m	s
1204	12,700	12,700	2,30	4,76
1504	15,875	15,875	2,80	4,76



i		ISO		P	M	K	N	S	H	?		r <sub>ε</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
E		SNUN 120408	M8330	█	□	█			█	●	-	0,8	0,10	0,40	1,0	9,0
		SNUN 120412	M8330	█	□	█			█	✘	-	1,2	0,10	0,40	1,2	9,0
		SNUN 150412	M8330	█	□	█			█	✘	-	1,2	0,10	0,40	1,2	13,5

## SOMT 05

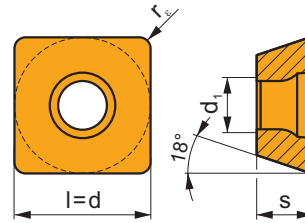
	d	d <sub>i</sub>	l	s
0502	5,570	2,5	5,570	2,63



i		ISO		P	M	K	N	S	H	?		r <sub>ε</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
U		SOMT 050204SR-M	M8330	█	█	█	□	□		●	-	0,4	0,03	0,12	0,4	4,5
S		SOMT 050208SR-M	M8330	█	█	█	□	□		●	-	0,8	0,03	0,12	0,4	4,5

## SOMT 09

	d	d <sub>1</sub>	l	s
09T3	9,550	3,50	9,550	3,97

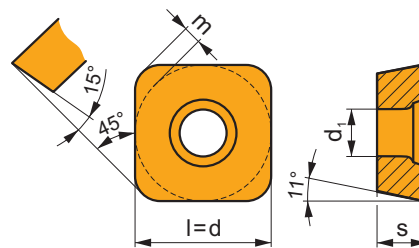


2017  
M143, M306

i	ISO	M8330	P	M	K	N	S	H	?	r <sub>c</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>	
1	SOMT 09T308-M	M8330	■	▣	■	□	□		●	-	0,8	0,12	0,40	1,0	8,0
U															
S															
	SOMT 09T304-MI	M8330	■	▣	■	□	□		●	-	0,4	0,08	0,35	0,5	8,0
S															
	SOMT 09T304-P	M8330	■	▣	▣	□	□		●	-	0,4	0,08	0,35	0,5	8,0
S															

## SPET 12

	d	d <sub>1</sub>	l	m	s
1204	12,700	5,50	12,700	1,90	4,76

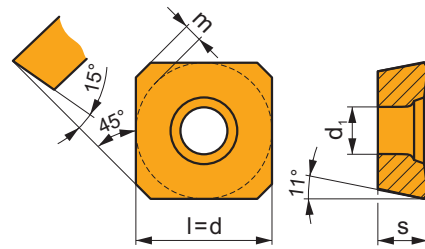


2017  
M177

i	ISO	M8330	P	M	K	N	S	H	?	r <sub>c</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>	
	SPET 120408S	M8330	■	▣	▣	□	□		●	-	0,8	0,17	0,40	1,0	12,0
S															

## SPET 12 AD

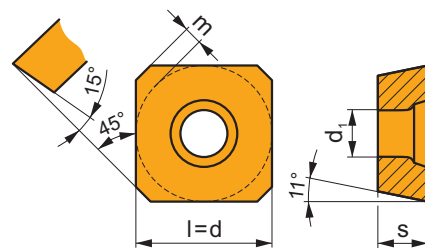
	d	d <sub>1</sub>	l	m	s
1204	12,700	5,50	12,700	1,90	4,76



<b>i</b>		ISO		P	M	K	N	S	H			r <sub>c</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
		SPET 1204ADEN	M8330	■	▣	▣		□	□		-	-	0,12	0,40	1,0	12,0
		SPET 1204ADSN	M8330	■	▣	▣		□	□		-	-	0,12	0,40	1,0	12,0

## SPEW 12 AD

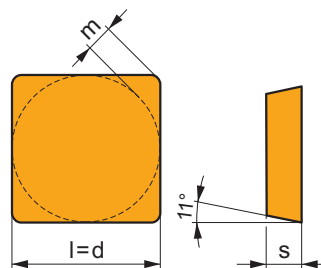
	d	d <sub>1</sub>	l	m	s
1204	12,700	5,50	12,700	1,92	4,76



<b>i</b>		ISO		P	M	K	N	S	H			r <sub>c</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
		SPEW 1204ADEN	M8330	▣	□	■			▣		-	-	0,10	0,35	1,0	12,0
		SPEW 1204ADSN	M8330	▣	□	■			▣		-	-	0,15	0,40	1,0	12,0

## SPGN

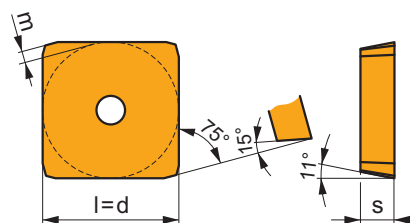
	d	l	m	s
1203	12,700	12,700	2,30	3,18
1504	15,875	15,875	2,80	4,76



i		ISO		P	M	K	N	S	H	?		$r_e$	$f_{min}$	$f_{max}$	$a_{p_{min}}$	$a_{p_{max}}$
		SPGN 120304	M8330	☑	☐	☐			☑	☐	-	0,4	0,10	0,25	0,5	9,0
		SPGN 120308	M8330	☑	☐	☐			☑	☐	-	0,8	0,10	0,25	1,0	9,0
		SPGN 150408	M8330	☑	☐	☐			☑	☐	-	0,8	0,10	0,35	1,0	13,5
		SPGN 150412	M8330	☑	☐	☐			☑	☐	-	1,2	0,10	0,35	1,2	13,5

## SPKN

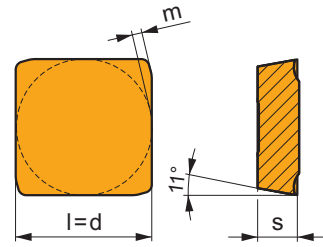
	d	l	m	s
1203	12,700	12,700	0,88	3,18
1504	15,875	15,875	1,26	4,76



i		ISO		P	M	K	N	S	H	?		$r_e$	$f_{min}$	$f_{max}$	$a_{p_{min}}$	$a_{p_{max}}$
		SPKN 1203EDER	M8330	☑	☐	☐			☑	☐	-	-	0,10	0,25	1,0	9,0
		SPKN 1504EDEL	M8330	☑	☐	☐			☑	☐	-	-	0,10	0,35	1,0	13,0
		SPKN 1504EDER	M8330	☑	☐	☐			☑	☐	-	-	0,10	0,35	1,0	13,0
		SPKN 1203EDSL	M8330	☑	☐	☐			☑	☐	-	-	0,15	0,30	1,0	9,0
		SPKN 1203EDSR	M8330	☑	☐	☐			☑	☐	-	-	0,15	0,30	1,0	9,0
		SPKN 1504EDSR	M8330	☑	☐	☐			☑	☐	-	-	0,20	0,40	1,0	13,0

## SPKR

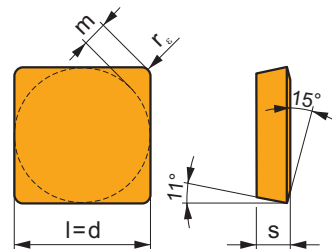
	d	l	m	s
1203	12,700	12,700	0,90	3,18
1504	15,875	15,875	1,22	4,76



i		ISO		P	M	K	N	S	H	?		$r_c$	$f_{min}$	$f_{max}$	$a_{p min}$	$a_{p max}$
		SPKR 1203EDSR	M8330	■	▣	▣		□	□	☹	-	-	0,15	0,30	1,0	9,0
1																
S		SPKR 1504EDSR	M8330	■	▣	▣		□	□	☹	-	-	0,25	0,45	1,0	12,0

## SPUN

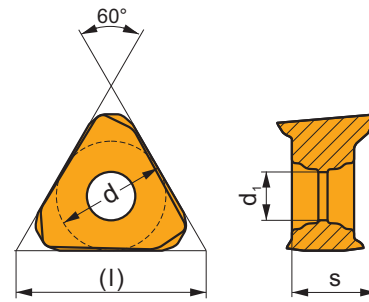
	d	l	m	s
1203	12,700	12,700	2,14	3,18
1504	15,875	15,875	2,80	4,76
1904	19,050	19,050	3,45	4,76



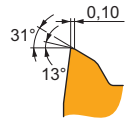
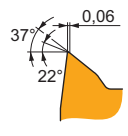
i		ISO		P	M	K	N	S	H	?		$r_c$	$f_{min}$	$f_{max}$	$a_{p min}$	$a_{p max}$
		SPUN 120304	M8330	▣	□	■			▣	☹	-	0,4	0,10	0,30	0,4	9,0
		SPUN 120308	M8330	▣	□	■			▣	☹	-	0,8	0,10	0,30	1,0	9,0
		SPUN 120312	M8330	▣	□	■			▣	☹	-	1,2	0,10	0,30	1,2	9,0
E		SPUN 150412	M8330	▣	□	■			▣	☹	-	1,2	0,10	0,40	1,2	13,0
		SPUN 190408	M8330	▣	□	■			▣	☹	-	0,8	0,10	0,40	1,0	16,0
		SPUN 190412	M8330	▣	□	■			▣	☹	-	1,2	0,10	0,40	1,2	16,0

## TNGX 10

	d	d <sub>1</sub>	l	s
1004	6,000	2,8	10,39	4,69

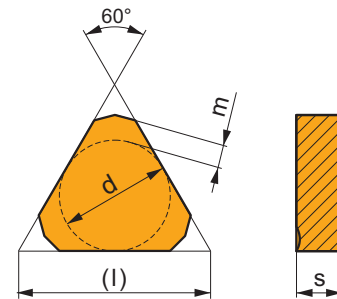


i	ISO	M8330	P	M	K	N	S	H	?	r <sub>c</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>	
															ISO
  	TNGX 100402SR-F	M8330	■	▣	▣		□		●	-	0,2	0,03	0,11	0,1	5,0
	TNGX 100404SR-F	M8330	■	▣	▣		□		●	-	0,4	0,03	0,11	0,1	5,0
	TNGX 100408SR-F	M8330	■	▣	▣		□		●	-	0,8	0,03	0,11	0,1	5,0
 	TNGX 100404SR-M	M8330	■	▣	▣		□		●	-	0,4	0,05	0,15	0,3	5,0
	TNGX 100408SR-M	M8330	■	▣	▣		□		●	-	0,8	0,05	0,15	0,3	5,0

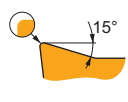


## TNJF

	a	d	l	m	s
1204	10,73	12,700	22,00	2,41	4,76

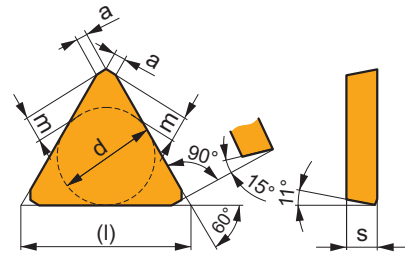


i	ISO	M8330	P	M	K	N	S	H	?	r <sub>c</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>	
															ISO
 	TNJF 1204ANEN	M8330	■	▣	■		□		●	-	-	0,10	0,40	2,0	6,0



## TPCN 16

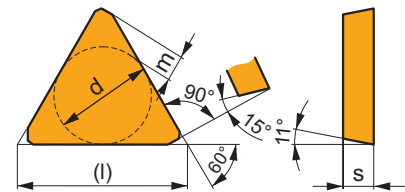
	a	d	l	m	s
1603	1,20	9,530	16,10	2,45	3,18



i		ISO		P	M	K	N	S	H	?		$r_c$	$f_{min}$	$f_{max}$	$a_{p\ min}$	$a_{p\ max}$
		TPCN 1603PDSN	M8330	■	■	■	□	□	□	●	-	-	0,12	0,25	-	-
U																
S																

## TPKN

	d	l	m	s
1603	9,530	16,50	2,45	3,18
2204	12,700	22,00	3,55	4,76

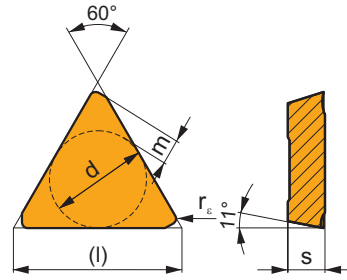


i		ISO		P	M	K	N	S	H	?		$r_c$	$f_{min}$	$f_{max}$	$a_{p\ min}$	$a_{p\ max}$
		TPKN 1603PDER	M8330	■	□	■	□	□	□	●	-	-	0,10	0,20	1,0	12,0
		TPKN 2204PDER	M8330	■	□	■	□	□	□	●	-	-	0,10	0,25	1,0	17,0
E																
U																
S																

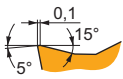


**TPKR**

	d	l	m	s
1603	9,530	16,50	2,45	3,18
2204	12,700	22,00	3,55	4,76

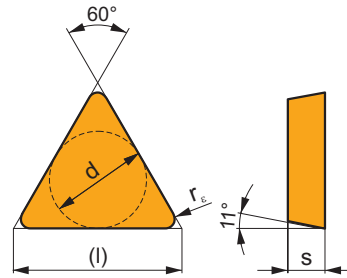


i	ISO	M8330	P	M	K	N	S	H	?	r <sub>e</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
			■	□	■	□	□	□						
1	TPKR 1603PDSR	M8330	■	□	■	□	□	□	●	-	0,10	0,30	1,0	12,0
	TPKR 2204PDSR	M8330	■	□	■	□	□	□	●	-	0,10	0,40	1,0	17,0



**TPUN**

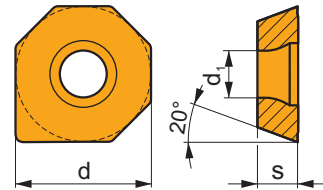
	d	l	s
1103	6,350	11,0	3,18
1603	9,525	16,5	3,18
2204	12,700	22,0	4,76



i	ISO	M8330	P	M	K	N	S	H	?	r <sub>e</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
			□	□	■	□	□	□						
E	TPUN 110304	M8330	□	□	■	□	□	□	●	0,4	0,10	0,15	0,5	8,0
	TPUN 110308	M8330	□	□	■	□	□	□	●	0,8	0,10	0,15	0,8	8,0
	TPUN 160304	M8330	□	□	■	□	□	□	●	0,4	0,10	0,20	0,5	12,0
	TPUN 160308	M8330	□	□	■	□	□	□	●	0,8	0,10	0,20	1,0	12,0
	TPUN 160312	M8330	□	□	■	□	□	□	●	1,2	0,10	0,20	1,2	12,0
	TPUN 220408	M8330	□	□	■	□	□	□	●	0,8	0,10	0,25	1,0	17,0
	TPUN 220412	M8330	□	□	■	□	□	□	●	1,2	0,10	0,25	1,2	17,0

## XEHT 06

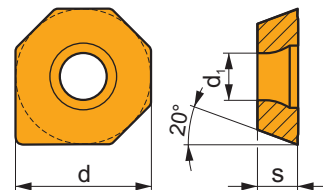
	d	d <sub>1</sub>	s
0604	16,050	5,50	4,76



i		ISO		P	M	K	N	S	H			r <sub>c</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
		XEHT 0604AESR	M8330								-	-	0,08	0,35	0,1	3,3

## XEHT 09

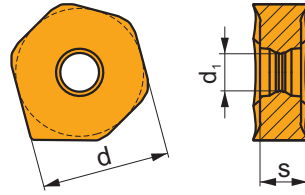
	d	d <sub>1</sub>	s
0906	24,100	8,60	7,15



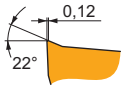
i		ISO		P	M	K	N	S	H			r <sub>c</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
		XEHT 0906AESR	M8330								-	-	0,12	0,45	0,5	5,0

## XNGX 09

	d	d <sub>1</sub>	s
0906	16,500	4,90	6,35

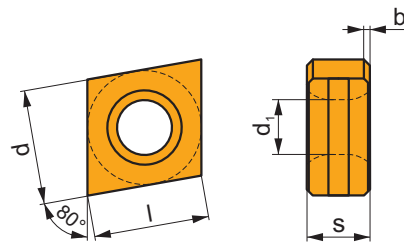


		ISO		P	M	K	N	S	H			r <sub>ε</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
		XNGX 0906ANSN	M8330	■	▣	■				✘	-	-	0,17	0,50	0,8	5,0

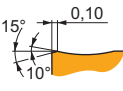


## XNHQ

	b	d	d <sub>1</sub>	l	s
1205	0,5 x 45°	10,000	4,70	12,70	5,40
1606	0,5 x 45°	12,000	5,90	16,00	6,40

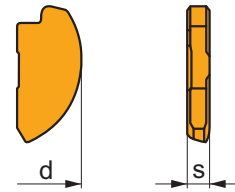


		ISO		P	M	K	N	S	H			r <sub>ε</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
		XNHQ 1205AZTN	M8330	■	▣	■	□	□	□	☉	-	-	0,10	0,50	-	-
		XNHQ 1606AZTN	M8330	■	▣	■	□	□	□	☉	-	-	0,10	0,60	-	-



## XP

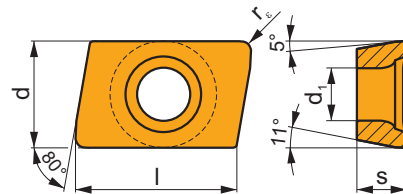
	d	s
16	16	2,00
20	20	2,50
25	25	3,17
32	32	4,00



i		ISO		P	M	K	N	S	H	?		$r_e$	$f_{min}$	$f_{max}$	$a_{p min}$	$a_{p max}$
		XP 16ER-FM	M8330	■	▣	■		□	▣	●	-	-	0,05	0,15	0,3	8,0
		XP 20ER-FM	M8330	■	▣	■		□	▣	●	-	-	0,07	0,17	0,3	10,0
		XP 25ER-FM	M8330	■	▣	■		□	▣	●	-	-	0,07	0,20	0,3	12,5
		XP 32ER-FM	M8330	■	▣	■		□	▣	●	-	-	0,10	0,25	0,3	16,0

## XPHT 16

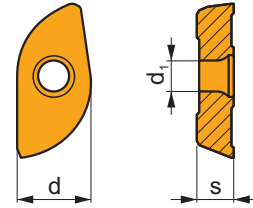
	d	$d_1$	l	s
1604	9,525	4,40	15,88	4,76



i		ISO		P	M	K	N	S	H	?		$r_e$	$f_{min}$	$f_{max}$	$a_{p min}$	$a_{p max}$
		XPHT 160412E	M6330	▣	■			□		●	-	1,2	0,05	0,30	1,2	15,0
			M8330	■	▣	▣		□		●	-	1,2	0,05	0,30	1,2	15,0
		XPHT 160412S	M8330	■	▣	▣		□		✱	-	1,2	0,10	0,30	1,2	15,0

## ZP

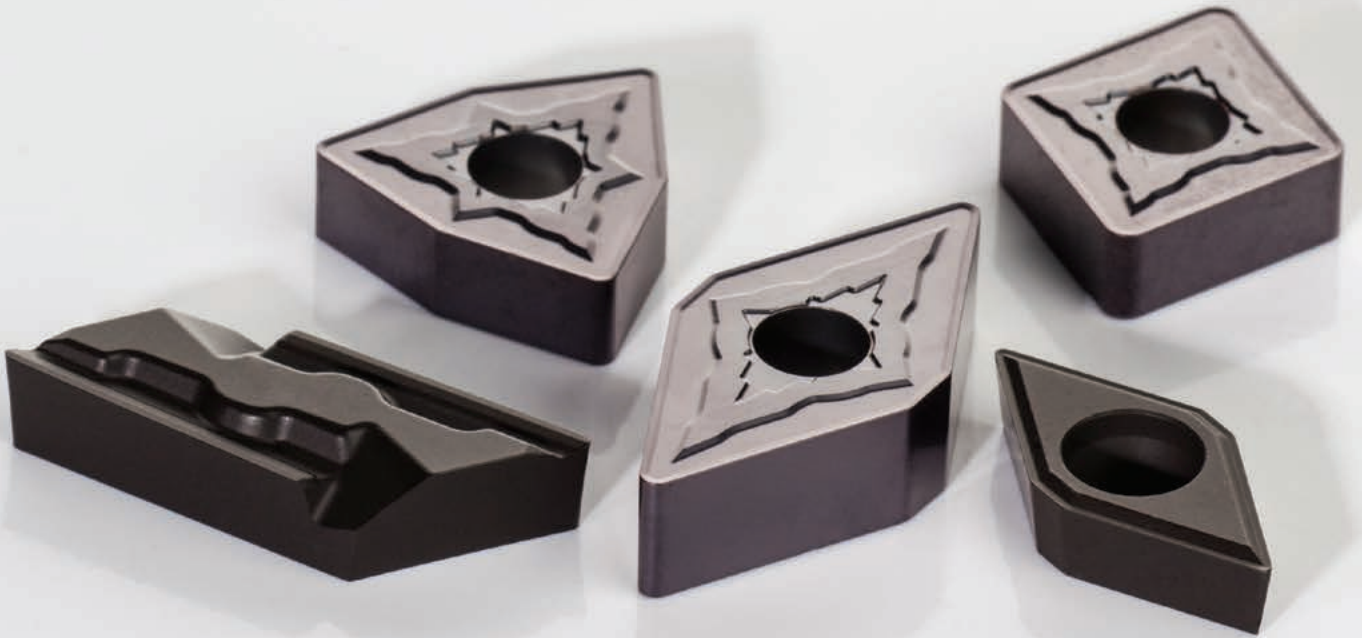
	d	d <sub>1</sub>	s
12	12	2,90	2,38
16	16	2,90	3,18
20	20	4,00	3,97
25	25	4,70	4,76
32	32	5,90	6,35



		ISO		P	M	K	N	S	H			r <sub>ε</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
		ZP 12ER-M	M8330	■	▣	▣		□	□		-	-	0,06	0,13	0,3	10,7
		ZP 16ER-M	M8330	■	▣	▣		□	□		-	-	0,07	0,16	0,3	15,0
		ZP 20ER-M	M8330	■	▣	▣		□	□		-	-	0,07	0,16	0,3	17,9
		ZP 25ER-M	M8330	■	▣	▣		□	□		-	-	0,08	0,20	0,3	22,3
		ZP 32ER-M	M8330	■	▣	▣		□	□		-	-	0,10	0,25	0,3	28,6
		ZP 32ER-R	M8330	■	▣	▣	□	□	□		-	-	0,12	0,31	0,3	28,6

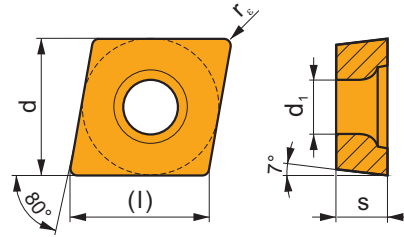
# TORNA UÇLARI

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## CCMT

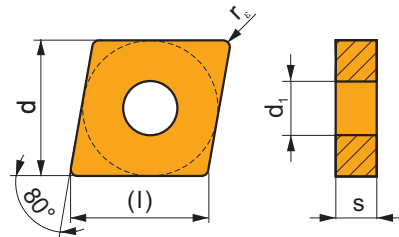
	d	d <sub>1</sub>	l	s
0602	6,350	2,80	6,4	2,38
09T3	9,525	4,40	9,7	3,97



i		ISO		P	M	K	N	S	H	?		r <sub>s</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
U		CCMT 060202E-FF	T9315	■		▣				●	+	0,2	0,05	0,15	0,2	2,0
		CCMT 060204E-FF	T9315	■		▣				●	+	0,4	0,05	0,23	0,2	2,0
		CCMT 09T304E-FF	T9315	■		▣				●	+	0,4	0,05	0,23	0,2	2,0

## CNMG

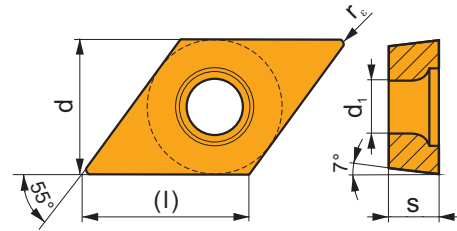
	d	d <sub>1</sub>	l	s
1204	12,700	5,16	12,9	4,76
1906	19,050	7,94	19,3	6,35



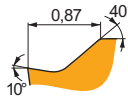
i		ISO		P	M	K	N	S	H	?		r <sub>s</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
		CNMG 120404E-NMR	T6310	▣	■			▣		●	+	0,4	0,20	0,30	0,4	4,0
		CNMG 120408E-NMR	T6310	▣	■			▣		●	++	0,8	0,20	0,55	0,8	5,0
		CNMG 120412E-NMR	T6310	▣	■			▣		●	++	1,2	0,22	0,60	1,2	5,5
		CNMG 190608E-NMR	T6310	▣	■			▣		●	++	0,8	0,20	0,60	0,8	7,5
		CNMG 190612E-NMR	T6310	▣	■			▣		●	++	1,2	0,22	0,65	1,2	8,0

## DCMT

	d	d <sub>1</sub>	l	s
11T3	9,525	4,40	11,6	3,97

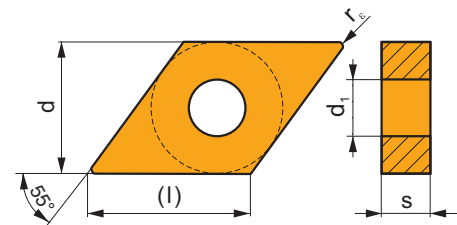


i	ISO	T	P	M	K	N	S	H	?	r <sub>c</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>	
															U
	DCMT 11T302E-FF	T9315	■	■	■				●	++	0,2	0,05	0,12	0,2	2,0
	DCMT 11T304E-FF	T9315	■	■	■				●	++	0,4	0,05	0,23	0,2	2,0
	DCMT 11T308E-FF	T9315	■	■	■				●	++	0,8	0,05	0,23	0,2	2,0

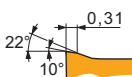


## DNMG

	d	d <sub>1</sub>	l	s
1506	12,700	5,16	15,5	6,35



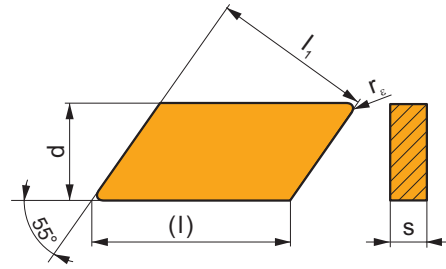
i	ISO	T	P	M	K	N	S	H	?	r <sub>c</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>	
															U
	DNMG 150608E-NMR	T6310	■	■	■				●	++	0,8	0,20	0,48	0,8	4,0





**KNUX**

	d	l	l <sub>1</sub>	s
1604	9,525	19,5	16,2	4,76



i		ISO		P	M	K	N	S	H	?		r <sub>c</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
  		KNUX 160405L-22		T5315	☐	■				●	++	0,5	0,23	0,40	0,5	4,8
				T7325	☐	■				●	++	0,5	0,23	0,40	0,5	4,8
				T7335	☐	■				●	+++	0,5	0,23	0,40	0,5	4,8
				T9325	■	☐	☐			●	++	0,5	0,23	0,40	0,5	4,8
				T9335	■	☐				●	+++	0,5	0,23	0,40	0,5	4,8
  		KNUX 160405R-22		T5315	☐	■				●	++	0,5	0,23	0,40	0,5	4,8
				T7325	☐	■				●	++	0,5	0,23	0,40	0,5	4,8
				T7335	☐	■				●	+++	0,5	0,23	0,40	0,5	4,8
				T9325	■	☐	☐			●	++	0,5	0,23	0,40	0,5	4,8
				T9335	■	☐				●	+++	0,5	0,23	0,40	0,5	4,8
  		KNUX 160410L-22		T9335	☐	■				●	+++	1,0	0,23	0,55	1,0	4,8
  		KNUX 160410R-22		T9335	☐	■				●	+++	1,0	0,23	0,55	1,0	4,8
  		KNUX 160405L-32		T5315	☐	■				●	++	0,5	0,25	0,40	0,5	4,8
				T7325	☐	■				●	++	0,5	0,25	0,40	0,5	4,8
				T7335	☐	■				●	+++	0,5	0,25	0,40	0,5	4,8
				T9325	■	☐	☐			●	++	0,5	0,25	0,40	0,5	4,8
				T9335	■	☐				●	+++	0,5	0,25	0,40	0,5	4,8
  		KNUX 160405R-32		T5315	☐	■				●	++	0,5	0,25	0,40	0,5	4,8
				T7325	☐	■				●	++	0,5	0,25	0,40	0,5	4,8
				T7335	☐	■				●	+++	0,5	0,25	0,40	0,5	4,8
				T9325	■	☐	☐			●	++	0,5	0,25	0,40	0,5	4,8
				T9335	■	☐				●	+++	0,5	0,25	0,40	0,5	4,8
  		KNUX 160410L-32		T9325	☐	■	☐			●	++	1,0	0,25	0,60	1,0	4,8
				T9335	☐	■				●	+++	1,0	0,25	0,60	1,0	4,8

		ISO		P	M	K	N	S	H			$r_\epsilon$	$f_{min}$	$f_{max}$	$a_{p\ min}$	$a_{p\ max}$
		KNUX 160410R-32	T9325	■	▣	▣					++	1,0	0,25	0,60	1,0	4,8
			T9335	■	▣						+++	1,0	0,25	0,60	1,0	4,8

### KESİCİÜÇ GEOMETRİSİ

22

**KNUX 160405L-22**

P	M	K	N	S	H
■	▣	■			
$f$		0,23 – 0,55			
$a_p$		0,50 – 4,80			
		KNUX			

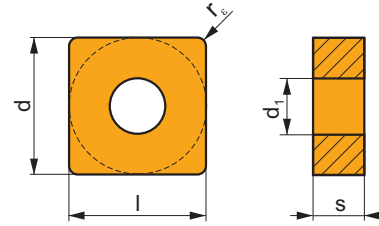
32

**KNUX 160405L-32**

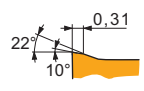
P	M	K	N	S	H
■	▣	■			
$f$		0,25 – 0,6			
$a_p$		0,50 – 4,80			
		KNUX			

## SNMG

	d	d <sub>1</sub>	l	s
1204	12,700	5,16	12,700	4,76
1506	15,875	6,35	15,875	6,35
1906	19,050	7,94	19,050	6,35

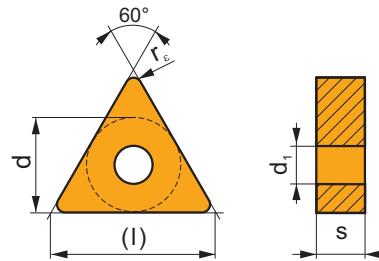


i	ISO	T6310	P	M	K	N	S	H	?	r <sub>e</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
	SNMG 120408E-NMR	T6310	☑	☑			☑		●	0,8	0,20	0,55	0,8	5,0
	SNMG 120412E-NMR	T6310	☑	☑			☑		●	1,2	0,22	0,60	1,2	5,5
	SNMG 150612E-NMR	T6310	☑	☑			☑		✘	1,2	0,22	0,65	1,2	6,0
	SNMG 190612E-NMR	T6310	☑	☑			☑		✘	1,2	0,22	0,65	1,2	8,0
	SNMG 190616E-NMR	T6310	☑	☑			☑		✘	1,6	0,25	0,70	1,6	8,0

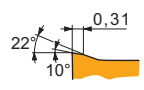


## TNMG

	d	d <sub>1</sub>	l	s
1604	9,525	3,81	16,5	4,76
2204	12,700	5,16	22,0	4,76

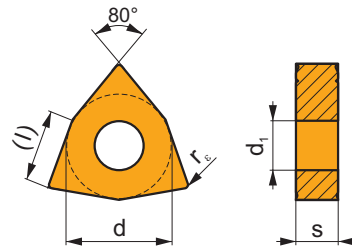


i	ISO	T6310	P	M	K	N	S	H	?	r <sub>e</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>
	TNMG 160404E-NMR	T6310	☑	☑			☑		●	0,4	0,20	0,24	0,4	4,0
	TNMG 160408E-NMR	T6310	☑	☑			☑		●	0,8	0,20	0,48	0,8	4,0
	TNMG 220408E-NMR	T6310	☑	☑			☑		●	0,8	0,20	0,48	0,8	6,0
	TNMG 220412E-NMR	T6310	☑	☑			☑		●	1,2	0,22	0,70	1,2	6,0



# WNMG

	d	d <sub>1</sub>	l	s
0604	9,525	3,81	6,5	4,76
0804	12,700	5,16	8,7	4,76



i	ISO	T	P	M	K	N	S	H	?	r <sub>ε</sub>	f <sub>min</sub>	f <sub>max</sub>	a <sub>p min</sub>	a <sub>p max</sub>	
															?
	WNMG 060404E-NMR	T6310	█	█			█		●	+	0,4	0,20	0,30	0,4	3,5
	WNMG 060408E-NMR	T6310	█	█			█		●	+	0,8	0,20	0,45	0,8	3,5
	WNMG 080404E-NMR	T6310	█	█			█		●	+	0,4	0,20	0,30	0,4	4,0
	WNMG 080408E-NMR	T6310	█	█			█		●	++	0,8	0,20	0,55	0,8	5,0
	WNMG 080412E-NMR	T6310	█	█			█		●	++	1,2	0,22	0,60	1,2	5,0

# SIMPLY RELIABLE

Profesyoneller sadece talaş bakarak işin kalitesini değerlendirebilir. Bizim talaşımız kendi öyküsünü anlatan pürüzsüz ve basit şekillidir. Açık ve istikrarlı işaretinden dolayı basitçe güvenilir olmak için sembolümüz olarak talaş şeklini kullanıyoruz.

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