

KATALOG  
VE TEKNİK  
REHBER  
2021.2



# SOLID KARBÜR PARMAK FREZELER

**SECO** 

# >30.000

STANDART ÜRÜN



# >75

ÜLKE



# >4100

İŞİNE ADANMIŞ ÇALIŞAN



Genel merkezi Fagersta, İsveç'te olan ve 75'ten fazla ülkede şubesi bulunan Seco Tools frezeleme, tornalama, delik işleme operasyonları için metal işleme çözümlerinde dünya lideri bir tedarikçidir.

80 yılı aşkın bir süredir şirket, üreticilerin maksimum üretkenlik ve kârlılık hedefleri için ihtiyaç duydukları teknolojileri, prosesleri ve desteği sağlamaktadır. Tüm endüstri dallarında üreticilerin başarıya ulaşmasında Seco'nun yenilikçi ürünlerinin ve uzmanlık hizmetlerinin nasıl bir rol oynadığını öğrenmek için lütfen [www.secotools.com](http://www.secotools.com) adresini ziyaret edin.

# SECO SOLİD FREZELEMeye HOŞ GELDİNİZ



JABRO 1976 'da Hollanda'nın Lottum şehrinde kuruldu.

JABRO Seco grubunun solid karbür frezeleme çözüm merkezi haline geldi. Ayrıca dünya çapında Araştırma ve Geliştirme, Üretim ve Uygulama Mühendisliği alanlarında da sorumludur.

Seco -JABRO dünya piyasalarında geniş çaplı standart ve özel ürünler sunarak özellikle Genel Mühendislik, Havacılık, Enerji üretimi, Medikal ve Kalıpcılık segmentlerinde müşterilerine çözümler sağlar.

İleri üretim teknolojisi ve çevresel odaklanması, demir içeren ve - içermeyen malzemelerin frezeleme operasyonlarında piyasa taleplerine uygun başarılı ürünler sunarak Seco 'nun sürekli gelişimini sağlar.

- Genel Mühendislik
- Kalıpcılık
- Havacılık
- Medikal
- Enerji Üretimi
- 3 C segmenti (Bilgisayar parçaları, Elektronik Kartlar ve Komünikasyon cihazları)

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## Ürün grubuna genel bakış

### SOLID<sup>2</sup>



Jabro-Solid<sup>2</sup> solid karbür frezelerden oluşan bir seridir ve genel işleme operasyonlarda esneklik, hız ve maliyet azaltıcıdır. Jabro-Solid<sup>2</sup> Ø1-Ø32 mm ve *inç* olarak Ø1/32 - Ø1 1/4 çapları arasında mevcuttur. Jabro-Solid<sup>2</sup> serisi ayrıca gelişmiş kaba işleme ürünlerine de sahiptir (JS564 ve JS565). Bu 564 ve 565 frezeler yüksek kesme derinliklerinde ve kesme hızlarında sürekli bir yay ile iyi tanımlanmış takım yollarında uygulandığında mükemmel performans sağlar (Gelişmiş kaba işleme). JS500 serisi tüm ürünlerin pahları (c\*45°) aşağıdaki toleranslara sahiptir: c = DC</=3=+0,01, 3<DC</=6=+0,02, 6<DC</=10=+0,03, 10<DC</=14=+0,04, 14<DC</=18=+0,05, 18<DC</=24=+0,06, Tüm Jabro-Solid<sup>2</sup> ürün kodları JS ile başlar. JS<sup>2</sup> ürünlerinin gruplandırılmış genel görünümü için, bakınız sayfa 9.

### HSM/TORNADO



Bu frezeler hassas toleranslarda, kısa kesme boylarında, düşürülmüş boğaz çapı ve güçlü çekirdek çapları ile Yüksek Hızlı İşleme (HSM) için özellikle geliştirilmiştir. Bu frezeler çevresel frezeleme ve kopya frezeleme metotlarında mükemmel yakalamak için tasarlanmıştır. HSM/TORNADO (Yüksek Hızlı İşleme) ürünlerinin gruplandırılmış genel görünümü için, bakınız sayfa 9.

### HPM



Farklı malzemelerde yüksek talaş kaldırma oranlarına ulaşabilmek için özellikle geliştirilmiş olan kaplamalı solid karbür freze çeşitleri. HPM (Yüksek Performanslı İşleme) ürünlerinin gruplandırılmış genel görünümü için, bakınız sayfa 10.

### HFM



Yüksek ilerlemeli işleme zayıf işleme koşullarında, kalıpta 3D profil işleme gibi derin ve sıg uygulamalar için ilk tercihtir. Yüksek ilerleme frezeleri dalma kesme frezeleme metotları içindir. HFM (Yüksek İlerlemeli İşleme) ürünlerinin gruplandırılmış genel görünümü için, bakınız sayfa 10.

## Ürün grubuna genel bakış

### MINI



Seco'nun mikro solid karbür frezeleri küçük çaplı dik kenarlı ve tamamı yuvarlak frezelerden oluşur. Genel işleme frezeleri bir çok ortak iş parçası malzemesinde uygun iken spesifik frezeler ise grafit ve sertleştirilmiş çelik malzemelerde kullanılabilir. Ufak işleme uygulamalarında optimal performans için tüm frezeler ince bir kaplamaya sahiptir.

MINI (Mikro işleme) ürünlerinin gruplandırılmış genel görünümü için, bakınız sayfa 10.

### DIAMOND



Bu ürün çeşitleri çok geniş bir çap aralığında ve çok farklı geometrilere mevcuttur. Bir çok kesme parametrelerinde gerekli diamond kaplamanın mükemmel yapışması için olası en iyi alt tabakaya sahiptir. Sonuç olarak, bu karbür frezeler üretkenliği gözle görülür şekilde artırır ve takım maliyetlerini düşürür. Bunun sebebi daha az takım değiştirilir ve yüksek ilerleme oranlarında hassas parçalar üretilebilir.

DIAMOND (diamond kaplamalı) ürünlerinin gruplandırılmış genel görünümü için, bakınız sayfa 10.

### COMPOSITE



Bu seri diamond kaplamalı veya kaplamasız solid karbür ve PCD frezelerden oluşur. Bir çok geometrilere mevcuttur ve ayrıca PCD kaynatılmış kesme kenarlarına sahiptir. Zorlu iş parçası malzemelerindeki zor kesme koşulları için optimize edilmiş ürün çeşitleri sunar.

COMPOSITE (JC) ürünlerinin gruplandırılmış genel görünümü için, bakınız sayfa 10.

### VHM



Kaplamalı ve kaplamasız genel parmak frezelerden oluşur, plastik ve alüminyum malzemeleri işleme için düşünülmüştür. Tahmin edilebilir ve üst seviye takım ömrü için bu ürünler yüksek kaliteli karbüre ve kaplamalara sahiptir.

VHM (Genel Mühendislik) ürünlerinin gruplandırılmış genel görünümü için, bakınız sayfa 11.



## Ürün grubuna genel bakış

### CERAMIC



Dünyanın en sert ısıya dayanıklı süper alaşımlarını (HRSA'lar) hızlı şekilde kesmek için iş parçası malzemeleri kadar güçlü ve gelişmiş bir takıma ihtiyacınız vardır. Bu yüksek performanslı seramik solid karbür parmak frezelerle işlemlerinizi kolaylaştırın ve HRSA parçalarınızı önemli ölçüde daha hızlı kesin. CERAMIC ürünlerine gruplandırılmış genel bakış için lütfen bkz. sayfa 11.

### HSS-CO



Yüksek hız çeliği kobalt, geleneksel yüksek hız çeliklerine kıyasla daha yüksek performans sunan üstün kalitedir. Artan sertlik nedeniyle, bu parmak frezeler günümüzün abresif, ısıya dayanıklı ve egzotik iş parçası malzemelerinde daha uzun süre dayanır. Bu parmak frezelerin yüksek kaliteli, düşük maliyetli üretim avantajları doğrudan, geliştirilen ağız versiyonları, aşınmaya dayanıklı kaplamalar ve içten soğutma sıvısı kanalları gibi bu zorlu iş parçası malzemeleri için optimize edilmiş özellikler sonucunda elde edilmiştir. HSS-CO ürünlerine gruplandırılmış genel bakış için lütfen bkz. sayfa 11.

## Ürün grubuna genel bakış






Ürün ailesi	Teknoloji	Ürün	1xx	4xx	5xx	6xx	7xx	8xx	9xx
Jabro-Solid <sup>2</sup>	Genel işleme	JS		■	■		■		
Jabro - HPM	Yüksek Performanslı İşleme	JHP	■	■			■		■
Jabro - HFM	Yüksek İlerlemeli İşleme	JHF	■						■
Jabro - Mini	Mikro İşleme	JM	■	■	■	■			■
Jabro - HSM/Tornado	Yüksek Hızlı İşleme	JH	■	■			■		■
Jabro - Ceramic	Yüksek Performanslı İşleme	JCG					■		
Jabro - Diamond	Grafit İşleme	JD				■			
Jabro - Composites	Kompozit İşleme	JC, JPD						■	
Jabro - VHM	Genel işleme	J		■					■
Jabro-HSS-E	Genel işleme	JCO					■		
<b>SMG</b>									
P1-8					■				■
P11-12					■				■
M1-3					■		■		
M4-5					■		■		
K1-7					■				■
S1-3					■		■		
S11-13					■		■		
H			■		■				
N1				■	■				
N2-3				■	■				
N11				■	■				
TS				■				■	
TP				■				■	
GR						■			
SMG (Seco malzeme grubu) hakkında daha fazla açıklama için lütfen bkz. sayfa 626									

## Özet

	Sayfa	Ürün ailesi	İsim	P1-8	P11-12	M1-3	M4-5	K1-7	N1	N2-3	N11	S1-3	S11-13	H3-31	TS1	TS2-3	TS4	TP1	TP2-3	TP4	Honeycomb	GR	
	33	JS <sup>2</sup>	JSE512	•	○	•	○	•	○	○	○	○	○	○	○	○			○			○	
	37		JSE513	•	○	•	○	•	○	○	○	○	○	○	○	○	○			○			○
	43		JSE514	•	○	•	○	•	○	○	○	○	○	○	○	○	○			○			○
	106		JSB512	•	○	•	○	•	○	○	○	○	○	○	○	○	○			○			○
	49		JS553	•	○	•	○	•	○	○	○	○	○	○	○	○	○			○			○
	67		JS554	•	○	•	○	•	○	○	○	○	○	○	○	○	○			○			○
	313		JS412	•	○	•	○	•	○	○	○	○	○	○	○	○	○			○			○
	316		JS413	•	○	•	○	•	○	○	○	○	○	○	○	○	○			○			○
	319		JS452	•	○	•	○	•	○	○	○	○	○	○	○	○	○			○			○
	324		JS453	•	○	•	○	•	○	○	○	○	○	○	○	○	○			○			○
	99		JS520	•	○	○	○	○	○	○	○	○	○	○	○	○	○			○			○
	103		JS522	•	○	○	○	○	○	○	○	○	○	○	○	○	○			○			○
	108		JS532	•	○	○	○	○	○	○	○	○	○	○	○	○	○			○			○
	112		JS533	•	○	○	○	○	○	○	○	○	○	○	○	○	○			○			○
	116		JS534	•	○	○	○	○	○	○	○	○	○	○	○	○	○			○			○
	120		JS506	•	○	○	○	○	○	○	○	○	○	○	○	○	○			○			○
	124		JS509	•	○	○	○	○	○	○	○	○	○	○	○	○	○			○			○
	238		JS564	•	○	○	○	○	○	○	○	○	○	○	○	○	○			○			○
	252		JS720	•	○	○	○	○	○	○	○	○	○	○	○	○	○			○			○
	210		JS730	•	○	○	○	○	○	○	○	○	○	○	○	○	○			○			○
	227		JS754	•	○	○	○	○	○	○	○	○	○	○	○	○	○			○			○
	227		JS755	•	○	○	○	○	○	○	○	○	○	○	○	○	○			○			○
	333	HSM/TORNADO	JH40	•	○	○	○	○	○	○	○	○	○	○	○			○			○		
	197, 371		JH112	•	○	○	○	○	○	○	○	○	○	○	○	○			○			○	
	361		JH120	•	○	○	○	○	○	○	○	○	○	○	○	○			○			○	
	363		JH130	•	○	○	○	○	○	○	○	○	○	○	○	○			○			○	
	192, 368		JH142	•	○	○	○	○	○	○	○	○	○	○	○	○			○			○	
	374		JH150	•	○	○	○	○	○	○	○	○	○	○	○	○			○			○	
	376		JH160	•	○	○	○	○	○	○	○	○	○	○	○	○			○			○	
	340		JH410	•	○	○	○	○	○	○	○	○	○	○	○	○			○			○	
	336		JH421	•	○	○	○	○	○	○	○	○	○	○	○	○			○			○	
	342		JH440	•	○	○	○	○	○	○	○	○	○	○	○	○			○			○	
	344		JH450	•	○	○	○	○	○	○	○	○	○	○	○	○			○			○	
	346		JH460	•	○	○	○	○	○	○	○	○	○	○	○	○			○			○	
	291		JH710	•	○	○	○	○	○	○	○	○	○	○	○	○			○			○	
	[XXX]		JHB720	•	○	○	○	○	○	○	○	○	○	○	○	○			○			○	
	303		JH721	•	○	○	○	○	○	○	○	○	○	○	○	○			○			○	
	305		JH722	•	○	○	○	○	○	○	○	○	○	○	○	○			○			○	
	295		JH730	•	○	○	○	○	○	○	○	○	○	○	○	○			○			○	
	279		JH734	•	○	○	○	○	○	○	○	○	○	○	○	○			○			○	
	[XXX]		JH736	•	○	○	○	○	○	○	○	○	○	○	○	○			○			○	
	289		JH740	•	○	○	○	○	○	○	○	○	○	○	○	○			○			○	
	283		JH744	•	○	○	○	○	○	○	○	○	○	○	○	○			○			○	
	285		JH746	•	○	○	○	○	○	○	○	○	○	○	○	○			○			○	
	287		JH770	•	○	○	○	○	○	○	○	○	○	○	○	○			○			○	
	299		JH780	•	○	○	○	○	○	○	○	○	○	○	○	○			○			○	
	293		JH790	•	○	○	○	○	○	○	○	○	○	○	○	○			○			○	
	128		JH910	•	○	○	○	○	○	○	○	○	○	○	○	○			○			○	
	132, 365		JH930	•	○	○	○	○	○	○	○	○	○	○	○	○			○			○	
134, 195	JHB970	•	○	○	○	○	○	○	○	○	○	○	○	○			○			○			




• İlk tercih, ○ Alternatif tercih

## Özet

	Sayfa	Ürün ailesi	İsim	P1-8	P11-12	M1-3	M4-5	K1-7	N1	N2-3	N11	S1-3	S11-13	H3-31	TS1	TS2-3	TP1	TP2-3	TS2/TP2+N1	TS2/TP2+S12	Honeycomb	GR	
	355	HPM	JHP170											•									
	256		JHP750										•	•									
	259		JHP760			•	•																
	263		JHP770											•									
	270		JHP780										•										
	259		JHP794				•	•															
	329		JHP490							•	•												
	188		JHP951		•	○																	
	182		JHP993		•	○																	
	297		JHP994												•	•							
	358	HFM	JHF181	○	○			•					•	•	•								
	136		JHF980	•	○	•	•	•					•	•	○								
	385	MINI	JMB112												•								
	378		JME142													•							
	383		JME144													•							
	348		JM403/404/406							•	•												
	350		JM413/416							•	•	•				•		•					
	170		JMB542	•	•	•	•			○	○	○		•	○								○
	173		JMB562	•	•	•	•			○	○	○		•	○								○
	177		JMB563	•	•	•	•			○	○	○		•	○								○
	160		JME542	•	•	•	•			○	○	○		•	○								○
	163		JME562	•	•	•	•			○	○	○		•	○								○
	167		JME564	•	•	•	•			○	○	○		•	○								○
	455		JMB642/JMB662																				•
	455		JMB662																				•
453	JME642																				•		
	445	DIAMOND	JD620																			•	
	447		JD630																				•
	449		JD640																				•
	451		JD660																				•
	393	COMPOSITE	JC845												•			•					
	395		JC850													•			•				
	397		JC860													•			•				•
	399		JC870													•			•				•
	405		JC871													•			•				•
	411		JC875													•			•				•
	415		JC876													•			•				•
	419		JC877													•			•				•
	423		JC880													•			•				•
	425		JC885													•			•				•
	427		JC898																	•	•		
	429		JC899																	•	•		
	432		JPD850													•			•				
	434		JPD880													•			•				
	436		JPD890													•			•				

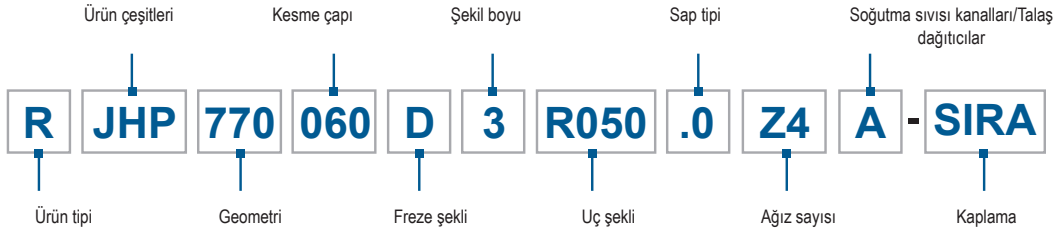
• İlk tercih, ○ Alternatif tercih

## Özet

	Sayfa	Ürün ailesi	İsim	P1-8	P11-12	M1-3	M4-5	K1-7	N1	N2-3	N11	S1-3	S11-13	H3-31	TS1	TS2-3	TS4	TP1	TP2-3	TP4	Honeycomb	GR	
	440	VHM	J28												•								
	143		J36	○	•	○	○	○	○	○	•	•	○	○		○			○				
	146		HK/HKM	•	○	•	•	•	•	•	○	•	•	•		•			•				
	157		V31	•	○	•	•	•	•	•	•	•	•	•		•			•				•
	140		J29	•	•	•	•	•	•	•	•	•	•	•		•			•				•
	438		J93F														•		•				
	277	Ceramic	JCG790									•											
	307	HSS-Co	JCO710			•	•						•										

• İlk tercih, ○ Alternatif tercih

## Kodlama anahtarı



Ürün çeşitleri	Ürün Tipi
J = JABRO® VHM JC = JABRO® Composites JD = JABRO® Diamond JH = JABRO® HSM/Tornado JHF = JABRO® HFM JHP = JABRO® HPM JM = JABRO® Mini JS = JABRO® SOLID <sup>2</sup> JPD = JABRO® PCD JCO = JABRO® HSS-Co JCG = JABRO® Ceramic	BOŞ = Standart (katalog) ürün R = Tamamı yenilenmiş ürün RK = Ön tarafı yenilenmiş ürün

Şekil boyu	Ağız sayısı
Tek bir rakam, aynı kesme geometrisine sahip diğer takımların kesme boyuna göre o takımın boyu hakkında bilgi verir. Bu da önceki L, XL, SL, K, ve diğer versiyonların yerine geçer. Bir çok ürün için, 1=K, 2=N, 3=L, 4=XL	Bu rakam frezenin ağız sayısı hakkında bilgi verir. Örneğin; PCEDC2 = 2 ağızlı, PCEDC6 = 6 ağızlı

Kesme çapı	Soğutma sıvısı kanalları/Talaş dağıtıcılar
Metrik = 3 rakamlı kod (4 rakamlı kod durumunda-xx,xx mm) İnç= noktadan sonra 3 rakamlı kod Örneğin: (050 = metrik, 5 mm) / (0,500 = İngiliz ölçü birimi, 1/2 inç)	BOŞ = Soğutma sıvısı kanalı yok A = Soğutma sıvısı kanalı var C = Talaş dağıtıcılı

Geometri	Sap Tipi
Geometri Üç rakamlı kombinasyon freze geometrisini belirler. Örneğin; 111, 950, 553, 514, vb.	Sap tipinin mevcudiyetini belirtir. .0 = Silindirik .3 = Weldon .5 = Whistle Notch .9 = Safe-Lock

Açıklama

Uç şekli						Kaplama
<b>Keskin</b>	<b>Tamamı yuvarlak</b>	<b>Köşe radyüsü</b>	<b>Konkav radyüs</b>	<b>Köşesi pahlı</b>	<b>Yüksek ilerlemeli</b>	4 karakterli kod frezenin kaplamasını belirtir.
						MEGA = MEGA MT = MEGA-T M64 = MEGA-64 M64T = MEGA-64-T TRI = TRIBON SIRA = SIRON-A HEMI = HEMI DIA = DIAMOND DURA = DURA NXT = NXT HXT = HXT STAX = STAX
<b>S</b>	<b>B</b>	<b>R...</b>	<b>K...</b>	<b>C</b>	<b>H</b>	
<b>Köşesi konkav radyüs ve radyüs olan frezelerin radyüs ölçüsü</b>						
000 = Metrik ürünler için uç şekli üç rakam ile gösterilmiştir. Bu rakamı 100 'e bölünce milimetre olarak gerçek radyüs ölçüsünü bulursunuz.						
.000 = İnç ürünlerde uç şekli noktadan sonra üç rakamlı kod ile gösterilmiştir. Bu rakam aslında köşe radyüsünü <i>inç</i> olarak gösterir (ör. R.100 radyüsün 0,100 <i>inç</i> olduğunu gösterir).						

Takım şekli					
(DC = DMM)		(DC < DMM)		(DC > DMM)	
<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>J</b>	<b>P</b>
<b>Form şekli</b>					
<b>N</b>	<b>X</b>	<b>T</b>			

## Çözümlerimiz size nasıl fayda sağlayabilir?

### Bireysel çözüm - Özel ve değiştirilmiş takımlar



Gereksinimler çok özel ise bu gereksinimlerinize göre uyarlanmış bireysel ve özelleştirilmiş takımlarımız ile doğru çözümü sunarız. Bu, işleme üretkenliğinizi yepyeni bir seviyeye taşımanızı sağlar.

Teklifimizde standart çözümlere ek olarak şunlar bulunur:

#### Özel Takımlar

Seco'nun size sunduklarının önemli bir kısmı "Özel Ürünlerdir". Seco mühendisleri müşterilerle yakın işbirliği ile taleplerin, standartların ötesine taşındığı meydan okumalara takımlar için hızlı teslimat çözümü sunar. Bu çözüm şunlar olabilir: en iyi çözümleri bulmak için çalışırlar. Örnekler şunlar olabilir:

- Standart geometri içinde değiştirilmiş takımlar
- MEP (Mekanik Kenar Profili Oluşturma)
- Köknar,
- Kırılmaç kuyruğu
- Konik tamamı yuvarlak
- Kondil freze
- Şekillendirilmiş takımlar
- Kovan

#### Modifiye Edilmiş Takımlar

Seco, belirli boyut gereksinimlerini karşılamak üzere değişiklik gerektiren standart

- (tam) Radyüs/Yüzey/Pah/Konkav
- Dış Çap düşürme (boğaz düşürme), artan uzunluk dahil
- Kaplama (kaplamasız takımlar için uygulama)
- Düşürülmüş kesme çapı
- Talaş kırıcılar
- Weldon/Safelock ekleme
- Dıştan soğutma kanalları

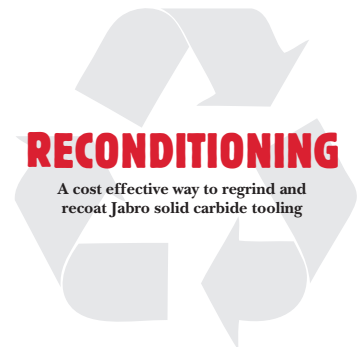
### YENİLEME TAKIM VE STOK MALİYETİNİ AZALTIR

Seco'nun modern karbür frezeleri, iyileştirilmiş kesme geometrisi, aşınmaya karşı dirençli kaplaması ve kenar hassasiyeti ile birleşerek mükemmel bir performans sunar.

Ürün her ne kadar iyi olursa da, zamanla kesme kenarlarında aşınma işaretleri görülür. Bu aşınmanın kontrol altında tutulup, zamanında farkına varılması yenileme yapılmasına olanak verir, böylece yeni ürün almanıza gerek kalmaz. Yeni ürünler üretmek için kullandığımız solid karbür takımlarınızı yenilemek için de aynı ileri teknolojiyi kullanıyoruz.

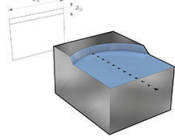
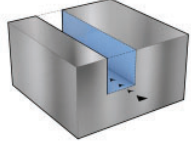
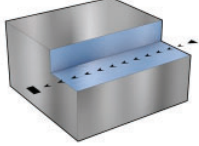
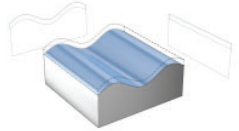
#### YENİLEME İLE GÖRECEĞİNİZ FAYDALAR

- Orjinal Seco geometrisi, kenar hassasiyeti ve kaplama işlemi ile yüksek Seco standartlarında yenileme.
- Aynı karbür frezeyi tekrar kullanarak takım maliyetini düşürme.
- Kullanımı kolay ve ücretsiz "yenileme kutumuzda" önceden hazırlanmış teslimat notu bulunur.
- Seco yetkilisini aradığınızda ücretsiz ve güvenilir olarak ertesi gün gelip teslim alma.
- Teslim alma servisi, yenileme kutusu ve önceden hazırlanmış teslimat notu sayesinde kolay işlem.
- Normal Seco kanalları ile teslimat.
- Yenilenen ürünlerin aynı yeni ürünlerde olduğu gibi paketlenmesi, güvenli sevkiyatı ve saklanması.
- Kutu üzerinde yeni etiket.
- Daha yeşil ve temiz bir çevre için çalışma. -Seco'nun tüm işlemleri global olarak ISO14001 ile belgelenmiştir.
- Tüm işlemlerde ISO9001 garantisi ile kalite güvencesi.

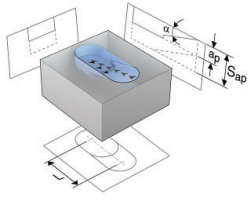
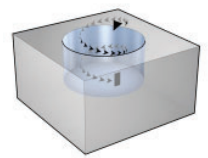
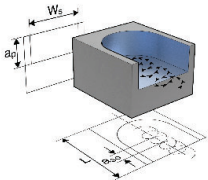
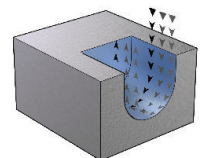
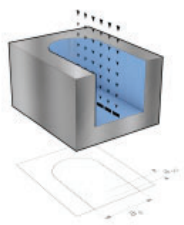
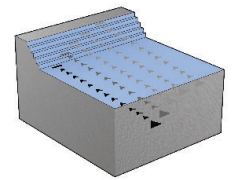
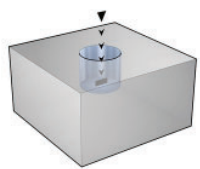
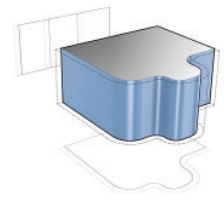




## Temel operasyonlar:

Yüzey Frezeleme:	Kanal açma:
<p>Freze temasının <math>180^\circ</math> 'lik bir yay dan daha az olduğu işlemdir. Takım teması: Küçük <math>a_p</math> ve geniş <math>a_e</math>.</p> 	<p>Tam çapın parça ile temasta olduğu operasyondur. <math>a_e</math> DC eşittir ve <math>a_p</math> işleme stratejisine bağlı olarak DC den 2 kat büyüktür.</p> 
Kenar frezeleme:	Kopya frezeleme:
<p>Takımın kenardan parçaya temas ettiği operasyondur, <math>a_p</math> geniş ve <math>a_e</math> küçüktür.</p> 	<p>Takım radyüsünün parçaya temas ettiği operasyondur. <math>a_p</math> ve <math>a_e</math> her ikisi de küçüktür.</p> 

## İleri seviyeli işleme metotları:

<b>Yokuş frezeleme:</b>	<b>Helisel enterpolasyon ile rampalama:</b>
<p>Z ekseninde açılı dalarak cep boşaltma işlemidir.</p>  <p>The diagram shows a 3D view of a rectangular block with a chamfered pocket. A top-down view shows the pocket's dimensions: width <math>W_s</math>, depth <math>a_p</math>, and chamfer angle <math>\alpha</math>. A side view shows the chamfered edge with a radius <math>R_{\text{Sap}}</math>.</p>	<p>Z eksenini kullanarak rampalama yaparken takımın dairesel hareketiyle cep boşaltma.</p>  <p>The diagram shows a 3D view of a rectangular block with a chamfered pocket. A top-down view shows the pocket's dimensions: width <math>W_s</math>, depth <math>a_p</math>, and chamfer angle <math>\alpha</math>. A side view shows the chamfered edge with a radius <math>R_{\text{Sap}}</math>.</p>
<b>Trokoidal:</b>	<b>Aşağı-Yukarı işleme:</b>
<p>X ve Y ekseninin kısmi dairesel hareketlerini kullanarak kenar frezeleme ile kanal açma operasyonudur. (Kanal frezelemeyi kenar frezelemeye dönüştürme)</p>  <p>The diagram shows a 3D view of a rectangular block with a trochoidal pocket. A top-down view shows the pocket's dimensions: width <math>W_s</math>, depth <math>a_p</math>, and chamfer angle <math>\alpha</math>. A side view shows the chamfered edge with a radius <math>R_{\text{Sap}}</math>.</p>	<p>Formun profilini izleyerek aşağı ve yukarı kopya frezeleme hareketi yaparak 3 boyutlu bir formu işlemek.</p>  <p>The diagram shows a 3D view of a rectangular block with a trochoidal pocket. A top-down view shows the pocket's dimensions: width <math>W_s</math>, depth <math>a_p</math>, and chamfer angle <math>\alpha</math>. A side view shows the chamfered edge with a radius <math>R_{\text{Sap}}</math>.</p>
<b>Dalma kesme frezeleme:</b>	<b>Z-ekseni ile işleme:</b>
<p>Z ekseninde derin kanal açma operasyonudur.</p>  <p>The diagram shows a 3D view of a rectangular block with a deep slot. A top-down view shows the slot's width <math>W_s</math> and depth <math>a_p</math>. A side view shows the slot's profile.</p>	<p>Z ekseninde küçük bir delme veya rampalama hareketi yaparak yüzey işleminin ardından X ve Y hareketleri ile cep boşaltma operasyonudur.</p>  <p>The diagram shows a 3D view of a rectangular block with a deep slot. A top-down view shows the slot's width <math>W_s</math> and depth <math>a_p</math>. A side view shows the slot's profile.</p>
<b>Delme:</b>	<b>Gelişmiş kaba işleme/Optirough</b>
<p>Z ekseninde hareket ederek delme.</p>  <p>The diagram shows a 3D view of a rectangular block with a hole. A top-down view shows the hole's diameter <math>\phi</math> and depth <math>a_p</math>. A side view shows the hole's profile.</p>	<p>Basit ve kompleks şekiller üzerinde sürekli bir yay ile iyi tanımlanmış takım yolları. Geniş ekstenel paso (<math>a_p</math>) ve küçük radyal pasonun (<math>a_e</math>) yüksek ağız başı ilerleme (<math>f_z</math>) ve kesme hızları (<math>V_c</math>) ile birleşerek yüksek üretkenlik sunduğu işleme şeklidir.</p>  <p>The diagram shows a 3D view of a rectangular block with a hole. A top-down view shows the hole's diameter <math>\phi</math> and depth <math>a_p</math>. A side view shows the hole's profile.</p>

## Tanımlar, işleme stratejileri:

### Genel işleme:

Genel kullanım için işleme stratejisidir.  $a_e$  -  $a_p$  oranı operasyona göre farklılık gösterebilir.

Takım karakteristikleri: Takımlar uzun kesme boylarına ve ince çekirdek çaplara sahiptir. Yüksek tolerans gereksinimi yoktur.

Tezgah gereksinimleri: Tezgah için özel bir gereksinime ihtiyaç yoktur.

Temel CNC teknolojisi ile, ileri zor işleme metodları mümkün değildir.

Orta seviyede talaş kaldırma oranına  $Q$  ( $\text{cm}^3/\text{dak.}$ ) ulaşılabilir.

Uygulama alanları genellikle küçük ölçekli partiler ve geniş malzeme çeşitlerinden oluşur.

### Yüksek Performanslı İşleme:

Yüksek talaş kaldırma oranlarının elde edilebileceği işleme stratejisidir. Bu stratejinin tipik özelliği iş parçası malzemesine göre  $a_e$  DC 'nin 1 katı ve  $a_p$  ise DC 'nin 1 ila 1½ katıdır.

Normal işleme ile karşılaştırıldığında HPM (Yüksek Performanslı İşleme) sayesinde daha yüksek paso miktarı ile birlikte yüksek talaş kaldırma oranları elde edersiniz.

Takım karakteristikleri: Özellikle geliştirilmiş talaş form veren kanallar, kesme köşesini korumak için küçük bir  $45^\circ$  pah yada köşe radyüsü, özel kaygan formulu talaş boşluğu ve kaplama, Weldon sap seçeneği.

Tezgah gereksinimleri: Yüksek stabilite, yüksek güç, CNC kontrol, sağlam bağlama sistemi.

Uygulama alanı: Üretim zamanının önemli olduğu büyük parti üretimler ya da yüksek talaş kaldırma oranının  $Q$  ( $\text{cm}^3/\text{dak.}$ ) gerektiği tek iş parçasında.

### Yüksek İlerlemeli İşleme:

Yüksek İlerlemeli İşleme küçük  $a_p$  ile temas ( $a_e$ ) kullanıldığı ve yüksek ilerleme oranlarına ulaşıldığı bir işleme stratejisidir.

Normal işleme ile karşılaştırıldığında HFM (Yüksek İlerlemeli İşleme) sayesinde yüksek tabla ilerlemeleri ile birlikte yüksek talaş kaldırma oranları ve/yada yüzey kalitesi elde edersiniz.

Takım karakteristikleri: Özel tasarlanmış ağızlar, çok güçlü kesme boyu ve kaplama.

Tezgah gereksinimleri: İyi stabilite, CNC, yüksek tabla ilerlemesi ( $v_f$ ).

Bu teknolojinin özelliklerinden bazıları, kullanıcı dostu, kolay, güvenli ve hızlı CAM programı yapılabilmesidir. Z-ekseninde paso verme stratejisini kullanarak komplike formların işlenmesini çok kolay ve kısa şekilde programlayabilirsiniz.

Uygulama alanı: Yumuşaktan sert çeliklere, titanyum ve paslanmaz çeliklerde ve ayrıca HSM öncesi ön işlemede iyi sonuçlar verir.

Ayrıca derin cep işlemede de kullanılabilir.

### Mikro İşleme:

Son derece küçük takım çaplarının kullanıldığı bir işleme stratejisidir.

Takım karakteristikleri: Çap aralığı 0,1-2.0 arasındadır, kısa kesme boyu, yüksek hassasiyet ve kaplamaya sahiptir.

Tezgah gereksinimleri: Yüksek fener mili hassasiyeti, yüksek devir (RPM), CNC, fener mili genişlemesine karşı termal stabilite.

Uygulama alanı: Bir çok malzeme tipinde, kanal, cep boşaltma ya da gravür işleme.

### Yüksek Hızlı İşleme:

Küçük radyal kesme derinliği, yüksek kesme hızı ve tabla ilerlemesi kullanılan bir işleme stratejisidir.

Kullanılan metoda bağlı olarak yüksek talaş kaldırma ve düşük  $R_a$  değerine ulaşılabilir. Bu stratejinin sonucunda düşük kesme güçleri, frezede ve parçada daha az ısı birikimi, daha az çapak formu ve iş parçasında yüksek ölçü hassasiyetine ulaşılır.

HSM (Yüksek hızlı işleme) ile genel işlemeye göre daha yüksek kesme hızı kullanarak daha yüksek talaş kaldırma oranına ve/veya yüzey kalitesine ulaşabilirsiniz.

Takım karakteristikleri: Sağlam (kalın merkez çapı ve kısa kesme boyu), iyi bir talaş boşaltma için temiz ve iyi biçimlendirilmiş talaş kanalı, kaplamalı.

Tezgah gereksinimleri: Hızlı CNC kontrolü, yüksek devir (RPM), eksene hızlı hareket. Uygulama alanı: Kalıplılık endüstrisinde sertleştirilmiş çelikte (48-62 HRC), kısa sürede semi-finiş ve finiş operasyonlar içindir.

Diğer malzemelerde ileri düzey işleme metodları ve doğru takım kullanıldığı zaman da bu teknik uygulanabilir.

### Gelişmiş kaba işleme / Optirough:

Basit ve kompleks şekiller üzerinde sürekli bir yay ile iyi tanımlanmış takım yolları.

Geniş aksel kesme ( $a_p$ ) ve küçük radyal kesme derinliklerinin ( $a_e$ ) yüksek ağız başı yüksek ilerleme ( $f_z$ ) ve kesme hızları ( $V_c$ ) ile birleşerek yüksek üretkenlik sunduğu işleme şeklidir.

CAM'e dayalı kaba veya dinamik frezeleme stratejileri, ortalama talaş yükünün ve takımın temas yayının merkezlerinin çakışmasını sağlar.

Temas yayı azaldığı zaman, kaba işlemede oluşan ısı miktarı da azalır. Radyal kesme derinliği azalırken frezenin temas yayı da azalır. Daha az temas sonucu daha az sürtünme olur ve böylece işleme sırasında daha az ısı oluşur. Bu düşük işleme ısı işleme hızının artmasını ve çevrim süresinin kısılmasını sağlar.

## Gelişmiş Kaba İşleme Açıklaması

### Gelişmiş Kaba İşleme tam olarak ne demektir?

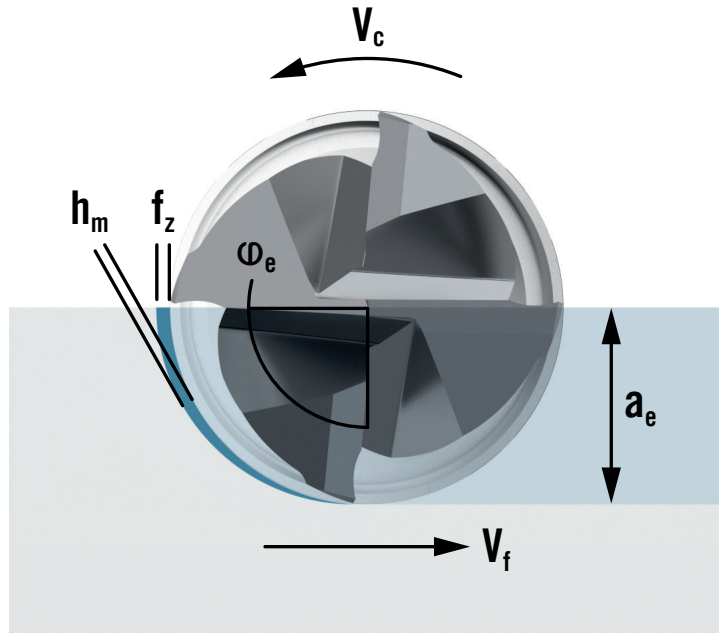
Günümüzün CAM paketleri, geleneksel takım yollarını kullanırken değişen temas yaylarının yaygın olduğu iç/dış radyüs şekilleri için özel takım yolu stratejileri sunar. Bu program paketleri tutarlı talaş yükünü sabit tutmak ve temas yayını kontrol altında tutabilmek için değişik ilerleme oranları uygular.

Bu CAM tabanlı kaba işleme veya gelişmiş kaba işleme, kesici takımın temas yayına ve ortalama talaş yüküne odaklanır. Temas yayı azaldığı zaman, kaba işlemede oluşan ısı miktarı da azalır. Radyal kesme derinliği azalırken frezenin temas yayı da azalır. Daha az temas sonucu daha az sürtünme olur ve böylece işleme sırasında daha az ısı oluşur. Bu düşük işleme ısı işleme hızının artmasını ve çevrim süresinin kışalmasını sağlar. Ayrıca, ortaya çıkan kesme kuvveti daha düşüktür ve yüksek APMXS veya kesme derinliğinin programlanmasını sağlar.

Gelişmiş kaba işleme sırasında, CAM paketlerinin temas yayını korumak için bir radyüs girerken trokoidal işleme benzeri teknikler kullanması gerekir.

Optimize edilmiş kaba işleme takım yolu kullanırken ve tutarlı temas yayı sağlarken, frezenin radyüsü parçanın iç radyüsüne aşırı yüklenme riski olmadan uyabilir. Bu imkan Gelişmiş Kaba İşleme takımlarımızın (JS554-3C, JS564, JS656, JS754, JS755 ve JS720) kaba işleme geçişinde daha fazla talaş kaldırmasını sağlar. Böylece finiş geçişi için daha az miktarda talaş kalır. Sonuç olarak da daha hızlı işleme döngü süresi ve daha uzun takım ömrü elde edilir. Ayrıca, kalan talaş sabit olmakla birlikte, finiş frezeleme takımı daha iyi bir son yüzey kalitesi oluşturabilir ve aynı zamanda daha uzun bir takım ömrüne sahip olur.

### Temas yayının kesme hızı ve ağız başına ilerleme üzerindeki etkisi



## Ürünlerimiz size nasıl fayda sağlayabilir?

### JABRO® Ceramic parmak frezelerle

#### süper alaşımlarda Devrim niteliğinde hızlara ulaşın

SiAlON seramikler, yüksek mukavemetli geometriler ve takviyeli ön ağızlar, bu son derece optimize edilmiş takımların temel özelliklerinden bazılarıdır ve yüksek hızlı, yüksek performanslı tezgahlardan tam olarak faydalanmayı sağlar. Takımlar, en fazla 1200 M/dak kesme hızlarında çalışabilir ve standart solid karbür çözümlere kıyasla önemli bir üretkenlik artışı sağlayabilir.

Yüksek sıcaklıklara gerek duyulduğundan, yüksek vc'ye ulaşmak için önemli miktarda RPM'ye de ihtiyaç vardır. HRSA'nın yumuşadığı seviyeye (850c +) ulaşmak için yüksek sıcaklıklar gereklidir. Bu takımlarla, iş parçasında sabit bir kesim ve sürekli temas en üst düzeye çıkarıldığı sürece birden fazla strateji uygulanabilir.

Bu takım, kenar frezeleme, kanal açma, yüksek ilerlemeli frezeleme ve gelişmiş kaba işleme için tasarlanmıştır! Tüm bunlar mümkündür. Kesme bölgesinde yüksek kesme sıcaklığını korumak için kesme sıvısı hava ile sıkıştırılır. Takım yüksek hızlarda çalıştığından, salgı da çok önemlidir.

JABRO® Ceramic takımlarını 277. sayfada bulabilirsiniz.



### İkisi bir arada geometri ile havacılık hibrit iş parçası

#### malzemelerinde delik açmayı basitleştirin

JC899, CFRP-Ti ve CFRP-Alu gibi yığın halindeki malzeme kombinasyonlarının işlenmesi için tasarlanmış, patentli bir ikisi bir arada çift geometri çözümüne sahiptir. Sol yön helis/sağ yön kesim versiyonu sayesinde bu takım, katman ayrışmasını, fiber dışı çekilmesini ve talaş izlerinin iş parçası yüzeyine zarar vermesini önler (bu, talaşlar delikten aşağı doğru itilerek sağlanır). Sonuç olarak, JC899 sol yön helis, sağ yön kesim STAX finiş frezesi mükemmel bir yüzey kalitesi sağlar ve 2 yığın katmanı arasındaki talaş kirliliğini önler.

Bu, işleme sonrası, istifleme, temizleme ve çapak alma ile yeniden istifleme işlemlerinin artık gerekmediği anlamına gelir. Bu durum, işlem verimliliğini %200 - 300'e kadar artırabilir ve geleneksel raybalara göre takım ömrünü üç ila altı kat artırabilir.

Aynı zamanda, JC898 yüksek ilerlemeli kaba işleme uygulanarak delme işlemi değiştirilir. Bu takım, helisel enterpolasyon ile yokuş frezeleme yaparak ve JC899'un sürekli stok koşullarında çalışmasını sağlayarak delik boyutu ve toleransında korelasyonu en aza indirirken kaliteli çıktıyı en üst düzeye çıkarır.

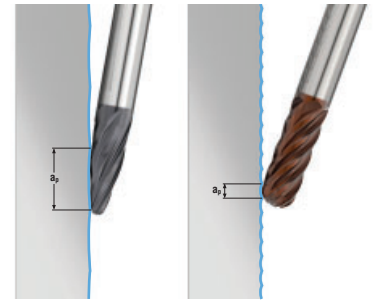
JABRO® JC898/JC899'u 427. - 429. sayfalarda bulabilirsiniz.



### Daha hızlı finiş frezeleme üretkenliği için daha büyük kademeler kullanın

En hızlı ve en güvenilir finiş frezeleme operasyonlarında, yeni kovan şeklindeki takımlar, kademeli olarak büyük artışlar sağlamak için yenilikçi bir "konik" veya "damla" geometrisi kullanır. Bu, gelişmiş CAD/CAM sistemleri veya bu takımların kullanımı için oluşturulan yeni eklentiler kullanılarak mümkündür. 5 eksenli tezgah hareketi ile takımın kesme profili her zaman parçanın yüzeyine doğru açıyla temas edebilir.

Seco, standart kovan stili şekillerimizin yanı sıra, lens şekilleri gibi tüm kovan geometrisi stillerini de sunarak her zaman parça üretim ihtiyaçlarınız için ideal takımlara erişebilmenizi sağlar.



### Mikro frezeleme operasyonlarında riski ortadan kaldırın

Solid karbür JABRO® parmak frezesi ürün çeşitlerimizle küçük, mikro boyutlu yüzeyleri işlerken en başından itibaren doğruluk, hassasiyet ve yüksek yüzey kalitesi elde edin. SECO'nun yeni Mini ürün çeşitleri; iş parçası ve kesici takım çalışırken görmenin tipik olarak imkansız olduğu işleme operasyonları için daha uzun takım ömrü, denge ve gönül rahatlığı sağlar.

Hassas şekilde üretilmiş geometriler, neredeyse sıfır salgı, gelişmiş kaplamalar ve gerçek hat-form radyüs toleransları, bu mini ürün çeşitlerine inanılmaz derecede uzun takım ömrü ve güvenilirlik sağlar. Önemli olan, bu takımları faydaların en üst düzeye çıkarılabileceği uygun koşullarda kullanmaktır. Takım ve takım tutucunun salgısını en aza indirmek önemlidir.

Ayrıca CAM programı, her uygulama için ideal RPM ve ilerleme hızını (vf) hesaplayan SECO JABRO® ilerleme optimize edici ile optimize edilebilir. Sonuç olarak, takım ve ayar kaba, finiş öncesi ve son finiş mikro frezeleme operasyonları sırasında öngörülemeyen sorunları ortadan kaldırmaya yardımcı olur.

JABRO®Mini takımlarına genel bakışı 10. sayfada bulabilirsiniz.



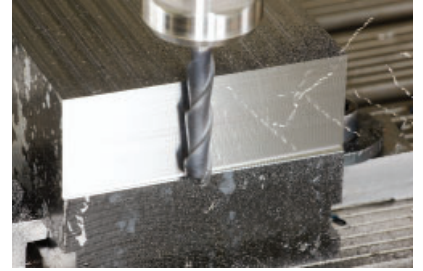
### JS522 uzun ağızlı finiş frezesi

Havacılık sektörünün dikeylik, iyi yüzey kalitesi, yüksek talaş kaldırma oranları ve daha etkili işlemlere yönelik katı kriterlerini karşılayan JS522 uzun ağızlı finiş frezeleme takımı.

5°Dc kesme uzunluğu, artan merkez çapı ve sapmayı telafi etmek için hafifçe negatif koniklik ile JS522, tek geçişli finiş frezeleme operasyonlarında dik kenarları işlemek için özel olarak tasarlanmıştır. Bu tek geçiş, zaman kazandırır (%80'e kadar) ancak en önemlisi anında kalite sağlar. Bu takım genellikle toplu üretim alanlarında kullanılır.

Yerleştirilip optimize edildikten sonra birden fazla uygulamada üst seviyede maliyet tasarrufu sağladığı kanıtlanmıştır!

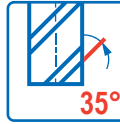
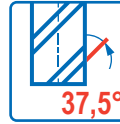
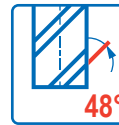
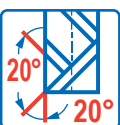
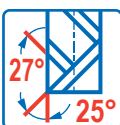
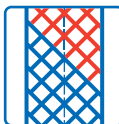
JABRO® JS522'yi 103. sayfada bulabilirsiniz.



## Önemli semboller

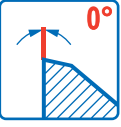

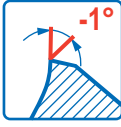
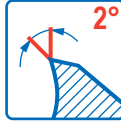
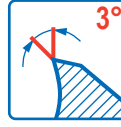
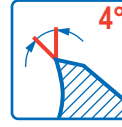
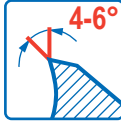
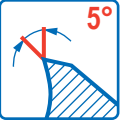
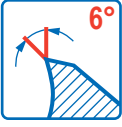
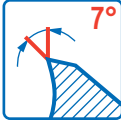
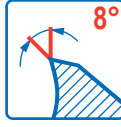
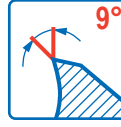
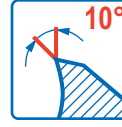
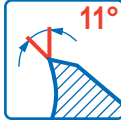


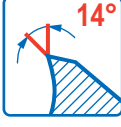
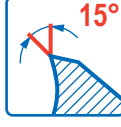
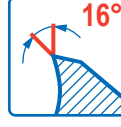
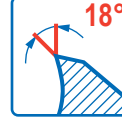
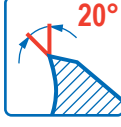
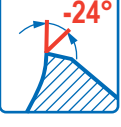
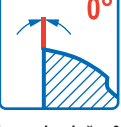
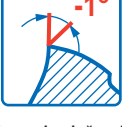
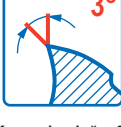
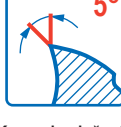
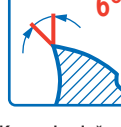
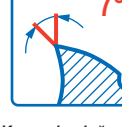
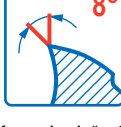
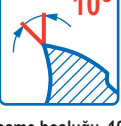
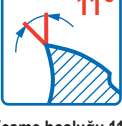
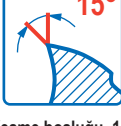
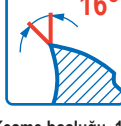



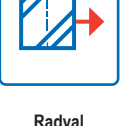


					
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Merkezden kesmez PCEDC 4	Merkezden kesmez PCEDC 5	Merkezden keser PCEDC 6	Merkezden kesmez PCEDC 6	Merkezden kesmez PCEDC 7	Merkezden kesmez PCEDC 8
					
Merkezden kesmez PCEDC 9					
					
Silindirik sap	Weldon sap	Safelock sap			
					
Keskin	Köşesi pahlı	Köşe radyüsü	Tamamı yuvarlak	Konik keskin	Konik tamamı yuvarlak freze
					
Freze 250°	T şekilli	Kovan			

## Önemli semboller
















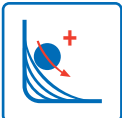
 Helisel açı 0°	 Helisel açı 3°	 Helisel açı 4°	 Helisel açı 10°	 Helisel açı 15°	 Helisel açı 17°	 Helisel açı 20°
 Helisel açı 25°	 Helisel açı 28°	 Helisel açı 30°	 Helisel açı 35°	 Helisel açı 37,5°	 Helisel açı 38°	 Helisel açı 40°
 Helisel açı 41°	 Helisel açı 42°	 Helisel açı 44°	 Helisel açı 45°	 Helisel açı 46°	 Helisel açı 48°	 Helisel açı 50°
 Helisel açı Sol 3°	 Helisel açı Sol 10°	 Helisel açı Sol 15°				
 Çift helis 20° - 20°	 Çift helis 27° - 25°	 Çift helis 35° - 25°	 Çift helis 35° - 30°	 Çift helis 34° - 36°	 Çift helis 40° - 42°	 Sol yön helis 40° - 10°
 Çift çekirdek	 Konik Çekirdek					
 Talaş dağıtıcı	 Kaba işleme profili	 Router profili				



## Önemli semboller

						
Kesme boşluğu 0° Açılı sırt	Kesme boşluğu 1° Açılı sırt	Kesme boşluğu -1° Açılı sırt	Kesme boşluğu 2° Açılı sırt	Kesme boşluğu 3° Açılı sırt	Kesme boşluğu 4° Açılı sırt	Kesme boşluğu 4-6° Açılı sırt
						
Kesme boşluğu 5° Açılı sırt	Kesme boşluğu 6° Açılı sırt	Kesme boşluğu 7° Açılı sırt	Kesme boşluğu 8° Açılı sırt	Kesme boşluğu 9° Açılı sırt	Kesme boşluğu 10° Açılı sırt	Kesme boşluğu 11° Açılı sırt
						
Kesme boşluğu 12° Açılı sırt	Kesme boşluğu -12° Açılı sırt	Kesme boşluğu 14° Açılı sırt	Kesme boşluğu 15° Açılı sırt	Kesme boşluğu 16° Açılı sırt	Kesme boşluğu 18° Açılı sırt	Kesme boşluğu 20° Açılı sırt
						
Kesme boşluğu -24° Açılı sırt						
						
Kesme boşluğu 0° Radyal sırt	Kesme boşluğu -1° Radyal sırt	Kesme boşluğu 3° Radyal sırt	Kesme boşluğu 5° Radyal sırt	Kesme boşluğu 6° Radyal sırt	Kesme boşluğu 7° Radyal sırt	Kesme boşluğu 8° Radyal sırt
						
Kesme boşluğu 10° Radyal sırt	Kesme boşluğu 11° Radyal sırt	Kesme boşluğu 15° Radyal sırt	Kesme boşluğu 16° Radyal sırt	Kesme boşluğu 20° Radyal sırt		
						
ICC düz	ICC ve Y					
						
Radyal	Radyal/Yokuş Frezeleme	Radyal/Yokuş Frezeleme/Dalma Kesme				

## Önemli semboller

 Diamond	 Dura	 Hemi	 HSS-Co	 HXT
 Mega	 Mega-T	 Mega-64	 Mega-64-T	 NXT
 Mega	 Mega-T	 TAN	 Tribon	 Ceramic
 PCD				
 Tekrar bilenebilir	 Gelişmiş kaba işleme			

## Solid frezeleme özellikleri

Özellik	Açıklama
AP1	Bölünmüş kesme derinliği
APMXS	Radyal yöndeki maks. kesme derinliği
CA	Çarpma açısı
CHW	Köşe pahı eni
DC	Kesme çapı
DCX	Maks. Kesme çapı
DMM	sap çapı
DN	boyun açısı
FCEDC	Hesaplanan kesme kenar yüzeyi
ICC	İçten soğutma kanalı
L	Kesme kenarı boyu
L2	Kesme kenarı boyu 2
LN	Boğaz boyu
LN2	Boğaz boyu 2
LSCN	Minimum bağlama boyu
NA	Boğaz açısı
OAL	Tam boy
PCEDC	Çevresel kesme kenarı sayısı
PRFA/2	İkiye bölünmüş profil açısı
PRFRAD1	Profil radyusu 1
PRFRAD2	Profil radyusu 2
PRFRAD3	Profil radyusu 3
PSIR	Takım yanaşma açısı
RE	Köşe radyüsü
RE2	Köşe radyüsü 2
RP	Programlama radyüsü
SA	Küre açısı
SIG	uç açısı
UTCN	Kesilmemiş kalınlık
WDX0	0 derece maksimum kesme derinliği
WDX05	0,5 derece maksimum kesme derinliği
WDX1	1 derece maksimum kesme derinliği
WDX15	1,5 derece maksimum kesme derinliği
WDX2	2 derece maksimum kesme derinliği
WDX3	3 derece maksimum kesme derinliği

## Minimaster Özellikler

Özellik	Açıklama
APMXE	Eksenel yöndeki maks. kesme derinliği
APMXS	Radyal yöndeki maks. kesme derinliği
AZ	maksimum dalma derinliği
BEC	arka bağlantı pah açısı
BHTA	Gövde eksenine göre açı
CCER	Kavisli kesme kenarı radyüsü
Cmax	Maks. helisel enterpolasyon çapı
Cmin	Min. helisel enterpolasyon çapı
DC	Kesme çapı
DCSFMS	Tezgah tarafı temas yüzey çapı
DCSFWS	Parça tarafı temas yüzey çapı
DCX	Maks. Kesme çapı
DMM	sap çapı
DN	boyun açısı
FCEDC	Hesaplanan kesme kenar yüzeyi
FHA	helisel ağız açısı
KAPRS	Radyal ilerleme yönündeki kesme kenarı açısı
LE	Kesme kenarı efektif boyu
LF	Fonksiyonel boy
LPR	tutucudan sonraki boy
OAL	Tam boy
RA	boşluk açısı
RE	Köşe radyüsü
RMPX	Maks. yokuş frezeleme açısı
RP	Programlama radyüsü
RPMX	Maks. dönüş hızı
SA	Küre açısı
SIG	uç açısı
UTCN	Kesilmemiş kalınlık
ZAFP	Çevresel kesen efektif kenar sayısı

Üniversal
Çelik ve dökme demir
Paslanmaz çelik ve S iş parçası malzemeleri
Demir içermeyen malzemeler
Sertleştirilmiş çelik için
Plastik ve cırp malzemeler için
Grafit malzeme için
Minimaster Plus
Minimaster




## UNIVERSAL

Seco, yüksek üretkenlik ve daha uzun takım ömrü sağlamak için yüksek performanslı solid karbür dik kenarlı parmak frezeler, tamamı yuvarlak frezeler ve finiş parmak frezelerinden oluşan eksiksiz bir ürün çeşidi sunmaktadır. Bu ürün çeşitleri arasında genel amaçlı ürünler ve özel iş parçası malzemeleri için optimize edilmiş parmak frezeler bulunur.

Genel amaçlı ürünler, mükemmel bir fiyat/performans oranı ile işleme uygulamalarında çeşitlilik sunar.

- JSE512, JSE513, JSE514, JS553, JS554, JS564, JS565 ve JS520, 45° pah tipi ile.
- JS522, JS553, JS554, JH910, JH930, JHF980, J36, JME542, JME562 ve JME564, radyüs tipi için.
- JS506, JS509, J29 ve V31, V tipi ile.
- JSB512, JS532, JS533, JS534, JHB970, JMB542, JMB562 ve JMB563, tamamı yuvarlak tip için.

Freze seçimi Üniversal

						
İsim		JSE512	JSE513	JSE514	JS553	JS554
Sayfa(lar)		33	37	43	49	67
Ürün ailesi		JS <sup>2</sup>	JS <sup>2</sup>	JS <sup>2</sup>	JS <sup>2</sup>	JS <sup>2</sup>
Freze tipi						
Sap	Silindirik	■	■	■	■	■
	Weldon	■	■	■	■	■
Ağız sayısı		2	3	4	3	4
ICC (İçten soğutma sıvısı kanalı)						
	Metrik	2-12	2-20	2-25	2-25	3-25
	İnç				1/8-1	1/4-1
Mevcut boylar						
		2	2,3	2,3	1,2,3	1,2,3
Operasyon						
						
						
SMG						
P1-8		●	●	●	●	●
P11-12		○	○	○	●	●
M1-3		●	●	●	●	●
M4-5		○	○	○	●	●
K1-7		●	●	●	●	●
S1-3		○	○	○	●	●
S11-13		○	○	○	●	●
H3 H5 H8 H11 H12 H21 H31		○	○	○	●	●
N1		○	○	○	●	●
N2-3		○	○	○	●	●
N11		○	○	○	●	●
TS1		○	○	○	●	●
TP1		○	○	○	●	●
GR		○	○	○	○	○

■ Stoklu standart ürün. □ Weldon sap mevcut, teslim süresi 3 iş günüdür.

● İlk tercih ○ Alternatif tercih

\*JS554 3C de mevcuttur. Gelişmiş kaba işleme sırasında uygulanabilir.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası matzemeleri

Demir içermeyen matzemeler




































Sertleştirilmiş çelik için

Plastik ve cırp matzemeler için

Grafit matzeme için





















Minimaster Plus

Minimaster

Freze seçimi Üniversal						
Üniversal						
	Çelik ve dökme demir					
İsim		JS564	JS565	JS520	JS522	JSB512
Sayfa(lar)		91	95	99	103	106
Ürün ailesi		JS <sup>2</sup>	JS <sup>2</sup>	JS <sup>2</sup>	JS <sup>2</sup>	JS <sup>2</sup>
Freze tipi						
Sap	Silindirik	■	■	■	■	■
	Weldon	■	■	□		
Ağız sayısı		4	5	5,6,8	2	2
ICC (İçten soğutma sıvısı kanalı)						
Mevcut boylar	Metrik		4-20	4-25	6-32	2-12
	İnç					
Operasyon						
		2,3	2,3	2,3	4	2
Grafit malzeme için						
Minimaster Plus						
Minimaster						
	SMG					
	P1-8	●	●	●	●	●
	P11-12	○	○	○	●	○
	M1-3	●	●	○	●	●
	M4-5	●	●	○	●	○
	K1-7	●	●	●	●	●
	S1-3	●	●	○	○	○
	S11-13	●	●	●	●	○
	H3 H5 H8 H11 H12 H21 H31	●	●	○		○
	N1	●	●	●	●	○
	N2-3	●	●	●	●	○
	N11	●	●	●	●	○
	TS1			●	●	○
	TP1			●	●	○
	GR			○	○	○

■ Stoklu standart ürün. □ Weldon sap mevcut, teslim süresi 3 iş günüdür.  
● İlk tercih ○ Alternatif tercih

## Freze seçimi Üniversal

						
İsim		JS532	JS533	JS534	JS506	JS509
Sayfa(lar)		108	112	116	120	124
Ürün ailesi		JS <sup>2</sup>	JS <sup>2</sup>	JS <sup>2</sup>	JS <sup>2</sup>	JS <sup>2</sup>
Freze tipi						
Sap	Silindirik	■	■	■	■	■
	Weldon	□	■	■	■	■
Ağız sayısı		2	3	4	3-4	3-4
ICC (İçten soğutma sıvısı kanalı)						
	Metrik	1-20	1-20	2-20	3-12	3-12
	İnç					
Mevcut boylar						
		1,2,3	1,2	1,2,3	2	2
Operasyon						
SMG						
P1-8		●	●	●	●	●
P11-12		○	○	○	○	○
M1-3		●	●	●	●	●
M4-5		●	●	●	●	●
K1-7		●	●	●	●	●
S1-3		○	○	○	○	○
S11-13		●	●	●	●	●
H3 H5 H8 H11 H12 H21					●	●
N1		●	●	●	●	●
N2-3		●	●	●	●	●
N11		●	●	●	●	●
TS1		●	●	●	●	●
TP1		●	●	●	●	●
GR		○	○	○	○	○

■ Stoklu standart ürün. □ Weldon sap mevcut, teslim süresi 3 iş günüdür.  
● İlk tercih ○ Alternatif tercih

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller



















Sertleştirilmiş çelik için

Plastik ve diğer materyaller için

Grafit materyal için

Minimaster Plus
















Minimaster

Freze seçimi Üniversal					
Üniversal					
	İsim	JH910	JH930	JHB970	JHF980
Çelik ve dökme demir	Sayfa(lar)	128	132, 365	134, 195	136
	Ürün ailesi	HSM/TORNADO	HSM/TORNADO	HSM/TORNADO	HFM
Paslanmaz çelik ve S iş parçası malzemeleri	Freze tipi				
	Sap	Silindirik	■	■	■
Demir içermeyen malzemeler		Weldon			
	Ağız sayısı	3	5-6, 8	2	2,3,4,5
Sertleştirilmiş çelik için	ICC (İçten soğutma sıvısı kanalı)				
	Metrik	2-20	6-20	2-16	1-12
Plastik ve cırp malzemeler için	İnç				
	Mevcut boylar	 2,3,4	 2	 1,2,3	 1,2,3,4
Grafit malzeme için	Operasyon	 			 
	SMG				
Minimaster Plus	P1-8	●	●	●	●
	P11-12	○	○	○	○
Minimaster	M1-3	●		●	●
	M4-5	●		●	●
	K1-7	●	●	●	●
	S1-3	●	●	●	●
	S11-13	●	●	●	●
	H3 H5 H7 H8 H11 H12 H21 H31		●		○
	N1				
	N2-3				
	N11				
	TS1				
	TP1	●			
	GR	●			

■ Stoklu standart ürün. □ Weldon sap mevcut, teslim süresi 3 iş günüdür.  
● İlk tercih ○ Alternatif tercih



## Freze seçimi Üniversal

					
İsim		J29	J36	HK/HKM	V31
Sayfa(lar)		140	143	146	157
Ürün ailesi		VHM	VHM	VHM	VHM
Freze tipi					
Sap	Silindirik	■	■	■	■
	Weldon				
Ağız sayısı		1	3	2,3,4	4
ICC (İçten soğutma sıvısı kanalı)					
	Metrik	0,2-6	2-20	1-10	6-28
	İnç				
Mevcut boylar					
		2	2	2	2
Operasyon					
					
					
SMG					
P1-8		●	○	●	●
P11-12		●	●		○
M1-3		●	○	●	●
M4-5		●	○	●	○
K1-7		●	○	●	●
S1-3		●	○	●	●
S11-13		●	○	●	●
H3 H5 H8 H11 H12 H21		○		●	●
N1		●	○	●	●
N2-3		●	●	○	●
N11		●	●		●
TS1		●	○	●	●
TP1		●	○	●	●
GR		●			●

■ Stoklu standart ürün. □ Weldon sap mevcut, teslim süresi 3 iş gündür.

● İlk tercih ○ Alternatif tercih

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller






























Sertleştirilmiş çelik için

Plastik ve diğer materyaller için

Grafit materyal için

Minimaster Plus

Minimaster

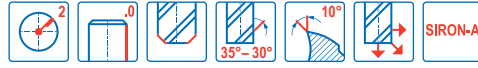
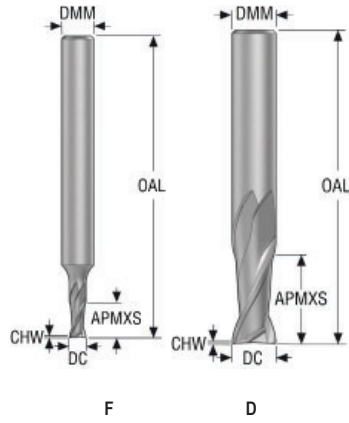
Freze seçimi Üniversal							
Üniversal							
	Çelik ve dökme demir						
Paslanmaz çelik ve S iş parçası matzemeleri							
Demir içermeyen matzemeler	İsim	JME542	JME562	JME564	JMB542	JMB562	JMB563
	Sayfa(lar)	160	163	167	170	173	177
Sertleştirilmiş çelik için	Ürün ailesi	MINI	MINI	MINI	MINI	MINI	MINI
	Freze tipi						
Plastik ve cırp matzemeler için	Sap	Silindirik	■	■	■	■	■
		Weldon					
Grafit matzeme için	Ağız sayısı	2	2	4	2	2	3
	ICC (İçten soğutma sıvısı kanalı)						
Minimaster Plus	Metrik	2-20	0,5-3,0	0,5-3,0	0,2-3,0	0,5-3,0	1,0-3,0
		İnç					
Minimaster	Mevcut boylar						
		1,3,4,5,6	2,4,5,6,7	2,4	1,3,4,5,6	1,2,3,4,5,6	2,4
Minimaster	Operasyon						
							
							
Minimaster	SMG						
	P1-8	●	●	●	●	●	●
	P11-12	●	●	●	●	●	●
	M1-3	●	●	●	●	●	●
	M4-5	●	●	●	●	●	●
	K1-7						
	S1-3						
	S11-13	●	●	●	●	●	●
	H3 H5 H7 H8 H11 H12 H21 H31	○	○	○	○	○	○
	N1	○	○	○	○	○	○
N2-3	○	○	○	○	○	○	
N11	○	○	○	○	○	○	
TS1							
TP1							
GR	○	○	○	○	○	○	

■ Stoklu standart ürün. □ Weldon sap mevcut, teslim süresi 3 iş günüdür.

● İlk tercih ○ Alternatif tercih

## JSE512

Genel amaçlı – Üniversal – Dik kenarlı – 2 Ağızlı – Silindirik – Köşesi pahlı



- Toleranslar:
- DMM=h5
- DC=e8

Ürün Tanımı	Kalite	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	CHW	PCEDC	Silindirik
					mm	mm	mm	mm	mm		
JSE512021F2C.0Z2	SIRA	10052986	2	F	2,0	3,0	4,0	50,0	0,02	2	■
JSE512020F2C.0Z2	SIRA	10052990	2	F	2,0	6,0	4,0	57,0	0,02	2	■
JSE512030D2C.0Z2	SIRA	10052987	2	D	3,0	3,0	6,0	50,0	0,03	2	■
JSE512030F2C.0Z2	SIRA	10052991	2	F	3,0	6,0	6,0	57,0	0,03	2	■
JSE512040D2C.0Z2	SIRA	10052988	2	D	4,0	4,0	8,0	50,0	0,04	2	■
JSE512040F2C.0Z2	SIRA	10052992	2	F	4,0	6,0	8,0	57,0	0,04	2	■
JSE512050D2C.0Z2	SIRA	10052989	2	D	5,0	5,0	10,0	50,0	0,05	2	■
JSE512060D2C.0Z2	SIRA	10052993	2	D	6,0	6,0	12,0	57,0	0,06	2	■
JSE512080D2C.0Z2	SIRA	10052994	2	D	8,0	8,0	16,0	63,0	0,08	2	■
JSE512100D2C.0Z2	SIRA	10052995	2	D	10,0	10,0	20,0	72,0	0,1	2	■
JSE512120D2C.0Z2	SIRA	10052996	2	D	12,0	12,0	24,0	83,0	0,12	2	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve diğer materyaller için

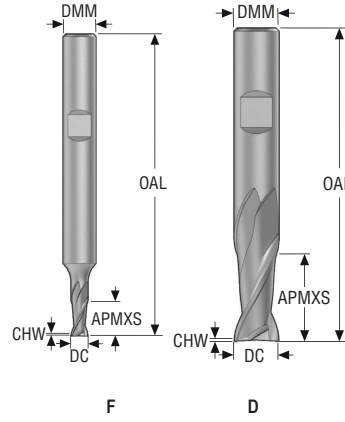
Grafit materyaller için

Minimaster Plus

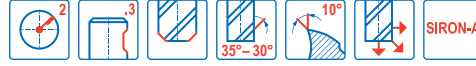
Minimaster

## JSE512

Genel amaçlı – Üniversal – Dik kenarlı' – 2 Ağzılı – Weldon – Köşesi pahlı



- Toleranslar:
- DMM=h5
- DC=e8



Ürün Tanımı	Kalite	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	CHW	PCEDC	Weldon
					mm	mm	mm	mm	mm		
JSE512020F2C.3Z2	SIRA	10053113	2	F	2,0	6,0	4,0	57,0	0,02	2	■
JSE512030F2C.3Z2	SIRA	10053114	2	F	3,0	6,0	6,0	57,0	0,03	2	■
JSE512040F2C.3Z2	SIRA	10053115	2	F	4,0	6,0	8,0	57,0	0,04	2	■
JSE512060D2C.3Z2	SIRA	10053116	2	D	6,0	6,0	12,0	57,0	0,06	2	■
JSE512080D2C.3Z2	SIRA	10053117	2	D	8,0	8,0	16,0	63,0	0,08	2	■
JSE512100D2C.3Z2	SIRA	10053118	2	D	10,0	10,0	20,0	72,0	0,1	2	■
JSE512120D2C.3Z2	SIRA	10053119	2	D	12,0	12,0	24,0	83,0	0,12	2	■

■ Stoklu standart ürün.

## Kesme verileri – JSE512 Kenar frezeleme

SMG		$a_p/DC$	$a_g/DC$	$f_z$								$v_c$
				2	3	4	5	6	8	10	12	
P1	M/A/D/E	0.250	1.5	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	145 (61–180)
		0.250	1.5	0,00048	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	475 (210 – 590)
P2	M/A/D/E	0.250	1.5	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	145 (61–180)
		0.250	1.5	0,00048	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	475 (210 – 590)
P3	M/A/D/E	0.250	1.5	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	145 (61–180)
		0.250	1.5	0,00048	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	475 (210 – 590)
P4	M/A/D/E	0.250	1.5	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	145 (61–180)
		0.250	1.5	0,00048	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	475 (210 – 590)
P5	M/A/D/E	0.250	1.5	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	145 (61–180)
		0.250	1.5	0,00048	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	475 (210 – 590)
P6	M/A/D/E	0.250	1.5	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	145 (61–180)
		0.250	1.5	0,00048	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	475 (210 – 590)
P7	M/A/D/E	0.250	1.5	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	145 (61–180)
		0.250	1.5	0,00048	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	475 (210 – 590)
P8	M/A/D/E	0.250	1.5	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	145 (61–180)
		0.250	1.5	0,00048	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	475 (210 – 590)
P11	M/A/D/E	0.250	1.5	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	85 (61–120)
		0.250	1.5	0,00048	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	280 (210 – 390)
P12	M/A/D/E	0.250	1.5	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	85 (61–120)
		0.250	1.5	0,00048	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	280 (210 – 390)
M1	E/M/A	0.250	1.5	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	85 (61–120)
		0.250	1.5	0,00048	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	280 (210 – 390)
M2	E/M/A	0.250	1.5	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	85 (61–120)
		0.250	1.5	0,00048	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	280 (210 – 390)
M3	E/M/A	0.250	1.5	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	85 (61–120)
		0.250	1.5	0,00048	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	280 (210 – 390)
M4	E/M/A	0.250	1.5	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	85 (61–120)
		0.250	1.5	0,00048	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	280 (210 – 390)
M5	E/M/A	0.250	1.5	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	85 (61–120)
		0.250	1.5	0,00048	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	280 (210 – 390)
K1	A/D/M/E	0.250	1.5	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	145 (61–180)
		0.250	1.5	0,00048	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	475 (210 – 590)
K2	A/D/M/E	0.250	1.5	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	145 (61–180)
		0.250	1.5	0,00048	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	475 (210 – 590)
K3	A/D/M/E	0.250	1.5	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	145 (61–180)
		0.250	1.5	0,00048	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	475 (210 – 590)
K4	A/D/M/E	0.250	1.5	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	145 (61–180)
		0.250	1.5	0,00048	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	475 (210 – 590)
K5	A/D/M/E	0.250	1.5	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	145 (61–180)
		0.250	1.5	0,00048	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	475 (210 – 590)
K6	A/D/M/E	0.250	1.5	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	145 (61–180)
		0.250	1.5	0,00048	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	475 (210 – 590)
K7	A/D/M/E	0.250	1.5	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	145 (61–180)
		0.250	1.5	0,00048	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	475 (210 – 590)
N1	E/M/A	0.200	1.5	0.020	0.030	0.040	0.050	0.060	0.080	0.10	0.12	500 (380 – 630)
		0.200	1.5	0,00080	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0048	1650 (1300 – 2000)
N11	E/M/A	0.250	1.5	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	365 (250 – 480)
		0.250	1.5	0,00048	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	1200 (830–1500)
S11	E	0.250	1.5	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	85 (61–120)
		0.250	1.5	0,00048	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	280 (210 – 390)
S12	E	0.250	1.5	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	85 (61–120)
		0.250	1.5	0,00048	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	280 (210 – 390)
S13	E	0.250	1.5	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	85 (61–120)
		0.250	1.5	0,00048	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	280 (210 – 390)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

 $v_c = m/dak$  (sf/dak) $f_z = mm$  (inç/ağız) $a_p, mm/DC$  (inç/DC) = faktör $a_g, mm/DC$  (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve diğer malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

Kesme verileri – JSE512 Kanal açma

SMG	a <sub>p</sub> /DC	f <sub>z</sub>									v <sub>c</sub>
		2	3	4	5	6	8	10	12		
P1	M/A/D/E	0.60	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	120 (51–150)
		0.60	0,00024	0,00036	0,00048	0,00060	0,00070	0,00095	0,0012	0,0014	395 (170–490)
P2	M/A/D/E	0.60	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	120 (50–140)
		0.60	0,00024	0,00036	0,00048	0,00060	0,00070	0,00095	0,0012	0,0014	395 (170–450)
P3	M/A/D/E	0.60	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	120 (51–150)
		0.60	0,00024	0,00036	0,00048	0,00060	0,00070	0,00095	0,0012	0,0014	395 (170–490)
P4	M/A/D/E	0.60	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	120 (50–140)
		0.60	0,00024	0,00036	0,00048	0,00060	0,00070	0,00095	0,0012	0,0014	395 (170–450)
P5	M/A/D/E	0.60	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	120 (50–140)
		0.60	0,00024	0,00036	0,00048	0,00060	0,00070	0,00095	0,0012	0,0014	395 (170–450)
P6	M/A/D/E	0.60	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	120 (50–140)
		0.60	0,00024	0,00036	0,00048	0,00060	0,00070	0,00095	0,0012	0,0014	395 (170–450)
P7	M/A/D/E	0.60	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	120 (51–150)
		0.60	0,00024	0,00036	0,00048	0,00060	0,00070	0,00095	0,0012	0,0014	395 (170–490)
P8	M/A/D/E	0.60	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	120 (50–140)
		0.60	0,00024	0,00036	0,00048	0,00060	0,00070	0,00095	0,0012	0,0014	395 (170–450)
P11	M/A/D/E	0.60	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	70 (51–100)
		0.60	0,00024	0,00036	0,00048	0,00060	0,00070	0,00095	0,0012	0,0014	230 (170–320)
P12	M/A/D/E	0.60	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	70 (50–99)
		0.60	0,00024	0,00036	0,00048	0,00060	0,00070	0,00095	0,0012	0,0014	230 (170–320)
M1	E/M/A	0.60	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	70 (50–99)
		0.60	0,00024	0,00036	0,00048	0,00060	0,00070	0,00095	0,0012	0,0014	230 (170–320)
M2	E/M/A	0.60	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	70 (50–99)
		0.60	0,00024	0,00036	0,00048	0,00060	0,00070	0,00095	0,0012	0,0014	230 (170–320)
M3	E/M/A	0.60	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	70 (50–99)
		0.60	0,00024	0,00036	0,00048	0,00060	0,00070	0,00095	0,0012	0,0014	230 (170–320)
M4	E/M/A	0.60	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	70 (50–99)
		0.60	0,00024	0,00036	0,00048	0,00060	0,00070	0,00095	0,0012	0,0014	230 (170–320)
M5	E/M/A	0.60	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	70 (50–99)
		0.60	0,00024	0,00036	0,00048	0,00060	0,00070	0,00095	0,0012	0,0014	230 (170–320)
K1	A/D/M/E	0.60	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	120 (50–140)
		0.60	0,00024	0,00036	0,00048	0,00060	0,00070	0,00095	0,0012	0,0014	395 (170–450)
K2	A/D/M/E	0.60	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	120 (50–140)
		0.60	0,00024	0,00036	0,00048	0,00060	0,00070	0,00095	0,0012	0,0014	395 (170–450)
K3	A/D/M/E	0.60	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	120 (50–140)
		0.60	0,00024	0,00036	0,00048	0,00060	0,00070	0,00095	0,0012	0,0014	395 (170–450)
K4	A/D/M/E	0.60	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	120 (50–140)
		0.60	0,00024	0,00036	0,00048	0,00060	0,00070	0,00095	0,0012	0,0014	395 (170–450)
K5	A/D/M/E	0.60	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	120 (50–140)
		0.60	0,00024	0,00036	0,00048	0,00060	0,00070	0,00095	0,0012	0,0014	395 (170–450)
K6	A/D/M/E	0.60	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	120 (50–140)
		0.60	0,00024	0,00036	0,00048	0,00060	0,00070	0,00095	0,0012	0,0014	395 (170–450)
K7	A/D/M/E	0.60	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	120 (50–140)
		0.60	0,00024	0,00036	0,00048	0,00060	0,00070	0,00095	0,0012	0,0014	395 (170–450)
N1	E/M/A	0.40	0.010	0.015	0.020	0.025	0.030	0.040	0.050	0.060	400 (300–500)
		0.40	0,00040	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	1300 (990–1600)
N11	E/M/A	0.60	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	300 (200–390)
		0.60	0,00024	0,00036	0,00048	0,00060	0,00070	0,00095	0,0012	0,0014	980 (660–1200)
S11	E	0.60	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	70 (50–99)
		0.60	0,00024	0,00036	0,00048	0,00060	0,00070	0,00095	0,0012	0,0014	230 (170–320)
S12	E	0.60	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	70 (50–99)
		0.60	0,00024	0,00036	0,00048	0,00060	0,00070	0,00095	0,0012	0,0014	230 (170–320)
S13	E	0.60	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	70 (50–99)
		0.60	0,00024	0,00036	0,00048	0,00060	0,00070	0,00095	0,0012	0,0014	230 (170–320)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)

f<sub>z</sub> = mm (inç/ağız)

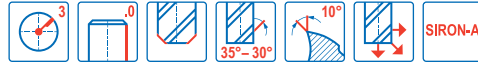
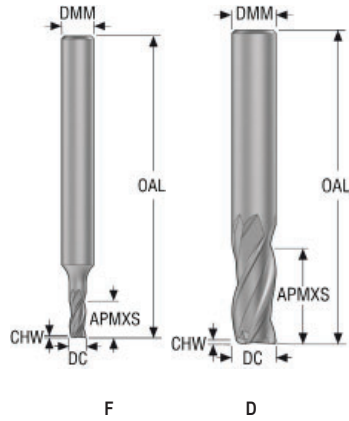
a<sub>p</sub> mm/DC (inç/DC) = faktör

a<sub>e</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

## JSE513

Genel amaçlı – Üniversal – Dik kenarlı – 3 Ağızlı – Silindirik – Köşesi pahlı



- Toleranslar:
- DMM=h5
- DC=e8



Ürün Tanımı	Kalite	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	CHW	PCEDC	Silindirik
					mm	mm	mm	mm	mm		
JSE513020F2C.0Z3	SIRA	10053000	2	F	2,0	6,0	4,0	57,0	0,02	3	■
JSE513025F2C.0Z3	SIRA	10053001	2	F	2,5	6,0	5,0	57,0	0,025	3	■
JSE513030D2C.0Z3	SIRA	10052998	2	D	3,0	3,0	6,0	50,0	0,03	3	■
JSE513030F2C.0Z3	SIRA	10053002	2	F	3,0	6,0	6,0	57,0	0,03	3	■
JSE513040D2C.0Z3	SIRA	10052999	2	D	4,0	4,0	8,0	50,0	0,04	3	■
JSE513040F2C.0Z3	SIRA	10053003	2	F	4,0	6,0	8,0	57,0	0,04	3	■
JSE513050F2C.0Z3	SIRA	10053004	2	F	5,0	6,0	10,0	57,0	0,05	3	■
JSE513060D2C.0Z3	SIRA	10053005	2	D	6,0	6,0	12,0	57,0	0,06	3	■
JSE513070F2C.0Z3	SIRA	10053006	2	F	7,0	8,0	14,0	63,0	0,07	3	■
JSE513080D2C.0Z3	SIRA	10053007	2	D	8,0	8,0	16,0	63,0	0,08	3	■
JSE513090F2C.0Z3	SIRA	10053008	2	F	9,0	10,0	18,0	72,0	0,09	3	■
JSE513100D2C.0Z3	SIRA	10053009	2	D	10,0	10,0	20,0	72,0	0,1	3	■
JSE513110F2C.0Z3	SIRA	10053010	2	F	11,0	12,0	22,0	83,0	0,11	3	■
JSE513120D2C.0Z3	SIRA	10053011	2	D	12,0	12,0	24,0	83,0	0,12	3	■
JSE513140D2C.0Z3	SIRA	10053012	2	D	14,0	14,0	28,0	80,0	0,14	3	■
JSE513160D2C.0Z3	SIRA	10053013	2	D	16,0	16,0	32,0	92,0	0,16	3	■
JSE513180D2C.0Z3	SIRA	10053014	2	D	18,0	18,0	35,0	100,0	0,18	3	■
JSE513200D2C.0Z3	SIRA	10053015	2	D	20,0	20,0	35,0	104,0	0,2	3	■
JSE513030F3C.0Z3	SIRA	10053038	3	F	3,0	6,0	10,0	57,0	0,03	3	■
JSE513040F3C.0Z3	SIRA	10053039	3	F	4,0	6,0	14,0	57,0	0,04	3	■
JSE513050F3C.0Z3	SIRA	10053040	3	F	5,0	6,0	18,0	57,0	0,05	3	■
JSE513060D3C.0Z3	SIRA	10053046	3	D	6,0	6,0	20,0	63,0	0,06	3	■
JSE513080D3C.0Z3	SIRA	10053047	3	D	8,0	8,0	28,0	80,0	0,08	3	■
JSE513100D3C.0Z3	SIRA	10053048	3	D	10,0	10,0	35,0	89,0	0,1	3	■
JSE513120D3C.0Z3	SIRA	10053049	3	D	12,0	12,0	42,0	100,0	0,12	3	■
JSE513160D3C.0Z3	SIRA	10053050	3	D	16,0	16,0	50,0	115,0	0,16	3	■
JSE513200D3C.0Z3	SIRA	10053052	3	D	20,0	20,0	60,0	125,0	0,2	3	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve diğer materyaller için

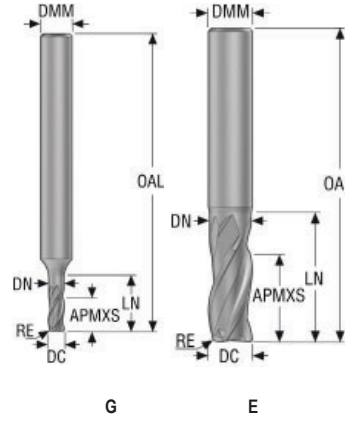
Grafit materyal için

Minimaster Plus

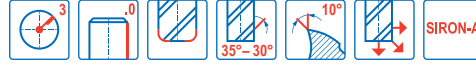
Minimaster

## JSE513

Genel amaçlı – Üniversal – Dik kenarlı' – 3 Ağzılı – Silindirik – Köşe radyüsü



- Toleranslar:
- DMM=h5
- DC=e8
- RE= ±0,05 mm



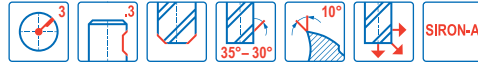
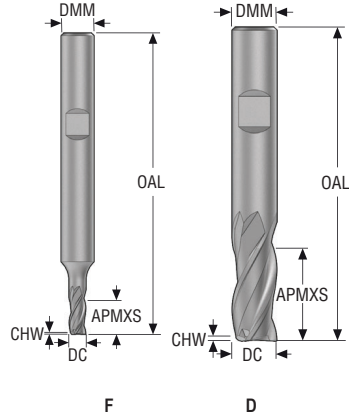
Ürün Tanımı	Kalite	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Silindirik
					mm	mm	mm	mm	mm	mm	mm		
JSE513030G2R050.0Z3	SIRA	10053023	2	G	3,0	6,0	6,0	57,0	10,0	2,85	0,5	3	■
JSE513040G2R050.0Z3	SIRA	10053024	2	G	4,0	6,0	8,0	57,0	13,0	3,8	0,5	3	■
JSE513050G2R050.0Z3	SIRA	10053025	2	G	5,0	6,0	10,0	57,0	16,0	4,75	0,5	3	■
JSE513060E2R050.0Z3	SIRA	10053026	2	E	6,0	6,0	12,0	57,0	18,0	5,7	0,5	3	■
JSE513060E2R100.0Z3	SIRA	10053032	2	E	6,0	6,0	12,0	57,0	18,0	5,7	1,0	3	■
JSE513080E2R050.0Z3	SIRA	10053027	2	E	8,0	8,0	16,0	63,0	25,0	7,6	0,5	3	■
JSE513080E2R100.0Z3	SIRA	10053033	2	E	8,0	8,0	16,0	63,0	25,0	7,6	1,0	3	■
JSE513100E2R050.0Z3	SIRA	10053028	2	E	10,0	10,0	20,0	72,0	29,0	9,5	0,5	3	■
JSE513100E2R100.0Z3	SIRA	10053034	2	E	10,0	10,0	20,0	72,0	29,0	9,5	1,0	3	■
JSE513120E2R050.0Z3	SIRA	10053029	2	E	12,0	12,0	24,0	83,0	35,0	11,4	0,5	3	■
JSE513120E2R100.0Z3	SIRA	10053035	2	E	12,0	12,0	24,0	83,0	35,0	11,4	1,0	3	■
JSE513160E2R050.0Z3	SIRA	10053030	2	E	16,0	16,0	32,0	92,0	42,0	15,2	0,5	3	■
JSE513160E2R100.0Z3	SIRA	10053036	2	E	16,0	16,0	28,0	92,0	42,0	15,2	1,0	3	■
JSE513200E2R050.0Z3	SIRA	10053031	2	E	20,0	20,0	35,0	104,0	51,0	19,0	0,5	3	■
JSE513200E2R100.0Z3	SIRA	10053037	2	E	20,0	20,0	35,0	104,0	51,0	19,0	1,0	3	■

■ Stoklu standart ürün.



## JSE513

Genel amaçlı – Üniversal – Dik kenarlı – 3 Ağızlı – Weldon – Köşesi pahlı



- Toleranslar:
- DMM=h5
- DC=e8



Ürün Tanımı	Kalite	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	CHW	PCEDC	Weldon
					mm	mm	mm	mm	mm		
JSE513020F2C.3Z3	SIRA	10053120	2	F	2,0	6,0	4,0	57,0	0,02	3	■
JSE513025F2C.3Z3	SIRA	10053121	2	F	2,5	6,0	5,0	57,0	0,025	3	■
JSE513030F2C.3Z3	SIRA	10053122	2	F	3,0	6,0	6,0	57,0	0,03	3	■
JSE513040F2C.3Z3	SIRA	10053123	2	F	4,0	6,0	8,0	57,0	0,04	3	■
JSE513050F2C.3Z3	SIRA	10053124	2	F	5,0	6,0	10,0	57,0	0,05	3	■
JSE513060D2C.3Z3	SIRA	10053125	2	D	6,0	6,0	12,0	57,0	0,06	3	■
JSE513070F2C.3Z3	SIRA	10053126	2	F	7,0	8,0	14,0	63,0	0,07	3	■
JSE513080D2C.3Z3	SIRA	10053127	2	D	8,0	8,0	16,0	63,0	0,08	3	■
JSE513090F2C.3Z3	SIRA	10053128	2	F	9,0	10,0	18,0	72,0	0,09	3	■
JSE513100D2C.3Z3	SIRA	10053129	2	D	10,0	10,0	20,0	72,0	0,1	3	■
JSE513110F2C.3Z3	SIRA	10053130	2	F	11,0	12,0	22,0	83,0	0,11	3	■
JSE513120D2C.3Z3	SIRA	10053131	2	D	12,0	12,0	24,0	83,0	0,12	3	■
JSE513140D2C.3Z3	SIRA	10053132	2	D	14,0	14,0	28,0	80,0	0,14	3	■
JSE513160D2C.3Z3	SIRA	10053133	2	D	16,0	16,0	32,0	92,0	0,16	3	■
JSE513180D2C.3Z3	SIRA	10053258	2	D	18,0	18,0	35,0	100,0	0,18	3	■
JSE513200D2C.3Z3	SIRA	10053259	2	D	20,0	20,0	35,0	104,0	0,2	3	■
JSE513030F3C.3Z3	SIRA	10053275	3	F	3,0	6,0	10,0	57,0	0,03	3	■
JSE513040F3C.3Z3	SIRA	10053276	3	F	4,0	6,0	14,0	57,0	0,04	3	■
JSE513050F3C.3Z3	SIRA	10053277	3	F	5,0	6,0	18,0	57,0	0,05	3	■
JSE513060D3C.3Z3	SIRA	10053283	3	D	6,0	6,0	20,0	63,0	0,06	3	■
JSE513080D3C.3Z3	SIRA	10053284	3	D	8,0	8,0	28,0	80,0	0,08	3	■
JSE513100D3C.3Z3	SIRA	10053285	3	D	10,0	10,0	35,0	89,0	0,1	3	■
JSE513120D3C.3Z3	SIRA	10053286	3	D	12,0	12,0	42,0	100,0	0,12	3	■
JSE513160D3C.3Z3	SIRA	10053287	3	D	16,0	16,0	50,0	115,0	0,16	3	■
JSE513200D3C.3Z3	SIRA	10053288	3	D	20,0	20,0	60,0	125,0	0,2	3	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve diğer materyaller için

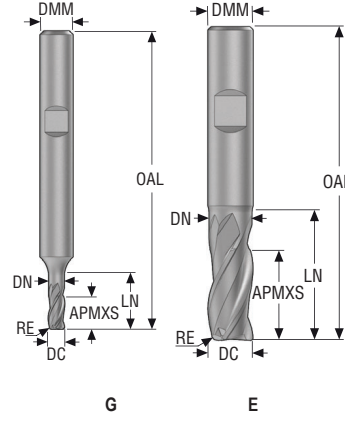
Grafit materyal için

Minimaster Plus

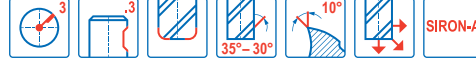
Minimaster

## JSE513

Genel amaçlı – Üniversal – Dik kenarlı' – 3 Ağzılı – Weldon – Köşe radyüsü



- Toleranslar:
- DMM=h5
- DC=e8
- RE= ±0,05 mm



Ürün Tanımı	Kalite	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Weldon
					mm	mm	mm	mm	mm	mm	mm		
JSE513030G2R050.3Z3	SIRA	10053260	2	G	3,0	6,0	6,0	57,0	10,0	2,85	0,5	3	■
JSE513040G2R050.3Z3	SIRA	10053261	2	G	4,0	6,0	8,0	57,0	13,0	3,8	0,5	3	■
JSE513050G2R050.3Z3	SIRA	10053262	2	G	5,0	6,0	10,0	57,0	16,0	4,75	0,5	3	■
JSE513060E2R050.3Z3	SIRA	10053263	2	E	6,0	6,0	12,0	57,0	18,0	5,7	0,5	3	■
JSE513060E2R100.3Z3	SIRA	10053269	2	E	6,0	6,0	12,0	57,0	18,0	5,7	1,0	3	■
JSE513080E2R050.3Z3	SIRA	10053264	2	E	8,0	8,0	16,0	63,0	25,0	7,6	0,5	3	■
JSE513080E2R100.3Z3	SIRA	10053270	2	E	8,0	8,0	16,0	63,0	25,0	7,6	1,0	3	■
JSE513100E2R050.3Z3	SIRA	10053265	2	E	10,0	10,0	20,0	72,0	29,0	9,5	0,5	3	■
JSE513100E2R100.3Z3	SIRA	10053271	2	E	10,0	10,0	20,0	72,0	29,0	9,5	1,0	3	■
JSE513120E2R050.3Z3	SIRA	10053266	2	E	12,0	12,0	24,0	83,0	35,0	11,4	0,5	3	■
JSE513120E2R100.3Z3	SIRA	10053272	2	E	12,0	12,0	24,0	83,0	35,0	11,4	1,0	3	■
JSE513160E2R050.3Z3	SIRA	10053267	2	E	16,0	16,0	32,0	92,0	42,0	15,2	0,5	3	■
JSE513160E2R100.3Z3	SIRA	10053273	2	E	16,0	16,0	28,0	92,0	42,0	15,2	1,0	3	■
JSE513200E2R050.3Z3	SIRA	10053268	2	E	20,0	20,0	35,0	104,0	51,0	19,0	0,5	3	■
JSE513200E2R100.3Z3	SIRA	10053274	2	E	20,0	20,0	35,0	104,0	51,0	19,0	1,0	3	■

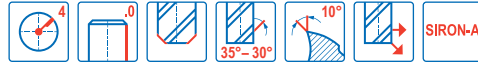
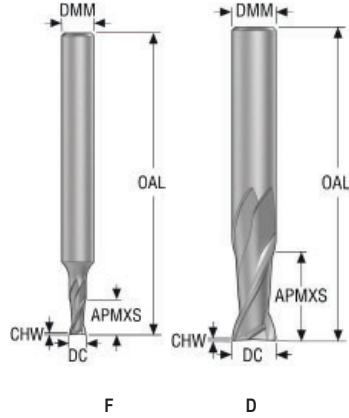
■ Stoklu standart ürün.





## JSE514

Genel amaçlı – Üniversal – Dik kenarlı – 4 Ağızlı – Silindirik – Köşesi pahlı



- Toleranslar:
- DMM=h5
- DC=e8



Ürün Tanımı	Kalite	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	CHW	PCEDC	Silindirik
					mm	mm	mm	mm	mm		
JSE514021F2C.0Z4	SIRA	10053053	2	F	2,0	3,0	4,0	50,0	0,02	4	■
JSE514020F2C.0Z4	SIRA	10053057	2	F	2,0	6,0	4,0	57,0	0,02	4	■
JSE514030D2C.0Z4	SIRA	10053054	2	D	3,0	3,0	6,0	50,0	0,03	4	■
JSE514030F2C.0Z4	SIRA	10053058	2	F	3,0	6,0	6,0	57,0	0,03	4	■
JSE514040D2C.0Z4	SIRA	10053055	2	D	4,0	4,0	8,0	50,0	0,04	4	■
JSE514040F2C.0Z4	SIRA	10053059	2	F	4,0	6,0	8,0	57,0	0,04	4	■
JSE514050D2C.0Z4	SIRA	10053056	2	D	5,0	5,0	10,0	50,0	0,05	4	■
JSE514050F2C.0Z4	SIRA	10053060	2	F	5,0	6,0	10,0	57,0	0,05	4	■
JSE514060D2C.0Z4	SIRA	10053061	2	D	6,0	6,0	12,0	57,0	0,06	4	■
JSE514080D2C.0Z4	SIRA	10053062	2	D	8,0	8,0	16,0	63,0	0,08	4	■
JSE514100D2C.0Z4	SIRA	10053063	2	D	10,0	10,0	20,0	72,0	0,1	4	■
JSE514120D2C.0Z4	SIRA	10053064	2	D	12,0	12,0	24,0	83,0	0,12	4	■
JSE514160D2C.0Z4	SIRA	10053067	2	D	16,0	16,0	32,0	92,0	0,16	4	■
JSE514180D2C.0Z4	SIRA	10053068	2	D	18,0	18,0	35,0	100,0	0,18	4	■
JSE514200D2C.0Z4	SIRA	10053069	2	D	20,0	20,0	35,0	104,0	0,2	4	■
JSE514250D2C.0Z4	SIRA	10053070	2	D	25,0	25,0	40,0	125,0	0,25	4	■
JSE514030F3C.0Z4	SIRA	10053090	3	F	3,0	6,0	10,0	57,0	0,03	4	■
JSE514040F3C.0Z4	SIRA	10053091	3	F	4,0	6,0	14,0	57,0	0,04	4	■
JSE514050F3C.0Z4	SIRA	10053092	3	F	5,0	6,0	18,0	57,0	0,05	4	■
JSE514060D3C.0Z4	SIRA	10053093	3	D	6,0	6,0	20,0	63,0	0,06	4	■
JSE514080D3C.0Z4	SIRA	10053094	3	D	8,0	8,0	28,0	80,0	0,08	4	■
JSE514100D3C.0Z4	SIRA	10053095	3	D	10,0	10,0	35,0	89,0	0,1	4	■
JSE514120D3C.0Z4	SIRA	10053096	3	D	12,0	12,0	42,0	100,0	0,12	4	■
JSE514160D3C.0Z4	SIRA	10053097	3	D	16,0	16,0	50,0	115,0	0,16	4	■
JSE514200D3C.0Z4	SIRA	10053098	3	D	20,0	20,0	60,0	125,0	0,2	4	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası matzemeleri

Demir içermeyen matzemeler

Sertleştirilmiş çelik için

Plastik ve cırp matzemeler için

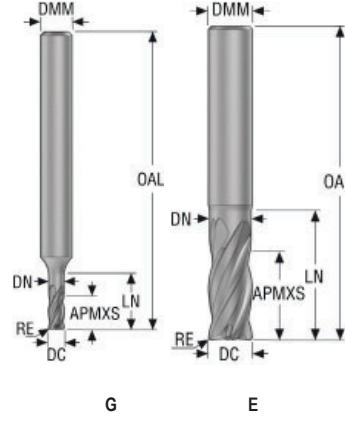
Grafit matzeme için

Minimaster Plus

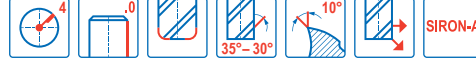
Minimaster

## JSE514

Genel amaçlı – Üniversal – Dik kenarlı – 4 Ağızlı – Silindirik – Köşe radyüsü



- Toleranslar:
- DMM=h5
- DC=e8
- RE= ±0,05 mm

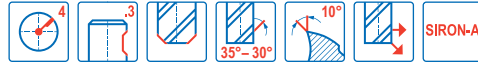
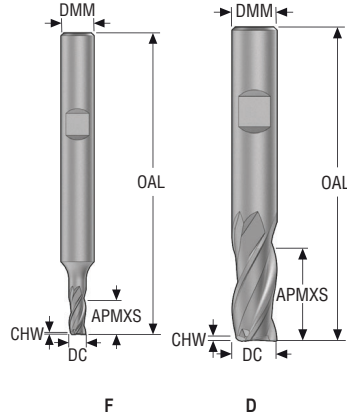


Ürün Tanımı	Kalite	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Silindirik
					mm	mm	mm	mm	mm	mm	mm		
JSE514030G2R050.0Z4	SIRA	10053071	2	G	3,0	6,0	6,0	57,0	10,0	2,85	0,5	4	■
JSE514040G2R050.0Z4	SIRA	10053072	2	G	4,0	6,0	8,0	57,0	13,0	3,8	0,5	4	■
JSE514050G2R050.0Z4	SIRA	10053073	2	G	5,0	6,0	10,0	57,0	16,0	4,75	0,5	4	■
JSE514060E2R050.0Z4	SIRA	10053074	2	E	6,0	6,0	12,0	57,0	18,0	5,7	0,5	4	■
JSE514060E2R100.0Z4	SIRA	10053081	2	E	6,0	6,0	12,0	57,0	18,0	5,7	1,0	4	■
JSE514080E2R050.0Z4	SIRA	10053075	2	E	8,0	8,0	16,0	63,0	25,0	7,6	0,5	4	■
JSE514080E2R100.0Z4	SIRA	10053082	2	E	8,0	8,0	16,0	63,0	25,0	7,6	1,0	4	■
JSE514100E2R050.0Z4	SIRA	10053076	2	E	10,0	10,0	20,0	72,0	29,0	9,5	0,5	4	■
JSE514100E2R100.0Z4	SIRA	10053083	2	E	10,0	10,0	20,0	72,0	29,0	9,5	1,0	4	■
JSE514120E2R050.0Z4	SIRA	10053077	2	E	12,0	12,0	24,0	83,0	35,0	11,4	0,5	4	■
JSE514120E2R100.0Z4	SIRA	10053084	2	E	12,0	12,0	24,0	83,0	35,0	11,4	1,0	4	■
JSE514160E2R050.0Z4	SIRA	10053078	2	E	16,0	16,0	32,0	92,0	42,0	15,2	0,5	4	■
JSE514160E2R100.0Z4	SIRA	10053087	2	E	16,0	16,0	32,0	92,0	42,0	15,2	1,0	4	■
JSE514200E2R050.0Z4	SIRA	10053079	2	E	20,0	20,0	35,0	104,0	51,0	19,0	0,5	4	■
JSE514200E2R100.0Z4	SIRA	10053088	2	E	20,0	20,0	35,0	104,0	51,0	19,0	1,0	4	■
JSE514250E2R050.0Z4	SIRA	10053080	2	E	25,0	25,0	40,0	125,0	66,0	23,8	0,5	4	■
JSE514250E2R100.0Z4	SIRA	10053089	2	E	25,0	25,0	40,0	125,0	66,0	23,8	1,0	4	■

■ Stoklu standart ürün.

## JSE514

Genel amaçlı – Üniversal – Dik kenarlı – 4 Ağızlı – Weldon – Köşesi pahlı



- Toleranslar:
- DMM=h5
- DC=e8



Ürün Tanımı	Kalite	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	CHW	PCEDC	Weldon
					mm	mm	mm	mm	mm		
JSE514020F2C.3Z4	SIRA	10053289	2	F	2,0	6,0	4,0	57,0	0,02	4	■
JSE514030F2C.3Z4	SIRA	10053290	2	F	3,0	6,0	6,0	57,0	0,03	4	■
JSE514040F2C.3Z4	SIRA	10053291	2	F	4,0	6,0	8,0	57,0	0,04	4	■
JSE514050F2C.3Z4	SIRA	10053292	2	F	5,0	6,0	10,0	57,0	0,05	4	■
JSE514060D2C.3Z4	SIRA	10053293	2	D	6,0	6,0	12,0	57,0	0,06	4	■
JSE514080D2C.3Z4	SIRA	10053294	2	D	8,0	8,0	16,0	63,0	0,08	4	■
JSE514100D2C.3Z4	SIRA	10053295	2	D	10,0	10,0	20,0	72,0	0,1	4	■
JSE514120D2C.3Z4	SIRA	10053296	2	D	12,0	12,0	24,0	83,0	0,12	4	■
JSE514160D2C.3Z4	SIRA	10053297	2	D	16,0	16,0	32,0	92,0	0,16	4	■
JSE514180D2C.3Z4	SIRA	10053298	2	D	18,0	18,0	35,0	100,0	0,18	4	■
JSE514200D2C.3Z4	SIRA	10053299	2	D	20,0	20,0	35,0	104,0	0,2	4	■
JSE514250D2C.3Z4	SIRA	10053300	2	D	25,0	25,0	40,0	125,0	0,25	4	■
JSE514030F3C.3Z4	SIRA	10053321	3	F	3,0	6,0	10,0	57,0	0,03	4	■
JSE514040F3C.3Z4	SIRA	10053322	3	F	4,0	6,0	14,0	57,0	0,04	4	■
JSE514050F3C.3Z4	SIRA	10053323	3	F	5,0	6,0	18,0	57,0	0,05	4	■
JSE514060D3C.3Z4	SIRA	10053324	3	D	6,0	6,0	20,0	63,0	0,06	4	■
JSE514080D3C.3Z4	SIRA	10053325	3	D	8,0	8,0	28,0	80,0	0,08	4	■
JSE514100D3C.3Z4	SIRA	10053326	3	D	10,0	10,0	35,0	89,0	0,1	4	■
JSE514120D3C.3Z4	SIRA	10053327	3	D	12,0	12,0	42,0	100,0	0,12	4	■
JSE514160D3C.3Z4	SIRA	10053328	3	D	16,0	16,0	50,0	115,0	0,16	4	■
JSE514200D3C.3Z4	SIRA	10053329	3	D	20,0	20,0	60,0	125,0	0,2	4	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve cırp materyaller için

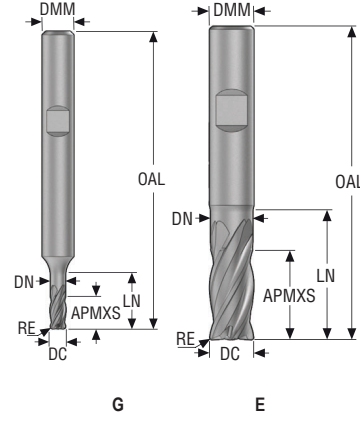
Grafit materyal için

Minimaster Plus

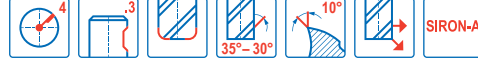
Minimaster

## JSE514

Genel amaçlı – Üniversal – Dik kenarlı' – 4 Ağızlı – Weldon – Köşe radyüsü



- Toleranslar:
- DMM=h5
- DC=e8
- RE= ±0,05 mm



Ürün Tanımı	Kalite	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Weldon
					mm	mm	mm	mm	mm	mm	mm		
JSE514030G2R050.3Z4	SIRA	10053301	2	G	3,0	6,0	6,0	57,0	10,0	2,85	0,5	4	■
JSE514040G2R050.3Z4	SIRA	10053302	2	G	4,0	6,0	8,0	57,0	13,0	3,8	0,5	4	■
JSE514050G2R050.3Z4	SIRA	10053306	2	G	5,0	6,0	10,0	57,0	16,0	4,75	0,5	4	■
JSE514060E2R050.3Z4	SIRA	10053307	2	E	6,0	6,0	12,0	57,0	18,0	5,7	0,5	4	■
JSE514060E2R100.3Z4	SIRA	10053314	2	E	6,0	6,0	12,0	57,0	18,0	5,7	1,0	4	■
JSE514080E2R050.3Z4	SIRA	10053308	2	E	8,0	8,0	16,0	63,0	25,0	7,6	0,5	4	■
JSE514080E2R100.3Z4	SIRA	10053315	2	E	8,0	8,0	16,0	63,0	25,0	7,6	1,0	4	■
JSE514100E2R050.3Z4	SIRA	10053309	2	E	10,0	10,0	20,0	72,0	29,0	9,5	0,5	4	■
JSE514100E2R100.3Z4	SIRA	10053316	2	E	10,0	10,0	20,0	72,0	29,0	9,5	1,0	4	■
JSE514120E2R050.3Z4	SIRA	10053310	2	E	12,0	12,0	24,0	83,0	35,0	11,4	0,5	4	■
JSE514120E2R100.3Z4	SIRA	10053317	2	E	12,0	12,0	24,0	83,0	35,0	11,4	1,0	4	■
JSE514160E2R050.3Z4	SIRA	10053311	2	E	16,0	16,0	32,0	92,0	42,0	15,2	0,5	4	■
JSE514160E2R100.3Z4	SIRA	10053318	2	E	16,0	16,0	32,0	92,0	42,0	15,2	1,0	4	■
JSE514200E2R050.3Z4	SIRA	10053312	2	E	20,0	20,0	35,0	104,0	51,0	19,0	0,5	4	■
JSE514200E2R100.3Z4	SIRA	10053319	2	E	20,0	20,0	35,0	104,0	51,0	19,0	1,0	4	■
JSE514250E2R050.3Z4	SIRA	10053313	2	E	25,0	25,0	40,0	125,0	66,0	23,8	0,5	4	■
JSE514250E2R100.3Z4	SIRA	10053320	2	E	25,0	25,0	40,0	125,0	66,0	23,8	1,0	4	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster





Kesme verileri – JSE514 Kanal açma

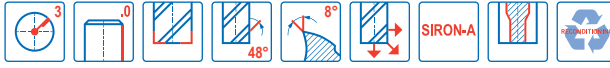
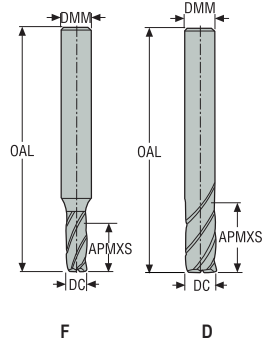
SMG	a <sub>p</sub> /DC	f <sub>z</sub>													v <sub>c</sub>
		2	3	4	5	6	8	10	12	16	18	20	25		
P1	M/A/D/E	0.40	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	0.048	0.055	0.060	0.075	120 (51–150)
		0.40	0.00024	0.00036	0.00048	0.00060	0.00070	0.00095	0.0012	0.0014	0.0019	0.0022	0.0024	0.0030	395 (170 – 490)
P2	M/A/D/E	0.40	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	0.048	0.055	0.060	0.075	120 (51–150)
		0.40	0.00024	0.00036	0.00048	0.00060	0.00070	0.00095	0.0012	0.0014	0.0019	0.0022	0.0024	0.0030	395 (170 – 490)
P3	M/A/D/E	0.40	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	0.048	0.055	0.060	0.075	120 (51–150)
		0.40	0.00024	0.00036	0.00048	0.00060	0.00070	0.00095	0.0012	0.0014	0.0019	0.0022	0.0024	0.0030	395 (170 – 490)
P4	M/A/D/E	0.40	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	0.048	0.055	0.060	0.075	120 (51–140)
		0.40	0.00024	0.00036	0.00048	0.00060	0.00070	0.00095	0.0012	0.0014	0.0019	0.0022	0.0024	0.0030	395 (170 – 450)
P5	M/A/D/E	0.40	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	0.048	0.055	0.060	0.075	120 (51–150)
		0.40	0.00024	0.00036	0.00048	0.00060	0.00070	0.00095	0.0012	0.0014	0.0019	0.0022	0.0024	0.0030	395 (170 – 490)
P6	M/A/D/E	0.40	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	0.048	0.055	0.060	0.075	120 (50–140)
		0.40	0.00024	0.00036	0.00048	0.00060	0.00070	0.00095	0.0012	0.0014	0.0019	0.0022	0.0024	0.0030	395 (170 – 450)
P7	M/A/D/E	0.40	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	0.048	0.055	0.060	0.075	120 (51–150)
		0.40	0.00024	0.00036	0.00048	0.00060	0.00070	0.00095	0.0012	0.0014	0.0019	0.0022	0.0024	0.0030	395 (170 – 490)
P8	M/A/D/E	0.40	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	0.048	0.055	0.060	0.075	120 (51–150)
		0.40	0.00024	0.00036	0.00048	0.00060	0.00070	0.00095	0.0012	0.0014	0.0019	0.0022	0.0024	0.0030	395 (170 – 490)
P11	M/A/D/E	0.40	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	0.048	0.055	0.060	0.075	70 (51–100)
		0.40	0.00024	0.00036	0.00048	0.00060	0.00070	0.00095	0.0012	0.0014	0.0019	0.0022	0.0024	0.0030	230 (170 – 320)
P12	M/A/D/E	0.40	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	0.048	0.055	0.060	0.075	70 (50 – 99)
		0.40	0.00024	0.00036	0.00048	0.00060	0.00070	0.00095	0.0012	0.0014	0.0019	0.0022	0.0024	0.0030	230 (170 – 320)
M1	E/M/A	0.40	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	0.048	0.055	0.060	0.075	70 (50 – 99)
		0.40	0.00024	0.00036	0.00048	0.00060	0.00070	0.00095	0.0012	0.0014	0.0019	0.0022	0.0024	0.0030	230 (170 – 320)
M2	E/M/A	0.40	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	0.048	0.055	0.060	0.075	70 (50 – 99)
		0.40	0.00024	0.00036	0.00048	0.00060	0.00070	0.00095	0.0012	0.0014	0.0019	0.0022	0.0024	0.0030	230 (170 – 320)
M3	E/M/A	0.40	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	0.048	0.055	0.060	0.075	70 (50 – 99)
		0.40	0.00024	0.00036	0.00048	0.00060	0.00070	0.00095	0.0012	0.0014	0.0019	0.0022	0.0024	0.0030	230 (170 – 320)
M4	E/M/A	0.40	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	0.048	0.055	0.060	0.075	70 (50 – 99)
		0.40	0.00024	0.00036	0.00048	0.00060	0.00070	0.00095	0.0012	0.0014	0.0019	0.0022	0.0024	0.0030	230 (170 – 320)
M5	E/M/A	0.40	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	0.048	0.055	0.060	0.075	70 (50 – 99)
		0.40	0.00024	0.00036	0.00048	0.00060	0.00070	0.00095	0.0012	0.0014	0.0019	0.0022	0.0024	0.0030	230 (170 – 320)
K1	A/D/M/E	0.40	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	0.048	0.055	0.060	0.075	120 (50–150)
		0.40	0.00024	0.00036	0.00048	0.00060	0.00070	0.00095	0.0012	0.0014	0.0019	0.0022	0.0024	0.0030	395 (170 – 490)
K2	A/D/M/E	0.40	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	0.048	0.055	0.060	0.075	120 (50–150)
		0.40	0.00024	0.00036	0.00048	0.00060	0.00070	0.00095	0.0012	0.0014	0.0019	0.0022	0.0024	0.0030	395 (170 – 490)
K3	A/D/M/E	0.40	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	0.048	0.055	0.060	0.075	120 (50–150)
		0.40	0.00024	0.00036	0.00048	0.00060	0.00070	0.00095	0.0012	0.0014	0.0019	0.0022	0.0024	0.0030	395 (170 – 490)
K4	A/D/M/E	0.40	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	0.048	0.055	0.060	0.075	120 (50–150)
		0.40	0.00024	0.00036	0.00048	0.00060	0.00070	0.00095	0.0012	0.0014	0.0019	0.0022	0.0024	0.0030	395 (170 – 490)
K5	A/D/M/E	0.40	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	0.048	0.055	0.060	0.075	120 (50–150)
		0.40	0.00024	0.00036	0.00048	0.00060	0.00070	0.00095	0.0012	0.0014	0.0019	0.0022	0.0024	0.0030	395 (170 – 490)
K6	A/D/M/E	0.40	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	0.048	0.055	0.060	0.075	120 (50–150)
		0.40	0.00024	0.00036	0.00048	0.00060	0.00070	0.00095	0.0012	0.0014	0.0019	0.0022	0.0024	0.0030	395 (170 – 490)
K7	A/D/M/E	0.40	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	0.048	0.055	0.060	0.075	120 (50–150)
		0.40	0.00024	0.00036	0.00048	0.00060	0.00070	0.00095	0.0012	0.0014	0.0019	0.0022	0.0024	0.0030	395 (170 – 490)
N1	E/M/A	0.30	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	0.048	0.055	0.060	0.075	400 (300 – 500)
		0.30	0.00024	0.00036	0.00048	0.00060	0.00070	0.00095	0.0012	0.0014	0.0019	0.0022	0.0024	0.0030	1300 (990–1600)
N11	E/M/A	0.40	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	0.048	0.055	0.060	0.075	300 (200 – 390)
		0.40	0.00024	0.00036	0.00048	0.00060	0.00070	0.00095	0.0012	0.0014	0.0019	0.0022	0.0024	0.0030	980 (660–1200)
S11	E	0.40	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	0.048	0.055	0.060	0.075	70 (50 – 99)
		0.40	0.00024	0.00036	0.00048	0.00060	0.00070	0.00095	0.0012	0.0014	0.0019	0.0022	0.0024	0.0030	230 (170 – 320)
S12	E	0.40	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	0.048	0.055	0.060	0.075	70 (50 – 99)
		0.40	0.00024	0.00036	0.00048	0.00060	0.00070	0.00095	0.0012	0.0014	0.0019	0.0022	0.0024	0.0030	230 (170 – 320)
S13	E	0.40	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	0.048	0.055	0.060	0.075	70 (50 – 99)
		0.40	0.00024	0.00036	0.00048	0.00060	0.00070	0.00095	0.0012	0.0014	0.0019	0.0022	0.0024	0.0030	230 (170 – 320)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu  
Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama  
v<sub>c</sub>= m/dak (sf/dak)  
f<sub>z</sub> = mm (inç/ağız)  
a<sub>p</sub> mm/DC (inç/DC) = faktör  
a<sub>e</sub> = mm/DC (inç/DC) = faktör  
Tüm kesme verileri hedef değerlerdir

## JS553

Yüksek performans – Üniversal – Dik kenarlı' – 3 Ağızlı – Silindirik – Keskin



- Toleranslar:
- DMM=h5
- DC=e7
- DC ≥ Ø6 ise tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	PCEDC	Silindirik
				mm	mm	mm	mm		
553020SZ3.0-SIRON-A	02733903	2	F	2,0	6,0	5,0	50,0	3	■
553030SZ3.0-SIRON-A	02733906	2	F	3,0	6,0	7,0	50,0	3	■
553040SZ3.0-SIRON-A	02733910	2	F	4,0	6,0	10,0	55,0	3	■
553050SZ3.0-SIRON-A	02733912	2	F	5,0	6,0	12,0	55,0	3	■
553060SZ3.0-SIRON-A	02733914	2	D	6,0	6,0	14,0	55,0	3	■
553080SZ3.0-SIRON-A	02733918	2	D	8,0	8,0	18,0	60,0	3	■
553100SZ3.0-SIRON-A	02733922	2	D	10,0	10,0	22,0	70,0	3	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve diğer materyaller için

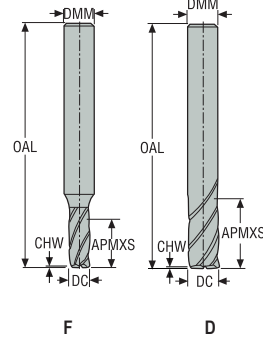
Grafit materyal için

Minimaster Plus

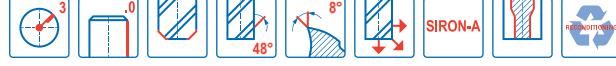
Minimaster

## JS553

Yüksek performans – Üniversal – Dik kenarlı – 3 Ağızlı – Silindirik – Köşesi pahlı



- Toleranslar:
- DMM= h5
- DC= e7
- DC ≥ Ø6 ise tekrar bilenebilir

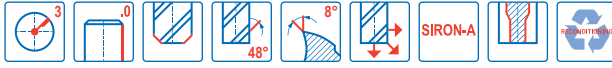
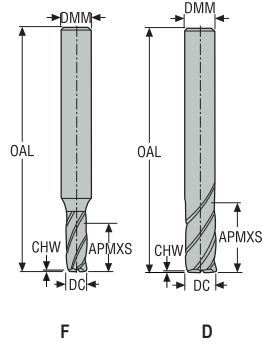


Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	CHW	PCEDC	Silindirik
				mm	mm	mm	mm	mm		
JS553020F1C.0Z3-SIRA	10041466	1	F	2,0	6,0	3,0	40,0	0,025	3	■
JS553030F1C.0Z3-SIRA	10041467	1	F	3,0	6,0	4,0	40,0	0,035	3	■
JS553040F1C.0Z3-SIRA	10041468	1	F	4,0	6,0	6,0	40,0	0,045	3	■
JS553045F1C.0Z3-SIRA	10041469	1	F	4,5	6,0	6,0	40,0	0,045	3	■
JS553050F1C.0Z3-SIRA	10041470	1	F	5,0	6,0	7,0	40,0	0,055	3	■
JS553055F1C.0Z3-SIRA	10041472	1	F	5,5	6,0	8,0	40,0	0,055	3	■
JS553060D1C.0Z3-SIRA	10041473	1	D	6,0	6,0	8,0	40,0	0,075	3	■
JS553080D1C.0Z3-SIRA	10041474	1	D	8,0	8,0	11,0	50,0	0,1	3	■
JS553100D1C.0Z3-SIRA	10041475	1	D	10,0	10,0	13,0	57,0	0,125	3	■
JS553120D1C.0Z3-SIRA	10041476	1	D	12,0	12,0	15,0	65,0	0,15	3	■
553020Z3.0-SIRON-A	02679241	2	F	2,0	6,0	5,0	50,0	0,025	3	■
553025Z3.0-SIRON-A	02679352	2	F	2,5	6,0	7,0	50,0	0,025	3	■
553030Z3.0-SIRON-A	02679353	2	F	3,0	6,0	7,0	50,0	0,035	3	■
553035Z3.0-SIRON-A	02679359	2	F	3,5	6,0	9,0	55,0	0,035	3	■
553040Z3.0-SIRON-A	02679360	2	F	4,0	6,0	10,0	55,0	0,045	3	■
553045Z3.0-SIRON-A	02679361	2	F	4,5	6,0	12,0	55,0	0,045	3	■
553050Z3.0-SIRON-A	02679364	2	F	5,0	6,0	12,0	55,0	0,055	3	■
553055Z3.0-SIRON-A	02679365	2	F	5,5	6,0	14,0	55,0	0,055	3	■
553060Z3.0-SIRON-A	02679368	2	D	6,0	6,0	14,0	55,0	0,075	3	■
553075Z3.0-SIRON-A	02733916	2	F	7,5	8,0	18,0	60,0	0,1	3	■
553080Z3.0-SIRON-A	02679371	2	D	8,0	8,0	18,0	60,0	0,1	3	■
553095Z3.0-SIRON-A	02733920	2	F	9,5	10,0	22,0	70,0	0,125	3	■
553100Z3.0-SIRON-A	02679374	2	D	10,0	10,0	22,0	70,0	0,125	3	■
553115Z3.0-SIRON-A	02733925	2	F	11,5	12,0	26,0	80,0	0,15	3	■
553120Z3.0-SIRON-A	02679380	2	D	12,0	12,0	26,0	80,0	0,15	3	■
553140Z3.0-SIRON-A	02733932	2	D	14,0	14,0	30,0	85,0	0,175	3	■
553160Z3.0-SIRON-A	02679384	2	D	16,0	16,0	34,0	90,0	0,2	3	■
553200Z3.0-SIRON-A	02679389	2	D	20,0	20,0	42,0	110,0	0,25	3	■
553250Z3.0-SIRON-A	02679393	2	D	25,0	25,0	52,0	125,0	0,3	3	■

■ Stoklu standart ürün.

## JS553

Yüksek performans – Üniversal – Dik kenarlı – 3 Ağızlı – Silindirik – Köşesi pahlı



- Toleranslar:
- DMM= h5
- DC= e7
- DC ≥ Ø6 ise tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	CHW	PCEDC	Silindirik
				mm	mm	mm	mm	mm		
553L020Z3.0-SIRON-A	02733962	3	F	2,0	6,0	7,0	50,0	0,025	3	■
553L030Z3.0-SIRON-A	02733971	3	F	3,0	6,0	10,0	55,0	0,035	3	■
553L040Z3.0-SIRON-A	02733972	3	F	4,0	6,0	14,0	60,0	0,045	3	■
553L050Z3.0-SIRON-A	02733974	3	F	5,0	6,0	18,0	60,0	0,055	3	■
553L060Z3.0-SIRON-A	02733982	3	D	6,0	6,0	20,0	65,0	0,075	3	■
553L080Z3.0-SIRON-A	02733986	3	D	8,0	8,0	28,0	70,0	0,1	3	■
553L100Z3.0-SIRON-A	02733992	3	D	10,0	10,0	35,0	85,0	0,125	3	■
553L120Z3.0-SIRON-A	02733994	3	D	12,0	12,0	40,0	95,0	0,15	3	■
553L160Z3.0-SIRON-A	02733996	3	D	16,0	16,0	50,0	110,0	0,2	3	■
553L200Z3.0-SIRON-A	02733998	3	D	20,0	20,0	60,0	125,0	0,25	3	■
553L250Z3.0-SIRON-A	02734000	3	D	25,0	25,0	75,0	150,0	0,3	3	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve diğer materyaller için

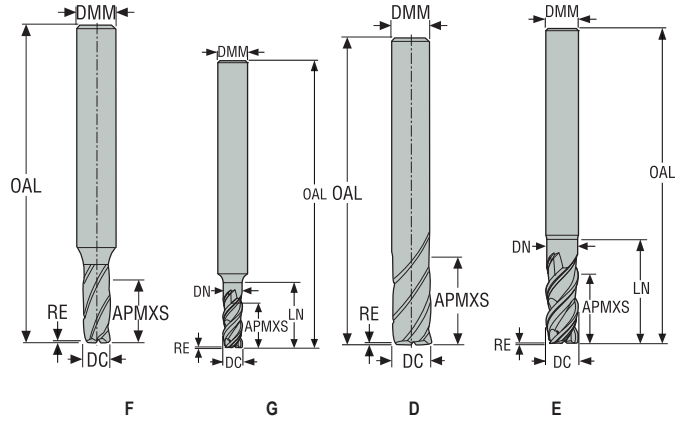
Grafit materyaller için

Minimaster Plus

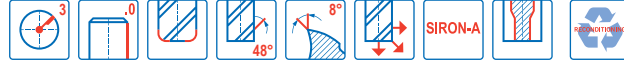
Minimaster

## JS553

Yüksek performans – Üniversal – Dik kenarlı – 3 Ağızlı – Silindirik – Köşe radyüsü



- Toleranslar:
- DMM=h5
- DC=e7
- RE= ±0,02 mm
- DC ≥ Ø6 ise tekrar bilenebilir

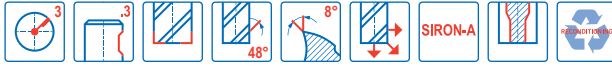
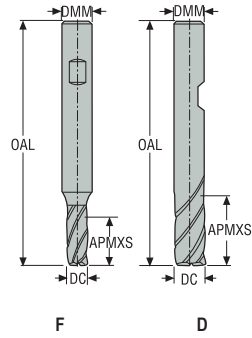


Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm	mm		
JS553020G2R050.0Z3-SIRA	02881683	2	G	2,0	6,0	5,0	57,0	8,0	1,9	0,5	3	■
553030R015Z3.0-SIRON-A	02733908	2	F	3,0	6,0	7,0	50,0	8,5	3,0	0,15	3	■
JS553030G2R050.0Z3-SIRA	02881684	2	G	3,0	6,0	7,0	57,0	11,0	2,85	0,5	3	■
553040R020Z3.0-SIRON-A	02733911	2	F	4,0	6,0	10,0	55,0	11,7	4,0	0,2	3	■
JS553040G2R050.0Z3-SIRA	02881685	2	G	4,0	6,0	10,0	57,0	13,0	3,8	0,5	3	■
553050R020Z3.0-SIRON-A	02687282	2	F	5,0	6,0	12,0	55,0	14,7	5,0	0,2	3	■
JS553050G2R050.0Z3-SIRA	02881686	2	G	5,0	6,0	10,0	57,0	15,0	4,75	0,5	3	■
553060R020Z3.0-SIRON-A	02679369	2	D	6,0	6,0	14,0	55,0	-	-	0,2	3	■
JS553060E2R050.0Z3-SIRA	02881687	2	E	6,0	6,0	14,0	57,0	19,0	5,7	0,5	3	■
JS553060E2R100.0Z3-SIRA	02881688	2	E	6,0	6,0	14,0	57,0	19,0	5,7	1,0	3	■
553080R050Z3.0-SIRON-A	02679372	2	D	8,0	8,0	18,0	60,0	-	-	0,5	3	■
553100R050Z3.0-SIRON-A	02679375	2	D	10,0	10,0	22,0	70,0	-	-	0,5	3	■
553100R100Z3.0-SIRON-A	02679376	2	D	10,0	10,0	22,0	70,0	-	-	1,0	3	■
553100R200Z3.0-SIRON-A	02810364	2	D	10,0	10,0	22,0	70,0	-	-	2,0	3	■
553100R250Z3.0-SIRON-A	02810365	2	D	10,0	10,0	22,0	70,0	-	-	2,5	3	■
553100R310Z3.0-SIRON-A	02810366	2	D	10,0	10,0	22,0	70,0	-	-	3,1	3	■
553120R050Z3.0-SIRON-A	02679381	2	D	12,0	12,0	26,0	80,0	-	-	0,5	3	■
553120R100Z3.0-SIRON-A	02679382	2	D	12,0	12,0	26,0	80,0	-	-	1,0	3	■
553120R200Z3.0-SIRON-A	02810367	2	D	12,0	12,0	26,0	80,0	-	-	2,0	3	■
553120R250Z3.0-SIRON-A	02810368	2	D	12,0	12,0	26,0	80,0	-	-	2,5	3	■
553120R310Z3.0-SIRON-A	02810369	2	D	12,0	12,0	26,0	80,0	-	-	3,1	3	■
553160R050Z3.0-SIRON-A	02679385	2	D	16,0	16,0	34,0	90,0	-	-	0,5	3	■
553160R100Z3.0-SIRON-A	02679386	2	D	16,0	16,0	34,0	90,0	-	-	1,0	3	■
553160R200Z3.0-SIRON-A	02810370	2	D	16,0	16,0	34,0	90,0	-	-	2,0	3	■
553160R250Z3.0-SIRON-A	02810371	2	D	16,0	16,0	34,0	90,0	-	-	2,5	3	■
553160R310Z3.0-SIRON-A	02810372	2	D	16,0	16,0	34,0	90,0	-	-	3,1	3	■
553160R400Z3.0-SIRON-A	02810373	2	D	16,0	16,0	34,0	90,0	-	-	4,0	3	■
553200R050Z3.0-SIRON-A	02679390	2	D	20,0	20,0	42,0	110,0	-	-	0,5	3	■
553200R100Z3.0-SIRON-A	02679391	2	D	20,0	20,0	42,0	110,0	-	-	1,0	3	■
JS553200E2R200.0Z3-SIRA	02881689	2	E	20,0	20,0	42,0	110,0	54,0	19,0	2,0	3	■
553250R050Z3.0-SIRON-A	02679395	2	D	25,0	25,0	52,0	125,0	-	-	0,5	3	■
553250R100Z3.0-SIRON-A	02679396	2	D	25,0	25,0	52,0	125,0	-	-	1,0	3	■

■ Stoklu standart ürün.

## JS553

Yüksek performans – Üniversal – Dik kenarlı' – 3 Ağızlı – Weldon – Keskin



- Toleranslar:
- DMM=h5
- DC=e7
- DC ≥ Ø6 ise tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	PCEDC	Weldon
				mm	mm	mm	mm		
553020SZ3.0-SIRON-AW	02733936	2	F	2,0	6,0	5,0	50,0	3	■
553030SZ3.0-SIRON-AW	02733939	2	F	3,0	6,0	7,0	50,0	3	■
553040SZ3.0-SIRON-AW	02733943	2	F	4,0	6,0	10,0	55,0	3	■
553050SZ3.0-SIRON-AW	02733945	2	F	5,0	6,0	12,0	55,0	3	■
553060SZ3.0-SIRON-AW	02733946	2	D	6,0	6,0	14,0	55,0	3	■
553080SZ3.0-SIRON-AW	02733950	2	D	8,0	8,0	18,0	60,0	3	■
553100SZ3.0-SIRON-AW	02733952	2	D	10,0	10,0	22,0	70,0	3	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve cırp materyaller için

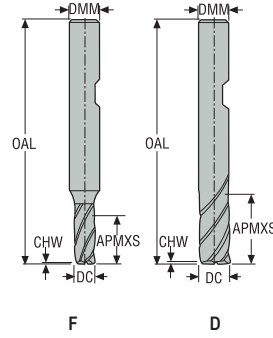
Grafit materyaller için

Minimaster Plus

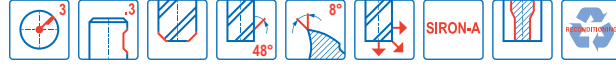
Minimaster

## JS553

Yüksek performans – Üniversal – Dik kenarlı – 3 Ağızlı – Weldon – Köşesi pahlı



- Toleranslar:
- DMM=h5
- DC=e7
- DC ≥ Ø6 ise tekrar bilenebilir



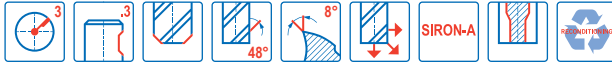
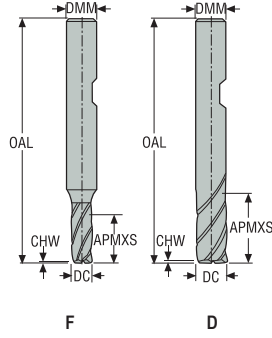
Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	CHW	PCEDC	Weldon
				mm	mm	mm	mm	mm		
JS553020F1C.3Z3-SIRA	10041477	1	F	2,0	6,0	3,0	40,0	0,025	3	■
JS553030F1C.3Z3-SIRA	10041478	1	F	3,0	6,0	4,0	40,0	0,035	3	■
JS553040F1C.3Z3-SIRA	10041479	1	F	4,0	6,0	6,0	40,0	0,045	3	■
JS553045F1C.3Z3-SIRA	10041480	1	F	4,5	6,0	6,0	40,0	0,045	3	■
JS553050F1C.3Z3-SIRA	10041481	1	F	5,0	6,0	7,0	40,0	0,055	3	■
JS553055F1C.3Z3-SIRA	10041482	1	F	5,5	6,0	8,0	40,0	0,055	3	■
JS553060D1C.3Z3-SIRA	10041483	1	D	6,0	6,0	8,0	40,0	0,075	3	■
JS553080D1C.3Z3-SIRA	10041484	1	D	8,0	8,0	11,0	50,0	0,1	3	□
JS553100D1C.3Z3-SIRA	10041485	1	D	10,0	10,0	13,0	57,0	0,125	3	□
JS553120D1C.3Z3-SIRA	10041486	1	D	12,0	12,0	15,0	65,0	0,15	3	□
553020Z3.0-SIRON-AW	02697423	2	F	2,0	6,0	5,0	50,0	0,025	3	□
553025Z3.0-SIRON-AW	02700354	2	F	2,5	6,0	7,0	50,0	0,025	3	■
553030Z3.0-SIRON-AW	02700355	2	F	3,0	6,0	7,0	50,0	0,035	3	■
553035Z3.0-SIRON-AW	02700357	2	F	3,5	6,0	9,0	55,0	0,035	3	■
553040Z3.0-SIRON-AW	02700358	2	F	4,0	6,0	10,0	55,0	0,045	3	■
553045Z3.0-SIRON-AW	02700359	2	F	4,5	6,0	12,0	55,0	0,045	3	□
553050Z3.0-SIRON-AW	02700360	2	F	5,0	6,0	12,0	55,0	0,055	3	■
553055Z3.0-SIRON-AW	02700361	2	F	5,5	6,0	14,0	55,0	0,055	3	□
553060Z3.3-SIRON-A	02679367	2	D	6,0	6,0	14,0	55,0	0,075	3	■
553075Z3.3-SIRON-A	02733915	2	F	7,5	8,0	18,0	60,0	0,1	3	■
553080Z3.3-SIRON-A	02679370	2	D	8,0	8,0	18,0	60,0	0,1	3	■
553095Z3.3-SIRON-A	02733919	2	F	9,5	10,0	22,0	70,0	0,125	3	■
553100Z3.3-SIRON-A	02679373	2	D	10,0	10,0	22,0	70,0	0,125	3	■
553115Z3.3-SIRON-A	02733923	2	F	11,5	12,0	26,0	80,0	0,15	3	■
553120Z3.3-SIRON-A	02679379	2	D	12,0	12,0	26,0	80,0	0,15	3	■
553140Z3.3-SIRON-A	02733929	2	D	14,0	14,0	30,0	85,0	0,175	3	■
553160Z3.3-SIRON-A	02679383	2	D	16,0	16,0	34,0	90,0	0,2	3	■
553200Z3.3-SIRON-A	02679388	2	D	20,0	20,0	42,0	110,0	0,25	3	■
553250Z3.3-SIRON-A	02679392	2	D	25,0	25,0	52,0	125,0	0,3	3	■

■ Stoklu standart ürün. □ Weldon mevcut. Teslimat süresi 3 iş günüdür.



## JS553

Yüksek performans – Üniversal – Dik kenarlı – 3 Ağızlı – Weldon – Köşesi pahlı



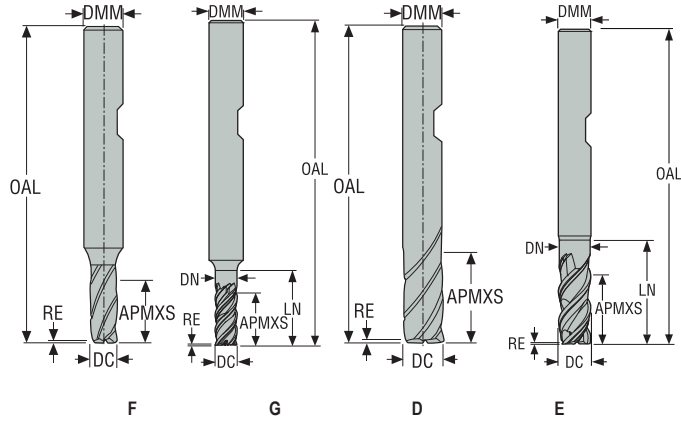
- Toleranslar:
- DMM=h5
- DC=e7
- DC ≥ Ø6 ise tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	CHW	PCEDC	Weldon
				mm	mm	mm	mm	mm		
553L020Z3.0-SIRON-AW	02734001	3	F	2,0	6,0	7,0	50,0	0,025	3	□
553L030Z3.0-SIRON-AW	02734006	3	F	3,0	6,0	10,0	55,0	0,035	3	■
553L040Z3.0-SIRON-AW	02734007	3	F	4,0	6,0	14,0	60,0	0,045	3	■
553L050Z3.0-SIRON-AW	02734008	3	F	5,0	6,0	18,0	60,0	0,055	3	□
553L060Z3.3-SIRON-A	02733980	3	D	6,0	6,0	20,0	65,0	0,075	3	■
553L080Z3.3-SIRON-A	02733984	3	D	8,0	8,0	28,0	70,0	0,1	3	■
553L100Z3.3-SIRON-A	02733988	3	D	10,0	10,0	35,0	85,0	0,125	3	■
553L120Z3.3-SIRON-A	02733993	3	D	12,0	12,0	40,0	95,0	0,15	3	■
553L160Z3.3-SIRON-A	02733995	3	D	16,0	16,0	50,0	110,0	0,2	3	■
553L200Z3.3-SIRON-A	02733997	3	D	20,0	20,0	60,0	125,0	0,25	3	■
553L250Z3.3-SIRON-A	02733999	3	D	25,0	25,0	75,0	150,0	0,3	3	■

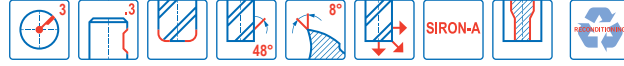
■ Stoklu standart ürün. □ Weldon mevcut. Teslimat süresi 3 iş günüdür.

## JS553

Yüksek performans – Üniversal – Dik kenarlı – 3 Ağızlı – Weldon – Köşe radyüsü



- Toleranslar:
- DMM=h5
- DC=e7
- RE= ±0,02 mm
- DC ≥ Ø6 ise tekrar bilenebilir

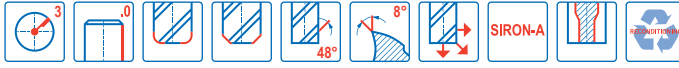
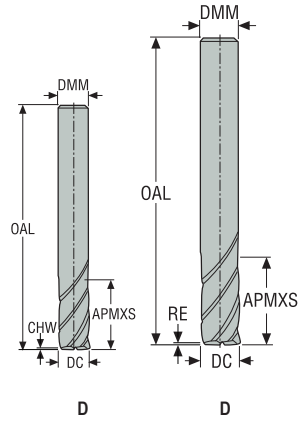


Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Weldon
				mm	mm	mm	mm	mm	mm	mm		
JS553020G2R050.3Z3-SIRA	02881690	2	G	2,0	6,0	5,0	57,0	8,0	1,9	0,5	3	<input type="checkbox"/>
553030R015Z3.0-SIRON-AW	02733941	2	F	3,0	6,0	7,0	50,0	8,5	3,0	0,15	3	<input type="checkbox"/>
JS553030G2R050.3Z3-SIRA	02881691	2	G	3,0	6,0	7,0	57,0	11,0	2,85	0,5	3	<input type="checkbox"/>
553040R020Z3.0-SIRON-AW	02733944	2	F	4,0	6,0	10,0	55,0	11,7	4,0	0,2	3	<input type="checkbox"/>
JS553040G2R050.3Z3-SIRA	02881692	2	G	4,0	6,0	10,0	57,0	13,0	3,8	0,5	3	<input type="checkbox"/>
553050R020Z3.0-SIRON-AW	02703763	2	F	5,0	6,0	12,0	55,0	14,7	5,0	0,2	3	<input type="checkbox"/>
JS553050G2R050.3Z3-SIRA	02881693	2	G	5,0	6,0	10,0	57,0	15,0	4,75	0,5	3	<input type="checkbox"/>
553060R020Z3.0-SIRON-AW	02700364	2	D	6,0	6,0	14,0	55,0	-	-	0,2	3	<input type="checkbox"/>
JS553060E2R050.3Z3-SIRA	02881694	2	E	6,0	6,0	14,0	57,0	19,0	5,7	0,5	3	<input type="checkbox"/>
JS553060E2R100.3Z3-SIRA	02881695	2	E	6,0	6,0	14,0	57,0	19,0	5,7	1,0	3	<input checked="" type="checkbox"/>
553080R050Z3.0-SIRON-AW	02700366	2	D	8,0	8,0	18,0	60,0	-	-	0,5	3	<input checked="" type="checkbox"/>
553100R050Z3.0-SIRON-AW	02700369	2	D	10,0	10,0	22,0	70,0	-	-	0,5	3	<input type="checkbox"/>
553100R100Z3.0-SIRON-AW	02700371	2	D	10,0	10,0	22,0	70,0	-	-	1,0	3	<input type="checkbox"/>
553100R200Z3.3-SIRON-A	02810422	2	D	10,0	10,0	22,0	70,0	-	-	2,0	3	<input type="checkbox"/>
553100R250Z3.3-SIRON-A	02810423	2	D	10,0	10,0	22,0	70,0	-	-	2,5	3	<input type="checkbox"/>
553100R310Z3.3-SIRON-A	02810424	2	D	10,0	10,0	22,0	70,0	-	-	3,1	3	<input type="checkbox"/>
553120R050Z3.0-SIRON-AW	02700373	2	D	12,0	12,0	26,0	80,0	-	-	0,5	3	<input type="checkbox"/>
553120R100Z3.0-SIRON-AW	02700374	2	D	12,0	12,0	26,0	80,0	-	-	1,0	3	<input type="checkbox"/>
553120R200Z3.3-SIRON-A	02810425	2	D	12,0	12,0	26,0	80,0	-	-	2,0	3	<input type="checkbox"/>
553120R250Z3.3-SIRON-A	02810426	2	D	12,0	12,0	26,0	80,0	-	-	2,5	3	<input type="checkbox"/>
553120R310Z3.3-SIRON-A	02810427	2	D	12,0	12,0	26,0	80,0	-	-	3,1	3	<input type="checkbox"/>
553160R050Z3.0-SIRON-AW	02700378	2	D	16,0	16,0	34,0	90,0	-	-	0,5	3	<input type="checkbox"/>
553160R100Z3.0-SIRON-AW	02700381	2	D	16,0	16,0	34,0	90,0	-	-	1,0	3	<input type="checkbox"/>
553160R200Z3.3-SIRON-A	02810428	2	D	16,0	16,0	34,0	90,0	-	-	2,0	3	<input type="checkbox"/>
553160R250Z3.3-SIRON-A	02810429	2	D	16,0	16,0	34,0	90,0	-	-	2,5	3	<input type="checkbox"/>
553160R310Z3.3-SIRON-A	02810430	2	D	16,0	16,0	34,0	90,0	-	-	3,1	3	<input type="checkbox"/>
553160R400Z3.3-SIRON-A	02810431	2	D	16,0	16,0	34,0	90,0	-	-	4,0	3	<input type="checkbox"/>
553200R050Z3.0-SIRON-AW	02700383	2	D	20,0	20,0	42,0	110,0	-	-	0,5	3	<input checked="" type="checkbox"/>
553200R100Z3.0-SIRON-AW	02700384	2	D	20,0	20,0	42,0	110,0	-	-	1,0	3	<input type="checkbox"/>
JS553200E2R200.3Z3-SIRA	02881696	2	E	20,0	20,0	42,0	110,0	54,0	19,0	2,0	3	<input type="checkbox"/>
553250R050Z3.0-SIRON-AW	02700386	2	D	25,0	25,0	52,0	125,0	-	-	0,5	3	<input type="checkbox"/>
553250R100Z3.0-SIRON-AW	02700385	2	D	25,0	25,0	52,0	125,0	-	-	1,0	3	<input type="checkbox"/>

■ Stoklu standart ürün. □ Weldon mevcut. Teslimat süresi 3 iş günüdür.

JS553

Yüksek performans – Üniversal – Dik kenarlı – 3 Ağızlı – Silindirik – Köşe radyüsü veya Köşesi pahlı – İnce



- Toleranslar:
- DMM=h5
- DC=e7
- DC ≥ Ø.375 ise tekrar bilebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	CHW	RE	PCEDC	Silindirik
				İnce	İnce	İnce	İnce	İnce	İnce		
5530125Z3.0-SIRON-A	02712684	2	D	0.125	0.125	0.250	2.000	0.001	-	3	■
5530187Z3.0-SIRON-A	02712687	2	D	0.188	0.188	0.375	2.000	0.001	-	3	■
5530250Z3.0-SIRON-A	02712688	2	D	0.250	0.250	0.500	2.500	0.003	-	3	■
5530250R015Z3.0-SIRON-A	02712689	2	D	0.250	0.250	0.500	2.500	-	0.015	3	■
5530312Z3.0-SIRON-A	02712690	2	D	0.313	0.313	0.625	2.500	0.004	-	3	■
5530312R015Z3.0-SIRON-A	02712693	2	D	0.313	0.313	0.625	2.500	-	0.015	3	■
5530375Z3.0-SIRON-A	02712694	2	D	0.375	0.375	0.750	3.000	0.005	-	3	■
5530375R015Z3.0-SIRON-A	02712695	2	D	0.375	0.375	0.750	3.000	-	0.015	3	■
5530375R030Z3.0-SIRON-A	02712696	2	D	0.375	0.375	0.750	3.000	-	0.030	3	■
5530500Z3.0-SIRON-A	02712699	2	D	0.500	0.500	1.000	3.500	0.006	-	3	■
5530500R015Z3.0-SIRON-A	02712701	2	D	0.500	0.500	1.000	3.500	-	0.015	3	■
5530500R030Z3.0-SIRON-A	02712703	2	D	0.500	0.500	1.000	3.500	-	0.030	3	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve diğer materyaller için

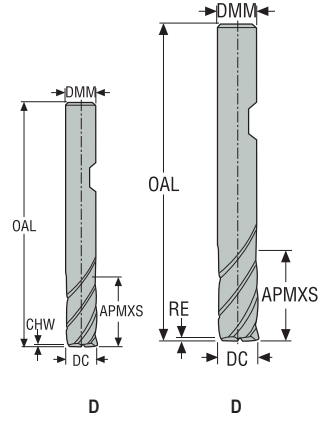
Grafit materyaller için

Minimaster Plus

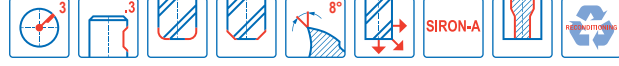
Minimaster

## JS553

Yüksek performans – Üniversal – Dik kenarlı – 3 Ağızlı – Weldon – Köşe radyüsü veya Köşesi pahlı – *İnç*



- Toleranslar:
- DMM=h5
- DC=e7



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	CHW	RE	PCEDC	Weldon
				<i>İnç</i>	<i>İnç</i>	<i>İnç</i>	<i>İnç</i>	<i>İnç</i>	<i>İnç</i>		
5530500Z3.3-SIRON-A	02712697	2	D	0.500	0.500	1.000	3.500	0.006	–	3	■
5530500R015Z3.3-SIRON-A	02712700	2	D	0.500	0.500	1.000	3.500	–	0.015	3	■
5530500R030Z3.3-SIRON-A	02712702	2	D	0.500	0.500	1.000	3.500	–	0.030	3	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeleri için

Grafit malzeme için

Minimaster Plus

Minimaster




Kesme verileri – JS553 Kenar frezeleme

SMG	a <sub>e</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>													v <sub>c</sub>
			2	3	4	5	6	8	10	12	14	16	20	25		
N1	E	0.500	1.0	0.016	0.024	0.032	0.040	0.048	0.065	0.080	0.095	0.11	0.12	0.14	0.15	620 (520–720)
		0.500	1.0	0,00065	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0044	0,0048	0,0055	0,0060	2025 (1800 – 2300)
N2	E	0.500	1.0	0.016	0.024	0.032	0.040	0.048	0.065	0.080	0.095	0.11	0.12	0.14	0.15	400 (340 – 460)
		0.500	1.0	0,00065	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0044	0,0048	0,0055	0,0060	1300 (1200–1500)
N3	E	0.500	1.0	0.016	0.024	0.032	0.040	0.048	0.065	0.080	0.095	0.11	0.12	0.14	0.15	265 (230 – 300)
		0.500	1.0	0,00065	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0044	0,0048	0,0055	0,0060	870 (760 – 980)
N11	E	0.500	1.1	0.016	0.024	0.032	0.040	0.048	0.065	0.080	0.095	0.11	0.12	0.13	0.15	310 (260 – 350)
		0.500	1.1	0,00065	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0044	0,0048	0,0050	0,0060	1025 (860–1100)
S1	E	0.150	0.50	0.017	0.026	0.034	0.044	0.050	0.070	0.085	0.10	0.12	0.13	0.15	0.17	43 (26 – 60)
		0.150	0.50	0,00065	0,0010	0,0013	0,0017	0,0020	0,0028	0,0034	0,0040	0,0048	0,0050	0,0060	0,0065	140 (86–190)
S2	E	0.150	0.50	0.017	0.026	0.034	0.044	0.050	0.070	0.085	0.10	0.12	0.13	0.15	0.17	35 (21 – 48)
		0.150	0.50	0,00065	0,0010	0,0013	0,0017	0,0020	0,0028	0,0034	0,0040	0,0048	0,0050	0,0060	0,0065	115 (69–150)
S3	E	0.150	0.50	0.016	0.024	0.032	0.040	0.048	0.065	0.080	0.095	0.11	0.12	0.14	0.15	30 (19 – 42)
		0.150	0.50	0,00065	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0044	0,0048	0,0055	0,0060	100 (63–130)
S11	E	0.400	1.0	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.080	0.090	0.10	0.12	110 (78–130)
		0.400	1.0	0,00048	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	0,0032	0,0036	0,0040	0,0048	360 (260 – 420)
S12	E	0.400	1.0	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.080	0.090	0.10	0.12	85 (60–100)
		0.400	1.0	0,00048	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	0,0032	0,0036	0,0040	0,0048	280 (200 – 320)
S13	E	0.400	1.0	0.011	0.016	0.022	0.026	0.032	0.042	0.055	0.065	0.070	0.080	0.090	0.10	65 (48 – 84)
		0.400	1.0	0,00044	0,00065	0,00085	0,0010	0,0013	0,0017	0,0022	0,0026	0,0028	0,0032	0,0036	0,0040	215 (160 – 270)
H5	M/A/D	0.200	0.90	0.013	0.020	0.026	0.032	0.040	0.050	0.065	0.075	0.085	0.095	0.11	0.12	75 (62 – 91)
		0.200	0.90	0,00050	0,00080	0,0010	0,0013	0,0016	0,0020	0,0026	0,0030	0,0034	0,0038	0,0044	0,0048	245 (210 – 290)
H8	M/A/D	0.200	0.90	0.010	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.065	0.075	0.085	0.095	80 (65 – 96)
		0.200	0.90	0,00040	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0026	0,0030	0,0034	0,0038	260 (220 – 310)
H21	M/A/D	0.200	0.90	0.010	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.065	0.075	0.085	0.095	80 (65 – 96)
		0.200	0.90	0,00040	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0026	0,0030	0,0034	0,0038	260 (220 – 310)
H31	M/A/D	0.200	0.90	0.010	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.065	0.075	0.085	0.095	60 (49–72)
		0.200	0.90	0,00040	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0026	0,0030	0,0034	0,0038	195 (170 – 230)
TS1	A	0.500	1.2	0.020	0.030	0.040	0.050	0.060	0.080	0.10	0.12	0.13	0.15	0.17	0.19	290 (180 – 400)
		0.500	1.2	0,00080	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0048	0,0050	0,0060	0,0065	0,0075	950 (600–1300)
TP1	A	0.500	1.2	0.020	0.030	0.040	0.050	0.060	0.080	0.10	0.12	0.13	0.15	0.17	0.19	300 (180 – 410)
		0.500	1.2	0,00080	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0048	0,0050	0,0060	0,0065	0,0075	980 (600–1300)
GR1	A	0.500	1.2	0.020	0.030	0.040	0.050	0.060	0.080	0.10	0.12	0.13	0.15	0.17	0.19	580 (470 – 690)
		0.500	1.2	0,00080	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0048	0,0050	0,0060	0,0065	0,0075	1900 (1600 – 2200)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu  
Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama  
v<sub>c</sub> = m/dak (sf/dak)  
f<sub>z</sub> = mm (inç/ağız)  
a<sub>p</sub> mm/DC (inç/DC) = faktör  
a<sub>e</sub> = mm/DC (inç/DC) = faktör  
Tüm kesme verileri hedef değerlerdir

Kesme verileri – JS553 Kanal açma

SMG		a <sub>p</sub> /DC	f <sub>z</sub>												v <sub>c</sub>
			2	3	4	5	6	8	10	12	14	16	20	25	
P1	M/A/D/E	1.0	0.014	0.020	0.028	0.034	0.042	0.055	0.070	0.085	0.10	0.11	0.14	0.17	195 (170 – 220)
		1.0	0,00055	0,00080	0,0011	0,0013	0,0017	0,0022	0,0028	0,0034	0,0040	0,0044	0,0055	0,0065	640 (560 – 720)
P2	M/A/D/E	1.0	0.014	0.020	0.028	0.034	0.042	0.055	0.070	0.085	0.10	0.11	0.14	0.17	190 (170 – 210)
		1.0	0,00055	0,00080	0,0011	0,0013	0,0017	0,0022	0,0028	0,0034	0,0040	0,0044	0,0055	0,0065	620 (560 – 680)
P3	M/A/D/E	1.0	0.014	0.020	0.028	0.034	0.042	0.055	0.070	0.085	0.10	0.11	0.14	0.17	165 (140 – 180)
		1.0	0,00055	0,00080	0,0011	0,0013	0,0017	0,0022	0,0028	0,0034	0,0040	0,0044	0,0055	0,0065	540 (460 – 590)
P4	M/A/D/E	1.0	0.014	0.020	0.028	0.034	0.042	0.055	0.070	0.085	0.10	0.11	0.14	0.17	145 (130 – 160)
		1.0	0,00055	0,00080	0,0011	0,0013	0,0017	0,0022	0,0028	0,0034	0,0040	0,0044	0,0055	0,0065	475 (430 – 520)
P5	M/A/D/E	1.0	0.014	0.020	0.028	0.034	0.042	0.055	0.070	0.085	0.10	0.11	0.14	0.17	135 (120 – 150)
		1.0	0,00055	0,00080	0,0011	0,0013	0,0017	0,0022	0,0028	0,0034	0,0040	0,0044	0,0055	0,0065	445 (400 – 490)
P6	M/A/D/E	1.0	0.014	0.020	0.028	0.034	0.042	0.055	0.070	0.085	0.10	0.11	0.14	0.17	155 (140 – 170)
		1.0	0,00055	0,00080	0,0011	0,0013	0,0017	0,0022	0,0028	0,0034	0,0040	0,0044	0,0055	0,0065	510 (460 – 550)
P7	M/A/D/E	1.0	0.014	0.020	0.028	0.034	0.042	0.055	0.070	0.085	0.10	0.11	0.14	0.17	145 (130 – 160)
		1.0	0,00055	0,00080	0,0011	0,0013	0,0017	0,0022	0,0028	0,0034	0,0040	0,0044	0,0055	0,0065	475 (430 – 520)
P8	M/A/D/E	1.0	0.014	0.020	0.028	0.034	0.042	0.055	0.070	0.085	0.10	0.11	0.14	0.17	135 (120 – 150)
		1.0	0,00055	0,00080	0,0011	0,0013	0,0017	0,0022	0,0028	0,0034	0,0040	0,0044	0,0055	0,0065	445 (400 – 490)
P11	M/A/D/E	0.80	0.010	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.070	0.080	0.10	0.13	130 (120 – 140)
		0.80	0,00040	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0028	0,0032	0,0040	0,0050	425 (400 – 450)
P12	M/A/D/E	0.80	0.010	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.070	0.080	0.10	0.11	80 (69 – 87)
		0.80	0,00040	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0028	0,0032	0,0040	0,0044	260 (230 – 280)
M1	E	0.80	0.010	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.070	0.080	0.10	0.13	95 (85 – 100)
		0.80	0,00040	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0028	0,0032	0,0040	0,0050	310 (280 – 320)
M2	E	0.80	0.010	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.070	0.080	0.10	0.11	80 (69 – 87)
		0.80	0,00040	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0028	0,0032	0,0040	0,0044	260 (230 – 280)
M3	E	0.70	0.0080	0.012	0.016	0.020	0.025	0.032	0.040	0.050	0.055	0.065	0.080	0.095	48 (39 – 58)
		0.70	0,00032	0,00048	0,00065	0,00080	0,0010	0,0013	0,0016	0,0020	0,0022	0,0026	0,0032	0,0038	155 (130 – 190)
M4	E	0.70	0.0080	0.012	0.016	0.020	0.025	0.032	0.040	0.050	0.055	0.065	0.075	0.085	36 (30 – 43)
		0.70	0,00032	0,00048	0,00065	0,00080	0,0010	0,0013	0,0016	0,0020	0,0022	0,0026	0,0030	0,0034	120 (99 – 140)
M5	E	0.70	0.0080	0.012	0.016	0.020	0.025	0.032	0.040	0.050	0.055	0.065	0.075	0.085	30 (25 – 36)
		0.70	0,00032	0,00048	0,00065	0,00080	0,0010	0,0013	0,0016	0,0020	0,0022	0,0026	0,0030	0,0034	100 (83 – 110)
K1	E	1.0	0.010	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.070	0.080	0.10	0.13	145 (140 – 170)
		1.0	0,00040	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0028	0,0032	0,0040	0,0050	475 (460 – 550)
K2	E	1.0	0.010	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.070	0.080	0.10	0.13	125 (120 – 150)
		1.0	0,00040	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0028	0,0032	0,0040	0,0050	410 (400 – 490)
K3	E	1.0	0.010	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.070	0.080	0.10	0.13	110 (110 – 120)
		1.0	0,00040	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0028	0,0032	0,0040	0,0050	360 (370 – 390)
K4	E	1.0	0.010	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.070	0.080	0.10	0.13	105 (96 – 120)
		1.0	0,00040	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0028	0,0032	0,0040	0,0050	345 (320 – 390)
K5	E	0.80	0.010	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.070	0.080	0.10	0.13	135 (120 – 150)
		0.80	0,00040	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0028	0,0032	0,0040	0,0050	445 (400 – 490)
K6	E	0.80	0.010	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.070	0.080	0.10	0.13	200 (180 – 230)
		0.80	0,00040	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0028	0,0032	0,0040	0,0050	660 (600 – 750)
K7	E	0.80	0.010	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.070	0.080	0.10	0.13	175 (150 – 190)
		0.80	0,00040	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0028	0,0032	0,0040	0,0050	570 (500 – 620)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu  
Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama  
v<sub>c</sub> = m/dak (sf/dak)  
f<sub>z</sub> = mm/ağız (inç/ağız)  
a<sub>p</sub> mm/DC (inç/DC) = faktör  
a<sub>e</sub> = mm/DC (inç/DC) = faktör  
Tüm kesme verileri hedef değerlerdir

Üniversal  
Çelik ve dökme demir  
Paslanmaz çelik ve S iş parçası malzemeleri  
Demir içermeyen malzemeler  
Sertleştirilmiş çelik için  
Plastik ve cırp malzemeleri için  
Grafit malzeme için  
Minimaster Plus  
Minimaster

Kesme verileri – JS553 Kanal açma

SMG	a <sub>p</sub> /DC	f <sub>z</sub>													v <sub>c</sub>
		2	3	4	5	6	8	10	12	14	16	20	25		
N1	E	0.70	0.010	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.070	0.080	0.10	0.13	580 (490 – 670)
		0.70	0,00040	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0028	0,0032	0,0040	0,0050	1900 (1700 – 2100)
N2	E	0.70	0.010	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.070	0.080	0.10	0.13	375 (320 – 430)
		0.70	0,00040	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0028	0,0032	0,0040	0,0050	1225 (1100–1400)
N3	E	0.70	0.010	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.070	0.080	0.10	0.13	250 (210 – 290)
		0.70	0,00040	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0028	0,0032	0,0040	0,0050	820 (690 – 950)
N11	E	0.60	0.010	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.070	0.080	0.10	0.13	290 (250 – 330)
		0.60	0,00040	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0028	0,0032	0,0040	0,0050	950 (830–1000)
S1	E	0.30	0.0065	0.0095	0.013	0.016	0.019	0.025	0.032	0.038	0.044	0.050	0.065	0.080	34 (21 – 47)
		0.30	0,00026	0,00038	0,00050	0,00065	0,00075	0,0010	0,0013	0,0015	0,0017	0,0020	0,0026	0,0032	110 (69–150)
S2	E	0.30	0.0065	0.0095	0.013	0.016	0.019	0.025	0.032	0.038	0.044	0.050	0.065	0.080	27 (17 – 38)
		0.30	0,00026	0,00038	0,00050	0,00065	0,00075	0,0010	0,0013	0,0015	0,0017	0,0020	0,0026	0,0032	90 (56–120)
S3	E	0.30	0.0065	0.0095	0.013	0.016	0.019	0.025	0.032	0.038	0.044	0.050	0.065	0.080	23 (15 – 32)
		0.30	0,00026	0,00038	0,00050	0,00065	0,00075	0,0010	0,0013	0,0015	0,0017	0,0020	0,0026	0,0032	75 (50–100)
S11	E	0.50	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.080	0.090	0.10	0.11	85 (63–110)
		0.50	0,00048	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	0,0032	0,0036	0,0040	0,0044	280 (210 – 360)
S12	E	0.50	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.080	0.090	0.10	0.11	65 (48 – 86)
		0.50	0,00048	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	0,0032	0,0036	0,0040	0,0044	215 (160 – 280)
S13	E	0.50	0.010	0.016	0.020	0.026	0.032	0.042	0.050	0.060	0.070	0.075	0.090	0.10	55 (39 – 69)
		0.50	0,00040	0,00065	0,00080	0,0010	0,0013	0,0017	0,0020	0,0024	0,0028	0,0030	0,0036	0,0040	180 (130 – 220)
H5	M/A/D	0.50	0.0040	0.0060	0.0080	0.010	0.012	0.016	0.020	0.025	0.028	0.032	0.040	0.050	65 (52–77)
		0.50	0,00016	0,00024	0,00032	0,00040	0,00048	0,00065	0,00080	0,0010	0,0011	0,0013	0,0016	0,0020	215 (180 – 250)
H8	M/A/D	0.50	0.0040	0.0060	0.0080	0.010	0.012	0.016	0.020	0.025	0.028	0.032	0.040	0.050	65 (52–77)
		0.50	0,00016	0,00024	0,00032	0,00040	0,00048	0,00065	0,00080	0,0010	0,0011	0,0013	0,0016	0,0020	215 (180 – 250)
H11	M/A/D	0.50	0.0040	0.0060	0.0080	0.010	0.012	0.016	0.020	0.025	0.028	0.032	0.040	0.050	80 (66 – 98)
		0.50	0,00016	0,00024	0,00032	0,00040	0,00048	0,00065	0,00080	0,0010	0,0011	0,0013	0,0016	0,0020	260 (220 – 320)
H12	M/A/D	1.0	0.0095	0.014	0.019	0.024	0.028	0.038	0.046	0.055	0.060	0.070	0.080	0.090	65 (52–77)
		1.0	0,00038	0,00055	0,00075	0,00095	0,0011	0,0015	0,0018	0,0022	0,0024	0,0028	0,0032	0,0036	215 (180 – 250)
H21	M/A/D	0.50	0.0040	0.0060	0.0080	0.010	0.012	0.016	0.020	0.025	0.028	0.032	0.040	0.050	65 (52–77)
		0.50	0,00016	0,00024	0,00032	0,00040	0,00048	0,00065	0,00080	0,0010	0,0011	0,0013	0,0016	0,0020	215 (180 – 250)
TS1	A	1.0	0.020	0.030	0.040	0.050	0.060	0.080	0.10	0.12	0.13	0.15	0.17	0.19	245 (150 – 340)
		1.0	0,00080	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0048	0,0050	0,0060	0,0065	0,0075	800 (500–1100)
TP1	A	1.0	0.020	0.030	0.040	0.050	0.060	0.080	0.10	0.12	0.13	0.15	0.17	0.19	250 (160 – 350)
		1.0	0,00080	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0048	0,0050	0,0060	0,0065	0,0075	820 (530–1100)
GR1	A	1.0	0.020	0.030	0.040	0.050	0.060	0.080	0.10	0.12	0.13	0.15	0.17	0.19	490 (400 – 580)
		1.0	0,00080	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0048	0,0050	0,0060	0,0065	0,0075	1600 (1400–1900)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)

f<sub>z</sub> = mm/ağız (inç/ağız)

a<sub>p</sub> mm/DC (inç/DC) = faktör

a<sub>e</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir



Kesme verileri – JS553 Kenar frezeleme – İnc

SMG		a <sub>e</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>						v <sub>c</sub>
				1/8	3/16	1/4	5/16	3/8	1/2	
P1	M/A/D/E	0.400	1.0	0.032	0.048	0.065	0.080	0.095	0.12	225 (200 – 250)
		0,400	1,0	0,0013	0,0019	0,0026	0,0032	0,0038	0,0048	740 (660 – 820)
P2	M/A/D/E	0.400	1.0	0.032	0.048	0.065	0.080	0.095	0.13	220 (190 – 240)
		0,400	1,0	0,0013	0,0019	0,0026	0,0032	0,0038	0,0050	720 (630–780)
P3	M/A/D/E	0.400	1.0	0.030	0.046	0.060	0.075	0.090	0.12	190 (170 – 210)
		0,400	1,0	0,0012	0,0018	0,0024	0,0030	0,0036	0,0048	620 (560 – 680)
P4	M/A/D/E	0.400	1.0	0.030	0.044	0.060	0.075	0.090	0.12	165 (150–190)
		0,400	1,0	0,0012	0,0017	0,0024	0,0030	0,0036	0,0048	540 (500 – 620)
P5	M/A/D/E	0.400	1.0	0.030	0.044	0.060	0.075	0.085	0.11	160 (140–180)
		0,400	1,0	0,0012	0,0017	0,0024	0,0030	0,0034	0,0044	520 (460 – 590)
P6	M/A/D/E	0.400	1.0	0.028	0.044	0.060	0.070	0.085	0.11	180 (160 – 200)
		0,400	1,0	0,0011	0,0017	0,0024	0,0028	0,0034	0,0044	590 (530 – 650)
P7	M/A/D/E	0.400	1.0	0.028	0.044	0.060	0.070	0.085	0.11	170 (150–190)
		0,400	1,0	0,0011	0,0017	0,0024	0,0028	0,0034	0,0044	560 (500 – 620)
P8	M/A/D/E	0.400	1.0	0.030	0.046	0.060	0.075	0.090	0.12	160 (140–180)
		0,400	1,0	0,0012	0,0018	0,0024	0,0030	0,0036	0,0048	520 (460 – 590)
P11	M/A/D/E	0.400	1.0	0.028	0.042	0.055	0.070	0.085	0.11	145 (130–160)
		0,400	1,0	0,0011	0,0017	0,0022	0,0028	0,0034	0,0044	475 (430 – 520)
P12	M/A/D/E	0.400	1.0	0.019	0.030	0.038	0.048	0.060	0.075	95 (82–100)
		0,400	1,0	0,00075	0,0012	0,0015	0,0019	0,0024	0,0030	310 (270 – 320)
M1	E	0.400	1.0	0.022	0.032	0.042	0.055	0.065	0.085	115 (100–120)
		0,400	1,0	0,00085	0,0013	0,0017	0,0022	0,0026	0,0034	375 (330 – 390)
M2	E	0.400	1.0	0.019	0.030	0.038	0.048	0.060	0.075	95 (82–100)
		0,400	1,0	0,00075	0,0012	0,0015	0,0019	0,0024	0,0030	310 (270 – 320)
M3	E	0.400	1.0	0.016	0.024	0.032	0.040	0.048	0.065	60 (47 – 69)
		0,400	1,0	0,00065	0,00095	0,0013	0,0016	0,0019	0,0026	195 (160 – 220)
M4	E	0.400	1.0	0.014	0.022	0.028	0.036	0.042	0.055	45 (36 – 53)
		0,400	1,0	0,00055	0,00085	0,0011	0,0014	0,0017	0,0022	150 (120–170)
M5	E	0.400	1.0	0.014	0.022	0.028	0.036	0.042	0.055	37 (30 – 44)
		0,400	1,0	0,00055	0,00085	0,0011	0,0014	0,0017	0,0022	120 (99–140)
K1	E	0.400	1.2	0.026	0.038	0.050	0.065	0.080	0.10	165 (160–190)
		0,400	1,2	0,0010	0,0015	0,0020	0,0026	0,0032	0,0040	540 (530 – 620)
K2	E	0.400	1.2	0.024	0.036	0.048	0.060	0.070	0.090	145 (140–170)
		0,400	1,2	0,00095	0,0014	0,0019	0,0024	0,0028	0,0036	475 (460 – 550)
K3	E	0.400	1.2	0.024	0.036	0.048	0.060	0.070	0.090	125 (120–140)
		0,400	1,2	0,00095	0,0014	0,0019	0,0024	0,0028	0,0036	410 (400 – 450)
K4	E	0.400	1.2	0.024	0.036	0.048	0.060	0.070	0.090	120 (110–140)
		0,400	1,2	0,00095	0,0014	0,0019	0,0024	0,0028	0,0036	395 (370 – 450)
K5	E	0.400	1.1	0.026	0.038	0.050	0.065	0.080	0.10	155 (140–170)
		0,400	1,1	0,0010	0,0015	0,0020	0,0026	0,0032	0,0040	510 (460 – 550)
K6	E	0.400	1.1	0.028	0.044	0.060	0.070	0.085	0.11	220 (190 – 250)
		0,400	1,1	0,0011	0,0017	0,0024	0,0028	0,0034	0,0044	720 (630 – 820)
K7	E	0.400	1.1	0.026	0.038	0.050	0.065	0.080	0.10	195 (170 – 220)
		0,400	1,1	0,0010	0,0015	0,0020	0,0026	0,0032	0,0040	640 (560–720)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu  
Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama  
v<sub>c</sub> = m/dak (sf/dak)  
f<sub>z</sub> = mm/ağız (inc/ağız)  
a<sub>p</sub> mm/DC (inc/DC) = faktör  
a<sub>e</sub> = mm/DC (inc/DC) = faktör  
Tüm kesme verileri hedef değerlerdir

Üniversal  
Çelik ve dökme demir  
Paslanmaz çelik ve S iş parçası malzemeleri  
Demir içermeyen malzemeler  
Sertleştirilmiş çelik için  
Plastik ve cırp malzemeleri için  
Grafit malzeme için  
Minimaster Plus  
Minimaster

Kesme verileri – JS553 Kenar frezeleme – İnc

Üniversal	SMG	a <sub>e</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>						v <sub>c</sub>
				1/8	3/16	1/4	5/16	3/8	1/2	
Çelik ve dökme demir	N1	E	1.0	0.025	0.038	0.050	0.065	0.075	0.10	620 (520–720)
		0.500	1,0	0,0010	0,0015	0,0020	0,0026	0,0030	0,0040	2025 (1800 – 2300)
Çelik ve dökme demir	N2	E	1.0	0.025	0.038	0.050	0.065	0.075	0.10	400 (340 – 460)
		0.500	1,0	0,0010	0,0015	0,0020	0,0026	0,0030	0,0040	1300 (1200–1500)
Çelik ve dökme demir	N3	E	1.0	0.025	0.038	0.050	0.065	0.075	0.10	265 (230 – 300)
		0.500	1,0	0,0010	0,0015	0,0020	0,0026	0,0030	0,0040	870 (760 – 980)
Çelik ve dökme demir	N11	E	1.1	0.025	0.038	0.050	0.065	0.075	0.10	310 (260 – 350)
		0.500	1,1	0,0010	0,0015	0,0020	0,0026	0,0030	0,0040	1025 (860–1100)
Paslanmaz çelik ve S iş parçası malzemeleri	S1	E	0.50	0.028	0.042	0.055	0.070	0.085	0.11	43 (26 – 60)
		0.150	0,50	0,0011	0,0017	0,0022	0,0028	0,0034	0,0044	140 (86–190)
Paslanmaz çelik ve S iş parçası malzemeleri	S2	E	0.50	0.028	0.042	0.055	0.070	0.085	0.11	35 (21 – 48)
		0.150	0,50	0,0011	0,0017	0,0022	0,0028	0,0034	0,0044	115 (69–150)
Paslanmaz çelik ve S iş parçası malzemeleri	S3	E	0.50	0.026	0.038	0.050	0.065	0.075	0.10	30 (19 – 42)
		0.150	0,50	0,0010	0,0015	0,0020	0,0026	0,0030	0,0040	100 (63–130)
Paslanmaz çelik ve S iş parçası malzemeleri	S11	E	1.0	0.019	0.030	0.038	0.048	0.060	0.075	110 (78–130)
		0.400	1,0	0,00075	0,0012	0,0015	0,0019	0,0024	0,0030	360 (260 – 420)
Paslanmaz çelik ve S iş parçası malzemeleri	S12	E	1.0	0.019	0.030	0.038	0.048	0.060	0.075	85 (60–100)
		0.400	1,0	0,00075	0,0012	0,0015	0,0019	0,0024	0,0030	280 (200 – 320)
Paslanmaz çelik ve S iş parçası malzemeleri	S13	E	1.0	0.017	0.025	0.034	0.042	0.050	0.065	65 (48 – 84)
		0.400	1,0	0,00065	0,0010	0,0013	0,0017	0,0020	0,0026	215 (160 – 270)
Demir içermeyen malzemeler	H5	M/A/D	0.90	0.020	0.032	0.042	0.050	0.060	0.080	75 (62 – 91)
		0.200	0,90	0,00080	0,0013	0,0017	0,0020	0,0024	0,0032	245 (210 – 290)
Demir içermeyen malzemeler	H8	M/A/D	0.90	0.016	0.024	0.032	0.040	0.048	0.060	80 (65 – 96)
		0.200	0,90	0,00065	0,00095	0,0013	0,0016	0,0019	0,0024	260 (220 – 310)
Demir içermeyen malzemeler	H21	M/A/D	0.90	0.016	0.024	0.032	0.040	0.048	0.060	80 (65 – 96)
		0.200	0,90	0,00065	0,00095	0,0013	0,0016	0,0019	0,0024	260 (220 – 310)
Demir içermeyen malzemeler	H31	M/A/D	0.90	0.016	0.024	0.032	0.040	0.048	0.060	60 (49–72)
		0.200	0,90	0,00065	0,00095	0,0013	0,0016	0,0019	0,0024	195 (170 – 230)
Sertleştirilmiş çelik için	TS1	A	1.2	0.032	0.048	0.065	0.080	0.095	0.12	290 (180 – 400)
		0.500	1,2	0,0013	0,0019	0,0026	0,0032	0,0038	0,0048	950 (600–1300)
Sertleştirilmiş çelik için	TP1	A	1.2	0.032	0.048	0.065	0.080	0.095	0.12	300 (180 – 410)
		0.500	1,2	0,0013	0,0019	0,0026	0,0032	0,0038	0,0048	980 (600–1300)
Sertleştirilmiş çelik için	GR1	A	1.2	0.032	0.048	0.065	0.080	0.095	0.12	580 (470 – 690)
		0.500	1,2	0,0013	0,0019	0,0026	0,0032	0,0038	0,0048	1900 (1600 – 2200)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)

f<sub>z</sub> = mm/ağz (inç/ağz)

a<sub>p</sub> mm/DC (inç/DC) = faktör

a<sub>e</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir


Plastik ve cırp malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

Kesme verileri – JS553 Kanal açma – İnc

SMG		a <sub>p</sub> /DC	f <sub>z</sub>						v <sub>c</sub>
			1/8	3/16	1/4	5/16	3/8	1/2	
P1	M/A/D/E	1.0	0.022	0.034	0.044	0.055	0.065	0.090	195 (170 – 220)
		1.0	0,00085	0,0013	0,0017	0,0022	0,0026	0,0036	640 (560 – 720)
P2	M/A/D/E	1.0	0.022	0.034	0.044	0.055	0.065	0.090	190 (170 – 210)
		1.0	0,00085	0,0013	0,0017	0,0022	0,0026	0,0036	620 (560 – 680)
P3	M/A/D/E	1.0	0.022	0.034	0.044	0.055	0.065	0.090	165 (140 – 180)
		1.0	0,00085	0,0013	0,0017	0,0022	0,0026	0,0036	540 (460 – 590)
P4	M/A/D/E	1.0	0.022	0.034	0.044	0.055	0.065	0.090	145 (130 – 160)
		1.0	0,00085	0,0013	0,0017	0,0022	0,0026	0,0036	475 (430 – 520)
P5	M/A/D/E	1.0	0.022	0.034	0.044	0.055	0.065	0.090	135 (120 – 150)
		1.0	0,00085	0,0013	0,0017	0,0022	0,0026	0,0036	445 (400 – 490)
P6	M/A/D/E	1.0	0.022	0.034	0.044	0.055	0.065	0.090	155 (140 – 170)
		1.0	0,00085	0,0013	0,0017	0,0022	0,0026	0,0036	510 (460 – 550)
P7	M/A/D/E	1.0	0.022	0.034	0.044	0.055	0.065	0.090	145 (130 – 160)
		1.0	0,00085	0,0013	0,0017	0,0022	0,0026	0,0036	475 (430 – 520)
P8	M/A/D/E	1.0	0.022	0.034	0.044	0.055	0.065	0.090	135 (120 – 150)
		1.0	0,00085	0,0013	0,0017	0,0022	0,0026	0,0036	445 (400 – 490)
P11	M/A/D/E	0.80	0.016	0.024	0.032	0.040	0.048	0.065	130 (120 – 140)
		0,80	0,00065	0,00095	0,0013	0,0016	0,0019	0,0026	425 (400 – 450)
P12	M/A/D/E	0.80	0.016	0.024	0.032	0.040	0.048	0.065	80 (69 – 87)
		0,80	0,00065	0,00095	0,0013	0,0016	0,0019	0,0026	260 (230 – 280)
M1	E	0.80	0.016	0.024	0.032	0.040	0.048	0.065	95 (85 – 100)
		0,80	0,00065	0,00095	0,0013	0,0016	0,0019	0,0026	310 (280 – 320)
M2	E	0.80	0.016	0.024	0.032	0.040	0.048	0.065	80 (69 – 87)
		0,80	0,00065	0,00095	0,0013	0,0016	0,0019	0,0026	260 (230 – 280)
M3	E	0.70	0.013	0.019	0.026	0.032	0.038	0.050	48 (39 – 58)
		0,70	0,00050	0,00075	0,0010	0,0013	0,0015	0,0020	155 (130 – 190)
M4	E	0.70	0.013	0.019	0.026	0.032	0.038	0.050	36 (30 – 43)
		0,70	0,00050	0,00075	0,0010	0,0013	0,0015	0,0020	120 (99 – 140)
M5	E	0.70	0.013	0.019	0.026	0.032	0.038	0.050	30 (25 – 36)
		0,70	0,00050	0,00075	0,0010	0,0013	0,0015	0,0020	100 (83 – 110)
K1	E	1.0	0.016	0.024	0.032	0.040	0.048	0.065	145 (140 – 170)
		1.0	0,00065	0,00095	0,0013	0,0016	0,0019	0,0026	475 (460 – 550)
K2	E	1.0	0.016	0.024	0.032	0.040	0.048	0.065	125 (120 – 150)
		1.0	0,00065	0,00095	0,0013	0,0016	0,0019	0,0026	410 (400 – 490)
K3	E	1.0	0.016	0.024	0.032	0.040	0.048	0.065	110 (110 – 120)
		1.0	0,00065	0,00095	0,0013	0,0016	0,0019	0,0026	360 (370 – 390)
K4	E	1.0	0.016	0.024	0.032	0.040	0.048	0.065	105 (96 – 120)
		1.0	0,00065	0,00095	0,0013	0,0016	0,0019	0,0026	345 (320 – 390)
K5	E	0.80	0.016	0.024	0.032	0.040	0.048	0.065	135 (120 – 150)
		0,80	0,00065	0,00095	0,0013	0,0016	0,0019	0,0026	445 (400 – 490)
K6	E	0.80	0.016	0.024	0.032	0.040	0.048	0.065	200 (180 – 230)
		0,80	0,00065	0,00095	0,0013	0,0016	0,0019	0,0026	660 (600 – 750)
K7	E	0.80	0.016	0.024	0.032	0.040	0.048	0.065	175 (150 – 190)
		0,80	0,00065	0,00095	0,0013	0,0016	0,0019	0,0026	570 (500 – 620)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu  
Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama  
v<sub>c</sub> = m/dak (sf/dak)  
f<sub>z</sub> = mm/ağız (inc/ağız)  
a<sub>p</sub> mm/DC (inc/DC) = faktör  
a<sub>e</sub> = mm/DC (inc/DC) = faktör  
Tüm kesme verileri hedef değerlerdir

Üniversal  
Çelik ve dökme demir  
Paslanmaz çelik ve S iş parçası malzemeleri  
Demir içermeyen malzemeler  
Sertleştirilmiş çelik için  
Plastik ve cırp malzemeler için  
Grafit malzeme için  
Minimaster Plus  
Minimaster

Kesme verileri – JS553 Kanal açma – İnc

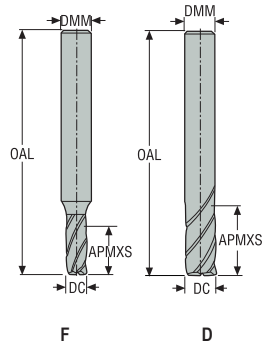
SMG	a <sub>p</sub> /DC	f <sub>z</sub>							V <sub>c</sub>
		1/8	3/16	1/4	5/16	3/8	1/2		
N1	E	0.70	0.016	0.024	0.032	0.040	0.048	0.065	580 (490 – 670)
		0.70	0,00065	0,00095	0,0013	0,0016	0,0019	0,0026	1900 (1700 – 2100)
N2	E	0.70	0.016	0.024	0.032	0.040	0.048	0.065	375 (320 – 430)
		0.70	0,00065	0,00095	0,0013	0,0016	0,0019	0,0026	1225 (1100–1400)
N3	E	0.70	0.016	0.024	0.032	0.040	0.048	0.065	250 (210 – 290)
		0.70	0,00065	0,00095	0,0013	0,0016	0,0019	0,0026	820 (690 – 950)
N11	E	0.60	0.016	0.024	0.032	0.040	0.048	0.065	290 (250 – 330)
		0.60	0,00065	0,00095	0,0013	0,0016	0,0019	0,0026	950 (830–1000)
S1	E	0.30	0.010	0.015	0.020	0.025	0.030	0.040	34 (21 – 47)
		0.30	0,00040	0,00060	0,00080	0,0010	0,0012	0,0016	110 (69–150)
S2	E	0.30	0.010	0.015	0.020	0.025	0.030	0.040	27 (17 – 38)
		0.30	0,00040	0,00060	0,00080	0,0010	0,0012	0,0016	90 (56–120)
S3	E	0.30	0.010	0.015	0.020	0.025	0.030	0.040	23 (15 – 32)
		0.30	0,00040	0,00060	0,00080	0,0010	0,0012	0,0016	75 (50–100)
S11	E	0.50	0.019	0.028	0.038	0.048	0.055	0.075	85 (63–110)
		0.50	0,00075	0,0011	0,0015	0,0019	0,0022	0,0030	280 (210 – 360)
S12	E	0.50	0.019	0.028	0.038	0.048	0.055	0.075	65 (48 – 86)
		0.50	0,00075	0,0011	0,0015	0,0019	0,0022	0,0030	215 (160 – 280)
S13	E	0.50	0.017	0.025	0.034	0.042	0.050	0.065	55 (39 – 69)
		0.50	0,00065	0,0010	0,0013	0,0017	0,0020	0,0026	180 (130 – 220)
H5	M/A/D	0.50	0.0065	0.0095	0.013	0.016	0.019	0.026	65 (52–77)
		0.50	0,00026	0,00038	0,00050	0,00065	0,00075	0,0010	215 (180 – 250)
H8	M/A/D	0.50	0.0065	0.0095	0.013	0.016	0.019	0.026	65 (52–77)
		0.50	0,00026	0,00038	0,00050	0,00065	0,00075	0,0010	215 (180 – 250)
H21	M/A/D	0.50	0.0065	0.0095	0.013	0.016	0.019	0.026	65 (52–77)
		0.50	0,00026	0,00038	0,00050	0,00065	0,00075	0,0010	215 (180 – 250)
H31	M/A/D	0.50	0.0065	0.0095	0.013	0.016	0.019	0.026	49 (39 – 58)
		0.50	0,00026	0,00038	0,00050	0,00065	0,00075	0,0010	160 (130–190)
TS1	A	1.0	0.032	0.048	0.065	0.080	0.095	0.12	245 (150 – 340)
		1.0	0,0013	0,0019	0,0026	0,0032	0,0038	0,0048	800 (500–1100)
TP1	A	1.0	0.032	0.048	0.065	0.080	0.095	0.12	250 (160 – 350)
		1.0	0,0013	0,0019	0,0026	0,0032	0,0038	0,0048	820 (530–1100)
GR1	A	1.0	0.032	0.048	0.065	0.080	0.095	0.12	490 (400 – 580)
		1.0	0,0013	0,0019	0,0026	0,0032	0,0038	0,0048	1600 (1400–1900)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu  
Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama  
v<sub>c</sub>= m/dak (sf/dak)  
f<sub>z</sub> = mm/ağz (inç/ağz)  
a<sub>p</sub> mm/DC (inç/DC) = faktör  
a<sub>s</sub> = mm/DC (inç/DC) = faktör  
Tüm kesme verileri hedef değerlerdir

## JS554

Yüksek performans – Üniversal – Dik kenarlı – 4 Ağızlı – Silindirik – Keskin



- Toleranslar:
- DMM=h5
- DC=e7
- DC ≥ Ø6 ise tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	PCEDC	Silindirik
				mm	mm	mm	mm		
554030SZ4.0-SIRON-A	02733453	2	F	3,0	6,0	7,0	50,0	4	■
554040SZ4.0-SIRON-A	02733458	2	F	4,0	6,0	10,0	55,0	4	■
554050SZ4.0-SIRON-A	02733812	2	F	5,0	6,0	12,0	55,0	4	■
554060SZ4.0-SIRON-A	02733814	2	D	6,0	6,0	14,0	55,0	4	■
554080SZ4.0-SIRON-A	02733815	2	D	8,0	8,0	18,0	60,0	4	■
554100SZ4.0-SIRON-A	02733816	2	D	10,0	10,0	22,0	70,0	4	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

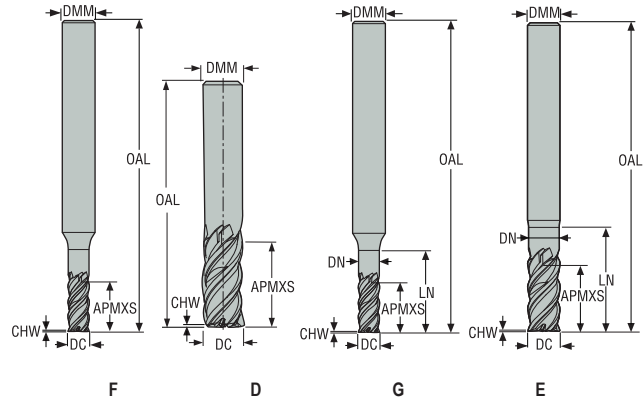
Grafit malzeme için

Minimaster Plus

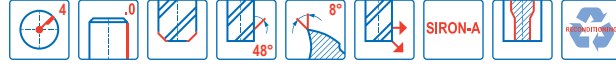
Minimaster

## JS554

Yüksek performans – Üniversal – Dik kenarlı – 4 Ağızlı – Silindirik – Köşesi pahlı



- Toleranslar:
- DMM=h5
- DC=e7
- DC ≥ Ø6 ise tekrar bilenebilir

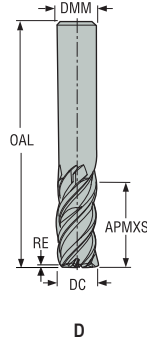


Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	CHW	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm	mm		
JS554040F1C.0Z4-SIRA	10041454	1	F	4,0	6,0	6,0	40,0	9,0	4,05	0,045	4	■
JS554060D1C.0Z4-SIRA	10041455	1	D	6,0	6,0	8,0	40,0	-	-	0,075	4	■
JS554080D1C.0Z4-SIRA	10041456	1	D	8,0	8,0	11,0	50,0	-	-	0,1	4	■
JS554100D1C.0Z4-SIRA	10041457	1	D	10,0	10,0	13,0	57,0	-	-	0,125	4	■
JS554120D1C.0Z4-SIRA	10041458	1	D	12,0	12,0	15,0	65,0	-	-	0,15	4	■
JS554160D1C.0Z4-SIRA	10041459	1	D	16,0	16,0	19,0	75,0	-	-	0,2	4	■
JS554030G2C.0Z4-SIRA	03029956	2	G	3,0	6,0	8,0	57,0	10,0	2,85	0,035	4	■
554030Z4.0-SIRON-A	02733455	2	F	3,0	6,0	7,0	50,0	8,7	3,0	0,035	4	■
JS554040G2C.0Z4-SIRA	03029957	2	G	4,0	6,0	10,0	57,0	13,0	3,8	0,045	4	■
554040Z4.0-SIRON-A	02733459	2	F	4,0	6,0	10,0	55,0	11,7	4,0	0,045	4	■
JS554050G2C.0Z4-SIRA	03029958	2	G	5,0	6,0	12,0	57,0	16,0	4,75	0,055	4	■
554050Z4.0-SIRON-A	02733813	2	F	5,0	6,0	12,0	55,0	13,7	5,0	0,055	4	■
JS554060E2C.0Z4-SIRA	03029959	2	E	6,0	6,0	14,0	57,0	18,0	5,7	0,075	4	■
554060Z4.0-SIRON-A	02679503	2	D	6,0	6,0	14,0	55,0	-	-	0,075	4	■
JS554080E2C.0Z4-SIRA	03029961	2	E	8,0	8,0	18,0	63,0	25,0	7,6	0,1	4	■
554080Z4.0-SIRON-A	02679512	2	D	8,0	8,0	18,0	60,0	-	-	0,1	4	■
JS554100E2C.0Z4-SIRA	03029963	2	E	10,0	10,0	22,0	72,0	29,0	9,5	0,125	4	■
554100Z4.0-SIRON-A	02679537	2	D	10,0	10,0	22,0	70,0	-	-	0,125	4	■
JS554120E2C.0Z4-SIRA	03029966	2	E	12,0	12,0	26,0	83,0	35,0	11,4	0,15	4	■
554120Z4.0-SIRON-A	02679548	2	D	12,0	12,0	26,0	80,0	-	-	0,15	4	■
JS554160E2C.0Z4-SIRA	03029970	2	E	16,0	16,0	34,0	92,0	42,0	15,2	0,2	4	■
554160Z4.0-SIRON-A	02679560	2	D	16,0	16,0	34,0	90,0	-	-	0,2	4	■
JS554200E2C.0Z4-SIRA	03029972	2	E	20,0	20,0	42,0	109,0	54,0	19,0	0,25	4	■
554200Z4.0-SIRON-A	02679566	2	D	20,0	20,0	42,0	100,0	-	-	0,25	4	■
554250Z4.0-SIRON-A	02679573	2	D	25,0	25,0	52,0	125,0	-	-	0,3	4	■
554L030Z4.0-SIRON-A	02733818	3	F	3,0	6,0	12,0	55,0	13,7	3,0	0,035	4	■
554L040Z4.0-SIRON-A	02733823	3	F	4,0	6,0	16,0	60,0	17,7	4,0	0,045	4	■
554L050Z4.0-SIRON-A	02733825	3	F	5,0	6,0	20,0	65,0	21,7	5,0	0,055	4	■
554L060Z4.0-SIRON-A	02733828	3	D	6,0	6,0	23,0	65,0	-	-	0,075	4	■
554L080Z4.0-SIRON-A	02733830	3	D	8,0	8,0	32,0	75,0	-	-	0,1	4	■
554L100Z4.0-SIRON-A	02733832	3	D	10,0	10,0	40,0	85,0	-	-	0,125	4	■
554L120Z4.0-SIRON-A	02733834	3	D	12,0	12,0	45,0	100,0	-	-	0,15	4	■
554L160Z4.0-SIRON-A	02733836	3	D	16,0	16,0	55,0	115,0	-	-	0,2	4	■
554L200Z4.0-SIRON-A	02733838	3	D	20,0	20,0	65,0	125,0	-	-	0,25	4	■
554L250Z4.0-SIRON-A	02733841	3	D	25,0	25,0	85,0	150,0	-	-	0,3	4	■

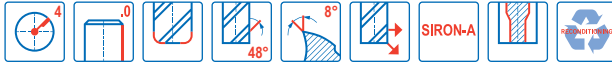
■ Stoklu standart ürün.

## JS554

Yüksek performans – Üniversal – Dik kenarlı – 4 Ağızlı – Silindirik – Köşe radyüsü



D



- Toleranslar:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	RE	PCEDC	Silindirik
				mm	mm	mm	mm	mm		
554060R020Z4.0-SIRON-A	02679507	2	D	6,0	6,0	14,0	55,0	0,2	4	■
554080R050Z4.0-SIRON-A	02679514	2	D	8,0	8,0	18,0	60,0	0,5	4	■
554100R050Z4.0-SIRON-A	02679540	2	D	10,0	10,0	22,0	70,0	0,5	4	■
554100R100Z4.0-SIRON-A	02679544	2	D	10,0	10,0	22,0	70,0	1,0	4	■
554120R050Z4.0-SIRON-A	02679552	2	D	12,0	12,0	26,0	80,0	0,5	4	■
554120R100Z4.0-SIRON-A	02679557	2	D	12,0	12,0	26,0	80,0	1,0	4	■
554160R050Z4.0-SIRON-A	02679562	2	D	16,0	16,0	34,0	90,0	0,5	4	■
554160R100Z4.0-SIRON-A	02679564	2	D	16,0	16,0	34,0	90,0	1,0	4	■
554160R200Z4.0-SIRON-A	02810437	2	D	16,0	16,0	34,0	90,0	2,0	4	■
554160R310Z4.0-SIRON-A	02810439	2	D	16,0	16,0	34,0	90,0	3,1	4	■
554160R400Z4.0-SIRON-A	02810441	2	D	16,0	16,0	34,0	90,0	4,0	4	■
554200R050Z4.0-SIRON-A	02679568	2	D	20,0	20,0	42,0	100,0	0,5	4	■
554200R100Z4.0-SIRON-A	02679571	2	D	20,0	20,0	42,0	100,0	1,0	4	■
554200R250Z4.0-SIRON-A	02810443	2	D	20,0	20,0	42,0	100,0	2,5	4	■
554200R310Z4.0-SIRON-A	02810445	2	D	20,0	20,0	42,0	100,0	3,1	4	■
554200R400Z4.0-SIRON-A	02810447	2	D	20,0	20,0	42,0	100,0	4,0	4	■
554250R050Z4.0-SIRON-A	02679575	2	D	25,0	25,0	52,0	125,0	0,5	4	■
554250R100Z4.0-SIRON-A	02679577	2	D	25,0	25,0	52,0	125,0	1,0	4	■
554250R310Z4.0-SIRON-A	02810449	2	D	25,0	25,0	52,0	125,0	3,1	4	■
554250R400Z4.0-SIRON-A	02810452	2	D	25,0	25,0	52,0	125,0	4,0	4	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve diğer materyaller için

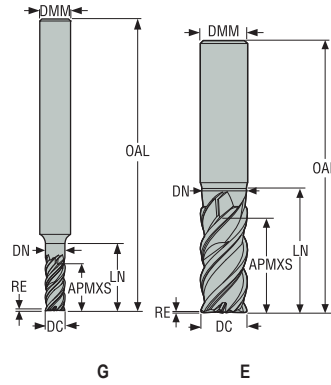
Grafit materyal için

Minimaster Plus

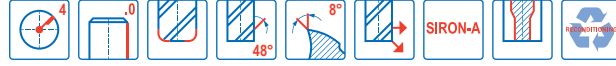
Minimaster

## JS554

Yüksek performans– Üniversal – Dik kenarlı – 4 Ağızlı – Silindirik – Köşe radyüsü



- Toleranslar:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- DC ≥ Ø6 ise tekrar bilenebilir



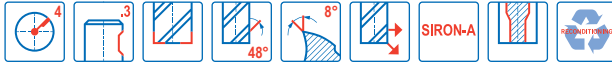
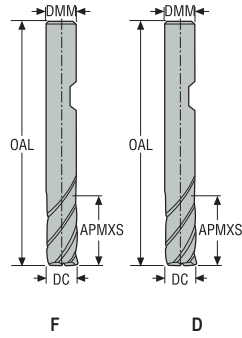
Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm	mm		
JS554030G2R015.0Z4-SIRA	02881697	2	G	3,0	6,0	7,0	57,0	10,0	2,85	0,15	4	■
JS554040G2R020.0Z4-SIRA	02881698	2	G	4,0	6,0	10,0	57,0	13,0	3,8	0,2	4	■
JS554050G2R020.0Z4-SIRA	02881699	2	G	5,0	6,0	12,0	57,0	16,0	4,75	0,2	4	■
JS554060E2R020.0Z4-SIRA	03029960	2	E	6,0	6,0	14,0	57,0	18,0	5,7	0,2	4	■
JS554060E2R050.0Z4-SIRA	02881700	2	E	6,0	6,0	14,0	57,0	18,0	5,7	0,5	4	■
JS554060E2R100.0Z4-SIRA	03029948	2	E	6,0	6,0	14,0	57,0	18,0	5,7	1,0	4	■
JS554080E2R050.0Z4-SIRA	03029962	2	E	8,0	8,0	18,0	63,0	25,0	7,6	0,5	4	■
JS554080E2R100.0Z4-SIRA	02881701	2	E	8,0	8,0	18,0	63,0	25,0	7,6	1,0	4	■
JS554100E2R050.0Z4-SIRA	03029964	2	E	10,0	10,0	22,0	72,0	29,0	9,5	0,5	4	■
JS554100E2R100.0Z4-SIRA	03029965	2	E	10,0	10,0	22,0	72,0	29,0	9,5	1,0	4	■
JS554100E2R200.0Z4-SIRA	02881702	2	E	10,0	10,0	22,0	72,0	29,0	9,5	2,0	4	■
JS554100E2R250.0Z4-SIRA	03029949	2	E	10,0	10,0	22,0	72,0	29,0	9,5	2,5	4	■
JS554120E2R050.0Z4-SIRA	03029968	2	E	12,0	12,0	26,0	83,0	35,0	11,4	0,5	4	■
JS554120E2R100.0Z4-SIRA	03029969	2	E	12,0	12,0	26,0	83,0	35,0	11,4	1,0	4	■
JS554120E2R200.0Z4-SIRA	02881703	2	E	12,0	12,0	26,0	83,0	35,0	11,4	2,0	4	■
JS554120E2R250.0Z4-SIRA	02881704	2	E	12,0	12,0	26,0	83,0	35,0	11,4	2,5	4	■
JS554120E2R300.0Z4-SIRA	03029950	2	E	12,0	12,0	26,0	83,0	35,0	11,4	3,0	4	■
JS554160E2R050.0Z4-SIRA	03029971	2	E	16,0	16,0	34,0	92,0	42,0	15,2	0,5	4	■
JS554160E2R600.0Z4-SIRA	03093685	2	E	16,0	16,0	34,0	92,0	42,0	15,2	6,0	4	■
JS554200E2R200.0Z4-SIRA	02881705	2	E	20,0	20,0	42,0	110,0	54,0	19,0	2,0	4	■
JS554200E2R600.0Z4-SIRA	03029951	2	E	20,0	20,0	42,0	109,0	54,0	19,0	6,0	4	■
JS554250E2R600.0Z4-SIRA	03093686	2	E	25,0	25,0	52,0	125,0	65,0	23,8	6,0	4	■

■ Stoklu standart ürün.



## JS554

Yüksek performans – Üniversal – Dik kenarlı' – 4 Ağızlı – Weldon – Keskin



- Toleranslar:
- DMM=h5
- DC=e7
- DC ≥ Ø6 ise tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	PCEDC	Weldon
				mm	mm	mm	mm		
554030SZ4.0-SIRON-AW	02733844	2	F	3,0	6,0	7,0	50,0	4	<input type="checkbox"/>
554040SZ4.0-SIRON-AW	02733846	2	F	4,0	6,0	10,0	55,0	4	<input type="checkbox"/>
554050SZ4.0-SIRON-AW	02733847	2	F	5,0	6,0	12,0	55,0	4	<input type="checkbox"/>
554060SZ4.0-SIRON-AW	02733848	2	D	6,0	6,0	14,0	55,0	4	<input type="checkbox"/>
554080SZ4.0-SIRON-AW	02733849	2	D	8,0	8,0	18,0	60,0	4	<input type="checkbox"/>
554100SZ4.0-SIRON-AW	02733850	2	D	10,0	10,0	22,0	70,0	4	<input type="checkbox"/>

Weldon mevcut. Teslimat süresi 3 iş günüdür.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve diğer materyaller için

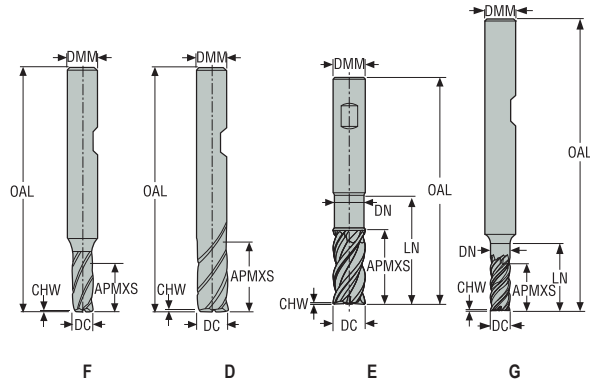
Grafit materyaller için

Minimaster Plus

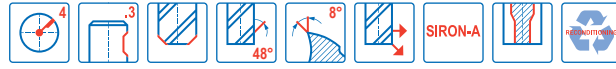
Minimaster

## JS554

Yüksek performans – Üniversal – Dik kenarlı – 4 Ağızlı – Weldon – Köşesi pahlı



- Toleranslar:
- DMM=h5
- DC=e7
- DC ≥ Ø6 ise tekrar bilenebilir

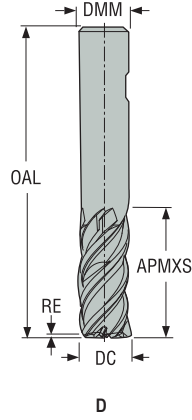


Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	CHW	PCEDC	Weldon
				mm	mm	mm	mm	mm	mm	mm		
JS554040F1C.3Z4-SIRA	10041460	1	F	4,0	6,0	6,0	40,0	9,0	4,05	0,045	4	■
JS554060D1C.3Z4-SIRA	10041461	1	D	6,0	6,0	8,0	40,0	-	-	0,075	4	■
JS554080D1C.3Z4-SIRA	10041462	1	D	8,0	8,0	11,0	50,0	-	-	0,1	4	□
JS554100D1C.3Z4-SIRA	10041463	1	D	10,0	10,0	13,0	57,0	-	-	0,125	4	□
JS554120D1C.3Z4-SIRA	10041464	1	D	12,0	12,0	15,0	65,0	-	-	0,15	4	□
JS554160D1C.3Z4-SIRA	10041465	1	D	16,0	16,0	19,0	75,0	-	-	0,2	4	□
JS554030G2C.3Z4-SIRA	03029973	2	G	3,0	6,0	8,0	57,0	10,0	2,85	0,035	4	□
554030Z4.3-SIRON-A	02733450	2	F	3,0	6,0	7,0	50,0	8,7	3,0	0,035	4	■
JS554040G2C.3Z4-SIRA	03029974	2	G	4,0	6,0	10,0	57,0	13,0	3,8	0,045	4	□
554040Z4.3-SIRON-A	02733456	2	F	4,0	6,0	10,0	55,0	11,7	4,0	0,045	4	■
JS554050G2C.3Z4-SIRA	03029975	2	G	5,0	6,0	12,0	57,0	16,0	4,75	0,055	4	□
554050Z4.3-SIRON-A	02733461	2	F	5,0	6,0	12,0	55,0	13,7	5,0	0,055	4	■
JS554060E2C.3Z4-SIRA	03029976	2	E	6,0	6,0	14,0	57,0	18,0	5,7	0,075	4	□
554060Z4.3-SIRON-A	02679502	2	D	6,0	6,0	14,0	55,0	-	-	0,075	4	■
JS554080E2C.3Z4-SIRA	03029978	2	E	8,0	8,0	18,0	63,0	25,0	7,6	0,1	4	□
554080Z4.3-SIRON-A	02679511	2	D	8,0	8,0	18,0	60,0	-	-	0,1	4	■
JS554100E2C.3Z4-SIRA	03029980	2	E	10,0	10,0	22,0	72,0	29,0	9,5	0,125	4	□
554100Z4.3-SIRON-A	02679535	2	D	10,0	10,0	22,0	70,0	-	-	0,125	4	■
JS554120E2C.3Z4-SIRA	03029983	2	E	12,0	12,0	26,0	83,0	35,0	11,4	0,15	4	□
554120Z4.3-SIRON-A	02679547	2	D	12,0	12,0	26,0	80,0	-	-	0,15	4	■
JS554160E2C.3Z4-SIRA	03029986	2	E	16,0	16,0	34,0	92,0	42,0	15,2	0,2	4	□
554160Z4.3-SIRON-A	02679559	2	D	16,0	16,0	34,0	90,0	-	-	0,2	4	■
JS554200E2C.3Z4-SIRA	03029988	2	E	20,0	20,0	42,0	109,0	54,0	19,0	0,25	4	□
554200Z4.3-SIRON-A	02679565	2	D	20,0	20,0	42,0	100,0	-	-	0,25	4	■
554250Z4.3-SIRON-A	02679572	2	D	25,0	25,0	52,0	125,0	-	-	0,3	4	■
554L030Z4.3-SIRON-A	02733817	3	F	3,0	6,0	12,0	55,0	13,7	3,0	0,035	4	■
554L040Z4.3-SIRON-A	02733820	3	F	4,0	6,0	16,0	60,0	17,7	4,0	0,045	4	■
554L050Z4.3-SIRON-A	02733824	3	F	5,0	6,0	20,0	65,0	21,7	5,0	0,055	4	■
554L060Z4.3-SIRON-A	02733827	3	D	6,0	6,0	23,0	65,0	-	-	0,075	4	■
554L080Z4.3-SIRON-A	02733829	3	D	8,0	8,0	32,0	75,0	-	-	0,1	4	■
554L100Z4.3-SIRON-A	02733831	3	D	10,0	10,0	40,0	85,0	-	-	0,125	4	■
554L120Z4.3-SIRON-A	02733833	3	D	12,0	12,0	45,0	100,0	-	-	0,15	4	■
554L160Z4.3-SIRON-A	02733835	3	D	16,0	16,0	55,0	115,0	-	-	0,2	4	■
554L200Z4.3-SIRON-A	02733837	3	D	20,0	20,0	65,0	125,0	-	-	0,25	4	■
554L250Z4.3-SIRON-A	02733839	3	D	25,0	25,0	85,0	150,0	-	-	0,3	4	■

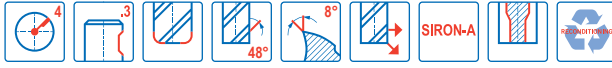
■ Stoklu standart ürün. □ Weldon mevcut. Teslimat süresi 3 iş günüdür.

## JS554

Yüksek performans – Üniversal – Dik kenarlı – 4 Ağızlı – Weldon – Köşe radyüsü



D



- Toleranslar:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Tekrar bilenebilir



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	RE	PCEDC	Weldon
				mm	mm	mm	mm	mm		
554060R020Z4.3-SIRON-A	02679506	2	D	6,0	6,0	14,0	55,0	0,2	4	■
554080R050Z4.3-SIRON-A	02679513	2	D	8,0	8,0	18,0	60,0	0,5	4	■
554100R050Z4.3-SIRON-A	02679539	2	D	10,0	10,0	22,0	70,0	0,5	4	■
554100R100Z4.3-SIRON-A	02679542	2	D	10,0	10,0	22,0	70,0	1,0	4	■
554120R050Z4.3-SIRON-A	02679549	2	D	12,0	12,0	26,0	80,0	0,5	4	■
554120R100Z4.3-SIRON-A	02679554	2	D	12,0	12,0	26,0	80,0	1,0	4	■
554160R050Z4.3-SIRON-A	02679561	2	D	16,0	16,0	34,0	90,0	0,5	4	■
554160R100Z4.3-SIRON-A	02679563	2	D	16,0	16,0	34,0	90,0	1,0	4	■
554160R200Z4.3-SIRON-A	02810436	2	D	16,0	16,0	34,0	90,0	2,0	4	■
554160R310Z4.3-SIRON-A	02810438	2	D	16,0	16,0	34,0	90,0	3,1	4	■
554160R400Z4.3-SIRON-A	02810440	2	D	16,0	16,0	34,0	90,0	4,0	4	■
554200R050Z4.3-SIRON-A	02679567	2	D	20,0	20,0	42,0	100,0	0,5	4	■
554200R100Z4.3-SIRON-A	02679570	2	D	20,0	20,0	42,0	100,0	1,0	4	■
554200R250Z4.3-SIRON-A	02810442	2	D	20,0	20,0	42,0	100,0	2,5	4	■
554200R310Z4.3-SIRON-A	02810444	2	D	20,0	20,0	42,0	100,0	3,1	4	■
554200R400Z4.3-SIRON-A	02810446	2	D	20,0	20,0	42,0	100,0	4,0	4	■
554250R050Z4.3-SIRON-A	02679574	2	D	25,0	25,0	52,0	125,0	0,5	4	■
554250R100Z4.3-SIRON-A	02679576	2	D	25,0	25,0	52,0	125,0	1,0	4	■
554250R310Z4.3-SIRON-A	02810448	2	D	25,0	25,0	52,0	125,0	3,1	4	■
554250R400Z4.3-SIRON-A	02810451	2	D	25,0	25,0	52,0	125,0	4,0	4	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve cırp materyaller için

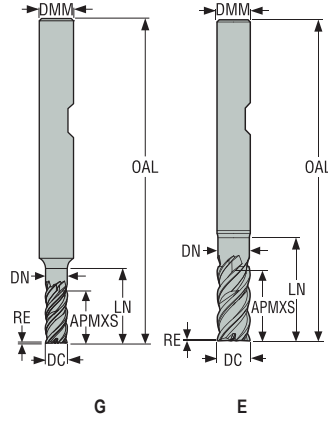
Grafit materyale için

Minimaster Plus

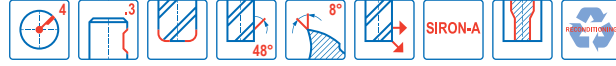
Minimaster

## JS554

Yüksek performans – Üniversal – Dik kenarlı – 4 Ağızlı – Weldon – Köşe radyüsü



- Toleranslar:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- DC ≥ Ø6 ise tekrar bilenebilir

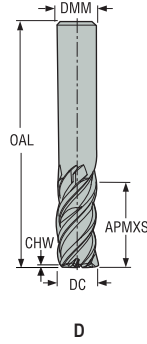


Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Weldon
				mm	mm	mm	mm	mm	mm	mm		
JS554030G2R015.3Z4-SIRA	02881706	2	G	3,0	6,0	7,0	57,0	10,0	2,85	0,15	4	<input type="checkbox"/>
JS554040G2R020.3Z4-SIRA	02881946	2	G	4,0	6,0	10,0	57,0	13,0	3,8	0,2	4	<input type="checkbox"/>
JS554050G2R020.3Z4-SIRA	02881708	2	G	5,0	6,0	12,0	57,0	16,0	4,75	0,2	4	<input type="checkbox"/>
JS554060E2R020.3Z4-SIRA	03029977	2	E	6,0	6,0	14,0	57,0	18,0	5,7	0,2	4	<input type="checkbox"/>
JS554060E2R050.3Z4-SIRA	02881709	2	E	6,0	6,0	14,0	57,0	18,0	5,7	0,5	4	<input type="checkbox"/>
JS554060E2R100.3Z4-SIRA	03029952	2	E	6,0	6,0	14,0	57,0	18,0	5,7	1,0	4	<input type="checkbox"/>
JS554080E2R050.3Z4-SIRA	03029979	2	E	8,0	8,0	18,0	63,0	25,0	7,6	0,5	4	<input type="checkbox"/>
JS554080E2R100.3Z4-SIRA	02881710	2	E	8,0	8,0	18,0	63,0	25,0	7,6	1,0	4	<input type="checkbox"/>
JS554100E2R050.3Z4-SIRA	03029981	2	E	10,0	10,0	22,0	72,0	29,0	9,5	0,5	4	<input type="checkbox"/>
JS554100E2R100.3Z4-SIRA	03029982	2	E	10,0	10,0	22,0	72,0	29,0	9,5	1,0	4	<input type="checkbox"/>
JS554100E2R200.3Z4-SIRA	02881711	2	E	10,0	10,0	22,0	72,0	29,0	9,5	2,0	4	<input type="checkbox"/>
JS554100E2R250.3Z4-SIRA	03029953	2	E	10,0	10,0	22,0	72,0	29,0	9,5	2,5	4	<input type="checkbox"/>
JS554120E2R050.3Z4-SIRA	03029984	2	E	12,0	12,0	26,0	83,0	35,0	11,4	0,5	4	<input checked="" type="checkbox"/>
JS554120E2R100.3Z4-SIRA	03029985	2	E	12,0	12,0	26,0	83,0	35,0	11,4	1,0	4	<input type="checkbox"/>
JS554120E2R200.3Z4-SIRA	02881712	2	E	12,0	12,0	26,0	83,0	35,0	11,4	2,0	4	<input type="checkbox"/>
JS554120E2R250.3Z4-SIRA	02881713	2	E	12,0	12,0	26,0	83,0	35,0	11,4	2,5	4	<input type="checkbox"/>
JS554120E2R300.3Z4-SIRA	03029954	2	E	12,0	12,0	26,0	83,0	35,0	11,4	3,0	4	<input type="checkbox"/>
JS554160E2R050.3Z4-SIRA	03029987	2	E	16,0	16,0	34,0	92,0	42,0	15,2	0,5	4	<input type="checkbox"/>
JS554160E2R600.3Z4-SIRA	03093687	2	E	16,0	16,0	34,0	92,0	42,0	15,2	6,0	4	<input type="checkbox"/>
JS554200E2R200.3Z4-SIRA	02881714	2	E	20,0	20,0	42,0	110,0	54,0	19,0	2,0	4	<input type="checkbox"/>
JS554200E2R600.3Z4-SIRA	03029955	2	E	20,0	20,0	42,0	109,0	54,0	19,0	6,0	4	<input type="checkbox"/>
JS554250E2R600.3Z4-SIRA	03093688	2	E	25,0	25,0	52,0	125,0	65,0	23,8	6,0	4	<input type="checkbox"/>

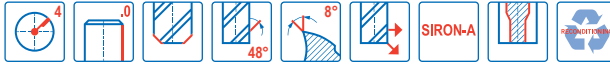
■ Stoklu standart ürün. □ Weldon mevcut. Teslimat süresi 3 iş günüdür.

## JS554

Yüksek performans – Üniversal – Dik kenarlı' – 4 Ağızlı – Silindirik – Köşesi pahlı – İnce



D



- Toleranslar:
- DMM=h5
- DC=e7
- DC ≥ Ø.375 ise tekrar bilebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	CHW	PCEDC	Silindirik
				İnce	İnce	İnce	İnce	İnce		
5540250Z4.0-SIRON-A	02711329	2	D	0.250	0.250	0.500	2.500	0.003	4	■
5540312Z4.0-SIRON-A	02711340	2	D	0.313	0.313	0.625	2.500	0.004	4	■
5540375Z4.0-SIRON-A	02711344	2	D	0.375	0.375	0.750	3.000	0.005	4	■
5540500Z4.0-SIRON-A	02711611	2	D	0.500	0.500	1.000	3.500	0.006	4	■
5540625Z4.0-SIRON-A	02711626	2	D	0.625	0.625	1.250	3.750	0.008	4	■
5540750Z4.0-SIRON-A	02711643	2	D	0.750	0.750	1.500	4.000	0.010	4	■
5541000Z4.0-SIRON-A	02711660	2	D	1.000	1.000	2.000	5.000	0.012	4	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

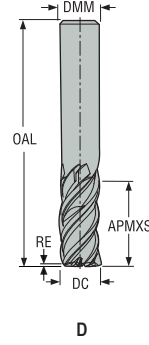
Grafit malzeme için

Minimaster Plus

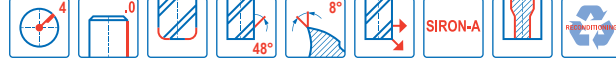
Minimaster

## JS554

Yüksek performans – Üniversal – Dik kenarlı – 4 Ağızlı – Silindirik – Köşe radyüsü – *İnç*



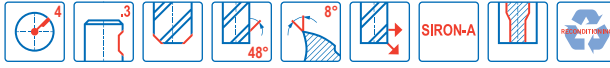
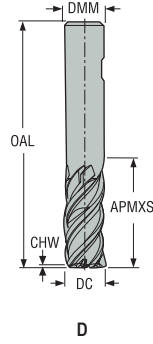
- Toleranslar:
- DMM=h5
- DC=e7
- RE= ±.0008 *inç*
- DC ≥ Ø.375 ise tekrar bilenebilir



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	RE	PCEDC	Silindirik
				<i>İnç</i>	<i>İnç</i>	<i>İnç</i>	<i>İnç</i>	<i>İnç</i>		
5540250R015Z4.0-SIRON-A	02711335	2	D	0.250	0.250	0.500	2.500	0.015	4	■
5540312R015Z4.0-SIRON-A	02711341	2	D	0.313	0.313	0.625	2.500	0.015	4	■
5540375R015Z4.0-SIRON-A	02711588	2	D	0.375	0.375	0.750	3.000	0.015	4	■
5540375R030Z4.0-SIRON-A	02711589	2	D	0.375	0.375	0.750	3.000	0.030	4	■
5540500R015Z4.0-SIRON-A	02711614	2	D	0.500	0.500	1.000	3.500	0.015	4	■
5540500R030Z4.0-SIRON-A	02711616	2	D	0.500	0.500	1.000	3.500	0.030	4	■
5540500R125Z4.0-SIRON-A	02842370	2	D	0.500	0.500	1.000	3.500	0.125	4	■
5540625R015Z4.0-SIRON-A	02711629	2	D	0.625	0.625	1.250	3.750	0.015	4	■
5540625R030Z4.0-SIRON-A	02711631	2	D	0.625	0.625	1.250	3.750	0.030	4	■
5540625R125Z4.0-SIRON-A	02842371	2	D	0.625	0.625	1.250	3.750	0.125	4	■
5540750R030Z4.0-SIRON-A	02711647	2	D	0.750	0.750	1.500	4.000	0.030	4	■
5540750R060Z4.0-SIRON-A	02711655	2	D	0.750	0.750	1.500	4.000	0.060	4	■

■ Stoklu standart ürün.

## JS554

Yüksek performans – Üniversal – Dik kenarlı' – 4 Ağızlı – Weldon – Köşesi pahlı – *İnç*

- Toleranslar:
- DMM=h5
- DC=e7
- Tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	CHW	PCEDC	Weldon
				<i>İnç</i>	<i>İnç</i>	<i>İnç</i>	<i>İnç</i>	<i>İnç</i>		
5540500Z4.3-SIRON-A	02711608	2	D	0.500	0.500	1.000	3.500	0.006	4	■
5540750Z4.3-SIRON-A	02711632	2	D	0.750	0.750	1.500	4.000	0.010	4	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

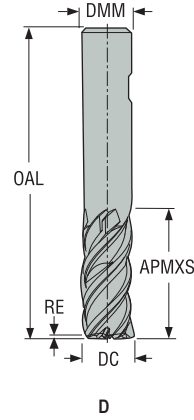
Grafit malzeme için

Minimaster Plus

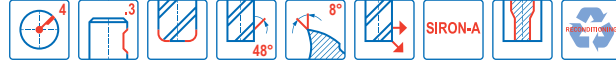
Minimaster

## JS554

Yüksek performans – Üniversal – Dik kenarlı – 4 Ağızlı – Weldon – Köşe radyüsü – *İnç*



- Toleranslar:
- DMM=h5
- DC=e7
- RE= ±.0008 *inç*
- Tekrar bilenebilir



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	RE	PCEDC	Weldon
				<i>İnç</i>	<i>İnç</i>	<i>İnç</i>	<i>İnç</i>	<i>İnç</i>		
5540500R015Z4.3-SIRON-A	02711613	2	D	0.500	0.500	1.000	3.500	0.015	4	■
5540500R030Z4.3-SIRON-A	02711615	2	D	0.500	0.500	1.000	3.500	0.030	4	■
5540500R125Z4.3-SIRON-A	02856456	2	D	0.500	0.500	1.000	3.500	0.125	4	□
5540625R125Z4.3-SIRON-A	02856457	2	D	0.625	0.625	1.250	3.750	0.125	4	□
5541000R060Z4.3-SIRON-A	02711663	2	D	1.000	1.000	2.000	5.000	0.060	4	■

■ Stoklu standart ürün. □ Weldon mevcut. Teslimat süresi 3 iş günüdür.



Kesme verileri – JS554 Finiş kenar frezeleme

SMG		a <sub>e</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>										v <sub>c</sub>
				3	4	5	6	8	10	12	16	20	25	
P1	M/A/D/E	0.400	1.0	0.030	0.040	0.050	0.060	0.080	0.10	0.12	0.15	0.17	0.19	215 (190 – 240)
		0,400	1,0	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	0,0075	710 (630 – 780)
P2	M/A/D/E	0.400	1.0	0.030	0.040	0.050	0.060	0.080	0.10	0.12	0.15	0.17	0.19	210 (190 – 240)
		0,400	1,0	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	0,0075	690 (630 – 780)
P3	M/A/D/E	0.400	1.0	0.028	0.038	0.048	0.055	0.075	0.095	0.11	0.14	0.16	0.18	185 (160 – 200)
		0,400	1,0	0,0011	0,0015	0,0019	0,0022	0,0030	0,0038	0,0044	0,0055	0,0065	0,0070	610 (530 – 650)
P4	M/A/D/E	0.400	1.0	0.028	0.038	0.046	0.055	0.075	0.095	0.11	0.14	0.16	0.18	160 (140 – 180)
		0,400	1,0	0,0011	0,0015	0,0018	0,0022	0,0030	0,0038	0,0044	0,0055	0,0065	0,0070	520 (460 – 590)
P5	M/A/D/E	0.400	1.0	0.028	0.036	0.046	0.055	0.075	0.090	0.11	0.13	0.16	0.18	155 (140 – 170)
		0,400	1,0	0,0011	0,0014	0,0018	0,0022	0,0030	0,0036	0,0044	0,0050	0,0065	0,0070	510 (460 – 550)
P6	M/A/D/E	0.400	1.0	0.028	0.036	0.046	0.055	0.075	0.090	0.11	0.13	0.15	0.17	175 (160 – 200)
		0,400	1,0	0,0011	0,0014	0,0018	0,0022	0,0030	0,0036	0,0044	0,0050	0,0060	0,0065	570 (530 – 650)
P7	M/A/D/E	0.400	1.0	0.028	0.036	0.046	0.055	0.075	0.090	0.11	0.13	0.15	0.17	165 (150 – 180)
		0,400	1,0	0,0011	0,0014	0,0018	0,0022	0,0030	0,0036	0,0044	0,0050	0,0060	0,0065	540 (500 – 590)
P8	M/A/D/E	0.400	1.0	0.028	0.038	0.048	0.055	0.075	0.095	0.11	0.14	0.16	0.18	155 (140 – 170)
		0,400	1,0	0,0011	0,0015	0,0019	0,0022	0,0030	0,0038	0,0044	0,0055	0,0065	0,0070	510 (460 – 550)
P11	M/A/D/E	0.400	1.0	0.026	0.036	0.044	0.055	0.070	0.090	0.11	0.13	0.15	0.17	140 (130 – 150)
		0,400	1,0	0,0010	0,0014	0,0017	0,0022	0,0028	0,0036	0,0044	0,0050	0,0060	0,0065	460 (430 – 490)
P12	M/A/D/E	0.400	1.0	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.090	0.10	0.12	90 (79 – 100)
		0,400	1,0	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	0,0036	0,0040	0,0048	295 (260 – 320)
M1	E	0.400	1.0	0.020	0.026	0.034	0.040	0.055	0.065	0.080	0.10	0.11	0.13	110 (96 – 120)
		0,400	1,0	0,00080	0,0010	0,0013	0,0016	0,0022	0,0026	0,0032	0,0040	0,0044	0,0050	360 (320 – 390)
M2	E	0.400	1.0	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.090	0.10	0.12	90 (79 – 100)
		0,400	1,0	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	0,0036	0,0040	0,0048	295 (260 – 320)
M3	E	0.400	0.90	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.075	0.085	0.095	55 (45 – 66)
		0,400	0,90	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0030	0,0034	0,0038	180 (150 – 210)
M4	E	0.400	0.90	0.013	0.018	0.022	0.026	0.036	0.044	0.055	0.065	0.075	0.085	43 (35 – 51)
		0,400	0,90	0,00050	0,00070	0,00085	0,0010	0,0014	0,0017	0,0022	0,0026	0,0030	0,0034	140 (120 – 160)
M5	E	0.400	0.90	0.013	0.018	0.022	0.026	0.036	0.044	0.055	0.065	0.075	0.085	36 (29 – 42)
		0,400	0,90	0,00050	0,00070	0,00085	0,0010	0,0014	0,0017	0,0022	0,0026	0,0030	0,0034	120 (96 – 130)
K1	E	0.400	1.2	0.024	0.032	0.040	0.048	0.065	0.080	0.095	0.12	0.14	0.16	175 (160 – 190)
		0,400	1,2	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0048	0,0055	0,0065	570 (530 – 620)
K2	E	0.400	1.2	0.022	0.030	0.038	0.044	0.060	0.075	0.090	0.11	0.13	0.14	155 (140 – 170)
		0,400	1,2	0,00085	0,0012	0,0015	0,0017	0,0024	0,0030	0,0036	0,0044	0,0050	0,0055	510 (460 – 550)
K3	E	0.400	1.2	0.022	0.030	0.038	0.044	0.060	0.075	0.090	0.11	0.13	0.14	130 (120 – 140)
		0,400	1,2	0,00085	0,0012	0,0015	0,0017	0,0024	0,0030	0,0036	0,0044	0,0050	0,0055	425 (400 – 450)
K4	E	0.400	1.2	0.022	0.030	0.038	0.044	0.060	0.075	0.090	0.11	0.13	0.14	125 (110 – 140)
		0,400	1,2	0,00085	0,0012	0,0015	0,0017	0,0024	0,0030	0,0036	0,0044	0,0050	0,0055	410 (370 – 450)
K5	E	0.400	1.0	0.024	0.032	0.040	0.048	0.065	0.080	0.095	0.12	0.14	0.16	155 (140 – 170)
		0,400	1,0	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0048	0,0055	0,0065	510 (460 – 550)
K6	E	0.400	1.0	0.028	0.036	0.046	0.055	0.070	0.090	0.11	0.13	0.15	0.17	220 (190 – 250)
		0,400	1,0	0,0011	0,0014	0,0018	0,0022	0,0028	0,0036	0,0044	0,0050	0,0060	0,0065	720 (630 – 820)
K7	E	0.400	1.0	0.024	0.032	0.040	0.048	0.065	0.080	0.095	0.12	0.14	0.16	195 (170 – 220)
		0,400	1,0	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0048	0,0055	0,0065	640 (560 – 720)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu  
Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama  
v<sub>c</sub> = m/dak (sf/dak)  
f<sub>z</sub> = mm (inç/çizim)  
a<sub>p</sub> mm/DC (inç/DC) = faktör  
a<sub>e</sub> = mm/DC (inç/DC) = faktör  
Tüm kesme verileri hedef değerlerdir

Üniversal  
Çelik ve dökme demir  
Paslanmaz çelik ve S iş parçası malzemeleri  
Demir içermeyen malzemeler  
Sertleştirilmiş çelik için  
Plastik ve cırp malzemeleri için  
Grafit malzeme için  
Minimaster Plus  
Minimaster

Kesme verileri – JS554 Finiş kenar frezeleme

SMG	a <sub>e</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>											v <sub>c</sub>
			3	4	5	6	8	10	12	16	20	25		
N1	E	0.500	0.90	0.024	0.032	0.040	0.048	0.065	0.080	0.095	0.12	0.13	0.15	610 (510–710)
		0.500	0.90	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0048	0,0050	0,0060	2000 (1700–2300)
N2	E	0.500	0.90	0.024	0.032	0.040	0.048	0.065	0.080	0.095	0.12	0.13	0.15	390 (330–450)
		0,500	0,90	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0048	0,0050	0,0060	1275 (1100–1400)
N11	E	0.500	1.1	0.024	0.032	0.040	0.048	0.065	0.080	0.095	0.12	0.13	0.15	320 (270–370)
		0,500	1,1	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0048	0,0050	0,0060	1050 (890–1200)
S11	E	0.400	0.70	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.090	0.10	0.12	100 (72–120)
		0,400	0,70	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	0,0036	0,0040	0,0048	330 (240–390)
S12	E	0.400	0.70	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.090	0.10	0.12	75 (56–99)
		0,400	0,70	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	0,0036	0,0040	0,0048	245 (190–320)
S13	E	0.400	0.70	0.016	0.022	0.026	0.032	0.042	0.055	0.065	0.080	0.090	0.10	60 (44–78)
		0,400	0,70	0,00065	0,00085	0,0010	0,0013	0,0017	0,0022	0,0026	0,0032	0,0036	0,0040	195 (150–250)
H5	M/A/D	0.200	0.90	0.022	0.030	0.038	0.046	0.060	0.075	0.090	0.11	0.13	0.14	75 (59–88)
		0,200	0,90	0,00085	0,0012	0,0015	0,0018	0,0024	0,0030	0,0036	0,0044	0,0050	0,0055	245 (200–280)
H8	M/A/D	0.200	0.90	0.017	0.022	0.028	0.034	0.046	0.055	0.070	0.085	0.095	0.11	80 (63–93)
		0,200	0,90	0,00065	0,00085	0,0011	0,0013	0,0018	0,0022	0,0028	0,0034	0,0038	0,0044	260 (210–300)
H11	M/A/D	0.200	0.90	0.022	0.030	0.038	0.046	0.060	0.075	0.090	0.11	0.13	0.14	95 (75–110)
		0,200	0,90	0,00085	0,0012	0,0015	0,0018	0,0024	0,0030	0,0036	0,0044	0,0050	0,0055	310 (250–360)
H12	M/A/D	0.200	0.90	0.017	0.022	0.028	0.034	0.046	0.055	0.070	0.085	0.095	0.11	90 (73–100)
		0,200	0,90	0,00065	0,00085	0,0011	0,0013	0,0018	0,0022	0,0028	0,0034	0,0038	0,0044	295 (240–320)
H21	M/A/D	0.200	0.90	0.017	0.022	0.028	0.034	0.046	0.055	0.070	0.085	0.095	0.11	155 (110–190)
		0,200	0,90	0,00065	0,00085	0,0011	0,0013	0,0018	0,0022	0,0028	0,0034	0,0038	0,0044	510 (370–620)
TS1	A	0.500	1.0	0.030	0.040	0.050	0.060	0.080	0.10	0.12	0.15	0.17	0.19	285 (180–400)
		0,500	1,0	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	0,0075	940 (600–1300)
TP1	A	0.500	1.0	0.030	0.040	0.050	0.060	0.080	0.10	0.12	0.15	0.17	0.19	295 (180–410)
		0,500	1,0	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	0,0075	970 (600–1300)
GR1	A	0.500	1.1	0.030	0.040	0.050	0.060	0.080	0.10	0.12	0.15	0.17	0.19	580 (470–690)
		0,500	1,1	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	0,0075	1900 (1600–2200)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)

f<sub>z</sub> = mm (inç/ağız)

a<sub>p</sub> mm/DC (inç/DC) = faktör

a<sub>e</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

## Kesme verileri – JS554 Kanal açma

SMG		a <sub>p</sub> /DC	f <sub>z</sub>										v <sub>c</sub>
			3	4	5	6	8	10	12	16	20	25	
P1	M/A/D/E	1,0	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.095	0.12	0.15	195 (170 – 220)
		1,0	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	0,0038	0,0048	0,0060	640 (560 – 720)
P2	M/A/D/E	1,0	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.095	0.12	0.15	190 (170 – 210)
		1,0	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	0,0038	0,0048	0,0060	620 (560 – 680)
P3	M/A/D/E	1,0	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.095	0.12	0.15	165 (140 – 180)
		1,0	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	0,0038	0,0048	0,0060	540 (460 – 590)
P4	M/A/D/E	1,0	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.095	0.12	0.15	145 (130 – 160)
		1,0	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	0,0038	0,0048	0,0060	475 (430 – 520)
P5	M/A/D/E	1,0	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.095	0.12	0.15	135 (120 – 150)
		1,0	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	0,0038	0,0048	0,0060	445 (400 – 490)
P6	M/A/D/E	1,0	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.095	0.12	0.15	155 (140 – 170)
		1,0	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	0,0038	0,0048	0,0060	510 (460 – 550)
P7	M/A/D/E	1,0	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.095	0.12	0.15	145 (130 – 160)
		1,0	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	0,0038	0,0048	0,0060	475 (430 – 520)
P8	M/A/D/E	1,0	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.095	0.12	0.15	135 (120 – 150)
		1,0	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	0,0038	0,0048	0,0060	445 (400 – 490)
P11	M/A/D/E	0,80	0.012	0.016	0.020	0.024	0.032	0.040	0.048	0.065	0.080	0.10	130 (120 – 140)
		0,80	0,00048	0,00065	0,00080	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0040	425 (400 – 450)
P12	M/A/D/E	0,80	0.012	0.016	0.020	0.024	0.032	0.040	0.048	0.065	0.080	0.10	80 (69 – 87)
		0,80	0,00048	0,00065	0,00080	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0040	260 (230 – 280)
M1	E	0,80	0.012	0.016	0.020	0.024	0.032	0.040	0.048	0.065	0.080	0.10	95 (85 – 100)
		0,80	0,00048	0,00065	0,00080	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0040	310 (280 – 320)
M2	E	0,80	0.012	0.016	0.020	0.024	0.032	0.040	0.048	0.065	0.080	0.10	80 (69 – 87)
		0,80	0,00048	0,00065	0,00080	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0040	260 (230 – 280)
M3	E	0,60	0.0095	0.013	0.016	0.019	0.025	0.032	0.038	0.050	0.065	0.080	48 (39 – 57)
		0,60	0,00038	0,00050	0,00065	0,00075	0,0010	0,0013	0,0015	0,0020	0,0026	0,0032	155 (130 – 180)
M4	E	0,60	0.0095	0.013	0.016	0.019	0.025	0.032	0.038	0.050	0.065	0.080	36 (29 – 43)
		0,60	0,00038	0,00050	0,00065	0,00075	0,0010	0,0013	0,0015	0,0020	0,0026	0,0032	120 (96 – 140)
M5	E	0,60	0.0095	0.013	0.016	0.019	0.025	0.032	0.038	0.050	0.065	0.080	30 (25 – 36)
		0,60	0,00038	0,00050	0,00065	0,00075	0,0010	0,0013	0,0015	0,0020	0,0026	0,0032	100 (83 – 110)
K1	E	1,0	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.080	0.10	0.13	155 (140 – 170)
		1,0	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0050	510 (460 – 550)
K2	E	1,0	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.080	0.10	0.13	135 (120 – 150)
		1,0	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0050	445 (400 – 490)
K3	E	1,0	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.080	0.10	0.13	115 (110 – 120)
		1,0	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0050	375 (370 – 390)
K4	E	1,0	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.080	0.10	0.13	110 (96 – 120)
		1,0	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0050	360 (320 – 390)
K5	E	0,70	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.080	0.10	0.13	135 (120 – 150)
		0,70	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0050	445 (400 – 490)
K6	E	0,70	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.080	0.10	0.13	200 (180 – 220)
		0,70	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0050	660 (600 – 720)
K7	E	0,70	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.080	0.10	0.13	175 (150 – 190)
		0,70	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0050	570 (500 – 620)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)f<sub>z</sub> = mm/ağız (inç/ağız)a<sub>p</sub> mm/DC (inç/DC) = faktöra<sub>e</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

Kesme verileri – JS554 Kanal açma

SMG	a <sub>p</sub> /DC	f <sub>z</sub>											v <sub>c</sub>
		3	4	5	6	8	10	12	16	20	25		
N1	E	0.50	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.080	0.10	0.13	570 (480 – 670)
		0.50	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0050	1875 (1600 – 2100)
N2	E	0.50	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.080	0.10	0.13	370 (310 – 430)
		0.50	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0050	1225 (1100–1400)
N3	E	0.50	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.080	0.10	0.13	245 (210 – 280)
		0.50	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0050	800 (690 – 910)
N11	E	0.60	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.095	0.12	0.15	290 (250 – 330)
		0.60	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	0,0038	0,0048	0,0060	950 (830–1000)
S1	E	0.30	0.0095	0.013	0.016	0.019	0.025	0.032	0.038	0.050	0.065	0.080	30 (25 – 34)
		0.30	0,00038	0,00050	0,00065	0,00075	0,0010	0,0013	0,0015	0,0020	0,0026	0,0032	100 (83–110)
S2	E	0.30	0.0095	0.013	0.016	0.019	0.025	0.032	0.038	0.050	0.065	0.080	27 (17 – 38)
		0.30	0,00038	0,00050	0,00065	0,00075	0,0010	0,0013	0,0015	0,0020	0,0026	0,0032	90 (56–120)
S3	E	0.30	0.0095	0.013	0.016	0.019	0.025	0.032	0.038	0.050	0.065	0.080	23 (15 – 32)
		0.30	0,00038	0,00050	0,00065	0,00075	0,0010	0,0013	0,0015	0,0020	0,0026	0,0032	75 (50–100)
S11	E	0.50	0.012	0.016	0.020	0.025	0.032	0.040	0.050	0.065	0.080	0.10	85 (63–110)
		0.50	0,00048	0,00065	0,00080	0,0010	0,0013	0,0016	0,0020	0,0026	0,0032	0,0040	280 (210 – 360)
S12	E	0.50	0.012	0.016	0.020	0.025	0.032	0.040	0.050	0.065	0.080	0.10	65 (48 – 86)
		0.50	0,00048	0,00065	0,00080	0,0010	0,0013	0,0016	0,0020	0,0026	0,0032	0,0040	215 (160 – 280)
S13	E	0.50	0.012	0.016	0.020	0.025	0.032	0.040	0.050	0.065	0.080	0.10	50 (38 – 66)
		0.50	0,00048	0,00065	0,00080	0,0010	0,0013	0,0016	0,0020	0,0026	0,0032	0,0040	165 (130 – 210)
H5	M/A/D	0.40	0.0060	0.0080	0.010	0.012	0.016	0.020	0.025	0.032	0.040	0.050	65 (52–76)
		0.40	0,00024	0,00032	0,00040	0,00048	0,00065	0,00080	0,0010	0,0013	0,0016	0,0020	215 (180 – 240)
H8	M/A/D	0.40	0.0060	0.0080	0.010	0.012	0.016	0.020	0.025	0.032	0.040	0.050	65 (52–76)
		0.40	0,00024	0,00032	0,00040	0,00048	0,00065	0,00080	0,0010	0,0013	0,0016	0,0020	215 (180 – 240)
H11	M/A/D	0.40	0.0060	0.0080	0.010	0.012	0.016	0.020	0.025	0.032	0.040	0.050	80 (66 – 97)
		0.40	0,00024	0,00032	0,00040	0,00048	0,00065	0,00080	0,0010	0,0013	0,0016	0,0020	260 (220 – 310)
H12	M/A/D	0.40	0.0060	0.0080	0.010	0.012	0.016	0.020	0.025	0.032	0.040	0.050	75 (60 – 89)
		0.40	0,00024	0,00032	0,00040	0,00048	0,00065	0,00080	0,0010	0,0013	0,0016	0,0020	245 (200 – 290)
H21	M/A/D	0.40	0.0060	0.0080	0.010	0.012	0.016	0.020	0.025	0.032	0.040	0.050	125 (90–160)
		0.40	0,00024	0,00032	0,00040	0,00048	0,00065	0,00080	0,0010	0,0013	0,0016	0,0020	410 (300 – 520)
TS1	A	0.70	0.030	0.040	0.050	0.060	0.080	0.10	0.12	0.15	0.17	0.19	240 (150 – 330)
		0.70	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	0,0075	790 (500–1000)
TP1	A	0.70	0.030	0.040	0.050	0.060	0.080	0.10	0.12	0.15	0.17	0.19	250 (150 – 340)
		0.70	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	0,0075	820 (500–1100)
GR1	A	0.80	0.030	0.040	0.050	0.060	0.080	0.10	0.12	0.15	0.17	0.19	485 (390 – 580)
		0.80	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	0,0075	1600 (1300–1900)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)

f<sub>z</sub> = mm/ağız (inç/ağız)

a<sub>p</sub> mm/DC (inç/DC) = faktör

a<sub>s</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

## Kesme verileri – JS554 Finiş kenar frezeleme – İnc

SMG		a <sub>p</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>							v <sub>c</sub>
				1/4	5/16	3/8	1/2	5/8	3/4	1	
P1	M/A/D/E	0.400	1.0	0.065	0.080	0.095	0.12	0.14	0.16	0.19	215 (190 – 240)
		0.400	1.0	0,0026	0,0032	0,0038	0,0048	0,0055	0,0065	0,0075	710 (630 – 780)
P2	M/A/D/E	0.400	1.0	0.065	0.080	0.095	0.13	0.15	0.17	0.20	210 (190 – 240)
		0.400	1.0	0,0026	0,0032	0,0038	0,0050	0,0060	0,0065	0,0080	690 (630 – 780)
P3	M/A/D/E	0.400	1.0	0.060	0.075	0.090	0.12	0.14	0.16	0.18	185 (160 – 200)
		0.400	1.0	0,0024	0,0030	0,0036	0,0048	0,0055	0,0065	0,0070	610 (530 – 650)
P4	M/A/D/E	0.400	1.0	0.060	0.075	0.090	0.12	0.14	0.15	0.18	160 (140 – 180)
		0.400	1.0	0,0024	0,0030	0,0036	0,0048	0,0055	0,0060	0,0070	520 (460 – 590)
P5	M/A/D/E	0.400	1.0	0.060	0.075	0.085	0.11	0.13	0.15	0.18	155 (140 – 170)
		0.400	1.0	0,0024	0,0030	0,0034	0,0044	0,0050	0,0060	0,0070	510 (460 – 550)
P6	M/A/D/E	0.400	1.0	0.060	0.070	0.085	0.11	0.13	0.15	0.18	175 (160 – 200)
		0.400	1.0	0,0024	0,0028	0,0034	0,0044	0,0050	0,0060	0,0070	570 (530 – 650)
P7	M/A/D/E	0.400	1.0	0.060	0.070	0.085	0.11	0.13	0.15	0.18	165 (150 – 180)
		0.400	1.0	0,0024	0,0028	0,0034	0,0044	0,0050	0,0060	0,0070	540 (500 – 590)
P8	M/A/D/E	0.400	1.0	0.060	0.075	0.090	0.12	0.14	0.16	0.18	155 (140 – 170)
		0.400	1.0	0,0024	0,0030	0,0036	0,0048	0,0055	0,0065	0,0070	510 (460 – 550)
P11	M/A/D/E	0.400	1.0	0.055	0.070	0.085	0.11	0.13	0.15	0.17	140 (130 – 150)
		0.400	1.0	0,0022	0,0028	0,0034	0,0044	0,0050	0,0060	0,0065	460 (430 – 490)
P12	M/A/D/E	0.400	1.0	0.038	0.048	0.060	0.075	0.090	0.10	0.12	90 (79 – 100)
		0.400	1.0	0,0015	0,0019	0,0024	0,0030	0,0036	0,0040	0,0048	295 (260 – 320)
M1	E	0.400	1.0	0.042	0.055	0.065	0.085	0.10	0.11	0.13	110 (96 – 120)
		0.400	1.0	0,0017	0,0022	0,0026	0,0034	0,0040	0,0044	0,0050	360 (320 – 390)
M2	E	0.400	1.0	0.038	0.048	0.060	0.075	0.090	0.10	0.12	90 (79 – 100)
		0.400	1.0	0,0015	0,0019	0,0024	0,0030	0,0036	0,0040	0,0048	295 (260 – 320)
M3	E	0.400	0.90	0.032	0.040	0.048	0.065	0.075	0.085	0.10	55 (45 – 66)
		0.400	0.90	0,0013	0,0016	0,0019	0,0026	0,0030	0,0034	0,0040	180 (150 – 210)
M4	E	0.400	0.90	0.028	0.036	0.042	0.055	0.065	0.075	0.085	43 (35 – 51)
		0.400	0.90	0,0011	0,0014	0,0017	0,0022	0,0026	0,0030	0,0034	140 (120 – 160)
M5	E	0.400	0.90	0.028	0.036	0.042	0.055	0.065	0.075	0.085	36 (29 – 42)
		0.400	0.90	0,0011	0,0014	0,0017	0,0022	0,0026	0,0030	0,0034	120 (96 – 130)
K1	E	0.400	1.2	0.050	0.065	0.080	0.10	0.12	0.13	0.16	175 (160 – 190)
		0.400	1.2	0,0020	0,0026	0,0032	0,0040	0,0048	0,0050	0,0065	570 (530 – 620)
K2	E	0.400	1.2	0.048	0.060	0.070	0.090	0.11	0.12	0.14	155 (140 – 170)
		0.400	1.2	0,0019	0,0024	0,0028	0,0036	0,0044	0,0048	0,0055	510 (460 – 550)
K3	E	0.400	1.2	0.048	0.060	0.070	0.090	0.11	0.12	0.14	130 (120 – 140)
		0.400	1.2	0,0019	0,0024	0,0028	0,0036	0,0044	0,0048	0,0055	425 (400 – 450)
K4	E	0.400	1.2	0.048	0.060	0.070	0.090	0.11	0.12	0.14	125 (110 – 140)
		0.400	1.2	0,0019	0,0024	0,0028	0,0036	0,0044	0,0048	0,0055	410 (370 – 450)
K5	E	0.400	1.0	0.050	0.065	0.080	0.10	0.12	0.13	0.16	155 (140 – 170)
		0.400	1.0	0,0020	0,0026	0,0032	0,0040	0,0048	0,0050	0,0065	510 (460 – 550)
K6	E	0.400	1.0	0.055	0.070	0.085	0.11	0.13	0.15	0.17	220 (190 – 250)
		0.400	1.0	0,0022	0,0028	0,0034	0,0044	0,0050	0,0060	0,0065	720 (630 – 820)
K7	E	0.400	1.0	0.050	0.065	0.080	0.10	0.12	0.13	0.16	195 (170 – 220)
		0.400	1.0	0,0020	0,0026	0,0032	0,0040	0,0048	0,0050	0,0065	640 (560 – 720)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu  
Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama  
v<sub>c</sub> = m/dak (sf/dak)  
f<sub>z</sub> = mm/ağız (inç/ağız)  
a<sub>p</sub> mm/DC (inç/DC) = faktör  
a<sub>e</sub> = mm/DC (inç/DC) = faktör  
Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve diğer malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

Kesme verileri – JS554 Finiş kenar frezeleme – İnc

SMG	İnc	a <sub>p</sub> /DC	a <sub>r</sub> /DC	f <sub>z</sub>							v <sub>c</sub>
				1/4	5/16	3/8	1/2	5/8	3/4	1	
N1	E	0.500	0.90	0.050	0.065	0.075	0.10	0.12	0.13	0.15	610 (510–710)
		0,500	0,90	0,0020	0,0026	0,0030	0,0040	0,0048	0,0050	0,0060	2000 (1700 – 2300)
N2	E	0.500	0.90	0.050	0.065	0.075	0.10	0.12	0.13	0.15	390 (330 – 450)
		0,500	0,90	0,0020	0,0026	0,0030	0,0040	0,0048	0,0050	0,0060	1275 (1100–1400)
N3	E	0.500	0.90	0.050	0.065	0.075	0.10	0.12	0.13	0.15	260 (220 – 300)
		0,500	0,90	0,0020	0,0026	0,0030	0,0040	0,0048	0,0050	0,0060	850 (730 – 980)
N11	E	0.500	1.1	0.050	0.065	0.075	0.10	0.12	0.13	0.15	320 (270 – 370)
		0,500	1,1	0,0020	0,0026	0,0030	0,0040	0,0048	0,0050	0,0060	1050 (890–1200)
S1	E	0.150	0.50	0.055	0.070	0.085	0.11	0.13	0.14	0.17	38 (32 – 44)
		0,150	0,50	0,0022	0,0028	0,0034	0,0044	0,0050	0,0055	0,0065	125 (110–140)
S2	E	0.150	0.50	0.055	0.070	0.085	0.11	0.13	0.14	0.17	35 (21 – 48)
		0,150	0,50	0,0022	0,0028	0,0034	0,0044	0,0050	0,0055	0,0065	115 (69–150)
S3	E	0.150	0.50	0.050	0.065	0.075	0.10	0.12	0.13	0.16	30 (19 – 42)
		0,150	0,50	0,0020	0,0026	0,0030	0,0040	0,0048	0,0050	0,0065	100 (63–130)
S11	E	0.400	0.70	0.038	0.048	0.060	0.075	0.090	0.10	0.12	100 (72–120)
		0,400	0,70	0,0015	0,0019	0,0024	0,0030	0,0036	0,0040	0,0048	330 (240 – 390)
S12	E	0.400	0.70	0.038	0.048	0.060	0.075	0.090	0.10	0.12	75 (56 – 99)
		0,400	0,70	0,0015	0,0019	0,0024	0,0030	0,0036	0,0040	0,0048	245 (190 – 320)
S13	E	0.400	0.70	0.034	0.042	0.050	0.065	0.080	0.090	0.10	60 (44–78)
		0,400	0,70	0,0013	0,0017	0,0020	0,0026	0,0032	0,0036	0,0040	195 (150 – 250)
H5	M/A/D	0.200	0.90	0.048	0.060	0.070	0.095	0.11	0.12	0.15	75 (59 – 88)
		0,200	0,90	0,0019	0,0024	0,0028	0,0038	0,0044	0,0048	0,0060	245 (200 – 280)
H8	M/A/D	0.200	0.90	0.036	0.046	0.055	0.070	0.085	0.095	0.11	80 (63 – 93)
		0,200	0,90	0,0014	0,0018	0,0022	0,0028	0,0034	0,0038	0,0044	260 (210 – 300)
H21	M/A/D	0.200	0.90	0.036	0.046	0.055	0.070	0.085	0.095	0.11	155 (110–190)
		0,200	0,90	0,0014	0,0018	0,0022	0,0028	0,0034	0,0038	0,0044	510 (370 – 620)
H31	M/A/D	0.200	0.90	0.032	0.040	0.048	0.060	0.075	0.080	0.095	60 (48–71)
		0,200	0,90	0,0013	0,0016	0,0019	0,0024	0,0030	0,0032	0,0038	195 (160 – 230)
TS1	A	0.500	1.0	0.065	0.080	0.095	0.12	0.15	0.16	0.19	285 (180 – 400)
		0,500	1,0	0,0026	0,0032	0,0038	0,0048	0,0060	0,0065	0,0075	940 (600–1300)
TP1	A	0.500	1.0	0.065	0.080	0.095	0.12	0.15	0.16	0.19	295 (180 – 410)
		0,500	1,0	0,0026	0,0032	0,0038	0,0048	0,0060	0,0065	0,0075	970 (600–1300)
GR1	A	0.500	1.1	0.065	0.080	0.095	0.12	0.15	0.16	0.19	580 (470 – 690)
		0,500	1,1	0,0026	0,0032	0,0038	0,0048	0,0060	0,0065	0,0075	1900 (1600 – 2200)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu  
Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama  
v<sub>c</sub>= m/dak (sf/dak)  
f<sub>z</sub> = mm/ağz (inç/ağz)  
a<sub>p</sub> mm/DC (inç/DC) = faktör  
a<sub>r</sub> = mm/DC (inç/DC) = faktör  
Tüm kesme verileri hedef değerlerdir

## Kesme verileri – JS554 Kanal açma – İnc

SMG		a <sub>p</sub> /DC	f <sub>z</sub>							v <sub>c</sub>
			1/4	5/16	3/8	1/2	5/8	3/4	1	
P1	M/A/D/E	1.0	0.038	0.048	0.055	0.075	0.095	0.11	0.15	195 (170 – 220)
		1.0	0.0015	0.0019	0.0022	0.0030	0.0038	0.0044	0.0060	640 (560 – 720)
P2	M/A/D/E	1.0	0.038	0.048	0.055	0.075	0.095	0.11	0.15	190 (170 – 210)
		1.0	0.0015	0.0019	0.0022	0.0030	0.0038	0.0044	0.0060	620 (560 – 680)
P3	M/A/D/E	1.0	0.038	0.048	0.055	0.075	0.095	0.11	0.15	165 (140 – 180)
		1.0	0.0015	0.0019	0.0022	0.0030	0.0038	0.0044	0.0060	540 (460 – 590)
P4	M/A/D/E	1.0	0.038	0.048	0.055	0.075	0.095	0.11	0.15	145 (130 – 160)
		1.0	0.0015	0.0019	0.0022	0.0030	0.0038	0.0044	0.0060	475 (430 – 520)
P5	M/A/D/E	1.0	0.038	0.048	0.055	0.075	0.095	0.11	0.15	135 (120 – 150)
		1.0	0.0015	0.0019	0.0022	0.0030	0.0038	0.0044	0.0060	445 (400 – 490)
P6	M/A/D/E	1.0	0.038	0.048	0.055	0.075	0.095	0.11	0.15	155 (140 – 170)
		1.0	0.0015	0.0019	0.0022	0.0030	0.0038	0.0044	0.0060	510 (460 – 550)
P7	M/A/D/E	1.0	0.038	0.048	0.055	0.075	0.095	0.11	0.15	145 (130 – 160)
		1.0	0.0015	0.0019	0.0022	0.0030	0.0038	0.0044	0.0060	475 (430 – 520)
P8	M/A/D/E	1.0	0.038	0.048	0.055	0.075	0.095	0.11	0.15	135 (120 – 150)
		1.0	0.0015	0.0019	0.0022	0.0030	0.0038	0.0044	0.0060	445 (400 – 490)
P11	M/A/D/E	0.80	0.025	0.032	0.038	0.050	0.065	0.075	0.10	130 (120 – 140)
		0.80	0.0010	0.0013	0.0015	0.0020	0.0026	0.0030	0.0040	425 (400 – 450)
P12	M/A/D/E	0.80	0.025	0.032	0.038	0.050	0.065	0.075	0.10	80 (69 – 87)
		0.80	0.0010	0.0013	0.0015	0.0020	0.0026	0.0030	0.0040	260 (230 – 280)
M1	E	0.80	0.025	0.032	0.038	0.050	0.065	0.075	0.10	95 (85 – 100)
		0.80	0.0010	0.0013	0.0015	0.0020	0.0026	0.0030	0.0040	310 (280 – 320)
M2	E	0.80	0.025	0.032	0.038	0.050	0.065	0.075	0.10	80 (69 – 87)
		0.80	0.0010	0.0013	0.0015	0.0020	0.0026	0.0030	0.0040	260 (230 – 280)
M3	E	0.60	0.020	0.025	0.030	0.040	0.050	0.060	0.080	48 (39 – 57)
		0.60	0.00080	0.0010	0.0012	0.0016	0.0020	0.0024	0.0032	155 (130 – 180)
M4	E	0.60	0.020	0.025	0.030	0.040	0.050	0.060	0.080	36 (29 – 43)
		0.60	0.00080	0.0010	0.0012	0.0016	0.0020	0.0024	0.0032	120 (96 – 140)
M5	E	0.60	0.020	0.025	0.030	0.040	0.050	0.060	0.080	30 (25 – 36)
		0.60	0.00080	0.0010	0.0012	0.0016	0.0020	0.0024	0.0032	100 (83 – 110)
K1	E	1.0	0.032	0.040	0.048	0.065	0.080	0.095	0.13	155 (140 – 170)
		1.0	0.0013	0.0016	0.0019	0.0026	0.0032	0.0038	0.0050	510 (460 – 550)
K2	E	1.0	0.032	0.040	0.048	0.065	0.080	0.095	0.13	135 (120 – 150)
		1.0	0.0013	0.0016	0.0019	0.0026	0.0032	0.0038	0.0050	445 (400 – 490)
K3	E	1.0	0.032	0.040	0.048	0.065	0.080	0.095	0.13	115 (110 – 120)
		1.0	0.0013	0.0016	0.0019	0.0026	0.0032	0.0038	0.0050	375 (370 – 390)
K4	E	1.0	0.032	0.040	0.048	0.065	0.080	0.095	0.13	110 (96 – 120)
		1.0	0.0013	0.0016	0.0019	0.0026	0.0032	0.0038	0.0050	360 (320 – 390)
K5	E	0.70	0.032	0.040	0.048	0.065	0.080	0.095	0.13	135 (120 – 150)
		0.70	0.0013	0.0016	0.0019	0.0026	0.0032	0.0038	0.0050	445 (400 – 490)
K6	E	0.70	0.032	0.040	0.048	0.065	0.080	0.095	0.13	200 (180 – 220)
		0.70	0.0013	0.0016	0.0019	0.0026	0.0032	0.0038	0.0050	660 (600 – 720)
K7	E	0.70	0.032	0.040	0.048	0.065	0.080	0.095	0.13	175 (150 – 190)
		0.70	0.0013	0.0016	0.0019	0.0026	0.0032	0.0038	0.0050	570 (500 – 620)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)f<sub>z</sub> = mm/ağız (inç/ağız)a<sub>p</sub> mm/DC (inç/DC) = faktöra<sub>e</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için


Plastik ve cırp malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

Kesme verileri – JS554 Kanal açma – İnc

SMG		a <sub>p</sub> /DC	f <sub>z</sub>							v <sub>c</sub>
			1/4	5/16	3/8	1/2	5/8	3/4	1	
N1	E	0.50	0.032	0.040	0.048	0.065	0.080	0.095	0.13	570 (480 – 670)
		0.50	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0050	1875 (1600 – 2100)
N2	E	0.50	0.032	0.040	0.048	0.065	0.080	0.095	0.13	370 (310 – 430)
		0.50	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0050	1225 (1100–1400)
N3	E	0.50	0.032	0.040	0.048	0.065	0.080	0.095	0.13	245 (210 – 280)
		0.50	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0050	800 (690 – 910)
N11	E	0.60	0.038	0.048	0.055	0.075	0.095	0.11	0.15	290 (250 – 330)
		0.60	0,0015	0,0019	0,0022	0,0030	0,0038	0,0044	0,0060	950 (830–1000)
S1	E	0.30	0.020	0.025	0.030	0.040	0.050	0.060	0.080	30 (25 – 34)
		0.30	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0032	100 (83–110)
S2	E	0.30	0.020	0.025	0.030	0.040	0.050	0.060	0.080	27 (17 – 38)
		0.30	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0032	90 (56–120)
S3	E	0.30	0.020	0.025	0.030	0.040	0.050	0.060	0.080	23 (15 – 32)
		0.30	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0032	75 (50–100)
S11	E	0.50	0.026	0.032	0.038	0.050	0.065	0.080	0.10	85 (63–110)
		0.50	0,0010	0,0013	0,0015	0,0020	0,0026	0,0032	0,0040	280 (210 – 360)
S12	E	0.50	0.026	0.032	0.038	0.050	0.065	0.080	0.10	65 (48 – 86)
		0.50	0,0010	0,0013	0,0015	0,0020	0,0026	0,0032	0,0040	215 (160 – 280)
S13	E	0.50	0.026	0.032	0.038	0.050	0.065	0.080	0.10	50 (38 – 66)
		0.50	0,0010	0,0013	0,0015	0,0020	0,0026	0,0032	0,0040	165 (130 – 210)
H5	M/A/D	0.40	0.013	0.016	0.019	0.026	0.032	0.038	0.050	65 (52–76)
		0.40	0,00050	0,00065	0,00075	0,0010	0,0013	0,0015	0,0020	215 (180 – 240)
H8	M/A/D	0.40	0.013	0.016	0.019	0.026	0.032	0.038	0.050	65 (52–76)
		0.40	0,00050	0,00065	0,00075	0,0010	0,0013	0,0015	0,0020	215 (180 – 240)
H21	M/A/D	0.40	0.013	0.016	0.019	0.026	0.032	0.038	0.050	125 (90–160)
		0.40	0,00050	0,00065	0,00075	0,0010	0,0013	0,0015	0,0020	410 (300 – 520)
H31	M/A/D	0.40	0.013	0.016	0.019	0.026	0.032	0.038	0.050	48 (39 – 57)
		0.40	0,00050	0,00065	0,00075	0,0010	0,0013	0,0015	0,0020	155 (130–180)
TS1	A	0.70	0.065	0.080	0.095	0.12	0.15	0.16	0.19	240 (150 – 330)
		0.70	0,0026	0,0032	0,0038	0,0048	0,0060	0,0065	0,0075	790 (500–1000)
TP1	A	0.70	0.065	0.080	0.095	0.12	0.15	0.16	0.19	250 (150 – 340)
		0.70	0,0026	0,0032	0,0038	0,0048	0,0060	0,0065	0,0075	820 (500–1100)
GR1	A	0.80	0.065	0.080	0.095	0.12	0.15	0.16	0.19	485 (390 – 580)
		0.80	0,0026	0,0032	0,0038	0,0048	0,0060	0,0065	0,0075	1600 (1300–1900)

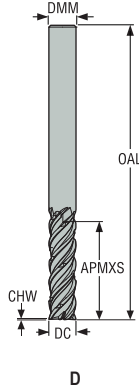
Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu  
Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama  
v<sub>c</sub>= m/dak (sf/dak)  
f<sub>z</sub> = mm/ağız (inç/ağız)  
a<sub>p</sub> mm/DC (inç/DC) = faktör  
a<sub>s</sub> = mm/DC (inç/DC) = faktör  
Tüm kesme verileri hedef değerlerdir



## JS554-3C

Gelişmiş kaba işleme – Üniversal – Dik kenarlı – 4 Ağızlı – Silindirik – Köşesi pahlı



D



- Toleranslar:
- DMM= h5
- DC= e7
- Talaş dağıtıcı
- Tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	talaş dağıtıcı	DC	DMM	APMXS	OAL	CHW	PCEDC	Silindirik
					mm	mm	mm	mm	mm		
JS554060D3C.0Z4C-SIRA	02810475	3	D	■	6,0	6,0	23,0	65,0	0,075	4	■
JS554080D3C.0Z4C-SIRA	02810477	3	D	■	8,0	8,0	32,0	75,0	0,1	4	■
JS554100D3C.0Z4C-SIRA	02810479	3	D	■	10,0	10,0	40,0	85,0	0,125	4	■
JS554120D3C.0Z4C-SIRA	02810481	3	D	■	12,0	12,0	45,0	100,0	0,15	4	■
JS554160D3C.0Z4C-SIRA	02810483	3	D	■	16,0	16,0	55,0	115,0	0,2	4	■
JS554200D3C.0Z4C-SIRA	02810485	3	D	■	20,0	20,0	65,0	125,0	0,25	4	■
JS554250D3C.0Z4C-SIRA	02810486	3	D	■	25,0	25,0	85,0	150,0	0,3	4	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

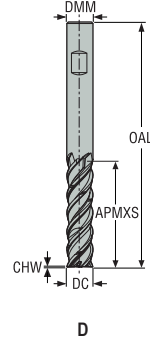
Grafit malzeme için

Minimaster Plus

Minimaster

## JS554-3C

Gelişmiş kaba işleme – Üniversal – Dik kenarlı – 4 Ağızlı – Weldon – Köşesi pahlı



- Toleranslar:
- DMM= h5
- DC= e7
- Talaş dağıtıcılı
- Tekrar bilenebilir



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	talaş dağıtıcılı	DC	DMM	APMXS	OAL	CHW	PCEDC	Weldon
					mm	mm	mm	mm	mm		
JS554060D3C.3Z4C-SIRA	02810474	3	D	■	6,0	6,0	23,0	65,0	0,075	4	■
JS554080D3C.3Z4C-SIRA	02810476	3	D	■	8,0	8,0	32,0	75,0	0,1	4	■
JS554100D3C.3Z4C-SIRA	02810478	3	D	■	10,0	10,0	40,0	85,0	0,125	4	■
JS554120D3C.3Z4C-SIRA	02810480	3	D	■	12,0	12,0	45,0	100,0	0,15	4	■
JS554160D3C.3Z4C-SIRA	02810482	3	D	■	16,0	16,0	55,0	115,0	0,2	4	■
JS554200D3C.3Z4C-SIRA	02810484	3	D	■	20,0	20,0	65,0	125,0	0,25	4	■
JS554250D3C.3Z4C-SIRA	02810487	3	D	■	25,0	25,0	85,0	150,0	0,3	4	■

■ Stoklu standart ürün.

## Kesme verileri – JS554-3C Gelişmiş kaba işleme

SMG		$a_p/DC$	$a_e/DC$	$f_z$							$v_c$
				6	8	10	12	16	20	25	
P1	M/A/D/E	0.100	3.6	0.065	0.085	0.11	0.13	0.16	0.18	0.20	350 (320 – 380)
		0,100	3,6	0,0026	0,0034	0,0044	0,0050	0,0065	0,0070	0,0080	1150 (1100–1200)
P2	M/A/D/E	0.100	3.6	0.065	0.090	0.11	0.13	0.16	0.19	0.22	340 (310 – 370)
		0,100	3,6	0,0026	0,0036	0,0044	0,0050	0,0065	0,0075	0,0085	1125 (1100–1200)
P3	M/A/D/E	0.100	3.6	0.060	0.085	0.10	0.12	0.15	0.18	0.20	295 (270 – 320)
		0,100	3,6	0,0024	0,0034	0,0040	0,0048	0,0060	0,0070	0,0080	970 (890–1000)
P4	M/A/D/E	0.100	3.6	0.060	0.080	0.10	0.12	0.15	0.17	0.19	260 (240 – 280)
		0,100	3,6	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	0,0075	850 (790 – 910)
P5	M/A/D/E	0.100	3.6	0.060	0.080	0.10	0.12	0.15	0.17	0.19	250 (230 – 270)
		0,100	3,6	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	0,0075	820 (760 – 880)
P6	M/A/D/E	0.100	3.6	0.060	0.080	0.10	0.12	0.15	0.17	0.19	280 (260 – 300)
		0,100	3,6	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	0,0075	920 (860 – 980)
P7	M/A/D/E	0.100	3.6	0.060	0.080	0.10	0.12	0.15	0.17	0.19	265 (240 – 290)
		0,100	3,6	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	0,0075	870 (790 – 950)
P8	M/A/D/E	0.100	3.6	0.060	0.085	0.10	0.12	0.15	0.18	0.20	250 (230 – 270)
		0,100	3,6	0,0024	0,0034	0,0040	0,0048	0,0060	0,0070	0,0080	820 (760 – 880)
P11	M/A/D/E	0.100	3.6	0.070	0.095	0.12	0.14	0.19	0.24	0.28	245 (230 – 270)
		0,100	3,6	0,0028	0,0038	0,0048	0,0055	0,0075	0,0095	0,011	800 (760 – 880)
P12	M/A/D/E	0.100	3.6	0.060	0.080	0.10	0.12	0.15	0.17	0.19	150 (140–160)
		0,100	3,6	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	0,0075	490 (460 – 520)
M1	E	0.100	3.6	0.065	0.090	0.11	0.13	0.16	0.19	0.22	180 (160 – 210)
		0,100	3,6	0,0026	0,0036	0,0044	0,0050	0,0065	0,0075	0,0085	590 (530 – 680)
M2	E	0.100	3.6	0.060	0.080	0.10	0.12	0.15	0.17	0.19	150 (130–170)
		0,100	3,6	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	0,0075	490 (430 – 550)
M3	E	0.100	3.6	0.060	0.080	0.10	0.12	0.15	0.17	0.19	100 (90–100)
		0,100	3,6	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	0,0075	330 (300 – 320)
M4	E	0.100	3.6	0.050	0.070	0.085	0.10	0.13	0.15	0.17	75 (70 – 85)
		0,100	3,6	0,0020	0,0028	0,0034	0,0040	0,0050	0,0060	0,0065	245 (230 – 270)
M5	E	0.100	3.6	0.050	0.070	0.085	0.10	0.13	0.15	0.17	65 (59–71)
		0,100	3,6	0,0020	0,0028	0,0034	0,0040	0,0050	0,0060	0,0065	215 (200 – 230)
K1	E	0.100	3.6	0.065	0.090	0.11	0.13	0.16	0.19	0.22	340 (310 – 370)
		0,100	3,6	0,0026	0,0036	0,0044	0,0050	0,0065	0,0075	0,0085	1125 (1100–1200)
K2	E	0.100	3.6	0.060	0.080	0.10	0.12	0.15	0.17	0.19	185 (160 – 210)
		0,100	3,6	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	0,0075	610 (530 – 680)
K3	E	0.100	3.6	0.060	0.080	0.10	0.12	0.15	0.17	0.19	255 (240 – 280)
		0,100	3,6	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	0,0075	840 (790 – 910)
K4	E	0.100	3.6	0.060	0.080	0.10	0.12	0.15	0.17	0.19	245 (220 – 260)
		0,100	3,6	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	0,0075	800 (730 – 850)
K5	E	0.100	3.6	0.055	0.070	0.090	0.11	0.13	0.15	0.17	150 (140–160)
		0,100	3,6	0,0022	0,0028	0,0036	0,0044	0,0050	0,0060	0,0065	490 (460 – 520)
K6	E	0.100	3.6	0.060	0.080	0.10	0.12	0.15	0.17	0.19	215 (200 – 230)
		0,100	3,6	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	0,0075	710 (660–750)
K7	E	0.100	3.6	0.055	0.070	0.090	0.11	0.13	0.15	0.17	190 (180 – 200)
		0,100	3,6	0,0022	0,0028	0,0036	0,0044	0,0050	0,0060	0,0065	620 (600 – 650)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

 $v_c = m/dak$  (sf/dak) $f_z = mm$  (inç/ağız) $a_p$  mm/DC (inç/DC) = faktör $a_e$  mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve diğer malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

Kesme verileri – JS554-3C Gelişmiş kaba işleme

SMG	Soğutma	a <sub>p</sub> /DC	a <sub>r</sub> /DC	f <sub>z</sub>							v <sub>c</sub>
				6	8	10	12	16	20	25	
N1	E	0.100	3.6	0.060	0.080	0.10	0.12	0.15	0.17	0.19	750 (650 – 840)
		0,100	3,6	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	0,0075	2450 (2200 – 2700)
N2	E	0.100	3.6	0.060	0.080	0.10	0.12	0.15	0.17	0.19	480 (420 – 540)
		0,100	3,6	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	0,0075	1575 (1400 – 1700)
N3	E	0.100	3.6	0.060	0.080	0.10	0.12	0.15	0.17	0.19	320 (280 – 360)
		0,100	3,6	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	0,0075	1050 (920 – 1100)
N11	E	0.100	3.6	0.060	0.080	0.10	0.12	0.15	0.17	0.19	375 (330 – 420)
		0,100	3,6	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	0,0075	1225 (1100 – 1300)
S1	E	0.0500	3.6	0.048	0.065	0.080	0.095	0.12	0.14	0.15	50 (40 – 60)
		0,0500	3,6	0,0019	0,0026	0,0032	0,0038	0,0048	0,0055	0,0060	165 (140 – 190)
S2	E	0.0500	3.6	0.048	0.065	0.080	0.095	0.12	0.14	0.15	40 (33 – 48)
		0,0500	3,6	0,0019	0,0026	0,0032	0,0038	0,0048	0,0055	0,0060	130 (110 – 150)
S3	E	0.0500	3.6	0.048	0.065	0.080	0.095	0.12	0.14	0.15	25 (20 – 29)
		0,0500	3,6	0,0019	0,0026	0,0032	0,0038	0,0048	0,0055	0,0060	80 (66 – 95)
S11	E	0.100	3.6	0.048	0.065	0.080	0.095	0.12	0.14	0.15	195 (130 – 220)
		0,100	3,6	0,0019	0,0026	0,0032	0,0038	0,0048	0,0055	0,0060	640 (430 – 720)
S12	E	0.100	3.6	0.048	0.065	0.080	0.095	0.12	0.14	0.15	150 (100 – 160)
		0,100	3,6	0,0019	0,0026	0,0032	0,0038	0,0048	0,0055	0,0060	490 (330 – 520)
S13	E	0.100	3.6	0.042	0.055	0.070	0.085	0.10	0.12	0.13	120 (80 – 130)
		0,100	3,6	0,0017	0,0022	0,0028	0,0034	0,0040	0,0048	0,0050	395 (270 – 420)
H5	M/A/D	0.0500	3.6	0.030	0.040	0.050	0.060	0.075	0.085	0.095	200 (190 – 220)
		0,0500	3,6	0,0012	0,0016	0,0020	0,0024	0,0030	0,0034	0,0038	660 (630 – 720)
H8	M/A/D	0.0500	3.6	0.022	0.030	0.038	0.046	0.055	0.065	0.075	210 (190 – 220)
		0,0500	3,6	0,00085	0,0012	0,0015	0,0018	0,0022	0,0026	0,0030	690 (630 – 720)
H11	M/A/D	0.0500	3.6	0.030	0.040	0.050	0.060	0.075	0.085	0.095	255 (240 – 280)
		0,0500	3,6	0,0012	0,0016	0,0020	0,0024	0,0030	0,0034	0,0038	840 (790 – 910)
H12	M/A/D	0.100	3.6	0.032	0.042	0.050	0.060	0.075	0.090	0.10	205 (190 – 220)
		0,100	3,6	0,0013	0,0017	0,0020	0,0024	0,0030	0,0036	0,0040	670 (630 – 720)
H21	M/A/D	0.0500	3.6	0.022	0.030	0.038	0.046	0.055	0.065	0.075	210 (190 – 220)
		0,0500	3,6	0,00085	0,0012	0,0015	0,0018	0,0022	0,0026	0,0030	690 (630 – 720)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)

f<sub>z</sub> = mm (inç/ağız)

a<sub>p</sub> mm/DC (inç/DC) = faktör

a<sub>e</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir





## Kesme verileri – JS564 Kenar frezeleme gelişmiş kaba işleme

SMG		a <sub>p</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>								v <sub>c</sub>
				4	5	6	8	10	12	16	20	
P1	E/M/A/D	0.150	2.4	0.042	0.055	0.065	0.085	0.11	0.13	0.16	0.18	305 (270 – 340)
		0.150	2.4	0.0017	0.0022	0.0026	0.0034	0.0044	0.0050	0.0065	0.0070	1000 (890–1100)
P2	E/M/A/D	0.150	2.4	0.044	0.055	0.065	0.085	0.11	0.13	0.16	0.18	295 (260 – 330)
		0.150	2.4	0.0017	0.0022	0.0026	0.0034	0.0044	0.0050	0.0065	0.0070	970 (860–1000)
P3	E/M/A/D	0.150	2.4	0.040	0.050	0.060	0.080	0.10	0.12	0.15	0.17	260 (230 – 290)
		0.150	2.4	0.0016	0.0020	0.0024	0.0032	0.0040	0.0048	0.0060	0.0065	850 (760 – 950)
P4	E/M/A/D	0.150	2.4	0.040	0.050	0.060	0.080	0.10	0.12	0.15	0.17	230 (200 – 250)
		0.150	2.4	0.0016	0.0020	0.0024	0.0032	0.0040	0.0048	0.0060	0.0065	750 (660 – 820)
P5	E/M/A/D	0.150	2.4	0.040	0.050	0.060	0.080	0.10	0.12	0.15	0.17	215 (190 – 240)
		0.150	2.4	0.0016	0.0020	0.0024	0.0032	0.0040	0.0048	0.0060	0.0065	710 (630–780)
P6	E/M/A/D	0.150	2.4	0.040	0.050	0.060	0.080	0.10	0.12	0.15	0.17	240 (210 – 270)
		0.150	2.4	0.0016	0.0020	0.0024	0.0032	0.0040	0.0048	0.0060	0.0065	790 (690 – 880)
P7	E/M/A/D	0.150	2.4	0.040	0.050	0.060	0.080	0.10	0.12	0.15	0.17	230 (200 – 250)
		0.150	2.4	0.0016	0.0020	0.0024	0.0032	0.0040	0.0048	0.0060	0.0065	750 (660 – 820)
P8	E/M/A/D	0.150	2.4	0.042	0.050	0.060	0.085	0.10	0.12	0.15	0.18	215 (190 – 240)
		0.150	2.4	0.0017	0.0020	0.0024	0.0034	0.0040	0.0048	0.0060	0.0070	710 (630–780)
P11	E/M/A/D	0.150	2.4	0.060	0.075	0.090	0.12	0.15	0.17	0.22	0.25	200 (180 – 220)
		0.150	2.4	0.0024	0.0030	0.0036	0.0048	0.0060	0.0065	0.0085	0.010	660 (600–720)
P12	E/M/A/D	0.150	2.4	0.040	0.050	0.060	0.080	0.10	0.12	0.15	0.17	130 (120–140)
		0.150	2.4	0.0016	0.0020	0.0024	0.0032	0.0040	0.0048	0.0060	0.0065	425 (400 – 450)
M1	E	0.150	2.4	0.044	0.055	0.065	0.090	0.11	0.13	0.16	0.19	195 (170 – 210)
		0.150	2.4	0.0017	0.0022	0.0026	0.0036	0.0044	0.0050	0.0065	0.0075	640 (560 – 680)
M2	E	0.150	2.4	0.040	0.050	0.060	0.080	0.10	0.12	0.15	0.17	160 (140–170)
		0.150	2.4	0.0016	0.0020	0.0024	0.0032	0.0040	0.0048	0.0060	0.0065	520 (460 – 550)
M3	E	0.100	2.4	0.040	0.050	0.060	0.080	0.10	0.12	0.15	0.17	130 (110–140)
		0.100	2.4	0.0016	0.0020	0.0024	0.0032	0.0040	0.0048	0.0060	0.0065	425 (370 – 450)
M4	E	0.100	2.4	0.040	0.050	0.060	0.080	0.10	0.12	0.15	0.17	130 (110–140)
		0.100	2.4	0.0016	0.0020	0.0024	0.0032	0.0040	0.0048	0.0060	0.0065	425 (370 – 450)
M5	E	0.100	2.4	0.040	0.050	0.060	0.080	0.10	0.12	0.15	0.17	110 (92–120)
		0.100	2.4	0.0016	0.0020	0.0024	0.0032	0.0040	0.0048	0.0060	0.0065	360 (310 – 390)
K1	E	0.150	2.4	0.044	0.055	0.065	0.090	0.11	0.13	0.16	0.19	260 (230 – 290)
		0.150	2.4	0.0017	0.0022	0.0026	0.0036	0.0044	0.0050	0.0065	0.0075	850 (760 – 950)
K2	E	0.150	2.4	0.040	0.050	0.060	0.080	0.10	0.12	0.15	0.17	230 (200 – 250)
		0.150	2.4	0.0016	0.0020	0.0024	0.0032	0.0040	0.0048	0.0060	0.0065	750 (660 – 820)
K3	E	0.150	2.4	0.040	0.050	0.060	0.080	0.10	0.12	0.15	0.17	195 (170 – 210)
		0.150	2.4	0.0016	0.0020	0.0024	0.0032	0.0040	0.0048	0.0060	0.0065	640 (560 – 680)
K4	E	0.150	2.4	0.040	0.050	0.060	0.080	0.10	0.12	0.15	0.17	185 (170 – 200)
		0.150	2.4	0.0016	0.0020	0.0024	0.0032	0.0040	0.0048	0.0060	0.0065	610 (560 – 650)
K5	E	0.150	2.4	0.036	0.044	0.055	0.070	0.090	0.11	0.13	0.15	115 (99–120)
		0.150	2.4	0.0014	0.0017	0.0022	0.0028	0.0036	0.0044	0.0050	0.0060	375 (330 – 390)
K6	E	0.150	2.4	0.040	0.050	0.060	0.080	0.10	0.12	0.15	0.17	165 (150–180)
		0.150	2.4	0.0016	0.0020	0.0024	0.0032	0.0040	0.0048	0.0060	0.0065	540 (500 – 590)
K7	E	0.150	2.4	0.036	0.044	0.055	0.070	0.090	0.11	0.13	0.15	145 (130–160)
		0.150	2.4	0.0014	0.0017	0.0022	0.0028	0.0036	0.0044	0.0050	0.0060	475 (430 – 520)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)f<sub>z</sub> = mm (inç/ağız)a<sub>p</sub> mm/DC (inç/DC) = faktöra<sub>e</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve diğer malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

Kesme verileri – JS564 Kenar frezeleme gelişmiş kaba işleme

SMG		a <sub>e</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>								v <sub>c</sub>
				4	5	6	8	10	12	16	20	
N1	E	0.150	2.4	0.040	0.050	0.060	0.080	0.10	0.12	0.15	0.17	700 (600–790)
		0.150	2.4	0.0016	0.0020	0.0024	0.0032	0.0040	0.0048	0.0060	0.0065	2300 (2000 – 2500)
N2	E	0.150	2.4	0.040	0.050	0.060	0.080	0.10	0.12	0.15	0.17	450 (390 – 510)
		0.150	2.4	0.0016	0.0020	0.0024	0.0032	0.0040	0.0048	0.0060	0.0065	1475 (1300–1600)
N3	E	0.100	2.4	0.040	0.050	0.060	0.080	0.10	0.12	0.15	0.17	500 (400 – 590)
		0.100	2.4	0.0016	0.0020	0.0024	0.0032	0.0040	0.0048	0.0060	0.0065	1650 (1400–1900)
N11	E	0.150	2.4	0.040	0.050	0.060	0.080	0.10	0.12	0.15	0.17	350 (300 – 390)
		0.150	2.4	0.0016	0.0020	0.0024	0.0032	0.0040	0.0048	0.0060	0.0065	1150 (990–1200)
S1	E	0.0300	2.4	0.030	0.038	0.046	0.060	0.075	0.090	0.11	0.13	60 (37 – 86)
		0.0300	2.4	0.0012	0.0015	0.0018	0.0024	0.0030	0.0036	0.0044	0.0050	195 (130 – 280)
S2	E	0.0300	2.4	0.030	0.038	0.046	0.060	0.075	0.090	0.11	0.13	50 (30 – 69)
		0.0300	2.4	0.0012	0.0015	0.0018	0.0024	0.0030	0.0036	0.0044	0.0050	165 (99 – 220)
S3	E	0.0300	2.4	0.028	0.034	0.042	0.055	0.070	0.085	0.10	0.12	43 (26 – 60)
		0.0300	2.4	0.0011	0.0013	0.0017	0.0022	0.0028	0.0034	0.0040	0.0048	140 (86–190)
S11	E	0.0800	2.4	0.028	0.034	0.042	0.055	0.070	0.085	0.10	0.12	160 (140–180)
		0.0800	2.4	0.0011	0.0013	0.0017	0.0022	0.0028	0.0034	0.0040	0.0048	520 (460 – 590)
S12	E	0.0800	2.4	0.028	0.034	0.042	0.055	0.070	0.085	0.10	0.12	125 (110–140)
		0.0800	2.4	0.0011	0.0013	0.0017	0.0022	0.0028	0.0034	0.0040	0.0048	410 (370 – 450)
S13	E	0.0800	2.4	0.028	0.034	0.042	0.055	0.070	0.085	0.10	0.12	125 (110–140)
		0.0800	2.4	0.0011	0.0013	0.0017	0.0022	0.0028	0.0034	0.0040	0.0048	410 (370 – 450)
H8	M/A/D	0.0500	2.4	0.022	0.026	0.032	0.042	0.055	0.065	0.080	0.090	160 (140–180)
		0.0500	2.4	0.00085	0.0010	0.0013	0.0017	0.0022	0.0026	0.0032	0.0036	520 (460 – 590)
H21	M/A/D	0.0500	2.4	0.022	0.026	0.032	0.042	0.055	0.065	0.080	0.090	160 (140–180)
		0.0500	2.4	0.00085	0.0010	0.0013	0.0017	0.0022	0.0026	0.0032	0.0036	520 (460 – 590)
H31	M/A/D	0.0500	2.4	0.018	0.024	0.028	0.036	0.046	0.055	0.070	0.080	125 (110–140)
		0.0500	2.4	0.00070	0.00095	0.0011	0.0014	0.0018	0.0022	0.0028	0.0032	410 (370 – 450)

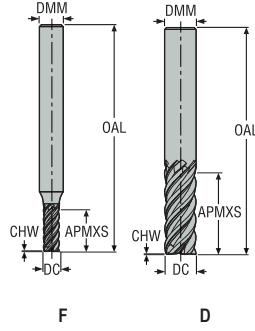
Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu  
Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama  
v<sub>c</sub> = m/dak (sf/dak)  
f<sub>z</sub> = mm (inç/agiş)  
a<sub>p</sub> mm/DC (inç/DC) = faktör  
a<sub>e</sub> = mm/DC (inç/DC) = faktör  
Tüm kesme verileri hedef değerlerdir



## JS565

Gelişmiş kaba işleme – Üniversal – Dik kenarlı – 5 Ağızlı – Silindirik – Köşesi pahlı



- Toleranslar:
- DMM= h5
- DC= e7
- PCEDC5= talaş dağıtıcısız
- PCEDC5C= talaş dağıtıcılı
- DC ≥ Ø8 ise tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	talaş dağıtıcılığı	DC	DMM	APMXS	OAL	CHW	PCEDC	Silindirik
					mm	mm	mm	mm	mm		
JS565040F2C.0Z5-NXT	03067369	2	F	–	4,0	6,0	10,0	57,0	0,05	5	■
JS565040F2C.0Z5C-NXT	03067378	2	F	■	4,0	6,0	10,0	57,0	0,05	5	■
JS565050F2C.0Z5-NXT	03067370	2	F	–	5,0	6,0	12,5	57,0	0,06	5	■
JS565050F2C.0Z5C-NXT	03067379	2	F	■	5,0	6,0	12,5	57,0	0,06	5	■
JS565060D2C.0Z5-NXT	03067371	2	D	–	6,0	6,0	15,0	57,0	0,075	5	■
JS565060D2C.0Z5C-NXT	03067380	2	D	■	6,0	6,0	15,0	57,0	0,075	5	■
JS565080D2C.0Z5-NXT	03067372	2	D	–	8,0	8,0	20,0	63,0	0,1	5	■
JS565080D2C.0Z5C-NXT	03067381	2	D	■	8,0	8,0	20,0	63,0	0,1	5	■
JS565100D2C.0Z5-NXT	03067373	2	D	–	10,0	10,0	25,0	72,0	0,125	5	■
JS565100D2C.0Z5C-NXT	03067382	2	D	■	10,0	10,0	25,0	72,0	0,125	5	■
JS565120D2C.0Z5-NXT	03067374	2	D	–	12,0	12,0	30,0	83,0	0,15	5	■
JS565120D2C.0Z5C-NXT	03067383	2	D	■	12,0	12,0	30,0	83,0	0,15	5	■
JS565160D2C.0Z5-NXT	03067375	2	D	–	16,0	16,0	40,0	99,0	0,2	5	■
JS565160D2C.0Z5C-NXT	03067384	2	D	■	16,0	16,0	40,0	99,0	0,2	5	■
JS565200D2C.0Z5-NXT	03067376	2	D	–	20,0	20,0	50,0	114,0	0,25	5	■
JS565200D2C.0Z5C-NXT	03067385	2	D	■	20,0	20,0	50,0	114,0	0,25	5	■
JS565060D3C.0Z5C-NXT	03067386	3	D	■	6,0	6,0	23,0	64,0	0,075	5	■
JS565080D3C.0Z5C-NXT	03067387	3	D	■	8,0	8,0	32,0	74,0	0,1	5	■
JS565100D3C.0Z5C-NXT	03067388	3	D	■	10,0	10,0	40,0	88,0	0,125	5	■
JS565120D3C.0Z5C-NXT	03067389	3	D	■	12,0	12,0	45,0	99,0	0,15	5	■
JS565160D3C.0Z5C-NXT	03067390	3	D	■	16,0	16,0	55,0	114,0	0,2	5	■
JS565200D3C.0Z5C-NXT	03067391	3	D	■	20,0	20,0	65,0	126,0	0,25	5	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve diğer materyaller için

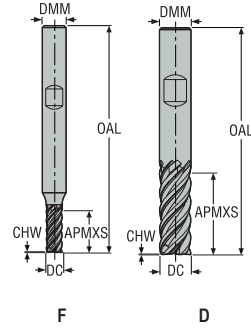
Grafit materyale için

Minimaster Plus

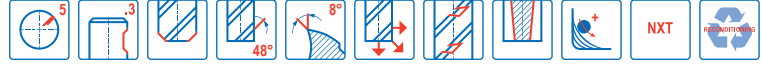
Minimaster

## JS565

Gelişmiş kaba işleme – Üniversal – Dik kenarlı – 5 Ağızlı – Weldon – Köşesi pahlı



- Toleranslar:
- DMM= h5
- DC= e7
- PCEDC5= talaş dağıtıcısız
- PCEDC5C= talaş dağıtıcılı
- DC ≥ Ø8 ise tekrar bilenebilir



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	talaş dağıtıcılı	DC	DMM	APMXS	OAL	CHW	PCEDC	Weldon
					mm	mm	mm	mm	mm		
JS565040F2C.3Z5-NXT	03067393	2	F	–	4,0	6,0	10,0	57,0	0,05	5	■
JS565040F2C.3Z5C-NXT	03067402	2	F	■	4,0	6,0	10,0	57,0	0,05	5	■
JS565050F2C.3Z5-NXT	03067394	2	F	–	5,0	6,0	12,5	57,0	0,06	5	■
JS565050F2C.3Z5C-NXT	03067403	2	F	■	5,0	6,0	12,5	57,0	0,06	5	■
JS565060D2C.3Z5-NXT	03067395	2	D	–	6,0	6,0	15,0	57,0	0,075	5	■
JS565060D2C.3Z5C-NXT	03067404	2	D	■	6,0	6,0	15,0	57,0	0,075	5	■
JS565080D2C.3Z5-NXT	03067396	2	D	–	8,0	8,0	20,0	63,0	0,1	5	■
JS565080D2C.3Z5C-NXT	03067405	2	D	■	8,0	8,0	20,0	63,0	0,1	5	■
JS565100D2C.3Z5-NXT	03067397	2	D	–	10,0	10,0	25,0	72,0	0,125	5	■
JS565100D2C.3Z5C-NXT	03067406	2	D	■	10,0	10,0	25,0	72,0	0,125	5	■
JS565120D2C.3Z5-NXT	03067398	2	D	–	12,0	12,0	30,0	83,0	0,15	5	■
JS565120D2C.3Z5C-NXT	03067407	2	D	■	12,0	12,0	30,0	83,0	0,15	5	■
JS565160D2C.3Z5-NXT	03067399	2	D	–	16,0	16,0	40,0	99,0	0,2	5	■
JS565160D2C.3Z5C-NXT	03067408	2	D	■	16,0	16,0	40,0	99,0	0,2	5	■
JS565200D2C.3Z5-NXT	03067400	2	D	–	20,0	20,0	50,0	114,0	0,25	5	■
JS565200D2C.3Z5C-NXT	03067409	2	D	■	20,0	20,0	50,0	114,0	0,25	5	■
JS565060D3C.3Z5C-NXT	03067410	3	D	■	6,0	6,0	23,0	64,0	0,075	5	■
JS565080D3C.3Z5C-NXT	03067411	3	D	■	8,0	8,0	32,0	74,0	0,1	5	■
JS565100D3C.3Z5C-NXT	03067412	3	D	■	10,0	10,0	40,0	88,0	0,125	5	■
JS565120D3C.3Z5C-NXT	03067413	3	D	■	12,0	12,0	45,0	99,0	0,15	5	■
JS565160D3C.3Z5C-NXT	03067414	3	D	■	16,0	16,0	55,0	114,0	0,2	5	■
JS565200D3C.3Z5C-NXT	03067415	3	D	■	20,0	20,0	65,0	126,0	0,25	5	■

■ Stoklu standart ürün.

## Kesme verileri – JS565 Kenar frezeleme gelişmiş kaba işleme

SMG		a <sub>p</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>								v <sub>c</sub>
				4	5	6	8	10	12	16	20	
P1	E/M/A/D	0.100	2.4	0.050	0.065	0.075	0.10	0.13	0.15	0.19	0.22	325 (270 – 340)
		0.100	2.4	0.0020	0.0026	0.0030	0.0040	0.0050	0.0060	0.0075	0.0085	1075 (890 – 1100)
P2	E/M/A/D	0.100	2.4	0.050	0.065	0.080	0.10	0.13	0.15	0.19	0.22	315 (260 – 330)
		0.100	2.4	0.0020	0.0026	0.0032	0.0040	0.0050	0.0060	0.0075	0.0085	1025 (860 – 1000)
P3	E/M/A/D	0.100	2.4	0.048	0.060	0.075	0.10	0.12	0.14	0.18	0.20	280 (230 – 290)
		0.100	2.4	0.0019	0.0024	0.0030	0.0040	0.0048	0.0055	0.0070	0.0080	920 (760 – 950)
P4	E/M/A/D	0.100	2.4	0.048	0.060	0.070	0.095	0.12	0.14	0.18	0.20	245 (200 – 250)
		0.100	2.4	0.0019	0.0024	0.0028	0.0038	0.0048	0.0055	0.0070	0.0080	800 (660 – 820)
P5	E/M/A/D	0.100	2.4	0.048	0.060	0.070	0.095	0.12	0.14	0.18	0.20	230 (190 – 240)
		0.100	2.4	0.0019	0.0024	0.0028	0.0038	0.0048	0.0055	0.0070	0.0080	750 (630 – 780)
P6	E/M/A/D	0.100	2.4	0.048	0.060	0.070	0.095	0.12	0.14	0.17	0.20	260 (210 – 270)
		0.100	2.4	0.0019	0.0024	0.0028	0.0038	0.0048	0.0055	0.0065	0.0080	850 (690 – 880)
P7	E/M/A/D	0.100	2.4	0.048	0.060	0.070	0.095	0.12	0.14	0.17	0.20	245 (200 – 250)
		0.100	2.4	0.0019	0.0024	0.0028	0.0038	0.0048	0.0055	0.0065	0.0080	800 (660 – 820)
P8	E/M/A/D	0.100	2.4	0.050	0.060	0.075	0.10	0.12	0.15	0.18	0.22	230 (190 – 240)
		0.100	2.4	0.0020	0.0024	0.0030	0.0040	0.0048	0.0060	0.0070	0.0085	750 (630 – 780)
P11	E/M/A/D	0.100	2.4	0.060	0.075	0.090	0.12	0.15	0.18	0.24	0.30	225 (190 – 230)
		0.100	2.4	0.0024	0.0030	0.0036	0.0048	0.0060	0.0070	0.0095	0.012	740 (630 – 750)
P12	E/M/A/D	0.100	2.4	0.048	0.060	0.070	0.095	0.12	0.14	0.18	0.20	140 (120 – 140)
		0.100	2.4	0.0019	0.0024	0.0028	0.0038	0.0048	0.0055	0.0070	0.0080	460 (400 – 450)
M1	E	0.100	2.4	0.055	0.065	0.080	0.11	0.13	0.16	0.19	0.22	205 (180 – 210)
		0.100	2.4	0.0022	0.0026	0.0032	0.0044	0.0050	0.0065	0.0075	0.0085	670 (600 – 680)
M2	E	0.100	2.4	0.048	0.060	0.070	0.095	0.12	0.14	0.18	0.20	170 (140 – 170)
		0.100	2.4	0.0019	0.0024	0.0028	0.0038	0.0048	0.0055	0.0070	0.0080	560 (460 – 550)
M3	E	0.100	2.4	0.040	0.050	0.060	0.080	0.10	0.12	0.15	0.17	130 (110 – 140)
		0.100	2.4	0.0016	0.0020	0.0024	0.0032	0.0040	0.0048	0.0060	0.0065	425 (370 – 450)
M4	E	0.100	2.4	0.040	0.050	0.060	0.080	0.10	0.12	0.15	0.17	130 (110 – 140)
		0.100	2.4	0.0016	0.0020	0.0024	0.0032	0.0040	0.0048	0.0060	0.0065	425 (370 – 450)
M5	E	0.100	2.4	0.040	0.050	0.060	0.080	0.10	0.12	0.15	0.17	110 (92 – 120)
		0.100	2.4	0.0016	0.0020	0.0024	0.0032	0.0040	0.0048	0.0060	0.0065	360 (310 – 390)
K1	E	0.100	2.4	0.055	0.065	0.080	0.11	0.13	0.16	0.19	0.22	275 (230 – 290)
		0.100	2.4	0.0022	0.0026	0.0032	0.0044	0.0050	0.0065	0.0075	0.0085	900 (760 – 950)
K2	E	0.100	2.4	0.048	0.060	0.070	0.095	0.12	0.14	0.18	0.20	245 (200 – 250)
		0.100	2.4	0.0019	0.0024	0.0028	0.0038	0.0048	0.0055	0.0070	0.0080	800 (660 – 820)
K3	E	0.100	2.4	0.048	0.060	0.070	0.095	0.12	0.14	0.18	0.20	205 (170 – 210)
		0.100	2.4	0.0019	0.0024	0.0028	0.0038	0.0048	0.0055	0.0070	0.0080	670 (560 – 680)
K4	E	0.100	2.4	0.048	0.060	0.070	0.095	0.12	0.14	0.18	0.20	200 (170 – 200)
		0.100	2.4	0.0019	0.0024	0.0028	0.0038	0.0048	0.0055	0.0070	0.0080	660 (560 – 650)
K5	E	0.100	2.4	0.044	0.055	0.065	0.085	0.11	0.13	0.16	0.18	120 (98 – 120)
		0.100	2.4	0.0017	0.0022	0.0026	0.0034	0.0044	0.0050	0.0065	0.0070	395 (330 – 390)
K6	E	0.100	2.4	0.048	0.060	0.070	0.095	0.12	0.14	0.18	0.20	175 (150 – 180)
		0.100	2.4	0.0019	0.0024	0.0028	0.0038	0.0048	0.0055	0.0070	0.0080	570 (500 – 590)
K7	E	0.100	2.4	0.044	0.055	0.065	0.085	0.11	0.13	0.16	0.18	155 (130 – 160)
		0.100	2.4	0.0017	0.0022	0.0026	0.0034	0.0044	0.0050	0.0065	0.0070	510 (430 – 520)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)f<sub>z</sub> = mm (inç/ağız)a<sub>p</sub> mm/DC (inç/DC) = faktöra<sub>e</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve diğer malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

Kesme verileri – JS565 Kenar frezeleme gelişmiş kaba işleme

SMG		a <sub>e</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>								v <sub>c</sub>
				4	5	6	8	10	12	16	20	
N1	E	0.100	2.4	0.048	0.060	0.070	0.095	0.12	0.14	0.18	0.20	740 (600–790)
		0,100	2,4	0,0019	0,0024	0,0028	0,0038	0,0048	0,0055	0,0070	0,0080	2425 (2000 – 2500)
N2	E	0.100	2.4	0.048	0.060	0.070	0.095	0.12	0.14	0.18	0.20	475 (390 – 510)
		0,100	2,4	0,0019	0,0024	0,0028	0,0038	0,0048	0,0055	0,0070	0,0080	1550 (1300–1600)
N3	E	0.100	2.4	0.040	0.050	0.060	0.080	0.10	0.12	0.15	0.17	500 (400 – 590)
		0,100	2,4	0,0016	0,0020	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	1650 (1400–1900)
N11	E	0.100	2.4	0.048	0.060	0.070	0.095	0.12	0.14	0.18	0.20	370 (300 – 390)
		0,100	2,4	0,0019	0,0024	0,0028	0,0038	0,0048	0,0055	0,0070	0,0080	1225 (990–1200)
S1	E	0.0300	2.4	0.028	0.034	0.042	0.055	0.070	0.085	0.10	0.12	60 (38 – 86)
		0,0300	2,4	0,0011	0,0013	0,0017	0,0022	0,0028	0,0034	0,0040	0,0048	195 (130 – 280)
S2	E	0.0300	2.4	0.028	0.034	0.042	0.055	0.070	0.085	0.10	0.12	50 (30–70)
		0,0300	2,4	0,0011	0,0013	0,0017	0,0022	0,0028	0,0034	0,0040	0,0048	165 (99 – 220)
S3	E	0.0300	2.4	0.026	0.032	0.038	0.050	0.065	0.075	0.095	0.11	43 (27 – 60)
		0,0300	2,4	0,0010	0,0013	0,0015	0,0020	0,0026	0,0030	0,0038	0,0044	140 (89–190)
S11	E	0.0800	2.4	0.028	0.034	0.042	0.055	0.070	0.085	0.10	0.12	160 (140–180)
		0,0800	2,4	0,0011	0,0013	0,0017	0,0022	0,0028	0,0034	0,0040	0,0048	520 (460 – 590)
S12	E	0.0800	2.4	0.028	0.034	0.042	0.055	0.070	0.085	0.10	0.12	125 (110–140)
		0,0800	2,4	0,0011	0,0013	0,0017	0,0022	0,0028	0,0034	0,0040	0,0048	410 (370 – 450)
S13	E	0.0800	2.4	0.028	0.034	0.042	0.055	0.070	0.085	0.10	0.12	125 (110–140)
		0,0800	2,4	0,0011	0,0013	0,0017	0,0022	0,0028	0,0034	0,0040	0,0048	410 (370 – 450)
H8	M/A/D	0.0500	2.4	0.022	0.026	0.032	0.042	0.055	0.065	0.080	0.090	160 (140–180)
		0,0500	2,4	0,00085	0,0010	0,0013	0,0017	0,0022	0,0026	0,0032	0,0036	520 (460 – 590)
H21	M/A/D	0.0500	2.4	0.024	0.028	0.034	0.046	0.060	0.070	0.085	0.10	155 (140–180)
		0,0500	2,4	0,00095	0,0011	0,0013	0,0018	0,0024	0,0028	0,0034	0,0040	510 (460 – 590)
H31	M/A/D	0.0500	2.4	0.020	0.025	0.030	0.040	0.050	0.060	0.075	0.085	120 (110–140)
		0,0500	2,4	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0030	0,0034	395 (370 – 450)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)

f<sub>z</sub> = mm (inç/agiş)

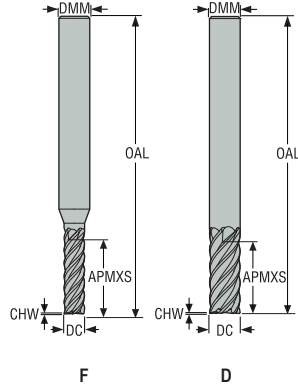
a<sub>p</sub> mm/DC (inç/DC) = faktör

a<sub>e</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

## JS520

Yüksek performans – Üniversal – Dik kenarlı – 5-8 Ağızlı – Silindirik – Köşesi pahlı



- Toleranslar:
- DMM=h5
- DC=e7
- DC ≥ Ø6 ise tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	CHW	PCEDC	Silindirik
				mm	mm	mm	mm	mm		
JS520040F2C.0Z5-NXT	02927474	2	F	4,0	6,0	10,0	57,0	0,04	5	■
JS520050F2C.0Z5-NXT	02927476	2	F	5,0	6,0	12,0	57,0	0,05	5	■
JS520060D2C.0Z5-NXT	02927478	2	D	6,0	6,0	15,0	57,0	0,06	5	■
JS520060D2C.0Z6-NXT	02927479	2	D	6,0	6,0	15,0	57,0	0,06	6	■
JS520080D2C.0Z5-NXT	02927482	2	D	8,0	8,0	20,0	63,0	0,08	5	■
JS520080D2C.0Z6-NXT	02927483	2	D	8,0	8,0	20,0	63,0	0,08	6	■
JS520100D2C.0Z6-NXT	02927486	2	D	10,0	10,0	25,0	72,0	0,1	6	■
JS520120D2C.0Z6-NXT	02927488	2	D	12,0	12,0	25,0	83,0	0,12	6	■
JS520140D2C.0Z6-NXT	02927490	2	D	14,0	14,0	30,0	83,0	0,14	6	■
JS520160D2C.0Z6-NXT	02927491	2	D	16,0	16,0	30,0	92,0	0,16	6	■
JS520160D2C.0Z8-NXT	02927492	2	D	16,0	16,0	30,0	92,0	0,16	8	■
JS520200D2C.0Z8-NXT	02927495	2	D	20,0	20,0	35,0	104,0	0,2	8	■
JS520250D2C.0Z8-NXT	02927497	2	D	25,0	25,0	50,0	125,0	0,25	8	■
JS520040F3C.0Z5-NXT	02927475	3	F	4,0	6,0	15,0	57,0	0,04	5	■
JS520050F3C.0Z5-NXT	02927477	3	F	5,0	6,0	19,0	57,0	0,05	5	■
JS520060D3C.0Z5-NXT	02927480	3	D	6,0	6,0	20,0	63,0	0,06	5	■
JS520060D3C.0Z6-NXT	02927481	3	D	6,0	6,0	20,0	63,0	0,06	6	■
JS520080D3C.0Z5-NXT	02927484	3	D	8,0	8,0	30,0	80,0	0,08	5	■
JS520080D3C.0Z6-NXT	02927485	3	D	8,0	8,0	30,0	80,0	0,08	6	■
JS520100D3C.0Z6-NXT	02927487	3	D	10,0	10,0	40,0	89,0	0,1	6	■
JS520120D3C.0Z6-NXT	02927489	3	D	12,0	12,0	45,0	100,0	0,12	6	■
JS520160D3C.0Z6-NXT	02927493	3	D	16,0	16,0	65,0	125,0	0,16	6	■
JS520160D3C.0Z8-NXT	02927494	3	D	16,0	16,0	65,0	125,0	0,16	8	■
JS520200D3C.0Z8-NXT	02927496	3	D	20,0	20,0	65,0	125,0	0,2	8	■
JS520250D3C.0Z8-NXT	02927498	3	D	25,0	25,0	75,0	150,0	0,25	8	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve diğer materyaller için

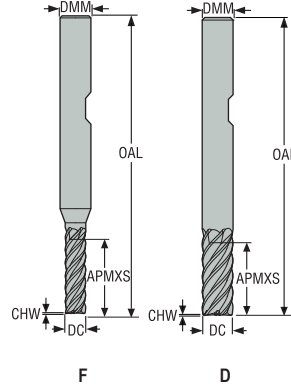
Grafit materyal için

Minimaster Plus

Minimaster

## JS520

Yüksek performans – Üniversal – Dik kenarlı – 5-8 Ağızlı – Weldon – Köşesi pahlı



- Toleranslar:
- DMM=h5
- DC=e7
- DC ≥ Ø6 ise tekrar bilenebilir



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	CHW	PCEDC	Weldon
				mm	mm	mm	mm	mm		
JS520040F2C.3Z5-NXT	02927499	2	F	4,0	6,0	10,0	57,0	0,04	5	<input type="checkbox"/>
JS520050F2C.3Z5-NXT	02927501	2	F	5,0	6,0	12,0	57,0	0,05	5	<input type="checkbox"/>
JS520060D2C.3Z5-NXT	02927503	2	D	6,0	6,0	15,0	57,0	0,06	5	<input type="checkbox"/>
JS520060D2C.3Z6-NXT	02927504	2	D	6,0	6,0	15,0	57,0	0,06	6	<input type="checkbox"/>
JS520080D2C.3Z5-NXT	02927507	2	D	8,0	8,0	20,0	63,0	0,08	5	<input type="checkbox"/>
JS520080D2C.3Z6-NXT	02927508	2	D	8,0	8,0	20,0	63,0	0,08	6	<input type="checkbox"/>
JS520100D2C.3Z6-NXT	02927511	2	D	10,0	10,0	25,0	72,0	0,1	6	<input type="checkbox"/>
JS520120D2C.3Z6-NXT	02927513	2	D	12,0	12,0	25,0	83,0	0,12	6	<input type="checkbox"/>
JS520140D2C.3Z6-NXT	02927515	2	D	14,0	14,0	30,0	83,0	0,14	6	<input type="checkbox"/>
JS520160D2C.3Z6-NXT	02927516	2	D	16,0	16,0	30,0	92,0	0,16	6	<input type="checkbox"/>
JS520160D2C.3Z8-NXT	02927517	2	D	16,0	16,0	30,0	92,0	0,16	8	<input checked="" type="checkbox"/>
JS520200D2C.3Z8-NXT	02927520	2	D	20,0	20,0	35,0	104,0	0,2	8	<input checked="" type="checkbox"/>
JS520250D2C.3Z8-NXT	02927522	2	D	25,0	25,0	50,0	125,0	0,25	8	<input type="checkbox"/>
JS520040F3C.3Z5-NXT	02927500	3	F	4,0	6,0	15,0	57,0	0,04	5	<input type="checkbox"/>
JS520050F3C.3Z5-NXT	02927502	3	F	5,0	6,0	19,0	57,0	0,05	5	<input type="checkbox"/>
JS520060D3C.3Z5-NXT	02927505	3	D	6,0	6,0	20,0	63,0	0,06	5	<input type="checkbox"/>
JS520060D3C.3Z6-NXT	02927506	3	D	6,0	6,0	20,0	63,0	0,06	6	<input type="checkbox"/>
JS520080D3C.3Z5-NXT	02927509	3	D	8,0	8,0	30,0	80,0	0,08	5	<input type="checkbox"/>
JS520080D3C.3Z6-NXT	02927510	3	D	8,0	8,0	30,0	80,0	0,08	6	<input type="checkbox"/>
JS520100D3C.3Z6-NXT	02927512	3	D	10,0	10,0	40,0	89,0	0,1	6	<input type="checkbox"/>
JS520120D3C.3Z6-NXT	02927514	3	D	12,0	12,0	45,0	100,0	0,12	6	<input type="checkbox"/>
JS520160D3C.3Z6-NXT	02927518	3	D	16,0	16,0	65,0	125,0	0,16	6	<input type="checkbox"/>
JS520160D3C.3Z8-NXT	02927519	3	D	16,0	16,0	65,0	125,0	0,16	8	<input type="checkbox"/>
JS520200D3C.3Z8-NXT	02927521	3	D	20,0	20,0	65,0	125,0	0,2	8	<input type="checkbox"/>
JS520250D3C.3Z8-NXT	02927523	3	D	25,0	25,0	75,0	150,0	0,25	8	<input type="checkbox"/>

■ Stoklu standart ürün. □ Weldon mevcut. Teslimat süresi 3 iş gündür.

Kesme verileri – JS520 Kenar frezeleme

SMG		a <sub>e</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>										v <sub>c</sub>
				4	5	6	8	10	12	14	16	20	25	
P1	E/M/A	0.100	2.0	0.034	0.044	0.050	0.070	0.085	0.10	0.12	0.13	0.15	0.17	180 (120 – 250)
		0,100	2,0	0,0013	0,0017	0,0020	0,0028	0,0034	0,0040	0,0048	0,0050	0,0060	0,0065	590 (400 – 820)
P2	E/M/A	0.100	2.0	0.036	0.044	0.055	0.070	0.090	0.10	0.12	0.13	0.15	0.17	175 (110 – 240)
		0,100	2,0	0,0014	0,0017	0,0022	0,0028	0,0036	0,0040	0,0048	0,0050	0,0060	0,0065	570 (370 – 780)
P3	E/M/A	0.100	2.0	0.034	0.042	0.050	0.065	0.085	0.10	0.11	0.12	0.14	0.16	155 (95 – 210)
		0,100	2,0	0,0013	0,0017	0,0020	0,0026	0,0034	0,0040	0,0044	0,0048	0,0055	0,0065	510 (320 – 680)
P4	E/M/A	0.100	2.0	0.032	0.040	0.048	0.065	0.080	0.095	0.11	0.12	0.14	0.16	135 (84 – 180)
		0,100	2,0	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0044	0,0048	0,0055	0,0065	445 (280 – 590)
P5	E/M/A	0.100	2.0	0.032	0.040	0.048	0.065	0.080	0.095	0.11	0.12	0.14	0.15	130 (81 – 180)
		0,100	2,0	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0044	0,0048	0,0055	0,0060	425 (270 – 590)
P6	E/M/A	0.100	2.0	0.032	0.040	0.048	0.065	0.080	0.095	0.11	0.12	0.13	0.15	145 (90 – 200)
		0,100	2,0	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0044	0,0048	0,0050	0,0060	475 (300 – 650)
P7	E/M/A	0.100	2.0	0.032	0.040	0.048	0.065	0.080	0.095	0.11	0.12	0.13	0.15	140 (85 – 190)
		0,100	2,0	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0044	0,0048	0,0050	0,0060	460 (280 – 620)
P8	E/M/A	0.100	2.0	0.034	0.042	0.050	0.065	0.085	0.10	0.11	0.12	0.14	0.16	130 (80 – 170)
		0,100	2,0	0,0013	0,0017	0,0020	0,0026	0,0034	0,0040	0,0044	0,0048	0,0055	0,0065	425 (270 – 550)
P11	E/M/A	0.100	2.0	0.046	0.060	0.070	0.095	0.12	0.14	0.16	0.17	0.20	0.22	195 (160 – 230)
		0,100	2,0	0,0018	0,0024	0,0028	0,0038	0,0048	0,0055	0,0065	0,0065	0,0080	0,0085	640 (530 – 750)
P12	E/M/A	0.100	2.0	0.032	0.040	0.048	0.065	0.080	0.095	0.11	0.12	0.14	0.15	125 (100 – 140)
		0,100	2,0	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0044	0,0048	0,0055	0,0060	410 (330 – 450)
M1	E/M/A	0.100	2.0	0.036	0.044	0.055	0.070	0.090	0.10	0.12	0.13	0.15	0.17	150 (130 – 180)
		0,100	2,0	0,0014	0,0017	0,0022	0,0028	0,0036	0,0040	0,0048	0,0050	0,0060	0,0065	490 (430 – 590)
M2	E/M/A	0.100	2.0	0.032	0.040	0.048	0.065	0.080	0.095	0.11	0.12	0.14	0.15	125 (100 – 150)
		0,100	2,0	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0044	0,0048	0,0055	0,0060	410 (330 – 490)
M3	E/M/A	0.100	2.0	0.032	0.040	0.048	0.065	0.080	0.095	0.11	0.12	0.14	0.15	100 (75 – 120)
		0,100	2,0	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0044	0,0048	0,0055	0,0060	330 (250 – 390)
M4	E/M/A	0.100	2.0	0.028	0.034	0.042	0.055	0.070	0.085	0.095	0.10	0.12	0.13	75 (58 – 96)
		0,100	2,0	0,0011	0,0013	0,0017	0,0022	0,0028	0,0034	0,0038	0,0040	0,0048	0,0050	245 (200 – 310)
M5	E/M/A	0.100	2.0	0.028	0.034	0.042	0.055	0.070	0.085	0.095	0.10	0.12	0.13	65 (49 – 80)
		0,100	2,0	0,0011	0,0013	0,0017	0,0022	0,0028	0,0034	0,0038	0,0040	0,0048	0,0050	215 (170 – 260)
K1	E/M/A	0.100	2.0	0.036	0.044	0.055	0.070	0.090	0.10	0.12	0.13	0.15	0.17	175 (110 – 240)
		0,100	2,0	0,0014	0,0017	0,0022	0,0028	0,0036	0,0040	0,0048	0,0050	0,0060	0,0065	570 (370 – 780)
K2	E/M/A	0.100	2.0	0.032	0.040	0.048	0.065	0.080	0.095	0.11	0.12	0.14	0.15	155 (97 – 210)
		0,100	2,0	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0044	0,0048	0,0055	0,0060	510 (320 – 680)
K3	E/M/A	0.100	2.0	0.032	0.040	0.048	0.065	0.080	0.095	0.11	0.12	0.14	0.15	135 (82 – 180)
		0,100	2,0	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0044	0,0048	0,0055	0,0060	445 (270 – 590)
K4	E/M/A	0.100	2.0	0.032	0.040	0.048	0.065	0.080	0.095	0.11	0.12	0.14	0.15	125 (79 – 170)
		0,100	2,0	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0044	0,0048	0,0055	0,0060	410 (260 – 550)
K5	E/M/A	0.100	2.0	0.028	0.036	0.044	0.060	0.070	0.085	0.095	0.11	0.12	0.14	75 (48 – 100)
		0,100	2,0	0,0011	0,0014	0,0017	0,0024	0,0028	0,0034	0,0038	0,0044	0,0048	0,0055	245 (160 – 320)
K6	E/M/A	0.100	2.0	0.032	0.040	0.048	0.065	0.080	0.095	0.11	0.12	0.14	0.15	110 (69 – 150)
		0,100	2,0	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0044	0,0048	0,0055	0,0060	360 (230 – 490)
K7	E/M/A	0.100	2.0	0.028	0.036	0.044	0.060	0.070	0.085	0.095	0.11	0.12	0.14	100 (62 – 130)
		0,100	2,0	0,0011	0,0014	0,0017	0,0024	0,0028	0,0034	0,0038	0,0044	0,0048	0,0055	330 (210 – 420)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu  
Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama  
v<sub>c</sub> = m/dak (sf/dak)  
f<sub>z</sub> = mm (inç/ağız)  
a<sub>p</sub> mm/DC (inç/DC) = faktör  
a<sub>e</sub> = mm/DC (inç/DC) = faktör  
Tüm kesme verileri hedef değerlerdir

Üniversal  
Çelik ve dökme demir  
Paslanmaz çelik ve S iş parçası malzemeleri  
Demir içermeyen malzemeler  
Sertleştirilmiş çelik için  
Plastik ve cırp malzemeleri için  
Grafit malzeme için  
Minimaster Plus  
Minimaster

Kesme verileri – JS520 Kenar frezeleme

SMG	a <sub>e</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>											v <sub>c</sub>
			4	5	6	8	10	12	14	16	20	25		
N1	E/M/A 0,100 0,100	2,0 2,0	0,032 0,0013	0,040 0,0016	0,048 0,0019	0,065 0,0026	0,080 0,0032	0,095 0,0038	0,11 0,0044	0,12 0,0048	0,14 0,0055	0,15 0,0060	500 (450—550) 1650 (1500—1800)	
N2	E/M/A 0,100 0,100	2,0 2,0	0,032 0,0013	0,040 0,0016	0,048 0,0019	0,065 0,0026	0,080 0,0032	0,095 0,0038	0,11 0,0044	0,12 0,0048	0,14 0,0055	0,15 0,0060	320 (290—350) 1050 (960—1100)	
N3	E/M/A 0,100 0,100	2,0 2,0	0,032 0,0013	0,040 0,0016	0,048 0,0019	0,065 0,0026	0,080 0,0032	0,095 0,0038	0,11 0,0044	0,12 0,0048	0,14 0,0055	0,15 0,0060	215 (200—230) 710 (660—750)	
N11	E/M/A 0,100 0,100	2,0 2,0	0,032 0,0013	0,040 0,0016	0,048 0,0019	0,065 0,0026	0,080 0,0032	0,095 0,0038	0,11 0,0044	0,12 0,0048	0,14 0,0055	0,15 0,0060	400 (350—450) 1300 (1200—1400)	
S1	E/M/A 0,0600 0,0600	2,0 2,0	0,020 0,00080	0,025 0,0010	0,030 0,0012	0,040 0,0016	0,050 0,0020	0,060 0,0024	0,065 0,0026	0,075 0,0030	0,085 0,0034	0,095 0,0038	75 (63—86) 245 (210—280)	
S2	E/M/A 0,0600 0,0600	2,0 2,0	0,020 0,00080	0,025 0,0010	0,030 0,0012	0,040 0,0016	0,050 0,0020	0,060 0,0024	0,065 0,0026	0,075 0,0030	0,085 0,0034	0,095 0,0038	60 (50—70) 195 (170—220)	
S3	E/M/A 0,0600 0,0600	2,0 2,0	0,020 0,00080	0,025 0,0010	0,030 0,0012	0,040 0,0016	0,050 0,0020	0,060 0,0024	0,065 0,0026	0,075 0,0030	0,085 0,0034	0,095 0,0038	40 (30—49) 130 (99—160)	
S11	E/M/A 0,100 0,100	2,0 2,0	0,032 0,0013	0,040 0,0016	0,048 0,0019	0,065 0,0026	0,080 0,0032	0,095 0,0038	0,11 0,0044	0,12 0,0048	0,14 0,0055	0,15 0,0060	105 (92—110) 345 (310—360)	
S12	E/M/A 0,100 0,100	2,0 2,0	0,032 0,0013	0,040 0,0016	0,048 0,0019	0,065 0,0026	0,080 0,0032	0,095 0,0038	0,11 0,0044	0,12 0,0048	0,14 0,0055	0,15 0,0060	80 (71—90) 260 (240—290)	
S13	E/M/A 0,100 0,100	2,0 2,0	0,028 0,0011	0,034 0,0013	0,042 0,0017	0,055 0,0022	0,070 0,0028	0,085 0,0034	0,095 0,0038	0,10 0,0040	0,12 0,0048	0,13 0,0050	65 (56—71) 215 (190—230)	
H5	M/A 0,0600 0,0600	2,0 2,0	0,030 0,0012	0,038 0,0015	0,046 0,0018	0,060 0,0024	0,075 0,0030	0,090 0,0036	0,10 0,0040	0,11 0,0044	0,13 0,0050	0,14 0,0055	125 (64—180) 410 (210—590)	
H8	M/A 0,0600 0,0600	2,0 2,0	0,024 0,00095	0,028 0,0011	0,034 0,0013	0,046 0,0018	0,060 0,0024	0,070 0,0028	0,075 0,0030	0,085 0,0034	0,10 0,0040	0,11 0,0044	130 (66—190) 425 (220—620)	
H11	M/A 0,0600 0,0600	2,0 2,0	0,030 0,0012	0,038 0,0015	0,046 0,0018	0,060 0,0024	0,075 0,0030	0,090 0,0036	0,10 0,0040	0,11 0,0044	0,13 0,0050	0,14 0,0055	160 (81—240) 520 (270—780)	
H12	M/A 0,0600 0,0600	2,0 2,0	0,024 0,00095	0,028 0,0011	0,034 0,0013	0,046 0,0018	0,060 0,0024	0,070 0,0028	0,075 0,0030	0,085 0,0034	0,10 0,0040	0,11 0,0044	150 (76—220) 490 (250—720)	
H21	M/A 0,0600 0,0600	2,0 2,0	0,024 0,00095	0,028 0,0011	0,034 0,0013	0,046 0,0018	0,060 0,0024	0,070 0,0028	0,075 0,0030	0,085 0,0034	0,10 0,0040	0,11 0,0044	130 (66—190) 425 (220—620)	
H31	M/A 0,0600 0,0600	2,0 2,0	0,020 0,00080	0,025 0,0010	0,030 0,0012	0,040 0,0016	0,050 0,0020	0,060 0,0024	0,065 0,0026	0,075 0,0030	0,085 0,0034	0,095 0,0038	100 (51—150) 330 (170—490)	
TS1	A/D 0,100 0,100	2,0 2,0	0,032 0,0013	0,040 0,0016	0,048 0,0019	0,065 0,0026	0,080 0,0032	0,095 0,0038	0,11 0,0044	0,12 0,0048	0,14 0,0055	0,15 0,0060	500 (450—550) 1650 (1500—1800)	
TP1	A/D 0,100 0,100	2,0 2,0	0,032 0,0013	0,040 0,0016	0,048 0,0019	0,065 0,0026	0,080 0,0032	0,095 0,0038	0,11 0,0044	0,12 0,0048	0,14 0,0055	0,15 0,0060	395 (350—440) 1300 (1200—1400)	
GR1	A/D 0,100 0,100	2,0 2,0	0,032 0,0013	0,040 0,0016	0,048 0,0019	0,065 0,0026	0,080 0,0032	0,095 0,0038	0,11 0,0044	0,12 0,0048	0,14 0,0055	0,15 0,0060	500 (450—550) 1650 (1500—1800)	

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)

f<sub>z</sub> = mm (inç/ağız)

a<sub>p</sub> mm/DC (inç/DC) = faktör

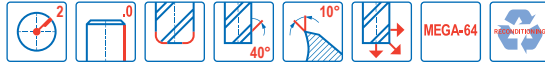
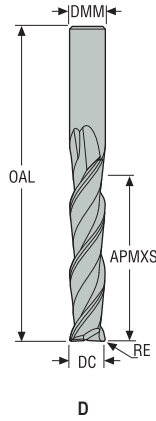
a<sub>e</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir



## JS522

Yüksek performans – Üniversal – Dik kenarlı – 2 Ağızlı – Dik kenar – Silindirik – Köşe radyüsü



- Toleranslar:
- Salgı= Ø6-Ø8 <0,01, Ø10-Ø12 <0,015, Ø16-Ø32 <0,02
- DMM= h5
- DC= -0,02/-0,04 mm
- RE= 0,1±0,1 mm, RE= 0,5 ±0,03 mm  
RE= 3,1 ±0,05 mm, RE= 4 ±0,05 mm  
RE= 6 ±0,05 mm
- DC ≥ Ø6 ise tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	RE	PCEDC	Silindirik
				mm	mm	mm	mm	mm		
522060R010Z2.0-MEGA-64	02747756	4	D	6,0	6,0	30,0	80,0	0,1	2	■
522080R010Z2.0-MEGA-64	02747763	4	D	8,0	8,0	40,0	85,0	0,1	2	■
522100R010Z2.0-MEGA-64	02747765	4	D	10,0	10,0	50,0	100,0	0,1	2	■
522120R010Z2.0-MEGA-64	02747766	4	D	12,0	12,0	60,0	115,0	0,1	2	■
522160R050Z2.0-MEGA-64	02747767	4	D	16,0	16,0	80,0	150,0	0,5	2	■
522160R310Z2.0-MEGA-64	02747768	4	D	16,0	16,0	80,0	150,0	3,1	2	■
JS522160D4R600.0Z2-M64	03093681	4	D	16,0	16,0	80,0	150,0	6,0	2	■
522200R050Z2.0-MEGA-64	02747769	4	D	20,0	20,0	100,0	175,0	0,5	2	■
522200R310Z2.0-MEGA-64	02747770	4	D	20,0	20,0	100,0	175,0	3,1	2	■
JS522200D4R600.0Z2-M64	03093682	4	D	20,0	20,0	100,0	175,0	6,0	2	■
522250R050Z2.0-MEGA-64	02747771	4	D	25,0	25,0	125,0	205,0	0,5	2	■
522250R310Z2.0-MEGA-64	02747772	4	D	25,0	25,0	125,0	205,0	3,1	2	■
522250R400Z2.0-MEGA-64	02747773	4	D	25,0	25,0	125,0	205,0	4,0	2	■
JS522250D4R600.0Z2-M64	03093683	4	D	25,0	25,0	125,0	205,0	6,0	2	■
522320R050Z2.0-MEGA-64	02747774	4	D	32,0	32,0	160,0	245,0	0,5	2	■
522320R400Z2.0-MEGA-64	02747775	4	D	32,0	32,0	160,0	245,0	4,0	2	■
JS522320D4R600.0Z2-M64	03093684	4	D	32,0	32,0	160,0	245,0	6,0	2	■

■ Stoklu standart ürün.

\*JS522 uzun ağızlı finiş frezesi, dik kenarları işlemek için tasarlanmış özel bir geometriye sahiptir ve mükemmel yüzey kalitesi ve dikliği sunar.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve cırp materyaller için

Grafit materyale için

Minimaster Plus

Minimaster

Kesme verileri – JS522 Yarı finiş kenar frezeleme

SMG	a <sub>e</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>									v <sub>c</sub>
			6	8	10	12	16	20	25	32		
P1	E/M/A 0,0500	4,0	0,046	0,060	0,075	0,090	0,11	0,13	0,14	0,16	160 (140–170)	
			0,0018	0,0024	0,0030	0,0036	0,0044	0,0050	0,0055	0,0065	520 (460–550)	
P2	E/M/A 0,0500	4,0	0,046	0,060	0,075	0,090	0,11	0,13	0,15	0,17	155 (140–170)	
			0,0018	0,0024	0,0030	0,0036	0,0044	0,0050	0,0060	0,0065	510 (460–550)	
P3	E/M/A 0,0500	4,0	0,044	0,060	0,075	0,085	0,11	0,12	0,14	0,16	165 (150–180)	
			0,0017	0,0024	0,0030	0,0034	0,0044	0,0048	0,0055	0,0065	540 (500–590)	
P4	E/M/A 0,0500	4,0	0,042	0,055	0,070	0,085	0,10	0,12	0,14	0,15	145 (130–160)	
			0,0017	0,0022	0,0028	0,0034	0,0040	0,0048	0,0055	0,0060	475 (430–520)	
P5	E/M/A 0,0500	4,0	0,042	0,055	0,070	0,085	0,10	0,12	0,13	0,15	140 (130–160)	
			0,0017	0,0022	0,0028	0,0034	0,0040	0,0048	0,0050	0,0060	460 (430–520)	
P6	E/M/A 0,0500	4,0	0,042	0,055	0,070	0,080	0,10	0,12	0,13	0,15	120 (110–140)	
			0,0017	0,0022	0,0028	0,0032	0,0040	0,0048	0,0050	0,0060	395 (370–450)	
P7	E/M/A 0,0500	4,0	0,042	0,055	0,070	0,080	0,10	0,12	0,13	0,15	115 (95–130)	
			0,0017	0,0022	0,0028	0,0032	0,0040	0,0048	0,0050	0,0060	375 (320–420)	
P8	E/M/A 0,0500	4,0	0,044	0,060	0,075	0,085	0,11	0,12	0,14	0,16	105 (89–120)	
			0,0017	0,0024	0,0030	0,0034	0,0044	0,0048	0,0055	0,0065	345 (300–390)	
P11	E/M/A 0,0500	4,0	0,060	0,080	0,10	0,12	0,15	0,17	0,20	0,22	105 (87–120)	
			0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	0,0080	0,0085	345 (290–390)	
P12	E/M/A 0,0500	4,0	0,042	0,055	0,070	0,085	0,10	0,12	0,13	0,15	65 (55–75)	
			0,0017	0,0022	0,0028	0,0034	0,0040	0,0048	0,0050	0,0060	215 (190–240)	
M1	E/M/A 0,0500	4,0	0,046	0,060	0,075	0,090	0,11	0,13	0,15	0,17	110 (86–130)	
			0,0018	0,0024	0,0030	0,0036	0,0044	0,0050	0,0060	0,0065	360 (290–420)	
M2	E/M/A 0,0500	4,0	0,042	0,055	0,070	0,085	0,10	0,12	0,13	0,15	90 (71–110)	
			0,0017	0,0022	0,0028	0,0034	0,0040	0,0048	0,0050	0,0060	295 (240–360)	
M3	E/M/A 0,0500	4,0	0,042	0,055	0,070	0,085	0,10	0,12	0,13	0,15	80 (61–100)	
			0,0017	0,0022	0,0028	0,0034	0,0040	0,0048	0,0050	0,0060	260 (210–320)	
M4	E/M/A 0,0500	4,0	0,036	0,048	0,060	0,070	0,090	0,10	0,12	0,13	60 (47–76)	
			0,0014	0,0019	0,0024	0,0028	0,0036	0,0040	0,0048	0,0050	195 (160–240)	
M5	E/M/A 0,0500	4,0	0,036	0,048	0,060	0,070	0,090	0,10	0,12	0,13	50 (39–63)	
			0,0014	0,0019	0,0024	0,0028	0,0036	0,0040	0,0048	0,0050	165 (130–200)	
K1	E/M/A 0,0500	4,0	0,046	0,060	0,075	0,090	0,11	0,13	0,15	0,17	120 (100–130)	
			0,0018	0,0024	0,0030	0,0036	0,0044	0,0050	0,0060	0,0065	395 (330–420)	
K2	E/M/A 0,0500	4,0	0,042	0,055	0,070	0,085	0,10	0,12	0,13	0,15	105 (87–120)	
			0,0017	0,0022	0,0028	0,0034	0,0040	0,0048	0,0050	0,0060	345 (290–390)	
K3	E/M/A 0,0500	4,0	0,042	0,055	0,070	0,085	0,10	0,12	0,13	0,15	90 (74–100)	
			0,0017	0,0022	0,0028	0,0034	0,0040	0,0048	0,0050	0,0060	295 (250–320)	
K4	E/M/A 0,0500	4,0	0,042	0,055	0,070	0,085	0,10	0,12	0,13	0,15	85 (71–98)	
			0,0017	0,0022	0,0028	0,0034	0,0040	0,0048	0,0050	0,0060	280 (240–320)	
K5	E/M/A 0,0500	4,0	0,038	0,050	0,065	0,075	0,090	0,11	0,12	0,14	100 (81–120)	
			0,0015	0,0020	0,0026	0,0030	0,0036	0,0044	0,0048	0,0055	330 (270–390)	
K6	E/M/A 0,0500	4,0	0,042	0,055	0,070	0,085	0,10	0,12	0,13	0,15	150 (120–170)	
			0,0017	0,0022	0,0028	0,0034	0,0040	0,0048	0,0050	0,0060	490 (400–550)	
K7	E/M/A 0,0500	4,0	0,038	0,050	0,065	0,075	0,090	0,11	0,12	0,14	130 (110–150)	
			0,0015	0,0020	0,0026	0,0030	0,0036	0,0044	0,0048	0,0055	425 (370–490)	

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)

f<sub>z</sub> = mm (inç/ağız)

a<sub>p</sub> mm/DC (inç/DC) = faktör

a<sub>e</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

## Kesme verileri – JS522 Yarı finiş kenar frezeleme

SMG		$a_e/DC$	$a_p/DC$	$f_z$								$v_c$
				6	8	10	12	16	20	25	32	
N1	E/M/A	0.0500	4.0	0.042	0.055	0.070	0.085	0.10	0.12	0.13	0.15	400 (310 – 500)
		0,0500	4,0	0,0017	0,0022	0,0028	0,0034	0,0040	0,0048	0,0050	0,0060	1300 (1100–1600)
N2	E/M/A	0.0500	4.0	0.042	0.055	0.070	0.085	0.10	0.12	0.13	0.15	300 (210 – 400)
		0,0500	4,0	0,0017	0,0022	0,0028	0,0034	0,0040	0,0048	0,0050	0,0060	980 (690–1300)
N3	E/M/A	0.0500	4.0	0.042	0.055	0.070	0.085	0.10	0.12	0.13	0.15	200 (140 – 260)
		0,0500	4,0	0,0017	0,0022	0,0028	0,0034	0,0040	0,0048	0,0050	0,0060	660 (460 – 850)
N11	E/M/A	0.0500	4.0	0.042	0.055	0.070	0.085	0.10	0.12	0.13	0.15	300 (260 – 350)
		0,0500	4,0	0,0017	0,0022	0,0028	0,0034	0,0040	0,0048	0,0050	0,0060	980 (860–1100)
S1	E/M/A	0.0500	4.0	0.018	0.024	0.030	0.036	0.044	0.050	0.055	0.065	48 (39 – 57)
		0,0500	4,0	0,00070	0,00095	0,0012	0,0014	0,0017	0,0020	0,0022	0,0026	155 (130–180)
S2	E/M/A	0.0500	4.0	0.018	0.024	0.030	0.036	0.044	0.050	0.055	0.065	39 (31 – 46)
		0,0500	4,0	0,00070	0,00095	0,0012	0,0014	0,0017	0,0020	0,0022	0,0026	130 (110–150)
S3	E/M/A	0.0300	4.0	0.018	0.024	0.030	0.036	0.044	0.050	0.055	0.065	42 (32 – 51)
		0,0300	4,0	0,00070	0,00095	0,0012	0,0014	0,0017	0,0020	0,0022	0,0026	140 (110–160)
S11	E/M/A	0.0500	4.0	0.042	0.055	0.070	0.085	0.10	0.12	0.13	0.15	125 (100–140)
		0,0500	4,0	0,0017	0,0022	0,0028	0,0034	0,0040	0,0048	0,0050	0,0060	410 (330 – 450)
S12	E/M/A	0.0500	4.0	0.042	0.055	0.070	0.085	0.10	0.12	0.13	0.15	95 (77–110)
		0,0500	4,0	0,0017	0,0022	0,0028	0,0034	0,0040	0,0048	0,0050	0,0060	310 (260 – 360)
S13	E/M/A	0.0500	4.0	0.036	0.048	0.060	0.070	0.090	0.10	0.12	0.13	75 (61 – 90)
		0,0500	4,0	0,0014	0,0019	0,0024	0,0028	0,0036	0,0040	0,0048	0,0050	245 (210 – 290)
TS1	A/D	0.0500	4.0	0.042	0.055	0.070	0.085	0.10	0.12	0.13	0.15	500 (410 – 600)
		0,0500	4,0	0,0017	0,0022	0,0028	0,0034	0,0040	0,0048	0,0050	0,0060	1650 (1400–1900)
TP1	A/D	0.0500	4.0	0.042	0.055	0.070	0.085	0.10	0.12	0.13	0.15	400 (310 – 500)
		0,0500	4,0	0,0017	0,0022	0,0028	0,0034	0,0040	0,0048	0,0050	0,0060	1300 (1100–1600)
GR1	A/D	0.0500	4.0	0.042	0.055	0.070	0.085	0.10	0.12	0.13	0.15	500 (410 – 600)
		0,0500	4,0	0,0017	0,0022	0,0028	0,0034	0,0040	0,0048	0,0050	0,0060	1650 (1400–1900)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

 $v_c = m/dak$  (sf/dak) $f_z = mm$  (inç/ağız) $a_p$  mm/DC (inç/DC) = faktör $a_e$  mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

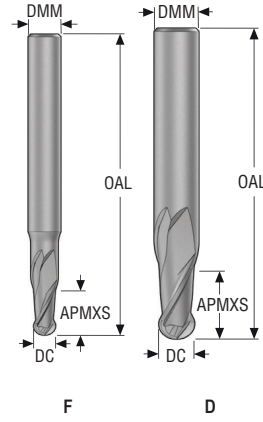
Grafit malzeme için

Minimaster Plus

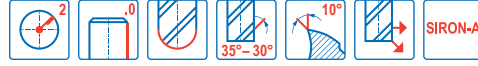
Minimaster

## JSB512

Genel amaçlı – Üniversal – Tamamı yuvarlak – 2 Ağızlı – Silindirik



- Toleranslar:
- DMM=h5
- DC=e8
- RE= ±0,01 mm



Ürün Tanımı	Kalite	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	PCEDC	Silindirik
					mm	mm	mm	mm		
JSB512020F2B.0Z2	SIRA	10053561	2	F	2,0	3,0	3,0	40,0	2	■
JSB512030D2B.0Z2	SIRA	10053562	2	D	3,0	3,0	5,0	40,0	2	■
JSB512040D2B.0Z2	SIRA	10053563	2	D	4,0	4,0	6,0	50,0	2	■
JSB512050F2B.0Z2	SIRA	10053564	2	F	5,0	6,0	8,0	57,0	2	■
JSB512060D2B.0Z2	SIRA	10053565	2	D	6,0	6,0	9,0	57,0	2	■
JSB512080D2B.0Z2	SIRA	10053566	2	D	8,0	8,0	12,0	63,0	2	■
JSB512100D2B.0Z2	SIRA	10053567	2	D	10,0	10,0	15,0	72,0	2	■
JSB512120D2B.0Z2	SIRA	10053568	2	D	12,0	12,0	18,0	83,0	2	■

■ Stoklu standart ürün.

Kesme verileri – JSB512 Kaba kopya frezeleme

SMG		a <sub>p</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>								v <sub>c</sub>
				2	3	4	5	6	8	10	12	
P1	M/A/D/E	0,150	1,2	0,010	0,015	0,020	0,025	0,030	0,042	0,050	0,060	150 (63–180)
		0,150	1,2	0,00040	0,00060	0,00080	0,0010	0,0012	0,0017	0,0020	0,0024	490 (210 – 590)
P2	M/A/D/E	0,150	1,2	0,010	0,016	0,020	0,026	0,032	0,042	0,050	0,060	150 (63–180)
		0,150	1,2	0,00040	0,00065	0,00080	0,0010	0,0013	0,0017	0,0020	0,0024	490 (210 – 590)
P3	M/A/D/E	0,150	1,2	0,010	0,016	0,020	0,026	0,032	0,042	0,050	0,060	150 (63–180)
		0,150	1,2	0,00040	0,00065	0,00080	0,0010	0,0013	0,0017	0,0020	0,0024	490 (210 – 590)
P4	M/A/D/E	0,150	1,2	0,010	0,016	0,020	0,026	0,032	0,042	0,050	0,060	150 (63–180)
		0,150	1,2	0,00040	0,00065	0,00080	0,0010	0,0013	0,0017	0,0020	0,0024	490 (210 – 590)
P5	M/A/D/E	0,150	1,2	0,010	0,016	0,020	0,026	0,032	0,042	0,050	0,060	150 (63–180)
		0,150	1,2	0,00040	0,00065	0,00080	0,0010	0,0013	0,0017	0,0020	0,0024	490 (210 – 590)
P6	M/A/D/E	0,150	1,2	0,010	0,016	0,020	0,026	0,032	0,042	0,050	0,060	150 (63–180)
		0,150	1,2	0,00040	0,00065	0,00080	0,0010	0,0013	0,0017	0,0020	0,0024	490 (210 – 590)
P7	M/A/D/E	0,150	1,2	0,010	0,016	0,020	0,026	0,032	0,042	0,050	0,060	150 (63–180)
		0,150	1,2	0,00040	0,00065	0,00080	0,0010	0,0013	0,0017	0,0020	0,0024	490 (210 – 590)
P8	M/A/D/E	0,150	1,2	0,010	0,016	0,020	0,026	0,032	0,042	0,050	0,060	150 (63–180)
		0,150	1,2	0,00040	0,00065	0,00080	0,0010	0,0013	0,0017	0,0020	0,0024	490 (210 – 590)
P11	M/A/D/E	0,150	1,2	0,010	0,016	0,020	0,026	0,032	0,042	0,050	0,060	90 (63–120)
		0,150	1,2	0,00040	0,00065	0,00080	0,0010	0,0013	0,0017	0,0020	0,0024	295 (210 – 390)
P12	M/A/D/E	0,150	1,2	0,010	0,016	0,020	0,026	0,032	0,042	0,050	0,060	90 (63–120)
		0,150	1,2	0,00040	0,00065	0,00080	0,0010	0,0013	0,0017	0,0020	0,0024	295 (210 – 390)
M1	E/M/A	0,150	1,2	0,010	0,016	0,020	0,026	0,032	0,042	0,050	0,060	90 (63–120)
		0,150	1,2	0,00040	0,00065	0,00080	0,0010	0,0013	0,0017	0,0020	0,0024	295 (210 – 390)
M2	E/M/A	0,150	1,2	0,010	0,016	0,020	0,026	0,032	0,042	0,050	0,060	90 (63–120)
		0,150	1,2	0,00040	0,00065	0,00080	0,0010	0,0013	0,0017	0,0020	0,0024	295 (210 – 390)
M3	E/M/A	0,150	1,2	0,010	0,016	0,020	0,026	0,032	0,042	0,050	0,060	90 (63–120)
		0,150	1,2	0,00040	0,00065	0,00080	0,0010	0,0013	0,0017	0,0020	0,0024	295 (210 – 390)
M4	E/M/A	0,150	1,2	0,010	0,016	0,020	0,026	0,032	0,042	0,050	0,060	90 (63–120)
		0,150	1,2	0,00040	0,00065	0,00080	0,0010	0,0013	0,0017	0,0020	0,0024	295 (210 – 390)
M5	E/M/A	0,150	1,2	0,010	0,016	0,020	0,026	0,032	0,042	0,050	0,060	90 (63–120)
		0,150	1,2	0,00040	0,00065	0,00080	0,0010	0,0013	0,0017	0,0020	0,0024	295 (210 – 390)
K1	A/D/M/E	0,150	1,2	0,010	0,016	0,020	0,026	0,032	0,042	0,050	0,060	150 (63–180)
		0,150	1,2	0,00040	0,00065	0,00080	0,0010	0,0013	0,0017	0,0020	0,0024	490 (210 – 590)
K2	A/D/M/E	0,150	1,2	0,010	0,016	0,020	0,026	0,032	0,042	0,050	0,060	150 (63–180)
		0,150	1,2	0,00040	0,00065	0,00080	0,0010	0,0013	0,0017	0,0020	0,0024	490 (210 – 590)
K3	A/D/M/E	0,150	1,2	0,010	0,016	0,020	0,026	0,032	0,042	0,050	0,060	150 (63–180)
		0,150	1,2	0,00040	0,00065	0,00080	0,0010	0,0013	0,0017	0,0020	0,0024	490 (210 – 590)
K4	A/D/M/E	0,150	1,2	0,010	0,016	0,020	0,026	0,032	0,042	0,050	0,060	150 (63–180)
		0,150	1,2	0,00040	0,00065	0,00080	0,0010	0,0013	0,0017	0,0020	0,0024	490 (210 – 590)
K5	A/D/M/E	0,150	1,2	0,012	0,018	0,025	0,030	0,036	0,050	0,060	0,070	145 (61–180)
		0,150	1,2	0,00048	0,00070	0,0010	0,0012	0,0014	0,0020	0,0024	0,0028	475 (210 – 590)
K6	A/D/M/E	0,150	1,2	0,010	0,016	0,020	0,026	0,032	0,042	0,050	0,060	150 (63–180)
		0,150	1,2	0,00040	0,00065	0,00080	0,0010	0,0013	0,0017	0,0020	0,0024	490 (210 – 590)
K7	A/D/M/E	0,150	1,2	0,010	0,016	0,020	0,026	0,032	0,042	0,050	0,060	150 (63–180)
		0,150	1,2	0,00040	0,00065	0,00080	0,0010	0,0013	0,0017	0,0020	0,0024	490 (210 – 590)
N1	E/M/A	0,150	1,2	0,010	0,015	0,020	0,025	0,030	0,042	0,050	0,060	500 (380 – 620)
		0,150	1,2	0,00040	0,00060	0,00080	0,0010	0,0012	0,0017	0,0020	0,0024	1650 (1300 – 2000)
N11	E/M/A	0,150	1,2	0,010	0,015	0,020	0,025	0,030	0,042	0,050	0,060	375 (260 – 500)
		0,150	1,2	0,00040	0,00060	0,00080	0,0010	0,0012	0,0017	0,0020	0,0024	1225 (860–1600)
S11	E	0,150	1,2	0,010	0,016	0,020	0,026	0,032	0,042	0,050	0,060	90 (66–130)
		0,150	1,2	0,00040	0,00065	0,00080	0,0010	0,0013	0,0017	0,0020	0,0024	295 (220 – 420)
S12	E	0,150	1,2	0,010	0,016	0,020	0,026	0,032	0,042	0,050	0,060	90 (63–120)
		0,150	1,2	0,00040	0,00065	0,00080	0,0010	0,0013	0,0017	0,0020	0,0024	295 (210 – 390)
S13	E	0,150	1,2	0,010	0,016	0,020	0,026	0,032	0,042	0,050	0,060	90 (63–120)
		0,150	1,2	0,00040	0,00065	0,00080	0,0010	0,0013	0,0017	0,0020	0,0024	295 (210 – 390)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)

f<sub>z</sub> = mm (inç/ağız)

a<sub>p</sub> mm/DC (inç/DC) = faktör

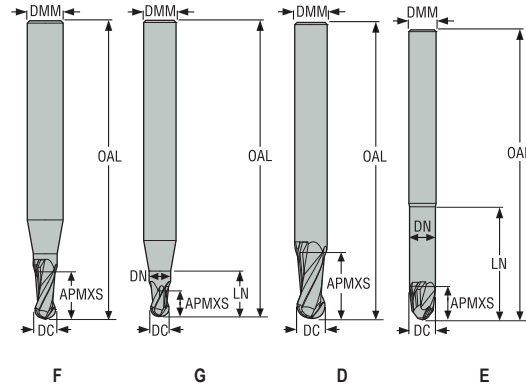
a<sub>g</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

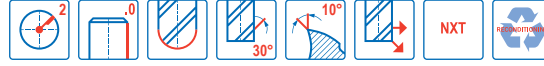
Üniversal  
Çelik ve dökme demir  
Paslanmaz çelik ve S iş parçası malzemeleri  
Demir içermeyen malzemeler  
Sertleştirilmiş çelik için  
Plastik ve cırp malzemeleri için  
Grafit malzeme için  
Minimaster Plus  
Minimaster

## JS532

Yüksek performans – Üniversal – Tamamı yuvarlak – 2 Ağızlı – Silindirik



- Toleranslar:
- DMM=h5
- DC=e8
- RE= ±0,01 mm
- DC ≥ Ø6 ise tekrar bilenebilir

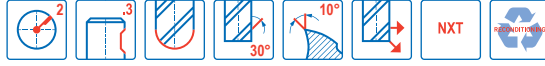
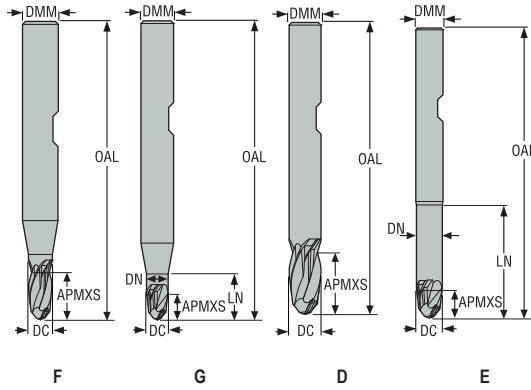


Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm	mm		
JS532010F1B.0Z2-NXT	02928193	1	F	1,0	3,0	2,0	38,0	3,1	1,0	0,5	2	■
JS532015F1B.0Z2-NXT	02928194	1	F	1,5	3,0	3,0	38,0	4,6	1,5	0,75	2	■
JS532020F1B.0Z2-NXT	02928195	1	F	2,0	3,0	4,0	38,0	6,1	2,0	1,0	2	■
JS532025F1B.0Z2-NXT	02928197	1	F	2,5	3,0	5,0	38,0	7,1	2,5	1,25	2	■
JS532030D1B.0Z2-NXT	02928199	1	D	3,0	3,0	6,0	38,0	-	-	1,5	2	■
JS532035F1B.0Z2-NXT	02928202	1	F	3,5	6,0	7,0	57,0	9,6	3,5	1,75	2	■
JS532040F1B.0Z2-NXT	02928203	1	F	4,0	6,0	8,0	57,0	10,75	4,0	2,0	2	■
JS532045F1B.0Z2-NXT	02928206	1	F	4,5	6,0	9,0	57,0	11,75	4,5	2,25	2	■
JS532050F1B.0Z2-NXT	02928207	1	F	5,0	6,0	10,0	57,0	12,75	5,0	2,5	2	■
JS532060D1B.0Z2-NXT	02928210	1	D	6,0	6,0	12,0	57,0	-	-	3,0	2	■
JS532080D1B.0Z2-NXT	02928213	1	D	8,0	8,0	16,0	63,0	-	-	4,0	2	■
JS532100D1B.0Z2-NXT	02928216	1	D	10,0	10,0	20,0	72,0	-	-	5,0	2	■
JS532120D1B.0Z2-NXT	02928219	1	D	12,0	12,0	24,0	83,0	-	-	6,0	2	■
JS532160D1B.0Z2-NXT	02928222	1	D	16,0	16,0	32,0	92,0	-	-	8,0	2	■
JS532200D1B.0Z2-NXT	02928225	1	D	20,0	20,0	40,0	104,0	-	-	10,0	2	■
JS532020G2B.0Z2-NXT	02928196	2	G	2,0	3,0	2,0	38,0	8,0	1,9	1,0	2	■
JS532030E2B.0Z2-NXT	02928200	2	E	3,0	3,0	3,0	38,0	10,0	2,85	1,5	2	■
JS532040G2B.0Z2-NXT	02928204	2	G	4,0	6,0	4,0	57,0	15,0	3,8	2,0	2	■
JS532050G2B.0Z2-NXT	02928208	2	G	5,0	6,0	5,0	57,0	20,0	4,8	2,5	2	■
JS532060E2B.0Z2-NXT	02928211	2	E	6,0	6,0	6,0	63,0	25,0	5,7	3,0	2	■
JS532080E2B.0Z2-NXT	02928214	2	E	8,0	8,0	8,0	80,0	35,0	7,6	4,0	2	■
JS532100E2B.0Z2-NXT	02928217	2	E	10,0	10,0	10,0	82,0	40,0	9,5	5,0	2	■
JS532120E2B.0Z2-NXT	02928220	2	E	12,0	12,0	12,0	100,0	50,0	11,4	6,0	2	■
JS532160E2B.0Z2-NXT	02928223	2	E	16,0	16,0	16,0	125,0	72,0	15,2	8,0	2	■
JS532030E3B.0Z2-NXT	02928201	3	E	3,0	3,0	3,0	52,0	20,0	2,85	1,5	2	■
JS532040G3B.0Z2-NXT	02928205	3	G	4,0	6,0	4,0	63,0	24,0	3,8	2,0	2	■
JS532050G3B.0Z2-NXT	02928209	3	G	5,0	6,0	5,0	75,0	35,0	4,8	2,5	2	■
JS532060E3B.0Z2-NXT	02928212	3	E	6,0	6,0	6,0	80,0	42,0	5,7	3,0	2	■
JS532080E3B.0Z2-NXT	02928215	3	E	8,0	8,0	8,0	100,0	60,0	7,6	4,0	2	■
JS532100E3B.0Z2-NXT	02928218	3	E	10,0	10,0	10,0	125,0	80,0	9,5	5,0	2	■
JS532120E3B.0Z2-NXT	02928221	3	E	12,0	12,0	12,0	125,0	75,0	11,4	6,0	2	■
JS532160E3B.0Z2-NXT	02928224	3	E	16,0	16,0	16,0	150,0	100,0	15,2	8,0	2	■

■ Stoklu standart ürün.

## JS532

Yüksek performans – Üniversal – Tamamı yuvarlak – 2 Ağızlı – Weldon



- Toleranslar:
- DMM=h5
- DC=e8
- RE= ±0,01 mm
- DC ≥ Ø6 ise tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Weldon
				mm	mm	mm	mm	mm	mm	mm		
JS532035F1B.3Z2-NXT	02928254	1	F	3,5	6,0	7,0	57,0	9,6	3,5	1,75	2	<input type="checkbox"/>
JS532040F1B.3Z2-NXT	02928255	1	F	4,0	6,0	8,0	57,0	10,75	4,0	2,0	2	<input type="checkbox"/>
JS532045F1B.3Z2-NXT	02928258	1	F	4,5	6,0	9,0	57,0	11,75	4,5	2,25	2	<input type="checkbox"/>
JS532050F1B.3Z2-NXT	02928259	1	F	5,0	6,0	10,0	57,0	12,75	5,0	2,5	2	<input type="checkbox"/>
JS532060D1B.3Z2-NXT	02928263	1	D	6,0	6,0	12,0	57,0	-	-	3,0	2	<input type="checkbox"/>
JS532080D1B.3Z2-NXT	02928266	1	D	8,0	8,0	16,0	63,0	-	-	4,0	2	<input type="checkbox"/>
JS532100D1B.3Z2-NXT	02928269	1	D	10,0	10,0	20,0	72,0	-	-	5,0	2	<input type="checkbox"/>
JS532120D1B.3Z2-NXT	02928272	1	D	12,0	12,0	24,0	83,0	-	-	6,0	2	<input type="checkbox"/>
JS532160D1B.3Z2-NXT	02928275	1	D	16,0	16,0	32,0	92,0	-	-	8,0	2	<input type="checkbox"/>
JS532200D1B.3Z2-NXT	02928278	1	D	20,0	20,0	40,0	104,0	-	-	10,0	2	<input type="checkbox"/>
JS532040G2B.3Z2-NXT	02928256	2	G	4,0	6,0	4,0	57,0	18,0	3,8	2,0	2	<input type="checkbox"/>
JS532050G2B.3Z2-NXT	02928260	2	G	5,0	6,0	5,0	57,0	18,0	4,8	2,5	2	<input type="checkbox"/>
JS532060E2B.3Z2-NXT	02928264	2	E	6,0	6,0	6,0	63,0	25,0	5,7	3,0	2	<input type="checkbox"/>
JS532080E2B.3Z2-NXT	02928267	2	E	8,0	8,0	8,0	80,0	35,0	7,6	4,0	2	<input type="checkbox"/>
JS532100E2B.3Z2-NXT	02928270	2	E	10,0	10,0	10,0	82,0	40,0	9,5	5,0	2	<input type="checkbox"/>
JS532120E2B.3Z2-NXT	02928273	2	E	12,0	12,0	12,0	100,0	50,0	11,4	6,0	2	<input type="checkbox"/>
JS532160E2B.3Z2-NXT	02928276	2	E	16,0	16,0	16,0	125,0	70,0	15,2	8,0	2	<input type="checkbox"/>
JS532040G3B.3Z2-NXT	02928257	3	G	4,0	6,0	4,0	63,0	24,0	3,8	2,0	2	<input type="checkbox"/>
JS532050G3B.3Z2-NXT	02928261	3	G	5,0	6,0	5,0	75,0	35,0	4,8	2,5	2	<input type="checkbox"/>
JS532060E3B.3Z2-NXT	02928265	3	E	6,0	6,0	6,0	80,0	42,0	5,7	3,0	2	<input type="checkbox"/>
JS532080E3B.3Z2-NXT	02928268	3	E	8,0	8,0	8,0	100,0	60,0	7,6	4,0	2	<input type="checkbox"/>
JS532100E3B.3Z2-NXT	02928271	3	E	10,0	10,0	10,0	125,0	80,0	9,5	5,0	2	<input type="checkbox"/>
JS532120E3B.3Z2-NXT	02928274	3	E	12,0	12,0	12,0	125,0	75,0	11,4	6,0	2	<input type="checkbox"/>
JS532160E3B.3Z2-NXT	02928277	3	E	16,0	16,0	16,0	150,0	100,0	15,2	8,0	2	<input type="checkbox"/>

Weldon mevcut. Teslimat süresi 3 iş günüdür.

Kesme verileri – JS532 Kaba kopya frezeleme

SMG		$a_e$ /DC	$a_p$ /DC	$f_z$											$v_c$
				1	2	3	4	5	6	8	10	12	16	20	
P1	M/A/D/E	0.200	0.20	0.0060	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.095	0.11	205 (140–180)
		0.200	0.20	0.00024	0.00048	0.00070	0.00095	0.0012	0.0014	0.0019	0.0024	0.0028	0.0038	0.0044	670 (460–590)
P2	M/A/D/E	0.200	0.20	0.0060	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.095	0.11	200 (130–180)
		0.200	0.20	0.00024	0.00048	0.00070	0.00095	0.0012	0.0014	0.0019	0.0024	0.0028	0.0038	0.0044	660 (430–590)
P3	M/A/D/E	0.200	0.20	0.0060	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.095	0.11	170 (110–150)
		0.200	0.20	0.00024	0.00048	0.00070	0.00095	0.0012	0.0014	0.0019	0.0024	0.0028	0.0038	0.0044	560 (370–490)
P4	M/A/D/E	0.200	0.20	0.0060	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.095	0.10	150 (97–130)
		0.200	0.20	0.00024	0.00048	0.00070	0.00095	0.0012	0.0014	0.0019	0.0024	0.0028	0.0038	0.0040	490 (320–420)
P5	M/A/D/E	0.200	0.20	0.0060	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.090	0.10	145 (93–130)
		0.200	0.20	0.00024	0.00048	0.00070	0.00095	0.0012	0.0014	0.0019	0.0024	0.0028	0.0036	0.0040	475 (310–420)
P6	M/A/D/E	0.200	0.20	0.0060	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.090	0.10	160 (110–140)
		0.200	0.20	0.00024	0.00048	0.00070	0.00095	0.0012	0.0014	0.0019	0.0024	0.0028	0.0036	0.0040	520 (370–450)
P7	M/A/D/E	0.200	0.20	0.0060	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.090	0.10	150 (98–140)
		0.200	0.20	0.00024	0.00048	0.00070	0.00095	0.0012	0.0014	0.0019	0.0024	0.0028	0.0036	0.0040	450 (330–450)
P8	M/A/D/E	0.200	0.20	0.0060	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.095	0.11	145 (93–130)
		0.200	0.20	0.00024	0.00048	0.00070	0.00095	0.0012	0.0014	0.0019	0.0024	0.0028	0.0038	0.0044	475 (310–420)
P11	M/A/D/E	0.100	0.10	0.0060	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.095	0.12	170 (110–150)
		0.100	0.10	0.00024	0.00048	0.00070	0.00095	0.0012	0.0014	0.0019	0.0024	0.0028	0.0038	0.0048	560 (370–490)
P12	M/A/D/E	0.100	0.10	0.0060	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.095	0.12	100 (64–92)
		0.100	0.10	0.00024	0.00048	0.00070	0.00095	0.0012	0.0014	0.0019	0.0024	0.0028	0.0038	0.0048	330 (210–300)
M1	E	0.100	0.10	0.0060	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.095	0.12	195 (170–220)
		0.100	0.10	0.00024	0.00048	0.00070	0.00095	0.0012	0.0014	0.0019	0.0024	0.0028	0.0038	0.0048	640 (560–720)
M2	E	0.100	0.10	0.0060	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.095	0.12	115 (93–130)
		0.100	0.10	0.00024	0.00048	0.00070	0.00095	0.0012	0.0014	0.0019	0.0024	0.0028	0.0038	0.0048	375 (310–420)
M3	E	0.100	0.10	0.0050	0.010	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.080	0.095	95 (73–110)
		0.100	0.10	0.00020	0.00040	0.00060	0.00080	0.0010	0.0012	0.0016	0.0020	0.0024	0.0032	0.0038	310 (240–360)
M4	E	0.100	0.10	0.0048	0.0095	0.014	0.019	0.024	0.028	0.038	0.048	0.055	0.070	0.080	70 (55–85)
		0.100	0.10	0.00019	0.00038	0.00055	0.00075	0.00095	0.0011	0.0015	0.0019	0.0022	0.0028	0.0032	230 (190–270)
M5	E	0.100	0.10	0.0048	0.0095	0.014	0.019	0.024	0.028	0.038	0.048	0.055	0.070	0.080	60 (46–71)
		0.100	0.10	0.00019	0.00038	0.00055	0.00075	0.00095	0.0011	0.0015	0.0019	0.0022	0.0028	0.0032	195 (160–230)
K1	E	0.200	0.20	0.0060	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.090	0.10	195 (180–210)
		0.200	0.20	0.00024	0.00048	0.00070	0.00095	0.0012	0.0014	0.0019	0.0024	0.0028	0.0036	0.0040	640 (600–680)
K2	E	0.200	0.20	0.0055	0.011	0.016	0.022	0.028	0.032	0.044	0.055	0.065	0.085	0.095	170 (160–180)
		0.200	0.20	0.00022	0.00044	0.00065	0.00085	0.0011	0.0013	0.0017	0.0022	0.0026	0.0034	0.0038	560 (530–590)
K3	E	0.200	0.20	0.0055	0.011	0.016	0.022	0.028	0.032	0.044	0.055	0.065	0.085	0.095	145 (130–150)
		0.200	0.20	0.00022	0.00044	0.00065	0.00085	0.0011	0.0013	0.0017	0.0022	0.0026	0.0034	0.0038	475 (430–490)
K4	E	0.200	0.20	0.0055	0.011	0.016	0.022	0.028	0.032	0.044	0.055	0.065	0.085	0.095	140 (130–150)
		0.200	0.20	0.00022	0.00044	0.00065	0.00085	0.0011	0.0013	0.0017	0.0022	0.0026	0.0034	0.0038	460 (430–490)
K5	E	0.100	0.10	0.0050	0.010	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.080	0.095	165 (150–180)
		0.100	0.10	0.00020	0.00040	0.00060	0.00080	0.0010	0.0012	0.0016	0.0020	0.0024	0.0032	0.0038	540 (500–590)
K6	E	0.100	0.10	0.0050	0.010	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.080	0.10	245 (220–270)
		0.100	0.10	0.00020	0.00040	0.00060	0.00080	0.0010	0.0012	0.0016	0.0020	0.0024	0.0032	0.0040	800 (730–880)
K7	E	0.100	0.10	0.0050	0.010	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.080	0.095	210 (190–230)
		0.100	0.10	0.00020	0.00040	0.00060	0.00080	0.0010	0.0012	0.0016	0.0020	0.0024	0.0032	0.0038	690 (630–750)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu  
Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama  
 $v_c$  = m/dak (sf/dak)  
 $f_z$  = mm (inç/ağız)  
 $a_p$  mm/DC (inç/DC) = faktör  
 $a_e$  = mm/DC (inç/DC) = faktör  
Tüm kesme verileri hedef değerlerdir



Kesme verileri – JS532 Kaba kopya frezeleme

SMG		a <sub>e</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>												v <sub>c</sub>
				1	2	3	4	5	6	8	10	12	16	20		
N1	E	0.200	0.30	0.0080	0.016	0.024	0.032	0.038	0.046	0.060	0.080	0.095	0.11	0.13	610 (520–710)	
		0.200	0,30	0,00032	0,00065	0,00095	0,0013	0,0015	0,0018	0,0024	0,0032	0,0038	0,0044	0,0050	2000 (1800 – 2300)	
N2	E	0.200	0.30	0.0080	0.016	0.024	0.032	0.038	0.046	0.060	0.080	0.095	0.11	0.13	395 (330 – 450)	
		0.200	0,30	0,00032	0,00065	0,00095	0,0013	0,0015	0,0018	0,0024	0,0032	0,0038	0,0044	0,0050	1300 (1100–1400)	
N3	E	0.200	0.30	0.0080	0.016	0.024	0.032	0.038	0.046	0.060	0.080	0.095	0.11	0.13	260 (220 – 300)	
		0.200	0,30	0,00032	0,00065	0,00095	0,0013	0,0015	0,0018	0,0024	0,0032	0,0038	0,0044	0,0050	850 (730 – 980)	
N11	E	0.200	0.30	0.0050	0.010	0.016	0.020	0.026	0.032	0.040	0.050	0.060	0.075	0.090	415 (370 – 460)	
		0.200	0,30	0,00020	0,00040	0,00065	0,00080	0,0010	0,0013	0,0016	0,0020	0,0024	0,0030	0,0036	1350 (1300–1500)	
S1	E	0.150	0.10	0.0040	0.0080	0.012	0.016	0.020	0.024	0.032	0.040	0.048	0.065	0.080	60 (52–72)	
		0.150	0,10	0,00016	0,00032	0,00048	0,00065	0,00080	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	195 (180 – 230)	
S2	E	0.150	0.10	0.0040	0.0080	0.012	0.016	0.020	0.024	0.032	0.040	0.048	0.065	0.080	50 (42 – 58)	
		0.150	0,10	0,00016	0,00032	0,00048	0,00065	0,00080	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	165 (140–190)	
S3	E	0.100	0.10	0.0036	0.0070	0.010	0.014	0.018	0.020	0.028	0.036	0.042	0.055	0.060	32 (22 – 42)	
		0.100	0,10	0,00014	0,00028	0,00040	0,00055	0,00070	0,00080	0,0011	0,0014	0,0017	0,0022	0,0024	105 (73–130)	
S11	E	0.200	0.20	0.0060	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.090	0.10	105 (94–110)	
		0.200	0,20	0,00024	0,00048	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	0,0036	0,0040	345 (310 – 360)	
S12	E	0.200	0.20	0.0060	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.090	0.10	80 (72 – 92)	
		0.200	0,20	0,00024	0,00048	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	0,0036	0,0040	260 (240 – 300)	
S13	E	0.200	0.20	0.0055	0.011	0.016	0.022	0.026	0.032	0.042	0.055	0.060	0.080	0.090	65 (57–72)	
		0.200	0,20	0,00022	0,00044	0,00065	0,00085	0,0010	0,0013	0,0017	0,0022	0,0024	0,0032	0,0036	215 (190 – 230)	
TS1	A	0.200	0.40	0.0075	0.015	0.024	0.030	0.038	0.046	0.065	0.075	0.090	0.12	0.13	610 (570 – 660)	
		0.200	0,40	0,00030	0,00060	0,00095	0,0012	0,0015	0,0018	0,0026	0,0030	0,0036	0,0048	0,0050	2000 (1900 – 2100)	
TP1	A	0.200	0.40	0.0075	0.015	0.024	0.030	0.038	0.046	0.065	0.075	0.090	0.12	0.13	610 (570 – 660)	
		0.200	0,40	0,00030	0,00060	0,00095	0,0012	0,0015	0,0018	0,0026	0,0030	0,0036	0,0048	0,0050	2000 (1900 – 2100)	
GR1	A	0.200	0.40	0.0075	0.015	0.024	0.030	0.038	0.046	0.065	0.075	0.090	0.12	0.13	610 (570 – 660)	
		0.200	0,40	0,00030	0,00060	0,00095	0,0012	0,0015	0,0018	0,0026	0,0030	0,0036	0,0048	0,0050	2000 (1900 – 2100)	

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)

f<sub>z</sub> = mm (inç/ağız)

a<sub>p</sub> mm/DC (inç/DC) = faktör

a<sub>e</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve diğer malzemeler için

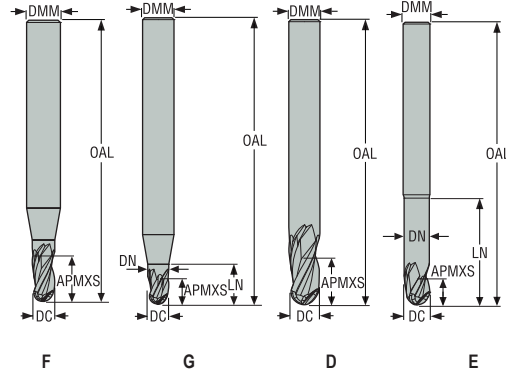
Grafit malzeme için

Minimaster Plus

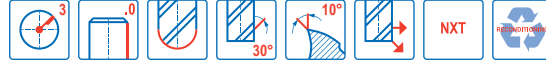
Minimaster

## JS533

Yüksek performans – Üniversal – Tamamı yuvarlak – 3 Ağızlı – Silindirik



- Toleranslar:
- DMM=h5
- DC=e8
- RE= ±0,01 mm
- DC ≥ Ø6 ise tekrar bilenebilir

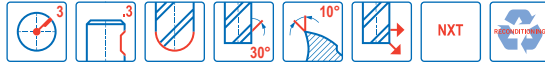
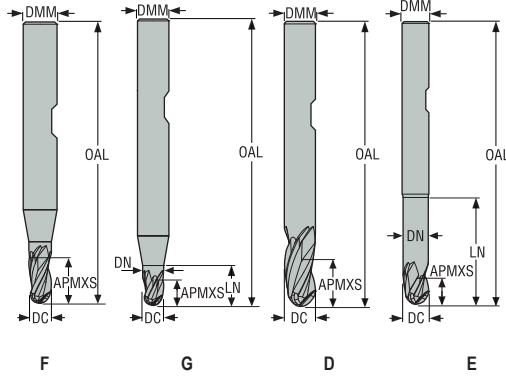


Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm	mm		
JS533010F1B.0Z3-NXT	02928284	1	F	1,0	3,0	2,0	38,0	3,0	1,05	0,5	3	■
JS533015F1B.0Z3-NXT	02928286	1	F	1,5	3,0	3,0	38,0	4,6	1,55	0,75	3	■
JS533020F1B.0Z3-NXT	02928287	1	F	2,0	3,0	4,0	38,0	5,6	2,05	1,0	3	■
JS533030D1B.0Z3-NXT	02928289	1	D	3,0	3,0	6,0	38,0	–	–	1,5	3	■
JS533040F1B.0Z3-NXT	02928291	1	F	4,0	6,0	8,0	57,0	10,75	4,05	2,0	3	■
JS533050F1B.0Z3-NXT	02928293	1	F	5,0	6,0	10,0	57,0	13,75	5,05	2,5	3	■
JS533060D1B.0Z3-NXT	02928295	1	D	6,0	6,0	12,0	57,0	–	–	3,0	3	■
JS533080D1B.0Z3-NXT	02928297	1	D	8,0	8,0	16,0	63,0	–	–	4,0	3	■
JS533100D1B.0Z3-NXT	02928299	1	D	10,0	10,0	20,0	72,0	–	–	5,0	3	■
JS533120D1B.0Z3-NXT	02928301	1	D	12,0	12,0	24,0	83,0	–	–	6,0	3	■
JS533160D1B.0Z3-NXT	02928303	1	D	16,0	16,0	32,0	110,0	–	–	8,0	3	■
JS533200D1B.0Z3-NXT	02928305	1	D	20,0	20,0	40,0	125,0	–	–	10,0	3	■
JS533020G2B.0Z3-NXT	02928288	2	G	2,0	3,0	2,0	38,0	7,0	1,9	1,0	3	■
JS533030E2B.0Z3-NXT	02928290	2	E	3,0	3,0	3,0	38,0	9,0	2,85	1,5	3	■
JS533040G2B.0Z3-NXT	02928292	2	G	4,0	6,0	4,0	57,0	15,0	3,8	2,0	3	■
JS533050G2B.0Z3-NXT	02928294	2	G	5,0	6,0	5,0	57,0	15,0	4,8	2,5	3	■
JS533060E2B.0Z3-NXT	02928296	2	E	6,0	6,0	6,0	63,0	25,0	5,7	3,0	3	■
JS533080E2B.0Z3-NXT	02928298	2	E	8,0	8,0	8,0	80,0	35,0	7,6	4,0	3	■
JS533100E2B.0Z3-NXT	02928300	2	E	10,0	10,0	10,0	89,0	40,0	9,5	5,0	3	■
JS533120E2B.0Z3-NXT	02928302	2	E	12,0	12,0	12,0	100,0	50,0	11,4	6,0	3	■
JS533160E2B.0Z3-NXT	02928304	2	E	16,0	16,0	16,0	125,0	70,0	15,2	8,0	3	■

■ Stoklu standart ürün.

## JS533

Yüksek performans – Üniversal – Tamamı yuvarlak – 3 Ağızlı – Weldon



- Toleranslar:
- DMM=h5
- DC=e8
- RE= ±0,01 mm
- DC ≥ Ø6 ise tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Weldon
				mm	mm	mm	mm	mm	mm	mm		
JS533040F1B.3Z3-NXT	02928323	1	F	4,0	6,0	8,0	57,0	10,75	4,05	2,0	3	<input type="checkbox"/>
JS533050F1B.3Z3-NXT	02928325	1	F	5,0	6,0	10,0	57,0	13,75	5,05	2,5	3	<input type="checkbox"/>
JS533060D1B.3Z3-NXT	02928326	1	D	6,0	6,0	12,0	57,0	-	-	3,0	3	<input type="checkbox"/>
JS533080D1B.3Z3-NXT	02928328	1	D	8,0	8,0	16,0	63,0	-	-	4,0	3	<input type="checkbox"/>
JS533100D1B.3Z3-NXT	02928330	1	D	10,0	10,0	20,0	72,0	-	-	5,0	3	<input type="checkbox"/>
JS533120D1B.3Z3-NXT	02928332	1	D	12,0	12,0	24,0	83,0	-	-	6,0	3	<input type="checkbox"/>
JS533160D1B.3Z3-NXT	02928334	1	D	16,0	16,0	32,0	109,0	-	-	8,0	3	<input type="checkbox"/>
JS533200D1B.3Z3-NXT	02928336	1	D	20,0	20,0	40,0	125,0	-	-	10,0	3	<input type="checkbox"/>
JS533040G2B.3Z3-NXT	02928324	2	G	4,0	6,0	4,0	57,0	15,0	3,8	2,0	3	<input type="checkbox"/>
JS533050G2B.3Z3-NXT	02928341	2	G	5,0	6,0	5,0	57,0	15,0	4,8	2,5	3	<input type="checkbox"/>
JS533060E2B.3Z3-NXT	02928327	2	E	6,0	6,0	6,0	63,0	25,0	5,7	3,0	3	<input type="checkbox"/>
JS533080E2B.3Z3-NXT	02928329	2	E	8,0	8,0	8,0	80,0	35,0	7,6	4,0	3	<input type="checkbox"/>
JS533100E2B.3Z3-NXT	02928331	2	E	10,0	10,0	10,0	89,0	40,0	9,5	5,0	3	<input type="checkbox"/>
JS533120E2B.3Z3-NXT	02928333	2	E	12,0	12,0	12,0	100,0	50,0	11,4	6,0	3	<input type="checkbox"/>
JS533160E2B.3Z3-NXT	02928335	2	E	16,0	16,0	16,0	122,0	70,0	15,2	8,0	3	<input type="checkbox"/>

Weldon mevcut. Teslimat süresi 3 iş günüdür.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için


Plastik ve diğer materyaller için

Grafit materyal için

Minimaster Plus

Minimaster

Kesme verileri – JS533 Kaba kopya frezeleme

SMG		$a_e/DC$	$a_p/DC$	$f_z$											$v_c$
				1	2	3	4	5	6	8	10	12	16	20	
P1	M/A/D/E	0.0300	0.80	0.0032	0.0065	0.0095	0.013	0.016	0.019	0.026	0.032	0.038	0.048	0.055	200 (180 – 220)
		0,0300	0,80	0,00013	0,00026	0,00038	0,00050	0,00065	0,00075	0,0010	0,0013	0,0015	0,0019	0,0022	660 (600 – 720)
P2	M/A/D/E	0.0300	0.80	0.0034	0.0065	0.010	0.013	0.017	0.020	0.026	0.034	0.038	0.048	0.055	195 (170 – 220)
		0,0300	0,80	0,00013	0,00026	0,00040	0,00050	0,00065	0,00080	0,0010	0,0013	0,0015	0,0019	0,0022	640 (560 – 720)
P3	M/A/D/E	0.0300	0.80	0.0032	0.0060	0.0095	0.013	0.016	0.019	0.025	0.032	0.036	0.046	0.055	165 (150 – 180)
		0,0300	0,80	0,00013	0,00024	0,00038	0,00050	0,00065	0,00075	0,0010	0,0013	0,0014	0,0018	0,0022	540 (500 – 590)
P4	M/A/D/E	0.0300	0.80	0.0030	0.0060	0.0090	0.012	0.015	0.018	0.025	0.030	0.036	0.044	0.050	145 (130 – 160)
		0,0300	0,80	0,00012	0,00024	0,00036	0,00048	0,00060	0,00070	0,0010	0,0012	0,0014	0,0017	0,0020	475 (430 – 520)
P5	M/A/D/E	0.0300	0.80	0.0030	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	0.044	0.050	140 (130 – 160)
		0,0300	0,80	0,00012	0,00024	0,00036	0,00048	0,00060	0,00070	0,00095	0,0012	0,0014	0,0017	0,0020	460 (430 – 520)
P6	M/A/D/E	0.0300	0.80	0.0030	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.034	0.044	0.050	155 (140 – 170)
		0,0300	0,80	0,00012	0,00024	0,00036	0,00048	0,00060	0,00070	0,00095	0,0012	0,0013	0,0017	0,0020	510 (460 – 550)
P7	M/A/D/E	0.0300	0.80	0.0030	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.034	0.044	0.050	150 (130 – 160)
		0,0300	0,80	0,00012	0,00024	0,00036	0,00048	0,00060	0,00070	0,00095	0,0012	0,0013	0,0017	0,0020	460 (430 – 520)
P8	M/A/D/E	0.0300	0.80	0.0032	0.0060	0.0095	0.013	0.016	0.019	0.025	0.032	0.036	0.046	0.055	140 (120 – 150)
		0,0300	0,80	0,00013	0,00024	0,00038	0,00050	0,00065	0,00075	0,0010	0,0013	0,0014	0,0018	0,0022	460 (400 – 490)
P11	M/A/D/E	0.0300	0.80	0.0044	0.0090	0.013	0.018	0.022	0.026	0.036	0.044	0.050	0.065	0.075	140 (130 – 160)
		0,0300	0,80	0,00017	0,00036	0,00050	0,00070	0,00085	0,0010	0,0014	0,0017	0,0020	0,0026	0,0030	460 (430 – 520)
P12	M/A/D/E	0.0300	0.80	0.0030	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	0.044	0.050	85 (73 – 97)
		0,0300	0,80	0,00012	0,00024	0,00036	0,00048	0,00060	0,00070	0,00095	0,0012	0,0014	0,0017	0,0020	280 (240 – 310)
M1	E	0.0300	0.80	0.0034	0.0065	0.010	0.013	0.017	0.020	0.026	0.034	0.038	0.048	0.055	125 (99 – 140)
		0,0300	0,80	0,00013	0,00026	0,00040	0,00050	0,00065	0,00080	0,0010	0,0013	0,0015	0,0019	0,0022	410 (330 – 450)
M2	E	0.0300	0.80	0.0030	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	0.044	0.050	100 (80 – 120)
		0,0300	0,80	0,00012	0,00024	0,00036	0,00048	0,00060	0,00070	0,00095	0,0012	0,0014	0,0017	0,0020	330 (270 – 390)
M3	E	0.0300	0.80	0.0030	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	0.044	0.050	70 (50 – 90)
		0,0300	0,80	0,00012	0,00024	0,00036	0,00048	0,00060	0,00070	0,00095	0,0012	0,0014	0,0017	0,0020	230 (170 – 290)
M4	E	0.0300	0.80	0.0026	0.0050	0.0080	0.011	0.013	0.016	0.022	0.026	0.030	0.038	0.044	55 (38 – 67)
		0,0300	0,80	0,00010	0,00020	0,00032	0,00044	0,00050	0,00065	0,00085	0,0010	0,0012	0,0015	0,0017	180 (130 – 210)
M5	E	0.0300	0.80	0.0026	0.0050	0.0080	0.011	0.013	0.016	0.022	0.026	0.030	0.038	0.044	44 (32 – 56)
		0,0300	0,80	0,00010	0,00020	0,00032	0,00044	0,00050	0,00065	0,00085	0,0010	0,0012	0,0015	0,0017	145 (110 – 180)
K1	E	0.0300	0.80	0.0040	0.0080	0.012	0.016	0.020	0.024	0.032	0.040	0.046	0.060	0.070	145 (130 – 160)
		0,0300	0,80	0,00016	0,00032	0,00048	0,00065	0,00080	0,00095	0,0013	0,0016	0,0018	0,0024	0,0028	475 (430 – 520)
K2	E	0.0300	0.80	0.0036	0.0075	0.011	0.015	0.018	0.022	0.030	0.036	0.042	0.055	0.060	125 (110 – 140)
		0,0300	0,80	0,00014	0,00030	0,00044	0,00060	0,00070	0,00085	0,0012	0,0014	0,0017	0,0022	0,0024	410 (370 – 450)
K3	E	0.0300	0.80	0.0050	0.010	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.075	0.085	105 (91 – 110)
		0,0300	0,80	0,00020	0,00040	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0030	0,0034	345 (300 – 360)
K4	E	0.0300	0.80	0.0050	0.010	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.075	0.085	120 (100 – 140)
		0,0300	0,80	0,00020	0,00040	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0030	0,0034	395 (330 – 450)
K5	E	0.0300	0.80	0.0044	0.0090	0.013	0.018	0.022	0.026	0.036	0.044	0.055	0.065	0.075	70 (61 – 84)
		0,0300	0,80	0,00017	0,00036	0,00050	0,00070	0,00085	0,0010	0,0014	0,0017	0,0022	0,0026	0,0030	230 (210 – 270)
K6	E	0.0300	0.80	0.0050	0.010	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.075	0.085	105 (89 – 120)
		0,0300	0,80	0,00020	0,00040	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0030	0,0034	345 (300 – 390)
K7	E	0.0300	0.80	0.0044	0.0090	0.013	0.018	0.022	0.026	0.036	0.044	0.055	0.065	0.075	155 (130 – 180)
		0,0300	0,80	0,00017	0,00036	0,00050	0,00070	0,00085	0,0010	0,0014	0,0017	0,0022	0,0026	0,0030	510 (430 – 590)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu  
Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama  
 $v_c = \text{m/dak (sf/dak)}$   
 $f_z = \text{mm (inç/ağız)}$   
 $a_p \text{ mm/DC (inç/DC)} = \text{faktör}$   
 $a_e \text{ mm/DC (inç/DC)} = \text{faktör}$   
Tüm kesme verileri hedef değerlerdir

## Kesme verileri – JS533 Kaba kopya frezeleme

SMG		$a_e/DC$	$a_p/DC$	$f_z$												$v_c$
				1	2	3	4	5	6	8	10	12	16	20		
N1	E	0.0300	0.80	0.0050	0.010	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.075	0.085	800 (700 – 900)	
		0,0300	0,80	0,00020	0,00040	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0030	0,0034	2625 (2300 – 2900)	
N2	E	0.0300	0.80	0.0050	0.010	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.075	0.085	510 (450 – 570)	
		0,0300	0,80	0,00020	0,00040	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0030	0,0034	1675 (1500–1800)	
N3	E	0.0300	0.80	0.0050	0.010	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.075	0.085	345 (300 – 380)	
		0,0300	0,80	0,00020	0,00040	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0030	0,0034	1125 (990–1200)	
N11	E	0.0300	0.80	0.0040	0.0080	0.012	0.016	0.020	0.024	0.032	0.040	0.046	0.060	0.070	400 (350 – 450)	
		0,0300	0,80	0,00016	0,00032	0,00048	0,00065	0,00080	0,00095	0,0013	0,0016	0,0018	0,0024	0,0028	1300 (1200–1400)	
S1	E	0.0300	0.80	0.0030	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	0.044	0.050	100 (90–110)	
		0,0300	0,80	0,00012	0,00024	0,00036	0,00048	0,00060	0,00070	0,00095	0,0012	0,0014	0,0017	0,0020	330 (300 – 360)	
S2	E	0.0300	0.80	0.0030	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	0.044	0.050	80 (73 – 88)	
		0,0300	0,80	0,00012	0,00024	0,00036	0,00048	0,00060	0,00070	0,00095	0,0012	0,0014	0,0017	0,0020	260 (240 – 280)	
S11	E	0.0300	0.80	0.0030	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	0.044	0.050	130 (120–140)	
		0,0300	0,80	0,00012	0,00024	0,00036	0,00048	0,00060	0,00070	0,00095	0,0012	0,0014	0,0017	0,0020	425 (400 – 450)	
S12	E	0.0300	0.80	0.0030	0.0060	0.0090	0.012	0.015	0.018	0.024	0.030	0.036	0.044	0.050	100 (91–110)	
		0,0300	0,80	0,00012	0,00024	0,00036	0,00048	0,00060	0,00070	0,00095	0,0012	0,0014	0,0017	0,0020	330 (300 – 360)	
S13	E	0.0300	0.80	0.0026	0.0050	0.0080	0.011	0.013	0.016	0.022	0.026	0.030	0.038	0.044	80 (70 – 85)	
		0,0300	0,80	0,00010	0,00020	0,00032	0,00044	0,00050	0,00065	0,00085	0,0010	0,0012	0,0015	0,0017	260 (230 – 270)	
TS1	A	0.0300	0.80	0.0040	0.0080	0.012	0.016	0.020	0.024	0.032	0.040	0.046	0.060	0.070	800 (760 – 850)	
		0,0300	0,80	0,00016	0,00032	0,00048	0,00065	0,00080	0,00095	0,0013	0,0016	0,0018	0,0024	0,0028	2625 (2500 – 2700)	
TP1	A	0.0300	0.80	0.0040	0.0080	0.012	0.016	0.020	0.024	0.032	0.040	0.046	0.060	0.070	800 (760 – 850)	
		0,0300	0,80	0,00016	0,00032	0,00048	0,00065	0,00080	0,00095	0,0013	0,0016	0,0018	0,0024	0,0028	2625 (2500 – 2700)	
GR1	A	0.0300	0.80	0.0040	0.0080	0.012	0.016	0.020	0.024	0.032	0.040	0.046	0.060	0.070	800 (760 – 850)	
		0,0300	0,80	0,00016	0,00032	0,00048	0,00065	0,00080	0,00095	0,0013	0,0016	0,0018	0,0024	0,0028	2625 (2500 – 2700)	

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

 $v_c = m/dak$  (sf/dak) $f_z = mm$  (inç/çiz) $a_p$  mm/DC (inç/DC) = faktör $a_e$  mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve diğer malzemeler için

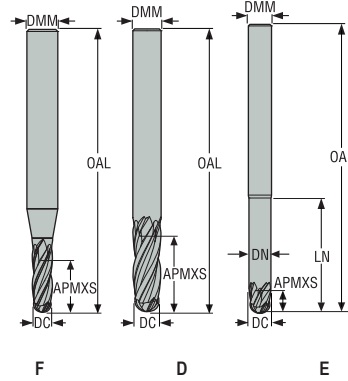
Grafit malzeme için

Minimaster Plus

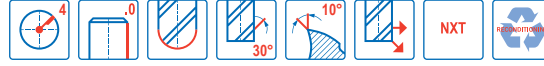
Minimaster

## JS534

Yüksek performans – Üniversal – Tamamı yuvarlak – 4 Ağızlı – Silindirik



- Toleranslar:
- DMM=h5
- DC=e8
- RE= ±0,01 mm
- DC ≥ Ø6 ise tekrar bilenebilir

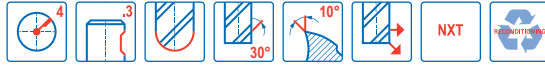
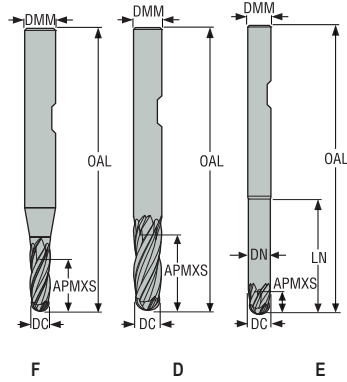


Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm	mm		
JS534020F1B.0Z4-NXT	02928366	1	F	2,0	3,0	6,0	38,0	6,7	2,05	1,0	4	■
JS534030D1B.0Z4-NXT	02928367	1	D	3,0	3,0	9,0	38,0	-	-	1,5	4	■
JS534040F1B.0Z4-NXT	02928368	1	F	4,0	6,0	12,0	57,0	14,0	4,05	2,0	4	■
JS534050F1B.0Z4-NXT	02928370	1	F	5,0	6,0	15,0	57,0	17,0	5,05	2,5	4	■
JS534060D1B.0Z4-NXT	02928372	1	D	6,0	6,0	18,0	57,0	-	-	3,0	4	■
JS534080D1B.0Z4-NXT	02928375	1	D	8,0	8,0	24,0	69,0	-	-	4,0	4	■
JS534100D1B.0Z4-NXT	02928378	1	D	10,0	10,0	30,0	82,0	-	-	5,0	4	■
JS534120D1B.0Z4-NXT	02928381	1	D	12,0	12,0	36,0	100,0	-	-	6,0	4	■
JS534160D1B.0Z4-NXT	02928384	1	D	16,0	16,0	48,0	110,0	-	-	8,0	4	■
JS534200D1B.0Z4-NXT	02928387	1	D	20,0	20,0	60,0	125,0	-	-	10,0	4	■
JS534040F2B.0Z4-NXT	02928369	2	F	4,0	6,0	20,0	63,0	22,0	4,05	2,0	4	■
JS534050F2B.0Z4-NXT	02928371	2	F	5,0	6,0	25,0	75,0	27,0	5,05	2,5	4	■
JS534060D2B.0Z4-NXT	02928373	2	D	6,0	6,0	30,0	75,0	-	-	3,0	4	■
JS534080D2B.0Z4-NXT	02928376	2	D	8,0	8,0	40,0	80,0	-	-	4,0	4	■
JS534100D2B.0Z4-NXT	02928379	2	D	10,0	10,0	50,0	100,0	-	-	5,0	4	■
JS534120D2B.0Z4-NXT	02928382	2	D	12,0	12,0	60,0	125,0	-	-	6,0	4	■
JS534160D2B.0Z4-NXT	02928385	2	D	16,0	16,0	80,0	130,0	-	-	8,0	4	■
JS534060E3B.0Z4-NXT	02928374	3	E	6,0	6,0	6,0	75,0	30,0	5,7	3,0	4	■
JS534080E3B.0Z4-NXT	02928377	3	E	8,0	8,0	8,0	80,0	40,0	7,6	4,0	4	■
JS534100E3B.0Z4-NXT	02928380	3	E	10,0	10,0	10,0	100,0	50,0	9,7	5,0	4	■
JS534120E3B.0Z4-NXT	02928383	3	E	12,0	12,0	12,0	125,0	60,0	11,4	6,0	4	■
JS534160E3B.0Z4-NXT	02928386	3	E	16,0	16,0	16,0	130,0	80,0	15,2	8,0	4	■
JS534200E3B.0Z4-NXT	02928388	3	E	20,0	20,0	20,0	150,0	100,0	19,0	10,0	4	■

■ Stoklu standart ürün.

## JS534

Yüksek performans – Üniversal – Tamamı yuvarlak – 4 Ağızlı – Weldon



- Toleranslar:
- DMM=h5
- DC=e8
- RE= ±0,01 mm
- DC ≥ Ø6 ise tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Weldon
				mm	mm	mm	mm	mm	mm	mm		
JS534040F1B.3Z4-NXT	02928390	1	F	4,0	6,0	12,0	57,0	14,0	4,05	2,0	4	<input type="checkbox"/>
JS534050F1B.3Z4-NXT	02928392	1	F	5,0	6,0	15,0	57,0	17,0	5,05	2,5	4	<input type="checkbox"/>
JS534060D1B.3Z4-NXT	02928394	1	D	6,0	6,0	18,0	57,0	-	-	3,0	4	<input type="checkbox"/>
JS534080D1B.3Z4-NXT	02928397	1	D	8,0	8,0	24,0	69,0	-	-	4,0	4	<input type="checkbox"/>
JS534100D1B.3Z4-NXT	02928400	1	D	10,0	10,0	30,0	82,0	-	-	5,0	4	<input type="checkbox"/>
JS534120D1B.3Z4-NXT	02928403	1	D	12,0	12,0	36,0	100,0	-	-	6,0	4	<input type="checkbox"/>
JS534160D1B.3Z4-NXT	02928406	1	D	16,0	16,0	48,0	110,0	-	-	8,0	4	<input type="checkbox"/>
JS534200D1B.3Z4-NXT	02928409	1	D	20,0	20,0	60,0	125,0	-	-	10,0	4	<input type="checkbox"/>
JS534040F2B.3Z4-NXT	02928391	2	F	4,0	6,0	20,0	63,0	22,0	4,05	2,0	4	<input type="checkbox"/>
JS534050F2B.3Z4-NXT	02928393	2	F	5,0	6,0	25,0	75,0	27,0	5,05	2,5	4	<input type="checkbox"/>
JS534060D2B.3Z4-NXT	02928395	2	D	6,0	6,0	30,0	75,0	-	-	3,0	4	<input type="checkbox"/>
JS534080D2B.3Z4-NXT	02928398	2	D	8,0	8,0	40,0	80,0	-	-	4,0	4	<input type="checkbox"/>
JS534100D2B.3Z4-NXT	02928401	2	D	10,0	10,0	50,0	100,0	-	-	5,0	4	<input type="checkbox"/>
JS534120D2B.3Z4-NXT	02928404	2	D	12,0	12,0	60,0	125,0	-	-	6,0	4	<input type="checkbox"/>
JS534160D2B.3Z4-NXT	02928407	2	D	16,0	16,0	80,0	130,0	-	-	8,0	4	<input type="checkbox"/>
JS534060E3B.3Z4-NXT	02928396	3	E	6,0	6,0	6,0	75,0	30,0	5,7	3,0	4	<input type="checkbox"/>
JS534080E3B.3Z4-NXT	02928399	3	E	8,0	8,0	8,0	80,0	40,0	7,6	4,0	4	<input type="checkbox"/>
JS534100E3B.3Z4-NXT	02928402	3	E	10,0	10,0	10,0	100,0	50,0	9,7	5,0	4	<input type="checkbox"/>
JS534120E3B.3Z4-NXT	02928405	3	E	12,0	12,0	12,0	125,0	60,0	11,4	6,0	4	<input type="checkbox"/>
JS534160E3B.3Z4-NXT	02928408	3	E	16,0	16,0	16,0	130,0	80,0	15,2	8,0	4	<input type="checkbox"/>
JS534200E3B.3Z4-NXT	02928410	3	E	20,0	20,0	20,0	150,0	100,0	19,0	10,0	4	<input type="checkbox"/>

Weldon mevcut. Teslimat süresi 3 iş gündür.

Kesme verileri – JS534 Kaba kopya frezeleme

SMG		a <sub>e</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>										v <sub>c</sub>
				2	3	4	5	6	8	10	12	16	20	
P1	M/A/D/E	0.0300	4.0	0.0085	0.013	0.017	0.022	0.026	0.034	0.044	0.050	0.065	0.075	345 (310 – 370)
		0,0300	4,0	0,00034	0,00050	0,00065	0,00085	0,0010	0,0013	0,0017	0,0020	0,0026	0,0030	1125 (1100–1200)
P2	M/A/D/E	0.0300	4.0	0.0090	0.013	0.018	0.022	0.026	0.036	0.044	0.050	0.065	0.075	335 (300 – 360)
		0,0300	4,0	0,00036	0,00050	0,00070	0,00085	0,0010	0,0014	0,0017	0,0020	0,0026	0,0030	1100 (990–1100)
P3	M/A/D/E	0.0300	4.0	0.0085	0.012	0.017	0.020	0.025	0.034	0.042	0.050	0.060	0.070	290 (260 – 310)
		0,0300	4,0	0,00034	0,00048	0,00065	0,00080	0,0010	0,0013	0,0017	0,0020	0,0024	0,0028	950 (860–1000)
P4	M/A/D/E	0.0300	4.0	0.0080	0.012	0.016	0.020	0.024	0.032	0.040	0.048	0.060	0.070	255 (230 – 280)
		0,0300	4,0	0,00032	0,00048	0,00065	0,00080	0,00095	0,0013	0,0016	0,0019	0,0024	0,0028	840 (760 – 910)
P5	M/A/D/E	0.0300	4.0	0.0080	0.012	0.016	0.020	0.024	0.032	0.040	0.048	0.060	0.070	245 (220 – 260)
		0,0300	4,0	0,00032	0,00048	0,00065	0,00080	0,00095	0,0013	0,0016	0,0019	0,0024	0,0028	800 (730 – 850)
P6	M/A/D/E	0.0300	4.0	0.0080	0.012	0.016	0.020	0.024	0.032	0.040	0.046	0.060	0.065	230 (210 – 250)
		0,0300	4,0	0,00032	0,00048	0,00065	0,00080	0,00095	0,0013	0,0016	0,0018	0,0024	0,0026	750 (690 – 820)
P7	M/A/D/E	0.0300	4.0	0.0080	0.012	0.016	0.020	0.024	0.032	0.040	0.046	0.060	0.065	220 (200 – 240)
		0,0300	4,0	0,00032	0,00048	0,00065	0,00080	0,00095	0,0013	0,0016	0,0018	0,0024	0,0026	720 (660–780)
P8	M/A/D/E	0.0300	4.0	0.0085	0.012	0.017	0.020	0.025	0.034	0.042	0.050	0.060	0.070	205 (190 – 220)
		0,0300	4,0	0,00034	0,00048	0,00065	0,00080	0,0010	0,0013	0,0017	0,0020	0,0024	0,0028	670 (630–720)
P11	M/A/D/E	0.0300	4.0	0.010	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.080	0.10	210 (190 – 230)
		0,0300	4,0	0,00040	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	690 (630–750)
P12	M/A/D/E	0.0300	4.0	0.0080	0.012	0.016	0.020	0.024	0.032	0.040	0.048	0.060	0.070	125 (120–130)
		0,0300	4,0	0,00032	0,00048	0,00065	0,00080	0,00095	0,0013	0,0016	0,0019	0,0024	0,0028	410 (400 – 420)
M1	E	0.0300	4.0	0.0090	0.013	0.018	0.022	0.026	0.036	0.044	0.050	0.065	0.075	180 (160 – 200)
		0,0300	4,0	0,00036	0,00050	0,00070	0,00085	0,0010	0,0014	0,0017	0,0020	0,0026	0,0030	590 (530 – 650)
M2	E	0.0300	4.0	0.0080	0.012	0.016	0.020	0.024	0.032	0.040	0.048	0.060	0.070	145 (130–160)
		0,0300	4,0	0,00032	0,00048	0,00065	0,00080	0,00095	0,0013	0,0016	0,0019	0,0024	0,0028	475 (430 – 520)
M3	E	0.0300	4.0	0.0080	0.012	0.016	0.020	0.024	0.032	0.040	0.048	0.060	0.070	155 (140–180)
		0,0300	4,0	0,00032	0,00048	0,00065	0,00080	0,00095	0,0013	0,0016	0,0019	0,0024	0,0028	510 (460 – 590)
M4	E	0.0300	4.0	0.0070	0.010	0.014	0.017	0.020	0.028	0.034	0.042	0.050	0.060	120 (100–130)
		0,0300	4,0	0,00028	0,00040	0,00055	0,00065	0,00080	0,0011	0,0013	0,0017	0,0020	0,0024	395 (330 – 420)
M5	E	0.0300	4.0	0.0070	0.010	0.014	0.017	0.020	0.028	0.034	0.042	0.050	0.060	100 (83–110)
		0,0300	4,0	0,00028	0,00040	0,00055	0,00065	0,00080	0,0011	0,0013	0,0017	0,0020	0,0024	330 (280 – 360)
K1	E	0.0300	4.0	0.0080	0.012	0.016	0.020	0.024	0.032	0.040	0.048	0.060	0.070	245 (220 – 260)
		0,0300	4,0	0,00032	0,00048	0,00065	0,00080	0,00095	0,0013	0,0016	0,0019	0,0024	0,0028	800 (730 – 850)
K2	E	0.0300	4.0	0.0075	0.011	0.015	0.018	0.022	0.030	0.036	0.042	0.055	0.060	215 (200 – 230)
		0,0300	4,0	0,00030	0,00044	0,00060	0,00070	0,00085	0,0012	0,0014	0,0017	0,0022	0,0024	710 (660–750)
K3	E	0.0300	4.0	0.0080	0.012	0.016	0.020	0.024	0.032	0.040	0.048	0.060	0.070	180 (160–190)
		0,0300	4,0	0,00032	0,00048	0,00065	0,00080	0,00095	0,0013	0,0016	0,0019	0,0024	0,0028	590 (530 – 620)
K4	E	0.0300	4.0	0.0080	0.012	0.016	0.020	0.024	0.032	0.040	0.048	0.060	0.070	170 (160–180)
		0,0300	4,0	0,00032	0,00048	0,00065	0,00080	0,00095	0,0013	0,0016	0,0019	0,0024	0,0028	560 (530 – 590)
K5	E	0.0300	4.0	0.0070	0.011	0.014	0.018	0.022	0.028	0.036	0.042	0.055	0.060	200 (180 – 220)
		0,0300	4,0	0,00028	0,00044	0,00055	0,00070	0,00085	0,0011	0,0014	0,0017	0,0022	0,0024	660 (600–720)
K6	E	0.0300	4.0	0.0080	0.012	0.016	0.020	0.024	0.032	0.040	0.048	0.060	0.070	295 (260 – 330)
		0,0300	4,0	0,00032	0,00048	0,00065	0,00080	0,00095	0,0013	0,0016	0,0019	0,0024	0,0028	970 (860–1000)
K7	E	0.0300	4.0	0.0070	0.011	0.014	0.018	0.022	0.028	0.036	0.042	0.055	0.060	260 (230 – 280)
		0,0300	4,0	0,00028	0,00044	0,00055	0,00070	0,00085	0,0011	0,0014	0,0017	0,0022	0,0024	850 (760 – 910)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)

f<sub>z</sub> = mm (inç/ağız)

a<sub>p</sub> mm/DC (inç/DC) = faktör

a<sub>e</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir



Kesme verileri – JS534 Kaba kopya frezeleme

SMG		a <sub>e</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>										v <sub>c</sub>
				2	3	4	5	6	8	10	12	16	20	
N1	E	0.0300	4.0	0.0080	0.012	0.016	0.020	0.024	0.032	0.040	0.048	0.060	0.070	1025 (910–1100)
		0,0300	4,0	0,00032	0,00048	0,00065	0,00080	0,00095	0,0013	0,0016	0,0019	0,0024	0,0028	3375 (3000 – 3600)
N2	E	0.0300	4.0	0.0080	0.012	0.016	0.020	0.024	0.032	0.040	0.048	0.060	0.070	910 (780–1000)
		0,0300	4,0	0,00032	0,00048	0,00065	0,00080	0,00095	0,0013	0,0016	0,0019	0,0024	0,0028	2975 (2600 – 3200)
N3	E	0.0300	4.0	0.0080	0.012	0.016	0.020	0.024	0.032	0.040	0.048	0.060	0.070	600 (520 – 690)
		0,0300	4,0	0,00032	0,00048	0,00065	0,00080	0,00095	0,0013	0,0016	0,0019	0,0024	0,0028	1975 (1800 – 2200)
N11	E	0.0300	4.0	0.0080	0.012	0.016	0.020	0.024	0.032	0.040	0.048	0.060	0.070	500 (440 – 560)
		0,0300	4,0	0,00032	0,00048	0,00065	0,00080	0,00095	0,0013	0,0016	0,0019	0,0024	0,0028	1650 (1500–1800)
S1	E	0.0300	4.0	0.0080	0.012	0.016	0.020	0.024	0.032	0.040	0.048	0.060	0.070	110 (88–110)
		0,0300	4,0	0,00032	0,00048	0,00065	0,00080	0,00095	0,0013	0,0016	0,0019	0,0024	0,0028	360 (290 – 360)
S2	E	0.0300	4.0	0.0080	0.012	0.016	0.020	0.024	0.032	0.040	0.048	0.060	0.070	90 (71 – 90)
		0,0300	4,0	0,00032	0,00048	0,00065	0,00080	0,00095	0,0013	0,0016	0,0019	0,0024	0,0028	295 (240 – 290)
S3	E	0.0300	4.0	0.0080	0.012	0.016	0.020	0.024	0.032	0.040	0.048	0.060	0.070	85 (63 – 87)
		0,0300	4,0	0,00032	0,00048	0,00065	0,00080	0,00095	0,0013	0,0016	0,0019	0,0024	0,0028	280 (210 – 280)
S11	E	0.0300	4.0	0.0080	0.012	0.016	0.020	0.024	0.032	0.040	0.048	0.060	0.070	185 (150–180)
		0,0300	4,0	0,00032	0,00048	0,00065	0,00080	0,00095	0,0013	0,0016	0,0019	0,0024	0,0028	610 (500 – 590)
S12	E	0.0300	4.0	0.0080	0.012	0.016	0.020	0.024	0.032	0.040	0.048	0.060	0.070	140 (120–140)
		0,0300	4,0	0,00032	0,00048	0,00065	0,00080	0,00095	0,0013	0,0016	0,0019	0,0024	0,0028	460 (400 – 450)
S13	E	0.0300	4.0	0.0070	0.010	0.014	0.017	0.020	0.028	0.034	0.042	0.050	0.060	110 (91–110)
		0,0300	4,0	0,00028	0,00040	0,00055	0,00065	0,00080	0,0011	0,0013	0,0017	0,0020	0,0024	360 (300 – 360)
TS1	A	0.0300	4.0	0.0080	0.012	0.016	0.020	0.024	0.032	0.040	0.048	0.060	0.070	900 (840 – 960)
		0,0300	4,0	0,00032	0,00048	0,00065	0,00080	0,00095	0,0013	0,0016	0,0019	0,0024	0,0028	2950 (2800 – 3100)
TP1	A	0.0300	4.0	0.0080	0.012	0.016	0.020	0.024	0.032	0.040	0.048	0.060	0.070	900 (840 – 960)
		0,0300	4,0	0,00032	0,00048	0,00065	0,00080	0,00095	0,0013	0,0016	0,0019	0,0024	0,0028	2950 (2800 – 3100)
GR1	A	0.0300	4.0	0.0080	0.012	0.016	0.020	0.024	0.032	0.040	0.048	0.060	0.070	900 (840 – 960)
		0,0300	4,0	0,00032	0,00048	0,00065	0,00080	0,00095	0,0013	0,0016	0,0019	0,0024	0,0028	2950 (2800 – 3100)

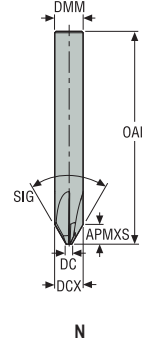
Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu  
Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama  
v<sub>c</sub> = m/dak (sf/dak)  
f<sub>z</sub> = mm (inç/ağız)  
a<sub>p</sub> mm/DC (inç/DC) = faktör  
a<sub>e</sub> = mm/DC (inç/DC) = faktör  
Tüm kesme verileri hedef değerlerdir

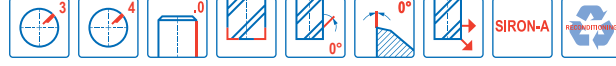
Üniversal  
Çelik ve dökme demir  
Paslanmaz çelik ve S iş parçası malzemeleri  
Demir içermeyen malzemeler  
Sertleştirilmiş çelik için  
Plastik ve cırp malzemeler için  
Grafit malzeme için  
Minimaster Plus  
Minimaster

## JS506

Genel amaçlı – Üniversal – Köşesi pahlı – 3-4 Ağızlı – Silindirik



- Toleranslar:
- DMM=h5
- SIG= ±0,5°
- DMM ≥ Ø6 ise tekrar bilenebilir

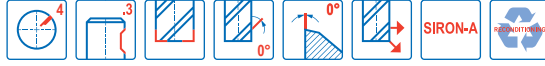
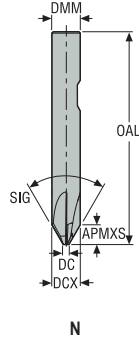


Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DCX	DMM	APMXS	OAL	SIG°	PCEDC	Silindirik
				mm	mm	mm	mm	mm			
JS506030N2CZ3.0-SIRA	02881622	2	N	0,6	3,0	3,0	2,0	50,0	60,0	3	■
JS506040N2CZ3.0-SIRA	02881623	2	N	0,8	4,0	4,0	2,7	50,0	60,0	3	■
JS506060N2CZ4.0-SIRA	02881624	2	N	1,2	6,0	6,0	4,1	57,0	60,0	4	■
JS506080N2CZ4.0-SIRA	02881626	2	N	1,6	8,0	8,0	5,5	63,0	60,0	4	■
JS506100N2CZ4.0-SIRA	02881628	2	N	2,0	10,0	10,0	6,9	72,0	60,0	4	■
JS506120N2CZ4.0-SIRA	02881630	2	N	2,4	12,0	12,0	8,3	83,0	60,0	4	■

■ Stoklu standart ürün.

## JS506

Genel amaçlı – Üniversal – Köşesi pahlı – 3-4 Ağızlı – Weldon



- Toleranslar:
- DMM=h5
- SIG= ±0,5°
- Tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DCX	DMM	APMXS	OAL	SIG°	PCEDC	Weldon
				mm	mm	mm	mm	mm			
JS506060N2CZ4.3-SIRA	02881625	2	N	1,2	6,0	6,0	4,1	57,0	60,0	4	■
JS506080N2CZ4.3-SIRA	02881627	2	N	1,6	8,0	8,0	5,5	63,0	60,0	4	■
JS506100N2CZ4.3-SIRA	02881629	2	N	2,0	10,0	10,0	6,9	72,0	60,0	4	■
JS506120N2CZ4.3-SIRA	02881631	2	N	2,4	12,0	12,0	8,3	83,0	60,0	4	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve diğer materyaller için

Grafit materyal için

Minimaster Plus

Minimaster

Kesme verileri – JS506 Köşesi pahlı kırma

SMG	a <sub>p</sub> /DC	a <sub>e</sub> /DC	f <sub>z</sub>						v <sub>c</sub>	
			3	4	6	8	10	12		
P1	M/A/D/E	0.100	0.55	0.022	0.028	0.042	0.055	0.070	0.080	200 (180 – 220)
		0,100	0,55	0,00085	0,0011	0,0017	0,0022	0,0028	0,0032	660 (600–720)
P2	M/A/D/E	0.100	0.55	0.022	0.028	0.042	0.055	0.070	0.085	195 (180 – 220)
		0,100	0,55	0,00085	0,0011	0,0017	0,0022	0,0028	0,0034	640 (600–720)
P3	M/A/D/E	0.100	0.55	0.020	0.026	0.040	0.055	0.065	0.080	170 (150–190)
		0,100	0,55	0,00080	0,0010	0,0016	0,0022	0,0026	0,0032	560 (500 – 620)
P4	M/A/D/E	0.100	0.55	0.020	0.026	0.040	0.055	0.065	0.080	150 (130–160)
		0,100	0,55	0,00080	0,0010	0,0016	0,0022	0,0026	0,0032	490 (430 – 520)
P5	M/A/D/E	0.100	0.55	0.019	0.026	0.038	0.050	0.065	0.075	140 (130–160)
		0,100	0,55	0,00075	0,0010	0,0015	0,0020	0,0026	0,0030	460 (430 – 520)
P6	M/A/D/E	0.100	0.55	0.019	0.025	0.038	0.050	0.065	0.075	160 (140–180)
		0,100	0,55	0,00075	0,0010	0,0015	0,0020	0,0026	0,0030	520 (460 – 590)
P7	M/A/D/E	0.100	0.55	0.019	0.025	0.038	0.050	0.065	0.075	150 (140–170)
		0,100	0,55	0,00075	0,0010	0,0015	0,0020	0,0026	0,0030	490 (460 – 550)
P8	M/A/D/E	0.100	0.55	0.020	0.026	0.040	0.055	0.065	0.080	140 (130–160)
		0,100	0,55	0,00080	0,0010	0,0016	0,0022	0,0026	0,0032	460 (430 – 520)
P11	M/A/D/E	0.100	0.55	0.019	0.025	0.038	0.050	0.065	0.075	145 (130–160)
		0,100	0,55	0,00075	0,0010	0,0015	0,0020	0,0026	0,0030	475 (430 – 520)
P12	M/A/D/E	0.100	0.55	0.013	0.017	0.026	0.034	0.044	0.050	85 (75 – 97)
		0,100	0,55	0,00050	0,00065	0,0010	0,0013	0,0017	0,0020	280 (250 – 310)
M1	E/M/A	0.100	0.55	0.022	0.028	0.042	0.055	0.070	0.085	120 (95–140)
		0,100	0,55	0,00085	0,0011	0,0017	0,0022	0,0028	0,0034	395 (320 – 450)
M2	E/M/A	0.100	0.55	0.019	0.026	0.038	0.050	0.065	0.075	95 (76–110)
		0,100	0,55	0,00075	0,0010	0,0015	0,0020	0,0026	0,0030	310 (250 – 360)
M3	E/M/A	0.100	0.55	0.019	0.026	0.038	0.050	0.065	0.075	60 (43 – 80)
		0,100	0,55	0,00075	0,0010	0,0015	0,0020	0,0026	0,0030	195 (150 – 260)
M4	E/M/A	0.100	0.55	0.017	0.022	0.034	0.046	0.055	0.065	46 (33 – 60)
		0,100	0,55	0,00065	0,00085	0,0013	0,0018	0,0022	0,0026	150 (110–190)
M5	E/M/A	0.100	0.55	0.017	0.022	0.034	0.046	0.055	0.065	39 (27 – 50)
		0,100	0,55	0,00065	0,00085	0,0013	0,0018	0,0022	0,0026	130 (89–160)
K1	A/D/M/E	0.100	0.55	0.022	0.028	0.042	0.055	0.070	0.085	200 (180 – 220)
		0,100	0,55	0,00085	0,0011	0,0017	0,0022	0,0028	0,0034	660 (600–720)
K2	A/D/M/E	0.100	0.55	0.019	0.026	0.038	0.050	0.065	0.075	170 (150–190)
		0,100	0,55	0,00075	0,0010	0,0015	0,0020	0,0026	0,0030	560 (500 – 620)
K3	A/D/M/E	0.100	0.55	0.019	0.026	0.038	0.050	0.065	0.075	145 (130–160)
		0,100	0,55	0,00075	0,0010	0,0015	0,0020	0,0026	0,0030	475 (430 – 520)
K4	A/D/M/E	0.100	0.55	0.019	0.026	0.038	0.050	0.065	0.075	140 (130–150)
		0,100	0,55	0,00075	0,0010	0,0015	0,0020	0,0026	0,0030	460 (430 – 490)
K5	A/D/M/E	0.100	0.55	0.018	0.024	0.034	0.046	0.060	0.070	85 (72 – 93)
		0,100	0,55	0,00070	0,00095	0,0013	0,0018	0,0024	0,0028	280 (240 – 300)
K6	A/D/M/E	0.100	0.55	0.019	0.026	0.038	0.050	0.065	0.075	125 (110–130)
		0,100	0,55	0,00075	0,0010	0,0015	0,0020	0,0026	0,0030	410 (370 – 420)
K7	A/D/M/E	0.100	0.55	0.018	0.024	0.034	0.046	0.060	0.070	105 (92–120)
		0,100	0,55	0,00070	0,00095	0,0013	0,0018	0,0024	0,0028	345 (310 – 390)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu  
Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama  
v<sub>c</sub> = m/dak (sf/dak)  
f<sub>z</sub> = mm (inç/ağız)  
a<sub>p</sub> mm/DC (inç/DC) = faktör  
a<sub>e</sub> = mm/DC (inç/DC) = faktör  
Tüm kesme verileri hedef değerlerdir

## Kesme verileri – JS506 Köşesi pahlı kırma

SMG		$a_e/DC$	$a_p/DC$	$f_z$						$v_c$
				3	4	6	8	10	12	
N1	E/M/A	0,100	0,55	0,019	0,026	0,038	0,050	0,065	0,075	475 (430 – 520)
		0,100	0,55	0,00075	0,0010	0,0015	0,0020	0,0026	0,0030	1550 (1500–1700)
N2	E/M/A	0,100	0,55	0,019	0,026	0,038	0,050	0,065	0,075	305 (280 – 330)
		0,100	0,55	0,00075	0,0010	0,0015	0,0020	0,0026	0,0030	1000 (920–1000)
N3	E/M/A	0,100	0,55	0,019	0,026	0,038	0,050	0,065	0,075	205 (190 – 220)
		0,100	0,55	0,00075	0,0010	0,0015	0,0020	0,0026	0,0030	670 (630–720)
N11	E/M/A	0,100	0,55	0,019	0,026	0,038	0,050	0,065	0,075	270 (250 – 290)
		0,100	0,55	0,00075	0,0010	0,0015	0,0020	0,0026	0,0030	890 (830 – 950)
S1	E	0,100	0,55	0,020	0,028	0,042	0,055	0,070	0,080	41 (14 – 68)
		0,100	0,55	0,00080	0,0011	0,0017	0,0022	0,0028	0,0032	135 (46 – 220)
S2	E	0,100	0,55	0,020	0,028	0,042	0,055	0,070	0,080	33 (12 – 55)
		0,100	0,55	0,00080	0,0011	0,0017	0,0022	0,0028	0,0032	110 (40–180)
S3	E	0,100	0,55	0,019	0,026	0,038	0,050	0,065	0,075	28 (9,5 – 47)
		0,100	0,55	0,00075	0,0010	0,0015	0,0020	0,0026	0,0030	90 (32–150)
S11	E	0,100	0,55	0,019	0,026	0,038	0,050	0,065	0,075	95 (68–110)
		0,100	0,55	0,00075	0,0010	0,0015	0,0020	0,0026	0,0030	310 (230 – 360)
S12	E	0,100	0,55	0,019	0,026	0,038	0,050	0,065	0,075	70 (53 – 90)
		0,100	0,55	0,00075	0,0010	0,0015	0,0020	0,0026	0,0030	230 (180 – 290)
S13	E	0,100	0,55	0,017	0,022	0,034	0,046	0,055	0,065	55 (41 – 69)
		0,100	0,55	0,00065	0,00085	0,0013	0,0018	0,0022	0,0026	180 (140 – 220)
H5	M/A/D	0,0500	1,5	0,015	0,020	0,030	0,040	0,050	0,060	65 (45 – 83)
		0,0500	1,5	0,00060	0,00080	0,0012	0,0016	0,0020	0,0024	215 (150 – 270)
H8	M/A/D	0,0500	1,5	0,011	0,015	0,022	0,030	0,038	0,044	60 (44 – 81)
		0,0500	1,5	0,00044	0,00060	0,00085	0,0012	0,0015	0,0017	195 (150 – 260)
H11	M/A/D	0,0500	1,5	0,015	0,020	0,030	0,040	0,050	0,060	80 (57–100)
		0,0500	1,5	0,00060	0,00080	0,0012	0,0016	0,0020	0,0024	260 (190 – 320)
H12	M/A/D	0,0500	1,5	0,011	0,015	0,022	0,030	0,038	0,044	70 (51 – 94)
		0,0500	1,5	0,00044	0,00060	0,00085	0,0012	0,0015	0,0017	230 (170 – 300)
H21	M/A/D	0,0500	1,5	0,011	0,015	0,022	0,030	0,038	0,044	60 (44 – 81)
		0,0500	1,5	0,00044	0,00060	0,00085	0,0012	0,0015	0,0017	195 (150 – 260)
TS1	A/D	0,100	0,55	0,019	0,026	0,038	0,050	0,065	0,075	475 (430 – 520)
		0,100	0,55	0,00075	0,0010	0,0015	0,0020	0,0026	0,0030	1550 (1500–1700)
TP1	A/D	0,100	0,55	0,019	0,026	0,038	0,050	0,065	0,075	475 (430 – 520)
		0,100	0,55	0,00075	0,0010	0,0015	0,0020	0,0026	0,0030	1550 (1500–1700)
GR1	A/D	0,100	0,55	0,019	0,026	0,038	0,050	0,065	0,075	475 (430 – 520)
		0,100	0,55	0,00075	0,0010	0,0015	0,0020	0,0026	0,0030	1550 (1500–1700)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

 $v_c = m/dak$  (sf/dak) $f_z = mm$  (inç/ağız) $a_p$  mm/DC (inç/DC) = faktör $a_e$  mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve diğer malzemeler için

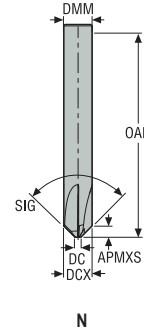
Grafit malzeme için

Minimaster Plus

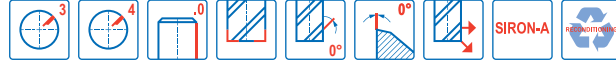
Minimaster

## JS509

Genel amaçlı – Üniversal – Köşesi pahlı – 3-4 Ağızlı – Silindirik



- Toleranslar:
- DMM=h5
- SIG= ±0,5°
- DMM ≥ Ø6 ise tekrar bilenebilir

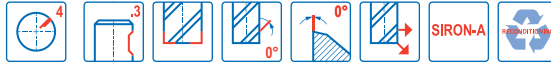
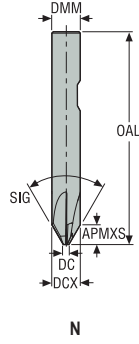


Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DCX	DMM	APMXS	OAL	SIG°	PCEDC	Silindirik
				mm	mm	mm	mm	mm			
JS509030N2CZ3.0-SIRA	02881634	2	N	0,6	3,0	3,0	1,2	50,0	90,0	3	■
JS509040N2CZ3.0-SIRA	02881635	2	N	0,8	4,0	4,0	1,6	50,0	90,0	3	■
JS509060N2CZ4.0-SIRA	02881636	2	N	1,2	6,0	6,0	2,4	57,0	90,0	4	■
JS509080N2CZ4.0-SIRA	02881638	2	N	1,6	8,0	8,0	3,2	63,0	90,0	4	■
JS509100N2CZ4.0-SIRA	02881640	2	N	2,0	10,0	10,0	4,0	72,0	90,0	4	■
JS509120N2CZ4.0-SIRA	02881642	2	N	2,4	12,0	12,0	4,8	83,0	90,0	4	■

■ Stoklu standart ürün.

## JS509

Genel amaçlı – Üniversal – Köşesi pahlı – 3-4 Ağızlı – Weldon



- Toleranslar:
- DMM=h5
- SIG= ±0,5°
- Tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DCX	DMM	APMXS	OAL	SIG°	PCEDC	Weldon
				mm	mm	mm	mm	mm			
JS509060N2CZ4.3-SIRA	02881637	2	N	1,2	6,0	6,0	2,4	57,0	90,0	4	■
JS509080N2CZ4.3-SIRA	02881639	2	N	1,6	8,0	8,0	3,2	63,0	90,0	4	■
JS509100N2CZ4.3-SIRA	02881641	2	N	2,0	10,0	10,0	4,0	72,0	90,0	4	■
JS509120N2CZ4.3-SIRA	02881643	2	N	2,4	12,0	12,0	4,8	83,0	90,0	4	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve cırp materyaller için

Grafit materyale için

Minimaster Plus

Minimaster

Kesme verileri – JS509 Köşesi pahlı kırma

SMG	a <sub>p</sub> /DC	a <sub>e</sub> /DC	f <sub>z</sub>						v <sub>c</sub>	
			3	4	6	8	10	12		
P1	M/A/D/E	0.100	0.55	0.034	0.044	0.065	0.090	0.11	0.13	380 (340 – 430)
		0,100	0,55	0,0013	0,0017	0,0026	0,0036	0,0044	0,0050	1250 (1200–1400)
P2	M/A/D/E	0.100	0.55	0.034	0.044	0.065	0.090	0.11	0.13	370 (330 – 420)
		0,100	0,55	0,0013	0,0017	0,0026	0,0036	0,0044	0,0050	1225 (1100–1300)
P3	M/A/D/E	0.100	0.55	0.032	0.042	0.065	0.085	0.11	0.12	320 (280 – 360)
		0,100	0,55	0,0013	0,0017	0,0026	0,0034	0,0044	0,0048	1050 (920–1100)
P4	M/A/D/E	0.100	0.55	0.032	0.042	0.060	0.085	0.10	0.12	280 (250 – 310)
		0,100	0,55	0,0013	0,0017	0,0024	0,0034	0,0040	0,0048	920 (830–1000)
P5	M/A/D/E	0.100	0.55	0.030	0.040	0.060	0.085	0.10	0.12	270 (240 – 300)
		0,100	0,55	0,0012	0,0016	0,0024	0,0034	0,0040	0,0048	890 (790 – 980)
P6	M/A/D/E	0.100	0.55	0.030	0.040	0.060	0.080	0.10	0.12	305 (270 – 340)
		0,100	0,55	0,0012	0,0016	0,0024	0,0032	0,0040	0,0048	1000 (890–1100)
P7	M/A/D/E	0.100	0.55	0.030	0.040	0.060	0.080	0.10	0.12	285 (250 – 320)
		0,100	0,55	0,0012	0,0016	0,0024	0,0032	0,0040	0,0048	940 (830–1000)
P8	M/A/D/E	0.100	0.55	0.032	0.042	0.065	0.085	0.11	0.12	270 (240 – 300)
		0,100	0,55	0,0013	0,0017	0,0026	0,0034	0,0044	0,0048	890 (790 – 980)
P11	M/A/D/E	0.100	0.55	0.030	0.040	0.060	0.080	0.10	0.12	280 (250 – 310)
		0,100	0,55	0,0012	0,0016	0,0024	0,0032	0,0040	0,0048	920 (830–1000)
P12	M/A/D/E	0.100	0.55	0.020	0.028	0.042	0.055	0.070	0.080	165 (150–180)
		0,100	0,55	0,00080	0,0011	0,0017	0,0022	0,0028	0,0032	540 (500 – 590)
M1	E/M/A	0.100	0.55	0.034	0.044	0.065	0.090	0.11	0.13	220 (180 – 260)
		0,100	0,55	0,0013	0,0017	0,0026	0,0036	0,0044	0,0050	720 (600 – 850)
M2	E/M/A	0.100	0.55	0.030	0.040	0.060	0.085	0.10	0.12	180 (150 – 210)
		0,100	0,55	0,0012	0,0016	0,0024	0,0034	0,0040	0,0048	590 (500 – 680)
M3	E/M/A	0.100	0.55	0.030	0.040	0.060	0.085	0.10	0.12	115 (81–150)
		0,100	0,55	0,0012	0,0016	0,0024	0,0034	0,0040	0,0048	375 (270 – 490)
M4	E/M/A	0.100	0.55	0.026	0.036	0.055	0.070	0.090	0.10	90 (61–110)
		0,100	0,55	0,0010	0,0014	0,0022	0,0028	0,0036	0,0040	295 (210 – 360)
M5	E/M/A	0.100	0.55	0.026	0.036	0.055	0.070	0.090	0.10	75 (51 – 95)
		0,100	0,55	0,0010	0,0014	0,0022	0,0028	0,0036	0,0040	245 (170 – 310)
K1	A/D/M/E	0.100	0.55	0.034	0.044	0.065	0.090	0.11	0.13	375 (330 – 420)
		0,100	0,55	0,0013	0,0017	0,0026	0,0036	0,0044	0,0050	1225 (1100–1300)
K2	A/D/M/E	0.100	0.55	0.030	0.040	0.060	0.085	0.10	0.12	325 (290 – 360)
		0,100	0,55	0,0012	0,0016	0,0024	0,0034	0,0040	0,0048	1075 (960–1100)
K3	A/D/M/E	0.100	0.55	0.030	0.040	0.060	0.085	0.10	0.12	275 (240 – 310)
		0,100	0,55	0,0012	0,0016	0,0024	0,0034	0,0040	0,0048	900 (790–1000)
K4	A/D/M/E	0.100	0.55	0.030	0.040	0.060	0.085	0.10	0.12	265 (230 – 290)
		0,100	0,55	0,0012	0,0016	0,0024	0,0034	0,0040	0,0048	870 (760 – 950)
K5	A/D/M/E	0.100	0.55	0.028	0.036	0.055	0.075	0.090	0.11	155 (140–170)
		0,100	0,55	0,0011	0,0014	0,0022	0,0030	0,0036	0,0044	510 (460 – 550)
K6	A/D/M/E	0.100	0.55	0.030	0.040	0.060	0.085	0.10	0.12	230 (210 – 260)
		0,100	0,55	0,0012	0,0016	0,0024	0,0034	0,0040	0,0048	750 (690 – 850)
K7	A/D/M/E	0.100	0.55	0.028	0.036	0.055	0.075	0.090	0.11	200 (180 – 220)
		0,100	0,55	0,0011	0,0014	0,0022	0,0030	0,0036	0,0044	660 (600 – 720)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)

f<sub>z</sub> = mm (inç/ağız)

a<sub>p</sub> mm/DC (inç/DC) = faktör

a<sub>e</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir



## Kesme verileri – JS509 Köşesi pahlı kırma

SMG		$a_e/DC$	$a_p/DC$	$f_z$						$v_c$
				3	4	6	8	10	12	
N1	E/M/A	0.100	0.55	0.030	0.040	0.060	0.085	0.10	0.12	900 (810 – 980)
		0.100	0.55	0.0012	0.0016	0.0024	0.0034	0.0040	0.0048	2950 (2700 – 3200)
N2	E/M/A	0.100	0.55	0.030	0.040	0.060	0.085	0.10	0.12	580 (530 – 630)
		0.100	0.55	0.0012	0.0016	0.0024	0.0034	0.0040	0.0048	1900 (1800 – 2000)
N3	E/M/A	0.100	0.55	0.030	0.040	0.060	0.085	0.10	0.12	385 (350 – 420)
		0.100	0.55	0.0012	0.0016	0.0024	0.0034	0.0040	0.0048	1275 (1200 – 1300)
N11	E/M/A	0.100	0.55	0.030	0.040	0.060	0.085	0.10	0.12	510 (470 – 560)
		0.100	0.55	0.0012	0.0016	0.0024	0.0034	0.0040	0.0048	1675 (1600 – 1800)
S1	E	0.100	0.55	0.017	0.022	0.032	0.044	0.055	0.065	70 (24 – 110)
		0.100	0.55	0.00065	0.00085	0.0013	0.0017	0.0022	0.0026	230 (79 – 360)
S2	E	0.100	0.55	0.017	0.022	0.032	0.044	0.055	0.065	55 (19 – 94)
		0.100	0.55	0.00065	0.00085	0.0013	0.0017	0.0022	0.0026	180 (63 – 300)
S3	E	0.100	0.55	0.015	0.020	0.030	0.042	0.050	0.060	49 (17 – 80)
		0.100	0.55	0.00060	0.00080	0.0012	0.0017	0.0020	0.0024	160 (56 – 260)
S11	E	0.100	0.55	0.030	0.040	0.060	0.085	0.10	0.12	175 (130 – 220)
		0.100	0.55	0.0012	0.0016	0.0024	0.0034	0.0040	0.0048	570 (430 – 720)
S12	E	0.100	0.55	0.030	0.040	0.060	0.085	0.10	0.12	135 (99 – 170)
		0.100	0.55	0.0012	0.0016	0.0024	0.0034	0.0040	0.0048	445 (330 – 550)
S13	E	0.100	0.55	0.026	0.036	0.055	0.070	0.090	0.10	105 (77 – 130)
		0.100	0.55	0.0010	0.0014	0.0022	0.0028	0.0036	0.0040	345 (260 – 420)
H5	M/A/D	0.0500	1.2	0.020	0.026	0.040	0.050	0.065	0.075	115 (80 – 140)
		0.0500	1.2	0.00080	0.0010	0.0016	0.0020	0.0026	0.0030	375 (270 – 450)
H8	M/A/D	0.0500	1.2	0.015	0.020	0.030	0.040	0.050	0.060	110 (78 – 140)
		0.0500	1.2	0.00060	0.00080	0.0012	0.0016	0.0020	0.0024	360 (260 – 450)
H11	M/A/D	0.0500	1.2	0.020	0.026	0.040	0.050	0.065	0.075	145 (110 – 190)
		0.0500	1.2	0.00080	0.0010	0.0016	0.0020	0.0026	0.0030	475 (370 – 620)
H12	M/A/D	0.0500	1.2	0.015	0.020	0.030	0.040	0.050	0.060	130 (91 – 170)
		0.0500	1.2	0.00060	0.00080	0.0012	0.0016	0.0020	0.0024	425 (300 – 550)
H21	M/A/D	0.0500	1.2	0.015	0.020	0.030	0.040	0.050	0.060	110 (78 – 140)
		0.0500	1.2	0.00060	0.00080	0.0012	0.0016	0.0020	0.0024	360 (260 – 450)
TS1	A/D	0.100	0.55	0.030	0.040	0.060	0.085	0.10	0.12	900 (810 – 980)
		0.100	0.55	0.0012	0.0016	0.0024	0.0034	0.0040	0.0048	2950 (2700 – 3200)
TP1	A/D	0.100	0.55	0.030	0.040	0.060	0.085	0.10	0.12	900 (810 – 980)
		0.100	0.55	0.0012	0.0016	0.0024	0.0034	0.0040	0.0048	2950 (2700 – 3200)
GR1	A/D	0.100	0.55	0.030	0.040	0.060	0.085	0.10	0.12	900 (810 – 980)
		0.100	0.55	0.0012	0.0016	0.0024	0.0034	0.0040	0.0048	2950 (2700 – 3200)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

 $v_c = m/dak$  (sf/dak) $f_z = mm$  (inç/ağız) $a_p$  mm/DC (inç/DC) = faktör $a_e$  mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

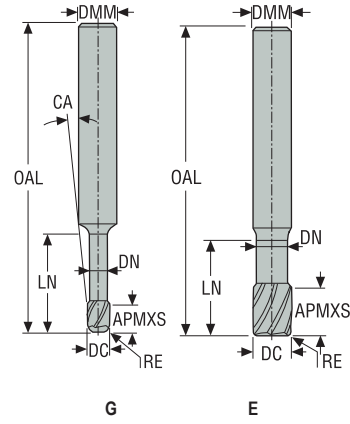
Grafit malzeme için

Minimaster Plus

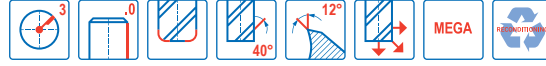
Minimaster

## JH910

Yüksek hız – Üniversal – Dik kenarlı – 3 Ağzılı – Silindirik – Köşe radyüsü



- Toleranslar:
- DMM= h5
- DC= -0,02/-0,03 mm
- RE= ±0,01 mm
- DC ≥ Ø6 ise tekrar bilenebilir

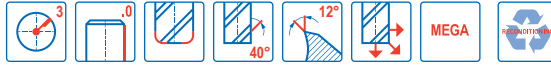
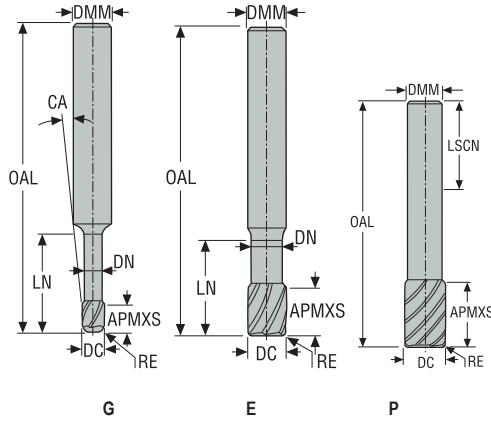


Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	CA	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm	mm	mm	mm	
910020R020-MEGA	00020058	2	G	2,0	3,0	3,0	40,0	6,0	1,9	0,2	3,5	3	■
910025R020-MEGA	00020065	2	G	2,5	3,0	4,0	40,0	6,0	2,4	0,2	2,0	3	■
910030R010-MEGA	00020073	2	E	3,0	3,0	4,0	40,0	7,0	2,8	0,1	-	3	■
910030R020-MEGA	00020142	2	E	3,0	3,0	4,0	40,0	7,0	2,8	0,2	-	3	■
910035R020-MEGA	00020144	2	G	3,5	6,0	5,0	50,0	9,0	3,2	0,2	6,0	3	■
910040R020-MEGA	00020151	2	G	4,0	6,0	5,0	50,0	9,0	3,7	0,2	5,0	3	■
910040R030-MEGA	00020152	2	G	4,0	6,0	5,0	50,0	9,0	3,7	0,3	5,0	3	■
910040R050-MEGA	00020155	2	G	4,0	6,0	5,0	50,0	9,0	3,7	0,5	5,0	3	■
910050R020-MEGA	00020159	2	G	5,0	6,0	6,0	50,0	11,0	4,6	0,2	2,5	3	■
910060R020-MEGA	00020160	2	E	6,0	6,0	7,0	60,0	14,0	5,6	0,2	-	3	■
910060R030-MEGA	00020161	2	E	6,0	6,0	7,0	60,0	14,0	5,6	0,3	-	3	■
910060R050-MEGA	00020162	2	E	6,0	6,0	7,0	60,0	14,0	5,6	0,5	-	3	■
910080R020-MEGA	00020163	2	E	8,0	8,0	9,0	60,0	18,0	7,4	0,2	-	3	■
910080R050-MEGA	00020164	2	E	8,0	8,0	9,0	60,0	18,0	7,4	0,5	-	3	■
910100R020-MEGA	00020165	2	E	10,0	10,0	12,0	70,0	25,0	9,4	0,2	-	3	■
910100R050-MEGA	00020166	2	E	10,0	10,0	12,0	70,0	25,0	9,4	0,5	-	3	■
910100R100-MEGA	00020167	2	E	10,0	10,0	12,0	70,0	25,0	9,4	1,0	-	3	■
910120R050-MEGA	00020168	2	E	12,0	12,0	15,0	80,0	30,0	11,4	0,5	-	3	■
910120R100-MEGA	00020169	2	E	12,0	12,0	15,0	80,0	30,0	11,4	1,0	-	3	■

■ Stoklu standart ürün.

## JH910

Yüksek hız – Üniversal – Dik kenarlı – 3 Ağızlı – Silindirik – Köşe radyüsü



- Toleranslar:
- DMM= h5
- DC= -0,02/-0,03 mm
- RE= ±0,01 mm
- DC ≥ Ø6 ise tekrar bilenebilir



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	CA	LSCN	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm	mm	–	mm		
910L020-MEGA	00022002	3	G	2,0	3,0	3,0	60,0	10,0	1,9	0,2	2,5	28,0	3	■
910L030-MEGA	00022003	3	E	3,0	3,0	4,0	60,0	14,0	2,8	0,2	–	28,0	3	■
910L040-MEGA	00022004	3	G	4,0	6,0	5,0	65,0	18,0	3,7	0,2	3,0	36,0	3	■
910L050-MEGA	00022005	3	G	5,0	6,0	6,0	65,0	22,0	4,6	0,2	1,5	36,0	3	■
910L060-MEGA	00022006	3	E	6,0	6,0	7,0	80,0	26,0	5,6	0,3	–	36,0	3	■
910L080-MEGA	00022007	3	E	8,0	8,0	9,0	85,0	36,0	7,4	0,5	–	36,0	3	■
910L100-MEGA	00022009	3	E	10,0	10,0	12,0	100,0	45,0	9,4	0,5	–	40,0	3	■
910L120-MEGA	00022011	3	E	12,0	12,0	15,0	125,0	54,0	11,4	0,5	–	45,0	3	■
910L160-MEGA	00022013	3	E	16,0	16,0	18,0	125,0	65,0	15,4	1,0	–	48,0	3	■
910RS070-MEGA	00021772	4	P	7,0	6,0	8,0	100,0	–	–	0,3	–	36,0	3	■
910RS090-MEGA	00021781	4	P	9,0	8,0	11,0	100,0	–	–	0,5	–	36,0	3	■
910RS110-MEGA	00021782	4	P	11,0	10,0	13,0	125,0	–	–	0,5	–	40,0	3	■
910RS130-MEGA	00021784	4	P	13,0	12,0	16,0	150,0	–	–	0,6	–	45,0	3	■
910RS170-MEGA	00021800	4	P	17,0	16,0	20,0	150,0	–	–	0,6	–	48,0	3	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve cırp materyaller için

Grafit materyale için

Minimaster Plus

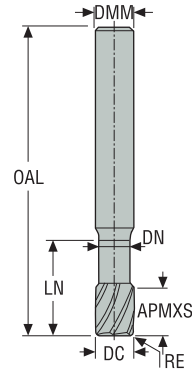
Minimaster





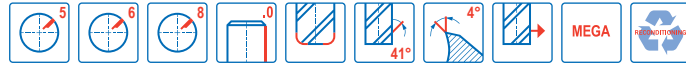
## JH930

Yüksek hız – Üniversal – Dik kenarlı – 5-8 Ağız – Silindirik – Köşe radyüsü



E

- Toleranslar:
- DMM= h5
- DC= -0,02/-0,04 mm
- RE= ±0,05 mm
- Tekrar bilenebilir



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm	mm		
930060R020-MEGA	00022026	2	E	6,0	6,0	9,0	55,0	15,0	5,6	0,2	5	■
930060R050-MEGA	00022027	2	E	6,0	6,0	9,0	55,0	15,0	5,6	0,5	5	■
930080R020-MEGA	00022028	2	E	8,0	8,0	12,0	60,0	18,0	7,4	0,2	5	■
930080R050-MEGA	00022029	2	E	8,0	8,0	12,0	60,0	18,0	7,4	0,5	5	■
930100R030-MEGA	00022030	2	E	10,0	10,0	15,0	70,0	25,0	9,4	0,3	6	■
930100R100-MEGA	00022031	2	E	10,0	10,0	15,0	70,0	25,0	9,4	1,0	6	■
930120R050-MEGA	00022033	2	E	12,0	12,0	18,0	80,0	30,0	11,4	0,5	6	■
930120R100-MEGA	00022034	2	E	12,0	12,0	18,0	80,0	30,0	11,4	1,0	6	■
930160R050-MEGA	00022035	2	E	16,0	16,0	24,0	90,0	35,0	15,4	0,5	8	■
930160R100-MEGA	00022040	2	E	16,0	16,0	24,0	90,0	35,0	15,4	1,0	8	■
930200R050-MEGA	00022044	2	E	20,0	20,0	30,0	100,0	38,0	19,2	0,5	8	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası matzemeleri

Demir içermeyen matzemeler

Sertleştirilmiş çelik için

Plastik ve çirp matzemeler için

Grafit matzeme için

Minimaster Plus

Minimaster

## Kesme verileri – JH930 Kenar frezeleme

SMG		a <sub>e</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>						v <sub>c</sub>
				6	8	10	12	16	20	
P1	M/E/A	0.0400	0.70	0.065	0.085	0.11	0.13	0.16	0.18	440 (370 – 490)
		0,0400	0,70	0,0026	0,0034	0,0044	0,0050	0,0065	0,0070	1450 (1300–1600)
P2	M/E/A	0.0400	0.70	0.065	0.090	0.11	0.13	0.16	0.19	430 (360 – 480)
		0,0400	0,70	0,0026	0,0036	0,0044	0,0050	0,0065	0,0075	1400 (1200–1500)
P3	M/E/A	0.0400	0.70	0.060	0.085	0.10	0.12	0.15	0.18	375 (320 – 420)
		0,0400	0,70	0,0024	0,0034	0,0040	0,0048	0,0060	0,0070	1225 (1100–1300)
P4	M/E/A	0.0400	0.70	0.060	0.080	0.10	0.12	0.15	0.17	330 (280 – 370)
		0,0400	0,70	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	1075 (920–1200)
P5	M/E/A	0.0400	0.70	0.060	0.080	0.10	0.12	0.15	0.17	315 (270 – 350)
		0,0400	0,70	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	1025 (890–1100)
P6	M/E/A	0.0400	0.70	0.060	0.080	0.10	0.12	0.15	0.17	355 (300 – 390)
		0,0400	0,70	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	1175 (990–1200)
P7	M/E/A	0.0400	0.70	0.060	0.080	0.10	0.12	0.15	0.17	335 (280 – 370)
		0,0400	0,70	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	1100 (920–1200)
P8	M/E/A	0.0400	0.70	0.060	0.085	0.10	0.12	0.15	0.18	315 (270 – 350)
		0,0400	0,70	0,0024	0,0034	0,0040	0,0048	0,0060	0,0070	1025 (890–1100)
P11	M/E/A	0.0400	0.70	0.060	0.080	0.10	0.12	0.15	0.17	325 (280 – 360)
		0,0400	0,70	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	1075 (920–1100)
P12	M/E/A	0.0400	0.70	0.040	0.055	0.070	0.080	0.10	0.11	200 (170 – 220)
		0,0400	0,70	0,0016	0,0022	0,0028	0,0032	0,0040	0,0044	660 (560–720)
K1	E/M/A	0.0400	0.70	0.060	0.080	0.10	0.12	0.15	0.17	255 (210 – 300)
		0,0400	0,70	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	840 (690 – 980)
K2	E/M/A	0.0400	0.70	0.055	0.075	0.090	0.11	0.13	0.15	225 (180 – 260)
		0,0400	0,70	0,0022	0,0030	0,0036	0,0044	0,0050	0,0060	740 (600 – 850)
K3	E/M/A	0.0400	0.70	0.055	0.075	0.090	0.11	0.13	0.15	190 (160 – 220)
		0,0400	0,70	0,0022	0,0030	0,0036	0,0044	0,0050	0,0060	620 (530–720)
K4	E/M/A	0.0400	0.70	0.055	0.075	0.090	0.11	0.13	0.15	180 (150 – 210)
		0,0400	0,70	0,0022	0,0030	0,0036	0,0044	0,0050	0,0060	590 (500 – 680)
K5	E/M/A	0.0300	0.50	0.060	0.080	0.10	0.12	0.15	0.17	205 (160 – 250)
		0,0300	0,50	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	670 (530 – 820)
K6	E/M/A	0.0300	0.50	0.065	0.090	0.11	0.13	0.16	0.19	300 (230 – 370)
		0,0300	0,50	0,0026	0,0036	0,0044	0,0050	0,0065	0,0075	980 (760–1200)
K7	E/M/A	0.0300	0.50	0.060	0.080	0.10	0.12	0.15	0.17	260 (200 – 320)
		0,0300	0,50	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	850 (660–1000)
S1	E/M/A	0.0300	0.44	0.055	0.070	0.090	0.11	0.13	0.15	80 (62–100)
		0,0300	0,44	0,0022	0,0028	0,0036	0,0044	0,0050	0,0060	260 (210 – 320)
S2	E/M/A	0.0300	0.44	0.055	0.070	0.090	0.11	0.13	0.15	65 (50 – 82)
		0,0300	0,44	0,0022	0,0028	0,0036	0,0044	0,0050	0,0060	215 (170 – 260)
S3	E/M/A	0.0200	0.70	0.055	0.070	0.090	0.11	0.13	0.15	41 (31 – 50)
		0,0200	0,70	0,0022	0,0028	0,0036	0,0044	0,0050	0,0060	135 (110–160)
S11	E/M/A	0.0400	0.70	0.060	0.080	0.10	0.12	0.15	0.17	160 (140–180)
		0,0400	0,70	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	520 (460 – 590)
S12	E/M/A	0.0400	0.70	0.060	0.080	0.10	0.12	0.15	0.17	120 (110–140)
		0,0400	0,70	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	395 (370 – 450)
S13	E/M/A	0.0400	0.70	0.050	0.070	0.085	0.10	0.13	0.15	95 (81–110)
		0,0400	0,70	0,0020	0,0028	0,0034	0,0040	0,0050	0,0060	310 (270 – 360)
H3	M/A	0.0200	0.50	0.018	0.024	0.030	0.036	0.044	0.050	55 (41–71)
		0,0200	0,50	0,00070	0,00095	0,0012	0,0014	0,0017	0,0020	180 (140 – 230)
H5	M/A	0.0300	0.50	0.024	0.032	0.040	0.048	0.060	0.070	250 (210 – 300)
		0,0300	0,50	0,00095	0,0013	0,0016	0,0019	0,0024	0,0028	820 (690 – 980)
H7	M/A	0.0200	0.50	0.018	0.024	0.030	0.036	0.044	0.050	55 (41–71)
		0,0200	0,50	0,00070	0,00095	0,0012	0,0014	0,0017	0,0020	180 (140 – 230)
H8	M/A	0.0300	0.50	0.018	0.024	0.030	0.036	0.044	0.050	255 (210 – 300)
		0,0300	0,50	0,00070	0,00095	0,0012	0,0014	0,0017	0,0020	840 (690 – 980)
H11	M/A	0.0300	0.50	0.024	0.032	0.040	0.048	0.060	0.070	320 (260 – 380)
		0,0300	0,50	0,00095	0,0013	0,0016	0,0019	0,0024	0,0028	1050 (860–1200)
H12	M/A	0.0400	0.70	0.030	0.042	0.050	0.060	0.075	0.085	270 (220 – 320)
		0,0400	0,70	0,0012	0,0017	0,0020	0,0024	0,0030	0,0034	890 (730–1000)
H21	M/A	0.0300	0.50	0.018	0.024	0.030	0.036	0.044	0.050	255 (210 – 300)
		0,0300	0,50	0,00070	0,00095	0,0012	0,0014	0,0017	0,0020	840 (690 – 980)
H31	M/A	0.0300	0.50	0.024	0.032	0.040	0.048	0.060	0.070	155 (130–180)
		0,0300	0,50	0,00095	0,0013	0,0016	0,0019	0,0024	0,0028	510 (430 – 590)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub>= m/dak (sf/dak)f<sub>z</sub> = mm (inç/ağız)a<sub>p</sub> mm/DC (inç/DC) = faktöra<sub>e</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

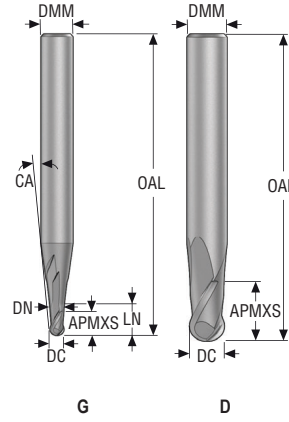
Grafit malzeme için

Mimaster Plus

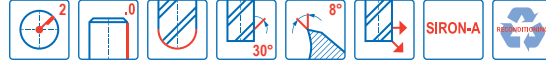
Mimaster

## JHB970

Yüksek hız – Üniversal – Tamamı yuvarlak – 2 Ağzılı – Silindirik



- Toleranslar:
- DMM= h5
- DC= -0,02/-0,04 mm
- RE= ±0,01 mm
- DC ≥ Ø6 ise tekrar bilelenebilir



Ürün Tanımı	Kalite	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	CA	PCEDC	WDX0	WDX05	WDX1	WDX15	WDX2	WDX3	Silindirik
JHB970020G1B.0Z2	SIRA	10072058	1	G	2,0	3,0	3,0	50,0	10,0	1,9	2,5	2	10,0	11,0	11,5	12,1	12,8	-	■
JHB970030D1B.0Z2	SIRA	10072059	1	D	3,0	3,0	4,5	50,0	-	-	-	2	-	-	-	-	-	-	■
JHB970040D1B.0Z2	SIRA	10072060	1	D	4,0	4,0	6,0	60,0	-	-	-	2	-	-	-	-	-	-	■
JHB970050D1B.0Z2	SIRA	10072061	1	D	5,0	5,0	7,5	60,0	-	-	-	2	-	-	-	-	-	-	■
JHB970060D1B.0Z2	SIRA	10072062	1	D	6,0	6,0	9,0	75,0	-	-	-	2	-	-	-	-	-	-	■
JHB970020G2B.0Z2	SIRA	10072063	2	G	2,0	6,0	3,0	60,0	4,0	1,9	8,0	2	4,0	4,7	4,9	5,1	5,4	6,0	■
JHB970025G2B.0Z2	SIRA	10072064	2	G	2,5	6,0	4,0	60,0	5,0	2,4	7,5	2	5,0	5,7	6,0	6,2	6,5	7,3	■
JHB970030G2B.0Z2	SIRA	10072065	2	G	3,0	6,0	4,5	60,0	6,0	2,8	5,5	2	6,0	7,4	7,8	8,3	9,0	10,6	■
JHB970035G2B.0Z2	SIRA	10072066	2	G	3,5	6,0	5,0	60,0	7,0	3,2	4,5	2	7,0	8,8	9,4	10,0	10,7	12,8	■
JHB970040G2B.0Z2	SIRA	10072067	2	G	4,0	6,0	6,0	60,0	8,0	3,7	3,0	2	8,0	10,8	11,9	13,3	15,2	-	■
JHB970050G2B.0Z2	SIRA	10072068	2	G	5,0	6,0	7,5	60,0	10,0	4,6	2,0	2	10,0	13,6	15,0	16,8	-	-	■
JHB970060G2B.0Z2	SIRA	10072069	2	G	6,0	8,0	9,0	75,0	12,0	5,6	2,5	2	12,0	15,8	17,4	19,4	22,2	-	■
JHB970080D2B.0Z2	SIRA	10072070	2	D	8,0	8,0	12,0	75,0	-	-	-	2	-	-	-	-	-	-	■
JHB970100D2B.0Z2	SIRA	10072071	2	D	10,0	10,0	15,0	80,0	-	-	-	2	-	-	-	-	-	-	■
JHB970120D2B.0Z2	SIRA	10072072	2	D	12,0	12,0	18,0	90,0	-	-	-	2	-	-	-	-	-	-	■
JHB970160D2B.0Z2	SIRA	10072073	2	D	16,0	16,0	24,0	100,0	-	-	-	2	-	-	-	-	-	-	■
JHB970020G3B.0Z2	SIRA	10072074	3	G	2,0	6,0	3,0	80,0	4,0	1,9	8,0	2	4,0	4,7	4,9	5,1	5,4	6,0	■
JHB970030G3B.0Z2	SIRA	10072075	3	G	3,0	6,0	4,5	80,0	6,0	2,8	5,5	2	6,0	7,4	7,8	8,3	9,0	10,6	■
JHB970040G3B.0Z2	SIRA	10072076	3	G	4,0	6,0	6,0	80,0	8,0	3,7	3,0	2	8,0	10,8	11,9	13,3	15,2	-	■
JHB970060G3B.0Z2	SIRA	10072077	3	G	6,0	8,0	9,0	100,0	12,0	5,6	2,5	2	12,0	15,8	17,4	19,4	22,2	-	■
JHB970080D3B.0Z2	SIRA	10072078	3	D	8,0	8,0	12,0	108,0	-	-	-	2	-	-	-	-	-	-	■
JHB970100D3B.0Z2	SIRA	10072079	3	D	10,0	10,0	15,0	125,0	-	-	-	2	-	-	-	-	-	-	■
JHB970120D3B.0Z2	SIRA	10072080	3	D	12,0	12,0	18,0	125,0	-	-	-	2	-	-	-	-	-	-	■

■ Stoklu standart ürün.

WDX değerleri için: α<sub>1</sub>'ye bağlı maks. kesme derinliği (lα<sub>1</sub>, ref)\*



## Kesme verileri – JHB970 Kaba kopya frezeleme

SMG	M	a <sub>e</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>											v <sub>c</sub>
				2	2.5	3	3.5	4	5	6	8	10	12	16	
P1	M	0.200	1.0	0.011	0.014	0.016	0.019	0.022	0.028	0.032	0.044	0.055	0.065	0.080	210 (190 – 230)
		0.200	1.0	0.00044	0.00055	0.00065	0.00075	0.00085	0.0011	0.0013	0.0017	0.0022	0.0026	0.0032	690 (630 – 750)
P2	M	0.200	1.0	0.011	0.014	0.017	0.019	0.022	0.028	0.034	0.044	0.055	0.065	0.080	205 (180 – 230)
		0.200	1.0	0.00044	0.00055	0.00065	0.00075	0.00085	0.0011	0.0013	0.0017	0.0022	0.0026	0.0032	670 (600 – 750)
P3	M	0.200	1.0	0.010	0.013	0.016	0.018	0.020	0.026	0.032	0.042	0.050	0.060	0.075	180 (160 – 200)
		0.200	1.0	0.00040	0.00050	0.00065	0.00070	0.00080	0.0010	0.0013	0.0017	0.0020	0.0024	0.0030	590 (530 – 650)
P4	M	0.200	1.0	0.010	0.013	0.015	0.018	0.020	0.026	0.030	0.040	0.050	0.060	0.075	155 (140 – 170)
		0.200	1.0	0.00040	0.00050	0.00060	0.00070	0.00080	0.0010	0.0012	0.0016	0.0020	0.0024	0.0030	510 (460 – 550)
P5	M	0.200	1.0	0.010	0.012	0.015	0.018	0.020	0.025	0.030	0.040	0.050	0.060	0.075	150 (140 – 170)
		0.200	1.0	0.00040	0.00048	0.00060	0.00065	0.00080	0.0010	0.0012	0.0016	0.0020	0.0024	0.0030	490 (460 – 550)
P6	M	0.200	1.0	0.010	0.012	0.015	0.017	0.020	0.025	0.030	0.040	0.050	0.060	0.075	170 (150 – 190)
		0.200	1.0	0.00040	0.00048	0.00060	0.00065	0.00080	0.0010	0.0012	0.0016	0.0020	0.0024	0.0030	560 (500 – 620)
P7	M	0.200	1.0	0.010	0.012	0.015	0.017	0.020	0.025	0.030	0.040	0.050	0.060	0.075	160 (140 – 180)
		0.200	1.0	0.00040	0.00048	0.00060	0.00065	0.00080	0.0010	0.0012	0.0016	0.0020	0.0024	0.0030	520 (460 – 590)
P8	M	0.200	1.0	0.010	0.013	0.016	0.018	0.020	0.026	0.032	0.042	0.050	0.060	0.075	150 (140 – 170)
		0.200	1.0	0.00040	0.00050	0.00065	0.00070	0.00080	0.0010	0.0013	0.0017	0.0020	0.0024	0.0030	490 (460 – 550)
P11	M	0.200	1.0	0.010	0.012	0.015	0.017	0.020	0.025	0.030	0.040	0.050	0.060	0.075	75 (67 – 86)
		0.200	1.0	0.00040	0.00048	0.00060	0.00065	0.00080	0.0010	0.0012	0.0016	0.0020	0.0024	0.0030	245 (220 – 280)
P12	M	0.200	1.0	0.0070	0.0085	0.010	0.012	0.014	0.017	0.020	0.028	0.034	0.040	0.050	48 (42 – 53)
		0.200	1.0	0.00028	0.00034	0.00040	0.00048	0.00055	0.00065	0.00080	0.0011	0.0013	0.0016	0.0020	155 (140 – 170)
M1	E	0.200	1.0	0.0090	0.011	0.013	0.015	0.018	0.022	0.026	0.036	0.044	0.050	0.065	90 (80 – 100)
		0.200	1.0	0.00036	0.00044	0.00050	0.00060	0.00070	0.00085	0.0010	0.0014	0.0017	0.0020	0.0026	295 (270 – 320)
M2	E	0.200	1.0	0.0080	0.010	0.012	0.014	0.016	0.020	0.024	0.032	0.040	0.048	0.060	75 (65 – 85)
		0.200	1.0	0.00032	0.00040	0.00048	0.00055	0.00065	0.00080	0.00095	0.0013	0.0016	0.0019	0.0024	245 (220 – 270)
M3	E	0.150	1.0	0.0060	0.0075	0.0090	0.010	0.012	0.015	0.018	0.024	0.030	0.036	0.044	65 (55 – 75)
		0.150	1.0	0.00024	0.00030	0.00036	0.00040	0.00048	0.00060	0.00070	0.00095	0.0012	0.0014	0.0017	215 (190 – 240)
M4	E	0.150	1.0	0.0050	0.0065	0.0080	0.0090	0.010	0.013	0.016	0.020	0.026	0.032	0.038	49 (42 – 56)
		0.150	1.0	0.00020	0.00026	0.00032	0.00036	0.00040	0.00050	0.00065	0.00080	0.0010	0.0013	0.0015	160 (140 – 180)
M5	E	0.150	1.0	0.0050	0.0065	0.0080	0.0090	0.010	0.013	0.016	0.020	0.026	0.032	0.038	41 (35 – 47)
		0.150	1.0	0.00020	0.00026	0.00032	0.00036	0.00040	0.00050	0.00065	0.00080	0.0010	0.0013	0.0015	135 (120 – 150)
S1	E	0.100	0.80	0.0060	0.0075	0.0090	0.010	0.012	0.015	0.018	0.024	0.030	0.036	0.044	50 (40 – 59)
		0.100	0.80	0.00024	0.00030	0.00036	0.00040	0.00048	0.00060	0.00070	0.00095	0.0012	0.0014	0.0017	165 (140 – 190)
S2	E	0.100	0.80	0.0060	0.0075	0.0090	0.010	0.012	0.015	0.018	0.024	0.030	0.036	0.044	40 (33 – 48)
		0.100	0.80	0.00024	0.00030	0.00036	0.00040	0.00048	0.00060	0.00070	0.00095	0.0012	0.0014	0.0017	130 (110 – 150)
S3	E	0.100	0.60	0.0040	0.0050	0.0060	0.0070	0.0080	0.010	0.012	0.016	0.020	0.024	0.028	30 (20 – 39)
		0.100	0.60	0.00016	0.00020	0.00024	0.00028	0.00032	0.00040	0.00048	0.00065	0.00080	0.00095	0.0011	100 (66 – 120)
S11	E	0.200	1.0	0.010	0.012	0.015	0.018	0.020	0.025	0.030	0.040	0.050	0.060	0.075	90 (79 – 100)
		0.200	1.0	0.00040	0.00048	0.00060	0.00065	0.00080	0.0010	0.0012	0.0016	0.0020	0.0024	0.0030	295 (260 – 320)
S12	E	0.200	1.0	0.010	0.012	0.015	0.018	0.020	0.025	0.030	0.040	0.050	0.060	0.075	70 (61 – 80)
		0.200	1.0	0.00040	0.00048	0.00060	0.00065	0.00080	0.0010	0.0012	0.0016	0.0020	0.0024	0.0030	230 (210 – 260)
S13	E	0.200	1.0	0.0085	0.011	0.013	0.015	0.017	0.022	0.026	0.034	0.044	0.050	0.065	55 (48 – 63)
		0.200	1.0	0.00034	0.00044	0.00050	0.00060	0.00065	0.00085	0.0010	0.0013	0.0017	0.0020	0.0026	180 (160 – 200)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

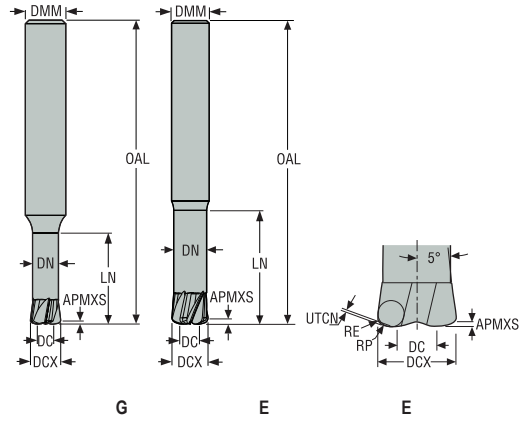
Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub>= m/dak (sf/dak)f<sub>z</sub> = mm (inç/ağız)a<sub>p</sub> mm/DC (inç/DC) = faktöra<sub>e</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

## JHF980

Yüksek ilerlemeli – Üniversal – 2-5 Ağızlı – Silindirik – Köşe radyüsü



- Toleranslar:
- DMM= h5
- DC= -0,02/-0,05 mm
- RE= ±0,05 mm
- DC ≥ Ø6 ise tekrar bilenebilir

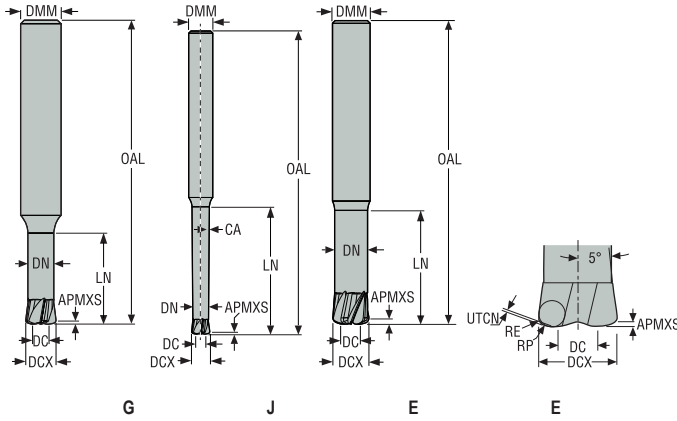


Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DCX	DC	DMM	APMXS	OAL	LN	DN	RE	RP	UTCN	CA	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm	mm	mm	mm	mm			
980K080Z3-MEGA	02587115	1	E	8,0	4,0	8,0	0,4	70,0	12,0	3,0	0,6	0,935	0,198	-	3	■
JHF980080E1H.0Z5-MEGA	03003384	1	E	8,0	4,0	8,0	0,4	70,0	12,0	7,0	0,6	0,935	0,198	-	5	■
980K100Z3-MEGA	02587117	1	E	10,0	5,0	10,0	0,45	80,0	15,0	3,8	0,8	1,176	0,232	-	3	■
JHF980100E1H.0Z5-MEGA	03003385	1	E	10,0	5,0	10,0	0,45	80,0	15,0	8,8	0,8	1,176	0,232	-	5	■
980K120Z3-MEGA	02587118	1	E	12,0	6,0	12,0	0,5	80,0	18,0	4,6	1,0	1,417	0,265	-	3	■
JHF980120E1H.0Z5-MEGA	03003386	1	E	12,0	6,0	12,0	0,5	80,0	18,0	10,6	1,0	1,417	0,265	-	5	■
980010-MEGA	02587111	2	G	1,0	0,5	6,0	0,07	40,0	3,0	0,7	0,07	0,127	0,028	19,5	2	■
980015-MEGA	02511199	2	G	1,5	0,75	6,0	0,1	40,0	4,5	1,2	0,1	0,183	0,043	14,0	2	■
980020-MEGA	02511221	2	G	2,0	1,0	6,0	0,15	40,0	6,0	1,7	0,15	0,269	0,055	11,0	2	■
980030-MEGA	02511224	2	G	3,0	1,5	6,0	0,2	50,0	9,0	2,6	0,2	0,366	0,085	7,0	2	■
JHF980030G2H.0Z4-MEGA	03003387	2	G	3,0	1,5	6,0	0,2	50,0	9,0	2,6	0,2	0,366	0,085	7,12	4	■
980040-MEGA	02511229	2	G	4,0	2,0	6,0	0,25	60,0	12,0	3,5	0,3	0,503	0,107	4,0	2	■
JHF980040G2H.0Z4-MEGA	03003388	2	G	4,0	2,0	6,0	0,25	60,0	12,0	3,5	0,3	0,503	0,107	4,0	4	■
980050-MEGA	02511233	2	G	5,0	2,5	6,0	0,3	60,0	15,0	4,4	0,4	0,641	0,128	2,0	2	■
JHF980050G2H.0Z4-MEGA	03003389	2	G	5,0	2,5	6,0	0,3	60,0	15,0	4,4	0,4	0,641	0,128	1,77	4	■
980060-MEGA	02511314	2	G	6,0	3,0	8,0	0,35	60,0	18,0	5,2	0,5	0,778	0,15	3,0	2	■
JHF980060G2H.0Z4-MEGA	03003390	2	G	6,0	3,0	8,0	0,35	60,0	18,0	5,2	0,5	0,778	0,15	2,86	4	■
980080-MEGA	02511322	2	E	8,0	4,0	8,0	0,4	70,0	24,0	7,0	0,6	0,935	0,198	-	2	■
JHF980080E2H.0Z5-MEGA	03003391	2	E	8,0	4,0	8,0	0,4	70,0	24,0	7,0	0,6	0,935	0,198	-	5	■
980100-MEGA	02511341	2	E	10,0	5,0	10,0	0,45	80,0	30,0	8,8	0,8	1,176	0,232	-	2	■
980100Z3-MEGA	02511342	2	E	10,0	5,0	10,0	0,45	80,0	30,0	8,8	0,8	1,176	0,232	-	3	■
JHF980100E2H.0Z5-MEGA	03003392	2	E	10,0	5,0	10,0	0,45	80,0	30,0	8,8	0,8	1,176	0,232	-	5	■
980120-MEGA	02511346	2	E	12,0	6,0	12,0	0,5	80,0	36,0	10,6	1,0	1,417	0,265	-	2	■
980120Z3-MEGA	02511347	2	E	12,0	6,0	12,0	0,5	80,0	36,0	10,6	1,0	1,417	0,265	-	3	■
JHF980120E2H.0Z5-MEGA	03003393	2	E	12,0	6,0	12,0	0,5	80,0	36,0	10,6	1,0	1,417	0,265	-	5	■

■ Stoklu standart ürün.  
\*UTCN = kesilmemiş kalınlık

## JHF980

Yüksek ilerlemeli – Üniversal – 2-5 Ağız – Silindirik – Köşe radyüsü



- Toleranslar:
- DMM= h5
- DC= -0,02/-0,05 mm
- RE= ±0,05 mm
- DC ≥ Ø6 ise tekrar bilebilir



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DCX	DC	DMM	APMXS	OAL	LN	DN	RE	RP	UTCN	CA	NA	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
980ML010-MEGA	02587113	3	G	1,0	0,5	6,0	0,07	40,0	5,0	0,7	0,07	0,127	0,028	15,5	0,0	2	■
980ML015-MEGA	02511219	3	G	1,5	0,75	6,0	0,1	40,0	7,5	1,2	0,1	0,183	0,043	10,5	0,0	2	■
980ML020-MEGA	02511222	3	G	2,0	1,0	6,0	0,15	40,0	10,0	1,7	0,15	0,269	0,055	8,0	0,0	2	■
JHF980020G3H.0Z4-MEGA	03003394	3	G	2,0	1,0	6,0	0,15	40,0	10,0	1,7	0,15	0,269	0,055	8,46	0,0	4	■
980ML030-MEGA	02511225	3	G	3,0	1,5	6,0	0,2	50,0	15,0	2,6	0,2	0,366	0,085	5,0	0,0	2	■
JHF980030G3H.0Z4-MEGA	03003395	3	G	3,0	1,5	6,0	0,2	50,0	15,0	2,6	0,2	0,366	0,085	4,79	0,0	4	■
980ML040-MEGA	02511231	3	G	4,0	2,0	6,0	0,25	70,0	20,0	3,5	0,3	0,503	0,107	2,5	0,0	2	■
JHF980040G3H.0Z4-MEGA	03003396	3	G	4,0	2,0	6,0	0,25	70,0	20,0	3,5	0,3	0,503	0,107	2,59	0,0	4	■
980ML050-MEGA	02511234	3	G	5,0	2,5	6,0	0,3	80,0	25,0	4,4	0,4	0,641	0,128	1,5	0,0	2	■
JHF980050G3H.0Z4-MEGA	03003397	3	G	5,0	2,5	6,0	0,3	80,0	25,0	4,4	0,4	0,641	0,128	1,12	0,0	4	■
980ML060-MEGA	02511315	3	G	6,0	3,0	8,0	0,35	80,0	30,0	5,2	0,5	0,778	0,15	2,0	0,0	2	■
JHF980060G3H.0Z4-MEGA	03003398	3	G	6,0	3,0	8,0	0,35	80,0	30,0	5,2	0,5	0,778	0,15	1,8	0,0	4	■
980ML080-MEGA	02511338	3	E	8,0	4,0	8,0	0,4	80,0	40,0	7,0	0,6	0,935	0,198	-	0,0	2	■
JHF980080E3H.0Z5-MEGA	03003399	3	E	8,0	4,0	8,0	0,4	80,0	40,0	7,0	0,6	0,935	0,198	-	0,0	5	■
980ML100-MEGA	02511344	3	E	10,0	5,0	10,0	0,45	90,0	50,0	8,8	0,8	1,176	0,232	-	0,0	2	■
JHF980100E3H.0Z5-MEGA	03003400	3	E	10,0	5,0	10,0	0,45	90,0	50,0	8,8	0,8	1,176	0,232	-	0,0	5	■
980ML120-MEGA	02511348	3	E	12,0	6,0	12,0	0,5	110,0	60,0	10,6	1,0	1,417	0,265	-	0,0	2	■
JHF980120E3H.0Z5-MEGA	03003401	3	E	12,0	6,0	12,0	0,5	110,0	60,0	10,6	1,0	1,417	0,265	-	0,0	5	■
980TL010-MEGA	02587114	4	J	1,0	0,5	6,0	0,07	40,0	7,0	0,7	0,07	0,127	0,028	13,0	0,5	2	■
980TL015-MEGA	02511220	4	J	1,5	0,75	6,0	0,1	40,0	10,5	1,2	0,1	0,183	0,043	8,5	0,5	2	■
980TL020-MEGA	02511223	4	J	2,0	1,0	6,0	0,15	50,0	14,0	1,7	0,15	0,269	0,055	6,5	0,5	2	■
980TL030-MEGA	02511226	4	J	3,0	1,5	6,0	0,2	60,0	21,0	2,6	0,2	0,366	0,085	3,5	0,5	2	■
JHF980030J4H.0Z4-MEGA	03003402	4	J	3,0	1,5	6,0	0,2	60,0	21,0	2,6	0,2	0,366	0,085	3,63	0,5	4	■
980TL040-MEGA	02511232	4	J	4,0	2,0	6,0	0,25	80,0	28,0	3,5	0,3	0,503	0,107	2,0	0,5	2	■
JHF980040J4H.0Z4-MEGA	03003403	4	J	4,0	2,0	6,0	0,25	80,0	28,0	3,5	0,3	0,503	0,107	1,93	0,5	4	■
980TL050-MEGA	02511240	4	J	5,0	2,5	6,0	0,3	90,0	35,0	4,4	0,4	0,641	0,128	1,0	0,5	2	■
JHF980050J4H.0Z4-MEGA	03003404	4	J	5,0	2,5	6,0	0,3	90,0	35,0	4,4	0,4	0,641	0,128	0,82	0,5	4	■
980TL060-MEGA	02511321	4	J	6,0	3,0	8,0	0,35	100,0	42,0	5,2	0,5	0,778	0,15	1,5	0,5	2	■
JHF980060J4H.0Z4-MEGA	03003405	4	J	6,0	3,0	8,0	0,35	100,0	42,0	5,2	0,5	0,778	0,15	1,33	0,5	4	■
980TL080-MEGA	02511340	4	E	8,0	4,0	8,0	0,4	100,0	56,0	7,0	0,6	0,935	0,198	-	0,5	2	■
JHF980080E4H.0Z5-MEGA	03003406	4	E	8,0	4,0	8,0	0,4	100,0	56,0	7,0	0,6	0,935	0,198	-	0,0	5	■
980TL100-MEGA	02511345	4	E	10,0	5,0	10,0	0,45	110,0	70,0	8,8	0,8	1,176	0,232	-	0,5	2	■
JHF980100E4H.0Z5-MEGA	03003407	4	E	10,0	5,0	10,0	0,45	110,0	70,0	8,8	0,8	1,176	0,232	-	0,0	5	■
980TL120-MEGA	02511349	4	E	12,0	6,0	12,0	0,5	130,0	84,0	10,6	1,0	1,417	0,265	-	0,5	2	■
JHF980120E4H.0Z5-MEGA	03003408	4	E	12,0	6,0	12,0	0,5	130,0	84,0	10,6	1,0	1,417	0,265	-	0,0	5	■

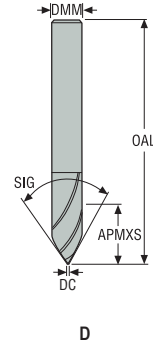
■ Stoklu standart ürün. \*UTCN = kesilmemiş kalınlık



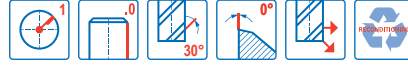


## J29

Genel amaçlı – Üniversal – Gravür – 1 Ağız – Silindirik



- Toleranslar:
- DMM=h5
- DMM ≥ Ø6 ise tekrar bilenebilir



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	SIG°	PCEDC	Silindirik
				mm	mm	mm	mm			
29030	00029373	2	D	0,2	3,0	2,6	40,0	60,0	1	■
29040	00029381	2	D	0,2	4,0	3,5	50,0	60,0	1	■
29060	00029396	2	D	0,2	6,0	5,2	50,0	60,0	1	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için


Plastik ve cırp malzemeleri için

Grafit malzeme için

Minimaster Plus

Minimaster

Kesme verileri – J29 Kanal açma


SMG		a <sub>p</sub> /DC	f <sub>z</sub>			v <sub>c</sub>
			3	4	6	
P1	E	0.50	0.24	0.26	0.28	42 (32 – 63)
		0.50	0,0095	0,010	0,011	140 (110 – 200)
P2	E	0.50	0.24	0.26	0.30	41 (32 – 61)
		0.50	0,0095	0,010	0,012	135 (110 – 200)
P3	E	0.50	0.24	0.25	0.28	36 (28 – 54)
		0.50	0,0095	0,010	0,011	120 (92 – 170)
P4	E	0.50	0.22	0.24	0.26	31 (24 – 47)
		0.50	0,0085	0,0095	0,010	100 (79 – 150)
P5	E	0.50	0.22	0.24	0.26	30 (23 – 45)
		0.50	0,0085	0,0095	0,010	100 (76 – 140)
P6	E	0.50	0.22	0.24	0.26	34 (26 – 51)
		0.50	0,0085	0,0095	0,010	110 (86 – 160)
P7	E	0.50	0.22	0.24	0.26	32 (25 – 48)
		0.50	0,0085	0,0095	0,010	105 (83 – 150)
P8	E	0.50	0.24	0.25	0.28	30 (23 – 45)
		0.50	0,0095	0,010	0,011	100 (76 – 140)
P11	E	0.50	0.22	0.24	0.26	31 (24 – 46)
		0.50	0,0085	0,0095	0,010	100 (79 – 150)
P12	E	0.50	0.15	0.16	0.18	19 (15 – 29)
		0.50	0,0060	0,0065	0,0070	60 (50 – 95)
M1	E	0.50	0.22	0.24	0.26	30 (23 – 45)
		0.50	0,0085	0,0095	0,010	100 (76 – 140)
M2	E	0.50	0.22	0.24	0.26	30 (23 – 45)
		0.50	0,0085	0,0095	0,010	100 (76 – 140)
M3	E	0.50	0.18	0.19	0.22	24 (18 – 35)
		0.50	0,0070	0,0075	0,0085	80 (60 – 110)
M4	E	0.50	0.16	0.17	0.18	18 (14 – 27)
		0.50	0,0065	0,0065	0,0070	60 (46 – 88)
M5	E	0.50	0.16	0.17	0.18	15 (12 – 22)
		0.50	0,0065	0,0065	0,0070	49 (40 – 72)
K1	E	0.50	0.22	0.24	0.26	30 (23 – 45)
		0.50	0,0085	0,0095	0,010	100 (76 – 140)
K2	E	0.50	0.20	0.22	0.24	26 (21 – 40)
		0.50	0,0080	0,0085	0,0095	85 (69 – 130)
K3	E	0.50	0.20	0.22	0.24	22 (17 – 33)
		0.50	0,0080	0,0085	0,0095	70 (56 – 100)
K4	E	0.50	0.20	0.22	0.24	21 (17 – 32)
		0.50	0,0080	0,0085	0,0095	70 (56 – 100)
K5	E	0.50	0.18	0.20	0.22	13 (9.8 – 19)
		0.50	0,0070	0,0080	0,0085	43 (33 – 62)
K6	E	0.50	0.20	0.22	0.24	19 (15 – 28)
		0.50	0,0080	0,0085	0,0095	60 (50 – 91)
K7	E	0.50	0.18	0.20	0.22	16 (13 – 25)
		0.50	0,0070	0,0080	0,0085	50 (43 – 82)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu  
Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama  
v<sub>c</sub> = m/dak (sf/dak)  
f<sub>z</sub> = mm/ağız (inç/ağız)  
a<sub>p</sub> mm/DC (inç/DC) = faktör  
a<sub>e</sub> = mm/DC (inç/DC) = faktör  
Tüm kesme verileri hedef değerlerdir

Üniversal  
Çelik ve dökme demir  
Paslanmaz çelik ve S iş parçası malzemeleri  
Demir içermeyen malzemeler  
Sertleştirilmiş çelik için  
Plastik ve cırp malzemeler için  
Grafit malzeme için  
Minimaster Plus  
Minimaster

Kesme verileri – J29 Kanal açma

SMG		a <sub>p</sub> /DC	f <sub>z</sub>			v <sub>c</sub>
			3	4	6	
N1	E	0.50	0.22	0.24	0.26	30 (23 – 45)
		0,50	0,0085	0,0095	0,010	100 (76–140)
N2	E	0.50	0.22	0.24	0.26	19 (15 – 29)
		0,50	0,0085	0,0095	0,010	60 (50 – 95)
N3	E	0.50	0.22	0.24	0.26	13 (9.8–19)
		0,50	0,0085	0,0095	0,010	43 (33 – 62)
N11	E	0.50	0.22	0.24	0.26	17 (14 – 26)
		0,50	0,0085	0,0095	0,010	55 (46 – 85)
S1	E	0.50	0.24	0.26	0.28	43 (33 – 64)
		0,50	0,0095	0,010	0,011	140 (110 – 200)
S2	E	0.50	0.24	0.26	0.28	34 (27 – 51)
		0,50	0,0095	0,010	0,011	110 (89–160)
S3	E	0.50	0.22	0.24	0.26	30 (23 – 45)
		0,50	0,0085	0,0095	0,010	100 (76–140)
S11	E	0.50	0.22	0.24	0.26	39 (30 – 59)
		0,50	0,0085	0,0095	0,010	130 (99–190)
S12	E	0.50	0.22	0.24	0.26	30 (23 – 45)
		0,50	0,0085	0,0095	0,010	100 (76–140)
S13	E	0.50	0.19	0.20	0.24	24 (18 – 35)
		0,50	0,0075	0,0080	0,0095	80 (60–110)
H5	M/A/D	0.50	0.22	0.24	0.26	30 (23 – 45)
		0,50	0,0085	0,0095	0,010	100 (76–140)
H8	M/A/D	0.50	0.17	0.18	0.20	32 (24 – 47)
		0,50	0,0065	0,0070	0,0080	105 (79–150)
H11	M/A/D	0.50	0.22	0.24	0.26	39 (30 – 58)
		0,50	0,0085	0,0095	0,010	130 (99–190)
H12	M/A/D	0.50	0.12	0.12	0.14	12 (9.1–18)
		0,50	0,0048	0,0048	0,0055	39 (30 – 59)
H21	M/A/D	0.50	0.17	0.18	0.20	32 (24 – 47)
		0,50	0,0065	0,0070	0,0080	105 (79–150)
H31	M/A/D	0.50	0.15	0.16	0.17	24 (19 – 36)
		0,50	0,0060	0,0065	0,0065	80 (63–110)
TS1	E	0.50	0.22	0.24	0.26	30 (23 – 45)
		0,50	0,0085	0,0095	0,010	100 (76–140)
TP1	E	0.50	0.22	0.24	0.26	30 (23 – 45)
		0,50	0,0085	0,0095	0,010	100 (76–140)
GR1	D	0.50	0.22	0.24	0.26	30 (23 – 45)
		0,50	0,0085	0,0095	0,010	100 (76–140)

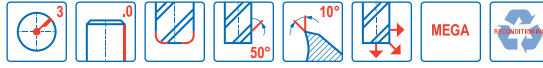
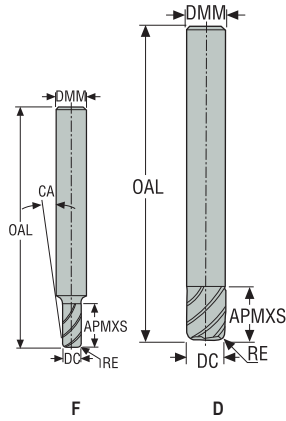
Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu  
Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama  
v<sub>c</sub>= m/dak (sf/dak)  
f<sub>z</sub> = mm/ağız (inç/ağız)  
a<sub>p</sub> mm/DC (inç/DC) = faktör  
a<sub>e</sub> = mm/DC (inç/DC) = faktör  
Tüm kesme verileri hedef değerlerdir



J36

Genel amaçlı – Üniversal – Dik kenarlı – 3 Ağızlı – Silindirik – Köşe radyüsü



- Toleranslar:
- DMM= h5
- DC= Ø2-Ø6= -0,02/-0,034 mm
- DC= Ø8-Ø20= -0,02/-0,044 mm
- RE= Ø2-Ø12= +0,05 mm
- RE= Ø14-Ø20= +0,1 mm
- DC ≥ Ø6 ise tekrar bilelenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	RE	CA	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm		
36020-MEGA	00025621	2	F	2,0	3,0	9,0	40,0	0,1	2,5	3	■
36030-MEGA	00025626	2	D	3,0	3,0	12,0	40,0	0,1	-	3	■
36040-MEGA	00025628	2	D	4,0	4,0	14,0	50,0	0,1	-	3	■
36050-MEGA	00025651	2	D	5,0	5,0	20,0	50,0	0,1	-	3	■
36060-MEGA	00025663	2	D	6,0	6,0	20,0	65,0	0,1	-	3	■
36080-MEGA	00025674	2	D	8,0	8,0	20,0	65,0	0,2	-	3	■
36100-MEGA	00025680	2	D	10,0	10,0	25,0	75,0	0,2	-	3	■
36120-MEGA	00025681	2	D	12,0	12,0	25,0	75,0	0,2	-	3	■
36160-MEGA	00025689	2	D	16,0	16,0	30,0	90,0	0,5	-	3	■
36200-MEGA	00025692	2	D	20,0	20,0	40,0	100,0	0,5	-	3	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve diğer materyaller için

Grafit materyaller için

Minimaster Plus

Minimaster

Kesme verileri – J36 Kenar frezeleme

SMG	E	a <sub>e</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>										v <sub>c</sub>
				2	3	4	5	6	8	10	12	16	20	
P1	E	0.200	1.0	0.013	0.019	0.026	0.032	0.038	0.050	0.065	0.075	0.095	0.11	200 (170 – 220)
		0,200	1,0	0,00050	0,00075	0,0010	0,0013	0,0015	0,0020	0,0026	0,0030	0,0038	0,0044	660 (560 – 720)
P2	E	0.200	1.0	0.013	0.020	0.026	0.034	0.040	0.055	0.065	0.080	0.095	0.11	190 (170 – 210)
		0,200	1,0	0,00050	0,00080	0,0010	0,0013	0,0016	0,0022	0,0026	0,0032	0,0038	0,0044	620 (560 – 680)
P3	E	0.200	1.0	0.012	0.019	0.025	0.032	0.038	0.050	0.060	0.075	0.090	0.11	170 (150 – 190)
		0,200	1,0	0,00048	0,00075	0,0010	0,0013	0,0015	0,0020	0,0024	0,0030	0,0036	0,0044	560 (500 – 620)
P4	E	0.200	1.0	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.090	0.10	150 (130 – 160)
		0,200	1,0	0,00048	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	0,0036	0,0040	490 (430 – 520)
P5	E	0.200	1.0	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.090	0.10	140 (130 – 160)
		0,200	1,0	0,00048	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	0,0036	0,0040	460 (430 – 520)
P6	E	0.200	1.0	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.085	0.10	160 (140 – 180)
		0,200	1,0	0,00048	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	0,0034	0,0040	520 (460 – 590)
P7	E	0.200	1.0	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.085	0.10	150 (130 – 170)
		0,200	1,0	0,00048	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	0,0034	0,0040	490 (430 – 550)
P8	E	0.200	1.0	0.012	0.019	0.025	0.032	0.038	0.050	0.060	0.075	0.090	0.11	140 (130 – 160)
		0,200	1,0	0,00048	0,00075	0,0010	0,0013	0,0015	0,0020	0,0024	0,0030	0,0036	0,0044	460 (430 – 520)
P11	E	0.200	1.0	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.085	0.10	145 (130 – 160)
		0,200	1,0	0,00048	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	0,0034	0,0040	475 (430 – 520)
P12	E	0.200	1.0	0.0080	0.012	0.016	0.020	0.024	0.032	0.040	0.048	0.060	0.070	90 (79 – 100)
		0,200	1,0	0,00032	0,00048	0,00065	0,00080	0,00095	0,0013	0,0016	0,0019	0,0024	0,0028	295 (260 – 320)
M1	E	0.200	1.0	0.015	0.024	0.030	0.038	0.046	0.060	0.075	0.090	0.11	0.13	115 (92 – 140)
		0,200	1,0	0,00060	0,00095	0,0012	0,0015	0,0018	0,0024	0,0030	0,0036	0,0044	0,0050	375 (310 – 450)
M2	E	0.200	1.0	0.014	0.020	0.028	0.034	0.042	0.055	0.070	0.085	0.10	0.12	95 (76 – 110)
		0,200	1,0	0,00055	0,00080	0,0011	0,0013	0,0017	0,0022	0,0028	0,0034	0,0040	0,0048	310 (250 – 360)
M3	E	0.100	1.0	0.010	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.075	0.085	75 (56 – 95)
		0,100	1,0	0,00040	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0030	0,0034	245 (190 – 310)
M4	E	0.100	1.0	0.0085	0.013	0.017	0.022	0.026	0.034	0.044	0.050	0.065	0.075	60 (43 – 73)
		0,100	1,0	0,00034	0,00050	0,00065	0,00085	0,0010	0,0013	0,0017	0,0020	0,0026	0,0030	195 (150 – 230)
M5	E	0.100	1.0	0.0085	0.013	0.017	0.022	0.026	0.034	0.044	0.050	0.065	0.075	48 (36 – 60)
		0,100	1,0	0,00034	0,00050	0,00065	0,00085	0,0010	0,0013	0,0017	0,0020	0,0026	0,0030	155 (120 – 190)
K1	E	0.200	1.0	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.090	0.10	140 (130 – 160)
		0,200	1,0	0,00048	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	0,0036	0,0040	460 (430 – 520)
K2	E	0.200	1.0	0.011	0.016	0.022	0.028	0.032	0.044	0.055	0.065	0.080	0.090	125 (110 – 140)
		0,200	1,0	0,00044	0,00065	0,00085	0,0011	0,0013	0,0017	0,0022	0,0026	0,0032	0,0036	410 (370 – 450)
K3	E	0.200	1.0	0.011	0.016	0.022	0.028	0.032	0.044	0.055	0.065	0.080	0.090	105 (91 – 120)
		0,200	1,0	0,00044	0,00065	0,00085	0,0011	0,0013	0,0017	0,0022	0,0026	0,0032	0,0036	345 (300 – 390)
K4	E	0.200	1.0	0.011	0.016	0.022	0.028	0.032	0.044	0.055	0.065	0.080	0.090	100 (87 – 110)
		0,200	1,0	0,00044	0,00065	0,00085	0,0011	0,0013	0,0017	0,0022	0,0026	0,0032	0,0036	330 (290 – 360)
K5	E	0.200	1.0	0.010	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.070	0.085	60 (53 – 69)
		0,200	1,0	0,00040	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0028	0,0034	195 (180 – 220)
K6	E	0.200	1.0	0.011	0.016	0.022	0.028	0.032	0.044	0.055	0.065	0.080	0.090	90 (76 – 100)
		0,200	1,0	0,00044	0,00065	0,00085	0,0011	0,0013	0,0017	0,0022	0,0026	0,0032	0,0036	295 (250 – 320)
K7	E	0.200	1.0	0.010	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.070	0.085	80 (67 – 89)
		0,200	1,0	0,00040	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0028	0,0034	260 (220 – 290)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)

f<sub>z</sub> = mm (inç/ağız)

a<sub>p</sub> mm/DC (inç/DC) = faktör

a<sub>e</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

## Kesme verileri – J36 Kenar frezeleme

SMG		$a_e/DC$	$a_p/DC$	$f_z$										$v_c$
				2	3	4	5	6	8	10	12	16	20	
N1	E	0.300	1.2	0.022	0.032	0.042	0.055	0.065	0.085	0.11	0.13	0.16	0.18	650 (540–750)
		0,300	1,2	0,00085	0,0013	0,0017	0,0022	0,0026	0,0034	0,0044	0,0050	0,0065	0,0070	2125 (1800 – 2400)
N2	E	0.300	1.2	0.022	0.032	0.042	0.055	0.065	0.085	0.11	0.13	0.16	0.18	415 (350 – 480)
		0,300	1,2	0,00085	0,0013	0,0017	0,0022	0,0026	0,0034	0,0044	0,0050	0,0065	0,0070	1350 (1200–1500)
N3	E	0.300	1.2	0.022	0.032	0.042	0.055	0.065	0.085	0.11	0.13	0.16	0.18	275 (240 – 320)
		0,300	1,2	0,00085	0,0013	0,0017	0,0022	0,0026	0,0034	0,0044	0,0050	0,0065	0,0070	900 (790–1000)
N11	E	0.300	1.0	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.090	0.10	305 (260 – 350)
		0,300	1,0	0,00048	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	0,0036	0,0040	1000 (860–1100)
S1	E	0.120	0.90	0.0055	0.0080	0.011	0.014	0.016	0.022	0.028	0.032	0.040	0.046	70 (60 – 83)
		0,120	0,90	0,00022	0,00032	0,00044	0,00055	0,00065	0,00085	0,0011	0,0013	0,0016	0,0018	230 (200 – 270)
S2	E	0.120	0.90	0.0055	0.0080	0.011	0.014	0.016	0.022	0.028	0.032	0.040	0.046	60 (48 – 67)
		0,120	0,90	0,00022	0,00032	0,00044	0,00055	0,00065	0,00085	0,0011	0,0013	0,0016	0,0018	195 (160 – 210)
S3	E	0.120	0.90	0.0036	0.0055	0.0075	0.0090	0.011	0.015	0.018	0.022	0.028	0.032	39 (30 – 48)
		0,120	0,90	0,00014	0,00022	0,00030	0,00036	0,00044	0,00060	0,00070	0,00085	0,0011	0,0013	130 (99–150)
S11	E	0.300	1.0	0.010	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.075	0.085	100 (89–110)
		0,300	0,90	0,00040	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0030	0,0034	330 (300 – 360)
S12	E	0.300	1.0	0.010	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.075	0.085	80 (68 – 87)
		0,300	0,90	0,00040	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0030	0,0034	260 (230 – 280)
S13	E	0.300	1.0	0.0085	0.013	0.017	0.022	0.026	0.034	0.044	0.050	0.065	0.075	60 (54 – 69)
		0,300	0,90	0,00036	0,00050	0,00070	0,00085	0,0010	0,0014	0,0017	0,0020	0,0026	0,0030	195 (180 – 220)
TS1	A	0.400	1.0	0.020	0.030	0.040	0.050	0.060	0.080	0.10	0.12	0.15	0.17	500 (460 – 550)
		0,400	1,0	0,00080	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	1650 (1600–1800)
TP1	A	0.400	1.0	0.020	0.030	0.040	0.050	0.060	0.080	0.10	0.12	0.15	0.17	500 (460 – 550)
		0,400	1,0	0,00080	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	1650 (1600–1800)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

 $v_c = m/dak$  (sf/dak) $f_z = mm$  (inç/lağız) $a_p = mm/DC$  (inç/DC) = faktör $a_e = mm/DC$  (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

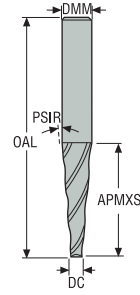
Çelik ve dökme  
demirPaslanmaz çelik  
ve S iş parçası  
malzemeleriDemir içermeyen  
malzemelerSertleştirilmiş çelik  
içinPlastik ve diğer  
malzemeler içinGrafit malzeme  
için

Minimaster Plus

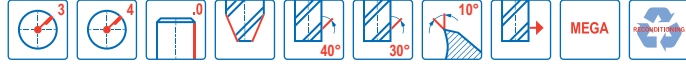
Minimaster

# HK

Genel amaçlı – Üniversal – Konik – 3-4 Ağızlı – Silindirik – Konik keskin



- Toleranslar:
- DMM= h5
- DC= +0,1/0 mm
- PSIR= ±0,1°
- Tekrar bilenebilir



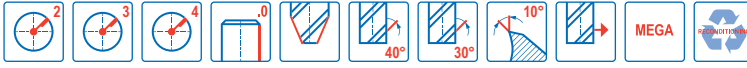
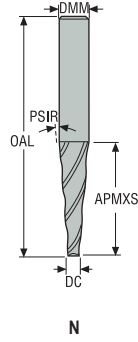
Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	PSIR	PCEDC	Silindirik
				mm	mm	mm	mm			
HK020-040-MEGA	00028666	2	N	4,0	6,0	20,0	65,0	2,0	3	■
HK020-050-MEGA	00028669	2	N	5,0	8,0	30,0	75,0	2,0	3	■
HK020-100-MEGA	00028694	2	N	10,0	12,0	28,0	80,0	2,0	4	■

■ Stoklu standart ürün.

Kesme verisi tekrar hesaplamaları için bkz. sayfa My Pages – Suggest on [www.secotools.com](http://www.secotools.com)

## HKM-HK

Genel amaçlı – Üniversal – Konik – 2-4 Ağızlı – Silindirik – Konik keskin



- Toleranslar:
- DMM= h5
- DC= HKM= +0,07/+0,03 mm
- DC= HK= +0,1/0 mm
- PSIR= ±0,1°
- DC ≥ Ø6 ise tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	PSIR	PCEDC	Silindirik
				mm	mm	mm	mm			
HKM030-015-MEGA	00028738	2	N	1,5	3,0	6,0	40,0	3,0	2	■
HK030-025-MEGA	00028741	2	N	2,5	6,0	20,0	65,0	3,0	3	■
HK030-033-MEGA	00028744	2	N	3,0	8,0	30,0	75,0	3,0	3	■
HK030-065-MEGA	00028759	2	N	6,0	12,0	55,0	110,0	3,0	3	■
HK030-083-MEGA	00028771	2	N	8,0	12,0	30,0	80,0	3,0	4	■

## ■ Stoklu standart ürün.

Kesme verisi tekrar hesaplamaları için bkz. sayfa My Pages – Suggest on www.secotools.com

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve diğer materyaller için

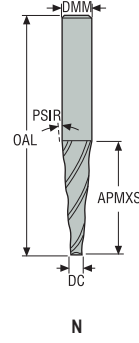
Grafit materyaller için

Minimaster Plus

Minimaster

## HKM-HK

Genel amaçlı – Üniversal – Konik – 2-4 Ağızlı – Silindirik – Konik keskin



- Toleranslar:
- DMM= h5
- DC= HKM= +0,07/+0,03 mm
- DC= HK= +0,1/0 mm
- PSIR= ±0,1°
- DC ≥ Ø6 ise tekrar bilenebilir



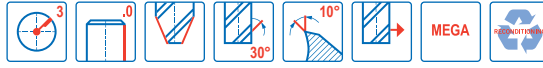
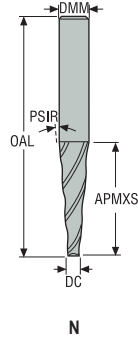
Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	PSIR	PCEDC	Silindirik
				mm	mm	mm	mm			
HKM050-010-MEGA	00028947	2	N	1,0	3,0	4,0	40,0	5,0	2	■
HKM050-015-MEGA	00028952	2	N	1,5	3,0	6,0	40,0	5,0	2	■
HKM050-020-MEGA	00028954	2	N	2,0	4,0	10,0	50,0	5,0	2	■
HKM050-025-MEGA	00028958	2	N	2,5	5,0	10,0	50,0	5,0	2	■
HK050-025-MEGA	00028960	2	N	2,5	6,0	20,0	65,0	5,0	3	■
HK050-032-MEGA	00028972	2	N	3,0	8,0	28,0	70,0	5,0	3	■
HK050-0420-MEGA	00028998	2	N	4,0	8,0	22,0	65,0	5,0	3	■
HK050-050-MEGA	00029012	2	N	5,0	12,0	40,0	100,0	5,0	3	■
HK050-063-MEGA	00029014	2	N	6,0	12,0	32,0	90,0	5,0	3	■
HK050-065-MEGA	00029017	2	N	6,0	16,0	55,0	110,0	5,0	3	■
HK050-103-MEGA	00029020	2	N	10,0	16,0	32,0	90,0	5,0	4	■
HK050-105-MEGA	00029025	2	N	10,0	20,0	55,0	115,0	5,0	4	■

■ Stoklu standart ürün.

Kesme verisi tekrar hesaplamaları için bkz. sayfa My Pages – Suggest on [www.secotools.com](http://www.secotools.com)

HK

Genel amaçlı – Üniversal – Konik – 3 Ağızlı – Silindirik – Konik keskin



- Toleranslar:
- DMM= h5
- DC= +0,1/0 mm
- PSIR= ±0,1°
- Tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	PSIR	PCEDC	Silindirik
				mm	mm	mm	mm			
HK070-025-MEGA	00029030	2	N	2,5	8,0	22,0	65,0	7,0	3	■
HK070-050-MEGA	00029034	2	N	5,0	12,0	28,0	80,0	7,0	3	■

■ Stoklu standart ürün.

Kesme verisi tekrar hesaplamaları için bkz. sayfa My Pages – Suggest on [www.secotools.com](http://www.secotools.com)

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

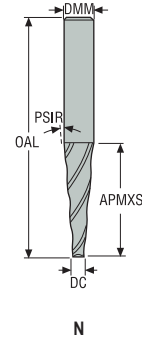
Grafit malzeme için

Minimaster Plus

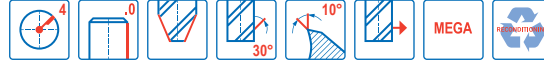
Minimaster

# HK

Genel amaçlı – Üniversal – Konik – 4 Ağızlı – Silindirik – Konik keskin



- Toleranslar:
- DMM= h5
- DC= +0,1/0 mm
- PSIR= ±0,1°
- Tekrar bilenebilir



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	PSIR	PCEDC	Silindirik
HK080-083-MEGA	00029041	2	N	8,0	18,0	35,0	90,0	8,0	4	■

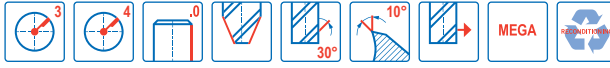
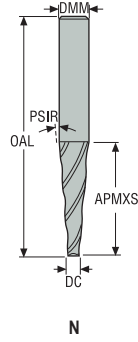
■ Stoklu standart ürün.

Kesme verisi tekrar hesaplamaları için bkz. sayfa My Pages – Suggest on [www.secotools.com](http://www.secotools.com)



HK

Genel amaçlı – Üniversal – Konik – 3-4 Ağızlı – Silindirik – Konik keskin



- Toleranslar:
- DMM= h5
- DC= +0,1/0 mm
- PSIR= ±0,1°
- Tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	PSIR	PCEDC	Silindirik
				mm	mm	mm	mm			
HK100-025-MEGA	00029052	2	N	2,5	10,0	20,0	75,0	10,0	3	■
HK100-030-MEGA	00029066	2	N	3,0	14,0	30,0	90,0	10,0	3	■
HK100-050-MEGA	00029069	2	N	5,0	16,0	30,0	90,0	10,0	3	■
HK100-080-MEGA	00029083	2	N	8,0	20,0	32,0	90,0	10,0	4	■

■ Stoklu standart ürün.

Kesme verisi tekrar hesaplamaları için bkz. sayfa My Pages – Suggest on [www.secotools.com](http://www.secotools.com)

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve diğer materyaller için

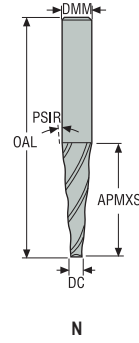
Grafit materyaller için

Minimaster Plus

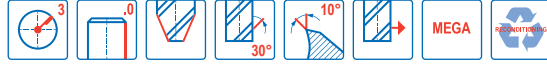
Minimaster

# HK

Genel amaçlı – Üniversal – Konik – 3 Ağızlı – Silindirik – Konik keskin



- Toleranslar:
- DMM= h5
- DC= +0,1/0 mm
- PSIR= ±0,1°
- Tekrar bilenebilir



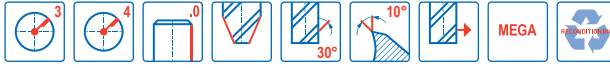
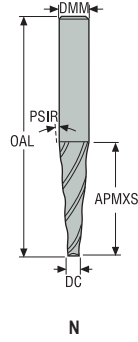
Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	PSIR	PCEDC	Silindirik
				mm	mm	mm	mm			
HK110-020-MEGA	00029110	2	N	2,0	10,0	20,0	75,0	11,0	3	■
HK110-050-MEGA	00029117	2	N	5,0	14,0	20,0	80,0	11,0	3	■

■ Stoklu standart ürün.

Kesme verisi tekrar hesaplamaları için bkz. sayfa My Pages – Suggest on [www.secotools.com](http://www.secotools.com)

HK

Genel amaçlı – Üniversal – Konik – 3-4 Ağızlı – Silindirik – Konik keskin



- Toleranslar:
- DMM= h5
- DC= +0,1/0 mm
- PSIR= ±0,1°
- Tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	PSIR	PCEDC	Silindirik
				mm	mm	mm	mm			
HK150-025	00029119	2	N	2,5	14,0	20,0	80,0	15,0	3	■
HK150-025-MEGA	00029151	2	N	2,5	14,0	20,0	80,0	15,0	3	■
HK150-040	00029124	2	N	4,0	12,0	15,0	65,0	15,0	3	■
HK150-040-MEGA	00029154	2	N	4,0	12,0	15,0	65,0	15,0	3	■
HK150-0651	00029133	2	N	6,5	12,0	10,0	65,0	15,0	3	■
HK150-0651-MEGA	00029160	2	N	6,5	12,0	10,0	65,0	15,0	3	■
HK150-0652	00029138	2	N	6,5	20,0	25,0	90,0	15,0	3	■
HK150-0652-MEGA	00029161	2	N	6,5	20,0	25,0	90,0	15,0	3	■
HK150-080	00029149	2	N	8,0	20,0	20,0	80,0	15,0	4	■
HK150-080-MEGA	00029162	2	N	8,0	20,0	20,0	80,0	15,0	4	■

■ Stoklu standart ürün.

Kesme verisi tekrar hesaplamaları için bkz. sayfa My Pages – Suggest on [www.secotools.com](http://www.secotools.com)

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve cırp materyaller için

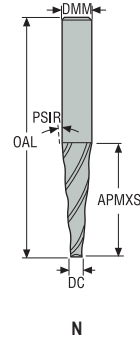
Grafit materyaller için

Minimaster Plus

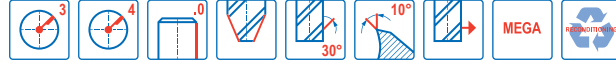
Minimaster

# HK

Genel amaçlı – Üniversal – Konik – 3-4 Ağızlı – Silindirik – Konik keskin



- Toleranslar:
- DMM= h5
- DC= +0,1/0 mm
- PSIR= ±0,1°
- Tekrar bilenebilir



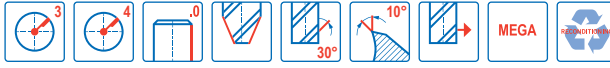
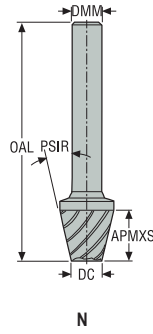
Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	PSIR	PCEDC	Silindirik
				mm	mm	mm	mm			
HK200-025	00029165	2	N	2,5	10,0	10,0	75,0	20,0	3	■
HK200-025-MEGA	00029168	2	N	2,5	10,0	10,0	75,0	20,0	3	■
HK200-045	00029166	2	N	4,5	16,0	15,0	90,0	20,0	4	■
HK200-045-MEGA	00029203	2	N	4,5	16,0	15,0	90,0	20,0	4	■

■ Stoklu standart ürün.

Kesme verisi tekrar hesaplamaları için bkz. sayfa My Pages – Suggest on [www.secotools.com](http://www.secotools.com)

HK

Genel amaçlı – Üniversal – Konik – 3-4 Ağızlı – Silindirik – Konik keskin



- Toleranslar:
- DMM= h5
- DC= +0,1/0 mm
- PSIR= ±0,1°
- Tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	PSIR	PCEDC	Silindirik
				mm	mm	mm	mm			
HK300-025	00029208	2	N	2,5	10,0	10,0	75,0	30,0	3	■
HK300-025-MEGA	00029211	2	N	2,5	10,0	10,0	75,0	30,0	3	■
HK300-045	00029210	2	N	4,5	16,0	16,0	90,0	30,0	4	■
HK300-045-MEGA	00029212	2	N	4,5	16,0	16,0	90,0	30,0	4	■

■ Stoklu standart ürün.

Kesme verisi tekrar hesaplamaları için bkz. sayfa My Pages – Suggest on [www.secotools.com](http://www.secotools.com)

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve diğer materyaller için

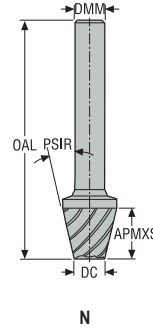
Grafit materyal için

Minimaster Plus

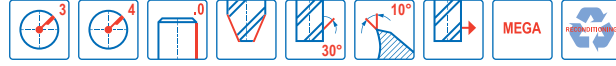
Minimaster

# HK

Genel amaçlı – Üniversal – Konik – 3-4 Ağızlı – Silindirik – Konik keskin



- Toleranslar:
- DMM= h5
- DC= +0,1/0 mm
- PSIR= ±0,1°
- Tekrar bilenebilir



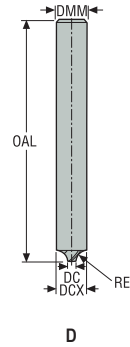
Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	PSIR	PCEDC	Silindirik
				mm	mm	mm	mm			
HK450-025	00029215	2	N	2,5	12,0	10,0	75,0	45,0	3	■
HK450-025-MEGA	00029229	2	N	2,5	12,0	10,0	75,0	45,0	3	■
HK450-045	00029217	2	N	4,5	16,0	16,0	90,0	45,0	4	■
HK450-045-MEGA	00029232	2	N	4,5	16,0	16,0	90,0	45,0	4	■

■ Stoklu standart ürün.

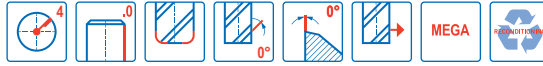
Kesme verisi tekrar hesaplamaları için bkz. sayfa My Pages – Suggest on [www.secotools.com](http://www.secotools.com)

V31

Genel amaçlı – Üniversal – Konkav – 4 Ağızlı – Silindirik



D



- Toleranslar:
- DMM= h5
- DC= ±0,04 mm
- RE= ±0,02 mm
- Tekrar bilebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DCX	DMM	APMXS	OAL	RE	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm		
31100-MEGA	00029307	2	D	4,0	6,0	6,0	1,0	64,0	1,0	4	■
31200-MEGA	00029315	2	D	4,0	8,0	8,0	2,0	75,0	2,0	4	■
31300-MEGA	00029326	2	D	4,0	10,0	10,0	3,0	75,0	3,0	4	■
31400-MEGA	00029328	2	D	4,0	12,0	12,0	4,0	75,0	4,0	4	■
31050-MEGA	00029285	2	D	5,0	6,0	6,0	0,5	64,0	0,5	4	■
31150-MEGA	00029313	2	D	5,0	8,0	8,0	1,5	75,0	1,5	4	■
31250-MEGA	00029324	2	D	5,0	10,0	10,0	2,5	75,0	2,5	4	■
31350-MEGA	00029327	2	D	5,0	12,0	12,0	3,5	75,0	3,5	4	■
31500-MEGA	00029330	2	D	6,0	16,0	16,0	5,0	75,0	5,0	4	■
31600-MEGA	00029331	2	D	8,0	20,0	20,0	6,0	80,0	6,0	4	■
31999-MEGA	00029335	2	D	8,0	28,0	25,0	10,0	80,0	10,0	4	■
31800-MEGA	00029333	2	D	9,0	25,0	25,0	8,0	75,0	8,0	4	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve cırp materyaller için

Grafit materyale için

Minimaster Plus

Minimaster

Kesme verileri – V31 Finiş kenar frezeleme

SMG	a <sub>p</sub> /D <sub>c</sub>	f <sub>z</sub>								v <sub>c</sub>	
		6	8	10	12	16	20	25	28		
P1	E/M/A	0,24	0,024	0,032	0,040	0,048	0,065	0,080	0,095	0,10	290 (195 – 310)
		0,24	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,004	950 (640 – 1100)
P2	E/M/A	0,24	0,024	0,034	0,042	0,050	0,065	0,080	0,095	0,10	280 (190 – 305)
		0,24	0,00095	0,0013	0,0017	0,0022	0,0026	0,0032	0,0038	0,004	910 (620 – 1000)
P3	E/M/A	0,24	0,024	0,032	0,040	0,046	0,060	0,075	0,090	0,095	240 (165 – 260)
		0,24	0,00095	0,0013	0,0016	0,0018	0,0024	0,003	0,0036	0,0038	790 (540 – 850)
P4	E/M/A	0,24	0,022	0,030	0,038	0,046	0,060	0,075	0,090	0,095	210 (145 – 230)
		0,24	0,00085	0,0012	0,0015	0,0018	0,0024	0,003	0,0036	0,0038	680 (475 – 760)
P5	E/M/A	0,24	0,022	0,030	0,038	0,046	0,060	0,075	0,085	0,095	205 (135 – 220)
		0,24	0,00085	0,0012	0,0015	0,0018	0,0024	0,003	0,0034	0,0038	670 (445 – 730)
P6	E/M/A	0,24	0,022	0,030	0,038	0,044	0,060	0,075	0,085	0,095	230 (155 – 245)
		0,24	0,00085	0,0012	0,0015	0,0017	0,0024	0,003	0,0050	0,0038	760 (510 – 800)
P7	E/M/A	0,24	0,022	0,030	0,038	0,044	0,060	0,075	0,085	0,095	215 (145 – 230)
		0,24	0,00085	0,0012	0,0015	0,0017	0,0024	0,003	0,0050	0,0038	710 (475 – 760)
P8	E/M/A	0,24	0,024	0,032	0,040	0,046	0,060	0,075	0,090	0,095	205 (140 – 220)
		0,24	0,00095	0,0013	0,0016	0,0018	0,0024	0,003	0,0036	0,0038	670 (460 – 730)
P11	E/M/A	0,24	0,022	0,030	0,038	0,044	0,060	0,075	0,085	0,095	210 (140 – 225)
		0,24	0,00085	0,0012	0,0015	0,0017	0,0024	0,003	0,0050	0,0038	680 (460 – 740)
M1	E/M/A	0,24	0,024	0,034	0,042	0,050	0,065	0,080	0,095	0,10	255 (170 – 270)
		0,24	0,00095	0,0013	0,0017	0,0022	0,0026	0,0032	0,0038	0,004	840 (560 – 890)
M2	E/M/A	0,24	0,022	0,030	0,038	0,046	0,060	0,075	0,085	0,095	205 (135 – 220)
		0,24	0,00085	0,0012	0,0015	0,0018	0,0024	0,003	0,0050	0,0038	670 (445 – 730)
M3	E/M/A	0,24	0,018	0,024	0,030	0,036	0,048	0,060	0,070	0,075	150 (105 – 165)
		0,24	0,0007	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	0,003	490 (345 – 540)
M4	E/M/A	0,24	0,016	0,020	0,026	0,032	0,042	0,050	0,060	0,065	110 (75 – 120)
		0,24	0,00065	0,0008	0,0010	0,0013	0,0017	0,0022	0,0024	0,0026	360 (250 – 400)
M5	E/M/A	0,24	0,016	0,020	0,026	0,032	0,042	0,050	0,060	0,065	95 (65 – 100)
		0,24	0,00065	0,0008	0,0010	0,0013	0,0017	0,0022	0,0024	0,0026	310 (220 – 320)
K1	E/M/A	0,24	0,022	0,030	0,038	0,046	0,060	0,075	0,085	0,095	205 (135 – 220)
		0,24	0,00085	0,0012	0,0015	0,0018	0,0024	0,003	0,0050	0,0038	670 (445 – 730)
K2	E/M/A	0,24	0,020	0,028	0,034	0,040	0,055	0,065	0,080	0,085	175 (120 – 190)
		0,24	0,0008	0,0011	0,0013	0,0016	0,0022	0,0026	0,0032	0,0050	570 (400 – 620)
K3	E/M/A	0,24	0,020	0,028	0,034	0,040	0,055	0,065	0,080	0,085	150 (100 – 160)
		0,24	0,0008	0,0011	0,0013	0,0016	0,0022	0,0026	0,0032	0,0050	490 (320 – 530)
K4	E/M/A	0,24	0,020	0,028	0,034	0,040	0,055	0,065	0,080	0,085	140 (95 – 150)
		0,24	0,0008	0,0011	0,0013	0,0016	0,0022	0,0026	0,0032	0,0050	460 (310 – 490)
K5	E/M/A	0,24	0,018	0,024	0,030	0,036	0,050	0,060	0,070	0,075	85 (55 – 90)
		0,24	0,0007	0,00095	0,0012	0,0014	0,0022	0,0024	0,0028	0,003	280 (180 – 300)
K6	E/M/A	0,24	0,020	0,028	0,034	0,040	0,055	0,065	0,080	0,085	125 (85 – 135)
		0,24	0,0008	0,0011	0,0013	0,0016	0,0022	0,0026	0,0032	0,0050	410 (280 – 445)
K7	E/M/A	0,24	0,018	0,024	0,030	0,036	0,050	0,060	0,070	0,075	105 (70 – 115)
		0,24	0,0007	0,00095	0,0012	0,0014	0,0022	0,0024	0,0028	0,003	345 (220 – 375)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu  
Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama  
v<sub>c</sub> = m/dak (sı/dak)  
f<sub>z</sub> = mm (inç/ağız)  
a<sub>p</sub> mm/DC (inç/DC) = faktör  
a<sub>e</sub> = mm/DC (inç/DC) = faktör  
Tüm kesme verileri hedef değerlerdir



## Kesme verileri – V31 Finiş kenar frezeleme

SMG		$a_p/D_c$	$f_z$								$v_c$
			6	8	10	12	16	20	25	28	
N1	E/M/A	0,24	0,022	0,030	0,038	0,046	0,060	0,075	0,085	0,095	315 (215 – 340)
		0,24	0,00085	0,0012	0,0015	0,0018	0,0024	0,003	0,0050	0,0038	1025 (710–1125)
N2	E/M/A	0,24	0,022	0,030	0,038	0,046	0,060	0,075	0,085	0,095	205 (135 – 220)
		0,24	0,00085	0,0012	0,0015	0,0018	0,0024	0,003	0,0050	0,0038	670 (445–730)
N3	E/M/A	0,24	0,022	0,030	0,038	0,046	0,060	0,075	0,085	0,095	135 (90–145)
		0,24	0,00085	0,0012	0,0015	0,0018	0,0024	0,003	0,0050	0,0038	445 (300 – 475)
N11	E/M/A	0,24	0,022	0,030	0,038	0,046	0,060	0,075	0,085	0,095	205 (135 – 220)
		0,24	0,00085	0,0012	0,0015	0,0018	0,0024	0,003	0,0050	0,0038	670 (445–730)
S1	E/M/A	0,24	0,024	0,032	0,040	0,048	0,065	0,080	0,095	0,10	205 (140 – 220)
		0,24	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,004	670 (460–730)
S2	E/M/A	0,24	0,024	0,032	0,040	0,048	0,065	0,080	0,095	0,10	205 (140 – 220)
		0,24	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,004	670 (460–730)
S3	E/M/A	0,24	0,022	0,030	0,038	0,046	0,060	0,075	0,085	0,095	205 (135 – 220)
		0,24	0,00085	0,0012	0,0015	0,0018	0,0024	0,003	0,0050	0,0038	670 (445–730)
S11	E/M/A	0,24	0,022	0,030	0,038	0,046	0,060	0,075	0,085	0,095	265 (180 – 285)
		0,24	0,00085	0,0012	0,0015	0,0018	0,0024	0,003	0,0050	0,0038	870 (590 – 940)
S12	E/M/A	0,24	0,022	0,030	0,038	0,046	0,060	0,075	0,085	0,095	205 (135 – 220)
		0,24	0,00085	0,0012	0,0015	0,0018	0,0024	0,003	0,0050	0,0038	670 (445–730)
S13	E/M/A	0,24	0,020	0,026	0,032	0,040	0,050	0,065	0,075	0,080	155 (105–165)
		0,24	0,0008	0,0010	0,0013	0,0016	0,0022	0,0026	0,003	0,0032	510 (345 – 540)
H5	M/A	0,24	0,034	0,046	0,055	0,070	0,090	0,11	0,13	0,14	275 (185 – 295)
		0,24	0,0013	0,0018	0,0022	0,0028	0,0036	0,0044	0,0050	0,0055	900 (610 – 950)
H8	M/A	0,24	0,026	0,034	0,044	0,050	0,070	0,085	0,10	0,11	270 (185 – 290)
		0,24	0,0010	0,0013	0,0017	0,0022	0,0028	0,0050	0,004	0,0044	890 (610 – 950)
H21	M/A	0,24	0,026	0,034	0,044	0,050	0,070	0,085	0,10	0,11	270 (185 – 290)
		0,24	0,0010	0,0013	0,0017	0,0022	0,0028	0,0050	0,004	0,0044	890 (610 – 950)
H31	M/A	0,24	0,022	0,030	0,038	0,046	0,060	0,075	0,085	0,095	205 (135 – 220)
		0,24	0,00085	0,0012	0,0015	0,0018	0,0024	0,003	0,0050	0,0038	670 (445–730)
TS1	A/D	0,24	0,022	0,030	0,038	0,046	0,060	0,075	0,085	0,095	205 (135 – 220)
		0,24	0,00085	0,0012	0,0015	0,0018	0,0024	0,003	0,0050	0,0038	670 (445–730)
TP1	A/D	0,24	0,022	0,030	0,038	0,046	0,060	0,075	0,085	0,095	205 (135 – 220)
		0,24	0,00085	0,0012	0,0015	0,0018	0,0024	0,003	0,0050	0,0038	670 (445–730)
GR1	A/D	0,24	0,022	0,030	0,038	0,046	0,060	0,075	0,085	0,095	205 (135 – 220)
		0,24	0,00085	0,0012	0,0015	0,0018	0,0024	0,003	0,0050	0,0038	670 (445–730)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu  
Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama  
 $v_c$  = m/dak (sf/dak)  
 $f_z$  = mm (inç/ağız)  
 $a_p$  mm/DC (inç/DC) = faktör  
 $a_e$  = mm/DC (inç/DC) = faktör  
Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve diğer malzemeler için

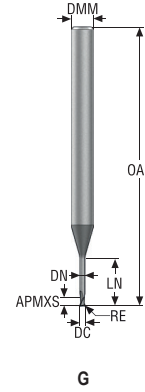
Grafit malzeme için

Minimaster Plus

Minimaster

## JME542

Minyatür – Üniversal – Dik kenarlı – 2 Ağızlı – DMM 4 – Silindirik – Keskin veya köşe radyüsü



- Toleranslar:
- Salgı= <0,007 mm
- DMM= h5
- DC= Ø0,2-Ø0,4= 0,-0,01 mm
- DC= Ø0,5-Ø3,0= 0,-0,013 mm
- RE= ±0,005 mm



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	CA	WDX0	WDX05	WDX1	WDX15	WDX2	WDX3	Silindirik
JME542002G1S.0Z2-SIRA	03171095	1	G	0,2	4,0	0,3	45,0	0,4	0,18	-	2	14,41	0,56	0,63	0,69	0,75	0,81	0,91	■
JME542003G1S.0Z2-SIRA	03171096	1	G	0,3	4,0	0,45	45,0	0,6	0,28	-	2	14,0	0,76	0,85	0,92	0,99	1,06	1,17	■
JME542004G1S.0Z2-SIRA	03171128	1	G	0,4	4,0	0,6	45,0	0,8	0,37	-	2	13,5	1,12	1,19	1,26	1,32	1,38	1,49	■
JME542005G1R005.0Z2-SIRA	03171097	1	G	0,5	4,0	0,8	45,0	1,0	0,46	0,05	2	13,17	1,32	1,4	1,47	1,54	1,61	1,73	■
JME542006G1R005.0Z2-SIRA	03171098	1	G	0,6	4,0	0,9	45,0	1,2	0,56	0,05	2	12,76	1,52	1,61	1,69	1,77	1,84	1,97	■
JME542008G1R005.0Z2-SIRA	03171129	1	G	0,8	4,0	1,2	45,0	1,6	0,76	0,05	2	11,96	1,92	2,03	2,13	2,22	2,3	2,46	■
JME542010G1R010.0Z2-SIRA	03171099	1	G	1,0	4,0	1,5	50,0	2,0	0,95	0,1	2	11,22	2,32	2,45	2,56	2,65	2,74	2,94	■
JME542012G1R010.0Z2-SIRA	03171100	1	G	1,2	4,0	1,8	50,0	2,4	1,15	0,1	2	10,43	2,77	2,87	2,99	3,1	3,2	3,43	■
JME542015G1R015.0Z2-SIRA	03171130	1	G	1,5	4,0	2,3	50,0	3,0	1,45	0,15	2	9,2	3,47	3,61	3,73	3,85	3,98	4,26	■
JME542005G3R005.0Z2-SIRA	03171102	3	G	0,5	4,0	0,8	45,0	2,5	0,46	0,05	2	11,03	2,82	2,98	3,1	3,21	3,32	3,56	■
JME542006G3R005.0Z2-SIRA	03171103	3	G	0,6	4,0	0,9	45,0	3,0	0,56	0,05	2	10,36	3,32	3,5	3,64	3,76	3,89	4,18	■
JME542008G3R005.0Z2-SIRA	03171131	3	G	0,8	4,0	1,2	45,0	4,0	0,76	0,05	2	9,14	4,32	4,54	4,7	4,86	5,03	5,4	■
JME542010G3R010.0Z2-SIRA	03171104	3	G	1,0	4,0	1,5	50,0	5,0	0,95	0,1	2	8,09	5,32	5,58	5,77	5,96	6,16	6,61	■
JME542012G3R010.0Z2-SIRA	03171105	3	G	1,2	4,0	1,8	50,0	6,0	1,15	0,1	2	7,13	6,32	6,62	6,83	7,06	7,3	7,84	■
JME542015G3R015.0Z2-SIRA	03171132	3	G	1,5	4,0	2,3	50,0	7,5	1,45	0,15	2	5,89	7,82	8,16	8,43	8,7	9,0	9,66	■
JME542020G3R015.0Z2-SIRA	03171106	3	G	2,0	4,0	3,0	50,0	10,0	1,94	0,15	2	4,14	10,47	10,83	11,18	11,55	11,95	12,83	■
JME542025G3R015.0Z2-SIRA	03171108	3	G	2,5	4,0	3,8	50,0	12,5	2,4	0,15	2	2,79	12,97	13,41	13,84	14,3	14,79	-	■
JME542030G3R015.0Z2-SIRA	03171134	3	G	3,0	4,0	4,5	60,0	15,0	2,85	0,15	2	1,67	15,68	16,17	16,69	17,24	-	-	■
JME542005G4R005.0Z2-SIRA	03171109	4	G	0,5	4,0	0,8	45,0	4,0	0,46	0,05	2	9,49	4,32	4,54	4,7	4,86	5,03	5,4	■
JME542006G4R005.0Z2-SIRA	03171110	4	G	0,6	4,0	0,9	45,0	5,0	0,56	0,05	2	8,56	5,32	5,58	5,77	5,96	6,17	6,62	■
JME542008G4R005.0Z2-SIRA	03171135	4	G	0,8	4,0	1,2	45,0	7,0	0,76	0,05	2	7,05	7,32	7,65	7,9	8,16	8,44	9,07	■
JME542010G4R010.0Z2-SIRA	03171111	4	G	1,0	4,0	1,5	50,0	8,5	0,95	0,1	2	6,1	8,82	9,2	9,49	9,81	10,15	10,9	■
JME542012G4R010.0Z2-SIRA	03171112	4	G	1,2	4,0	1,8	50,0	10,0	1,15	0,1	2	5,27	10,32	10,75	11,09	11,46	11,85	12,73	■
JME542015G4R015.0Z2-SIRA	03171136	4	G	1,5	4,0	2,3	50,0	12,0	1,45	0,15	2	4,29	12,47	12,9	13,31	13,75	14,22	15,27	■
JME542020G4R015.0Z2-SIRA	03171113	4	G	2,0	4,0	3,0	60,0	16,0	1,94	0,15	2	2,9	16,47	17,02	17,57	18,15	18,78	-	■
JME542025G4R015.0Z2-SIRA	03171114	4	G	2,5	4,0	3,8	60,0	20,0	2,4	0,15	2	1,88	20,47	21,15	21,83	22,55	-	-	■
JME542030G4R015.0Z2-SIRA	03171137	4	G	3,0	4,0	4,5	70,0	24,0	2,85	0,15	2	1,1	24,68	25,45	26,27	-	-	-	■
JME542015G5R015.0Z2-SIRA	03171115	5	G	1,5	4,0	2,3	60,0	15,0	1,45	0,15	2	3,64	15,47	15,99	16,5	17,05	17,64	18,95	■
JME542020G5R015.0Z2-SIRA	03171116	5	G	2,0	4,0	3,0	60,0	20,0	1,94	0,15	2	2,41	20,47	21,15	21,83	22,55	23,33	-	■
JME542025G5R015.0Z2-SIRA	03171138	5	G	2,5	4,0	3,8	70,0	25,0	2,4	0,15	2	1,54	25,47	26,3	27,15	28,06	-	-	■
JME542030G5R015.0Z2-SIRA	03171117	5	G	3,0	4,0	4,5	70,0	30,0	2,85	0,15	2	0,9	30,68	31,64	-	-	-	-	■
JME542015G6R015.0Z2-SIRA	03171118	6	G	1,5	4,0	2,3	70,0	22,5	1,45	0,15	2	2,64	22,97	23,73	24,49	25,29	26,18	-	■
JME542020G6R015.0Z2-SIRA	03171139	6	G	2,0	4,0	3,0	70,0	30,0	1,94	0,15	2	1,7	30,47	31,46	32,48	33,56	-	-	■
JME542025G6R015.0Z2-SIRA	03171119	6	G	2,5	4,0	3,8	80,0	37,5	2,4	0,15	2	1,07	37,97	39,2	40,46	-	-	-	■
JME542030G6R015.0Z2-SIRA	03171120	6	G	3,0	4,0	4,5	90,0	45,0	2,85	0,15	2	0,61	45,68	47,11	-	-	-	-	■

■ Stoklu standart ürün.

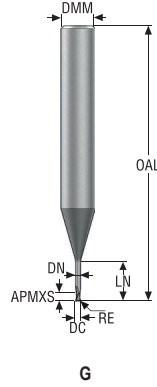
WDX değerleri için: α<sub>1</sub>'ye bağlı maks. kesme derinliği (l<sub>α<sub>1</sub></sub>, ref)\*



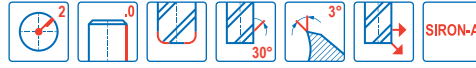


## JME562

Minyatür – Üniversal – Dik kenarlı – 2 Ağızlı – DMM 6 – Silindirik – Köşe radyüsü



G



- Toleranslar:
- Salgı= <0,007 mm
- DMM= h5
- DC= 0,-0,013 mm
- RE= ±0,005 mm

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	CA	WDX0	WDX05	WDX1	WDX15	WDX2	WDX3	Silindirik	
				mm	mm	mm	mm	mm	mm	mm										
JME562005G2R005.0Z2-SIRA	03171145	2	G	0,5	6,0	0,8	50,0	1,5	0,46	0,05	2	13,48	1,82	1,93	2,02	2,1	2,18	2,34	■	
JME562006G2R005.0Z2-SIRA	03171146	2	G	0,6	6,0	0,9	50,0	2,0	0,56	0,05	2	12,9	2,32	2,45	2,56	2,66	2,75	2,95	■	
JME562008G2R005.0Z2-SIRA	03171147	2	G	0,8	6,0	1,2	50,0	2,5	0,76	0,05	2	12,28	2,82	2,98	3,1	3,21	3,32	3,56	■	
JME562010G2R010.0Z2-SIRA	03171148	2	G	1,0	6,0	1,5	50,0	4,0	0,95	0,1	2	10,85	4,32	4,54	4,7	4,86	5,02	5,39	■	
JME562012G2R010.0Z2-SIRA	03171150	2	G	1,2	6,0	1,8	50,0	4,5	1,15	0,1	2	10,31	4,82	5,06	5,23	5,41	5,59	6,0	■	
JME562015G2R015.0Z2-SIRA	03171151	2	G	1,5	6,0	2,3	50,0	5,0	1,45	0,15	2	9,67	5,47	5,68	5,86	6,05	6,25	6,71	■	
JME562018G2R015.0Z2-SIRA	03171152	2	G	1,8	6,0	2,7	50,0	5,4	1,75	0,15	2	9,12	5,87	6,09	6,28	6,49	6,71	7,2	■	
JME562020G2R015.0Z2-SIRA	03171153	2	G	2,0	6,0	3,0	50,0	6,0	1,94	0,15	2	8,53	6,47	6,71	6,92	7,15	7,39	7,93	■	
JME562025G2R015.0Z2-SIRA	03171154	2	G	2,5	6,0	3,8	60,0	7,5	2,4	0,15	2	7,15	7,97	8,26	8,52	8,8	9,1	9,77	■	
JME562030G2R015.0Z2-SIRA	03171155	2	G	3,0	6,0	4,5	60,0	9,0	2,85	0,15	2	5,81	9,68	9,98	10,3	10,64	11,01	11,82	■	
JME562005G4R005.0Z2-SIRA	03171156	4	G	0,5	6,0	0,8	50,0	3,5	0,46	0,05	2	11,54	3,82	4,02	4,17	4,31	4,46	4,79	■	
JME562006G4R005.0Z2-SIRA	03171157	4	G	0,6	6,0	0,9	50,0	4,2	0,56	0,05	2	10,93	4,52	4,75	4,92	5,08	5,26	5,64	■	
JME562008G4R005.0Z2-SIRA	03171158	4	G	0,8	6,0	1,2	50,0	5,6	0,76	0,05	2	9,81	5,92	6,2	6,41	6,62	6,85	7,36	■	
JME562010G4R010.0Z2-SIRA	03171159	4	G	1,0	6,0	1,5	50,0	7,0	0,95	0,1	2	8,86	7,32	7,65	7,9	8,16	8,44	9,06	■	
JME562012G4R010.0Z2-SIRA	03171160	4	G	1,2	6,0	1,8	50,0	8,4	1,15	0,1	2	8,0	8,72	9,1	9,39	9,7	10,03	10,77	■	
JME562015G4R015.0Z2-SIRA	03171162	4	G	1,5	6,0	2,3	50,0	10,5	1,45	0,15	2	6,86	10,97	11,35	11,71	12,1	12,52	13,44	■	
JME562020G4R015.0Z2-SIRA	03171163	4	G	2,0	6,0	3,0	60,0	14,0	1,94	0,15	2	5,36	14,47	14,96	15,44	15,95	16,5	17,72	■	
JME562025G4R015.0Z2-SIRA	03171164	4	G	2,5	6,0	3,8	65,0	17,5	2,4	0,15	2	4,18	17,97	18,57	19,17	19,8	20,49	22,0	■	
JME562030G4R015.0Z2-SIRA	03171165	4	G	3,0	6,0	4,5	70,0	21,0	2,85	0,15	2	3,22	21,68	22,36	23,08	23,85	24,67	26,5	■	
JME562005G5R005.0Z2-SIRA	03171166	5	G	0,5	6,0	0,8	50,0	5,0	0,46	0,05	2	10,42	5,32	5,58	5,77	5,96	6,17	6,62	■	
JME562006G5R005.0Z2-SIRA	03171167	5	G	0,6	6,0	0,9	50,0	6,0	0,56	0,05	2	9,71	6,32	6,62	6,83	7,06	7,31	7,85	■	
JME562008G5R005.0Z2-SIRA	03171168	5	G	0,8	6,0	1,2	50,0	8,0	0,76	0,05	2	8,48	8,32	8,68	8,96	9,26	9,58	10,29	■	
JME562010G5R010.0Z2-SIRA	03171169	5	G	1,0	6,0	1,5	50,0	10,0	0,95	0,1	2	7,48	10,32	10,75	11,09	11,46	11,85	12,73	■	
JME562012G5R010.0Z2-SIRA	03171170	5	G	1,2	6,0	1,8	50,0	12,0	1,15	0,1	2	6,62	12,32	12,81	13,22	13,66	14,13	15,18	■	
JME562015G5R015.0Z2-SIRA	03171171	5	G	1,5	6,0	2,3	60,0	15,0	1,45	0,15	2	5,54	15,47	15,99	16,5	17,05	17,64	18,95	■	
JME562020G5R015.0Z2-SIRA	03171172	5	G	2,0	6,0	3,0	60,0	20,0	1,94	0,15	2	4,19	20,47	21,15	21,83	22,55	23,33	25,06	■	
JME562025G5R015.0Z2-SIRA	03171173	5	G	2,5	6,0	3,8	70,0	25,0	2,4	0,15	2	3,19	25,47	26,3	27,15	28,06	29,03	31,18	■	
JME562030G5R015.0Z2-SIRA	03171174	5	G	3,0	6,0	4,5	70,0	30,0	2,85	0,15	2	2,41	30,68	31,64	32,66	33,75	34,92	-	■	

■ Stoklu standart ürün.

WDX değerleri için: α'ye bağlı maks. kesme derinliği (lαref, ref)\*

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve diğer materyaller için

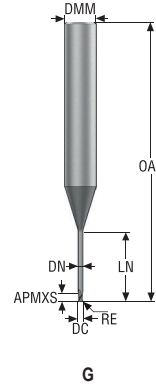
Grafit materyal için

Minimaster Plus

Minimaster

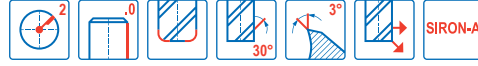
## JME562

Minyatür – Üniversal – Dik kenarlı – 2 Ağızlı – DMM 6 – Silindirik – Köşe radyüsü



G

- Toleranslar:
- Salgı= <0,007 mm
- DMM= h5
- DC= 0,-0,013 mm
- RE= ±0,005 mm



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	CA	WDX0	WDX05	WDX1	WDX15	WDX2	WDX3	Silindirik
				mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
JME562010G6R010.0Z2-SIRA	03171175	6	G	1,0	6,0	1,5	60,0	15,0	0,95	0,1	2	5,94	15,32	15,9	16,41	16,96	17,55	18,85	■
JME562012G6R010.0Z2-SIRA	03171176	6	G	1,2	6,0	1,8	60,0	18,0	1,15	0,1	2	5,14	18,32	19,0	19,61	20,26	20,96	22,52	■
JME562015G6R015.0Z2-SIRA	03171177	6	G	1,5	6,0	2,3	70,0	22,5	1,45	0,15	2	4,2	22,97	23,73	24,49	25,31	26,18	28,12	■
JME562020G6R015.0Z2-SIRA	03171178	6	G	2,0	6,0	3,0	80,0	30,0	1,94	0,15	2	3,07	30,47	31,46	32,48	33,56	34,72	37,3	■
JME562025G6R015.0Z2-SIRA	03171179	6	G	2,5	6,0	3,8	80,0	37,5	2,4	0,15	2	2,28	37,97	39,2	40,46	41,81	43,26	-	■
JME562030G6R015.0Z2-SIRA	03171180	6	G	3,0	6,0	4,5	90,0	45,0	2,85	0,15	2	1,7	45,68	47,11	48,63	50,26	-	-	■
JME562010G7R010.0Z2-SIRA	03171181	7	G	1,0	6,0	1,5	60,0	20,0	0,95	0,1	2	4,93	20,32	21,06	21,74	22,46	23,24	24,97	■
JME562012G7R010.0Z2-SIRA	03171182	7	G	1,2	6,0	1,8	80,0	24,0	1,15	0,1	2	4,2	24,32	25,18	26,0	26,87	27,79	29,86	■
JME562015G7R015.0Z2-SIRA	03171183	7	G	1,5	6,0	2,3	80,0	30,0	1,45	0,15	2	3,38	30,47	31,46	32,48	33,56	34,72	37,3	■
JME562020G7R015.0Z2-SIRA	03171184	7	G	2,0	6,0	3,0	80,0	40,0	1,94	0,15	2	2,42	40,47	41,78	43,12	44,56	46,11	-	■
JME562025G7R015.0Z2-SIRA	03171185	7	G	2,5	6,0	3,8	90,0	50,0	2,4	0,15	2	1,78	50,47	52,09	53,77	55,57	-	-	■
JME562030G7R015.0Z2-SIRA	03171186	7	G	3,0	6,0	4,5	100,0	60,0	2,85	0,15	2	1,31	60,68	62,58	64,61	-	-	-	■

■ Stoklu standart ürün.

WDX değerleri için: αη'ye bağlı maks. kesme derinliği (lαη, ref)\*

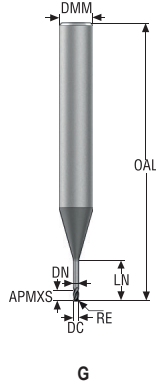




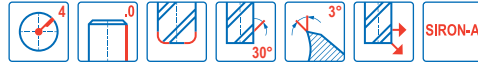


## JME564

Minyatür – Üniversal – Dik kenarlı – 4 Ağızlı – DMM 6 – Silindirik – Köşe radyüsü



G



- Toleranslar:
- Salgı= <0-0,007 mm
- DMM= h5
- DC= 0,-0,013 mm
- RE= ±0,005 mm

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	CA	WDX0	WDX05	WDX1	WDX15	WDX2	WDX3	Silindirik	
				mm	mm	mm	mm	mm	mm	mm										
JME564005G2R005.0Z4-SIRA	03227166	2	G	0,5	6,0	1,0	50,0	1,5	0,46	0,05	4	13,48	1,82	1,93	2,02	2,1	2,18	2,34	■	
JME564006G2R005.0Z4-SIRA	03227271	2	G	0,6	6,0	1,2	50,0	2,0	0,56	0,05	4	12,9	2,32	2,45	2,56	2,66	2,75	2,95	■	
JME564008G2R005.0Z4-SIRA	03171194	2	G	0,8	6,0	1,6	50,0	2,5	0,76	0,05	4	12,28	2,82	2,98	3,1	3,21	3,32	3,56	■	
JME564010G2R010.0Z4-SIRA	03171195	2	G	1,0	6,0	2,0	50,0	4,0	0,95	0,1	4	10,85	4,32	4,54	4,7	4,86	5,02	5,39	■	
JME564012G2R010.0Z4-SIRA	03171196	2	G	1,2	6,0	2,4	50,0	4,5	1,15	0,1	4	10,31	4,82	5,06	5,23	5,41	5,59	6,0	■	
JME564015G2R015.0Z4-SIRA	03171197	2	G	1,5	6,0	3,0	50,0	5,0	1,45	0,15	4	9,67	5,47	5,68	5,86	6,05	6,25	6,71	■	
JME564020G2R015.0Z4-SIRA	03171198	2	G	2,0	6,0	4,0	50,0	6,0	1,94	0,15	4	8,53	6,47	6,71	6,92	7,15	7,39	7,93	■	
JME564025G2R015.0Z4-SIRA	03171199	2	G	2,5	6,0	5,0	60,0	7,5	2,4	0,15	4	7,15	7,97	8,26	8,52	8,8	9,1	9,77	■	
JME564030G2R015.0Z4-SIRA	03171200	2	G	3,0	6,0	6,0	60,0	9,0	2,85	0,15	4	5,81	9,68	9,98	10,3	10,64	11,01	11,82	■	
JME564005G4R005.0Z4-SIRA	03171201	4	G	0,5	6,0	1,0	50,0	3,5	0,46	0,05	4	11,54	3,82	4,02	4,17	4,32	4,46	4,79	■	
JME564006G4R005.0Z4-SIRA	03171202	4	G	0,6	6,0	1,2	50,0	4,2	0,56	0,05	4	10,93	4,52	4,75	4,92	5,08	5,26	5,64	■	
JME564008G4R005.0Z4-SIRA	03171203	4	G	0,8	6,0	1,6	50,0	5,6	0,76	0,05	4	9,81	5,92	6,2	6,41	6,62	6,85	7,36	■	
JME564010G4R010.0Z4-SIRA	03171204	4	G	1,0	6,0	2,0	50,0	7,0	0,95	0,1	4	8,86	7,32	7,65	7,9	8,16	8,44	9,06	■	
JME564012G4R010.0Z4-SIRA	03171205	4	G	1,2	6,0	2,4	50,0	8,4	1,15	0,1	4	8,0	8,72	9,1	9,39	9,7	10,03	10,77	■	
JME564015G4R015.0Z4-SIRA	03171206	4	G	1,5	6,0	3,0	50,0	10,5	1,45	0,15	4	6,86	10,97	11,35	11,71	12,1	12,52	13,44	■	
JME564020G4R015.0Z4-SIRA	03171207	4	G	2,0	6,0	4,0	60,0	14,0	1,94	0,15	4	5,36	14,47	14,96	15,44	15,95	16,5	17,72	■	
JME564025G4R015.0Z4-SIRA	03171208	4	G	2,5	6,0	5,0	60,0	17,5	2,4	0,15	4	4,18	17,97	18,57	19,17	19,8	20,49	22,0	■	
JME564030G4R015.0Z4-SIRA	03171209	4	G	3,0	6,0	6,0	70,0	21,0	2,85	0,15	4	3,22	21,68	22,36	23,08	23,85	24,67	26,5	■	

■ Stoklu standart ürün.

WDX değerleri için: αη'ye bağlı maks. kesme derinliği (αη, ref)\*

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için


Plastik ve cırp materyaller için

Grafit materyale için

Minimaster Plus

Minimaster

Kesme verileri – JME564 Finiş kenar frezeleme

SMG		a <sub>p</sub> /DC	a <sub>r</sub> /DC	f <sub>z</sub>									v <sub>c</sub>
				0.5	0.6	0.8	1.0	1.2	1.5	2.0	2.5	3	
P1	M/E/A	0.0500 0,0500	0.50 0,50	0.010 0,00040	0.012 0,00048	0.016 0,00065	0.020 0,00080	0.024 0,00095	0.030 0,0012	0.040 0,0016	0.050 0,0020	0.060 0,0024	395 (360 – 430) 1300 (1200–1400)
P2	M/E/A	0.0500 0,0500	0.50 0,50	0.010 0,00040	0.012 0,00048	0.016 0,00065	0.020 0,00080	0.024 0,00095	0.030 0,0012	0.040 0,0016	0.050 0,0020	0.060 0,0024	385 (350 – 420) 1275 (1200–1300)
P3	M/E/A	0.0500 0,0500	0.50 0,50	0.010 0,00040	0.012 0,00048	0.016 0,00065	0.020 0,00080	0.024 0,00095	0.030 0,0012	0.040 0,0016	0.050 0,0020	0.060 0,0024	330 (300 – 360) 1075 (990–1100)
P4	M/E/A	0.0500 0,0500	0.50 0,50	0.010 0,00040	0.012 0,00048	0.016 0,00065	0.020 0,00080	0.024 0,00095	0.030 0,0012	0.040 0,0016	0.050 0,0020	0.060 0,0024	290 (260 – 320) 950 (860–1000)
P5	M/E/A	0.0500 0,0500	0.50 0,50	0.010 0,00040	0.012 0,00048	0.016 0,00065	0.020 0,00080	0.024 0,00095	0.030 0,0012	0.040 0,0016	0.050 0,0020	0.060 0,0024	280 (250 – 300) 920 (830 – 980)
P6	M/E/A	0.0500 0,0500	0.50 0,50	0.010 0,00040	0.012 0,00048	0.016 0,00065	0.020 0,00080	0.024 0,00095	0.030 0,0012	0.040 0,0016	0.050 0,0020	0.060 0,0024	310 (280 – 340) 1025 (920–1100)
P7	M/E/A	0.0500 0,0500	0.50 0,50	0.010 0,00040	0.012 0,00048	0.016 0,00065	0.020 0,00080	0.024 0,00095	0.030 0,0012	0.040 0,0016	0.050 0,0020	0.060 0,0024	295 (270 – 320) 970 (890–1000)
P8	M/E/A	0.0500 0,0500	0.50 0,50	0.010 0,00040	0.012 0,00048	0.016 0,00065	0.020 0,00080	0.024 0,00095	0.030 0,0012	0.040 0,0016	0.050 0,0020	0.060 0,0024	280 (250 – 300) 920 (830 – 980)
P11	M/E/A	0.0500 0,0500	0.50 0,50	0.010 0,00040	0.012 0,00048	0.016 0,00065	0.020 0,00080	0.024 0,00095	0.030 0,0012	0.040 0,0016	0.050 0,0020	0.060 0,0024	285 (260 – 310) 940 (860–1000)
P12	M/E/A	0.0500 0,0500	0.50 0,50	0.010 0,00040	0.012 0,00048	0.016 0,00065	0.020 0,00080	0.024 0,00095	0.030 0,0012	0.040 0,0016	0.050 0,0020	0.060 0,0024	170 (160–180) 560 (530 – 590)
M1	E/M/A	0.0250 0,0250	0.50 0,50	0.010 0,00040	0.012 0,00048	0.016 0,00065	0.020 0,00080	0.024 0,00095	0.030 0,0012	0.040 0,0016	0.050 0,0020	0.060 0,0024	235 (200 – 280) 770 (660 – 910)
M2	E/M/A	0.0250 0,0250	0.50 0,50	0.010 0,00040	0.012 0,00048	0.016 0,00065	0.020 0,00080	0.024 0,00095	0.030 0,0012	0.040 0,0016	0.050 0,0020	0.060 0,0024	190 (160 – 220) 620 (530–720)
M3	E/M/A	0.0250 0,0250	0.50 0,50	0.010 0,00040	0.012 0,00048	0.016 0,00065	0.020 0,00080	0.024 0,00095	0.030 0,0012	0.040 0,0016	0.050 0,0020	0.060 0,0024	190 (160 – 220) 620 (530–720)
M4	E/M/A	0.0250 0,0250	0.50 0,50	0.010 0,00040	0.012 0,00048	0.016 0,00065	0.020 0,00080	0.024 0,00095	0.030 0,0012	0.040 0,0016	0.050 0,0020	0.060 0,0024	145 (120–160) 475 (400 – 520)
M5	E/M/A	0.0250 0,0250	0.50 0,50	0.010 0,00040	0.012 0,00048	0.016 0,00065	0.020 0,00080	0.024 0,00095	0.030 0,0012	0.040 0,0016	0.050 0,0020	0.060 0,0024	120 (99–140) 395 (330 – 450)
N1	E/M/A	0.100 0,100	0.90 0,90	0.010 0,00040	0.012 0,00048	0.016 0,00065	0.020 0,00080	0.024 0,00095	0.030 0,0012	0.040 0,0016	0.050 0,0020	0.060 0,0024	550 (490 – 610) 1800 (1700 – 2000)
N2	E/M/A	0.100 0,100	0.90 0,90	0.010 0,00040	0.012 0,00048	0.016 0,00065	0.020 0,00080	0.024 0,00095	0.030 0,0012	0.040 0,0016	0.050 0,0020	0.060 0,0024	550 (490 – 610) 1800 (1700 – 2000)
N3	E/M/A	0.100 0,100	0.90 0,90	0.010 0,00040	0.012 0,00048	0.016 0,00065	0.020 0,00080	0.024 0,00095	0.030 0,0012	0.040 0,0016	0.050 0,0020	0.060 0,0024	365 (330 – 410) 1200 (1100–1300)
N11	E/M/A	0.100 0,100	0.90 0,90	0.012 0,00048	0.015 0,00060	0.020 0,00080	0.025 0,0010	0.030 0,0012	0.038 0,0015	0.050 0,0020	0.060 0,0024	0.075 0,0030	490 (430 – 560) 1600 (1500–1800)
S11	E/M/A	0.0500 0,0500	0.60 0,60	0.010 0,00040	0.012 0,00048	0.016 0,00065	0.020 0,00080	0.024 0,00095	0.030 0,0012	0.040 0,0016	0.050 0,0020	0.060 0,0024	285 (250 – 320) 940 (830–1000)
S12	E/M/A	0.0500 0,0500	0.60 0,60	0.010 0,00040	0.012 0,00048	0.016 0,00065	0.020 0,00080	0.024 0,00095	0.030 0,0012	0.040 0,0016	0.050 0,0020	0.060 0,0024	220 (190 – 250) 720 (630 – 820)
S13	E/M/A	0.0500 0,0500	0.60 0,60	0.010 0,00040	0.012 0,00048	0.016 0,00065	0.020 0,00080	0.024 0,00095	0.030 0,0012	0.040 0,0016	0.050 0,0020	0.060 0,0024	170 (150–190) 560 (500 – 620)
H3	M/A	0.0500 0,0500	0.060 0,060	0.0090 0,00036	0.011 0,00044	0.014 0,00055	0.018 0,00070	0.022 0,00085	0.026 0,0010	0.036 0,0014	0.038 0,0015	0.042 0,0017	125 (95–150) 410 (320 – 490)
H5	M/A	0.0500 0,0500	0.28 0,28	0.010 0,00040	0.012 0,00048	0.016 0,00065	0.020 0,00080	0.024 0,00095	0.030 0,0012	0.040 0,0016	0.050 0,0020	0.060 0,0024	240 (210 – 260) 790 (690 – 850)
H7	M/A	0.0500 0,0500	0.060 0,060	0.0090 0,00036	0.011 0,00044	0.014 0,00055	0.018 0,00070	0.022 0,00085	0.026 0,0010	0.036 0,0014	0.038 0,0015	0.042 0,0017	125 (95–150) 410 (320 – 490)
H8	M/A	0.0500 0,0500	0.28 0,28	0.010 0,00040	0.012 0,00048	0.016 0,00065	0.020 0,00080	0.024 0,00095	0.030 0,0012	0.040 0,0016	0.050 0,0020	0.055 0,0022	240 (210 – 260) 790 (690 – 850)
H11	M/A	0.0500 0,0500	0.28 0,28	0.010 0,00040	0.012 0,00048	0.016 0,00065	0.020 0,00080	0.024 0,00095	0.030 0,0012	0.040 0,0016	0.050 0,0020	0.060 0,0024	305 (270 – 340) 1000 (890–1100)
H12	M/A	0.0500 0,0500	0.28 0,28	0.010 0,00040	0.012 0,00048	0.016 0,00065	0.020 0,00080	0.024 0,00095	0.030 0,0012	0.040 0,0016	0.050 0,0020	0.055 0,0022	275 (250 – 310) 900 (830–1000)
H21	M/A	0.0500 0,0500	0.28 0,28	0.010 0,00040	0.012 0,00048	0.016 0,00065	0.020 0,00080	0.024 0,00095	0.030 0,0012	0.040 0,0016	0.050 0,0020	0.055 0,0022	240 (210 – 260) 790 (690 – 850)
H31	M/A	0.0500 0,0500	0.28 0,28	0.010 0,00040	0.012 0,00048	0.016 0,00065	0.020 0,00080	0.024 0,00095	0.030 0,0012	0.038 0,0015	0.044 0,0017	0.048 0,0019	180 (160 – 200) 590 (530 – 650)
GR1	A	0.500 0,500	0.65 0,50	0.0075 0,00030	0.0090 0,00036	0.012 0,00048	0.015 0,00060	0.018 0,00070	0.020 0,00085	0.025 0,0010	0.028 0,0011	0.032 0,0013	390 (340 – 440) 1300 (1200–1400)

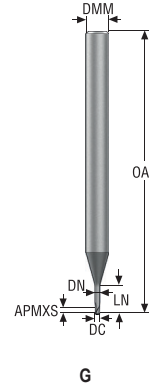
Tablo LV1'e dayalıdır, lütfen seçilen uzunluk versiyonuna göre tekrar hesaplayın. Bkz. sayfa 457 - 464

SMG = Seco malzeme grubu  
Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama  
v<sub>c</sub> = m/dak (sf/dak)  
f<sub>z</sub> = mm (inç/ağız)  
a<sub>p</sub> mm/DC (inç/DC) = faktör  
a<sub>r</sub> = mm/DC (inç/DC) = faktör  
Tüm kesme verileri hedef değerlerdir



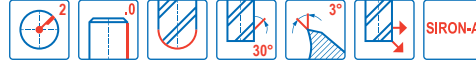
## JMB542

Minyatür – Üniversal – Tamamı yuvarlak – 2 Ağızlı – DMM 4 – Silindirik



G

- Toleranslar:
- Salgı=<0,007 mm
- DMM= h5
- DC= 0,-0,01 mm
- RE= ±0,005 mm



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	CA	WDX0	WDX05	WDX1	WDX15	WDX2	WDX3	Silindirik
				mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
JMB542002G1B.0Z2-SIRA	03171221	1	G	0,2	4,0	0,2	45,0	0,4	0,18	0,1	2	14,57	0,56	0,62	0,67	0,73	0,78	0,88	■
JMB542003G1B.0Z2-SIRA	03171222	1	G	0,3	4,0	0,3	45,0	0,6	0,28	0,15	2	14,24	0,76	0,83	0,9	0,96	1,02	1,13	■
JMB542004G1B.0Z2-SIRA	03171223	1	G	0,4	4,0	0,4	45,0	0,8	0,37	0,2	2	13,81	1,12	1,18	1,24	1,29	1,35	1,45	■
JMB542005G1B.0Z2-SIRA	03171224	1	G	0,5	4,0	0,5	45,0	1,0	0,46	0,25	2	13,47	1,32	1,39	1,45	1,51	1,57	1,68	■
JMB542006G1B.0Z2-SIRA	03171225	1	G	0,6	4,0	0,6	45,0	1,2	0,56	0,3	2	13,14	1,52	1,59	1,67	1,73	1,8	1,92	■
JMB542008G1B.0Z2-SIRA	03171226	1	G	0,8	4,0	0,8	45,0	1,6	0,76	0,4	2	12,46	1,92	2,01	2,1	2,17	2,25	2,39	■
JMB542010G1B.0Z2-SIRA	03171228	1	G	1,0	4,0	1,0	50,0	2,0	0,95	0,5	2	11,77	2,23	2,43	2,52	2,61	2,69	2,85	■
JMB542012G1B.0Z2-SIRA	03171229	1	G	1,2	4,0	1,2	50,0	2,4	1,15	0,6	2	11,07	2,72	2,84	2,95	3,04	3,13	3,32	■
JMB542015G1B.0Z2-SIRA	03171230	1	G	1,5	4,0	1,5	50,0	3,0	1,45	0,75	2	9,88	3,47	3,59	3,69	3,79	3,89	4,13	■
JMB542005G3B.0Z2-SIRA	03171231	3	G	0,5	4,0	0,5	45,0	2,5	0,46	0,25	2	11,25	2,82	2,97	3,09	3,19	3,29	3,52	■
JMB542006G3B.0Z2-SIRA	03171233	3	G	0,6	4,0	0,6	45,0	3,0	0,56	0,3	2	10,61	3,32	3,49	3,62	3,74	3,86	4,12	■
JMB542008G3B.0Z2-SIRA	03171234	3	G	0,8	4,0	0,8	45,0	4,0	0,76	0,4	2	9,44	4,32	4,53	4,68	4,83	4,98	5,32	■
JMB542010G3B.0Z2-SIRA	03171235	3	G	1,0	4,0	1,0	50,0	5,0	0,95	0,5	2	8,38	5,32	5,56	5,74	5,92	6,11	6,53	■
JMB542012G3B.0Z2-SIRA	03171236	3	G	1,2	4,0	1,2	50,0	6,0	1,15	0,6	2	7,44	6,32	6,6	6,8	7,01	7,23	7,73	■
JMB542015G3B.0Z2-SIRA	03171237	3	G	1,5	4,0	1,5	50,0	7,5	1,45	0,75	2	6,13	7,97	8,24	8,48	8,74	9,02	9,64	■
JMB542020G3B.0Z2-SIRA	03171238	3	G	2,0	4,0	2,0	50,0	10,0	1,94	1,0	2	4,4	10,47	10,81	11,13	11,47	11,83	12,64	■
JMB542025G3B.0Z2-SIRA	03171239	3	G	2,5	4,0	2,5	50,0	12,5	2,4	1,25	2	3,0	12,97	13,38	13,77	14,19	14,64	-	■
JMB542030G3B.0Z2-SIRA	03171240	3	G	3,0	4,0	3,0	60,0	15,0	2,85	1,5	2	1,81	15,68	16,13	16,6	17,11	-	-	■
JMB542005G4B.0Z2-SIRA	03171241	4	G	0,5	4,0	0,5	45,0	4,0	0,46	0,25	2	9,65	4,32	4,53	4,69	4,84	5,0	5,36	■
JMB542006G4B.0Z2-SIRA	03171242	4	G	0,6	4,0	0,6	45,0	5,0	0,56	0,3	2	8,74	5,32	5,57	5,75	5,94	6,13	6,57	■
JMB542008G4B.0Z2-SIRA	03171243	4	G	0,8	4,0	0,8	45,0	7,0	0,76	0,4	2	7,23	7,32	7,64	7,88	8,13	8,4	8,99	■
JMB542010G4B.0Z2-SIRA	03171244	4	G	1,0	4,0	1,0	50,0	8,5	0,95	0,5	2	6,27	8,82	9,19	9,47	9,77	10,09	10,81	■
JMB542012G4B.0Z2-SIRA	03171245	4	G	1,2	4,0	1,2	50,0	10,0	1,15	0,6	2	5,44	10,32	10,73	11,06	11,41	11,79	12,62	■
JMB542015G4B.0Z2-SIRA	03171246	4	G	1,5	4,0	1,5	50,0	12,0	1,45	0,75	2	4,44	12,47	12,88	13,27	13,69	14,14	15,14	■
JMB542020G4B.0Z2-SIRA	03171247	4	G	2,0	4,0	2,0	60,0	16,0	1,94	1,0	2	3,02	16,47	17,0	17,51	18,07	18,66	19,98	■
JMB542025G4B.0Z2-SIRA	03171248	4	G	2,5	4,0	2,5	60,0	20,0	2,4	1,25	2	1,97	20,47	21,11	21,76	22,45	-	-	■
JMB542030G4B.0Z2-SIRA	03171249	4	G	3,0	4,0	3,0	70,0	24,0	2,85	1,5	2	1,16	24,68	25,41	26,19	-	-	-	■
JMB542015G5B.0Z2-SIRA	03171250	5	G	1,5	4,0	1,5	60,0	15,0	1,45	0,75	2	3,75	15,47	15,97	16,47	16,99	17,56	18,81	■
JMB542020G5B.0Z2-SIRA	03171251	5	G	2,0	4,0	2,0	60,0	20,0	1,94	1,0	2	2,5	20,47	21,12	21,77	22,47	23,22	-	■
JMB542025G5B.0Z2-SIRA	03171252	5	G	2,5	4,0	2,5	70,0	25,0	2,4	1,25	2	1,61	25,47	26,27	27,08	27,95	-	-	■
JMB542030G5B.0Z2-SIRA	03171253	5	G	3,0	4,0	3,0	70,0	30,0	2,85	1,5	2	0,93	30,68	31,6	-	-	-	-	■
JMB542015G6B.0Z2-SIRA	03171254	6	G	1,5	4,0	1,5	70,0	22,5	1,45	0,75	2	2,7	22,97	23,71	24,45	25,25	26,1	-	■
JMB542020G6B.0Z2-SIRA	03171255	6	G	2,0	4,0	2,0	70,0	30,0	1,94	1,0	2	1,74	30,47	31,43	32,42	33,48	-	-	■
JMB542025G6B.0Z2-SIRA	03171256	6	G	2,5	4,0	2,5	80,0	37,5	2,4	1,25	2	1,1	37,97	39,16	40,39	-	-	-	■
JMB542030G6B.0Z2-SIRA	03171257	6	G	3,0	4,0	3,0	90,0	45,0	2,85	1,5	2	0,63	45,68	47,07	-	-	-	-	■

■ Stoklu standart ürün.

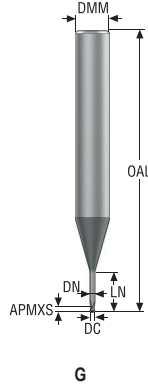
WDX değerleri için: α<sub>1</sub>'ye bağlı maks. kesme derinliği (l<sub>α<sub>1</sub></sub>, ref)\*



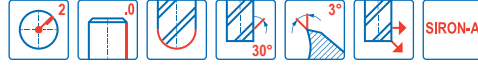


## JMB562

Minyatür – Üniversal – Tamamı yuvarlak – 2 Ağzılı – DMM6 – Silindirik



G



- Toleranslar:
- Salgı=<0,007 mm
- DMM= h5
- DC= 0,-0,01 mm
- RE= ±0,005 mm



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	CA	WDX0	WDX05	WDX1	WDX15	WDX2	WDX3	Silindirik	
				mm	mm	mm	mm	mm	mm	mm										
JMB562005G2B.0Z2-SIRA	03171261	2	G	0,5	6,0	0,5	50,0	1,5	0,46	0,25	2	13,69	1,82	1,91	2,0	2,08	2,15	2,3	■	
JMB562006G2B.0Z2-SIRA	03171262	2	G	0,6	6,0	0,6	50,0	2,0	0,56	0,3	2	13,13	2,32	2,44	2,54	2,63	2,72	2,9	■	
JMB562008G2B.0Z2-SIRA	03171263	2	G	0,8	6,0	0,8	50,0	2,5	0,76	0,4	2	12,6	2,82	2,96	3,07	3,18	3,27	3,49	■	
JMB562010G2B.0Z2-SIRA	03171264	2	G	1,0	6,0	1,0	50,0	4,0	0,95	0,5	2	11,15	4,32	4,52	4,68	4,68	4,97	5,3	■	
JMB562012G2B.0Z2-SIRA	03171265	2	G	1,2	6,0	1,2	50,0	4,5	1,15	0,6	2	10,67	4,82	5,04	5,2	5,36	5,52	5,89	■	
JMB562015G2B.0Z2-SIRA	03171266	2	G	1,5	6,0	1,5	50,0	5,0	1,45	0,75	2	10,07	5,47	5,66	5,82	5,99	6,17	6,58	■	
JMB562018G2B.0Z2-SIRA	03171267	2	G	1,8	6,0	1,8	50,0	5,4	1,75	0,9	2	9,61	5,87	6,07	6,23	6,41	6,61	7,03	■	
JMB562020G2B.0Z2-SIRA	03171268	2	G	2,0	6,0	2,0	50,0	6,0	1,94	1,0	2	9,05	6,47	6,68	6,87	7,06	7,28	7,75	■	
JMB562025G2B.0Z2-SIRA	03171269	2	G	2,5	6,0	2,5	60,0	7,5	2,4	1,25	2	7,71	7,97	8,22	8,45	8,69	8,95	9,53	■	
JMB562030G2B.0Z2-SIRA	03171270	2	G	3,0	6,0	3,0	60,0	9,0	2,85	1,5	2	6,35	9,68	9,94	10,21	10,51	10,82	11,52	■	
JMB562005G4B.0Z2-SIRA	03171271	4	G	0,5	6,0	0,5	50,0	3,5	0,46	0,25	2	11,7	3,82	4,01	4,16	4,29	4,43	4,74	■	
JMB562006G4B.0Z2-SIRA	03171272	4	G	0,6	6,0	0,6	50,0	4,2	0,56	0,3	2	11,1	4,52	4,74	4,9	5,06	5,22	5,59	■	
JMB562008G4B.0Z2-SIRA	03171273	4	G	0,8	6,0	0,8	50,0	5,6	0,76	0,4	2	10,02	5,92	6,19	6,39	6,59	6,8	7,28	■	
JMB562010G4B.0Z2-SIRA	03171274	4	G	1,0	6,0	1,0	50,0	7,0	0,95	0,5	2	9,06	7,32	7,64	7,87	8,12	8,38	8,97	■	
JMB562012G4B.0Z2-SIRA	03171275	4	G	1,2	6,0	1,2	50,0	8,4	1,15	0,6	2	8,22	8,72	9,08	9,35	9,65	9,96	10,66	■	
JMB562015G4B.0Z2-SIRA	03171276	4	G	1,5	6,0	1,5	50,0	10,5	1,45	0,75	2	7,07	10,97	11,33	11,67	12,04	12,43	13,31	■	
JMB562020G4B.0Z2-SIRA	03171277	4	G	2,0	6,0	2,0	60,0	14,0	1,94	1,0	2	5,57	14,47	14,93	15,38	15,87	16,38	17,54	■	
JMB562025G4B.0Z2-SIRA	03171278	4	G	2,5	6,0	2,5	65,0	17,5	2,4	1,25	2	4,38	17,97	18,53	19,1	19,69	20,34	21,76	■	
JMB562030G4B.0Z2-SIRA	03171279	4	G	3,0	6,0	3,0	70,0	21,0	2,85	1,5	2	3,38	21,68	22,32	22,99	23,71	24,49	26,21	■	
JMB562005G5B.0Z2-SIRA	03171280	5	G	0,5	6,0	0,5	50,0	5,0	0,46	0,25	2	10,54	5,32	5,57	5,76	5,94	6,14	6,58	■	
JMB562006G5B.0Z2-SIRA	03171281	5	G	0,6	6,0	0,6	50,0	6,0	0,56	0,3	2	9,85	6,32	6,61	6,82	7,04	7,27	7,79	■	
JMB562008G5B.0Z2-SIRA	03171282	5	G	0,8	6,0	0,8	50,0	8,0	0,76	0,4	2	8,64	8,32	8,67	8,94	9,23	9,54	10,22	■	
JMB562010G5B.0Z2-SIRA	03171283	5	G	1,0	6,0	1,0	50,0	10,0	0,95	0,5	2	7,63	10,32	10,73	11,06	11,42	11,8	12,64	■	
JMB562012G5B.0Z2-SIRA	03171284	5	G	1,2	6,0	1,2	50,0	12,0	1,15	0,6	2	6,77	12,32	12,79	13,19	13,61	14,06	15,07	■	
JMB562015G5B.0Z2-SIRA	03171285	5	G	1,5	6,0	1,5	60,0	15,0	1,45	0,75	2	5,68	15,47	15,97	16,47	16,99	17,56	18,81	■	
JMB562020G5B.0Z2-SIRA	03171287	5	G	2,0	6,0	2,0	60,0	20,0	1,94	1,0	2	4,32	20,47	21,12	21,77	22,47	23,22	24,88	■	
JMB562025G5B.0Z2-SIRA	03171288	5	G	2,5	6,0	2,5	70,0	25,0	2,4	1,25	2	3,3	25,47	26,27	27,08	27,95	28,88	30,94	■	
JMB562030G5B.0Z2-SIRA	03171289	5	G	3,0	6,0	3,0	70,0	30,0	2,85	1,5	2	2,5	30,68	31,6	32,58	33,62	34,73	-	■	

■ Stoklu standart ürün.

WDX değerleri için: α'ye bağlı maks. kesme derinliği (lαref, ref)\*

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve diğer materyaller için

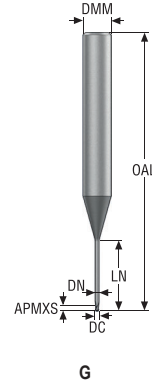
Grafit materyal için

Minimaster Plus

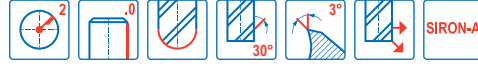
Minimaster

## JMB562

Minyatür – Üniversal – Tamamı yuvarlak – 2 Ağızlı – DMM 6 – Silindirik



- Toleranslar:
- Salgı=<0,007 mm
- DMM= h5
- DC= 0,-0,01 mm
- RE= ±0,005 mm



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	CA	WDX0	WDX05	WDX1	WDX15	WDX2	WDX3	Silindirik
				mm	mm	mm	mm	mm	mm	mm									
JMB562010G6B.0Z2-SIRA	03171290	6	G	1,0	6,0	1,0	60,0	15,0	0,95	0,5	2	6,04	15,32	15,89	16,39	16,92	17,49	18,76	■
JMB562012G6B.0Z2-SIRA	03171291	6	G	1,2	6,0	1,2	60,0	18,0	1,15	0,6	2	5,24	18,32	18,98	19,58	20,21	20,89	22,41	■
JMB562015G6B.0Z2-SIRA	03171292	6	G	1,5	6,0	1,5	70,0	22,5	1,45	0,75	2	4,28	22,97	23,71	24,45	25,25	26,1	27,99	■
JMB562020G6B.0Z2-SIRA	03171293	6	G	2,0	6,0	2,0	80,0	30,0	1,94	1,0	2	3,14	30,47	31,43	32,42	33,48	34,6	37,11	■
JMB562025G6B.0Z2-SIRA	03171294	6	G	2,5	6,0	2,5	80,0	37,5	2,4	1,25	2	2,34	37,97	39,16	40,39	41,7	43,11	-	■
JMB562030G6B.0Z2-SIRA	03171295	6	G	3,0	6,0	3,0	90,0	45,0	2,85	1,5	2	1,74	45,68	47,07	48,55	50,13	-	-	■
JMB562010G7B.0Z2-SIRA	03171296	7	G	1,0	6,0	1,0	60,0	20,0	0,95	0,5	2	4,99	20,32	21,05	21,71	22,42	23,19	24,88	■
JMB562012G7B.0Z2-SIRA	03171297	7	G	1,2	6,0	1,2	80,0	24,0	1,15	0,6	2	4,27	24,32	25,17	25,97	26,82	27,73	29,75	■
JMB562015G7B.0Z2-SIRA	03171298	7	G	1,5	6,0	1,5	80,0	30,0	1,45	0,75	2	3,43	30,47	31,44	32,44	33,5	34,64	37,17	■
JMB562020G7B.0Z2-SIRA	03171299	7	G	2,0	6,0	2,0	80,0	40,0	1,94	1,0	2	2,47	40,47	41,75	43,07	44,48	45,99	-	■
JMB562025G7B.0Z2-SIRA	03171300	7	G	2,5	6,0	2,5	90,0	50,0	2,4	1,25	2	1,81	50,47	52,05	53,7	55,46	-	-	■
JMB562030G7B.0Z2-SIRA	03171301	7	G	3,0	6,0	3,0	100,0	60,0	2,85	1,5	2	1,34	60,68	62,54	64,52	-	-	-	■

■ Stoklu standart ürün.

WDX değerleri için: αη'ye bağlı maks. kesme derinliği (lαη, ref)\*

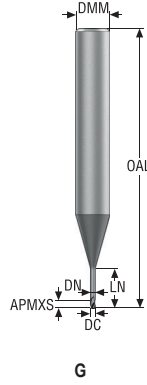




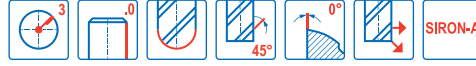


## JMB563

Minyatür – Üniversal – Tamamı yuvarlak – 3 Ağızlı – DMM 6 – Silindirik



G



- Toleranslar:
- Salgı=<0,007 mm
- DMM= h5
- DC= 0, -0,02 mm
- RE= ±0,01 mm



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	CA	WDX0	WDX05	WDX1	WDX15	WDX2	WDX3	Silindirik	
				mm	mm	mm	mm	mm	mm	mm										
JMB563010G2B.0Z3-SIRA	03171307	2	G	1,0	6,0	1,0	50,0	4,0	0,95	0,5	3	11,15	4,32	4,52	4,68	4,68	4,97	5,3	■	
JMB563012G2B.0Z3-SIRA	03171308	2	G	1,2	6,0	1,2	50,0	4,5	1,15	0,6	3	10,67	4,82	5,04	5,2	5,36	5,52	5,89	■	
JMB563015G2B.0Z3-SIRA	03171309	2	G	1,5	6,0	1,5	50,0	5,0	1,45	0,75	3	10,07	5,47	5,66	5,82	5,99	6,17	6,58	■	
JMB563020G2B.0Z3-SIRA	03171310	2	G	2,0	6,0	2,0	50,0	6,0	1,94	1,0	3	9,05	6,47	6,68	6,87	7,06	7,28	7,75	■	
JMB563025G2B.0Z3-SIRA	03171311	2	G	2,5	6,0	2,5	60,0	7,5	2,4	1,25	3	7,71	7,97	8,22	8,45	8,69	8,95	9,53	■	
JMB563030G2B.0Z3-SIRA	03171312	2	G	3,0	6,0	3,0	60,0	9,0	2,85	1,5	3	6,35	9,68	9,94	10,21	10,51	10,83	11,52	■	
JMB563010G4B.0Z3-SIRA	03171316	4	G	1,0	6,0	1,0	50,0	7,0	0,95	0,5	3	9,06	7,32	7,64	7,87	8,12	8,38	8,97	■	
JMB563012G4B.0Z3-SIRA	03171317	4	G	1,2	6,0	1,2	50,0	8,4	1,15	0,6	3	8,22	8,72	9,08	9,35	9,65	9,96	10,66	■	
JMB563015G4B.0Z3-SIRA	03171318	4	G	1,5	6,0	1,5	50,0	10,5	1,45	0,75	3	7,07	10,97	11,33	11,67	12,04	12,43	13,31	■	
JMB563020G4B.0Z3-SIRA	03171319	4	G	2,0	6,0	2,0	60,0	14,0	1,94	1,0	3	5,57	14,47	14,93	15,38	15,87	16,38	17,54	■	
JMB563025G4B.0Z3-SIRA	03171320	4	G	2,5	6,0	2,5	60,0	17,5	2,4	1,25	3	4,38	17,97	18,53	19,1	19,69	20,34	21,76	■	
JMB563030G4B.0Z3-SIRA	03171321	4	G	3,0	6,0	3,0	70,0	21,0	2,85	1,5	3	3,38	21,68	22,32	22,99	23,71	24,49	26,21	■	

■ Stoklu standart ürün.

WDX değerleri için: α<sub>1</sub>'ye bağlı maks. kesme derinliği (lα<sub>1</sub>, ref)\*

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve diğer materyaller için

Grafit materyal için

Minimaster Plus

Minimaster

Kesme verileri – JMB563 Kaba kopya frezeleme

SMG		a <sub>e</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>						v <sub>c</sub>
				1	1.2	1.5	2.0	2.5	3.0	
P1	M/E/A	0.0500	0.38	0.020	0.024	0.030	0.040	0.050	0.060	460 (410 – 500)
		0,0500	0,38	0,00080	0,00095	0,0012	0,0016	0,0020	0,0024	1500 (1400–1600)
P2	M/E/A	0.0500	0.38	0.020	0.024	0.030	0.040	0.050	0.060	445 (400 – 490)
		0,0500	0,38	0,00080	0,00095	0,0012	0,0016	0,0020	0,0024	1450 (1400–1600)
P3	M/E/A	0.0500	0.38	0.020	0.024	0.030	0.040	0.050	0.060	385 (350 – 420)
		0,0500	0,38	0,00080	0,00095	0,0012	0,0016	0,0020	0,0024	1275 (1200–1300)
P4	M/E/A	0.0500	0.38	0.020	0.024	0.030	0.040	0.050	0.060	340 (310 – 370)
		0,0500	0,38	0,00080	0,00095	0,0012	0,0016	0,0020	0,0024	1125 (1100–1200)
P5	M/E/A	0.0500	0.38	0.020	0.024	0.030	0.040	0.050	0.060	325 (290 – 350)
		0,0500	0,38	0,00080	0,00095	0,0012	0,0016	0,0020	0,0024	1075 (960–1100)
P6	M/E/A	0.0500	0.38	0.020	0.024	0.030	0.040	0.050	0.060	365 (330 – 400)
		0,0500	0,38	0,00080	0,00095	0,0012	0,0016	0,0020	0,0024	1200 (1100–1300)
P7	M/E/A	0.0500	0.38	0.020	0.024	0.030	0.040	0.050	0.060	340 (310 – 380)
		0,0500	0,38	0,00080	0,00095	0,0012	0,0016	0,0020	0,0024	1125 (1100–1200)
P8	M/E/A	0.0500	0.38	0.020	0.024	0.030	0.040	0.050	0.060	325 (290 – 350)
		0,0500	0,38	0,00080	0,00095	0,0012	0,0016	0,0020	0,0024	1075 (960–1100)
P11	M/E/A	0.0250	0.38	0.020	0.024	0.030	0.040	0.050	0.060	230 (190 – 270)
		0,0250	0,38	0,00080	0,00095	0,0012	0,0016	0,0020	0,0024	750 (630 – 880)
P12	M/E/A	0.0250	0.38	0.020	0.024	0.030	0.040	0.050	0.060	135 (120–160)
		0,0250	0,38	0,00080	0,00095	0,0012	0,0016	0,0020	0,0024	445 (400 – 520)
M1	E/M/A	0.0250	0.38	0.020	0.024	0.030	0.040	0.050	0.060	270 (230 – 320)
		0,0250	0,38	0,00080	0,00095	0,0012	0,0016	0,0020	0,0024	890 (760–1000)
M2	E/M/A	0.0250	0.38	0.020	0.024	0.030	0.040	0.050	0.060	220 (180 – 250)
		0,0250	0,38	0,00080	0,00095	0,0012	0,0016	0,0020	0,0024	720 (600 – 820)
M3	E/M/A	0.0250	0.38	0.020	0.024	0.030	0.040	0.050	0.060	220 (180 – 250)
		0,0250	0,38	0,00080	0,00095	0,0012	0,0016	0,0020	0,0024	720 (600 – 820)
M4	E/M/A	0.0250	0.38	0.020	0.024	0.030	0.040	0.050	0.060	165 (140–190)
		0,0250	0,38	0,00080	0,00095	0,0012	0,0016	0,0020	0,0024	540 (460 – 620)
M5	E/M/A	0.0250	0.38	0.020	0.024	0.030	0.040	0.050	0.060	135 (120–160)
		0,0250	0,38	0,00080	0,00095	0,0012	0,0016	0,0020	0,0024	445 (400 – 520)
N1	E/M/A	0.100	0.65	0.020	0.024	0.030	0.040	0.050	0.060	590 (520 – 660)
		0,100	0,65	0,00080	0,00095	0,0012	0,0016	0,0020	0,0024	1925 (1800 – 2100)
N2	E/M/A	0.100	0.65	0.020	0.024	0.030	0.040	0.050	0.060	590 (520 – 660)
		0,100	0,65	0,00080	0,00095	0,0012	0,0016	0,0020	0,0024	1925 (1800 – 2100)
N3	E/M/A	0.100	0.65	0.020	0.024	0.030	0.040	0.050	0.060	395 (350 – 440)
		0,100	0,65	0,00080	0,00095	0,0012	0,0016	0,0020	0,0024	1300 (1200–1400)
N11	E/M/A	0.100	0.65	0.025	0.030	0.038	0.050	0.060	0.075	520 (450 – 590)
		0,100	0,65	0,0010	0,0012	0,0015	0,0020	0,0024	0,0030	1700 (1500–1900)
S11	E/M/A	0.0250	0.46	0.020	0.024	0.030	0.040	0.050	0.060	345 (300 – 390)
		0,0250	0,46	0,00080	0,00095	0,0012	0,0016	0,0020	0,0024	1125 (990–1200)
S12	E/M/A	0.0250	0.46	0.020	0.024	0.030	0.040	0.050	0.060	265 (230 – 300)
		0,0250	0,46	0,00080	0,00095	0,0012	0,0016	0,0020	0,0024	870 (760 – 980)
S13	E/M/A	0.0250	0.46	0.020	0.024	0.030	0.040	0.050	0.060	205 (180 – 230)
		0,0250	0,46	0,00080	0,00095	0,0012	0,0016	0,0020	0,0024	670 (600–750)
H3	M/A	0.0250	0.095	0.018	0.022	0.026	0.036	0.044	0.055	155 (120–190)
		0,0250	0,095	0,00070	0,00085	0,0010	0,0014	0,0017	0,0022	510 (400 – 620)
H5	M/A	0.0500	0.22	0.020	0.024	0.030	0.040	0.050	0.060	295 (260 – 330)
		0,0500	0,22	0,00080	0,00095	0,0012	0,0016	0,0020	0,0024	970 (860–1000)
H7	M/A	0.0250	0.095	0.018	0.022	0.026	0.036	0.044	0.055	155 (120–190)
		0,0250	0,095	0,00070	0,00085	0,0010	0,0014	0,0017	0,0022	510 (400 – 620)
H8	M/A	0.0500	0.22	0.020	0.024	0.030	0.040	0.050	0.060	295 (260 – 330)
		0,0500	0,22	0,00080	0,00095	0,0012	0,0016	0,0020	0,0024	970 (860–1000)
H11	M/A	0.0500	0.22	0.020	0.024	0.030	0.040	0.050	0.060	375 (330 – 420)
		0,0500	0,22	0,00080	0,00095	0,0012	0,0016	0,0020	0,0024	1225 (1100–1300)
H12	M/A	0.0500	0.22	0.020	0.024	0.030	0.040	0.050	0.060	345 (310 – 380)
		0,0500	0,22	0,00080	0,00095	0,0012	0,0016	0,0020	0,0024	1125 (1100–1200)
H21	M/A	0.0500	0.22	0.020	0.024	0.030	0.040	0.050	0.060	295 (260 – 330)
		0,0500	0,22	0,00080	0,00095	0,0012	0,0016	0,0020	0,0024	970 (860–1000)
H31	M/A	0.0500	0.22	0.020	0.024	0.030	0.040	0.050	0.060	225 (200 – 250)
		0,0500	0,22	0,00080	0,00095	0,0012	0,0016	0,0020	0,0024	740 (660 – 820)
GR1	A	0.500	0.50	0.015	0.018	0.022	0.030	0.038	0.040	450 (390 – 510)
		0,500	0,50	0,00060	0,00070	0,00085	0,0012	0,0015	0,0016	1475 (1300–1600)

Tablo LV1'e dayalıdır, lütfen seçilen uzunluk versiyonuna göre tekrar hesaplayın. Bkz. sayfa 457 - 464

SMG = Seco malzeme grubu  
Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama  
v<sub>c</sub>= m/dak (sf/dak)  
f<sub>z</sub> = mm (inç/ağız)  
a<sub>p</sub> mm/DC (inç/DC) = faktör  
a<sub>e</sub> = mm/DC (inç/DC) = faktör  
Tüm kesme verileri hedef değerlerdir



## ÇELİK VE DÖKME DEMİR

Seco, çelik ve dökme demirde yüksek üretkenlik için yüksek performanslı solid karbür dik kenarlı parmak frezeler, tamamı yuvarlak frezeler ve finiş parmak freze ürün çeşitlerini sunmaktadır.

- JHP993, JHP951 ve JH142, pah ve radyüs tipi için.
- JHB970, JH112, JH150, JH160, tamamı yuvarlak tip için.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası matzemeleri

Demir içermeyen matzemeler























Sertleştirilmiş çelik için

Plastik ve cırp matzemeler için











Grafit matzeme için

Minimaster Plus

Minimaster

Çelik ve dökme demir için					
Universal					
					
Çelik ve dökme demir	İsim	JHP993	JHP951	JH142	JHB970
	Sayfa(lar)	182	188	192, 368	134, 195
Paslanmaz çelik ve S iş parçası matzemeleri	Ürün ailesi	HPM	HPM	HSM/TORNADO	HSM/TORNADO
	Freze tipi				
Demir içermeyen matzemeler	Sap	Silindirik	■	■	■
		Weldon	■	■	
Sertleştirilmiş çelik için	Ağız sayısı	3,4,5	3,4,5	2-4-5-6	2
	ICC (İçten soğutma sıvısı kanalı)				
Plastik ve cırp matzemeleri için	Mevcut boylar	Metrik	4-25	3-20	2-12
		İnç			
Grafit matzeme için	Operasyon				
		2,3	2	2,3,6	1,2,3
Minimaster Plus	Operasyon				
					
Minimaster	Operasyon				
Minimaster	SMG				
	P1	•	•	•	•
	P2	•	•	•	•
	P3	•	•	•	•
	P4	•	•	•	•
	P5	•	•	•	•
	P6	•	•	•	•
	P7	•	•	•	•
	P8	•	•	•	•
	P11-12	○	○	•	○
K1	•	•	•	•	
K2	•	•	•	•	
K3	•	•	•	•	
K4	•	•	•	•	
K5	•	•	•	•	
K6	•	•	•	•	
K7	•	•	•	•	

■ Stoklu standart ürün. □ Weldon sap mevcut, teslim süresi 3 iş günüdür.  
• İlk tercih ○ Alternatif tercih

Çelik ve dökme demir için			Üniversal
			
İsim	JH112	JH150	JH160
Sayfa(lar)	197, 371	374	376
Ürün ailesi	HSM/TORNADO	HSM/TORNADO	HSM/TORNADO
Freze tipi			
Sap	Silindirik	■	■
	Weldon		
Ağız sayısı	2	4	4
ICC (İçten soğutma sıvısı kanalı)			
	Metrik	2-12	6-12
	İnç		
Mevcut boylar			
	1,2,3,4,5,6	2	2
Operasyon			
			
SMG			
P1			•
P2			•
P3			•
P4			•
P5			•
P6			•
P7			•
P8			•
P11-12			○
K1	•	•	
K2	•	•	
K3	•	•	
K4	•	•	
K5	•	•	
K6	•	•	
K7	•	•	

■ Stoklu standart ürün. □ Weldon sap mevcut, teslim süresi 3 iş günüdür.  
• İlk tercih ○ Alternatif tercih

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası matzemeleri

Demir içermeyen matzemeler

Sertleştirilmiş çelik için

Plastik ve diğer matzemeler için

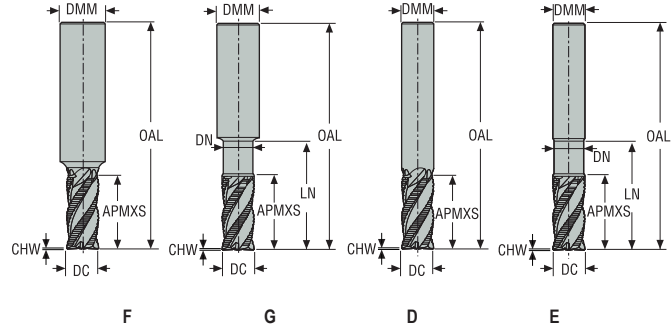
Grafit matzeme için

Minimaster Plus

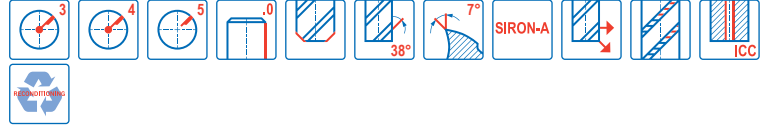
Minimaster

## JHP993

Yüksek performans – Çelik – Dik kenarlı – 3-5 Ağızlı – Silindirik – Köşesi pahlı



- Toleranslar:
- DMM=h5
- DC=-0,02/-0,1 mm
- CHW= ±0,05 mm
- DC ≥ Ø6 ise tekrar bilenebilir



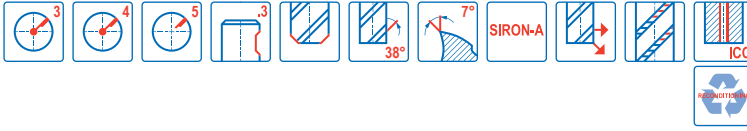
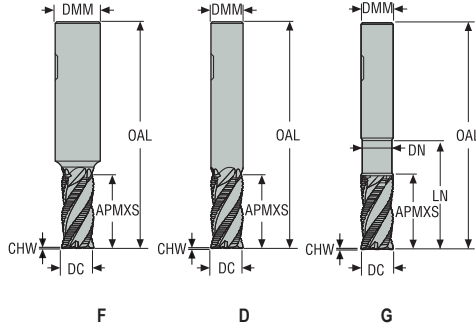
Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	ICC (İçten soğutma sıvısı kanalı)	DC	DMM	APMXS	OAL	LN	DN	CHW	PCEDC	Silindirik
					mm	mm	mm	mm	mm	mm	mm		
JHP993040F2C.0Z3-SIRA	02826806	2	F	-	4,0	6,0	10,0	50,0	12,56	4,0	0,15	3	■
JHP993050F2C.0Z4-SIRA	02826808	2	F	-	5,0	6,0	12,0	55,0	14,75	5,0	0,15	4	■
JHP993060D2C.0Z4-SIRA	02826809	2	D	-	6,0	6,0	14,0	55,0	-	-	0,2	4	■
JHP993075F2C.0Z4-SIRA	02826811	2	F	-	7,5	8,0	17,0	60,0	20,0	7,5	0,2	4	■
JHP993080D2C.0Z4A-SIRA	02826814	2	D	■	8,0	8,0	18,0	60,0	-	-	0,2	4	■
JHP993080D2C.0Z4-SIRA	02826812	2	D	-	8,0	8,0	18,0	60,0	-	-	0,2	4	■
JHP993095F2C.0Z4-SIRA	02826816	2	F	-	9,5	10,0	20,0	70,0	23,0	9,5	0,2	4	■
JHP993100D2C.0Z4A-SIRA	02826818	2	D	■	10,0	10,0	22,0	70,0	-	-	0,2	4	■
JHP993100D2C.0Z4-SIRA	02826817	2	D	-	10,0	10,0	22,0	70,0	-	-	0,2	4	■
JHP993115F2C.0Z4-SIRA	02826820	2	F	-	11,5	12,0	25,0	80,0	28,0	11,5	0,2	4	■
JHP993120D2C.0Z4A-SIRA	02826822	2	D	■	12,0	12,0	26,0	80,0	-	-	0,2	4	■
JHP993120D2C.0Z4-SIRA	02826821	2	D	-	12,0	12,0	26,0	80,0	-	-	0,2	4	■
JHP993140D2C.0Z4-SIRA	02826824	2	D	-	14,0	14,0	30,0	80,0	-	-	0,3	4	■
JHP993160D2C.0Z4A-SIRA	02856501	2	D	■	16,0	16,0	34,0	90,0	-	-	0,3	4	■
JHP993160D2C.0Z4-SIRA	02856499	2	D	-	16,0	16,0	34,0	90,0	-	-	0,3	4	■
JHP993160D2C.0Z5-SIRA	02826825	2	D	-	16,0	16,0	34,0	90,0	-	-	0,3	5	■
JHP993200D2C.0Z4A-SIRA	02856506	2	D	■	20,0	20,0	42,0	100,0	-	-	0,5	4	■
JHP993200D2C.0Z4-SIRA	02856505	2	D	-	20,0	20,0	42,0	100,0	-	-	0,5	4	■
JHP993200D2C.0Z5-SIRA	02826828	2	D	-	20,0	20,0	42,0	100,0	-	-	0,5	5	■
JHP993250D2C.0Z4A-SIRA	02856510	2	D	■	25,0	25,0	52,0	125,0	-	-	0,5	4	■
JHP993040G3C.0Z3-SIRA	02826807	3	G	-	4,0	6,0	10,0	55,0	15,0	3,7	0,15	3	■
JHP993060E3C.0Z4-SIRA	02826810	3	E	-	6,0	6,0	14,0	65,0	24,0	5,6	0,2	4	■
JHP993080E3C.0Z4-SIRA	02826815	3	E	-	8,0	8,0	18,0	70,0	32,0	7,4	0,2	4	■
JHP993100E3C.0Z4-SIRA	02826819	3	E	-	10,0	10,0	22,0	85,0	40,0	9,4	0,2	4	■
JHP993120E3C.0Z4-SIRA	02826823	3	E	-	12,0	12,0	26,0	100,0	50,0	11,4	0,2	4	■
JHP993160E3C.0Z4-SIRA	02856502	3	E	-	16,0	16,0	34,0	110,0	60,0	15,4	0,3	4	■
JHP993200E3C.0Z4-SIRA	02856507	3	E	-	20,0	20,0	42,0	125,0	70,0	19,2	0,5	4	■

■ Stoklu standart ürün.



## JHP993

Yüksek performans – Çelik – Dik kenarlı' – 3-5 Ağızlı – Weldon – Köşesi pahlı



- Toleranslar:
- DMM=h5
- DC=-0,02/-0,1 mm
- CHW= ±0,05 mm
- DC ≥ Ø6 ise tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	ICC (İçten soğutma sıvısı kanalı)	DC	DMM	APMXS	OAL	LN	DN	CHW	PCEDC	Weldon
					mm	mm	mm	mm	mm	mm	mm		
JHP993040F2C.3Z3-SIRA	02828150	2	F	-	4,0	6,0	10,0	50,0	12,56	4,0	0,15	3	■
JHP993050F2C.3Z4-SIRA	02828152	2	F	-	5,0	6,0	12,0	55,0	14,75	5,0	0,15	4	■
JHP993060D2C.3Z4-SIRA	02828153	2	D	-	6,0	6,0	14,0	55,0	-	-	0,2	4	■
JHP993075F2C.3Z4-SIRA	02828155	2	F	-	7,5	8,0	17,0	60,0	20,0	7,5	0,2	4	■
JHP993080D2C.3Z4A-SIRA	02828246	2	D	■	8,0	8,0	16,0	60,0	-	-	0,2	4	□
JHP993080D2C.3Z4-SIRA	02828156	2	D	-	8,0	8,0	18,0	60,0	-	-	0,2	4	■
JHP993095F2C.3Z4-SIRA	02828158	2	F	-	9,5	10,0	20,0	70,0	23,0	9,5	0,2	4	■
JHP993100D2C.3Z4A-SIRA	02828247	2	D	■	10,0	10,0	20,0	70,0	-	-	0,2	4	□
JHP993100D2C.3Z4-SIRA	02828159	2	D	-	10,0	10,0	22,0	70,0	-	-	0,2	4	■
JHP993120D2C.3Z4A-SIRA	02828248	2	D	■	12,0	12,0	26,0	80,0	-	-	0,2	4	□
JHP993120D2C.3Z4-SIRA	02828162	2	D	-	12,0	12,0	26,0	80,0	-	-	0,2	4	■
JHP993140D2C.3Z4-SIRA	02828164	2	D	-	14,0	14,0	30,0	80,0	-	-	0,3	4	■
JHP993160D2C.3Z4A-SIRA	02856512	2	D	■	16,0	16,0	34,0	90,0	-	-	0,3	4	□
JHP993160D2C.3Z4-SIRA	02856500	2	D	-	16,0	16,0	34,0	90,0	-	-	0,3	4	■
JHP993160D2C.3Z5-SIRA	02828165	2	D	-	16,0	16,0	34,0	90,0	-	-	0,3	5	■
JHP993200D2C.3Z4A-SIRA	02856513	2	D	■	20,0	20,0	42,0	100,0	-	-	0,5	4	■
JHP993200D2C.3Z4-SIRA	02856504	2	D	-	20,0	20,0	42,0	100,0	-	-	0,5	4	■
JHP993200D2C.3Z5-SIRA	02828167	2	D	-	20,0	20,0	42,0	100,0	-	-	0,5	5	■
JHP993250D2C.3Z4A-SIRA	02856514	2	D	■	25,0	25,0	52,0	125,0	-	-	0,5	4	□
JHP993250D2C.3Z4-SIRA	02856509	2	D	-	25,0	25,0	52,0	125,0	-	-	0,5	4	■
JHP993060E3C.3Z4-SIRA	02828154	3	E	-	6,0	6,0	14,0	65,0	24,0	5,6	0,2	4	■
JHP993080E3C.3Z4-SIRA	02828157	3	E	-	8,0	8,0	18,0	70,0	32,0	7,4	0,2	4	■
JHP993100E3C.3Z4-SIRA	02828160	3	E	-	10,0	10,0	22,0	85,0	40,0	9,4	0,2	4	■
JHP993120E3C.3Z4-SIRA	02828163	3	E	-	12,0	12,0	26,0	100,0	50,0	11,4	0,2	4	■
JHP993160E3C.3Z4-SIRA	02856503	3	E	-	16,0	16,0	34,0	110,0	60,0	15,4	0,3	4	■
JHP993200E3C.3Z4-SIRA	02856508	3	E	-	20,0	20,0	42,0	125,0	70,0	19,2	0,5	4	■
JHP993200E3C.3Z5-SIRA	02828168	3	E	-	20,0	20,0	42,0	125,0	70,0	19,2	0,5	5	■
JHP993250E3C.3Z4-SIRA	02856511	3	E	-	25,0	25,0	52,0	150,0	90,0	24,0	0,5	4	■

■ Stoklu standart ürün. □ Weldon mevcut. Teslimat süresi 3 iş günüdür.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve cırp materyaller için

Grafit materyale için

Minimaster Plus

Minimaster

Kesme verileri – JHP993 Kenar frezeleme PCEDC=3 ve PCEDC=4

SMG	a <sub>p</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>											v <sub>c</sub>
			4	5	6	8	10	12	14	16	20	25		
P1	E/M/A	0.400	1.7	0.044	0.055	0.065	0.090	0.11	0.13	0.15	0.16	0.19	0.22	230 (200 — 260)
		0.400	1.7	0.0017	0.0022	0.0026	0.0036	0.0044	0.0050	0.0060	0.0065	0.0075	0.0085	750 (660 — 850)
P2	E/M/A	0.400	1.7	0.044	0.055	0.065	0.090	0.11	0.13	0.15	0.17	0.19	0.22	225 (200 — 250)
		0.400	1.7	0.0017	0.0022	0.0026	0.0036	0.0044	0.0050	0.0060	0.0065	0.0075	0.0085	740 (660 — 820)
P3	E/M/A	0.400	1.7	0.042	0.055	0.065	0.085	0.11	0.13	0.14	0.16	0.18	0.20	195 (170 — 220)
		0.400	1.7	0.0017	0.0022	0.0026	0.0034	0.0044	0.0050	0.0055	0.0065	0.0070	0.0080	640 (560 — 720)
P4	E/M/A	0.400	1.7	0.042	0.050	0.060	0.085	0.10	0.12	0.14	0.15	0.18	0.20	175 (150 — 190)
		0.400	1.7	0.0017	0.0020	0.0024	0.0034	0.0040	0.0048	0.0055	0.0060	0.0070	0.0080	570 (500 — 620)
P5	E/M/A	0.400	1.7	0.040	0.050	0.060	0.080	0.10	0.12	0.14	0.15	0.17	0.20	165 (150 — 190)
		0.400	1.7	0.0016	0.0020	0.0024	0.0032	0.0040	0.0048	0.0055	0.0060	0.0065	0.0080	540 (500 — 620)
P6	E/M/A	0.400	1.7	0.040	0.050	0.060	0.080	0.10	0.12	0.14	0.15	0.17	0.19	185 (160 — 210)
		0.400	1.7	0.0016	0.0020	0.0024	0.0032	0.0040	0.0048	0.0055	0.0060	0.0065	0.0075	610 (530 — 680)
P7	E/M/A	0.400	1.7	0.040	0.050	0.060	0.080	0.10	0.12	0.14	0.15	0.17	0.19	175 (160 — 200)
		0.400	1.7	0.0016	0.0020	0.0024	0.0032	0.0040	0.0048	0.0055	0.0060	0.0065	0.0075	570 (530 — 650)
P8	E/M/A	0.400	1.7	0.042	0.055	0.065	0.085	0.11	0.13	0.14	0.16	0.18	0.20	160 (140 — 180)
		0.400	1.7	0.0017	0.0022	0.0026	0.0034	0.0044	0.0050	0.0055	0.0065	0.0070	0.0080	520 (460 — 590)
P11	E/M/A	0.400	1.7	0.040	0.050	0.060	0.080	0.10	0.12	0.14	0.15	0.17	0.19	170 (150 — 190)
		0.400	1.7	0.0016	0.0020	0.0024	0.0032	0.0040	0.0048	0.0055	0.0060	0.0065	0.0075	560 (500 — 620)
P12	E/M/A	0.400	1.7	0.028	0.034	0.042	0.055	0.070	0.080	0.095	0.10	0.12	0.13	110 (95 — 120)
		0.400	1.7	0.0011	0.0013	0.0017	0.0022	0.0028	0.0032	0.0038	0.0040	0.0048	0.0050	360 (320 — 390)
K1	E/M/A	0.400	1.7	0.044	0.055	0.065	0.090	0.11	0.13	0.15	0.17	0.19	0.22	225 (200 — 250)
		0.400	1.7	0.0017	0.0022	0.0026	0.0036	0.0044	0.0050	0.0060	0.0065	0.0075	0.0085	740 (660 — 820)
K2	E/M/A	0.400	1.7	0.040	0.050	0.060	0.080	0.10	0.12	0.14	0.15	0.17	0.20	200 (180 — 220)
		0.400	1.7	0.0016	0.0020	0.0024	0.0032	0.0040	0.0048	0.0055	0.0060	0.0065	0.0080	660 (600 — 720)
K3	E/M/A	0.400	1.7	0.040	0.050	0.060	0.080	0.10	0.12	0.14	0.15	0.17	0.20	170 (150 — 190)
		0.400	1.7	0.0016	0.0020	0.0024	0.0032	0.0040	0.0048	0.0055	0.0060	0.0065	0.0080	560 (500 — 620)
K4	E/M/A	0.400	1.7	0.040	0.050	0.060	0.080	0.10	0.12	0.14	0.15	0.17	0.20	160 (140 — 180)
		0.400	1.7	0.0016	0.0020	0.0024	0.0032	0.0040	0.0048	0.0055	0.0060	0.0065	0.0080	520 (460 — 590)
K5	E/M/A	0.400	1.7	0.036	0.046	0.055	0.075	0.090	0.11	0.12	0.14	0.16	0.18	100 (86 — 110)
		0.400	1.7	0.0014	0.0018	0.0022	0.0030	0.0036	0.0044	0.0048	0.0055	0.0065	0.0070	330 (290 — 360)
K6	E/M/A	0.400	1.7	0.040	0.050	0.060	0.080	0.10	0.12	0.14	0.15	0.17	0.20	145 (130 — 160)
		0.400	1.7	0.0016	0.0020	0.0024	0.0032	0.0040	0.0048	0.0055	0.0060	0.0065	0.0080	475 (430 — 520)
K7	E/M/A	0.400	1.7	0.036	0.046	0.055	0.075	0.090	0.11	0.12	0.14	0.16	0.18	125 (110 — 140)
		0.400	1.7	0.0014	0.0018	0.0022	0.0030	0.0036	0.0044	0.0048	0.0055	0.0065	0.0070	410 (370 — 450)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu  
Soğutma = A=hava D=kuru E=emülsiyon M= sprej yağlama  
v<sub>c</sub> = m/dak (sf/dak)  
f<sub>z</sub> = mm (inç/ağız)  
a<sub>p</sub> mm/DC (inç/DC) = faktör  
a<sub>s</sub> = mm/DC (inç/DC) = faktör  
Tüm kesme verileri hedef değerlerdir

## Kesme verileri – JHP993 Kenar frezeleme PCEDC=5 ve PCEDC=6

SMG		$a_e/DC$	$a_p/DC$	$f_z$		$v_c$
				16	20	
P1	E/M/A	0,376	1,0	0,17	0,22	205 (180 – 230)
		0,376	1,0	0,0065	0,0085	670 (600 – 750)
P2	E/M/A	0,376	1,0	0,18	0,22	195 (170 – 220)
		0,376	1,0	0,0070	0,0085	640 (560 – 720)
P3	E/M/A	0,376	1,0	0,17	0,20	170 (150 – 190)
		0,376	1,0	0,0065	0,0080	560 (500 – 620)
P4	E/M/A	0,376	1,0	0,16	0,20	155 (140 – 170)
		0,376	1,0	0,0065	0,0080	510 (460 – 550)
P5	E/M/A	0,376	1,0	0,16	0,20	145 (130 – 160)
		0,376	1,0	0,0065	0,0080	475 (430 – 520)
P6	E/M/A	0,376	1,0	0,16	0,20	165 (150 – 180)
		0,376	1,0	0,0065	0,0080	540 (500 – 590)
P7	E/M/A	0,376	1,0	0,16	0,20	155 (140 – 170)
		0,376	1,0	0,0065	0,0080	510 (460 – 550)
P8	E/M/A	0,376	1,0	0,17	0,20	145 (130 – 160)
		0,376	1,0	0,0065	0,0080	475 (430 – 520)
P11	E/M/A	0,376	1,0	0,16	0,20	150 (130 – 170)
		0,376	1,0	0,0065	0,0080	490 (430 – 550)
P12	E/M/A	0,376	1,0	0,11	0,13	100 (85 – 110)
		0,376	1,0	0,0044	0,0050	330 (280 – 360)
K1	E/M/A	0,376	1,0	0,18	0,22	195 (170 – 220)
		0,376	1,0	0,0070	0,0085	640 (560 – 720)
K2	E/M/A	0,376	1,0	0,16	0,20	175 (160 – 200)
		0,376	1,0	0,0065	0,0080	570 (530 – 650)
K3	E/M/A	0,376	1,0	0,16	0,20	150 (130 – 170)
		0,376	1,0	0,0065	0,0080	490 (430 – 550)
K4	E/M/A	0,376	1,0	0,16	0,20	145 (130 – 160)
		0,376	1,0	0,0065	0,0080	475 (430 – 520)
K5	E/M/A	0,376	1,0	0,15	0,18	85 (75 – 99)
		0,376	1,0	0,0060	0,0070	280 (250 – 320)
K6	E/M/A	0,376	1,0	0,16	0,20	125 (110 – 140)
		0,376	1,0	0,0065	0,0080	410 (370 – 450)
K7	E/M/A	0,376	1,0	0,15	0,18	110 (96 – 120)
		0,376	1,0	0,0060	0,0070	360 (320 – 390)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu  
Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama  
 $v_c$  = m/dak (sf/dak)  
 $f_z$  = mm (inç/ağız)  
 $a_p$  mm/DC (inç/DC) = faktör  
 $a_e$  = mm/DC (inç/DC) = faktör  
Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeleri için

Grafit malzeme için

Minimaster Plus

Minimaster

Kesme verileri – JHP993 Kanal açma PCEDC=3 ve PCEDC=4

SMG	a <sub>p</sub> /DC	f <sub>z</sub>											v <sub>c</sub>
		4	5	6	8	10	12	14	16	20	25		
P1	E/M/A	1.5	0.032	0.040	0.048	0.065	0.080	0.095	0.11	0.13	0.16	0.20	200 (180 – 220)
		1,5	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0044	0,0050	0,0065	0,0080	660 (600–720)
P2	E/M/A	1.5	0.032	0.040	0.048	0.065	0.080	0.095	0.11	0.13	0.16	0.20	195 (170 – 220)
		1,5	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0044	0,0050	0,0065	0,0080	640 (560–720)
P3	E/M/A	1.5	0.032	0.040	0.048	0.065	0.080	0.095	0.11	0.13	0.16	0.20	165 (150–190)
		1,5	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0044	0,0050	0,0065	0,0080	540 (500 – 620)
P4	E/M/A	1.5	0.032	0.040	0.048	0.065	0.080	0.095	0.11	0.13	0.16	0.20	145 (130–160)
		1,5	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0044	0,0050	0,0065	0,0080	475 (430 – 520)
P5	E/M/A	1.5	0.032	0.040	0.048	0.065	0.080	0.095	0.11	0.13	0.16	0.19	140 (130–160)
		1,5	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0044	0,0050	0,0065	0,0075	460 (430 – 520)
P6	E/M/A	1.5	0.032	0.040	0.048	0.065	0.080	0.095	0.11	0.13	0.16	0.19	155 (140–170)
		1,5	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0044	0,0050	0,0065	0,0075	510 (460 – 550)
P7	E/M/A	1.5	0.032	0.040	0.048	0.065	0.080	0.095	0.11	0.13	0.16	0.19	150 (130–160)
		1,5	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0044	0,0050	0,0065	0,0075	490 (430 – 520)
P8	E/M/A	1.5	0.032	0.040	0.048	0.065	0.080	0.095	0.11	0.13	0.16	0.20	140 (130–160)
		1,5	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0044	0,0050	0,0065	0,0080	460 (430 – 520)
P11	E/M/A	1.5	0.032	0.040	0.048	0.065	0.080	0.095	0.11	0.13	0.16	0.19	145 (130–160)
		1,5	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0044	0,0050	0,0065	0,0075	475 (430 – 520)
P12	E/M/A	1.5	0.028	0.034	0.040	0.055	0.070	0.080	0.090	0.10	0.12	0.13	90 (76–100)
		1,5	0,0011	0,0013	0,0016	0,0022	0,0028	0,0032	0,0036	0,0040	0,0048	0,0050	295 (250 – 320)
K1	E/M/A	1.5	0.032	0.040	0.048	0.065	0.080	0.095	0.11	0.13	0.16	0.20	195 (170 – 220)
		1,5	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0044	0,0050	0,0065	0,0080	640 (560–720)
K2	E/M/A	1.5	0.032	0.040	0.048	0.065	0.080	0.095	0.11	0.13	0.16	0.19	170 (150–190)
		1,5	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0044	0,0050	0,0065	0,0075	560 (500 – 620)
K3	E/M/A	1.5	0.032	0.040	0.048	0.065	0.080	0.095	0.11	0.13	0.16	0.19	145 (130–160)
		1,5	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0044	0,0050	0,0065	0,0075	475 (430 – 520)
K4	E/M/A	1.5	0.032	0.040	0.048	0.065	0.080	0.095	0.11	0.13	0.16	0.19	135 (120–150)
		1,5	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0044	0,0050	0,0065	0,0075	445 (400 – 490)
K5	E/M/A	1.5	0.032	0.040	0.048	0.065	0.080	0.095	0.11	0.13	0.15	0.17	80 (70 – 93)
		1,5	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0044	0,0050	0,0060	0,0065	260 (230 – 300)
K6	E/M/A	1.5	0.032	0.040	0.048	0.065	0.080	0.095	0.11	0.13	0.16	0.19	120 (110–130)
		1,5	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0044	0,0050	0,0065	0,0075	395 (370 – 420)
K7	E/M/A	1.5	0.032	0.040	0.048	0.065	0.080	0.095	0.11	0.13	0.15	0.17	105 (90–110)
		1,5	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0044	0,0050	0,0060	0,0065	345 (300 – 360)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu  
Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama  
v<sub>c</sub>= m/dak (sf/dak)  
f<sub>z</sub> = mm (inç/ağız)  
a<sub>p</sub> mm/DC (inç/DC) = faktör  
a<sub>s</sub> = mm/DC (inç/DC) = faktör  
Tüm kesme verileri hedef değerlerdir

## Kesme verileri – JHP993 Kanal açma PCEDC=5 ve PCEDC=6

SMG		$a_p/DC$	$f_z$		$v_c$
			16	20	
P1	E/M/A	0,44	0,17	0,20	160 (140–180)
		0,44	0,0065	0,0080	520 (460 – 590)
P2	E/M/A	0,44	0,17	0,22	155 (140–170)
		0,44	0,0065	0,0085	510 (460 – 550)
P3	E/M/A	0,44	0,16	0,20	135 (120–150)
		0,44	0,0065	0,0080	445 (400 – 490)
P4	E/M/A	0,44	0,16	0,20	120 (110–130)
		0,44	0,0065	0,0080	395 (370 – 420)
P5	E/M/A	0,44	0,16	0,19	115 (99–130)
		0,44	0,0065	0,0075	375 (330 – 420)
P6	E/M/A	0,44	0,16	0,19	130 (120–140)
		0,44	0,0065	0,0075	425 (400 – 450)
P7	E/M/A	0,44	0,16	0,19	120 (110–130)
		0,44	0,0065	0,0075	395 (370 – 420)
P8	E/M/A	0,44	0,16	0,20	115 (99–130)
		0,44	0,0065	0,0080	375 (330 – 420)
P11	E/M/A	0,44	0,16	0,19	120 (110–130)
		0,44	0,0065	0,0075	395 (370 – 420)
P12	E/M/A	0,44	0,11	0,13	80 (68 – 89)
		0,44	0,0044	0,0050	260 (230 – 290)
K1	E/M/A	0,44	0,17	0,22	160 (140–180)
		0,44	0,0065	0,0085	520 (460 – 590)
K2	E/M/A	0,44	0,16	0,19	140 (120–150)
		0,44	0,0065	0,0075	460 (400 – 490)
K3	E/M/A	0,44	0,16	0,19	120 (110–130)
		0,44	0,0065	0,0075	395 (370 – 420)
K4	E/M/A	0,44	0,16	0,19	115 (97–120)
		0,44	0,0065	0,0075	375 (320 – 390)
K5	E/M/A	0,44	0,14	0,17	70 (60–79)
		0,44	0,0055	0,0065	230 (200 – 250)
K6	E/M/A	0,44	0,16	0,19	100 (86–110)
		0,44	0,0065	0,0075	330 (290 – 360)
K7	E/M/A	0,44	0,14	0,17	90 (77–100)
		0,44	0,0055	0,0065	295 (260 – 320)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

 $v_c = m/dak$  (sf/dak) $f_z = mm$  (inç/ağız) $a_p$  mm/DC (inç/DC) = faktör $a_g$  mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeleri için

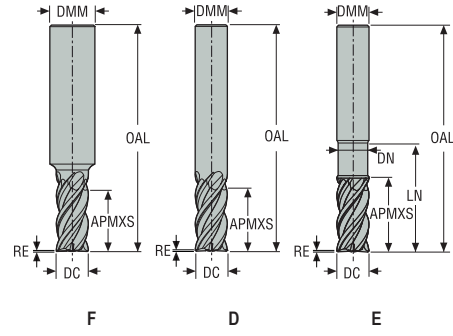
Grafit malzeme için

Minimaster Plus

Minimaster

## JHP951

Yüksek performans – Dik kenarlı – Çelik – 3-5 Ağzılı – Silindirik – Köşe radyüsü veya Köşesi pahlı



- Toleranslar:
- DMM=h5
- DC=e7
- RE= ±0,02 mm
- DC ≥ Ø6 ise tekrar bilenebilir

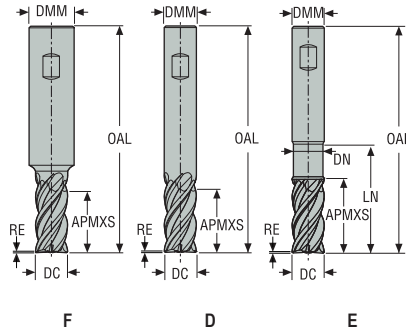


Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	CHW	RE	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm	mm	mm		
JHP951030F2C.0Z3-SIRA	02828192	2	F	3,0	6,0	8,0	50,0	10,25	3,0	0,1	-	3	■
JHP951030F2R020.0Z3-SIRA	02828191	2	F	3,0	6,0	8,0	50,0	10,25	3,0	-	0,2	3	■
JHP951030F2R050.0Z3-SIRA	02828190	2	F	3,0	6,0	8,0	50,0	10,25	3,0	-	0,5	3	■
JHP951040F2C.0Z4-SIRA	02828197	2	F	4,0	6,0	10,0	55,0	13,25	4,0	0,15	-	4	■
JHP951040F2R020.0Z4-SIRA	02828194	2	F	4,0	6,0	10,0	55,0	13,25	4,0	-	0,2	4	■
JHP951040F2R050.0Z4-SIRA	02828195	2	F	4,0	6,0	10,0	55,0	13,25	4,0	-	0,5	4	■
JHP951050F2C.0Z4-SIRA	02828201	2	F	5,0	6,0	12,0	55,0	15,25	5,0	0,2	-	4	■
JHP951050F2R020.0Z4-SIRA	02828199	2	F	5,0	6,0	12,0	55,0	15,25	5,0	-	0,2	4	■
JHP951050F2R050.0Z4-SIRA	02828198	2	F	5,0	6,0	12,0	55,0	15,25	5,0	-	0,5	4	■
JHP951060D2C.0Z4-SIRA	02828205	2	D	6,0	6,0	14,0	55,0	-	-	0,2	-	4	■
JHP951060D2R020.0Z4-SIRA	02828203	2	D	6,0	6,0	14,0	55,0	-	-	-	0,2	4	■
JHP951060D2R050.0Z4-SIRA	02828202	2	D	6,0	6,0	14,0	55,0	-	-	-	0,5	4	■
JHP951080D2C.0Z4-SIRA	02828212	2	D	8,0	8,0	18,0	60,0	-	-	0,3	-	4	■
JHP951080D2R020.0Z4-SIRA	02828209	2	D	8,0	8,0	18,0	60,0	-	-	-	0,2	4	■
JHP951080D2R050.0Z4-SIRA	02828207	2	D	8,0	8,0	18,0	60,0	-	-	-	0,5	4	■
JHP951080D2R100.0Z4-SIRA	02828208	2	D	8,0	8,0	18,0	60,0	-	-	-	1,0	4	■
JHP951100E2C.0Z4-SIRA	02828218	2	E	10,0	10,0	22,0	70,0	28,0	9,4	0,3	-	4	■
JHP951100E2R050.0Z4-SIRA	02828216	2	E	10,0	10,0	22,0	70,0	28,0	9,4	-	0,5	4	■
JHP951100E2R100.0Z4-SIRA	02828214	2	E	10,0	10,0	22,0	70,0	28,0	9,4	-	1,0	4	■
JHP951120E2C.0Z4-SIRA	02828226	2	E	12,0	12,0	26,0	80,0	33,0	11,4	0,4	-	4	■
JHP951120E2R050.0Z4-SIRA	02828224	2	E	12,0	12,0	26,0	80,0	33,0	11,4	-	0,5	4	■
JHP951120E2R100.0Z4-SIRA	02828222	2	E	12,0	12,0	26,0	80,0	33,0	11,4	-	1,0	4	■
JHP951160E2C.0Z4-SIRA	02927873	2	E	16,0	16,0	34,0	90,0	40,0	15,0	0,5	-	4	■
JHP951160E2C.0Z5-SIRA	02828232	2	E	16,0	16,0	34,0	90,0	40,0	15,4	0,5	-	5	■
JHP951160E2R050.0Z4-SIRA	02927875	2	E	16,0	16,0	34,0	90,0	40,0	15,0	-	0,5	4	■
JHP951160E2R050.0Z5-SIRA	02828230	2	E	16,0	16,0	34,0	90,0	40,0	15,4	-	0,5	5	■
JHP951160E2R100.0Z4-SIRA	02927876	2	E	16,0	16,0	34,0	90,0	40,0	15,0	-	1,0	4	■
JHP951160E2R100.0Z5-SIRA	02828231	2	E	16,0	16,0	34,0	90,0	40,0	15,4	-	1,0	5	■

■ Stoklu standart ürün.

## JHP951

Yüksek performans – Dik kenarlı – Çelik – 3-5 Ağızlı – Weldon – Köşe radyüsü veya Köşesi pahlı



- Toleranslar:
- DMM=h5
- DC=e7
- RE= ±0,02 mm
- DC ≥ Ø6 ise tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	CHW	RE	PCEDC	Weldon
				mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
JHP951030F2C.3Z3-SIRA	02828193	2	F	3,0	6,0	8,0	50,0	10,25	3,0	0,1	-	3	■
JHP951030F2R020.3Z3-SIRA	02828260	2	F	3,0	6,0	8,0	50,0	10,25	3,0	-	0,2	3	■
JHP951030F2R050.3Z3-SIRA	02828259	2	F	3,0	6,0	8,0	50,0	10,25	3,0	-	0,5	3	□
JHP951040F2C.3Z4-SIRA	02828196	2	F	4,0	6,0	10,0	55,0	13,25	4,0	0,15	-	4	■
JHP951040F2R020.3Z4-SIRA	02828261	2	F	4,0	6,0	10,0	55,0	13,25	4,0	-	0,2	4	□
JHP951040F2R050.3Z4-SIRA	02828262	2	F	4,0	6,0	10,0	55,0	13,25	4,0	-	0,5	4	□
JHP951050F2C.3Z4-SIRA	02828200	2	F	5,0	6,0	12,0	55,0	15,25	5,0	0,2	-	4	■
JHP951050F2R020.3Z4-SIRA	02828264	2	F	5,0	6,0	12,0	55,0	15,25	5,0	-	0,2	4	□
JHP951050F2R050.3Z4-SIRA	02828263	2	F	5,0	6,0	12,0	55,0	15,25	5,0	-	0,5	4	□
JHP951060D2C.3Z4-SIRA	02828206	2	D	6,0	6,0	14,0	55,0	-	-	0,2	-	4	■
JHP951060D2R020.3Z4-SIRA	02828266	2	D	6,0	6,0	14,0	55,0	-	-	-	0,2	4	□
JHP951060D2R050.3Z4-SIRA	02828265	2	D	6,0	6,0	14,0	55,0	-	-	-	0,5	4	□
JHP951080D2C.3Z4-SIRA	02828210	2	D	8,0	8,0	18,0	60,0	-	-	0,3	-	4	■
JHP951080D2R020.3Z4-SIRA	02828269	2	D	8,0	8,0	18,0	60,0	-	-	-	0,2	4	□
JHP951080D2R050.3Z4-SIRA	02828267	2	D	8,0	8,0	18,0	60,0	-	-	-	0,5	4	■
JHP951080D2R100.3Z4-SIRA	02828268	2	D	8,0	8,0	18,0	60,0	-	-	-	1,0	4	□
JHP951100E2C.3Z4-SIRA	02828220	2	E	10,0	10,0	22,0	70,0	28,0	9,4	0,3	-	4	■
JHP951100E2R050.3Z4-SIRA	02828271	2	E	10,0	10,0	22,0	70,0	28,0	9,4	-	0,5	4	□
JHP951100E2R100.3Z4-SIRA	02828270	2	E	10,0	10,0	22,0	70,0	28,0	9,4	-	1,0	4	□
JHP951120E2C.3Z4-SIRA	02828228	2	E	12,0	12,0	26,0	80,0	33,0	11,4	0,4	-	4	■
JHP951120E2R050.3Z4-SIRA	02828273	2	E	12,0	12,0	26,0	80,0	33,0	11,4	-	0,5	4	□
JHP951120E2R100.3Z4-SIRA	02828272	2	E	12,0	12,0	26,0	80,0	33,0	11,4	-	1,0	4	□
JHP951160E2C.3Z4-SIRA	02927874	2	E	16,0	16,0	34,0	90,0	40,0	15,0	0,5	-	4	■
JHP951160E2C.3Z5-SIRA	02828233	2	E	16,0	16,0	34,0	90,0	40,0	15,4	0,5	-	5	■
JHP951160E2R050.3Z4-SIRA	02927879	2	E	16,0	16,0	34,0	90,0	40,0	15,0	-	0,5	4	□
JHP951160E2R050.3Z5-SIRA	02828275	2	E	16,0	16,0	34,0	90,0	40,0	15,4	-	0,5	5	□
JHP951160E2R100.3Z4-SIRA	02927880	2	E	16,0	16,0	34,0	90,0	40,0	15,0	-	1,0	4	□
JHP951160E2R100.3Z5-SIRA	02828276	2	E	16,0	16,0	34,0	90,0	40,0	15,4	-	1,0	5	□
JHP951200E2R050.3Z4-SIRA	02927877	2	E	20,0	20,0	42,0	100,0	48,0	19,0	-	0,5	4	■
JHP951200E2R050.3Z5-SIRA	02828235	2	E	20,0	20,0	42,0	100,0	48,0	19,4	-	0,5	5	■
JHP951200E2R100.3Z4-SIRA	02927878	2	E	20,0	20,0	42,0	100,0	48,0	19,0	-	1,0	4	■
JHP951200E2R100.3Z5-SIRA	02828234	2	E	20,0	20,0	42,0	100,0	48,0	19,4	-	1,0	5	■

■ Stoklu standart ürün. □ Weldon mevcut. Teslimat süresi 3 iş gündür.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve diğer materyaller için

Grafit materyale için

Minimaster Plus

Minimaster

Kesme verileri – JHP951 Kenar frezeleme

SMG		a <sub>p</sub> /DC	a <sub>r</sub> /DC	f <sub>z</sub>									v <sub>c</sub>
				3	4	5	6	8	10	12	16	20	
P1	E/M/A	0.400	1.7	0.034	0.044	0.055	0.065	0.090	0.11	0.13	0.16	0.19	230 (200 — 260)
		0,400	1,7	0,0013	0,0017	0,0022	0,0026	0,0036	0,0044	0,0050	0,0065	0,0075	750 (660 — 850)
P2	E/M/A	0.400	1.7	0.034	0.044	0.055	0.065	0.090	0.11	0.13	0.16	0.19	220 (200 — 250)
		0,400	1,7	0,0013	0,0017	0,0022	0,0026	0,0036	0,0044	0,0050	0,0065	0,0075	720 (660 — 820)
P3	E/M/A	0.400	1.7	0.032	0.042	0.055	0.065	0.085	0.11	0.13	0.16	0.18	190 (170 — 210)
		0,400	1,7	0,0013	0,0017	0,0022	0,0026	0,0034	0,0044	0,0050	0,0065	0,0070	620 (560 — 680)
P4	E/M/A	0.400	1.7	0.032	0.042	0.050	0.060	0.085	0.10	0.12	0.15	0.18	170 (150—190)
		0,400	1,7	0,0013	0,0017	0,0020	0,0024	0,0034	0,0040	0,0048	0,0060	0,0070	560 (500 — 620)
P5	E/M/A	0.400	1.7	0.030	0.040	0.050	0.060	0.080	0.10	0.12	0.15	0.17	165 (150—180)
		0,400	1,7	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	540 (500 — 590)
P6	E/M/A	0.400	1.7	0.030	0.040	0.050	0.060	0.080	0.10	0.12	0.15	0.17	185 (160 — 210)
		0,400	1,7	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	610 (530 — 680)
P7	E/M/A	0.400	1.7	0.030	0.040	0.050	0.060	0.080	0.10	0.12	0.15	0.17	175 (150—190)
		0,400	1,7	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	570 (500 — 620)
P8	E/M/A	0.400	1.7	0.032	0.042	0.055	0.065	0.085	0.11	0.13	0.16	0.18	160 (140—180)
		0,400	1,7	0,0013	0,0017	0,0022	0,0026	0,0034	0,0044	0,0050	0,0065	0,0070	520 (460 — 590)
P11	E/M/A	0.400	1.7	0.030	0.040	0.050	0.060	0.080	0.10	0.12	0.15	0.17	170 (150—190)
		0,400	1,7	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	560 (500 — 620)
P12	E/M/A	0.400	1.7	0.020	0.028	0.034	0.042	0.055	0.070	0.080	0.10	0.12	110 (94—120)
		0,400	1,7	0,00080	0,0011	0,0013	0,0017	0,0022	0,0028	0,0032	0,0040	0,0048	360 (310 — 390)
K1	E/M/A	0.400	1.7	0.034	0.044	0.055	0.065	0.090	0.11	0.13	0.17	0.19	225 (200 — 250)
		0,400	1,7	0,0013	0,0017	0,0022	0,0026	0,0036	0,0044	0,0050	0,0065	0,0075	740 (660 — 820)
K2	E/M/A	0.400	1.7	0.030	0.040	0.050	0.060	0.080	0.10	0.12	0.15	0.17	200 (180 — 220)
		0,400	1,7	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	660 (600—720)
K3	E/M/A	0.400	1.7	0.030	0.040	0.050	0.060	0.080	0.10	0.12	0.15	0.17	170 (150—190)
		0,400	1,7	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	560 (500 — 620)
K4	E/M/A	0.400	1.7	0.030	0.040	0.050	0.060	0.080	0.10	0.12	0.15	0.17	160 (140—180)
		0,400	1,7	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	520 (460 — 590)
K5	E/M/A	0.400	1.7	0.028	0.036	0.046	0.055	0.075	0.090	0.11	0.14	0.16	100 (85—110)
		0,400	1,7	0,0011	0,0014	0,0018	0,0022	0,0030	0,0036	0,0044	0,0055	0,0065	330 (280 — 360)
K6	E/M/A	0.400	1.7	0.030	0.040	0.050	0.060	0.080	0.10	0.12	0.15	0.17	140 (130—160)
		0,400	1,7	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	460 (430 — 520)
K7	E/M/A	0.400	1.7	0.028	0.036	0.046	0.055	0.075	0.090	0.11	0.14	0.16	125 (110—140)
		0,400	1,7	0,0011	0,0014	0,0018	0,0022	0,0030	0,0036	0,0044	0,0055	0,0065	410 (370 — 450)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu  
Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama  
v<sub>c</sub> = m/dak (sf/dak)  
f<sub>z</sub> = mm (inç/ağız)  
a<sub>p</sub> mm/DC (inç/DC) = faktör  
a<sub>r</sub> = mm/DC (inç/DC) = faktör  
Tüm kesme verileri hedef değerlerdir

Üniversal  
Çelik ve dökme demir  
Paslanmaz çelik ve S iş parçası malzemeleri  
Demir içermeyen malzemeler  
Sertleştirilmiş çelik için  
Plastik ve cırp malzemeler için  
Grafit malzeme için  
Minimaster Plus  
Minimaster



## Kesme verileri – JHP951 Kanal açma

SMG		a <sub>p</sub> /DC	f <sub>z</sub>									v <sub>c</sub>
			3	4	5	6	8	10	12	16	20	
P1	E/M/A	1,5	0,024	0,032	0,040	0,048	0,065	0,080	0,095	0,13	0,16	195 (170 – 220)
		1,5	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0050	0,0065	640 (560 – 720)
P2	E/M/A	1,5	0,024	0,032	0,040	0,048	0,065	0,080	0,095	0,13	0,16	190 (170 – 210)
		1,5	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0050	0,0065	620 (560 – 680)
P3	E/M/A	1,5	0,024	0,032	0,040	0,048	0,065	0,080	0,095	0,13	0,16	165 (150 – 180)
		1,5	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0050	0,0065	540 (500 – 590)
P4	E/M/A	1,5	0,024	0,032	0,040	0,048	0,065	0,080	0,095	0,13	0,16	145 (130 – 160)
		1,5	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0050	0,0065	475 (430 – 520)
P5	E/M/A	1,5	0,024	0,032	0,040	0,048	0,065	0,080	0,095	0,13	0,16	140 (120 – 150)
		1,5	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0050	0,0065	460 (400 – 490)
P6	E/M/A	1,5	0,024	0,032	0,040	0,048	0,065	0,080	0,095	0,13	0,16	155 (140 – 170)
		1,5	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0050	0,0065	510 (460 – 550)
P7	E/M/A	1,5	0,024	0,032	0,040	0,048	0,065	0,080	0,095	0,13	0,16	145 (130 – 160)
		1,5	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0050	0,0065	475 (430 – 520)
P8	E/M/A	1,5	0,024	0,032	0,040	0,048	0,065	0,080	0,095	0,13	0,16	140 (120 – 150)
		1,5	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0050	0,0065	460 (400 – 490)
P11	E/M/A	1,5	0,024	0,032	0,040	0,048	0,065	0,080	0,095	0,13	0,16	145 (130 – 160)
		1,5	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0050	0,0065	475 (430 – 520)
P12	E/M/A	1,5	0,020	0,028	0,034	0,040	0,055	0,070	0,080	0,10	0,12	85 (75 – 99)
		1,5	0,00080	0,0011	0,0013	0,0016	0,0022	0,0028	0,0032	0,0040	0,0048	280 (250 – 320)
K1	E/M/A	1,5	0,024	0,032	0,040	0,048	0,065	0,080	0,095	0,13	0,16	195 (170 – 220)
		1,5	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0050	0,0065	640 (560 – 720)
K2	E/M/A	1,5	0,024	0,032	0,040	0,048	0,065	0,080	0,095	0,13	0,16	170 (150 – 190)
		1,5	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0050	0,0065	560 (500 – 620)
K3	E/M/A	1,5	0,024	0,032	0,040	0,048	0,065	0,080	0,095	0,13	0,16	140 (130 – 160)
		1,5	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0050	0,0065	460 (430 – 520)
K4	E/M/A	1,5	0,024	0,032	0,040	0,048	0,065	0,080	0,095	0,13	0,16	135 (120 – 150)
		1,5	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0050	0,0065	445 (400 – 490)
K5	E/M/A	1,5	0,024	0,032	0,040	0,048	0,065	0,080	0,095	0,13	0,15	80 (70 – 92)
		1,5	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0050	0,0060	260 (230 – 300)
K6	E/M/A	1,5	0,024	0,032	0,040	0,048	0,065	0,080	0,095	0,13	0,16	120 (110 – 130)
		1,5	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0050	0,0065	395 (370 – 420)
K7	E/M/A	1,5	0,024	0,032	0,040	0,048	0,065	0,080	0,095	0,13	0,15	105 (89 – 110)
		1,5	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0050	0,0060	345 (300 – 360)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)f<sub>z</sub> = mm (inç/ağız)a<sub>p</sub> mm/DC (inç/DC) = faktöra<sub>e</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

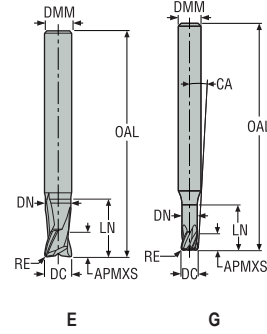
Grafit malzeme için

Minimaster Plus

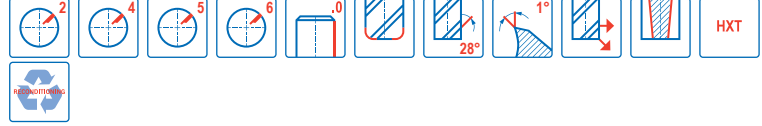
Minimaster

## JH142

Yüksek hız – Yüksek hassasiyet – Torikal – Sertleştirilmiş çelik – 2-6 Ağızlı – Silindirik – Köşe radyüsü



- Toleranslar:
- Salgı= <0,005 mm
- DMM= h5
- DC= 0-0,01 mm
- RE= ±0,005 mm
- DC ≥ Ø6 ise tekrar bilenebilir

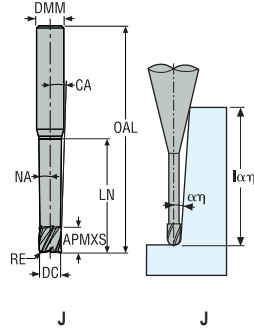


Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	CA	PCEDC	WDX0	WDX05	WDX1	WDX15	WDX2	WDX3	Silindirik
				mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
JH142020G2R030.0Z2-HXT	02968223	2	G	2,0	4,0	2,0	40,0	6,0	1,9	0,3	6,64	2	6,63	6,96	7,21	7,43	7,62	7,96	■
JH142020G2R030.0Z4-HXT	02968224	2	G	2,0	4,0	2,0	40,0	6,0	1,9	0,3	6,64	4	6,63	6,96	7,21	7,43	7,62	7,96	■
JH142020G2R050.0Z2-HXT	02968225	2	G	2,0	4,0	2,0	40,0	6,0	1,9	0,5	6,79	2	6,63	6,95	7,2	7,41	7,6	7,93	■
JH142020G2R050.0Z4-HXT	02968226	2	G	2,0	4,0	2,0	40,0	6,0	1,9	0,5	6,79	4	6,63	6,95	7,2	7,41	7,6	7,93	■
JH142030G2R050.0Z2-HXT	02968227	2	G	3,0	4,0	3,0	40,0	8,0	2,8	0,5	2,95	2	8,92	9,23	9,48	9,71	9,91	10,26	■
JH142030G2R050.0Z4-HXT	02968228	2	G	3,0	4,0	3,0	40,0	8,0	2,8	0,5	2,95	4	8,92	9,23	9,48	9,71	9,91	10,26	■
JH142030G2R100.0Z2-HXT	02968229	2	G	3,0	4,0	3,0	40,0	8,0	2,8	1,0	3,1	2	8,92	9,21	9,46	9,67	9,87	10,21	■
JH142030G2R100.0Z4-HXT	02968230	2	G	3,0	4,0	3,0	40,0	8,0	2,8	1,0	3,1	4	8,92	9,21	9,46	9,67	9,87	10,21	■
JH142040G2R030.0Z2-HXT	02968231	2	G	4,0	6,0	4,0	50,0	8,0	3,7	0,3	5,34	2	9,13	9,4	9,64	9,84	10,03	10,37	■
JH142040G2R030.0Z4-HXT	02970110	2	G	4,0	6,0	4,0	50,0	8,0	3,7	0,3	5,34	4	9,13	9,4	9,64	9,84	10,03	10,37	■
JH142040G2R050.0Z4-HXT	02968232	2	G	4,0	6,0	4,0	50,0	8,0	3,7	0,5	5,44	4	9,13	9,4	9,63	9,83	10,02	10,35	■
JH142040G2R100.0Z4-HXT	02968233	2	G	4,0	6,0	4,0	50,0	8,0	3,7	1,0	5,69	4	9,13	9,38	9,6	9,8	9,98	10,3	■
JH142060E2R050.0Z4-HXT	02968235	2	E	6,0	6,0	6,0	50,0	12,0	5,6	0,5	-	4	12,0	-	-	-	-	-	■
JH142060E2R100.0Z4-HXT	02968237	2	E	6,0	6,0	6,0	50,0	12,0	5,6	1,0	-	4	12,0	-	-	-	-	-	■
JH142060E2R100.0Z5-HXT	02968238	2	E	6,0	6,0	6,0	50,0	12,0	5,6	1,0	-	5	12,0	-	-	-	-	-	■
JH142060E2R150.0Z5-HXT	02968240	2	E	6,0	6,0	6,0	50,0	12,0	5,6	1,5	-	5	12,0	-	-	-	-	-	■
JH142060E2R200.0Z5-HXT	02968241	2	E	6,0	6,0	6,0	50,0	12,0	5,6	2,0	-	5	12,0	-	-	-	-	-	■
JH142080E2R050.0Z5-HXT	02968242	2	E	8,0	8,0	8,0	60,0	16,0	7,4	0,5	-	5	16,0	-	-	-	-	-	■
JH142080E2R100.0Z5-HXT	02968243	2	E	8,0	8,0	8,0	60,0	16,0	7,4	1,0	-	5	16,0	-	-	-	-	-	■
JH142080E2R150.0Z5-HXT	02968244	2	E	8,0	8,0	8,0	60,0	16,0	7,4	1,5	-	5	16,0	-	-	-	-	-	■
JH142080E2R200.0Z5-HXT	02968245	2	E	8,0	8,0	8,0	60,0	16,0	7,4	2,0	-	5	16,0	-	-	-	-	-	■
JH142080E2R300.0Z5-HXT	02968246	2	E	8,0	8,0	8,0	60,0	16,0	7,4	3,0	-	5	16,0	-	-	-	-	-	■
JH142100E2R050.0Z5-HXT	02968247	2	E	10,0	10,0	10,0	70,0	20,0	9,4	0,5	-	5	20,0	-	-	-	-	-	■
JH142100E2R100.0Z5-HXT	02968248	2	E	10,0	10,0	10,0	70,0	20,0	9,4	1,0	-	5	20,0	-	-	-	-	-	■
JH142100E2R200.0Z5-HXT	02968249	2	E	10,0	10,0	10,0	70,0	20,0	9,4	2,0	-	5	20,0	-	-	-	-	-	■
JH142100E2R250.0Z5-HXT	02968250	2	E	10,0	10,0	10,0	70,0	20,0	9,4	2,5	-	5	20,0	-	-	-	-	-	■
JH142120E2R100.0Z6-HXT	02968251	2	E	12,0	12,0	12,0	75,0	24,0	11,4	1,0	-	6	24,0	-	-	-	-	-	■
JH142120E2R200.0Z6-HXT	02968252	2	E	12,0	12,0	12,0	75,0	24,0	11,4	2,0	-	6	24,0	-	-	-	-	-	■
JH142120E2R300.0Z6-HXT	02968253	2	E	12,0	12,0	12,0	75,0	24,0	11,4	3,0	-	6	24,0	-	-	-	-	-	■

■ Stoklu standart ürün. WDX değerleri için: αη'ye bağlı maks. kesme derinliği (lαη, ref)\*

JH142

Yüksek hız – Yüksek hassasiyet – Torikal – Sertleştirilmiş çelik – 2-5 Ağız – Silindirik – Köşe radyüsü



- Toleranslar:
- Salgı= <0,005 mm
- DMM= h5
- DC= 0-0,01 mm
- RE= ±0,005 mm
- DC ≥ Ø6 ise tekrar bilebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	CA	PCEDC	WDX0	WDX05	WDX1	WDX15	WDX2	WDX3	Silindirik
JH142020J3R030.0Z2-HXT	02968255	3	J	2,0	6,0	2,0	60,0	10,0	1,9	0,3	6,72	2	5,23	10,27	10,95	11,31	11,69	12,54	■
JH142020J3R030.0Z4-HXT	02968256	3	J	2,0	6,0	2,0	60,0	10,0	1,9	0,3	6,72	4	5,23	10,27	10,95	11,31	11,69	12,54	■
JH142020J3R050.0Z2-HXT	02968257	3	J	2,0	6,0	2,0	60,0	10,0	1,9	0,5	6,79	2	5,23	10,24	10,94	11,29	11,66	12,5	■
JH142020J3R050.0Z4-HXT	02968258	3	J	2,0	6,0	2,0	60,0	10,0	1,9	0,5	6,79	4	5,23	10,24	10,94	11,29	11,66	12,5	■
JH142030J3R050.0Z2-HXT	02968259	3	J	3,0	6,0	3,0	60,0	15,0	2,8	0,5	4,3	2	9,57	15,58	16,22	16,75	17,32	18,57	■
JH142030J3R050.0Z4-HXT	02968260	3	J	3,0	6,0	3,0	60,0	15,0	2,8	0,5	4,3	4	9,57	15,58	16,22	16,75	17,32	18,57	■
JH142030J3R100.0Z2-HXT	02968261	3	J	3,0	6,0	3,0	60,0	15,0	2,8	1,0	4,4	2	9,57	15,54	16,19	16,7	17,25	18,46	■
JH142030J3R100.0Z4-HXT	02968262	3	J	3,0	6,0	3,0	60,0	15,0	2,8	1,0	4,4	4	9,57	15,54	16,19	16,7	17,25	18,46	■
JH142040J3R030.0Z2-HXT	02968263	3	J	4,0	6,0	4,0	60,0	20,0	3,7	0,3	2,45	2	13,87	20,79	21,52	22,23	22,99	-	■
JH142040J3R030.0Z4-HXT	02970111	3	J	4,0	6,0	4,0	60,0	20,0	3,7	0,3	2,45	4	13,87	20,79	21,52	22,23	22,99	-	■
JH142040J3R050.0Z2-HXT	02968265	3	J	4,0	6,0	4,0	60,0	20,0	3,7	0,5	2,48	2	13,87	20,78	21,51	22,21	22,97	-	■
JH142040J3R050.0Z4-HXT	02968264	3	J	4,0	6,0	4,0	60,0	20,0	3,7	0,5	2,48	4	13,87	20,78	21,51	22,21	22,97	-	■
JH142040J3R100.0Z2-HXT	02968266	3	J	4,0	6,0	4,0	60,0	20,0	3,7	1,0	2,53	2	13,87	20,76	21,48	22,16	22,9	-	■
JH142040J3R100.0Z4-HXT	02968267	3	J	4,0	6,0	4,0	60,0	20,0	3,7	1,0	2,53	4	13,87	20,76	21,48	22,16	22,9	-	■
JH142060J3R050.0Z4-HXT	02968268	3	J	6,0	8,0	6,0	75,0	30,0	5,6	0,5	1,75	4	19,15	30,85	31,88	32,93	-	-	■
JH142060J3R050.0Z5-HXT	02968269	3	J	6,0	8,0	6,0	75,0	30,0	5,6	0,5	1,75	5	19,15	30,85	31,88	32,93	-	-	■
JH142060J3R100.0Z4-HXT	02968270	3	J	6,0	8,0	6,0	75,0	30,0	5,6	1,0	1,77	4	19,15	30,83	31,85	32,88	-	-	■
JH142060J3R100.0Z5-HXT	02968271	3	J	6,0	8,0	6,0	75,0	30,0	5,6	1,0	1,77	5	19,15	30,83	31,85	32,88	-	-	■
JH142060J3R150.0Z5-HXT	02968272	3	J	6,0	8,0	6,0	75,0	30,0	5,6	1,5	1,8	5	19,15	30,8	31,82	32,83	-	-	■
JH142060J3R200.0Z5-HXT	02968273	3	J	6,0	8,0	6,0	75,0	30,0	5,6	2,0	1,83	5	19,15	30,78	31,78	32,78	-	-	■
JH142080J3R050.0Z5-HXT	02968274	3	J	8,0	10,0	8,0	85,0	40,0	7,4	0,5	1,34	5	27,67	41,12	42,44	-	-	-	■
JH142080J3R100.0Z5-HXT	02968275	3	J	8,0	10,0	8,0	85,0	40,0	7,4	1,0	1,36	5	27,67	41,11	42,41	-	-	-	■
JH142080J3R150.0Z5-HXT	02968276	3	J	8,0	10,0	8,0	85,0	40,0	7,4	1,5	1,37	5	27,67	41,09	42,38	-	-	-	■
JH142080J3R200.0Z5-HXT	02968277	3	J	8,0	10,0	8,0	85,0	40,0	7,4	2,0	1,39	5	27,67	41,08	42,35	-	-	-	■
JH142100J3R050.0Z5-HXT	02968278	3	J	10,0	12,0	10,0	100,0	50,0	9,4	0,5	1,1	5	29,67	50,97	52,62	-	-	-	■
JH142100J3R100.0Z5-HXT	02968279	3	J	10,0	12,0	10,0	100,0	50,0	9,4	1,0	1,11	5	29,67	50,95	52,59	-	-	-	■
JH142100J3R200.0Z5-HXT	02968280	3	J	10,0	12,0	10,0	100,0	50,0	9,4	2,0	1,13	5	29,67	50,91	52,53	-	-	-	■
JH142020J6R030.0Z4-HXT	02968282	6	J	2,0	6,0	2,0	75,0	20,0	1,9	0,3	4,33	4	5,23	11,4	21,0	21,71	22,45	24,11	■
JH142020J6R050.0Z4-HXT	02968283	6	J	2,0	6,0	2,0	75,0	20,0	1,9	0,5	4,36	4	5,23	11,14	20,99	21,69	22,43	24,06	■
JH142030J6R050.0Z4-HXT	02968284	6	J	3,0	6,0	3,0	75,0	30,0	2,8	0,5	2,52	4	9,57	20,92	31,32	32,35	33,46	-	■
JH142030J6R100.0Z4-HXT	02968285	6	J	3,0	6,0	3,0	75,0	30,0	2,8	1,0	2,56	4	9,57	20,3	31,29	32,31	33,39	-	■
JH142040J6R030.0Z4-HXT	02968286	6	J	4,0	6,0	4,0	80,0	40,0	3,7	0,3	1,36	4	13,87	30,85	41,65	-	-	-	■
JH142040J6R050.0Z4-HXT	02968287	6	J	4,0	6,0	4,0	80,0	40,0	3,7	0,5	1,37	4	13,87	30,6	41,65	-	-	-	■
JH142040J6R100.0Z4-HXT	02968288	6	J	4,0	6,0	4,0	80,0	40,0	3,7	1,0	1,38	4	13,87	29,98	41,6	-	-	-	■

■ Stoklu standart ürün. WDX değerleri için: α<sub>1</sub>'ye bağlı maks. kesme derinliği (lα<sub>1</sub>, ref)\*

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve diğer materyaller için

Grafit materyal için

Mimimaster Plus

Mimimaster

Kesme verileri – JH142 Kaba kopya frezeleme

SMG	a <sub>p</sub> /DC	a <sub>e</sub> /DC	f <sub>z</sub>									v <sub>c</sub>
			2	3	4	6	8	10	12	16		
P1	M/E	0.0500 0,0500	0.050 0,050	0.020 0,00080	0.030 0,0012	0.040 0,0016	0.060 0,0024	0.080 0,0032	0.10 0,0040	0.12 0,0048	0.14 0,0055	485 (460—530) 1600 (1600—1700)
P2	M/E	0.0500 0,0500	0.050 0,050	0.020 0,00080	0.030 0,0012	0.040 0,0016	0.060 0,0024	0.080 0,0032	0.10 0,0040	0.12 0,0048	0.15 0,0060	470 (450—520) 1550 (1500—1700)
P3	M/E	0.0500 0,0500	0.050 0,050	0.019 0,00075	0.028 0,0011	0.038 0,0015	0.055 0,0022	0.075 0,0030	0.095 0,0038	0.11 0,0044	0.14 0,0055	405 (390—450) 1325 (1300—1400)
P4	M/E	0.0500 0,0500	0.050 0,050	0.019 0,00075	0.028 0,0011	0.038 0,0015	0.055 0,0022	0.075 0,0030	0.095 0,0038	0.11 0,0044	0.14 0,0055	360 (340—390) 1175 (1200—1200)
P5	M/E	0.0500 0,0500	0.050 0,050	0.018 0,00070	0.028 0,0011	0.036 0,0014	0.055 0,0022	0.075 0,0030	0.090 0,0036	0.11 0,0044	0.13 0,0050	345 (330—380) 1125 (1100—1200)
P6	M/E	0.0500 0,0500	0.050 0,050	0.018 0,00070	0.028 0,0011	0.036 0,0014	0.055 0,0022	0.070 0,0028	0.090 0,0036	0.11 0,0044	0.13 0,0050	385 (370—420) 1275 (1300—1300)
P7	M/E	0.0500 0,0500	0.050 0,050	0.018 0,00070	0.028 0,0011	0.036 0,0014	0.055 0,0022	0.070 0,0028	0.090 0,0036	0.11 0,0044	0.13 0,0050	365 (350—400) 1200 (1200—1300)
P8	M/E	0.0500 0,0500	0.050 0,050	0.019 0,00075	0.028 0,0011	0.038 0,0015	0.055 0,0022	0.075 0,0030	0.095 0,0038	0.11 0,0044	0.14 0,0055	340 (330—380) 1125 (1100—1200)
P11	M/E	0.0500 0,0500	0.050 0,050	0.018 0,00070	0.028 0,0011	0.036 0,0014	0.055 0,0022	0.070 0,0028	0.090 0,0036	0.11 0,0044	0.13 0,0050	355 (340—390) 1175 (1200—1200)
K1	A/E	0.0500 0,0500	0.050 0,050	0.018 0,00070	0.028 0,0011	0.036 0,0014	0.055 0,0022	0.075 0,0030	0.090 0,0036	0.11 0,0044	0.13 0,0050	345 (330—380) 1125 (1100—1200)
K2	A/E	0.0500 0,0500	0.050 0,050	0.017 0,00065	0.025 0,0010	0.034 0,0013	0.050 0,0020	0.065 0,0026	0.085 0,0034	0.10 0,0040	0.12 0,0048	300 (290—330) 980 (960—1000)
K3	A/E	0.0500 0,0500	0.050 0,050	0.017 0,00065	0.025 0,0010	0.034 0,0013	0.050 0,0020	0.065 0,0026	0.085 0,0034	0.10 0,0040	0.12 0,0048	255 (240—280) 840 (790—910)
K4	A/E	0.0500 0,0500	0.050 0,050	0.017 0,00065	0.025 0,0010	0.034 0,0013	0.050 0,0020	0.065 0,0026	0.085 0,0034	0.10 0,0040	0.12 0,0048	245 (230—260) 800 (760—850)
K5	A/E	0.0500 0,0500	0.050 0,050	0.018 0,00070	0.028 0,0011	0.036 0,0014	0.055 0,0022	0.075 0,0030	0.090 0,0036	0.11 0,0044	0.13 0,0050	345 (330—380) 1125 (1100—1200)
K6	A/E	0.0500 0,0500	0.050 0,050	0.020 0,00080	0.030 0,0012	0.040 0,0016	0.060 0,0024	0.080 0,0032	0.10 0,0040	0.12 0,0048	0.15 0,0060	500 (480—550) 1650 (1600—1800)
K7	A/E	0.0500 0,0500	0.050 0,050	0.018 0,00070	0.028 0,0011	0.036 0,0014	0.055 0,0022	0.075 0,0030	0.090 0,0036	0.11 0,0044	0.13 0,0050	440 (420—490) 1450 (1400—1600)
H3	M/A	0.0200 0,0200	0.020 0,020	0.014 0,00055	0.020 0,00080	0.028 0,0011	0.042 0,0017	0.055 0,0022	0.070 0,0028	0.080 0,0032	0.10 0,0040	95 (72—110) 310 (240—360)
H5	M/A	0.0400 0,0400	0.040 0,040	0.014 0,00055	0.022 0,00085	0.028 0,0011	0.042 0,0017	0.055 0,0022	0.070 0,0028	0.085 0,0034	0.10 0,0040	305 (290—330) 1000 (960—1000)
H7	M/A	0.0200 0,0200	0.020 0,020	0.014 0,00055	0.020 0,00080	0.028 0,0011	0.042 0,0017	0.055 0,0022	0.070 0,0028	0.080 0,0032	0.10 0,0040	95 (72—110) 310 (240—360)
H8	M/A	0.0400 0,0400	0.040 0,040	0.011 0,00044	0.016 0,00065	0.022 0,00085	0.032 0,0013	0.042 0,0017	0.055 0,0022	0.065 0,0026	0.080 0,0032	310 (290—330) 1025 (960—1000)
H11	M/A	0.0400 0,0400	0.040 0,040	0.014 0,00055	0.022 0,00085	0.028 0,0011	0.042 0,0017	0.055 0,0022	0.070 0,0028	0.085 0,0034	0.10 0,0040	390 (360—420) 1275 (1200—1300)
H12	M/A	0.0500 0,0500	0.050 0,050	0.0095 0,00038	0.014 0,00055	0.019 0,00075	0.028 0,0011	0.038 0,0015	0.046 0,0018	0.055 0,0022	0.070 0,0028	345 (320—370) 1125 (1100—1200)
H21	M/A	0.0400 0,0400	0.040 0,040	0.011 0,00044	0.016 0,00065	0.022 0,00085	0.032 0,0013	0.042 0,0017	0.055 0,0022	0.065 0,0026	0.080 0,0032	310 (290—330) 1025 (960—1000)
H31	M/A	0.0300 0,0300	0.030 0,030	0.013 0,00050	0.019 0,00075	0.025 0,0010	0.038 0,0015	0.050 0,0020	0.065 0,0026	0.075 0,0030	0.090 0,0036	140 (120—160) 460 (400—520)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)

f<sub>z</sub> = mm (inç/çizim)

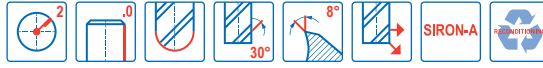
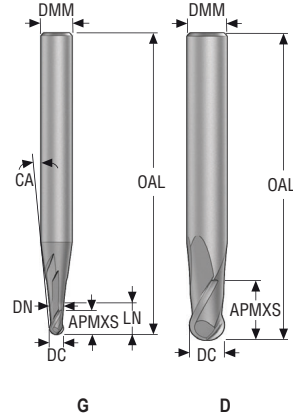
a<sub>p</sub> mm/DC (inç/DC) = faktör

a<sub>e</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

# JHB970

Yüksek hız – Üversal – Tamamı yuvarlak – 2 Ağızlı – Silindirik



- Toleranslar:
- DMM= h5
- DC= -0,02/-0,04 mm
- RE= ±0,01 mm
- DC ≥ Ø6 ise tekrar bilebilir

Ürün Tanımı	Kalite	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	CA	PCEDC	WDX0	WDX05	WDX1	WDX15	WDX2	WDX3	Silindirik	
					mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
JHB970020G1B.0Z2	SIRA	10072058	1	G	2,0	3,0	3,0	50,0	10,0	1,9	2,5	2	10,0	11,0	11,5	12,1	12,8	-	■	
JHB970030D1B.0Z2	SIRA	10072059	1	D	3,0	3,0	4,5	50,0	-	-	-	2	-	-	-	-	-	-	-	■
JHB970040D1B.0Z2	SIRA	10072060	1	D	4,0	4,0	6,0	60,0	-	-	-	2	-	-	-	-	-	-	-	■
JHB970050D1B.0Z2	SIRA	10072061	1	D	5,0	5,0	7,5	60,0	-	-	-	2	-	-	-	-	-	-	-	■
JHB970060D1B.0Z2	SIRA	10072062	1	D	6,0	6,0	9,0	75,0	-	-	-	2	-	-	-	-	-	-	-	■
JHB970020G2B.0Z2	SIRA	10072063	2	G	2,0	6,0	3,0	60,0	4,0	1,9	8,0	2	4,0	4,7	4,9	5,1	5,4	6,0	-	■
JHB970025G2B.0Z2	SIRA	10072064	2	G	2,5	6,0	4,0	60,0	5,0	2,4	7,5	2	5,0	5,7	6,0	6,2	6,5	7,3	-	■
JHB970030G2B.0Z2	SIRA	10072065	2	G	3,0	6,0	4,5	60,0	6,0	2,8	5,5	2	6,0	7,4	7,8	8,3	9,0	10,6	-	■
JHB970035G2B.0Z2	SIRA	10072066	2	G	3,5	6,0	5,0	60,0	7,0	3,2	4,5	2	7,0	8,8	9,4	10,0	10,7	12,8	-	■
JHB970040G2B.0Z2	SIRA	10072067	2	G	4,0	6,0	6,0	60,0	8,0	3,7	3,0	2	8,0	10,8	11,9	13,3	15,2	-	-	■
JHB970050G2B.0Z2	SIRA	10072068	2	G	5,0	6,0	7,5	60,0	10,0	4,6	2,0	2	10,0	13,6	15,0	16,8	-	-	-	■
JHB970060G2B.0Z2	SIRA	10072069	2	G	6,0	8,0	9,0	75,0	12,0	5,6	2,5	2	12,0	15,8	17,4	19,4	22,2	-	-	■
JHB970080D2B.0Z2	SIRA	10072070	2	D	8,0	8,0	12,0	75,0	-	-	-	2	-	-	-	-	-	-	-	■
JHB970100D2B.0Z2	SIRA	10072071	2	D	10,0	10,0	15,0	80,0	-	-	-	2	-	-	-	-	-	-	-	■
JHB970120D2B.0Z2	SIRA	10072072	2	D	12,0	12,0	18,0	90,0	-	-	-	2	-	-	-	-	-	-	-	■
JHB970160D2B.0Z2	SIRA	10072073	2	D	16,0	16,0	24,0	100,0	-	-	-	2	-	-	-	-	-	-	-	■
JHB970020G3B.0Z2	SIRA	10072074	3	G	2,0	6,0	3,0	80,0	4,0	1,9	8,0	2	4,0	4,7	4,9	5,1	5,4	6,0	-	■
JHB970030G3B.0Z2	SIRA	10072075	3	G	3,0	6,0	4,5	80,0	6,0	2,8	5,5	2	6,0	7,4	7,8	8,3	9,0	10,6	-	■
JHB970040G3B.0Z2	SIRA	10072076	3	G	4,0	6,0	6,0	80,0	8,0	3,7	3,0	2	8,0	10,8	11,9	13,3	15,2	-	-	■
JHB970060G3B.0Z2	SIRA	10072077	3	G	6,0	8,0	9,0	100,0	12,0	5,6	2,5	2	12,0	15,8	17,4	19,4	22,2	-	-	■
JHB970080D3B.0Z2	SIRA	10072078	3	D	8,0	8,0	12,0	108,0	-	-	-	2	-	-	-	-	-	-	-	■
JHB970100D3B.0Z2	SIRA	10072079	3	D	10,0	10,0	15,0	125,0	-	-	-	2	-	-	-	-	-	-	-	■
JHB970120D3B.0Z2	SIRA	10072080	3	D	12,0	12,0	18,0	125,0	-	-	-	2	-	-	-	-	-	-	-	■

■ Stoklu standart ürün.

WDX değerleri için: α'ye bağlı maks. kesme derinliği (lαη, ref)\*

Üversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve cırp materyaller için

Grafit materyal için

Minimaster Plus

Minimaster

Kesme verileri – JHB970 Kaba kopya frezeleme

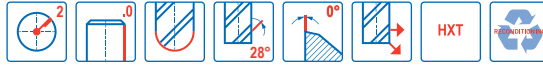
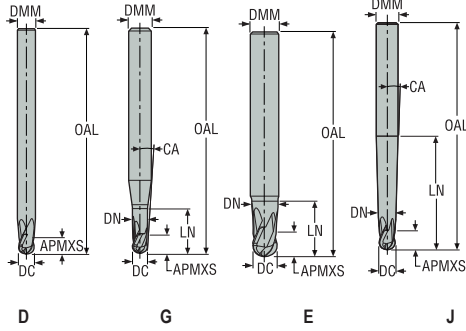
SMG	M	a <sub>e</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>											v <sub>c</sub>
				2	2.5	3	3.5	4	5	6	8	10	12	16	
P1	M	0.200	1.0	0.011	0.014	0.016	0.019	0.022	0.028	0.032	0.044	0.055	0.065	0.080	210 (190 – 230)
		0,200	1,0	0,00044	0,00055	0,00065	0,00075	0,00085	0,0011	0,0013	0,0017	0,0022	0,0026	0,0032	690 (630 – 750)
P2	M	0.200	1.0	0.011	0.014	0.017	0.019	0.022	0.028	0.034	0.044	0.055	0.065	0.080	205 (180 – 230)
		0,200	1,0	0,00044	0,00055	0,00065	0,00075	0,00085	0,0011	0,0013	0,0017	0,0022	0,0026	0,0032	670 (600 – 750)
P3	M	0.200	1.0	0.010	0.013	0.016	0.018	0.020	0.026	0.032	0.042	0.050	0.060	0.075	180 (160 – 200)
		0,200	1,0	0,00040	0,00050	0,00065	0,00070	0,00080	0,0010	0,0013	0,0017	0,0020	0,0024	0,0030	590 (530 – 650)
P4	M	0.200	1.0	0.010	0.013	0.015	0.018	0.020	0.026	0.030	0.040	0.050	0.060	0.075	155 (140 – 170)
		0,200	1,0	0,00040	0,00050	0,00060	0,00070	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0030	510 (460 – 550)
P5	M	0.200	1.0	0.010	0.012	0.015	0.018	0.020	0.025	0.030	0.040	0.050	0.060	0.075	150 (140 – 170)
		0,200	1,0	0,00040	0,00048	0,00060	0,00065	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0030	490 (460 – 550)
P6	M	0.200	1.0	0.010	0.012	0.015	0.017	0.020	0.025	0.030	0.040	0.050	0.060	0.075	170 (150 – 190)
		0,200	1,0	0,00040	0,00048	0,00060	0,00065	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0030	560 (500 – 620)
P7	M	0.200	1.0	0.010	0.012	0.015	0.017	0.020	0.025	0.030	0.040	0.050	0.060	0.075	160 (140 – 180)
		0,200	1,0	0,00040	0,00048	0,00060	0,00065	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0030	520 (460 – 590)
P8	M	0.200	1.0	0.010	0.013	0.016	0.018	0.020	0.026	0.032	0.042	0.050	0.060	0.075	150 (140 – 170)
		0,200	1,0	0,00040	0,00050	0,00065	0,00070	0,00080	0,0010	0,0013	0,0017	0,0020	0,0024	0,0030	490 (460 – 550)
P11	M	0.200	1.0	0.010	0.012	0.015	0.017	0.020	0.025	0.030	0.040	0.050	0.060	0.075	75 (67 – 86)
		0,200	1,0	0,00040	0,00048	0,00060	0,00065	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0030	520 (460 – 590)
P12	M	0.200	1.0	0.0070	0.0085	0.010	0.012	0.014	0.017	0.020	0.028	0.034	0.040	0.050	48 (42 – 53)
		0,200	1,0	0,00028	0,00034	0,00040	0,00048	0,00055	0,00065	0,00080	0,0011	0,0013	0,0016	0,0020	155 (140 – 170)
M1	E	0.200	1.0	0.0090	0.011	0.013	0.015	0.018	0.022	0.026	0.036	0.044	0.050	0.065	90 (80 – 100)
		0,200	1,0	0,00036	0,00044	0,00050	0,00060	0,00070	0,00085	0,0010	0,0014	0,0017	0,0020	0,0026	295 (270 – 320)
M2	E	0.200	1.0	0.0080	0.010	0.012	0.014	0.016	0.020	0.024	0.032	0.040	0.048	0.060	75 (65 – 85)
		0,200	1,0	0,00032	0,00040	0,00048	0,00055	0,00065	0,00080	0,00095	0,0013	0,0016	0,0019	0,0024	245 (220 – 270)
M3	E	0.150	1.0	0.0060	0.0075	0.0090	0.010	0.012	0.015	0.018	0.024	0.030	0.036	0.044	65 (55 – 75)
		0,150	1,0	0,00024	0,00030	0,00036	0,00040	0,00048	0,00060	0,00070	0,00095	0,0012	0,0014	0,0017	215 (190 – 240)
M4	E	0.150	1.0	0.0050	0.0065	0.0080	0.0090	0.010	0.013	0.016	0.020	0.026	0.032	0.038	49 (42 – 56)
		0,150	1,0	0,00020	0,00026	0,00032	0,00036	0,00040	0,00050	0,00065	0,00080	0,0010	0,0013	0,0015	160 (140 – 180)
M5	E	0.150	1.0	0.0050	0.0065	0.0080	0.0090	0.010	0.013	0.016	0.020	0.026	0.032	0.038	41 (35 – 47)
		0,150	1,0	0,00020	0,00026	0,00032	0,00036	0,00040	0,00050	0,00065	0,00080	0,0010	0,0013	0,0015	135 (120 – 150)
S1	E	0.100	0.80	0.0060	0.0075	0.0090	0.010	0.012	0.015	0.018	0.024	0.030	0.036	0.044	50 (40 – 59)
		0,100	0,80	0,00024	0,00030	0,00036	0,00040	0,00048	0,00060	0,00070	0,00095	0,0012	0,0014	0,0017	165 (140 – 190)
S2	E	0.100	0.80	0.0060	0.0075	0.0090	0.010	0.012	0.015	0.018	0.024	0.030	0.036	0.044	40 (33 – 48)
		0,100	0,80	0,00024	0,00030	0,00036	0,00040	0,00048	0,00060	0,00070	0,00095	0,0012	0,0014	0,0017	130 (110 – 150)
S3	E	0.100	0.60	0.0040	0.0050	0.0060	0.0070	0.0080	0.010	0.012	0.016	0.020	0.024	0.028	30 (20 – 39)
		0,100	0,60	0,00016	0,00020	0,00024	0,00028	0,00032	0,00040	0,00048	0,00065	0,00080	0,00095	0,0011	100 (66 – 120)
S11	E	0.200	1.0	0.010	0.012	0.015	0.018	0.020	0.025	0.030	0.040	0.050	0.060	0.075	90 (79 – 100)
		0,200	1,0	0,00040	0,00048	0,00060	0,00065	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0030	295 (260 – 320)
S12	E	0.200	1.0	0.010	0.012	0.015	0.018	0.020	0.025	0.030	0.040	0.050	0.060	0.075	70 (61 – 80)
		0,200	1,0	0,00040	0,00048	0,00060	0,00065	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0030	230 (210 – 260)
S13	E	0.200	1.0	0.0085	0.011	0.013	0.015	0.017	0.022	0.026	0.034	0.044	0.050	0.065	55 (48 – 63)
		0,200	1,0	0,00034	0,00044	0,00050	0,00060	0,00065	0,00085	0,0010	0,0013	0,0017	0,0020	0,0026	180 (160 – 200)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu  
Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama  
v<sub>c</sub> = m/dak (sf/dak)  
f<sub>z</sub> = mm (inç/ağız)  
a<sub>p</sub> mm/DC (inç/DC) = faktör  
a<sub>e</sub> = mm/DC (inç/DC) = faktör  
Tüm kesme verileri hedef değerlerdir

JH112

Yüksek hız – Yüksek hassasiyet – Sertleştirilmiş çelik – Tamamı yuvarlak – 2 Ağızlı – Silindirik



- Toleranslar:
- Salgı= <0,005 mm
- DMM= h5
- DC= 0-0.01 mm
- RE= ±0,005 mm
- DC ≥ Ø6 ise tekrar bilebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	CA	PCEDC	WDX0	WDX05	WDX1	WDX15	WDX2	WDX3	Silindirik
JH112020G1B.0Z2-HXT	02970112	1	G	2,0	4,0	2,0	40,0	4,0	1,9	6,45	2	4,66	4,84	5,03	5,24	5,47	6,03	■
JH112030G1B.0Z2-HXT	02970113	1	G	3,0	4,0	3,0	40,0	6,0	2,8	3,3	2	6,96	7,29	7,66	8,08	8,56	9,78	■
JH112040D1B.0Z2-HXT	02970114	1	D	4,0	4,0	4,0	40,0	-	-	-	2	-	-	-	-	-	-	■
JH112050G1B.0Z2-HXT	02970115	1	G	5,0	6,0	5,0	50,0	10,0	4,6	2,0	2	12,09	12,96	14,01	15,29	16,89	-	■
JH112060D1B.0Z2-HXT	02970116	1	D	6,0	6,0	6,0	50,0	-	-	-	2	-	-	-	-	-	-	■
JH112080D1B.0Z2-HXT	02970117	1	D	8,0	8,0	8,0	65,0	-	-	-	2	-	-	-	-	-	-	■
JH112100D1B.0Z2-HXT	02970118	1	D	10,0	10,0	10,0	65,0	-	-	-	2	-	-	-	-	-	-	■
JH112020G2B.0Z2-HXT	02970119	2	G	2,0	3,0	2,0	50,0	10,0	1,9	2,5	2	10,79	11,1	11,42	11,77	-	-	■
JH112030D2B.0Z2-HXT	02970120	2	D	3,0	3,0	3,0	50,0	-	-	-	2	-	-	-	-	-	-	■
JH112040D2B.0Z2-HXT	02970121	2	D	4,0	4,0	4,0	60,0	-	-	-	2	-	-	-	-	-	-	■
JH112050D2B.0Z2-HXT	02970122	2	D	5,0	5,0	5,0	60,0	-	-	-	2	-	-	-	-	-	-	■
JH112060D2B.0Z2-HXT	02970123	2	D	6,0	6,0	6,0	75,0	-	-	-	2	-	-	-	-	-	-	■
JH112020G3B.0Z2-HXT	02970124	3	G	2,0	6,0	2,0	60,0	4,0	1,9	8,12	2	4,66	4,84	5,03	5,24	5,47	6,03	■
JH112025G3B.0Z2-HXT	02970125	3	G	2,5	6,0	2,5	60,0	5,0	2,4	7,39	2	5,66	5,87	6,1	6,36	6,64	7,31	■
JH112030G3B.0Z2-HXT	02970126	3	G	3,0	6,0	3,0	60,0	6,0	2,8	5,5	2	6,97	7,31	7,7	8,14	8,65	9,95	■
JH112035G3B.0Z2-HXT	02968289	3	G	3,5	6,0	3,5	65,0	7,0	3,2	3,81	2	8,62	9,24	9,99	10,9	12,05	15,49	■
JH112040G3B.0Z2-HXT	02970127	3	G	4,0	6,0	4,0	65,0	8,0	3,7	3,34	2	9,62	10,31	11,14	12,15	13,42	17,25	■
JH112050G3B.0Z2-HXT	02970128	3	G	5,0	6,0	5,0	65,0	10,0	4,6	2,0	2	12,09	12,96	14,01	15,29	16,89	-	■
JH112060G3B.0Z2-HXT	02970129	3	G	6,0	8,0	6,0	75,0	12,0	5,6	2,78	2	14,09	15,1	16,31	17,79	19,64	25,2	■
JH112080E3B.0Z2-HXT	02968290	3	E	8,0	8,0	8,0	75,0	16,0	7,4	-	2	16,0	-	-	-	-	-	■
JH112100E3B.0Z2-HXT	02968291	3	E	10,0	10,0	10,0	80,0	20,0	9,4	-	2	20,0	-	-	-	-	-	■
JH112120E3B.0Z2-HXT	02968292	3	E	12,0	12,0	12,0	90,0	24,0	11,4	-	2	24,0	-	-	-	-	-	■
JH112020G4B.0Z2-HXT	02970130	4	G	2,0	6,0	2,0	80,0	20,0	1,9	3,82	2	20,66	21,59	22,61	23,73	24,98	27,94	■
JH112030G4B.0Z2-HXT	02970131	4	G	3,0	6,0	3,0	80,0	20,0	2,8	2,91	2	20,97	22,18	23,55	25,11	26,92	31,51	■
JH112040G4B.0Z2-HXT	02970132	4	G	4,0	6,0	4,0	80,0	20,0	3,7	1,97	2	21,62	23,39	25,53	28,13	-	-	■
JH112050G4B.0Z2-HXT	02970133	4	G	5,0	6,0	5,0	100,0	50,0	4,6	0,53	2	52,09	56,58	-	-	-	-	■
JH112060D4B.0Z2-HXT	02968293	4	D	6,0	6,0	6,0	100,0	-	-	-	2	-	-	-	-	-	-	■
JH112080D4B.0Z2-HXT	02968294	4	D	8,0	8,0	8,0	110,0	-	-	-	2	-	-	-	-	-	-	■
JH112100D4B.0Z2-HXT	02968295	4	D	10,0	10,0	10,0	125,0	-	-	-	2	-	-	-	-	-	-	■
JH112120D4B.0Z2-HXT	02968296	4	D	12,0	12,0	12,0	125,0	-	-	-	2	-	-	-	-	-	-	■

■ Stoklu standart ürün.

WDX değerleri için: αη'ye bağlı maks. kesme derinliği (lαη, ref)\*

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve cırp materyaller için

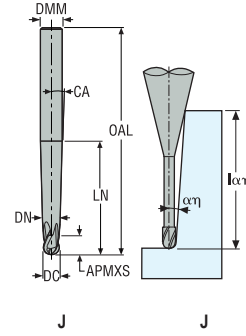
Grafit materyale için

Mimimaster Plus

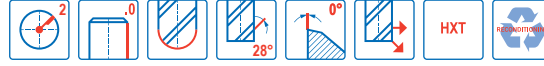
Mimimaster

## JH112

Yüksek hız – Yüksek hassasiyet – Sertleştirilmiş çelik – Tamamı yuvarlak – 2 Ağızlı – Silindirik



- Toleranslar:
- Salgı= <0,005 mm
- DMM= h5
- DC= 0-0,01 mm
- RE= ±0,005 mm
- Tekrar bilenebilir



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli														Silindirik	
				DC	DMM	APMXS	OAL	LN	DN	CA	PCEDC	WDX0	WDX05	WDX1	WDX15	WDX2		WDX3
JH112020J5B.0Z2-HXT	02970134	5	J	2,0	6,0	2,0	80,0	35,0	1,9	3,3	2	3,09	3,43	3,91	4,63	5,81	14,63	■
JH112030J5B.0Z2-HXT	02970135	5	J	3,0	6,0	3,0	80,0	40,0	2,8	2,2	2	5,7	6,75	8,51	12,03	22,61	-	■
JH112040J5B.0Z2-HXT	02970136	5	J	4,0	6,0	4,0	80,0	52,0	3,7	1,2	2	10,58	15,35	32,07	-	-	-	■
JH112050J5B.0Z2-HXT	02970137	5	J	5,0	8,0	5,0	100,0	56,0	4,6	1,6	2	11,47	14,56	20,93	41,46	-	-	■
JH112060J5B.0Z2-HXT	02970138	5	J	6,0	8,0	6,0	100,0	56,0	5,6	1,1	2	14,72	21,24	44,08	-	-	-	■
JH112080J5B.0Z2-HXT	02970139	5	J	8,0	10,0	8,0	125,0	62,0	7,4	1,0	2	20,71	29,7	59,65	-	-	-	■
JH112100J5B.0Z2-HXT	02970140	5	J	10,0	12,0	10,0	125,0	61,0	9,4	1,0	2	22,16	30,75	56,56	-	-	-	■
JH112060J6B.0Z2-HXT	02970141	6	J	6,0	10,0	6,0	125,0	62,0	5,6	2,0	2	11,59	13,99	18,22	27,78	69,22	-	■
JH112080J6B.0Z2-HXT	02970142	6	J	8,0	12,0	8,0	150,0	67,0	7,4	1,8	2	16,24	19,64	25,68	39,27	98,24	-	■
JH112100J6B.0Z2-HXT	02970143	6	J	10,0	12,0	10,0	150,0	79,0	9,4	0,8	2	26,26	43,99	-	-	-	-	■

■ Stoklu standart ürün.

WDX değerleri için: αη'ye bağlı maks. kesme derinliği (Iαη, ref)\*



## Kesme verileri – JH112 Finiş kopya frezeleme

SMG		a <sub>p</sub> /DC	f <sub>z</sub>										v <sub>c</sub>
			2	2.5	3	3.5	4	5	6	8	10	12	
K1	E	0.30	0.030	0.038	0.044	0.050	0.060	0.075	0.090	0.12	0.15	0.18	520 (500–730)
		0,30	0,0012	0,0015	0,0017	0,0020	0,0024	0,0030	0,0036	0,0048	0,0060	0,0070	1700 (1700 – 2300)
K2	E	0.30	0.030	0.038	0.044	0.050	0.060	0.075	0.090	0.12	0.15	0.18	445 (430 – 630)
		0,30	0,0012	0,0015	0,0017	0,0020	0,0024	0,0030	0,0036	0,0048	0,0060	0,0070	1450 (1500 – 2000)
K3	E	0.30	0.030	0.038	0.044	0.050	0.060	0.075	0.090	0.12	0.15	0.18	380 (360 – 530)
		0,30	0,0012	0,0015	0,0017	0,0020	0,0024	0,0030	0,0036	0,0048	0,0060	0,0070	1250 (1200–1700)
K4	E	0.30	0.030	0.038	0.044	0.050	0.060	0.075	0.090	0.12	0.15	0.18	360 (350 – 510)
		0,30	0,0012	0,0015	0,0017	0,0020	0,0024	0,0030	0,0036	0,0048	0,0060	0,0070	1175 (1200–1600)
K5	E	0.30	0.030	0.038	0.044	0.050	0.060	0.075	0.090	0.12	0.15	0.18	415 (370 – 610)
		0,30	0,0012	0,0015	0,0017	0,0020	0,0024	0,0030	0,0036	0,0048	0,0060	0,0070	1350 (1300 – 2000)
K6	E	0.30	0.030	0.038	0.044	0.050	0.060	0.075	0.090	0.12	0.15	0.18	610 (550 – 900)
		0,30	0,0012	0,0015	0,0017	0,0020	0,0024	0,0030	0,0036	0,0048	0,0060	0,0070	2000 (1900 – 2900)
K7	E	0.30	0.030	0.038	0.044	0.050	0.060	0.075	0.090	0.12	0.15	0.18	680 (560–790)
		0,30	0,0012	0,0015	0,0017	0,0020	0,0024	0,0030	0,0036	0,0048	0,0060	0,0070	2225 (1900 – 2500)
H3	M	0.16	0.028	0.036	0.042	0.048	0.055	0.070	0.085	0.11	0.14	0.17	155 (150 – 230)
		0,16	0,0011	0,0014	0,0017	0,0019	0,0022	0,0028	0,0034	0,0044	0,0055	0,0065	510 (500–750)
H5	M	0.30	0.030	0.038	0.044	0.050	0.060	0.075	0.090	0.12	0.15	0.18	285 (240 – 330)
		0,30	0,0012	0,0015	0,0017	0,0020	0,0024	0,0030	0,0036	0,0048	0,0060	0,0070	940 (790–1000)
H7	M	0.16	0.028	0.036	0.042	0.048	0.055	0.070	0.085	0.11	0.14	0.17	155 (150 – 230)
		0,16	0,0011	0,0014	0,0017	0,0019	0,0022	0,0028	0,0034	0,0044	0,0055	0,0065	510 (500–750)
H8	M	0.30	0.030	0.038	0.044	0.050	0.060	0.075	0.090	0.12	0.15	0.18	285 (240 – 330)
		0,30	0,0012	0,0015	0,0017	0,0020	0,0024	0,0030	0,0036	0,0048	0,0060	0,0070	940 (790–1000)
H11	M	0.30	0.030	0.038	0.044	0.050	0.060	0.075	0.090	0.12	0.15	0.18	360 (300 – 420)
		0,30	0,0012	0,0015	0,0017	0,0020	0,0024	0,0030	0,0036	0,0048	0,0060	0,0070	1175 (990–1300)
H12	M	0.30	0.030	0.038	0.044	0.050	0.060	0.075	0.090	0.12	0.15	0.18	330 (280 – 380)
		0,30	0,0012	0,0015	0,0017	0,0020	0,0024	0,0030	0,0036	0,0048	0,0060	0,0070	1075 (920–1200)
H21	M	0.30	0.030	0.038	0.044	0.050	0.060	0.075	0.090	0.12	0.15	0.18	285 (240 – 330)
		0,30	0,0012	0,0015	0,0017	0,0020	0,0024	0,0030	0,0036	0,0048	0,0060	0,0070	940 (790–1000)
H31	M	0.30	0.026	0.032	0.040	0.046	0.050	0.065	0.080	0.10	0.13	0.16	300 (290 – 430)
		0,30	0,0010	0,0013	0,0016	0,0018	0,0020	0,0026	0,0032	0,0040	0,0050	0,0065	980 (960–1400)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)f<sub>z</sub> = mm (inç/ağız)a<sub>p</sub> mm/DC (inç/DC) = faktöra<sub>p</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

Kesme verileri – JH112 Kaba kopya frezeleme

SMG	Sıvı	a <sub>e</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>										v <sub>c</sub>
				2	2.5	3	3.5	4	5	6	8	10	12	
K1	E	0.250	0.15	0.030	0.038	0.044	0.050	0.060	0.075	0.090	0.12	0.15	0.18	315 (310 – 450)
		0.250	0.15	0.0012	0.0015	0.0017	0.0020	0.0024	0.0030	0.0036	0.0048	0.0060	0.0070	1025 (1100–1400)
K2	E	0.250	0.15	0.028	0.036	0.044	0.050	0.060	0.070	0.085	0.12	0.14	0.17	280 (270 – 390)
		0.250	0.15	0.0011	0.0014	0.0017	0.0020	0.0024	0.0028	0.0034	0.0048	0.0055	0.0065	920 (890–1200)
K3	E	0.250	0.15	0.028	0.036	0.044	0.050	0.060	0.070	0.085	0.12	0.14	0.17	235 (230 – 330)
		0.250	0.15	0.0011	0.0014	0.0017	0.0020	0.0024	0.0028	0.0034	0.0048	0.0055	0.0065	770 (760–1000)
K4	E	0.250	0.15	0.028	0.036	0.044	0.050	0.060	0.070	0.085	0.12	0.14	0.17	225 (220 – 320)
		0.250	0.15	0.0011	0.0014	0.0017	0.0020	0.0024	0.0028	0.0034	0.0048	0.0055	0.0065	740 (730–1000)
K5	E	0.160	0.15	0.030	0.038	0.044	0.050	0.060	0.075	0.090	0.12	0.15	0.18	280 (250 – 410)
		0.160	0.15	0.0012	0.0015	0.0017	0.0020	0.0024	0.0030	0.0036	0.0048	0.0060	0.0070	920 (830–1300)
K6	E	0.160	0.15	0.030	0.038	0.044	0.050	0.060	0.075	0.090	0.12	0.15	0.18	415 (370 – 610)
		0.160	0.15	0.0012	0.0015	0.0017	0.0020	0.0024	0.0030	0.0036	0.0048	0.0060	0.0070	1350 (1300 – 2000)
K7	E	0.250	0.10	0.030	0.038	0.044	0.050	0.060	0.075	0.090	0.12	0.15	0.18	420 (350 – 490)
		0.250	0.10	0.0012	0.0015	0.0017	0.0020	0.0024	0.0030	0.0036	0.0048	0.0060	0.0070	1375 (1200–1600)
H3	M	0.120	0.040	0.028	0.036	0.042	0.048	0.055	0.070	0.085	0.11	0.14	0.17	110 (100–160)
		0.120	0.040	0.0011	0.0014	0.0017	0.0019	0.0022	0.0028	0.0034	0.0044	0.0055	0.0065	360 (330 – 520)
H5	M	0.250	0.10	0.030	0.038	0.044	0.050	0.060	0.075	0.090	0.12	0.15	0.18	175 (150 – 200)
		0.250	0.10	0.0012	0.0015	0.0017	0.0020	0.0024	0.0030	0.0036	0.0048	0.0060	0.0070	570 (500 – 650)
H7	M	0.120	0.040	0.028	0.036	0.042	0.048	0.055	0.070	0.085	0.11	0.14	0.17	110 (100–160)
		0.120	0.040	0.0011	0.0014	0.0017	0.0019	0.0022	0.0028	0.0034	0.0044	0.0055	0.0065	360 (330 – 520)
H8	M	0.250	0.10	0.030	0.038	0.044	0.050	0.060	0.075	0.090	0.12	0.15	0.18	175 (150 – 200)
		0.250	0.10	0.0012	0.0015	0.0017	0.0020	0.0024	0.0030	0.0036	0.0048	0.0060	0.0070	570 (500 – 650)
H11	M	0.250	0.10	0.030	0.038	0.044	0.050	0.060	0.075	0.090	0.12	0.15	0.18	225 (190 – 260)
		0.250	0.10	0.0012	0.0015	0.0017	0.0020	0.0024	0.0030	0.0036	0.0048	0.0060	0.0070	740 (630 – 850)
H12	M	0.250	0.10	0.030	0.038	0.044	0.050	0.060	0.075	0.090	0.12	0.15	0.18	205 (170 – 240)
		0.250	0.10	0.0012	0.0015	0.0017	0.0020	0.0024	0.0030	0.0036	0.0048	0.0060	0.0070	670 (560–780)
H21	M	0.250	0.10	0.030	0.038	0.044	0.050	0.060	0.075	0.090	0.12	0.15	0.18	175 (150 – 200)
		0.250	0.10	0.0012	0.0015	0.0017	0.0020	0.0024	0.0030	0.0036	0.0048	0.0060	0.0070	570 (500 – 650)
H31	M	0.200	0.10	0.026	0.032	0.040	0.046	0.050	0.065	0.080	0.10	0.13	0.16	200 (200 – 280)
		0.200	0.10	0.0010	0.0013	0.0016	0.0018	0.0020	0.0026	0.0032	0.0040	0.0050	0.0065	660 (660 – 910)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)

f<sub>z</sub> = mm (inç/ağız)

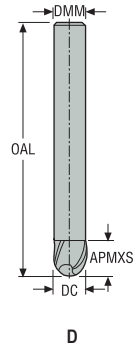
a<sub>p</sub> mm/DC (inç/DC) = faktör

a<sub>e</sub> = mm/DC (inç/DC) = faktör

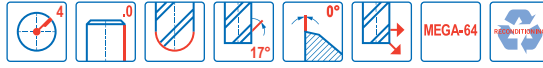
Tüm kesme verileri hedef değerlerdir

## JH150

Yüksek hız – Sertleştirilmiş çelik – Tamamı yuvarlak – 4 Ağızlı – Silindirik



D



- Toleranslar:
- DMM= h5
- DC= -0,02/-0,04 mm
- RE= ±0,01 mm
- Tekrar bilenebilir

Ürün Tanımı	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	PCEDC	Silindirik
			mm	mm	mm	mm		
150060-MEGA-64	00019198	2	D	6,0	6,0	6,0	80,0	4 ■
150080-MEGA-64	00019208	2	D	8,0	8,0	8,0	85,0	4 ■
150100-MEGA-64	00019219	2	D	10,0	10,0	10,0	100,0	4 ■
150120-MEGA-64	00019254	2	D	12,0	12,0	12,0	100,0	4 ■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için


Plastik ve cırp materyaller için

Grafit materyaller için

Minimaster Plus

Minimaster

Kesme verileri – JH150 Kaba kopya frezeleme

SMG		a <sub>g</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>				v <sub>c</sub>
				6	8	10	12	
K1	A	0.300	0.15	0.10	0.14	0.17	0.20	290 (310—370)
		0,300	0,15	0,0040	0,0055	0,0065	0,0080	950 (1100—1200)
K2	A	0.300	0.15	0.10	0.14	0.17	0.20	250 (270—320)
		0,300	0,15	0,0040	0,0055	0,0065	0,0080	820 (890—1000)
K3	A	0.300	0.15	0.10	0.14	0.17	0.20	210 (230—270)
		0,300	0,15	0,0040	0,0055	0,0065	0,0080	690 (760—880)
K5	A	0.200	0.15	0.10	0.14	0.17	0.20	255 (270—330)
		0,200	0,15	0,0040	0,0055	0,0065	0,0080	840 (890—1000)
K6	A	0.200	0.15	0.10	0.14	0.17	0.20	375 (390—500)
		0,200	0,15	0,0040	0,0055	0,0065	0,0080	1225 (1300—1600)
K7	A	0.200	0.15	0.10	0.14	0.17	0.20	325 (340—430)
		0,200	0,15	0,0040	0,0055	0,0065	0,0080	1075 (1200—1400)
H3	M	0.0500	0.020	0.085	0.11	0.14	0.17	85 (88—120)
		0,0500	0,020	0,0034	0,0044	0,0055	0,0065	280 (290—390)
H5	M	0.200	0.060	0.10	0.14	0.17	0.20	180 (160—200)
		0,200	0,060	0,0040	0,0055	0,0065	0,0080	590 (530—650)
H7	M	0.0500	0.020	0.085	0.11	0.14	0.17	85 (88—120)
		0,0500	0,020	0,0034	0,0044	0,0055	0,0065	280 (290—390)
H8	M	0.200	0.060	0.10	0.14	0.17	0.20	180 (160—200)
		0,200	0,060	0,0040	0,0055	0,0065	0,0080	590 (530—650)
H11	M	0.200	0.060	0.10	0.14	0.17	0.20	230 (210—250)
		0,200	0,060	0,0040	0,0055	0,0065	0,0080	750 (690—820)
H12	M	0.200	0.060	0.10	0.14	0.17	0.20	210 (190—230)
		0,200	0,060	0,0040	0,0055	0,0065	0,0080	690 (630—750)
H21	M	0.200	0.060	0.10	0.14	0.17	0.20	180 (160—200)
		0,200	0,060	0,0040	0,0055	0,0065	0,0080	590 (530—650)
H31	M	0.150	0.060	0.090	0.12	0.15	0.18	125 (130—180)
		0,150	0,060	0,0036	0,0048	0,0060	0,0070	410 (430—590)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)

f<sub>z</sub> = mm (inç/ağız)

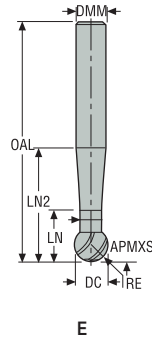
a<sub>p</sub> mm/DC (inç/DC) = faktör

a<sub>g</sub> = mm/DC (inç/DC) = faktör

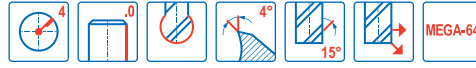
Tüm kesme verileri hedef değerlerdir

## JH160

Yüksek hız – Sertleştirilmiş çelik – Tamamı yuvarlak – 4 Ağızlı – Silindirik



E



- Toleranslar:
- DMM= h5
- DC= 0,02/-0,06 mm
- SA=250°

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	LN2	DN	RE	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
160030-MEGA-64	00040365	2	E	3,0	3,0	2,3	60,0	4,5	9,0	1,8	1,5	4	■
160040-MEGA-64	00040366	2	E	4,0	4,0	3,1	60,0	5,6	11,0	2,4	2,0	4	■
160050-MEGA-64	00040367	2	E	5,0	5,0	3,9	70,0	6,4	13,0	3,0	2,5	4	■
160060-MEGA-64	00040368	2	E	6,0	6,0	4,7	80,0	9,7	17,3	3,6	3,0	4	■
160080-MEGA-64	00040369	2	E	8,0	8,0	6,2	85,0	11,2	21,3	4,8	4,0	4	■
160100-MEGA-64	00040370	2	E	10,0	10,0	7,8	100,0	15,6	27,9	6,0	5,0	4	■
160120-MEGA-64	00040371	2	E	12,0	12,0	9,4	125,0	17,2	31,8	7,2	6,0	4	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve cırp materyaller için

Grafit malzeme için

Minimaster Plus

Minimaster

Kesme verileri – JH160 Finiş kopya frezeleme

SMG	M/E/A	a <sub>p</sub> /DC	a <sub>r</sub> /DC	f <sub>z</sub>								v <sub>c</sub>
				3	4	5	6	8	10	12		
P1	M/E/A	0.0200 0,0200	0.024 0,024	0.050 0,0020	0.070 0,0028	0.085 0,0034	0.10 0,0040	0.14 0,0055	0.17 0,0065	0.20 0,0080	550 (450–700) 1800 (1500 – 2200)	
P2	M/E/A	0.0200 0,0200	0.024 0,024	0.050 0,0020	0.070 0,0028	0.085 0,0034	0.10 0,0040	0.14 0,0055	0.17 0,0065	0.20 0,0080	530 (440 – 680) 1750 (1500 – 2200)	
P3	M/E/A	0.0200 0,0200	0.024 0,024	0.050 0,0020	0.070 0,0028	0.085 0,0034	0.10 0,0040	0.14 0,0055	0.17 0,0065	0.20 0,0080	460 (380 – 590) 1500 (1300–1900)	
P4	M/E/A	0.0200 0,0200	0.024 0,024	0.050 0,0020	0.070 0,0028	0.085 0,0034	0.10 0,0040	0.14 0,0055	0.17 0,0065	0.20 0,0080	405 (340 – 520) 1325 (1200–1700)	
P5	M/E/A	0.0200 0,0200	0.024 0,024	0.050 0,0020	0.070 0,0028	0.085 0,0034	0.10 0,0040	0.14 0,0055	0.17 0,0065	0.20 0,0080	385 (320 – 490) 1275 (1100–1600)	
P6	M/E/A	0.0200 0,0200	0.024 0,024	0.050 0,0020	0.070 0,0028	0.085 0,0034	0.10 0,0040	0.14 0,0055	0.17 0,0065	0.20 0,0080	430 (360 – 560) 1400 (1200–1800)	
P7	M/E/A	0.0200 0,0200	0.024 0,024	0.050 0,0020	0.070 0,0028	0.085 0,0034	0.10 0,0040	0.14 0,0055	0.17 0,0065	0.20 0,0080	410 (340 – 520) 1350 (1200–1700)	
P8	M/E/A	0.0200 0,0200	0.024 0,024	0.050 0,0020	0.070 0,0028	0.085 0,0034	0.10 0,0040	0.14 0,0055	0.17 0,0065	0.20 0,0080	385 (320 – 490) 1275 (1100–1600)	
P11	M/E/A	0.0200 0,0200	0.024 0,024	0.050 0,0020	0.070 0,0028	0.085 0,0034	0.10 0,0040	0.14 0,0055	0.17 0,0065	0.20 0,0080	395 (330 – 510) 1300 (1100–1600)	
P12	M/E/A	0.0200 0,0200	0.024 0,024	0.050 0,0020	0.070 0,0028	0.085 0,0034	0.10 0,0040	0.14 0,0055	0.17 0,0065	0.20 0,0080	235 (200 – 300) 770 (660 – 980)	
H3	M/E/A	0.0100 0,0100	0.0075 0,0075	0.040 0,0016	0.050 0,0020	0.065 0,0026	0.080 0,0032	0.10 0,0040	0.13 0,0050	0.16 0,0065	85 (91–110) 280 (300 – 360)	
H5	M/E/A	0.0100 0,0100	0.016 0,016	0.040 0,0016	0.050 0,0020	0.065 0,0026	0.080 0,0032	0.10 0,0040	0.13 0,0050	0.16 0,0065	340 (320 – 360) 1125 (1100–1100)	
H7	M/E/A	0.0100 0,0100	0.0075 0,0075	0.040 0,0016	0.050 0,0020	0.065 0,0026	0.080 0,0032	0.10 0,0040	0.13 0,0050	0.16 0,0065	85 (91–110) 280 (300 – 360)	
H8	M/E/A	0.0100 0,0100	0.016 0,016	0.040 0,0016	0.050 0,0020	0.065 0,0026	0.080 0,0032	0.10 0,0040	0.13 0,0050	0.16 0,0065	340 (320 – 360) 1125 (1100–1100)	
H11	M/E/A	0.0100 0,0100	0.016 0,016	0.040 0,0016	0.050 0,0020	0.065 0,0026	0.080 0,0032	0.10 0,0040	0.13 0,0050	0.16 0,0065	430 (400 – 460) 1400 (1400–1500)	
H12	M/E/A	0.0200 0,0200	0.024 0,024	0.050 0,0020	0.070 0,0028	0.085 0,0034	0.10 0,0040	0.14 0,0055	0.17 0,0065	0.20 0,0080	355 (340 – 380) 1175 (1200–1200)	
H21	M/E/A	0.0100 0,0100	0.016 0,016	0.040 0,0016	0.050 0,0020	0.065 0,0026	0.080 0,0032	0.10 0,0040	0.13 0,0050	0.16 0,0065	340 (320 – 360) 1125 (1100–1100)	
H31	M/E/A	0.0100 0,0100	0.016 0,016	0.040 0,0016	0.050 0,0020	0.065 0,0026	0.080 0,0032	0.10 0,0040	0.13 0,0050	0.16 0,0065	165 (180 – 210) 540 (600 – 680)	

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)

f<sub>z</sub> = mm (inç/ağız)

a<sub>p</sub> mm/DC (inç/DC) = faktör

a<sub>r</sub> = mm/DC (inç/DC) = faktör













































Tüm kesme verileri hedef değerlerdir



## PASLANMAZ ÇELİK VE S MALZEMELER İÇİN








































Seco, paslanmaz çelik ve ISO S iş parçası malzemelerinde yüksek üretkenlik için yüksek performanslı solid karbür dik kenarlı parmak frezeler, tamamı yuvarlak frezeler ve finiş parmak freze ürün çeşitlerini sunmaktadır.

- JS754, JS755, JS720, JHP750, JHP760, JHP770, JHP780, JHP794, JCG790, JH770, JH740, JH710, JH790, JH730, JHP994 ve JCO710, pah veya radyüs tipi için.
- JS730, JH780, JHB720, JH721 ve JH722, tamamı yuvarlak tip için.
- JH734, JH736, JH744, JH744, kovan tipi için.

		Paslanmaz çelik ve S malzemeler için							
Üniversal									
Çelik ve dökme demir									
İsim		JS754	JS755	JS720	JS730	JHP750	JHP760	JHP770	
Sayfa(lar)		210	227	238	252	256	259	263	
Ürün ailesi		JS <sup>2</sup>	JS <sup>2</sup>	JS <sup>2</sup>	JS <sup>2</sup>	HPM	HPM	HPM	
Freze tipi									
Sap		Silindirik	■	■	■	■	■	■	■
		Weldon	■	■	■	□	■	■	■
		SafeLock	□	□	□	□			□
Ağız sayısı		4	5	6-9	6	2-4	2,3,4	4-5	
ICC (İçten soğutma sıvısı kanalı)		■					■	■	
Metrik		3-25	6-25	6-25	6-25	2-20	4-25	6-25	
		İnç							
Mevcut boylar									
		2,3	2,3	2,3	2,3	1,2	2,3	2	
Operasyon									
									
									
									
SMG									
M1		●	●	●	●		●		
M2		●	●	●	●		●		
M3		●	●	●	●		●		
M4		●	●	●	●		●		
M5		●	●	●	●		●		
S1		●	●			●			
S2		●	●			●			
S3		●	●			●			
S11		●	●	●	●	●		●	
S12		●	●	●	●	●		●	
S13		●	●	●	●	●		●	

■ Stoklu standart ürün. □ Weldon sap mevcut, teslim süresi 3 iş günüdür. □ Safe-Lock mevcut, teslim süresi 6 iş günüdür  
● İlk tercih ○ Alternatif tercih



Paslanmaz çelik ve S malzemeler için								
								
İsim		JHP780	JHP794	JCG790	JH734	JH736	JH744	JH746
Sayfa(lar)		270	259	277	279	[XXX]	283	285
Ürün ailesi		HPM	HPM	Ceramic	HSM/TORNADO	HSM/TORNADO	HSM/TORNADO	HSM/TORNADO
Freze tipi								
Sap	Silindirik	■		■	■	■	■	■
	Weldon	■	■					
	Safelock	□						
Ağız sayısı		4	4	5-6	4	6	4	6
ICC (İçten soğutma sıvısı kanalı)		■	■				■	■
	Metrik	6-25	6-25	6-25	6-16	10-16	4-16	10-16
	İnç							
Mevcut boylar								
		2	2	2	2	2	2,4	2
Operasyon								
								
								
SMG								
M1			•		•	•	•	•
M2			•		•	•	•	•
M3			•		•	•	•	•
M4			•					
M5			•					
S1	•		•					
S2	•		•					
S3	•		•					
S11					•	•	•	•
S12					•	•	•	•
S13					•	•	•	•

■ Stoklu standart ürün. □ Weldon sap mevcut, teslim süresi 3 iş günüdür. □ Safe-Lock mevcut, teslim süresi 6 iş günüdür  
● İlk tercih ○ Alternatif tercih























Üniversal  
Çelik ve dökme demir  
Paslanmaz çelik ve S iş parçası malzemeleri  
Demir içermeyen malzemeler  
Sertleştirilmiş çelik için  
Plastik ve cırp malzemeler için  
Grafit malzeme için  
Minimaster Plus  
Minimaster

Üniversal  
Çelik ve dökme demir  
Paslanmaz çelik ve S iş parçası malzemeleri  
Demir içermeyen malzemeler  
Sertleştirilmiş çelik için  
Plastik ve cırp malzemeler için  
Grafit malzeme için  
Minimaster Plus  
Minimaster

Paslanmaz çelik ve S malzemeler için

İsim	JH770	JH740	JH710	JH790	JH730	JHP994	
Sayfa(lar)	287	289	291	293	295	297	
Ürün ailesi	HSM/TORNADO	HSM/TORNADO	HSM/TORNADO	HSM/TORNADO	HSM/TORNADO	HPM	
Freze tipi							
Sap	Silindirik	■	■	■	■	■	
	Weldon						
	Safelock						
Ağız sayısı	3,4,5,6	4-5	5	3	6-7	4	
ICC (içten soğutma sıvısı kanalı)	Metrik	3-10	6-10	6-8	9,5	8-10	6-10
	İnç						
Mevcut boylar							
		2	2	2	2-3	2	3
Operasyon							
SMG							
M1							
M2							
M3							
M4							
M5							
S1							
S2	•	•	•	•	•	•	
S3							
S11	•	•	•	•	•	•	
S12	•	•	•	•	•	•	
S13							

■ Stoklu standart ürün. □ Weldon sap mevcut, teslim süresi 3 iş günüdür. □ Safe-Lock mevcut, teslim süresi 6 iş günüdür  
● İlk tercih ○ Alternatif tercih

						
İsim		JH780	JHB720	JH721	JH722	JC0710
Sayfa(lar)		299	[XXX]	303	305	307
Ürün ailesi		HSM/TORNADO	HSM/TORNADO	HSM/TORNADO	HSM/TORNADO	HSS-Co
Freze tipi						
Sap	Silindirik	■	■	■	■	
	Weldon					■
	Safelock					
Ağız sayısı		4	3	6	6	4-6
ICC (İçten soğutma sıvısı kanalı)						
	Metrik	1,83-4,89	2-16	6-8	10	16-40
	İnç					
Mevcut boylar						
		2	2	2	2	2,4
Operasyon						
						
						
SMG						
M1			•			•
M2			•			•
M3			•			•
M4			•			•
M5			•			•
S1			○			
S2		•	○	•	•	
S3			○			
S11			•	•	•	•
S12		•	•	•	•	•
S13			•			•

■ Stoklu standart ürün. □ Weldon sap mevcut, teslim süresi 3 iş günüdür.  
• İlk tercih ○ Alternatif tercih

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

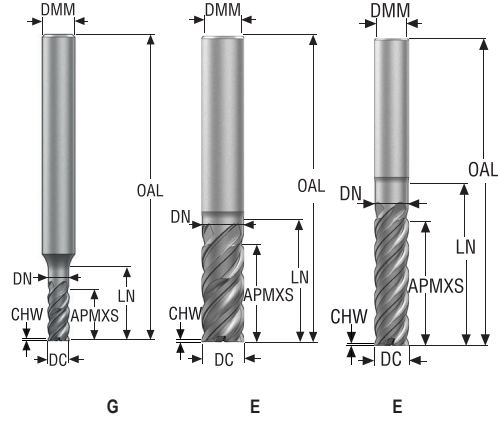
Grafit malzeme için

Minimaster Plus

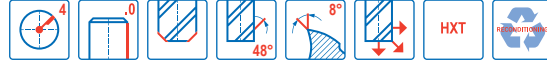
Minimaster

## JS754

Yüksek performans – Dik kenarlı – ISO– M ve ISO– S – 4 Ağızlı – Silindirik – Köşesi pahlı



- Toleranslar:
- DMM= h5
- DC= e7
- DC ≥ Ø6 ise tekrar bilenebilir

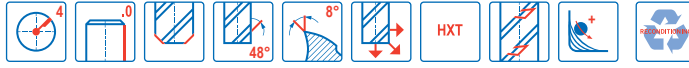
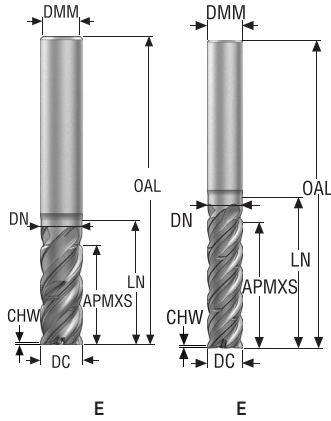


Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	CHW	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm	mm		
JS754030G2C.0Z4-HXT	03186807	2	G	3,0	6,0	6,0	57,0	10,0	2,85	0,035	4	■
JS754040G2C.0Z4-HXT	03186808	2	G	4,0	6,0	8,0	57,0	13,0	3,8	0,045	4	■
JS754050G2C.0Z4-HXT	03186809	2	G	5,0	6,0	10,0	57,0	16,0	4,75	0,055	4	■
JS754060E2C.0Z4-HXT	03186810	2	E	6,0	6,0	12,0	57,0	18,0	5,7	0,075	4	■
JS754060E3C.0Z4-HXT	03186823	3	E	6,0	6,0	21,0	65,0	26,0	5,7	0,075	4	■
JS754080E2C.0Z4-HXT	03186811	2	E	8,0	8,0	16,0	63,0	25,0	7,6	0,1	4	■
JS754080E3C.0Z4-HXT	03186824	3	E	8,0	8,0	32,0	75,0	37,0	7,6	0,1	4	■
JS754100E2C.0Z4-HXT	03186812	2	E	10,0	10,0	20,0	72,0	29,0	9,5	0,125	4	■
JS754100E3C.0Z4-HXT	03186825	3	E	10,0	10,0	40,0	89,0	47,0	9,5	0,125	4	■
JS754120E2C.0Z4-HXT	03186813	2	E	12,0	12,0	24,0	83,0	35,0	11,4	0,15	4	■
JS754120E3C.0Z4-HXT	03186826	3	E	12,0	12,0	45,0	100,0	53,0	11,4	0,15	4	■
JS754160E2C.0Z4-HXT	03186814	2	E	16,0	16,0	32,0	92,0	42,0	15,2	0,2	4	■
JS754160E3C.0Z4-HXT	03186827	3	E	16,0	16,0	55,0	115,0	65,0	15,2	0,2	4	■
JS754200E2C.0Z4-HXT	03186815	2	E	20,0	20,0	40,0	104,0	51,0	19,0	0,25	4	■
JS754200E3C.0Z4-HXT	03186828	3	E	20,0	20,0	61,0	125,0	72,0	19,0	0,25	4	■
JS754250E2C.0Z4-HXT	03186816	2	E	25,0	25,0	50,0	121,0	65,0	23,8	0,3	4	■
JS754250E3C.0Z4-HXT	03186829	3	E	25,0	25,0	85,0	153,0	94,0	23,8	0,3	4	■

■ Stoklu standart ürün.

## JS754

Yüksek performans – Dik kenarlı – ISO– M ve ISO– S – 4 Ağızlı – Silindirik – Köşesi pahlı – Talaş dağıtıcılı



- Toleranslar:
- DMM= h5
- DC= e7
- Talaş dağıtıcılı

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	talaş dağıtıcılı	DC	DMM	APMXS	OAL	LN	DN	CHW	PCEDC	Silindirik
					mm	mm	mm	mm	mm	mm	mm		
JS754100E2C.0Z4C-HXT	03186817	2	E	■	10,0	10,0	20,0	72,0	29,0	9,5	0,125	4	■
JS754120E2C.0Z4C-HXT	03186818	2	E	■	12,0	12,0	24,0	83,0	35,0	11,4	0,15	4	■
JS754060E3C.0Z4C-HXT	03200550	3	E	■	6,0	6,0	21,0	65,0	26,0	5,7	0,075	4	■
JS754080E3C.0Z4C-HXT	03200551	3	E	■	8,0	8,0	32,0	75,0	37,0	7,6	0,1	4	■
JS754100E3C.0Z4C-HXT	03186830	3	E	■	10,0	10,0	40,0	89,0	47,0	9,5	0,125	4	■
JS754120E3C.0Z4C-HXT	03186831	3	E	■	12,0	12,0	45,0	100,0	53,0	11,4	0,15	4	■
JS754160E3C.0Z4C-HXT	03186832	3	E	■	16,0	16,0	55,0	115,0	65,0	15,2	0,2	4	■
JS754200E3C.0Z4C-HXT	03186833	3	E	■	20,0	20,0	61,0	125,0	72,0	19,0	0,25	4	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

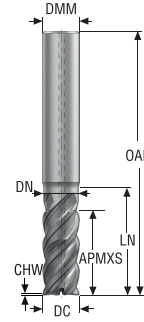
Grafit malzeme için

Minimaster Plus

Minimaster

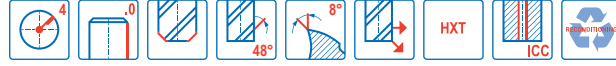
## JS754

Yüksek performans – Dik kenarlı – ISO– M ve ISO– S – 4 Ağızlı – Silindirik – Köşesi pahlı – ICC



E

- Toleranslar:
- DMM= h5
- DC= e7
- içten soğutma sıvısı kanalı

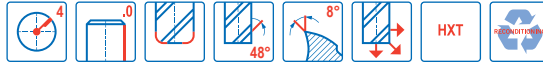
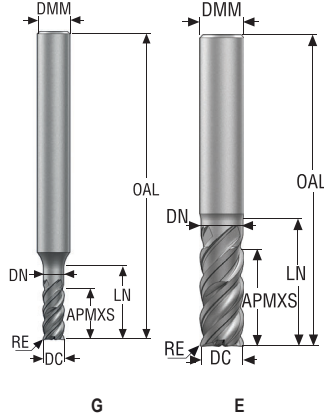


Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	ICC (içten soğutma sıvısı kanalı)	DC	DMM	APMXS	OAL	LN	DN	CHW	PCEDC	Silindirik
					mm	mm	mm	mm	mm	mm	mm		
JS754060E2C.0Z4A-HXT	03186834	2	E	■	6,0	6,0	12,0	57,0	18,0	5,7	0,075	4	■
JS754080E2C.0Z4A-HXT	03186835	2	E	■	8,0	8,0	16,0	63,0	25,0	7,6	0,1	4	■
JS754100E2C.0Z4A-HXT	03186836	2	E	■	10,0	10,0	20,0	72,0	29,0	9,5	0,125	4	■
JS754120E2C.0Z4A-HXT	03186837	2	E	■	12,0	12,0	24,0	83,0	35,0	11,4	0,15	4	■
JS754160E2C.0Z4A-HXT	03186838	2	E	■	16,0	16,0	32,0	92,0	42,0	15,2	0,2	4	■
JS754200E2C.0Z4A-HXT	03186839	2	E	■	20,0	20,0	40,0	104,0	51,0	19,0	0,25	4	■

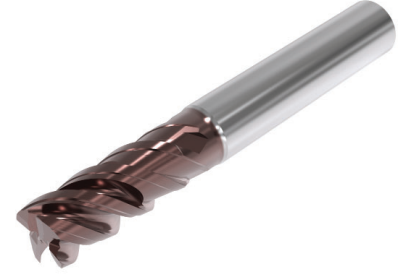
■ Stoklu standart ürün.

## JS754

Yüksek performans – Dik kenarlı – ISO– M ve ISO– S – 4 Ağızlı – Silindirik – Köşe radyüsü



- Toleranslar:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- DC ≥ Ø6 ise tekrar bilenebilir



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm	mm	mm	
JS754030G2R020.0Z4-HXT	03186840	2	G	3,0	6,0	6,0	57,0	10,0	2,85	0,2	4	■
JS754040G2R020.0Z4-HXT	03186841	2	G	4,0	6,0	8,0	57,0	13,0	3,8	0,2	4	■
JS754050G2R020.0Z4-HXT	03186842	2	G	5,0	6,0	10,0	57,0	16,0	4,75	0,2	4	■
JS754060E2R020.0Z4-HXT	03186843	2	E	6,0	6,0	12,0	57,0	18,0	5,7	0,2	4	■
JS754060E2R050.0Z4-HXT	03186844	2	E	6,0	6,0	12,0	57,0	18,0	5,7	0,5	4	■
JS754060E2R100.0Z4-HXT	03186845	2	E	6,0	6,0	12,0	57,0	18,0	5,7	1,0	4	■
JS754080E2R050.0Z4-HXT	03186846	2	E	8,0	8,0	16,0	63,0	25,0	7,6	0,5	4	■
JS754080E2R100.0Z4-HXT	03186847	2	E	8,0	8,0	16,0	63,0	25,0	7,6	1,0	4	■
JS754100E2R050.0Z4-HXT	03186848	2	E	10,0	10,0	20,0	72,0	29,0	9,5	0,5	4	■
JS754100E2R100.0Z4-HXT	03186849	2	E	10,0	10,0	20,0	72,0	29,0	9,5	1,0	4	■
JS754100E2R150.0Z4-HXT	03200552	2	E	10,0	10,0	20,0	72,0	29,0	9,5	1,5	4	■
JS754100E2R200.0Z4-HXT	03186850	2	E	10,0	10,0	20,0	72,0	29,0	9,5	2,0	4	■
JS754100E2R300.0Z4-HXT	03186851	2	E	10,0	10,0	20,0	72,0	29,0	9,5	3,0	4	■
JS754120E2R050.0Z4-HXT	03186852	2	E	12,0	12,0	24,0	83,0	35,0	11,4	0,5	4	■
JS754120E2R100.0Z4-HXT	03186853	2	E	12,0	12,0	24,0	83,0	35,0	11,4	1,0	4	■
JS754120E2R150.0Z4-HXT	03200553	2	E	12,0	12,0	24,0	83,0	35,0	11,4	1,5	4	■
JS754120E2R200.0Z4-HXT	03186854	2	E	12,0	12,0	24,0	83,0	35,0	11,4	2,0	4	■
JS754120E2R300.0Z4-HXT	03186855	2	E	12,0	12,0	24,0	83,0	35,0	11,4	3,0	4	■
JS754160E2R050.0Z4-HXT	03186856	2	E	16,0	16,0	32,0	92,0	42,0	15,2	0,5	4	■
JS754160E2R100.0Z4-HXT	03186857	2	E	16,0	16,0	32,0	92,0	42,0	15,2	1,0	4	■
JS754160E2R200.0Z4-HXT	03186858	2	E	16,0	16,0	32,0	92,0	42,0	15,2	2,0	4	■
JS754160E2R300.0Z4-HXT	03186859	2	E	16,0	16,0	32,0	92,0	42,0	15,2	3,0	4	■
JS754160E2R400.0Z4-HXT	03186860	2	E	16,0	16,0	32,0	92,0	42,0	15,2	4,0	4	■
JS754160E2R600.0Z4-HXT	03186861	2	E	16,0	16,0	32,0	92,0	42,0	15,2	6,0	4	■
JS754200E2R050.0Z4-HXT	03186862	2	E	20,0	20,0	40,0	104,0	51,0	19,0	0,5	4	■
JS754200E2R100.0Z4-HXT	03186863	2	E	20,0	20,0	40,0	104,0	51,0	19,0	1,0	4	■
JS754200E2R200.0Z4-HXT	03186864	2	E	20,0	20,0	40,0	104,0	51,0	19,0	2,0	4	■
JS754200E2R300.0Z4-HXT	03186865	2	E	20,0	20,0	40,0	104,0	51,0	19,0	3,0	4	■
JS754200E2R400.0Z4-HXT	03186866	2	E	20,0	20,0	40,0	104,0	51,0	19,0	4,0	4	■
JS754200E2R600.0Z4-HXT	03186867	2	E	20,0	20,0	40,0	104,0	51,0	19,0	6,0	4	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve diğer malzemeler için

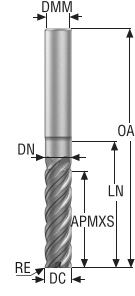
Grafit malzeme için

Minimaster Plus

Minimaster

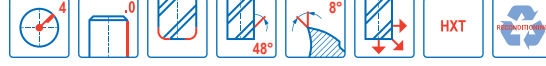
## JS754

Yüksek performans –Dik kenarlı– ISO– M ve ISO– S – 4 Ağızlı – Silindirik – Köşe radyüsü



E

- Toleranslar:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Tekrar bilenebilir



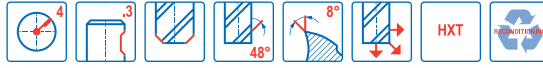
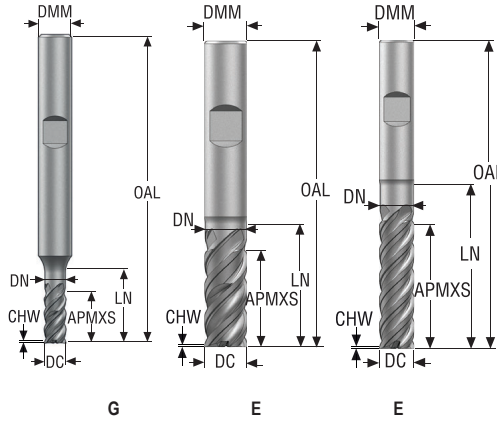
Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm	mm		
JS754060E3R020.0Z4-HXT	03186873	3	E	6,0	6,0	21,0	65,0	26,0	5,7	0,2	4	■
JS754060E3R050.0Z4-HXT	03186874	3	E	6,0	6,0	21,0	65,0	26,0	5,7	0,5	4	■
JS754060E3R100.0Z4-HXT	03186875	3	E	6,0	6,0	21,0	65,0	26,0	5,7	1,0	4	■
JS754080E3R050.0Z4-HXT	03186876	3	E	8,0	8,0	32,0	75,0	37,0	7,6	0,5	4	■
JS754080E3R100.0Z4-HXT	03186877	3	E	8,0	8,0	32,0	75,0	37,0	7,6	1,0	4	■
JS754100E3R050.0Z4-HXT	03186878	3	E	10,0	10,0	40,0	89,0	47,0	9,5	0,5	4	■
JS754100E3R100.0Z4-HXT	03186879	3	E	10,0	10,0	40,0	89,0	47,0	9,5	1,0	4	■
JS754100E3R200.0Z4-HXT	03186880	3	E	10,0	10,0	40,0	89,0	47,0	9,5	2,0	4	■
JS754100E3R300.0Z4-HXT	03186881	3	E	10,0	10,0	40,0	89,0	47,0	9,5	3,0	4	■
JS754120E3R050.0Z4-HXT	03186882	3	E	12,0	12,0	45,0	100,0	53,0	11,4	0,5	4	■
JS754120E3R100.0Z4-HXT	03186883	3	E	12,0	12,0	45,0	100,0	53,0	11,4	1,0	4	■
JS754120E3R200.0Z4-HXT	03186884	3	E	12,0	12,0	45,0	100,0	53,0	11,4	2,0	4	■
JS754120E3R300.0Z4-HXT	03186885	3	E	12,0	12,0	45,0	100,0	53,0	11,4	3,0	4	■
JS754160E3R050.0Z4-HXT	03186886	3	E	16,0	16,0	55,0	115,0	65,0	15,2	0,5	4	■
JS754160E3R100.0Z4-HXT	03186887	3	E	16,0	16,0	55,0	115,0	65,0	15,2	1,0	4	■
JS754160E3R200.0Z4-HXT	03186888	3	E	16,0	16,0	55,0	115,0	65,0	15,2	2,0	4	■
JS754160E3R300.0Z4-HXT	03186889	3	E	16,0	16,0	55,0	115,0	65,0	15,2	3,0	4	■
JS754160E3R400.0Z4-HXT	03186890	3	E	16,0	16,0	55,0	115,0	65,0	15,2	4,0	4	■
JS754160E3R600.0Z4-HXT	03186891	3	E	16,0	16,0	55,0	115,0	65,0	15,2	6,0	4	■
JS754200E3R050.0Z4-HXT	03186892	3	E	20,0	20,0	61,0	125,0	72,0	19,0	0,5	4	■
JS754200E3R100.0Z4-HXT	03186893	3	E	20,0	20,0	61,0	125,0	72,0	19,0	1,0	4	■
JS754200E3R200.0Z4-HXT	03186894	3	E	20,0	20,0	61,0	125,0	72,0	19,0	2,0	4	■
JS754200E3R300.0Z4-HXT	03186895	3	E	20,0	20,0	61,0	125,0	72,0	19,0	3,0	4	■
JS754200E3R400.0Z4-HXT	03186896	3	E	20,0	20,0	61,0	125,0	72,0	19,0	4,0	4	■
JS754200E3R600.0Z4-HXT	03186897	3	E	20,0	20,0	61,0	125,0	72,0	19,0	6,0	4	■

■ Stoklu standart ürün.



## JS754

Yüksek performans – Dik kenarlı – ISO– M ve ISO– S – 4 Ağızlı – Weldon – Köşesi pahlı



- Toleranslar:
- DMM= h5
- DC= e7
- DC ≥ Ø6 ise tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	CHW	PCEDC	Weldon
				mm	mm	mm	mm	mm	mm	mm		
JS754030G2C.3Z4-HXT	03186975	2	G	3,0	6,0	6,0	57,0	10,0	2,85	0,035	4	<input type="checkbox"/>
JS754040G2C.3Z4-HXT	03186976	2	G	4,0	6,0	8,0	57,0	13,0	3,8	0,045	4	<input type="checkbox"/>
JS754050G2C.3Z4-HXT	03186977	2	G	5,0	6,0	10,0	57,0	16,0	4,75	0,055	4	<input type="checkbox"/>
JS754060E2C.3Z4-HXT	03186978	2	E	6,0	6,0	12,0	57,0	18,0	5,7	0,075	4	<input checked="" type="checkbox"/>
JS754080E2C.3Z4-HXT	03186979	2	E	8,0	8,0	16,0	63,0	25,0	7,6	0,1	4	<input checked="" type="checkbox"/>
JS754100E2C.3Z4-HXT	03186980	2	E	10,0	10,0	20,0	72,0	29,0	9,5	0,125	4	<input checked="" type="checkbox"/>
JS754120E2C.3Z4-HXT	03186981	2	E	12,0	12,0	24,0	83,0	35,0	11,4	0,15	4	<input checked="" type="checkbox"/>
JS754160E2C.3Z4-HXT	03186982	2	E	16,0	16,0	32,0	92,0	42,0	15,2	0,2	4	<input checked="" type="checkbox"/>
JS754200E2C.3Z4-HXT	03186983	2	E	20,0	20,0	40,0	104,0	51,0	19,0	0,25	4	<input checked="" type="checkbox"/>
JS754250E2C.3Z4-HXT	03186984	2	E	25,0	25,0	50,0	121,0	65,0	23,8	0,3	4	<input checked="" type="checkbox"/>
JS754060E3C.3Z4-HXT	03186990	3	E	6,0	6,0	21,0	65,0	26,0	5,7	0,075	4	<input checked="" type="checkbox"/>
JS754080E3C.3Z4-HXT	03186991	3	E	8,0	8,0	32,0	75,0	37,0	7,6	0,1	4	<input checked="" type="checkbox"/>
JS754100E3C.3Z4-HXT	03186992	3	E	10,0	10,0	40,0	89,0	47,0	9,5	0,125	4	<input checked="" type="checkbox"/>
JS754120E3C.3Z4-HXT	03186993	3	E	12,0	12,0	45,0	100,0	53,0	11,4	0,15	4	<input checked="" type="checkbox"/>
JS754160E3C.3Z4-HXT	03186994	3	E	16,0	16,0	55,0	115,0	65,0	15,2	0,2	4	<input checked="" type="checkbox"/>
JS754200E3C.3Z4-HXT	03186995	3	E	20,0	20,0	61,0	125,0	72,0	19,0	0,25	4	<input checked="" type="checkbox"/>
JS754250E3C.3Z4-HXT	03186996	3	E	25,0	25,0	85,0	153,0	94,0	23,8	0,3	4	<input checked="" type="checkbox"/>

■ Stoklu standart ürün. □ Weldon mevcut. Teslimat süresi 3 iş günüdür.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

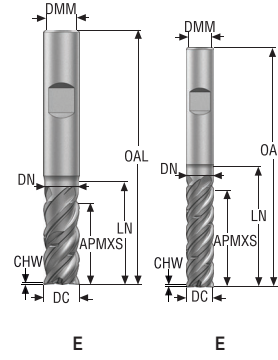
Grafit malzeme için

Minimaster Plus

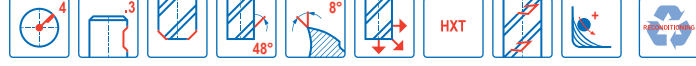
Minimaster

## JS754

Yüksek performans – Dik kenarlı – ISO– M ve ISO– S – 4 Ağızlı – Weldon – Köşesi pahlı – Talaş dağıtıcılı



- Toleranslar:
- DMM= h5
- DC= e7
- Talaş dağıtıcılı



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	talaş dağıtıcılı	DC	DMM	APMXS	OAL	LN	DN	CHW	PCEDC	Weldon
					mm	mm	mm	mm	mm	mm	mm		
JS754100E2C.3Z4C-HXT	03186985	2	E	■	10,0	10,0	20,0	72,0	29,0	9,5	0,125	4	■
JS754120E2C.3Z4C-HXT	03186986	2	E	■	12,0	12,0	24,0	83,0	35,0	11,4	0,15	4	■
JS754060E3C.3Z4C-HXT	03200562	3	E	■	6,0	6,0	21,0	65,0	26,0	5,7	0,075	4	■
JS754080E3C.3Z4C-HXT	03200563	3	E	■	8,0	8,0	32,0	75,0	37,0	7,6	0,1	4	■
JS754100E3C.3Z4C-HXT	03186997	3	E	■	10,0	10,0	40,0	89,0	47,0	9,5	0,125	4	■
JS754120E3C.3Z4C-HXT	03186998	3	E	■	12,0	12,0	45,0	100,0	53,0	11,4	0,15	4	■
JS754160E3C.3Z4C-HXT	03186999	3	E	■	16,0	16,0	55,0	115,0	65,0	15,2	0,2	4	■
JS754200E3C.3Z4C-HXT	03187000	3	E	■	20,0	20,0	61,0	125,0	72,0	19,0	0,25	4	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve çirp malzemeler için

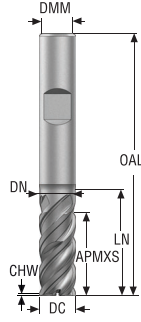
Grafit malzeme için

Minimaster Plus

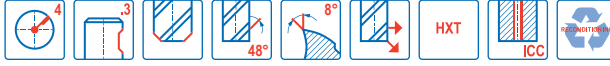
Minimaster

## JS754

Yüksek performans – Dik kenarlı – ISO– M ve ISO– S – 4 Ağızlı – Weldon – Köşesi pahlı – ICC



E



- Toleranslar:
- DMM= h5
- DC= e7
- içten soğutma sıvısı kanalı

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	ICC (içten soğutma sıvısı kanalı)	DC	DMM	APMXS	OAL	LN	DN	CHW	PCEDC	Weldon
					mm	mm	mm	mm	mm	mm	mm		
JS754060E2C.3Z4A-HXT	03187001	2	E	■	6,0	6,0	12,0	57,0	18,0	5,7	0,075	4	■
JS754080E2C.3Z4A-HXT	03187002	2	E	■	8,0	8,0	16,0	63,0	25,0	7,6	0,1	4	■
JS754100E2C.3Z4A-HXT	03187003	2	E	■	10,0	10,0	20,0	72,0	29,0	9,5	0,125	4	■
JS754120E2C.3Z4A-HXT	03187004	2	E	■	12,0	12,0	24,0	83,0	35,0	11,4	0,15	4	■
JS754160E2C.3Z4A-HXT	03187005	2	E	■	16,0	16,0	32,0	92,0	42,0	15,2	0,2	4	■
JS754200E2C.3Z4A-HXT	03187006	2	E	■	20,0	20,0	40,0	104,0	51,0	19,0	0,25	4	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

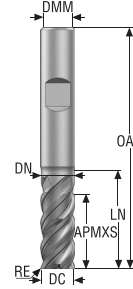
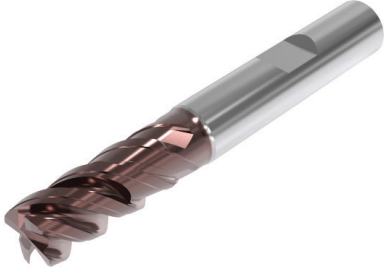
Grafit malzeme için

Minimaster Plus

Minimaster

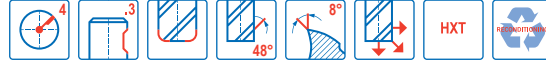
## JS754

Yüksek performans – Dik kenarlı – ISO- M ve ISO- S – 4 Ağızlı – Weldon – Köşe radyüsü



E

- Toleranslar:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- DC ≥ Ø6 ise tekrar bilenebilir

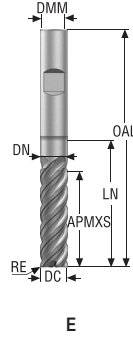


Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Weldon
				mm	mm	mm	mm	mm	mm	mm		
JS754030G2R020.3Z4-HXT	03187007	2	G	3,0	6,0	6,0	57,0	10,0	2,85	0,2	4	□
JS754040G2R020.3Z4-HXT	03187008	2	G	4,0	6,0	8,0	57,0	13,0	3,8	0,2	4	□
JS754050G2R020.3Z4-HXT	03187009	2	G	5,0	6,0	10,0	57,0	16,0	4,75	0,2	4	□
JS754060E2R020.3Z4-HXT	03187010	2	E	6,0	6,0	12,0	57,0	18,0	5,7	0,2	4	■
JS754060E2R050.3Z4-HXT	03187011	2	E	6,0	6,0	12,0	57,0	18,0	5,7	0,5	4	■
JS754060E2R100.3Z4-HXT	03187012	2	E	6,0	6,0	12,0	57,0	18,0	5,7	1,0	4	■
JS754080E2R050.3Z4-HXT	03187013	2	E	8,0	8,0	16,0	63,0	25,0	7,6	0,5	4	■
JS754080E2R100.3Z4-HXT	03187014	2	E	8,0	8,0	16,0	63,0	25,0	7,6	1,0	4	■
JS754100E2R050.3Z4-HXT	03187015	2	E	10,0	10,0	20,0	72,0	29,0	9,5	0,5	4	■
JS754100E2R100.3Z4-HXT	03187016	2	E	10,0	10,0	20,0	72,0	29,0	9,5	1,0	4	■
JS754100E2R150.3Z4-HXT	03200564	2	E	10,0	10,0	20,0	72,0	29,0	9,5	1,5	4	■
JS754100E2R200.3Z4-HXT	03187017	2	E	10,0	10,0	20,0	72,0	29,0	9,5	2,0	4	■
JS754100E2R300.3Z4-HXT	03187018	2	E	10,0	10,0	20,0	72,0	29,0	9,5	3,0	4	■
JS754120E2R050.3Z4-HXT	03187019	2	E	12,0	12,0	24,0	83,0	35,0	11,4	0,5	4	■
JS754120E2R100.3Z4-HXT	03187020	2	E	12,0	12,0	24,0	83,0	35,0	11,4	1,0	4	■
JS754120E2R150.3Z4-HXT	03200565	2	E	12,0	12,0	24,0	83,0	35,0	11,4	1,5	4	■
JS754120E2R200.3Z4-HXT	03187021	2	E	12,0	12,0	24,0	83,0	35,0	11,4	2,0	4	■
JS754120E2R300.3Z4-HXT	03187022	2	E	12,0	12,0	24,0	83,0	35,0	11,4	3,0	4	■
JS754160E2R050.3Z4-HXT	03187023	2	E	16,0	16,0	32,0	92,0	42,0	15,2	0,5	4	■
JS754160E2R100.3Z4-HXT	03187024	2	E	16,0	16,0	32,0	92,0	42,0	15,2	1,0	4	■
JS754160E2R200.3Z4-HXT	03187025	2	E	16,0	16,0	32,0	92,0	42,0	15,2	2,0	4	■
JS754160E2R300.3Z4-HXT	03187026	2	E	16,0	16,0	32,0	92,0	42,0	15,2	3,0	4	■
JS754160E2R400.3Z4-HXT	03187027	2	E	16,0	16,0	32,0	92,0	42,0	15,2	4,0	4	■
JS754160E2R600.3Z4-HXT	03187028	2	E	16,0	16,0	32,0	92,0	42,0	15,2	6,0	4	■
JS754200E2R050.3Z4-HXT	03187029	2	E	20,0	20,0	40,0	104,0	51,0	19,0	0,5	4	■
JS754200E2R100.3Z4-HXT	03187030	2	E	20,0	20,0	40,0	104,0	51,0	19,0	1,0	4	■
JS754200E2R200.3Z4-HXT	03187031	2	E	20,0	20,0	40,0	104,0	51,0	19,0	2,0	4	■
JS754200E2R300.3Z4-HXT	03187032	2	E	20,0	20,0	40,0	104,0	51,0	19,0	3,0	4	■
JS754200E2R400.3Z4-HXT	03187033	2	E	20,0	20,0	40,0	104,0	51,0	19,0	4,0	4	■
JS754200E2R600.3Z4-HXT	03187034	2	E	20,0	20,0	40,0	104,0	51,0	19,0	6,0	4	■

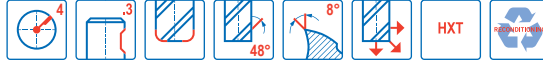
■ Stoklu standart ürün. □ Weldon mevcut. Teslimat süresi 3 iş günüdür.

## JS754

Yüksek performans – Dik kenarlı – ISO– M ve ISO– S – 4 Ağızlı – Weldon – Köşe radyüsü



E



- Toleranslar:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Weldon
				mm	mm	mm	mm	mm	mm	mm		
JS754060E3R020.3Z4-HXT	03187040	3	E	6,0	6,0	21,0	65,0	26,0	5,7	0,2	4	<input type="checkbox"/>
JS754060E3R050.3Z4-HXT	03187041	3	E	6,0	6,0	21,0	65,0	26,0	5,7	0,5	4	<input type="checkbox"/>
JS754060E3R100.3Z4-HXT	03187042	3	E	6,0	6,0	21,0	65,0	26,0	5,7	1,0	4	<input type="checkbox"/>
JS754080E3R050.3Z4-HXT	03187043	3	E	8,0	8,0	32,0	75,0	37,0	7,6	0,5	4	<input type="checkbox"/>
JS754080E3R100.3Z4-HXT	03187044	3	E	8,0	8,0	32,0	75,0	37,0	7,6	1,0	4	<input type="checkbox"/>
JS754100E3R050.3Z4-HXT	03187045	3	E	10,0	10,0	40,0	89,0	47,0	9,5	0,5	4	<input type="checkbox"/>
JS754100E3R100.3Z4-HXT	03187046	3	E	10,0	10,0	40,0	89,0	47,0	9,5	1,0	4	<input type="checkbox"/>
JS754100E3R200.3Z4-HXT	03187047	3	E	10,0	10,0	40,0	89,0	47,0	9,5	2,0	4	<input type="checkbox"/>
JS754100E3R300.3Z4-HXT	03187049	3	E	10,0	10,0	40,0	89,0	47,0	9,5	3,0	4	<input type="checkbox"/>
JS754120E3R050.3Z4-HXT	03187050	3	E	12,0	12,0	45,0	100,0	53,0	11,4	0,5	4	<input type="checkbox"/>
JS754120E3R100.3Z4-HXT	03187051	3	E	12,0	12,0	45,0	100,0	53,0	11,4	1,0	4	<input type="checkbox"/>
JS754120E3R200.3Z4-HXT	03187052	3	E	12,0	12,0	45,0	100,0	53,0	11,4	2,0	4	<input type="checkbox"/>
JS754120E3R300.3Z4-HXT	03187053	3	E	12,0	12,0	45,0	100,0	53,0	11,4	3,0	4	<input type="checkbox"/>
JS754160E3R050.3Z4-HXT	03187054	3	E	16,0	16,0	55,0	115,0	65,0	15,2	0,5	4	<input type="checkbox"/>
JS754160E3R100.3Z4-HXT	03187055	3	E	16,0	16,0	55,0	115,0	65,0	15,2	1,0	4	<input type="checkbox"/>
JS754160E3R200.3Z4-HXT	03187056	3	E	16,0	16,0	55,0	115,0	65,0	15,2	2,0	4	<input type="checkbox"/>
JS754160E3R300.3Z4-HXT	03187057	3	E	16,0	16,0	55,0	115,0	65,0	15,2	3,0	4	<input type="checkbox"/>
JS754160E3R400.3Z4-HXT	03187058	3	E	16,0	16,0	55,0	115,0	65,0	15,2	4,0	4	<input type="checkbox"/>
JS754160E3R600.3Z4-HXT	03187059	3	E	16,0	16,0	55,0	115,0	65,0	15,2	6,0	4	<input type="checkbox"/>
JS754200E3R050.3Z4-HXT	03187060	3	E	20,0	20,0	61,0	125,0	72,0	19,0	0,5	4	<input type="checkbox"/>
JS754200E3R100.3Z4-HXT	03187061	3	E	20,0	20,0	61,0	125,0	72,0	19,0	1,0	4	<input type="checkbox"/>
JS754200E3R200.3Z4-HXT	03187062	3	E	20,0	20,0	61,0	125,0	72,0	19,0	2,0	4	<input type="checkbox"/>
JS754200E3R300.3Z4-HXT	03187063	3	E	20,0	20,0	61,0	125,0	72,0	19,0	3,0	4	<input type="checkbox"/>
JS754200E3R400.3Z4-HXT	03187064	3	E	20,0	20,0	61,0	125,0	72,0	19,0	4,0	4	<input type="checkbox"/>
JS754200E3R600.3Z4-HXT	03187065	3	E	20,0	20,0	61,0	125,0	72,0	19,0	6,0	4	<input type="checkbox"/>

Weldon mevcut. Teslimat süresi 3 iş günüdür.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

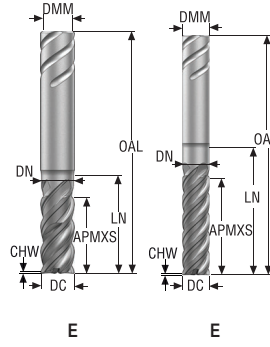
Grafit malzeme için

Minimaster Plus

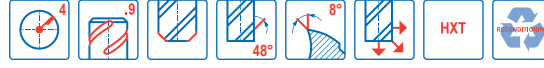
Minimaster

## JS754

Yüksek performans – Dik kenarlı – ISO– M ve ISO– S – 4 Ağızlı – Safelock – Köşesi pahlı



- Toleranslar:
- DMM= h5
- DC= e7
- Tekrar bilenebilir

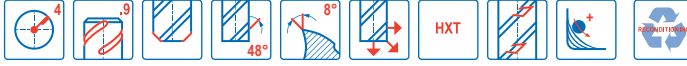
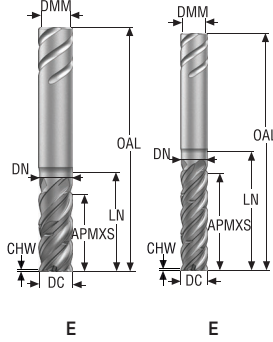


Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	CHW	PCEDC	Safelock
				mm	mm	mm	mm	mm	mm	mm		
JS754060E2C.9Z4-HXT	03187144	2	E	6,0	6,0	12,0	57,0	18,0	5,7	0,075	4	<input type="checkbox"/>
JS754080E2C.9Z4-HXT	03187145	2	E	8,0	8,0	16,0	63,0	25,0	7,6	0,1	4	<input type="checkbox"/>
JS754100E2C.9Z4-HXT	03187146	2	E	10,0	10,0	20,0	72,0	29,0	9,5	0,125	4	<input type="checkbox"/>
JS754120E2C.9Z4-HXT	03187147	2	E	12,0	12,0	24,0	83,0	35,0	11,4	0,15	4	<input type="checkbox"/>
JS754160E2C.9Z4-HXT	03187148	2	E	16,0	16,0	32,0	92,0	42,0	15,2	0,2	4	<input type="checkbox"/>
JS754200E2C.9Z4-HXT	03187149	2	E	20,0	20,0	40,0	104,0	51,0	19,0	0,25	4	<input type="checkbox"/>
JS754250E2C.9Z4-HXT	03187150	2	E	25,0	25,0	50,0	121,0	65,0	23,8	0,3	4	<input type="checkbox"/>
JS754060E3C.9Z4-HXT	03187153	3	E	6,0	6,0	21,0	65,0	26,0	5,7	0,075	4	<input type="checkbox"/>
JS754080E3C.9Z4-HXT	03187154	3	E	8,0	8,0	32,0	75,0	37,0	7,6	0,1	4	<input type="checkbox"/>
JS754100E3C.9Z4-HXT	03187155	3	E	10,0	10,0	40,0	89,0	47,0	9,5	0,125	4	<input type="checkbox"/>
JS754120E3C.9Z4-HXT	03187156	3	E	12,0	12,0	45,0	100,0	53,0	11,4	0,15	4	<input type="checkbox"/>
JS754160E3C.9Z4-HXT	03187157	3	E	16,0	16,0	55,0	115,0	65,0	15,2	0,2	4	<input type="checkbox"/>
JS754200E3C.9Z4-HXT	03187158	3	E	20,0	20,0	61,0	125,0	72,0	19,0	0,25	4	<input type="checkbox"/>
JS754250E3C.9Z4-HXT	03187159	3	E	25,0	25,0	85,0	153,0	94,0	23,8	0,3	4	<input type="checkbox"/>

Safelock mevcut. Teslimat süresi 6 iş günüdür.

## JS754

Yüksek performans – Dik kenarlı – ISO– M ve ISO– S – 4 Ağzılı – Safelock – Köşesi pahlı – Talaş dağıtıcılı



- Toleranslar:
- DMM= h5
- DC= e7
- Talaş dağıtıcılı

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	talaş dağıtıcılı	DC	DMM	APMXS	OAL	LN	DN	CHW	PCEDC	Safelock
					mm	mm	mm	mm	mm	mm	mm		
JS754100E2C.9Z4C-HXT	03187151	2	E	■	10,0	10,0	20,0	72,0	29,0	9,5	0,125	4	<input type="checkbox"/>
JS754120E2C.9Z4C-HXT	03187152	2	E	■	12,0	12,0	24,0	83,0	35,0	11,4	0,15	4	<input type="checkbox"/>
JS754060E3C.9Z4C-HXT	03200571	3	E	■	6,0	6,0	21,0	65,0	26,0	5,7	0,075	4	<input type="checkbox"/>
JS754080E3C.9Z4C-HXT	03200572	3	E	■	8,0	8,0	32,0	75,0	37,0	7,6	0,1	4	<input type="checkbox"/>
JS754100E3C.9Z4C-HXT	03187160	3	E	■	10,0	10,0	40,0	89,0	47,0	9,5	0,125	4	<input type="checkbox"/>
JS754120E3C.9Z4C-HXT	03187161	3	E	■	12,0	12,0	45,0	100,0	53,0	11,4	0,15	4	<input type="checkbox"/>
JS754160E3C.9Z4C-HXT	03187162	3	E	■	16,0	16,0	55,0	115,0	65,0	15,2	0,2	4	<input type="checkbox"/>
JS754200E3C.9Z4C-HXT	03187163	3	E	■	20,0	20,0	61,0	125,0	72,0	19,0	0,25	4	<input type="checkbox"/>

Safelock mevcut. Teslimat süresi 6 iş günüdür.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçaları malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

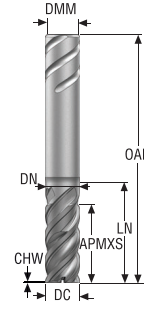
Grafit malzeme için

Minimaster Plus

Minimaster

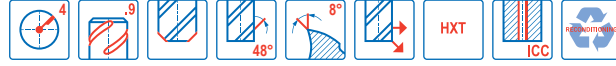
## JS754

Yüksek performans – Dik kenarlı – ISO– M ve ISO– S – 4 Ağızlı – Safelock – Köşesi pahlı – ICC



E

- Toleranslar:
- DMM= h5
- DC= e7
- içten soğutma sıvısı kanalı



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	ICC (içten soğutma sıvısı kanalı)	DC	DMM	APMXS	OAL	LN	DN	CHW	PCEDC	Safelock
					mm	mm	mm	mm	mm	mm	mm		
JS754060E2C.9Z4A-HXT	03187164	2	E	■	6,0	6,0	12,0	57,0	18,0	5,7	0,075	4	<input type="checkbox"/>
JS754080E2C.9Z4A-HXT	03187165	2	E	■	8,0	8,0	16,0	63,0	25,0	7,6	0,1	4	<input type="checkbox"/>
JS754100E2C.9Z4A-HXT	03187166	2	E	■	10,0	10,0	20,0	72,0	29,0	9,5	0,125	4	<input type="checkbox"/>
JS754120E2C.9Z4A-HXT	03187167	2	E	■	12,0	12,0	24,0	83,0	35,0	11,4	0,15	4	<input type="checkbox"/>
JS754160E2C.9Z4A-HXT	03187168	2	E	■	16,0	16,0	32,0	92,0	42,0	15,2	0,2	4	<input type="checkbox"/>
JS754200E2C.9Z4A-HXT	03187169	2	E	■	20,0	20,0	40,0	104,0	51,0	19,0	0,25	4	<input type="checkbox"/>

Safelock mevcut. Teslimat süresi 6 iş günüdür.  
ICC = İçten soğutma sıvısı kanalları

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve diğer malzemeler için

Grafit malzeme için

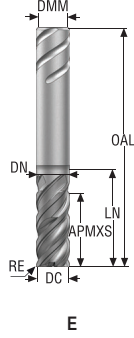
Minimaster Plus

Minimaster

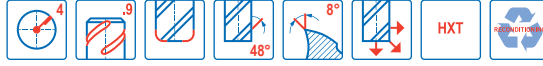


## JS754

Yüksek performans – Dik kenarlı – ISO- M ve ISO- S – 4 Ağızlı – Safelock – Köşe radyüsü



E



- Toleranslar:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Safelock
				mm	mm	mm	mm	mm	mm	mm		
JS754060E2R020.9Z4-HXT	03187170	2	E	6,0	6,0	12,0	57,0	18,0	5,7	0,2	4	<input type="checkbox"/>
JS754060E2R050.9Z4-HXT	03187171	2	E	6,0	6,0	12,0	57,0	18,0	5,7	0,5	4	<input type="checkbox"/>
JS754060E2R100.9Z4-HXT	03187172	2	E	6,0	6,0	12,0	57,0	18,0	5,7	1,0	4	<input type="checkbox"/>
JS754080E2R050.9Z4-HXT	03187173	2	E	8,0	8,0	16,0	63,0	25,0	7,6	0,5	4	<input type="checkbox"/>
JS754080E2R100.9Z4-HXT	03187174	2	E	8,0	8,0	16,0	63,0	25,0	7,6	1,0	4	<input type="checkbox"/>
JS754100E2R050.9Z4-HXT	03187175	2	E	10,0	10,0	20,0	72,0	29,0	9,5	0,5	4	<input type="checkbox"/>
JS754100E2R100.9Z4-HXT	03187176	2	E	10,0	10,0	20,0	72,0	29,0	9,5	1,0	4	<input type="checkbox"/>
JS754100E2R150.9Z4-HXT	03200573	2	E	10,0	10,0	20,0	72,0	29,0	9,5	1,5	4	<input type="checkbox"/>
JS754100E2R200.9Z4-HXT	03187177	2	E	10,0	10,0	20,0	72,0	29,0	9,5	2,0	4	<input type="checkbox"/>
JS754100E2R300.9Z4-HXT	03187178	2	E	10,0	10,0	20,0	72,0	29,0	9,5	3,0	4	<input type="checkbox"/>
JS754120E2R050.9Z4-HXT	03187179	2	E	12,0	12,0	24,0	83,0	35,0	11,4	0,5	4	<input type="checkbox"/>
JS754120E2R100.9Z4-HXT	03187180	2	E	12,0	12,0	24,0	83,0	35,0	11,4	1,0	4	<input type="checkbox"/>
JS754120E2R150.9Z4-HXT	03200832	2	E	12,0	12,0	24,0	83,0	35,0	11,4	1,5	4	<input type="checkbox"/>
JS754120E2R200.9Z4-HXT	03187181	2	E	12,0	12,0	24,0	83,0	35,0	11,4	2,0	4	<input type="checkbox"/>
JS754120E2R300.9Z4-HXT	03187182	2	E	12,0	12,0	24,0	83,0	35,0	11,4	3,0	4	<input type="checkbox"/>
JS754160E2R050.9Z4-HXT	03187183	2	E	16,0	16,0	32,0	92,0	42,0	15,2	0,5	4	<input type="checkbox"/>
JS754160E2R100.9Z4-HXT	03187184	2	E	16,0	16,0	32,0	92,0	42,0	15,2	1,0	4	<input type="checkbox"/>
JS754160E2R200.9Z4-HXT	03187185	2	E	16,0	16,0	32,0	92,0	42,0	15,2	2,0	4	<input type="checkbox"/>
JS754160E2R300.9Z4-HXT	03187186	2	E	16,0	16,0	32,0	92,0	42,0	15,2	3,0	4	<input type="checkbox"/>
JS754160E2R400.9Z4-HXT	03187187	2	E	16,0	16,0	32,0	92,0	42,0	15,2	4,0	4	<input type="checkbox"/>
JS754160E2R600.9Z4-HXT	03187188	2	E	16,0	16,0	32,0	92,0	42,0	15,2	6,0	4	<input type="checkbox"/>
JS754200E2R050.9Z4-HXT	03187189	2	E	20,0	20,0	40,0	104,0	51,0	19,0	0,5	4	<input type="checkbox"/>
JS754200E2R100.9Z4-HXT	03187190	2	E	20,0	20,0	40,0	104,0	51,0	19,0	1,0	4	<input type="checkbox"/>
JS754200E2R200.9Z4-HXT	03187191	2	E	20,0	20,0	40,0	104,0	51,0	19,0	2,0	4	<input type="checkbox"/>
JS754200E2R300.9Z4-HXT	03187192	2	E	20,0	20,0	40,0	104,0	51,0	19,0	3,0	4	<input type="checkbox"/>
JS754200E2R400.9Z4-HXT	03187193	2	E	20,0	20,0	40,0	104,0	51,0	19,0	4,0	4	<input type="checkbox"/>
JS754200E2R600.9Z4-HXT	03187194	2	E	20,0	20,0	40,0	104,0	51,0	19,0	6,0	4	<input type="checkbox"/>

Safelock mevcut. Teslimat süresi 6 iş günüdür.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

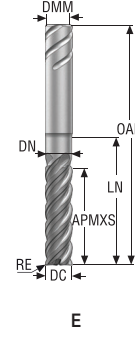
Grafit malzeme için

Minimaster Plus

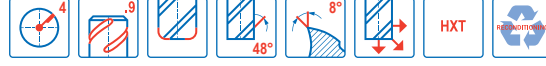
Minimaster

## JS754

Yüksek performans – Dik kenarlı – ISO- M ve ISO- S – 4 Ağızlı – Safelock – Köşe radyüsü



- Toleranslar:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Tekrar bilenebilir



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Safelock
				mm	mm	mm	mm	mm	mm	mm		
JS754060E3R020.9Z4-HXT	03187197	3	E	6,0	6,0	21,0	65,0	26,0	5,7	0,2	4	<input type="checkbox"/>
JS754060E3R050.9Z4-HXT	03187198	3	E	6,0	6,0	21,0	65,0	26,0	5,7	0,5	4	<input type="checkbox"/>
JS754060E3R100.9Z4-HXT	03187199	3	E	6,0	6,0	21,0	65,0	26,0	5,7	1,0	4	<input type="checkbox"/>
JS754080E3R050.9Z4-HXT	03187200	3	E	8,0	8,0	32,0	75,0	37,0	7,6	0,5	4	<input type="checkbox"/>
JS754080E3R100.9Z4-HXT	03187201	3	E	8,0	8,0	32,0	75,0	37,0	7,6	1,0	4	<input type="checkbox"/>
JS754100E3R050.9Z4-HXT	03187202	3	E	10,0	10,0	40,0	89,0	47,0	9,5	0,5	4	<input type="checkbox"/>
JS754100E3R100.9Z4-HXT	03187203	3	E	10,0	10,0	40,0	89,0	47,0	9,5	1,0	4	<input type="checkbox"/>
JS754100E3R200.9Z4-HXT	03187204	3	E	10,0	10,0	40,0	89,0	47,0	9,5	2,0	4	<input type="checkbox"/>
JS754100E3R300.9Z4-HXT	03187205	3	E	10,0	10,0	40,0	89,0	47,0	9,5	3,0	4	<input type="checkbox"/>
JS754120E3R050.9Z4-HXT	03187206	3	E	12,0	12,0	45,0	100,0	53,0	11,4	0,5	4	<input type="checkbox"/>
JS754120E3R100.9Z4-HXT	03187207	3	E	12,0	12,0	45,0	100,0	53,0	11,4	1,0	4	<input type="checkbox"/>
JS754120E3R200.9Z4-HXT	03187208	3	E	12,0	12,0	45,0	100,0	53,0	11,4	2,0	4	<input type="checkbox"/>
JS754120E3R300.9Z4-HXT	03187209	3	E	12,0	12,0	45,0	100,0	53,0	11,4	3,0	4	<input type="checkbox"/>
JS754160E3R050.9Z4-HXT	03187210	3	E	16,0	16,0	55,0	115,0	65,0	15,2	0,5	4	<input type="checkbox"/>
JS754160E3R100.9Z4-HXT	03187211	3	E	16,0	16,0	55,0	115,0	65,0	15,2	1,0	4	<input type="checkbox"/>
JS754160E3R200.9Z4-HXT	03187212	3	E	16,0	16,0	55,0	115,0	65,0	15,2	2,0	4	<input type="checkbox"/>
JS754160E3R300.9Z4-HXT	03187213	3	E	16,0	16,0	55,0	115,0	65,0	15,2	3,0	4	<input type="checkbox"/>
JS754160E3R400.9Z4-HXT	03187214	3	E	16,0	16,0	55,0	115,0	65,0	15,2	4,0	4	<input type="checkbox"/>
JS754160E3R600.9Z4-HXT	03187215	3	E	16,0	16,0	55,0	115,0	65,0	15,2	6,0	4	<input type="checkbox"/>
JS754200E3R050.9Z4-HXT	03187216	3	E	20,0	20,0	61,0	125,0	72,0	19,0	0,5	4	<input type="checkbox"/>
JS754200E3R100.9Z4-HXT	03187217	3	E	20,0	20,0	61,0	125,0	72,0	19,0	1,0	4	<input type="checkbox"/>
JS754200E3R200.9Z4-HXT	03187218	3	E	20,0	20,0	61,0	125,0	72,0	19,0	2,0	4	<input type="checkbox"/>
JS754200E3R300.9Z4-HXT	03187219	3	E	20,0	20,0	61,0	125,0	72,0	19,0	3,0	4	<input type="checkbox"/>
JS754200E3R400.9Z4-HXT	03187220	3	E	20,0	20,0	61,0	125,0	72,0	19,0	4,0	4	<input type="checkbox"/>
JS754200E3R600.9Z4-HXT	03187221	3	E	20,0	20,0	61,0	125,0	72,0	19,0	6,0	4	<input type="checkbox"/>

Safelock mevcut. Teslimat süresi 6 iş günüdür.

Kesme verileri – JS754 Finiş kenar frezeleme

SMG	M/A/D/E	a <sub>e</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>										v <sub>c</sub>
				3	4	5	6	8	10	12	16	20	25	
P11	M/A/D/E	0.400	0.80	0.026	0.036	0.044	0.055	0.070	0.090	0.11	0.13	0.15	0.17	165 (130–180)
		0,400	0,80	0,0010	0,0014	0,0017	0,0022	0,0028	0,0036	0,0044	0,0050	0,0060	0,0065	540 (430 – 590)
P12	M/A/D/E	0.400	0.80	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.090	0.10	0.12	105 (83–120)
		0,400	0,80	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	0,0036	0,0040	0,0048	345 (280 – 390)
M1	E	0.400	1.0	0.020	0.026	0.034	0.040	0.055	0.065	0.080	0.10	0.11	0.13	110 (96–130)
		0,400	1,0	0,00080	0,0010	0,0013	0,0016	0,0022	0,0026	0,0032	0,0040	0,0044	0,0050	360 (320 – 420)
M2	E	0.400	1.0	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.090	0.10	0.12	90 (79–110)
		0,400	1,0	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	0,0036	0,0040	0,0048	295 (260 – 360)
M3	E	0.400	0.90	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.075	0.085	0.095	60 (44–76)
		0,400	0,90	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0030	0,0034	0,0038	195 (150 – 240)
M4	E	0.400	0.90	0.013	0.018	0.022	0.026	0.036	0.044	0.055	0.065	0.075	0.085	46 (34 – 59)
		0,400	0,90	0,00050	0,00070	0,00085	0,0010	0,0014	0,0017	0,0022	0,0026	0,0030	0,0034	150 (120 – 190)
M5	E	0.400	0.90	0.013	0.018	0.022	0.026	0.036	0.044	0.055	0.065	0.075	0.085	39 (29 – 49)
		0,400	0,90	0,00050	0,00070	0,00085	0,0010	0,0014	0,0017	0,0022	0,0026	0,0030	0,0034	135 (96 – 160)
S1	E	0.150	0.50	0.026	0.034	0.044	0.050	0.070	0.085	0.10	0.13	0.15	0.17	50 (26 – 68)
		0,150	0,50	0,0010	0,0013	0,0017	0,0020	0,0028	0,0034	0,0040	0,0050	0,0060	0,0065	165 (86 – 220)
S2	E	0.150	0.50	0.026	0.034	0.044	0.050	0.070	0.085	0.10	0.13	0.15	0.17	41 (21 – 55)
		0,150	0,50	0,0010	0,0013	0,0017	0,0020	0,0028	0,0034	0,0040	0,0050	0,0060	0,0065	135 (96 – 180)
S3	E	0.150	0.50	0.024	0.032	0.040	0.048	0.065	0.080	0.095	0.12	0.14	0.15	36 (19 – 48)
		0,150	0,50	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0048	0,0055	0,0060	120 (63 – 150)
S11	E	0.400	0.70	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.090	0.10	0.12	110 (73–140)
		0,400	0,70	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	0,0036	0,0040	0,0048	360 (240 – 450)
S12	E	0.400	0.70	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.090	0.10	0.12	85 (56–110)
		0,400	0,70	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	0,0036	0,0040	0,0048	280 (190 – 360)
S13	E	0.400	0.70	0.016	0.022	0.026	0.032	0.042	0.055	0.065	0.080	0.090	0.10	65 (44 – 87)
		0,400	0,70	0,00065	0,00085	0,0010	0,0013	0,0017	0,0022	0,0026	0,0032	0,0036	0,0040	215 (150 – 280)

Kesme verileri – JS754 Kanal açma

SMG	M/A/D/E	a <sub>p</sub> /DC	f <sub>z</sub>										v <sub>c</sub>
			3	4	5	6	8	10	12	16	20	25	
P11	M/A/D/E	0.80	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.080	0.10	0.13	150 (120–170)
		0,80	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0050	490 (400 – 550)
P12	M/A/D/E	0.80	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.080	0.10	0.11	90 (69–100)
		0,80	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0044	295 (230 – 320)
M1	E	0.80	0.012	0.016	0.020	0.024	0.032	0.040	0.048	0.065	0.080	0.10	95 (85–120)
		0,80	0,00048	0,00065	0,00080	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0040	310 (280 – 390)
M2	E	0.80	0.012	0.016	0.020	0.024	0.032	0.040	0.048	0.065	0.080	0.10	80 (69 – 97)
		0,80	0,00048	0,00065	0,00080	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0040	260 (230 – 310)
M3	E	0.60	0.0095	0.012	0.015	0.019	0.025	0.030	0.038	0.050	0.060	0.075	55 (39 – 67)
		0,60	0,00038	0,00048	0,00060	0,00075	0,0010	0,0012	0,0015	0,0020	0,0024	0,0030	180 (130 – 210)
M4	E	0.60	0.0095	0.012	0.015	0.019	0.025	0.030	0.038	0.050	0.060	0.075	40 (29 – 50)
		0,60	0,00038	0,00048	0,00060	0,00075	0,0010	0,0012	0,0015	0,0020	0,0024	0,0030	130 (96 – 160)
M5	E	0.60	0.0095	0.012	0.015	0.019	0.025	0.030	0.038	0.050	0.060	0.075	33 (25 – 42)
		0,60	0,00038	0,00048	0,00060	0,00075	0,0010	0,0012	0,0015	0,0020	0,0024	0,0030	110 (83 – 130)
S1	E	0.30	0.0095	0.012	0.015	0.019	0.025	0.030	0.038	0.050	0.060	0.075	41 (21 – 54)
		0,30	0,00038	0,00048	0,00060	0,00075	0,0010	0,0012	0,0015	0,0020	0,0024	0,0030	135 (69 – 170)
S2	E	0.30	0.0095	0.012	0.015	0.019	0.025	0.030	0.038	0.050	0.060	0.075	33 (17 – 43)
		0,30	0,00038	0,00048	0,00060	0,00075	0,0010	0,0012	0,0015	0,0020	0,0024	0,0030	110 (56 – 140)
S3	E	0.30	0.0095	0.012	0.015	0.019	0.025	0.030	0.038	0.050	0.060	0.075	28 (15 – 37)
		0,30	0,00038	0,00048	0,00060	0,00075	0,0010	0,0012	0,0015	0,0020	0,0024	0,0030	90 (50 – 120)
S11	E	0.50	0.012	0.016	0.020	0.025	0.032	0.042	0.050	0.065	0.080	0.10	95 (63–120)
		0,50	0,00048	0,00065	0,00080	0,0010	0,0013	0,0017	0,0020	0,0026	0,0032	0,0040	310 (210 – 390)
S12	E	0.50	0.012	0.016	0.020	0.025	0.032	0.042	0.050	0.065	0.080	0.10	70 (48 – 95)
		0,50	0,00048	0,00065	0,00080	0,0010	0,0013	0,0017	0,0020	0,0026	0,0032	0,0040	230 (160 – 310)
S13	E	0.50	0.012	0.016	0.020	0.025	0.032	0.042	0.050	0.065	0.080	0.10	55 (38–74)
		0,50	0,00048	0,00065	0,00080	0,0010	0,0013	0,0017	0,0020	0,0026	0,0032	0,0040	180 (130 – 240)

Radüys değeri DC'nin %15'ini aşarsa lütfen fz değerini %20 azaltın

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu  
Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama  
v<sub>c</sub> = m/dak (sf/dak)  
f<sub>z</sub> = mm (inç/ağız)  
a<sub>p</sub> mm/DC (inç/DC) = faktör  
a<sub>e</sub> = mm/DC (inç/DC) = faktör  
Tüm kesme verileri hedef değerlerdir

Üniversal  
Çelik ve dökme demir  
Paslanmaz çelik ve S iş parçası malzemeleri  
Demir içermeyen malzemeler  
Sertleştirilmiş çelik için  
Plastik ve cırp malzemeler için  
Grafit malzeme için  
Mimimaster Plus  
Mimimaster

Kesme verileri – JS754\_2C Gelişmiş kaba işleme  $a_p/DC=0,05-0,1$

SMG		$a_e/DC$	$a_p/DC$	$f_z$		$v_c$
				10	12	
P11	M/A/D/E	0.100 0,100	2.0 2,0	0.15 0,0060	0.17 0,0065	265 (220 — 290) 870 (730 — 950)
P12	M/A/D/E	0.100 0,100	2.0 2,0	0.10 0,0040	0.12 0,0048	170 (150—190) 560 (500 — 620)
M1	E	0.100 0,100	2.0 2,0	0.11 0,0044	0.13 0,0050	205 (180 — 230) 670 (600—750)
M2	E	0.100 0,100	2.0 2,0	0.10 0,0040	0.12 0,0048	170 (150—190) 560 (500 — 620)
M3	E	0.100 0,100	2.0 2,0	0.10 0,0040	0.12 0,0048	130 (120—150) 425 (400 — 490)
M4	E	0.100 0,100	2.0 2,0	0.085 0,0034	0.10 0,0040	100 (86—110) 330 (290 — 360)
M5	E	0.100 0,100	2.0 2,0	0.085 0,0034	0.10 0,0040	85 (72 — 96) 280 (240 — 310)
S1	E	0.0500 0,0500	2.0 2,0	0.085 0,0034	0.10 0,0040	70 (43 — 99) 230 (150 — 320)
S2	E	0.0500 0,0500	2.0 2,0	0.085 0,0034	0.10 0,0040	60 (35 — 80) 195 (120 — 260)
S3	E	0.0500 0,0500	2.0 2,0	0.080 0,0032	0.095 0,0038	50 (31—70) 165 (110 — 220)
S11	E	0.0800 0,0800	2.0 2,0	0.070 0,0028	0.085 0,0034	165 (140—190) 540 (460 — 620)
S12	E	0.0800 0,0800	2.0 2,0	0.070 0,0028	0.085 0,0034	125 (110—150) 410 (370 — 490)
S13	E	0.0800 0,0800	2.0 2,0	0.060 0,0024	0.070 0,0028	100 (84—110) 330 (280 — 360)

Kesme verileri – JS754\_3C Gelişmiş kaba işleme  $a_p/DC=0,05-0,1$

SMG		$a_e/DC$	$a_p/DC$	$f_z$						$v_c$
				6	8	10	12	16	20	
P11	M/A/D/E	0.100 0,100	4.0 4,0	0.090 0,0036	0.12 0,0048	0.15 0,0060	0.17 0,0065	0.22 0,0085	0.25 0,010	265 (220 — 290) 870 (730 — 950)
P12	M/A/D/E	0.100 0,100	4.0 4,0	0.060 0,0024	0.080 0,0032	0.10 0,0040	0.12 0,0048	0.15 0,0060	0.17 0,0065	170 (140—180) 560 (460 — 590)
M1	E	0.100 0,100	4.0 4,0	0.065 0,0026	0.090 0,0036	0.11 0,0044	0.13 0,0050	0.16 0,0065	0.19 0,0075	205 (170 — 230) 670 (560—750)
M2	E	0.100 0,100	4.0 4,0	0.060 0,0024	0.080 0,0032	0.10 0,0040	0.12 0,0048	0.15 0,0060	0.17 0,0065	170 (140—190) 560 (460 — 620)
M3	E	0.100 0,100	4.0 4,0	0.060 0,0024	0.080 0,0032	0.10 0,0040	0.12 0,0048	0.15 0,0060	0.17 0,0065	130 (110—150) 425 (370 — 490)
M4	E	0.100 0,100	4.0 4,0	0.050 0,0020	0.070 0,0028	0.085 0,0034	0.10 0,0040	0.13 0,0050	0.15 0,0060	100 (86—110) 330 (290 — 360)
M5	E	0.100 0,100	4.0 4,0	0.050 0,0020	0.070 0,0028	0.085 0,0034	0.10 0,0040	0.13 0,0050	0.15 0,0060	85 (72 — 96) 280 (240 — 310)
S1	E	0.0500 0,0500	4.0 4,0	0.050 0,0020	0.070 0,0028	0.085 0,0034	0.10 0,0040	0.13 0,0050	0.15 0,0060	70 (43 — 99) 230 (150 — 320)
S2	E	0.0500 0,0500	4.0 4,0	0.050 0,0020	0.070 0,0028	0.085 0,0034	0.10 0,0040	0.13 0,0050	0.15 0,0060	55 (35 — 80) 180 (120 — 260)
S3	E	0.0500 0,0500	4.0 4,0	0.048 0,0019	0.065 0,0026	0.080 0,0032	0.095 0,0038	0.12 0,0048	0.14 0,0055	50 (30—70) 165 (99 — 220)
S11	E	0.0800 0,0800	4.0 4,0	0.042 0,0017	0.055 0,0022	0.070 0,0028	0.085 0,0034	0.10 0,0040	0.12 0,0048	165 (140—190) 540 (460 — 620)
S12	E	0.0800 0,0800	4.0 4,0	0.042 0,0017	0.055 0,0022	0.070 0,0028	0.085 0,0034	0.10 0,0040	0.12 0,0048	125 (110—150) 410 (370 — 490)
S13	E	0.0800 0,0800	4.0 4,0	0.036 0,0014	0.048 0,0019	0.060 0,0024	0.070 0,0028	0.090 0,0036	0.10 0,0040	100 (84—110) 330 (280 — 360)

Radyüs değeri DC'nin %15'ini aşıyorsa lütfen  $f_z$  değerini %20 azaltın

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

$v_c = m/dak$  (st/dak)

$f_z = mm$  (inç/ağız)

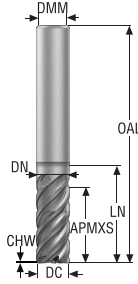
$a_p$  mm/DC (inç/DC) = faktör

$a_e = mm/DC$  (inç/DC) = faktör

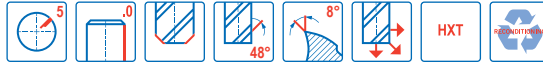
Tüm kesme verileri hedef değerlerdir

## JS755

Yüksek performans – Dik kenarlı – ISO– M ve ISO– S – 5 Ağızlı – Silindirik – Köşesi pahlı



E



- Toleranslar:
- DMM= h5
- DC= e7
- Tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	CHW	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm	mm		
JS755060E2C.0Z5-HXT	03186907	2	E	6,0	6,0	12,0	57,0	18,0	5,7	0,075	5	■
JS755080E2C.0Z5-HXT	03186908	2	E	8,0	8,0	16,0	63,0	25,0	7,6	0,1	5	■
JS755100E2C.0Z5-HXT	03186909	2	E	10,0	10,0	20,0	72,0	29,0	9,5	0,125	5	■
JS755120E2C.0Z5-HXT	03186910	2	E	12,0	12,0	24,0	83,0	35,0	11,4	0,15	5	■
JS755160E2C.0Z5-HXT	03186911	2	E	16,0	16,0	32,0	92,0	42,0	15,2	0,2	5	■
JS755200E2C.0Z5-HXT	03186912	2	E	20,0	20,0	40,0	104,0	51,0	19,0	0,25	5	■
JS755250E2C.0Z5-HXT	03186913	2	E	25,0	25,0	50,0	121,0	65,0	23,8	0,3	5	■
JS755060E3C.0Z5-HXT	03186914	3	E	6,0	6,0	21,0	65,0	26,0	5,7	0,075	5	■
JS755080E3C.0Z5-HXT	03186915	3	E	8,0	8,0	32,0	75,0	37,0	7,6	0,1	5	■
JS755100E3C.0Z5-HXT	03186916	3	E	10,0	10,0	40,0	89,0	47,0	9,5	0,125	5	■
JS755120E3C.0Z5-HXT	03186917	3	E	12,0	12,0	45,0	100,0	53,0	11,4	0,15	5	■
JS755160E3C.0Z5-HXT	03186918	3	E	16,0	16,0	55,0	115,0	65,0	15,2	0,2	5	■
JS755200E3C.0Z5-HXT	03186919	3	E	20,0	20,0	61,0	125,0	72,0	19,0	0,25	5	■
JS755250E3C.0Z5-HXT	03186920	3	E	25,0	25,0	85,0	153,0	94,0	23,8	0,3	5	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

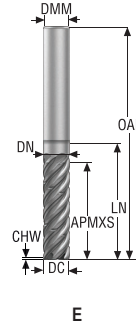
Grafit malzeme için

Minimaster Plus

Minimaster

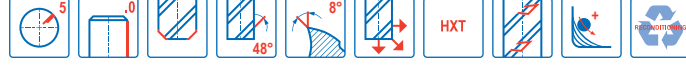
## JS755

Yüksek performans - Dik kenarlı - ISO- M ve ISO- S - 5 Ağızlı - Silindirik - Köşesi pahlı - Talaş dağıtıcı



E

- Toleranslar:
- DMM= h5
- DC= e7
- Talaş dağıtıcı

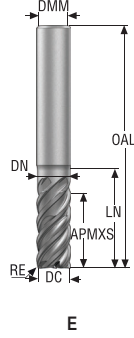


Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	talaş dağıtıcı	DC	DMM	APMXS	OAL	LN	DN	CHW	PCEDC	Silindirik
					mm	mm	mm	mm	mm	mm	mm		
JS755100E3C.0Z5C-HXT	03186921	3	E	■	10,0	10,0	40,0	89,0	47,0	9,5	0,125	5	■
JS755120E3C.0Z5C-HXT	03186922	3	E	■	12,0	12,0	45,0	100,0	53,0	11,4	0,15	5	■
JS755160E3C.0Z5C-HXT	03186923	3	E	■	16,0	16,0	55,0	115,0	65,0	15,2	0,2	5	■
JS755200E3C.0Z5C-HXT	03186924	3	E	■	20,0	20,0	61,0	125,0	72,0	19,0	0,25	5	■

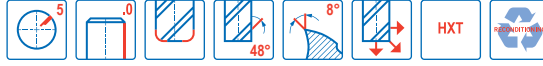
■ Stoklu standart ürün.

## JS755

Yüksek performans – Dik kenarlı – ISO– M ve ISO– S – 5 Ağızlı – Silindirik – Köşe radyüsü



E



- Toleranslar:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm	mm		
JS755060E2R020.0Z5-HXT	03186925	2	E	6,0	6,0	12,0	57,0	18,0	5,7	0,2	5	■
JS755060E2R050.0Z5-HXT	03186926	2	E	6,0	6,0	12,0	57,0	18,0	5,7	0,5	5	■
JS755060E2R100.0Z5-HXT	03186927	2	E	6,0	6,0	12,0	57,0	18,0	5,7	1,0	5	■
JS755080E2R050.0Z5-HXT	03186928	2	E	8,0	8,0	16,0	63,0	25,0	7,6	0,5	5	■
JS755080E2R100.0Z5-HXT	03186929	2	E	8,0	8,0	16,0	63,0	25,0	7,6	1,0	5	■
JS755100E2R050.0Z5-HXT	03186930	2	E	10,0	10,0	20,0	72,0	29,0	9,5	0,5	5	■
JS755100E2R100.0Z5-HXT	03186931	2	E	10,0	10,0	20,0	72,0	29,0	9,5	1,0	5	■
JS755100E2R200.0Z5-HXT	03186932	2	E	10,0	10,0	20,0	72,0	29,0	9,5	2,0	5	■
JS755100E2R300.0Z5-HXT	03186933	2	E	10,0	10,0	20,0	72,0	29,0	9,5	3,0	5	■
JS755120E2R050.0Z5-HXT	03186934	2	E	12,0	12,0	24,0	83,0	35,0	11,4	0,5	5	■
JS755120E2R100.0Z5-HXT	03186935	2	E	12,0	12,0	24,0	83,0	35,0	11,4	1,0	5	■
JS755120E2R200.0Z5-HXT	03186936	2	E	12,0	12,0	24,0	83,0	35,0	11,4	2,0	5	■
JS755120E2R300.0Z5-HXT	03186937	2	E	12,0	12,0	24,0	83,0	35,0	11,4	3,0	5	■
JS755160E2R050.0Z5-HXT	03186938	2	E	16,0	16,0	32,0	92,0	42,0	15,2	0,5	5	■
JS755160E2R100.0Z5-HXT	03186939	2	E	16,0	16,0	32,0	92,0	42,0	15,2	1,0	5	■
JS755160E2R600.0Z5-HXT	03186940	2	E	16,0	16,0	32,0	92,0	42,0	15,2	6,0	5	■
JS755200E2R050.0Z5-HXT	03186941	2	E	20,0	20,0	40,0	104,0	51,0	19,0	0,5	5	■
JS755200E2R100.0Z5-HXT	03186942	2	E	20,0	20,0	40,0	104,0	51,0	19,0	1,0	5	■
JS755200E2R600.0Z5-HXT	03186943	2	E	20,0	20,0	40,0	104,0	51,0	19,0	6,0	5	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

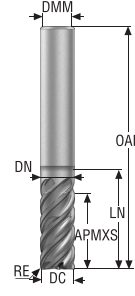
Grafit malzeme için

Minimaster Plus

Minimaster

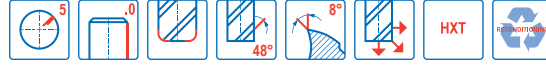
## JS755

Yüksek performans – Dik kenarlı – ISO– M ve ISO– S – 5 Ağızlı – Silindirik – Köşe radyüsü



E

- Toleranslar:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Tekrar bilebilir



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm	mm		
JS755060E3R020.0Z5-HXT	03186946	3	E	6,0	6,0	21,0	65,0	26,0	5,7	0,2	5	■
JS755060E3R050.0Z5-HXT	03186947	3	E	6,0	6,0	21,0	65,0	26,0	5,7	0,5	5	■
JS755060E3R100.0Z5-HXT	03186948	3	E	6,0	6,0	21,0	65,0	26,0	5,7	1,0	5	■
JS755080E3R050.0Z5-HXT	03186949	3	E	8,0	8,0	32,0	75,0	37,0	7,6	0,5	5	■
JS755080E3R100.0Z5-HXT	03186950	3	E	8,0	8,0	32,0	75,0	37,0	7,6	1,0	5	■
JS755100E3R050.0Z5-HXT	03186951	3	E	10,0	10,0	40,0	89,0	47,0	9,5	0,5	5	■
JS755100E3R100.0Z5-HXT	03186952	3	E	10,0	10,0	40,0	89,0	47,0	9,5	1,0	5	■
JS755100E3R200.0Z5-HXT	03186953	3	E	10,0	10,0	40,0	89,0	47,0	9,5	2,0	5	■
JS755100E3R300.0Z5-HXT	03186954	3	E	10,0	10,0	40,0	89,0	47,0	9,5	3,0	5	■
JS755120E3R050.0Z5-HXT	03186955	3	E	12,0	12,0	45,0	100,0	53,0	11,4	0,5	5	■
JS755120E3R100.0Z5-HXT	03186956	3	E	12,0	12,0	45,0	100,0	53,0	11,4	1,0	5	■
JS755120E3R200.0Z5-HXT	03186957	3	E	12,0	12,0	45,0	100,0	53,0	11,4	2,0	5	■
JS755120E3R300.0Z5-HXT	03186958	3	E	12,0	12,0	45,0	100,0	53,0	11,4	3,0	5	■
JS755160E3R050.0Z5-HXT	03186959	3	E	16,0	16,0	55,0	115,0	65,0	15,2	0,5	5	■
JS755160E3R600.0Z5-HXT	03186960	3	E	16,0	16,0	55,0	115,0	65,0	15,2	6,0	5	■
JS755200E3R050.0Z5-HXT	03186961	3	E	20,0	20,0	61,0	125,0	72,0	19,0	0,5	5	■
JS755200E3R600.0Z5-HXT	03186962	3	E	20,0	20,0	61,0	125,0	72,0	19,0	6,0	5	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçaları malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve çirp malzemeler için

Grafit malzeme için

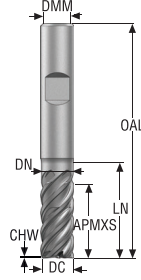
Minimaster Plus

Minimaster

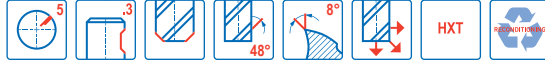


## JS755

Yüksek performans – Dik kenarlı – ISO– M ve ISO– S – 5 Ağızlı – Weldon – Köşesi pahlı



E



- Toleranslar:
- DMM= h5
- DC= e7
- Tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	CHW	PCEDC	Weldon
				mm	mm	mm	mm	mm	mm	mm		
JS755060E2C.3Z5-HXT	03187083	2	E	6,0	6,0	12,0	57,0	18,0	5,7	0,075	5	■
JS755080E2C.3Z5-HXT	03187084	2	E	8,0	8,0	16,0	63,0	25,0	7,6	0,1	5	■
JS755100E2C.3Z5-HXT	03187085	2	E	10,0	10,0	20,0	72,0	29,0	9,5	0,125	5	■
JS755120E2C.3Z5-HXT	03187086	2	E	12,0	12,0	24,0	83,0	35,0	11,4	0,15	5	■
JS755160E2C.3Z5-HXT	03187087	2	E	16,0	16,0	32,0	92,0	42,0	15,2	0,2	5	■
JS755200E2C.3Z5-HXT	03187088	2	E	20,0	20,0	40,0	104,0	51,0	19,0	0,25	5	■
JS755250E2C.3Z5-HXT	03187089	2	E	25,0	25,0	50,0	121,0	65,0	23,8	0,3	5	■
JS755060E3C.3Z5-HXT	03187090	3	E	6,0	6,0	21,0	65,0	26,0	5,7	0,075	5	■
JS755080E3C.3Z5-HXT	03187091	3	E	8,0	8,0	32,0	75,0	37,0	7,6	0,1	5	■
JS755100E3C.3Z5-HXT	03187092	3	E	10,0	10,0	40,0	89,0	47,0	9,5	0,125	5	■
JS755120E3C.3Z5-HXT	03187093	3	E	12,0	12,0	45,0	100,0	53,0	11,4	0,15	5	■
JS755160E3C.3Z5-HXT	03187094	3	E	16,0	16,0	55,0	115,0	65,0	15,2	0,2	5	■
JS755200E3C.3Z5-HXT	03187095	3	E	20,0	20,0	61,0	125,0	72,0	19,0	0,25	5	■
JS755250E3C.3Z5-HXT	03187096	3	E	25,0	25,0	85,0	153,0	94,0	23,8	0,3	5	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

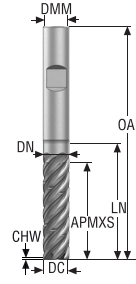
Grafit malzeme için

Minimaster Plus

Minimaster

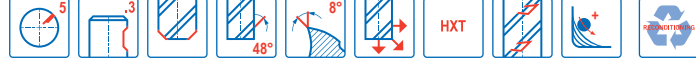
## JS755

Yüksek performans – Dik kenarlı – ISO– M ve ISO– S – 5 Ağızlı – Weldon – Köşesi pahlı – Talaş dağıtıcı



E

- Toleranslar:
- DMM= h5
- DC= e7
- Talaş dağıtıcı

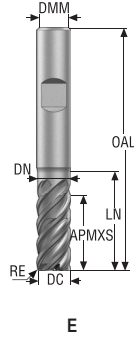


Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	talaş dağıtıcı	DC	DMM	APMXS	OAL	LN	DN	CHW	PCEDC	Weldon
					mm	mm	mm	mm	mm	mm	mm		
JS755100E3C.3Z5C-HXT	03187097	3	E	■	10,0	10,0	40,0	89,0	47,0	9,5	0,125	5	■
JS755120E3C.3Z5C-HXT	03187098	3	E	■	12,0	12,0	45,0	100,0	53,0	11,4	0,15	5	■
JS755160E3C.3Z5C-HXT	03187099	3	E	■	16,0	16,0	55,0	115,0	65,0	15,2	0,2	5	■
JS755200E3C.3Z5C-HXT	03187100	3	E	■	20,0	20,0	61,0	125,0	72,0	19,0	0,25	5	■

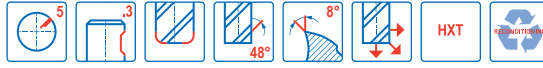
■ Stoklu standart ürün.

## JS755

Yüksek performans – Dik kenarlı – ISO– M ve ISO– S – 5 Ağızlı – Weldon – Köşe radyüsü



E



- Toleranslar:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Weldon
				mm	mm	mm	mm	mm	mm	mm		
JS755060E2R020.3Z5-HXT	03187101	2	E	6,0	6,0	12,0	57,0	18,0	5,7	0,2	5	■
JS755060E2R050.3Z5-HXT	03187102	2	E	6,0	6,0	12,0	57,0	18,0	5,7	0,5	5	■
JS755060E2R100.3Z5-HXT	03187103	2	E	6,0	6,0	12,0	57,0	18,0	5,7	1,0	5	■
JS755080E2R050.3Z5-HXT	03187104	2	E	8,0	8,0	16,0	63,0	25,0	7,6	0,5	5	■
JS755080E2R100.3Z5-HXT	03187105	2	E	8,0	8,0	16,0	63,0	25,0	7,6	1,0	5	■
JS755100E2R050.3Z5-HXT	03187106	2	E	10,0	10,0	20,0	72,0	29,0	9,5	0,5	5	■
JS755100E2R100.3Z5-HXT	03187107	2	E	10,0	10,0	20,0	72,0	29,0	9,5	1,0	5	■
JS755100E2R200.3Z5-HXT	03187108	2	E	10,0	10,0	20,0	72,0	29,0	9,5	2,0	5	■
JS755100E2R300.3Z5-HXT	03187109	2	E	10,0	10,0	20,0	72,0	29,0	9,5	3,0	5	■
JS755120E2R050.3Z5-HXT	03187110	2	E	12,0	12,0	24,0	83,0	35,0	11,4	0,5	5	■
JS755120E2R100.3Z5-HXT	03187111	2	E	12,0	12,0	24,0	83,0	35,0	11,4	1,0	5	■
JS755120E2R200.3Z5-HXT	03187112	2	E	12,0	12,0	24,0	83,0	35,0	11,4	2,0	5	■
JS755120E2R300.3Z5-HXT	03187113	2	E	12,0	12,0	24,0	83,0	35,0	11,4	3,0	5	■
JS755160E2R050.3Z5-HXT	03187114	2	E	16,0	16,0	32,0	92,0	42,0	15,2	0,5	5	■
JS755160E2R100.3Z5-HXT	03187115	2	E	16,0	16,0	32,0	92,0	42,0	15,2	1,0	5	■
JS755160E2R600.3Z5-HXT	03187116	2	E	16,0	16,0	32,0	92,0	42,0	15,2	6,0	5	■
JS755200E2R050.3Z5-HXT	03187117	2	E	20,0	20,0	40,0	104,0	51,0	19,0	0,5	5	■
JS755200E2R100.3Z5-HXT	03187118	2	E	20,0	20,0	40,0	104,0	51,0	19,0	1,0	5	■
JS755200E2R600.3Z5-HXT	03187119	2	E	20,0	20,0	40,0	104,0	51,0	19,0	6,0	5	■
JS755060E3R020.3Z5-HXT	03187122	3	E	6,0	6,0	21,0	65,0	26,0	5,7	0,2	5	□
JS755060E3R050.3Z5-HXT	03187123	3	E	6,0	6,0	21,0	65,0	26,0	5,7	0,5	5	□
JS755060E3R100.3Z5-HXT	03187124	3	E	6,0	6,0	21,0	65,0	26,0	5,7	1,0	5	□
JS755080E3R050.3Z5-HXT	03187125	3	E	8,0	8,0	32,0	75,0	37,0	7,6	0,5	5	□
JS755080E3R100.3Z5-HXT	03187126	3	E	8,0	8,0	32,0	75,0	37,0	7,6	1,0	5	□
JS755100E3R050.3Z5-HXT	03187127	3	E	10,0	10,0	40,0	89,0	47,0	9,5	0,5	5	□
JS755100E3R100.3Z5-HXT	03187128	3	E	10,0	10,0	40,0	89,0	47,0	9,5	1,0	5	□
JS755100E3R200.3Z5-HXT	03187129	3	E	10,0	10,0	40,0	89,0	47,0	9,5	2,0	5	□
JS755100E3R300.3Z5-HXT	03187130	3	E	10,0	10,0	40,0	89,0	47,0	9,5	3,0	5	□
JS755120E3R050.3Z5-HXT	03187131	3	E	12,0	12,0	45,0	100,0	53,0	11,4	0,5	5	□
JS755120E3R100.3Z5-HXT	03187132	3	E	12,0	12,0	45,0	100,0	53,0	11,4	1,0	5	□
JS755120E3R200.3Z5-HXT	03187133	3	E	12,0	12,0	45,0	100,0	53,0	11,4	2,0	5	□
JS755120E3R300.3Z5-HXT	03187134	3	E	12,0	12,0	45,0	100,0	53,0	11,4	3,0	5	□
JS755160E3R050.3Z5-HXT	03187135	3	E	16,0	16,0	55,0	115,0	65,0	15,2	0,5	5	□
JS755160E3R600.3Z5-HXT	03187136	3	E	16,0	16,0	55,0	115,0	65,0	15,2	6,0	5	□
JS755200E3R050.3Z5-HXT	03187137	3	E	20,0	20,0	61,0	125,0	72,0	19,0	0,5	5	□
JS755200E3R600.3Z5-HXT	03187138	3	E	20,0	20,0	61,0	125,0	72,0	19,0	6,0	5	□

■ Stoklu standart ürün. □ Weldon mevcut. Teslimat süresi 3 iş günüdür.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

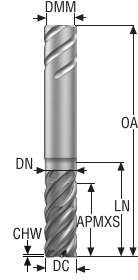
Grafit malzeme için

Minimaster Plus

Minimaster

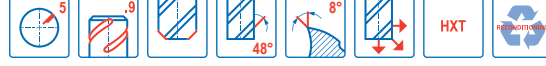
## JS755

Yüksek performans – Dik kenarlı – ISO– M ve ISO– S – 5 Ağızlı – Safelock – Köşesi pahlı



E

- Toleranslar:
- DMM= h5
- DC= e7
- Tekrar bilenebilir

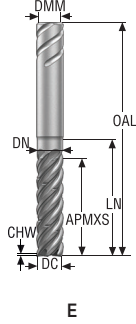


Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	CHW	PCEDC	Safelock
				mm	mm	mm	mm	mm	mm	mm		
JS755060E2C.9Z5-HXT	03187235	2	E	6,0	6,0	12,0	57,0	18,0	5,7	0,075	5	<input type="checkbox"/>
JS755080E2C.9Z5-HXT	03187236	2	E	8,0	8,0	16,0	63,0	25,0	7,6	0,1	5	<input type="checkbox"/>
JS755100E2C.9Z5-HXT	03187237	2	E	10,0	10,0	20,0	72,0	29,0	9,5	0,125	5	<input type="checkbox"/>
JS755120E2C.9Z5-HXT	03187238	2	E	12,0	12,0	24,0	83,0	35,0	11,4	0,15	5	<input type="checkbox"/>
JS755160E2C.9Z5-HXT	03187239	2	E	16,0	16,0	32,0	92,0	42,0	15,2	0,2	5	<input type="checkbox"/>
JS755200E2C.9Z5-HXT	03187240	2	E	20,0	20,0	40,0	104,0	51,0	19,0	0,25	5	<input type="checkbox"/>
JS755250E2C.9Z5-HXT	03187241	2	E	25,0	25,0	50,0	121,0	65,0	23,8	0,3	5	<input type="checkbox"/>
JS755060E3C.9Z5-HXT	03187242	3	E	6,0	6,0	21,0	65,0	26,0	5,7	0,075	5	<input type="checkbox"/>
JS755080E3C.9Z5-HXT	03187243	3	E	8,0	8,0	32,0	75,0	37,0	7,6	0,1	5	<input type="checkbox"/>
JS755100E3C.9Z5-HXT	03187244	3	E	10,0	10,0	40,0	89,0	47,0	9,5	0,125	5	<input type="checkbox"/>
JS755120E3C.9Z5-HXT	03187245	3	E	12,0	12,0	45,0	100,0	53,0	11,4	0,15	5	<input type="checkbox"/>
JS755160E3C.9Z5-HXT	03187246	3	E	16,0	16,0	55,0	115,0	65,0	15,2	0,2	5	<input type="checkbox"/>
JS755200E3C.9Z5-HXT	03187247	3	E	20,0	20,0	61,0	125,0	72,0	19,0	0,25	5	<input type="checkbox"/>
JS755250E3C.9Z5-HXT	03187248	3	E	25,0	25,0	85,0	153,0	94,0	23,8	0,3	5	<input type="checkbox"/>

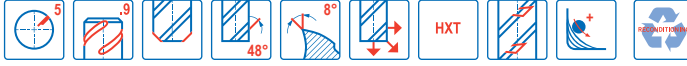
Safelock mevcut. Teslimat süresi 6 iş günüdür.

## JS755

Yüksek performans – Dik kenarlı – ISO– M ve ISO– S – 5 Ağızlı – Safelock – Köşesi pahlı – Talaş dağıtıcılı



E



- Toleranslar:
- DMM= h5
- DC= e7
- Talaş dağıtıcılı

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	talaş dağıtıcılı	DC	DMM	APMXS	OAL	LN	DN	CHW	PCEDC	Safelock
					mm	mm	mm	mm	mm	mm	mm		
JS755100E3C.9Z5C-HXT	03187249	3	E	■	10,0	10,0	40,0	89,0	47,0	9,5	0,125	5	<input type="checkbox"/>
JS755120E3C.9Z5C-HXT	03187250	3	E	■	12,0	12,0	45,0	100,0	53,0	11,4	0,15	5	<input type="checkbox"/>
JS755160E3C.9Z5C-HXT	03187252	3	E	■	16,0	16,0	55,0	115,0	65,0	15,2	0,2	5	<input type="checkbox"/>
JS755200E3C.9Z5C-HXT	03187253	3	E	■	20,0	20,0	61,0	125,0	72,0	19,0	0,25	5	<input type="checkbox"/>

Safelock mevcut. Teslimat süresi 6 iş günüdür.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

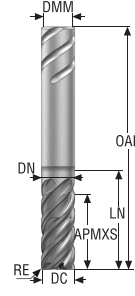
Grafit malzeme için

Minimaster Plus

Minimaster

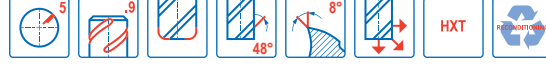
## JS755

Yüksek performans – Dik kenarlı – ISO- M ve ISO- S – 5 Ağızlı – Safelock – Köşe radyüsü



E

- Toleranslar:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Tekrar bilenebilir



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Safelock
				mm	mm	mm	mm	mm	mm	mm		
JS755060E2R020.9Z5-HXT	03187254	2	E	6,0	6,0	12,0	57,0	18,0	5,7	0,2	5	<input type="checkbox"/>
JS755060E2R050.9Z5-HXT	03187255	2	E	6,0	6,0	12,0	57,0	18,0	5,7	0,5	5	<input type="checkbox"/>
JS755060E2R100.9Z5-HXT	03187256	2	E	6,0	6,0	12,0	57,0	18,0	5,7	1,0	5	<input type="checkbox"/>
JS755080E2R050.9Z5-HXT	03187257	2	E	8,0	8,0	16,0	63,0	25,0	7,6	0,5	5	<input type="checkbox"/>
JS755080E2R100.9Z5-HXT	03187258	2	E	8,0	8,0	16,0	63,0	25,0	7,6	1,0	5	<input type="checkbox"/>
JS755100E2R050.9Z5-HXT	03187259	2	E	10,0	10,0	20,0	72,0	29,0	9,5	0,5	5	<input type="checkbox"/>
JS755100E2R100.9Z5-HXT	03187260	2	E	10,0	10,0	20,0	72,0	29,0	9,5	1,0	5	<input type="checkbox"/>
JS755100E2R200.9Z5-HXT	03187261	2	E	10,0	10,0	20,0	72,0	29,0	9,5	2,0	5	<input type="checkbox"/>
JS755100E2R300.9Z5-HXT	03187262	2	E	10,0	10,0	20,0	72,0	29,0	9,5	3,0	5	<input type="checkbox"/>
JS755120E2R050.9Z5-HXT	03187263	2	E	12,0	12,0	24,0	83,0	35,0	11,4	0,5	5	<input type="checkbox"/>
JS755120E2R100.9Z5-HXT	03187264	2	E	12,0	12,0	24,0	83,0	35,0	11,4	1,0	5	<input type="checkbox"/>
JS755120E2R200.9Z5-HXT	03187265	2	E	12,0	12,0	24,0	83,0	35,0	11,4	2,0	5	<input type="checkbox"/>
JS755120E2R300.9Z5-HXT	03187266	2	E	12,0	12,0	24,0	83,0	35,0	11,4	3,0	5	<input type="checkbox"/>
JS755160E2R050.9Z5-HXT	03187267	2	E	16,0	16,0	32,0	92,0	42,0	15,2	0,5	5	<input type="checkbox"/>
JS755160E2R100.9Z5-HXT	03187269	2	E	16,0	16,0	32,0	92,0	42,0	15,2	1,0	5	<input type="checkbox"/>
JS755160E2R600.9Z5-HXT	03187270	2	E	16,0	16,0	32,0	92,0	42,0	15,2	6,0	5	<input type="checkbox"/>
JS755200E2R050.9Z5-HXT	03187271	2	E	20,0	20,0	40,0	104,0	51,0	19,0	0,5	5	<input type="checkbox"/>
JS755200E2R100.9Z5-HXT	03187272	2	E	20,0	20,0	40,0	104,0	51,0	19,0	1,0	5	<input type="checkbox"/>
JS755200E2R600.9Z5-HXT	03187273	2	E	20,0	20,0	40,0	104,0	51,0	19,0	6,0	5	<input type="checkbox"/>
JS755060E3R020.9Z5-HXT	03187276	3	E	6,0	6,0	21,0	65,0	26,0	5,7	0,2	5	<input type="checkbox"/>
JS755060E3R050.9Z5-HXT	03187277	3	E	6,0	6,0	21,0	65,0	26,0	5,7	0,5	5	<input type="checkbox"/>
JS755060E3R100.9Z5-HXT	03187279	3	E	6,0	6,0	21,0	65,0	26,0	5,7	1,0	5	<input type="checkbox"/>
JS755080E3R050.9Z5-HXT	03187280	3	E	8,0	8,0	32,0	75,0	37,0	7,6	0,5	5	<input type="checkbox"/>
JS755080E3R100.9Z5-HXT	03187281	3	E	8,0	8,0	32,0	75,0	37,0	7,6	1,0	5	<input type="checkbox"/>
JS755100E3R050.9Z5-HXT	03187282	3	E	10,0	10,0	40,0	89,0	47,0	9,5	0,5	5	<input type="checkbox"/>
JS755100E3R100.9Z5-HXT	03187283	3	E	10,0	10,0	40,0	89,0	47,0	9,5	1,0	5	<input type="checkbox"/>
JS755100E3R200.9Z5-HXT	03187284	3	E	10,0	10,0	40,0	89,0	47,0	9,5	2,0	5	<input type="checkbox"/>
JS755100E3R300.9Z5-HXT	03187285	3	E	10,0	10,0	40,0	89,0	47,0	9,5	3,0	5	<input type="checkbox"/>
JS755120E3R050.9Z5-HXT	03187286	3	E	12,0	12,0	45,0	100,0	53,0	11,4	0,5	5	<input type="checkbox"/>
JS755120E3R100.9Z5-HXT	03187287	3	E	12,0	12,0	45,0	100,0	53,0	11,4	1,0	5	<input type="checkbox"/>
JS755120E3R200.9Z5-HXT	03187288	3	E	12,0	12,0	45,0	100,0	53,0	11,4	2,0	5	<input type="checkbox"/>
JS755120E3R300.9Z5-HXT	03187289	3	E	12,0	12,0	45,0	100,0	53,0	11,4	3,0	5	<input type="checkbox"/>
JS755160E3R050.9Z5-HXT	03187290	3	E	16,0	16,0	55,0	115,0	65,0	15,2	0,5	5	<input type="checkbox"/>
JS755160E3R600.9Z5-HXT	03187291	3	E	16,0	16,0	55,0	115,0	65,0	15,2	6,0	5	<input type="checkbox"/>
JS755200E3R050.9Z5-HXT	03187292	3	E	20,0	20,0	61,0	125,0	72,0	19,0	0,5	5	<input type="checkbox"/>
JS755200E3R600.9Z5-HXT	03187293	3	E	20,0	20,0	61,0	125,0	72,0	19,0	6,0	5	<input type="checkbox"/>

Safelock mevcut. Teslimat süresi 6 iş günüdür.

## Kesme verileri – JS755 Finiş kenar frezeleme

SMG		$a_p/DC$	$a_p/DC$	$f_z$						$v_c$	
				6	8	10	12	16	20		25
P11	M/A/D/E	0.400	1.1	0.044	0.060	0.075	0.085	0.11	0.12	0.14	135 (97–150)
		0,400	1,1	0,0017	0,0024	0,0030	0,0034	0,0044	0,0048	0,0055	445 (320 – 490)
P12	M/A/D/E	0.400	1.1	0.030	0.040	0.050	0.060	0.075	0.085	0.095	85 (63 – 99)
		0,400	1,1	0,0012	0,0016	0,0020	0,0024	0,0030	0,0034	0,0038	280 (210 – 320)
M1	E	0.400	1.1	0.032	0.044	0.055	0.065	0.080	0.095	0.11	170 (150–190)
		0,400	1,1	0,0013	0,0017	0,0022	0,0026	0,0032	0,0038	0,0044	560 (500 – 620)
M2	E	0.400	1.1	0.030	0.040	0.050	0.060	0.075	0.085	0.095	140 (120–150)
		0,400	1,1	0,0012	0,0016	0,0020	0,0024	0,0030	0,0034	0,0038	460 (400 – 490)
M3	E	0.400	1.1	0.030	0.040	0.050	0.060	0.075	0.085	0.095	110 (92–120)
		0,400	1,1	0,0012	0,0016	0,0020	0,0024	0,0030	0,0034	0,0038	360 (310 – 390)
M4	E	0.400	1.1	0.026	0.034	0.044	0.050	0.065	0.075	0.085	85 (71 – 95)
		0,400	1,1	0,0010	0,0013	0,0017	0,0020	0,0026	0,0030	0,0034	280 (240 – 310)
M5	E	0.400	1.1	0.026	0.034	0.044	0.050	0.065	0.075	0.085	70 (59–79)
		0,400	1,1	0,0010	0,0013	0,0017	0,0020	0,0026	0,0030	0,0034	230 (200 – 250)
S1	E	0.0300	2.0	0.046	0.060	0.075	0.090	0.11	0.13	0.14	70 (48–110)
		0,0300	2,0	0,0018	0,0024	0,0030	0,0036	0,0044	0,0050	0,0055	230 (160 – 360)
S2	E	0.0300	2.0	0.046	0.060	0.075	0.090	0.11	0.13	0.14	60 (39 – 89)
		0,0300	2,0	0,0018	0,0024	0,0030	0,0036	0,0044	0,0050	0,0055	195 (130 – 290)
S3	E	0.0300	2.0	0.042	0.055	0.070	0.085	0.10	0.12	0.13	50 (34–78)
		0,0300	2,0	0,0017	0,0022	0,0028	0,0034	0,0040	0,0048	0,0050	165 (120 – 250)
S11	E	0.400	1.1	0.030	0.040	0.050	0.060	0.075	0.085	0.095	140 (120–160)
		0,400	1,1	0,0012	0,0016	0,0020	0,0024	0,0030	0,0034	0,0038	460 (400 – 520)
S12	E	0.400	1.1	0.030	0.040	0.050	0.060	0.075	0.085	0.095	110 (91–120)
		0,400	1,1	0,0012	0,0016	0,0020	0,0024	0,0030	0,0034	0,0038	360 (300 – 390)
S13	E	0.400	1.1	0.026	0.034	0.044	0.050	0.065	0.075	0.085	85 (73–100)
		0,400	1,1	0,0010	0,0013	0,0017	0,0020	0,0026	0,0030	0,0034	280 (240 – 320)

Kesme verileri – JS755\_3C Gelişmiş kaba işleme  $a_p/DC=0,05-0,1$ 

SMG		$a_p/DC$	$a_p/DC$	$f_z$				$v_c$
				10	12	16	20	
P11	M/A/D/E	0.100	4.0	0.15	0.17	0.22	0.25	265 (220 – 290)
		0,100	4,0	0,0060	0,0065	0,0085	0,010	870 (730 – 950)
P12	M/A/D/E	0.100	4.0	0.10	0.12	0.15	0.17	170 (140–180)
		0,100	4,0	0,0040	0,0048	0,0060	0,0065	560 (460 – 590)
M1	E	0.100	4.0	0.11	0.13	0.16	0.19	205 (170 – 220)
		0,100	4,0	0,0044	0,0050	0,0065	0,0075	670 (560–720)
M2	E	0.100	4.0	0.10	0.12	0.15	0.17	170 (140–180)
		0,100	4,0	0,0040	0,0048	0,0060	0,0065	560 (460 – 590)
M3	E	0.100	4.0	0.10	0.12	0.15	0.17	130 (110–140)
		0,100	4,0	0,0040	0,0048	0,0060	0,0065	425 (370 – 450)
M4	E	0.100	4.0	0.085	0.10	0.13	0.15	100 (85–110)
		0,100	4,0	0,0034	0,0040	0,0050	0,0060	330 (280 – 360)
M5	E	0.100	4.0	0.085	0.10	0.13	0.15	85 (71 – 96)
		0,100	4,0	0,0034	0,0040	0,0050	0,0060	280 (240 – 310)
S1	E	0.0500	4.0	0.085	0.10	0.13	0.15	70 (43 – 99)
		0,0500	4,0	0,0034	0,0040	0,0050	0,0060	230 (150 – 320)
S2	E	0.0500	4.0	0.085	0.10	0.13	0.15	55 (35 – 80)
		0,0500	4,0	0,0034	0,0040	0,0050	0,0060	180 (120 – 260)
S3	E	0.0500	4.0	0.080	0.095	0.12	0.14	50 (31–70)
		0,0500	4,0	0,0032	0,0038	0,0048	0,0055	165 (110 – 220)
S11	E	0.0800	4.0	0.070	0.085	0.10	0.12	160 (140–190)
		0,0800	4,0	0,0028	0,0034	0,0040	0,0048	520 (460 – 620)
S12	E	0.0800	4.0	0.070	0.085	0.10	0.12	125 (110–140)
		0,0800	4,0	0,0028	0,0034	0,0040	0,0048	410 (370 – 450)
S13	E	0.0800	4.0	0.060	0.070	0.090	0.10	100 (83–110)
		0,0800	4,0	0,0024	0,0028	0,0036	0,0040	330 (280 – 360)

Radyüs değeri DC'nin %15'ini aşıyorsa lütfen  $f_z$  değerini %20 azaltın

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

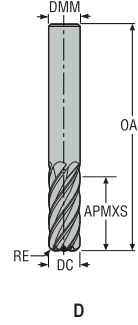
Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

 $v_c$  = m/dak (sf/dak) $f_z$  = mm (inç/ağız) $a_p$  mm/DC (inç/DC) = faktör $a_g$  = mm/DC (inç/DC) = faktör

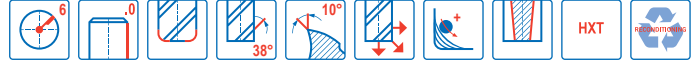
Tüm kesme verileri hedef değerlerdir

## JS720

Yüksek performans – Titanyum – Dik kenarlı<sup>1</sup> – 6 Ağızlı – Silindirik – Köşe radyüsü



- Toleranslar:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Tekrar bilenebilir



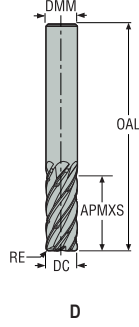
Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	RE	PCEDC	Silindirik
				mm	mm	mm	mm	mm		
JS720060D2R050.0Z6-HXT	03060293	2	D	6,0	6,0	17,0	57,0	0,5	6	■
JS720060D2R100.0Z6-HXT	03060294	2	D	6,0	6,0	17,0	57,0	1,0	6	■
JS720080D2R050.0Z6-HXT	03060295	2	D	8,0	8,0	23,0	63,0	0,5	6	■
JS720080D2R100.0Z6-HXT	03061294	2	D	8,0	8,0	23,0	63,0	1,0	6	■
JS720100D2R050.0Z6-HXT	03060296	2	D	10,0	10,0	26,0	72,0	0,5	6	■
JS720100D2R100.0Z6-HXT	03060298	2	D	10,0	10,0	26,0	72,0	1,0	6	■
JS720100D2R200.0Z6-HXT	03060299	2	D	10,0	10,0	26,0	72,0	2,0	6	■
JS720100D2R300.0Z6-HXT	03060300	2	D	10,0	10,0	26,0	72,0	3,0	6	■
JS720120D2R050.0Z6-HXT	03060301	2	D	12,0	12,0	30,0	83,0	0,5	6	■
JS720120D2R100.0Z6-HXT	03060304	2	D	12,0	12,0	30,0	83,0	1,0	6	■
JS720120D2R200.0Z6-HXT	03060305	2	D	12,0	12,0	30,0	83,0	2,0	6	■
JS720120D2R300.0Z6-HXT	03060306	2	D	12,0	12,0	30,0	83,0	3,0	6	■
JS720160D2R050.0Z6-HXT	03060307	2	D	16,0	16,0	44,0	99,0	0,5	6	■
JS720160D2R100.0Z6-HXT	03060309	2	D	16,0	16,0	44,0	99,0	1,0	6	■
JS720160D2R200.0Z6-HXT	03060310	2	D	16,0	16,0	44,0	99,0	2,0	6	■
JS720160D2R300.0Z6-HXT	03060311	2	D	16,0	16,0	44,0	99,0	3,0	6	■
JS720160D2R400.0Z6-HXT	03060312	2	D	16,0	16,0	44,0	99,0	4,0	6	■
JS720160D2R600.0Z6-HXT	03060313	2	D	16,0	16,0	44,0	99,0	6,0	6	■
JS720250D2R300.0Z6-HXT	03169498	2	D	25,0	25,0	50,0	125,0	3,0	6	■
JS720160D3R300.0Z6-HXT	03169497	3	D	16,0	16,0	65,0	130,0	3,0	6	■
JS720200D3R050.0Z6-HXT	03060314	3	D	20,0	20,0	62,0	121,0	0,5	6	■
JS720200D3R100.0Z6-HXT	03060316	3	D	20,0	20,0	62,0	121,0	1,0	6	■
JS720200D3R200.0Z6-HXT	03060317	3	D	20,0	20,0	62,0	121,0	2,0	6	■
JS720200D3R300.0Z6-HXT	03060318	3	D	20,0	20,0	62,0	121,0	3,0	6	■
JS720200D3R400.0Z6-HXT	03060319	3	D	20,0	20,0	62,0	121,0	4,0	6	■
JS720200D3R500.0Z6-HXT	03060320	3	D	20,0	20,0	62,0	121,0	5,0	6	■
JS720200D3R600.0Z6-HXT	03060321	3	D	20,0	20,0	62,0	121,0	6,0	6	■
JS720250D3R050.0Z6-HXT	03060322	3	D	25,0	25,0	78,0	146,0	0,5	6	■
JS720250D3R100.0Z6-HXT	03060323	3	D	25,0	25,0	78,0	146,0	1,0	6	■
JS720250D3R200.0Z6-HXT	03060324	3	D	25,0	25,0	78,0	146,0	2,0	6	■
JS720250D3R300.0Z6-HXT	03060325	3	D	25,0	25,0	78,0	146,0	3,0	6	■
JS720250D3R400.0Z6-HXT	03060326	3	D	25,0	25,0	78,0	146,0	4,0	6	■
JS720250D3R600.0Z6-HXT	03060327	3	D	25,0	25,0	78,0	146,0	6,0	6	■

■ Stoklu standart ürün.



## JS720

Yüksek performans – Titanyum – Dik kenarlı – 6 Ağzılı – Silindirik – Köşe radyüsü – Talaş dağıtıcılı



- Toleranslar:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Talaş dağıtıcılı
- Tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	talaş dağıtıcılı	DC	DMM	APMXS	OAL	RE	PCEDC	Silindirik
					mm	mm	mm	mm	mm	mm	
JS720100D2R050.0Z6C-HXT	03060297	2	D	■	10,0	10,0	26,0	72,0	0,5	6	■
JS720120D2R050.0Z6C-HXT	03060302	2	D	■	12,0	12,0	30,0	83,0	0,5	6	■
JS720120D2R100.0Z6C-HXT	03298280	2	D	■	12,0	12,0	30,0	83,0	1,0	6	■
JS720120D2R200.0Z6C-HXT	03298281	2	D	■	12,0	12,0	30,0	83,0	2,0	6	■
JS720120D2R250.0Z6C-HXT	03298282	2	D	■	12,0	12,0	30,0	83,0	2,5	6	■
JS720120D2R300.0Z6C-HXT	03298283	2	D	■	12,0	12,0	30,0	83,0	3,0	6	■
JS720120D2R310.0Z6C-HXT	03298284	2	D	■	12,0	12,0	30,0	83,0	3,1	6	■
JS720160D2R050.0Z6C-HXT	03060308	2	D	■	16,0	16,0	44,0	99,0	0,5	6	■
JS720160D2R100.0Z6C-HXT	03298285	2	D	■	16,0	16,0	44,0	99,0	1,0	6	■
JS720160D2R200.0Z6C-HXT	03298286	2	D	■	16,0	16,0	44,0	99,0	2,0	6	■
JS720160D2R250.0Z6C-HXT	03298287	2	D	■	16,0	16,0	44,0	99,0	2,5	6	■
JS720160D2R300.0Z6C-HXT	03298288	2	D	■	16,0	16,0	44,0	99,0	3,0	6	■
JS720160D2R310.0Z6C-HXT	03298289	2	D	■	16,0	16,0	44,0	99,0	3,1	6	■
JS720160D2R400.0Z6C-HXT	03298290	2	D	■	16,0	16,0	44,0	99,0	4,0	6	■
JS720160D2R600.0Z6C-HXT	03298291	2	D	■	16,0	16,0	44,0	99,0	6,0	6	■
JS720200D3R050.0Z6C-HXT	03060315	3	D	■	20,0	20,0	62,0	121,0	0,5	6	■
JS720200D3R100.0Z6C-HXT	03298292	3	D	■	20,0	20,0	62,0	121,0	1,0	6	■
JS720200D3R200.0Z6C-HXT	03298293	3	D	■	20,0	20,0	62,0	121,0	2,0	6	■
JS720200D3R250.0Z6C-HXT	03298294	3	D	■	20,0	20,0	62,0	121,0	2,5	6	■
JS720200D3R300.0Z6C-HXT	03298295	3	D	■	20,0	20,0	62,0	121,0	3,0	6	■
JS720200D3R310.0Z6C-HXT	03298296	3	D	■	20,0	20,0	62,0	121,0	3,1	6	■
JS720200D3R400.0Z6C-HXT	03298297	3	D	■	20,0	20,0	62,0	121,0	4,0	6	■
JS720200D3R500.0Z6C-HXT	03298298	3	D	■	20,0	20,0	62,0	121,0	5,0	6	■
JS720200D3R600.0Z6C-HXT	03298299	3	D	■	20,0	20,0	62,0	121,0	6,0	6	■
JS720250D3R050.0Z6C-HXT	03066270	3	D	■	25,0	25,0	78,0	146,0	0,5	6	■
JS720250D3R100.0Z6C-HXT	03298300	3	D	■	25,0	25,0	78,0	146,0	1,0	6	■
JS720250D3R200.0Z6C-HXT	03298301	3	D	■	25,0	25,0	78,0	146,0	2,0	6	■
JS720250D3R300.0Z6C-HXT	03298302	3	D	■	25,0	25,0	78,0	146,0	3,0	6	■
JS720250D3R400.0Z6C-HXT	03298303	3	D	■	25,0	25,0	78,0	146,0	4,0	6	■
JS720250D3R600.0Z6C-HXT	03298304	3	D	■	25,0	25,0	78,0	146,0	6,0	6	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

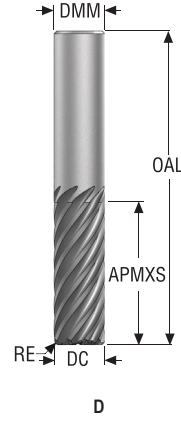
Grafit malzeme için

Minimaster Plus

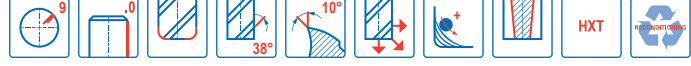
Minimaster

## JS720

Yüksek performans – Titanyum – Dik kenarlı<sup>1</sup> – 9 Ağızlı – Silindirik – Köşe radyüsü



- Toleranslar:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Tekrar bilenebilir

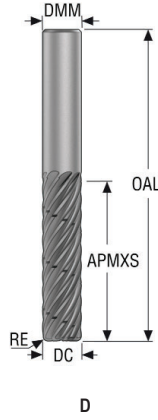


Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	RE	PCEDC	Silindirik
				mm	mm	mm	mm	mm		
JS720100D2R050.0Z9-HXT	10067510	2	D	10,0	10,0	26,0	72,0	0,5	9	■
JS720100D2R100.0Z9-HXT	10067511	2	D	10,0	10,0	26,0	72,0	1,0	9	■
JS720100D2R200.0Z9-HXT	10067512	2	D	10,0	10,0	26,0	72,0	2,0	9	■
JS720120D2R050.0Z9-HXT	10067513	2	D	12,0	12,0	30,0	83,0	0,5	9	■
JS720120D2R100.0Z9-HXT	10067514	2	D	12,0	12,0	30,0	83,0	1,0	9	■
JS720120D2R200.0Z9-HXT	10067515	2	D	12,0	12,0	30,0	83,0	2,0	9	■
JS720160D2R100.0Z9-HXT	10008152	2	D	16,0	16,0	44,0	99,0	1,0	9	■
JS720160D2R200.0Z9-HXT	10008153	2	D	16,0	16,0	44,0	99,0	2,0	9	■
JS720160D2R300.0Z9-HXT	10008154	2	D	16,0	16,0	44,0	99,0	3,0	9	■
JS720250D2R100.0Z9-HXT	10008155	2	D	25,0	25,0	50,0	125,0	1,0	9	■
JS720250D2R200.0Z9-HXT	10008156	2	D	25,0	25,0	50,0	125,0	2,0	9	■
JS720250D2R300.0Z9-HXT	10008157	2	D	25,0	25,0	50,0	125,0	3,0	9	■
JS720100D3R050.0Z9-HXT	10067516	3	D	10,0	10,0	40,0	89,0	0,5	9	■
JS720100D3R100.0Z9-HXT	10067517	3	D	10,0	10,0	40,0	89,0	1,0	9	■
JS720100D3R200.0Z9-HXT	10067518	3	D	10,0	10,0	40,0	89,0	2,0	9	■
JS720120D3R050.0Z9-HXT	10067519	3	D	12,0	12,0	45,0	100,0	0,5	9	■
JS720120D3R100.0Z9-HXT	10067520	3	D	12,0	12,0	45,0	100,0	1,0	9	■
JS720120D3R200.0Z9-HXT	10067521	3	D	12,0	12,0	45,0	100,0	2,0	9	■
JS720160D3R100.0Z9-HXT	10008158	3	D	16,0	16,0	65,0	130,0	1,0	9	■
JS720160D3R200.0Z9-HXT	10008159	3	D	16,0	16,0	65,0	130,0	2,0	9	■
JS720160D3R300.0Z9-HXT	10008160	3	D	16,0	16,0	65,0	130,0	3,0	9	■
JS720200D3R100.0Z9-HXT	10008161	3	D	20,0	20,0	62,0	121,0	1,0	9	■
JS720200D3R200.0Z9-HXT	10008162	3	D	20,0	20,0	62,0	121,0	2,0	9	■
JS720200D3R300.0Z9-HXT	10008163	3	D	20,0	20,0	62,0	121,0	3,0	9	■
JS720250D3R100.0Z9-HXT	10008164	3	D	25,0	25,0	78,0	146,0	1,0	9	■
JS720250D3R200.0Z9-HXT	10008165	3	D	25,0	25,0	78,0	146,0	2,0	9	■
JS720250D3R300.0Z9-HXT	10008166	3	D	25,0	25,0	78,0	146,0	3,0	9	■

■ Stoklu standart ürün.

## JS720

Yüksek performans – Titanyum – Dik kenarlı – 9 Ağızlı – Silindirik – Köşe radyüsü



- Toleranslar:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	talaş dağıtıcılığı	DC	DMM	APMXS	OAL	RE	PCEDC	Silindirik
					mm	mm	mm	mm	mm		
JS720100D3R050.0Z9C-HXT	10067522	3	D	■	10,0	10,0	40,0	89,0	0,5	9	■
JS720100D3R100.0Z9C-HXT	10067523	3	D	■	10,0	10,0	40,0	89,0	1,0	9	■
JS720100D3R200.0Z9C-HXT	10067524	3	D	■	10,0	10,0	40,0	89,0	2,0	9	■
JS720120D3R050.0Z9C-HXT	10067525	3	D	■	12,0	12,0	45,0	100,0	0,5	9	■
JS720120D3R100.0Z9C-HXT	10067526	3	D	■	12,0	12,0	45,0	100,0	1,0	9	■
JS720120D3R200.0Z9C-HXT	10067527	3	D	■	12,0	12,0	45,0	100,0	2,0	9	■
JS720160D3R100.0Z9C-HXT	10067528	3	D	■	16,0	16,0	65,0	130,0	1,0	9	■
JS720160D3R200.0Z9C-HXT	10067529	3	D	■	16,0	16,0	65,0	130,0	2,0	9	■
JS720160D3R300.0Z9C-HXT	10067530	3	D	■	16,0	16,0	65,0	130,0	3,0	9	■
JS720200D3R100.0Z9C-HXT	10067531	3	D	■	20,0	20,0	62,0	121,0	1,0	9	■
JS720200D3R200.0Z9C-HXT	10067532	3	D	■	20,0	20,0	62,0	121,0	2,0	9	■
JS720200D3R300.0Z9C-HXT	10067533	3	D	■	20,0	20,0	62,0	121,0	3,0	9	■
JS720250D3R100.0Z9C-HXT	10067534	3	D	■	25,0	25,0	78,0	146,0	1,0	9	■
JS720250D3R200.0Z9C-HXT	10067535	3	D	■	25,0	25,0	78,0	146,0	2,0	9	■
JS720250D3R300.0Z9C-HXT	10067536	3	D	■	25,0	25,0	78,0	146,0	3,0	9	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

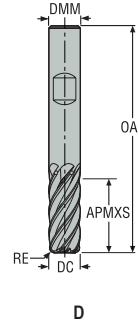
Grafit malzeme için

Minimaster Plus

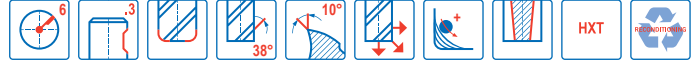
Minimaster

## JS720

Yüksek performans – Titanyum – Dik kenarlı<sup>1</sup> – 6 Ağızlı – Weldon – Köşe radyüsü



- Toleranslar:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Tekrar bilebilir

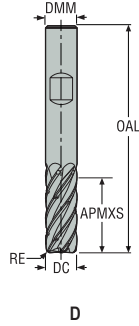


Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	RE	PCEDC	Weldon
				mm	mm	mm	mm	mm		
JS720060D2R050.3Z6-HXT	03060339	2	D	6,0	6,0	17,0	57,0	0,5	6	<input type="checkbox"/>
JS720060D2R100.3Z6-HXT	03060340	2	D	6,0	6,0	17,0	57,0	1,0	6	<input type="checkbox"/>
JS720080D2R050.3Z6-HXT	03060341	2	D	8,0	8,0	23,0	63,0	0,5	6	<input type="checkbox"/>
JS720080D2R100.3Z6-HXT	03061295	2	D	8,0	8,0	23,0	63,0	1,0	6	<input type="checkbox"/>
JS720100D2R050.3Z6-HXT	03060342	2	D	10,0	10,0	26,0	72,0	0,5	6	<input type="checkbox"/>
JS720100D2R100.3Z6-HXT	03060344	2	D	10,0	10,0	26,0	72,0	1,0	6	<input type="checkbox"/>
JS720100D2R200.3Z6-HXT	03060345	2	D	10,0	10,0	26,0	72,0	2,0	6	<input type="checkbox"/>
JS720100D2R300.3Z6-HXT	03060346	2	D	10,0	10,0	26,0	72,0	3,0	6	<input type="checkbox"/>
JS720120D2R050.3Z6-HXT	03060347	2	D	12,0	12,0	30,0	83,0	0,5	6	<input type="checkbox"/>
JS720120D2R100.3Z6-HXT	03060349	2	D	12,0	12,0	30,0	83,0	1,0	6	<input type="checkbox"/>
JS720120D2R200.3Z6-HXT	03060350	2	D	12,0	12,0	30,0	83,0	2,0	6	<input type="checkbox"/>
JS720120D2R300.3Z6-HXT	03060351	2	D	12,0	12,0	30,0	83,0	3,0	6	<input type="checkbox"/>
JS720160D2R050.3Z6-HXT	03060352	2	D	16,0	16,0	44,0	99,0	0,5	6	<input type="checkbox"/>
JS720160D2R100.3Z6-HXT	03060354	2	D	16,0	16,0	44,0	99,0	1,0	6	<input type="checkbox"/>
JS720160D2R200.3Z6-HXT	03060355	2	D	16,0	16,0	44,0	99,0	2,0	6	<input type="checkbox"/>
JS720160D2R300.3Z6-HXT	03060356	2	D	16,0	16,0	44,0	99,0	3,0	6	<input type="checkbox"/>
JS720160D2R400.3Z6-HXT	03060357	2	D	16,0	16,0	44,0	99,0	4,0	6	<input type="checkbox"/>
JS720160D2R600.3Z6-HXT	03060358	2	D	16,0	16,0	44,0	99,0	6,0	6	<input type="checkbox"/>
JS720200D3R050.3Z6-HXT	03060359	3	D	20,0	20,0	62,0	121,0	0,5	6	<input type="checkbox"/>
JS720200D3R100.3Z6-HXT	03060361	3	D	20,0	20,0	62,0	121,0	1,0	6	<input type="checkbox"/>
JS720200D3R200.3Z6-HXT	03060362	3	D	20,0	20,0	62,0	121,0	2,0	6	<input type="checkbox"/>
JS720200D3R300.3Z6-HXT	03060363	3	D	20,0	20,0	62,0	121,0	3,0	6	<input checked="" type="checkbox"/>
JS720200D3R400.3Z6-HXT	03060364	3	D	20,0	20,0	62,0	121,0	4,0	6	<input type="checkbox"/>
JS720200D3R500.3Z6-HXT	03060365	3	D	20,0	20,0	62,0	121,0	5,0	6	<input type="checkbox"/>
JS720200D3R600.3Z6-HXT	03060366	3	D	20,0	20,0	62,0	121,0	6,0	6	<input type="checkbox"/>
JS720250D3R050.3Z6-HXT	03060367	3	D	25,0	25,0	78,0	146,0	0,5	6	<input type="checkbox"/>
JS720250D3R100.3Z6-HXT	03060368	3	D	25,0	25,0	78,0	146,0	1,0	6	<input type="checkbox"/>
JS720250D3R200.3Z6-HXT	03060369	3	D	25,0	25,0	78,0	146,0	2,0	6	<input type="checkbox"/>
JS720250D3R300.3Z6-HXT	03060370	3	D	25,0	25,0	78,0	146,0	3,0	6	<input type="checkbox"/>
JS720250D3R400.3Z6-HXT	03060371	3	D	25,0	25,0	78,0	146,0	4,0	6	<input checked="" type="checkbox"/>
JS720250D3R600.3Z6-HXT	03060372	3	D	25,0	25,0	78,0	146,0	6,0	6	<input type="checkbox"/>

Weldon mevcut. Teslimat süresi 3 iş günüdür.

## JS720

Yüksek performans – Titanyum – Dik kenarlı – 6 Ağızlı – Weldon – Köşe radyüsü – Talaş dağıtıcılı



- Toleranslar:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Talaş dağıtıcılı
- Tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	talaş dağıtıcılı	DC	DMM	APMXS	OAL	RE	PCEDC	Weldon
					mm	mm	mm	mm	mm		
JS720100D2R050.3Z6C-HXT	03060343	2	D	■	10,0	10,0	26,0	72,0	0,5	6	<input type="checkbox"/>
JS720120D2R050.3Z6C-HXT	03060348	2	D	■	12,0	12,0	30,0	83,0	0,5	6	<input type="checkbox"/>
JS720120D2R100.3Z6C-HXT	03298308	2	D	■	12,0	12,0	30,0	83,0	1,0	6	<input type="checkbox"/>
JS720120D2R200.3Z6C-HXT	03298309	2	D	■	12,0	12,0	30,0	83,0	2,0	6	<input type="checkbox"/>
JS720120D2R250.3Z6C-HXT	03298310	2	D	■	12,0	12,0	30,0	83,0	2,5	6	<input type="checkbox"/>
JS720120D2R300.3Z6C-HXT	03298311	2	D	■	12,0	12,0	30,0	83,0	3,0	6	<input type="checkbox"/>
JS720120D2R310.3Z6C-HXT	03298312	2	D	■	12,0	12,0	30,0	83,0	3,1	6	<input type="checkbox"/>
JS720160D2R050.3Z6C-HXT	03060353	2	D	■	16,0	16,0	44,0	99,0	0,5	6	■
JS720160D2R100.3Z6C-HXT	03298313	2	D	■	16,0	16,0	44,0	99,0	1,0	6	■
JS720160D2R200.3Z6C-HXT	03298314	2	D	■	16,0	16,0	44,0	99,0	2,0	6	■
JS720160D2R250.3Z6C-HXT	03298315	2	D	■	16,0	16,0	44,0	99,0	2,5	6	■
JS720160D2R300.3Z6C-HXT	03298316	2	D	■	16,0	16,0	44,0	99,0	3,0	6	■
JS720160D2R310.3Z6C-HXT	03298317	2	D	■	16,0	16,0	44,0	99,0	3,1	6	■
JS720160D2R400.3Z6C-HXT	03298318	2	D	■	16,0	16,0	44,0	99,0	4,0	6	■
JS720160D2R600.3Z6C-HXT	03298319	2	D	■	16,0	16,0	44,0	99,0	6,0	6	■
JS720200D3R050.3Z6C-HXT	03060360	3	D	■	20,0	20,0	62,0	121,0	0,5	6	■
JS720200D3R100.3Z6C-HXT	03298320	3	D	■	20,0	20,0	62,0	121,0	1,0	6	■
JS720200D3R200.3Z6C-HXT	03298321	3	D	■	20,0	20,0	62,0	121,0	2,0	6	■
JS720200D3R250.3Z6C-HXT	03298322	3	D	■	20,0	20,0	62,0	121,0	2,5	6	■
JS720200D3R300.3Z6C-HXT	03298323	3	D	■	20,0	20,0	62,0	121,0	3,0	6	■
JS720200D3R310.3Z6C-HXT	03298324	3	D	■	20,0	20,0	62,0	121,0	3,1	6	■
JS720200D3R400.3Z6C-HXT	03298325	3	D	■	20,0	20,0	62,0	121,0	4,0	6	■
JS720200D3R500.3Z6C-HXT	03298326	3	D	■	20,0	20,0	62,0	121,0	5,0	6	■
JS720200D3R600.3Z6C-HXT	03298327	3	D	■	20,0	20,0	62,0	121,0	6,0	6	■
JS720250D3R050.3Z6C-HXT	03066460	3	D	■	25,0	25,0	78,0	146,0	0,5	6	■
JS720250D3R100.3Z6C-HXT	03298328	3	D	■	25,0	25,0	78,0	146,0	1,0	6	■
JS720250D3R200.3Z6C-HXT	03298329	3	D	■	25,0	25,0	78,0	146,0	2,0	6	■
JS720250D3R300.3Z6C-HXT	03298330	3	D	■	25,0	25,0	78,0	146,0	3,0	6	■
JS720250D3R400.3Z6C-HXT	03298331	3	D	■	25,0	25,0	78,0	146,0	4,0	6	■
JS720250D3R600.3Z6C-HXT	03298332	3	D	■	25,0	25,0	78,0	146,0	6,0	6	■

□ Weldon mevcut. Teslimat süresi 3 iş günüdür.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

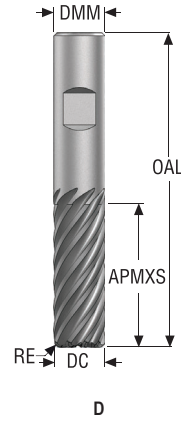
Grafit malzeme için

Minimaster Plus

Minimaster

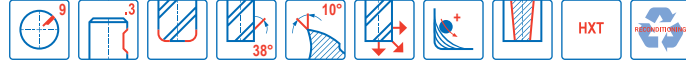
## JS720

Yüksek performans – Titanyum – Dik kenarlı<sup>1</sup> – 9 Ağızlı – Weldon – Köşe radyüsü



D

- Toleranslar:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Tekrar bilenebilir

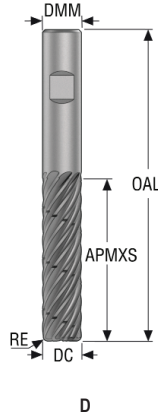


Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	RE	PCEDC	Weldon
				mm	mm	mm	mm	mm		
JS720100D2R050.3Z9-HXT	10067881	2	D	10,0	10,0	26,0	72,0	0,5	9	<input type="checkbox"/>
JS720100D2R100.3Z9-HXT	10067882	2	D	10,0	10,0	26,0	72,0	1,0	9	<input type="checkbox"/>
JS720100D2R200.3Z9-HXT	10067883	2	D	10,0	10,0	26,0	72,0	2,0	9	<input type="checkbox"/>
JS720120D2R050.3Z9-HXT	10067884	2	D	12,0	12,0	30,0	83,0	0,5	9	<input type="checkbox"/>
JS720120D2R100.3Z9-HXT	10067885	2	D	12,0	12,0	30,0	83,0	1,0	9	<input type="checkbox"/>
JS720120D2R200.3Z9-HXT	10067886	2	D	12,0	12,0	30,0	83,0	2,0	9	<input type="checkbox"/>
JS720160D2R100.3Z9-HXT	10008279	2	D	16,0	16,0	44,0	99,0	1,0	9	<input type="checkbox"/>
JS720160D2R200.3Z9-HXT	10008280	2	D	16,0	16,0	44,0	99,0	2,0	9	<input type="checkbox"/>
JS720160D2R300.3Z9-HXT	10008281	2	D	16,0	16,0	44,0	99,0	3,0	9	<input type="checkbox"/>
JS720250D2R100.3Z9-HXT	10008282	2	D	25,0	25,0	50,0	125,0	1,0	9	<input type="checkbox"/>
JS720250D2R200.3Z9-HXT	10008283	2	D	25,0	25,0	50,0	125,0	2,0	9	<input type="checkbox"/>
JS720250D2R300.3Z9-HXT	10008284	2	D	25,0	25,0	50,0	125,0	3,0	9	<input type="checkbox"/>
JS720100D3R050.3Z9-HXT	10067887	3	D	10,0	10,0	40,0	89,0	0,5	9	<input type="checkbox"/>
JS720100D3R100.3Z9-HXT	10067888	3	D	10,0	10,0	40,0	89,0	1,0	9	<input type="checkbox"/>
JS720100D3R200.3Z9-HXT	10067889	3	D	10,0	10,0	40,0	89,0	2,0	9	<input type="checkbox"/>
JS720120D3R050.3Z9-HXT	10067890	3	D	12,0	12,0	45,0	100,0	0,5	9	<input type="checkbox"/>
JS720120D3R100.3Z9-HXT	10067891	3	D	12,0	12,0	45,0	100,0	1,0	9	<input type="checkbox"/>
JS720120D3R200.3Z9-HXT	10067892	3	D	12,0	12,0	45,0	100,0	2,0	9	<input type="checkbox"/>
JS720160D3R100.3Z9-HXT	10008285	3	D	16,0	16,0	65,0	130,0	1,0	9	<input type="checkbox"/>
JS720160D3R200.3Z9-HXT	10008286	3	D	16,0	16,0	65,0	130,0	2,0	9	<input type="checkbox"/>
JS720160D3R300.3Z9-HXT	10008287	3	D	16,0	16,0	65,0	130,0	3,0	9	<input type="checkbox"/>
JS720200D3R100.3Z9-HXT	10008288	3	D	20,0	20,0	62,0	121,0	1,0	9	<input type="checkbox"/>
JS720200D3R200.3Z9-HXT	10008289	3	D	20,0	20,0	62,0	121,0	2,0	9	<input type="checkbox"/>
JS720200D3R300.3Z9-HXT	10008290	3	D	20,0	20,0	62,0	121,0	3,0	9	<input type="checkbox"/>
JS720250D3R100.3Z9-HXT	10008292	3	D	25,0	25,0	78,0	146,0	1,0	9	<input type="checkbox"/>
JS720250D3R200.3Z9-HXT	10008293	3	D	25,0	25,0	78,0	146,0	2,0	9	<input type="checkbox"/>
JS720250D3R300.3Z9-HXT	10008294	3	D	25,0	25,0	78,0	146,0	3,0	9	<input type="checkbox"/>

Weldon mevcut. Teslimat süresi 3 iş günüdür.

## JS720

Yüksek performans – Titanyum – Dik kenarlı – 9 Ağızlı – Silindirik – Köşe radyüsü



D



- Toleranslar:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	talaş dağıtıcılı	DC	DMM	APMXS	OAL	RE	PCEDC	Weldon
					mm	mm	mm	mm	mm		
JS720100D3R050.3Z9C-HXT	10067893	3	D	■	10,0	10,0	40,0	89,0	0,5	9	<input type="checkbox"/>
JS720100D3R100.3Z9C-HXT	10067894	3	D	■	10,0	10,0	40,0	89,0	1,0	9	<input type="checkbox"/>
JS720100D3R200.3Z9C-HXT	10067895	3	D	■	10,0	10,0	40,0	89,0	2,0	9	<input type="checkbox"/>
JS720120D3R050.3Z9C-HXT	10067897	3	D	■	12,0	12,0	45,0	100,0	0,5	9	<input type="checkbox"/>
JS720120D3R100.3Z9C-HXT	10067898	3	D	■	12,0	12,0	45,0	100,0	1,0	9	<input type="checkbox"/>
JS720120D3R200.3Z9C-HXT	10067899	3	D	■	12,0	12,0	45,0	100,0	2,0	9	<input type="checkbox"/>
JS720160D3R100.3Z9C-HXT	10067900	3	D	■	16,0	16,0	65,0	130,0	1,0	9	<input type="checkbox"/>
JS720160D3R200.3Z9C-HXT	10067901	3	D	■	16,0	16,0	65,0	130,0	2,0	9	<input type="checkbox"/>
JS720160D3R300.3Z9C-HXT	10067902	3	D	■	16,0	16,0	65,0	130,0	3,0	9	<input type="checkbox"/>
JS720200D3R100.3Z9C-HXT	10067903	3	D	■	20,0	20,0	62,0	121,0	1,0	9	<input type="checkbox"/>
JS720200D3R200.3Z9C-HXT	10067904	3	D	■	20,0	20,0	62,0	121,0	2,0	9	<input type="checkbox"/>
JS720200D3R300.3Z9C-HXT	10067905	3	D	■	20,0	20,0	62,0	121,0	3,0	9	<input type="checkbox"/>
JS720250D3R100.3Z9C-HXT	10067906	3	D	■	25,0	25,0	78,0	146,0	1,0	9	<input type="checkbox"/>
JS720250D3R200.3Z9C-HXT	10067907	3	D	■	25,0	25,0	78,0	146,0	2,0	9	<input type="checkbox"/>
JS720250D3R300.3Z9C-HXT	10067908	3	D	■	25,0	25,0	78,0	146,0	3,0	9	<input type="checkbox"/>

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

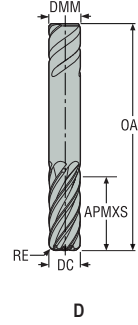
Grafit malzeme için

Minimaster Plus

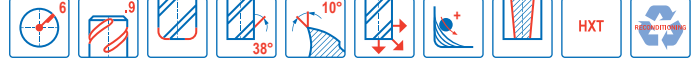
Minimaster

## JS720

Yüksek performans – Titanyum – Dik kenarlı<sup>1</sup> – 6 Ağızlı – Safelock – Köşe radyüsü



- Toleranslar:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Tekrar bilenebilir



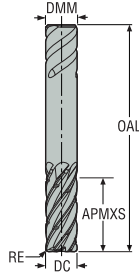
Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	RE	PCEDC	Safelock
				mm	mm	mm	mm	mm		
JS720060D2R050.9Z6-HXT	03060374	2	D	6,0	6,0	17,0	57,0	0,5	6	<input type="checkbox"/>
JS720060D2R100.9Z6-HXT	03060375	2	D	6,0	6,0	17,0	57,0	1,0	6	<input type="checkbox"/>
JS720080D2R050.9Z6-HXT	03060376	2	D	8,0	8,0	23,0	63,0	0,5	6	<input type="checkbox"/>
JS720080D2R100.9Z6-HXT	03061296	2	D	8,0	8,0	23,0	63,0	1,0	6	<input type="checkbox"/>
JS720100D2R050.9Z6-HXT	03060377	2	D	10,0	10,0	26,0	72,0	0,5	6	<input type="checkbox"/>
JS720100D2R100.9Z6-HXT	03060379	2	D	10,0	10,0	26,0	72,0	1,0	6	<input type="checkbox"/>
JS720100D2R200.9Z6-HXT	03060380	2	D	10,0	10,0	26,0	72,0	2,0	6	<input type="checkbox"/>
JS720100D2R300.9Z6-HXT	03060381	2	D	10,0	10,0	26,0	72,0	3,0	6	<input type="checkbox"/>
JS720120D2R050.9Z6-HXT	03060382	2	D	12,0	12,0	30,0	83,0	0,5	6	<input type="checkbox"/>
JS720120D2R100.9Z6-HXT	03060384	2	D	12,0	12,0	30,0	83,0	1,0	6	<input type="checkbox"/>
JS720120D2R200.9Z6-HXT	03060385	2	D	12,0	12,0	30,0	83,0	2,0	6	<input type="checkbox"/>
JS720120D2R300.9Z6-HXT	03060386	2	D	12,0	12,0	30,0	83,0	3,0	6	<input type="checkbox"/>
JS720160D2R050.9Z6-HXT	03060387	2	D	16,0	16,0	44,0	99,0	0,5	6	<input type="checkbox"/>
JS720160D2R100.9Z6-HXT	03060389	2	D	16,0	16,0	44,0	99,0	1,0	6	<input type="checkbox"/>
JS720160D2R200.9Z6-HXT	03060390	2	D	16,0	16,0	44,0	99,0	2,0	6	<input type="checkbox"/>
JS720160D2R300.9Z6-HXT	03060391	2	D	16,0	16,0	44,0	99,0	3,0	6	<input type="checkbox"/>
JS720160D2R400.9Z6-HXT	03060392	2	D	16,0	16,0	44,0	99,0	4,0	6	<input type="checkbox"/>
JS720160D2R600.9Z6-HXT	03060393	2	D	16,0	16,0	44,0	99,0	6,0	6	<input type="checkbox"/>
JS720200D3R050.9Z6-HXT	03060394	3	D	20,0	20,0	62,0	121,0	0,5	6	<input type="checkbox"/>
JS720200D3R100.9Z6-HXT	03060396	3	D	20,0	20,0	62,0	121,0	1,0	6	<input type="checkbox"/>
JS720200D3R200.9Z6-HXT	03060397	3	D	20,0	20,0	62,0	121,0	2,0	6	<input type="checkbox"/>
JS720200D3R300.9Z6-HXT	03060398	3	D	20,0	20,0	62,0	121,0	3,0	6	<input type="checkbox"/>
JS720200D3R400.9Z6-HXT	03060399	3	D	20,0	20,0	62,0	121,0	4,0	6	<input type="checkbox"/>
JS720200D3R500.9Z6-HXT	03060400	3	D	20,0	20,0	62,0	121,0	5,0	6	<input type="checkbox"/>
JS720200D3R600.9Z6-HXT	03060401	3	D	20,0	20,0	62,0	121,0	6,0	6	<input type="checkbox"/>
JS720250D3R050.9Z6-HXT	03060402	3	D	25,0	25,0	78,0	146,0	0,5	6	<input type="checkbox"/>
JS720250D3R100.9Z6-HXT	03060403	3	D	25,0	25,0	78,0	146,0	1,0	6	<input type="checkbox"/>
JS720250D3R200.9Z6-HXT	03060404	3	D	25,0	25,0	78,0	146,0	2,0	6	<input type="checkbox"/>
JS720250D3R300.9Z6-HXT	03060405	3	D	25,0	25,0	78,0	146,0	3,0	6	<input type="checkbox"/>
JS720250D3R400.9Z6-HXT	03060406	3	D	25,0	25,0	78,0	146,0	4,0	6	<input type="checkbox"/>
JS720250D3R600.9Z6-HXT	03060407	3	D	25,0	25,0	78,0	146,0	6,0	6	<input type="checkbox"/>

Safelock mevcut. Teslimat süresi 6 iş günüdür.



## JS720

Yüksek performans – Titanyum – Dik kenarlı' – 6 Ağızlı – Safelock – Köşe radyüsü – Talaş dağıtıcılı



D



- Toleranslar:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Talaş dağıtıcılı
- Tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	talaş dağıtıcılı	DC	DMM	APMXS	OAL	RE	PCEDC	Safelock
					mm	mm	mm	mm	mm		
JS720100D2R050.9Z6C-HXT	03060378	2	D	■	10,0	10,0	26,0	72,0	0,5	6	<input type="checkbox"/>
JS720120D2R050.9Z6C-HXT	03060383	2	D	■	12,0	12,0	30,0	83,0	0,5	6	<input type="checkbox"/>
JS720120D2R100.9Z6C-HXT	03298334	2	D	■	12,0	12,0	30,0	83,0	1,0	6	<input type="checkbox"/>
JS720120D2R200.9Z6C-HXT	03298335	2	D	■	12,0	12,0	30,0	83,0	2,0	6	<input type="checkbox"/>
JS720120D2R250.9Z6C-HXT	03298336	2	D	■	12,0	12,0	30,0	83,0	2,5	6	<input type="checkbox"/>
JS720120D2R300.9Z6C-HXT	03298337	2	D	■	12,0	12,0	30,0	83,0	3,0	6	<input type="checkbox"/>
JS720120D2R310.9Z6C-HXT	03298338	2	D	■	12,0	12,0	30,0	83,0	3,1	6	<input type="checkbox"/>
JS720160D2R050.9Z6C-HXT	03060388	2	D	■	16,0	16,0	44,0	99,0	0,5	6	<input type="checkbox"/>
JS720160D2R100.9Z6C-HXT	03298339	2	D	■	16,0	16,0	44,0	99,0	1,0	6	<input type="checkbox"/>
JS720160D2R200.9Z6C-HXT	03298340	2	D	■	16,0	16,0	44,0	99,0	2,0	6	<input type="checkbox"/>
JS720160D2R250.9Z6C-HXT	03298341	2	D	■	16,0	16,0	44,0	99,0	2,5	6	<input type="checkbox"/>
JS720160D2R300.9Z6C-HXT	03298342	2	D	■	16,0	16,0	44,0	99,0	3,0	6	<input type="checkbox"/>
JS720160D2R310.9Z6C-HXT	03298343	2	D	■	16,0	16,0	44,0	99,0	3,1	6	<input type="checkbox"/>
JS720160D2R400.9Z6C-HXT	03298344	2	D	■	16,0	16,0	44,0	99,0	4,0	6	<input type="checkbox"/>
JS720160D2R600.9Z6C-HXT	03298345	2	D	■	16,0	16,0	44,0	99,0	6,0	6	<input type="checkbox"/>
JS720200D3R050.9Z6C-HXT	03060395	3	D	■	20,0	20,0	62,0	121,0	0,5	6	<input type="checkbox"/>
JS720200D3R100.9Z6C-HXT	03298346	3	D	■	20,0	20,0	62,0	121,0	1,0	6	<input type="checkbox"/>
JS720200D3R200.9Z6C-HXT	03298347	3	D	■	20,0	20,0	62,0	121,0	2,0	6	<input type="checkbox"/>
JS720200D3R250.9Z6C-HXT	03298348	3	D	■	20,0	20,0	62,0	121,0	2,5	6	<input type="checkbox"/>
JS720200D3R300.9Z6C-HXT	03298349	3	D	■	20,0	20,0	62,0	121,0	3,0	6	<input type="checkbox"/>
JS720200D3R310.9Z6C-HXT	03298350	3	D	■	20,0	20,0	62,0	121,0	3,1	6	<input type="checkbox"/>
JS720200D3R400.9Z6C-HXT	03298351	3	D	■	20,0	20,0	62,0	121,0	4,0	6	<input type="checkbox"/>
JS720200D3R500.9Z6C-HXT	03298352	3	D	■	20,0	20,0	62,0	121,0	5,0	6	<input type="checkbox"/>
JS720200D3R600.9Z6C-HXT	03298353	3	D	■	20,0	20,0	62,0	121,0	6,0	6	<input type="checkbox"/>
JS720250D3R050.9Z6C-HXT	03066461	3	D	■	25,0	25,0	78,0	146,0	0,5	6	<input type="checkbox"/>
JS720250D3R100.9Z6C-HXT	03298354	3	D	■	25,0	25,0	78,0	146,0	1,0	6	<input type="checkbox"/>
JS720250D3R200.9Z6C-HXT	03298355	3	D	■	25,0	25,0	78,0	146,0	2,0	6	<input type="checkbox"/>
JS720250D3R300.9Z6C-HXT	03298356	3	D	■	25,0	25,0	78,0	146,0	3,0	6	<input type="checkbox"/>
JS720250D3R400.9Z6C-HXT	03298357	3	D	■	25,0	25,0	78,0	146,0	4,0	6	<input type="checkbox"/>
JS720250D3R600.9Z6C-HXT	03298358	3	D	■	25,0	25,0	78,0	146,0	6,0	6	<input type="checkbox"/>

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

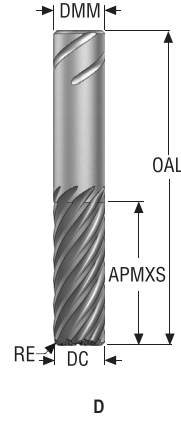
Grafit malzeme için

Minimaster Plus

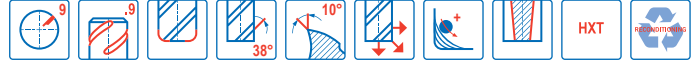
Minimaster

## JS720

Yüksek performans – Titanyum – Dik kenarlı<sup>1</sup> – 9 Ağızlı – Safelock – Köşe radyüsü



- Toleranslar:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Tekrar bilenebilir

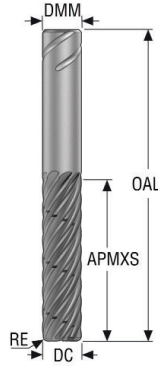


Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	RE	PCEDC	Safelock
				mm	mm	mm	mm	mm		
JS720100D2R050.9Z9-HXT	10067909	2	D	10,0	10,0	26,0	72,0	0,5	9	<input type="checkbox"/>
JS720100D2R100.9Z9-HXT	10067910	2	D	10,0	10,0	26,0	72,0	1,0	9	<input type="checkbox"/>
JS720100D2R200.9Z9-HXT	10067911	2	D	10,0	10,0	26,0	72,0	2,0	9	<input type="checkbox"/>
JS720120D2R050.9Z9-HXT	10067912	2	D	12,0	12,0	30,0	83,0	0,5	9	<input type="checkbox"/>
JS720120D2R100.9Z9-HXT	10067913	2	D	12,0	12,0	30,0	83,0	1,0	9	<input type="checkbox"/>
JS720120D2R200.9Z9-HXT	10067914	2	D	12,0	12,0	30,0	83,0	2,0	9	<input type="checkbox"/>
JS720160D2R100.9Z9-HXT	10008295	2	D	16,0	16,0	44,0	99,0	1,0	9	<input type="checkbox"/>
JS720160D2R200.9Z9-HXT	10008296	2	D	16,0	16,0	44,0	99,0	2,0	9	<input type="checkbox"/>
JS720160D2R300.9Z9-HXT	10008297	2	D	16,0	16,0	44,0	99,0	3,0	9	<input type="checkbox"/>
JS720250D2R100.9Z9-HXT	10008298	2	D	25,0	25,0	50,0	125,0	1,0	9	<input type="checkbox"/>
JS720250D2R200.9Z9-HXT	10008299	2	D	25,0	25,0	50,0	125,0	2,0	9	<input type="checkbox"/>
JS720250D2R300.9Z9-HXT	10008300	2	D	25,0	25,0	50,0	125,0	3,0	9	<input type="checkbox"/>
JS720100D3R050.9Z9-HXT	10067915	3	D	10,0	10,0	40,0	89,0	0,5	9	<input type="checkbox"/>
JS720100D3R100.9Z9-HXT	10067916	3	D	10,0	10,0	40,0	89,0	1,0	9	<input type="checkbox"/>
JS720100D3R200.9Z9-HXT	10067917	3	D	10,0	10,0	40,0	89,0	2,0	9	<input type="checkbox"/>
JS720120D3R050.9Z9-HXT	10067918	3	D	12,0	12,0	45,0	100,0	0,5	9	<input type="checkbox"/>
JS720120D3R100.9Z9-HXT	10067919	3	D	12,0	12,0	45,0	100,0	1,0	9	<input type="checkbox"/>
JS720120D3R200.9Z9-HXT	10067921	3	D	12,0	12,0	45,0	100,0	2,0	9	<input type="checkbox"/>
JS720160D3R100.9Z9-HXT	10008301	3	D	16,0	16,0	65,0	130,0	1,0	9	<input type="checkbox"/>
JS720160D3R200.9Z9-HXT	10008302	3	D	16,0	16,0	65,0	130,0	2,0	9	<input type="checkbox"/>
JS720160D3R300.9Z9-HXT	10008303	3	D	16,0	16,0	65,0	130,0	3,0	9	<input type="checkbox"/>
JS720200D3R100.9Z9-HXT	10008304	3	D	20,0	20,0	62,0	121,0	1,0	9	<input type="checkbox"/>
JS720200D3R200.9Z9-HXT	10008305	3	D	20,0	20,0	62,0	121,0	2,0	9	<input type="checkbox"/>
JS720200D3R300.9Z9-HXT	10008306	3	D	20,0	20,0	62,0	121,0	3,0	9	<input type="checkbox"/>
JS720250D3R100.9Z9-HXT	10008307	3	D	25,0	25,0	78,0	146,0	1,0	9	<input type="checkbox"/>
JS720250D3R200.9Z9-HXT	10008308	3	D	25,0	25,0	78,0	146,0	2,0	9	<input type="checkbox"/>
JS720250D3R300.9Z9-HXT	10008309	3	D	25,0	25,0	78,0	146,0	3,0	9	<input type="checkbox"/>

Safelock mevcut. Teslimat süresi 6 iş günüdür.

## JS720

Yüksek performans – Titanyum – Dik kenarlı – 6 Ağzılı – Safelock – Köşe radyüsü



- Toleranslar:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	talaş dağıtıcılığı	DC	DMM	APMXS	OAL	RE	PCEDC	Safelock
					mm	mm	mm	mm	mm		
JS720100D3R050.9Z9C-HXT	10067922	3	D	■	10,0	10,0	40,0	89,0	0,5	9	<input type="checkbox"/>
JS720100D3R100.9Z9C-HXT	10067923	3	D	■	10,0	10,0	40,0	89,0	1,0	9	<input type="checkbox"/>
JS720100D3R200.9Z9C-HXT	10067924	3	D	■	10,0	10,0	40,0	89,0	2,0	9	<input type="checkbox"/>
JS720120D3R050.9Z9C-HXT	10067925	3	D	■	12,0	12,0	45,0	100,0	0,5	9	<input type="checkbox"/>
JS720120D3R100.9Z9C-HXT	10067926	3	D	■	12,0	12,0	45,0	100,0	1,0	9	<input type="checkbox"/>
JS720120D3R200.9Z9C-HXT	10067927	3	D	■	12,0	12,0	45,0	100,0	2,0	9	<input type="checkbox"/>
JS720160D3R100.9Z9C-HXT	10067928	3	D	■	16,0	16,0	65,0	130,0	1,0	9	<input type="checkbox"/>
JS720160D3R200.9Z9C-HXT	10067929	3	D	■	16,0	16,0	65,0	130,0	2,0	9	<input type="checkbox"/>
JS720160D3R300.9Z9C-HXT	10067930	3	D	■	16,0	16,0	65,0	130,0	3,0	9	<input type="checkbox"/>
JS720200D3R100.9Z9C-HXT	10067931	3	D	■	20,0	20,0	62,0	121,0	1,0	9	<input type="checkbox"/>
JS720200D3R200.9Z9C-HXT	10067932	3	D	■	20,0	20,0	62,0	121,0	2,0	9	<input type="checkbox"/>
JS720200D3R300.9Z9C-HXT	10067933	3	D	■	20,0	20,0	62,0	121,0	3,0	9	<input type="checkbox"/>
JS720250D3R100.9Z9C-HXT	10067934	3	D	■	25,0	25,0	78,0	146,0	1,0	9	<input type="checkbox"/>
JS720250D3R200.9Z9C-HXT	10067935	3	D	■	25,0	25,0	78,0	146,0	2,0	9	<input type="checkbox"/>
JS720250D3R300.9Z9C-HXT	10067936	3	D	■	25,0	25,0	78,0	146,0	3,0	9	<input type="checkbox"/>

Safelock mevcut. Teslimat süresi 6 iş günüdür.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için


Plastik ve cırp malzemeler için

Grafit malzeme için


Minimaster Plus

Minimaster

Kesme verileri – JS720 Kenar frezeleme PCEDC =6

SMG		a <sub>p</sub> /DC	f <sub>z</sub>							v <sub>c</sub>
			6	8	10	12	16	20	25	
M1	E	1.9	0.065	0.085	0.11	0.13	0.16	0.18	0.20	140 (110–180)
		1.9	0.0026	0.0034	0.0044	0.0050	0.0065	0.0070	0.0080	460 (370 – 590)
M2	E	1.9	0.060	0.080	0.095	0.12	0.14	0.16	0.19	115 (91–150)
		1.9	0.0024	0.0032	0.0038	0.0048	0.0055	0.0065	0.0075	375 (300 – 490)
M3	E	1.9	0.060	0.080	0.095	0.12	0.14	0.16	0.19	90 (72–120)
		1.9	0.0024	0.0032	0.0038	0.0048	0.0055	0.0065	0.0075	295 (240 – 390)
M4	E	1.9	0.060	0.080	0.095	0.12	0.14	0.16	0.19	105 (78–120)
		1.9	0.0024	0.0032	0.0038	0.0048	0.0055	0.0065	0.0075	345 (260 – 390)
M5	E	1.9	0.060	0.080	0.095	0.12	0.14	0.16	0.19	85 (65–100)
		1.9	0.0024	0.0032	0.0038	0.0048	0.0055	0.0065	0.0075	280 (220 – 320)
S1	E	2.6	0.038	0.050	0.065	0.075	0.095	0.11	0.12	41 (28 – 68)
		2.6	0.0015	0.0020	0.0026	0.0030	0.0038	0.0044	0.0048	135 (92 – 220)
S2	E	2.6	0.038	0.050	0.065	0.075	0.095	0.11	0.12	33 (22 – 54)
		2.6	0.0015	0.0020	0.0026	0.0030	0.0038	0.0044	0.0048	110 (73–170)
S3	E	2.6	0.036	0.048	0.060	0.070	0.085	0.10	0.11	29 (20 – 47)
		2.6	0.0014	0.0019	0.0024	0.0028	0.0034	0.0040	0.0044	95 (66–150)
S11	E	1.9	0.060	0.080	0.095	0.12	0.14	0.16	0.19	135 (110–160)
		1.9	0.0024	0.0032	0.0038	0.0048	0.0055	0.0065	0.0075	445 (370 – 520)
S12	E	1.9	0.060	0.080	0.095	0.12	0.14	0.16	0.19	105 (78–120)
		1.9	0.0024	0.0032	0.0038	0.0048	0.0055	0.0065	0.0075	345 (260 – 390)
S13	E	1.9	0.060	0.080	0.095	0.12	0.14	0.16	0.19	105 (78–120)
		1.9	0.0024	0.0032	0.0038	0.0048	0.0055	0.0065	0.0075	345 (260 – 390)

Kesme verileri – JS720 Kenar frezeleme gelişmiş kaba işleme a<sub>p</sub>/DC=0,07 PCEDC =6

SMG		a <sub>p</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>							v <sub>c</sub>
				6	8	10	12	16	20	25	
M1	E	0.400	1.1	0.032	0.044	0.055	0.065	0.080	0.095	0.11	110 (85–140)
		0.400	1.1	0.0013	0.0017	0.0022	0.0026	0.0032	0.0038	0.0044	360 (280 – 450)
M2	E	0.400	1.1	0.030	0.040	0.050	0.060	0.075	0.085	0.095	90 (70–110)
		0.400	1.1	0.0012	0.0016	0.0020	0.0024	0.0030	0.0034	0.0038	295 (230 – 360)
M3	E	0.400	1.1	0.030	0.040	0.050	0.060	0.075	0.085	0.095	70 (55 – 99)
		0.400	1.1	0.0012	0.0016	0.0020	0.0024	0.0030	0.0034	0.0038	230 (190 – 320)
M4	E	0.400	1.1	0.030	0.040	0.050	0.060	0.075	0.085	0.095	80 (60 – 99)
		0.400	1.1	0.0012	0.0016	0.0020	0.0024	0.0030	0.0034	0.0038	260 (200 – 320)
M5	E	0.400	1.1	0.030	0.040	0.050	0.060	0.075	0.085	0.095	65 (50 – 83)
		0.400	1.1	0.0012	0.0016	0.0020	0.0024	0.0030	0.0034	0.0038	215 (170 – 270)
S1	E	0.0500	2.6	0.046	0.060	0.075	0.090	0.11	0.13	0.14	43 (29–71)
		0.0500	2.6	0.0018	0.0024	0.0030	0.0036	0.0044	0.0050	0.0055	140 (96 – 230)
S2	E	0.0500	2.6	0.046	0.060	0.075	0.090	0.11	0.13	0.14	34 (23 – 57)
		0.0500	2.6	0.0018	0.0024	0.0030	0.0036	0.0044	0.0050	0.0055	110 (76–180)
S3	E	0.0500	2.6	0.042	0.055	0.070	0.085	0.10	0.12	0.13	30 (20 – 49)
		0.0500	2.6	0.0017	0.0022	0.0028	0.0034	0.0040	0.0048	0.0050	100 (66–160)
S11	E	0.400	1.1	0.030	0.040	0.050	0.060	0.075	0.085	0.095	105 (78–120)
		0.400	1.1	0.0012	0.0016	0.0020	0.0024	0.0030	0.0034	0.0038	345 (260 – 390)
S12	E	0.400	1.1	0.030	0.040	0.050	0.060	0.075	0.085	0.095	80 (60 – 99)
		0.400	1.1	0.0012	0.0016	0.0020	0.0024	0.0030	0.0034	0.0038	260 (200 – 320)
S13	E	0.400	1.1	0.030	0.040	0.050	0.060	0.075	0.085	0.095	80 (60 – 99)
		0.400	1.1	0.0012	0.0016	0.0020	0.0024	0.0030	0.0034	0.0038	260 (200 – 320)

Kesme verileri – JS720 Kenar frezeleme gelişmiş kaba işleme  $a_p/DC=0,07$  PCEDC=9

SMG		$a_p/DC$	$f_z$					$v_c$
			10	12	16	20	25	
M1	E	2,0	0,11	0,13	0,16	0,18	0,20	125 (98–160)
		2,0	0,0044	0,0050	0,0065	0,0070	0,0080	410 (330–520)
M2	E	2,0	0,095	0,12	0,14	0,16	0,19	105 (82–130)
		2,0	0,0038	0,0048	0,0055	0,0065	0,0075	345 (270–420)
M3	E	2,0	0,095	0,12	0,14	0,16	0,19	80 (64–110)
		2,0	0,0038	0,0048	0,0055	0,0065	0,0075	260 (210–360)
M4	E	2,0	0,095	0,12	0,14	0,16	0,19	95 (70–110)
		2,0	0,0038	0,0048	0,0055	0,0065	0,0075	310 (230–360)
M5	E	2,0	0,095	0,12	0,14	0,16	0,19	75 (59–96)
		2,0	0,0038	0,0048	0,0055	0,0065	0,0075	245 (200–310)
S1	E	2,8	0,065	0,075	0,095	0,11	0,12	37 (25–61)
		2,8	0,0026	0,0030	0,0038	0,0044	0,0048	120 (83–200)
S2	E	2,8	0,065	0,075	0,095	0,11	0,12	30 (20–49)
		2,8	0,0026	0,0030	0,0038	0,0044	0,0048	100 (66–160)
S3	E	2,8	0,060	0,070	0,085	0,10	0,11	26 (18–43)
		2,8	0,0024	0,0028	0,0034	0,0040	0,0044	85 (60–140)
S11	E	2,0	0,095	0,12	0,14	0,16	0,19	120 (91–150)
		2,0	0,0038	0,0048	0,0055	0,0065	0,0075	395 (300–490)
S12	E	2,0	0,095	0,12	0,14	0,16	0,19	95 (70–110)
		2,0	0,0038	0,0048	0,0055	0,0065	0,0075	310 (230–360)
S13	E	2,0	0,095	0,12	0,14	0,16	0,19	95 (70–110)
		2,0	0,0038	0,0048	0,0055	0,0065	0,0075	310 (230–360)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

 $v_c = m/dak$  (sf/dak) $f_z = mm$  (inç/ağız) $a_p, mm/DC$  (inç/DC) = faktör $a_e = mm/DC$  (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve diğer malzemeler için

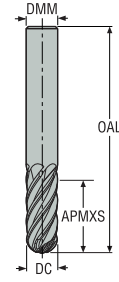
Grafit malzeme için

Minimaster Plus

Minimaster

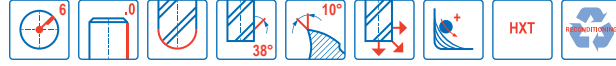
## JS730

Yüksek performans – Titanyum – Tamamı yuvarlak – 6 Ağızlı – Silindirik



D

- Toleranslar:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Ortaya iki ağız
- Tekrar bilenebilir

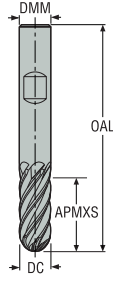


Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	PCEDC	Silindirik
				mm	mm	mm	mm		
JS730060D2B.0Z6-HXT	03067605	2	D	6,0	6,0	17,0	57,0	6	■
JS730080D2B.0Z6-HXT	03067606	2	D	8,0	8,0	23,0	63,0	6	■
JS730100D2B.0Z6-HXT	03067607	2	D	10,0	10,0	26,0	72,0	6	■
JS730120D2B.0Z6-HXT	03067608	2	D	12,0	12,0	30,0	83,0	6	■
JS730160D2B.0Z6-HXT	03067609	2	D	16,0	16,0	44,0	99,0	6	■
JS730200D3B.0Z6-HXT	03067610	3	D	20,0	20,0	62,0	121,0	6	■
JS730250D3B.0Z6-HXT	03067611	3	D	25,0	25,0	78,0	146,0	6	■

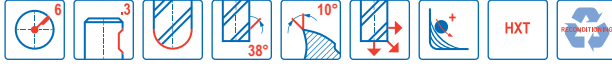
■ Stoklu standart ürün.

## JS730

Yüksek performans – Titanyum – Tamamı yuvarlak – 6 Ağızlı – Weldon



D



- Toleranslar:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Ortaya iki ağız
- Tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	PCEDC	Weldon
				mm	mm	mm	mm		
JS730060D2B.3Z6-HXT	03067778	2	D	6,0	6,0	17,0	57,0	6	<input type="checkbox"/>
JS730080D2B.3Z6-HXT	03067779	2	D	8,0	8,0	23,0	63,0	6	<input type="checkbox"/>
JS730100D2B.3Z6-HXT	03067780	2	D	10,0	10,0	26,0	72,0	6	<input type="checkbox"/>
JS730120D2B.3Z6-HXT	03067781	2	D	12,0	12,0	30,0	83,0	6	<input type="checkbox"/>
JS730160D2B.3Z6-HXT	03067782	2	D	16,0	16,0	44,0	99,0	6	<input type="checkbox"/>
JS730200D3B.3Z6-HXT	03067783	3	D	20,0	20,0	62,0	121,0	6	<input type="checkbox"/>
JS730250D3B.3Z6-HXT	03067784	3	D	25,0	25,0	78,0	146,0	6	<input type="checkbox"/>

Weldon mevcut. Teslimat süresi 3 iş günüdür.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

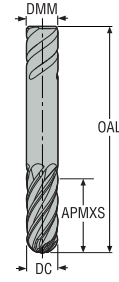
Grafit malzeme için

Minimaster Plus

Minimaster

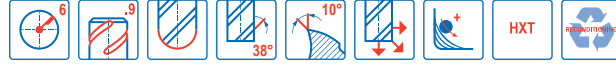
## JS730

Yüksek performans – Titanyum – Tamamı yuvarlak – 6 Ağızlı – Safelock



D

- Toleranslar:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Ortaya iki ağız
- Tekrar bilenebilir



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	PCEDC	Safelock
				mm	mm	mm	mm		
JS730060D2B.9Z6-HXT	03067785	2	D	6,0	6,0	17,0	57,0	6	<input type="checkbox"/>
JS730080D2B.9Z6-HXT	03067786	2	D	8,0	8,0	23,0	63,0	6	<input type="checkbox"/>
JS730100D2B.9Z6-HXT	03067787	2	D	10,0	10,0	26,0	72,0	6	<input type="checkbox"/>
JS730120D2B.9Z6-HXT	03067788	2	D	12,0	12,0	30,0	83,0	6	<input type="checkbox"/>
JS730160D2B.9Z6-HXT	03067789	2	D	16,0	16,0	44,0	99,0	6	<input type="checkbox"/>
JS730200D3B.9Z6-HXT	03067790	3	D	20,0	20,0	62,0	121,0	6	<input type="checkbox"/>
JS730250D3B.9Z6-HXT	03067791	3	D	25,0	25,0	78,0	146,0	6	<input type="checkbox"/>

Safelock mevcut. Teslimat süresi 6 iş günüdür.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve çirp malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster



## Kesme verileri – JS730 Finiş kenar frezeleme

SMG		$a_p/DC$	$a_p/DC$	$f_z$						$v_c$	
				6	8	10	12	16	20		25
M1	E	0.100	1.8	0.048	0.065	0.080	0.095	0.12	0.14	0.15	135 (87–140)
		0,100	1,8	0,0019	0,0026	0,0032	0,0038	0,0048	0,0055	0,0060	445 (290 – 450)
M2	E	0.100	1.8	0.048	0.065	0.080	0.095	0.12	0.14	0.15	110 (70–110)
		0,100	1,8	0,0019	0,0026	0,0032	0,0038	0,0048	0,0055	0,0060	360 (230 – 360)
M3	E	0.100	1.8	0.048	0.065	0.080	0.095	0.12	0.14	0.15	85 (55 – 99)
		0,100	1,8	0,0019	0,0026	0,0032	0,0038	0,0048	0,0055	0,0060	280 (190 – 320)
M4	E	0.100	1.8	0.042	0.055	0.070	0.085	0.10	0.12	0.13	90 (57–100)
		0,100	1,8	0,0017	0,0022	0,0028	0,0034	0,0040	0,0048	0,0050	295 (190 – 320)
M5	E	0.100	1.8	0.042	0.055	0.070	0.085	0.10	0.12	0.13	75 (47 – 85)
		0,100	1,8	0,0017	0,0022	0,0028	0,0034	0,0040	0,0048	0,0050	245 (160 – 270)
S11	E	0.300	1.2	0.030	0.040	0.050	0.060	0.075	0.085	0.095	130 (79–130)
		0,300	1,2	0,0012	0,0016	0,0020	0,0024	0,0030	0,0034	0,0038	425 (260 – 420)
S12	E	0.300	1.2	0.030	0.040	0.050	0.060	0.075	0.085	0.095	100 (61–100)
		0,300	1,2	0,0012	0,0016	0,0020	0,0024	0,0030	0,0034	0,0038	330 (210 – 320)
S13	E	0.300	1.2	0.026	0.034	0.044	0.050	0.065	0.075	0.085	100 (62–100)
		0,300	1,2	0,0010	0,0013	0,0017	0,0020	0,0026	0,0030	0,0034	330 (210 – 320)

Kesme verileri – JS730 Kenar frezeleme gelişmiş kaba işleme  $a_p/DC=0,07$ 

SMG		$a_p/DC$	$f_z$						$v_c$	
			6	8	10	12	16	20		25
M1	E	1.9	0.055	0.075	0.095	0.11	0.14	0.16	0.18	145 (91–150)
		1,9	0,0022	0,0030	0,0038	0,0044	0,0055	0,0065	0,0070	475 (300 – 490)
M2	E	1.9	0.055	0.075	0.095	0.11	0.14	0.16	0.18	115 (73–120)
		1,9	0,0022	0,0030	0,0038	0,0044	0,0055	0,0065	0,0070	375 (240 – 390)
M3	E	1.9	0.055	0.075	0.095	0.11	0.14	0.16	0.18	90 (58–100)
		1,9	0,0022	0,0030	0,0038	0,0044	0,0055	0,0065	0,0070	295 (200 – 320)
M4	E	1.9	0.050	0.065	0.080	0.095	0.12	0.14	0.16	95 (59–100)
		1,9	0,0020	0,0026	0,0032	0,0038	0,0048	0,0055	0,0065	310 (200 – 320)
M5	E	1.9	0.050	0.065	0.080	0.095	0.12	0.14	0.16	80 (50 – 89)
		1,9	0,0020	0,0026	0,0032	0,0038	0,0048	0,0055	0,0065	260 (170 – 290)
S11	E	1.9	0.050	0.070	0.085	0.10	0.13	0.15	0.17	150 (94–150)
		1,9	0,0020	0,0028	0,0034	0,0040	0,0050	0,0060	0,0065	490 (310 – 490)
S12	E	1.9	0.050	0.070	0.085	0.10	0.13	0.15	0.17	115 (72–110)
		1,9	0,0020	0,0028	0,0034	0,0040	0,0050	0,0060	0,0065	375 (240 – 360)
S13	E	1.9	0.046	0.060	0.075	0.090	0.11	0.13	0.15	120 (74–120)
		1,9	0,0018	0,0024	0,0030	0,0036	0,0044	0,0050	0,0060	395 (250 – 390)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

 $v_c = m/dak$  (sf/dak) $f_z = mm$  (inç/ağız) $a_p, mm/DC$  (inç/DC) = faktör $a_g, mm/DC$  (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

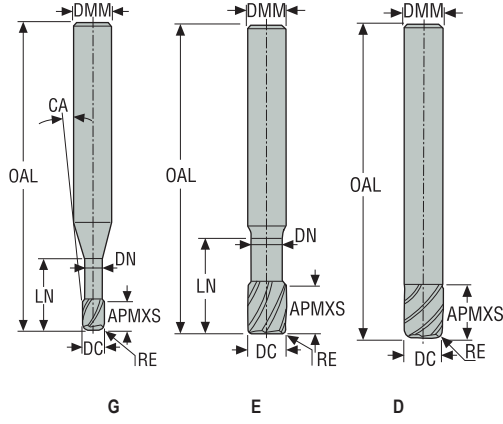
Grafit malzeme için

Minimaster Plus

Minimaster

## JHP750

Yüksek performans – Titanyum – Dik kenarlı<sup>1</sup> – 2-4 Ağızlı – Silindirik – Köşe radyüsü



- Toleranslar:
- DMM=h5
- DC=-0,02/-0,04 mm
- RE= ±0,02 mm
- Tekrar bilenebilir

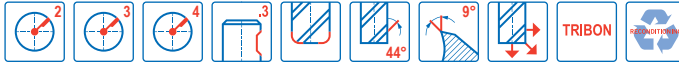
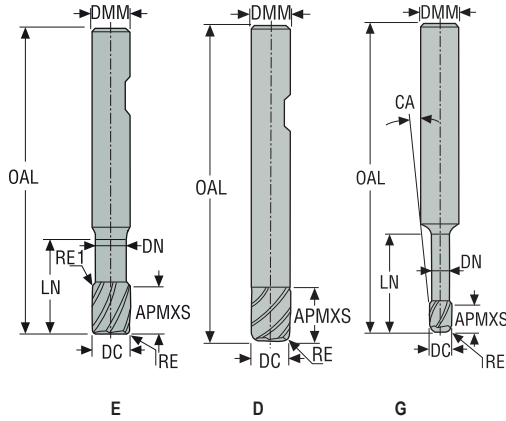


Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	CA	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm	mm	mm	-	
750K080R040.0-TRIBON	02528232	1	D	8,0	8,0	16,0	55,0	-	-	0,4	-	4	■
750K100R040.0-TRIBON	02528234	1	D	10,0	10,0	20,0	65,0	-	-	0,4	-	4	■
750K100R150.0-TRIBON	02528236	1	D	10,0	10,0	20,0	65,0	-	-	1,5	-	4	■
750K120R040.0-TRIBON	02528238	1	D	12,0	12,0	24,0	75,0	-	-	0,4	-	4	■
750K120R150.0-TRIBON	02528242	1	D	12,0	12,0	24,0	75,0	-	-	1,5	-	4	■
750K160R040.0-TRIBON	02528244	1	D	16,0	16,0	32,0	90,0	-	-	0,4	-	4	■
750K160R150.0-TRIBON	02528250	1	D	16,0	16,0	32,0	90,0	-	-	1,5	-	4	■
750K200R080.0-TRIBON	02528253	1	D	20,0	20,0	40,0	100,0	-	-	0,8	-	4	■
750020R020.0-TRIBON	02510010	2	G	2,0	3,0	3,0	40,0	6,0	1,9	0,2	4,0	2	■
750030R020.0-TRIBON	02510012	2	E	3,0	3,0	4,5	40,0	9,0	2,8	0,2	-	2	■
750040R020.0-TRIBON	02510013	2	G	4,0	6,0	6,0	40,0	9,0	3,7	0,2	5,0	2	■
750050R030.0-TRIBON	02510043	2	G	5,0	6,0	7,5	40,0	9,0	4,6	0,3	3,0	2	■
750060R030.0-TRIBON	02510044	2	E	6,0	6,0	9,0	50,0	19,0	5,6	0,3	-	3	■
750080R040.0-TRIBON	02510045	2	E	8,0	8,0	16,0	60,0	24,0	7,4	0,4	-	4	■
750100R040.0-TRIBON	02510046	2	E	10,0	10,0	20,0	70,0	30,0	9,4	0,4	-	4	■
750100R080.0-TRIBON	02510049	2	E	10,0	10,0	20,0	70,0	30,0	9,4	0,8	-	4	■
750100R200.0-TRIBON	02510053	2	E	10,0	10,0	20,0	70,0	30,0	9,4	2,0	-	4	■
750120R040.0-TRIBON	02510057	2	E	12,0	12,0	24,0	80,0	35,0	11,4	0,4	-	4	■
750120R080.0-TRIBON	02510060	2	E	12,0	12,0	24,0	80,0	35,0	11,4	0,8	-	4	■
750120R200.0-TRIBON	02510063	2	E	12,0	12,0	24,0	80,0	35,0	11,4	2,0	-	4	■
750120R310.0-TRIBON	02510065	2	E	12,0	12,0	24,0	80,0	35,0	11,4	3,1	-	4	■
750140R080.0-TRIBON	02510067	2	E	14,0	14,0	28,0	90,0	45,0	13,4	0,8	-	4	■
750160R040.0-TRIBON	02510071	2	E	16,0	16,0	32,0	100,0	52,0	15,4	0,4	-	4	■
750160R080.0-TRIBON	02510073	2	E	16,0	16,0	32,0	100,0	52,0	15,4	0,8	-	4	■
750160R200.0-TRIBON	02510077	2	E	16,0	16,0	32,0	100,0	52,0	15,4	2,0	-	4	■
750200R080.0-TRIBON	02510085	2	E	20,0	20,0	40,0	125,0	75,0	19,4	0,8	-	4	■
750200R200.0-TRIBON	02510087	2	E	20,0	20,0	40,0	125,0	75,0	19,4	2,0	-	4	■

■ Stoklu standart ürün.

## JHP750

Yüksek performans – Titanyum – Dik kenarlı – 2-4 Ağızlı – Weldon – Köşe radyüsü



- Toleranslar:
- DMM=h5
- DC=-0,02/-0,04 mm
- RE= ±0,02 mm
- Tekrar bilenebilir



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	CA	PCEDC	Weldon
				mm	mm	mm	mm	mm	mm	mm	-		
750K080R040-TRIBON	02528231	1	D	8,0	8,0	16,0	55,0	-	-	0,4	-	4	■
750K100R040-TRIBON	02528233	1	D	10,0	10,0	20,0	65,0	-	-	0,4	-	4	■
750K100R150-TRIBON	02528235	1	D	10,0	10,0	20,0	65,0	-	-	1,5	-	4	■
750K120R040-TRIBON	02528237	1	D	12,0	12,0	24,0	75,0	-	-	0,4	-	4	■
750K120R150-TRIBON	02528240	1	D	12,0	12,0	24,0	75,0	-	-	1,5	-	4	■
750K160R040-TRIBON	02528243	1	D	16,0	16,0	32,0	90,0	-	-	0,4	-	4	■
750K160R150-TRIBON	02528249	1	D	16,0	16,0	32,0	90,0	-	-	1,5	-	4	■
750K200R080-TRIBON	02528251	1	D	20,0	20,0	40,0	100,0	-	-	0,8	-	4	■
750040R020.0-TRIBONW	02669407	2	G	4,0	6,0	6,0	40,0	9,0	3,7	0,2	5,0	2	□
750050R030.0-TRIBONW	02669408	2	G	5,0	6,0	7,5	40,0	9,0	4,6	0,3	3,0	2	□
750060R030.0-TRIBONW	02669409	2	E	6,0	6,0	9,0	50,0	19,0	5,6	0,3	-	3	□
750080R040-TRIBON	02528258	2	E	8,0	8,0	16,0	60,0	24,0	7,4	0,4	-	4	■
750100R040-TRIBON	02510047	2	E	10,0	10,0	20,0	70,0	30,0	9,4	0,4	-	4	■
750100R080-TRIBON	02510048	2	E	10,0	10,0	20,0	70,0	30,0	9,4	0,8	-	4	■
750100R200-TRIBON	02510052	2	E	10,0	10,0	20,0	70,0	30,0	9,4	2,0	-	4	■
750120R040-TRIBON	02510056	2	E	12,0	12,0	24,0	80,0	35,0	11,4	0,4	-	4	■
750120R080-TRIBON	02510058	2	E	12,0	12,0	24,0	80,0	35,0	11,4	0,8	-	4	■
750120R200-TRIBON	02510062	2	E	12,0	12,0	24,0	80,0	35,0	11,4	2,0	-	4	■
750120R310-TRIBON	02510064	2	E	12,0	12,0	24,0	80,0	35,0	11,4	3,1	-	4	■
750140R080-TRIBON	02510066	2	E	14,0	14,0	28,0	90,0	45,0	13,4	0,8	-	4	■
750160R040-TRIBON	02510070	2	E	16,0	16,0	32,0	100,0	52,0	15,4	0,4	-	4	■
750160R080-TRIBON	02510072	2	E	16,0	16,0	32,0	100,0	52,0	15,4	0,8	-	4	■
750160R200-TRIBON	02510076	2	E	16,0	16,0	32,0	100,0	52,0	15,4	2,0	-	4	■
750200R080-TRIBON	02510084	2	E	20,0	20,0	40,0	125,0	75,0	19,4	0,8	-	4	■
750200R200-TRIBON	02510086	2	E	20,0	20,0	40,0	125,0	75,0	19,4	2,0	-	4	■

■ Stoklu standart ürün. □ Weldon mevcut. Teslimat süresi 3 iş günüdür.

Not: Köşe yarıçapı >15% / DC o zaman  $a_p=-30\%$ ,  $f_z=-20\%$

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeleri için

Grafit malzeme için

Minimaster Plus

Minimaster

Kesme verileri – JHP750 Kenar frezeleme

SMG		a <sub>e</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>											v <sub>c</sub>
				2	3	4	5	6	8	10	12	14	16	20	
S1	E/M/A	0.0600	1.2	0.016	0.024	0.032	0.040	0.048	0.065	0.080	0.095	0.11	0.12	0.14	48 (33 – 64)
		0,0600	1,2	0,00065	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0044	0,0048	0,0055	155 (110 – 200)
S2	E/M/A	0.0600	1.2	0.016	0.024	0.032	0.040	0.048	0.065	0.080	0.095	0.11	0.12	0.14	39 (26 – 51)
		0,0600	1,2	0,00065	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0044	0,0048	0,0055	130 (86–160)
S3	E/M/A	0.0400	1.2	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.080	0.090	0.10	33 (26 – 50)
		0,0400	1,2	0,00048	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	0,0032	0,0036	0,0040	110 (86–160)
S11	E/M/A	0.0800	1.2	0.016	0.024	0.032	0.040	0.048	0.065	0.080	0.095	0.11	0.12	0.14	145 (130–180)
		0,0800	1,2	0,00065	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0044	0,0048	0,0055	475 (430 – 590)
S12	E/M/A	0.0800	1.2	0.016	0.024	0.032	0.040	0.048	0.065	0.080	0.095	0.11	0.12	0.14	110 (95–140)
		0,0800	1,2	0,00065	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0044	0,0048	0,0055	360 (320 – 450)
S13	E/M/A	0.0800	1.2	0.014	0.020	0.028	0.034	0.042	0.055	0.070	0.085	0.095	0.10	0.12	85 (75–110)
		0,0800	1,2	0,00055	0,00080	0,0011	0,0013	0,0017	0,0022	0,0028	0,0034	0,0038	0,0040	0,0048	280 (250 – 360)

Kesme verileri – JHP750 Kanal açma

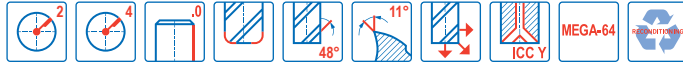
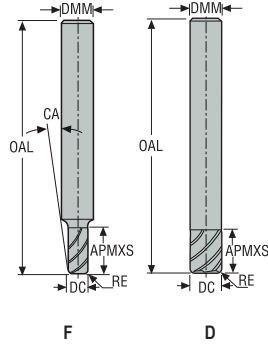
SMG		a <sub>p</sub> /DC	f <sub>z</sub>											v <sub>c</sub>
			2	3	4	5	6	8	10	12	14	16	20	
S1	E/M/A	0.44	0.0075	0.011	0.015	0.019	0.022	0.030	0.038	0.044	0.050	0.055	0.065	30 (20 – 39)
		0,44	0,00030	0,00044	0,00060	0,00075	0,00085	0,0012	0,0015	0,0017	0,0020	0,0022	0,0026	100 (66–120)
S2	E/M/A	0.44	0.0075	0.011	0.015	0.019	0.022	0.030	0.038	0.044	0.050	0.055	0.065	24 (17 – 32)
		0,44	0,00030	0,00044	0,00060	0,00075	0,00085	0,0012	0,0015	0,0017	0,0020	0,0022	0,0026	80 (56–100)
S3	E/M/A	0.36	0.0046	0.0070	0.0095	0.012	0.014	0.019	0.024	0.028	0.032	0.034	0.040	20 (15 – 29)
		0,36	0,00018	0,00028	0,00038	0,00048	0,00055	0,00075	0,00095	0,0011	0,0013	0,0013	0,0016	65 (50 – 95)
S11	E/M/A	0.60	0.0085	0.013	0.017	0.022	0.026	0.034	0.044	0.050	0.055	0.065	0.075	90 (78–110)
		0,60	0,00034	0,00050	0,00065	0,00085	0,0010	0,0013	0,0017	0,0020	0,0022	0,0026	0,0030	295 (260 – 360)
S12	E/M/A	0.60	0.0085	0.013	0.017	0.022	0.026	0.034	0.044	0.050	0.055	0.065	0.075	70 (60 – 89)
		0,60	0,00034	0,00050	0,00065	0,00085	0,0010	0,0013	0,0017	0,0020	0,0022	0,0026	0,0030	230 (200 – 290)
S13	E/M/A	0.60	0.0075	0.011	0.015	0.019	0.022	0.030	0.038	0.044	0.050	0.055	0.065	55 (48–71)
		0,60	0,00030	0,00044	0,00060	0,00075	0,00085	0,0012	0,0015	0,0017	0,0020	0,0022	0,0026	180 (160 – 230)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu  
Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama  
v<sub>c</sub> = m/dak (sf/dak)  
f<sub>z</sub> = mm (inç/ağız)  
a<sub>p</sub> mm/DC (inç/DC) = faktör  
a<sub>e</sub> = mm/DC (inç/DC) = faktör  
Tüm kesme verileri hedef değerlerdir

## JHP760

Yüksek performans – ISO-S – Dik kenarlı – 2-4 Ağızlı – Silindirik – Köşe radyüsü – ICC



- Toleranslar:
- DMM=h5
- DC=-0,02/-0,04 mm
- RE= ±0,03 mm
- DC ≥ Ø6 ise tekrar bilebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	ICC (İçten soğutma sıvısı kanalı)	DC	DMM	APMXS	OAL	RE	CA	PCEDC	Silindirik
					mm	mm	mm	mm	mm	mm	mm	mm
760040R020Z2.0A-MEGA-64	02734051	2	F	■	4,0	6,0	8,0	50,0	0,2	4,0 °	2	■
760040R040Z2.0A-MEGA-64	02623413	2	F	■	4,0	6,0	8,0	50,0	0,4	4,0 °	2	■
760050R020Z2.0A-MEGA-64	02734052	2	F	■	5,0	6,0	10,0	50,0	0,2	2,0 °	2	■
760050R040Z2.0A-MEGA-64	02623435	2	F	■	5,0	6,0	10,0	50,0	0,4	2,0 °	2	■
760060R020Z4.0A-MEGA-64	02734053	2	D	■	6,0	6,0	12,0	50,0	0,2	-	4	■
760060R040Z4.0A-MEGA-64	02623433	2	D	■	6,0	6,0	12,0	50,0	0,4	-	4	■
760080R040Z4.0A-MEGA-64	02623436	2	D	■	8,0	8,0	16,0	55,0	0,4	-	4	■
760080R100Z4.0A-MEGA-64	02623437	2	D	■	8,0	8,0	16,0	55,0	1,0	-	4	■
760100R040Z4.0A-MEGA-64	02623460	2	D	■	10,0	10,0	20,0	65,0	0,4	-	4	■
760100R100Z4.0A-MEGA-64	02623463	2	D	■	10,0	10,0	20,0	65,0	1,0	-	4	■
760100R150Z4.0A-MEGA-64	02623466	2	D	■	10,0	10,0	20,0	65,0	1,5	-	4	■
760120R040Z4.0A-MEGA-64	02623819	2	D	■	12,0	12,0	24,0	75,0	0,4	-	4	■
760120R100Z4.0A-MEGA-64	02623825	2	D	■	12,0	12,0	24,0	75,0	1,0	-	4	■
760120R150Z4.0A-MEGA-64	02623828	2	D	■	12,0	12,0	24,0	75,0	1,5	-	4	■
760120R310Z4.0A-MEGA-64	02623833	2	D	■	12,0	12,0	24,0	75,0	3,1	-	4	■
760200R040Z4.0A-MEGA-64	02734055	2	D	■	20,0	20,0	45,0	100,0	0,4	-	4	■
760200R080Z4.0A-MEGA-64	02623852	2	D	■	20,0	20,0	45,0	100,0	0,8	-	4	■
760L080R040Z4.0A-MEGA-64	02623438	3	D	■	8,0	8,0	28,0	65,0	0,4	-	4	■
760L100R040Z4.0A-MEGA-64	02623461	3	D	■	10,0	10,0	36,0	75,0	0,4	-	4	■
760L100R100Z4.0A-MEGA-64	02623464	3	D	■	10,0	10,0	36,0	75,0	1,0	-	4	■
760L100R150Z4.0A-MEGA-64	02623467	3	D	■	10,0	10,0	36,0	75,0	1,5	-	4	■
760L100R200Z4.0A-MEGA-64	02623472	3	D	■	10,0	10,0	36,0	75,0	2,0	-	4	■
760L100R310Z4.0A-MEGA-64	02623807	3	D	■	10,0	10,0	36,0	75,0	3,1	-	4	■
760L120R040Z4.0A-MEGA-64	02623821	3	D	■	12,0	12,0	42,0	90,0	0,4	-	4	■
760L120R100Z4.0A-MEGA-64	02623826	3	D	■	12,0	12,0	42,0	90,0	1,0	-	4	■
760L120R150Z4.0A-MEGA-64	02623829	3	D	■	12,0	12,0	42,0	90,0	1,5	-	4	■
760L120R400Z4.0A-MEGA-64	02623838	3	D	■	12,0	12,0	42,0	90,0	4,0	-	4	■
760L160R040Z4.0A-MEGA-64	02623840	3	D	■	16,0	16,0	50,0	100,0	0,4	-	4	■
760L160R100Z4.0A-MEGA-64	02623842	3	D	■	16,0	16,0	50,0	100,0	1,0	-	4	■
760L160R150Z4.0A-MEGA-64	02623844	3	D	■	16,0	16,0	50,0	100,0	1,5	-	4	■

■ Stoklu standart ürün.

ICC = İçten soğutma sıvısı kanalları

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve diğer malzemeler için

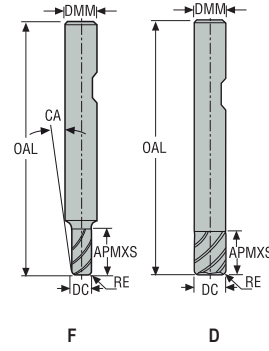
Grafit malzeme için

Minimaster Plus

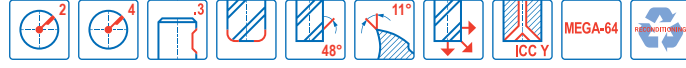
Minimaster

## JHP760

Yüksek performans – ISO-S – Dik kenarlı – 2-4 Ağzılı – Weldon – Köşe radyüsü – ICC



- Toleranslar:
- DMM=h5
- DC=-0,02/-0,04 mm
- RE= ±0,03 mm
- DC ≥ Ø6 ise tekrar bilenebilir

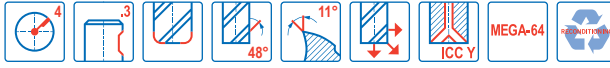
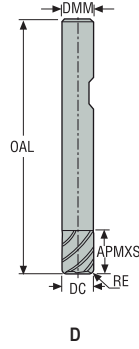


Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	ICC (İçten soğutma sıvısı kanalı)	DC	DMM	APMXS	OAL	RE	CA	PCEDC	Weldon
					mm	mm	mm	mm	mm			
760040R020Z2.0A-MEGA-64W	02734065	2	F	■	4,0	6,0	8,0	50,0	0,2	4,0°	2	□
760040R040Z2.0A-MEGA-64W	02669339	2	F	■	4,0	6,0	8,0	50,0	0,4	4,0°	2	□
760050R020Z2.0A-MEGA-64W	02734068	2	F	■	5,0	6,0	10,0	50,0	0,2	2,0°	2	□
760050R040Z2.0A-MEGA-64W	02669340	2	F	■	5,0	6,0	10,0	50,0	0,4	2,0°	2	□
760060R020Z4.0A-MEGA-64W	02734069	2	D	■	6,0	6,0	12,0	50,0	0,2	-	4	□
760060R040Z4.0A-MEGA-64W	02669341	2	D	■	6,0	6,0	12,0	50,0	0,4	-	4	□
760080R040Z4.0A-MEGA-64W	02669343	2	D	■	8,0	8,0	16,0	55,0	0,4	-	4	□
760080R100Z4.0A-MEGA-64W	02669344	2	D	■	8,0	8,0	16,0	55,0	1,0	-	4	□
760100R040Z4A-MEGA-64	02623442	2	D	■	10,0	10,0	20,0	65,0	0,4	-	4	■
760100R100Z4A-MEGA-64	02623462	2	D	■	10,0	10,0	20,0	65,0	1,0	-	4	■
760100R150Z4A-MEGA-64	02623465	2	D	■	10,0	10,0	20,0	65,0	1,5	-	4	■
760120R040Z4A-MEGA-64	02623817	2	D	■	12,0	12,0	24,0	75,0	0,4	-	4	■
760120R100Z4A-MEGA-64	02623824	2	D	■	12,0	12,0	24,0	75,0	1,0	-	4	■
760120R150Z4A-MEGA-64	02623827	2	D	■	12,0	12,0	24,0	75,0	1,5	-	4	■
760120R400Z4A-MEGA-64	02623835	2	D	■	12,0	12,0	24,0	75,0	4,0	-	4	■
760160R040Z4A-MEGA-64	02623839	2	D	■	16,0	16,0	40,0	90,0	0,4	-	4	■
760160R100Z4A-MEGA-64	02623841	2	D	■	16,0	16,0	40,0	90,0	1,0	-	4	■
760160R150Z4A-MEGA-64	02623843	2	D	■	16,0	16,0	40,0	90,0	1,5	-	4	■
760160R200Z4A-MEGA-64	02623845	2	D	■	16,0	16,0	40,0	90,0	2,0	-	4	■
760200R040Z4A-MEGA-64	02734054	2	D	■	20,0	20,0	45,0	100,0	0,4	-	4	■
760200R080Z4A-MEGA-64	02623851	2	D	■	20,0	20,0	45,0	100,0	0,8	-	4	■

■ Stoklu standart ürün. □ Weldon mevcut. Teslimat süresi 3 iş gündür.  
ICC = İçten soğutma sıvısı kanalları

## JHP760

Yüksek performans – ISO-S – Dik kenarlı – 2-4 Ağızlı – Weldon – Köşe radyüsü – ICC



- Toleranslar:
- DMM=h5
- DC=-0,02/-0,04 mm
- RE= ±0,03 mm
- Tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	ICC (İçten soğutma sıvısı kanalı)	DC	DMM	APMXS	OAL	RE	PCEDC	Weldon
					mm	mm	mm	mm	mm		
760L080R040Z4.0A-MEGA-64W	02720459	3	D	■	8,0	8,0	28,0	65,0	0,4	4	<input type="checkbox"/>
760L100R040Z4.0A-MEGA-64W	02669345	3	D	■	10,0	10,0	36,0	75,0	0,4	4	<input type="checkbox"/>
760L100R100Z4.0A-MEGA-64W	02669346	3	D	■	10,0	10,0	36,0	75,0	1,0	4	<input type="checkbox"/>
760L100R150Z4.0A-MEGA-64W	02669347	3	D	■	10,0	10,0	36,0	75,0	1,5	4	<input type="checkbox"/>
760L100R200Z4.0A-MEGA-64W	02669348	3	D	■	10,0	10,0	36,0	75,0	2,0	4	<input type="checkbox"/>
760L120R040Z4.0A-MEGA-64W	02669350	3	D	■	12,0	12,0	42,0	90,0	0,4	4	<input type="checkbox"/>
760L120R100Z4.0A-MEGA-64W	02669351	3	D	■	12,0	12,0	42,0	90,0	1,0	4	<input type="checkbox"/>
760L120R150Z4.0A-MEGA-64W	02669352	3	D	■	12,0	12,0	42,0	90,0	1,5	4	<input type="checkbox"/>
760L160R040Z4.0A-MEGA-64W	02669356	3	D	■	16,0	16,0	50,0	100,0	0,4	4	<input type="checkbox"/>
760L160R100Z4.0A-MEGA-64W	02669357	3	D	■	16,0	16,0	50,0	100,0	1,0	4	<input type="checkbox"/>
760L160R150Z4.0A-MEGA-64W	02669358	3	D	■	16,0	16,0	50,0	100,0	1,5	4	<input type="checkbox"/>

Weldon mevcut. Teslimat süresi 3 iş günüdür.  
ICC = İçten soğutma sıvısı kanalları

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

Kesme verileri – JHP760 Kenar frezeleme

SMG		a <sub>p</sub> /DC	a <sub>r</sub> /DC	f <sub>z</sub>									v <sub>c</sub>
				4	5	6	8	10	12	16	20	25	
M1	E	0.300	1.5	0.036	0.044	0.055	0.070	0.090	0.10	0.13	0.15	0.17	120 (97–130)
		0,300	1,5	0,0014	0,0017	0,0022	0,0028	0,0036	0,0040	0,0050	0,0060	0,0065	395 (320—420)
M2	E	0.300	1.5	0.032	0.040	0.048	0.065	0.080	0.095	0.12	0.13	0.15	100 (81–110)
		0,300	1,5	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0048	0,0050	0,0060	330 (270—360)
M3	E	0.300	1.4	0.026	0.032	0.038	0.050	0.065	0.075	0.095	0.11	0.12	75 (58—91)
		0,300	1,4	0,0010	0,0013	0,0015	0,0020	0,0026	0,0030	0,0038	0,0044	0,0048	245 (200—290)
M4	E	0.300	1.4	0.022	0.028	0.034	0.046	0.055	0.065	0.085	0.095	0.11	60 (45–70)
		0,300	1,4	0,00085	0,0011	0,0013	0,0018	0,0022	0,0026	0,0034	0,0038	0,0044	195 (150—220)
M5	E	0.300	1.4	0.022	0.028	0.034	0.046	0.055	0.065	0.085	0.095	0.11	48 (37—59)
		0,300	1,4	0,00085	0,0011	0,0013	0,0018	0,0022	0,0026	0,0034	0,0038	0,0044	155 (130–190)

Kesme verileri – JHP760 Kanal açma

SMG		a <sub>p</sub> /DC	f <sub>z</sub>									v <sub>c</sub>	
			4	5	6	8	10	12	16	20	25		
M1	E	1.0	0.016	0.020	0.024	0.032	0.040	0.048	0.065	0.080	0.10	0.10	110 (92–130)
		1,0	0,00065	0,00080	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0040	0,0040	360 (310—420)
M2	E	1.0	0.016	0.020	0.024	0.032	0.040	0.048	0.065	0.080	0.10	0.10	90 (74–100)
		1,0	0,00065	0,00080	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0040	0,0040	295 (250—320)
M3	E	0.80	0.012	0.015	0.018	0.024	0.030	0.036	0.048	0.060	0.075	0.075	70 (54—85)
		0,80	0,00048	0,00060	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0030	0,0030	230 (180—270)
M4	E	0.80	0.012	0.015	0.018	0.024	0.030	0.036	0.048	0.060	0.075	0.075	50 (40—63)
		0,80	0,00048	0,00060	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0030	0,0030	165 (140—200)
M5	E	0.80	0.012	0.015	0.018	0.024	0.030	0.036	0.048	0.060	0.075	0.075	43 (34—53)
		0,80	0,00048	0,00060	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0030	0,0030	140 (120–170)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)

f<sub>z</sub> = mm (inç/ağız)

a<sub>p</sub> mm/DC (inç/DC) = faktör

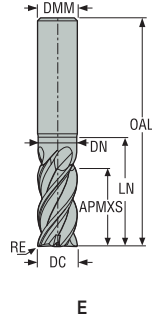
a<sub>r</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

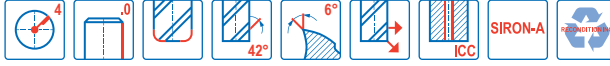


## JHP770

Yüksek performans – Titanyum – Dik kenarlı – 4-5 Ağızlı – Silindirik – Köşe radyüsü – ICC



E



- Toleranslar:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	ICC (İçten soğutma sıvısı kanalı)	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Silindirik
					mm	mm	mm	mm	mm	mm	mm		
JHP770060E2R030.0Z4A-SIRA	02760645	2	E	■	6,0	6,0	12,0	60,0	18,0	5,6	0,3	4	■
JHP770080E2R040.0Z4A-SIRA	02760653	2	E	■	8,0	8,0	16,0	65,0	24,0	7,4	0,4	4	■
JHP770080E2R050.0Z4A-SIRA	02823416	2	E	■	8,0	8,0	16,0	65,0	24,0	7,4	0,5	4	■
JHP770100E2R040.0Z4A-SIRA	02760654	2	E	■	10,0	10,0	20,0	75,0	30,0	9,4	0,4	4	■
JHP770100E2R050.0Z4A-SIRA	02823417	2	E	■	10,0	10,0	20,0	75,0	30,0	9,4	0,5	4	■
JHP770120E2R040.0Z4A-SIRA	02760656	2	E	■	12,0	12,0	24,0	90,0	36,0	11,4	0,4	4	■
JHP770120E2R050.0Z4A-SIRA	02823419	2	E	■	12,0	12,0	24,0	90,0	36,0	11,4	0,5	4	■
JHP770120E2R100.0Z4A-SIRA	02823420	2	E	■	12,0	12,0	24,0	90,0	36,0	11,4	1,0	4	■
JHP770120E2R250.0Z4A-SIRA	02760659	2	E	■	12,0	12,0	24,0	90,0	36,0	11,4	2,5	4	■
JHP770140E2R050.0Z4A-SIRA	02823421	2	E	■	14,0	14,0	28,0	95,0	42,0	13,4	0,5	4	■
JHP770160E2R040.0Z4A-SIRA	02760661	2	E	■	16,0	16,0	32,0	100,0	45,0	15,4	0,4	4	■
JHP770160E2R050.0Z4A-SIRA	02823422	2	E	■	16,0	16,0	32,0	100,0	45,0	15,4	0,5	4	■
JHP770160E2R080.0Z4A-SIRA	02760662	2	E	■	16,0	16,0	32,0	100,0	45,0	15,4	0,8	4	■
JHP770160E2R100.0Z4A-SIRA	02823423	2	E	■	16,0	16,0	32,0	100,0	45,0	15,4	1,0	4	■
JHP770160E2R250.0Z4A-SIRA	02760663	2	E	■	16,0	16,0	32,0	100,0	45,0	15,4	2,5	4	■
JHP770160E2R310.0Z4A-SIRA	02760664	2	E	■	16,0	16,0	32,0	100,0	45,0	15,4	3,1	4	■
JHP770160E2R400.0Z4A-SIRA	02760665	2	E	■	16,0	16,0	32,0	100,0	45,0	15,4	4,0	4	■
JHP770200E2R050.0Z4A-SIRA	02823424	2	E	■	20,0	20,0	40,0	115,0	55,0	19,4	0,5	4	■
JHP770200E2R100.0Z4A-SIRA	02823425	2	E	■	20,0	20,0	40,0	115,0	55,0	19,4	1,0	4	■
JHP770200E2R250.0Z4A-SIRA	02760668	2	E	■	20,0	20,0	40,0	115,0	55,0	19,4	2,5	4	■
JHP770200E2R310.0Z4A-SIRA	02760669	2	E	■	20,0	20,0	40,0	115,0	55,0	19,4	3,1	4	■
JHP770200E2R400.0Z4A-SIRA	02760670	2	E	■	20,0	20,0	40,0	115,0	55,0	19,4	4,0	4	■

■ Stoklu standart ürün.

Not: Köşe yarıçapı >15% / DC → a<sub>p</sub>=-30%, f<sub>z</sub>=-20%

ICC = İçten soğutma sıvısı kanalları

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

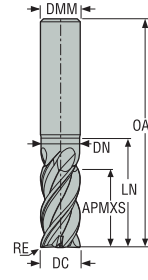
Grafit malzeme için

Minimaster Plus

Minimaster

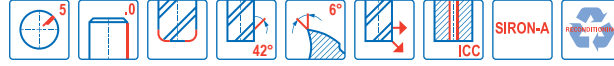
## JHP770

Yüksek performans – Titanyum – Dik kenarlı –4-5 Ağzılı – Silindirik – Köşe radyüsü – ICC



E

- Toleranslar:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Tekrar bilenebilir



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	ICC (İçten soğutma sıvısı kanalı)	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Silindirik
					mm	mm	mm	mm	mm	mm	mm		
JHP770160E2R050.0Z5A-SIRA	02810129	2	E	■	16,0	16,0	32,0	100,0	45,0	15,4	0,5	5	■
JHP770160E2R100.0Z5A-SIRA	02810130	2	E	■	16,0	16,0	32,0	100,0	45,0	15,4	1,0	5	■
JHP770160E2R250.0Z5A-SIRA	02810131	2	E	■	16,0	16,0	32,0	100,0	45,0	15,4	2,5	5	■
JHP770160E2R310.0Z5A-SIRA	02810132	2	E	■	16,0	16,0	32,0	100,0	45,0	15,4	3,1	5	■
JHP770160E2R400.0Z5A-SIRA	02810133	2	E	■	16,0	16,0	32,0	100,0	45,0	15,4	4,0	5	■
JHP770200E2R050.0Z5A-SIRA	02810134	2	E	■	20,0	20,0	40,0	115,0	55,0	19,4	0,5	5	■
JHP770200E2R100.0Z5A-SIRA	02810135	2	E	■	20,0	20,0	40,0	115,0	55,0	19,4	1,0	5	■
JHP770200E2R250.0Z5A-SIRA	02810136	2	E	■	20,0	20,0	40,0	115,0	55,0	19,4	2,5	5	■
JHP770200E2R310.0Z5A-SIRA	02810137	2	E	■	20,0	20,0	40,0	115,0	55,0	19,4	3,1	5	■
JHP770200E2R400.0Z5A-SIRA	02810138	2	E	■	20,0	20,0	40,0	115,0	55,0	19,4	4,0	5	■
JHP770250E2R050.0Z5A-SIRA	02810139	2	E	■	25,0	25,0	50,0	130,0	65,0	24,4	0,5	5	■
JHP770250E2R310.0Z5A-SIRA	02810141	2	E	■	25,0	25,0	50,0	130,0	65,0	24,4	3,1	5	■

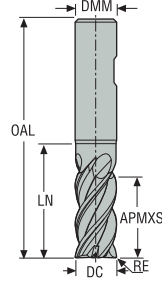
■ Stoklu standart ürün.

Not: Köşe yarıçapı >15% / DC → a<sub>p</sub>=-30%, f<sub>z</sub>=-20%

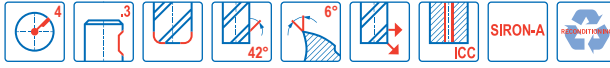
ICC = İçten soğutma sıvısı kanalları

## JHP770

Yüksek performans – Titanyum – Dik kenarlı – 4-5 Ağızlı – Weldon – Köşe radyüsü – ICC



E



- Toleranslar:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	ICC (İçten soğutma sıvısı kanalı)	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Weldon
					mm	mm	mm	mm	mm	mm	mm		
JHP770060E2R030.3Z4A-SIRA	02760796	2	E	■	6,0	6,0	12,0	60,0	18,0	5,6	0,3	4	■
JHP770080E2R040.3Z4A-SIRA	02760799	2	E	■	8,0	8,0	16,0	65,0	24,0	7,4	0,4	4	□
JHP770080E2R050.3Z4A-SIRA	02823428	2	E	■	8,0	8,0	16,0	65,0	24,0	7,4	0,5	4	■
JHP770100E2R040.3Z4A-SIRA	02760801	2	E	■	10,0	10,0	20,0	75,0	30,0	9,4	0,4	4	□
JHP770100E2R050.3Z4A-SIRA	02823429	2	E	■	10,0	10,0	20,0	75,0	30,0	9,4	0,5	4	■
JHP770120E2R040.3Z4A-SIRA	02760803	2	E	■	12,0	12,0	24,0	90,0	36,0	11,4	0,4	4	□
JHP770120E2R050.3Z4A-SIRA	02823431	2	E	■	12,0	12,0	24,0	90,0	36,0	11,4	0,5	4	■
JHP770120E2R100.3Z4A-SIRA	02823432	2	E	■	12,0	12,0	24,0	90,0	36,0	11,4	1,0	4	■
JHP770120E2R250.3Z4A-SIRA	02760805	2	E	■	12,0	12,0	24,0	90,0	36,0	11,4	2,5	4	□
JHP770140E2R050.3Z4A-SIRA	02823433	2	E	■	14,0	14,0	28,0	95,0	42,0	13,4	0,5	4	■
JHP770160E2R040.3Z4A-SIRA	02760807	2	E	■	16,0	16,0	32,0	100,0	45,0	15,4	0,4	4	□
JHP770160E2R050.3Z4A-SIRA	02823434	2	E	■	16,0	16,0	32,0	100,0	45,0	15,4	0,5	4	■
JHP770160E2R080.3Z4A-SIRA	02760809	2	E	■	16,0	16,0	32,0	100,0	45,0	15,4	0,8	4	□
JHP770160E2R100.3Z4A-SIRA	02823435	2	E	■	16,0	16,0	32,0	100,0	45,0	15,4	1,0	4	■
JHP770160E2R250.3Z4A-SIRA	02760810	2	E	■	16,0	16,0	32,0	100,0	45,0	15,4	2,5	4	■
JHP770160E2R310.3Z4A-SIRA	02760811	2	E	■	16,0	16,0	32,0	100,0	45,0	15,4	3,1	4	□
JHP770160E2R400.3Z4A-SIRA	02760817	2	E	■	16,0	16,0	32,0	100,0	45,0	15,4	4,0	4	□
JHP770200E2R050.3Z4A-SIRA	02823436	2	E	■	20,0	20,0	40,0	115,0	55,0	19,4	0,5	4	■
JHP770200E2R100.3Z4A-SIRA	02823437	2	E	■	20,0	20,0	40,0	115,0	55,0	19,4	1,0	4	■
JHP770200E2R250.3Z4A-SIRA	02760823	2	E	■	20,0	20,0	40,0	115,0	55,0	19,4	2,5	4	□
JHP770200E2R310.3Z4A-SIRA	02760824	2	E	■	20,0	20,0	40,0	115,0	55,0	19,4	3,1	4	□
JHP770200E2R400.3Z4A-SIRA	02760825	2	E	■	20,0	20,0	40,0	115,0	55,0	19,4	4,0	4	□

Not: Köşe yarıçapı

ICC = İçten soğutma sıvısı kanalları

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

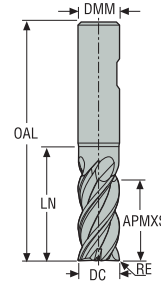
Grafit malzeme için

Minimaster Plus

Minimaster

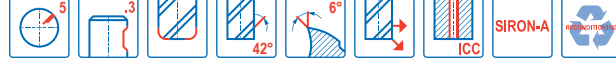
## JHP770

Yüksek performans – Titanyum – Dik kenarlı<sup>1</sup> – 4-5 Ağzılı – Weldon – Köşe radyüsü – ICC



E

- Toleranslar:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Tekrar bilenebilir



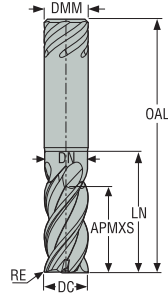
Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	ICC (İçten soğutma sıvısı kanalı)	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Weldon
					mm	mm	mm	mm	mm	mm	mm		
JHP770160E2R050.3Z5A-SIRA	02810143	2	E	■	16,0	16,0	32,0	100,0	45,0	15,4	0,5	5	■
JHP770160E2R100.3Z5A-SIRA	02810144	2	E	■	16,0	16,0	32,0	100,0	45,0	15,4	1,0	5	■
JHP770160E2R250.3Z5A-SIRA	02810145	2	E	■	16,0	16,0	32,0	100,0	45,0	15,4	2,5	5	□
JHP770160E2R310.3Z5A-SIRA	02810146	2	E	■	16,0	16,0	32,0	100,0	45,0	15,4	3,1	5	■
JHP770160E2R400.3Z5A-SIRA	02810147	2	E	■	16,0	16,0	32,0	100,0	45,0	15,4	4,0	5	□
JHP770200E2R050.3Z5A-SIRA	02810148	2	E	■	20,0	20,0	40,0	115,0	55,0	19,4	0,5	5	■
JHP770200E2R100.3Z5A-SIRA	02810149	2	E	■	20,0	20,0	40,0	115,0	55,0	19,4	1,0	5	■
JHP770200E2R250.3Z5A-SIRA	02810150	2	E	■	20,0	20,0	40,0	115,0	55,0	19,4	2,5	5	□
JHP770200E2R310.3Z5A-SIRA	02810151	2	E	■	20,0	20,0	40,0	115,0	55,0	19,4	3,1	5	■
JHP770200E2R400.3Z5A-SIRA	02810152	2	E	■	20,0	20,0	40,0	115,0	55,0	19,4	4,0	5	■
JHP770250E2R050.3Z5A-SIRA	02810153	2	E	■	25,0	25,0	50,0	130,0	65,0	24,4	0,5	5	■
JHP770250E2R100.3Z5A-SIRA	02810154	2	E	■	25,0	25,0	50,0	130,0	65,0	24,4	1,0	5	■
JHP770250E2R310.3Z5A-SIRA	02810155	2	E	■	25,0	25,0	50,0	130,0	65,0	24,4	3,1	5	□

Not: Köşe yarıçapı

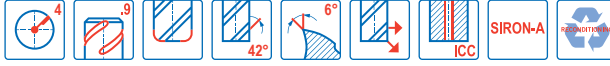
ICC = İçten soğutma sıvısı kanalları

## JHP770

Yüksek performans – Titanyum – Dik kenarlı – 4-5 Ağızlı – Safelock – Köşe radyüsü – ICC



E



- Toleranslar:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	ICC (İçten soğutma sıvısı kanalı)	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Safelock
					mm	mm	mm	mm	mm	mm	mm		
JHP770060E2R030.9Z4A-SIRA	02927936	2	E	■	6,0	6,0	12,0	60,0	18,0	6,0	0,3	4	<input type="checkbox"/>
JHP770080E2R040.9Z4A-SIRA	02927937	2	E	■	8,0	8,0	16,0	65,0	24,0	7,0	0,4	4	<input type="checkbox"/>
JHP770080E2R050.9Z4A-SIRA	02927938	2	E	■	8,0	8,0	16,0	65,0	24,0	7,0	0,5	4	<input type="checkbox"/>
JHP770100E2R040.9Z4A-SIRA	02927939	2	E	■	10,0	10,0	20,0	75,0	30,0	9,0	0,4	4	<input type="checkbox"/>
JHP770100E2R050.9Z4A-SIRA	02927940	2	E	■	10,0	10,0	20,0	75,0	30,0	9,0	0,5	4	<input type="checkbox"/>
JHP770120E2R040.9Z4A-SIRA	02927943	2	E	■	12,0	12,0	24,0	90,0	36,0	11,0	0,4	4	<input type="checkbox"/>
JHP770120E2R050.9Z4A-SIRA	02927944	2	E	■	12,0	12,0	24,0	90,0	36,0	11,0	0,5	4	<input type="checkbox"/>
JHP770120E2R100.9Z4A-SIRA	02927946	2	E	■	12,0	12,0	24,0	90,0	36,0	11,0	1,0	4	<input type="checkbox"/>
JHP770120E2R250.9Z4A-SIRA	02927947	2	E	■	12,0	12,0	24,0	90,0	36,0	11,0	2,5	4	<input type="checkbox"/>
JHP770140E2R050.9Z4A-SIRA	02927950	2	E	■	14,0	14,0	28,0	95,0	42,0	13,0	0,5	4	<input type="checkbox"/>
JHP770160E2R040.9Z4A-SIRA	02927948	2	E	■	16,0	16,0	32,0	100,0	45,0	15,0	0,4	4	<input type="checkbox"/>
JHP770160E2R050.9Z4A-SIRA	02927978	2	E	■	16,0	16,0	32,0	100,0	45,0	15,0	0,5	4	<input type="checkbox"/>
JHP770160E2R080.9Z4A-SIRA	02927951	2	E	■	16,0	16,0	32,0	100,0	45,0	15,0	0,8	4	<input type="checkbox"/>
JHP770160E2R100.9Z4A-SIRA	02927952	2	E	■	16,0	16,0	32,0	100,0	45,0	15,0	1,0	4	<input type="checkbox"/>
JHP770160E2R250.9Z4A-SIRA	02927954	2	E	■	16,0	16,0	32,0	100,0	45,0	15,0	2,5	4	<input type="checkbox"/>
JHP770160E2R310.9Z4A-SIRA	02927956	2	E	■	16,0	16,0	32,0	100,0	45,0	15,0	3,1	4	<input type="checkbox"/>
JHP770160E2R400.9Z4A-SIRA	02927958	2	E	■	16,0	16,0	32,0	100,0	45,0	15,0	4,0	4	<input type="checkbox"/>
JHP770200E2R050.9Z4A-SIRA	02927960	2	E	■	20,0	20,0	40,0	115,0	55,0	19,0	0,5	4	<input type="checkbox"/>
JHP770200E2R100.9Z4A-SIRA	02927962	2	E	■	20,0	20,0	40,0	115,0	55,0	19,0	1,0	4	<input type="checkbox"/>
JHP770200E2R250.9Z4A-SIRA	02927964	2	E	■	20,0	20,0	40,0	115,0	55,0	19,0	2,5	4	<input type="checkbox"/>
JHP770200E2R310.9Z4A-SIRA	02927966	2	E	■	20,0	20,0	40,0	115,0	55,0	19,0	3,1	4	<input type="checkbox"/>
JHP770200E2R400.9Z4A-SIRA	02927968	2	E	■	20,0	20,0	40,0	115,0	55,0	19,0	4,0	4	<input type="checkbox"/>

Not: Köşe yarıçapı

 Safelock mevcut. Değişiklik olabilir, geçerli Fiyat ve Stok Listesine bakın.

ICC = İçten soğutma sıvısı kanalları

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

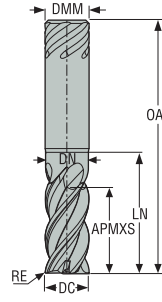
Grafit malzeme için

Minimaster Plus

Minimaster

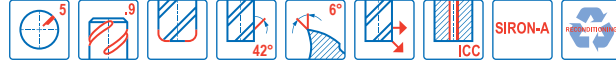
## JHP770

Yüksek performans – Titanyum – Dik kenarlı<sup>1</sup> – 4-5 Ağızlı – Safelock – Köşe radyüsü – ICC



E

- Toleranslar:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Tekrar bilenebilir



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	ICC (İçten soğutma sıvısı kanalı)	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Safelock
					mm	mm	mm	mm	mm	mm	mm		
JHP770160E2R050.9Z5A-SIRA	02927949	2	E	■	16,0	16,0	32,0	100,0	45,0	15,0	0,5	5	<input type="checkbox"/>
JHP770160E2R100.9Z5A-SIRA	02927953	2	E	■	16,0	16,0	32,0	100,0	45,0	15,0	1,0	5	<input type="checkbox"/>
JHP770160E2R250.9Z5A-SIRA	02927955	2	E	■	16,0	16,0	32,0	100,0	45,0	15,0	2,5	5	<input type="checkbox"/>
JHP770160E2R310.9Z5A-SIRA	02927957	2	E	■	16,0	16,0	32,0	100,0	45,0	15,0	3,1	5	<input type="checkbox"/>
JHP770160E2R400.9Z5A-SIRA	02927959	2	E	■	16,0	16,0	32,0	100,0	45,0	15,0	4,0	5	<input type="checkbox"/>
JHP770200E2R050.9Z5A-SIRA	02927961	2	E	■	20,0	20,0	40,0	115,0	55,0	19,0	0,5	5	<input type="checkbox"/>
JHP770200E2R100.9Z5A-SIRA	02927963	2	E	■	20,0	20,0	40,0	115,0	55,0	19,0	1,0	5	<input type="checkbox"/>
JHP770200E2R250.9Z5A-SIRA	02927965	2	E	■	20,0	20,0	40,0	115,0	55,0	19,0	2,5	5	<input type="checkbox"/>
JHP770200E2R310.9Z5A-SIRA	02927967	2	E	■	20,0	20,0	40,0	115,0	55,0	19,0	3,1	5	<input type="checkbox"/>
JHP770200E2R400.9Z5A-SIRA	02927969	2	E	■	20,0	20,0	40,0	115,0	55,0	19,0	4,0	5	<input type="checkbox"/>
JHP770250E2R050.9Z5A-SIRA	02927971	2	E	■	25,0	25,0	50,0	130,0	65,0	24,0	0,5	5	<input type="checkbox"/>
JHP770250E2R310.9Z5A-SIRA	02927974	2	E	■	25,0	25,0	50,0	130,0	65,0	24,0	3,1	5	<input type="checkbox"/>

Safelock mevcut. Teslimat süresi 6 iş günüdür.  
Not: Köşe yarıçapı >15% / DC → a<sub>p</sub>=-30%, f<sub>z</sub>=-20%

## Kesme verileri – JHP770 Kenar frezeleme

SMG		$a_p/DC$	$a_p/DC$	$f_z$								$v_c$
				6	8	10	12	14	16	20	25	
S11	E	0.400	1.8	0.050	0.065	0.080	0.095	0.11	0.12	0.14	0.16	120 (110–130)
		0.400	1,6	0,0020	0,0026	0,0032	0,0038	0,0044	0,0048	0,0055	0,0065	395 (370 – 420)
S12	E	0.400	1.8	0.050	0.065	0.080	0.095	0.11	0.12	0.14	0.16	90 (80–100)
		0.400	1,6	0,0020	0,0026	0,0032	0,0038	0,0044	0,0048	0,0055	0,0065	295 (270 – 320)
S13	E	0.400	1.8	0.042	0.055	0.070	0.085	0.095	0.11	0.12	0.14	75 (64 – 81)
		0.400	1,6	0,0017	0,0022	0,0028	0,0034	0,0038	0,0044	0,0048	0,0055	245 (210 – 260)

## Kesme verileri – JHP770 Kanal açma

SMG		$a_p/DC$	$f_z$								$v_c$
			6	8	10	12	14	16	20	25	
S11	E	1.6	0.030	0.040	0.050	0.060	0.070	0.080	0.10	0.13	105 (94–120)
		1,6	0,0012	0,0016	0,0020	0,0024	0,0028	0,0032	0,0040	0,0050	345 (310 – 390)
S12	E	1.6	0.030	0.040	0.050	0.060	0.070	0.080	0.10	0.13	80 (72 – 92)
		1,6	0,0012	0,0016	0,0020	0,0024	0,0028	0,0032	0,0040	0,0050	260 (240 – 300)
S13	E	1.6	0.030	0.040	0.050	0.060	0.070	0.080	0.10	0.13	65 (56–71)
		1,6	0,0012	0,0016	0,0020	0,0024	0,0028	0,0032	0,0040	0,0050	215 (190 – 230)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

 $v_c = m/dak$  (sf/dak) $f_z = mm$  (inç/ağız) $a_p$  mm/DC (inç/DC) = faktör $a_g$  mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

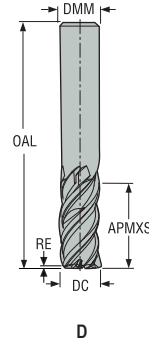
Grafit malzeme için

Minimaster Plus

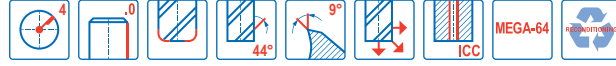
Minimaster

## JHP780

Yüksek performans – Süper alaşımlar – Dik kenarlı' – 4-Ağzılı – Silindirik – Köşe radyüsü – ICC



- Toleranslar:
- DMM=h5
- DC=e7
- RE= ±0,02 mm
- Tekrar bilenebilir



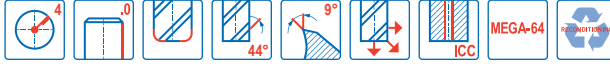
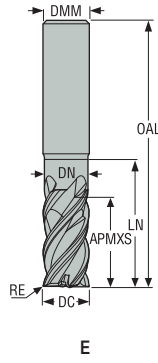
Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	ICC (İçten soğutma sıvısı kanalı)	DC	DMM	APMXS	OAL	RE	PCEDC	Silindirik
					mm	mm	mm	mm	mm		
JHP780060D1R030.0Z4A-M64	03134984	1	D	■	6,0	6,0	7,5	47,0	0,3	4	■
JHP780060D1R080.0Z4A-M64	03134985	1	D	■	6,0	6,0	7,5	47,0	0,8	4	■
JHP780080D1R040.0Z4A-M64	03134986	1	D	■	8,0	8,0	10,0	50,0	0,4	4	■
JHP780080D1R080.0Z4A-M64	03134987	1	D	■	8,0	8,0	10,0	50,0	0,8	4	■
JHP780100D1R040.0Z4A-M64	03134988	1	D	■	10,0	10,0	12,5	57,0	0,4	4	■
JHP780100D1R080.0Z4A-M64	03134989	1	D	■	10,0	10,0	12,5	57,0	0,8	4	■

■ Stoklu standart ürün.



## JHP780

Yüksek performans – Süper alaşımlar – Dik kenarlı – 4-Ağızlı – Silindirik – Köşe radyüsü – ICC



- Toleranslar:
- DMM=h5
- DC=e7
- RE= ±0,02 mm
- Tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	ICC (İçten soğutma sıvısı kanalı)	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Silindirik
					mm	mm	mm	mm	mm	mm	mm		
JHP780060E2R030.0Z4A-M64	03134992	2	E	■	6,0	6,0	12,0	60,0	18,0	5,6	0,3	4	■
JHP780060E2R030.0Z4-M64	02760834	2	E	–	6,0	6,0	12,0	60,0	18,0	5,6	0,3	4	■
JHP780080E2R040.0Z4A-M64	03134993	2	E	■	8,0	8,0	16,0	65,0	24,0	7,4	0,4	4	■
JHP780080E2R040.0Z4-M64	02760842	2	E	–	8,0	8,0	16,0	65,0	24,0	7,4	0,4	4	■
JHP780100E2R040.0Z4A-M64	03134994	2	E	■	10,0	10,0	20,0	75,0	30,0	9,4	0,4	4	■
JHP780100E2R040.0Z4-M64	02760846	2	E	–	10,0	10,0	20,0	75,0	30,0	9,4	0,4	4	■
JHP780100E2R080.0Z4A-M64	03134995	2	E	■	10,0	10,0	20,0	75,0	30,0	9,4	0,8	4	■
JHP780100E2R080.0Z4-M64	02760847	2	E	–	10,0	10,0	20,0	75,0	30,0	9,4	0,8	4	■
JHP780120E2R040.0Z4A-M64	03134996	2	E	■	12,0	12,0	24,0	90,0	36,0	11,4	0,4	4	■
JHP780120E2R040.0Z4-M64	02760848	2	E	–	12,0	12,0	24,0	90,0	36,0	11,4	0,4	4	■
JHP780120E2R080.0Z4A-M64	03134997	2	E	■	12,0	12,0	24,0	90,0	36,0	11,4	0,8	4	■
JHP780120E2R080.0Z4-M64	02760849	2	E	–	12,0	12,0	24,0	90,0	36,0	11,4	0,8	4	■
JHP780120E2R150.0Z4-M64	02760850	2	E	–	12,0	12,0	24,0	90,0	36,0	11,4	1,5	4	■
JHP780120E2R250.0Z4-M64	02760851	2	E	–	12,0	12,0	24,0	90,0	36,0	11,4	2,5	4	■
JHP780140E2R040.0Z4-M64	02760852	2	E	–	14,0	14,0	28,0	95,0	42,0	13,4	0,4	4	■
JHP780160E2R040.0Z4A-M64	03135000	2	E	■	16,0	16,0	32,0	100,0	45,0	15,4	0,4	4	■
JHP780160E2R040.0Z4-M64	02760853	2	E	–	16,0	16,0	32,0	100,0	45,0	15,4	0,4	4	■
JHP780160E2R080.0Z4A-M64	03135001	2	E	■	16,0	16,0	32,0	100,0	45,0	15,4	0,8	4	■
JHP780160E2R080.0Z4-M64	02760861	2	E	–	16,0	16,0	32,0	100,0	45,0	15,4	0,8	4	■
JHP780160E2R310.0Z4-M64	02760862	2	E	–	16,0	16,0	32,0	100,0	45,0	15,4	3,1	4	■
JHP780160E2R400.0Z4-M64	02760863	2	E	–	16,0	16,0	32,0	100,0	45,0	15,4	4,0	4	■
JHP780200E2R040.0Z4-M64	02760865	2	E	–	20,0	20,0	40,0	115,0	55,0	19,4	0,4	4	■
JHP780200E2R080.0Z4-M64	02760866	2	E	–	20,0	20,0	40,0	115,0	55,0	19,4	0,8	4	■
JHP780200E2R310.0Z4-M64	02760867	2	E	–	20,0	20,0	40,0	115,0	55,0	19,4	3,1	4	■
JHP780200E2R400.0Z4-M64	02760868	2	E	–	20,0	20,0	40,0	115,0	55,0	19,4	4,0	4	■
JHP780250E2R080.0Z4-M64	02760870	2	E	–	25,0	25,0	50,0	130,0	65,0	24,4	0,8	4	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

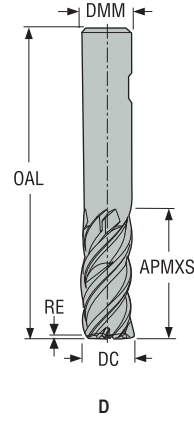
Grafit malzeme için

Minimaster Plus

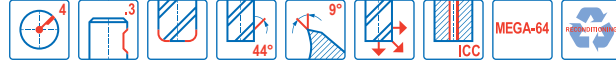
Minimaster

## JHP780

Yüksek performans – Süper alaşımlar – Dik kenarlı – 4-Ağzılı – Weldon – Köşe radyüsü – ICC



- Toleranslar:
- DMM=h5
- DC=e7
- RE= ±0,02 mm
- Tekrar bilenebilir



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	ICC (İçten soğutma sıvısı kanalı)	DC	DMM	APMXS	OAL	RE	PCEDC	Weldon
					mm	mm	mm	mm	mm		
JHP780060D1R030.3Z4A-M64	03135445	1	D	■	6,0	6,0	7,5	47,0	0,3	4	■
JHP780060D1R080.3Z4A-M64	03135446	1	D	■	6,0	6,0	7,5	47,0	0,8	4	■
JHP780080D1R040.3Z4A-M64	03135447	1	D	■	8,0	8,0	10,0	50,0	0,4	4	■
JHP780080D1R080.3Z4A-M64	03135449	1	D	■	8,0	8,0	10,0	50,0	0,8	4	■
JHP780100D1R040.3Z4A-M64	03135450	1	D	■	10,0	10,0	12,5	57,0	0,4	4	■
JHP780100D1R080.3Z4A-M64	03135451	1	D	■	10,0	10,0	12,5	57,0	0,8	4	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeleri için

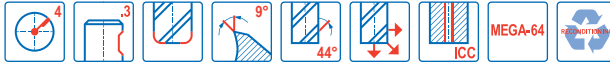
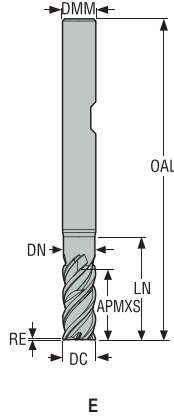
Grafit malzeme için

Minimaster Plus

Minimaster

## JHP780

Yüksek performans – Süper alaşımlar – Dik kenarlı\* – 4-Ağızlı – Weldon – Köşe radyüsü – ICC



- Toleranslar:
- DMM=h5
- DC=e7
- RE= ±0,02 mm
- Tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	ICC (İçten soğutma sıvısı kanalı)	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Weldon
					mm	mm	mm	mm	mm	mm	mm		
JHP780060E2R030.3Z4-M64	02760878	2	E	–	6,0	6,0	12,0	60,0	18,0	5,6	0,3	4	■
JHP780060E2R030.3Z4A-M64	03135454	2	E	■	6,0	6,0	12,0	60,0	18,0	5,6	0,3	4	■
JHP780080E2R040.3Z4-M64	02760879	2	E	–	8,0	8,0	16,0	65,0	24,0	7,4	0,4	4	■
JHP780080E2R040.3Z4A-M64	03135455	2	E	■	8,0	8,0	16,0	65,0	24,0	7,4	0,4	4	■
JHP780100E2R040.3Z4-M64	02760880	2	E	–	10,0	10,0	20,0	75,0	30,0	9,4	0,4	4	■
JHP780100E2R040.3Z4A-M64	03135456	2	E	■	10,0	10,0	20,0	75,0	30,0	9,4	0,4	4	■
JHP780100E2R080.3Z4-M64	02760881	2	E	–	10,0	10,0	20,0	75,0	30,0	9,4	0,8	4	■
JHP780100E2R080.3Z4A-M64	03135457	2	E	■	10,0	10,0	20,0	75,0	30,0	9,4	0,8	4	■
JHP780120E2R040.3Z4-M64	02760883	2	E	–	12,0	12,0	24,0	90,0	36,0	11,4	0,4	4	■
JHP780120E2R040.3Z4A-M64	03134998	2	E	■	12,0	12,0	24,0	90,0	36,0	11,4	0,4	4	■
JHP780120E2R080.3Z4-M64	02760885	2	E	–	12,0	12,0	24,0	90,0	36,0	11,4	0,8	4	■
JHP780120E2R080.3Z4A-M64	03134999	2	E	■	12,0	12,0	24,0	90,0	36,0	11,4	0,8	4	■
JHP780120E2R150.3Z4-M64	02760887	2	E	–	12,0	12,0	24,0	90,0	36,0	11,4	1,5	4	■
JHP780120E2R250.3Z4-M64	02766989	2	E	–	12,0	12,0	24,0	90,0	36,0	11,4	2,5	4	■
JHP780140E2R040.3Z4-M64	02760888	2	E	–	14,0	14,0	28,0	95,0	42,0	13,4	0,4	4	■
JHP780160E2R040.3Z4-M64	02760889	2	E	–	16,0	16,0	32,0	100,0	45,0	15,4	0,4	4	■
JHP780160E2R040.3Z4A-M64	03135002	2	E	■	16,0	16,0	32,0	100,0	45,0	15,4	0,4	4	■
JHP780160E2R080.3Z4-M64	02760890	2	E	–	16,0	16,0	32,0	100,0	45,0	15,4	0,8	4	■
JHP780160E2R080.3Z4A-M64	03135003	2	E	■	16,0	16,0	32,0	100,0	45,0	15,4	0,8	4	■
JHP780160E2R400.3Z4-M64	02760893	2	E	–	16,0	16,0	32,0	100,0	45,0	15,4	4,0	4	■
JHP780200E2R040.3Z4-M64	02760894	2	E	–	20,0	20,0	40,0	115,0	55,0	19,4	0,4	4	■
JHP780200E2R080.3Z4-M64	02760896	2	E	–	20,0	20,0	40,0	115,0	55,0	19,4	0,8	4	■
JHP780200E2R310.3Z4-M64	02760897	2	E	–	20,0	20,0	40,0	115,0	55,0	19,4	3,1	4	■
JHP780200E2R400.3Z4-M64	02760898	2	E	–	20,0	20,0	40,0	115,0	55,0	19,4	4,0	4	■
JHP780250E2R080.3Z4-M64	02760901	2	E	–	25,0	25,0	50,0	130,0	65,0	24,4	0,8	4	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için


Plastik ve cırp malzemeler için

Grafit malzeme için


Minimaster Plus

Minimaster

Kesme verileri – JHP780 Kenar frezeleme

SMG		a <sub>p</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>								v <sub>c</sub>
				6	8	10	12	14	16	20	25	
S1	E	0.300	1.0	0.036	0.048	0.060	0.070	0.080	0.090	0.10	0.12	50 (45 – 59)
		0,300	1,0	0,0014	0,0019	0,0024	0,0028	0,0032	0,0036	0,0040	0,0048	165 (150–190)
S2	E	0.300	1.0	0.036	0.048	0.060	0.070	0.080	0.090	0.10	0.12	42 (36 – 47)
		0,300	1,0	0,0014	0,0019	0,0024	0,0028	0,0032	0,0036	0,0040	0,0048	140 (120–150)
S3	E	0.300	0.80	0.036	0.048	0.060	0.070	0.080	0.090	0.10	0.11	28 (23 – 33)
		0,300	0,80	0,0014	0,0019	0,0024	0,0028	0,0032	0,0036	0,0040	0,0044	90 (76–100)

Kesme verileri – JHP780 Kanal açma

SMG		a <sub>p</sub> /DC	f <sub>z</sub>								v <sub>c</sub>
			6	8	10	12	14	16	20	25	
S1	E	0.80	0.020	0.028	0.034	0.042	0.048	0.055	0.070	0.085	43 (38 – 49)
		0,80	0,00080	0,0011	0,0013	0,0017	0,0019	0,0022	0,0028	0,0034	140 (130–160)
S2	E	0.80	0.020	0.028	0.034	0.042	0.048	0.055	0.070	0.085	35 (30 – 40)
		0,80	0,00080	0,0011	0,0013	0,0017	0,0019	0,0022	0,0028	0,0034	115 (99–130)
S3	E	0.60	0.012	0.016	0.020	0.025	0.028	0.032	0.040	0.050	26 (21 – 30)
		0,60	0,00048	0,00065	0,00080	0,0010	0,0011	0,0013	0,0016	0,0020	85 (69 – 98)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub>= m/dak (sf/dak)

f<sub>z</sub> = mm (inç/ağız)

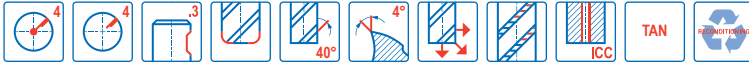
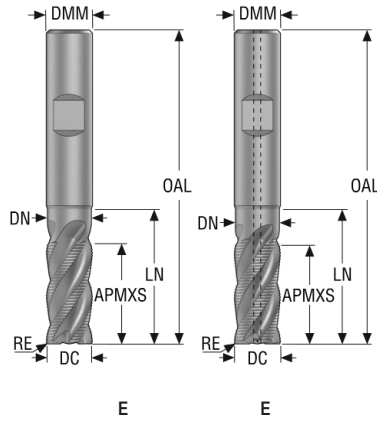
a<sub>p</sub> mm/DC (inç/DC) = faktör

a<sub>e</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

## JHP794

Yüksek performans – ISO-S – Dik kenarlı – 4 Ağızlı – Weldon – Köşe radyüsü



- Toleranslar:
- DMM= h6
- DC= h12
- RE= ±0,05 mm
- DC ≥ Ø8 ise tekrar bilenebilir

Ürün Tanımı	Kalite	Ürün numarası	Şekil boyu	Freze şekli	ICC (İçten soğutma sıvısı kanalı)	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Weldon
						mm	mm	mm	mm	mm	mm	mm		
JHP794060E2R020.3Z4	TAN	10072338	2	E	–	6,0	6,0	13,0	57,0	18,5	2,0	0,2	4	■
JHP794060E2R020.3Z4A	TAN	10072339	2	E	■	6,0	6,0	13,0	57,0	18,5	5,5	0,2	4	■
JHP794080E2R020.3Z4	TAN	10072340	2	E	–	8,0	8,0	19,0	63,0	24,5	7,5	0,2	4	■
JHP794080E2R020.3Z4A	TAN	10072341	2	E	■	8,0	8,0	19,0	63,0	24,5	7,5	0,2	4	■
JHP794100E2R035.3Z4	TAN	10072342	2	E	–	10,0	10,0	22,0	72,0	29,5	9,5	0,35	4	■
JHP794100E2R035.3Z4A	TAN	10072343	2	E	■	10,0	10,0	22,0	72,0	29,5	9,5	0,35	4	■
JHP794120E2R035.3Z4	TAN	10072344	2	E	–	12,0	12,0	26,0	83,0	35,5	11,4	0,35	4	■
JHP794120E2R035.3Z4A	TAN	10072345	2	E	■	12,0	12,0	26,0	92,0	35,5	11,4	0,35	4	■
JHP794160E2R040.3Z4	TAN	10072346	2	E	–	16,0	16,0	32,0	92,0	41,5	15,2	0,4	4	■
JHP794160E2R040.3Z4A	TAN	10072347	2	E	■	16,0	16,0	32,0	92,0	41,5	15,2	0,4	4	■
JHP794200E2R040.3Z4	TAN	10072348	2	E	–	20,0	20,0	38,0	104,0	51,5	19,0	0,4	4	■
JHP794200E2R040.3Z4A	TAN	10072349	2	E	■	20,0	20,0	38,0	104,0	51,5	19,0	0,4	4	■
JHP794250E2R040.3Z4	TAN	10072350	2	E	–	25,0	25,0	45,0	121,0	62,5	23,8	0,4	4	■
JHP794250E2R040.3Z4A	TAN	10072351	2	E	■	25,0	25,0	45,0	121,0	62,5	23,8	0,4	4	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için


Plastik ve cırp materyaller için

Grafit materyale için


Minimaster Plus

Minimaster

## Kesme verileri – JHP760 Kenar frezeleme

SMG		a <sub>p</sub> /DC	f <sub>z</sub>							v <sub>c</sub>
			6	8	10	12	16	20	25	
M1	E	1.3	0.032	0.044	0.055	0.065	0.080	0.090	0.10	90 (61–120)
		1,3	0,0013	0,0017	0,0022	0,0026	0,0032	0,0036	0,0040	295 (210–390)
M2	E	1.3	0.030	0.040	0.048	0.060	0.070	0.085	0.095	75 (50–99)
		1,3	0,0012	0,0016	0,0019	0,0024	0,0028	0,0034	0,0038	245 (170–320)
M3	E	1.3	0.024	0.032	0.040	0.046	0.055	0.065	0.075	60 (40–78)
		1,3	0,00095	0,0013	0,0016	0,0018	0,0022	0,0026	0,0030	195 (140–250)
M4	E	1.3	0.020	0.028	0.034	0.040	0.050	0.060	0.065	45 (31–60)
		1,3	0,00080	0,0011	0,0013	0,0016	0,0020	0,0024	0,0026	150 (110–190)
M5	E	1.3	0.020	0.028	0.034	0.040	0.050	0.060	0.065	38 (26–50)
		1,3	0,00080	0,0011	0,0013	0,0016	0,0020	0,0024	0,0026	125 (86–160)

## Kesme verileri – JHP760 Kanal açma

SMG		a <sub>p</sub> /DC	f <sub>z</sub>							v <sub>c</sub>
			6	8	10	12	16	20	25	
M1	E	0.60	0.024	0.032	0.040	0.048	0.065	0.080	0.095	75 (50–99)
		0,60	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	245 (170–320)
M2	E	0.60	0.024	0.032	0.040	0.048	0.065	0.080	0.090	60 (40–79)
		0,60	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0036	195 (140–250)
M3	E	0.60	0.022	0.030	0.036	0.044	0.055	0.060	0.070	47 (32–62)
		0,60	0,00085	0,0012	0,0014	0,0017	0,0022	0,0024	0,0028	155 (110–200)
M4	E	0.60	0.019	0.026	0.032	0.038	0.048	0.055	0.060	36 (24–47)
		0,60	0,00075	0,0010	0,0013	0,0015	0,0019	0,0022	0,0024	120 (79–150)
M5	E	0.60	0.019	0.026	0.032	0.038	0.048	0.055	0.060	30 (20–39)
		0,60	0,00075	0,0010	0,0013	0,0015	0,0019	0,0022	0,0024	100 (66–120)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

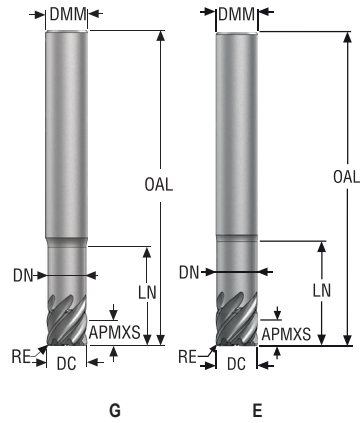
Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)f<sub>z</sub> = mm (inç/ağız)a<sub>p</sub> mm/DC (inç/DC) = faktöra<sub>e</sub> = mm/DC (inç/DC) = faktör

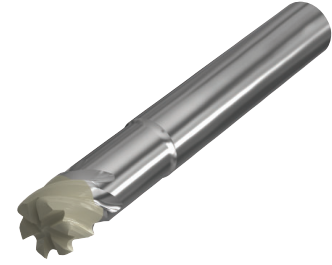
Tüm kesme verileri hedef değerlerdir

## JCG790

Yüksek performans – Dik kenarlı – Süper alaşımlar – 5-6 Ağızlı – Silindirik – Köşe radyüsü



- Toleranslar:
- DMM= h5
- DC= -0,02/-0,1 mm
- RE= ±0,05 mm



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	DN	LN	RE	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm	mm		
JCG790060E2R050.0Z5	10010512	2	E	6,0	6,0	6,0	59,0	5,7	15,0	0,5	5	■
JCG790080E2R050.0Z5	10010513	2	E	8,0	8,0	6,0	67,0	7,6	20,0	0,5	5	■
JCG790094G2R100.0Z6	10010514	2	G	9,4	10,0	6,0	75,0	9,0	23,5	1,0	6	■
JCG790100E2R100.0Z6	10010515	2	E	10,0	10,0	6,0	75,0	9,5	25,0	1,0	6	■
JCG790114G2R150.0Z6	10010516	2	G	11,4	12,0	6,0	82,0	10,9	28,5	1,5	6	■
JCG790120E2R150.0Z6	10010517	2	E	12,0	12,0	6,0	82,0	11,4	30,0	1,5	6	■
JCG790160E2R200.0Z6	10010518	2	E	16,0	16,0	8,0	93,0	15,2	40,0	2,0	6	■
JCG790200E2R300.0Z6	10010519	2	E	20,0	20,0	8,0	103,0	19,0	50,0	3,0	6	■
JCG790250E2R400.0Z6	10010520	2	E	25,0	25,0	8,0	108,0	23,8	50,0	4,0	6	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için


Plastik ve cırp malzemeler için

Grafit malzeme için


Minimaster Plus

Minimaster

Kesme verileri – JCG790 Finitş kenar frezeleme

SMG		a <sub>p</sub> /DC	apmxs	f <sub>z</sub>						v <sub>c</sub>	
				6	8	10	12	16	20		25
S1	A/D	0.0500	1	0.018	0.024	0.030	0.036	0.048	0.060	0.075	830 (420–1300)
		0,0500	1	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0030	2725 (1400 – 4200)
S2	A/D	0.0500	1	0.018	0.024	0.030	0.036	0.048	0.060	0.075	670 (340–1100)
		0,0500	1	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0030	2200 (1200 – 3600)
S3	A/D	0.0500	1	0.018	0.024	0.030	0.036	0.048	0.060	0.075	570 (290–950)
		0,0500	1	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0030	1875 (960 – 3100)

Kesme verileri – JCG790 Kanal açma

SMG		a <sub>p</sub> /DC	f <sub>z</sub>						v <sub>c</sub>	
			6	8	10	12	16	20		25
S1	A/D	0.05	0.018	0.024	0.030	0.036	0.048	0.060	0.075	830 (420–1300)
		0,05	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0030	2725 (1400 – 4200)
S2	A/D	0.05	0.018	0.024	0.030	0.036	0.048	0.060	0.075	670 (340–1100)
		0,05	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0030	2200 (1200 – 3600)
S3	A/D	0.05	0.018	0.024	0.030	0.036	0.048	0.060	0.075	570 (290–950)
		0,05	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0030	1875 (960 – 3100)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub>= m/dak (sf/dak)

f<sub>z</sub> = mm (inç/ağız)

a<sub>p</sub> mm/DC (inç/DC) = faktör

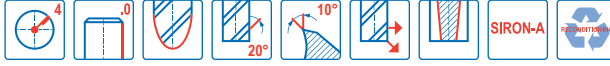
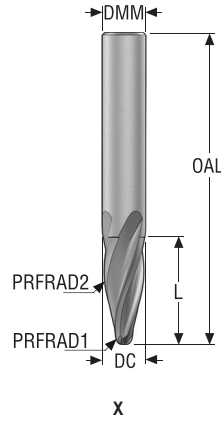
a<sub>e</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir



## JH734

Yüksek hız – ISO– M ve ISO– S - Damla Şekli – 4 Ağızlı – Silindirik



- Toleranslar:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- DC ≥ Ø6 ise tekrar bilenebilir

Ürün Tanımı	Kalite	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	L	OAL	PRFRAD1	PRFRAD2	PCEDC	Silindirik
					mm	mm	mm	mm	mm	mm		
JH734060X2R1R95.0Z4	SIRA	10044783	2	X	6,0	6,0	20,8	62,0	1,0	95,0	4	■
JH734080X2R1R90.0Z4	SIRA	10044784	2	X	8,0	8,0	24,5	68,0	1,0	90,0	4	■
JH734100X2R2R85.0Z4	SIRA	10044785	2	X	10,0	10,0	24,7	72,0	2,0	85,0	4	■
JH734120X2R2R80.0Z4	SIRA	10044786	2	X	12,0	12,0	27,3	83,0	2,0	80,0	4	■
JH734160X2R3R75.0Z4	SIRA	10044787	2	X	16,0	16,0	30,1	92,0	3,0	75,0	4	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

Kesme verileri – JH734 Finiş kopya frezeleme

SMG		a <sub>p</sub> /DC	f <sub>z</sub>					v <sub>c</sub>
			6	8	10	12	16	
P12	E	0.01	0.03	0.04	0.05	0.06	0.08	120 (95 - 135)
		0,01	0,0012	0,0016	0,0022	0,0024	0,0032	400 (310 - 445)
M1	E	0.01	0.03	0.04	0.05	0.06	0.08	145 (120 - 150)
		0,01	0,0012	0,0016	0,0022	0,0024	0,0032	475 (400 - 490)
M2	E	0.01	0.03	0.04	0.05	0.06	0.08	145 (120 - 150)
		0,01	0,0012	0,0016	0,0022	0,0024	0,0032	475 (400 - 490)
S12	E	0.01	0.03	0.04	0.05	0.06	0.08	95 (80 - 100)
		0,01	0,0012	0,0016	0,0022	0,0024	0,0032	310 (270 - 320)

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)

f<sub>z</sub> = mm (inç/ağız)

a<sub>p</sub> mm/DC (inç/DC) = faktör

a<sub>e</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Kesme verileri – JH734 Kaba kopya frezeleme

SMG		a <sub>p</sub> /DC	f <sub>z</sub>					v <sub>c</sub>
			6	8	10	12	16	
P12	E	0.025	0.018	0.024	0.03	0.036	0.048	120 (95 - 135)
		0,025	0,0007	0,00095	0,0012	0,0014	0,0019	400 (310 - 445)
M1	E	0.025	0.018	0.024	0.03	0.036	0.048	145 (120 - 150)
		0,025	0,0007	0,00095	0,0012	0,0014	0,0019	475 (400 - 490)
M2	E	0.025	0.018	0.024	0.03	0.036	0.048	145 (120 - 150)
		0,025	0,0007	0,00095	0,0012	0,0014	0,0019	475 (400 - 490)
S12	E	0.025	0.018	0.024	0.03	0.036	0.048	95 (80 - 100)
		0,025	0,0007	0,00095	0,0012	0,0014	0,0019	310 (270 - 320)

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)

f<sub>z</sub> = mm (inç/ağız)

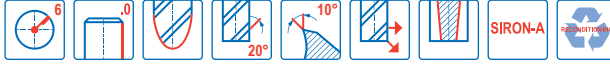
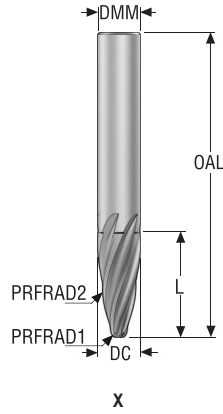
a<sub>p</sub> mm/DC (inç/DC) = faktör

a<sub>e</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

## JH736

Yüksek hız – ISO– M ve ISO– S - Damla Şekli – 6 Ağızlı – Silindirik



- Toleranslar:
- DMM= h5
- PRFRAD1= ±0.03mm
- Form toleransı PRFRAD2= 0.02mm
- Tekrar bilenebilir

Ürün Tanımı	Kalite	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	L	OAL	PRFRAD1	PRFRAD2	PCEDC	Silindirik
					mm	mm	mm	mm	mm	mm		
JH736100X2R2R85.0Z6	SIRA	10044834	2	X	10,0	10,0	24,7	72,0	2,0	85,0	6	■
JH736120X2R2R80.0Z6	SIRA	10044835	2	X	12,0	12,0	27,3	83,0	2,0	80,0	6	■
JH736160X2R3R75.0Z6	SIRA	10044836	2	X	16,0	16,0	30,1	92,0	3,0	75,0	6	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

Kesme verileri – JH736 Finiş kopya frezeleme

SMG		$a_g/DC$	$f_z$			$v_c$
			10	12	16	
P12	E	0.01 0,01	0.05 0,0022	0.06 0,0024	0.08 0,0032	120 (95 - 135) 400 (310 - 445)
M1	E	0.01 0,01	0.05 0,0022	0.06 0,0024	0.08 0,0032	145 (120 - 150) 475 (400 - 490)
M2	E	0.01 0,01	0.05 0,0022	0.06 0,0024	0.08 0,0032	145 (120 - 150) 475 (400 - 490)
S12	E	0.01 0,01	0.05 0,0022	0.06 0,0024	0.08 0,0032	95 (80 - 100) 310 (270 - 320)

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

$v_c$  = m/dak (sf/dak)

$f_z$  = mm (inç/ağız)

$a_p$  mm/DC (inç/DC) = faktör

$a_e$  = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Kesme verileri – JH736 Kaba kopya frezeleme

SMG		$a_g/DC$	$f_z$			$v_c$
			10	12	16	
P12	E	0.025 0,025	0.03 0,0012	0.036 0,0014	0.048 0,0019	120 (95 - 135) 400 (310 - 445)
M1	E	0.025 0,025	0.03 0,0012	0.036 0,0014	0.048 0,0019	145 (120 - 150) 475 (400 - 490)
M2	E	0.025 0,025	0.03 0,0012	0.036 0,0014	0.048 0,0019	145 (120 - 150) 475 (400 - 490)
S12	E	0.025 0,025	0.03 0,0012	0.036 0,0014	0.048 0,0019	95 (80 - 100) 310 (270 - 320)

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

$v_c$  = m/dak (sf/dak)

$f_z$  = mm (inç/ağız)

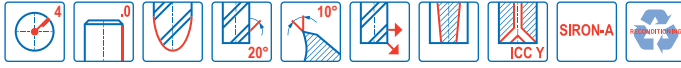
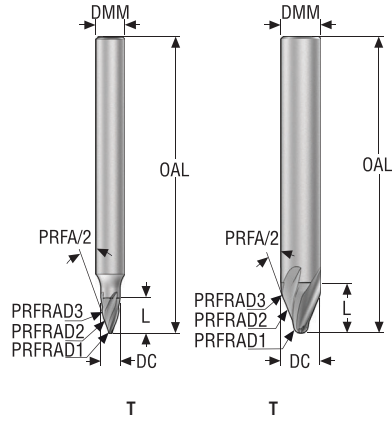
$a_p$  mm/DC (inç/DC) = faktör

$a_e$  = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

JH744

Yüksek hız – ISO– M ve ISO– S - Konik Şekil – 4 Ağızlı – Silindirik



- Toleranslar:
- DMM= h5
- PRFRAD1= ±0.03mm
- Form toleransı PRFRAD2= 0.02mm
- PRFRAD1 ≥ 1.5 ise tekrar bilelenebilir

Ürün Tanımı	Kalite	Ürün numarası	Şekil boyu	Freze şekli	ICC (İçten soğutma sıvısı kanalı)	DC	DMM	L	OAL	PRFRAD1	PRFRAD2	PRFRAD3	PRFRA	PCEDC	Silindirik
						mm	mm	mm	mm	mm	mm	mm			
JH744100T1R1.5R250.0Z4	SIRA	10044920	1	T	–	10,0	10,0	5,4	72,0	1,5	250,0	2,0	65,0	4	■
JH744120T1R3R250.0Z4	SIRA	10044921	1	T	–	12,0	12,0	10,5	89,0	3,0	250,0	6,0	32,5	4	■
JH744160T1R4R500.0Z4	SIRA	10044922	1	T	–	16,0	16,0	14,6	108,0	4,0	500,0	8,0	27,5	4	■
JH744040T2R0.5R250.0Z4	SIRA	10044923	2	T	–	4,0	6,0	7,6	62,0	0,5	250,0	3,0	17,5	4	■
JH744060T2R1R250.0Z4	SIRA	10044924	2	T	–	6,0	6,0	9,6	62,0	1,0	250,0	3,0	17,5	4	■
JH744080T2R1.5R250.0Z4	SIRA	10044925	2	T	–	8,0	8,0	10,7	68,0	1,5	250,0	4,0	20,0	4	■
JH744100T2R2R250.0Z4	SIRA	10044926	2	T	–	10,0	10,0	12,7	75,0	2,0	250,0	5,0	20,0	4	■
JH744120T2R3R250.0Z4	SIRA	10044927	2	T	–	12,0	12,0	13,7	89,0	3,0	250,0	6,0	20,0	4	■
JH744160T2R4R500.0Z4	SIRA	10044928	2	T	–	16,0	16,0	17,6	108,0	4,0	500,0	8,0	20,0	4	■
JH744160T2R2R1000.0Z4	SIRA	10044929	2	T	–	16,0	16,0	31,3	108,0	2,0	1000,0	5,0	12,5	4	■
JH744160T2R4R1000.0Z4	SIRA	10044930	2	T	–	16,0	16,0	24,1	108,0	4,0	1000,0	5,0	12,5	4	■
JH744160T4R4R1000.0Z4A	SIRA	10044931	4	T	■	16,0	16,0	24,1	150,0	4,0	1000,0	5,0	12,5	4	■

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

Kesme verileri – JH744 Finiş kopya frezeleme

SMG		a <sub>e</sub> /DC	f <sub>z</sub>						v <sub>c</sub>
			4	6	8	10	12	16	
P12	E	0.01	0.02	0.03	0.04	0.05	0.06	0.08	120 (95 - 135)
		0,01	0,0008	0,0012	0,0016	0,0022	0,0024	0,0032	400 (310 - 445)
M1	E	0.01	0.02	0.03	0.04	0.05	0.06	0.08	145 (120 - 150)
		0,01	0,0008	0,0012	0,0016	0,0022	0,0024	0,0032	475 (400 - 490)
M2	E	0.01	0.02	0.03	0.04	0.05	0.06	0.08	145 (120 - 150)
		0,01	0,0008	0,0012	0,0016	0,0022	0,0024	0,0032	475 (400 - 490)
S12	E	0.01	0.02	0.03	0.04	0.05	0.06	0.08	95 (80 - 100)
		0,01	0,0008	0,0012	0,0016	0,0022	0,0024	0,0032	310 (270 - 320)

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)

f<sub>z</sub> = mm (inç/ağız)

a<sub>p</sub> mm/DC (inç/DC) = faktör

a<sub>e</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Kesme verileri – JH744 Kaba kopya frezeleme

SMG		a <sub>e</sub> /DC	f <sub>z</sub>						v <sub>c</sub>
			4	6	8	10	12	16	
P12	E	0.025	0.012	0.018	0.024	0.03	0.036	0.048	120 (95 - 135)
		0,025	0,00048	0,0007	0,00095	0,0012	0,0014	0,0019	400 (310 - 445)
M1	E	0.025	0.012	0.018	0.024	0.03	0.036	0.048	145 (120 - 150)
		0,025	0,00048	0,0007	0,00095	0,0012	0,0014	0,0019	475 (400 - 490)
M2	E	0.025	0.012	0.018	0.024	0.03	0.036	0.048	145 (120 - 150)
		0,025	0,00048	0,0007	0,00095	0,0012	0,0014	0,0019	475 (400 - 490)
S12	E	0.025	0.012	0.018	0.024	0.03	0.036	0.048	95 (80 - 100)
		0,025	0,00048	0,0007	0,00095	0,0012	0,0014	0,0019	310 (270 - 320)

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)

f<sub>z</sub> = mm (inç/ağız)

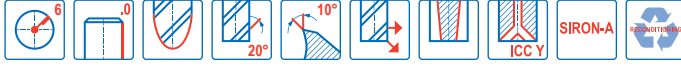
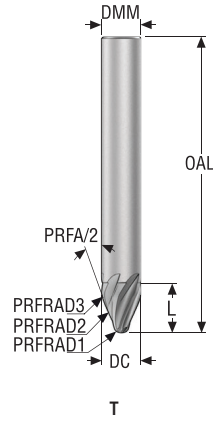
a<sub>p</sub> mm/DC (inç/DC) = faktör

a<sub>e</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

# JH746

Yüksek hız – ISO– M ve ISO– S - Konik Şekil – 6 Ağızlı – Silindirik



- Toleranslar:
- DMM= h5
- PRFRAD1= ±0.03mm
- Form toleransı PRFRAD2= 0.02mm
- Tekrar bilenebilir

Ürün Tanımı	Kalite	Ürün numarası	Şekil boyu	Freze şekli	ICC (İçten soğutma sıvısı kanalı)	DC	DMM	L	OAL	PRFRAD1	PRFRAD2	PRFRAD3	PRFRA	PCEDC	Silindirik
						mm	mm	mm	mm	mm	mm	mm	mm		
JH746100T2R2R250.0Z6	SIRA	10044958	2	T	–	10,0	10,0	12,7	75,0	2,0	250,0	5,0	20,0	6	■
JH746120T2R3R250.0Z6	SIRA	10044959	2	T	–	12,0	12,0	13,7	89,0	3,0	250,0	6,0	20,0	6	■
JH746160T2R4R500.0Z6	SIRA	10044960	2	T	–	16,0	16,0	17,6	108,0	4,0	500,0	8,0	20,0	6	■
JH746160T4R4R500.0Z6A	SIRA	10044961	4	T	■	16,0	16,0	17,6	150,0	4,0	500,0	8,0	20,0	6	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçaları malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

Kesme verileri – JH744 Finiş kopya frezeleme

SMG		$a_g/DC$	$f_z$			$v_c$
			10	12	16	
P12	E	0.01 0,01	0.05 0,0022	0.06 0,0024	0.08 0,0032	120 (95 - 135) 400 (310 - 445)
M1	E	0.01 0,01	0.05 0,0022	0.06 0,0024	0.08 0,0032	145 (120 - 150) 475 (400 - 490)
M2	E	0.01 0,01	0.05 0,0022	0.06 0,0024	0.08 0,0032	145 (120 - 150) 475 (400 - 490)
S12	E	0.01 0,01	0.05 0,0022	0.06 0,0024	0.08 0,0032	95 (80 - 100) 310 (270 - 320)

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

$v_c$  = m/dak (sf/dak)

$f_z$  = mm (inç/ağız)

$a_p$  mm/DC (inç/DC) = faktör

$a_e$  = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Kesme verileri – JH744 Kaba kopya frezeleme

SMG		$a_g/DC$	$f_z$			$v_c$
			10	12	16	
P12	E	0.025 0,025	0.03 0,0012	0.036 0,0014	0.048 0,0019	120 (95 - 135) 400 (310 - 445)
M1	E	0.025 0,025	0.03 0,0012	0.036 0,0014	0.048 0,0019	145 (120 - 150) 475 (400 - 490)
M2	E	0.025 0,025	0.03 0,0012	0.036 0,0014	0.048 0,0019	145 (120 - 150) 475 (400 - 490)
S12	E	0.025 0,025	0.03 0,0012	0.036 0,0014	0.048 0,0019	95 (80 - 100) 310 (270 - 320)

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

$v_c$  = m/dak (sf/dak)

$f_z$  = mm (inç/ağız)

$a_p$  mm/DC (inç/DC) = faktör

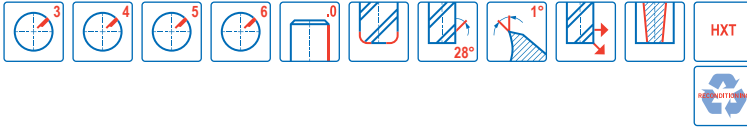
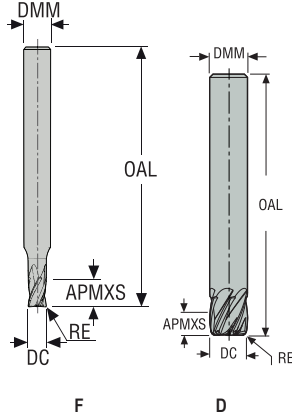
$a_e$  = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir



JH770

Yüksek hız – CoCr/Titanyum – Dik kenarlı – 3-4-5-6 Ağızlı – Silindirik – Köşe radyüsü



- Toleranslar:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- DC ≥ Ø6 ise tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	RE	PCEDC	Silindirik
				mm	mm	mm	mm	mm		
JH770030F2R020.0Z3-HXT	03320783	2	F	3,0	6,0	5,0	58,0	0,2	3	■
JH770040F2R020.0Z4-HXT	03320784	2	F	4,0	6,0	6,0	58,0	0,2	4	■
JH770050F2R020.0Z4-HXT	10000170	2	F	5,0	6,0	7,0	58,0	0,2	4	■
JH770060D2R050.0Z4-HXT	03127351	2	D	6,0	6,0	8,0	50,0	0,5	4	■
JH770080D2R050.0Z4-HXT	03127352	2	D	8,0	8,0	10,0	58,0	0,5	4	■
JH770080D2R050.0Z5-HXT	03127354	2	D	8,0	8,0	10,0	58,0	0,5	5	■
JH770080D2R100.0Z4-HXT	03127353	2	D	8,0	8,0	10,0	58,0	1,0	4	■
JH770080D2R100.0Z5-HXT	03127355	2	D	8,0	8,0	10,0	58,0	1,0	5	■
JH770080D2R100.0Z6-HXT	03127356	2	D	8,0	8,0	10,0	58,0	1,0	6	■
JH770100D2R100.0Z5-HXT	03127357	2	D	10,0	10,0	12,0	66,0	1,0	5	■
JH770100D2R100.0Z6-HXT	03127358	2	D	10,0	10,0	12,0	66,0	1,0	6	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

Kesme verileri – JH770 Finiş kenar frezeleme PCEDC 3 ve 4

SMG		$a_e/DC$	$a_p/DC$	$f_z$				$v_c$
				3	4	6	8	
S2	E	0.750	0.12	0.015	0.020	0.030	0.040	50 (42 – 62)
		0,750	0,12	0,00060	0,00080	0,0012	0,0016	165 (140 – 200)
S11	E	0.250	0.32	0.0075	0.010	0.015	0.020	65 (53 – 91)
		0,250	0,32	0,00030	0,00040	0,00060	0,00080	215 (180 – 290)
S12	E	0.250	0.32	0.0075	0.010	0.015	0.020	50 (41–70)
		0,250	0,32	0,00030	0,00040	0,00060	0,00080	165 (140 – 220)

Kesme verileri – JH770 Finiş kenar frezeleme PCEDC 6

SMG		$a_e/DC$	$a_p/DC$	$f_z$		$v_c$
				8	10	
S2	E	0.750	0.12	0.050	0.060	55 (43 – 64)
		0,750	0,12	0,0020	0,0024	180 (150 – 200)
S11	E	0.250	0.32	0.022	0.026	65 (54 – 93)
		0,250	0,32	0,00085	0,0010	215 (180 – 300)
S12	E	0.250	0.32	0.022	0.026	50 (42–71)
		0,250	0,32	0,00085	0,0010	165 (140 – 230)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

$v_c$  = m/dak (sf/dak)

$f_z$  = mm (inç/ağız)

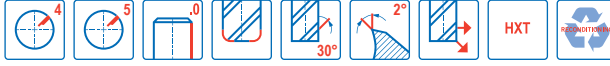
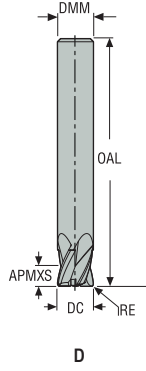
$a_p$  mm/DC (inç/DC) = faktör

$a_e$  = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

## JH740

Yüksek hız – CoCr/Titanyum – Alt finiş frezesi – 4-5 Ağızlı – Silindirik – Köşe radyüsü



- Toleranslar:
- DMM=h5
- DC=e7
- RE= ±0,02 mm
- Tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	RE	PCEDC	Silindirik
				mm	mm	mm	mm	mm		
JH740060D2R025.0Z4-HXT	03127359	2	D	6,0	6,0	6,0	50,0	0,25	4	■
JH740060D2R050.0Z4-HXT	03127360	2	D	6,0	6,0	6,0	50,0	0,5	4	■
JH740080D2R025.0Z4-HXT	03127361	2	D	8,0	8,0	8,0	58,0	0,25	4	■
JH740080D2R050.0Z4-HXT	03127362	2	D	8,0	8,0	8,0	58,0	0,5	4	■
JH740100D2R025.0Z5-HXT	03127363	2	D	10,0	10,0	10,0	66,0	0,25	5	■
JH740100D2R050.0Z5-HXT	03127364	2	D	10,0	10,0	10,0	66,0	0,5	5	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

Kesme verileri – JH740 Yüzey finiş frezeleme PCEDC 4

SMG		$a_e/DC$	$a_p/DC$	$f_z$		$v_c$
				6	8	
S2	E	0.500	0.0060	0.044	0.060	50 (40 – 59)
		0,500	0,0060	0,0017	0,0024	165 (140–190)
S11	E	0.500	0.0060	0.044	0.060	65 (52–77)
		0,500	0,0060	0,0017	0,0024	215 (180–250)
S12	E	0.500	0.0060	0.044	0.060	50 (40 – 59)
		0,500	0,0060	0,0017	0,0024	165 (140–190)

Kesme verileri – JH740 Yüzey finiş frezeleme PCEDC 5

SMG		$a_e/DC$	$a_p/DC$	$f_z$	$v_c$
				10	
S2	E	0.500	0.0065	0.046	48 (39 – 58)
		0,500	0,0065	0,0018	155 (130–190)
S11	E	0.500	0.0065	0.046	65 (51–75)
		0,500	0,0065	0,0018	215 (170–240)
S12	E	0.500	0.0065	0.046	48 (39 – 58)
		0,500	0,0065	0,0018	155 (130–190)

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprej yağlama

$v_c$  = m/dak (sf/dak)

$f_z$  = mm (inç/ağız)

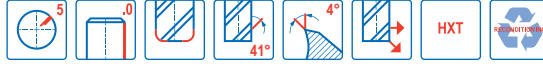
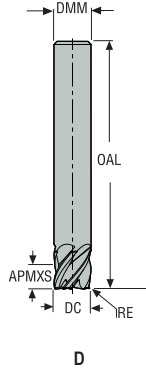
$a_p$  mm/DC (inç/DC) = faktör

$a_e$  = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

## JH710

Yüksek hız – CoCr/Titanyum – Dik kenarlı – 5 Ağızlı – Silindirik – Köşe radyüsü



- Toleranslar:
- DMM=h5
- DC=e7
- RE= ±0,02 mm
- Tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	RE	PCEDC	Silindirik
				mm	mm	mm	mm	mm		
JH710060D2R025.0Z5-HXT	03127365	2	D	6,0	6,0	6,0	57,0	0,25	5	■
JH710060D2R050.0Z5-HXT	03127366	2	D	6,0	6,0	6,0	57,0	0,5	5	■
JH710080D2R025.0Z5-HXT	03127367	2	D	8,0	8,0	8,0	63,0	0,25	5	■
JH710080D2R050.0Z5-HXT	03127368	2	D	8,0	8,0	8,0	63,0	0,5	5	■
JH710080D2R100.0Z5-HXT	03127369	2	D	8,0	8,0	8,0	63,0	1,0	5	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için


Plastik ve diğer malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

Kesme verileri – JH710 Finiş kenar frezeleme

SMG		$a_e/DC$	$a_p/DC$	$f_z$		$v_c$
				6	8	
S1	E	0,00800	0,65	0,034	0,044	100 (79–110)
		0,00800	0,65	0,0013	0,0017	330 (260 – 360)
S2	E	0,00800	0,65	0,034	0,044	100 (79–110)
		0,00800	0,65	0,0013	0,0017	330 (260 – 360)
S3	E	0,00800	0,65	0,034	0,044	100 (79–110)
		0,00800	0,65	0,0013	0,0017	330 (260 – 360)
S11	E	0,00800	0,65	0,036	0,046	180 (160 – 200)
		0,00800	0,65	0,0014	0,0018	590 (530 – 650)
S12	E	0,00800	0,65	0,036	0,046	135 (120–150)
		0,00800	0,65	0,0014	0,0018	445 (400 – 490)
S13	E	0,00800	0,65	0,032	0,040	105 (92–120)
		0,00800	0,65	0,0013	0,0016	345 (310 – 390)

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

$v_c$  = m/dak (sf/dak)

$f_z$  = mm (inç/ağız)

$a_p$  mm/DC (inç/DC) = faktör

$a_e$  = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeleri için

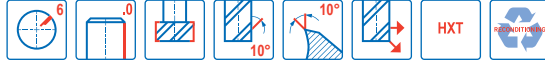
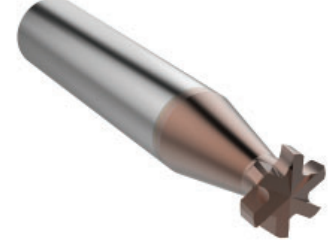
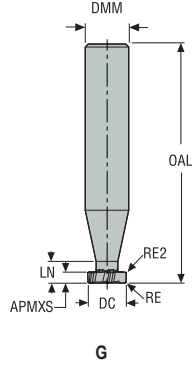
Grafit malzeme için

Minimaster Plus

Minimaster

## JH790

Yüksek hız – CoCr/Titanyum – T Kesici Takım – 6 Ağızlı – Silindirik



- Toleranslar:
- DMM=h5
- DC= ±0,02 mm
- RE= ±0,02 mm
- Tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	RE	RE2	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm	mm		
JH790095G2R025.0Z6-HXT	03127370	2	G	9,5	10,0	2,0	66,0	5,0	0,25	0,25	6	■
JH790095G2R050.0Z6-HXT	03127371	2	G	9,5	10,0	2,0	66,0	5,0	0,5	0,5	6	■
JH790095G3R025.0Z6-HXT	03127372	3	G	9,5	10,0	2,54	66,0	5,0	0,25	0,25	6	■
JH790095G3R050.0Z6-HXT	03127373	3	G	9,5	10,0	2,54	66,0	5,0	0,5	0,5	6	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için


Plastik ve cırp malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

Kesme verileri – JH790 (T) Finiş kenar frezeleme

SMG		$a_e/DC$	$a_p/DC$	$f_z$	$v_c$
				9.5	
S2	E	0.189 0,189	0.19 0,19	0.030 0,0012	39 (31 – 50) 130 (110 – 160)
S11	E	0.189 0,189	0.19 0,19	0.022 0,00085	85 (66 – 100) 280 (220 – 320)
S12	E	0.189 0,189	0.19 0,19	0.022 0,00085	65 (51 – 80) 215 (170 – 260)

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprej yağlama

$v_c$  = m/dak (sf/dak)

$f_z$  = mm (inç/ağız)

$a_p$  mm/DC (inç/DC) = faktör

$a_e$  = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeleri için

Grafit malzeme için

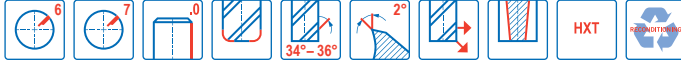
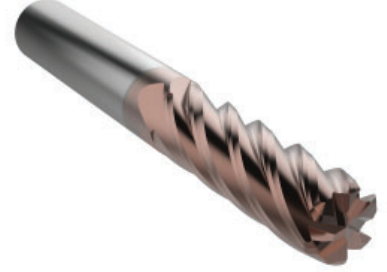
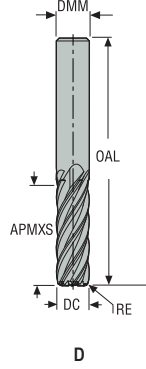
Minimaster Plus

Minimaster



## JH730

Yüksek hız – CoCr/Titanyum – Dik kenarlı – 6-7 Ağızlı – Silindirik – Köşe radyüsü



- Toleranslar:
- DMM=h5
- DC=e7
- RE= ±0,02 mm
- Tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	RE	PCEDC	Silindirik
				mm	mm	mm	mm	mm		
JH730080D2R050.0Z6-HXT	03127375	2	D	8,0	8,0	25,0	63,0	0,5	6	■
JH730080D2R100.0Z6-HXT	03127377	2	D	8,0	8,0	25,0	63,0	1,0	6	■
JH730080D2R150.0Z6-HXT	03127378	2	D	8,0	8,0	25,0	63,0	1,5	6	■
JH730080D2R200.0Z6-HXT	03127379	2	D	8,0	8,0	25,0	63,0	2,0	6	■
JH730100D2R100.0Z7-HXT	03127380	2	D	10,0	10,0	31,0	72,0	1,0	7	■
JH730100D2R250.0Z7-HXT	03127381	2	D	10,0	10,0	31,0	72,0	2,5	7	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için


Plastik ve cırp malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

Kesme verileri – JH730 Finiş kenar frezeleme

SMG		$a_e/DC$	$a_p/DC$	$f_z$		$v_c$
				8	10	
S2	E	0.0625	1.8	0.020	0.025	80 (63 – 93)
		0.0625	1.8	0,00080	0,0010	260 (210 – 300)
S11	E	0.0625	1.8	0.016	0.020	135 (110–160)
		0.0625	1.8	0,00065	0,00080	445 (370 – 520)
S12	E	0.0625	1.8	0.016	0.020	105 (83–120)
		0.0625	1.8	0,00065	0,00080	345 (280 – 390)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

$v_c$  = m/dak (sf/dak)

$f_z$  = mm (inç/ağız)

$a_p$  mm/DC (inç/DC) = faktör

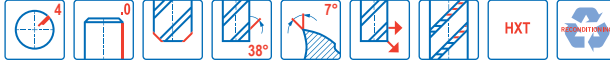
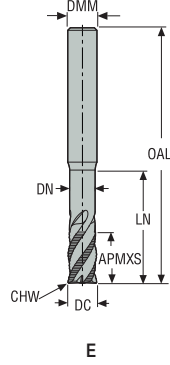
$a_e$  = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal  
Çelik ve dökme demir  
Paslanmaz çelik ve S iş parçası malzemeleri  
Demir içermeyen malzemeler  
Sertleştirilmiş çelik için  
Plastik ve cırp malzemeleri için  
Grafit malzeme için  
Minimaster Plus  
Minimaster

## JHP994

Yüksek performans – CoCr/Titanyum – Dik kenarlı – 4 Ağızlı – Silindirik – Köşesi pahlı



- Toleranslar:
- DMM=h5
- DC=-0,02/-0,1 mm
- CHW=0/-0,1 mm
- Tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	CHW	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm	mm		
JHP994060E3C.0Z4-HXT	03127382	3	E	6,0	6,0	14,0	63,0	24,0	5,6	0,2	4	■
JHP994080E3C.0Z4-HXT	03127383	3	E	8,0	8,0	18,0	69,0	32,0	7,4	0,2	4	■
JHP994100E3C.0Z4-HXT	03127384	3	E	10,0	10,0	22,0	88,0	40,0	9,4	0,2	4	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

Kesme verileri – JHP994 Finiş kenar frezeleme

SMG		$a_p/DC$	$a_p/DC$	$f_z$			$v_c$
				6	8	10	
S2	E	0.0480	2.0	0.025	0.032	0.042	55 (40 – 69)
		0,0480	2,0	0,0010	0,0013	0,0017	180 (140 – 220)
S11	E	0.450	0.60	0.025	0.034	0.042	50 (39 – 77)
		0,450	0,60	0,0010	0,0013	0,0017	165 (130 – 250)
S12	E	0.450	0.60	0.025	0.034	0.042	40 (30 – 59)
		0,450	0,60	0,0010	0,0013	0,0017	130 (99 – 190)

Kesme verileri – JHP994 Kanal açma

SMG		$a_p/DC$	$f_z$			$v_c$
			6	8	10	
S2	E	2.0	0.011	0.014	0.018	33 (24 – 41)
		2,0	0,00044	0,00055	0,00070	110 (79 – 130)
S11	E	0.60	0.025	0.034	0.042	42 (32 – 63)
		0,60	0,0010	0,0013	0,0017	140 (110 – 200)
S12	E	0.60	0.025	0.034	0.042	33 (25 – 48)
		0,60	0,0010	0,0013	0,0017	110 (83 – 150)

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

$v_c$  = m/dak (sf/dak)

$f_z$  = mm (inç/ağız)

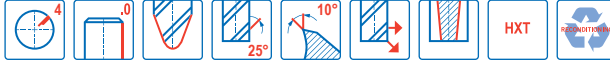
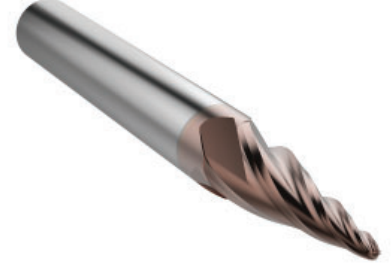
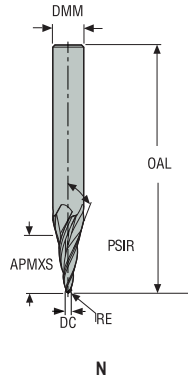
$a_p$  mm/DC (inç/DC) = faktör

$a_e$  = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

## JH780

Yüksek hız – CoCr/Titanyum – Konik tamamı yuvarlak freze – 4 Ağızlı – Silindirik



- Toleranslar:
- DMM=h5
- DC= ±0,04 mm
- RE= ±0,01 mm
- Tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	RE	PSIR	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm		
JH780018N2R100.0Z4-HXT	03127386	2	N	1,827	8,0	23,5	63,0	1,0	5,1838	4	■
JH780028N2R150.0Z4-HXT	03127387	2	N	2,803	8,0	23,5	63,0	1,5	3,8915	4	■
JH780038N2R200.0Z4-HXT	03127388	2	N	3,823	8,0	23,5	63,0	2,0	2,5972	4	■
JH780049N2R250.0Z4-HXT	03127389	2	N	4,888	8,0	23,5	63,0	2,5	1,3003	4	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için


Plastik ve cırp malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

Kesme verileri – JH780 Kenar frezeleme

SMG		a <sub>e</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>				v <sub>c</sub>
				1.8	2.8	3.8	4.9	
S2	E	0.0510	4.2	0.0080	0.012	0.017	0.022	70 (54 – 86)
		0,0510	4,2	0,00032	0,00048	0,00065	0,00085	230 (180 – 280)
S12	E	0.0510	4.2	0.0060	0.0090	0.013	0.016	95 (76 – 110)
		0,0510	4,2	0,00024	0,00036	0,00050	0,00065	310 (250 – 360)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)

f<sub>z</sub> = mm (inç/ağız)

a<sub>p</sub> mm/DC (inç/DC) = faktör

a<sub>e</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeleri için

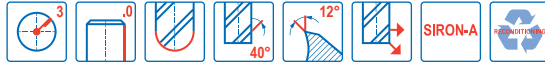
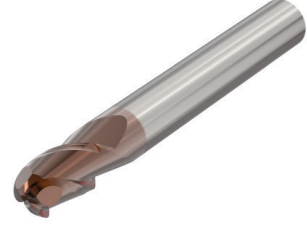
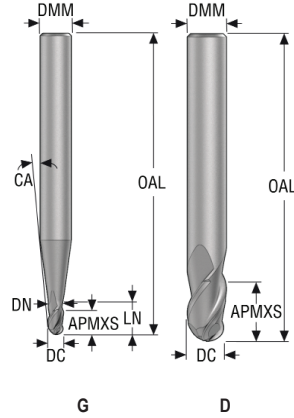
Grafit malzeme için

Minimaster Plus

Minimaster

# JHB720

Yüksek hız – Titanyum – Tamamı yuvarlak – 3 Ağızlı – Silindirik



- Toleranslar:
- DMM=h5
- DC=-0,02/-0,04 mm
- RE= ±0,01 mm
- DC ≥ Ø6 ise tekrar bilenebilir

Ürün Tanımı	Kalite	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	CA	PCEDC	WDX0	WDX05	WDX1	WDX15	WDX2	WDX3	Silindirik	
					mm	mm	mm	mm	mm	mm										
JHB720020G2B.0Z3	HXT	10072323	2	G	2,0	6,0	3,0	60,0	6,0	1,9	7,0	3	6,5	7,0	7,4	7,7	8,2	9,2	■	
JHB720030G2B.0Z3	HXT	10072324	2	G	3,0	6,0	4,5	60,0	6,5	2,8	5,0	3	7,0	8,2	8,7	9,3	10,0	11,9	■	
JHB720035G2B.0Z3	HXT	10072325	2	G	3,5	6,0	5,0	65,0	7,0	3,2	3,5	3	7,5	10,0	11,0	12,4	14,1	20,4	■	
JHB720040G2B.0Z3	HXT	10072326	2	G	4,0	6,0	6,0	65,0	8,0	3,7	3,0	3	8,5	11,1	12,2	13,7	15,6	-	■	
JHB720060D2B.0Z3	HXT	10072327	2	D	6,0	6,0	9,0	75,0	-	-	-	3	-	-	-	-	-	-	■	
JHB720080D2B.0Z3	HXT	10072328	2	D	8,0	8,0	12,0	75,0	-	-	-	3	-	-	-	-	-	-	■	
JHB720100D2B.0Z3	HXT	10072329	2	D	10,0	10,0	15,0	80,0	-	-	-	3	-	-	-	-	-	-	■	
JHB720120D2B.0Z3	HXT	10072330	2	D	12,0	12,0	18,0	90,0	-	-	-	3	-	-	-	-	-	-	■	
JHB720160D2B.0Z3	HXT	10072331	2	D	16,0	16,0	24,0	100,0	-	-	-	3	-	-	-	-	-	-	■	

■ Stoklu standart ürün.

WDX değerleri için: α<sub>1</sub>'ye bağlı maks. kesme derinliği (lα<sub>1</sub>, ref)\*

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

## Kesme verileri – JHB720 Kenar frezeleme

SMG	a <sub>p</sub> /DC	a <sub>r</sub> /DC	f <sub>z</sub>										v <sub>c</sub>
			2	3	3.5	4	6	8	10	12	16		
M1	E	0.200	1.2	0.0080	0.012	0.014	0.016	0.024	0.032	0.040	0.048	0.060	85 (62–110)
		0,200	1,2	0,00032	0,00048	0,00055	0,00065	0,00095	0,0013	0,0016	0,0019	0,0024	280 (210–360)
M2	E	0.200	1.2	0.0080	0.012	0.014	0.016	0.024	0.032	0.040	0.048	0.060	70 (51–90)
		0,200	1,2	0,00032	0,00048	0,00055	0,00065	0,00095	0,0013	0,0016	0,0019	0,0024	230 (170–290)
M3	E	0.200	1.2	0.0080	0.012	0.014	0.016	0.024	0.032	0.040	0.048	0.060	65 (46–84)
		0,200	1,2	0,00032	0,00048	0,00055	0,00065	0,00095	0,0013	0,0016	0,0019	0,0024	215 (160–270)
M4	E	0.200	1.2	0.0070	0.011	0.012	0.014	0.022	0.028	0.034	0.042	0.050	50 (35–65)
		0,200	1,2	0,00028	0,00044	0,00048	0,00055	0,00085	0,0011	0,0013	0,0017	0,0020	165 (120–210)
M5	E	0.200	1.2	0.0070	0.011	0.012	0.014	0.022	0.028	0.034	0.042	0.050	42 (29–54)
		0,200	1,2	0,00028	0,00044	0,00048	0,00055	0,00085	0,0011	0,0013	0,0017	0,0020	140 (96–170)
N1	E/M/A	0.400	1.2	0.020	0.030	0.036	0.040	0.060	0.080	0.10	0.12	0.15	600 (500–690)
		0,400	1,2	0,00080	0,0012	0,0014	0,0016	0,0024	0,0032	0,0040	0,0048	0,0060	1975 (1700–2200)
N2	E/M/A	0.400	1.2	0.016	0.024	0.028	0.032	0.048	0.065	0.080	0.095	0.12	500 (400–600)
		0,400	1,2	0,00065	0,00095	0,0011	0,0013	0,0019	0,0026	0,0032	0,0038	0,0048	1650 (1400–1900)
N3	E/M/A	0.400	1.2	0.016	0.024	0.028	0.032	0.048	0.065	0.080	0.095	0.12	335 (270–400)
		0,400	1,2	0,00065	0,00095	0,0011	0,0013	0,0019	0,0026	0,0032	0,0038	0,0048	1100 (890–1300)
N11	E/M/A	0.300	1.2	0.012	0.018	0.022	0.024	0.036	0.048	0.060	0.070	0.090	300 (260–340)
		0,300	1,2	0,00048	0,00070	0,00085	0,00095	0,0014	0,0019	0,0024	0,0028	0,0036	980 (860–1100)
S1	E	0.100	1.2	0.0065	0.0095	0.011	0.013	0.019	0.026	0.032	0.038	0.048	43 (29–57)
		0,100	1,2	0,00026	0,00038	0,00044	0,00050	0,00075	0,0010	0,0013	0,0015	0,0019	140 (96–180)
S2	E	0.100	1.2	0.0065	0.0095	0.011	0.013	0.019	0.026	0.032	0.038	0.048	35 (24–46)
		0,100	1,2	0,00026	0,00038	0,00044	0,00050	0,00075	0,0010	0,0013	0,0015	0,0019	115 (79–150)
S3	E	0.100	1.2	0.0060	0.0090	0.011	0.012	0.018	0.024	0.030	0.036	0.044	30 (21–39)
		0,100	1,2	0,00024	0,00036	0,00044	0,00048	0,00070	0,00095	0,0012	0,0014	0,0017	100 (69–120)
S11	E	0.300	1.2	0.010	0.015	0.018	0.020	0.030	0.040	0.050	0.060	0.075	90 (79–100)
		0,300	1,2	0,00040	0,00060	0,00070	0,00080	0,0012	0,0016	0,0020	0,0024	0,0030	295 (260–320)
S12	E	0.300	1.2	0.010	0.015	0.018	0.020	0.030	0.040	0.050	0.060	0.075	70 (61–80)
		0,300	1,2	0,00040	0,00060	0,00070	0,00080	0,0012	0,0016	0,0020	0,0024	0,0030	230 (210–260)
S13	E	0.300	1.2	0.0085	0.013	0.015	0.017	0.026	0.034	0.044	0.050	0.065	55 (48–63)
		0,300	1,2	0,00034	0,00050	0,00060	0,00065	0,0010	0,0013	0,0017	0,0020	0,0026	180 (160–200)
TS1	A	0.400	1.2	0.020	0.030	0.036	0.040	0.060	0.080	0.10	0.12	0.15	500 (400–600)
		0,400	1,2	0,00080	0,0012	0,0014	0,0016	0,0024	0,0032	0,0040	0,0048	0,0060	1650 (1400–1900)
TP1	M	0.400	1.2	0.020	0.030	0.036	0.040	0.060	0.080	0.10	0.12	0.15	500 (400–600)
		0,400	1,2	0,00080	0,0012	0,0014	0,0016	0,0024	0,0032	0,0040	0,0048	0,0060	1650 (1400–1900)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprej yağlama

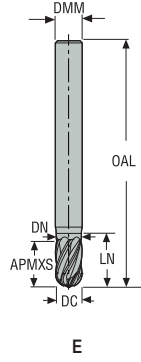
v<sub>c</sub> = m/dak (sf/dak)f<sub>z</sub> = mm (inç/ağız)a<sub>p</sub> mm/DC (inç/DC) = faktöra<sub>r</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

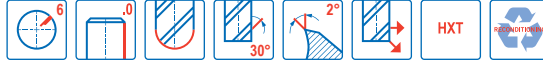


## JH721

Yüksek hız – CoCr/Titanyum – Tamamı yuvarlak – 6 Ağızlı – Silindirik



E



- Toleranslar:
- DMM=h5
- DC=e7
- RE= ±0,02 mm
- Tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm		
JH721060E2B.0Z6-HXT	03127390	2	E	6,0	6,0	10,0	57,0	12,0	5,6	6	■
JH721080E2B.0Z6-HXT	03127391	2	E	8,0	8,0	13,0	58,0	16,0	7,4	6	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

Kesme verileri – JH721 Finiş kopya frezeleme

SMG		$a_e/DC$	$a_p/DC$	$f_z$		$v_c$
				6	8	
S2	E	0.0424 0,0424	0.040 0,040	0.032 0,0013	0.042 0,0017	120 (110–140) 395 (370 – 450)
S11	E	0.0424 0,0424	0.040 0,040	0.032 0,0013	0.042 0,0017	210 (140 – 230) 690 (460–750)
S12	E	0.0424 0,0424	0.040 0,040	0.032 0,0013	0.042 0,0017	160 (110–180) 520 (370 – 590)

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprej yağlama

$v_c$  = m/dak (sf/dak)

$f_z$  = mm (inç/ağız)

$a_p$  mm/DC (inç/DC) = faktör

$a_e$  = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeleri için

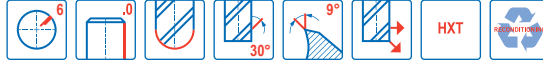
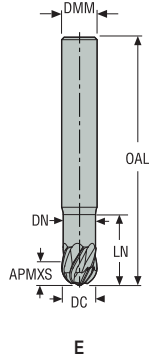
Grafit malzeme için

Minimaster Plus

Minimaster

## JH722

Yüksek hız – CoCr/Titanyum – Tamamı yuvarlak – 6 Ağızlı – Silindirik



- Toleranslar:
- DMM=h5
- DC=e7
- RE= ±0,01 mm
- Tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm		
JH722100E2B.0Z6-HXT	03127392	2	E	10,0	10,0	10,0	72,0	20,0	9,4	6	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için


Plastik ve cırp malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

Kesme verileri – JH722 Finiş kopya frezeleme

SMG		$a_e/DC$	$a_p/DC$	$f_z$	$v_c$
				10	
S2	E	0.0500 0,0500	0.15 0,15	0.065 0,0026	125 (110–150) 410 (370–490)
S11	E	0.0500 0,0500	0.15 0,15	0.048 0,0019	210 (190–230) 690 (630–750)
S12	E	0.0500 0,0500	0.15 0,15	0.048 0,0019	160 (150–180) 520 (500–590)

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprej yağlama

$v_c$  = m/dak (st/dak)

$f_z$  = mm (inç/ağız)

$a_p$  mm/DC (inç/DC) = faktör

$a_e$  = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeleri için

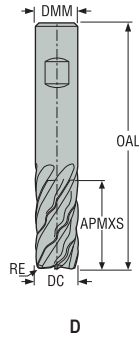
Grafit malzeme için

Minimaster Plus

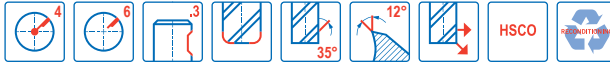
Minimaster

## JCO710

Yüksek performans – Titanyum – Dik kenarlı – 4-6 Ağızlı – Weldon – Köşe radyüsü



D



- Toleranslar:
- DMM= h6
- DC= k10
- RE= ±0,05 mm
- Tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	RE	PCEDC	Weldon
				mm	mm	mm	mm	mm		
JCO710160D2R100.3Z4	02810493	2	D	16,0	16,0	32,0	92,0	1,0	4	■
JCO710160D2R250.3Z4	02810494	2	D	16,0	16,0	32,0	92,0	2,5	4	■
JCO710160D2R400.3Z4	02810496	2	D	16,0	16,0	32,0	92,0	4,0	4	■
JCO710200D2R100.3Z4	02810497	2	D	20,0	20,0	38,0	114,0	1,0	4	■
JCO710200D2R400.3Z4	02810500	2	D	20,0	20,0	38,0	114,0	4,0	4	■
JCO710250D2R100.3Z6	02810501	2	D	25,0	25,0	45,0	121,0	1,0	6	■
JCO710320D2R100.3Z6	02810504	2	D	32,0	32,0	53,0	132,0	1,0	6	■
JCO710320D2R400.3Z6	02810505	2	D	32,0	32,0	53,0	132,0	4,0	6	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

Kesme verileri – JCO710 Finitş kenar frezeleme PCEDC4 LV2

SMG		$a_g/DC$	$a_p/DC$	$f_z$				$v_c$
				16	20	25	32	
M1	E	0.500	1.2	0.065	0.080	0.095	0.11	21 (15 – 28)
		0,500	1,2	0,0026	0,0032	0,0038	0,0044	70 (50 – 91)
M2	E	0.500	1.2	0.060	0.075	0.085	0.10	17 (12 – 23)
		0,500	1,2	0,0024	0,0030	0,0034	0,0040	55 (40 – 75)
S11	E	0.500	1.1	0.0060	0.0075	0.0085	0.010	13 (9.4 – 18)
		0,500	1,1	0,00024	0,00030	0,00034	0,00040	43 (31 – 59)
S12	E	0.500	1.1	0.0060	0.0075	0.0085	0.010	10 (7.3 – 14)
		0,500	1,1	0,00024	0,00030	0,00034	0,00040	33 (24 – 45)
S13	E	0.500	1.1	0.0050	0.0065	0.0075	0.0090	7 (5.7 – 11)
		0,500	1,1	0,00020	0,00026	0,00030	0,00036	23 (19 – 36)

Kesme verileri – JCO710 Finitş kenar frezeleme PCEDC6 LV2

SMG		$a_g/DC$	$a_p/DC$	$f_z$				$v_c$
				20	25	32	40	
M1	E	0.480	1.2	0.090	0.11	0.14	0.16	18 (13 – 24)
		0,480	1,2	0,0036	0,0044	0,0055	0,0065	60 (43 – 78)
M2	E	0.480	1.2	0.080	0.10	0.12	0.15	15 (11 – 20)
		0,480	1,2	0,0032	0,0040	0,0048	0,0060	49 (37 – 65)
S11	E	0.480	1.2	0.075	0.095	0.12	0.14	11 (7.9 – 15)
		0,480	1,2	0,0030	0,0038	0,0048	0,0055	36 (26 – 49)
S12	E	0.480	1.2	0.075	0.095	0.12	0.14	8 (6.1 – 12)
		0,480	1,2	0,0030	0,0038	0,0048	0,0055	26 (21 – 39)
S13	E	0.480	1.2	0.065	0.085	0.10	0.12	6 (4.9 – 9.6)
		0,480	1,2	0,0026	0,0034	0,0040	0,0048	20 (17 – 31)

Kesme verileri – JCO710 Kanal açma PCEDC4 LV2

SMG		$a_p/DC$	$f_z$				$v_c$
			16	20	25	32	
M1	E	1.0	0.050	0.060	0.080	0.10	19 (13 – 24)
		1,0	0,0020	0,0024	0,0032	0,0040	60 (43 – 78)
M2	E	1.0	0.050	0.060	0.080	0.10	15 (10 – 20)
		1,0	0,0020	0,0024	0,0032	0,0040	49 (33 – 65)
M3	E	0.50	0.046	0.055	0.065	0.080	10 (7.1 – 15)
		0,50	0,0018	0,0022	0,0026	0,0032	33 (24 – 49)
M4	E	0.50	0.040	0.050	0.060	0.070	8 (5.4 – 11)
		0,50	0,0016	0,0020	0,0024	0,0028	26 (18 – 36)
M5	E	0.50	0.040	0.050	0.060	0.070	6 (4.5 – 9.6)
		0,50	0,0016	0,0020	0,0024	0,0028	20 (15 – 31)
S11	E	0.75	0.0060	0.0075	0.0085	0.010	10 (7.8 – 15)
		0,75	0,00024	0,00030	0,00034	0,00040	33 (26 – 49)
S12	E	0.75	0.0060	0.0075	0.0085	0.010	8 (6.0 – 11)
		0,75	0,00024	0,00030	0,00034	0,00040	26 (20 – 36)
S13	E	0.75	0.0050	0.0065	0.0075	0.0090	6 (4.7 – 9.3)
		0,75	0,00020	0,00026	0,00030	0,00036	20 (16 – 30)

JCO + SIRA uygulandıında:  $v_c$  tablosu \* 1,2

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

$v_c$  = m/dak (sf/dak)

$f_z$  = mm (inç/ağız)

$a_p$  mm/DC (inç/DC) = faktör

$a_g$  = mm/DC (inç/DC) = faktör































Tüm kesme verileri hedef değerlerdir



## Demir içermeyen malzemeler

Seco, demir içermeyen malzemelerde verimlilik için yüksek performanslı solid karbür dik kenarlı parmak frezeler, tamamı yuvarlak frezeler ve finiş parmak frezelerinden oluşan eksiksiz bir ürün çeşidi sunmaktadır.



















- JS412 ve JS413, keskin köşe tipi için.
- JS452, JS453, JHP490, JH40, JH421, JM403/404/406, JH410 ve JH440, radyüs tipi için.
- JH450, JH460 ve JM413/416, tamamı yuvarlak tip için.

Demir içermeyen malzemeler için						
Universal						
						
Çelik ve dökme demir	İsim	JS412	JS413	JS452	JS453	JHP490
	Sayfa(lar)	313	316	319	324	329
Paslanmaz çelik ve S iş parçası malzemeleri	Ürün ailesi	JS <sup>2</sup>	JS <sup>2</sup>	JS <sup>2</sup>	JS <sup>2</sup>	HPM
	Freze tipi					
Demir içermeyen malzemeler	Sap	Silindirik	■	■	■	■
		Weldon	■	■	□	□
		Safelock				□
Ağız sayısı	2	3	2	3	2-3	
ICC (İçten soğutma sıvısı kanalı)					■	
Sertleştirilmiş çelik için	Metrik	2-20	2-20	2-20	2-20	10-25
	İnç					
Plastik ve cırp malzemeler için	Mevcut boylar					
		2	2,3	2,3	2,3	2,3,4
Grafit malzeme için	Operasyon					
						
Minimaster Plus	SMG					
	N1	●	●	●	●	●
	N2	●	●	●	●	●
	N3		●	●	●	●
	N11					
Minimaster	TS1	●	●	●	●	
	TP1	●	●	●	●	

■ Stoklu standart ürün. □ Weldon sap mevcut, teslim süresi 3 iş günüdür.  
● İlk tercih ○ Alternatif tercih



## Demir içermeyen malzemeler için

					
İsim		JH40	JH421	JH410	JH440
Sayfa(lar)		333	336	340	342
Ürün ailesi		HSM/TORNADO	HSM/TORNADO	HSM/TORNADO	HSM/TORNADO
Freze tipi					
Sap	Silindirik	■	■	■	■
	Weldon				
	SafeLock				
Ağız sayısı		2	2-3	1	2
ICC (İçten soğütme sıvısı kanalı)			■		
	Metrik	2-20	2-25	2-17	6-8
	İnç				
Mevcut boylar					
		1,2	2,3	2,3	2
Operasyon					
					
SMG					
N1		•	•	•	•
N2					•
N3					•
N11		•	•	•	•
TS1		•	•	•	•
TP1			•		•

■ Stoklu standart ürün. □ Weldon sap mevcut, teslim süresi 3 iş günüdür.

• İlk tercih ○ Alternatif tercih

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler






















Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

Grafit malzeme için

Minimaster Plus

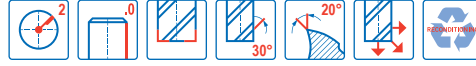
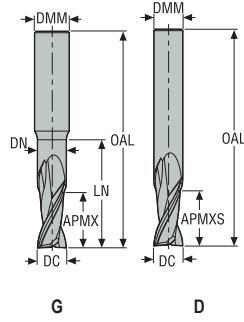
Minimaster

Demir içermeyen malzemeler için					
Üniversal					
	Çelik ve dökme demir				
	İsim	JH450	JH460	JM403/404/406	JM413/416
	Sayfa(lar)	344	346	348	350
	Ürün ailesi	HSM/TORNADO	HSM/TORNADO	MINI	MINI
Paslanmaz çelik ve S iş parçası malzemeleri	Freze tipi				
	Sap	<input type="checkbox"/> Silindirik <input type="checkbox"/> Weldon <input type="checkbox"/> Safelock	<input type="checkbox"/> Silindirik <input type="checkbox"/> Weldon <input type="checkbox"/> Safelock	<input type="checkbox"/> Silindirik <input type="checkbox"/> Weldon <input type="checkbox"/> Safelock	<input type="checkbox"/> Silindirik <input type="checkbox"/> Weldon <input type="checkbox"/> Safelock
Demir içermeyen malzemeler	Ağız sayısı	2	2	1	2
	ICC (İçten soğutma sıvısı kanalı)				
Sertleştirilmiş çelik için	Metrik	2-20	3-12	0,5-2	0,5-2
	İnç				
Plastik ve cırp malzemeleri için	Mevcut boylar				
		2,3	2	1,2,5	2,3,5
Grafit malzeme için	Operasyon				
					
					
Minimaster Plus	SMG				
	N1	•	•	•	•
	N2	•		•	•
	N3	•		•	•
	N11	•	•		•
	TS1	•	•		•
Minimaster	TP1	•	•		•

■ Stoklu standart ürün. □ Weldon sap mevcut, teslim süresi 3 iş günüdür.  
● İlk tercih ○ Alternatif tercih

## JS412

Genel amaçlı – Alüminyum – Dik kenarlı – 2 Ağızlı – Silindirik – Keskin



- Toleranslar:
- DMM= h5
- DC= e8
- DC ≥ Ø6 ise tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	DN	LN	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm		
JS412020G2SZ2.0	02881760	2	G	2,0	6,0	4,0	57,0	1,9	7,0	2	■
JS412030G2SZ2.0	02881761	2	G	3,0	6,0	6,0	57,0	2,8	10,0	2	■
JS412040G2SZ2.0	02881762	2	G	4,0	6,0	8,0	57,0	3,8	14,0	2	■
JS412050G2SZ2.0	02881763	2	G	5,0	6,0	10,0	57,0	4,7	17,0	2	■
JS412060D2SZ2.0	02881764	2	D	6,0	6,0	12,0	57,0	-	-	2	■
JS412080D2SZ2.0	02881765	2	D	8,0	8,0	16,0	63,0	-	-	2	■
JS412100D2SZ2.0	02881766	2	D	10,0	10,0	20,0	75,0	-	-	2	■
JS412120D2SZ2.0	02881767	2	D	12,0	12,0	24,0	88,0	-	-	2	■
JS412160D2SZ2.0	02881769	2	D	16,0	16,0	32,0	100,0	-	-	2	■
JS412200D2SZ2.0	02881770	2	D	20,0	20,0	40,0	124,0	-	-	2	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeleri için

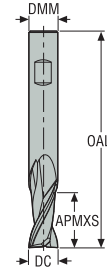
Grafit malzeme için

Minimaster Plus

Minimaster

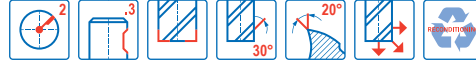
## JS412

Genel amaçlı – Alüminyum – Dik kenarlı' – 2 Ağızlı – Weldon – Keskin



D


- Toleranslar:
- DMM= h5
- DC= e8
- Tekrar bilebilir




Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	PCEDC	Weldon
				mm	mm	mm	mm		
JS412060D2SZ2.3	02881771	2	D	6,0	6,0	12,0	57,0	2	■
JS412080D2SZ2.3	02881772	2	D	8,0	8,0	16,0	63,0	2	■
JS412100D2SZ2.3	02881773	2	D	10,0	10,0	20,0	75,0	2	■
JS412120D2SZ2.3	02881774	2	D	12,0	12,0	24,0	88,0	2	■
JS412160D2SZ2.3	02881776	2	D	16,0	16,0	32,0	100,0	2	■
JS412200D2SZ2.3	02881777	2	D	20,0	20,0	40,0	124,0	2	■

■ Stoklu standart ürün.

## Kesme verileri – JS412 Kenar frezeleme

SMG		a <sub>e</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>										v <sub>c</sub>
				2	3	4	5	6	8	10	12	16	20	
N1	E/M/A	0.400	1.5	0.026	0.038	0.050	0.065	0.080	0.10	0.13	0.15	0.19	0.22	590 (470–700)
		0.400	1.5	0,0010	0,0015	0,0020	0,0026	0,0032	0,0040	0,0050	0,0060	0,0075	0,0085	1925 (1600–2200)
N2	E/M/A	0.300	1.4	0.026	0.040	0.050	0.065	0.080	0.10	0.13	0.16	0.19	0.22	475 (360–590)
		0.300	1.4	0,0010	0,0016	0,0020	0,0026	0,0032	0,0040	0,0050	0,0065	0,0075	0,0085	1550 (1200–1900)
TS1	A/D	0.400	1.5	0.024	0.036	0.048	0.060	0.070	0.095	0.12	0.14	0.18	0.20	600 (480–710)
		0.400	1.5	0,00095	0,0014	0,0019	0,0024	0,0028	0,0038	0,0048	0,0055	0,0070	0,0080	1975 (1600–2300)
TP1	A/D	0.400	1.5	0.024	0.036	0.048	0.060	0.070	0.095	0.12	0.14	0.18	0.20	500 (380–630)
		0.400	1.5	0,00095	0,0014	0,0019	0,0024	0,0028	0,0038	0,0048	0,0055	0,0070	0,0080	1650 (1300–2000)

## Kesme verileri – JS412 Kanal açma

SMG		a <sub>p</sub> /DC	f <sub>z</sub>										v <sub>c</sub>
			2	3	4	5	6	8	10	12	16	20	
N1	E	1.2	0.020	0.030	0.040	0.050	0.060	0.080	0.10	0.12	0.16	0.20	500 (410–590)
		1.2	0,00080	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0048	0,0065	0,0080	1650 (1400–1900)
N2	E	1.0	0.016	0.024	0.032	0.040	0.048	0.065	0.080	0.095	0.13	0.16	400 (310–500)
		1,0	0,00065	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0050	0,0065	1300 (1100–1600)
TS1	A	1.2	0.020	0.030	0.040	0.050	0.060	0.080	0.10	0.12	0.16	0.20	500 (410–590)
		1,2	0,00080	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0048	0,0065	0,0080	1650 (1400–1900)
TP1	A	1.2	0.020	0.030	0.040	0.050	0.060	0.080	0.10	0.12	0.16	0.20	420 (320–520)
		1,2	0,00080	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0048	0,0065	0,0080	1375 (1100–1700)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)f<sub>z</sub> = mm (inç/ağız)a<sub>p</sub> mm/DC (inç/DC) = faktöra<sub>e</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

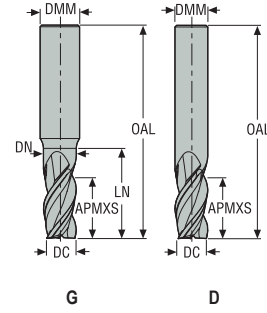
Grafit malzeme için

Minimaster Plus

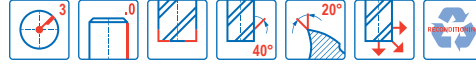
Minimaster

## JS413

Genel amaçlı – Alüminyum – Dik kenarlı – 3 Ağızlı – Silindirik – Keskin



- Toleranslar:
- DMM= h5
- DC= e8
- DC ≥ Ø6 ise tekrar bilebilir

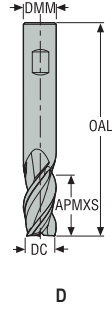


Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	DN	LN	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm		
JS413020G2SZ3.0	02881797	2	G	2,0	6,0	4,0	57,0	1,9	7,0	3	■
JS413030G2SZ3.0	02881798	2	G	3,0	6,0	6,0	57,0	2,8	10,0	3	■
JS413040G2SZ3.0	02881799	2	G	4,0	6,0	8,0	57,0	3,8	14,0	3	■
JS413050G2SZ3.0	02881800	2	G	5,0	6,0	10,0	57,0	4,7	17,0	3	■
JS413060D2SZ3.0	02881801	2	D	6,0	6,0	12,0	57,0	–	–	3	■
JS413080D2SZ3.0	02881802	2	D	8,0	8,0	16,0	63,0	–	–	3	■
JS413100D2SZ3.0	02881803	2	D	10,0	10,0	20,0	72,0	–	–	3	■
JS413120D2SZ3.0	02881804	2	D	12,0	12,0	24,0	88,0	–	–	3	■
JS413160D2SZ3.0	02881806	2	D	16,0	16,0	32,0	100,0	–	–	3	■
JS413200D2SZ3.0	02881807	2	D	20,0	20,0	40,0	124,0	–	–	3	■
JS413060D3SZ3.0	02881815	3	D	6,0	6,0	24,0	70,0	–	–	3	■
JS413080D3SZ3.0	02881816	3	D	8,0	8,0	32,0	85,0	–	–	3	■
JS413100D3SZ3.0	02881817	3	D	10,0	10,0	40,0	100,0	–	–	3	■
JS413120D3SZ3.0	02881818	3	D	12,0	12,0	50,0	115,0	–	–	3	■
JS413160D3SZ3.0	02881820	3	D	16,0	16,0	55,0	125,0	–	–	3	■
JS413200D3SZ3.0	02881821	3	D	20,0	20,0	75,0	150,0	–	–	3	■

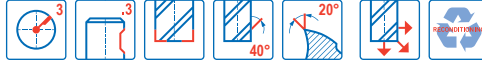
■ Stoklu standart ürün.

## JS413

Genel amaçlı – Alüminyum – Dik kenarlı' – 3 Ağızlı – Weldon – Keskin



D



- Toleranslar:
- DMM= h5
- DC= e8
- Tekrar bilebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	PCEDC	Weldon
				mm	mm	mm	mm		
JS413060D2SZ3.3	02881808	2	D	6,0	6,0	12,0	57,0	3	■
JS413080D2SZ3.3	02881809	2	D	8,0	8,0	16,0	63,0	3	■
JS413100D2SZ3.3	02881810	2	D	10,0	10,0	20,0	72,0	3	■
JS413120D2SZ3.3	02881811	2	D	12,0	12,0	24,0	88,0	3	■
JS413160D2SZ3.3	02881813	2	D	16,0	16,0	32,0	100,0	3	■
JS413200D2SZ3.3	02881814	2	D	20,0	20,0	40,0	124,0	3	■
JS413060D3SZ3.3	02881955	3	D	6,0	6,0	24,0	70,0	3	□
JS413080D3SZ3.3	02881956	3	D	8,0	8,0	32,0	85,0	3	□
JS413100D3SZ3.3	02881957	3	D	10,0	10,0	40,0	100,0	3	□
JS413120D3SZ3.3	02881958	3	D	12,0	12,0	50,0	115,0	3	□
JS413160D3SZ3.3	02881960	3	D	16,0	16,0	55,0	125,0	3	□
JS413200D3SZ3.3	02881961	3	D	20,0	20,0	75,0	150,0	3	□

□ Weldon mevcut. Teslimat süresi 3 iş günüdür.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeleri için

Grafit malzeme için

Minimaster Plus

Minimaster

Kesme verileri – JS413 Kenar frezeleme

SMG		a <sub>e</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>										v <sub>c</sub>
				2	3	4	5	6	8	10	12	16	20	
N1	E/MA	0.400	1.5	0.024	0.036	0.048	0.060	0.070	0.095	0.12	0.14	0.18	0.20	600 (480–710)
		0.400	1.5	0,00095	0,0014	0,0019	0,0024	0,0028	0,0038	0,0048	0,0055	0,0070	0,0080	1975 (1600–2300)
N2	E/MA	0.300	1.5	0.024	0.036	0.048	0.060	0.070	0.095	0.12	0.14	0.18	0.20	470 (360–580)
		0.300	1.5	0,00095	0,0014	0,0019	0,0024	0,0028	0,0038	0,0048	0,0055	0,0070	0,0080	1550 (1200–1900)
N3	E/MA	0.300	1.5	0.024	0.036	0.048	0.060	0.070	0.095	0.12	0.14	0.18	0.20	315 (240–390)
		0.300	1.5	0,00095	0,0014	0,0019	0,0024	0,0028	0,0038	0,0048	0,0055	0,0070	0,0080	1025 (790–1200)
TS1	A/D	0.400	1.5	0.022	0.034	0.044	0.055	0.065	0.090	0.11	0.13	0.17	0.19	610 (500–730)
		0.400	1.5	0,00085	0,0013	0,0017	0,0022	0,0026	0,0036	0,0044	0,0050	0,0065	0,0075	2000 (1700–2300)
TP1	A/D	0.400	1.5	0.022	0.034	0.044	0.055	0.065	0.090	0.11	0.13	0.17	0.19	330 (250–410)
		0.400	1.5	0,00085	0,0013	0,0017	0,0022	0,0026	0,0036	0,0044	0,0050	0,0065	0,0075	1075 (830–1300)

Kesme verileri – JS413 Kanal açma

SMG		a <sub>p</sub> /DC	f <sub>z</sub>										v <sub>c</sub>
			2	3	4	5	6	8	10	12	16	20	
N1	E	1.0	0.020	0.030	0.040	0.050	0.060	0.080	0.10	0.12	0.16	0.20	500 (400–600)
		1.0	0,00080	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0048	0,0065	0,0080	1650 (1400–1900)
N2	E	1.0	0.014	0.022	0.028	0.036	0.042	0.055	0.070	0.085	0.11	0.14	400 (300–490)
		1.0	0,00055	0,00085	0,0011	0,0014	0,0017	0,0022	0,0028	0,0034	0,0044	0,0055	1300 (990–1600)
N3	E	1.0	0.014	0.022	0.028	0.036	0.042	0.055	0.070	0.085	0.11	0.14	265 (200–330)
		1.0	0,00055	0,00085	0,0011	0,0014	0,0017	0,0022	0,0028	0,0034	0,0044	0,0055	870 (660–1000)
TS1	A	1.0	0.020	0.030	0.040	0.050	0.060	0.080	0.10	0.12	0.16	0.19	500 (400–600)
		1.0	0,00080	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0048	0,0065	0,0075	1650 (1400–1900)
TP1	A	1.0	0.020	0.030	0.040	0.050	0.060	0.080	0.10	0.12	0.16	0.19	270 (210–330)
		1.0	0,00080	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0048	0,0065	0,0075	890 (690–1000)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)

f<sub>z</sub> = mm (inç/ağız)

a<sub>p</sub> mm/DC (inç/DC) = faktör

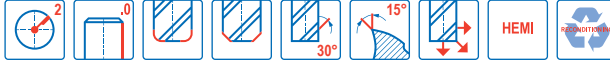
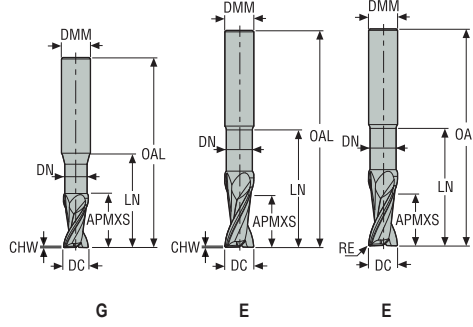
a<sub>e</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir



## JS452

Yüksek performans – Alüminyum – Dik kenarlı – 2 Ağızlı – Silindirik – Köşe radyüsü veya Köşesi pahlı



- Toleranslar:
- DMM= h5
- DC= e7
- RE= ±0,02
- CHW= +0,04 mm
- DC ≥ Ø6 ise tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	CHW	RE	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm	mm	mm		
JS452020G2CZ2.0-HEMI	02881848	2	G	2,0	6,0	4,0	57,0	8,0	1,9	0,1	-	2	■
JS452030G2CZ2.0-HEMI	02881849	2	G	3,0	6,0	6,0	57,0	10,0	2,8	0,1	-	2	■
JS452040G2CZ2.0-HEMI	02881850	2	G	4,0	6,0	8,0	57,0	14,0	3,8	0,1	-	2	■
JS452050G2CZ2.0-HEMI	02881851	2	G	5,0	6,0	8,0	57,0	17,0	4,7	0,1	-	2	■
JS452060E2CZ2.0-HEMI	02881852	2	E	6,0	6,0	12,0	57,0	19,0	5,7	0,1	-	2	■
JS452060E2R050Z2.0-HEMI	02881853	2	E	6,0	6,0	12,0	57,0	19,0	5,7	-	0,5	2	■
JS452060E2R100Z2.0-HEMI	02881854	2	E	6,0	6,0	12,0	57,0	19,0	5,7	-	1,0	2	■
JS452080E2CZ2.0-HEMI	02881778	2	E	8,0	8,0	16,0	63,0	24,0	7,6	0,1	-	2	■
JS452080E2R050Z2.0-HEMI	02881855	2	E	8,0	8,0	16,0	63,0	24,0	7,6	-	0,5	2	■
JS452080E2R100Z2.0-HEMI	02881779	2	E	8,0	8,0	16,0	63,0	24,0	7,6	-	1,0	2	■
JS452100E2CZ2.0-HEMI	02881856	2	E	10,0	10,0	20,0	72,0	29,0	9,5	0,1	-	2	■
JS452100E2R050Z2.0-HEMI	02881857	2	E	10,0	10,0	20,0	72,0	29,0	9,5	-	0,5	2	■
JS452100E2R100Z2.0-HEMI	02881858	2	E	10,0	10,0	20,0	72,0	29,0	9,5	-	1,0	2	■
JS452120E2CZ2.0-HEMI	02881859	2	E	12,0	12,0	24,0	88,0	37,0	11,4	0,1	-	2	■
JS452120E2R050Z2.0-HEMI	02881860	2	E	12,0	12,0	24,0	88,0	37,0	11,4	-	0,5	2	■
JS452120E2R100Z2.0-HEMI	02881861	2	E	12,0	12,0	24,0	88,0	37,0	11,4	-	1,0	2	■
JS452120E2R200Z2.0-HEMI	02881780	2	E	12,0	12,0	24,0	88,0	37,0	11,4	-	2,0	2	■
JS452140E2CZ2.0-HEMI	02881862	2	E	14,0	14,0	28,0	88,0	41,0	13,3	0,1	-	2	■
JS452160E2CZ2.0-HEMI	02881863	2	E	16,0	16,0	32,0	100,0	48,0	15,2	0,1	-	2	■
JS452160E2R050Z2.0-HEMI	02881864	2	E	16,0	16,0	32,0	100,0	48,0	15,2	-	0,5	2	■
JS452160E2R100Z2.0-HEMI	02881782	2	E	16,0	16,0	32,0	100,0	48,0	15,2	-	1,0	2	■
JS452160E2R200Z2.0-HEMI	02881783	2	E	16,0	16,0	32,0	100,0	48,0	15,2	-	2,0	2	■
JS452160E2R400Z2.0-HEMI	02881785	2	E	16,0	16,0	32,0	100,0	48,0	15,2	-	4,0	2	■
JS452200E2CZ2.0-HEMI	02881865	2	E	20,0	20,0	36,0	110,0	57,0	19,0	0,1	-	2	■
JS452200E2R050Z2.0-HEMI	02881866	2	E	20,0	20,0	36,0	110,0	57,0	19,0	-	0,5	2	■
JS452200E2R100Z2.0-HEMI	02881768	2	E	20,0	20,0	36,0	110,0	57,0	19,0	-	1,0	2	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve diğer malzemeler için

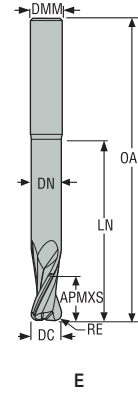
Grafit malzeme için

Minimaster Plus

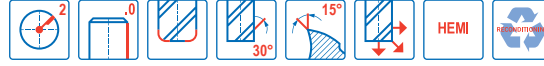
Minimaster

## JS452

Yüksek performans – Alüminyum – Dik kenarlı – 2 Ağızlı – Silindirik – Köşe radyüsü



- Toleranslar:
- DMM= h5
- DC= e7
- RE= ±0,02 mm
- Tekrar bilenebilir



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm	mm		
JS452080E3R020.0Z2-HEMI	03003413	3	E	8,0	8,0	12,0	79,0	41,0	7,6	0,2	2	■
JS452100E3R050.0Z2-HEMI	03003415	3	E	10,0	10,0	15,0	99,0	57,0	9,5	0,5	2	■
JS452120E3R050.0Z2-HEMI	03003419	3	E	12,0	12,0	18,0	119,0	72,0	11,4	0,5	2	■
JS452160E3R050.0Z2-HEMI	03003426	3	E	16,0	16,0	24,0	129,0	79,0	15,2	0,5	2	■
JS452200E3R050.0Z2-HEMI	03003433	3	E	20,0	20,0	30,0	164,0	111,0	19,0	0,5	2	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve CFRP malzemeler için

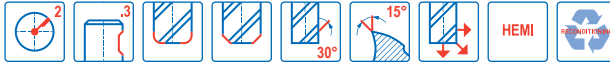
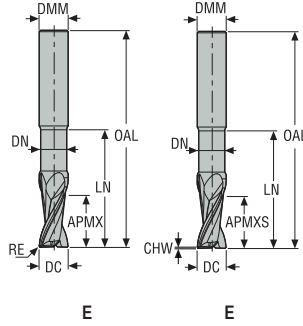
Grafit malzeme için

Minimaster Plus

Minimaster

## JS452

Yüksek performans – Alüminyum – Dik kenarlı – 2 Ağızlı – Weldon – Köşe radyüsü veya Köşesi pahlı



- Toleranslar:
- DMM= h5
- DC= e7
- RE= ±0,02
- CHW= +0,04 mm
- Tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	CHW	RE	PCEDC	Weldon
				mm	mm	mm	mm	mm	mm	mm	mm		
JS452060E2CZ2.3-HEMI	02881867	2	E	6,0	6,0	12,0	57,0	19,0	5,7	0,1	-	2	<input type="checkbox"/>
JS452060E2R050Z2.3-HEMI	02881868	2	E	6,0	6,0	12,0	57,0	19,0	5,7	-	0,5	2	<input type="checkbox"/>
JS452060E2R100Z2.3-HEMI	02881869	2	E	6,0	6,0	12,0	57,0	19,0	5,7	-	1,0	2	<input type="checkbox"/>
JS452080E2CZ2.3-HEMI	02881947	2	E	8,0	8,0	16,0	63,0	24,0	7,6	0,1	-	2	<input type="checkbox"/>
JS452080E2R050Z2.3-HEMI	02881870	2	E	8,0	8,0	16,0	63,0	24,0	7,6	-	0,5	2	<input type="checkbox"/>
JS452080E2R100Z2.3-HEMI	02922247	2	E	8,0	8,0	16,0	63,0	24,0	7,6	-	1,0	2	<input type="checkbox"/>
JS452100E2CZ2.3-HEMI	02881871	2	E	10,0	10,0	20,0	72,0	29,0	9,5	0,1	-	2	<input type="checkbox"/>
JS452100E2R050Z2.3-HEMI	02881872	2	E	10,0	10,0	20,0	72,0	29,0	9,5	-	0,5	2	<input type="checkbox"/>
JS452100E2R100Z2.3-HEMI	02881873	2	E	10,0	10,0	20,0	72,0	29,0	9,5	-	1,0	2	<input type="checkbox"/>
JS452120E2CZ2.3-HEMI	02881874	2	E	12,0	12,0	24,0	88,0	37,0	11,4	0,1	-	2	<input type="checkbox"/>
JS452120E2R050Z2.3-HEMI	02881875	2	E	12,0	12,0	24,0	88,0	37,0	11,4	-	0,5	2	<input type="checkbox"/>
JS452120E2R100Z2.3-HEMI	02881876	2	E	12,0	12,0	24,0	88,0	37,0	11,4	-	1,0	2	<input type="checkbox"/>
JS452120E2R200Z2.3-HEMI	02881948	2	E	12,0	12,0	24,0	88,0	37,0	11,4	-	2,0	2	<input type="checkbox"/>
JS452140E2CZ2.3-HEMI	02881877	2	E	14,0	14,0	28,0	88,0	41,0	13,3	0,1	-	2	<input type="checkbox"/>
JS452160E2CZ2.3-HEMI	02881878	2	E	16,0	16,0	32,0	100,0	48,0	15,2	0,1	-	2	<input type="checkbox"/>
JS452160E2R050Z2.3-HEMI	02881879	2	E	16,0	16,0	32,0	100,0	48,0	15,2	-	0,5	2	<input type="checkbox"/>
JS452160E2R100Z2.3-HEMI	02881949	2	E	16,0	16,0	32,0	100,0	48,0	15,2	-	1,0	2	<input type="checkbox"/>
JS452160E2R200Z2.3-HEMI	02881950	2	E	16,0	16,0	32,0	100,0	48,0	15,2	-	2,0	2	<input type="checkbox"/>
JS452160E2R400Z2.3-HEMI	02881952	2	E	16,0	16,0	32,0	100,0	48,0	15,2	-	4,0	2	<input type="checkbox"/>
JS452200E2CZ2.3-HEMI	02881880	2	E	20,0	20,0	36,0	110,0	57,0	19,0	0,1	-	2	<input type="checkbox"/>
JS452200E2R050Z2.3-HEMI	02881881	2	E	20,0	20,0	36,0	110,0	57,0	19,0	-	0,5	2	<input type="checkbox"/>
JS452200E2R100Z2.3-HEMI	02881953	2	E	20,0	20,0	36,0	110,0	57,0	19,0	-	1,0	2	<input type="checkbox"/>

Weldon mevcut. Teslimat süresi 3 iş günüdür.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

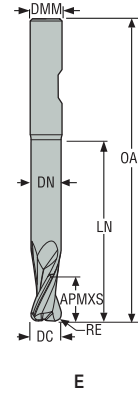
Grafit malzeme için

Minimaster Plus

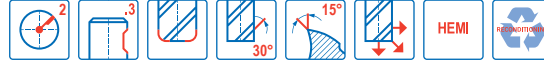
Minimaster

## JS452

Yüksek performans – Alüminyum – Dik kenarlı – 2 Ağızlı – Weldon – Köşe radyüsü



- Toleranslar:
- DMM= h5
- DC= e7
- RE= ±0,02
- Tekrar bilenebilir



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Weldon
				mm	mm	mm	mm	mm	mm	mm		
JS452080E3R020.3Z2-HEMI	03003447	3	E	8,0	8,0	12,0	79,0	41,0	7,6	0,2	2	<input type="checkbox"/>
JS452100E3R050.3Z2-HEMI	03003449	3	E	10,0	10,0	15,0	99,0	57,0	9,5	0,5	2	<input type="checkbox"/>
JS452120E3R050.3Z2-HEMI	03003453	3	E	12,0	12,0	18,0	119,0	72,0	11,4	0,5	2	<input type="checkbox"/>
JS452160E3R050.3Z2-HEMI	03003460	3	E	16,0	16,0	24,0	129,0	79,0	15,2	0,5	2	<input type="checkbox"/>
JS452200E3R050.3Z2-HEMI	03003467	3	E	20,0	20,0	30,0	164,0	111,0	19,0	0,5	2	<input type="checkbox"/>

Weldon mevcut. Teslimat süresi 3 iş günüdür.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için


Plastik ve cırp malzemeleri için

Grafit malzeme için


Minimaster Plus

Minimaster

## Kesme verileri – JS452 Finiş kenar frezeleme

SMG		$a_e/DC$	$a_p/DC$	$f_z$											$v_c$
				2	3	4	5	6	8	10	12	14	16	20	
N1	E/M/A	0.400	1.5	0.030	0.046	0.060	0.075	0.090	0.12	0.15	0.18	0.20	0.22	0.25	560 (450 – 670)
		0.400	1,5	0,0012	0,0018	0,0024	0,0030	0,0036	0,0048	0,0060	0,0070	0,0080	0,0085	0,010	1825 (1500 – 2100)
N2	E/M/A	0.300	1.5	0.024	0.036	0.048	0.060	0.070	0.095	0.12	0.14	0.16	0.18	0.20	485 (370 – 600)
		0.300	1,5	0,00095	0,0014	0,0019	0,0024	0,0028	0,0038	0,0048	0,0055	0,0065	0,0070	0,0080	1600 (1300–1900)
N3	E/M/A	0.300	1.5	0.024	0.036	0.048	0.060	0.070	0.095	0.12	0.14	0.16	0.18	0.20	325 (250 – 400)
		0.300	1,5	0,00095	0,0014	0,0019	0,0024	0,0028	0,0038	0,0048	0,0055	0,0065	0,0070	0,0080	1075 (830–1300)
TS1	A/D	0.400	1.5	0.030	0.046	0.060	0.075	0.090	0.12	0.15	0.18	0.20	0.22	0.25	560 (450 – 670)
		0.400	1,5	0,0012	0,0018	0,0024	0,0030	0,0036	0,0048	0,0060	0,0070	0,0080	0,0085	0,010	1825 (1500 – 2100)
TP1	A/D	0.400	1.5	0.030	0.046	0.060	0.075	0.090	0.12	0.15	0.18	0.20	0.22	0.25	450 (340 – 560)
		0.400	1,5	0,0012	0,0018	0,0024	0,0030	0,0036	0,0048	0,0060	0,0070	0,0080	0,0085	0,010	1475 (1200–1800)

## Kesme verileri – JS452 Kanal açma\*

SMG		$a_p/DC$	$f_z$											$v_c$
			2	3	4	5	6	8	10	12	14	16	20	
N1	E	1.5	0.020	0.030	0.040	0.050	0.060	0.080	0.10	0.12	0.14	0.16	0.20	500 (410 – 590)
		1,5	0,00080	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0048	0,0055	0,0065	0,0080	1650 (1400–1900)
N2	E	1.2	0.016	0.024	0.032	0.040	0.048	0.065	0.080	0.095	0.11	0.13	0.16	400 (310 – 500)
		1,2	0,00065	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0044	0,0050	0,0065	1300 (1100–1600)
N3	E	1.2	0.016	0.024	0.032	0.040	0.048	0.065	0.080	0.095	0.11	0.13	0.16	265 (210 – 330)
		1,2	0,00065	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0044	0,0050	0,0065	870 (690–1000)
TS1	A	1.5	0.020	0.030	0.040	0.050	0.060	0.080	0.10	0.12	0.14	0.16	0.20	500 (410 – 590)
		1,5	0,00080	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0048	0,0055	0,0065	0,0080	1650 (1400–1900)
TP1	A	1.5	0.020	0.030	0.040	0.050	0.060	0.080	0.10	0.12	0.14	0.16	0.20	400 (310 – 500)
		1,5	0,00080	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0048	0,0055	0,0065	0,0080	1300 (1100–1600)

Not: Köşe yarıçapı >15% / DC o zaman  $a_p = -30\%$ ,  $f_z = -20\%$   
Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

$v_c = m/dak$  (sf/dak)

$f_z = mm$  (inç/ağız)

$a_p = mm/DC$  (inç/DC) = faktör

$a_e = mm/DC$  (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeleri için

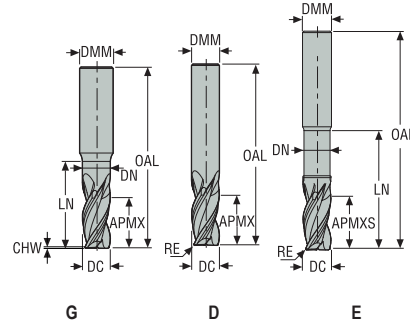
Grafit malzeme için

Minimaster Plus

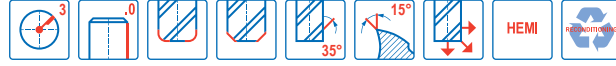
Minimaster

## JS453

Yüksek performans – Alüminyum – Dik kenarlı – 3 Ağızlı – Silindirik – Köşe radyüsü veya Köşesi pahlı



- Toleranslar:
- DMM=h5
- DC=e7
- RE= ±0,02 mm
- CHW= +0,04 mm
- DC ≥ Ø6 ise tekrar bilenebilir

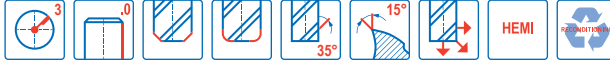
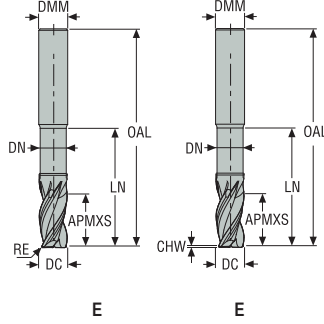


Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	CHW	RE	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm	mm	mm		
JS453020G2CZ3.0-HEMI	02881896	2	G	2,0	6,0	4,0	57,0	7,0	1,9	0,1	-	3	■
JS453030G2CZ3.0-HEMI	02881897	2	G	3,0	6,0	6,0	57,0	10,0	2,85	0,1	-	3	■
JS453040G2CZ3.0-HEMI	02881898	2	G	4,0	6,0	8,0	57,0	13,0	3,8	0,1	-	3	■
JS453050G2CZ3.0-HEMI	02881899	2	G	5,0	6,0	10,0	57,0	14,0	4,75	0,1	-	3	■
JS453060D2CZ3.0-HEMI	02881900	2	D	6,0	6,0	12,0	57,0	-	-	0,1	-	3	■
JS453060D2R050Z3.0-HEMI	02881901	2	D	6,0	6,0	12,0	57,0	-	-	-	0,5	3	■
JS453080D2CZ3.0-HEMI	02881812	2	D	8,0	8,0	16,0	63,0	-	-	0,1	-	3	■
JS453080D2R050Z3.0-HEMI	02881902	2	D	8,0	8,0	16,0	63,0	-	-	-	0,5	3	■
JS453100D2CZ3.0-HEMI	02881903	2	D	10,0	10,0	20,0	72,0	-	-	0,1	-	3	■
JS453100D2R050Z3.0-HEMI	02881904	2	D	10,0	10,0	20,0	72,0	-	-	-	0,5	3	■
JS453120D2CZ3.0-HEMI	02881905	2	D	12,0	12,0	24,0	88,0	-	-	0,1	-	3	■
JS453120D2R050Z3.0-HEMI	02881906	2	D	12,0	12,0	24,0	88,0	-	-	-	0,5	3	■
JS453120E2R300.0Z3-HEMI	02905280	2	E	12,0	12,0	24,0	88,0	37,0	11,4	-	3,0	3	■
JS453140D2CZ3.0-HEMI	02881907	2	D	14,0	14,0	28,0	88,0	-	-	0,1	-	3	■
JS453160D2CZ3.0-HEMI	02881908	2	D	16,0	16,0	32,0	100,0	-	-	0,1	-	3	■
JS453160D2R050Z3.0-HEMI	02881909	2	D	16,0	16,0	32,0	100,0	-	-	-	0,5	3	■
JS453160E2R100.0Z3-HEMI	02905281	2	E	16,0	16,0	32,0	100,0	48,0	15,2	-	1,0	3	■
JS453160E2R200.0Z3-HEMI	02905282	2	E	16,0	16,0	32,0	100,0	48,0	15,2	-	2,0	3	■
JS453160E2R250.0Z3-HEMI	02905283	2	E	16,0	16,0	32,0	100,0	48,0	15,2	-	2,5	3	■
JS453160E2R300.0Z3-HEMI	02905284	2	E	16,0	16,0	32,0	100,0	48,0	15,2	-	3,0	3	■
JS453160E2R400.0Z3-HEMI	02905285	2	E	16,0	16,0	32,0	100,0	48,0	15,2	-	4,0	3	■
JS453200E2C.0Z3-HEMI	02905286	2	E	20,0	20,0	36,0	110,0	57,0	19,0	0,1	-	3	■
JS453200E2R050.0Z3-HEMI	02905287	2	E	20,0	20,0	36,0	110,0	57,0	19,0	-	0,5	3	■
JS453200E2R100.0Z3-HEMI	02905288	2	E	20,0	20,0	36,0	110,0	57,0	19,0	-	1,0	3	■
JS453200E2R200.0Z3-HEMI	02905289	2	E	20,0	20,0	36,0	110,0	57,0	19,0	-	2,0	3	■
JS453200E2R300.0Z3-HEMI	02905291	2	E	20,0	20,0	36,0	110,0	57,0	19,0	-	3,0	3	■
JS453200E2R400.0Z3-HEMI	02905292	2	E	20,0	20,0	36,0	110,0	57,0	19,0	-	4,0	3	■

■ Stoklu standart ürün.

## JS453

Yüksek performans – Alüminyum – Dik kenarlı' – 3 Ağızlı – Silindirik – Köşe radyüsü veya Köşesi pahlı



- Toleranslar:
- DMM= h5
- DC = e7
- RE= ±0,02 mm
- CHW= +0,04 mm
- Tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	CHW	RE	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm	mm	mm		
JS453120E3R300.0Z3-HEMI	02905294	3	E	12,0	12,0	24,0	110,0	54,0	11,4	-	3,0	3	■
JS453160E3R100.0Z3-HEMI	02905295	3	E	16,0	16,0	32,0	125,0	77,0	15,2	-	1,0	3	■
JS453160E3R200.0Z3-HEMI	02905296	3	E	16,0	16,0	32,0	125,0	77,0	15,2	-	2,0	3	■
JS453160E3R300.0Z3-HEMI	02905298	3	E	16,0	16,0	32,0	125,0	77,0	15,2	-	3,0	3	■
JS453160E3R400.0Z3-HEMI	02905299	3	E	16,0	16,0	32,0	125,0	77,0	15,2	-	4,0	3	■
JS453200E3C.0Z3-HEMI	02905300	3	E	20,0	20,0	36,0	150,0	90,0	19,0	0,1	-	3	■
JS453200E3R050.0Z3-HEMI	02905301	3	E	20,0	20,0	36,0	150,0	90,0	19,0	-	0,5	3	■
JS453200E3R100.0Z3-HEMI	02905302	3	E	20,0	20,0	36,0	150,0	90,0	19,0	-	1,0	3	■
JS453200E3R200.0Z3-HEMI	02905303	3	E	20,0	20,0	36,0	150,0	90,0	19,0	-	2,0	3	■
JS453200E3R300.0Z3-HEMI	02905305	3	E	20,0	20,0	36,0	150,0	90,0	19,0	-	3,0	3	■
JS453200E3R400.0Z3-HEMI	02905306	3	E	20,0	20,0	36,0	150,0	90,0	19,0	-	4,0	3	■

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

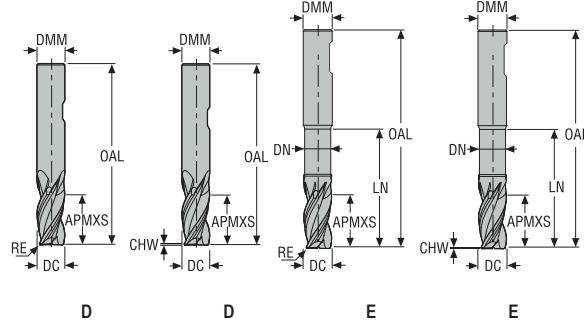
Grafit malzeme için

Minimaster Plus

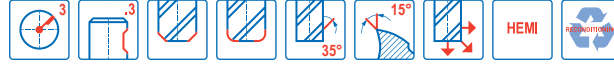
Minimaster

## JS453

Yüksek performans – Alüminyum – Dik kenarlı – 3 Ağızlı – Weldon – Köşe radyüsü veya Köşesi pahlı



- Toleranslar:
- DMM=h5
- DC=e7
- RE=±0,02 mm
- CHW= ±0,02 mm
- Tekrar bilenebilir



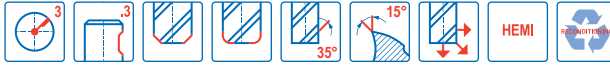
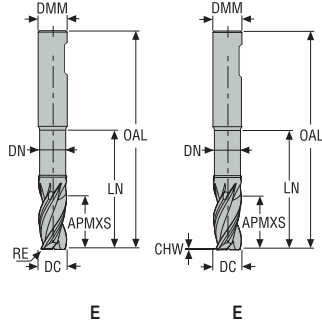
Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	CHW	RE	PCEDC	Weldon
				mm	mm	mm	mm	mm	mm	mm	mm		
JS453060D2CZ3.3-HEMI	02881910	2	D	6,0	6,0	12,0	57,0	-	-	0,1	-	3	<input type="checkbox"/>
JS453060D2R050Z3.3-HEMI	02881911	2	D	6,0	6,0	12,0	57,0	-	-	-	0,5	3	<input type="checkbox"/>
JS453080D2CZ3.3-HEMI	02881964	2	D	8,0	8,0	16,0	63,0	-	-	0,1	-	3	<input type="checkbox"/>
JS453080D2R050Z3.3-HEMI	02881954	2	D	8,0	8,0	16,0	63,0	-	-	-	0,5	3	<input type="checkbox"/>
JS453100D2CZ3.3-HEMI	02881913	2	D	10,0	10,0	20,0	72,0	-	-	0,1	-	3	<input type="checkbox"/>
JS453100D2R050Z3.3-HEMI	02881914	2	D	10,0	10,0	20,0	72,0	-	-	-	0,5	3	<input type="checkbox"/>
JS453120D2CZ3.3-HEMI	02881915	2	D	12,0	12,0	24,0	88,0	-	-	0,1	-	3	<input type="checkbox"/>
JS453120D2R050Z3.3-HEMI	02881916	2	D	12,0	12,0	24,0	88,0	-	-	-	0,5	3	<input type="checkbox"/>
JS453120E2R300.3Z3-HEMI	02905308	2	E	12,0	12,0	24,0	88,0	37,0	11,4	-	3,0	3	<input type="checkbox"/>
JS453140D2CZ3.3-HEMI	02881917	2	D	14,0	14,0	28,0	88,0	-	-	0,1	-	3	<input type="checkbox"/>
JS453160D2CZ3.3-HEMI	02881918	2	D	16,0	16,0	32,0	100,0	-	-	0,1	-	3	<input type="checkbox"/>
JS453160D2R050Z3.3-HEMI	02881919	2	D	16,0	16,0	32,0	100,0	-	-	-	0,5	3	<input type="checkbox"/>
JS453160E2R100.3Z3-HEMI	02905309	2	E	16,0	16,0	32,0	100,0	48,0	15,2	-	1,0	3	<input type="checkbox"/>
JS453160E2R200.3Z3-HEMI	02905310	2	E	16,0	16,0	32,0	100,0	48,0	15,2	-	2,0	3	<input type="checkbox"/>
JS453160E2R250.3Z3-HEMI	02905311	2	E	16,0	16,0	32,0	100,0	48,0	15,2	-	2,5	3	<input type="checkbox"/>
JS453160E2R300.3Z3-HEMI	02905312	2	E	16,0	16,0	32,0	100,0	48,0	15,2	-	3,0	3	<input type="checkbox"/>
JS453160E2R400.3Z3-HEMI	02905313	2	E	16,0	16,0	32,0	100,0	48,0	15,2	-	4,0	3	<input type="checkbox"/>
JS453200E2C.3Z3-HEMI	02905314	2	E	20,0	20,0	36,0	110,0	57,0	19,0	0,1	-	3	<input type="checkbox"/>
JS453200E2R050.3Z3-HEMI	02905315	2	E	20,0	20,0	36,0	110,0	57,0	19,0	-	0,5	3	<input type="checkbox"/>
JS453200E2R100.3Z3-HEMI	02905316	2	E	20,0	20,0	36,0	110,0	57,0	19,0	-	1,0	3	<input type="checkbox"/>
JS453200E2R200.3Z3-HEMI	02905317	2	E	20,0	20,0	36,0	110,0	57,0	19,0	-	2,0	3	<input type="checkbox"/>
JS453200E2R300.3Z3-HEMI	02905319	2	E	20,0	20,0	36,0	110,0	57,0	19,0	-	3,0	3	<input type="checkbox"/>
JS453200E2R400.3Z3-HEMI	02905320	2	E	20,0	20,0	36,0	110,0	57,0	19,0	-	4,0	3	<input type="checkbox"/>

Weldon mevcut. Teslimat süresi 3 iş günüdür.



## JS453

Yüksek performans – Alüminyum – Dik kenarlı' – 3 Ağızlı – Weldon – Köşe radyüsü veya Köşesi pahlı



- Toleranslar:
- DMM= h5
- DC = e7
- RE= ±0,02 mm
- CHW= +0,04 mm
- Tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	CHW	RE	PCEDC	Weldon
				mm	mm	mm	mm	mm	mm	mm	mm		
JS453120E3R300.3Z3-HEMI	02905322	3	E	12,0	12,0	24,0	110,0	54,0	11,4	-	3,0	3	<input type="checkbox"/>
JS453160E3R100.3Z3-HEMI	02905323	3	E	16,0	16,0	32,0	125,0	77,0	15,2	-	1,0	3	<input type="checkbox"/>
JS453160E3R200.3Z3-HEMI	02905324	3	E	16,0	16,0	32,0	125,0	77,0	15,2	-	2,0	3	<input type="checkbox"/>
JS453160E3R300.3Z3-HEMI	02905326	3	E	16,0	16,0	32,0	125,0	77,0	15,2	-	3,0	3	<input type="checkbox"/>
JS453160E3R400.3Z3-HEMI	02905327	3	E	16,0	16,0	32,0	125,0	77,0	15,2	-	4,0	3	<input type="checkbox"/>
JS453200E3C.3Z3-HEMI	02905328	3	E	20,0	20,0	36,0	150,0	90,0	19,0	0,1	-	3	<input type="checkbox"/>
JS453200E3R050.3Z3-HEMI	02905329	3	E	20,0	20,0	36,0	150,0	90,0	19,0	-	0,5	3	<input type="checkbox"/>
JS453200E3R100.3Z3-HEMI	02905330	3	E	20,0	20,0	36,0	150,0	90,0	19,0	-	1,0	3	<input type="checkbox"/>
JS453200E3R200.3Z3-HEMI	02905331	3	E	20,0	20,0	36,0	150,0	90,0	19,0	-	2,0	3	<input type="checkbox"/>
JS453200E3R300.3Z3-HEMI	02905333	3	E	20,0	20,0	36,0	150,0	90,0	19,0	-	3,0	3	<input type="checkbox"/>
JS453200E3R400.3Z3-HEMI	02905334	3	E	20,0	20,0	36,0	150,0	90,0	19,0	-	4,0	3	<input type="checkbox"/>

Weldon mevcut. Teslimat süresi 3 iş günüdür.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

Kesme verileri – JS453 Kenar frezeleme

SMG		a <sub>e</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>											v <sub>c</sub>
				2	3	4	5	6	8	10	12	14	16	20	
N1	E/MA	0.400	1.5	0.030	0.046	0.060	0.075	0.090	0.12	0.15	0.18	0.20	0.22	0.25	560 (450—660)
		0.400	1.5	0,0012	0,0018	0,0024	0,0030	0,0036	0,0048	0,0060	0,0070	0,0080	0,0085	0,010	1825 (1500—2100)
N2	E/MA	0.300	1.5	0.024	0.036	0.048	0.060	0.070	0.095	0.12	0.14	0.16	0.18	0.20	480 (370—600)
		0.300	1,5	0,00095	0,0014	0,0019	0,0024	0,0028	0,0038	0,0048	0,0055	0,0065	0,0070	0,0080	1575 (1300—1900)
N3	E/MA	0.300	1.5	0.024	0.036	0.048	0.060	0.070	0.095	0.12	0.14	0.16	0.18	0.20	320 (250—400)
		0.300	1,5	0,00095	0,0014	0,0019	0,0024	0,0028	0,0038	0,0048	0,0055	0,0065	0,0070	0,0080	1050 (830—1300)
TS1	A/D	0.400	1.5	0.030	0.046	0.060	0.075	0.090	0.12	0.15	0.18	0.20	0.22	0.25	560 (450—660)
		0.400	1,5	0,0012	0,0018	0,0024	0,0030	0,0036	0,0048	0,0060	0,0070	0,0080	0,0085	0,010	1825 (1500—2100)
TP1	A/D	0.400	1.5	0.030	0.046	0.060	0.075	0.090	0.12	0.15	0.18	0.20	0.22	0.25	445 (340—550)
		0.400	1,5	0,0012	0,0018	0,0024	0,0030	0,0036	0,0048	0,0060	0,0070	0,0080	0,0085	0,010	1450 (1200—1800)

Kesme verileri – JS453 Kanal açma

SMG		a <sub>p</sub> /DC	f <sub>z</sub>											v <sub>c</sub>
			2	3	4	5	6	8	10	12	14	16	20	
N1	E	1.5	0.020	0.030	0.040	0.050	0.060	0.080	0.10	0.12	0.14	0.16	0.20	500 (410—590)
		1,5	0,00080	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0048	0,0055	0,0065	0,0080	1650 (1400—1900)
N2	E	1.2	0.016	0.024	0.032	0.040	0.048	0.065	0.080	0.095	0.11	0.13	0.16	400 (300—490)
		1,2	0,00065	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0044	0,0050	0,0065	1300 (990—1600)
N3	E	1.2	0.016	0.024	0.032	0.040	0.048	0.065	0.080	0.095	0.11	0.13	0.16	265 (200—330)
		1,2	0,00065	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0044	0,0050	0,0065	870 (660—1000)
TS1	A	1.5	0.020	0.030	0.040	0.050	0.060	0.080	0.10	0.12	0.14	0.16	0.20	500 (410—590)
		1,5	0,00080	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0048	0,0055	0,0065	0,0080	1650 (1400—1900)
TP1	A	1.5	0.020	0.030	0.040	0.050	0.060	0.080	0.10	0.12	0.14	0.16	0.20	400 (300—500)
		1,5	0,00080	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0048	0,0055	0,0065	0,0080	1300 (990—1600)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)

f<sub>z</sub> = mm (inç/ağız)

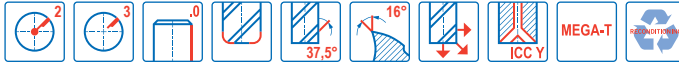
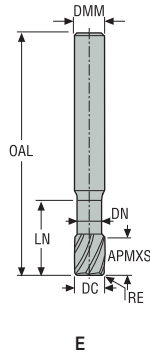
a<sub>p</sub> mm/DC (inç/DC) = faktör

a<sub>e</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

## JHP490

Yüksek performans – Alüminyum – Dik kenarlı – 2-3 Ağızlı – Silindirik – Köşe radyüsü – ICC



- Toleranslar:
- DMM=h5
- DC=-0,02/-0,1 mm
- RE= ±0,05 mm
- Tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	ICC (İçten soğutma sıvısı kanalı)	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Silindirik
					mm	mm	mm	mm	mm	mm	mm		
490V100R050Z2.0A-MEGA-T	02623870	2	E	■	10,0	10,0	12,0	65,0	20,0	9,0	0,5	2	■
490V120R200Z2.0A-MEGA-T	02623883	2	E	■	12,0	12,0	14,0	75,0	24,0	11,0	2,0	2	■
490V160R050Z3.0A-MEGA-T	02623889	2	E	■	16,0	16,0	18,0	85,0	32,0	14,5	0,5	3	■
490V200R050Z3.0A-MEGA-T	02623908	2	E	■	20,0	20,0	22,0	100,0	40,0	18,0	0,5	3	■
490V250R050Z3.0A-MEGA-T	02623926	2	E	■	25,0	25,0	27,0	125,0	50,0	23,0	0,5	3	■
490VL100R100Z2.0A-MEGA-T	02623876	3	E	■	10,0	10,0	22,0	85,0	42,0	9,0	1,0	2	■
490VL120R050Z3.0A-MEGA-T	02623880	3	E	■	12,0	12,0	14,0	95,0	40,0	11,0	0,5	3	■
490VL120R100Z2.0A-MEGA-T	02623886	3	E	■	12,0	12,0	26,0	95,0	50,0	11,0	1,0	2	■
490VL160R050Z3.0A-MEGA-T	02623891	3	E	■	16,0	16,0	18,0	95,0	45,0	14,5	0,5	3	■
490VL200R200Z3.0A-MEGA-T	02623916	3	E	■	20,0	20,0	42,0	125,0	65,0	18,0	2,0	3	■
490VXL250R050Z3.0A-MEGA-T	02623927	4	E	■	25,0	25,0	50,0	125,0	75,0	23,0	0,5	3	■

■ Stoklu standart ürün.

ICC = İçten soğutma sıvısı kanalları

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeleri için

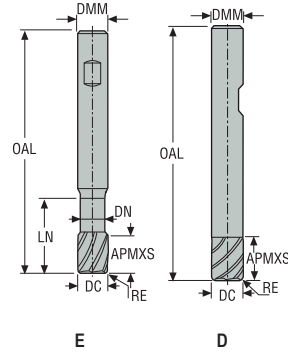
Grafit malzeme için

Minimaster Plus

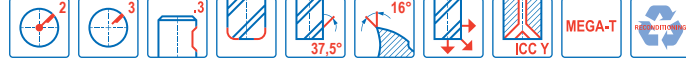
Minimaster

## JHP490

Yüksek performans – Alüminyum – Dik kenarlı – 2-3 Ağzılı – Weldon – Köşe radyüsü – ICC



- Toleranslar:
- DMM=h5
- DC=-0,02/-0,1 mm
- RE= ±0,05 mm
- Tekrar bilenebilir

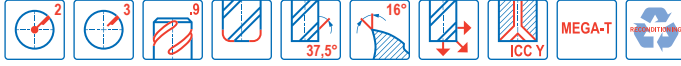
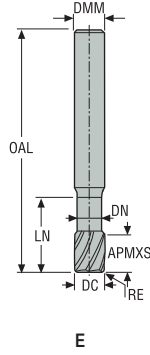


Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	ICC (İçten soğutma sıvısı kanalı)	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Weldon
					mm	mm	mm	mm	mm	mm	mm		
490V120R200Z2.0A-MEGA-TW	02669371	2	E	■	12,0	12,0	14,0	75,0	24,0	11,0	2,0	2	□
490V160R050Z3A-MEGA-T	02623888	2	E	■	16,0	16,0	18,0	85,0	32,0	14,5	0,5	3	■
490160R200Z3A-MEGA-T	02623898	2	D	■	16,0	16,0	34,0	95,0	-	-	2,0	3	■
490V200R050Z3A-MEGA-T	02623907	2	E	■	20,0	20,0	22,0	100,0	40,0	18,0	0,5	3	■
490V250R050Z3A-MEGA-T	02623925	2	E	■	25,0	25,0	27,0	125,0	50,0	23,0	0,5	3	■
490VL100R100Z2.0A-MEGA-TW	02669368	3	E	■	10,0	10,0	22,0	85,0	42,0	9,0	1,0	2	□
490VL120R050Z3.0A-MEGA-TW	02669374	3	E	■	12,0	12,0	14,0	95,0	40,0	11,0	0,5	3	□
490VL120R100Z2.0A-MEGA-TW	02669375	3	E	■	12,0	12,0	26,0	95,0	50,0	11,0	1,0	2	□
490VL160R050Z3.0A-MEGA-TW	02669382	3	E	■	16,0	16,0	18,0	95,0	45,0	14,5	0,5	3	□
490VL200R200Z3.0A-MEGA-TW	02669388	3	E	■	20,0	20,0	42,0	125,0	65,0	18,0	2,0	3	□
490VXL250R050Z3.0A-MEGA-TW	02669397	4	E	■	25,0	25,0	50,0	125,0	75,0	23,0	0,5	3	□

■ Stoklu standart ürün. □ Weldon mevcut. Teslimat süresi 3 iş günüdür.  
ICC = İçten soğutma sıvısı kanalları

## JHP490

Yüksek performans – Alüminyum – Dik kenarlı – 2-3 Ağızlı – Safelock – Köşe radyüsü – ICC



- Toleranslar:
- DMM=h5
- DC=-0,02/-0,1 mm
- RE= ±0,05 mm
- Tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	ICC (İçten soğutma sıvısı kanalı)	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Safelock
					mm	mm	mm	mm	mm	mm	mm		
490V100R050Z2.9A-MEGA-T	02927984	2	E	■	10,0	10,0	12,0	65,0	20,0	9,0	0,5	2	□
490V120R200Z2.9A-MEGA-T	02927988	2	E	■	12,0	12,0	14,0	75,0	24,0	11,0	2,0	2	□
490V160R050Z3.9A-MEGA-T	02927990	2	E	■	16,0	16,0	18,0	85,0	32,0	14,0	0,5	3	□
490V200R050Z3.9A-MEGA-T	02927992	2	E	■	20,0	20,0	22,0	100,0	40,0	18,0	0,5	3	□
490V250R050Z3.9A-MEGA-T	02927993	2	E	■	25,0	25,0	27,0	125,0	50,0	23,0	0,5	3	□
490VL100R100Z2.9A-MEGA-T	02927994	3	E	■	10,0	10,0	22,0	85,0	42,0	9,0	1,0	2	□
490VL120R050Z3.9A-MEGA-T	02927995	3	E	■	12,0	12,0	14,0	95,0	40,0	11,0	0,5	3	□
490VL120R100Z2.9A-MEGA-T	02927996	3	E	■	12,0	12,0	26,0	95,0	50,0	11,0	1,0	2	□
490VL160R050Z3.9A-MEGA-T	02927997	3	E	■	16,0	16,0	18,0	95,0	32,0	14,0	0,5	3	□
490VL200R200Z3.9A-MEGA-T	02927998	3	E	■	20,0	20,0	42,0	125,0	65,0	18,0	2,0	3	□
490VXL250R050Z3.9A-MEGA-T	02927999	4	E	■	25,0	25,0	50,0	125,0	75,0	23,0	0,5	3	□

□ Safelock mevcut. Değişiklik olabilir, geçerli Fiyat ve Stok Listesine bakın.  
ICC = İçten soğutma sıvısı kanalları

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçaları malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için


Plastik ve cırp malzemeleri için

Grafit malzeme için


Minimaster Plus

Minimaster

Kesme verileri – JHP490 Finiş kenar frezeleme

SMG		a <sub>e</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>					v <sub>c</sub>
				10	12	16	20	25	
N1	E/M/A	0.500	1.1	0.20	0.24	0.30	0.34	0.38	700 (550 – 860)
		0,500	1,0	0,0080	0,0095	0,012	0,013	0,015	2325 (1900 – 2800)
N2	E/M/A	0.500	1.1	0.20	0.24	0.30	0.34	0.38	455 (350 – 550)
		0,500	1,0	0,0080	0,0095	0,012	0,013	0,015	1500 (1200–1800)
N3	E/M/A	0.500	1.1	0.20	0.24	0.30	0.34	0.38	540 (440 – 650)
		0,500	1,0	0,0080	0,0095	0,012	0,013	0,015	1775 (1500 – 2100)

Kesme verileri – JHP490 Kanal açma

SMG		a <sub>p</sub> /DC	f <sub>z</sub>					v <sub>c</sub>
			10	12	16	20	25	
N1	E/M/A	1.0	0.15	0.18	0.24	0.30	0.38	650 (500–790)
		1,0	0,0060	0,0070	0,0095	0,012	0,015	2125 (1700 – 2500)
N2	E/M/A	1.0	0.15	0.18	0.24	0.30	0.38	420 (330 – 510)
		1,0	0,0060	0,0070	0,0095	0,012	0,015	1375 (1100–1600)
N3	E/M/A	1.0	0.15	0.18	0.24	0.30	0.38	500 (400 – 590)
		1,0	0,0060	0,0070	0,0095	0,012	0,015	1650 (1400–1900)

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve CFRP malzemeler için

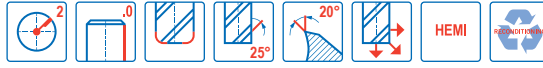
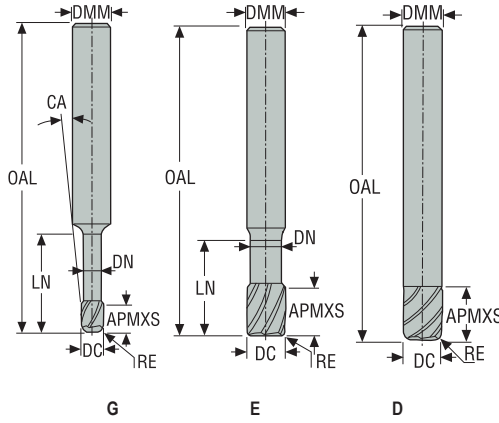
Grafit malzeme için

Minimaster Plus

Minimaster

JH40

Yüksek performans – Alüminyum – Dik kenarlı – 2 Ağızlı – Silindirik – Köşe radyüsü



- Toleranslar:
- DMM=h5
- DC=-0,02/-0,04 mm
- RE= ±0,1 mm
- DC ≥ Ø6 ise tekrar bilenebilir



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	CA	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm	mm	mm	mm	
40K060-HEMI	00022089	1	D	6,0	6,0	13,0	50,0	-	-	0,1	-	2	■
40K080-HEMI	00022090	1	D	8,0	8,0	13,0	50,0	-	-	0,1	-	2	■
40K100-HEMI	00022091	1	D	10,0	10,0	16,0	50,0	-	-	0,1	-	2	■
40K120-HEMI	00022092	1	D	12,0	12,0	16,0	65,0	-	-	0,1	-	2	■
40020-HEMI	00022093	2	G	2,0	3,0	3,0	40,0	6,0	1,9	0,1	3,5	2	■
40030-HEMI	00022094	2	E	3,0	3,0	4,0	40,0	8,0	2,9	0,1	-	2	■
40040-HEMI	00022095	2	E	4,0	4,0	5,0	50,0	12,0	3,8	0,1	-	2	■
40050-HEMI	00022120	2	E	5,0	5,0	8,0	50,0	14,0	4,8	0,1	-	2	■
40060-HEMI	00022250	2	E	6,0	6,0	8,0	65,0	18,0	5,7	0,1	-	2	■
40080-HEMI	00022580	2	E	8,0	8,0	10,0	70,0	22,0	7,7	0,1	-	2	■
40100-HEMI	00022663	2	E	10,0	10,0	14,0	80,0	28,0	9,7	0,1	-	2	■
40120-HEMI	00022667	2	E	12,0	12,0	16,0	90,0	35,0	11,5	0,1	-	2	■
40160-HEMI	00022668	2	E	16,0	16,0	20,0	90,0	40,0	15,5	0,1	-	2	■
40200-HEMI	00022701	2	E	20,0	20,0	25,0	100,0	50,0	19,5	0,1	-	2	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

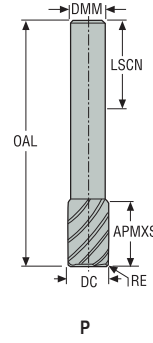
Grafit malzeme için

Minimaster Plus

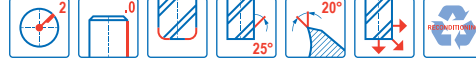
Minimaster

## JH40

Yüksek performans – Alüminyum – Dik kenarlı – 2 Ağızlı – Silindirik – Köşe radyüsü



- Toleranslar:
- DMM= h5
- DC= -0,02/-0,04 mm
- RE= ±0,1 mm
- DC ≥ Ø6 ise tekrar bilebilir



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LSCN	RE	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm		
40020-RS	02479642	2	P	2,0	1,9	3,0	40,0	28,0	0,1	2	■
40030-RS	02479643	2	P	3,0	2,9	4,0	60,0	28,0	0,1	2	■
40040-RS	02479644	2	P	4,0	3,8	5,0	60,0	28,0	0,1	2	■
40050-RS	02479645	2	P	5,0	4,8	8,0	70,0	28,0	0,1	2	■
40060-RS	02479646	2	P	6,0	5,8	8,0	65,0	36,0	0,1	2	■
40080-RS	02479647	2	P	8,0	7,8	10,0	70,0	36,0	0,1	2	■
40100-RS	02479648	2	P	10,0	9,7	14,0	100,0	40,0	0,1	2	■
40120-RS	02479649	2	P	12,0	11,7	16,0	90,0	45,0	0,1	2	■
40L060-RS	02479650	3	P	6,0	5,8	8,0	100,0	36,0	0,1	2	■
40L080-RS	02479651	3	P	8,0	7,8	10,0	100,0	36,0	0,1	2	■
40L120-RS	02479652	3	P	12,0	11,7	16,0	125,0	45,0	0,1	2	■
40L160-RS	02479653	3	P	16,0	15,7	20,0	125,0	48,0	0,1	2	■
40L200-RS	02479654	3	P	20,0	19,7	25,0	125,0	50,0	0,1	2	■

■ Stoklu standart ürün.



## Kesme verileri – JH40 Kenar frezeleme

SMG		$a_e/DC$	$a_p/DC$	$f_z$										$v_c$
				2	3	4	5	6	8	10	12	16	20	
N1	E/M/A	0.400	1.2	0.030	0.046	0.060	0.075	0.090	0.12	0.15	0.18	0.22	0.25	730 (610 – 840)
		0,400	1,2	0,0012	0,0018	0,0024	0,0030	0,0036	0,0048	0,0060	0,0070	0,0085	0,010	2400 (2100 – 2700)
N11	E/M/A	0.400	1.0	0.030	0.046	0.060	0.075	0.090	0.12	0.15	0.18	0.22	0.26	425 (320 – 520)
		0,400	1,0	0,0012	0,0018	0,0024	0,0030	0,0036	0,0048	0,0060	0,0070	0,0085	0,010	1400 (1100 – 1700)
TS1	A	0.400	1.2	0.030	0.046	0.060	0.075	0.090	0.12	0.15	0.18	0.22	0.25	730 (610 – 840)
		0,400	1,2	0,0012	0,0018	0,0024	0,0030	0,0036	0,0048	0,0060	0,0070	0,0085	0,010	2400 (2100 – 2700)

## Kesme verileri – JH40 Kanal açma

SMG		$a_p/DC$	$f_z$										$v_c$
			2	3	4	5	6	8	10	12	16	20	
N1	E/M/A	0.60	0.026	0.040	0.050	0.065	0.080	0.10	0.13	0.16	0.20	0.25	600 (510–700)
		0,60	0,0010	0,0016	0,0020	0,0026	0,0032	0,0040	0,0050	0,0065	0,0080	0,010	1975 (1700 – 2200)
N11	E/M/A	0.40	0.016	0.024	0.032	0.040	0.048	0.065	0.080	0.095	0.13	0.16	400 (310 – 500)
		0,40	0,00065	0,00095	0,0013	0,0016	0,0019	0,0026	0,0032	0,0038	0,0050	0,0065	1300 (1100 – 1600)
TS1	A	1.0	0.026	0.040	0.050	0.065	0.080	0.10	0.13	0.16	0.20	0.25	600 (510–700)
		1,0	0,0010	0,0016	0,0020	0,0026	0,0032	0,0040	0,0050	0,0065	0,0080	0,010	1975 (1700 – 2200)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

 $v_c = m/dak$  (sf/dak) $f_z = mm$  (inç/ağız) $a_p$  mm/DC (inç/DC) = faktör $a_e$  mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

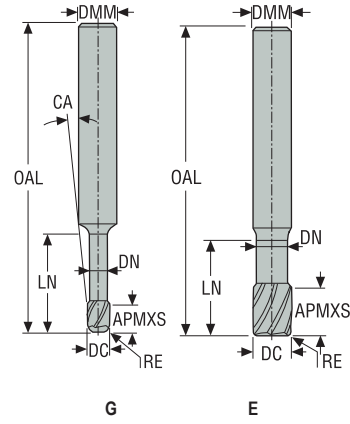
Grafit malzeme için

Minimaster Plus

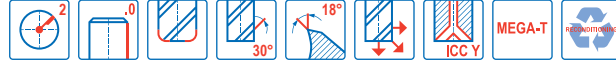
Minimaster

## JH421

Yüksek performans – Alüminyum – Dik kenarlı – 2 Ağızlı – Silindirik – Köşe radyüsü – ICC



- Toleranslar:
- DMM=h5
- DC=-0,02/-0,04 mm
- RE= ±0,05 mm
- DC ≥ Ø6 ise tekrar bilenebilir

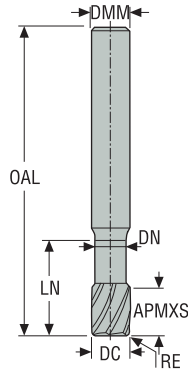


Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	ICC (İçten soğutma sıvısı kanalı)	DC	DMM	APMXS	OAL	LN	DN	RE	CA	PCEDC	Silindirik
					mm	mm	mm	mm	mm	mm	mm			
421020R020Z2-MEGA-T	02434927	2	G	-	2,0	3,0	3,0	40,0	8,0	1,8	0,2	3,0	2	■
421030R020Z2-MEGA-T	02434939	2	E	-	3,0	3,0	4,0	40,0	12,0	2,7	0,2	-	2	■
421040R020Z2-MEGA-T	02434940	2	G	-	4,0	6,0	5,0	50,0	16,0	3,6	0,2	3,0	2	■
421040R030Z2-MEGA-T	02434941	2	G	-	4,0	6,0	5,0	50,0	16,0	3,6	0,3	3,0	2	■
421050R100Z2-MEGA-T	02434942	2	G	-	5,0	6,0	6,0	50,0	18,0	4,5	1,0	1,5	2	■
421060R025Z2-MEGA-T	02434946	2	E	-	6,0	6,0	8,0	50,0	20,0	5,4	0,25	-	2	■
421060R050Z2-MEGA-T	02434947	2	E	-	6,0	6,0	8,0	50,0	20,0	5,4	0,5	-	2	■
421060R100Z2-MEGA-T	02434958	2	E	-	6,0	6,0	8,0	50,0	20,0	5,4	1,0	-	2	■
421080R030Z2-MEGA-T	02434960	2	E	-	8,0	8,0	10,0	65,0	30,0	7,2	0,3	-	2	■
421080R060Z2-MEGA-T	02434964	2	E	-	8,0	8,0	10,0	65,0	30,0	7,2	0,6	-	2	■
421080R100Z2-MEGA-T	02434967	2	E	-	8,0	8,0	10,0	65,0	30,0	7,2	1,0	-	2	■
421100R030Z2-MEGA-T	02434968	2	E	-	10,0	10,0	12,0	80,0	36,0	9,0	0,3	-	2	■
421100R080Z2-MEGA-T	02434970	2	E	-	10,0	10,0	12,0	80,0	36,0	9,0	0,8	-	2	■
421100R150Z2-MEGA-T	02434971	2	E	-	10,0	10,0	12,0	80,0	36,0	9,0	1,5	-	2	■
421100R250Z2-MEGA-T	02438614	2	E	-	10,0	10,0	12,0	80,0	36,0	9,0	2,5	-	2	■
421100R310Z2-MEGA-T	02438683	2	E	-	10,0	10,0	12,0	80,0	36,0	9,0	3,1	-	2	■
421120R030Z2-MEGA-T	02434983	2	E	-	12,0	12,0	14,0	90,0	40,0	11,0	0,3	-	2	■
421120R050Z2-MEGA-T	02434986	2	E	-	12,0	12,0	14,0	90,0	40,0	11,0	0,5	-	2	■
421120R100Z2-MEGA-T	02434988	2	E	-	12,0	12,0	14,0	90,0	40,0	11,0	1,0	-	2	■
421120R150Z2-MEGA-T	02434989	2	E	-	12,0	12,0	14,0	90,0	40,0	11,0	1,5	-	2	■
421120R200Z2-MEGA-T	02434990	2	E	-	12,0	12,0	14,0	90,0	40,0	11,0	2,0	-	2	■
421120R250Z2AMEGA-T	02435008	2	E	■	12,0	12,0	14,0	90,0	40,0	11,0	2,5	-	2	■
421120R250Z2-MEGA-T	02435007	2	E	-	12,0	12,0	14,0	90,0	40,0	11,0	2,5	-	2	■
421120R310Z2-MEGA-T	02435009	2	E	-	12,0	12,0	14,0	90,0	40,0	11,0	3,1	-	2	■

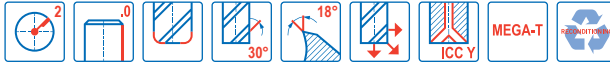
■ Stoklu standart ürün.  
ICC = İçten soğutma sıvısı kanalları

## JH421

Yüksek performans – Alüminyum – Dik kenarlı – 2 Ağızlı – Silindirik – Köşe radyüsü – ICC



E



- Toleranslar:
- DMM=h5
- DC=-0,02/-0,04 mm
- RE= ±0,05 mm
- Tekrar bilenebilir



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	ICC (İçten soğutma sıvısı kanalı)	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Silindirik
					mm	mm	mm	mm	mm	mm	mm		
421160R050Z2-MEGA-T	02435010	2	E	–	16,0	16,0	18,0	100,0	45,0	14,5	0,5	2	■
421160R130Z2-MEGA-T	02435011	2	E	–	16,0	16,0	18,0	100,0	45,0	14,5	1,3	2	■
421160R200Z2-MEGA-T	02435014	2	E	–	16,0	16,0	18,0	100,0	45,0	14,5	2,0	2	■
421160R250Z2AMEGA-T	02435020	2	E	■	16,0	16,0	18,0	100,0	45,0	14,5	2,5	2	■
421160R250Z2-MEGA-T	02435012	2	E	–	16,0	16,0	18,0	100,0	45,0	14,5	2,5	2	■
421160R310Z2-MEGA-T	02435036	2	E	–	16,0	16,0	18,0	100,0	45,0	14,5	3,1	2	■
421160R400Z2AMEGA-T	02438684	2	E	■	16,0	16,0	18,0	100,0	45,0	14,5	4,0	2	■
421160R400Z2-MEGA-T	02435039	2	E	–	16,0	16,0	18,0	100,0	45,0	14,5	4,0	2	■
421200R160Z2-MEGA-T	02435042	2	E	–	20,0	20,0	24,0	100,0	45,0	18,0	1,6	2	■
421200R200Z2-MEGA-T	02435044	2	E	–	20,0	20,0	24,0	100,0	45,0	18,0	2,0	2	■
421200R250Z2AMEGA-T	02438685	2	E	■	20,0	20,0	24,0	100,0	45,0	18,0	2,5	2	■
421200R250Z2-MEGA-T	02435046	2	E	–	20,0	20,0	24,0	100,0	45,0	18,0	2,5	2	■
421200R310Z2-MEGA-T	02435049	2	E	–	20,0	20,0	24,0	100,0	45,0	18,0	3,1	2	■
421200R400Z2-MEGA-T	02435051	2	E	–	20,0	20,0	24,0	100,0	45,0	18,0	4,0	2	■
421200R500Z2-MEGA-T	02435055	2	E	–	20,0	20,0	24,0	100,0	45,0	18,0	5,0	2	■
421200R600Z2-MEGA-T	02435056	2	E	–	20,0	20,0	24,0	100,0	45,0	18,0	6,0	2	■
421250R500Z2-MEGA-T	02435065	2	E	–	25,0	25,0	30,0	100,0	45,0	23,0	5,0	2	■

■ Stoklu standart ürün.

ICC = İçten soğutma sıvısı kanalları

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

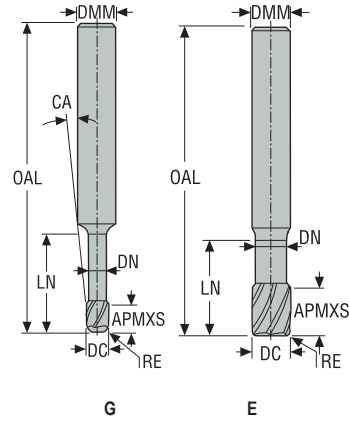
Grafit malzeme için

Minimaster Plus

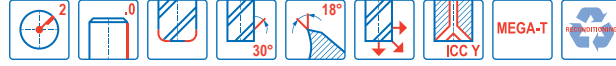
Minimaster

## JH421

Yüksek performans – Alüminyum – Dik kenarlı – 2 Ağızlı – Silindirik – Köşe radyüsü – ICC



- Toleranslar:
- DMM=h5
- DC=-0,02/-0,04 mm
- RE= ±0,05 mm
- Tekrar bilenebilir



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	ICC (İçten soğutma sıvısı kanalı)	DC	DMM	APMXS	OAL	LN	DN	RE	CA	PCEDC	Silindirik
					mm	mm	mm	mm	mm	mm	mm			
421L080R020Z2-MEGA-T	02435068	3	E	-	8,0	8,0	6,0	75,0	40,0	7,2	0,2	-	2	■
421L100R050Z2-MEGA-T	02435070	3	E	-	10,0	10,0	8,0	90,0	50,0	9,0	0,5	-	2	■
421L100R250Z2-MEGA-T	02435074	3	E	-	10,0	10,0	8,0	90,0	50,0	9,0	2,5	-	2	■
421L100R310Z2-MEGA-T	02438690	3	E	-	10,0	10,0	8,0	90,0	50,0	9,0	3,1	-	2	■
421L120R050Z2-MEGA-T	02435340	3	E	-	12,0	12,0	10,0	110,0	70,0	11,0	0,5	-	2	■
421L120R100Z2-MEGA-T	02435343	3	E	-	12,0	12,0	10,0	110,0	70,0	11,0	1,0	-	2	■
421L120R200Z2-MEGA-T	02435373	3	E	-	12,0	12,0	10,0	110,0	70,0	11,0	2,0	-	2	■
421L120R250Z2-MEGA-T	02435374	3	E	-	12,0	12,0	10,0	110,0	70,0	11,0	2,5	-	2	■
421L120R310Z2-MEGA-T	02438692	3	E	-	12,0	12,0	10,0	110,0	70,0	11,0	3,1	-	2	■
421L140R050Z2-MEGA-T	02462710	3	G	-	14,0	16,0	12,0	110,0	70,0	13,0	0,5	1,0	2	■
421L140R310Z2-MEGA-T	02462712	3	G	-	14,0	16,0	12,0	110,0	70,0	13,0	3,1	1,0	2	■
421L160R050Z2-MEGA-T	02435375	3	E	-	16,0	16,0	13,0	125,0	80,0	14,5	0,5	-	2	■
421L160R100Z2-MEGA-T	02435380	3	E	-	16,0	16,0	13,0	125,0	80,0	14,5	1,0	-	2	■
421L160R200Z2-MEGA-T	02435381	3	E	-	16,0	16,0	13,0	125,0	80,0	14,5	2,0	-	2	■
421L160R250Z2AMEGA-T	02435383	3	E	■	16,0	16,0	13,0	125,0	80,0	14,5	2,5	-	2	■
421L160R250Z2-MEGA-T	02435382	3	E	-	16,0	16,0	13,0	125,0	80,0	14,5	2,5	-	2	■
421L160R310Z2-MEGA-T	02435384	3	E	-	16,0	16,0	13,0	125,0	80,0	14,5	3,1	-	2	■
421L160R400Z2AMEGA-T	02435386	3	E	■	16,0	16,0	13,0	125,0	80,0	14,5	4,0	-	2	■
421L200R050Z2-MEGA-T	02435387	3	E	-	20,0	20,0	16,0	150,0	100,0	18,0	0,5	-	2	■
421L200R200Z2-MEGA-T	02435391	3	E	-	20,0	20,0	16,0	150,0	100,0	18,0	2,0	-	2	■
421L200R310Z2-MEGA-T	02435398	3	E	-	20,0	20,0	16,0	150,0	100,0	18,0	3,1	-	2	■
421L200R500Z2-MEGA-T	02435401	3	E	-	20,0	20,0	16,0	150,0	100,0	18,0	5,0	-	2	■

ICC = İçten soğutma sıvısı kanalıdır

■ Yüksek standart ürün

## Kesme verileri – JH421 Kenar frezeleme

SMG		$a_e/DC$	$a_p/DC$	$f_z$												$v_c$
				2	3	4	5	6	8	10	12	14	16	20	25	
N1	E/M/A	0.400	1.0	0.030	0.044	0.060	0.075	0.090	0.12	0.15	0.18	0.20	0.22	0.25	0.28	620 (520–720)
		0,400	1,0	0,0012	0,0017	0,0024	0,0030	0,0036	0,0048	0,0060	0,0070	0,0080	0,0085	0,010	0,011	2025 (1800 – 2300)
N11	E/M/A	0.400	1.0	0.020	0.030	0.040	0.050	0.060	0.080	0.10	0.12	0.13	0.15	0.17	0.19	410 (310 – 510)
		0,400	1,0	0,00080	0,0012	0,0016	0,0020	0,0024	0,0032	0,0040	0,0048	0,0050	0,0060	0,0065	0,0075	1350 (1100–1600)
TS1	A	0.400	1.0	0.030	0.044	0.060	0.075	0.090	0.12	0.15	0.18	0.20	0.22	0.25	0.28	620 (520–720)
		0,400	1,0	0,0012	0,0017	0,0024	0,0030	0,0036	0,0048	0,0060	0,0070	0,0080	0,0085	0,010	0,011	2025 (1800 – 2300)
TP1	M	0.400	1.0	0.024	0.036	0.048	0.060	0.070	0.095	0.12	0.14	0.16	0.18	0.20	0.24	410 (310 – 500)
		0,400	1,0	0,00095	0,0014	0,0019	0,0024	0,0028	0,0038	0,0048	0,0055	0,0065	0,0070	0,0080	0,0095	1350 (1100–1600)

## Kesme verileri – JH421 Kanal açma

SMG		$a_p/DC$	$f_z$												$v_c$
			2	3	4	5	6	8	10	12	14	16	20	25	
N1	E/M/A	0.50	0.014	0.022	0.028	0.036	0.042	0.055	0.070	0.085	0.10	0.11	0.14	0.18	610 (510–700)
		0,50	0,00055	0,00085	0,0011	0,0014	0,0017	0,0022	0,0028	0,0034	0,0040	0,0044	0,0055	0,0070	2000 (1700 – 2200)
N11	E/M/A	0.50	0.0080	0.012	0.016	0.020	0.025	0.032	0.040	0.050	0.055	0.065	0.080	0.10	405 (310 – 500)
		0,50	0,00032	0,00048	0,00065	0,00080	0,0010	0,0013	0,0016	0,0020	0,0022	0,0026	0,0032	0,0040	1325 (1100–1600)
TS1	A	0.50	0.014	0.022	0.028	0.036	0.042	0.055	0.070	0.085	0.10	0.11	0.14	0.18	610 (510–700)
		0,50	0,00055	0,00085	0,0011	0,0014	0,0017	0,0022	0,0028	0,0034	0,0040	0,0044	0,0055	0,0070	2000 (1700 – 2200)
TP1	M	0.50	0.010	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.070	0.080	0.10	0.13	405 (310 – 500)
		0,50	0,00040	0,00060	0,00080	0,0010	0,0012	0,0016	0,0020	0,0024	0,0028	0,0032	0,0040	0,0050	1325 (1100–1600)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

 $v_c = m/dak$  (sf/dak) $f_z = mm$  (inç/ağız) $a_p$  mm/DC (inç/DC) = faktör $a_e$  mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

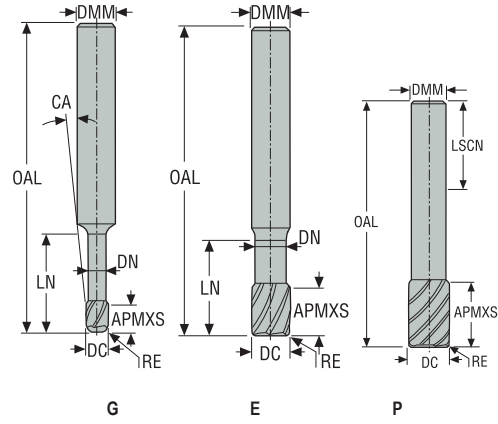
Grafit malzeme için

Minimaster Plus

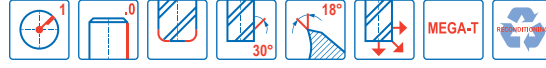
Minimaster

## JH410

Yüksek performans – Alüminyum – Dik kenarlı – 1 Ağız – Silindirik – Köşe radyüsü




- Toleranslar:
- DMM= h5
- DC= -0,02/-0,04 mm
- RE= ±0,02 mm
- DC ≥ Ø6 ise tekrar bilenebilir




Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	LSCN	DN	RE	CA	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
410020R050-MEGA-T	02451548	2	G	2,0	6,0	3,0	50,0	6,0	36,0	1,7	0,5	12,0	1	■
410030R050-MEGA-T	02451578	2	G	3,0	6,0	4,0	50,0	8,0	36,0	2,7	0,5	7,5	1	■
410ML030R050-MEGA-T	02451580	2	G	3,0	6,0	4,0	60,0	15,0	36,0	2,7	0,5	5,0	1	■
410040R050-MEGA-T	02451581	2	G	4,0	6,0	5,0	60,0	8,0	36,0	3,6	0,5	5,5	1	■
410ML040R050-MEGA-T	02451585	2	G	4,0	6,0	5,0	60,0	15,0	36,0	3,6	0,5	3,5	1	■
410050R050-MEGA-T	02451586	2	G	5,0	6,0	7,0	65,0	11,0	36,0	4,5	0,5	2,5	1	■
410ML050R050-MEGA-T	02451589	2	G	5,0	6,0	7,0	65,0	18,0	36,0	4,5	0,5	1,5	1	■
410TL050R050-MEGA-T	02451587	2	G	5,0	6,0	7,0	65,0	26,0	36,0	4,5	0,5	1,5	1	■
410060R050-MEGA-T	02451591	2	E	6,0	6,0	8,0	70,0	11,0	36,0	5,3	0,5	-	1	■
410ML060R050-MEGA-T	02451593	2	E	6,0	6,0	8,0	70,0	18,0	36,0	5,3	0,5	-	1	■
410TL060R050-MEGA-T	02451592	2	E	6,0	6,0	8,0	70,0	31,0	36,0	5,3	0,5	-	1	■
410070RSR050-MEGA-T	02451594	2	P	7,0	6,0	9,0	65,0	-	36,0	-	0,5	-	1	■
410090RSR050-MEGA-T	02451596	2	P	9,0	8,0	11,0	65,0	-	36,0	-	0,5	-	1	■
410110RSR050-MEGA-T	02451598	2	P	11,0	10,0	13,0	70,0	-	40,0	-	0,5	-	1	■
410130RSR100-MEGA-T	02451600	2	P	13,0	12,0	15,0	70,0	-	45,0	-	1,0	-	1	■
410150RSR100-MEGA-T	02451603	2	P	15,0	14,0	17,0	80,0	-	45,0	-	1,0	-	1	■
410170RSR100-MEGA-T	02451605	2	P	17,0	16,0	19,0	80,0	-	48,0	-	1,0	-	1	■
410L070RSR200-MEGA-T	02451595	3	P	7,0	6,0	9,0	85,0	-	36,0	-	2,0	-	1	■
410L090RSR200-MEGA-T	02451597	3	P	9,0	8,0	11,0	85,0	-	36,0	-	2,0	-	1	■
410L110RSR200-MEGA-T	02451599	3	P	11,0	10,0	13,0	90,0	-	40,0	-	2,0	-	1	■
410L130RSR200-MEGA-T	02451601	3	P	13,0	12,0	15,0	90,0	-	45,0	-	2,0	-	1	■
410L150RSR200-MEGA-T	02451604	3	P	15,0	14,0	17,0	110,0	-	45,0	-	2,0	-	1	■
410L170RSR200-MEGA-T	02451606	3	P	17,0	16,0	19,0	110,0	-	48,0	-	2,0	-	1	■

■ Stoklu standart ürün.

## Kesme verileri – JH410 Finiş kenar frezeleme

SMG		a <sub>e</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>											v <sub>c</sub>
				2	3	4	5	6	7	9	11	13	15	17	
N1	E/M/A	0.410	1.0	0.070	0.11	0.14	0.18	0.22	0.25	0.32	0.40	0.46	0.50	0.55	710 (600 – 820)
		0.410	1,0	0,0028	0,0044	0,0055	0,0070	0,0085	0,010	0,013	0,016	0,018	0,020	0,022	2325 (2000 – 2600)
N11	E/M/A	0.318	0.65	0.026	0.040	0.055	0.065	0.080	0.095	0.12	0.15	0.17	0.19	0.22	495 (380 – 610)
		0.318	0,65	0,0010	0,0016	0,0022	0,0026	0,0032	0,0038	0,0048	0,0060	0,0065	0,0075	0,0085	1625 (1300 – 2000)
TS1	A	0.410	1.0	0.070	0.11	0.14	0.18	0.22	0.25	0.32	0.40	0.46	0.50	0.55	710 (600 – 820)
		0.410	1,0	0,0028	0,0044	0,0055	0,0070	0,0085	0,010	0,013	0,016	0,018	0,020	0,022	2325 (2000 – 2600)

## Kesme verileri – JH410 Kanal açma

SMG		a <sub>p</sub> /DC	f <sub>z</sub>											v <sub>c</sub>
			2	3	4	5	6	7	9	11	13	15	17	
N1	E/M/A	0.75	0.055	0.080	0.11	0.14	0.16	0.19	0.25	0.30	0.36	0.40	0.46	630 (530–730)
		0.75	0,0022	0,0032	0,0044	0,0055	0,0065	0,0075	0,010	0,012	0,014	0,016	0,018	2075 (1800 – 2300)
N11	E/M/A	0.36	0.018	0.028	0.036	0.046	0.055	0.065	0.080	0.10	0.12	0.14	0.15	420 (320 – 520)
		0.36	0,00070	0,0011	0,0014	0,0018	0,0022	0,0026	0,0032	0,0040	0,0048	0,0055	0,0060	1375 (1100–1700)
TS1	A	1.0	0.055	0.080	0.11	0.14	0.16	0.19	0.25	0.30	0.36	0.40	0.46	630 (530–730)
		1,0	0,0022	0,0032	0,0044	0,0055	0,0065	0,0075	0,010	0,012	0,014	0,016	0,018	2075 (1800 – 2300)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)f<sub>z</sub> = mm (inç/ağız)a<sub>p</sub> mm/DC (inç/DC) = faktöra<sub>e</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

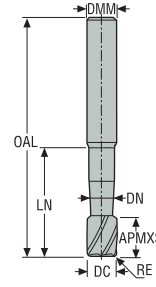
Grafit malzeme için

Minimaster Plus

Minimaster

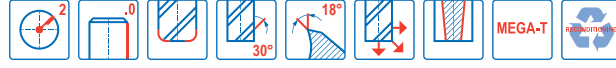
## JH440

Yüksek hız – Alüminyum – Dik kenarlı – 2 Ağızlı – Silindirik – Köşe radyüsü



E

- Toleranslar:
- DMM=h5
- DC=-0,02/-0,04 mm
- RE= ±0,05 mm
- Tekrar bilenebilir



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm	mm		
440060-MEGA-T	00022702	2	E	6,0	6,0	8,0	60,0	30,0	5,4	1,5	2	■
440080-MEGA-T	00022865	2	E	8,0	8,0	10,0	60,0	30,0	7,2	2,0	2	■

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeleri için

Grafit malzeme için

Minimaster Plus

Minimaster



## Kesme verileri – JH440 Kaba kopya frezeleme

SMG		$a_e/DC$	$a_p/DC$	$f_z$		$v_c$
				6	8	
N1	E/M/A	0.300	0.50	0.080	0.10	780 (650 – 900)
		0.300	0.50	0.0032	0.0040	2550 (2200 – 2900)
N2	E/M/A	0.300	0.50	0.060	0.080	510 (390 – 640)
		0.300	0.50	0.0024	0.0032	1675 (1300 – 2000)
N3	E/M/A	0.300	0.50	0.060	0.080	340 (260 – 420)
		0.300	0.50	0.0024	0.0032	1125 (860 – 1300)
N11	E/M/A	0.300	0.50	0.060	0.080	255 (130 – 370)
		0.300	0.50	0.0024	0.0032	840 (430 – 1200)
TS1	A	0.300	0.50	0.080	0.10	780 (650 – 900)
		0.300	0.50	0.0032	0.0040	2550 (2200 – 2900)
TP1	A	0.300	0.60	0.060	0.080	510 (380 – 630)
		0.300	0.60	0.0024	0.0032	1675 (1300 – 2000)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

 $v_c = m/dak$  (sf/dak) $f_z = mm$  (inç/ağız) $a_p$  mm/DC (inç/DC) = faktör $a_e$  mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve diğer malzemeler için

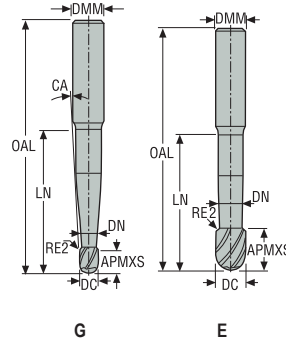
Grafit malzeme için

Minimaster Plus

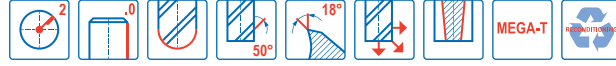
Minimaster

## JH450

Yüksek hız – Alüminyum – Tamamı yuvarlak – 2 Ağızlı – Silindirik



- Toleranslar:
- DMM= h5
- DC= -0,02/-0,04 mm
- RE= ±0,02 mm
- DC ≥ Ø6 ise tekrar bilenebilir



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE2	CA	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm	mm			
450020-MEGA-T	00022977	2	G	2,0	3,0	1,75	40,0	10,0	1,8	1,0	3,0	2	■
450030-MEGA-T	00022978	2	E	3,0	3,0	2,5	40,0	12,0	2,7	2,0	-	2	■
450040-MEGA-T	00022979	2	G	4,0	6,0	3,5	50,0	21,0	3,6	2,0	3,0	2	■
450050-MEGA-T	00022980	2	G	5,0	6,0	4,5	50,0	22,5	4,5	2,0	2,0	2	■
450060-MEGA-T	00023020	2	E	6,0	6,0	5,5	55,0	25,0	5,4	2,0	-	2	■
450080-MEGA-T	00023032	2	E	8,0	8,0	7,0	65,0	30,0	7,2	2,0	-	2	■
450100-MEGA-T	00023040	2	E	10,0	10,0	8,5	75,0	35,0	9,0	3,0	-	2	■
450120-MEGA-T	00029842	2	E	12,0	12,0	10,5	75,0	40,0	11,0	3,0	-	2	■
450160-MEGA-T	00023050	2	E	16,0	16,0	14,0	90,0	50,0	14,5	4,0	-	2	■
450200-MEGA-T	00023053	2	E	20,0	20,0	17,0	100,0	50,0	18,0	4,0	-	2	■
450L100-MEGA-T	00023056	3	G	10,0	12,0	8,5	125,0	50,0	9,0	3,0	1,5	2	■
450L120-MEGA-T	00023091	3	E	12,0	12,0	10,5	150,0	60,0	11,0	3,0	-	2	■
450L160-MEGA-T	00023095	3	E	16,0	16,0	14,0	150,0	70,0	14,5	4,0	-	2	■

■ Stoklu standart ürün.

## Kesme verileri – JH450 Kaba kopya frezeleme

SMG		$a_e/DC$	$a_p/DC$	$f_z$										$v_c$
				2	3	4	5	6	8	10	12	16	20	
N1	E/M/A	0.400	0.24	0.040	0.060	0.080	0.10	0.12	0.16	0.20	0.24	0.32	0.40	690 (670 – 930)
		0,400	0,24	0,0016	0,0024	0,0032	0,0040	0,0048	0,0065	0,0080	0,0095	0,013	0,016	2275 (2200 – 3000)
N2	E/M/A	0.300	0.24	0.040	0.060	0.080	0.10	0.12	0.16	0.20	0.24	0.32	0.40	470 (410 – 680)
		0,300	0,24	0,0016	0,0024	0,0032	0,0040	0,0048	0,0065	0,0080	0,0095	0,013	0,016	1550 (1400 – 2200)
N3	E/M/A	0.300	0.24	0.040	0.060	0.080	0.10	0.12	0.16	0.20	0.24	0.32	0.40	315 (280 – 450)
		0,300	0,24	0,0016	0,0024	0,0032	0,0040	0,0048	0,0065	0,0080	0,0095	0,013	0,016	1025 (920 – 1400)
N11	E/M/A	0.300	0.24	0.040	0.060	0.080	0.10	0.12	0.16	0.20	0.24	0.32	0.38	470 (420 – 680)
		0,300	0,24	0,0016	0,0024	0,0032	0,0040	0,0048	0,0065	0,0080	0,0095	0,013	0,015	1550 (1400 – 2200)
TS1	A	0.500	0.50	0.040	0.060	0.080	0.10	0.12	0.16	0.20	0.24	0.30	0.34	700 (630 – 860)
		0,500	0,50	0,0016	0,0024	0,0032	0,0040	0,0048	0,0065	0,0080	0,0095	0,012	0,013	2300 (2100 – 2800)
TP1	M	0.300	0.24	0.040	0.060	0.080	0.10	0.12	0.16	0.20	0.24	0.32	0.38	470 (410 – 680)
		0,300	0,24	0,0016	0,0024	0,0032	0,0040	0,0048	0,0065	0,0080	0,0095	0,013	0,015	1550 (1400 – 2200)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

 $v_c = m/dak$  (sf/dak) $f_z = mm$  (inç/ağız) $a_p$  mm/DC (inç/DC) = faktör $a_e$  mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve diğer malzemeler için

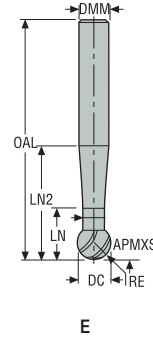
Grafit malzeme için

Minimaster Plus

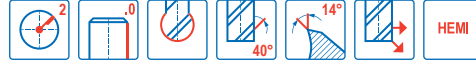
Minimaster

## JH460

Yüksek hız – Alüminyum – Tamamı yuvarlak – 2 Ağzlı – Silindirik



- Toleranslar:
- DMM=h5
- DC=-0,02/-0,06 mm
- RE= ±0.02 mm
- SA=250°



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	LN2	DN	RE	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm	mm	mm		
460030-HEMI	00040372	2	E	3,0	3,0	2,3	60,0	4,8	9,9	1,5	1,5	2	■
460040-HEMI	00040373	2	E	4,0	4,0	3,1	60,0	5,6	12,1	2,0	2,0	2	■
460050-HEMI	00040376	2	E	5,0	5,0	3,9	70,0	6,4	14,4	2,5	2,5	2	■
460060-HEMI	00040377	2	E	6,0	6,0	4,7	80,0	9,7	19,1	3,0	3,0	2	■
460080-HEMI	00040378	2	E	8,0	8,0	6,2	85,0	11,2	23,6	4,0	4,0	2	■
460100-HEMI	00040379	2	E	10,0	10,0	7,8	100,0	15,6	30,8	5,0	5,0	2	■
460120-HEMI	00040380	2	E	12,0	12,0	9,4	125,0	17,2	35,3	6,0	6,0	2	■

■ Stoklu standart ürün.

## Kesme verileri – JH460 Kaba kopya frezeleme

SMG		$a_g/DC$	$a_p/DC$	$f_z$							$v_c$
				3	4	5	6	8	10	12	
N1	E/M/A	0.500	0.20	0.055	0.075	0.095	0.11	0.15	0.19	0.22	590 (500 – 680)
		0,500	0,20	0,0022	0,0030	0,0038	0,0044	0,0060	0,0075	0,0085	1925 (1700 – 2200)
N11	E/M/A	0.300	0.20	0.046	0.065	0.080	0.095	0.13	0.16	0.18	610 (510 – 700)
		0,300	0,20	0,0018	0,0026	0,0032	0,0038	0,0050	0,0065	0,0070	2000 (1700 – 2200)
S11	E/M/A	0.300	0.20	0.034	0.044	0.055	0.065	0.090	0.11	0.13	120 (110 – 130)
		0,300	0,20	0,0013	0,0017	0,0022	0,0026	0,0036	0,0044	0,0050	395 (370 – 420)
S12	E/M/A	0.300	0.20	0.034	0.044	0.055	0.065	0.090	0.11	0.13	90 (82 – 100)
		0,300	0,20	0,0013	0,0017	0,0022	0,0026	0,0036	0,0044	0,0050	295 (270 – 320)
S13	E/M/A	0.300	0.20	0.030	0.038	0.048	0.060	0.075	0.095	0.11	75 (65 – 81)
		0,300	0,20	0,0012	0,0015	0,0019	0,0024	0,0030	0,0038	0,0044	245 (220 – 260)
TS1	A	0.500	0.50	0.055	0.070	0.13	0.15	0.20	0.25	0.30	620 (520 – 720)
		0,500	0,50	0,0022	0,0028	0,0050	0,0060	0,0080	0,010	0,012	2025 (1800 – 2300)
TP1	M	0.300	0.20	0.046	0.065	0.080	0.095	0.13	0.16	0.18	405 (360 – 450)
		0,300	0,20	0,0018	0,0026	0,0032	0,0038	0,0050	0,0065	0,0070	1325 (1200 – 1400)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

 $v_c = m/dak$  (sf/dak) $f_z = mm$  (inç/ağız) $a_p$  mm/DC (inç/DC) = faktör $a_g$  mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve diğer malzemeler için

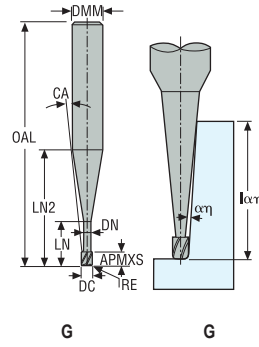
Grafit malzeme için

Minimaster Plus

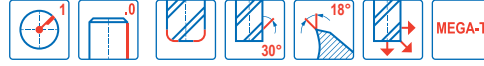
Minimaster

## JM403/JM404/JM406

Minyatür – Alüminyum – Dik kenarlı – 1 Ağz – Silindirik – Köşe radyüsü



- Toleranslar:
- Salgı=<0,005 mm
- DMM= h5
- DC= < Ø0,6= -0,005/-0,013 mm
- DC= ≥ Ø0,6= -0,005/-0,015 mm
- RE= ±0,01 mm



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	LN2	DN	RE	PCEDC	CA	WDX0	WDX05	WDX1	WDX15	WDX2	WDX3	Silindirik
				mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
403ML005R005-MEGA-T	02568434	2	G	0,5	3,0	0,5	40,0	1,5	6,7	0,45	0,05	1	11,0	1,5	1,6	1,7	1,7	1,8	1,9	■
403ML008R005-MEGA-T	02568450	2	G	0,8	3,0	0,8	40,0	2,5	7,1	0,75	0,05	1	9,0	2,5	2,6	2,7	2,8	2,9	3,2	■
403ML010R010-MEGA-T	02568456	2	G	1,0	3,0	1,0	40,0	4,0	8,3	0,95	0,1	1	7,5	4,0	4,2	4,3	4,5	4,6	5,0	■
406ML015R010-MEGA-T	02568478	5	G	1,5	6,0	1,5	50,0	5,0	14,0	1,4	0,1	1	9,5	5,1	5,3	5,5	5,7	5,9	6,4	■
404ML020R010-MEGA-T	02577246	5	G	2,0	4,0	2,0	40,0	6,0	10,4	1,9	0,1	1	6,0	6,1	6,3	6,6	6,8	7,0	7,6	■

■ Stoklu standart ürün.

WDX değerleri için: αη'ye bağlı maks. kesme derinliği (lαη, ref)\*

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve diğer malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

## Kesme verileri – JM403/JM404/406 Kenar frezeleme

SMG		$a_e/DC$	$a_p/DC$	$f_z$					$v_c$
				0.5	0.8	1	1.5	2	
N1	E	0.500	0.70	0.015	0.024	0.030	0.042	0.050	365 (310 – 420)
		0,500	0,70	0,00060	0,00095	0,0012	0,0017	0,0020	1200 (1100–1300)
N2	E	0.500	0.70	0.015	0.024	0.030	0.042	0.050	235 (200 – 270)
		0,500	0,70	0,00060	0,00095	0,0012	0,0017	0,0020	770 (660 – 880)
N3	E	0.500	0.70	0.015	0.024	0.030	0.042	0.050	155 (140 – 180)
		0,500	0,70	0,00060	0,00095	0,0012	0,0017	0,0020	510 (460 – 590)

## Kesme verileri – JM403/JM404/406 Kanal açma

SMG		$a_p/DC$	$f_z$					$v_c$
			0.5	0.8	1	1.5	2	
N1	E	0.40	0.015	0.025	0.030	0.044	0.050	315 (270 – 360)
		0,40	0,00060	0,0010	0,0012	0,0017	0,0020	1025 (890–1100)
N2	E	0.40	0.015	0.025	0.030	0.044	0.050	200 (170 – 230)
		0,40	0,00060	0,0010	0,0012	0,0017	0,0020	660 (560–750)
N3	E	0.40	0.015	0.025	0.030	0.044	0.050	135 (120 – 150)
		0,40	0,00060	0,0010	0,0012	0,0017	0,0020	445 (400 – 490)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

 $v_c = m/dak$  (sf/dak) $f_z = mm$  (inç/ağız) $a_p$  mm/DC (inç/DC) = faktör $a_e$  mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve diğer malzemeler için

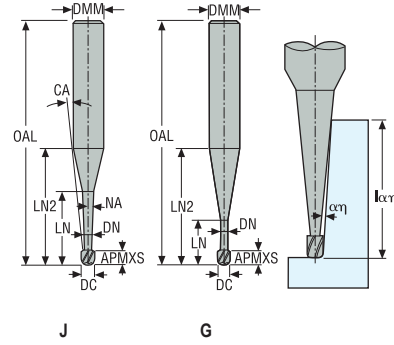
Grafit malzeme için

Minimaster Plus

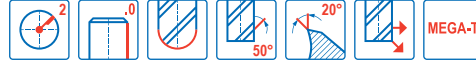
Minimaster

## JM413/JM416

Minyatür – Alüminyum – Tamamı yuvarlak – 2 Ağız – Silindirik



- Toleranslar:
- Salgı=<0,005 mm
- DMM=h5
- DC= <math>\varnothing 0,6 = -0,005/-0,013 \text{ mm}</math>
- DC=  $\geq \varnothing 0,6 = -0,005/-0,015 \text{ mm}</math>$
- RE=  $\pm 0,005 \text{ mm}</math>$



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	LN2	DN	RE	PCEDC	CA	WDX0	WDX05	WDX1	WDX15	WDX2	WDX3	Silindirik
				mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
413ML005TN-MEGA-T	02568709	2	J	0,5	3,0	0,375	40,0	1,5	6,6	0,45	0,25	2	11,5	1,5	1,5	1,6	1,6	1,7	1,8	■
413L005-MEGA-T	02568711	3	G	0,5	3,0	0,375	40,0	2,5	7,7	0,45	0,25	2	10,0	2,5	2,6	2,7	2,8	2,9	3,1	■
413L008-MEGA-T	02568727	3	G	0,8	3,0	0,6	40,0	4,0	8,6	0,75	0,4	2	8,0	4,0	4,2	4,3	4,4	4,6	4,9	■
413L010-MEGA-T	02568736	3	G	1,0	3,0	0,75	40,0	5,0	9,3	0,95	0,5	2	7,0	5,0	5,2	5,4	5,5	5,7	6,2	■
416L015-MEGA-T	02568772	3	G	1,5	6,0	1,125	50,0	7,5	16,5	1,4	0,75	2	8,5	7,6	7,9	8,1	8,4	8,7	9,3	■
416L020-MEGA-T	02568779	3	G	2,0	6,0	1,5	50,0	10,0	18,1	1,9	1,0	2	7,0	10,1	10,4	10,8	11,1	11,5	12,4	■

■ Stoklu standart ürün.

WDX değerleri için:  $\alpha_1$ 'ye bağlı maks. kesme derinliği ( $l_{\alpha_1}$ , ref)\*



## Kesme verileri – JM413/416 Kaba kopya frezeleme

SMG		$a_e/DC$	$a_p/DC$	$f_z$					$v_c$
				0,5	0,8	1	1,5	2	
N1	E	0.300	0.30	0.030	0.048	0.060	0.085	0.10	385 (370 – 510)
		0,300	0,30	0,0012	0,0019	0,0024	0,0034	0,0040	1275 (1300–1600)
N2	E	0.300	0.30	0.030	0.048	0.060	0.085	0.10	245 (240 – 320)
		0,300	0,30	0,0012	0,0019	0,0024	0,0034	0,0040	800 (790–1000)
N3	E	0.300	0.30	0.030	0.048	0.060	0.085	0.10	165 (160 – 210)
		0,300	0,30	0,0012	0,0019	0,0024	0,0034	0,0040	540 (530 – 680)
N11	E	0.300	0.30	0.030	0.048	0.060	0.085	0.10	320 (300 – 430)
		0,300	0,30	0,0012	0,0019	0,0024	0,0034	0,0040	1050 (990–1400)
TS1	A	0.300	0.30	0.030	0.048	0.060	0.085	0.10	385 (370 – 510)
		0,300	0,30	0,0012	0,0019	0,0024	0,0034	0,0040	1275 (1300–1600)
TP1	A	0.300	0.30	0.030	0.048	0.060	0.085	0.10	385 (370 – 510)
		0,300	0,30	0,0012	0,0019	0,0024	0,0034	0,0040	1275 (1300–1600)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

 $v_c = m/dak$  (sf/dak) $f_z = mm$  (inç/ağız) $a_p$  mm/DC (inç/DC) = faktör $a_e$  mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

Üniversal
Çelik ve dökme demir
Paslanmaz çelik ve S iş parçası materyalleri
Demir içermeyen materyaller
Sertleştirilmiş çelik için
Plastik ve çirp materyaller için
Grafit malzeme için
Minimaster Plus
Minimaster



## SERTLEŞTİRİLMİŞ ÇELİK İÇİN

Seco, sertleştirilmiş çelikte verimlilik için yüksek performanslı solid karbür dik kenarlı parmak frezeler, tamamı yuvarlak frezeler ve finiş parmak frezelerinden oluşan eksiksiz bir ürün çeşidi sunmaktadır.

- JHP170, JHF181, JH120, JH130, JH930, JH142, JME142 ve JME144, radyüs tipi için.
- JH112, JH150, JH160 ve JMB112, tamamı yuvarlak tip için.

							
							
İsim		JHP170	JHF181	JH120	JH130	JH930	JH142
Sayfa(lar)		355	358	361	363	132, 365	192, 368
Ürün ailesi		HPM	HFM	HSM/TORNADO	HSM/TORNADO	HSM/TORNADO	HSM/TORNADO
Freze tipi							
Sap	Silindirik	■	■	■	■	■	■
	Weldon	■					
Ağız sayısı		3-4	3-4-5	4	5-6, 8	5-6, 8	2-4-5-6
ICC (İçten soğutma sıvısı kanalı)			■				
	Metrik	2-20	1-10	2-16	6-20	6-20	2-12
	İnç						
Mevcut boylar							
		2	1,2,3,4	2	2	2	2,3,6
Operasyon							
							
							
SMG							
H3		•	•	•	•	•	•
H5		•	•	•	•	•	•
H7		•	•	•	•	•	•
H8		•	•	•	•	•	•
H11		•	•	•	•	•	•
H12		•	•	•	•	•	•
H21		•	•	•	•	•	•
H31		•	•	•	•	•	•

■ Stoklu standart ürün. □ Weldon sap mevcut, teslim süresi 3 iş günüdür.

• İlk tercih ○ Alternatif tercih

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller





Sertleştirilmiş çelik için

Plastik ve cırp materyaller için

Grafit materyale için

Minimaster Plus

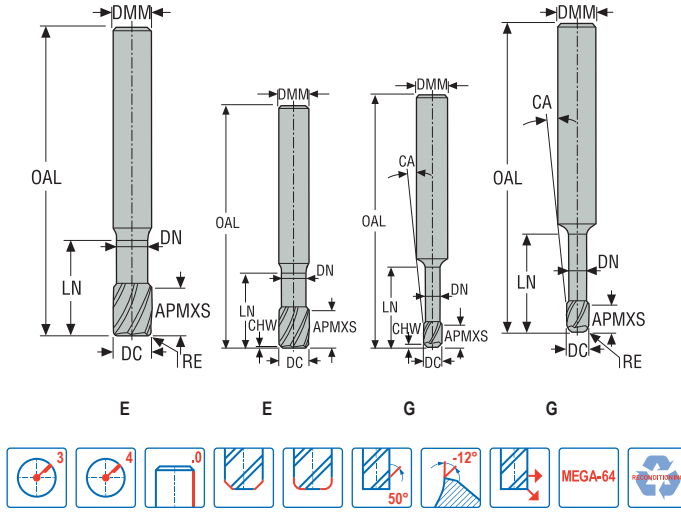
Minimaster

Üniversal	Çelik ve dökme demir	Paslanmaz çelik ve S iş parçası malzemeleri	Demir içermeyen malzemeler	Sertleştirilmiş çelik için	Plastik ve cırp malzemeleri için	Grafit malzeme için	Minimaster Plus	Minimaster
								
İsim	JH112	JH150	JH160	JME142	JME144	JMB112		
Sayfa(lar)	197, 371	374	376	378	383	385		
Ürün ailesi	HSM/TORNADO	HSM/TORNADO	HSM/TORNADO	MINI	MINI	MINI		
Freze tipi								
Sap	Silindirik	■	■	■	■	■		
	Weldon							
Ağız sayısı	2	4	4	2	4	2		
ICC (İçten soğutma sıvısı kanalı)	Metrik	2-12	6-12	3-12	0,2-3,0	1,0-3,0	0,2-3,0	
	İnç							
Mevcut boylar								
	1,2,3,4,5,6	2	2	1,2,3,4,5,6	2,3,4	1,2,3,4,5,6		
Operasyon								
								
								
SMG								
H3	•	•	•	•	•	•	•	•
H5	•	•	•	•	•	•	•	•
H7	•	•	•	•	•	•	•	•
H8	•	•	•	•	•	•	•	•
H11		•	•	•	•	•	•	•
H12		•	•	•	•	•	•	•
H21	•	•	•	•	•	•	•	•
H31	•	•	•	•	•	•	•	•

■ Stoklu standart ürün. □ Weldon sap mevcut, teslim süresi 3 iş günüdür.  
● İlk tercih ○ Alternatif tercih

JHP170

Yüksek performans – Sertleştirilmiş çelik – Dik kenarlı – 3-4 Ağızlı – Silindirik – Köşe radyüsü veya Köşesi pahlı



- Toleranslar:
- DMM= h5
- DC= -0,02/-0,04 mm
- CHW= Ø2- Ø4=+0,05 mm
- CHW= Ø5-Ø16=+0,1 mm
- RE= ±0,05 mm
- DC ≥ Ø6 ise tekrar bilenebilir



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	CHW	RE	CA	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm	mm	mm			
170020.0-MEGA-64	02462685	2	G	2,0	6,0	2,0	50,0	4,0	1,9	0,08	-	14,5	3	■
170020R020.0-MEGA-64	02587615	2	G	2,0	6,0	2,0	50,0	4,0	1,9	-	0,2	14,5	3	■
170020R050.0-MEGA-64	02587617	2	G	2,0	6,0	2,0	50,0	4,0	1,9	-	0,5	15,0	3	■
170030.0-MEGA-64	02462686	2	G	3,0	6,0	3,0	50,0	6,0	2,8	0,08	-	9,0	3	■
170030R020.0-MEGA-64	02587618	2	G	3,0	6,0	3,0	50,0	6,0	2,8	-	0,2	9,5	3	■
170030R050.0-MEGA-64	02587619	2	G	3,0	6,0	3,0	50,0	6,0	2,8	-	0,5	9,5	3	■
170040.0-MEGA-64	02462687	2	G	4,0	6,0	4,0	50,0	8,0	3,7	0,1	-	5,5	4	■
170040R020.0-MEGA-64	02587620	2	G	4,0	6,0	4,0	50,0	8,0	3,7	-	0,2	5,5	4	■
170040R050.0-MEGA-64	02587621	2	G	4,0	6,0	4,0	50,0	8,0	3,7	-	0,5	5,5	4	■
170050.0-MEGA-64	02462688	2	G	5,0	6,0	5,0	50,0	10,0	4,6	0,12	-	2,5	4	■
170050R020.0-MEGA-64	02587622	2	G	5,0	6,0	5,0	50,0	10,0	4,6	-	0,2	2,5	4	■
170050R050.0-MEGA-64	02587623	2	G	5,0	6,0	5,0	50,0	10,0	4,6	-	0,5	2,5	4	■
170060.0-MEGA-64	02462689	2	E	6,0	6,0	6,0	50,0	11,5	5,6	0,14	-	-	4	■
170060R020.0-MEGA-64	02587624	2	E	6,0	6,0	6,0	50,0	11,5	5,6	-	0,2	-	4	■
170060R050.0-MEGA-64	02587625	2	E	6,0	6,0	6,0	50,0	11,5	5,6	-	0,5	-	4	■
170080.0-MEGA-64	02462690	2	E	8,0	8,0	8,0	55,0	16,0	7,4	0,16	-	-	4	■
170080R020.0-MEGA-64	02587626	2	E	8,0	8,0	8,0	55,0	16,0	7,4	-	0,2	-	4	■
170080R050.0-MEGA-64	02587627	2	E	8,0	8,0	8,0	55,0	16,0	7,4	-	0,5	-	4	■
170080R100.0-MEGA-64	02587628	2	E	8,0	8,0	8,0	55,0	16,0	7,4	-	1,0	-	4	■
170100.0-MEGA-64	02462691	2	E	10,0	10,0	10,0	65,0	22,0	9,4	0,18	-	-	4	■
170100R050.0-MEGA-64	02587629	2	E	10,0	10,0	10,0	65,0	22,0	9,4	-	0,5	-	4	■
170100R100.0-MEGA-64	02587630	2	E	10,0	10,0	10,0	65,0	22,0	9,4	-	1,0	-	4	■
170120.0-MEGA-64	02462692	2	E	12,0	12,0	12,0	75,0	27,0	11,4	0,2	-	-	4	■
170120R050.0-MEGA-64	02587631	2	E	12,0	12,0	12,0	75,0	27,0	11,4	-	0,5	-	4	■
170120R100.0-MEGA-64	02587632	2	E	12,0	12,0	12,0	75,0	27,0	11,4	-	1,0	-	4	■
170160.0-MEGA-64	02462693	2	E	16,0	16,0	16,0	80,0	29,0	15,4	0,3	-	-	4	■
170160R050.0-MEGA-64	02587633	2	E	16,0	16,0	16,0	80,0	29,0	15,4	-	0,5	-	4	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve cırp materyaller için

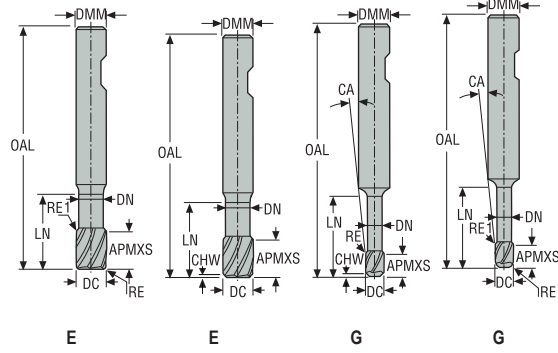
Grafit materyaller için

Minimaster Plus

Minimaster

## JHP170

Yüksek performans – Sertleştirilmiş çelik – Dik kenarlı – 3-4 Ağızlı – Weldon – Köşe radyüsü veya Köşesi pahlı



- Toleranslar:
- DMM= h5
- DC= -0,02/-0,04 mm
- CHW= Ø5-Ø4=+0,05 mm
- CHW= Ø5-Ø16= +0,1 mm
- RE= ±0,05 mm
- DC ≥ Ø6 ise tekrar bilenebilir



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	CHW	RE	CA	PCEDC	Weldon
				mm	mm	mm	mm	mm	mm	mm	mm			
170020-MEGA-64	02452924	2	G	2,0	6,0	2,0	50,0	4,0	1,9	0,08	-	14,5	3	■
170020R020.0-MEGA-64W	02669319	2	G	2,0	6,0	2,0	50,0	4,0	1,9	-	0,2	-	3	□
170020R050.0-MEGA-64W	02669320	2	G	2,0	6,0	2,0	50,0	4,0	1,9	-	0,5	-	3	□
170030-MEGA-64	02452925	2	G	3,0	6,0	3,0	50,0	6,0	2,8	0,08	-	9,0	3	■
170030R020.0-MEGA-64W	02669321	2	G	3,0	6,0	3,0	50,0	6,0	2,8	-	0,2	-	3	□
170030R050.0-MEGA-64W	02669322	2	G	3,0	6,0	3,0	50,0	6,0	2,8	-	0,5	-	3	□
170040-MEGA-64	02452927	2	G	4,0	6,0	4,0	50,0	8,0	3,7	0,1	-	5,5	4	■
170040R020.0-MEGA-64W	02669323	2	G	4,0	6,0	4,0	50,0	8,0	3,7	-	0,2	-	4	□
170040R050.0-MEGA-64W	02669324	2	G	4,0	6,0	4,0	50,0	8,0	3,7	-	0,5	-	4	□
170050-MEGA-64	02452928	2	G	5,0	6,0	5,0	50,0	10,0	4,6	0,12	-	2,5	4	■
170050R020.0-MEGA-64W	02669325	2	G	5,0	6,0	5,0	50,0	10,0	4,6	-	0,2	-	4	□
170050R050.0-MEGA-64W	02669326	2	G	5,0	6,0	5,0	50,0	10,0	4,6	-	0,5	-	4	□
170060-MEGA-64	02452929	2	E	6,0	6,0	6,0	50,0	11,5	5,6	0,14	-	-	4	■
170060R020.0-MEGA-64W	02669327	2	E	6,0	6,0	6,0	50,0	11,5	5,6	-	0,2	-	4	□
170060R050.0-MEGA-64W	02669328	2	E	6,0	6,0	6,0	50,0	11,5	5,6	-	0,5	-	4	□
170080-MEGA-64	02452930	2	E	8,0	8,0	8,0	55,0	16,0	7,4	0,16	-	-	4	■
170080R020.0-MEGA-64W	02669329	2	E	8,0	8,0	8,0	55,0	16,0	7,4	-	0,2	-	4	□
170080R050.0-MEGA-64W	02669331	2	E	8,0	8,0	8,0	55,0	16,0	7,4	-	0,5	-	4	□
170080R100.0-MEGA-64W	02669332	2	E	8,0	8,0	8,0	55,0	16,0	7,4	-	1,0	-	4	□
170100-MEGA-64	02452931	2	E	10,0	10,0	10,0	65,0	22,0	9,4	0,18	-	-	4	■
170100R050.0-MEGA-64W	02669333	2	E	10,0	10,0	10,0	65,0	22,0	9,4	-	0,5	-	4	□
170100R100.0-MEGA-64W	02669334	2	E	10,0	10,0	10,0	65,0	22,0	9,4	-	1,0	-	4	□
170120-MEGA-64	02452932	2	E	12,0	12,0	12,0	75,0	27,0	11,4	0,2	-	-	4	■
170120R050.0-MEGA-64W	02669335	2	E	12,0	12,0	12,0	75,0	27,0	11,4	-	0,5	-	4	□
170120R100.0-MEGA-64W	02669336	2	E	12,0	12,0	12,0	75,0	27,0	11,4	-	1,0	-	4	□
170160-MEGA-64	02452933	2	E	16,0	16,0	16,0	80,0	29,0	15,4	0,3	-	-	4	■
170160R050.0-MEGA-64W	02669337	2	E	16,0	16,0	16,0	80,0	29,0	15,4	-	0,5	-	4	□
170200R050-MEGA-64	02611637	2	E	20,0	20,0	20,0	100,0	40,0	19,2	-	0,5	-	4	■

■ Stoklu standart ürün. □ Weldon mevcut. Teslimat süresi 3 iş günüdür.

Kesme verileri – JHP170 Kenar frezeleme

SMG		a <sub>e</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>										v <sub>c</sub>
				2	3	4	5	6	8	10	12	16	20	
H3	M	0.150	0.60	0.0055	0.0085	0.011	0.014	0.017	0.022	0.028	0.034	0.042	0.048	29 (22 – 35)
		0,150	0,60	0,00022	0,00034	0,00044	0,00055	0,00065	0,00085	0,0011	0,0013	0,0017	0,0019	95 (73 – 110)
H5	M	0.300	0.80	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.090	0.10	60 (56 – 68)
		0,300	0,80	0,00048	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	0,0036	0,0040	195 (190 – 220)
H7	M	0.150	0.60	0.0055	0.0085	0.011	0.014	0.017	0.022	0.028	0.034	0.042	0.048	29 (22 – 35)
		0,150	0,60	0,00022	0,00034	0,00044	0,00055	0,00065	0,00085	0,0011	0,0013	0,0017	0,0019	95 (73 – 110)
H8	M	0.300	0.80	0.0090	0.014	0.018	0.022	0.028	0.036	0.046	0.055	0.065	0.080	65 (59 – 71)
		0,300	0,80	0,00036	0,00055	0,00070	0,00085	0,0011	0,0014	0,0018	0,0022	0,0026	0,0032	215 (200 – 230)
H11	M	0.300	0.80	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.090	0.10	80 (71 – 86)
		0,300	0,80	0,00048	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	0,0036	0,0040	260 (240 – 280)
H12	M	0.300	0.80	0.0090	0.014	0.018	0.022	0.028	0.036	0.046	0.055	0.065	0.080	75 (69 – 83)
		0,300	0,80	0,00036	0,00055	0,00070	0,00085	0,0011	0,0014	0,0018	0,0022	0,0026	0,0032	245 (230 – 270)
H21	M	0.300	0.80	0.0090	0.014	0.018	0.022	0.028	0.036	0.046	0.055	0.065	0.080	65 (59 – 71)
		0,300	0,80	0,00036	0,00055	0,00070	0,00085	0,0011	0,0014	0,0018	0,0022	0,0026	0,0032	215 (200 – 230)
H31	M	0.300	0.80	0.012	0.018	0.024	0.030	0.036	0.048	0.060	0.070	0.090	0.10	60 (56 – 68)
		0,300	0,80	0,00048	0,00070	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	0,0036	0,0040	195 (190 – 220)

Kesme verileri – JHP170 Kanal açma

SMG		a <sub>p</sub> /DC	f <sub>z</sub>										v <sub>c</sub>	
			2	3	4	5	6	8	10	12	16	20		
H3	M	0.40	0.0040	0.0060	0.0080	0.010	0.012	0.016	0.020	0.024	0.030	0.034	0.034	20 (16 – 25)
		0,40	0,00016	0,00024	0,00032	0,00040	0,00048	0,00065	0,00080	0,00095	0,0012	0,0013	0,0013	65 (53 – 82)
H5	M	0.60	0.0080	0.012	0.016	0.020	0.025	0.032	0.040	0.050	0.065	0.080	0.080	50 (46 – 55)
		0,60	0,00032	0,00048	0,00065	0,00080	0,0010	0,0013	0,0016	0,0020	0,0026	0,0032	0,0032	165 (160 – 180)
H7	M	0.40	0.0040	0.0060	0.0080	0.010	0.012	0.016	0.020	0.024	0.030	0.034	0.034	20 (16 – 25)
		0,40	0,00016	0,00024	0,00032	0,00040	0,00048	0,00065	0,00080	0,00095	0,0012	0,0013	0,0013	65 (53 – 82)
H8	M	0.60	0.0080	0.012	0.016	0.020	0.025	0.032	0.040	0.050	0.060	0.070	0.070	50 (46 – 55)
		0,60	0,00032	0,00048	0,00065	0,00080	0,0010	0,0013	0,0016	0,0020	0,0024	0,0028	0,0028	165 (160 – 180)
H11	M	0.60	0.0080	0.012	0.016	0.020	0.025	0.032	0.040	0.050	0.065	0.080	0.080	65 (58 – 70)
		0,60	0,00032	0,00048	0,00065	0,00080	0,0010	0,0013	0,0016	0,0020	0,0026	0,0032	0,0032	215 (200 – 220)
H12	M	0.60	0.0080	0.012	0.016	0.020	0.025	0.032	0.040	0.050	0.060	0.070	0.070	60 (53 – 64)
		0,60	0,00032	0,00048	0,00065	0,00080	0,0010	0,0013	0,0016	0,0020	0,0024	0,0028	0,0028	195 (180 – 200)
H21	M	0.60	0.0080	0.012	0.016	0.020	0.025	0.032	0.040	0.050	0.060	0.070	0.070	50 (46 – 55)
		0,60	0,00032	0,00048	0,00065	0,00080	0,0010	0,0013	0,0016	0,0020	0,0024	0,0028	0,0028	165 (160 – 180)
H31	M	0.60	0.0080	0.012	0.016	0.020	0.025	0.032	0.040	0.050	0.065	0.080	0.080	50 (46 – 55)
		0,60	0,00032	0,00048	0,00065	0,00080	0,0010	0,0013	0,0016	0,0020	0,0026	0,0032	0,0032	165 (160 – 180)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)

f<sub>z</sub> = mm (inç/ağız)

a<sub>p</sub> mm/DC (inç/DC) = faktör

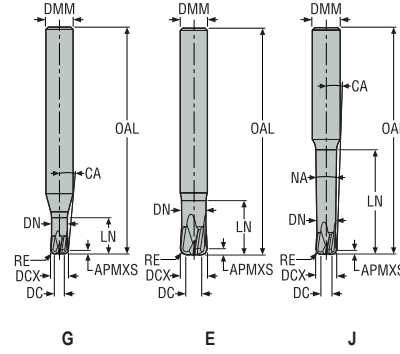
a<sub>e</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

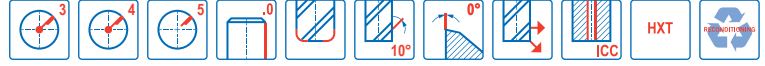
Üniversal  
Çelik ve dökme demir  
Paslanmaz çelik ve S iş parçası malzemeleri  
Demir içermeyen malzemeler  
Sertleştirilmiş çelik için  
Plastik ve cırp malzemeler için  
Grafit malzeme için  
Minimaster Plus  
Minimaster

## JHF181

Yüksek ilerlemeli – Sertleştirilmiş çelik – Dik kenarlı – 3-5 Ağzılı – Silindirik – Köşe radyüsü – ICC



- Toleranslar:
- DMM=h5
- DC=-0,02/-0,04 mm
- RE= ±0,01 mm
- DC ≥ Ø6 ise tekrar bilenebilir



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	ICC (İçten soğutma sıvısı kanalı)	DCX	DC	DMM	APMXS	OAL	LN	DN	NA	RE	CA	PCEDC	Silindirik
					mm	mm	mm	mm	mm	mm	mm	mm	mm			
JHF181020G1R050.0Z4-HXT	03067297	1	G	-	2,0	1,0	6,0	0,5	50,0	4,0	1,8	15,0	0,5	10,0	4	■
JHF181030G1R075.0Z4-HXT	03067298	1	G	-	3,0	1,5	6,0	0,75	50,0	6,0	2,7	15,0	0,75	7,5	4	■
JHF181040G1R100.0Z4-HXT	03067299	1	G	-	4,0	2,0	6,0	1,0	50,0	8,0	3,6	15,0	1,0	5,0	4	■
JHF181060E1R150.0Z4-HXT	03067300	1	E	-	6,0	3,0	6,0	1,5	50,0	12,0	5,4	0,0	1,5	-	4	■
JHF181080E1R200.0Z4-HXT	03067301	1	E	-	8,0	4,0	8,0	2,0	55,0	16,0	7,3	0,0	2,0	-	4	■
JHF181100E1R200.0Z4-HXT	03067302	1	E	-	10,0	6,0	10,0	2,0	65,0	20,0	9,2	0,0	2,0	-	4	■
JHF181100E1R200.0Z5-HXT	03067303	1	E	-	10,0	6,0	10,0	2,0	65,0	20,0	9,2	0,0	2,0	-	5	■
JHF181120E1R300.0Z4-HXT	03067304	1	E	-	12,0	6,0	12,0	3,0	75,0	24,0	11,0	0,0	3,0	-	4	■
JHF181120E1R300.0Z5-HXT	03067305	1	E	-	12,0	6,0	12,0	3,0	75,0	24,0	11,0	0,0	3,0	-	5	■
JHF181160E1R300.0Z4-HXT	03067306	1	E	-	16,0	10,0	16,0	3,0	80,0	32,0	14,8	0,0	3,0	-	4	■
JHF181020G2R050.0Z4-HXT	03067307	2	G	-	2,0	1,0	6,0	0,5	50,0	8,0	1,8	15,0	0,5	7,5	4	■
JHF181030G2R075.0Z4-HXT	03067308	2	G	-	3,0	1,5	6,0	0,75	50,0	12,0	2,7	15,0	0,75	5,0	4	■
JHF181040G2R100.0Z4-HXT	03067309	2	G	-	4,0	2,0	6,0	1,0	50,0	16,0	3,6	15,0	1,0	3,0	4	■
JHF181060E2R150.0Z4A-HXT	03067311	2	E	■	6,0	3,0	6,0	1,5	65,0	24,0	5,4	0,0	1,5	-	4	■
JHF181060E2R150.0Z4-HXT	03067310	2	E	-	6,0	3,0	6,0	1,5	65,0	24,0	5,4	0,0	1,5	-	4	■
JHF181080E2R200.0Z4A-HXT	03067313	2	E	■	8,0	4,0	8,0	2,0	70,0	32,0	7,3	0,0	2,0	-	4	■
JHF181080E2R200.0Z4-HXT	03067312	2	E	-	8,0	4,0	8,0	2,0	70,0	32,0	7,3	0,0	2,0	-	4	■
JHF181100E2R200.0Z4A-HXT	03067315	2	E	■	10,0	6,0	10,0	2,0	85,0	40,0	9,2	0,0	2,0	-	4	■
JHF181100E2R200.0Z4-HXT	03067314	2	E	-	10,0	6,0	10,0	2,0	85,0	40,0	9,2	0,0	2,0	-	4	■
JHF181120E2R300.0Z4A-HXT	03067317	2	E	■	12,0	6,0	12,0	3,0	100,0	48,0	11,0	0,0	3,0	-	4	■
JHF181120E2R300.0Z4-HXT	03067316	2	E	-	12,0	6,0	12,0	3,0	100,0	48,0	11,0	0,0	3,0	-	4	■
JHF181020J3R050.0Z4-HXT	03067318	3	J	-	2,0	1,0	6,0	0,5	50,0	10,0	1,8	0,9	0,5	6,8	4	■
JHF181030J3R075.0Z4-HXT	03067319	3	J	-	3,0	1,5	6,0	0,75	50,0	15,0	2,7	0,9	0,75	4,4	4	■
JHF181040J3R100.0Z4-HXT	03067320	3	J	-	4,0	2,0	6,0	1,0	60,0	20,0	3,6	0,9	1,0	2,6	4	■
JHF181060J3R150.0Z4-HXT	03067321	3	J	-	6,0	3,0	8,0	1,5	65,0	30,0	5,4	0,9	1,5	1,9	4	■
JHF181080J3R200.0Z4-HXT	03067325	3	J	-	8,0	4,0	10,0	2,0	85,0	40,0	7,3	0,9	2,0	1,5	4	■
JHF181100J3R200.0Z4-HXT	03067327	3	J	-	10,0	6,0	12,0	2,0	100,0	50,0	9,2	0,9	2,0	1,2	4	■
JHF181020J4R050.0Z3-HXT	03067329	4	J	-	2,0	1,0	6,0	0,5	50,0	14,0	1,8	0,9	0,5	5,6	3	■
JHF181030J4R075.0Z3-HXT	03067330	4	J	-	3,0	1,5	6,0	0,75	60,0	21,0	2,7	0,9	0,75	3,4	3	■
JHF181040J4R100.0Z3-HXT	03067331	4	J	-	4,0	2,0	6,0	1,0	65,0	28,0	3,6	0,9	1,0	2,0	3	■
JHF181060J4R150.0Z3-HXT	03067332	4	J	-	6,0	3,0	8,0	1,5	80,0	42,0	5,4	0,9	1,5	1,4	3	■
JHF181080J4R200.0Z3-HXT	03067333	4	J	-	8,0	4,0	10,0	2,0	100,0	56,0	7,3	0,9	2,0	1,1	3	■
JHF181100J4R200.0Z3-HXT	03067334	4	J	-	10,0	6,0	12,0	2,0	125,0	70,0	9,2	0,9	2,0	0,9	3	■

■ Stoklu standart ürün.



## Kesme verileri – JHF181 Finiş kenar frezeleme

SMG		$a_e/DCX$	$a_p/DCX$	$f_z$								$v_c$
				2	3	4	6	8	10	12	16	
P6	E/M/A	0.30	0.040	0.070	0.10	0.14	0.20	0.28	0.34	0.40	0.55	305 (290 – 320)
		0,30	0,040	0,0028	0,0040	0,0055	0,0080	0,011	0,013	0,016	0,022	1000 (960 – 1000)
P7	E/M/A	0.30	0.040	0.070	0.10	0.14	0.20	0.28	0.34	0.40	0.55	290 (270 – 300)
		0,30	0,040	0,0028	0,0040	0,0055	0,0080	0,011	0,013	0,016	0,022	950 (890 – 980)
P8	E/M/A	0.30	0.040	0.070	0.10	0.14	0.20	0.28	0.34	0.40	0.55	270 (260 – 290)
		0,30	0,040	0,0028	0,0040	0,0055	0,0080	0,011	0,013	0,016	0,022	890 (860 – 950)
P11	E/M/A	0.30	0.040	0.070	0.10	0.14	0.20	0.28	0.34	0.40	0.55	280 (270 – 290)
		0,30	0,040	0,0028	0,0040	0,0055	0,0080	0,011	0,013	0,016	0,022	920 (890 – 950)
K1	E/M/A	0.30	0.040	0.070	0.10	0.14	0.20	0.28	0.34	0.40	0.55	210 (190 – 240)
		0,30	0,040	0,0028	0,0040	0,0055	0,0080	0,011	0,013	0,016	0,022	690 (630 – 780)
K2	E/M/A	0.30	0.040	0.070	0.10	0.14	0.20	0.28	0.34	0.40	0.55	185 (160 – 200)
		0,30	0,040	0,0028	0,0040	0,0055	0,0080	0,011	0,013	0,016	0,022	610 (530 – 650)
K3	E/M/A	0.30	0.040	0.070	0.10	0.14	0.20	0.28	0.34	0.40	0.55	155 (140 – 170)
		0,30	0,040	0,0028	0,0040	0,0055	0,0080	0,011	0,013	0,016	0,022	510 (460 – 550)
K4	E/M/A	0.30	0.040	0.070	0.10	0.14	0.20	0.28	0.34	0.40	0.55	150 (130 – 160)
		0,30	0,040	0,0028	0,0040	0,0055	0,0080	0,011	0,013	0,016	0,022	490 (430 – 520)
K5	E/M/A	0.30	0.040	0.050	0.080	0.10	0.16	0.20	0.26	0.32	0.42	150 (120 – 170)
		0,30	0,040	0,0020	0,0032	0,0040	0,0065	0,0080	0,010	0,013	0,017	490 (400 – 550)
K6	E/M/A	0.30	0.040	0.050	0.080	0.10	0.16	0.20	0.26	0.32	0.42	220 (180 – 260)
		0,30	0,040	0,0020	0,0032	0,0040	0,0065	0,0080	0,010	0,013	0,017	720 (600 – 850)
K7	E/M/A	0.30	0.040	0.050	0.080	0.10	0.16	0.20	0.26	0.32	0.42	190 (160 – 220)
		0,30	0,040	0,0020	0,0032	0,0040	0,0065	0,0080	0,010	0,013	0,017	620 (530 – 720)
S1	E	0.18	0.014	0.025	0.038	0.050	0.075	0.10	0.13	0.15	0.19	60 (40 – 79)
		0,18	0,014	0,0010	0,0015	0,0020	0,0030	0,0040	0,0050	0,0060	0,0075	195 (140 – 250)
S2	E	0.18	0.014	0.025	0.038	0.050	0.075	0.10	0.13	0.15	0.19	48 (33 – 64)
		0,18	0,014	0,0010	0,0015	0,0020	0,0030	0,0040	0,0050	0,0060	0,0075	155 (110 – 200)
S3	E	0.18	0.014	0.024	0.036	0.048	0.070	0.095	0.12	0.14	0.17	42 (28 – 55)
		0,18	0,014	0,00095	0,0014	0,0019	0,0028	0,0038	0,0048	0,0055	0,0065	140 (92 – 180)
S11	E	0.18	0.034	0.036	0.055	0.070	0.11	0.14	0.18	0.22	0.26	200 (180 – 220)
		0,18	0,034	0,0014	0,0022	0,0028	0,0044	0,0055	0,0070	0,0085	0,010	660 (600 – 720)
S12	E	0.18	0.034	0.036	0.055	0.070	0.11	0.14	0.18	0.22	0.26	155 (140 – 170)
		0,18	0,034	0,0014	0,0022	0,0028	0,0044	0,0055	0,0070	0,0085	0,010	510 (460 – 550)
S13	E	0.18	0.034	0.032	0.046	0.065	0.095	0.13	0.16	0.18	0.24	125 (110 – 130)
		0,18	0,034	0,0013	0,0018	0,0026	0,0038	0,0050	0,0065	0,0070	0,0095	410 (370 – 420)
H3	M/A/D	0.30	0.020	0.050	0.080	0.10	0.16	0.20	0.26	0.32	0.42	85 (73 – 96)
		0,30	0,020	0,0020	0,0032	0,0040	0,0065	0,0080	0,010	0,013	0,017	280 (240 – 310)
H5	M/A/D	0.30	0.040	0.070	0.10	0.14	0.20	0.28	0.34	0.40	0.55	165 (150 – 180)
		0,30	0,040	0,0028	0,0040	0,0055	0,0080	0,011	0,013	0,016	0,022	540 (500 – 590)
H7	M/A/D	0.30	0.020	0.050	0.080	0.10	0.16	0.20	0.26	0.32	0.42	85 (73 – 96)
		0,30	0,020	0,0020	0,0032	0,0040	0,0065	0,0080	0,010	0,013	0,017	280 (240 – 310)
H8	M/A/D	0.30	0.040	0.070	0.10	0.14	0.20	0.28	0.34	0.40	0.55	165 (150 – 180)
		0,30	0,040	0,0028	0,0040	0,0055	0,0080	0,011	0,013	0,016	0,022	540 (500 – 590)
H11	M/A/D	0.30	0.040	0.070	0.10	0.14	0.20	0.28	0.34	0.40	0.55	210 (190 – 230)
		0,30	0,040	0,0028	0,0040	0,0055	0,0080	0,011	0,013	0,016	0,022	690 (630 – 750)
H12	M/A/D	0.30	0.040	0.070	0.10	0.14	0.20	0.28	0.34	0.40	0.55	190 (180 – 210)
		0,30	0,040	0,0028	0,0040	0,0055	0,0080	0,011	0,013	0,016	0,022	620 (600 – 680)
H21	M/A/D	0.30	0.040	0.070	0.10	0.14	0.20	0.28	0.34	0.40	0.55	165 (150 – 180)
		0,30	0,040	0,0028	0,0040	0,0055	0,0080	0,011	0,013	0,016	0,022	540 (500 – 590)
H31	M/A/D	0.30	0.040	0.070	0.10	0.14	0.20	0.28	0.34	0.40	0.55	125 (120 – 130)
		0,30	0,040	0,0028	0,0040	0,0055	0,0080	0,011	0,013	0,016	0,022	410 (400 – 420)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

 $v_c = m/dak$  (sf/dak) $f_z = mm$  (inç/ağız) $a_p$  mm/DC (inç/DC) = faktör $a_e$  mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeleri için

Grafit malzeme için

Minimaster Plus

Minimaster

Kesme verileri – JHF181 Kanal açma

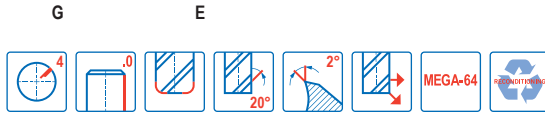
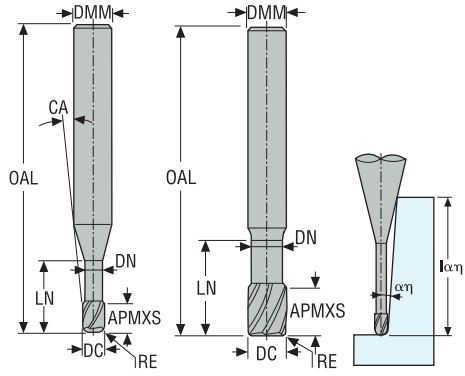
SMG	a <sub>p</sub> /DCX	f <sub>z</sub>									v <sub>c</sub>
		2	3	4	6	8	10	12	16		
P6	E/M/A 0,040	0,040 0,0017	0,042 0,0026	0,065 0,0034	0,085 0,0050	0,13 0,0065	0,17 0,0080	0,20 0,010	0,25 0,013	0,34 0,013	270 (260 – 280) 890 (860 – 910)
P7	E/M/A 0,040	0,040 0,0017	0,042 0,0026	0,065 0,0034	0,085 0,0050	0,13 0,0065	0,17 0,0080	0,20 0,010	0,25 0,013	0,34 0,013	255 (240 – 270) 840 (790 – 880)
P8	E/M/A 0,040	0,040 0,0017	0,042 0,0026	0,065 0,0034	0,085 0,0050	0,13 0,0065	0,17 0,0080	0,20 0,010	0,25 0,013	0,34 0,013	240 (230 – 250) 790 (760 – 820)
P11	E/M/A 0,040	0,040 0,0017	0,042 0,0026	0,065 0,0034	0,085 0,0050	0,13 0,0065	0,17 0,0080	0,20 0,010	0,25 0,013	0,34 0,013	250 (240 – 260) 820 (790 – 850)
K1	E/M/A 0,040	0,040 0,0017	0,042 0,0026	0,065 0,0034	0,085 0,0050	0,13 0,0065	0,17 0,0080	0,20 0,010	0,25 0,013	0,34 0,013	185 (170 – 210) 610 (560 – 680)
K2	E/M/A 0,040	0,040 0,0017	0,042 0,0026	0,065 0,0034	0,085 0,0050	0,13 0,0065	0,17 0,0080	0,20 0,010	0,25 0,013	0,34 0,013	160 (140 – 180) 520 (460 – 590)
K3	E/M/A 0,040	0,040 0,0017	0,042 0,0026	0,065 0,0034	0,085 0,0050	0,13 0,0065	0,17 0,0080	0,20 0,010	0,25 0,013	0,34 0,013	135 (120 – 150) 445 (400 – 490)
K4	E/M/A 0,040	0,040 0,0017	0,042 0,0026	0,065 0,0034	0,085 0,0050	0,13 0,0065	0,17 0,0080	0,20 0,010	0,25 0,013	0,34 0,013	130 (120 – 140) 425 (400 – 450)
K5	E/M/A 0,040	0,040 0,0012	0,030 0,0018	0,046 0,0024	0,060 0,0036	0,090 0,0048	0,12 0,0060	0,15 0,0070	0,18 0,0095	0,24 0,0095	130 (110 – 150) 425 (370 – 490)
K6	E/M/A 0,040	0,040 0,0012	0,030 0,0018	0,046 0,0024	0,060 0,0036	0,090 0,0048	0,12 0,0060	0,15 0,0070	0,18 0,0095	0,24 0,0095	195 (160 – 230) 640 (530 – 750)
K7	E/M/A 0,040	0,040 0,0012	0,030 0,0018	0,046 0,0024	0,060 0,0036	0,090 0,0048	0,12 0,0060	0,15 0,0070	0,18 0,0095	0,24 0,0095	170 (140 – 200) 560 (460 – 650)
S1	E 0,014	0,0090 0,00036	0,014 0,00055	0,018 0,00070	0,028 0,0011	0,036 0,0014	0,046 0,0018	0,055 0,0022	0,070 0,0028	0,070 0,0028	48 (33 – 64) 155 (110 – 200)
S2	E 0,014	0,0090 0,00036	0,014 0,00055	0,018 0,00070	0,028 0,0011	0,036 0,0014	0,046 0,0018	0,055 0,0022	0,070 0,0028	0,070 0,0028	39 (26 – 51) 130 (86 – 160)
S3	E 0,014	0,0090 0,00036	0,014 0,00055	0,018 0,00070	0,028 0,0011	0,036 0,0014	0,046 0,0018	0,055 0,0022	0,070 0,0028	0,070 0,0028	33 (23 – 44) 110 (76 – 140)
S11	E 0,034	0,011 0,00044	0,017 0,00065	0,022 0,00085	0,034 0,0013	0,046 0,0018	0,055 0,0022	0,070 0,0028	0,090 0,0036	0,090 0,0036	170 (150 – 190) 560 (500 – 620)
S12	E 0,034	0,011 0,00044	0,017 0,00065	0,022 0,00085	0,034 0,0013	0,046 0,0018	0,055 0,0022	0,070 0,0028	0,090 0,0036	0,090 0,0036	130 (120 – 140) 425 (400 – 450)
S13	E 0,034	0,011 0,00044	0,017 0,00065	0,022 0,00085	0,034 0,0013	0,046 0,0018	0,055 0,0022	0,070 0,0028	0,090 0,0036	0,090 0,0036	100 (89 – 110) 330 (300 – 360)
H3	M/A/D 0,020	0,034 0,0013	0,050 0,0020	0,070 0,0028	0,10 0,0040	0,14 0,0055	0,17 0,0065	0,20 0,0080	0,28 0,011	0,28 0,011	75 (63 – 83) 245 (210 – 270)
H5	M/A/D 0,040	0,042 0,0017	0,065 0,0026	0,085 0,0034	0,13 0,0050	0,17 0,0065	0,20 0,0080	0,25 0,010	0,34 0,013	0,34 0,013	145 (130 – 160) 475 (430 – 520)
H7	M/A/D 0,020	0,034 0,0013	0,050 0,0020	0,070 0,0028	0,10 0,0040	0,14 0,0055	0,17 0,0065	0,20 0,0080	0,28 0,011	0,28 0,011	75 (63 – 83) 245 (210 – 270)
H8	M/A/D 0,040	0,042 0,0017	0,065 0,0026	0,085 0,0034	0,13 0,0050	0,17 0,0065	0,20 0,0080	0,25 0,010	0,34 0,013	0,34 0,013	145 (130 – 160) 475 (430 – 520)
H11	M/A/D 0,040	0,042 0,0017	0,065 0,0026	0,085 0,0034	0,13 0,0050	0,17 0,0065	0,20 0,0080	0,25 0,010	0,34 0,013	0,34 0,013	185 (170 – 200) 610 (560 – 650)
H12	M/A/D 0,040	0,042 0,0017	0,065 0,0026	0,085 0,0034	0,13 0,0050	0,17 0,0065	0,20 0,0080	0,25 0,010	0,34 0,013	0,34 0,013	170 (160 – 180) 560 (530 – 590)
H21	M/A/D 0,040	0,042 0,0017	0,065 0,0026	0,085 0,0034	0,13 0,0050	0,17 0,0065	0,20 0,0080	0,25 0,010	0,34 0,013	0,34 0,013	145 (130 – 160) 475 (430 – 520)
H31	M/A/D 0,040	0,042 0,0017	0,065 0,0026	0,085 0,0034	0,13 0,0050	0,17 0,0065	0,20 0,0080	0,25 0,010	0,34 0,013	0,34 0,013	110 (98 – 120) 360 (330 – 390)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu  
Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama  
v<sub>c</sub> = m/dak (sf/dak)  
f<sub>z</sub> = mm (inç/ağız)  
a<sub>p</sub> mm/DC (inç/DC) = faktör  
a<sub>e</sub> = mm/DC (inç/DC) = faktör  
Tüm kesme verileri hedef değerlerdir

JH120

Yüksek hız – Sertleştirilmiş çelik – Dik kenarlı – 4 Ağızlı – Silindirik – Köşe radyüsü



- Toleranslar:
- DMM=h5
- DC=-0,02/-0,03 mm
- RE= ±0,01 mm
- DC ≥ Ø6 ise tekrar bilenebilir



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	CA	PCEDC	WDX0	WDX05	WDX1	WDX15	WDX2	WDX3	Silindirik
				mm	mm	mm	mm	mm	mm	mm									
120020-MEGA-64	00019437	2	G	2,0	6,0	2,5	50,0	5,0	1,9	0,2	10,5	4	5,0	5,4	5,6	5,7	5,9	6,2	■
120025-MEGA-64	00019448	2	G	2,5	6,0	3,0	50,0	6,0	2,4	0,25	8,5	4	6,0	6,4	6,6	6,8	7,0	7,5	■
120030-MEGA-64	00019450	2	G	3,0	6,0	4,0	50,0	7,0	2,8	0,3	7,0	4	7,0	7,7	8,0	8,2	8,5	9,2	■
120035-MEGA-64	00019460	2	G	3,5	6,0	4,5	50,0	8,0	3,2	0,35	5,5	4	8,0	9,0	9,3	9,7	10,0	10,9	■
120040-MEGA-64	00019462	2	G	4,0	6,0	5,0	50,0	9,0	3,7	0,4	4,5	4	9,0	10,0	10,4	10,8	11,2	12,2	■
120050-MEGA-64	00019476	2	G	5,0	6,0	6,0	50,0	12,0	4,6	0,5	2,5	4	12,0	13,0	13,4	13,7	14,1	14,9	■
120060-MEGA-64	00019479	2	E	6,0	6,0	7,0	55,0	14,0	5,6	0,6	-	4	14,0	-	-	-	-	-	■
120080-MEGA-64	00019481	2	E	8,0	8,0	10,0	60,0	18,0	7,4	0,8	-	4	18,0	-	-	-	-	-	■
120100-MEGA-64	00019494	2	E	10,0	10,0	12,0	70,0	25,0	9,4	1,0	-	4	25,0	-	-	-	-	-	■
120120-MEGA-64	00019501	2	E	12,0	12,0	15,0	80,0	30,0	11,4	1,2	-	4	30,0	-	-	-	-	-	■
120160-MEGA-64	00019503	2	E	16,0	16,0	18,0	90,0	35,0	15,4	1,6	-	4	35,0	-	-	-	-	-	■

■ Stoklu standart ürün.

WDX değerleri için: αη'ye bağlı maks. kesme derinliği (lαη, ref)\*

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

Kesme verileri – JH120 Kenar frezeleme

SMG		a <sub>e</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>											v <sub>c</sub>
				2	2.5	3	3.5	4	5	6	8	10	12	16	
H3	M	0.0150	0.50	0.0095	0.012	0.014	0.016	0.019	0.024	0.028	0.038	0.048	0.055	0.070	90 (57–130)
		0,0150	0,50	0,00038	0,00048	0,00055	0,00065	0,00075	0,00095	0,0011	0,0015	0,0019	0,0022	0,0028	295 (190—420)
H5	M	0.0300	1.0	0.012	0.015	0.018	0.020	0.024	0.030	0.036	0.048	0.060	0.070	0.095	215 (180—250)
		0,0300	1,0	0,00048	0,00060	0,00070	0,00080	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	0,0038	710 (600—820)
H7	M	0.0150	0.50	0.0095	0.012	0.014	0.016	0.019	0.024	0.028	0.038	0.048	0.055	0.070	90 (57–130)
		0,0150	0,50	0,00038	0,00048	0,00055	0,00065	0,00075	0,00095	0,0011	0,0015	0,0019	0,0022	0,0028	295 (190—420)
H8	M	0.0300	1.0	0.012	0.015	0.018	0.020	0.024	0.030	0.036	0.048	0.060	0.070	0.095	215 (180—250)
		0,0300	1,0	0,00048	0,00060	0,00070	0,00080	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	0,0038	710 (600—820)
H11	M	0.0300	1.0	0.012	0.015	0.018	0.020	0.024	0.030	0.036	0.048	0.060	0.070	0.095	275 (230—320)
		0,0300	1,0	0,00048	0,00060	0,00070	0,00080	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	0,0038	900 (760—1000)
H12	M	0.0300	1.0	0.012	0.015	0.018	0.020	0.024	0.030	0.036	0.048	0.060	0.070	0.095	250 (210—290)
		0,0300	1,0	0,00048	0,00060	0,00070	0,00080	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	0,0038	820 (690—950)
H21	M	0.0300	1.0	0.012	0.015	0.018	0.020	0.024	0.030	0.036	0.048	0.060	0.070	0.095	215 (180—250)
		0,0300	1,0	0,00048	0,00060	0,00070	0,00080	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	0,0038	710 (600—820)
H31	M	0.0300	1.0	0.012	0.015	0.018	0.020	0.024	0.030	0.036	0.048	0.060	0.070	0.095	135 (120—150)
		0,0300	1,0	0,00048	0,00060	0,00070	0,00080	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	0,0038	445 (400—490)

Kesme verileri – JH120 Kanal açma

SMG		a <sub>p</sub> /DC	f <sub>z</sub>											v <sub>c</sub>
			2	2.5	3	3.5	4	5	6	8	10	12	16	
H3	M	0.050	0.0050	0.0065	0.0075	0.0090	0.010	0.013	0.015	0.020	0.025	0.030	0.038	55 (34–78)
		0,050	0,00020	0,00026	0,00030	0,00036	0,00040	0,00050	0,00060	0,00080	0,0010	0,0012	0,0015	180 (120—250)
H5	M	0.18	0.0080	0.010	0.012	0.014	0.016	0.020	0.024	0.032	0.040	0.048	0.060	120 (98–140)
		0,18	0,00032	0,00040	0,00048	0,00055	0,00065	0,00080	0,00095	0,0013	0,0016	0,0019	0,0024	395 (330—450)
H7	M	0.050	0.0050	0.0065	0.0075	0.0090	0.010	0.013	0.015	0.020	0.025	0.030	0.038	55 (34–78)
		0,050	0,00020	0,00026	0,00030	0,00036	0,00040	0,00050	0,00060	0,00080	0,0010	0,0012	0,0015	180 (120—250)
H8	M	0.18	0.0060	0.0075	0.0090	0.011	0.012	0.015	0.018	0.025	0.030	0.036	0.044	125 (110–140)
		0,18	0,00024	0,00030	0,00036	0,00044	0,00048	0,00060	0,00070	0,0010	0,0012	0,0014	0,0017	410 (370—450)
H11	M	0.18	0.0080	0.010	0.012	0.014	0.016	0.020	0.024	0.032	0.040	0.048	0.060	150 (130–170)
		0,18	0,00032	0,00040	0,00048	0,00055	0,00065	0,00080	0,00095	0,0013	0,0016	0,0019	0,0024	490 (430—550)
H12	M	0.18	0.0060	0.0075	0.0090	0.011	0.012	0.015	0.018	0.025	0.030	0.036	0.044	145 (120–170)
		0,18	0,00024	0,00030	0,00036	0,00044	0,00048	0,00060	0,00070	0,0010	0,0012	0,0014	0,0017	475 (400—550)
H21	M	0.18	0.0060	0.0075	0.0090	0.011	0.012	0.015	0.018	0.025	0.030	0.036	0.044	125 (110–140)
		0,18	0,00024	0,00030	0,00036	0,00044	0,00048	0,00060	0,00070	0,0010	0,0012	0,0014	0,0017	410 (370—450)
H31	M	0.18	0.0055	0.0065	0.0080	0.0090	0.011	0.013	0.016	0.022	0.026	0.032	0.038	80 (70—92)
		0,18	0,00022	0,00026	0,00032	0,00036	0,00044	0,00050	0,00065	0,00085	0,0010	0,0013	0,0015	260 (230—300)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)

f<sub>z</sub> = mm (inç/ağız)

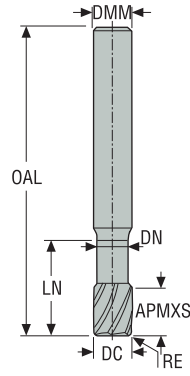
a<sub>p</sub> mm/DC (inç/DC) = faktör

a<sub>e</sub> = mm/DC (inç/DC) = faktör

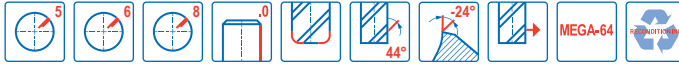
Tüm kesme verileri hedef değerlerdir

## JH130

Yüksek hız – Sertleştirilmiş çelik – Dik kenarlı – 5-8 Ağızlı – Silindirik – Köşe radyüsü



E



- Toleranslar:
- DMM=h5
- DC=-0,02/-0,04 mm
- RE= ±0,05 mm
- Tekrar bilenebilir



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm	mm		
130060-MEGA-64	00019504	2	E	6,0	6,0	6,0	55,0	12,0	5,6	0,2	5	■
130080-MEGA-64	00019507	2	E	8,0	8,0	8,0	60,0	16,0	7,4	0,2	5	■
130100-MEGA-64	00019511	2	E	10,0	10,0	10,0	70,0	20,0	9,4	0,3	6	■
130120-MEGA-64	00019512	2	E	12,0	12,0	12,0	80,0	24,0	11,4	0,5	6	■
130160-MEGA-64	00019514	2	E	16,0	16,0	16,0	90,0	30,0	15,4	0,5	8	■
130200-MEGA-64	00019542	2	E	20,0	20,0	20,0	100,0	35,0	19,2	0,5	8	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve diğer materyaller için

Grafit materyaller için

Minimaster Plus

Minimaster

Kesme verileri – JH130 Finiş kenar frezeleme

SMG		a <sub>e</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>						v <sub>c</sub>
				6	8	10	12	16	20	
H3	M	0.0300	0.50	0.013	0.018	0.022	0.026	0.032	0.038	85 (73 — 93)
		0,0300	0,50	0,00050	0,00070	0,00085	0,0010	0,0013	0,0015	280 (240 — 300)
H5	M	0.0300	1.0	0.032	0.042	0.050	0.060	0.075	0.090	255 (240 — 270)
		0,0300	1,0	0,0013	0,0017	0,0020	0,0024	0,0030	0,0036	840 (790 — 880)
H7	M	0.0300	0.50	0.013	0.018	0.022	0.026	0.032	0.038	85 (73 — 93)
		0,0300	0,50	0,00050	0,00070	0,00085	0,0010	0,0013	0,0015	280 (240 — 300)
H8	M	0.0300	1.0	0.024	0.032	0.040	0.046	0.060	0.065	260 (240 — 270)
		0,0300	1,0	0,00095	0,0013	0,0016	0,0018	0,0024	0,0026	850 (790 — 880)
H11	M	0.0300	1.0	0.032	0.042	0.050	0.060	0.075	0.090	320 (300 — 340)
		0,0300	1,0	0,0013	0,0017	0,0020	0,0024	0,0030	0,0036	1050 (990 — 1100)
H12	M	0.0300	1.0	0.024	0.032	0.040	0.046	0.060	0.065	300 (280 — 320)
		0,0300	1,0	0,00095	0,0013	0,0016	0,0018	0,0024	0,0026	980 (920 — 1000)
H21	M	0.0300	1.0	0.024	0.032	0.040	0.046	0.060	0.065	260 (240 — 270)
		0,0300	1,0	0,00095	0,0013	0,0016	0,0018	0,0024	0,0026	850 (790 — 880)
H31	M	0.0300	1.0	0.030	0.040	0.050	0.060	0.075	0.085	155 (140 — 170)
		0,0300	1,0	0,0012	0,0016	0,0020	0,0024	0,0030	0,0034	510 (460 — 550)

Kesme verileri – JH130 Finiş kenar frezeleme

SMG		a <sub>e</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>						v <sub>c</sub>
				6	8	10	12	16	20	
H3	M	0.0300	0.50	0.013	0.018	0.022	0.026	0.032	0.038	85 (73 — 93)
		0,0300	0,50	0,00050	0,00070	0,00085	0,0010	0,0013	0,0015	280 (240 — 300)
H5	M	0.0300	1.0	0.032	0.042	0.050	0.060	0.075	0.090	255 (240 — 270)
		0,0300	1,0	0,0013	0,0017	0,0020	0,0024	0,0030	0,0036	840 (790 — 880)
H7	M	0.0300	0.50	0.013	0.018	0.022	0.026	0.032	0.038	85 (73 — 93)
		0,0300	0,50	0,00050	0,00070	0,00085	0,0010	0,0013	0,0015	280 (240 — 300)
H8	M	0.0300	1.0	0.024	0.032	0.040	0.046	0.060	0.065	260 (240 — 270)
		0,0300	1,0	0,00095	0,0013	0,0016	0,0018	0,0024	0,0026	850 (790 — 880)
H11	M	0.0300	1.0	0.032	0.042	0.050	0.060	0.075	0.090	320 (300 — 340)
		0,0300	1,0	0,0013	0,0017	0,0020	0,0024	0,0030	0,0036	1050 (990 — 1100)
H12	M	0.0300	1.0	0.024	0.032	0.040	0.046	0.060	0.065	300 (280 — 320)
		0,0300	1,0	0,00095	0,0013	0,0016	0,0018	0,0024	0,0026	980 (920 — 1000)
H21	M	0.0300	1.0	0.024	0.032	0.040	0.046	0.060	0.065	260 (240 — 270)
		0,0300	1,0	0,00095	0,0013	0,0016	0,0018	0,0024	0,0026	850 (790 — 880)
H31	M	0.0300	1.0	0.030	0.040	0.050	0.060	0.075	0.085	155 (140 — 170)
		0,0300	1,0	0,0012	0,0016	0,0020	0,0024	0,0030	0,0034	510 (460 — 550)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)

f<sub>z</sub> = mm (inç/ağız)

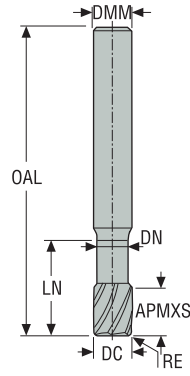
a<sub>p</sub> mm/DC (inç/DC) = faktör

a<sub>e</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

## JH930

Yüksek hız – Üniversal – Dik kenarlı – 5-8 Ağızlı – Silindirik – Köşe radyüsü



E



- Toleranslar:
- DMM=h5
- DC=-0,02/-0,04 mm
- RE= ±0,05 mm
- Tekrar bilenebilir



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm	mm		
930060R020-MEGA	00022026	2	E	6,0	6,0	9,0	55,0	15,0	5,6	0,2	5	■
930060R050-MEGA	00022027	2	E	6,0	6,0	9,0	55,0	15,0	5,6	0,5	5	■
930080R020-MEGA	00022028	2	E	8,0	8,0	12,0	60,0	18,0	7,4	0,2	5	■
930080R050-MEGA	00022029	2	E	8,0	8,0	12,0	60,0	18,0	7,4	0,5	5	■
930100R030-MEGA	00022030	2	E	10,0	10,0	15,0	70,0	25,0	9,4	0,3	6	■
930100R100-MEGA	00022031	2	E	10,0	10,0	15,0	70,0	25,0	9,4	1,0	6	■
930120R050-MEGA	00022033	2	E	12,0	12,0	18,0	80,0	30,0	11,4	0,5	6	■
930120R100-MEGA	00022034	2	E	12,0	12,0	18,0	80,0	30,0	11,4	1,0	6	■
930160R050-MEGA	00022035	2	E	16,0	16,0	24,0	90,0	35,0	15,4	0,5	8	■
930160R100-MEGA	00022040	2	E	16,0	16,0	24,0	90,0	35,0	15,4	1,0	8	■
930200R050-MEGA	00022044	2	E	20,0	20,0	30,0	100,0	38,0	19,2	0,5	8	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve cırp materyaller için

Grafit materyaller için

Minimaster Plus

Minimaster

Kesme verileri – JH930 Kenar frezeleme

SMG	M/E/A	a <sub>p</sub> /DC	a <sub>e</sub> /DC	f <sub>z</sub>						v <sub>c</sub>
				6	8	10	12	16	20	
P1	M/E/A	0.0400 0,0400	0.70 0,70	0.065 0,0026	0.085 0,0034	0.11 0,0044	0.13 0,0050	0.16 0,0065	0.18 0,0070	440 (370 – 490) 1450 (1300 – 1600)
P2	M/E/A	0.0400 0,0400	0.70 0,70	0.065 0,0026	0.090 0,0036	0.11 0,0044	0.13 0,0050	0.16 0,0065	0.19 0,0075	430 (360 – 480) 1400 (1200 – 1500)
P3	M/E/A	0.0400 0,0400	0.70 0,70	0.060 0,0024	0.085 0,0034	0.10 0,0040	0.12 0,0048	0.15 0,0060	0.18 0,0070	375 (320 – 420) 1225 (1100 – 1300)
P4	M/E/A	0.0400 0,0400	0.70 0,70	0.060 0,0024	0.080 0,0032	0.10 0,0040	0.12 0,0048	0.15 0,0060	0.17 0,0065	330 (280 – 370) 1075 (920 – 1200)
P5	M/E/A	0.0400 0,0400	0.70 0,70	0.060 0,0024	0.080 0,0032	0.10 0,0040	0.12 0,0048	0.15 0,0060	0.17 0,0065	315 (270 – 350) 1025 (890 – 1100)
P6	M/E/A	0.0400 0,0400	0.70 0,70	0.060 0,0024	0.080 0,0032	0.10 0,0040	0.12 0,0048	0.15 0,0060	0.17 0,0065	355 (300 – 390) 1175 (990 – 1200)
P7	M/E/A	0.0400 0,0400	0.70 0,70	0.060 0,0024	0.080 0,0032	0.10 0,0040	0.12 0,0048	0.15 0,0060	0.17 0,0065	335 (280 – 370) 1100 (920 – 1200)
P8	M/E/A	0.0400 0,0400	0.70 0,70	0.060 0,0024	0.085 0,0034	0.10 0,0040	0.12 0,0048	0.15 0,0060	0.18 0,0070	315 (270 – 350) 1025 (890 – 1100)
P11	M/E/A	0.0400 0,0400	0.70 0,70	0.060 0,0024	0.080 0,0032	0.10 0,0040	0.12 0,0048	0.15 0,0060	0.17 0,0065	325 (280 – 360) 1075 (920 – 1100)
P12	M/E/A	0.0400 0,0400	0.70 0,70	0.040 0,0016	0.055 0,0022	0.070 0,0028	0.080 0,0032	0.10 0,0040	0.11 0,0044	200 (170 – 220) 660 (560 – 720)
K1	E/M/A	0.0400 0,0400	0.70 0,70	0.060 0,0024	0.080 0,0032	0.10 0,0040	0.12 0,0048	0.15 0,0060	0.17 0,0065	255 (210 – 300) 840 (690 – 980)
K2	E/M/A	0.0400 0,0400	0.70 0,70	0.055 0,0022	0.075 0,0030	0.090 0,0036	0.11 0,0044	0.13 0,0050	0.15 0,0060	225 (180 – 260) 740 (600 – 850)
K3	E/M/A	0.0400 0,0400	0.70 0,70	0.055 0,0022	0.075 0,0030	0.090 0,0036	0.11 0,0044	0.13 0,0050	0.15 0,0060	190 (160 – 220) 620 (530 – 720)
K4	E/M/A	0.0400 0,0400	0.70 0,70	0.055 0,0022	0.075 0,0030	0.090 0,0036	0.11 0,0044	0.13 0,0050	0.15 0,0060	180 (150 – 210) 590 (500 – 680)
K5	E/M/A	0.0300 0,0300	0.50 0,50	0.060 0,0024	0.080 0,0032	0.10 0,0040	0.12 0,0048	0.15 0,0060	0.17 0,0065	205 (160 – 250) 670 (530 – 820)
K6	E/M/A	0.0300 0,0300	0.50 0,50	0.065 0,0026	0.090 0,0036	0.11 0,0044	0.13 0,0050	0.16 0,0065	0.19 0,0075	300 (230 – 370) 980 (760 – 1200)
K7	E/M/A	0.0300 0,0300	0.50 0,50	0.060 0,0024	0.080 0,0032	0.10 0,0040	0.12 0,0048	0.15 0,0060	0.17 0,0065	260 (200 – 320) 850 (660 – 1000)
S1	E/M/A	0.0300 0,0300	0.44 0,44	0.055 0,0022	0.070 0,0028	0.090 0,0036	0.11 0,0044	0.13 0,0050	0.15 0,0060	80 (62 – 100) 260 (210 – 320)
S2	E/M/A	0.0300 0,0300	0.44 0,44	0.055 0,0022	0.070 0,0028	0.090 0,0036	0.11 0,0044	0.13 0,0050	0.15 0,0060	65 (50 – 82) 215 (170 – 260)
S3	E/M/A	0.0200 0,0200	0.70 0,70	0.055 0,0022	0.070 0,0028	0.090 0,0036	0.11 0,0044	0.13 0,0050	0.15 0,0060	41 (31 – 50) 135 (110 – 160)
S11	E/M/A	0.0400 0,0400	0.70 0,70	0.060 0,0024	0.080 0,0032	0.10 0,0040	0.12 0,0048	0.15 0,0060	0.17 0,0065	160 (140 – 180) 520 (460 – 590)
S12	E/M/A	0.0400 0,0400	0.70 0,70	0.060 0,0024	0.080 0,0032	0.10 0,0040	0.12 0,0048	0.15 0,0060	0.17 0,0065	120 (110 – 140) 395 (370 – 450)
S13	E/M/A	0.0400 0,0400	0.70 0,70	0.050 0,0020	0.070 0,0028	0.085 0,0034	0.10 0,0040	0.13 0,0050	0.15 0,0060	95 (81 – 110) 310 (270 – 360)
H3	M/A	0.0200 0,0200	0.50 0,50	0.018 0,00070	0.024 0,00095	0.030 0,0012	0.036 0,0014	0.044 0,0017	0.050 0,0020	55 (41 – 71) 180 (140 – 230)
H5	M/A	0.0300 0,0300	0.50 0,50	0.018 0,00095	0.024 0,0013	0.030 0,0016	0.036 0,0019	0.044 0,0024	0.050 0,0028	250 (210 – 300) 820 (690 – 980)
H7	M/A	0.0200 0,0200	0.50 0,50	0.018 0,00070	0.024 0,00095	0.030 0,0012	0.036 0,0014	0.044 0,0017	0.050 0,0020	55 (41 – 71) 180 (140 – 230)
H8	M/A	0.0300 0,0300	0.50 0,50	0.018 0,00070	0.024 0,00095	0.030 0,0012	0.036 0,0014	0.044 0,0017	0.050 0,0020	255 (210 – 300) 840 (690 – 980)
H11	M/A	0.0300 0,0300	0.50 0,50	0.024 0,00095	0.032 0,0013	0.040 0,0016	0.048 0,0019	0.060 0,0024	0.070 0,0028	320 (260 – 380) 1050 (860 – 1200)
H12	M/A	0.0400 0,0400	0.70 0,70	0.030 0,0012	0.042 0,0017	0.050 0,0020	0.060 0,0024	0.075 0,0030	0.085 0,0034	270 (220 – 320) 890 (730 – 1000)
H21	M/A	0.0300 0,0300	0.50 0,50	0.018 0,00070	0.024 0,00095	0.030 0,0012	0.036 0,0014	0.044 0,0017	0.050 0,0020	255 (210 – 300) 840 (690 – 980)
H31	M/A	0.0300 0,0300	0.50 0,50	0.024 0,00095	0.032 0,0013	0.040 0,0016	0.048 0,0019	0.060 0,0024	0.070 0,0028	155 (130 – 180) 510 (430 – 590)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)

f<sub>z</sub> = mm (inç/ağız)

a<sub>p</sub> mm/DC (inç/DC) = faktör

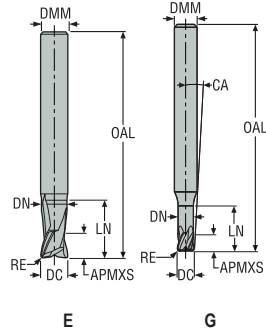
a<sub>e</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir



## JH142

Yüksek hız – Yüksek hassasiyet – Torikal – Sertleştirilmiş çelik – 2-6 Ağızlı – Silindirik – Köşe radyüsü



- Toleranslar:
- Salgı= <0,005 mm
- DMM= h5
- DC= 0-0,01 mm
- RE= ±0,005 mm
- DC ≥ Ø6 ise tekrar bilenebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	CA	PCEDC	WDX0	WDX05	WDX1	WDX15	WDX2	WDX3	Silindirik
				mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
JH142020G2R030.0Z2-HXT	02968223	2	G	2,0	4,0	2,0	40,0	6,0	1,9	0,3	6,64	2	6,63	6,96	7,21	7,43	7,62	7,96	■
JH142020G2R030.0Z4-HXT	02968224	2	G	2,0	4,0	2,0	40,0	6,0	1,9	0,3	6,64	4	6,63	6,96	7,21	7,43	7,62	7,96	■
JH142020G2R050.0Z2-HXT	02968225	2	G	2,0	4,0	2,0	40,0	6,0	1,9	0,5	6,79	2	6,63	6,95	7,2	7,41	7,6	7,93	■
JH142020G2R050.0Z4-HXT	02968226	2	G	2,0	4,0	2,0	40,0	6,0	1,9	0,5	6,79	4	6,63	6,95	7,2	7,41	7,6	7,93	■
JH142030G2R050.0Z2-HXT	02968227	2	G	3,0	4,0	3,0	40,0	8,0	2,8	0,5	2,95	2	8,92	9,23	9,48	9,71	9,91	10,26	■
JH142030G2R050.0Z4-HXT	02968228	2	G	3,0	4,0	3,0	40,0	8,0	2,8	0,5	2,95	4	8,92	9,23	9,48	9,71	9,91	10,26	■
JH142030G2R100.0Z2-HXT	02968229	2	G	3,0	4,0	3,0	40,0	8,0	2,8	1,0	3,1	2	8,92	9,21	9,46	9,67	9,87	10,21	■
JH142030G2R100.0Z4-HXT	02968230	2	G	3,0	4,0	3,0	40,0	8,0	2,8	1,0	3,1	4	8,92	9,21	9,46	9,67	9,87	10,21	■
JH142040G2R030.0Z2-HXT	02968231	2	G	4,0	6,0	4,0	50,0	8,0	3,7	0,3	5,34	2	9,13	9,4	9,64	9,84	10,03	10,37	■
JH142040G2R030.0Z4-HXT	02970110	2	G	4,0	6,0	4,0	50,0	8,0	3,7	0,3	5,34	4	9,13	9,4	9,64	9,84	10,03	10,37	■
JH142040G2R050.0Z4-HXT	02968232	2	G	4,0	6,0	4,0	50,0	8,0	3,7	0,5	5,44	4	9,13	9,4	9,63	9,83	10,02	10,35	■
JH142040G2R100.0Z4-HXT	02968233	2	G	4,0	6,0	4,0	50,0	8,0	3,7	1,0	5,69	4	9,13	9,38	9,6	9,8	9,98	10,3	■
JH142060E2R050.0Z4-HXT	02968235	2	E	6,0	6,0	6,0	50,0	12,0	5,6	0,5	-	4	12,0	-	-	-	-	-	■
JH142060E2R100.0Z4-HXT	02968237	2	E	6,0	6,0	6,0	50,0	12,0	5,6	1,0	-	4	12,0	-	-	-	-	-	■
JH142060E2R100.0Z5-HXT	02968238	2	E	6,0	6,0	6,0	50,0	12,0	5,6	1,0	-	5	12,0	-	-	-	-	-	■
JH142060E2R150.0Z5-HXT	02968240	2	E	6,0	6,0	6,0	50,0	12,0	5,6	1,5	-	5	12,0	-	-	-	-	-	■
JH142060E2R200.0Z5-HXT	02968241	2	E	6,0	6,0	6,0	50,0	12,0	5,6	2,0	-	5	12,0	-	-	-	-	-	■
JH142080E2R050.0Z5-HXT	02968242	2	E	8,0	8,0	8,0	60,0	16,0	7,4	0,5	-	5	16,0	-	-	-	-	-	■
JH142080E2R100.0Z5-HXT	02968243	2	E	8,0	8,0	8,0	60,0	16,0	7,4	1,0	-	5	16,0	-	-	-	-	-	■
JH142080E2R150.0Z5-HXT	02968244	2	E	8,0	8,0	8,0	60,0	16,0	7,4	1,5	-	5	16,0	-	-	-	-	-	■
JH142080E2R200.0Z5-HXT	02968245	2	E	8,0	8,0	8,0	60,0	16,0	7,4	2,0	-	5	16,0	-	-	-	-	-	■
JH142080E2R300.0Z5-HXT	02968246	2	E	8,0	8,0	8,0	60,0	16,0	7,4	3,0	-	5	16,0	-	-	-	-	-	■
JH142100E2R050.0Z5-HXT	02968247	2	E	10,0	10,0	10,0	70,0	20,0	9,4	0,5	-	5	20,0	-	-	-	-	-	■
JH142100E2R100.0Z5-HXT	02968248	2	E	10,0	10,0	10,0	70,0	20,0	9,4	1,0	-	5	20,0	-	-	-	-	-	■
JH142100E2R200.0Z5-HXT	02968249	2	E	10,0	10,0	10,0	70,0	20,0	9,4	2,0	-	5	20,0	-	-	-	-	-	■
JH142100E2R250.0Z5-HXT	02968250	2	E	10,0	10,0	10,0	70,0	20,0	9,4	2,5	-	5	20,0	-	-	-	-	-	■
JH142120E2R100.0Z6-HXT	02968251	2	E	12,0	12,0	12,0	75,0	24,0	11,4	1,0	-	6	24,0	-	-	-	-	-	■
JH142120E2R200.0Z6-HXT	02968252	2	E	12,0	12,0	12,0	75,0	24,0	11,4	2,0	-	6	24,0	-	-	-	-	-	■
JH142120E2R300.0Z6-HXT	02968253	2	E	12,0	12,0	12,0	75,0	24,0	11,4	3,0	-	6	24,0	-	-	-	-	-	■

■ Stoklu standart ürün.

WDX değerleri için: α'ye bağlı maks. kesme derinliği (lαη, ref)\*

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve cırp materyaller için

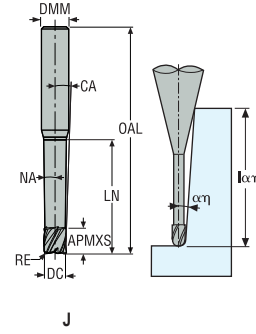
Grafit materyal için

Minimaster Plus

Minimaster

## JH142

Yüksek hız – Yüksek hassasiyet – Torikal – Sertleştirilmiş çelik – 2-5 Ağızlı – Silindirik – Köşe radyüsü



- Toleranslar:
- Salgı= <0,005 mm
- DMM= h5
- DC= 0-0,01 mm
- RE= ±0,005 mm
- DC ≥ Ø6 ise tekrar bilenebilir



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	CA	PCEDC	WDX0	WDX05	WDX1	WDX15	WDX2	WDX3	Silindirik
JH142020J3R030.0Z2-HXT	02968255	3	J	2,0	6,0	2,0	60,0	10,0	1,9	0,3	6,72	2	5,23	10,27	10,95	11,31	11,69	12,54	■
JH142020J3R030.0Z4-HXT	02968256	3	J	2,0	6,0	2,0	60,0	10,0	1,9	0,3	6,72	4	5,23	10,27	10,95	11,31	11,69	12,54	■
JH142020J3R050.0Z2-HXT	02968257	3	J	2,0	6,0	2,0	60,0	10,0	1,9	0,5	6,79	2	5,23	10,24	10,94	11,29	11,66	12,5	■
JH142020J3R050.0Z4-HXT	02968258	3	J	2,0	6,0	2,0	60,0	10,0	1,9	0,5	6,79	4	5,23	10,24	10,94	11,29	11,66	12,5	■
JH142030J3R050.0Z2-HXT	02968259	3	J	3,0	6,0	3,0	60,0	15,0	2,8	0,5	4,3	2	9,57	15,58	16,22	16,75	17,32	18,57	■
JH142030J3R050.0Z4-HXT	02968260	3	J	3,0	6,0	3,0	60,0	15,0	2,8	0,5	4,3	4	9,57	15,58	16,22	16,75	17,32	18,57	■
JH142030J3R100.0Z2-HXT	02968261	3	J	3,0	6,0	3,0	60,0	15,0	2,8	1,0	4,4	2	9,57	15,54	16,19	16,7	17,25	18,46	■
JH142030J3R100.0Z4-HXT	02968262	3	J	3,0	6,0	3,0	60,0	15,0	2,8	1,0	4,4	4	9,57	15,54	16,19	16,7	17,25	18,46	■
JH142040J3R030.0Z2-HXT	02968263	3	J	4,0	6,0	4,0	60,0	20,0	3,7	0,3	2,45	2	13,87	20,79	21,52	22,23	22,99	-	■
JH142040J3R030.0Z4-HXT	02970111	3	J	4,0	6,0	4,0	60,0	20,0	3,7	0,3	2,45	4	13,87	20,79	21,52	22,23	22,99	-	■
JH142040J3R050.0Z2-HXT	02968265	3	J	4,0	6,0	4,0	60,0	20,0	3,7	0,5	2,48	2	13,87	20,78	21,51	22,21	22,97	-	■
JH142040J3R050.0Z4-HXT	02968264	3	J	4,0	6,0	4,0	60,0	20,0	3,7	0,5	2,48	4	13,87	20,78	21,51	22,21	22,97	-	■
JH142040J3R100.0Z2-HXT	02968266	3	J	4,0	6,0	4,0	60,0	20,0	3,7	1,0	2,53	2	13,87	20,76	21,48	22,16	22,9	-	■
JH142040J3R100.0Z4-HXT	02968267	3	J	4,0	6,0	4,0	60,0	20,0	3,7	1,0	2,53	4	13,87	20,76	21,48	22,16	22,9	-	■
JH142060J3R050.0Z4-HXT	02968268	3	J	6,0	8,0	6,0	75,0	30,0	5,6	0,5	1,75	4	19,15	30,85	31,88	32,93	-	-	■
JH142060J3R050.0Z5-HXT	02968269	3	J	6,0	8,0	6,0	75,0	30,0	5,6	0,5	1,75	5	19,15	30,85	31,88	32,93	-	-	■
JH142060J3R100.0Z4-HXT	02968270	3	J	6,0	8,0	6,0	75,0	30,0	5,6	1,0	1,77	4	19,15	30,83	31,85	32,88	-	-	■
JH142060J3R100.0Z5-HXT	02968271	3	J	6,0	8,0	6,0	75,0	30,0	5,6	1,0	1,77	5	19,15	30,83	31,85	32,88	-	-	■
JH142060J3R150.0Z5-HXT	02968272	3	J	6,0	8,0	6,0	75,0	30,0	5,6	1,5	1,8	5	19,15	30,8	31,82	32,83	-	-	■
JH142060J3R200.0Z5-HXT	02968273	3	J	6,0	8,0	6,0	75,0	30,0	5,6	2,0	1,83	5	19,15	30,78	31,78	32,78	-	-	■
JH142080J3R050.0Z5-HXT	02968274	3	J	8,0	10,0	8,0	85,0	40,0	7,4	0,5	1,34	5	27,67	41,12	42,44	-	-	-	■
JH142080J3R100.0Z5-HXT	02968275	3	J	8,0	10,0	8,0	85,0	40,0	7,4	1,0	1,36	5	27,67	41,11	42,41	-	-	-	■
JH142080J3R150.0Z5-HXT	02968276	3	J	8,0	10,0	8,0	85,0	40,0	7,4	1,5	1,37	5	27,67	41,09	42,38	-	-	-	■
JH142080J3R200.0Z5-HXT	02968277	3	J	8,0	10,0	8,0	85,0	40,0	7,4	2,0	1,39	5	27,67	41,08	42,35	-	-	-	■
JH142100J3R050.0Z5-HXT	02968278	3	J	10,0	12,0	10,0	100,0	50,0	9,4	0,5	1,1	5	29,67	50,97	52,62	-	-	-	■
JH142100J3R100.0Z5-HXT	02968279	3	J	10,0	12,0	10,0	100,0	50,0	9,4	1,0	1,11	5	29,67	50,95	52,59	-	-	-	■
JH142100J3R200.0Z5-HXT	02968280	3	J	10,0	12,0	10,0	100,0	50,0	9,4	2,0	1,13	5	29,67	50,91	52,53	-	-	-	■
JH142020J6R030.0Z4-HXT	02968282	6	J	2,0	6,0	2,0	75,0	20,0	1,9	0,3	4,33	4	5,23	11,4	21,0	21,71	22,45	24,11	■
JH142020J6R050.0Z4-HXT	02968283	6	J	2,0	6,0	2,0	75,0	20,0	1,9	0,5	4,36	4	5,23	11,14	20,99	21,69	22,43	24,06	■
JH142030J6R050.0Z4-HXT	02968284	6	J	3,0	6,0	3,0	75,0	30,0	2,8	0,5	2,52	4	9,57	20,92	31,32	32,35	33,46	-	■
JH142030J6R100.0Z4-HXT	02968285	6	J	3,0	6,0	3,0	75,0	30,0	2,8	1,0	2,56	4	9,57	20,3	31,29	32,31	33,39	-	■
JH142040J6R030.0Z4-HXT	02968286	6	J	4,0	6,0	4,0	80,0	40,0	3,7	0,3	1,36	4	13,87	30,85	41,65	-	-	-	■
JH142040J6R050.0Z4-HXT	02968287	6	J	4,0	6,0	4,0	80,0	40,0	3,7	0,5	1,37	4	13,87	30,6	41,65	-	-	-	■
JH142040J6R100.0Z4-HXT	02968288	6	J	4,0	6,0	4,0	80,0	40,0	3,7	1,0	1,38	4	13,87	29,98	41,6	-	-	-	■

■ Stoklu standart ürün.

WDX değerleri için: αη'ye bağlı maks. kesme derinliği (lαη, ref)\*

Kesme verileri – JH142 Kaba kopya frezeleme

SMG		a <sub>p</sub> /DC	a <sub>r</sub> /DC	f <sub>z</sub>								v <sub>c</sub>
				2	3	4	6	8	10	12	16	
P1	M/E	0.0500	0.050	0.020	0.030	0.040	0.060	0.080	0.10	0.12	0.14	485 (460 – 530)
		0,0500	0,050	0,00080	0,0012	0,0016	0,0024	0,0032	0,0040	0,0048	0,0055	1600 (1600–1700)
P2	M/E	0.0500	0.050	0.020	0.030	0.040	0.060	0.080	0.10	0.12	0.15	470 (450 – 520)
		0,0500	0,050	0,00080	0,0012	0,0016	0,0024	0,0032	0,0040	0,0048	0,0060	1550 (1500–1700)
P3	M/E	0.0500	0.050	0.019	0.028	0.038	0.055	0.075	0.095	0.11	0.14	405 (390 – 450)
		0,0500	0,050	0,00075	0,0011	0,0015	0,0022	0,0030	0,0038	0,0044	0,0055	1325 (1300–1400)
P4	M/E	0.0500	0.050	0.019	0.028	0.038	0.055	0.075	0.095	0.11	0.14	360 (340 – 390)
		0,0500	0,050	0,00075	0,0011	0,0015	0,0022	0,0030	0,0038	0,0044	0,0055	1175 (1200–1200)
P5	M/E	0.0500	0.050	0.018	0.028	0.036	0.055	0.075	0.090	0.11	0.13	345 (330 – 380)
		0,0500	0,050	0,00070	0,0011	0,0014	0,0022	0,0030	0,0036	0,0044	0,0050	1125 (1100–1200)
P6	M/E	0.0500	0.050	0.018	0.028	0.036	0.055	0.070	0.090	0.11	0.13	385 (370 – 420)
		0,0500	0,050	0,00070	0,0011	0,0014	0,0022	0,0028	0,0036	0,0044	0,0050	1275 (1300–1300)
P7	M/E	0.0500	0.050	0.018	0.028	0.036	0.055	0.070	0.090	0.11	0.13	365 (350 – 400)
		0,0500	0,050	0,00070	0,0011	0,0014	0,0022	0,0028	0,0036	0,0044	0,0050	1200 (1200–1300)
P8	M/E	0.0500	0.050	0.019	0.028	0.038	0.055	0.075	0.095	0.11	0.14	340 (330 – 380)
		0,0500	0,050	0,00075	0,0011	0,0015	0,0022	0,0030	0,0038	0,0044	0,0055	1125 (1100–1200)
P11	M/E	0.0500	0.050	0.018	0.028	0.036	0.055	0.070	0.090	0.11	0.13	355 (340 – 390)
		0,0500	0,050	0,00070	0,0011	0,0014	0,0022	0,0028	0,0036	0,0044	0,0050	1175 (1200–1200)
K1	A/E	0.0500	0.050	0.018	0.028	0.036	0.055	0.075	0.090	0.11	0.13	345 (330 – 380)
		0,0500	0,050	0,00070	0,0011	0,0014	0,0022	0,0030	0,0036	0,0044	0,0050	1125 (1100–1200)
K2	A/E	0.0500	0.050	0.017	0.025	0.034	0.050	0.065	0.085	0.10	0.12	300 (290 – 330)
		0,0500	0,050	0,00065	0,0010	0,0013	0,0020	0,0026	0,0034	0,0040	0,0048	980 (960–1000)
K3	A/E	0.0500	0.050	0.017	0.025	0.034	0.050	0.065	0.085	0.10	0.12	255 (240 – 280)
		0,0500	0,050	0,00065	0,0010	0,0013	0,0020	0,0026	0,0034	0,0040	0,0048	840 (790 – 910)
K4	A/E	0.0500	0.050	0.017	0.025	0.034	0.050	0.065	0.085	0.10	0.12	245 (230 – 260)
		0,0500	0,050	0,00065	0,0010	0,0013	0,0020	0,0026	0,0034	0,0040	0,0048	800 (760 – 850)
K5	A/E	0.0500	0.050	0.018	0.028	0.036	0.055	0.075	0.090	0.11	0.13	345 (330 – 380)
		0,0500	0,050	0,00070	0,0011	0,0014	0,0022	0,0030	0,0036	0,0044	0,0050	1125 (1100–1200)
K6	A/E	0.0500	0.050	0.020	0.030	0.040	0.060	0.080	0.10	0.12	0.15	500 (480 – 550)
		0,0500	0,050	0,00080	0,0012	0,0016	0,0024	0,0032	0,0040	0,0048	0,0060	1650 (1600–1800)
K7	A/E	0.0500	0.050	0.018	0.028	0.036	0.055	0.075	0.090	0.11	0.13	440 (420 – 490)
		0,0500	0,050	0,00070	0,0011	0,0014	0,0022	0,0030	0,0036	0,0044	0,0050	1450 (1400–1600)
H3	M/A	0.0200	0.020	0.014	0.020	0.028	0.042	0.055	0.070	0.080	0.10	95 (72–110)
		0,0200	0,020	0,00055	0,00080	0,0011	0,0017	0,0022	0,0028	0,0032	0,0040	310 (240 – 360)
H5	M/A	0.0400	0.040	0.014	0.022	0.028	0.042	0.055	0.070	0.085	0.10	305 (290 – 330)
		0,0400	0,040	0,00055	0,00085	0,0011	0,0017	0,0022	0,0028	0,0034	0,0040	1000 (960–1000)
H7	M/A	0.0200	0.020	0.014	0.020	0.028	0.042	0.055	0.070	0.080	0.10	95 (72–110)
		0,0200	0,020	0,00055	0,00080	0,0011	0,0017	0,0022	0,0028	0,0032	0,0040	310 (240 – 360)
H8	M/A	0.0400	0.040	0.011	0.016	0.022	0.032	0.042	0.055	0.065	0.080	310 (290 – 330)
		0,0400	0,040	0,00044	0,00065	0,00085	0,0013	0,0017	0,0022	0,0026	0,0032	1025 (960–1000)
H11	M/A	0.0400	0.040	0.014	0.022	0.028	0.042	0.055	0.070	0.085	0.10	390 (360 – 420)
		0,0400	0,040	0,00055	0,00085	0,0011	0,0017	0,0022	0,0028	0,0034	0,0040	1275 (1200–1300)
H12	M/A	0.0500	0.050	0.0095	0.014	0.019	0.028	0.038	0.046	0.055	0.070	345 (320 – 370)
		0,0500	0,050	0,00038	0,00055	0,00075	0,0011	0,0015	0,0018	0,0022	0,0028	1125 (1100–1200)
H21	M/A	0.0400	0.040	0.011	0.016	0.022	0.032	0.042	0.055	0.065	0.080	310 (290 – 330)
		0,0400	0,040	0,00044	0,00065	0,00085	0,0013	0,0017	0,0022	0,0026	0,0032	1025 (960–1000)
H31	M/A	0.0300	0.030	0.013	0.019	0.025	0.038	0.050	0.065	0.075	0.090	140 (120–160)
		0,0300	0,030	0,00050	0,00075	0,0010	0,0015	0,0020	0,0026	0,0030	0,0036	460 (400 – 520)

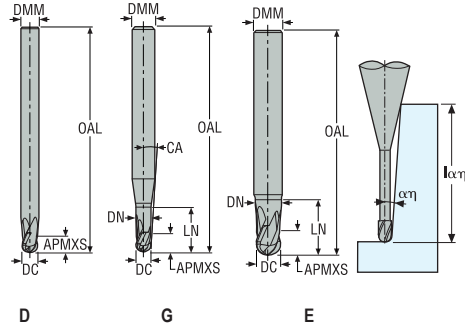
Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu  
Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama  
v<sub>c</sub>= m/dak (sf/dak)  
f<sub>z</sub> = mm (inç/ağız)  
a<sub>p</sub> mm/DC (inç/DC) = faktör  
a<sub>e</sub> = mm/DC (inç/DC) = faktör  
Tüm kesme verileri hedef değerlerdir

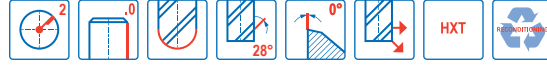
Üniversal  
Çelik ve dökme demir  
Paslanmaz çelik ve S iş parçası malzemeleri  
Demir içermeyen malzemeler  
Sertleştirilmiş çelik için  
Plastik ve cırp malzemeleri için  
Grafit malzeme için  
Minimaster Plus  
Minimaster

## JH112

Yüksek hız – Yüksek hassasiyet – Sertleştirilmiş çelik – Tamamı yuvarlak – 2 Ağızlı – Silindirik



- Toleranslar:
- Salgı= <0,005 mm
- DMM= h5
- DC= 0-0,01 mm
- RE= ±0,005 mm
- DC ≥ Ø6 ise tekrar bilenebilir



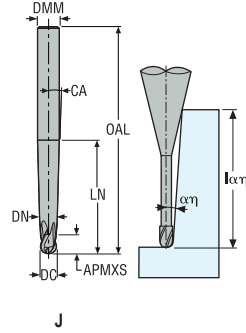
Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	CA	PCEDC	WDX0	WDX05	WDX1	WDX15	WDX2	WDX3	Silindirik
JH112020G1B.0Z2-HXT	02970112	1	G	2,0	4,0	2,0	40,0	4,0	1,9	6,45	2	4,66	4,84	5,03	5,24	5,47	6,03	■
JH112030G1B.0Z2-HXT	02970113	1	G	3,0	4,0	3,0	40,0	6,0	2,8	3,3	2	6,96	7,29	7,66	8,08	8,56	9,78	■
JH112040D1B.0Z2-HXT	02970114	1	D	4,0	4,0	4,0	40,0	-	-	-	2	-	-	-	-	-	-	■
JH112050G1B.0Z2-HXT	02970115	1	G	5,0	6,0	5,0	50,0	10,0	4,6	2,0	2	12,09	12,96	14,01	15,29	16,89	-	■
JH112060D1B.0Z2-HXT	02970116	1	D	6,0	6,0	6,0	50,0	-	-	-	2	-	-	-	-	-	-	■
JH112080D1B.0Z2-HXT	02970117	1	D	8,0	8,0	8,0	65,0	-	-	-	2	-	-	-	-	-	-	■
JH112100D1B.0Z2-HXT	02970118	1	D	10,0	10,0	10,0	65,0	-	-	-	2	-	-	-	-	-	-	■
JH112020G2B.0Z2-HXT	02970119	2	G	2,0	3,0	2,0	50,0	10,0	1,9	2,5	2	10,79	11,1	11,42	11,77	-	-	■
JH112030D2B.0Z2-HXT	02970120	2	D	3,0	3,0	3,0	50,0	-	-	-	2	-	-	-	-	-	-	■
JH112040D2B.0Z2-HXT	02970121	2	D	4,0	4,0	4,0	60,0	-	-	-	2	-	-	-	-	-	-	■
JH112050D2B.0Z2-HXT	02970122	2	D	5,0	5,0	5,0	60,0	-	-	-	2	-	-	-	-	-	-	■
JH112060D2B.0Z2-HXT	02970123	2	D	6,0	6,0	6,0	75,0	-	-	-	2	-	-	-	-	-	-	■
JH112020G3B.0Z2-HXT	02970124	3	G	2,0	6,0	2,0	60,0	4,0	1,9	8,12	2	4,66	4,84	5,03	5,24	5,47	6,03	■
JH112025G3B.0Z2-HXT	02970125	3	G	2,5	6,0	2,5	60,0	5,0	2,4	7,39	2	5,66	5,87	6,1	6,36	6,64	7,31	■
JH112030G3B.0Z2-HXT	02970126	3	G	3,0	6,0	3,0	60,0	6,0	2,8	5,5	2	6,97	7,31	7,7	8,14	8,65	9,95	■
JH112035G3B.0Z2-HXT	02968289	3	G	3,5	6,0	3,5	65,0	7,0	3,2	3,81	2	8,62	9,24	9,99	10,9	12,05	15,49	■
JH112040G3B.0Z2-HXT	02970127	3	G	4,0	6,0	4,0	65,0	8,0	3,7	3,34	2	9,62	10,31	11,14	12,15	13,42	17,25	■
JH112050G3B.0Z2-HXT	02970128	3	G	5,0	6,0	5,0	65,0	10,0	4,6	2,0	2	12,09	12,96	14,01	15,29	16,89	-	■
JH112060G3B.0Z2-HXT	02970129	3	G	6,0	8,0	6,0	75,0	12,0	5,6	2,78	2	14,09	15,1	16,31	17,79	19,64	25,2	■
JH112080E3B.0Z2-HXT	02968290	3	E	8,0	8,0	8,0	75,0	16,0	7,4	-	2	16,0	-	-	-	-	-	■
JH112100E3B.0Z2-HXT	02968291	3	E	10,0	10,0	10,0	80,0	20,0	9,4	-	2	20,0	-	-	-	-	-	■
JH112120E3B.0Z2-HXT	02968292	3	E	12,0	12,0	12,0	90,0	24,0	11,4	-	2	24,0	-	-	-	-	-	■
JH112020G4B.0Z2-HXT	02970130	4	G	2,0	6,0	2,0	80,0	20,0	1,9	3,82	2	20,66	21,59	22,61	23,73	24,98	27,94	■
JH112030G4B.0Z2-HXT	02970131	4	G	3,0	6,0	3,0	80,0	20,0	2,8	2,91	2	20,97	22,18	23,55	25,11	26,92	31,51	■
JH112040G4B.0Z2-HXT	02970132	4	G	4,0	6,0	4,0	80,0	20,0	3,7	1,97	2	21,62	23,39	25,53	28,13	-	-	■
JH112050G4B.0Z2-HXT	02970133	4	G	5,0	6,0	5,0	100,0	50,0	4,6	0,53	2	52,09	56,58	-	-	-	-	■
JH112060D4B.0Z2-HXT	02968293	4	D	6,0	6,0	6,0	100,0	-	-	-	2	-	-	-	-	-	-	■
JH112080D4B.0Z2-HXT	02968294	4	D	8,0	8,0	8,0	110,0	-	-	-	2	-	-	-	-	-	-	■
JH112100D4B.0Z2-HXT	02968295	4	D	10,0	10,0	10,0	125,0	-	-	-	2	-	-	-	-	-	-	■
JH112120D4B.0Z2-HXT	02968296	4	D	12,0	12,0	12,0	125,0	-	-	-	2	-	-	-	-	-	-	■

■ Stoklu standart ürün.

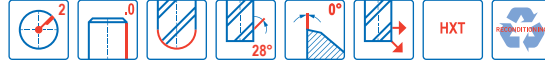
WDX değerleri için: α<sub>1</sub>'ye bağlı maks. kesme derinliği (lα<sub>1</sub>, ref)\*

## JH112

Yüksek hız – Yüksek hassasiyet – Sertleştirilmiş çelik – Tamamı yuvarlak – 2 Ağızlı – Silindirik



J



- Toleranslar:
- Salgı= <0,005 mm
- DMM= h5
- DC= 0-0.01 mm
- RE= ±0,005 mm
- DC ≥ Ø6 ise tekrar bilebilir

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	DN	NA	CA	PCEDC	WDX0	WDX05	WDX1	WDX15	WDX2	WDX3	Silindirik
				mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
JH112020J5B.0Z2-HXT	02970134	5	J	2,0	6,0	2,0	80,0	1,9	3,55	3,3	2	3,09	3,43	3,91	4,63	5,81	14,63	■
JH112030J5B.0Z2-HXT	02970135	5	J	3,0	6,0	3,0	80,0	2,8	2,5	2,2	2	5,7	6,75	8,51	12,03	22,61	-	■
JH112040J5B.0Z2-HXT	02970136	5	J	4,0	6,0	4,0	80,0	3,7	1,4	1,2	2	10,58	15,35	32,07	-	-	-	■
JH112050J5B.0Z2-HXT	02970137	5	J	5,0	8,0	5,0	100,0	4,6	1,95	1,6	2	11,47	14,56	20,93	41,46	-	-	■
JH112060J5B.0Z2-HXT	02970138	5	J	6,0	8,0	6,0	100,0	5,6	1,4	1,1	2	14,72	21,24	44,08	-	-	-	■
JH112080J5B.0Z2-HXT	02970139	5	J	8,0	10,0	8,0	125,0	7,4	1,43	1,0	2	20,71	29,7	59,65	-	-	-	■
JH112100J5B.0Z2-HXT	02970140	5	J	10,0	12,0	10,0	125,0	9,4	1,5	1,0	2	22,16	30,75	56,56	-	-	-	■
JH112060J6B.0Z2-HXT	02970141	6	J	6,0	10,0	6,0	125,0	5,6	2,3	2,0	2	11,59	13,99	18,22	27,78	69,22	-	■
JH112080J6B.0Z2-HXT	02970142	6	J	8,0	12,0	8,0	150,0	7,4	2,3	1,8	2	16,24	19,64	25,68	39,27	98,24	-	■
JH112100J6B.0Z2-HXT	02970143	6	J	10,0	12,0	10,0	150,0	9,4	1,1	0,8	2	26,26	43,99	-	-	-	-	■

■ Stoklu standart ürün.

WDX değerleri için: αη'ye bağlı maks. kesme derinliği (αη, ref)\*

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve cırp materyaller için

Grafit materyaller için

Minimaster Plus

Minimaster

Kesme verileri – JH112 Finitş kopya frezeleme

SMG		a <sub>p</sub> /DC	f <sub>z</sub>										v <sub>c</sub>
			2	2.5	3	3.5	4	5	6	8	10	12	
K1	E	0.30	0.030	0.038	0.044	0.050	0.060	0.075	0.090	0.12	0.15	0.18	520 (500–730)
		0.30	0.0012	0.0015	0.0017	0.0020	0.0024	0.0030	0.0036	0.0048	0.0060	0.0070	1700 (1700 – 2300)
K2	E	0.30	0.030	0.038	0.044	0.050	0.060	0.075	0.090	0.12	0.15	0.18	445 (430 – 630)
		0.30	0.0012	0.0015	0.0017	0.0020	0.0024	0.0030	0.0036	0.0048	0.0060	0.0070	1450 (1500 – 2000)
K3	E	0.30	0.030	0.038	0.044	0.050	0.060	0.075	0.090	0.12	0.15	0.18	380 (360 – 530)
		0.30	0.0012	0.0015	0.0017	0.0020	0.0024	0.0030	0.0036	0.0048	0.0060	0.0070	1250 (1200–1700)
K4	E	0.30	0.030	0.038	0.044	0.050	0.060	0.075	0.090	0.12	0.15	0.18	360 (350 – 510)
		0.30	0.0012	0.0015	0.0017	0.0020	0.0024	0.0030	0.0036	0.0048	0.0060	0.0070	1175 (1200–1600)
K5	E	0.30	0.030	0.038	0.044	0.050	0.060	0.075	0.090	0.12	0.15	0.18	415 (370 – 610)
		0.30	0.0012	0.0015	0.0017	0.0020	0.0024	0.0030	0.0036	0.0048	0.0060	0.0070	1350 (1300 – 2000)
K6	E	0.30	0.030	0.038	0.044	0.050	0.060	0.075	0.090	0.12	0.15	0.18	610 (550 – 900)
		0.30	0.0012	0.0015	0.0017	0.0020	0.0024	0.0030	0.0036	0.0048	0.0060	0.0070	2000 (1900 – 2900)
K7	E	0.30	0.030	0.038	0.044	0.050	0.060	0.075	0.090	0.12	0.15	0.18	680 (560–790)
		0.30	0.0012	0.0015	0.0017	0.0020	0.0024	0.0030	0.0036	0.0048	0.0060	0.0070	2225 (1900 – 2500)
H3	M	0.16	0.028	0.036	0.042	0.048	0.055	0.070	0.085	0.11	0.14	0.17	155 (150 – 230)
		0.16	0.0011	0.0014	0.0017	0.0019	0.0022	0.0028	0.0034	0.0044	0.0055	0.0065	510 (500–750)
H5	M	0.30	0.030	0.038	0.044	0.050	0.060	0.075	0.090	0.12	0.15	0.18	285 (240 – 330)
		0.30	0.0012	0.0015	0.0017	0.0020	0.0024	0.0030	0.0036	0.0048	0.0060	0.0070	940 (790–1000)
H7	M	0.16	0.028	0.036	0.042	0.048	0.055	0.070	0.085	0.11	0.14	0.17	155 (150 – 230)
		0.16	0.0011	0.0014	0.0017	0.0019	0.0022	0.0028	0.0034	0.0044	0.0055	0.0065	510 (500–750)
H8	M	0.30	0.030	0.038	0.044	0.050	0.060	0.075	0.090	0.12	0.15	0.18	285 (240 – 330)
		0.30	0.0012	0.0015	0.0017	0.0020	0.0024	0.0030	0.0036	0.0048	0.0060	0.0070	940 (790–1000)
H11	M	0.30	0.030	0.038	0.044	0.050	0.060	0.075	0.090	0.12	0.15	0.18	360 (300 – 420)
		0.30	0.0012	0.0015	0.0017	0.0020	0.0024	0.0030	0.0036	0.0048	0.0060	0.0070	1175 (990–1300)
H12	M	0.30	0.030	0.038	0.044	0.050	0.060	0.075	0.090	0.12	0.15	0.18	330 (280 – 380)
		0.30	0.0012	0.0015	0.0017	0.0020	0.0024	0.0030	0.0036	0.0048	0.0060	0.0070	1075 (920–1200)
H21	M	0.30	0.030	0.038	0.044	0.050	0.060	0.075	0.090	0.12	0.15	0.18	285 (240 – 330)
		0.30	0.0012	0.0015	0.0017	0.0020	0.0024	0.0030	0.0036	0.0048	0.0060	0.0070	940 (790–1000)
H31	M	0.30	0.026	0.032	0.040	0.046	0.050	0.065	0.080	0.10	0.13	0.16	300 (290 – 430)
		0.30	0.0010	0.0013	0.0016	0.0018	0.0020	0.0026	0.0032	0.0040	0.0050	0.0065	980 (960–1400)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)

f<sub>z</sub> = mm (inç/ağız)

a<sub>p</sub> mm/DC (inç/DC) = faktör

a<sub>e</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

## Kesme verileri – JH112 Kaba kopya frezeleme

SMG		a <sub>e</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>										v <sub>c</sub>
				2	2.5	3	3.5	4	5	6	8	10	12	
K1	E	0.250	0.15	0.030	0.038	0.044	0.050	0.060	0.075	0.090	0.12	0.15	0.18	315 (310 – 450)
		0.250	0.15	0,0012	0,0015	0,0017	0,0020	0,0024	0,0030	0,0036	0,0048	0,0060	0,0070	1025 (1100–1400)
K2	E	0.250	0.15	0.028	0.036	0.044	0.050	0.060	0.070	0.085	0.12	0.14	0.17	280 (270 – 390)
		0.250	0.15	0,0011	0,0014	0,0017	0,0020	0,0024	0,0028	0,0034	0,0048	0,0055	0,0065	920 (890–1200)
K3	E	0.250	0.15	0.028	0.036	0.044	0.050	0.060	0.070	0.085	0.12	0.14	0.17	235 (230 – 330)
		0.250	0.15	0,0011	0,0014	0,0017	0,0020	0,0024	0,0028	0,0034	0,0048	0,0055	0,0065	770 (760–1000)
K4	E	0.250	0.15	0.028	0.036	0.044	0.050	0.060	0.070	0.085	0.12	0.14	0.17	225 (220 – 320)
		0.250	0.15	0,0011	0,0014	0,0017	0,0020	0,0024	0,0028	0,0034	0,0048	0,0055	0,0065	740 (730–1000)
K5	E	0.160	0.15	0.030	0.038	0.044	0.050	0.060	0.075	0.090	0.12	0.15	0.18	280 (250 – 410)
		0.160	0.15	0,0012	0,0015	0,0017	0,0020	0,0024	0,0030	0,0036	0,0048	0,0060	0,0070	920 (830–1300)
K6	E	0.160	0.15	0.030	0.038	0.044	0.050	0.060	0.075	0.090	0.12	0.15	0.18	415 (370 – 610)
		0.160	0.15	0,0012	0,0015	0,0017	0,0020	0,0024	0,0030	0,0036	0,0048	0,0060	0,0070	1350 (1300 – 2000)
K7	E	0.250	0.10	0.030	0.038	0.044	0.050	0.060	0.075	0.090	0.12	0.15	0.18	420 (350 – 490)
		0.250	0.10	0,0012	0,0015	0,0017	0,0020	0,0024	0,0030	0,0036	0,0048	0,0060	0,0070	1375 (1200–1600)
H3	M	0.120	0.040	0.028	0.036	0.042	0.048	0.055	0.070	0.085	0.11	0.14	0.17	110 (100–160)
		0.120	0.040	0,0011	0,0014	0,0017	0,0019	0,0022	0,0028	0,0034	0,0044	0,0055	0,0065	360 (330 – 520)
H5	M	0.250	0.10	0.030	0.038	0.044	0.050	0.060	0.075	0.090	0.12	0.15	0.18	175 (150 – 200)
		0.250	0.10	0,0012	0,0015	0,0017	0,0020	0,0024	0,0030	0,0036	0,0048	0,0060	0,0070	570 (500 – 650)
H7	M	0.120	0.040	0.028	0.036	0.042	0.048	0.055	0.070	0.085	0.11	0.14	0.17	110 (100–160)
		0.120	0.040	0,0011	0,0014	0,0017	0,0019	0,0022	0,0028	0,0034	0,0044	0,0055	0,0065	360 (330 – 520)
H8	M	0.250	0.10	0.030	0.038	0.044	0.050	0.060	0.075	0.090	0.12	0.15	0.18	175 (150 – 200)
		0.250	0.10	0,0012	0,0015	0,0017	0,0020	0,0024	0,0030	0,0036	0,0048	0,0060	0,0070	570 (500 – 650)
H11	M	0.250	0.10	0.030	0.038	0.044	0.050	0.060	0.075	0.090	0.12	0.15	0.18	225 (190 – 260)
		0.250	0.10	0,0012	0,0015	0,0017	0,0020	0,0024	0,0030	0,0036	0,0048	0,0060	0,0070	740 (630 – 850)
H12	M	0.250	0.10	0.030	0.038	0.044	0.050	0.060	0.075	0.090	0.12	0.15	0.18	205 (170 – 240)
		0.250	0.10	0,0012	0,0015	0,0017	0,0020	0,0024	0,0030	0,0036	0,0048	0,0060	0,0070	670 (560–780)
H21	M	0.250	0.10	0.030	0.038	0.044	0.050	0.060	0.075	0.090	0.12	0.15	0.18	175 (150 – 200)
		0.250	0.10	0,0012	0,0015	0,0017	0,0020	0,0024	0,0030	0,0036	0,0048	0,0060	0,0070	570 (500 – 650)
H31	M	0.200	0.10	0.026	0.032	0.040	0.046	0.050	0.065	0.080	0.10	0.13	0.16	200 (200 – 280)
		0.200	0.10	0,0010	0,0013	0,0016	0,0018	0,0020	0,0026	0,0032	0,0040	0,0050	0,0065	660 (660 – 910)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)f<sub>z</sub> = mm (inç/ağız)a<sub>p</sub> mm/DC (inç/DC) = faktöra<sub>e</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

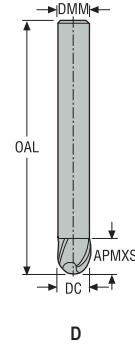
Grafit malzeme için

Minimaster Plus

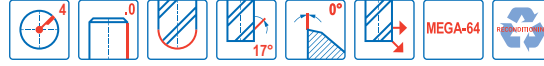
Minimaster

## JH150

Yüksek hız – Sertleştirilmiş çelik – Tamamı yuvarlak – 4 Ağızlı – Silindirik



- Toleranslar:
- DMM= h5
- DC= -0,02/-0,04 mm
- RE= ±0,01 mm
- Tekrar bilenebilir



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	PCEDC	Silindirik
				mm	mm	mm	mm		
150060-MEGA-64	00019198	2	D	6,0	6,0	6,0	80,0	4	■
150080-MEGA-64	00019208	2	D	8,0	8,0	8,0	85,0	4	■
150100-MEGA-64	00019219	2	D	10,0	10,0	10,0	100,0	4	■
150120-MEGA-64	00019254	2	D	12,0	12,0	12,0	100,0	4	■

■ Stoklu standart ürün.



## Kesme verileri – JH150 Kaba kopya frezeleme

SMG		$a_e/DC$	$a_p/DC$	$f_z$				$v_c$
				6	8	10	12	
K1	A	0.300	0.15	0.10	0.14	0.17	0.20	290 (310 – 370)
		0,300	0,15	0,0040	0,0055	0,0065	0,0080	950 (1100–1200)
K2	A	0.300	0.15	0.10	0.14	0.17	0.20	250 (270 – 320)
		0,300	0,15	0,0040	0,0055	0,0065	0,0080	820 (890–1000)
K3	A	0.300	0.15	0.10	0.14	0.17	0.20	210 (230 – 270)
		0,300	0,15	0,0040	0,0055	0,0065	0,0080	690 (760 – 880)
K5	A	0.200	0.15	0.10	0.14	0.17	0.20	255 (270 – 330)
		0,200	0,15	0,0040	0,0055	0,0065	0,0080	840 (890–1000)
K6	A	0.200	0.15	0.10	0.14	0.17	0.20	375 (390 – 500)
		0,200	0,15	0,0040	0,0055	0,0065	0,0080	1225 (1300–1600)
K7	A	0.200	0.15	0.10	0.14	0.17	0.20	325 (340 – 430)
		0,200	0,15	0,0040	0,0055	0,0065	0,0080	1075 (1200–1400)
H3	M	0.0500	0.020	0.085	0.11	0.14	0.17	85 (88–120)
		0,0500	0,020	0,0034	0,0044	0,0055	0,0065	280 (290 – 390)
H5	M	0.200	0.060	0.10	0.14	0.17	0.20	180 (160 – 200)
		0,200	0,060	0,0040	0,0055	0,0065	0,0080	590 (530 – 650)
H7	M	0.0500	0.020	0.085	0.11	0.14	0.17	85 (88–120)
		0,0500	0,020	0,0034	0,0044	0,0055	0,0065	280 (290 – 390)
H8	M	0.200	0.060	0.10	0.14	0.17	0.20	180 (160 – 200)
		0,200	0,060	0,0040	0,0055	0,0065	0,0080	590 (530 – 650)
H11	M	0.200	0.060	0.10	0.14	0.17	0.20	230 (210 – 250)
		0,200	0,060	0,0040	0,0055	0,0065	0,0080	750 (690 – 820)
H12	M	0.200	0.060	0.10	0.14	0.17	0.20	210 (190 – 230)
		0,200	0,060	0,0040	0,0055	0,0065	0,0080	690 (630–750)
H21	M	0.200	0.060	0.10	0.14	0.17	0.20	180 (160 – 200)
		0,200	0,060	0,0040	0,0055	0,0065	0,0080	590 (530 – 650)
H31	M	0.150	0.060	0.090	0.12	0.15	0.18	125 (130–180)
		0,150	0,060	0,0036	0,0048	0,0060	0,0070	410 (430 – 590)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

 $v_c$  = m/dak (sf/dak) $f_z$  = mm (inç/ağız) $a_p$  mm/DC (inç/DC) = faktör $a_e$  = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

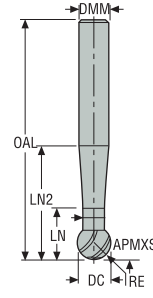
Grafit malzeme için

Minimaster Plus

Minimaster

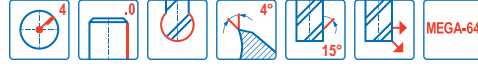
## JH160

Yüksek hız – Sertleştirilmiş çelik – Tamamı yuvarlak – 4 Ağızlı – Silindirik



E

- Toleranslar:
- DMM= h5
- DC= 0,02/-0,06 mm
- SA=250°



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	LN2	DN	RE	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm	mm	mm		
160030-MEGA-64	00040365	2	E	3,0	3,0	2,3	60,0	4,5	9,0	1,8	1,5	4	■
160040-MEGA-64	00040366	2	E	4,0	4,0	3,1	60,0	5,6	11,0	2,4	2,0	4	■
160050-MEGA-64	00040367	2	E	5,0	5,0	3,9	70,0	6,4	13,0	3,0	2,5	4	■
160060-MEGA-64	00040368	2	E	6,0	6,0	4,7	80,0	9,7	17,3	3,6	3,0	4	■
160080-MEGA-64	00040369	2	E	8,0	8,0	6,2	85,0	11,2	21,3	4,8	4,0	4	■
160100-MEGA-64	00040370	2	E	10,0	10,0	7,8	100,0	15,6	27,9	6,0	5,0	4	■
160120-MEGA-64	00040371	2	E	12,0	12,0	9,4	125,0	17,2	31,8	7,2	6,0	4	■

■ Stoklu standart ürün.

## Kesme verileri – JH160 Finiş kopya frezeleme

SMG		$a_p/DC$	$a_p/DC$	$f_z$							$v_c$
				3	4	5	6	8	10	12	
P1	M/E/A	0.0200	0.024	0.050	0.070	0.085	0.10	0.14	0.17	0.20	550 (450–700)
		0,0200	0,024	0,0020	0,0028	0,0034	0,0040	0,0055	0,0065	0,0080	1800 (1500 – 2200)
P2	M/E/A	0.0200	0.024	0.050	0.070	0.085	0.10	0.14	0.17	0.20	530 (440 – 680)
		0,0200	0,024	0,0020	0,0028	0,0034	0,0040	0,0055	0,0065	0,0080	1750 (1500 – 2200)
P3	M/E/A	0.0200	0.024	0.050	0.070	0.085	0.10	0.14	0.17	0.20	460 (380 – 590)
		0,0200	0,024	0,0020	0,0028	0,0034	0,0040	0,0055	0,0065	0,0080	1500 (1300–1900)
P4	M/E/A	0.0200	0.024	0.050	0.070	0.085	0.10	0.14	0.17	0.20	405 (340 – 520)
		0,0200	0,024	0,0020	0,0028	0,0034	0,0040	0,0055	0,0065	0,0080	1325 (1200–1700)
P5	M/E/A	0.0200	0.024	0.050	0.070	0.085	0.10	0.14	0.17	0.20	385 (320 – 490)
		0,0200	0,024	0,0020	0,0028	0,0034	0,0040	0,0055	0,0065	0,0080	1275 (1100–1600)
P6	M/E/A	0.0200	0.024	0.050	0.070	0.085	0.10	0.14	0.17	0.20	430 (360 – 560)
		0,0200	0,024	0,0020	0,0028	0,0034	0,0040	0,0055	0,0065	0,0080	1400 (1200–1800)
P7	M/E/A	0.0200	0.024	0.050	0.070	0.085	0.10	0.14	0.17	0.20	410 (340 – 520)
		0,0200	0,024	0,0020	0,0028	0,0034	0,0040	0,0055	0,0065	0,0080	1350 (1200–1700)
P8	M/E/A	0.0200	0.024	0.050	0.070	0.085	0.10	0.14	0.17	0.20	385 (320 – 490)
		0,0200	0,024	0,0020	0,0028	0,0034	0,0040	0,0055	0,0065	0,0080	1275 (1100–1600)
P11	M/E/A	0.0200	0.024	0.050	0.070	0.085	0.10	0.14	0.17	0.20	395 (330 – 510)
		0,0200	0,024	0,0020	0,0028	0,0034	0,0040	0,0055	0,0065	0,0080	1300 (1100–1600)
P12	M/E/A	0.0200	0.024	0.050	0.070	0.085	0.10	0.14	0.17	0.20	235 (200 – 300)
		0,0200	0,024	0,0020	0,0028	0,0034	0,0040	0,0055	0,0065	0,0080	770 (660 – 980)
H3	M/E/A	0.0100	0.0075	0.040	0.050	0.065	0.080	0.10	0.13	0.16	85 (91–110)
		0,0100	0,0075	0,0016	0,0020	0,0026	0,0032	0,0040	0,0050	0,0065	280 (300 – 360)
H5	M/E/A	0.0100	0.016	0.040	0.050	0.065	0.080	0.10	0.13	0.16	340 (320 – 360)
		0,0100	0,016	0,0016	0,0020	0,0026	0,0032	0,0040	0,0050	0,0065	1125 (1100–1100)
H7	M/E/A	0.0100	0.0075	0.040	0.050	0.065	0.080	0.10	0.13	0.16	85 (91–110)
		0,0100	0,0075	0,0016	0,0020	0,0026	0,0032	0,0040	0,0050	0,0065	280 (300 – 360)
H8	M/E/A	0.0100	0.016	0.040	0.050	0.065	0.080	0.10	0.13	0.16	340 (320 – 360)
		0,0100	0,016	0,0016	0,0020	0,0026	0,0032	0,0040	0,0050	0,0065	1125 (1100–1100)
H11	M/E/A	0.0100	0.016	0.040	0.050	0.065	0.080	0.10	0.13	0.16	430 (400 – 460)
		0,0100	0,016	0,0016	0,0020	0,0026	0,0032	0,0040	0,0050	0,0065	1400 (1400–1500)
H12	M/E/A	0.0200	0.024	0.050	0.070	0.085	0.10	0.14	0.17	0.20	355 (340 – 380)
		0,0200	0,024	0,0020	0,0028	0,0034	0,0040	0,0055	0,0065	0,0080	1175 (1200–1200)
H21	M/E/A	0.0100	0.016	0.040	0.050	0.065	0.080	0.10	0.13	0.16	340 (320 – 360)
		0,0100	0,016	0,0016	0,0020	0,0026	0,0032	0,0040	0,0050	0,0065	1125 (1100–1100)
H31	M/E/A	0.0100	0.016	0.040	0.050	0.065	0.080	0.10	0.13	0.16	165 (180 – 210)
		0,0100	0,016	0,0016	0,0020	0,0026	0,0032	0,0040	0,0050	0,0065	540 (600 – 680)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

 $v_c = m/dak$  (sf/dak) $f_z = mm$  (inç/ağız) $a_p$  mm/DC (inç/DC) = faktör $a_g$  mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

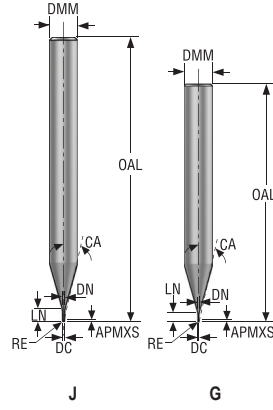
Grafit malzeme için

Minimaster Plus

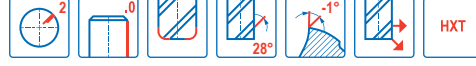
Minimaster

## JME142

Minyatür – Sertleştirilmiş çelik – Dik kenarlı – 2 Ağızlı – Silindirik – Köşe radyüsü



- Toleranslar:
- Salgı= <0,005 mm
- DMM = h5
- DC= < Ø0,6= 0/-0,008 mm
- DC= ≥ Ø0,6= 0/-0,01 mm
- RE = ±0,005 mm



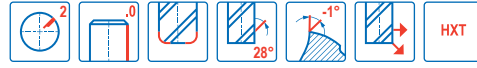
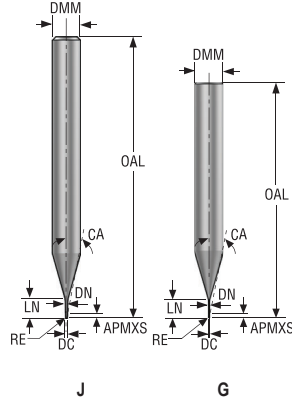
Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	CA	PCEDC	WDX0	WDX05	WDX1	WDX15	WDX2	WDX3	Silindirik
JME142002G1R005Z2.0-HXT	03205080	1	G	0,2	4,0	0,15	40,0	0,4	0,18	0,05	15,12	2	0,48	0,5	0,51	0,53	0,55	0,58	■
JME142003G1R005Z2.0-HXT	03205082	1	G	0,3	4,0	0,225	40,0	0,6	0,28	0,05	14,77	2	0,68	0,7	0,73	0,75	0,77	0,81	■
JME142004G1R005Z2.0-HXT	03205084	1	G	0,4	4,0	0,3	40,0	0,8	0,37	0,05	14,39	2	0,9	0,93	0,95	0,98	1,01	1,07	■
JME142005G1R005Z2.0-HXT	03205086	1	G	0,5	4,0	0,375	40,0	0,75	0,46	0,05	14,01	2	1,13	1,15	1,18	1,21	1,25	1,32	■
JME142006G1R005Z2.0-HXT	03205099	1	G	0,6	4,0	0,45	40,0	0,9	0,56	0,05	13,67	2	1,32	1,35	1,39	1,43	1,47	1,55	■
JME142008G1R005Z2.0-HXT	03205121	1	G	0,8	6,0	0,6	50,0	1,2	0,76	0,05	13,98	2	1,72	1,76	1,81	1,86	1,91	2,02	■
JME142010G1R005Z2.0-HXT	03205139	1	G	1,0	6,0	0,75	50,0	1,5	0,95	0,05	13,49	2	2,14	2,19	2,25	2,31	2,37	2,51	■
JME142012G1R005Z2.0-HXT	03205151	1	G	1,2	6,0	0,9	50,0	1,8	1,15	0,05	13,02	2	2,54	2,6	2,67	2,74	2,81	2,98	■
JME142015G1R005Z2.0-HXT	03205161	1	G	1,5	6,0	1,125	50,0	2,25	1,45	0,05	12,3	2	3,14	3,22	3,3	3,38	3,47	3,68	■
JME142002J2R005Z2.0-HXT	03205081	2	J	0,2	4,0	0,15	40,0	0,6	0,18	0,05	14,23	2	0,54	0,72	0,81	0,89	0,95	1,07	■
JME142003J2R005Z2.0-HXT	03205083	2	J	0,3	4,0	0,225	40,0	0,9	0,28	0,05	13,67	2	0,61	1,0	1,13	1,23	1,31	1,44	■
JME142004J2R005Z2.0-HXT	03205085	2	J	0,4	4,0	0,3	40,0	1,2	0,37	0,05	13,1	2	1,01	1,37	1,5	1,59	1,68	1,83	■
JME142005J2R005Z2.0-HXT	03205087	2	J	0,5	4,0	0,375	40,0	1,5	0,46	0,05	12,54	2	1,41	1,72	1,85	1,95	2,04	2,2	■
JME142005J2R010Z2.0-HXT	03205093	2	J	0,5	4,0	0,375	40,0	1,5	0,46	0,1	12,61	2	1,41	1,72	1,84	1,95	2,03	2,19	■
JME142005G2R005Z2.0-HXT	03205088	2	G	0,5	6,0	0,375	50,0	1,5	0,46	0,05	13,5	2	1,78	1,9	2,0	2,09	2,16	2,32	■
JME142005G2R010Z2.0-HXT	03205094	2	G	0,5	6,0	0,375	50,0	1,5	0,46	0,1	13,55	2	1,78	1,9	1,99	2,08	2,16	2,31	■
JME142006J2R005Z2.0-HXT	03205100	2	J	0,6	4,0	0,45	40,0	2,0	0,56	0,05	11,76	2	1,42	2,18	2,36	2,48	2,59	2,78	■
JME142006J2R010Z2.0-HXT	03205107	2	J	0,6	4,0	0,45	40,0	2,0	0,56	0,1	11,83	2	1,42	2,18	2,35	2,48	2,58	2,77	■
JME142006G2R005Z2.0-HXT	03205101	2	G	0,6	6,0	0,45	50,0	2,0	0,56	0,05	9,48	2	2,27	2,42	2,54	2,67	2,82	3,16	■
JME142006G2R010Z2.0-HXT	03205108	2	G	0,6	6,0	0,45	50,0	2,0	0,56	0,1	9,51	2	2,27	2,42	2,54	2,66	2,81	3,14	■
JME142008J2R005Z2.0-HXT	03205122	2	J	0,8	4,0	0,6	40,0	2,5	0,76	0,05	10,92	2	1,56	2,67	2,88	3,02	3,14	3,37	■
JME142008J2R010Z2.0-HXT	03205129	2	J	0,8	4,0	0,6	40,0	2,5	0,76	0,1	10,98	2	1,57	2,66	2,87	3,01	3,13	3,36	■
JME142008J2R020Z2.0-HXT	03205135	2	J	0,8	4,0	0,6	40,0	2,5	0,76	0,2	11,1	2	1,57	2,65	2,86	3,0	3,12	3,34	■
JME142008G2R005Z2.0-HXT	03205123	2	G	0,8	6,0	0,6	50,0	2,5	0,76	0,05	9,15	2	2,77	2,95	3,09	3,25	3,43	3,84	■
JME142008G2R010Z2.0-HXT	03205130	2	G	0,8	6,0	0,6	50,0	2,5	0,76	0,1	9,17	2	2,77	2,94	3,09	3,24	3,41	3,82	■
JME142008G2R020Z2.0-HXT	03205136	2	G	0,8	6,0	0,6	50,0	2,5	0,76	0,2	9,22	2	2,77	2,94	3,08	3,23	3,39	3,79	■
JME142010G2R005Z2.0-HXT	03205140	2	G	1,0	6,0	0,75	50,0	4,0	0,95	0,05	8,29	2	4,32	4,55	4,77	5,01	5,29	5,93	■
JME142010G2R010Z2.0-HXT	03205145	2	G	1,0	6,0	0,75	50,0	4,0	0,95	0,1	8,31	2	4,32	4,54	4,76	5,01	5,27	5,91	■
JME142010G2R020Z2.0-HXT	03205148	2	G	1,0	6,0	0,75	50,0	4,0	0,95	0,2	8,36	2	4,32	4,54	4,75	4,99	5,25	5,88	■
JME142012G2R005Z2.0-HXT	03205152	2	G	1,2	6,0	0,9	50,0	4,5	1,15	0,05	7,97	2	4,82	5,07	5,32	5,59	5,89	6,62	■
JME142012G2R010Z2.0-HXT	03205155	2	G	1,2	6,0	0,9	50,0	4,5	1,15	0,1	7,99	2	4,82	5,07	5,31	5,58	5,88	6,6	■
JME142012G2R020Z2.0-HXT	03205158	2	G	1,2	6,0	0,9	50,0	4,5	1,15	0,2	8,04	2	4,82	5,06	5,3	5,57	5,86	6,56	■
JME142015G2R005Z2.0-HXT	03205162	2	G	1,5	6,0	1,125	50,0	5,0	1,45	0,05	7,6	2	5,32	5,59	5,87	6,17	6,5	7,3	■
JME142015G2R010Z2.0-HXT	03205167	2	G	1,5	6,0	1,125	50,0	5,0	1,45	0,1	9,7	2	5,32	5,58	5,77	5,96	6,16	6,61	■
JME142015G2R020Z2.0-HXT	03205171	2	G	1,5	6,0	1,125	50,0	5,0	1,45	0,2	9,76	2	5,32	5,57	5,76	5,95	6,15	6,59	■

■ Stoklu standart ürün.

WDX değerleri için: α<sub>n</sub>'ye bağlı maks. kesme derinliği (lα<sub>n</sub>, ref)\*

JME142

Minyatür – Sertleştirilmiş çelik – Dik kenarlı – 2 Ağızlı – Silindirik – Köşe radyüsü



- Toleranslar:
- Salgı= <0,005 mm
- DMM = h5
- DC= < Ø0,6= 0/-0,008 mm
- DC= ≥ Ø0,6= 0/-0,01 mm
- RE = ±0,005 mm

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	CA	WDX0	WDX05	WDX1	WDX15	WDX2	WDX3	Silindirik
				mm	mm	mm	mm	mm	mm	mm									
JME142018G2R005Z2.0-HXT	03205174	2	G	1,8	6,0	1,35	50,0	5,0	1,75	0,05	2	9,4	5,32	5,58	5,77	5,96	6,17	6,62	■
JME142018G2R010Z2.0-HXT	03205177	2	G	1,8	6,0	1,35	50,0	5,0	1,75	0,1	2	9,43	5,32	5,58	5,77	5,96	6,16	6,61	■
JME142020G2R005Z2.0-HXT	03205180	2	G	2,0	6,0	1,5	50,0	6,0	1,94	0,05	2	8,52	6,35	6,64	6,85	7,08	7,33	7,87	■
JME142020G2R010Z2.0-HXT	03205185	2	G	2,0	6,0	1,5	50,0	6,0	1,94	0,1	2	8,55	6,35	6,64	6,85	7,08	7,32	7,86	■
JME142020G2R020Z2.0-HXT	03205188	2	G	2,0	6,0	1,5	50,0	6,0	1,94	0,2	2	8,6	6,35	6,63	6,84	7,07	7,3	7,84	■
JME142020G2R030Z2.0-HXT	03205191	2	G	2,0	6,0	1,5	50,0	6,0	1,94	0,3	2	8,66	6,35	6,63	6,84	7,06	7,29	7,81	■
JME142025G2R005Z2.0-HXT	03205192	2	G	2,5	6,0	1,875	50,0	7,5	2,4	0,05	2	7,1	7,97	8,26	8,52	8,81	9,11	9,79	■
JME142025G2R010Z2.0-HXT	03205195	2	G	2,5	6,0	1,875	50,0	7,5	2,4	0,1	2	7,13	7,97	8,26	8,52	8,8	9,11	9,78	■
JME142025G2R020Z2.0-HXT	03205198	2	G	2,5	6,0	1,875	50,0	7,5	2,4	0,2	2	7,17	7,97	8,25	8,51	8,79	9,09	9,76	■
JME142030G2R005Z2.0-HXT	03205201	2	G	3,0	6,0	2,25	50,0	9,0	2,85	0,05	2	5,81	9,59	9,9	10,21	10,56	10,92	11,73	■
JME142030G2R010Z2.0-HXT	03205205	2	G	3,0	6,0	2,25	50,0	9,0	2,85	0,1	2	5,82	9,59	9,89	10,21	10,55	10,91	11,72	■
JME142030G2R020Z2.0-HXT	03205208	2	G	3,0	6,0	2,25	50,0	9,0	2,85	0,2	2	5,86	9,59	9,89	10,2	10,54	10,9	11,7	■
JME142030G2R030Z2.0-HXT	03205211	2	G	3,0	6,0	2,25	50,0	9,0	2,85	0,3	2	5,9	9,59	9,89	10,2	10,53	10,89	11,68	■
JME142005J3R005Z2.0-HXT	03205089	3	J	0,5	4,0	0,375	40,0	2,5	0,46	0,05	2	11,24	1,41	2,63	2,86	3,01	3,13	3,36	■
JME142005J3R010Z2.0-HXT	03205095	3	J	0,5	4,0	0,375	40,0	2,5	0,46	0,1	2	11,29	1,41	2,62	2,86	3,0	3,12	3,35	■
JME142005G3R005Z2.0-HXT	03205090	3	G	0,5	6,0	0,375	50,0	3,5	0,46	0,05	2	11,55	3,78	4,0	4,16	4,3	4,44	4,77	■
JME142005G3R010Z2.0-HXT	03205096	3	G	0,5	6,0	0,375	50,0	3,5	0,46	0,1	2	11,59	3,78	4,0	4,15	4,29	4,44	4,76	■
JME142006J3R005Z2.0-HXT	03205103	3	J	0,6	4,0	0,45	40,0	3,0	0,56	0,05	2	10,58	1,42	3,05	3,37	3,54	3,67	3,94	■
JME142006J3R010Z2.0-HXT	03205109	3	J	0,6	4,0	0,45	40,0	3,0	0,56	0,1	2	10,63	1,42	3,04	3,36	3,53	3,66	3,93	■
JME142006G3R005Z2.0-HXT	03205104	3	G	0,6	6,0	0,45	50,0	4,0	0,56	0,05	2	8,46	4,27	4,52	4,74	4,98	5,25	5,9	■
JME142006G3R010Z2.0-HXT	03205110	3	G	0,6	6,0	0,45	50,0	4,0	0,56	0,1	2	8,48	4,27	4,52	4,73	4,98	5,24	5,88	■
JME142008J3R005Z2.0-HXT	03205124	3	J	0,8	4,0	0,6	40,0	4,0	0,76	0,05	2	9,36	1,56	3,46	4,39	4,59	4,75	5,1	■
JME142008J3R010Z2.0-HXT	03205131	3	J	0,8	4,0	0,6	40,0	4,0	0,76	0,1	2	9,4	1,57	3,4	4,39	4,59	4,75	5,09	■
JME142008G3R005Z2.0-HXT	03205126	3	G	0,8	6,0	0,6	50,0	5,5	0,76	0,05	2	9,89	5,77	6,08	6,28	6,49	6,72	7,21	■
JME142008G3R010Z2.0-HXT	03205132	3	G	0,8	6,0	0,6	50,0	5,5	0,76	0,1	2	9,92	5,77	6,08	6,28	6,49	6,71	7,2	■
JME142008G3R020Z2.0-HXT	03205137	3	G	0,8	6,0	0,6	50,0	5,5	0,76	0,2	2	9,98	5,77	6,07	6,27	6,48	6,7	7,18	■
JME142010G3R005Z2.0-HXT	03205141	3	G	1,0	6,0	0,75	50,0	7,0	0,95	0,05	2	8,84	7,32	7,65	7,9	8,16	8,44	9,07	■
JME142010G3R010Z2.0-HXT	03205146	3	G	1,0	6,0	0,75	50,0	7,0	0,95	0,1	2	8,86	7,32	7,65	7,9	8,16	8,44	9,06	■
JME142010G3R020Z2.0-HXT	03205149	3	G	1,0	6,0	0,75	50,0	7,0	0,95	0,2	2	8,91	7,32	7,65	7,89	8,15	8,42	9,04	■
JME142012G3R005Z2.0-HXT	03205153	3	G	1,2	6,0	0,9	50,0	8,0	1,15	0,05	2	8,16	8,32	8,68	8,96	9,26	9,58	10,29	■
JME142012G3R010Z2.0-HXT	03205156	3	G	1,2	6,0	0,9	50,0	8,0	1,15	0,1	2	8,19	8,32	8,68	8,96	9,26	9,58	10,28	■
JME142012G3R020Z2.0-HXT	03205159	3	G	1,2	6,0	0,9	50,0	8,0	1,15	0,2	2	8,23	8,32	8,68	8,95	9,25	9,56	10,26	■
JME142015G3R005Z2.0-HXT	03205163	3	G	1,5	6,0	1,125	50,0	10,0	1,45	0,05	2	7,05	10,32	10,75	11,09	11,46	11,86	12,74	■
JME142015G3R010Z2.0-HXT	03205169	3	G	1,5	6,0	1,125	50,0	10,0	1,45	0,1	2	7,06	10,32	10,75	11,09	11,46	11,85	12,73	■
JME142015G3R020Z2.0-HXT	03205172	3	G	1,5	6,0	1,125	50,0	10,0	1,45	0,2	2	7,1	10,32	10,74	11,08	11,45	11,84	12,71	■

■ Stoklu standart ürün.

WDX değerleri için: αη'ye bağlı maks. kesme derinliği (αη, ref)\*

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve diğer materyaller için

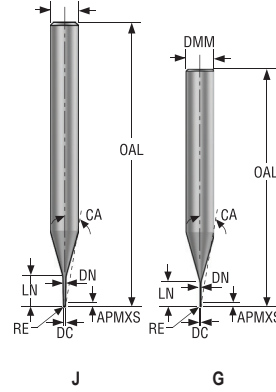
Grafit materyale için

Minimaster Plus

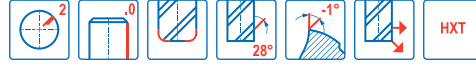
Minimaster

## JME142

Minyatür – Sertleştirilmiş çelik – Dik kenarlı – 2 Ağızlı – Silindirik – Köşe radyüsü



- Toleranslar:
- Salgı= <0,005 mm
- DMM = h5
- DC= < Ø0,6= 0/-0,008 mm
- DC= ≥ Ø0,6= 0/-0,01 mm
- RE = ±0,005 mm



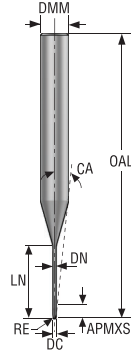
Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	CA	WDX0	WDX05	WDX1	WDX15	WDX2	WDX3	Silindirik
JME142018G3R005Z2.0-HXT	03205175	3	G	1,8	6,0	1,35	50,0	10,0	1,75	0,05	2	6,77	10,32	10,75	11,09	11,46	11,86	12,74	■
JME142018G3R010Z2.0-HXT	03205178	3	G	1,8	6,0	1,35	50,0	10,0	1,75	0,1	2	6,79	10,32	10,75	11,09	11,46	11,85	12,73	■
JME142020G3R005Z2.0-HXT	03205181	3	G	2,0	6,0	1,5	50,0	12,0	1,94	0,05	2	5,9	12,35	12,83	13,24	13,68	14,16	15,21	■
JME142020G3R010Z2.0-HXT	03205186	3	G	2,0	6,0	1,5	50,0	12,0	1,94	0,1	2	5,92	12,35	12,83	13,24	13,68	14,15	15,2	■
JME142020G3R020Z2.0-HXT	03205189	3	G	2,0	6,0	1,5	50,0	12,0	1,94	0,2	2	5,95	12,35	12,82	13,23	13,67	14,14	15,18	■
JME142025G3R005Z2.0-HXT	03205193	3	G	2,5	6,0	1,875	50,0	12,5	2,4	0,05	2	5,25	12,97	13,42	13,85	14,31	14,81	15,91	■
JME142025G3R010Z2.0-HXT	03205196	3	G	2,5	6,0	1,875	50,0	12,5	2,4	0,1	2	5,27	12,97	13,41	13,85	14,31	14,8	15,9	■
JME142025G3R020Z2.0-HXT	03205199	3	G	2,5	6,0	1,875	50,0	12,5	2,4	0,2	2	5,29	12,97	13,41	13,84	14,3	14,79	15,88	■
JME142030G3R005Z2.0-HXT	03205202	3	G	3,0	6,0	2,25	60,0	15,0	2,85	0,05	2	4,14	15,59	16,08	16,6	17,16	17,75	19,07	■
JME142030G3R010Z2.0-HXT	03205206	3	G	3,0	6,0	2,25	60,0	15,0	2,85	0,1	2	4,15	15,59	16,08	16,6	17,15	17,75	19,06	■
JME142030G3R020Z2.0-HXT	03205209	3	G	3,0	6,0	2,25	60,0	15,0	2,85	0,2	2	4,17	15,59	16,08	16,59	17,14	17,73	19,04	■
JME142030G3R030Z2.0-HXT	03205212	3	G	3,0	6,0	2,25	60,0	15,0	2,85	0,3	2	4,19	15,59	16,08	16,59	17,13	17,72	19,02	■
JME142005J4R005Z2.0-HXT	03205091	4	J	0,5	4,0	0,375	40,0	4,0	0,46	0,05	2	9,71	1,41	3,12	4,38	4,58	4,74	5,09	■
JME142005J4R010Z2.0-HXT	03205097	4	J	0,5	4,0	0,375	40,0	4,0	0,46	0,1	2	9,76	1,41	3,06	4,37	4,58	4,74	5,08	■
JME142005G4R005Z2.0-HXT	03205092	4	G	0,5	6,0	0,375	50,0	5,0	0,46	0,05	2	10,42	5,28	5,56	5,75	5,95	6,15	6,61	■
JME142005G4R010Z2.0-HXT	03205098	4	G	0,5	6,0	0,375	50,0	5,0	0,46	0,1	2	10,45	5,28	5,56	5,75	5,94	6,14	6,6	■
JME142006J4R005Z2.0-HXT	03205105	4	J	0,6	4,0	0,45	40,0	5,0	0,56	0,05	2	8,79	1,42	3,13	5,39	5,63	5,82	6,26	■
JME142006J4R010Z2.0-HXT	03205118	4	J	0,6	4,0	0,45	40,0	5,0	0,56	0,1	2	8,83	1,42	3,08	5,39	5,62	5,81	6,24	■
JME142006G4R005Z2.0-HXT	03205106	4	G	0,6	6,0	0,45	50,0	6,0	0,56	0,05	2	9,72	6,27	6,6	6,82	7,04	7,29	7,83	■
JME142006G4R010Z2.0-HXT	03205120	4	G	0,6	6,0	0,45	50,0	6,0	0,56	0,1	2	9,75	6,27	6,59	6,81	7,04	7,28	7,82	■
JME142008J4R005Z2.0-HXT	03205127	4	J	0,8	4,0	0,6	40,0	7,0	0,76	0,05	2	7,28	1,56	3,46	7,43	7,72	7,98	8,57	■
JME142008J4R010Z2.0-HXT	03205133	4	J	0,8	4,0	0,6	40,0	7,0	0,76	0,1	2	7,3	1,57	3,4	7,42	7,71	7,98	8,56	■
JME142008G4R005Z2.0-HXT	03205128	4	G	0,8	6,0	0,6	50,0	8,0	0,76	0,05	2	8,49	8,27	8,67	8,95	9,24	9,56	10,27	■
JME142008G4R010Z2.0-HXT	03205134	4	G	0,8	6,0	0,6	50,0	8,0	0,76	0,1	2	8,51	8,27	8,66	8,94	9,24	9,56	10,26	■
JME142008G4R020Z2.0-HXT	03205138	4	G	0,8	6,0	0,6	50,0	8,0	0,76	0,2	2	8,56	8,27	8,66	8,94	9,23	9,54	10,24	■
JME142010G4R005Z2.0-HXT	03205142	4	G	1,0	6,0	0,75	50,0	10,0	0,95	0,05	2	7,47	10,32	10,75	11,09	11,46	11,86	12,74	■
JME142010G4R010Z2.0-HXT	03205147	4	G	1,0	6,0	0,75	50,0	10,0	0,95	0,1	2	7,48	10,32	10,75	11,09	11,46	11,85	12,73	■
JME142010G4R020Z2.0-HXT	03205150	4	G	1,0	6,0	0,75	50,0	10,0	0,95	0,2	2	7,52	10,32	10,74	11,08	11,45	11,84	12,71	■
JME142012G4R005Z2.0-HXT	03205154	4	G	1,2	6,0	0,9	50,0	12,0	1,15	0,05	2	6,61	12,32	12,81	13,22	13,66	14,14	15,19	■
JME142012G4R010Z2.0-HXT	03205157	4	G	1,2	6,0	0,9	50,0	12,0	1,15	0,1	2	6,62	12,32	12,81	13,22	13,66	14,13	15,18	■
JME142012G4R020Z2.0-HXT	03205160	4	G	1,2	6,0	0,9	50,0	12,0	1,15	0,2	2	6,65	12,32	12,8	13,21	13,65	14,12	15,16	■
JME142015G4R005Z2.0-HXT	03205164	4	G	1,5	6,0	1,125	60,0	15,0	1,45	0,05	2	5,54	15,32	15,9	16,42	16,97	17,55	18,86	■
JME142015G4R010Z2.0-HXT	03205170	4	G	1,5	6,0	1,125	60,0	15,0	1,45	0,1	2	5,55	15,32	15,9	16,41	16,96	17,55	18,85	■
JME142015G4R020Z2.0-HXT	03205173	4	G	1,5	6,0	1,125	60,0	15,0	1,45	0,2	2	5,58	15,32	15,9	16,41	16,95	17,53	18,83	■

■ Stoklu standart ürün.

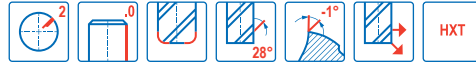
WDX değerleri için: α<sub>1</sub>'ye bağlı maks. kesme derinliği (lα<sub>1</sub>, ref)\*

## JME142

Minyatür – Sertleştirilmiş çelik – Dik kenarlı – 2 Ağızlı – Silindirik – Köşe radyüsü



G



- Toleranslar:
- Salgı= <0,005 mm
- DMM = h5
- DC= < Ø0,6= 0/-0,008 mm
- DC= ≥ Ø0,6= 0/-0,01 mm
- RE = ±0,005 mm



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	CA	WDX0	WDX05	WDX1	WDX15	WDX2	WDX3	Silindirik
				mm	mm	mm	mm	mm	mm	mm									
JME142018G4R005Z2.0-HXT	03205176	4	G	1,8	6,0	1,35	60,0	18,0	1,75	0,05	2	4,68	18,32	19,0	19,61	20,27	20,97	22,53	■
JME142018G4R010Z2.0-HXT	03205179	4	G	1,8	6,0	1,35	60,0	18,0	1,75	0,1	2	4,69	18,32	19,0	19,61	20,26	20,96	22,52	■
JME142020G4R005Z2.0-HXT	03205182	4	G	2,0	6,0	1,5	60,0	20,0	1,94	0,05	2	4,19	20,35	21,08	21,76	22,49	23,27	25,0	■
JME142020G4R010Z2.0-HXT	03205187	4	G	2,0	6,0	1,5	60,0	20,0	1,94	0,1	2	4,19	20,35	21,08	21,76	22,48	23,26	24,99	■
JME142020G4R020Z2.0-HXT	03205190	4	G	2,0	6,0	1,5	60,0	20,0	1,94	0,2	2	4,21	20,35	21,07	21,75	22,47	23,25	24,97	■
JME142025G4R005Z2.0-HXT	03205194	4	G	2,5	6,0	1,875	65,0	25,0	2,4	0,05	2	3,18	25,47	26,31	27,16	28,07	29,04	31,2	■
JME142025G4R010Z2.0-HXT	03205197	4	G	2,5	6,0	1,875	65,0	25,0	2,4	0,1	2	3,19	25,47	26,31	27,16	28,06	29,03	31,19	■
JME142025G4R020Z2.0-HXT	03205200	4	G	2,5	6,0	1,875	65,0	25,0	2,4	0,2	2	3,2	25,47	26,3	27,15	28,05	29,02	31,17	■
JME142030G4R010Z2.0-HXT	03205207	4	G	3,0	6,0	2,25	80,0	30,0	2,85	0,1	2	2,41	30,59	31,55	32,57	33,66	34,83	-	■
JME142030G4R020Z2.0-HXT	03205210	4	G	3,0	6,0	2,25	80,0	30,0	2,85	0,2	2	2,42	30,59	31,55	32,57	33,65	34,81	-	■
JME142030G4R030Z2.0-HXT	03205213	4	G	3,0	6,0	2,25	80,0	30,0	2,85	0,3	2	2,42	30,59	31,55	32,56	33,64	34,8	-	■
JME142010G5R005Z2.0-HXT	03205143	5	G	1,0	6,0	0,75	60,0	15,0	0,95	0,05	2	5,93	15,32	15,9	16,42	16,97	17,55	18,86	■
JME142015G5R005Z2.0-HXT	03205165	5	G	1,5	6,0	1,125	80,0	22,5	1,45	0,05	2	4,2	22,82	23,64	24,4	25,22	26,09	28,04	■
JME142020G5R005Z2.0-HXT	03205183	5	G	2,0	6,0	1,5	80,0	30,0	1,94	0,05	2	3,07	30,35	31,39	32,41	33,49	34,65	37,24	■
JME142030G5R005Z2.0-HXT	03205203	5	G	3,0	6,0	2,25	90,0	45,0	2,85	0,05	2	1,7	45,59	47,03	48,55	50,17	-	-	■
JME142010G6R005Z2.0-HXT	03205144	6	G	1,0	6,0	0,75	60,0	20,0	0,95	0,05	2	4,92	20,32	21,06	21,74	22,47	23,25	24,98	■
JME142015G6R005Z2.0-HXT	03205166	6	G	1,5	6,0	1,125	80,0	30,0	1,45	0,05	2	3,37	30,32	31,37	32,39	33,47	34,63	37,21	■
JME142020G6R005Z2.0-HXT	03205184	6	G	2,0	6,0	1,5	80,0	40,0	1,94	0,05	2	2,42	40,35	41,71	43,06	44,5	46,04	-	■
JME142030G6R005Z2.0-HXT	03205204	6	G	3,0	6,0	2,25	90,0	60,0	2,85	0,05	2	1,31	60,59	62,5	64,52	-	-	-	■

■ Stoklu standart ürün.

WDX değerleri için: α1'ye bağlı maks. kesme derinliği (lα1, ref)\*

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve cırp materyaller için

Grafit materyale için

Minimaster Plus

Minimaster

Kesme verileri – JME142 Finitş kenar frezeleme

SMG	a <sub>e</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>														v <sub>c</sub>
			0.2	0.3	0.4	0.5	0.6	0.8	1	1.2	1.5	1.8	2	2.5	3		
H3	M/A	0.0500	0.30	0.0036	0.0055	0.0070	0.0090	0.011	0.014	0.018	0.022	0.026	0.032	0.036	0.044	0.055	90 (59–110)
		0,0500	0,30	0,00014	0,00022	0,00028	0,00036	0,00044	0,00055	0,00070	0,00085	0,0010	0,0013	0,0014	0,0017	0,0022	295 (200—360)
H5	M/A	0.0500	0.46	0.0040	0.0060	0.0080	0.010	0.012	0.016	0.020	0.024	0.030	0.036	0.040	0.050	0.060	160 (140–190)
		0,0500	0,46	0,00016	0,00024	0,00032	0,00040	0,00048	0,00065	0,00080	0,00095	0,0012	0,0014	0,0016	0,0020	0,0024	520 (460—620)
H7	M/A	0.0500	0.30	0.0036	0.0055	0.0070	0.0090	0.011	0.014	0.018	0.022	0.026	0.032	0.036	0.044	0.055	90 (59–110)
		0,0500	0,30	0,00014	0,00022	0,00028	0,00036	0,00044	0,00055	0,00070	0,00085	0,0010	0,0013	0,0014	0,0017	0,0022	295 (200—360)
H8	M/A	0.0500	0.46	0.0040	0.0060	0.0080	0.010	0.012	0.016	0.020	0.024	0.030	0.036	0.040	0.050	0.060	160 (140–190)
		0,0500	0,46	0,00016	0,00024	0,00032	0,00040	0,00048	0,00065	0,00080	0,00095	0,0012	0,0014	0,0016	0,0020	0,0024	520 (460—620)
H11	M/A	0.0500	0.46	0.0040	0.0060	0.0080	0.010	0.012	0.016	0.020	0.024	0.030	0.036	0.040	0.050	0.060	205 (170–240)
		0,0500	0,46	0,00016	0,00024	0,00032	0,00040	0,00048	0,00065	0,00080	0,00095	0,0012	0,0014	0,0016	0,0020	0,0024	670 (560–780)
H12	M/A	0.0500	0.46	0.0040	0.0060	0.0080	0.010	0.012	0.016	0.020	0.024	0.030	0.036	0.040	0.050	0.060	190 (160–220)
		0,0500	0,46	0,00016	0,00024	0,00032	0,00040	0,00048	0,00065	0,00080	0,00095	0,0012	0,0014	0,0016	0,0020	0,0024	620 (530–720)
H21	M/A	0.0500	0.46	0.0040	0.0060	0.0080	0.010	0.012	0.016	0.020	0.024	0.030	0.036	0.040	0.050	0.060	160 (140–190)
		0,0500	0,46	0,00016	0,00024	0,00032	0,00040	0,00048	0,00065	0,00080	0,00095	0,0012	0,0014	0,0016	0,0020	0,0024	520 (460—620)
H31	M/A	0.0500	0.46	0.0040	0.0060	0.0080	0.010	0.012	0.016	0.020	0.024	0.030	0.036	0.040	0.050	0.060	120 (110–140)
		0,0500	0,46	0,00016	0,00024	0,00032	0,00040	0,00048	0,00065	0,00080	0,00095	0,0012	0,0014	0,0016	0,0020	0,0024	395 (370—450)

Kesme verileri – JME142 Kanal açma

SMG	a <sub>p</sub> /DC	f <sub>z</sub>														v <sub>c</sub>
		0.2	0.3	0.4	0.5	0.6	0.8	1	1.2	1.5	1.8	2	2.5	3		
H3	M/A	0.012	0.0024	0.0036	0.0048	0.0060	0.0070	0.0095	0.012	0.014	0.018	0.022	0.024	0.030	0.036	65 (43–85)
		0,012	0,000095	0,00014	0,00019	0,00024	0,00028	0,00038	0,00048	0,00055	0,00070	0,00085	0,00095	0,0012	0,0014	215 (150—270)
H5	M/A	0.020	0.0040	0.0060	0.0080	0.010	0.012	0.016	0.020	0.024	0.030	0.036	0.040	0.050	0.060	120 (97–130)
		0,020	0,00016	0,00024	0,00032	0,00040	0,00048	0,00065	0,00080	0,00095	0,0012	0,0014	0,0016	0,0020	0,0024	395 (320—420)
H7	M/A	0.012	0.0024	0.0036	0.0048	0.0060	0.0070	0.0095	0.012	0.014	0.018	0.022	0.024	0.030	0.036	65 (43–85)
		0,012	0,000095	0,00014	0,00019	0,00024	0,00028	0,00038	0,00048	0,00055	0,00070	0,00085	0,00095	0,0012	0,0014	215 (150—270)
H8	M/A	0.020	0.0040	0.0060	0.0080	0.010	0.012	0.016	0.020	0.024	0.030	0.036	0.040	0.050	0.060	120 (97–130)
		0,020	0,00016	0,00024	0,00032	0,00040	0,00048	0,00065	0,00080	0,00095	0,0012	0,0014	0,0016	0,0020	0,0024	395 (320—420)
H11	M/A	0.020	0.0040	0.0060	0.0080	0.010	0.012	0.016	0.020	0.024	0.030	0.036	0.040	0.050	0.060	150 (130–170)
		0,020	0,00016	0,00024	0,00032	0,00040	0,00048	0,00065	0,00080	0,00095	0,0012	0,0014	0,0016	0,0020	0,0024	490 (430—550)
H12	M/A	0.020	0.0040	0.0060	0.0080	0.010	0.012	0.016	0.020	0.024	0.030	0.036	0.040	0.050	0.060	135 (120–160)
		0,020	0,00016	0,00024	0,00032	0,00040	0,00048	0,00065	0,00080	0,00095	0,0012	0,0014	0,0016	0,0020	0,0024	445 (400—520)
H21	M/A	0.012	0.0024	0.0036	0.0048	0.0060	0.0070	0.0095	0.012	0.014	0.018	0.022	0.024	0.030	0.036	120 (98–140)
		0,012	0,000095	0,00014	0,00019	0,00024	0,00028	0,00038	0,00048	0,00055	0,00070	0,00085	0,00095	0,0012	0,0014	395 (330—450)
H31	M/A	0.020	0.0040	0.0060	0.0080	0.010	0.012	0.016	0.020	0.024	0.030	0.036	0.040	0.050	0.060	90 (73–100)
		0,020	0,00016	0,00024	0,00032	0,00040	0,00048	0,00065	0,00080	0,00095	0,0012	0,0014	0,0016	0,0020	0,0024	295 (240—320)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)

f<sub>z</sub> = mm (inç/ağız)

a<sub>p</sub> mm/DC (inç/DC) = faktör

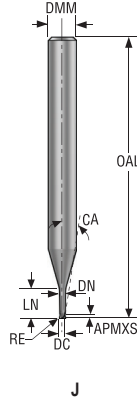
a<sub>e</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

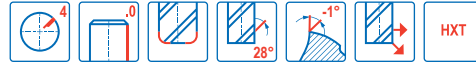


## JME144

Minyatür – Sertleştirilmiş çelik – Dik kenarlı – 4 Ağızlı – Silindirik – Köşe radyüsü



J



- Toleranslar:
- Salgı= <0,005 mm
- DMM=h5
- DC = 0-0,01 mm
- RE= ±0,005 mm

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	CA	WDX0	WDX05	WDX1	WDX15	WDX2	WDX3	Silindirik	
				mm	mm	mm	mm	mm	mm	mm										
JME144010J2R005Z4.0-HXT	03205214	2	J	1,0	4,0	0,75	40,0	4,0	0,95	0,05	4	9,08	2,04	4,12	4,44	4,62	4,78	5,14	■	
JME144010J2R010Z4.0-HXT	03205217	2	J	1,0	4,0	0,75	40,0	4,0	0,95	0,1	4	9,13	2,04	4,11	4,43	4,62	4,78	5,13	■	
JME144010J2R020Z4.0-HXT	03205220	2	J	1,0	4,0	0,75	40,0	4,0	0,95	0,2	4	9,22	2,04	4,09	4,42	4,61	4,76	5,1	■	
JME144012J2R005Z4.0-HXT	03205221	2	J	1,2	4,0	0,9	50,0	4,5	1,15	0,05	4	8,37	2,18	4,59	4,96	5,15	5,33	5,72	■	
JME144012J2R010Z4.0-HXT	03205224	2	J	1,2	4,0	0,9	50,0	4,5	1,15	0,1	4	8,41	2,18	4,59	4,95	5,15	5,33	5,71	■	
JME144015J2R005Z4.0-HXT	03205227	2	J	1,5	4,0	1,125	50,0	5,0	1,45	0,05	4	7,52	2,4	5,09	5,48	5,69	5,88	6,32	■	
JME144015J2R010Z4.0-HXT	03205229	2	J	1,5	4,0	1,125	50,0	5,0	1,45	0,1	4	7,56	2,4	5,08	5,47	5,68	5,87	6,31	■	
JME144015J2R020Z4.0-HXT	03205232	2	J	1,5	4,0	1,125	50,0	5,0	1,45	0,2	4	7,63	2,4	5,06	5,47	5,67	5,86	6,28	■	
JME144020J2R005Z4.0-HXT	03205234	2	J	2,0	4,0	1,5	50,0	6,0	1,94	0,05	4	5,97	3,09	6,16	6,54	6,77	7,0	7,52	■	
JME144020J2R010Z4.0-HXT	03205236	2	J	2,0	4,0	1,5	50,0	6,0	1,94	0,1	4	6,0	3,09	6,15	6,54	6,76	6,99	7,51	■	
JME144020J2R020Z4.0-HXT	03205239	2	J	2,0	4,0	1,5	50,0	6,0	1,94	0,2	4	6,06	3,1	6,14	6,53	6,75	6,98	7,49	■	
JME144020J2R030Z4.0-HXT	03205241	2	J	2,0	4,0	1,5	50,0	6,0	1,94	0,3	4	6,12	3,1	6,13	6,52	6,74	6,97	7,47	■	
JME144030J2R010Z4.0-HXT	03205243	2	J	3,0	4,0	2,25	50,0	9,0	2,85	0,1	4	2,66	6,76	9,44	9,78	10,1	10,45	-	■	
JME144030J2R020Z4.0-HXT	03205246	2	J	3,0	4,0	2,25	50,0	9,0	2,85	0,2	4	2,69	6,76	9,44	9,77	10,09	10,44	-	■	
JME144010J3R005Z4.0-HXT	03205215	3	J	1,0	4,0	0,75	40,0	5,0	0,95	0,05	4	8,27	2,04	4,52	5,45	5,66	5,86	6,29	■	
JME144010J3R010Z4.0-HXT	03205218	3	J	1,0	4,0	0,75	40,0	5,0	0,95	0,1	4	8,3	2,04	4,47	5,44	5,66	5,85	6,28	■	
JME144012J3R005Z4.0-HXT	03205222	3	J	1,2	4,0	0,9	50,0	6,0	1,15	0,05	4	7,3	2,18	4,85	6,47	6,71	6,94	7,46	■	
JME144012J3R010Z4.0-HXT	03205225	3	J	1,2	4,0	0,9	50,0	6,0	1,15	0,1	4	7,33	2,18	4,79	6,47	6,71	6,94	7,45	■	
JME144015J3R005Z4.0-HXT	03205228	3	J	1,5	4,0	1,125	50,0	7,5	1,45	0,05	4	6,04	2,4	5,34	8,0	8,29	8,57	9,21	■	
JME144015J3R010Z4.0-HXT	03205230	3	J	1,5	4,0	1,125	50,0	7,5	1,45	0,1	4	6,06	2,4	5,28	8,0	8,28	8,57	9,2	■	
JME144020J3R005Z4.0-HXT	03205235	3	J	2,0	4,0	1,5	50,0	10,0	1,94	0,05	4	4,29	3,09	6,9	10,57	10,93	11,31	12,15	■	
JME144020J3R010Z4.0-HXT	03205237	3	J	2,0	4,0	1,5	50,0	10,0	1,94	0,1	4	4,31	3,09	6,84	10,57	10,92	11,3	12,14	■	
JME144030J3R005Z4.0-HXT	03205242	3	J	3,0	4,0	2,25	50,0	15,0	2,85	0,05	4	1,74	6,76	15,06	15,82	16,35	-	-	■	
JME144030J3R010Z4.0-HXT	03205244	3	J	3,0	4,0	2,25	50,0	15,0	2,85	0,1	4	1,75	6,76	15,04	15,82	16,35	-	-	■	
JME144010J4R005Z4.0-HXT	03205216	4	J	1,0	4,0	0,75	40,0	8,5	0,95	0,05	4	6,28	2,04	4,52	8,98	9,3	9,63	10,34	■	
JME144010J4R010Z4.0-HXT	03205219	4	J	1,0	4,0	0,75	40,0	8,5	0,95	0,1	4	6,31	2,04	4,47	8,98	9,3	9,62	10,33	■	
JME144012J4R005Z4.0-HXT	03205223	4	J	1,2	4,0	0,9	50,0	10,0	1,15	0,05	4	5,44	2,18	4,85	10,51	10,87	11,25	12,09	■	
JME144012J4R010Z4.0-HXT	03205226	4	J	1,2	4,0	0,9	50,0	10,0	1,15	0,1	4	5,46	2,18	4,79	10,5	10,87	11,24	12,07	■	
JME144015J4R010Z4.0-HXT	03205231	4	J	1,5	4,0	1,125	60,0	12,0	1,45	0,1	4	4,46	2,4	5,28	12,53	12,96	13,41	14,4	■	
JME144015J4R020Z4.0-HXT	03205233	4	J	1,5	4,0	1,125	60,0	12,0	1,45	0,2	4	4,49	2,4	5,17	12,53	12,95	13,4	14,38	■	
JME144020J4R010Z4.0-HXT	03205238	4	J	2,0	4,0	1,5	60,0	16,0	1,94	0,1	4	3,02	3,09	6,84	16,61	17,16	17,76	19,08	■	
JME144020J4R020Z4.0-HXT	03205240	4	J	2,0	4,0	1,5	60,0	16,0	1,94	0,2	4	3,04	3,1	6,72	16,6	17,16	17,74	19,05	■	
JME144030J4R010Z4.0-HXT	03205245	4	J	3,0	4,0	2,25	60,0	24,0	2,85	0,1	4	1,16	6,76	15,09	24,88	-	-	-	■	
JME144030J4R020Z4.0-HXT	03205248	4	J	3,0	4,0	2,25	60,0	24,0	2,85	0,2	4	1,16	6,76	14,97	24,87	-	-	-	■	

■ Stoklu standart ürün.

WDX değerleri için: α<sub>1</sub>'ye bağlı maks. kesme derinliği (lα<sub>1</sub>, ref)\*

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve cırp materyaller için

Grafit materyale için

Mimimaster Plus

Mimimaster

Kesme verileri – JME144 Finitş kenar frezeleme

SMG		$a_e/DC$	$a_p/DC$	$f_z$					$v_c$
				1.0	1.2	1.5	2.0	3	
H3	M/A	0.0500	0.095	0.013	0.016	0.020	0.026	0.040	95 (65–120)
		0,0500	0,095	0,00050	0,00065	0,00080	0,0010	0,0016	310 (220–390)
H5	M/A	0.0500	0.22	0.014	0.017	0.020	0.028	0.042	165 (140–190)
		0,0500	0,22	0,00055	0,00065	0,00080	0,0011	0,0017	540 (460–620)
H7	M/A	0.0500	0.095	0.013	0.016	0.020	0.026	0.040	95 (65–120)
		0,0500	0,095	0,00050	0,00065	0,00080	0,0010	0,0016	310 (220–390)
H8	M/A	0.0500	0.22	0.014	0.017	0.020	0.028	0.042	165 (140–190)
		0,0500	0,22	0,00055	0,00065	0,00080	0,0011	0,0017	540 (460–620)
H11	M/A	0.0500	0.22	0.014	0.017	0.020	0.028	0.042	210 (180–240)
		0,0500	0,22	0,00055	0,00065	0,00080	0,0011	0,0017	690 (600–780)
H12	M/A	0.0500	0.22	0.014	0.017	0.020	0.028	0.042	190 (160–220)
		0,0500	0,22	0,00055	0,00065	0,00080	0,0011	0,0017	620 (530–720)
H21	M/A	0.0500	0.22	0.014	0.017	0.020	0.028	0.042	165 (140–190)
		0,0500	0,22	0,00055	0,00065	0,00080	0,0011	0,0017	540 (460–620)
H31	M/A	0.0500	0.22	0.014	0.017	0.020	0.028	0.042	125 (110–140)
		0,0500	0,22	0,00055	0,00065	0,00080	0,0011	0,0017	410 (370–450)

Kesme verileri – JME144 Kanal açma

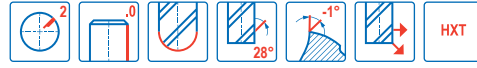
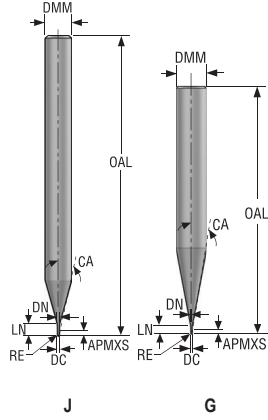
SMG		$a_p/DC$	$f_z$					$v_c$
			1.0	1.2	1.5	2.0	3.0	
H3	M/A	0.0090	0.0065	0.0075	0.0095	0.013	0.019	65 (43–84)
		0,0090	0,00026	0,00030	0,00038	0,00050	0,00075	215 (150–270)
H5	M/A	0.019	0.012	0.014	0.018	0.024	0.036	115 (96–130)
		0,019	0,00048	0,00055	0,00070	0,00095	0,0014	375 (320–420)
H7	M/A	0.0090	0.0065	0.0075	0.0095	0.013	0.019	65 (43–84)
		0,0090	0,00026	0,00030	0,00038	0,00050	0,00075	215 (150–270)
H8	M/A	0.019	0.012	0.014	0.018	0.024	0.036	115 (96–130)
		0,019	0,00048	0,00055	0,00070	0,00095	0,0014	375 (320–420)
H11	M/A	0.019	0.012	0.014	0.018	0.024	0.036	150 (130–170)
		0,019	0,00048	0,00055	0,00070	0,00095	0,0014	490 (430–550)
H12	M/A	0.019	0.012	0.014	0.018	0.024	0.036	135 (120–160)
		0,019	0,00048	0,00055	0,00070	0,00095	0,0014	445 (400–520)
H21	M/A	0.019	0.012	0.014	0.018	0.024	0.036	115 (96–130)
		0,019	0,00048	0,00055	0,00070	0,00095	0,0014	375 (320–420)
H31	M/A	0.019	0.012	0.014	0.018	0.024	0.036	90 (73–100)
		0,019	0,00048	0,00055	0,00070	0,00095	0,0014	295 (240–320)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu  
Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama  
 $v_c$  = m/dak (sf/dak)  
 $f_z$  = mm (inç/ajız)  
 $a_p$  mm/DC (inç/DC) = faktör  
 $a_e$  = mm/DC (inç/DC) = faktör  
Tüm kesme verileri hedef değerlerdir

# JMB112

Minyatür – Sertleştirilmiş çelik – Tamamı yuvarlak – 2 Ağızlı – Silindirik



- Toleranslar:
- Salgı= <0,005 mm
- DMM= h5
- DC= <math>\lt;0,6= 0/-0,008\text{ mm}</math>
- DC= <math>\geq 0,6= 0/-0,01\text{ mm}</math>
- RE= <math>\lt;0,5= \pm 0,004\text{ mm}</math>
- RE= <math>\geq 0,5= \pm 0,005\text{ mm}</math>

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	CA	WDX0	WDX05	WDX1	WDX15	WDX2	WDX3	Silindirik
JMB112002G1BZ2.0-HXT	03204964	1	G	0,2	4,0	0,15	40,0	0,4	0,18	0,1	2	15,11	0,49	0,5	0,52	0,54	0,55	0,59	■
JMB112003G1BZ2.0-HXT	03204966	1	G	0,3	4,0	0,225	40,0	0,6	0,28	0,15	2	14,77	0,69	0,71	0,73	0,75	0,77	0,82	■
JMB112004G1BZ2.0-HXT	03204968	1	G	0,4	4,0	0,3	40,0	0,8	0,37	0,2	2	14,32	0,95	0,97	1,0	1,02	1,05	1,12	■
JMB112005G1BZ2.0-HXT	03204970	1	G	0,5	4,0	0,5	40,0	1,0	0,46	0,25	2	13,97	1,15	1,18	1,21	1,24	1,27	1,35	■
JMB112006G1BZ2.0-HXT	03204977	1	G	0,6	4,0	0,6	40,0	1,2	0,56	0,3	2	13,64	1,34	1,37	1,41	1,45	1,49	1,58	■
JMB112008G1BZ2.0-HXT	03204984	1	G	0,8	6,0	0,8	50,0	1,6	0,76	0,4	2	13,96	1,74	1,78	1,83	1,88	1,93	2,04	■
JMB112010G1BZ2.0-HXT	03204991	1	G	1,0	6,0	1,0	50,0	2,0	0,95	0,5	2	13,49	2,14	2,19	2,25	2,31	2,37	2,51	■
JMB112012G1BZ2.0-HXT	03205000	1	G	1,2	6,0	1,2	50,0	2,4	1,15	0,6	2	13,02	2,54	2,6	2,67	2,74	2,81	2,98	■
JMB112015G1BZ2.0-HXT	03205009	1	G	1,5	6,0	1,5	50,0	3,0	1,45	0,75	2	12,2	3,23	3,31	3,39	3,48	3,57	3,79	■
JMB112002J2BZ2.0-HXT	03204965	2	J	0,2	4,0	0,15	40,0	0,6	0,18	0,1	2	14,33	0,51	0,72	0,8	0,87	0,94	1,06	■
JMB112003J2BZ2.0-HXT	03204967	2	J	0,3	4,0	0,225	40,0	0,9	0,28	0,15	2	13,85	0,61	0,99	1,11	1,2	12,7	1,42	■
JMB112004J2BZ2.0-HXT	03204969	2	J	0,4	4,0	0,3	40,0	1,2	0,37	0,2	2	13,3	1,02	1,35	1,47	1,57	1,65	1,79	■
JMB112005J2BZ2.0-HXT	03204971	2	J	0,5	4,0	0,5	40,0	1,5	0,46	0,25	2	12,85	1,53	1,72	1,84	1,93	2,02	2,17	■
JMB112005G2BZ2.0-HXT	03204972	2	G	0,5	6,0	0,5	50,0	1,5	0,46	0,25	2	9,91	1,78	1,89	1,98	2,07	2,17	2,41	■
JMB112006J2BZ2.0-HXT	03204978	2	J	0,6	4,0	0,6	50,0	2,0	0,56	0,3	2	12,09	1,57	2,19	2,35	2,46	2,56	2,74	■
JMB112006G2BZ2.0-HXT	03204979	2	G	0,6	6,0	0,6	50,0	2,0	0,56	0,3	2	9,62	2,27	2,41	2,52	2,63	2,76	3,07	■
JMB112008J2BZ2.0-HXT	03204985	2	J	0,8	4,0	0,8	50,0	2,5	0,76	0,4	2	11,34	1,77	2,67	2,86	2,99	3,1	3,31	■
JMB112008G2BZ2.0-HXT	03204986	2	G	0,8	6,0	0,8	50,0	2,5	0,76	0,4	2	9,33	2,77	2,93	3,06	3,2	3,35	3,72	■
JMB112010J2BZ2.0-HXT	03204992	2	J	1,0	4,0	1,0	40,0	4,0	0,95	0,5	2	9,49	2,29	4,13	4,42	4,59	4,74	5,06	■
JMB112010G2BZ2.0-HXT	03204993	2	G	1,0	6,0	1,0	50,0	4,0	0,95	0,5	2	8,49	4,32	4,52	4,72	4,94	5,19	5,77	■
JMB112012J2BZ2.0-HXT	03205001	2	J	1,2	4,0	1,2	50,0	4,5	1,15	0,6	2	8,83	2,49	4,6	4,93	5,12	5,28	5,63	■
JMB112012G2BZ2.0-HXT	03205002	2	G	1,2	6,0	1,2	50,0	4,5	1,15	0,6	2	8,21	4,82	5,04	5,26	5,51	5,78	6,42	■
JMB112015J2BZ2.0-HXT	03205010	2	J	1,5	4,0	1,5	50,0	5,0	1,45	0,75	2	8,1	2,78	5,09	5,45	5,64	5,81	6,19	■
JMB112015G2BZ2.0-HXT	03205011	2	G	1,5	6,0	1,5	50,0	5,0	1,45	0,75	2	10,14	5,32	5,55	5,72	5,89	6,07	6,47	■
JMB112018J2BZ2.0-HXT	03205019	2	J	1,8	4,0	1,8	50,0	5,0	1,75	0,9	2	7,71	3,08	5,15	5,46	5,64	5,81	6,17	■
JMB112018G2BZ2.0-HXT	03205018	2	G	1,8	6,0	1,8	50,0	5,0	1,75	0,9	2	9,99	5,32	5,55	5,71	5,88	6,05	6,44	■
JMB112020J2BZ2.0-HXT	03205024	2	J	2,0	4,0	2,0	50,0	6,0	1,94	1,0	2	6,6	3,6	6,16	6,5	6,7	6,9	7,34	■
JMB112020G2BZ2.0-HXT	03205025	2	G	2,0	6,0	2,0	50,0	6,0	1,94	1,0	2	9,1	6,35	6,6	6,79	6,99	7,2	7,66	■
JMB112025J2BZ2.0-HXT	03205032	2	J	2,5	4,0	2,5	50,0	7,5	2,4	1,25	2	4,75	5,4	7,81	8,12	8,35	8,59	9,14	■
JMB112025G2BZ2.0-HXT	03205033	2	G	2,5	6,0	2,5	50,0	7,5	2,4	1,25	2	7,71	7,97	8,22	8,45	8,69	8,95	9,53	■
JMB112030J2BZ2.0-HXT	03205037	2	J	3,0	4,0	3,0	50,0	9,0	2,85	1,5	2	3,04	7,53	9,44	9,73	10,01	10,31	10,96	■
JMB112030G2BZ2.0-HXT	03205038	2	G	3,0	6,0	3,0	50,0	9,0	2,85	1,5	2	6,35	9,59	9,85	10,12	10,41	10,72	11,42	■

■ Stoklu standart ürün.

WDX değerleri için:  $\alpha_1$ 'ye bağlı maks. kesme derinliği ( $\alpha_1$ , ref)\*

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve cırp materyaller için

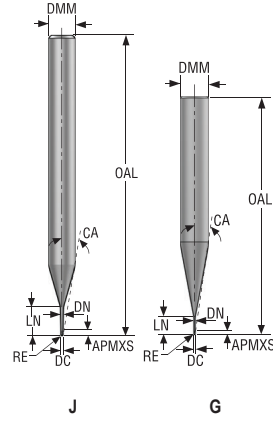
Grafit materyale için

Minimaster Plus

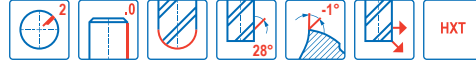
Minimaster

## JMB112

Minyatür – Sertleştirilmiş çelik – Tamamı yuvarlak – 2 Ağızlı – Silindirik



- Toleranslar:
- Salgı= <0,005 mm
- DMM= h5
- DC= <math>\lt;0,6= 0/-0,008\text{ mm}</math>
- DC= <math>\geq 0,6= 0/-0,01\text{ mm}</math>
- RE= <math>\lt;0,5= \pm 0,004\text{ mm}</math>
- RE= <math>\geq 0,5= \pm 0,005\text{ mm}</math>



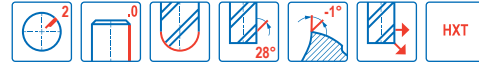
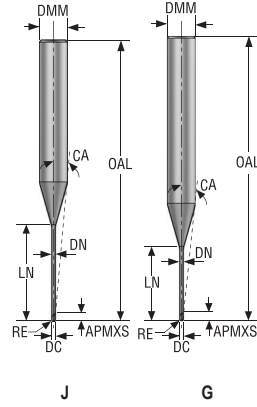
Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	CA	WDX0	WDX05	WDX1	WDX15	WDX2	WDX3	Silindirik
JMB112005J3BZ2.0-HXT	03204973	3	J	0,5	4,0	0,5	40,0	2,5	0,46	0,25	2	11,49	1,54	2,63	2,85	2,99	3,11	3,32	■
JMB112005G3BZ2.0-HXT	03204974	3	G	0,5	6,0	0,5	50,0	3,5	0,46	0,25	2	8,81	3,78	3,99	4,18	4,38	4,61	5,15	■
JMB112006J3BZ2.0-HXT	03204980	3	J	0,6	4,0	0,6	40,0	3,0	0,56	0,3	2	10,83	1,57	3,07	3,36	3,52	3,65	3,9	■
JMB112006G3BZ2.0-HXT	03204981	3	G	0,6	6,0	0,6	50,0	4,0	0,56	0,3	2	8,56	4,27	4,51	4,72	4,94	5,2	5,81	■
JMB112008J3BZ2.0-HXT	03204987	3	J	0,8	4,0	0,8	40,0	4,0	0,76	0,4	2	9,67	1,77	3,52	4,38	4,57	4,72	5,05	■
JMB112008G3BZ2.0-HXT	03204988	3	G	0,8	6,0	0,8	50,0	5,5	0,76	0,4	2	10,1	5,77	6,06	6,26	6,46	6,67	7,14	■
JMB112010J3BZ2.0-HXT	03204994	3	J	1,0	4,0	1,0	40,0	5,0	0,95	0,5	2	8,6	2,29	4,57	5,43	5,64	5,82	6,22	■
JMB112010G3BZ2.0-HXT	03204995	3	G	1,0	6,0	1,0	50,0	7,0	0,95	0,5	2	9,06	7,32	7,64	7,87	8,12	8,38	8,97	■
JMB112012J3BZ2.0-HXT	03205003	3	J	1,2	4,0	1,2	50,0	6,0	1,15	0,6	2	7,65	2,49	4,9	6,45	6,68	6,89	7,36	■
JMB112012G3BZ2.0-HXT	03205004	3	G	1,2	6,0	1,2	50,0	8,0	1,15	0,6	2	8,42	8,32	8,67	8,93	9,21	9,51	10,17	■
JMB112015J3BZ2.0-HXT	03205012	3	J	1,5	4,0	1,5	40,0	7,5	1,45	0,75	2	6,4	2,78	5,33	7,97	8,24	8,5	9,08	■
JMB112015G3BZ2.0-HXT	03205013	3	G	1,5	6,0	1,5	50,0	10,0	1,45	0,75	2	7,31	10,32	10,72	11,05	11,39	11,76	12,59	■
JMB112018J3BZ2.0-HXT	03205020	3	J	1,8	4,0	1,8	50,0	9,0	1,75	0,9	2	5,28	3,08	5,81	9,49	9,8	10,11	10,8	■
JMB112018G3BZ2.0-HXT	03205021	3	G	1,8	6,0	1,8	50,0	12,0	1,75	0,9	2	6,35	12,32	12,78	13,17	13,58	14,02	15,0	■
JMB112020J3BZ2.0-HXT	03205026	3	J	2,0	4,0	2,0	50,0	10,0	1,94	1,0	2	4,61	3,6	6,86	10,53	10,86	11,21	11,97	■
JMB112020G3BZ2.0-HXT	03205027	3	G	2,0	6,0	2,0	50,0	12,0	1,94	1,0	2	6,19	12,35	12,8	13,18	13,59	14,03	15,0	■
JMB112025J3BZ2.0-HXT	03205034	3	J	2,5	4,0	2,5	50,0	12,5	2,4	1,25	2	3,13	5,4	10,6	13,15	13,55	13,97	14,92	■
JMB112025G3BZ2.0-HXT	03205035	3	G	2,5	6,0	2,5	50,0	15,0	2,4	1,25	2	4,91	15,47	15,96	16,43	16,94	17,49	18,71	■
JMB112030J3BZ2.0-HXT	03205039	3	J	3,0	4,0	3,0	50,0	15,0	2,85	1,5	2	1,91	7,53	15,03	15,77	16,25	-	-	■
JMB112030G3BZ2.0-HXT	03205040	3	G	3,0	6,0	3,0	60,0	15,0	2,85	1,5	2	4,41	15,59	16,04	16,51	17,01	17,55	18,76	■

■ Stoklu standart ürün.

WDX değerleri için:  $\alpha_n$ 'ye bağlı maks. kesme derinliği ( $l_{\alpha_n}$ , ref)\*

# JMB112

Minyatür – Sertleştirilmiş çelik – Tamamı yuvarlak – 2 Ağızlı – Silindirik



- Toleranslar:
- Salgı= <0,005 mm
- DMM= h5
- DC= <math>\lt;0,6= 0/-0,008\text{ mm}</math>
- DC= <math>\geq 0,6= 0/-0,01\text{ mm}</math>
- RE= <math>\lt;0,5= \pm 0,004\text{ mm}</math>
- RE= <math>\geq 0,5= \pm 0,005\text{ mm}</math>

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	CA	WDX0	WDX05	WDX1	WDX15	WDX2	WDX3	Silindirik	
				mm	mm	mm	mm	mm	mm	mm										
JMB112005J4BZ2.0-HXT	03204975	4	J	0,5	4,0	0,5	40,0	4,0	0,46	0,25	2	9,9	1,54	3,15	4,37	4,57	4,72	5,06	■	
JMB112005G4BZ2.0-HXT	03204976	4	G	0,5	6,0	0,5	50,0	5,0	0,46	0,25	2	10,55	5,28	5,55	5,74	5,93	6,12	6,56	■	
JMB112006J4BZ2.0-HXT	03204982	4	J	0,6	4,0	0,6	40,0	5,0	0,56	0,3	2	8,97	1,57	3,19	5,38	5,61	5,8	6,21	■	
JMB112006G4BZ2.0-HXT	03204983	4	G	0,6	6,0	0,6	50,0	6,0	0,56	0,3	2	9,86	6,27	6,59	6,8	7,02	7,25	7,77	■	
JMB112008J4BZ2.0-HXT	03204989	4	J	0,8	4,0	0,8	40,0	7,0	0,76	0,4	2	7,46	1,77	3,52	7,41	7,7	7,95	8,52	■	
JMB112008G4BZ2.0-HXT	03204990	4	G	0,8	6,0	0,8	50,0	8,0	0,76	0,4	2	8,65	8,27	8,65	8,92	9,21	9,52	10,2	■	
JMB112010J4BZ2.0-HXT	03204996	4	J	1,0	4,0	1,0	40,0	8,5	0,95	0,5	2	6,48	2,29	4,57	8,96	9,28	9,58	10,26	■	
JMB112010G4BZ2.0-HXT	03204998	4	G	1,0	6,0	1,0	50,0	10,0	0,95	0,5	2	7,63	10,32	10,73	11,06	11,42	11,8	12,64	■	
JMB112012J4BZ2.0-HXT	03205005	4	J	1,2	4,0	1,2	50,0	10,0	1,15	0,6	2	5,63	2,49	4,9	10,48	10,84	11,2	11,99	■	
JMB112012G4BZ2.0-HXT	03205006	4	G	1,2	6,0	1,2	50,0	12,0	1,15	0,6	2	8,77	12,32	12,79	13,19	13,61	14,06	15,07	■	
JMB112015J4BZ2.0-HXT	03205014	4	J	1,5	4,0	1,5	60,0	12,0	1,45	0,75	2	4,65	2,78	5,33	12,51	12,92	13,34	14,28	■	
JMB112015G4BZ2.0-HXT	03205015	4	G	1,5	6,0	1,5	70,0	15,0	1,45	0,75	2	5,7	15,32	15,88	16,37	16,9	17,46	18,71	■	
JMB112018J4BZ2.0-HXT	03205022	4	J	1,8	4,0	1,8	60,0	15,0	1,75	0,9	2	3,57	3,08	5,81	15,54	16,04	16,57	17,74	■	
JMB112018G4BZ2.0-HXT	03205023	4	G	1,8	6,0	1,8	60,0	18,0	1,75	0,9	2	4,83	18,32	18,97	19,56	20,18	20,85	22,35	■	
JMB112020J4BZ2.0-HXT	03205028	4	J	2,0	4,0	2,0	60,0	16,0	1,94	1,0	2	3,17	3,6	6,86	16,58	17,11	17,66	18,91	■	
JMB112020G4BZ2.0-HXT	03205029	4	G	2,0	6,0	2,0	60,0	18,0	1,94	1,0	2	4,68	18,35	18,99	19,57	20,19	20,86	22,35	■	
JMB112025G4BZ2.0-HXT	03205036	4	G	2,5	6,0	2,5	65,0	25,0	2,4	1,25	2	3,3	25,47	26,27	27,08	27,95	28,88	30,94	■	
JMB112030J4BZ2.0-HXT	03205041	4	J	3,0	4,0	3,0	60,0	24,0	2,85	1,5	2	1,22	7,53	15,07	24,83	-	-	-	■	
JMB112030G4BZ2.0-HXT	03205042	4	G	3,0	6,0	3,0	80,0	30,0	2,85	1,5	2	2,51	30,59	31,51	32,48	33,52	34,63	-	■	
JMB112010G5BZ2.0-HXT	03204999	5	G	1,0	6,0	1,0	60,0	15,0	0,95	0,5	2	6,04	15,32	15,89	16,39	16,92	17,49	18,76	■	
JMB112012G5BZ2.0-HXT	03205007	5	G	1,2	6,0	1,2	60,0	18,0	1,15	0,6	2	5,24	18,32	18,98	19,58	20,21	20,89	22,41	■	
JMB112015G5BZ2.0-HXT	03205016	5	G	1,5	6,0	1,5	70,0	22,5	1,45	0,75	2	4,29	22,82	23,62	24,36	25,15	26,0	27,88	■	
JMB112020G5BZ2.0-HXT	03205030	5	G	2,0	6,0	2,0	80,0	30,0	1,94	1,0	2	3,15	30,35	31,36	32,35	33,4	34,52	37,03	■	
JMB112030G5BZ2.0-HXT	03205043	5	G	3,0	6,0	3,0	90,0	45,0	2,85	1,5	2	1,75	45,59	46,98	48,45	50,03	-	-	■	
JMB112010G6BZ2.0-HXT	03205054	6	G	1,0	6,0	1,0	60,0	20,0	0,95	0,5	2	4,99	20,32	21,05	21,71	22,42	23,19	24,92	■	
JMB112012G6BZ2.0-HXT	03205008	6	G	1,2	6,0	1,2	70,0	24,0	1,15	0,6	2	4,27	24,32	25,17	25,97	26,82	27,73	29,75	■	
JMB112015G6BZ2.0-HXT	03205017	6	G	1,5	6,0	1,5	80,0	30,0	1,45	0,75	2	3,44	30,32	31,35	32,35	33,4	34,49	37,06	■	
JMB112020G6BZ2.0-HXT	03205031	6	G	2,0	6,0	2,0	80,0	40,0	1,94	1,0	2	2,47	40,35	41,68	43,0	44,4	45,91	-	■	
JMB112030G6BZ2.0-HXT	03205045	6	G	3,0	6,0	3,0	90,0	60,0	2,85	1,5	2	1,34	60,59	62,45	64,43	-	-	-	■	

■ Stoklu standart ürün.

WDX değerleri için:  $\alpha_1$ 'ye bağlı maks. kesme derinliği (l $\alpha_1$ , ref)\*

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve cırp materyaller için

Grafit materyale için

Minimaster Plus

Minimaster

Kesme verileri – JMB112 Kaba kopya frezeleme  $a_p/DC = 0,02$

SMG	M	$a_e/DC$	$a_p/DC$	$f_z$													$v_c$
				0.2	0.3	0.4	0.5	0.6	0.8	1	1.2	1.5	1.8	2	2.5	3	
H3	M	0.0500	0.30	0.0036	0.0055	0.0070	0.0090	0.011	0.014	0.018	0.022	0.026	0.032	0.036	0.044	0.048	150 (130–170)
		0,0500	0,30	0,00014	0,00022	0,00028	0,00036	0,00044	0,00055	0,00070	0,00085	0,0010	0,0013	0,0014	0,0017	0,0019	490 (430–550)
H5	M	0.0500	0.44	0.0040	0.0060	0.0080	0.010	0.012	0.016	0.020	0.024	0.030	0.036	0.040	0.050	0.060	220 (200–240)
		0,0500	0,44	0,00016	0,00024	0,00032	0,00040	0,00048	0,00065	0,00080	0,00095	0,0012	0,0014	0,0016	0,0020	0,0024	720 (660–780)
H7	M	0.0500	0.30	0.0036	0.0055	0.0070	0.0090	0.011	0.014	0.018	0.022	0.026	0.032	0.036	0.044	0.048	150 (130–170)
		0,0500	0,30	0,00014	0,00022	0,00028	0,00036	0,00044	0,00055	0,00070	0,00085	0,0010	0,0013	0,0014	0,0017	0,0019	490 (430–550)
H8	M	0.0500	0.44	0.0040	0.0060	0.0080	0.010	0.012	0.016	0.020	0.024	0.030	0.036	0.040	0.048	0.050	220 (200–240)
		0,0500	0,44	0,00016	0,00024	0,00032	0,00040	0,00048	0,00065	0,00080	0,00095	0,0012	0,0014	0,0016	0,0019	0,0020	720 (660–780)
H11	M	0.0500	0.44	0.0040	0.0060	0.0080	0.010	0.012	0.016	0.020	0.024	0.030	0.036	0.040	0.050	0.060	280 (250–310)
		0,0500	0,44	0,00016	0,00024	0,00032	0,00040	0,00048	0,00065	0,00080	0,00095	0,0012	0,0014	0,0016	0,0020	0,0024	920 (830–1000)
H12	M	0.0500	0.44	0.0040	0.0060	0.0080	0.010	0.012	0.016	0.020	0.024	0.030	0.036	0.040	0.048	0.050	255 (230–280)
		0,0500	0,44	0,00016	0,00024	0,00032	0,00040	0,00048	0,00065	0,00080	0,00095	0,0012	0,0014	0,0016	0,0019	0,0020	840 (760–910)
H21	M	0.0500	0.44	0.0040	0.0060	0.0080	0.010	0.012	0.016	0.020	0.024	0.030	0.036	0.040	0.048	0.050	220 (200–240)
		0,0500	0,44	0,00016	0,00024	0,00032	0,00040	0,00048	0,00065	0,00080	0,00095	0,0012	0,0014	0,0016	0,0019	0,0020	720 (660–780)
H31	M	0.0500	0.44	0.0040	0.0060	0.0080	0.010	0.012	0.016	0.020	0.024	0.030	0.034	0.036	0.042	0.044	165 (150–180)
		0,0500	0,44	0,00016	0,00024	0,00032	0,00040	0,00048	0,00065	0,00080	0,00095	0,0012	0,0013	0,0014	0,0017	0,0017	540 (500–590)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

$v_c = m/dak (sf/dak)$

$f_z = mm (inç/ağız)$

$a_p = mm/DC (inç/DC) = faktör$

$a_e = mm/DC (inç/DC) = faktör$

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve diğer malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster



## PLASTİK VE CFRP MALZEMELER İÇİN

Seco, cam ve karbon fiber takviyeli plastiklerin işlenmesi için sizlere çeşitli solid karbür parmak freze ürünleri sunmaktadır. Bu seri diamond kaplamalı veya kaplamasız solid karbür ve polikristalin elmas frezelerden oluşur. Farklı geometrilerde mevcuttur ve ayrıca polikristalin elmas kaynatılmış kesme kenarlarına sahiptir. İşlenmesi zor malzemelerde, zor kesme koşulları için optimize edilmiş ürün çeşitleri sunar.

- JC860, JC870, JC871, JC899, JPD890, J93F ve J28, keskin köşe tipi için.
- JC845, JC880, JC885 ve JC898, radyüs tipi için.
- JC875, JC876, JC877 ve JPD880, 45° pah tipi ile.
- JC850 ve JPD850, tamamı yuvarlak tip için.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler


























Sertleştirilmiş çelik için

Plastik ve cfrp malzemeler için

Grafit malzeme için

Minimaster Plus




































Minimaster

Plastik ve cfrp malzemeler için takım seçimi						
Universal						
						
Çelik ve dökme demir	İsim	JC845	JC850	JC860	JC870	JC871
Paslanmaz çelik ve S iş parçası malzemeleri	Sayfa(lar)	393	395	397	399	405
Demir içermeyen malzemeler	Ürün ailesi	COMPOSITE	COMPOSITE	COMPOSITE	COMPOSITE	COMPOSITE
	Freze tipi					
Sertleştirilmiş çelik için	Sap	Silindirik	■	■	■	■
		Weldon				
Plastik ve cfrp malzemeler için	Ağız sayısı	3	4	5,6,8,9		
	ICC (İçten soğutma sıvısı kanalı)					
Grafit malzeme için	Mevcut boylar	Metrik	6-8	3-12	6-12	3-12
		İnç				1/4 -1/2
Minimaster Plus	Operasyon					
						
Minimaster	SMG					
	TS1					
	TS2	•	•	•	•	•
		•	•	•	•	•
	TS3	•	•	•	•	•
		•	•	•	•	•
	TP1					
	TP2	•	•	•	•	•
		•	•	•	•	•
	TP3	•	•	•	•	•
		•	•	•	•	•
	Bal Peteği*			•	•	•

■ Stoklu standart ürün. □ Weldon sap mevcut, teslim süresi 3 iş günüdür.  
• İlk tercih ○ Alternatif tercih



Plastik ve cfrp malzemeler için takım seçimi

								
İsim		JC875	JC876	JC877	JC880	JC885	JC898	JC899
Sayfa(lar)		411	415	419	423	425	427	429
Ürün ailesi		COMPOSITE	COMPOSITE	COMPOSITE	COMPOSITE	COMPOSITE	COMPOSITE	COMPOSITE
Freze tipi								
Sap	Silindirik	■	■	■	■	■	■	■
	Weldon							
Ağız sayısı		5,6,10	6,8,10,12,14	6,8,10,12,14	4	4	4	4
ICC (İçten soğutma sıvısı kanalı)							■	
	Metrik	3-10	3-12	3-12	4-20	4-10	8-15	8,5-14,8
	İnç	1/4 -1/2	1/4-1/2	1/4-1/2				
Mevcut boylar								
		2	2	2	2	2	2	2
Operasyon								
								
SMG								
TS1								
TS2		•	•	•	•	•		
TS3		•	•	•	•	•		
TP1								
TP2		•	•	•	•	•		
TP3		•	•	•	•	•		
Bal Peteği*								

■ Stoklu standart ürün. □ Weldon sap mevcut, teslim süresi 3 iş günüdür.  
• İlk tercih ○ Alternatif tercih

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cfrp malzemeler için



























Grafit malzeme için

Minimaster Plus

Minimaster

Universal  
Çelik ve dökme demir  
Paslanmaz çelik ve S iş parçası malzemeleri  
Demir içermeyen malzemeler  
Sertleştirilmiş çelik için  
Plastik ve cfrp malzemeler için  
Grafit malzeme için  
Minimaster Plus  
Minimaster

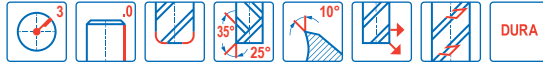
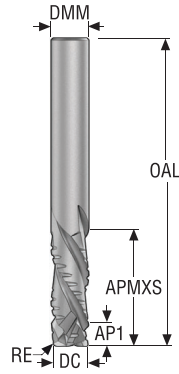
Plastik ve cfrp malzemeler için takım seçimi

						
İsim		JPD850	JPD880	JPD890	J93F	J28
Sayfa(lar)		432	434	436	438	440
Ürün ailesi		PCD	PCD	PCD	VHM	VHM
Freze tipi						
Sap	Silindirik	■	■	■	■	■
	Weldon					
Ağız sayısı		2	3	2	2	1
ICC (İçten soğutma sıvısı kanalı)		■	■	■		
	Metrik	4-10	6-16	6-12	1,5-20	3-12
	İnç					
Mevcut boylar						
	2	2,3	2,3	1,2,3,4	2	
Operasyon						
						
						
SMG						
TS1				●	●	
TS2	●	●	●			
TS3	●	●	●			
TP1				●		
TP2	●	●	●			
TP3	●	●	●			
Bal Peteği*						

■ Stoklu standart ürün. □ Weldon sap mevcut, teslim süresi 3 iş günüdür.  
● İlk tercih ○ Alternatif tercih

## JC845

Kompozit – Compression – 3 Ağızlı – Silindirik – Köşe radyüsü



- Toleranslar:
- DMM=h5
- DC=-0,02/-0,04 mm
- RE=±0,01 mm

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	AP1	OAL	RE	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm		
JC845060D2R050.0Z3-DURA	02843006	2	D	6,0	6,0	18,0	4,2	65,0	0,5	3	■
JC845080D2R050.0Z3-DURA	02843007	2	D	8,0	8,0	24,0	5,2	75,0	0,5	3	■
JC845100D2R050.0Z3-DURA	02843008	2	D	10,0	10,0	30,0	6,3	85,0	0,5	3	■
JC845120D2R050.0Z5-DURA	02843009	2	D	12,0	12,0	36,0	8,3	100,0	0,5	5	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cfrp malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

Kesme verileri – JC845 Finiş kenar frezeleme

SMG		$a_p/DC$	$a_p/DC$	$f_z$				$v_c$
				6	8	10	12	
TS2	E/A/D	0.376	1.5	0.038	0.050	0.060	0.075	185 (130 – 240)
		0,376	1,5	0,0015	0,0020	0,0024	0,0030	610 (430 – 780)
TS3	E/A/D	0.376	1.4	0.038	0.050	0.060	0.075	125 (87 – 160)
		0,376	1,4	0,0015	0,0020	0,0024	0,0030	410 (290 – 520)
TP2	E/A/D	0.376	1.5	0.038	0.050	0.060	0.075	125 (87 – 180)
		0,376	1,5	0,0015	0,0020	0,0024	0,0030	410 (290 – 590)
TP3	E/A/D	0.376	1.4	0.038	0.050	0.060	0.075	85 (62 – 110)
		0,376	1,4	0,0015	0,0020	0,0024	0,0030	280 (210 – 360)

Kesme verileri – JC845 Kanal açma

SMG		$a_p/DC$	$f_z$				$v_c$
			6	8	10	12	
TS2	E/A/D	1.0	0.025	0.032	0.040	0.050	160 (110 – 210)
		1,0	0,0010	0,0013	0,0016	0,0020	520 (370 – 680)
TS3	E/A/D	0.75	0.025	0.032	0.040	0.050	105 (76 – 130)
		0,75	0,0010	0,0013	0,0016	0,0020	345 (250 – 420)
TP2	E/A/D	1.0	0.025	0.032	0.040	0.050	105 (75 – 160)
		1,0	0,0010	0,0013	0,0016	0,0020	345 (250 – 520)
TP3	E/A/D	0.75	0.025	0.032	0.040	0.050	75 (54 – 96)
		0,75	0,0010	0,0013	0,0016	0,0020	245 (180 – 310)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprej yağlama

$v_c = m/dak$  (sf/dak)

$f_z = mm$  (inç/ağız)

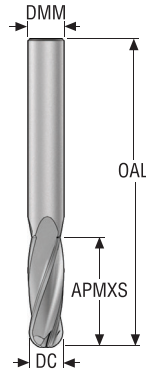
$a_p$  mm/DC (inç/DC) = faktör

$a_b$  mm/DC (inç/DC) = faktör

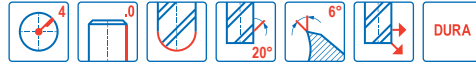
Tüm kesme verileri hedef değerlerdir

## JC850

Kompozit – Tamamı yuvarlak – 4 Ağızlı – Silindirik



D



- Toleranslar:
- DMM=h5
- DC=-0,02/-0,04 mm
- RE= ±0,02 mm

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	PCEDC	Silindirik
				mm	mm	mm	mm		
850030Z4.0-DURA	02719949	2	D	3,0	3,0	9,0	50,0	4	■
850040Z4.0-DURA	02719952	2	D	4,0	4,0	12,0	50,0	4	■
850060Z4.0-DURA	02719953	2	D	6,0	6,0	18,0	65,0	4	■
850080Z4.0-DURA	02719954	2	D	8,0	8,0	24,0	70,0	4	■
850100Z4.0-DURA	02719955	2	D	10,0	10,0	30,0	85,0	4	■
850120Z4.0-DURA	02719956	2	D	12,0	12,0	36,0	100,0	4	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cfrp malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

Kesme verileri – JC850 Kopya frezeleme

SMG		$a_p/DC$	$a_e/DC$	$f_z$						$v_c$
				3	4	6	8	10	12	
TS2	E/A/D	0.200	2.0	0.030	0.040	0.060	0.080	0.10	0.12	265 (220 – 320)
		0,200	2,0	0,0012	0,0016	0,0024	0,0032	0,0040	0,0048	870 (730–1000)
TS3	E/A/D	0.200	2.0	0.024	0.032	0.048	0.065	0.080	0.095	160 (110 – 210)
		0,200	2,0	0,00095	0,0013	0,0019	0,0026	0,0032	0,0038	520 (370 – 680)
TP2	E/A/D	0.200	2.0	0.030	0.040	0.060	0.080	0.10	0.12	215 (110 – 320)
		0,200	2,0	0,0012	0,0016	0,0024	0,0032	0,0040	0,0048	710 (370–1000)
TP3	E/A/D	0.200	2.0	0.024	0.032	0.048	0.065	0.080	0.095	105 (54 – 150)
		0,200	2,0	0,00095	0,0013	0,0019	0,0026	0,0032	0,0038	345 (180 – 490)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

$v_c$  = m/dak (sf/dak)

$f_z$  = mm (inç/ağız)

$a_p$  mm/DC (inç/DC) = faktör

$a_e$  = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cfrp malzemeler için

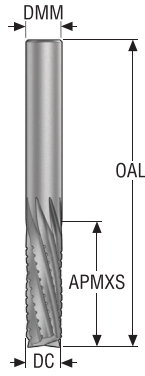
Grafit malzeme için

Minimaster Plus

Minimaster

## JC860

Bal Peteği – Dik kenarlı – 5-9 Ağızlı – Silindirik – Keskin



D



- Toleranslar:
- DMM=h5
- DC= -0.02-0.08 mm
- FCEDC=ön ağızlar



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	FCEDC	PCEDC	Silindirik
				mm	mm	mm	mm			
860060Z5.0-DURA	02720211	2	D	6,0	6,0	18,0	70,0	2	5	■
860080Z6.0-DURA	02720212	2	D	8,0	8,0	24,0	80,0	2	6	■
860100Z8.0-DURA	02720216	2	D	10,0	10,0	30,0	90,0	2	8	■
860120Z9.0-DURA	02720217	2	D	12,0	12,0	36,0	110,0	2	9	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cfrp malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

Kesme verileri – JC860 Finiş kenar frezeleme

SMG		$a_g/DC$	$a_p/DC$	$f_z$				$v_c$
				6	8	10	12	
TS2	E/A/D	0.100	1.0	0.024	0.032	0.040	0.048	235 (200 — 270)
		0,100	1,0	0,00095	0,0013	0,0016	0,0019	770 (660 — 880)
TS3	E/A/D	0.100	1.0	0.024	0.032	0.040	0.048	160 (130—180)
		0,100	1,0	0,00095	0,0013	0,0016	0,0019	520 (430 — 590)
TP2	E/A/D	0.100	1.0	0.024	0.032	0.040	0.048	165 (130 — 200)
		0,100	1,0	0,00095	0,0013	0,0016	0,0019	540 (430 — 650)
TP3	E/A/D	0.100	1.0	0.024	0.032	0.040	0.048	65 (50—110)
		0,100	1,0	0,00095	0,0013	0,0016	0,0019	215 (170 — 360)

Kesme verileri – JC860 Kanal açma

SMG		$a_p/DC$	$f_z$				$v_c$
			6	8	10	12	
TS2	E/A/D	0.50	0.012	0.016	0.020	0.025	160 (140—180)
		0,50	0,00048	0,00065	0,00080	0,0010	520 (460 — 590)
TS3	E/A/D	0.50	0.012	0.016	0.020	0.025	105 (85—120)
		0,50	0,00048	0,00065	0,00080	0,0010	345 (280 — 390)
TP2	E/A/D	0.50	0.012	0.016	0.020	0.025	110 (84—130)
		0,50	0,00048	0,00065	0,00080	0,0010	360 (280 — 420)
TP3	E/A/D	0.50	0.012	0.016	0.020	0.025	44 (34—78)
		0,50	0,00048	0,00065	0,00080	0,0010	145 (120 — 250)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprej yağlama

$v_c = m/dak$  (sf/dak)

$f_z = mm$  (inç/ağız)

$a_p = mm/DC$  (inç/DC) = faktör

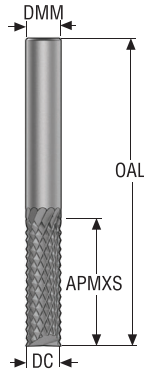
$a_g = mm/DC$  (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

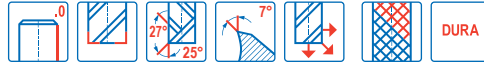


## JC870

Kompozit – Router – Dik kenarlı – Silindirik – Keskin



D



- Toleranslar:
- DMM=h5
- DC=-0,02/-0,08 mm
- Router (aşağı-kesim)\*

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	FCEDC	PCEDC	Silindirik
				mm	mm	mm	mm			
870030.0-DURA	02720219	2	D	3,0	3,0	9,0	50,0	2	8	■
870040.0-DURA	02720226	2	D	4,0	4,0	12,0	50,0	2	8	■
870060.0-DURA	02720228	2	D	6,0	6,0	18,0	65,0	2	10	■
870080.0-DURA	02720229	2	D	8,0	8,0	24,0	75,0	2	12	■
870100.0-DURA	02720231	2	D	10,0	10,0	30,0	85,0	2	12	■
870120.0-DURA	02720232	2	D	12,0	12,0	36,0	100,0	2	14	■

## ■ Stoklu standart ürün.

\* Aşağı-kesim ağız geometrisi, özellikle iş parçasının vakumlu hava ile sıklığı durumlarda işleme sırasında aşağı doğru oluşan kesme güçlerini azaltmak için tasarlanmıştır.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cfrp malzemeler için

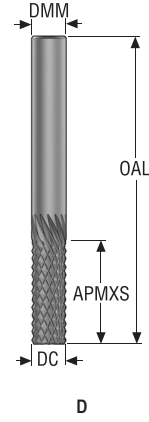
Grafit malzeme için

Minimaster Plus

Minimaster

## JC870

Kompozit – Router – Dik kenarlı – Silindirik – Keskin – *İnç*



- Toleranslar:
- DMM= h5
- DC= -.0008/- .0030 *İnç*
- Router (aşağı-kesim)\*



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	FCEDC	PCEDC	Silindirik
				<i>İnç</i>	<i>İnç</i>	<i>İnç</i>	<i>İnç</i>			
8700250.0-DURA	02720784	2	D	0.250	0.250	0.750	2.250	2	10	■
8700375.0-DURA	02720785	2	D	0.375	0.375	1.250	3.500	2	12	■

■ Stoklu standart ürün.

\* Aşağı-kesim ağız geometrisi, özellikle iş parçasının vakumlu hava ile sıklığı durumlarda işleme sırasında aşağı doğru oluşan kesme güçlerini azaltmak için tasarlanmıştır.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cfrp malzemeler için

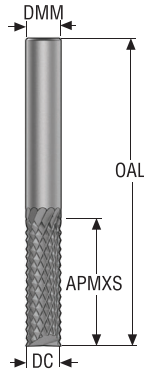
Grafit malzeme için

Minimaster Plus

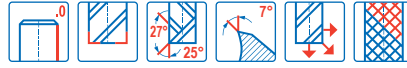
Minimaster

## JC870

Kompozit – Router – Dik kenarlı – Silindirik – Keskin



D



- Toleranslar:
- DMM=h5
- DC=-0,02/-0,08 mm
- Router (aşağı-kesim)\*



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	FCEDC	PCEDC	Silindirik
				mm	mm	mm	mm			
870030.0	02742789	2	D	3,0	3,0	9,0	50,0	2	8	■
870040.0	02742792	2	D	4,0	4,0	12,0	50,0	2	8	■
870050.0	02742793	2	D	5,0	5,0	15,0	50,0	2	10	■
870060.0	02742794	2	D	6,0	6,0	18,0	65,0	2	10	■
870080.0	02742795	2	D	8,0	8,0	24,0	75,0	2	12	■
870100.0	02742796	2	D	10,0	10,0	30,0	85,0	2	12	■
870120.0	02742797	2	D	12,0	12,0	36,0	100,0	2	14	■

## ■ Stoklu standart ürün.

\* Aşağı-kesim ağız geometrisi, özellikle iş parçasının vakumlu hava ile sıkıldığı durumlarda işleme sırasında aşağı doğru oluşan kesme güçlerini azaltmak için tasarlanmıştır.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cfrp malzemeler için

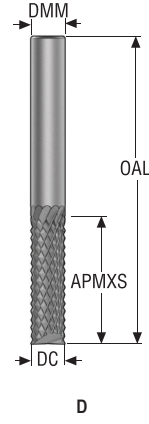
Grafit malzeme için

Minimaster Plus

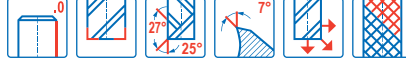
Minimaster

## JC870

Kompozit – Router – Dik kenarlı – Silindirik – Keskin – İnce



- Toleranslar:
- DMM= h5
- DC= - .0008 / - .0015 inç
- Router (aşağı-kesim)\*



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	FCEDC	PCEDC	Silindirik
				İnce	İnce	İnce	İnce			
8700250.0	02742798	2	D	0.250	0.250	0.750	2.250	2	10	■
8700500.0	02742800	2	D	0.500	0.500	1.500	4.250	2	14	■

■ Stoklu standart ürün.

\* Aşağı-kesim ağız geometrisi, özellikle iş parçasının vakumlu hava ile sıklığı durumlarda işleme sırasında aşağı doğru oluşan kesme güçlerini azaltmak için tasarlanmıştır.

## Kesme verileri – JC870 Finitş kenar frezeleme

SMG		$a_p/DC$	$a_p/DC$	$f_z$							$v_c$
				3	4	5	6	8	10	12	
TS2	E/A/D	0.350	2.0	0.0095	0.013	0.016	0.019	0.025	0.032	0.038	175 (150 – 200)
		0.350	2.0	0.00038	0.00050	0.00065	0.00075	0.0010	0.0013	0.0015	570 (500 – 650)
TS3	E/A/D	0.350	2.0	0.0095	0.013	0.016	0.019	0.025	0.032	0.038	115 (94 – 130)
		0.350	2.0	0.00038	0.00050	0.00065	0.00075	0.0010	0.0013	0.0015	375 (310 – 420)
TP2	E/A/D	0.350	2.0	0.0095	0.013	0.016	0.019	0.025	0.032	0.038	115 (88 – 140)
		0.350	2.0	0.00038	0.00050	0.00065	0.00075	0.0010	0.0013	0.0015	375 (290 – 450)
TP3	E/A/D	0.350	2.0	0.0095	0.013	0.016	0.019	0.025	0.032	0.038	46 (36 – 81)
		0.350	2.0	0.00038	0.00050	0.00065	0.00075	0.0010	0.0013	0.0015	150 (120 – 260)

## Kesme verileri – JC870 Kanal açma

SMG		$a_p/DC$	$f_z$							$v_c$
			3	4	5	6	8	10	12	
TS2	E/A/D	1.0	0.0060	0.0080	0.010	0.012	0.016	0.020	0.025	145 (130 – 170)
		1.0	0.00024	0.00032	0.00040	0.00048	0.00065	0.00080	0.0010	475 (430 – 550)
TS3	E/A/D	1.0	0.0060	0.0080	0.010	0.012	0.016	0.020	0.025	100 (79 – 110)
		1.0	0.00024	0.00032	0.00040	0.00048	0.00065	0.00080	0.0010	330 (260 – 360)
TP2	E/A/D	1.0	0.0060	0.0080	0.010	0.012	0.016	0.020	0.025	100 (74 – 120)
		1.0	0.00024	0.00032	0.00040	0.00048	0.00065	0.00080	0.0010	330 (250 – 390)
TP3	E/A/D	1.0	0.0060	0.0080	0.010	0.012	0.016	0.020	0.025	39 (30 – 68)
		1.0	0.00024	0.00032	0.00040	0.00048	0.00065	0.00080	0.0010	130 (99 – 220)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

 $v_c = m/dak$  (sf/dak) $f_z = mm$  (inç/ağız) $a_p$  mm/DC (inç/DC) = faktör $a_g$  = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için


Plastik ve cfrp malzemeler için

Grafit malzeme için


Minimaster Plus

Minimaster

Kesme verileri – JC870 Finiş kenar frezeleme – İnc

SMG		$a_p/DC$	$a_p/DC$	$f_z$			$v_c$
				1/4	3/8	1/2	
TS2	E/A/D	0.350	2.0	0.020	0.030	0.038	175 (150 – 200)
		0,350	2,0	0,00080	0,0012	0,0015	570 (500 – 650)
TS3	E/A/D	0.350	2.0	0.020	0.030	0.038	115 (94 – 130)
		0,350	2,0	0,00080	0,0012	0,0015	375 (310 – 420)
TP2	E/A/D	0.350	2.0	0.020	0.030	0.038	115 (88 – 140)
		0,350	2,0	0,00080	0,0012	0,0015	375 (290 – 450)
TP3	E/A/D	0.350	2.0	0.020	0.030	0.038	46 (36 – 81)
		0,350	2,0	0,00080	0,0012	0,0015	150 (120 – 260)

Kesme verileri – JC870 Kanal açma – İnc

SMG		$a_p/DC$	$f_z$			$v_c$
			1/4	3/8	1/2	
TS2	E/A/D	1.0	0.013	0.019	0.026	145 (130 – 170)
		1,0	0,00050	0,00075	0,0010	475 (430 – 550)
TS3	E/A/D	1.0	0.013	0.019	0.026	100 (79 – 110)
		1,0	0,00050	0,00075	0,0010	330 (260 – 360)
TP2	E/A/D	1.0	0.013	0.019	0.026	100 (74 – 120)
		1,0	0,00050	0,00075	0,0010	330 (250 – 390)
TP3	E/A/D	1.0	0.013	0.019	0.026	39 (30 – 68)
		1,0	0,00050	0,00075	0,0010	130 (99 – 220)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

$v_c = m/dak$  (sf/dak)

$f_z = mm$  (inç/ağız)

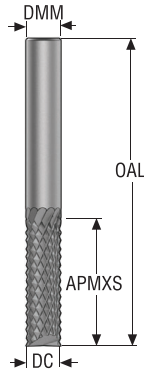
$a_p$  mm/DC (inç/DC) = faktör

$a_b$  mm/DC (inç/DC) = faktör

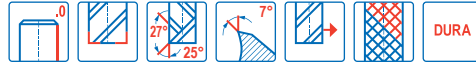
Tüm kesme verileri hedef değerlerdir

JC871

Kompozit – Router – Dik kenarlı – Silindirik – Keskin



D



- Toleranslar:
- DMM= h5
- DC= -0,02/-0,08 mm
- Router (aşağı-kesim)\*

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	PCEDC	Silindirik
				mm	mm	mm	mm		
871030.0-DURA	02720249	2	D	3,0	3,0	9,0	50,0	8	■
871040.0-DURA	02720250	2	D	4,0	4,0	12,0	50,0	8	■
871060.0-DURA	02720252	2	D	6,0	6,0	18,0	65,0	10	■
871080.0-DURA	02720253	2	D	8,0	8,0	24,0	75,0	12	■
871100.0-DURA	02720254	2	D	10,0	10,0	30,0	85,0	12	■
871120.0-DURA	02720257	2	D	12,0	12,0	36,0	100,0	14	■

■ Stoklu standart ürün.

\* Aşağı-kesim ağız geometrisi, özellikle iş parçasının vakumlu hava ile sıklığı durumlarda işleme sırasında aşağı doğru oluşan kesme güçlerini azaltmak için tasarlanmıştır.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cfrp malzemeler için

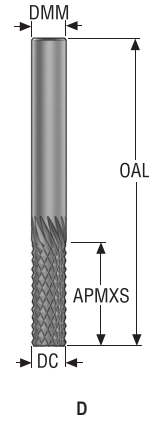
Grafit malzeme için

Minimaster Plus

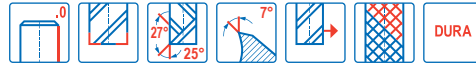
Minimaster

## JC871

Kompozit – Router – Dik kenarlı – Silindirik – Keskin – İnce



- Toleranslar:
- DMM= h5
- DC= -.0008 / -.0015 inç
- Router (aşağı-kesim)\*



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	PCEDC	Silindirik
				İnç	İnç	İnç	İnç		
8710250.0-DURA	02720788	2	D	0.250	0.250	0.750	2.250	10	■
8710375.0-DURA	02720789	2	D	0.375	0.375	1.250	3.500	12	■
8710500.0-DURA	02720790	2	D	0.500	0.500	1.500	4.250	14	■

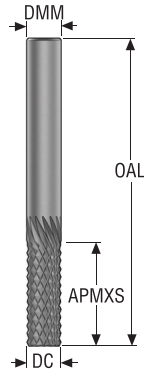
■ Stoklu standart ürün.

\* Aşağı-kesim ağız geometrisi, özellikle iş parçasının vakumlu hava ile sıklığı durumlarda işleme sırasında aşağı doğru oluşan kesme güçlerini azaltmak için tasarlanmıştır.

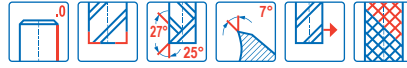


JC871

Kompozit – Router – Dik kenarlı – Silindirik – Keskin



D



- Toleranslar:
- DMM= h5
- DC= -0,02/-0,08 mm
- Router (aşağı-kesim)\*



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	PCEDC	Silindirik
				mm	mm	mm	mm		
871030.0	02742801	2	D	3,0	3,0	9,0	50,0	8	■
871040.0	02742803	2	D	4,0	4,0	12,0	50,0	8	■
871060.0	02742806	2	D	6,0	6,0	18,0	65,0	10	■
871080.0	02742807	2	D	8,0	8,0	24,0	75,0	12	■
871100.0	02742808	2	D	10,0	10,0	30,0	85,0	12	■
871120.0	02742809	2	D	12,0	12,0	36,0	100,0	14	■

■ Stoklu standart ürün.

\* Aşağı-kesim ağız geometrisi, özellikle iş parçasının vakumlu hava ile sıklığı durumlarda işleme sırasında aşağı doğru oluşan kesme güçlerini azaltmak için tasarlanmıştır.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cfrp malzemeler için

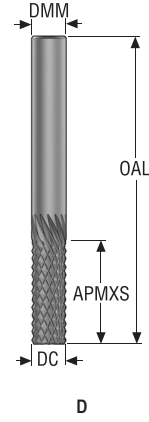
Grafit malzeme için

Minimaster Plus

Minimaster

## JC871

Kompozit – Router – Dik kenarlı – Silindirik – Keskin – İnce



- Toleranslar:
- DMM=h5
- DC=-0,02/-0,08 mm
- Router (aşağı-kesim)\*



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	PCEDC	Silindirik
8710500.0	02742814	2	D	İnce 0.500	İnce 0.500	İnce 1.500	İnce 4.250	14	■

■ Stoklu standart ürün.

\* Aşağı-kesim ağız geometrisi, özellikle iş parçasının vakumlu hava ile sıklığı durumlarda işleme sırasında aşağı doğru oluşan kesme güçlerini azaltmak için tasarlanmıştır.

## Kesme verileri – JC871 Finiş kenar frezeleme

SMG		$a_p/DC$	$a_p/DC$	$f_z$							$v_c$
				3	4	5	6	8	10	12	
TS2	E/A/D	0.350	2.0	0.0095	0.013	0.016	0.019	0.025	0.032	0.038	175 (150 – 200)
		0.350	2.0	0,00038	0,00050	0,00065	0,00075	0,0010	0,0013	0,0015	570 (500 – 650)
TS3	E/A/D	0.350	2.0	0.0095	0.013	0.016	0.019	0.025	0.032	0.038	115 (94 – 130)
		0.350	2.0	0,00038	0,00050	0,00065	0,00075	0,0010	0,0013	0,0015	375 (310 – 420)
TP2	E/A/D	0.350	2.0	0.0095	0.013	0.016	0.019	0.025	0.032	0.038	115 (88 – 140)
		0.350	2.0	0,00038	0,00050	0,00065	0,00075	0,0010	0,0013	0,0015	375 (290 – 450)
TP3	E/A/D	0.350	2.0	0.0095	0.013	0.016	0.019	0.025	0.032	0.038	46 (36 – 81)
		0.350	2.0	0,00038	0,00050	0,00065	0,00075	0,0010	0,0013	0,0015	150 (120 – 260)

## Kesme verileri – JC871 Kanal açma

SMG		$a_p/DC$	$f_z$							$v_c$
			3	4	5	6	8	10	12	
TS2	E/A/D	1.0	0.0060	0.0080	0.010	0.012	0.016	0.020	0.025	155 (140 – 180)
		1.0	0,00024	0,00032	0,00040	0,00048	0,00065	0,00080	0,0010	510 (460 – 590)
TS3	E/A/D	1.0	0.0060	0.0080	0.010	0.012	0.016	0.020	0.025	105 (84 – 120)
		1.0	0,00024	0,00032	0,00040	0,00048	0,00065	0,00080	0,0010	345 (280 – 390)
TP2	E/A/D	1.0	0.0060	0.0080	0.010	0.012	0.016	0.020	0.025	105 (79 – 130)
		1.0	0,00024	0,00032	0,00040	0,00048	0,00065	0,00080	0,0010	345 (260 – 420)
TP3	E/A/D	1.0	0.0060	0.0080	0.010	0.012	0.016	0.020	0.025	40 (31 – 70)
		1.0	0,00024	0,00032	0,00040	0,00048	0,00065	0,00080	0,0010	130 (110 – 220)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

 $v_c = m/dak$  (sf/dak) $f_z = mm$  (inç/ağız) $a_p$  mm/DC (inç/DC) = faktör $a_g$  mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cfrp malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

Kesme verileri – JC871 Finiş kenar frezeleme – İnc

SMG		$a_p/DC$	$a_p/DC$	$f_z$			$v_c$
				1/4	3/8	1/2	
TS2	E/A/D	0.350	2.0	0.020	0.030	0.038	175 (150 – 200)
		0,350	2,0	0,00080	0,0012	0,0015	570 (500 – 650)
TS3	E/A/D	0.350	2.0	0.020	0.030	0.038	115 (94 – 130)
		0,350	2,0	0,00080	0,0012	0,0015	375 (310 – 420)
TP2	E/A/D	0.350	2.0	0.020	0.030	0.038	115 (88 – 140)
		0,350	2,0	0,00080	0,0012	0,0015	375 (290 – 450)
TP3	E/A/D	0.350	2.0	0.020	0.030	0.038	46 (36 – 81)
		0,350	2,0	0,00080	0,0012	0,0015	150 (120 – 260)

Kesme verileri – JC871 Kanal açma – İnc

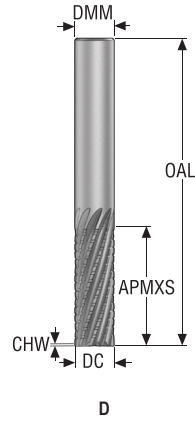
SMG		$a_p/DC$	$f_z$			$v_c$
			1/4	3/8	1/2	
TS2	E/A/D	1.0	0.013	0.019	0.026	145 (130 – 170)
		1,0	0,00050	0,00075	0,0010	475 (430 – 550)
TS3	E/A/D	1.0	0.013	0.019	0.026	100 (79 – 110)
		1,0	0,00050	0,00075	0,0010	330 (260 – 360)
TP2	E/A/D	1.0	0.013	0.019	0.026	100 (74 – 120)
		1,0	0,00050	0,00075	0,0010	330 (250 – 390)
TP3	E/A/D	1.0	0.013	0.019	0.026	39 (30 – 68)
		1,0	0,00050	0,00075	0,0010	130 (99 – 220)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

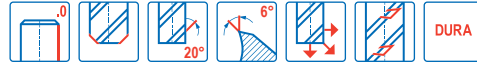
SMG = Seco malzeme grubu  
Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama  
 $v_c = m/dak$  (sf/dak)  
 $f_z = mm$  (inç/ağız)  
 $a_p$  mm/DC (inç/DC) = faktör  
 $a_b$  mm/DC (inç/DC) = faktör  
Tüm kesme verileri hedef değerlerdir

## JC875

Kompozit – Dik kenarlı – 5-10 Ağızlı – Silindirik – Köşesi pahlı



D



- Toleranslar:
- DMM=h5
- DC=-0,02/-0,08 mm

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	CHW	PCEDC	Silindirik
				mm	mm	mm	mm	mm		
JC875030D2.0-DURA	02968155	2	D	3,0	3,0	9,0	50,0	0,05	5	■
JC875050D2.0-DURA	02968157	2	D	5,0	5,0	15,0	50,0	0,05	6	■
JC875060D2.0-DURA	02968158	2	D	6,0	6,0	18,0	65,0	0,06	6	■
JC875080D2.0-DURA	02968159	2	D	8,0	8,0	24,0	70,0	0,08	10	■
JC875100D2.0-DURA	02968160	2	D	10,0	10,0	30,0	80,0	0,1	10	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cfrp malzemeler için

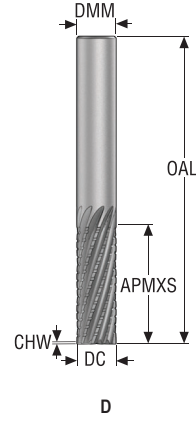
Grafit malzeme için

Minimaster Plus

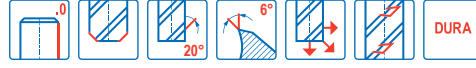
Minimaster

## JC875

Kompozit – Dik kenarlı – 6-10 Ağızlı – Silindirik – Köşesi pahlı – İnce




- Toleranslar:
- DMM=h5
- DC= -.0008/- .0030 İnce




Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	CHW	PCEDC	Silindirik
JC875.250D2.0-DURA	02968162	2	D	0.250	0.250	0.750	3.000	0.002	6	■

■ Stoklu standart ürün.

## Kesme verileri – JC875 Finiş kenar frezeleme

SMG		$a_p/DC$	$a_r/DC$	$f_z$					$v_c$
				3	5	6	8	10	
TS2	E/A/D	0.350	2.0	0.0095	0.016	0.019	0.025	0.032	190 (160 – 220)
		0,350	2,0	0,00038	0,00065	0,00075	0,0010	0,0013	620 (530 – 720)
TS3	E/A/D	0.350	2.0	0.0095	0.016	0.019	0.025	0.032	130 (110 – 150)
		0,350	2,0	0,00038	0,00065	0,00075	0,0010	0,0013	425 (370 – 490)
TP2	E/A/D	0.350	2.0	0.0095	0.016	0.019	0.025	0.032	130 (96 – 150)
		0,350	2,0	0,00038	0,00065	0,00075	0,0010	0,0013	425 (320 – 490)
TP3	E/A/D	0.350	2.0	0.0095	0.016	0.019	0.025	0.032	50 (39 – 89)
		0,350	2,0	0,00038	0,00065	0,00075	0,0010	0,0013	165 (130 – 290)

## Kesme verileri – JC875 Kanal açma

SMG		$a_p/DC$	$f_z$					$v_c$
			3	5	6	8	10	
TS2	E/A/D	1.0	0.0060	0.010	0.012	0.016	0.020	160 (140 – 180)
		1,0	0,00024	0,00040	0,00048	0,00065	0,00080	520 (460 – 590)
TS3	E/A/D	1.0	0.0060	0.010	0.012	0.016	0.020	105 (86 – 120)
		1,0	0,00024	0,00040	0,00048	0,00065	0,00080	345 (290 – 390)
TP2	E/A/D	1.0	0.0060	0.010	0.012	0.016	0.020	105 (81 – 130)
		1,0	0,00024	0,00040	0,00048	0,00065	0,00080	345 (270 – 420)
TP3	E/A/D	1.0	0.0060	0.010	0.012	0.016	0.020	42 (33 – 74)
		1,0	0,00024	0,00040	0,00048	0,00065	0,00080	140 (110 – 240)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

 $v_c = m/dak$  (sf/dak) $f_z = mm$  (inç/ağız) $a_p$  mm/DC (inç/DC) = faktör $a_r$  mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cfrp malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

Kesme verileri – JC875 Kenar frezeleme – İnc

SMG		$a_p/DC$	$a_p/DC$	$f_z$			$v_c$
				1/4	3/8	1/2	
TS2	E/A/D	0.350	2.0	0.020	0.030	0.038	190 (160 – 220)
		0,350	2,0	0,00080	0,0012	0,0015	620 (530 – 720)
TS3	E/A/D	0.350	2.0	0.020	0.030	0.038	130 (110 – 150)
		0,350	2,0	0,00080	0,0012	0,0015	425 (370 – 490)
TP2	E/A/D	0.350	2.0	0.020	0.030	0.038	130 (96 – 150)
		0,350	2,0	0,00080	0,0012	0,0015	425 (320 – 490)
TP3	E/A/D	0.350	2.0	0.020	0.030	0.038	50 (39 – 89)
		0,350	2,0	0,00080	0,0012	0,0015	165 (130 – 290)

Kesme verileri – JC875 Kanal açma – İnc

SMG		$a_p/DC$	$f_z$			$v_c$
			1/4	3/8	1/2	
TS2	E/A/D	1.0	0.013	0.019	0.026	160 (140 – 180)
		1,0	0,00050	0,00075	0,0010	520 (460 – 590)
TS3	E/A/D	1.0	0.013	0.019	0.026	105 (86 – 120)
		1,0	0,00050	0,00075	0,0010	345 (290 – 390)
TP2	E/A/D	1.0	0.013	0.019	0.026	105 (81 – 130)
		1,0	0,00050	0,00075	0,0010	345 (270 – 420)
TP3	E/A/D	1.0	0.013	0.019	0.026	42 (33 – 74)
		1,0	0,00050	0,00075	0,0010	140 (110 – 240)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

$v_c$  = m/dak (sf/dak)

$f_z$  = mm/ağz (inç/ağz)

$a_p$  mm/DC (inç/DC) = faktör

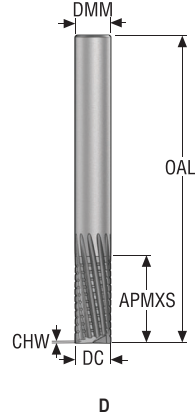
$a_p$  = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

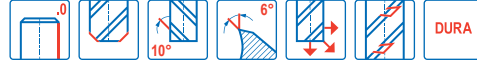


## JC876

Kompozit – Dik kenarlı – 6-14 Ağızlı – Silindirik – Köşesi pahlı



D



- Toleranslar:
- DMM=h5
- DC=-0,02 -0,08 mm
- Sol yön helis



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	CHW	PCEDC	Silindirik
				mm	mm	mm	mm	mm		
JC876030D2C.0Z6-DURA	03135004	2	D	3,0	3,0	7,5	50,0	0,035	6	■
JC876040D2C.0Z6-DURA	03135005	2	D	4,0	4,0	10,0	54,0	0,045	6	■
JC876060D2C.0Z8-DURA	03135006	2	D	6,0	6,0	15,0	62,0	0,075	8	■
JC876060D2C.0Z10-DURA	03135007	2	D	6,0	6,0	15,0	62,0	0,075	10	■
JC876080D2C.0Z10-DURA	03135009	2	D	8,0	8,0	20,0	70,0	0,1	10	■
JC876100D2C.0Z12-DURA	03135011	2	D	10,0	10,0	25,0	82,0	0,125	12	■
JC876120D2C.0Z14-DURA	03135012	2	D	12,0	12,0	30,0	95,0	0,15	14	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cfrp malzemeler için

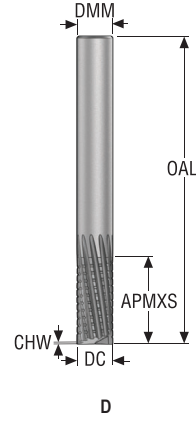
Grafit malzeme için

Minimaster Plus

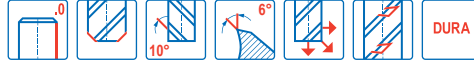
Minimaster

## JC876

Kompozit – Dik kenarlı – 8-14 Ağızlı – Silindirik – Köşesi pahlı – İnce




- Toleranslar:
- DMM=h5
- DC= -.0008/- .0030 İnce
- Sol yön helis




Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	CHW	PCEDC	Silindirik
JC876.250D2C.0Z8-DURA	03135125	2	D	0.250	0.250	0.625	2.500	0.003	8	■
JC876.375D2C.0Z12-DURA	03135127	2	D	0.375	0.375	1.000	3.000	0.005	12	■

■ Stoklu standart ürün.

## Kesme verileri – JC876 Finiş kenar frezeleme

SMG		$a_e/DC$	$a_p/DC$	$f_z$						$v_c$
				3	4	6	8	10	12	
TS2	E/A/D	0,334	1,7	0,0095	0,013	0,019	0,026	0,032	0,038	220 (190 – 250)
		0,334	1,7	0,00038	0,00050	0,00075	0,0010	0,0013	0,0015	720 (630 – 820)
TS3	E/A/D	0,334	1,7	0,0095	0,013	0,019	0,026	0,032	0,038	145 (120–170)
		0,334	1,7	0,00038	0,00050	0,00075	0,0010	0,0013	0,0015	475 (400 – 550)
TP2	E/A/D	0,334	1,7	0,0095	0,013	0,019	0,026	0,032	0,038	145 (110–180)
		0,334	1,7	0,00038	0,00050	0,00075	0,0010	0,0013	0,0015	475 (370 – 590)
TP3	E/A/D	0,334	1,7	0,0095	0,013	0,019	0,026	0,032	0,038	75 (44–100)
		0,334	1,7	0,00038	0,00050	0,00075	0,0010	0,0013	0,0015	245 (150 – 320)

## Kesme verileri – JC876 Kanal açma

SMG		$a_p/DC$	$f_z$						$v_c$
			3	4	6	8	10	12	
TS2	E/A/D	1,0	0,0060	0,0080	0,012	0,016	0,020	0,025	175 (150 – 200)
		1,0	0,00024	0,00032	0,00048	0,00065	0,00080	0,0010	570 (500 – 650)
TS3	E/A/D	1,0	0,0060	0,0080	0,012	0,016	0,020	0,025	115 (94–140)
		1,0	0,00024	0,00032	0,00048	0,00065	0,00080	0,0010	375 (310 – 450)
TP2	E/A/D	1,0	0,0060	0,0080	0,012	0,016	0,020	0,025	115 (88–140)
		1,0	0,00024	0,00032	0,00048	0,00065	0,00080	0,0010	375 (290 – 450)
TP3	E/A/D	1,0	0,0060	0,0080	0,012	0,016	0,020	0,025	60 (36 – 81)
		1,0	0,00024	0,00032	0,00048	0,00065	0,00080	0,0010	195 (120 – 260)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

 $v_c = m/dak$  (sf/dak) $f_z = mm$  (inç/ağız) $a_p$  mm/DC (inç/DC) = faktör $a_e$  mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cfrp malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

Kesme verileri – JC876 Finiş kenar frezeleme – İnc

SMG		$a_p/DC$	$a_p/DC$	$f_z$			$v_c$
				1/4	3/8	1/2	
TS2	E/A/D	0.334	1.7	0.020	0.030	0.040	220 (190 — 250)
		0,334	1,7	0,00080	0,0012	0,0016	720 (630 — 820)
TS3	E/A/D	0.334	1.7	0.020	0.030	0.040	145 (120—170)
		0,334	1,7	0,00080	0,0012	0,0016	475 (400 — 550)
TP2	E/A/D	0.334	1.7	0.020	0.030	0.040	145 (110—180)
		0,334	1,7	0,00080	0,0012	0,0016	475 (370 — 590)
TP3	E/A/D	0.334	1.7	0.020	0.030	0.040	75 (44—100)
		0,334	1,7	0,00080	0,0012	0,0016	245 (150 — 320)

Kesme verileri – JC876 Kanal açma – İnc

SMG		$a_p/DC$	$f_z$			$v_c$
			1/4	3/8	1/2	
TS2	E/A/D	1.0	0.013	0.019	0.026	175 (150 — 200)
		1,0	0,00050	0,00075	0,0010	570 (500 — 650)
TS3	E/A/D	1.0	0.013	0.019	0.026	115 (94—140)
		1,0	0,00050	0,00075	0,0010	375 (310 — 450)
TP2	E/A/D	1.0	0.013	0.019	0.026	115 (88—140)
		1,0	0,00050	0,00075	0,0010	375 (290 — 450)
TP3	E/A/D	1.0	0.013	0.019	0.026	60 (36 — 81)
		1,0	0,00050	0,00075	0,0010	195 (120 — 260)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

$v_c$  = m/dak (sf/dak)

$f_z$  = mm/ağz (inç/ağz)

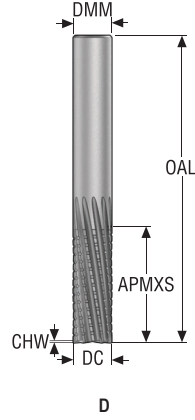
$a_p$  mm/DC (inç/DC) = faktör

$a_p$  = mm/DC (inç/DC) = faktör

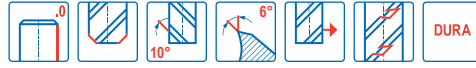
Tüm kesme verileri hedef değerlerdir

JC877

Kompozit – Dik kenarlı – 6-14 Ağızlı – Silindirik – Köşesi pahlı



D



- Toleranslar:
- DMM=h5
- DC=-0,02, -0,08 mm
- Sol yön helis



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	CHW	PCEDC	Silindirik
				mm	mm	mm	mm	mm		
JC877030D2C.0Z6-DURA	03135013	2	D	3,0	3,0	9,0	50,0	0,035	6	■
JC877040D2C.0Z6-DURA	03135014	2	D	4,0	4,0	12,0	54,0	0,045	6	■
JC877060D2C.0Z8-DURA	03135015	2	D	6,0	6,0	18,0	62,0	0,075	8	■
JC877060D2C.0Z10-DURA	03135016	2	D	6,0	6,0	18,0	62,0	0,075	10	■
JC877080D2C.0Z10-DURA	03135018	2	D	8,0	8,0	24,0	70,0	0,1	10	■
JC877100D2C.0Z12-DURA	03135020	2	D	10,0	10,0	30,0	82,0	0,125	12	■
JC877120D2C.0Z14-DURA	03135021	2	D	12,0	12,0	36,0	95,0	0,15	14	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cfrp malzemeler için

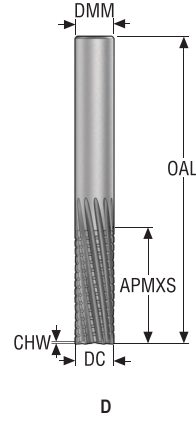
Grafit malzeme için

Minimaster Plus

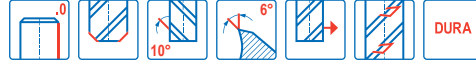
Minimaster

## JC877

Kompozit – Dik kenarlı – 8-14 Ağızlı – Silindirik – Köşesi pahlı – İnce



- Toleranslar:
- DMM=h5
- DC= -.0008/- .0030 İnce
- Sol yön helis



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	CHW	PCEDC	Silindirik
JC877.250D2C.0Z8-DURA	03135129	2	D	0.250	0.250	0.750	2.500	0.003	8	■

■ Stoklu standart ürün.

## Kesme verileri – JC877 Finiş kenar frezeleme

SMG	PICT_Coolant	$a_e/DC$	$a_p/DC$	$f_z$						$v_c$
				3	4	6	8	10	12	
TS2	E/A/D	0,334	2,0	0,0095	0,013	0,019	0,026	0,032	0,038	195 (170 – 220)
		0,334	2,0	0,00038	0,00050	0,00075	0,0010	0,0013	0,0015	640 (560–720)
TS3	E/A/D	0,334	2,0	0,0095	0,013	0,019	0,026	0,032	0,038	130 (110–150)
		0,334	2,0	0,00038	0,00050	0,00075	0,0010	0,0013	0,0015	425 (370 – 490)
TP2	E/A/D	0,334	2,0	0,0095	0,013	0,019	0,026	0,032	0,038	130 (98–160)
		0,334	2,0	0,00038	0,00050	0,00075	0,0010	0,0013	0,0015	425 (330 – 520)
TP3	E/A/D	0,334	2,0	0,0095	0,013	0,019	0,026	0,032	0,038	65 (40 – 91)
		0,334	2,0	0,00038	0,00050	0,00075	0,0010	0,0013	0,0015	215 (140 – 290)

## Kesme verileri – JC877 Kanal açma

SMG	PICT_Coolant	$a_p/DC$	$f_z$						$v_c$
			3	4	6	8	10	12	
TS2	E/A/D	1,0	0,0060	0,0080	0,012	0,016	0,020	0,025	170 (150 – 200)
		1,0	0,0060	0,0080	0,012	0,016	0,020	0,025	115 (92–130)
TP2	E/A/D	1,0	0,0060	0,0080	0,012	0,016	0,020	0,025	115 (86–140)
		1,0	0,0060	0,0080	0,012	0,016	0,020	0,025	55 (35 – 80)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

 $v_c = m/dak$  (sf/dak) $f_z = mm$  (inç/ağız) $a_p$  mm/DC (inç/DC) = faktör $a_e$  mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cfrp malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

Kesme verileri – JC877 Finiş kenar frezeleme – İnc

SMG	PICT_Coolant	a <sub>p</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>			v <sub>c</sub>
				1/4	3/8	1/2	
TS2	E/A/D	0.334	2.0	0.020	0.030	0.040	195 (170 – 220)
		0.334	2.0	0,00080	0,0012	0,0016	640 (560 – 720)
TS3	E/A/D	0.334	2.0	0.020	0.030	0.040	130 (110 – 150)
		0.334	2,0	0,00080	0,0012	0,0016	425 (370 – 490)
TP2	E/A/D	0.334	2.0	0.020	0.030	0.040	130 (98 – 160)
		0.334	2,0	0,00080	0,0012	0,0016	425 (330 – 520)
TP3	E/A/D	0.334	2.0	0.020	0.030	0.040	65 (40 – 91)
		0.334	2,0	0,00080	0,0012	0,0016	215 (140 – 290)

Kesme verileri – JC877 Kanal açma – İnc

SMG	PICT_Coolant	a <sub>p</sub> /DC	f <sub>z</sub>			v <sub>c</sub>
			1/4	3/8	1/2	
TS2	E/A/D	1.0	0.013	0.019	0.026	160 (140 – 180)
		1,0	0,00050	0,00075	0,0010	520 (460 – 590)
TS3	E/A/D	1.0	0.013	0.019	0.026	105 (85 – 120)
		1,0	0,00050	0,00075	0,0010	345 (280 – 390)
TP2	E/A/D	1.0	0.013	0.019	0.026	105 (80 – 130)
		1,0	0,00050	0,00075	0,0010	345 (270 – 420)
TP3	E/A/D	1.0	0.013	0.019	0.026	55 (32 – 74)
		1,0	0,00050	0,00075	0,0010	180 (110 – 240)

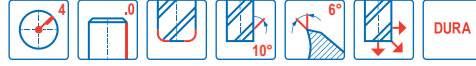
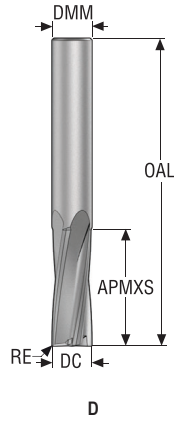
Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu  
Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama  
v<sub>c</sub>= m/dak (sf/dak)  
f<sub>z</sub> = mm/ağız (inç/ağız)  
a<sub>p</sub> mm/DC (inç/DC) = faktör  
a<sub>s</sub> = mm/DC (inç/DC) = faktör  
Tüm kesme verileri hedef değerlerdir



## JC880

Kompozit – Dik kenarlı – 4 Ağızlı – Silindirik – Köşe radyüsü



- Toleranslar:
- DMM=h5
- DC=-0,02/-0,04 mm
- RE=±0,01 mm



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	RE	PCEDC	Silindirik
				mm	mm	mm	mm	mm		
880040R020Z4.0-DURA	02843012	2	D	4,0	4,0	12,0	50,0	0,2	4	■
880050R020Z4.0-DURA	02843013	2	D	5,0	5,0	15,0	50,0	0,2	4	■
880060R020Z4.0-DURA	02720258	2	D	6,0	6,0	18,0	65,0	0,2	4	■
880080R020Z4.0-DURA	02720259	2	D	8,0	8,0	24,0	70,0	0,2	4	■
880100R020Z4.0-DURA	02720260	2	D	10,0	10,0	30,0	80,0	0,2	4	■
880120R020Z4.0-DURA	02720261	2	D	12,0	12,0	36,0	100,0	0,2	4	■
880160R020Z4.0-DURA	02720262	2	D	16,0	16,0	48,0	110,0	0,2	4	■
880200R020Z4.0-DURA	02720263	2	D	20,0	20,0	60,0	130,0	0,2	4	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cfrp malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

Kesme verileri – JC880 Finiş kenar frezeleme

SMG		$a_p/DC$	$a_r/DC$	$f_z$							$v_c$
				4	6	8	10	12	16	20	
TS2	E/A/D	0.400	1.9	0.024	0.036	0.048	0.060	0.070	0.090	0.10	190 (160 – 210)
		0.400	1.9	0,00095	0,0014	0,0019	0,0024	0,0028	0,0036	0,0040	620 (530 – 680)
TS3	E/A/D	0.300	2.0	0.017	0.025	0.034	0.042	0.050	0.060	0.070	130 (93 – 170)
		0.300	2,0	0,00065	0,0010	0,0013	0,0017	0,0020	0,0024	0,0028	425 (310 – 550)
TP2	E/A/D	0.400	1.9	0.024	0.036	0.048	0.060	0.070	0.090	0.10	125 (95 – 150)
		0.400	1.9	0,00095	0,0014	0,0019	0,0024	0,0028	0,0036	0,0040	410 (320 – 490)
TP3	E/A/D	0.300	2.0	0.017	0.025	0.034	0.042	0.050	0.060	0.070	50 (40 – 92)
		0.300	2,0	0,00065	0,0010	0,0013	0,0017	0,0020	0,0024	0,0028	165 (140 – 300)

Kesme verileri – JC880 Kanal açma

SMG		$a_p/DC$	$f_z$							$v_c$	
			4	5	6	8	10	12	16		20
TS2	E/A/D	1.0	0.024	0.030	0.036	0.048	0.060	0.070	0.090	0.10	150 (130 – 170)
		1,0	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	0,0036	0,0040	490 (430 – 550)
TS3	E/A/D	1.0	0.015	0.019	0.022	0.030	0.038	0.044	0.055	0.065	100 (71 – 130)
		1,0	0,00060	0,00075	0,00085	0,0012	0,0015	0,0017	0,0022	0,0026	330 (240 – 420)
TP2	E/A/D	1.0	0.024	0.030	0.036	0.048	0.060	0.070	0.090	0.10	100 (76 – 120)
		1,0	0,00095	0,0012	0,0014	0,0019	0,0024	0,0028	0,0036	0,0040	330 (250 – 390)
TP3	E/A/D	1.0	0.015	0.019	0.022	0.030	0.038	0.044	0.055	0.065	40 (31 – 70)
		1,0	0,00060	0,00075	0,00085	0,0012	0,0015	0,0017	0,0022	0,0026	130 (110 – 220)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

$v_c$  = m/dak (sf/dak)

$f_z$  = mm (inç/ağız)

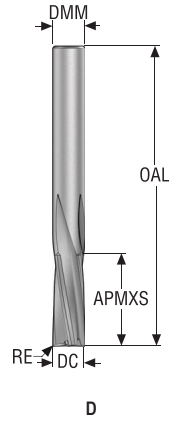
$a_p$  mm/DC (inç/DC) = faktör

$a_r$  = mm/DC (inç/DC) = faktör

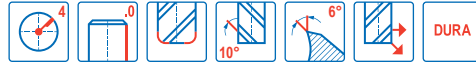
Tüm kesme verileri hedef değerlerdir

## JC885

Kompozit – Dik kenarlı – 4 Ağızlı – Silindirik – Köşe radyüsü



D



- Toleranslar:
- DMM=h5
- DC=-0,02/-0,04 mm
- RE=±0,01 mm
- Sol yön helis



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	RE	PCEDC	Silindirik
				mm	mm	mm	mm	mm		
JC885040D2R020.0Z4-DURA	02843014	2	D	4,0	4,0	12,0	50,0	0,2	4	■
JC885060D2R020.0Z4-DURA	02843016	2	D	6,0	6,0	18,0	70,0	0,2	4	■
JC885080D2R020.0Z4-DURA	02843017	2	D	8,0	8,0	24,0	80,0	0,2	4	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cfrp malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

Kesme verileri – JC885 Finiş kenar frezeleme

SMG		$a_g/DC$	$a_p/DC$	$f_z$				$v_c$
				4	6	8	10	
TS2	E/A/D	0.400	2.0	0.024	0.036	0.048	0.060	190 (160 – 210)
		0,400	2,0	0,00095	0,0014	0,0019	0,0024	620 (530 – 680)
TS3	E/A/D	0.300	2.0	0.017	0.025	0.034	0.042	130 (99 – 170)
		0,300	2,0	0,00065	0,0010	0,0013	0,0017	425 (330 – 550)
TP2	E/A/D	0.400	2.0	0.024	0.036	0.048	0.060	125 (94 – 150)
		0,400	2,0	0,00095	0,0014	0,0019	0,0024	410 (310 – 490)
TP3	E/A/D	0.300	2.0	0.017	0.025	0.034	0.042	50 (33 – 92)
		0,300	2,0	0,00065	0,0010	0,0013	0,0017	165 (110 – 300)

Kesme verileri – JC885 Kanal açma

SMG		$a_p/DC$	$f_z$				$v_c$
			4	6	8	10	
TS2	E/A/D	1.0	0.024	0.036	0.048	0.060	150 (130 – 170)
		1,0	0,00095	0,0014	0,0019	0,0024	490 (430 – 550)
TS3	E/A/D	0.70	0.015	0.022	0.030	0.038	100 (76 – 130)
		0,70	0,00060	0,00085	0,0012	0,0015	330 (250 – 420)
TP2	E/A/D	1.0	0.024	0.036	0.048	0.060	100 (75 – 120)
		1,0	0,00095	0,0014	0,0019	0,0024	330 (250 – 390)
TP3	E/A/D	0.70	0.015	0.022	0.030	0.038	40 (26 – 70)
		0,70	0,00060	0,00085	0,0012	0,0015	130 (86 – 220)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

$v_c = m/dak$  (sf/dak)

$f_z = mm$  (inç/ağız)

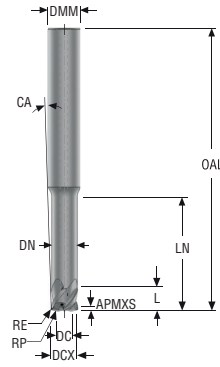
$a_p = mm/DC$  (inç/DC) = faktör

$a_g = mm/DC$  (inç/DC) = faktör

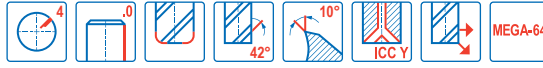
Tüm kesme verileri hedef değerlerdir

JC898

Yüksek ilerlemeli – Yiğın halindeki malzemeler – Köşe radyüsü – 4 Ağızlı – Silindirik – Köşe radyüsü



G



- Toleranslar:
- DMM=h5
- DC= e7
- RE= ±0,1 mm



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	ICC (İçten soğutma sıvısı kanalı)	DC	DCX	DMM	APMXS	L	OAL	LN	DN	RE	RP	CA	PCEDC	Silindirik
					mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	°		
JC898080G3HZ4A.0-M64	03245308	3	G	■	4,0	8,0	10,0	0,43	6,0	88,0	35,0	7,6	0,5	0,87	1,5 °	4	■
JC898150G3HZ4A.0-M64	03245309	3	G	■	7,5	15,0	16,0	0,796	12,0	125,0	70,0	14,3	0,94	1,63	0,4 °	4	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için


Plastik ve cfrp malzemeler için

Grafit malzeme için


Minimaster Plus

Minimaster

Kesme verileri – JC898 Kenar frezeleme

SMG		$a_e/DCX$	$a_p/DCX$	$f_z$		$v_c$
				8	15	
S12+TS2/TP2	D	0,30	0,020	0,1	0,15	90 (80-120)
		0,30	0,020	0,0040	0,0060	300 (270-400)
TP2+TS2/TP2	D	0,30	0,034	0,12	0,25	120 (90-150)
		0,30	0,034	0,0048	0,0100	400 (300-490)

Kesme verileri – JC898 Kanal açma

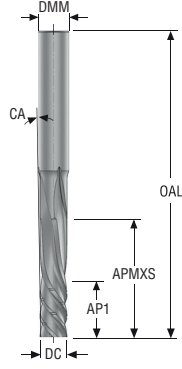
SMG		$a_p/DCX$	$f_z$		$v_c$
			8	15	
S12+TP2/TS2	D	0,020	0,08	0,10	90 (80-120)
		0,020	0,0032	0,0040	300 (270-400)
N1+TP2/TS2	D	0,034	0,1	0,10	120 (90-150)
		0,034	0,0040	0,0040	400 (300-490)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

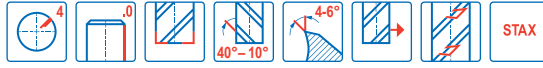
SMG = Seco malzeme grubu  
Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama  
 $v_c$  = m/dak (sf/dak)  
 $f_z$  = mm (inç/ağız)  
 $a_p$  mm/DC (inç/DC) = faktör  
 $a_e$  = mm/DC (inç/DC) = faktör  
Tüm kesme verileri hedef değerlerdir

JC899

Yüksek performans – Yiğın halindeki malzemeler – Dik kenarlı – 4 Ağızlı – Silindirik – Keskin



F



- Toleranslar:
- DMM=h5
- DC= ±0,02 mm



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	talaş dağıtıcılı	DC	DMM	APMXS	AP1	OAL	CA	PCEDC	Silindirik
					mm	mm	mm	mm	mm			
JC899085F3S.0Z4-STAX	03245482	3	F	■	8,5	10,0	38,0	19,0	100,0	0,8 °	4	■
JC899148F3S.0Z4-STAX	03245480	3	F	■	14,8	16,0	55,0	30,0	150,0	0,53 °	4	■
JC899148F4S.0Z4-STAX	03245481	4	F	■	14,8	16,0	62,0	37,0	150,0	0,48 °	4	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cfrp malzemeler için

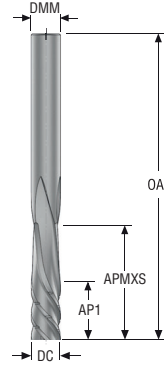
Grafit malzeme için

Minimaster Plus

Minimaster

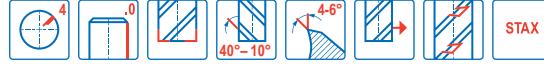
## JC899

Yüksek performans – Yiğün halindeki malzemeler – Dik kenarlı – 4 Ağızlı – Silindirik – Keskin – İnce



D

- Toleranslar:
- DMM=h5
- DC= ±0,0008 İnce



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	talaş dağıtıcılı	DC	DMM	APMXS	AP1	OAL	PCEDC	Silindirik
JC8990375D4S.0Z4-STAX	03245483	4	D	■	İnce 0.373	İnce 0.375	İnce 1.500	İnce 0.625	İnce 4.000	4	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cfrp malzemeler için


Grafit malzeme için

Minimaster Plus


Minimaster



## Kesme verileri – JC899 Finitş frezeleme

SMG		a <sub>e</sub> /DC		f <sub>z</sub>		v <sub>c</sub>
				8.5	14.8	
S12+TP2/TS2	D	0,025	4,0	0,04	0,075	40 (30 – 50)
		0,025	4,0	0,0016	0,0030	140 (100–170)
N1+TP2/TS2	D	0,025	4,0	0,06	0,09	60 (50–75)
		0,025	4,0	0,0032	0,0036	200 (170 – 250)

## Kesme verileri – JC899 Finitş frezeleme – İnc

SMG		a <sub>e</sub> /DC		f <sub>z</sub>		v <sub>c</sub>
				3/8		
S12+TP2/TS2	D	0,025	4,0	0,05		40 (30 – 50)
		0,025	4,0	0,0022		140 (100–170)
N1+TP2/TS2	D	0,025	4,0	0,07		60 (50–75)
		0,025	4,0	0,0028		200 (170 – 250)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub>= m/dak (sf/dak)f<sub>z</sub> = mm (inç/ağız)a<sub>p</sub> mm/DC (inç/DC) = faktöra<sub>e</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cfrp malzemeler için

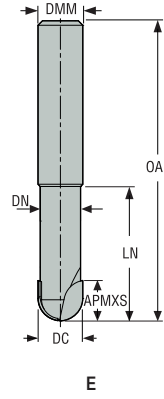
Grafit malzeme için

Minimaster Plus

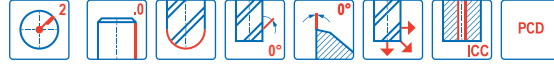
Minimaster

## JPD850

Kompozit – Tamamı yuvarlak – 2 Ağızlı – Silindirik – ICC




- Toleranslar:
- DMM=h5
- DC= h10
- ICC= 2 düz kanallar



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	ICC (İçten soğutma sıvısı kanalı)	DC	DMM	APMXS	OAL	LN	DN	PCEDC	Silindirik
					mm	mm	mm	mm	mm	mm		
JPD850040G2B.0Z2A	02968182	2	G	■	4,0	6,0	6,0	58,0	12,0	3,8	2	■
JPD850050G2B.0Z2A	02968183	2	G	■	5,0	6,0	6,0	58,0	15,0	4,8	2	■
JPD850060E2B.0Z2A	02968184	2	E	■	6,0	6,0	7,0	58,0	18,0	5,4	2	■
JPD850080E2B.0Z2A	02968185	2	E	■	8,0	8,0	8,0	64,0	24,0	7,2	2	■
JPD850100E2B.0Z2A	02968186	2	E	■	10,0	10,0	10,0	73,0	30,0	9,0	2	■

■ Stoklu standart ürün.

## Kesme verileri – JPD850 Kopya frezeleme

SMG		$a_p/DC$	$a_r/DC$	$f_z$					$v_c$
				4	5	6	8	10	
TS2	E/A/D	0.200	0.50	0.040	0.048	0.060	0.080	0.10	550 (470 — 820)
		0,200	0,50	0,0016	0,0019	0,0024	0,0032	0,0040	1800 (1600 — 2600)
TS3	E/A/D	0.200	0.50	0.040	0.048	0.060	0.080	0.10	310 (270 — 460)
		0,200	0,50	0,0016	0,0019	0,0024	0,0032	0,0040	1025 (890—1500)
TP2	E/A/D	0.200	0.50	0.040	0.048	0.060	0.080	0.10	890 (750—1300)
		0,200	0,50	0,0016	0,0019	0,0024	0,0032	0,0040	2925 (2500 — 4200)
TP3	E/A/D	0.200	0.50	0.040	0.048	0.060	0.080	0.10	580 (500 — 870)
		0,200	0,50	0,0016	0,0019	0,0024	0,0032	0,0040	1900 (1700 — 2800)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

 $v_c$  = m/dak (sf/dak) $f_z$  = mm (inç/ağız) $a_p$  mm/DC (inç/DC) = faktör $a_r$  = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cfrp malzemeler için

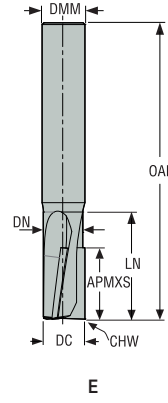
Grafit malzeme için

Minimaster Plus

Minimaster

## JPD880

Kompozit – Dik kenarlı – 3 Ağızlı – Silindirik – Köşesi pahlı – ICC



E

- Toleranslar:
- DMM=h5
- DC=h10
- ICC=Y şekil



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	ICC (İsten soğutma sıvısı kanalı)	DC	DMM	APMXS	OAL	LN	DN	CHW	PCEDC	Silindirik
					mm	mm	mm	mm	mm	mm	mm		
JPD880060G2C.0Z3A	02968190	2	G	■	6,0	8,0	13,0	64,0	20,0	5,3	0,1	3	■
JPD880080E2C.0Z3A	02968191	2	E	■	8,0	8,0	15,0	64,0	20,0	7,3	0,1	3	■
JPD880100E2C.0Z3A	02968192	2	E	■	10,0	10,0	13,0	73,0	30,0	9,2	0,1	3	■
JPD880120E2C.0Z3A	02968194	2	E	■	12,0	12,0	13,0	83,0	30,0	11,0	0,1	3	■
JPD880160E2C.0Z3A	02968196	2	E	■	16,0	16,0	13,0	90,0	35,0	14,8	0,1	3	■
JPD880100E3C.0Z3A	02968193	3	E	■	10,0	10,0	20,0	73,0	30,0	9,2	0,1	3	■
JPD880160E3C.0Z3A	02968197	3	E	■	16,0	16,0	20,0	90,0	35,0	14,8	0,1	3	■

■ Stoklu standart ürün.

## Kesme verileri – JPD880 Kenar frezeleme

SMG		$a_p/DC$	$a_p/DC$	$f_z$					$v_c$
				6	8	10	12	16	
TS2	E/A/D	0.300	1.2	0.060	0.080	0.10	0.12	0.15	510 (430–750)
		0,300	1,2	0,0024	0,0032	0,0040	0,0048	0,0060	1675 (1500–2400)
TS3	E/A/D	0.300	1.2	0.060	0.080	0.10	0.12	0.15	275 (230–410)
		0,300	1,2	0,0024	0,0032	0,0040	0,0048	0,0060	900 (760–1300)
TP2	E/A/D	0.300	1.2	0.060	0.080	0.10	0.12	0.15	810 (680–940)
		0,300	1,2	0,0024	0,0032	0,0040	0,0048	0,0060	2650 (2300–3000)
TP3	E/A/D	0.300	1.2	0.060	0.080	0.10	0.12	0.15	520 (440–780)
		0,300	1,2	0,0024	0,0032	0,0040	0,0048	0,0060	1700 (1500–2500)

## Kesme verileri – JPD880 Kanal açma

SMG		$a_p/DC$	$f_z$					$v_c$
			6	8	10	12	16	
TS2	E/A/D	1.0	0.055	0.075	0.090	0.11	0.14	385 (330–570)
		1,0	0,0022	0,0030	0,0036	0,0044	0,0055	1275 (1100–1800)
TS3	E/A/D	1.0	0.055	0.075	0.090	0.11	0.14	210 (180–310)
		1,0	0,0022	0,0030	0,0036	0,0044	0,0055	690 (600–1000)
TP2	E/A/D	1.0	0.055	0.075	0.090	0.11	0.14	620 (520–710)
		1,0	0,0022	0,0030	0,0036	0,0044	0,0055	2025 (1800–2300)
TP3	E/A/D	1.0	0.055	0.075	0.090	0.11	0.14	395 (340–590)
		1,0	0,0022	0,0030	0,0036	0,0044	0,0055	1300 (1200–1900)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

 $v_c = m/dak$  (sf/dak) $f_z = mm$  (inç/ağız) $a_p$  mm/DC (inç/DC) = faktör $a_e$  mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cfrp malzemeler için

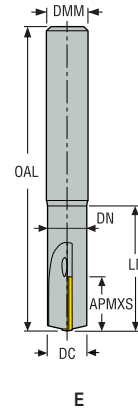
Grafit malzeme için

Minimaster Plus

Minimaster

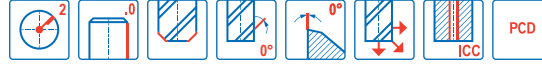
## JPD890

Kompozit – Dik kenarlı – 2 Ağızlı – Silindirik – Köşesi pahlı – ICC



E


- Toleranslar:
- DMM=h5
- DC=h10
- ICC=2 düz kanallar




Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	ICC (İsten soğutma sıvısı kanalı)	DC	DMM	APMXS	OAL	LN	DN	CHW	PCEDC	Silindirik
					mm	mm	mm	mm	mm	mm	mm		
JPD890060G2S.0Z2A	02791382	2	G	■	6,0	8,0	13,0	64,0	20,0	5,4	0,1	2	■
JPD890080E2S.0Z2A	02791383	2	E	■	8,0	8,0	15,0	64,0	20,0	7,4	0,1	2	■
JPD890100E2S.0Z2A	02791384	2	E	■	10,0	10,0	13,0	73,0	30,0	9,4	0,1	2	■
JPD890120E2S.0Z2A	02791386	2	E	■	12,0	12,0	13,0	83,0	30,0	11,4	0,1	2	■
JPD890100E3S.0Z2A	02791385	3	E	■	10,0	10,0	20,0	73,0	30,0	9,4	0,1	2	■
JPD890120E3S.0Z2A	02791387	3	E	■	12,0	12,0	20,0	83,0	30,0	11,4	0,1	2	■

■ Stoklu standart ürün.

## Kesme verileri – JPD890 Kenar frezeleme

SMG		$a_e/DC$	$a_p/DC$	$f_z$				$v_c$
				6	8	10	12	
TS2	E/A/D	0.300	1.2	0.12	0.16	0.20	0.24	415 (360 – 620)
		0.300	1.2	0,0048	0,0065	0,0080	0,0095	1350 (1200 – 2000)
TS3	E/A/D	0.200	1.2	0.060	0.080	0.10	0.12	305 (260 – 450)
		0,200	1,2	0,0024	0,0032	0,0040	0,0048	1000 (860 – 1400)
TP2	E/A/D	0.300	1.2	0.12	0.16	0.20	0.24	670 (560 – 770)
		0,300	1,2	0,0048	0,0065	0,0080	0,0095	2200 (1900 – 2500)
TP3	E/A/D	0.200	1.2	0.060	0.080	0.10	0.12	580 (490 – 860)
		0,200	1,2	0,0024	0,0032	0,0040	0,0048	1900 (1700 – 2800)

## Kesme verileri – JPD890 Kanal açma

SMG		$a_p/DC$	$f_z$				$v_c$
			6	8	10	12	
TS2	E/A/D	1.0	0.060	0.080	0.10	0.12	375 (320 – 550)
		1,0	0,0024	0,0032	0,0040	0,0048	1225 (1100 – 1800)
TS3	E/A/D	1.0	0.042	0.055	0.070	0.085	225 (190 – 330)
		1,0	0,0017	0,0022	0,0028	0,0034	740 (630 – 1000)
TP2	E/A/D	1.0	0.060	0.080	0.10	0.12	600 (500 – 690)
		1,0	0,0024	0,0032	0,0040	0,0048	1975 (1700 – 2200)
TP3	E/A/D	1.0	0.042	0.055	0.070	0.085	420 (360 – 630)
		1,0	0,0017	0,0022	0,0028	0,0034	1375 (1200 – 2000)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

 $v_c = m/dak$  (sf/dak) $f_z = mm$  (inç/ağız) $a_p$  mm/DC (inç/DC) = faktör $a_e$  mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cfrp malzemeler için

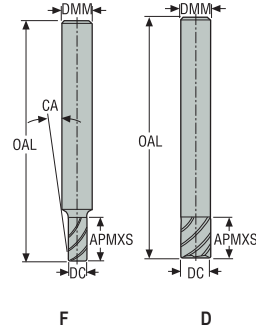
Grafit malzeme için

Minimaster Plus

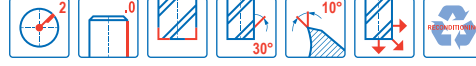
Minimaster

## J93F

Genel amaçlı – Plastik – Dik kenarlı' – 2 Ağzılı – Silindirik – Keskin



- Toleranslar:
- DMM= h5
- DC= Ø1-Ø6= -0,02/-0,034 mm
- DC= Ø8-Ø20= -0,02/-0,044 mm
- DC ≥ Ø6 ise tekrar bilenebilir




Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	CA	PCEDC	Silindirik
				mm	mm	mm	mm	mm		
93015-F	02605874	2	F	1,5	3,0	6,0	40,0	4,0	2	■
93020-F	02605888	2	F	2,0	3,0	9,0	40,0	2,5	2	■
93030-F	02606060	2	D	3,0	3,0	12,0	40,0	-	2	■
93040-F	02606061	2	D	4,0	4,0	14,0	50,0	-	2	■
93060-F	02606063	2	D	6,0	6,0	20,0	65,0	-	2	■
93080-F	02606064	2	D	8,0	8,0	20,0	70,0	-	2	■
93100-F	02606065	2	D	10,0	10,0	25,0	80,0	-	2	■
93120-F	02606066	2	D	12,0	12,0	25,0	90,0	-	2	■
93160-F	02606068	2	D	16,0	16,0	30,0	90,0	-	2	■
93L060-F	02606071	3	D	6,0	6,0	40,0	100,0	-	2	■
93L080-F	02606072	3	D	8,0	8,0	40,0	100,0	-	2	■
93L100-F	02606073	3	D	10,0	10,0	40,0	100,0	-	2	■
93L120-F	02606074	3	D	12,0	12,0	45,0	100,0	-	2	■
93L160-F	02606077	3	D	16,0	16,0	45,0	100,0	-	2	■
93L200-F	02606078	3	D	20,0	20,0	55,0	125,0	-	2	■
93XL120-F	02606079	4	D	12,0	12,0	30,0	150,0	-	2	■
93XL160-F	02606080	4	D	16,0	16,0	65,0	150,0	-	2	■
93XL200-F	02606081	4	D	20,0	20,0	65,0	150,0	-	2	■


■ Stoklu standart ürün.



## Kesme verileri – J93F Kenar frezeleme

SMG		$a_e/DC$	$a_p/DC$	$f_z$										$v_c$
				1.5	2	3	4	6	8	10	12	16	20	
TS1	A	0.400	1.4	0.015	0.020	0.030	0.040	0.060	0.080	0.10	0.12	0.15	0.17	590 (480–710)
		0,400	1,4	0,00060	0,00080	0,0012	0,0016	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	1925 (1600–2300)
TP1	A	0.400	1.4	0.015	0.020	0.030	0.040	0.060	0.080	0.10	0.12	0.15	0.17	570 (460–680)
		0,400	1,4	0,00060	0,00080	0,0012	0,0016	0,0024	0,0032	0,0040	0,0048	0,0060	0,0065	1875 (1600–2200)

## Kesme verileri – J93F Kanal açma

SMG		$a_p/DC$	$f_z$										$v_c$
			1.5	2	3	4	6	8	10	12	16	20	
TS1	A	0.50	0.012	0.016	0.024	0.032	0.048	0.065	0.080	0.095	0.13	0.16	500 (400–590)
		0,50	0,00048	0,00065	0,00095	0,0013	0,0019	0,0026	0,0032	0,0038	0,0050	0,0065	1650 (1400–1900)
TP1	A	0.50	0.012	0.016	0.024	0.032	0.048	0.065	0.080	0.095	0.13	0.16	485 (390–580)
		0,50	0,00048	0,00065	0,00095	0,0013	0,0019	0,0026	0,0032	0,0038	0,0050	0,0065	1600 (1300–1900)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

 $v_c$  = m/dak (sf/dak) $f_z$  = mm (inç/ağız) $a_p$  mm/DC (inç/DC) = faktör $a_e$  = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cfrp malzemeler için

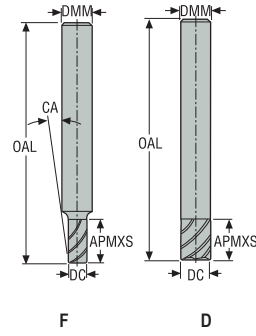
Grafit malzeme için

Minimaster Plus

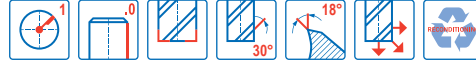
Minimaster

## J28

Genel amaçlı – Plastik – Dik kenarlı' – 1 Ağız – Silindirik – Keskin




- Toleranslar:
- DMM= h5
- DC= Ø2-Ø6= -0,02/-0,034 mm
- DC= Ø8-Ø12= -0,02/-0,044 mm
- DC ≥ Ø6 ise tekrar bilenebilir




Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	CA	PCEDC	Silindirik
				mm	mm	mm	mm	mm		
28030	00029353	2	D	3,0	3,0	10,0	40,0	–	1	■
28040	00029361	2	D	4,0	4,0	14,0	50,0	–	1	■
28050	00029363	2	D	5,0	5,0	16,0	60,0	–	1	■
28060	00029366	2	D	6,0	6,0	20,0	65,0	–	1	■
28080	00029369	2	D	8,0	8,0	25,0	75,0	–	1	■
28100	00029370	2	D	10,0	10,0	25,0	75,0	–	1	■
28120	00029372	2	D	12,0	12,0	25,0	75,0	–	1	■

■ Stoklu standart ürün.

Kesme verileri – J28 Kenar frezeleme  $a_p/DC=0,4$ 

SMG		$a_e/DC$	$a_p/DC$	$f_z$							$v_c$
				3	4	5	6	8	10	12	
TS1	A/D	0.300	1.5	0.040	0.050	0.065	0.080	0.10	0.13	0.16	490 (370 – 610)
		0,300	1,5	0,0016	0,0020	0,0026	0,0032	0,0040	0,0050	0,0065	1600 (1300 – 2000)

## Kesme verileri – J28 Kanal açma

SMG		$a_p/DC$	$f_z$							$v_c$
			3	4	5	6	8	10	12	
TS1	A/D	1.0	0.026	0.036	0.044	0.055	0.070	0.090	0.11	400 (310 – 490)
		1,0	0,0010	0,0014	0,0017	0,0022	0,0028	0,0036	0,0044	1300 (1100 – 1600)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

 $v_c$  = m/dak (sf/dak) $f_z$  = mm/ağız (inç/ağız) $a_p$  mm/DC (inç/DC) = faktör $a_e$  = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cfrp malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster



## GRAFİT MALZEME İÇİN

Seco diamond kaplama solid karbür parmak frezeleri, özellikle grafit işlemek için tasarlanmıştır. Klasik kaplamalı frezeleme takımlarına göre 10 kat daha uzun takım ömrü sunarlar. Bu ürün çeşitleri çok geniş bir çap aralığında ve farklı geometrilerde mevcuttur. Birçok kesme parametrelerinde gerekli elmas kaplamanın mükemmel tutunumu için olası en iyi alt tabakaya sahiptir.

- JD620, JD630, JD640 ve JME642, radyüs tipi için.
- JD660 ve JMB642, tamamı yuvarlak tip için.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için




















Plastik ve cırp malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

## Grafit malzeme için takım seçimi

					
İsim		JD620	JD630	JD640	JD660
Sayfa(lar)		445	447	449	451
Ürün ailesi		DIAMOND	DIAMOND	DIAMOND	DIAMOND
Freze tipi					
Sap	Silindirik	■	■	■	■
	Weldon				
Ağız sayısı		2	3	4	2
ICC (İçten soğutma sıvısı kanalı)					
	Metrik	3-12	3-8	6-12	3-6
	İnç				
Mevcut boylar					
		2,3,4	2,3,4	2,3,4	1,2,3,4,5
Operasyon					
					
					
SMG					
GR		●	●	●	●

■ Stoklu standart ürün. □ Weldon sap mevcut, teslim süresi 3 iş günüdür.  
● İlk tercih ○ Alternatif tercih

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler













Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

		Grafit malzeme için takım seçimi	
Üniversal			
			
Çelik ve dökme demir			
İsim		JME642	JMB642/JMB662
Sayfa(lar)		453	455
Ürün ailesi		MINI DIAMOND	MINI DIAMOND
Freze tipi			
Sap	Silindirik	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Weldon	<input type="checkbox"/>	<input type="checkbox"/>
Ağız sayısı		2	2
ICC (İçten soğutma sıvısı kanalı)			
Metrik		0,2-2,0	0,2-3,0
	İnç		
Mevcut boylar			
		1,3,5,6,7	
Operasyon			
			
			
SMG			
GR		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

■ Stoklu standart ürün. □ Weldon sap mevcut, teslim süresi 3 iş günüdür.

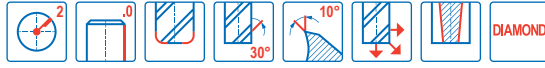
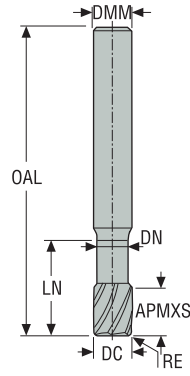
● İlk tercih ○ Alternatif tercih

Minimaster Plus

Minimaster

## JD620

Diamond – Grafıt malzeme için – Dik kenarlı – 2 Ağızlı – Silindirik – Köşe radyüsü



- Toleranslar:
- Salgı= <0,01 mm
- DMM= h5
- DC= -0,02/-0,04 mm
- RE= ±0,05 mm



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm	mm		
620V030R050-DIAMOND	00023425	2	E	3,0	3,0	5,0	60,0	30,0	2,85	0,5	2	■
620V040R050-DIAMOND	00023427	2	E	4,0	4,0	5,0	60,0	30,0	3,85	0,5	2	■
620V060R050-DIAMOND	00023429	2	E	6,0	6,0	10,0	80,0	40,0	5,8	0,5	2	■
620V080R050-DIAMOND	00023431	2	E	8,0	8,0	10,0	80,0	40,0	7,7	0,5	2	■
620V100R050-DIAMOND	00023435	2	E	10,0	10,0	10,0	80,0	40,0	9,7	0,5	2	■
620V120R050-DIAMOND	00023437	2	E	12,0	12,0	10,0	80,0	40,0	11,7	0,5	2	■
620VL060R050-DIAMOND	00023444	3	E	6,0	6,0	10,0	100,0	70,0	5,8	0,5	2	■
620VL080R050-DIAMOND	00023446	3	E	8,0	8,0	10,0	100,0	70,0	7,8	0,5	2	■
620VL080R100-DIAMOND	00023447	3	E	8,0	8,0	10,0	100,0	70,0	7,8	1,0	2	■
620VL100R050-DIAMOND	00023448	3	E	10,0	10,0	10,0	100,0	70,0	9,8	0,5	2	■
620VL100R100-DIAMOND	00023449	3	E	10,0	10,0	10,0	100,0	70,0	9,8	1,0	2	■
620VL120R050-DIAMOND	00023450	3	E	12,0	12,0	10,0	100,0	70,0	11,8	0,5	2	■
620VL120R100-DIAMOND	00023451	3	E	12,0	12,0	10,0	100,0	70,0	11,7	1,0	2	■
620VSL100R100-DIAMOND	00023452	4	E	10,0	10,0	10,0	150,0	100,0	9,8	1,0	2	■
620VSL120R100-DIAMOND	00023453	4	E	12,0	12,0	10,0	150,0	100,0	11,8	1,0	2	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için


Plastik ve cırp malzemeler için

Grafit malzeme için


Minimaster Plus

Minimaster

Kesme verileri – JD620 Kenar frezeleme

SMG		$a_p/DC$	$a_r/DC$	$f_z$						$v_c$
				3	4	6	8	10	12	
GR1	D	0.500 0,500	0.50 0,50	0.030 0,0012	0.040 0,0016	0.060 0,0024	0.080 0,0032	0.10 0,0040	0.12 0,0048	690 (580 – 800) 2275 (2000 – 2600)

Kesme verileri – JD620 Kanal açma

SMG		$a_p/DC$	$f_z$						$v_c$
			3	4	6	8	10	12	
GR1	D	0.50 0,50	0.024 0,00095	0.032 0,0013	0.048 0,0019	0.065 0,0026	0.080 0,0032	0.095 0,0038	610 (520 – 710) 2000 (1800 – 2300)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

$v_c$  = m/dak (sf/dak)

$f_z$  = mm (inç/ağız)

$a_p$  mm/DC (inç/DC) = faktör

$a_r$  = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeleri için

Grafit malzeme için

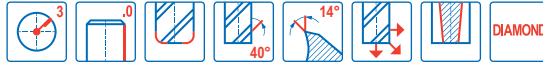
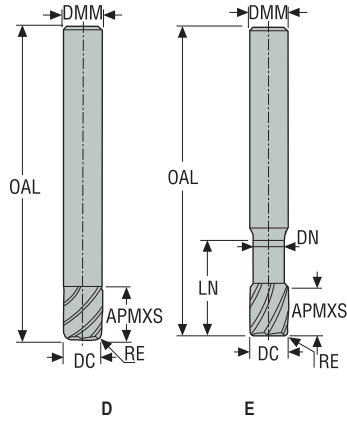
Minimaster Plus

Minimaster



## JD630

Diamond – Grafit malzeme için – Dik kenarlı – 3 Ağızlı – Silindirik – Köşe radyüsü



- Toleranslar:
- Salgı= <0,01 mm
- DMM= h5
- DC= -0,02/-0,04 mm
- RE= ±0,05 mm



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm	mm	mm	
630030R015-DIAMOND	00023454	2	D	3,0	3,0	12,0	40,0	-	-	0,15	3	■
630040R020-DIAMOND	00023456	2	D	4,0	4,0	14,0	50,0	-	-	0,2	3	■
630050R030-DIAMOND	00023457	2	D	5,0	5,0	16,0	50,0	-	-	0,3	3	■
630060R030-DIAMOND	00023458	2	D	6,0	6,0	20,0	65,0	-	-	0,3	3	■
630080R050-DIAMOND	00023459	2	D	8,0	8,0	20,0	65,0	-	-	0,5	3	■
630V030R030-DIAMOND	00023464	3	E	3,0	3,0	5,0	40,0	15,0	2,9	0,3	3	■
630V040R030-DIAMOND	00023465	3	E	4,0	4,0	5,0	50,0	20,0	3,9	0,3	3	■
630VL030R020-DIAMOND	00023467	4	E	3,0	3,0	5,0	60,0	25,0	2,9	0,2	3	■
630VL040R020-DIAMOND	00023470	4	E	4,0	4,0	5,0	60,0	30,0	3,9	0,2	3	■
630VL050R020-DIAMOND	00023471	4	E	5,0	5,0	6,0	70,0	40,0	4,9	0,2	3	■
630VL060R050-DIAMOND	00023472	4	E	6,0	6,0	10,0	100,0	60,0	5,9	0,5	3	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için


Plastik ve cırp malzemeler için

Grafit malzeme için


Minimaster Plus

Minimaster

Kesme verileri – JD630 Kenar frezeleme

SMG		a <sub>e</sub> /DC		f <sub>z</sub>					v <sub>c</sub>
				3	4	5	6	8	
GR1	D	0.500 0.500	1.0 1,0	0.030 0,0012	0.040 0,0016	0.050 0,0020	0.060 0,0024	0.080 0,0032	680 (580–790) 2225 (2000 – 2500)

Kesme verileri – JD630 Kanal açma

SMG		a <sub>p</sub> /DC		f <sub>z</sub>					v <sub>c</sub>
				3	4	5	6	8	
GR1	D	0.50 0,50	0.024 0,00095	0.032 0,0013	0.040 0,0016	0.048 0,0019	0.065 0,0026	620 (520–720) 2025 (1800 – 2300)	

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)

f<sub>z</sub> = mm (inç/ağız)

a<sub>p</sub> mm/DC (inç/DC) = faktör

a<sub>e</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeleri için

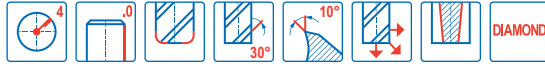
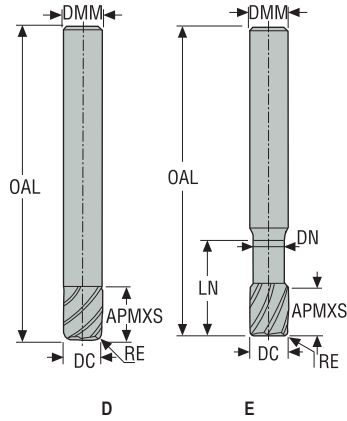
Grafit malzeme için

Minimaster Plus

Minimaster

## JD640

Diamond – Grafit malzeme için – Dik kenarlı – 4 Ağızlı – Silindirik – Köşe radyüsü



- Toleranslar:
- Salgı= <0,01 mm
- DMM= h5
- DC= -0,02/-0,04 mm
- RE= ±0,05 mm



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm	mm		
640100R050-DIAMOND	00023474	2	D	10,0	10,0	25,0	75,0	-	-	0,5	4	■
640120R050-DIAMOND	00023475	2	D	12,0	12,0	25,0	80,0	-	-	0,5	4	■
640V060R050-DIAMOND	00023479	3	E	6,0	6,0	10,0	80,0	40,0	5,9	0,5	4	■
640V080R050-DIAMOND	00023480	3	E	8,0	8,0	10,0	80,0	40,0	7,8	0,5	4	■
640V100R050-DIAMOND	00023481	3	E	10,0	10,0	12,0	80,0	40,0	9,8	0,5	4	■
640V100R100-DIAMOND	00039781	3	E	10,0	10,0	12,0	80,0	40,0	9,8	1,0	4	■
640V120R050-DIAMOND	00023483	3	E	12,0	12,0	15,0	80,0	40,0	11,8	0,5	4	■
640V120R100-DIAMOND	00023484	3	E	12,0	12,0	15,0	80,0	40,0	11,8	1,0	4	■
640VL080R100-DIAMOND	00023485	4	E	8,0	8,0	10,0	100,0	60,0	7,8	1,0	4	■
640VL100R050-DIAMOND	00023486	4	E	10,0	10,0	12,0	125,0	80,0	9,8	0,5	4	■
640VL100R100-DIAMOND	02462696	4	E	10,0	10,0	12,0	125,0	80,0	9,7	1,0	4	■
640VL120R050-DIAMOND	02462698	4	E	12,0	12,0	15,0	125,0	80,0	11,7	0,5	4	■
640VL120R100-DIAMOND	00023487	4	E	12,0	12,0	15,0	125,0	80,0	11,8	1,0	4	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için


Plastik ve cırp malzemeler için

Grafit malzeme için


Minimaster Plus

Minimaster

Kesme verileri – JD640 Kenar frezeleme

SMG		$a_e/DC$	$a_p/DC$	$f_z$				$v_c$
				6	8	10	12	
GR1	D	0.500 0,500	1.0 1,0	0.060 0,0024	0.080 0,0032	0.10 0,0040	0.12 0,0048	680 (570–780) 2225 (1900 – 2500)

Kesme verileri – JD640 Kanal açma

SMG		$a_p/DC$	$f_z$				$v_c$
			6	8	10	12	
GR1	D	0.50 0,50	0.048 0,0019	0.065 0,0026	0.080 0,0032	0.095 0,0038	610 (520–710) 2000 (1800 – 2300)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

$v_c$  = m/dak (sf/dak)

$f_z$  = mm (inç/ağız)

$a_p$  mm/DC (inç/DC) = faktör

$a_e$  = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeleri için

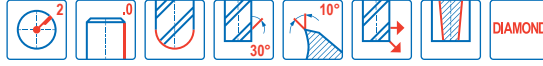
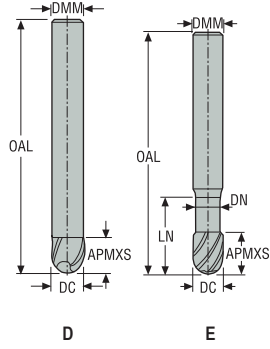
Grafit malzeme için

Minimaster Plus

Minimaster

## JD660

Diamond – Grafit malzeme için – Tamamı yuvarlak – 2 Ağızlı – Silindirik



- Toleranslar:
- Salgı=<0,01 mm
- DMM=h5
- DC= -0,02/-0,04 mm
- RE= ±0,01 mm
- B=0,9°

Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	Silindirik
				mm	mm	mm	mm	mm	mm	mm		
660030-DIAMOND	00023488	1	D	3,0	3,0	8,0	40,0	–	–	1,5	2	■
660040-DIAMOND	00023489	1	D	4,0	4,0	14,0	50,0	–	–	2,0	2	■
660060-DIAMOND	00023491	1	D	6,0	6,0	20,0	65,0	–	–	3,0	2	■
660V030-DIAMOND	00023501	2	E	3,0	3,0	6,0	40,0	15,0	2,9	1,5	2	■
660V040-DIAMOND	00023502	2	E	4,0	4,0	6,0	40,0	15,0	3,9	2,0	2	■
660V060-DIAMOND	00023505	2	E	6,0	6,0	10,0	65,0	35,0	5,9	3,0	2	■
660L030-DIAMOND	00023494	3	D	3,0	3,0	20,0	60,0	–	–	1,5	2	■
660L040-DIAMOND	00023496	3	D	4,0	4,0	30,0	60,0	–	–	2,0	2	■
660L060-DIAMOND	00023498	3	D	6,0	6,0	40,0	100,0	–	–	3,0	2	■
660VL030-DIAMOND	00023511	4	E	3,0	3,0	6,0	60,0	30,0	2,9	1,5	2	■
660VL040-DIAMOND	00023512	4	E	4,0	4,0	6,0	60,0	30,0	3,9	2,0	2	■
660VL060-DIAMOND	00023516	4	E	6,0	6,0	10,0	100,0	70,0	5,8	3,0	2	■

■ Stoklu standart ürün.

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için


Plastik ve cırp malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

Kesme verileri – JD660 Kaba kopya frezeleme

SMG		$a_e/DC$	$a_p/DC$	$f_z$			$v_c$
				3	4	6	
GR1	D	0.400 0,400	2.4 2,4	0.024 0,00095	0.032 0,0013	0.046 0,0018	920 (780–1000) 3025 (2600 – 3200)

Kesme verisi tekrar hesaplamaları için bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

$v_c$  = m/dak (sf/dak)

$f_z$  = mm/ağz (inç/ağz)

$a_p$  mm/DC (inç/DC) = faktör

$a_e$  = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeleri için

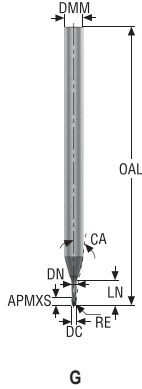
Grafit malzeme için

Minimaster Plus

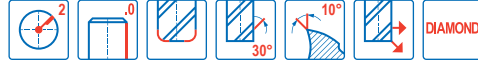
Minimaster

## JME642

Minyatür – Grafit malzeme için – Dik kenarlı – Diamond – 2 Ağızlı – DMM 4 – Silindirik – Köşe radyüsü



G



- Toleranslar:
- Salgı= <0,005 mm
- DMM= h5
- DC= 0/-0,015 mm
- RE= ±0,007 mm



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	CA	WDX0	WDX05	WDX1	WDX15	WDX2	WDX3	Silindirik
				mm	mm	mm	mm	mm	mm	mm									
JME642002G1R002.0Z2-DIA	03215524	1	G	0,2	4,0	0,3	40,0	0,4	0,18	0,02	2	14,32	0,59	0,65	0,72	0,78	0,84	0,95	■
JME642003G1R002.0Z2-DIA	03215525	1	G	0,3	4,0	0,5	40,0	0,5	0,28	0,02	2	14,1	0,74	0,81	0,87	0,94	1,0	1,11	■
JME642004G1R004.0Z2-DIA	03215526	1	G	0,4	4,0	0,6	40,0	2,0	0,37	0,04	2	11,67	2,29	2,44	2,57	2,68	2,78	2,96	■
JME642005G3R005.0Z2-DIA	03215527	3	G	0,5	4,0	0,7	40,0	2,5	0,45	0,05	2	10,97	2,83	3,0	3,13	3,25	3,36	3,56	■
JME642006G3R006.0Z2-DIA	03215528	3	G	0,6	4,0	1,0	60,0	3,0	0,55	0,06	2	10,31	3,33	3,52	3,67	3,8	3,92	4,13	■
JME642008G3R008.0Z2-DIA	03215529	3	G	0,8	4,0	1,2	60,0	4,0	0,75	0,08	2	9,31	4,33	4,57	4,74	4,89	5,02	5,25	■
JME642010G3R010.0Z2-DIA	03215530	3	G	1,0	4,0	1,6	60,0	5,0	0,95	0,1	2	8,04	5,33	5,61	5,81	5,97	6,12	6,37	■
JME642012G3R012.0Z2-DIA	03215531	3	G	1,2	4,0	1,6	60,0	6,0	1,15	0,12	2	7,09	6,33	6,65	6,87	7,05	7,2	7,46	■
JME642015G3R015.0Z2-DIA	03215532	3	G	1,5	4,0	2,4	60,0	7,5	1,4	0,15	2	5,8	7,99	8,29	8,52	8,71	8,87	9,36	■
JME642020G3R015.0Z2-DIA	03236441	3	G	2,0	4,0	2,2	60,0	10,0	1,9	0,15	2	4,11	10,53	10,88	11,22	11,55	11,99	12,87	■
JME642020G3R020.0Z2-DIA	03215533	3	G	2,0	4,0	3,0	60,0	10,0	1,9	0,2	2	4,11	10,49	10,87	11,13	11,35	11,53	12,48	■
JME642005G5R005.0Z2-DIA	03215534	5	G	0,5	4,0	0,7	40,0	4,0	0,45	0,05	2	9,43	4,33	4,57	4,74	4,89	5,03	5,26	■
JME642006G5R006.0Z2-DIA	03215535	5	G	0,6	4,0	1,0	60,0	5,0	0,55	0,06	2	8,5	5,33	5,61	5,81	5,98	6,12	6,37	■
JME642008G5R008.0Z2-DIA	03215536	5	G	0,8	4,0	1,2	60,0	7,0	0,75	0,08	2	7,02	7,33	7,68	7,92	8,12	8,28	8,72	■
JME642010G5R010.0Z2-DIA	03215537	5	G	1,0	4,0	1,6	60,0	8,5	0,95	0,1	2	6,06	8,33	9,23	9,5	9,71	9,89	10,59	■
JME642012G5R012.0Z2-DIA	03215538	5	G	1,2	4,0	1,6	60,0	10,0	1,15	0,12	2	5,23	10,33	10,78	11,07	11,3	11,5	12,46	■
JME642015G5R015.0Z2-DIA	03215539	5	G	1,5	4,0	2,4	60,0	12,0	1,4	0,15	2	4,25	12,49	12,92	13,22	13,32	13,84	14,99	■
JME642020G5R015.0Z2-DIA	03236442	5	G	2,0	4,0	2,2	60,0	16,0	1,9	0,15	2	2,87	16,53	17,06	17,61	18,91	18,82	-	■
JME642020G5R020.0Z2-DIA	03215540	5	G	2,0	4,0	3,0	60,0	16,0	1,9	0,2	2	2,87	16,49	17,02	17,36	17,77	18,45	-	■
JME642010G6R010.0Z2-DIA	03215541	6	G	1,0	4,0	1,6	60,0	12,0	0,95	0,1	2	4,86	12,33	12,84	13,16	13,4	13,81	14,96	■
JME642015G6R015.0Z2-DIA	03215542	6	G	1,5	4,0	2,4	50,0	18,0	1,4	0,15	2	3,13	18,49	19,07	19,43	19,99	20,76	22,49	■
JME642020G6R020.0Z2-DIA	03215543	6	G	2,0	4,0	3,0	60,0	25,0	1,9	0,2	2	1,97	25,49	26,21	26,78	27,77	28,83	-	■
JME642020G7R020.0Z2-DIA	03215544	7	G	2,0	4,0	3,0	60,0	30,0	1,9	0,2	2	1,68	30,49	31,03	32,13	33,32	-	-	■

■ Stoklu standart ürün.

WDX değerleri için: α<sub>1</sub>'ye bağlı maks. kesme derinliği (lα<sub>1</sub>, ref)\*

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeleri için

Grafit malzeme için

Minimaster Plus

Minimaster

Kesme verileri – JME642/JME662 Finiş kenar frezeleme

SMG	a <sub>e</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>											v <sub>c</sub>
			0.2	0.3	0.4	0.5	0.6	0.8	1	1.2	1.5	2		
GR1	D	0.300 0,300	0.80 0,80	0.024 0,00095	0.036 0,0014	0.044 0,0017	0.048 0,0019	0.055 0,0022	0.060 0,0024	0.065 0,0026	0.070 0,0028	0.075 0,0030	0.085 0,0034	175 (130 – 370) 570 (430 – 1200)

Kesme verileri – JME642 Kanal açma

SMG	a <sub>p</sub> /DC	f <sub>z</sub>											v <sub>c</sub>
		0.2	0.3	0.4	0.5	0.6	0.8	1	1.2	1.5	2		
GR1	D	0.30 0,30	0.022 0,00085	0.032 0,0013	0.040 0,0016	0.046 0,0018	0.050 0,0020	0.055 0,0022	0.065 0,0026	0.065 0,0026	0.075 0,0030	0.080 0,0032	140 (110 – 300) 460 (370 – 980)

Tablo LV3'e dayalıdır, lütfen seçilen uzunluk versiyonuna göre tekrar hesaplayın. Bkz. sayfa. 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sif/dak)

f<sub>z</sub> = mm (inç/ağız)

a<sub>p</sub> mm/DC (inç/DC) = faktör

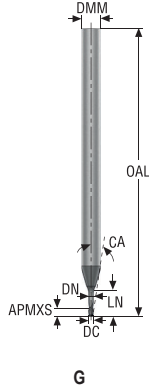
a<sub>e</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

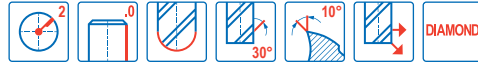


## JMB642/JMB662

Minyatür – Grafit malzeme için – Tamamı yuvarlak – Diamond – 2 Ağızlı – DMM 4-6 – Silindirik



G



- Toleranslar:
- Salgı= <0,005 mm
- DMM= h5
- DC= 0/-0,015 mm
- RE= ±0,007 mm



Ürün Tanımı	Ürün numarası	Şekil boyu	Freze şekli	DC	DMM	APMXS	OAL	LN	DN	RE	PCEDC	CA	WDX0	WDX05	WDX1	WDX15	WDX2	WDX3	Silindirik	
				mm	mm	mm	mm	mm	mm	mm										
JMB642002G1B.0Z2-DIA	03215373	1	G	0,2	4,0	0,3	40,0	0,4	0,18	0,1	2	14,5	0,59	0,65	0,7	0,76	0,81	0,92	■	
JMB642003G1B.0Z2-DIA	03215374	1	G	0,3	4,0	0,5	40,0	0,6	0,28	0,15	2	14,17	0,74	0,8	0,86	0,91	0,97	1,07	■	
JMB642004G1B.0Z2-DIA	03215375	1	G	0,4	4,0	2,0	40,0	0,8	0,37	0,2	2	13,8	2,29	2,43	2,55	2,66	2,76	2,93	■	
JMB642005G3B.0Z2-DIA	03215376	3	G	0,5	4,0	0,7	40,0	2,5	0,45	0,25	2	11,19	2,83	2,99	3,12	3,23	3,34	3,52	■	
JMB642006G3B.0Z2-DIA	03215377	3	G	0,6	4,0	1,0	60,0	3,0	0,55	0,3	2	10,55	3,33	3,51	3,65	3,78	3,89	4,09	■	
JMB642008G3B.0Z2-DIA	03215378	3	G	0,8	4,0	1,2	60,0	4,0	0,75	0,4	2	9,38	4,33	4,55	4,72	4,86	4,99	5,21	■	
JMB642010G3B.0Z2-DIA	03215379	3	G	1,0	4,0	1,6	60,0	5,0	0,95	0,5	2	8,33	5,33	5,59	5,78	5,94	6,08	6,32	■	
JMB642012G3B.0Z2-DIA	03215380	3	G	1,2	4,0	1,6	60,0	6,0	1,15	0,6	2	7,38	6,33	6,63	6,84	7,01	7,16	7,41	■	
JMB642015G3B.0Z2-DIA	03215381	3	G	1,5	4,0	2,4	60,0	7,5	1,4	0,75	2	6,08	7,99	8,28	8,49	8,67	8,83	9,33	■	
JMB642020G3B.0Z2-DIA	03215382	3	G	2,0	4,0	3,0	60,0	10,0	1,9	1,0	2	4,35	10,49	10,84	11,1	11,3	11,5	12,44	■	
JMB662030G3B.0Z2-DIA	03215384	3	G	3,0	6,0	3,0	60,0	15,0	2,8	1,5	2	4,38	15,71	16,1	16,39	16,67	17,3	18,72	■	
JMB642005G5B.0Z2-DIA	03215387	5	G	0,5	4,0	0,7	40,0	4,0	0,45	0,25	2	9,6	4,33	4,56	4,73	4,88	5,01	5,23	■	
JMB642006G5B.0Z2-DIA	03215388	5	G	0,6	4,0	1,0	60,0	5,0	0,55	0,3	2	8,68	5,33	5,6	5,79	5,96	6,1	6,34	■	
JMB642008G5B.0Z2-DIA	03215389	5	G	0,8	4,0	1,2	60,0	7,0	0,75	0,4	2	7,18	7,33	7,67	7,91	8,09	8,26	8,7	■	
JMB642010G5B.0Z2-DIA	03215390	5	G	1,0	4,0	1,6	60,0	8,5	0,95	0,5	2	6,22	8,83	9,22	9,48	9,68	9,86	10,57	■	
JMB642012G5B.0Z2-DIA	03215391	5	G	1,2	4,0	1,6	60,0	10,0	1,15	0,6	2	5,4	10,33	10,77	11,05	11,27	11,49	12,44	■	
JMB642015G5B.0Z2-DIA	03215392	5	G	1,5	4,0	2,4	60,0	12,0	1,4	0,75	2	4,4	12,49	12,91	13,19	13,42	13,81	14,96	■	
JMB642020G5B.0Z2-DIA	03215393	5	G	2,0	4,0	3,0	60,0	16,0	1,9	1,0	2	2,99	16,49	17,0	17,33	17,75	18,42	19,94	■	
JMB662030G5B.0Z2-DIA	03215395	5	G	3,0	6,0	3,0	60,0	24,0	2,8	1,5	2	3,0	24,71	25,28	25,73	26,67	27,68	29,97	■	
JMB642010G6B.0Z2-DIA	03215396	6	G	1,0	4,0	1,6	60,0	12,0	0,95	0,5	2	4,96	12,33	12,83	13,14	13,38	13,8	14,94	■	
JMB642015G6B.0Z2-DIA	03215397	6	G	1,5	4,0	2,4	60,0	18,0	1,4	0,75	2	3,21	18,49	19,05	19,41	19,97	20,74	22,45	■	
JMB642020G6B.0Z2-DIA	03215398	6	G	2,0	4,0	3,0	60,0	25,0	1,9	1,0	2	2,03	25,49	26,2	26,76	27,75	28,81	-	■	
JMB642020G7B.0Z2-DIA	03215399	7	G	2,0	4,0	3,0	60,0	30,0	1,9	1,0	2	1,72	30,49	31,29	32,12	33,3	-	-	■	

■ Stoklu standart ürün.

WDX değerleri için: α'ye bağlı maks. kesme derinliği (αref, ref)\*

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için


Plastik ve cırp malzemeleri için

Grafit malzeme için


Minimaster Plus

Minimaster

Kesme verileri – JMB642/662 Finiş kenar frezeleme

SMG		a <sub>e</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>										v <sub>c</sub>
				0.2	0.3	0.4	0.5	0.6	0.8	1	1.2	1.5	2	
GR1	D	0.300 0,300	0.50 0,50	0.0024 0,000095	0.0036 0,00014	0.0048 0,00019	0.0060 0,00024	0.0070 0,00028	0.0095 0,00038	0.012 0,00048	0.014 0,00055	0.017 0,00065	0.020 0,00080	250 (200 — 300) 820 (660 — 980)

Kesme verileri – JMB642/662 Kaba kopya frezeleme

SMG		a <sub>e</sub> /DC	a <sub>p</sub> /DC	f <sub>z</sub>										v <sub>c</sub>
				0.2	0.3	0.4	0.5	0.6	0.8	1	1.2	1.5	2	
GR1	D	0.300 0,300	0.50 0,50	0.0024 0,000095	0.0036 0,00014	0.0048 0,00019	0.0060 0,00024	0.0070 0,00028	0.0095 0,00038	0.012 0,00048	0.014 0,00055	0.017 0,00065	0.020 0,00080	250 (200 — 300) 820 (660 — 980)

Tablo LV3'e dayalıdır, lütfen seçilen uzunluk versiyonuna göre tekrar hesaplayın. Bkz. sayfa 457 - 464

SMG = Seco malzeme grubu

Soğutma = A=hava D=kuru E=emülsiyon M= sprey yağlama

v<sub>c</sub> = m/dak (sf/dak)

f<sub>z</sub> = mm (inç/ağız)

a<sub>p</sub> mm/DC (inç/DC) = faktör

a<sub>e</sub> = mm/DC (inç/DC) = faktör

Tüm kesme verileri hedef değerlerdir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için







Plastik ve cırp malzemeleri için

Grafit malzeme için

Minimaster Plus

Minimaster







## Tekrar hesaplama

Orijinal standart versiyon kaba kenar kesme verilerini kullanın, ardından parametreleri tekrar hesaplayın!										Orijinal standart versiyon kanal açma kesme verilerini kullanın, ardından parametreleri tekrar hesaplayın!										
Düz	Kanal açma		Kaba Kenar işleme			Finiş Kenar işleme				Yokuş frezeleme		Helisel			Delme					
							$a_p$	$f_z$	$a_e$	$f_z$	$a_p$	$v_c$	$a_e$ (% / DC)	$f_z$	$a_p$	$a_p$	$f_z$	$a_p/360^\circ$ (% / DC)	delik $\emptyset$ ( $\geq$ % / DC)	$f_z$
										$\leq 30^\circ$ *										
JS412	100	100	100	100	100	140	3	40	120	80	100	50	10	130	50	100				
LV2																				
										$\leq 10^\circ$ *										
JS413	100	100	100	100	100	150	3	40	120	70	50	50	10	130	X	X				
LV2	X	X	25	60	240	120	3	40	230	70	50	50	10	130	X	X				
LV3																				
										$\leq 30^\circ$ *										
JS452	100	100	100	100	100	140	3	35	120	70	100	50	10	130	50	100				
LV2																				
LV3	50	60	75	60	50	120	3	40	100	70	70	50	10	130	20	10				
										$\leq 10^\circ$ *										
JS453	100	100	100	100	100	140	3	35	120	70	50	50	10	130	20	10				
LV2	X	X	25	60	240	120	3	40	230	70	70	50	10	130	20	10				
LV3																				
										$\leq 30^\circ$ *										
JSE512	100	100	100	100	100	110	3	65	125	40	40	100	5	130	40	40				
LV2																				
										$\leq 5^\circ$ *										
JSE513	100	100	100	100	100	110	3	85	150	100	100	100	5	130	50	40				
LV2	30	100	30	50	200	110	3	85	250	X	X	X	X	X	X	X				
LV3																				
										$\leq 5^\circ$ *										
JSE514	100	100	100	100	100	110	3	60	150	100	100	100	5	130	X	X				
LV2	X	X	25	50	200	110	3	60	250	X	X	X	X	X	X	X				
LV3																				
										$\leq 45^\circ$ *										
JS553	100	100	100	100	100	110	3	55	150	50	55	35	3	130	35	50				
LV1	100	100	100	100	100	110	3	55	150	50	55	35	3	130	35	50				
LV2	40	60	40	105	200	110	3	55	250	50	15	35	3	130	35	50				
LV3																				
										$\leq 5^\circ$ *										
JS554	100	100	100	100	100	110	3	53	150	100	100	100	3	130	X	X				
LV1	100	100	100	100	100	110	3	53	150	100	100	100	3	130	X	X				
LV2	40	60	38	105	200	110	3	53	250	50	50	60	3	130	X	X				
LV3																				
										$\leq 5^\circ$ *										
JS564	X	X	100	100	100	110	3	55	100	X	X	100	2	130	X	X				
LV2	X	X	38	105	140	110	3	55	140	X	X	60	1,5	130	X	X				
LV3																				
										$\leq 5^\circ$ *										
JS565	X	X	100	100	100	110	3	55	100	X	X	100	2	130	X	X				
LV2	X	X	38	105	140	110	3	55	140	X	X	60	1,5	130	X	X				
LV3																				

\*Maksimum yokuş frezeleme açısı







Tüm değerler orijinal (%100) kesme verisinin yüzdesidir.

## Tekrar hesaplama

Orijinal standart versiyon kaba kenar kesme verilerini kullanın, ardından parametreleri tekrar hesaplayın!										Orijinal standart versiyon kanal açma kesme verilerini kullanın, ardından parametreleri tekrar hesaplayın!													
Düz	Kanal açma		Kaba Kenar işleme			Finiş Kenar işleme				Yokuş frezeleme		Helisel			Delme								
							$a_p$	$f_z$	$a_e$	$f_z$	$a_p$	$v_c$	$a_e$ (% / DC)	$f_z$	$a_p$	$a_p$	$f_z$	$f_z$	$a_p/360^\circ$ (% / DC)	delik Ø (≥ % / DC)	$f_z$	$a_p$ (% / DC)	
J28 LV2	100	100	100	100	100	140	3	100	135														
J36 LV2	X	X	100	100	100	120	3	85	150														
J93F LV2	100	100	100	100	100	133	3	40	100														
JH120 LV2	100	100	100	100	100	120	3	120	80														
JH130 LV2	X	X	100	100	100	120	3	120	80														
JH142 LV2	X	X	100	100	100	110	3	80	70														
JH142 LV3	X	X	100	100	100	110	3	80	70														
JH142 LV6	X	X	100	100	100	110	3	80	70														
JH830 LV2	100	100	100	100	100	110	3	110	80														
JH910 LV2	100	100	100	100	100	125	4	100	80														
JH910 LV3	80	80	100	80	80	125	4	80	65														
JH930 LV2	X	X	100	100	100	125	2	30	100														

\*Maksimum yokuş frezeleme açısı  
Tüm değerler orijinal (%100) kesme verisinin yüzdesidir.

## Tekrar hesaplama

Orijinal standart versiyon kaba kenar kesme verilerini kullanın, ardından parametreleri tekrar hesaplayın!										Orijinal standart versiyon kanal açma kesme verilerini kullanın, ardından parametreleri tekrar hesaplayın!						
Düz	Kanal açma		Kaba Kenar işleme			Finiş Kenar işleme				Yokuş frezeleme		Helisel			Delme	
							$a_p$	$f_z$	$a_e$	$f_z$	$a_p$	$a_p$	$f_z$	$a_p/360^\circ$ (% / DC)	delik $\varnothing$ ( $\geq$ % / DC)	$f_z$
										$\leq 5^\circ$ *						
JH40	100	100	100	100	100	100	3	35	100	83	55	55	25	130	55	80
LV2	100	100	100	100	100	100	3	35	100	83	55	55	25	130	55	80
LV3	100	100	100	100	100	100	3	35	100	83	55	55	25	130	55	80
										$\leq 45^\circ$ *						
JH410	100	100	100	100	100	125	2	25	100	100	67	67	40	130	67	80
LV2	75	60	80	60	100	125	2	25	100	60	40	40	40	130	40	50
LV2 (ML)	125	100	100	100	100	100	2	100	100	100	50	100	40	130	150	80
LV2 (TL)	125	100	100	100	100	100	2	100	100	100	50	100	40	130	150	80
LV2 (RS)	125	100	100	100	100	100	2	100	100	100	50	100	40	130	150	80
LV3 (RS)	95	95	80	100	100	100	2	100	100	50	50	50	40	130	75	40
										$\leq 45^\circ$ *						
JH421	100	100	100	100	100	100	4	35	100	100	100	100	25	130	45	80
LV2	100	100	100	100	100	100	4	35	100	100	100	100	25	130	45	80
										$\leq 30^\circ$ *						
JH440	100	100	100	100	100	125	3	40	100	100	100	100	5	130	X	X
LV2	100	100	100	100	100	125	3	40	100	100	100	100	5	130	X	X
										$\leq 5^\circ$ *						
JHP750	115	120	115	115	100	100	2	145	100	100	120	120	3	130	10	70
LV1	100	100	100	100	100	100	2	145	100	100	100	100	3	130	10	60
LV2	100	100	100	100	100	100	2	145	100	100	100	100	3	130	10	60
										$\leq 5^\circ$ *						
JHP951	100	100	100	100	100	158	2	50	113	20	100	125	3	130	6	20
LV2	100	100	100	100	100	158	2	50	113	20	100	125	3	130	6	20
										$\leq 10^\circ$ *						
JHP993	100	100	100	100	100	X	X	X	X	30	100	100	3	130	4	40
LV2	80	80	80	80	80	X	X	X	X	20	80	80	3	130	3	30
LV3	80	80	80	80	80	X	X	X	X	20	80	80	3	130	3	30
										$\leq X^\circ$ *						
JS520	X	X	100	100	100	133	2	65	100	X	X	X	X	X	X	X
LV2	X	X	X	X	X	133	2	65	175	X	X	X	X	X	X	X
LV3	X	X	X	X	X	133	2	65	175	X	X	X	X	X	X	X
										$\leq X^\circ$ *						
JS522	X	X	100	100	100	129	2	140	100	X	X	X	X	X	X	X
LV4	X	X	100	100	100	129	2	140	100	X	X	X	X	X	X	X
										$\leq X^\circ$ *						
JS720	X	X	100	100	100	110	2	65	100	X	X	100	2	130	X	X
LV2	X	X	100	100	100	110	2	65	100	X	X	100	2	130	X	X
LV3	X	X	100	100	100	110	2	65	100	X	X	100	2	130	X	X
										$\leq X^\circ$ *						
JS754	100	100	100	100	100	110	3	55	150	100	100	100	3	130	X	X
LV2	40	60	38	105	200	110	3	55	250	50	50	60	3	130	X	X
LV3	40	60	38	105	200	110	3	55	250	50	50	60	3	130	X	X
										$\leq X^\circ$ *						
JS755	100	100	100	100	100	110	3	55	150	100	100	100	3	130	X	X
LV2	40	60	38	105	200	110	3	55	250	50	50	60	3	130	X	X
LV3	40	60	38	105	200	110	3	55	250	50	50	60	3	130	X	X

\*Maksimum yokuş frezeleme açısı  
Tüm değerler orijinal (%100) kesme verisinin yüzdesidir.

## Tekrar hesaplama

Orijinal standart versiyon kaba kenar kesme verilerini kullanın, ardından parametreleri tekrar hesaplayın!										Orijinal standart versiyon kenar frezeleme kesme verilerini kullanın, ardından parametreleri tekrar hesaplayın!						
Düz	Kanal açma		Kaba Kenar işleme			Finiş Kenar işleme				Yokuş frezeleme		Helisel			Delme	
	$a_p$	$f_z$	$a_e$	$f_z$	$a_p$	$v_c$	$a_e$ (% / DC)	$f_z$	$a_p$	$a_p$	$f_z$	$f_z$	$a_p/360^\circ$ (% / DC)	delik Ø (≥ % / DC)	$f_z$	$a_p$ (% / DC)
										$\leq X^\circ$						
<b>JME542-JME562-JME564</b>																
LV1	100	100	100	100	100	125	2	150	5	X	X	X	X	X	X	X
LV2	63	100	100	100	65	125	2	150	3	X	X	X	X	X	X	X
LV3	25	100	100	100	25	125	2	150	1	X	X	X	X	X	X	X
LV4 (TL)	18	100	100	100	20	125	2	150	1	X	X	X	X	X	X	X
LV4 (XL)	12	100	100	100	10	125	2	150	1	X	X	X	X	X	X	X
LV5	10	100	100	100	10	125	2	150	1	X	X	X	X	X	X	X
LV6	4	100	100	100	5	125	2	150	1	X	X	X	X	X	X	X
LV7	2	100	100	100	2	125	2	150	1	X	X	X	X	X	X	X
										$\leq X^\circ$						
<b>JME142-JME144</b>																
LV1	100	100	100	100	100	100	2	150	5	X	X	X	X	X	X	X
LV2	85	85	100	100	63	100	2	150	3	X	X	X	X	X	X	X
LV3	75	75	100	100	25	100	2	150	1	X	X	X	X	X	X	X
LV4	60	60	100	100	20	100	2	150	1	X	X	X	X	X	X	X
LV5	50	50	100	100	10	100	2	150	1	X	X	X	X	X	X	X
LV6	40	40	100	100	5	100	2	150	1	X	X	X	X	X	X	X
										$\leq X^\circ$						
<b>JM403-JM404-JM406</b>																
LV1	100	100	100	100	100	X	X	X	X	X	X	X	X	X	X	X
LV2	100	75	100	75	100	X	X	X	X	X	X	X	X	X	X	X
LV3 (L)	100	75	100	75	90	X	X	X	X	X	X	X	X	X	X	X
LV3 (TL)	90	75	100	75	70	X	X	X	X	X	X	X	X	X	X	X
LV4 (XL)	75	75	100	75	70	X	X	X	X	X	X	X	X	X	X	X
LV4 (SL)	75	75	100	75	45	X	X	X	X	X	X	X	X	X	X	X
LV5	50	50	100	50	30	X	X	X	X	X	X	X	X	X	X	X
										$\leq 2$						
<b>JME642</b>																
LV1	100	100	100	100	100	100	2	85	200	X	X	X	X	X	X	X
LV3	100	100	100	100	100	100	2	85	200	X	X	X	X	X	X	X
LV5	30	100	60	100	100	100	2	85	200	X	X	X	X	X	X	X
LV6	30	100	60	100	100	100	2	85	200	X	X	X	X	X	X	X
LV7	30	100	60	100	100	100	2	85	200	X	X	X	X	X	X	X
										$\leq 5^\circ$						
<b>JC898</b>																
LV3	X	X	100	100	100	X	X	X	X	X	50	80	3	130-160	X	X
										$\leq 5^\circ$						
<b>JC899</b>																
LV3	X	X	100	100	100	100	3	50	100	X	X	X	X	X	X	X

\*Maksimum yokuş frezeleme açısı  
Tüm değerler orijinal (%100) kesme verisinin yüzdesidir.









## Tekrar hesaplama

Orijinal standart versiyon kaba kenar kesme verilerini kullanın, ardından parametreleri tekrar hesaplayın!										Orijinal standart versiyon kanal açma kesme verilerini kullanın, ardından parametreleri tekrar hesaplayın!						
Düz	Kanal açma		Kaba Kenar işleme			Finiş Kenar işleme				Yokuş frezeleme		Helisel			Delme	
	$a_p$	$f_z$	$a_e$	$f_z$	$a_p$	$v_c$	$a_e$ (% / DC)	$f_z$	$a_p$	$a_p$	$f_z$	$f_z$	$a_p/360^\circ$ (% / DC)	delik $\varnothing$ ( $\geq$ % / DC)	$f_z$	$a_p$ (% / DC)
										$\leq 1^\circ$						
JHP170 LV2	100	100	100	100	100	130	3	175	80	100	100	100	2	130	X	X
										$\leq 30^\circ$						
JHP490 LV2	100	100	100	100	100	X	X	X	X	50	50	35	5	130	30	50
JHP490 LV2 (E-Şekil)	100	75	100	100	100	X	X	X	X	50	50	35	5	130	30	50
JHP490 LV3	100	75	80	100	100	X	X	X	X	50	50	35	5	130	30	50
JHP490 LV4	150	75	80	100	100	X	X	X	X	50	50	35	5	130	30	50
										$\leq 5^\circ$						
JHP760 LV2	100	100	100	100	100	140	2	125	15	30	100	100	3	130	10	50
JHP760 LV3	50	50	100	50	50	140	2	125	15	15	50	50	3	130	5	25
										$\leq 15^\circ$						
JHP770 LV2	100	100	100	100	100	170	3	125	100	100	40	40	3	130	X	X
										$\leq 5^\circ$						
JHP780 LV1	100	100	100	100	100	160	2	135	140	100	100	35	3	130	35	50
JHP780 LV2	100	100	100	100	100	160	2	135	140	100	100	35	3	130	35	50
										$\leq 5^\circ$						
JD620 LV2	100	100	100	100	100	100	2	110	4	X	X	X	X	X	X	X
JD620 LV3	100	100	100	100	100	100	2	110	4	X	X	X	X	X	X	X
JD620 LV4	20	100	60	100	60	100	2	110	4	X	X	X	X	X	X	X
										$\leq X^\circ$						
JD630 LV2	100	100	100	100	100	100	2	110	4	X	X	X	X	X	X	X
JD630 LV3	100	100	100	100	100	100	2	110	4	X	X	X	X	X	X	X
JD630 LV4	100	100	100	100	100	100	2	110	4	X	X	X	X	X	X	X
										$\leq X^\circ$						
JD640 LV2	100	100	100	100	100	100	2	110	4	X	X	X	X	X	X	X
JD640 LV3	100	100	100	100	100	100	2	110	4	X	X	X	X	X	X	X
JD640 LV4	100	100	100	100	100	100	2	110	4	X	X	X	X	X	X	X

\*Maksimum yokuş frezeleme açısı

Tüm değerler orijinal (%100) kesme verisinin yüzdesidir.







## Tekrar hesaplama

Orijinal standart versiyon kaba kenar kesme verilerini kullanın, ardından parametreleri tekrar hesaplayın!										Orijinal standart versiyon kanal açma kesme verilerini kullanın, ardından parametreleri tekrar hesaplayın!									
Düz	Kanal açma		Kaba Kenar işleme			Finiş Kenar işleme				Yokuş frezeleme		Helisel			Dalma kesme				
																			
	$a_p$	$f_z$	$a_e$	$f_z$	$a_p$	$v_c$	$a_e$ (% / DC)	$f_z$	$a_p$	$a_p$	$f_z$	$f_z$	$a_p/360^\circ$ (% / DC)	delik $\varnothing$ ( $\geq$ % / DC)	$v_c$	$a_e$ (% / DC)	$f_z$	$a_e$ -sd (% / DC)	
<b>JHF181</b>																			
LV1	100	100	100	100	100	X	X	X	X	X	X	100	3,4	130	X	X	X	X	
LV2	80	85	100	85	80	X	X	X	X	X	X	85	3,0	130	X	X	X	X	
LV3	60	70	100	70	60	X	X	X	X	X	X	70	2,5	130	X	X	X	X	
										$\leq 1,5^\circ$ *									
<b>JHF980</b>																			
LV1	100	100	100	100	100	X	X	X	X	100	100	100	3	130	70	30	33	200	
LV2	100	100	100	100	100	X	X	X	X	100	100	100	3	130	70	30	33	200	
LV3	80	85	80	85	80	X	X	X	X	80	85	85	3	130	70	30	33	200	
LV4	50	70	50	70	60	X	X	X	X	60	70	70	3	130	70	30	33	200	

\*Maksimum yokuş frezeleme açısı  
Tüm değerler orijinal (%100) kesme verisinin yüzdesidir.






















## Tekrar hesaplama

Standart versiyon kesme verisini kullanarak parametreleri tekrar hesaplayın!										Orijinal standart versiyon kanal açma kesme verilerini kullanın, ardından parametreleri tekrar hesaplayın!									
BALL	Kanal açma		Kaba Kenar işleme			Finiş Kenar işleme				Kaba kopya frezeleme			Finiş kopya frezeleme				Helisel		
																			
	$a_p$	$f_z$	$a_e$	$f_z$	$a_p$	$v_c$	$a_e$ (% / DC)	$f_z$	$a_p$	$a_e$	$f_z$	$a_p$	$v_c$	$a_e$ (% / DC)	$f_z$	$a_p$	$f_z$	$a_p/360^\circ$ (% / DC)	delik $\emptyset$ ( $\geq$ % / DC)
JSB512 LV2	X	X	100	100	100	125	3	125	10	X	X	X	X	X	X	X	100	5	130
JS532 LV1	X	X	100	100	100	125	3	125	10	X	X	X	X	X	X	X	75	5	130
LV2	X	X	70	100	70	125	3	125	10	X	X	X	X	X	X	X	75	5	130
LV3	X	X	X	X	X	125	3	125	10	X	X	X	X	X	X	X	X	X	X
JS533 LV1	X	X	100	100	100	125	3	125	15	X	X	X	X	X	X	X	75	5	130
LV2	X	X	75	75	75	125	3	125	15	X	X	X	X	X	X	X	75	5	130
JS534 LV1	X	X	100	100	100	125	3	170	20	X	X	X	X	X	X	X	100	3	130
LV2	X	X	70	100	70	125	3	170	20	X	X	X	X	X	X	X	100	3	130
LV3	X	X	70	100	70	125	3	170	20	X	X	X	X	X	X	X	100	3	130
JHB970 LV1	X	X	100	100	100	155	2	30	15	X	X	X	X	X	X	X	40	3	130
LV2	X	X	100	100	100	155	2	30	15	X	X	X	X	X	X	X	40	3	130
LV3	X	X	100	100	100	155	2	30	15	X	X	X	X	X	X	X	40	3	130
JHB720 LV2	X	X	100	100	100	125	2	90	75	X	X	X	X	X	X	X	40	3	130
JH112 LV1	X	X	100	100	100	110	2	70	100	X	X	X	X	X	X	X	20	2	130
LV2	X	X	100	100	100	110	2	70	100	X	X	X	X	X	X	X	20	2	130
LV3	X	X	100	100	100	110	1,6	55	100	X	X	X	X	X	X	X	X	X	X
LV4	X	X	100	100	100	130	1,4	55	100	X	X	X	X	X	X	X	X	X	X
LV5	X	X	100	100	100	130	1,4	50	100	X	X	X	X	X	X	X	X	X	X
LV6	X	X	100	100	100	130	1	35	100	X	X	X	X	X	X	X	X	X	X
JH150 LV2	X	X	100	100	100	165	1	90	35	X	X	X	X	X	X	X	30	2	130

\*Maksimum yokuş frezeleme açısı

Tüm değerler orijinal (%100) kesme verisinin yüzdesidir.

## Tekrar hesaplama

Orijinal standart versiyon kaba kenar kesme verilerini kullanın, ardından parametreleri tekrar hesaplayın!										Orijinal standart versiyon kanal açma kesme verilerini kullanın, ardından parametreleri tekrar hesaplayın!									
BALL	Kanal açma		Kaba Kenar işleme			Finiş Kenar işleme			Kaba kopya frezeleme			Finiş kopya frezeleme				Helisel			
																			
	$a_p$	$f_z$	$a_e$	$f_z$	$a_p$	$v_c$	$a_e$ (% / DC)	$f_z$	$a_p$	$a_e$	$f_z$	$a_p$	$v_c$	$a_e$ (% / DC)	$f_z$	$a_p$	$f_z$	$a_p/360^\circ$ (% / DC)	delik $\varnothing$ ( $\geq$ % / DC)
JH160 Standart (2)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
JH450 Standart (2)	X	X	100	100	100	120	5	90	25	X	X	X	X	X	X	X	45	5	130
JH460 Standart (2)	X	X	100	100	100	120	5	90	25	X	X	X	X	X	X	X	X	X	X
JMB542-JMB562- JMB563																			
LV1	100	100	X	X	X	X	X	X	X	100	100	100	125	2	150	5	X	X	X
LV2	65	100	X	X	X	X	X	X	X	100	100	63	125	2	150	3	X	X	X
LV3	26	100	X	X	X	X	X	X	X	100	100	25	125	2	150	1	X	X	X
LV4 (TL)	20	100	X	X	X	X	X	X	X	100	100	19	125	2	150	1	X	X	X
LV4 (XL)	12	100	X	X	X	X	X	X	X	100	100	12	125	2	150	1	X	X	X
LV5	10	100	X	X	X	X	X	X	X	100	100	10	125	2	150	1	X	X	X
LV6	4	100	X	X	X	X	X	X	X	100	100	4	125	2	150	1	X	X	X
LV7	2	100	X	X	X	X	X	X	X	100	100	2	125	2	150	1	X	X	X
JMB112																			
LV1	100	100	X	X	X	X	X	X	X	100	100	100	118	2	120	5	X	X	X
LV2	65	100	X	X	X	X	X	X	X	64	85	85	118	2	120	3	X	X	X
LV3	26	100	X	X	X	X	X	X	X	56	75	75	118	2	120	1	X	X	X
LV4	20	100	X	X	X	X	X	X	X	45	60	60	118	2	120	1	X	X	X
LV5	10	100	X	X	X	X	X	X	X	38	50	50	118	2	120	1	X	X	X
LV6	4	100	X	X	X	X	X	X	X	30	40	40	118	2	120	1	X	X	X
JM413-JM416																			
LV1	X	X	100	100	100	100	5	40	35	X	X	X	X	X	X	X	X	X	X
LV2	X	X	100	60	100	100	5	40	15	X	X	X	X	X	X	X	X	X	X
LV3	X	X	100	80	100	100	5	40	15	X	X	X	X	X	X	X	X	X	X
LV4	X	X	100	60	75	100	5	40	10	X	X	X	X	X	X	X	X	X	X
JMB642																			
LV1	100	100	100	100	100	100	2	85	200	X	X	X	X	X	X	X	X	X	X
LV3	100	100	100	100	100	100	2	85	200	X	X	X	X	X	X	X	X	X	X
LV5	30	100	60	100	100	100	2	85	200	X	X	X	X	X	X	X	X	X	X
LV6	30	100	60	100	100	100	2	85	200	X	X	X	X	X	X	X	X	X	X
LV7	30	100	60	100	100	100	2	85	200	X	X	X	X	X	X	X	X	X	X
JD660																			
LV1	X	X	100	100	100	100	2	100	100	X	X	X	X	X	X	X	X	X	X
LV2	X	X	100	100	100	100	2	100	100	X	X	X	X	X	X	X	X	X	X
LV3	X	X	100	100	100	100	2	100	100	X	X	X	X	X	X	X	X	X	X
LV4	X	X	100	100	100	100	2	100	100	X	X	X	X	X	X	X	X	X	X
LV5	X	X	100	100	100	100	2	100	100	X	X	X	X	X	X	X	X	X	X

\*Maksimum yokuş frezeleme açısı  
Tüm değerler orijinal (%100) kesme verisinin yüzdesidir.

## Kodlama sistemi ve formüller

RPM (Devir)	
$n = \frac{v_c \cdot 1000}{\pi \cdot D_c}$	(dev/dak)
Kesme hızı	
$v_c = \frac{n \cdot \pi \cdot D_c}{1000}$	(m/dak)
İlerleme hızı	
$v_f = n \cdot z_n \cdot f_z$	(mm/dak)
Tur başı ilerleme	
$f = z_n \cdot f_z$	(mm/dev)
Talaş kaldırma oranı	
$Q = \frac{a_e \cdot a_p \cdot v_f}{1000}$	(cm <sup>3</sup> /dak)
Kopya frezeleme için RPM ve Kesme hızı	
$v_c = \frac{n \cdot \pi \cdot D_w}{1000}$	(m/dak)
$n = \frac{v_c \cdot 1000}{\pi \cdot D_w}$	(RPM)
$D_w = 2 \cdot \sqrt{a_p (D_c - a_p)}$	(mm)

### Kullanım boyuna göre $a_p$ 'nin hesaplanması:

Eğer kullanım boyu (XS) 4 x DC'den uzunsa ve Silindirik sap kullanılıyorsa, tabloda verilen kesme derinliğinden ( $a_p$ ) farklı bir değer uygulanmalıdır.

Yeni  $a_p$  değerini hesaplamak için aşağıdaki formülü kullanın

$$a_{p,yeni} = a_p \times (4 \times DC / XS)^2$$

Profil yüksekliği
$H = \frac{D_c}{2} - \frac{\sqrt{D_c^2 - a_e^2}}{2}$
$D_w = 2 \cdot \sqrt{a_p (D_c - a_p)}$ (mm)

### Profil yüksekliği H (µm)

DC	Adım $a_e$ (µm)						
	0,06	0,08	0,11	0,15	0,20	0,3	0,45
1	0,90	1,60	3,00	5,70	10,0	23,0	53,0
2	0,45	0,80	1,50	2,80	5,0	11,0	26,0
4	0,23	0,40	0,76	1,40	2,5	5,60	13,0
6	0,15	0,27	0,50	0,94	1,7	3,80	8,40
8	0,11	0,20	0,38	0,70	1,3	2,80	6,30
10	0,09	0,16	0,30	0,56	1,0	2,30	5,10
12	0,08	0,13	0,25	0,47	0,83	1,90	4,20

- $a_p$  = Kesme derinliği mm/eksenel kesme derinliği (mm)
- $a_e$  = Kesme genişliği mm/radyal kesme derinliği (mm)
- DC = Freze çapı
- f = Tur başına ilerleme (mm/dev)
- $f_z$  = Ağız başına ilerleme (mm/ağız)
- $z_n$  = Ağız sayısı
- n = RPM (dev/dak)
- Q = Talaş kaldırma oranı (cm<sup>3</sup>/dak)
- $v_c$  = Kesme hızı (m/dak)
- $v_f$  = Tabla ilerlemesi (mm/dak)
- $D_w$  = Çalışma çapı

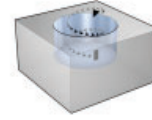
## Operasyon tavsiyeleri

### Yokuş frezeleme metodu

Aşağıdaki tabloda, belirli kesin yokuş frezeleme açılarında kullanılacak ilerleme oranı yüzdesi gösterilmektedir

### Helisel enterpolasyon ile rampalama için tavsiye edilen delik çapı

Parmak frezenin çapı DC	Delik çapı
1-2,5	1,4 x DC
3-6	1,3 x DC
8-12	1,2 x DC
16-32	1,15 x DC

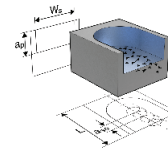


### Trokoidal yöntemi

Aşağıdaki resim, genelde kanal açma için kullanılan trokoidal denilen yöntemi gösterir

### Kanalın tavsiye edilen genişliği

Parmak frezenin çapı DC	Kanal genişliği
1-2,5	1,8 x DC
3-6	1,6 x DC
8-12	1,4 x DC
16-32	1,2 x DC





## MINIMASTER™ PLUS

Minimaster™ Plus, değiştirilebilir kanallı uçları ile yeni nesil parmak freze grubunu temsil eder. Bu değiştirilebilir kafalı takım sistemi, sektörde öncü olan Minimaster™ sisteminin başarısı temel alınarak geliştirilmiştir ve en yüksek hassasiyet ve üretkenlik seviyelerini sunmaktadır.

- Dik Kenar ürün çeşitleri: 10-16 mm (0,375 - 0,625 inç)
- Tamamı Yuvarlak ürün çeşitleri: 10-16 mm (0,375 - 0,625 inç)
- Merkez Delme/Pah Kırma ürün çeşitleri: 10-16 mm (0,375 - 0,625 inç)
- Yüksek İlerleme ürün çeşitleri: 10-16 mm (0,375 - 0,625 inç)

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve cırp materyaller için

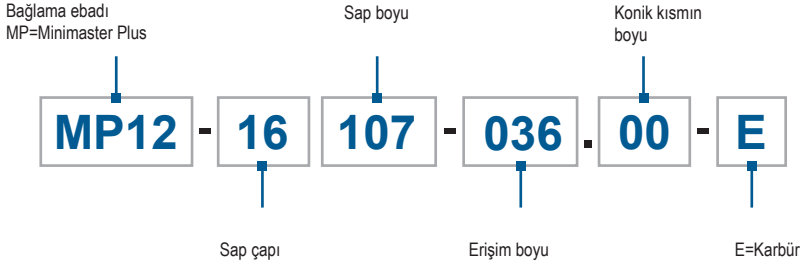
Grafit materyale için

Minimaster Plus

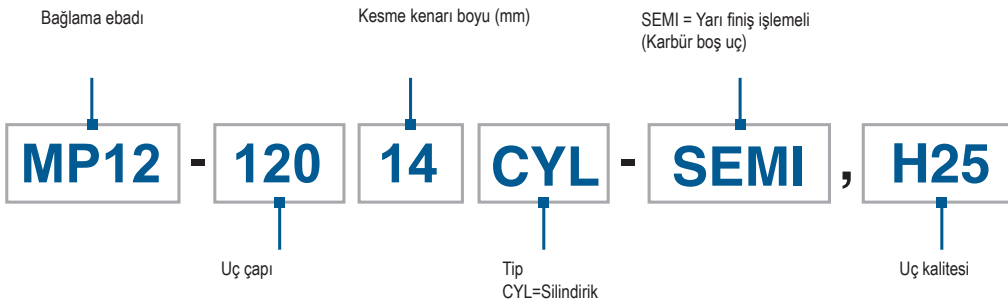
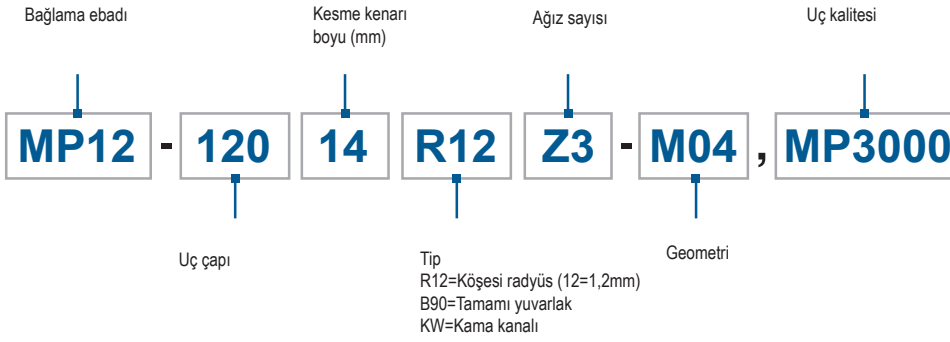
Minimaster

## Kod anahtarları

## Saplar için kodlama anahtarı



## Uçlar için kodlama anahtarı



## İçten soğutma



## Seçim kılavuzu

### 1. Konik ebadını seçme

İş parçasının tasarımı ve işleme operasyonları uygun konik ebadını belirler. En iyi sağlamlık ve stabilite için mümkün olan en büyük konik ebadını seçin.

### 2. Uç seçme

- İş parçası malzemesini bir Seco malzeme grubuna sınıflandırmak için 626. sayfada başlayan tabloları kullanın.
- Seçilen konik ebadıyla ilgili sayfalara bakın ve uç seçimi tablosundan uygun bir uç seçin.

### 3. Sap seçme

- Seçilen konik ebadıyla ilgili sayfalara bakın ve takım verileri tablosundan uygun bir sap seçin.
- En iyi stabilite için her zaman mümkün olan en kısa sapı seçin.

**Not! Karbür saplar yalnızca Finit Frezeleme/Yarı finiş frezeleme operasyonlarında kullanılır.**

### 4. Kesme verilerini seçme

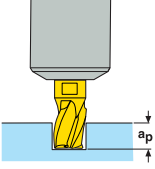
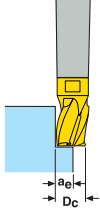
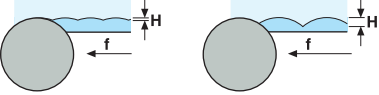
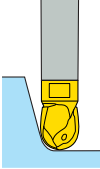
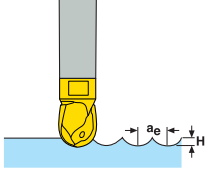
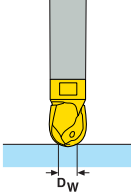
- Her bir konik ebadıyla ilgili kesme hızı tavsiyeleri kesme verisi tablosunda mevcuttur. Kesme verisi tavsiyelerinde stabil koşullar baz alınmıştır ve uygulamanın stabilitesine göre ayarlanmalıdır (takım, tezgah ve iş parçasının bağlanması). Kanal boşaltılırken maks. ap için genel kural  $DC \cdot 0,3 = \text{Maks. APMXS}$ 'dir. (Bkz. şekil 1)
- İlerleme ve kesme hızı tavsiyeleri, kesme verisi dönüştürme tablosunda mevcuttur.
- Güvenlik nedeniyle hiçbir zaman aşılmaması gereken maksimum RPM, [XXX]. sayfada gösterilmiştir.
- Freze tam çap kullanıma uygun değilse ağız başına ilerleme ve kesme hızı tam temas eden frezeyle ilgili tavsiyelere kıyasla yükseltilmelidir. Bunun nedeni, kesme bölgesindeki ortalama talaş kalınlığını ve işleme sıcaklığını aynı tutmaktır.
- Gerçek freze çap kullanım yüzdesini ( $a_e/DC\%$ ) elde etmek için radyal kesme derinliğini freze çapına bölün. Tamamı yuvarlak uçlar için DC yerine efektif çalışma çapını  $D_w$  kullanın (Bkz. şekil 2 ve 6)
- Doğru ağız başına ilerleme ve kesme hızı tavsiyelerini elde etmek için yüzde değerini kullanın.

### 5. Genel

- Kovukların köşelerinde ve altlarında frezeleme yapılırken, ortalama talaş kalınlığının yükselmesi nedeniyle ilerleme oranı düşürülmelidir. Tam çap kullanılan frezeyle ilgili ağız başına ilerleme tavsiyelerini kullanın.
- Küçük kesme derinliğinde, 40° üzerinde bir açıyla aşağı yönde kopya frezeleme veya 30° üzerinde bir açıyla yukarı yönde kopya frezeleme yaparken (DC) çapını kullanın.
- Devir başına ilerleme ve ilerleme hızı hesaplanırken her zaman ZEPF değerini kullanın. Bu, kesme verisi hesaplamasında kullanılması gereken efektif ağız sayısıdır. ZEPF değeri uç seçim tablosunda bulunabilir.


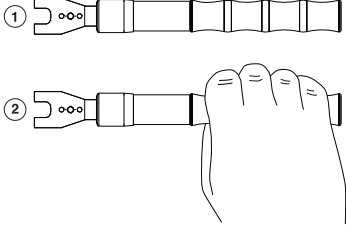
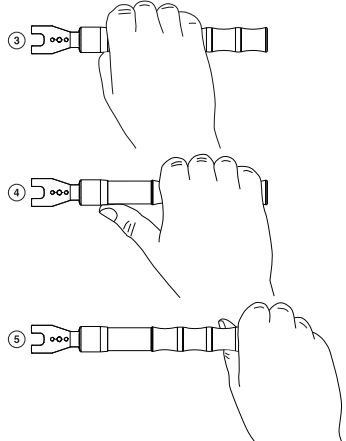
**Not!** İlerleme oranı arttırıldığında iş parçası üzerindeki yüzey kalitesinde bir bozulma olur. (Bkz. şekil 3 ve 5)

## Minimaster Plus şekilleri

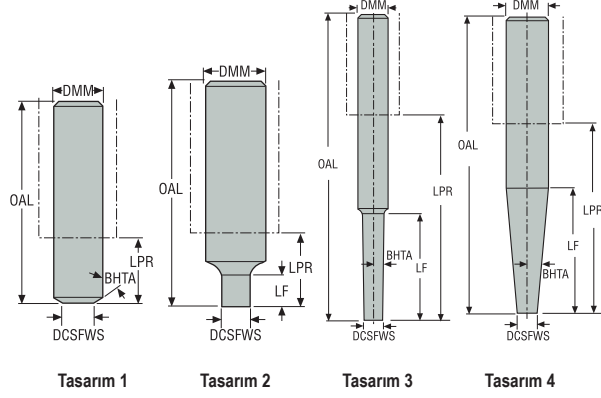
Üniversal	Şekil 1	Şekil 2
Çelik ve dökme demir		
Paslanmaz çelik ve S iş parçası malzemeleri	Şekil 3	Şekil 4
Demir içermeyen malzemeler		
Sertleştirilmiş çelik için	Şekil 5	Şekil 6
Plastik ve cırp malzemeler için		
Grafit malzeme için		



## Tork anahtar bilgileri ve kullanıcı talimatları

Tork anahtarı		Üniversal
	<p>En iyi hassasiyet ve takım ömrü için ucu takarken tork anahtar kullanmanızı öneririz.</p> <p>Montaj için farklı tork değerleri</p> <ul style="list-style-type: none"> <li>– MP10: 11Nm</li> <li>– MP12: 15Nm</li> <li>– MP16: 19Nm</li> </ul> <p>Uçları aşınmış anahtarları kullanmayın.</p> <p>Not: Dinamomentik anahtarlar ve standart anahtarlar ayrı olarak sipariş edilmelidir!</p>	Çelik ve dökme demir
	<p>Resim 1 'deki gibi sapı kavisli anahtar kullanın, Resim 2' deki gibi sapın kavisli yerinden tutun</p>	Paslanmaz çelik ve S iş parçası matzemeleri
	<p>Anahtarları resim 3-5'te gösterildiği gibi tutmayın, uygulanan tork yanlış olabilir ve uç tam olarak yerine oturmayabilir.</p>	Demir içermeyen matzemeler
		Sertleştirilmiş çelik için
		Plastik ve cırp matzemeler için
		Grafit matzeme için
		Minimaster Plus
		Minimaster

## MP10 Sap – Metrik



- Silindirik sap, DMM toleransı h5, Shrinkfit ile uyumlu

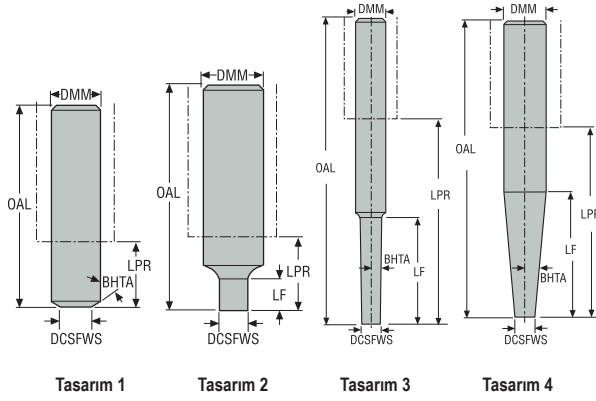
Ürün Tanımı	Montaj tipi	DCSFWS	DMM	OAL	LPR	LF	RPMX	BHTA°	Tasarım	Ağırlık	
		mm	mm	mm	mm	mm				kg	
MP10-10055-010.00	Silindirik	9,8	10,0	55,0	15,0	10,0	80000	0,0	2	✓	0,1
MP10-16068-000.60	Silindirik	9,5	16,0	68,0	20,0	0,0	80000	60,0	1	✓	0,2
MP10-16073-015.00	Silindirik	9,8	16,0	73,0	25,0	15,0	80000	0,0	2	✓	0,1
MP10-16118-035.01	Silindirik	9,5	16,0	118,0	70,0	35,0	80000	1,0	3	✓	0,2
MP10-16158-060.01	Silindirik	9,5	16,0	158,0	110,0	60,0	80000	1,0	3	✓	0,2
MP10-20100-045.03	Silindirik	9,5	20,0	100,0	50,0	45,0	80000	3,0	3	✓	0,2
MP10-20140-085.03	Silindirik	9,5	20,0	140,0	90,0	85,0	80000	3,0	3	✓	0,3
MP10-20140-090.05	Silindirik	9,5	20,0	140,0	90,0	60,0	80000	5,0	4	✓	0,3
MP10-12095-030.00-E	Silindirik	9,8	12,0	95,0	50,0	30,0	80000	0,0	2	✓	0,2
MP10-12105-040.00-E	Silindirik	9,8	12,0	105,0	60,0	40,0	80000	0,0	2	✓	0,2
MP10-12125-060.00-E	Silindirik	9,8	12,0	125,0	80,0	60,0	80000	0,0	2	✓	0,2
MP10-16120-050.01-E	Silindirik	9,5	16,0	120,0	72,0	50,0	80000	1,0	3	✓	0,3
MP10-16150-080.01-E	Silindirik	9,5	16,0	150,0	102,0	80,0	80000	1,0	3	✓	0,3
MP10-16170-100.01-E	Silindirik	9,5	16,0	170,0	122,0	100,0	80000	1,0	3	✓	0,4
MP10-16140-092.03-E	Silindirik	9,5	16,0	140,0	92,0	62,0	80000	3,0	4	✓	0,4
MP10-16170-122.03-E	Silindirik	9,5	16,0	170,0	122,0	62,0	80000	3,0	4	✓	0,4

### Aksesuarlar

Anahtar	Değiştirilebilir Çubuk	Tork anahtarı
MP1016	MP00-10M	MP00-10.110

Anahtar uçları tork anahtara dahildir

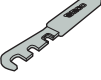
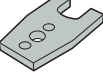

## MP10 Sap – İnç



• Silindirik sap, DMM toleransı h5, Shrinkfit ile uyumlu

Ürün Tanımı	Montaj tipi	DCSFMS	DMM	OAL	LPR	LF	RPMX	BHTA°	Tasarım	Ağırlık
		İnç	İnç	İnç	İnç	İnç				lb
MP10-0372.1-0.39.00	Silindirik	0.370	0.375	2.122	0.591	0.394	80000	0,0	2	0.220
MP10-0622.6-0.00.60	Silindirik	0.374	0.625	2.662	0.787	0	80000	60,0	1	0.220
MP10-0622.8-0.59.00	Silindirik	0.370	0.625	2.859	0.984	0.591	80000	0,0	2	0.220
MP10-0624.6-1.37.01	Silindirik	0.374	0.625	4.631	2.756	1.378	80000	1,0	3	0.440
MP10-0626.2-2.36.01	Silindirik	0.374	0.625	6.206	4.331	2.362	80000	1,0	3	0.440
MP10-0753.9-1.80.03	Silindirik	0.374	0.750	3.969	1.969	1.799	80000	3,0	3	0.440
MP10-0755.5-3.40.03	Silindirik	0.374	0.750	5.543	3.543	3.402	80000	3,0	4	0.660
MP10-0755.5-3.54.05	Silindirik	0.374	0.750	5.543	3.543	2.150	80000	5,0	4	0.660
MP10-0504.8-2.36.00-E	Silindirik	0.370	0.500	4.900	3.150	2.362	80000	0,0	2	0.440

## Aksesuarlar

Anahtar	Değiştirilebilir Çubuk	Tork anahtarı
		
MP1016	MP00-10M	MP00-10.110

Anahtar uçları tork anahtara dahildir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası matzemeleri

Demir içermeyen matzemeler

Sertleştirilmiş çelik için

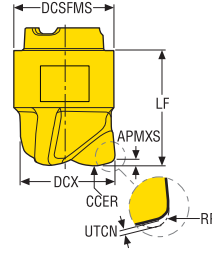
Plastik ve cırp matzemeler için

Grafit matzeme için

Minimaster Plus

Minimaster

## MP10 Yüksek İlerlemeli



- Uç seçimi ve kesme verisi tavsiyeleri için bakınız sayfa 482-483

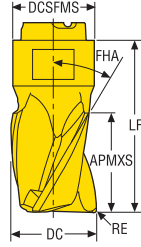
Z3



Ürün Tanımı	DCX	DC	APMXS	DCSFMS	CCER	RP	LF	UTCN	RMPX°	C min	C max	ZEFP	Kaliteler	Kaplama	
														MP3000	F40M
MP10-1000.6HFZ3-MD08	10,0 0.394	5,0 0.197	0,6 0.024	9,6 0.378	6,2 0.244	1,13 0.044	11,0 0.433	0,32 0.013	5,0	10,9	14,8	3	✓	■	
MP10-0950.6HFZ3-MD08	9,525 0.375	4,55 0.179	0,6 0.024	9,4 0.370	6,2 0.244	1,13 0.044	11,0 0.433	0,32 0.013	5,0	10,4	13,4	3	✓	■	

## MP10 Dik kenar

Kanal açma ve çevresel frezeleme



- Uç seçimi ve kesme verisi tavsiyeleri için bakınız sayfa 484-485

Z3



Ürün Tanımı	DC	APMXS	RE	DCSFMS	LF	FHA	RMPX°	C min	C max	ZEFP	Kaliteler		
											Kaplamalı		
	mm Inç	mm Inç	mm Inç	mm Inç	mm Inç							MP3000	F40M
MP10-09807KWZ3-E03	9,8 0.386	7,0 0.276	0,3 0.012	9,6 0.378	16,0 0.630	30	15,0	12,0	18,8	3	✓		■
MP10-10007R04Z3-E03	10,0 0.394	7,0 0.276	0,4 0.016	9,6 0.378	16,0 0.630	30	15,0	12,2	19,0	3	✓		■
MP10-10007R04Z3-M03	10,0 0.394	7,0 0.276	0,4 0.016	9,6 0.378	16,0 0.630	30	15,0	12,2	19,0	3	✓	■	
MP10-10007R05Z3-E03	10,0 0.394	7,0 0.276	0,5 0.020	9,6 0.378	16,0 0.630	30	15,0	12,2	18,8	3	✓		■
MP10-10007R08Z3-E03	10,0 0.394	7,0 0.276	0,8 0.031	9,6 0.378	16,0 0.630	30	15,0	12,2	18,2	3	✓		■
MP10-10007R08Z3-M03	10,0 0.394	7,0 0.276	0,8 0.031	9,6 0.378	16,0 0.630	30	15,0	12,2	18,2	3	✓	■	
MP10-10007R20Z3-E03	10,0 0.394	7,0 0.276	2,0 0.079	9,6 0.378	16,0 0.630	30	15,0	12,2	15,8	3	✓		■
MP10-10007R31Z3-E03	10,0 0.394	7,0 0.276	3,1 0.122	9,6 0.378	16,0 0.630	30	15,0	12,2	13,6	3	✓		■

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

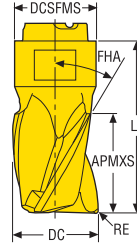
Grafit malzeme için

Minimaster Plus

Minimaster

## MP10 Dik kenar

Kanal açma ve çevresel frezeleme



- Uç seçimi ve kesme verisi tavsiyeleri için bakınız sayfa 484-485

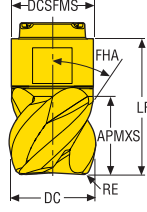
Z3



Ürün Tanımı	DC	APMXS	RE	DCSFMS	LF	FHA	RMPX°	C min	C max	ZEFP	Kaliteler		
											Kaplamalı		
	mm Inç	mm Inç	mm Inç	mm Inç	mm Inç							MP3000	F40M
MP10-09812KWZ3-E03	9,8 0.386	12,0 0.472	0,3 0.012	9,6 0.378	21,0 0.827	30	15,0	12,0	18,8	3	✓		■
MP10-10012R04Z3-E03	10,0 0.394	12,0 0.472	0,4 0.016	9,6 0.378	21,0 0.827	30	15,0	12,2	19,0	3	✓		■
MP10-10012R04Z3-M03	10,0 0.394	12,0 0.472	0,4 0.016	9,6 0.378	21,0 0.827	30	15,0	12,2	19,0	3	✓	■	
MP10-10012R05Z3-E03	10,0 0.394	12,0 0.472	0,5 0.020	9,6 0.378	21,0 0.827	30	15,0	12,2	18,8	3	✓		■
MP10-10012R08Z3-E03	10,0 0.394	12,0 0.472	0,8 0.031	9,6 0.378	21,0 0.827	30	15,0	12,2	18,2	3	✓		■
MP10-10012R08Z3-M03	10,0 0.394	12,0 0.472	0,8 0.031	9,6 0.378	21,0 0.827	30	15,0	12,2	18,2	3	✓	■	
MP10-10012R20Z3-E03	10,0 0.394	12,0 0.472	2,0 0.079	9,6 0.378	21,0 0.827	30	15,0	12,2	15,8	3	✓		■
MP10-10012R31Z3-E03	10,0 0.394	12,0 0.472	3,1 0.122	9,6 0.378	21,0 0.827	30	15,0	12,2	13,6	3	✓		■
MP10-09512R04Z3-E03	9,525 0.375	12,0 0.472	0,4 0.016	9,6 0.378	21,0 0.827	30	15,0	11,6	18,0	3	✓		■
MP10-09512R04Z3-M03	9,525 0.375	12,0 0.472	0,4 0.016	9,6 0.378	21,0 0.827	30	15,0	11,6	18,0	3	✓	■	
MP10-09512R08Z3-E03	9,525 0.375	12,0 0.472	0,8 0.031	9,6 0.378	21,0 0.827	30	15,0	11,6	17,2	3	✓		■
MP10-09512R08Z3-M03	9,525 0.375	12,0 0.472	0,8 0.031	9,6 0.378	21,0 0.827	30	15,0	11,6	17,2	3	✓	■	
MP10-09512R16Z3-E03	9,525 0.375	12,0 0.472	1,6 0.063	9,6 0.378	21,0 0.827	30	15,0	11,6	15,6	3	✓		■
MP10-09512R31Z3-E03	9,525 0.375	12,0 0.472	3,1 0.122	9,6 0.378	21,0 0.827	30	15,0	11,6	12,6	3	✓		■

## MP10 Dik kenar

Kanal açma ve çevresel frezeleme



- Uç seçimi ve kesme verisi tavsiyeleri için bakınız sayfa 484-485

Z4



Ürün Tanımı	DC	APMXS	RE	DCSFMS	LF	FHA	RMPX°	ZFP	Kaliteler	
									Kaplamalı	
	mm Inç	mm Inç	mm Inç	mm Inç	mm Inç				MP3000	F40M
MP10-10007R04Z4-M02	10,0 0.394	7,0 0.276	0,4 0.016	9,6 0.378	16,0 0.630	50	15,0	4	■	
MP10-10007R05Z4-E02	10,0 0.394	7,0 0.276	0,5 0.020	9,6 0.378	16,0 0.630	50	15,0	4		■
MP10-10007R08Z4-E02	10,0 0.394	7,0 0.276	0,8 0.031	9,6 0.378	16,0 0.630	50	15,0	4		■
MP10-10007R08Z4-M02	10,0 0.394	7,0 0.276	0,8 0.031	9,6 0.378	16,0 0.630	50	15,0	4	■	
MP10-10007R16Z4-E02	10,0 0.394	7,0 0.276	1,6 0.063	9,6 0.378	16,0 0.630	50	15,0	4		■
MP10-10012R04Z4-E02	10,0 0.394	12,0 0.472	0,4 0.016	9,6 0.378	21,0 0.827	50	15,0	4		■
MP10-10012R04Z4-M02	10,0 0.394	12,0 0.472	0,4 0.016	9,6 0.378	21,0 0.827	50	15,0	4	■	
MP10-10012R05Z4-E02	10,0 0.394	12,0 0.472	0,5 0.020	9,6 0.378	21,0 0.827	50	15,0	4		■
MP10-10012R08Z4-E02	10,0 0.394	12,0 0.472	0,8 0.031	9,6 0.378	21,0 0.827	50	15,0	4		■
MP10-10012R08Z4-M02	10,0 0.394	12,0 0.472	0,8 0.031	9,6 0.378	21,0 0.827	50	15,0	4	■	
MP10-10012R16Z4-E02	10,0 0.394	12,0 0.472	1,6 0.063	9,6 0.378	21,0 0.827	50	15,0	4		■
MP10-09512R04Z4-E02	9,525 0.375	12,0 0.472	0,4 0.016	9,6 0.378	21,0 0.827	50	15,0	4		■
MP10-09512R04Z4-M02	9,525 0.375	12,0 0.472	0,4 0.016	9,6 0.378	21,0 0.827	50	15,0	4	■	
MP10-09512R08Z4-E02	9,525 0.375	12,0 0.472	0,8 0.031	9,6 0.378	21,0 0.827	50	15,0	4		■
MP10-09512R08Z4-M02	9,525 0.375	12,0 0.472	0,8 0.031	9,6 0.378	21,0 0.827	50	15,0	4	■	

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve cırp materyaller için

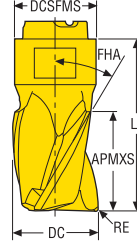
Grafit materyal için

Minimaster Plus

Minimaster

## MP10 Dik kenar


Sadece çevresel frezeleme



- Uç seçimi ve kesme verisi tavsiyeleri için bakınız sayfa 484-485

Z5



Ürün Tanımı	DC	APMXS	RE	DCSFMS	LF	FHA	ZAFP		Kaliteler	
									Kaplamalı	
	mm Inç	mm Inç	mm Inç	mm Inç	mm Inç				MP3000	F40M
MP10-10012R04Z5-M02	10,0 0.394	12,0 0.472	0,4 0.016	9,6 0.378	21,0 0.827	40	5		■	
MP10-09512R04Z5-M02	9,525 0.375	12,0 0.472	0,4 0.016	9,6 0.378	21,0 0.827	40	5		■	

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve diğer malzemeler için

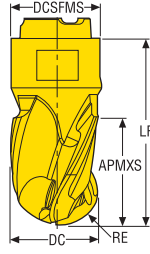
Grafit malzeme için

Minimaster Plus

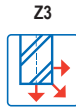
Minimaster




## MP10 Tamamı yuvarlak versiyon



- Uç seçimi ve kesme verisi tavsiyeleri için bakınız sayfa 486-487



Ürün Tanımı	DC	APMXS	RE	DCSFMS	LF	FHA	RMPX°	ZEFP		Kaliteler	
										Kaplamalı	
	mm Inç	mm Inç	mm Inç	mm Inç	mm Inç					MP3000	F40M
MP10-10007B90Z3-E03	10,0 0.394	7,0 0.276	5,0 0.197	9,6 0.378	16,0 0.630	30	15,0	3	✓		■
MP10-10007B90Z3-M03	10,0 0.394	7,0 0.276	5,0 0.197	9,6 0.378	16,0 0.630	30	15,0	3	✓	■	
MP10-10012B90Z3-E03	10,0 0.394	12,0 0.472	5,0 0.197	9,6 0.378	21,0 0.827	30	15,0	3	✓		■
MP10-10012B90Z3-M03	10,0 0.394	12,0 0.472	5,0 0.197	9,6 0.378	21,0 0.827	30	15,0	3	✓	■	
MP10-10007B90Z4-E02	10,0 0.394	7,0 0.276	5,0 0.197	9,6 0.378	16,0 0.630	20	15,0	4			■
MP10-10007B90Z4-M02	10,0 0.394	7,0 0.276	5,0 0.197	9,6 0.378	16,0 0.630	20	15,0	4		■	
MP10-09507B90Z3-E03	9,525 0.375	7,0 0.276	4,7625 0.188	9,4 0.370	16,0 0.630	30	15,0	3	✓		■
MP10-09507B90Z3-M03	9,525 0.375	7,0 0.276	4,7625 0.188	9,4 0.370	16,0 0.630	30	15,0	3	✓	■	
MP10-09512B90Z3-E03	9,525 0.375	12,0 0.472	4,7625 0.188	9,6 0.378	21,0 0.827	30	15,0	3	✓		■
MP10-09512B90Z3-M03	9,525 0.375	12,0 0.472	4,7625 0.188	9,6 0.378	21,0 0.827	30	15,0	3	✓	■	
MP10-09507B90Z4-E02	9,525 0.375	7,0 0.276	4,7625 0.188	9,4 0.370	16,0 0.630	20	15,0	4			■
MP10-09507B90Z4-M02	9,525 0.375	7,0 0.276	4,7625 0.188	9,4 0.370	16,0 0.630	20	15,0	4		■	

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

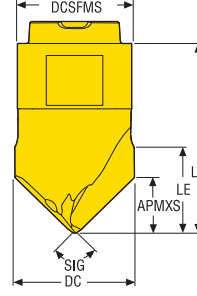
Plastik ve cırp malzemeleri için

Grafit malzeme için

Minimaster Plus

Minimaster

## MP10 Punta matkabı/Pah kırma



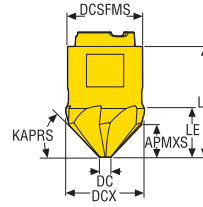
- Uç seçimi ve kesme verisi tavsiyeleri için bakınız sayfa 488-489

Z2



Ürün Tanımı	DC	APMXS	DCSFMS	LE	LF	SIG°	ZEFP	Kaliteler	Kaplama
MP10-10006C90Z2-M03	10,0 0.394	4,6 0.181	9,6 0.378	7,1 0.280	16,0 0.630	90,0	2	MP3000	F40M

## MP10 Pah kırma



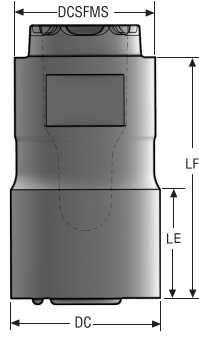
- Uç seçimi ve kesme verisi tavsiyeleri için bakınız sayfa 490-491

Z6



Ürün Tanımı	DCX	DC	APMXS	DCSFMS	LE	LF	KAPRS°	ZEFP	Kaliteler	Kaplama
MP10-10006C90Z6-M03	10,1 0.398	1,95 0.077	4,0 0.157	9,6 0.378	5,9 0.232	14,5 0.571	45,0	6	MP3000	F40M

## MP10 Silindirik işlenmemiş uç



- Kendi geometrilerinde üretim için silindirik karbür işlenmemiş uçlar



Ürün Tanımı	DC	DCSFMS	LE	LF	Kaliteler
	mm Inç	mm Inç	mm Inç	mm Inç	H25
MP10-10007CYL-SEMI	10,15 0.400	9,6 0.378	7,3 0.287	16,3 0.642	■
MP10-10012CYL-SEMI	10,15 0.400	9,6 0.378	12,4 0.488	21,3 0.839	■

Üniversal

Çelik ve dökme  
demirPaslanmaz çelik  
ve S iş parçası  
malzemeleriDemir içermeyen  
malzemelerSertleştirilmiş çelik  
içinPlastik ve çirp  
malzemeler içinGrafit malzeme  
için

Minimaster Plus

Minimaster

MP10 Yüksek ilerlemeli frezeleme – Uç seçimi – mm/linç

SMG		$a_p$	$f_z$			
			100%	70%	30%	20%
P1	MP10-1000.6HFZ3-MD08 MP3000	0,42	0,46	0,46	0,60	0,75
		0,017	0,018	0,018	0,024	0,030
P2	MP10-1000.6HFZ3-MD08 MP3000	0,42	0,46	0,48	0,60	0,75
		0,017	0,018	0,019	0,024	0,030
P3	MP10-1000.6HFZ3-MD08 MP3000	0,42	0,44	0,44	0,60	0,70
		0,017	0,017	0,017	0,024	0,028
P4	MP10-1000.6HFZ3-MD08 MP3000	0,42	0,44	0,44	0,55	0,70
		0,017	0,017	0,017	0,022	0,028
P5	MP10-1000.6HFZ3-MD08 MP3000	0,42	0,42	0,42	0,55	0,70
		0,017	0,017	0,017	0,022	0,028
P6	MP10-1000.6HFZ3-MD08 MP3000	0,42	0,42	0,42	0,55	0,70
		0,017	0,017	0,017	0,022	0,028
P7	MP10-1000.6HFZ3-MD08 MP3000	0,42	0,42	0,42	0,55	0,70
		0,017	0,017	0,017	0,022	0,028
P8	MP10-1000.6HFZ3-MD08 MP3000	0,42	0,44	0,44	0,60	0,70
		0,017	0,017	0,017	0,024	0,028
P11	MP10-1000.6HFZ3-MD08 MP3000	0,42	0,42	0,42	0,55	0,70
		0,017	0,017	0,017	0,022	0,028
P12	MP10-0950.6HFZ3-MD08 MP3000	0,34	0,30	0,30	0,38	0,46
		0,013	0,012	0,012	0,015	0,018
M1	MP10-1000.6HFZ3-MD08 MP3000	0,42	0,46	0,48	0,60	0,75
		0,017	0,018	0,019	0,024	0,030
M2	MP10-1000.6HFZ3-MD08 MP3000	0,42	0,42	0,42	0,55	0,70
		0,017	0,017	0,017	0,022	0,028
M3	MP10-1000.6HFZ3-MD08 MP3000	0,34	0,36	0,34	0,44	0,55
		0,013	0,014	0,013	0,017	0,022
M4	MP10-1000.6HFZ3-MD08 MP3000	0,25	0,32	0,30	0,38	0,46
		0,010	0,013	0,012	0,015	0,018
M5	MP10-1000.6HFZ3-MD08 MP3000	0,25	0,32	0,30	0,38	0,46
		0,010	0,013	0,012	0,015	0,018
K1	MP10-1000.6HFZ3-MD08 MP3000	0,42	0,46	0,48	0,60	0,75
		0,017	0,018	0,019	0,024	0,030
K2	MP10-1000.6HFZ3-MD08 MP3000	0,42	0,42	0,42	0,55	0,70
		0,017	0,017	0,017	0,022	0,028
K3	MP10-1000.6HFZ3-MD08 MP3000	0,42	0,42	0,42	0,55	0,70
		0,017	0,017	0,017	0,022	0,028
K4	MP10-1000.6HFZ3-MD08 MP3000	0,42	0,42	0,42	0,55	0,70
		0,017	0,017	0,017	0,022	0,028
K5	MP10-1000.6HFZ3-MD08 MP3000	0,42	0,38	0,38	0,50	0,60
		0,017	0,015	0,015	0,020	0,024
K6	MP10-1000.6HFZ3-MD08 MP3000	0,42	0,42	0,42	0,55	0,70
		0,017	0,017	0,017	0,022	0,028
K7	MP10-1000.6HFZ3-MD08 MP3000	0,42	0,38	0,38	0,50	0,60
		0,017	0,015	0,015	0,020	0,024
N1	MP10-1000.6HFZ3-MD08 MP3000	0,42	0,60	0,60	0,80	1,0
		0,017	0,024	0,024	0,032	0,040
N2	MP10-1000.6HFZ3-MD08 MP3000	0,42	0,60	0,60	0,80	1,0
		0,017	0,024	0,024	0,032	0,040
N3	MP10-1000.6HFZ3-MD08 MP3000	0,42	0,60	0,60	0,80	1,0
		0,017	0,024	0,024	0,032	0,040
N11	MP10-1000.6HFZ3-MD08 MP3000	0,42	0,60	0,60	0,80	1,0
		0,017	0,024	0,024	0,032	0,040
S1	MP10-1000.6HFZ3-MD08 MP3000	0,25	0,32	0,30	0,38	0,46
		0,010	0,013	0,012	0,015	0,018
S2	MP10-1000.6HFZ3-MD08 MP3000	0,25	0,30	0,28	0,36	0,44
		0,010	0,012	0,011	0,014	0,017
S3	MP10-1000.6HFZ3-MD08 MP3000	0,30	0,36	0,34	0,44	0,55
		0,012	0,014	0,013	0,017	0,022
S11	MP10-1000.6HFZ3-MD08 MP3000	0,30	0,36	0,34	0,44	0,55
		0,012	0,014	0,013	0,017	0,022
S12	MP10-1000.6HFZ3-MD08 MP3000	0,30	0,36	0,34	0,44	0,55
		0,012	0,014	0,013	0,017	0,022
S13	MP10-1000.6HFZ3-MD08 MP3000	0,25	0,32	0,30	0,38	0,46
		0,010	0,013	0,012	0,015	0,018
H5	MP10-1000.6HFZ3-MD08 MP3000	0,34	0,30	0,30	0,38	0,46
		0,013	0,012	0,012	0,015	0,018
H8	MP10-1000.6HFZ3-MD08 MP3000	0,30	0,24	0,22	0,28	0,34
		0,012	0,0095	0,0085	0,011	0,013
H11	MP10-1000.6HFZ3-MD08 MP3000	0,34	0,30	0,30	0,38	0,46
		0,013	0,012	0,012	0,015	0,018
H12	MP10-1000.6HFZ3-MD08 MP3000	0,30	0,24	0,22	0,28	0,34
		0,012	0,0095	0,0085	0,011	0,013
H21	MP10-1000.6HFZ3-MD08 MP3000	0,30	0,24	0,22	0,28	0,34
		0,012	0,0095	0,0085	0,011	0,013

SMG = Seco malzeme grubu

$f_z$  = mm/ağız (inç/ağız),  $v_c$  = m/dk (sf/dk),  $a_p/DC$  = %

Tüm kesme verileri başlangıç değerleridir

MP10 Yüksek ilerlemeli frezeleme – Kesme verisi  $v_c = (m/dk)/(sf/dk)$ 

SMG	MP3000			
	100%	70%	30%	20%
P1	250	305	355	370
	820	1000	1175	1225
P2	245	295	345	360
	800	970	1125	1175
P3	215	260	295	315
	710	850	970	1025
P4	190	230	265	275
	620	750	870	900
P5	180	220	255	265
	590	720	840	870
P6	205	245	285	295
	670	800	940	970
P7	190	235	270	280
	620	770	890	920
P8	180	220	250	265
	590	720	820	870
P11	185	225	260	275
	610	740	850	900
P12	120	145	165	175
	395	475	540	570
M1	185	220	255	270
	610	720	840	890
M2	150	185	210	220
	490	610	690	720
M3	120	145	170	180
	395	475	560	590
M4	95	115	130	140
	310	375	425	460
M5	80	95	110	115
	260	310	360	375
K1	195	235	275	285
	640	770	900	940
K2	170	210	240	250
	560	690	790	820
K3	145	175	205	215
	475	570	670	710
K4	140	170	195	205
	460	560	640	670
K5	85	105	120	125
	280	345	395	410
K6	120	150	170	180
	395	490	560	590
K7	110	130	150	160
	360	425	490	520
N1	1450	1750	2025	2100
	4750	5750	6650	6900
N2	580	710	810	850
	1900	2325	2650	2800
N3	390	470	540	570
	1275	1550	1775	1875
N11	445	540	620	650
	1450	1775	2025	2125
S1	45	55	60	65
	150	180	195	215
S2	36	42	49	50
	120	140	160	165
S3	31	37	43	45
	100	120	140	150
S11	60	75	85	90
	195	245	280	295
S12	43	50	60	60
	140	165	195	195
S13	25	30	34	36
	80	100	110	120
H5	37	45	50	55
	120	150	165	180
H8	39	47	55	60
	130	155	180	195
H11	48	55	65	70
	155	180	215	230
H12	75	90	105	110
	245	295	345	360
H21	39	47	55	60
	130	155	180	195

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası matzemeleri

Demir içermeyen matzemeler

Sertleştirilmiş çelik için

Plastik ve cırp matzemeler için

Grafit matzeme için

Minimaster Plus

Minimaster

MP10 Kanal ve Kenar frezeleme – Uç seçimi – mm/linç

SMG		$a_p$	$f_z$			
			100%	30%	10%	5%
P1	MP10-10007R04Z3-M03 MP3000	3,5	0,042	0,046	0,070	0,10
		0,14	0,0017	0,0018	0,0028	0,0040
P2	MP10-10007R04Z3-M03 MP3000	3,5	0,044	0,048	0,070	0,10
		0,14	0,0017	0,0019	0,0028	0,0040
P3	MP10-10007R04Z3-M03 MP3000	3,5	0,040	0,044	0,070	0,095
		0,14	0,0016	0,0017	0,0028	0,0038
P4	MP10-10007R04Z3-M03 MP3000	3,5	0,040	0,044	0,065	0,095
		0,14	0,0016	0,0017	0,0026	0,0038
P5	MP10-10007R04Z3-M03 MP3000	3,5	0,040	0,042	0,065	0,090
		0,14	0,0016	0,0017	0,0026	0,0036
P6	MP10-10007R04Z3-M03 MP3000	3,5	0,038	0,042	0,065	0,090
		0,14	0,0015	0,0017	0,0026	0,0036
P7	MP10-10007R04Z3-M03 MP3000	3,5	0,038	0,042	0,065	0,090
		0,14	0,0015	0,0017	0,0026	0,0036
P8	MP10-10007R04Z3-M03 MP3000	3,5	0,040	0,044	0,070	0,095
		0,14	0,0016	0,0017	0,0028	0,0038
P11	MP10-10007R04Z3-M03 MP3000	3,5	0,038	0,042	0,065	0,090
		0,14	0,0015	0,0017	0,0026	0,0036
P12	MP10-10007R04Z3-M03 MP3000	2,5	0,026	0,030	0,044	0,060
		0,10	0,0010	0,0012	0,0017	0,0024
M1	MP10-10007R04Z3-E03 F40M	3,5	0,044	0,048	0,070	0,10
		0,14	0,0017	0,0019	0,0028	0,0040
M2	MP10-10007R04Z3-E03 F40M	3,5	0,040	0,042	0,065	0,090
		0,14	0,0016	0,0017	0,0026	0,0036
M3	MP10-10007R04Z3-E03 F40M	2,5	0,032	0,034	0,055	0,075
		0,10	0,0013	0,0013	0,0022	0,0030
M4	MP10-10007R04Z3-E03 F40M	2,0	0,028	0,030	0,046	0,065
		0,080	0,0011	0,0012	0,0018	0,0026
M5	MP10-10007R04Z3-E03 F40M	2,0	0,028	0,030	0,046	0,065
		0,080	0,0011	0,0012	0,0018	0,0026
K1	MP10-10007R04Z3-M03 MP3000	3,5	0,044	0,048	0,070	0,10
		0,14	0,0017	0,0019	0,0028	0,0040
K2	MP10-10007R04Z3-M03 MP3000	3,5	0,040	0,042	0,065	0,090
		0,14	0,0016	0,0017	0,0026	0,0036
K3	MP10-10007R04Z3-M03 MP3000	3,5	0,040	0,042	0,065	0,090
		0,14	0,0016	0,0017	0,0026	0,0036
K4	MP10-10007R04Z3-M03 MP3000	3,5	0,040	0,042	0,065	0,090
		0,14	0,0016	0,0017	0,0026	0,0036
K5	MP10-10007R04Z3-M03 MP3000	3,5	0,036	0,038	0,060	0,080
		0,14	0,0014	0,0015	0,0024	0,0032
K6	MP10-10007R04Z3-M03 MP3000	3,5	0,040	0,042	0,065	0,090
		0,14	0,0016	0,0017	0,0026	0,0036
K7	MP10-10007R04Z3-M03 MP3000	3,5	0,036	0,038	0,060	0,080
		0,14	0,0014	0,0015	0,0024	0,0032
N1	MP10-10007R04Z3-E03 F40M	3,5	0,055	0,060	0,090	0,13
		0,14	0,0022	0,0024	0,0036	0,0050
N2	MP10-10007R04Z3-E03 F40M	3,5	0,055	0,060	0,090	0,13
		0,14	0,0022	0,0024	0,0036	0,0050
N3	MP10-10007R04Z3-E03 F40M	3,5	0,055	0,060	0,090	0,13
		0,14	0,0022	0,0024	0,0036	0,0050
N11	MP10-10007R04Z3-E03 F40M	3,5	0,055	0,060	0,090	0,13
		0,14	0,0022	0,0024	0,0036	0,0050
S1	MP10-10007R04Z3-E03 F40M	2,0	0,028	0,030	0,046	0,065
		0,080	0,0011	0,0012	0,0018	0,0026
S2	MP10-10007R04Z3-E03 F40M	2,0	0,028	0,030	0,046	0,065
		0,080	0,0011	0,0012	0,0018	0,0026
S3	MP10-10007R04Z3-E03 F40M	2,0	0,026	0,028	0,042	0,060
		0,080	0,0010	0,0011	0,0017	0,0024
S11	MP10-10007R04Z3-E03 F40M	2,5	0,032	0,034	0,055	0,075
		0,10	0,0013	0,0013	0,0022	0,0030
S12	MP10-10007R04Z3-E03 F40M	2,5	0,032	0,034	0,055	0,075
		0,10	0,0013	0,0013	0,0022	0,0030
S13	MP10-10007R04Z3-E03 F40M	2,0	0,028	0,030	0,046	0,065
		0,080	0,0011	0,0012	0,0018	0,0026
H5	MP10-10007R04Z3-M03 MP3000	2,5	0,026	0,030	0,044	0,060
		0,10	0,0010	0,0012	0,0017	0,0024
H8	MP10-10007R04Z3-M03 MP3000	2,5	0,020	0,022	0,034	0,048
		0,10	0,00080	0,00085	0,0013	0,0019
H11	MP10-10007R04Z3-M03 MP3000	2,5	0,026	0,030	0,044	0,060
		0,10	0,0010	0,0012	0,0017	0,0024
H12	MP10-10007R04Z3-M03 MP3000	2,5	0,020	0,022	0,034	0,048
		0,10	0,00080	0,00085	0,0013	0,0019
H21	MP10-10007R04Z3-M03 MP3000	2,5	0,020	0,022	0,034	0,048
		0,10	0,00080	0,00085	0,0013	0,0019

SMG = Seco malzeme grubu  
 $f_z$  = mm/ağız (inç/ağız),  $v_c$  = m/dk (sf/dk),  $a_p/DC$  = %  
 Tüm kesme verileri başlangıç değerleridir

MP10 Kanal ve Kenar frezeleme – Kesme verisi  $v_c = (m/dk)/(sf/dk)$

SMG	MP3000				F40M			
	100%	30%	10%	5%	100%	30%	10%	5%
P1	265	345	405	435	250	325	380	410
	870	1125	1325	1425	820	1075	1250	1350
P2	255	335	395	425	240	315	370	400
	840	1100	1300	1400	790	1025	1225	1300
P3	225	290	340	365	210	275	320	345
	740	950	1125	1200	690	900	1050	1125
P4	195	255	300	325	185	240	285	305
	640	840	980	1075	610	790	940	1000
P5	190	245	290	310	175	235	270	295
	620	800	950	1025	570	770	890	970
P6	215	275	325	350	200	260	305	330
	710	900	1075	1150	660	850	1000	1075
P7	200	260	305	330	190	245	290	310
	660	850	1000	1075	620	800	950	1025
P8	190	245	285	310	175	230	270	290
	620	800	940	1025	570	750	890	950
P11	195	255	295	320	185	240	280	305
	640	840	970	1050	610	790	920	1000
P12	125	160	185	200	115	150	175	190
	410	520	610	660	375	490	570	620
M1	190	250	295	315	195	255	300	320
	620	820	970	1025	640	840	980	1050
M2	155	205	240	260	160	210	245	265
	510	670	790	850	520	690	800	870
M3	125	165	190	205	125	165	195	210
	410	540	620	670	410	540	640	690
M4	95	125	145	155	100	125	145	160
	310	410	475	510	330	410	475	520
M5	80	105	120	130	80	105	125	135
	260	345	395	425	260	345	410	445
K1	200	265	310	335	190	250	295	315
	660	870	1025	1100	620	820	970	1025
K2	180	235	275	295	170	220	260	280
	590	770	900	970	560	720	850	920
K3	150	200	230	250	140	185	220	235
	490	660	750	820	460	610	720	770
K4	145	190	220	240	135	180	210	225
	475	620	720	790	445	590	690	740
K5	85	115	135	145	80	110	125	135
	280	375	445	475	260	360	410	445
K6	125	165	195	210	120	155	185	200
	410	540	640	690	395	510	610	660
K7	110	145	170	185	105	140	160	175
	360	475	560	610	345	460	520	570
N1	1525	2000	2350	2525	1450	1875	2225	2375
	5000	6550	7700	8275	4750	6150	7300	7800
N2	620	810	950	1025	580	760	900	960
	2025	2650	3125	3375	1900	2500	2950	3150
N3	410	540	630	680	390	510	600	640
	1350	1775	2075	2225	1275	1675	1975	2100
N11	470	610	720	780	445	580	680	730
	1550	2000	2350	2550	1450	1900	2225	2400
S1	45	60	70	75	46	60	70	75
	150	195	230	245	150	195	230	245
S2	36	47	55	60	37	48	55	60
	120	155	180	195	120	155	180	195
S3	31	41	47	50	32	42	48	50
	100	135	155	165	105	140	155	165
S11	65	80	95	105	65	85	100	105
	215	260	310	345	215	280	330	345
S12	44	55	65	70	45	60	70	75
	145	180	215	230	150	195	230	245
S13	25	33	38	41	26	33	39	42
	80	110	125	135	85	110	130	140
H5	38	49	60	60	39	50	60	65
	125	160	195	195	130	165	195	215
H8	40	50	60	65	40	50	60	65
	130	165	195	215	130	165	195	215
H11	49	65	75	80	49	65	75	80
	160	215	245	260	160	215	245	260
H12	75	100	115	125	70	95	110	115
	245	330	375	410	230	310	360	375
H21	40	50	60	65	40	50	60	65
	130	165	195	215	130	165	195	215

Üniversal  
Çelik ve dökme demir  
Paslanmaz çelik ve S iş parçası malzemeleri  
Demir içermeyen malzemeler  
Demir içermeyen malzemeler  
Sertleştirilmiş çelik için  
Sertleştirilmiş çelik için  
Plastik ve cırp malzemeler için  
Plastik ve cırp malzemeler için  
Grafit malzeme için  
Grafit malzeme için  
Minimaster Plus  
Minimaster

MP10 Kopya frezeleme – Uç seçimi – mm/İnç

SMG		a <sub>p</sub>	f <sub>z</sub>				
			100%	30%	10%	5%	2%
P1	MP10-10007B90Z3-M03 MP3000	3,5	0,048	0,050	0,075	0,10	0,17
		0,14	0,0019	0,0020	0,0030	0,0040	0,0065
P2	MP10-10007B90Z3-M03 MP3000	3,5	0,048	0,050	0,075	0,11	0,17
		0,14	0,0019	0,0020	0,0030	0,0044	0,0065
P3	MP10-10007B90Z3-M03 MP3000	3,5	0,046	0,048	0,070	0,10	0,16
		0,14	0,0018	0,0019	0,0028	0,0040	0,0065
P4	MP10-10007B90Z3-M03 MP3000	3,5	0,046	0,048	0,070	0,10	0,16
		0,14	0,0018	0,0019	0,0028	0,0040	0,0065
P5	MP10-10007B90Z3-M03 MP3000	3,5	0,044	0,046	0,070	0,095	0,15
		0,14	0,0017	0,0018	0,0028	0,0038	0,0060
P6	MP10-10007B90Z3-M03 MP3000	3,5	0,044	0,046	0,070	0,095	0,15
		0,14	0,0017	0,0018	0,0028	0,0038	0,0060
P7	MP10-10007B90Z3-M03 MP3000	3,5	0,044	0,046	0,070	0,095	0,15
		0,14	0,0017	0,0018	0,0028	0,0038	0,0060
P8	MP10-10007B90Z3-M03 MP3000	3,5	0,046	0,048	0,070	0,10	0,16
		0,14	0,0018	0,0019	0,0028	0,0040	0,0065
P11	MP10-10007B90Z3-M03 MP3000	3,5	0,044	0,046	0,070	0,095	0,15
		0,14	0,0017	0,0018	0,0028	0,0038	0,0060
P12	MP10-10007B90Z3-M03 MP3000	2,5	0,032	0,032	0,046	0,065	0,10
		0,10	0,0013	0,0013	0,0018	0,0026	0,0040
M1	MP10-10007B90Z3-E03 F40M	3,5	0,048	0,050	0,075	0,11	0,17
		0,14	0,0019	0,0020	0,0030	0,0044	0,0065
M2	MP10-10007B90Z3-E03 F40M	3,5	0,044	0,046	0,070	0,095	0,15
		0,14	0,0017	0,0018	0,0028	0,0038	0,0060
M3	MP10-10007B90Z3-E03 F40M	2,5	0,038	0,038	0,055	0,075	0,12
		0,10	0,0015	0,0015	0,0022	0,0030	0,0048
M4	MP10-10007B90Z3-E03 F40M	2,0	0,034	0,036	0,048	0,065	0,11
		0,080	0,0013	0,0014	0,0019	0,0026	0,0044
M5	MP10-10007B90Z3-E03 F40M	2,0	0,034	0,036	0,048	0,065	0,11
		0,080	0,0013	0,0014	0,0019	0,0026	0,0044
K1	MP10-10007B90Z3-M03 MP3000	3,5	0,048	0,050	0,075	0,11	0,17
		0,14	0,0019	0,0020	0,0030	0,0044	0,0065
K2	MP10-10007B90Z3-M03 MP3000	3,5	0,044	0,046	0,070	0,095	0,15
		0,14	0,0017	0,0018	0,0028	0,0038	0,0060
K3	MP10-10007B90Z3-M03 MP3000	3,5	0,044	0,046	0,070	0,095	0,15
		0,14	0,0017	0,0018	0,0028	0,0038	0,0060
K4	MP10-10007B90Z3-M03 MP3000	3,5	0,044	0,046	0,070	0,095	0,15
		0,14	0,0017	0,0018	0,0028	0,0038	0,0060
K5	MP10-10007B90Z3-M03 MP3000	3,5	0,040	0,042	0,060	0,085	0,14
		0,14	0,0016	0,0017	0,0024	0,0034	0,0055
K6	MP10-10007B90Z3-M03 MP3000	3,5	0,044	0,046	0,070	0,095	0,15
		0,14	0,0017	0,0018	0,0028	0,0038	0,0060
K7	MP10-10007B90Z3-M03 MP3000	3,5	0,040	0,042	0,060	0,085	0,14
		0,14	0,0016	0,0017	0,0024	0,0034	0,0055
N1	MP10-10007B90Z3-E03 F40M	3,5	0,060	0,065	0,095	0,13	0,22
		0,14	0,0024	0,0026	0,0038	0,0050	0,0085
N2	MP10-10007B90Z3-E03 F40M	3,5	0,060	0,065	0,095	0,13	0,22
		0,14	0,0024	0,0026	0,0038	0,0050	0,0085
N3	MP10-10007B90Z3-E03 F40M	3,5	0,060	0,065	0,095	0,13	0,22
		0,14	0,0024	0,0026	0,0038	0,0050	0,0085
N11	MP10-10007B90Z3-E03 F40M	3,5	0,060	0,065	0,095	0,13	0,22
		0,14	0,0024	0,0026	0,0038	0,0050	0,0085
S1	MP10-10007B90Z3-E03 F40M	2,0	0,034	0,036	0,048	0,065	0,11
		0,080	0,0013	0,0014	0,0019	0,0026	0,0044
S2	MP10-10007B90Z3-E03 F40M	2,0	0,034	0,036	0,048	0,065	0,11
		0,080	0,0013	0,0014	0,0019	0,0026	0,0044
S3	MP10-10007B90Z3-E03 F40M	2,0	0,032	0,032	0,044	0,060	0,10
		0,080	0,0013	0,0013	0,0017	0,0024	0,0040
S11	MP10-10007B90Z3-E03 F40M	2,5	0,038	0,038	0,055	0,075	0,12
		0,10	0,0015	0,0015	0,0022	0,0030	0,0048
S12	MP10-10007B90Z3-E03 F40M	2,5	0,038	0,038	0,055	0,075	0,12
		0,10	0,0015	0,0015	0,0022	0,0030	0,0048
S13	MP10-10007B90Z3-E03 F40M	2,0	0,034	0,036	0,048	0,065	0,11
		0,080	0,0013	0,0014	0,0019	0,0026	0,0044
H5	MP10-10007B90Z3-M03 MP3000	2,5	0,032	0,032	0,046	0,065	0,10
		0,10	0,0013	0,0013	0,0018	0,0026	0,0040
H8	MP10-10007B90Z3-M03 MP3000	2,5	0,025	0,025	0,036	0,050	0,080
		0,10	0,0010	0,0010	0,0014	0,0020	0,0032
H11	MP10-10007B90Z3-M03 MP3000	2,5	0,032	0,032	0,046	0,065	0,10
		0,10	0,0013	0,0013	0,0018	0,0026	0,0040
H12	MP10-10007B90Z3-M03 MP3000	2,5	0,025	0,025	0,036	0,050	0,080
		0,10	0,0010	0,0010	0,0014	0,0020	0,0032
H21	MP10-10007B90Z3-M03 MP3000	2,5	0,025	0,025	0,036	0,050	0,080
		0,10	0,0010	0,0010	0,0014	0,0020	0,0032

SMG = Seco malzeme grubu

f<sub>z</sub> = mm/ağız (inç/ağız), v<sub>c</sub> = m/dk (sf/dk), a<sub>p</sub>/DC = %

Tüm kesme verileri başlangıç değerleridir



MP10 Kopya frezeleme – Kesme verisi  $v_c = (m/dk)/(sf/dk)$

SMG	MP3000					F40M				
	100%	30%	10%	5%	2%	100%	30%	10%	5%	2%
P1	275	330	360	385	385	260	310	340	365	365
	900	1075	1175	1275	1275	850	1025	1125	1200	1200
P2	265	320	345	375	375	250	300	325	355	355
	870	1050	1125	1225	1225	820	980	1075	1175	1175
P3	230	280	300	325	325	220	265	285	310	305
	750	920	980	1075	1075	720	870	940	1025	1000
P4	205	245	265	290	290	195	230	250	270	270
	670	800	870	950	950	640	750	820	890	890
P5	195	235	255	275	275	185	220	240	260	260
	640	770	840	900	900	610	720	790	850	850
P6	220	265	285	310	310	205	250	270	295	290
	720	870	940	1025	1025	670	820	890	970	950
P7	205	250	270	295	290	195	235	255	275	275
	670	820	890	970	950	640	770	840	900	900
P8	195	235	255	275	270	185	220	240	260	255
	640	770	840	900	890	610	720	790	850	840
P11	200	245	265	285	285	190	230	250	270	265
	660	800	870	940	940	620	750	820	890	870
P12	125	155	160	175	175	120	145	155	165	165
	410	510	520	570	570	395	475	510	540	540
M1	200	240	260	280	280	205	245	265	285	285
	660	790	850	920	920	670	800	870	940	940
M2	165	195	215	230	230	165	200	215	235	235
	540	640	710	750	750	540	660	710	770	770
M3	130	160	165	180	180	135	160	170	185	185
	425	520	540	590	590	445	520	560	610	610
M4	100	125	125	140	140	105	125	130	140	140
	330	410	410	460	460	345	410	425	460	460
M5	85	100	105	115	115	85	105	110	115	115
	280	330	345	375	375	280	345	360	375	375
K1	210	255	275	300	300	200	240	260	280	280
	690	840	900	980	980	660	790	850	920	920
K2	185	220	245	260	260	175	210	230	245	245
	610	720	800	850	850	570	690	750	800	800
K3	155	190	205	220	220	150	180	195	210	210
	510	620	670	720	720	490	590	640	690	690
K4	150	180	195	210	210	140	170	185	200	200
	490	590	640	690	690	460	560	610	660	660
K5	90	110	120	125	130	85	105	110	120	120
	295	360	395	410	425	280	345	360	395	395
K6	130	160	175	185	185	125	150	165	175	175
	425	520	570	610	610	410	490	540	570	570
K7	115	140	150	165	165	110	130	145	155	155
	375	460	490	540	540	360	425	475	510	510
N1	1600	1925	2100	2275	2250	1500	1825	1975	2150	2125
	5250	6325	6900	7475	7375	4925	6000	6475	7050	6975
N2	650	780	840	920	900	610	730	800	860	850
	2125	2550	2750	3025	2950	2000	2400	2625	2825	2800
N3	430	520	560	610	600	405	490	530	580	570
	1400	1700	1825	2000	1975	1325	1600	1750	1900	1875
N11	490	590	640	700	690	465	560	610	660	650
	1600	1925	2100	2300	2275	1525	1825	2000	2175	2125
S1	47	55	60	65	65	48	60	65	65	65
	155	180	195	215	215	155	195	195	215	215
S2	38	46	48	50	50	39	47	49	55	55
	125	150	155	165	165	130	155	160	180	180
S3	33	40	41	45	45	34	41	42	46	46
	110	130	135	150	150	110	135	140	150	150
S11	65	80	85	90	90	70	85	85	95	95
	215	260	280	295	295	230	280	280	310	310
S12	46	55	60	65	65	47	55	60	65	65
	150	180	195	215	215	155	180	195	215	215
S13	27	32	33	36	36	27	33	34	37	37
	90	105	110	120	120	90	110	110	120	120
H5	39	48	50	55	55	40	48	50	55	55
	130	155	165	180	180	130	155	165	180	180
H8	41	50	50	55	55	41	50	50	55	55
	135	165	165	180	180	135	165	165	180	180
H11	50	60	65	70	70	50	60	65	70	70
	165	195	215	230	230	165	195	215	230	230
H12	80	95	100	110	110	75	90	95	100	100
	260	310	330	360	360	245	295	310	330	330
H21	41	50	50	55	55	41	50	50	55	55
	135	165	165	180	180	135	165	165	180	180

Üniversal  
Çelik ve dökme demir  
Paslanmaz çelik ve S iş parçası matzemeleri  
Demir içermeyen matzemeler  
Demir içermeyen matzemeler  
Sertleştirilmiş çelik için  
Sertleştirilmiş çelik için  
Plastik ve cırp matzemeler için  
Grafit matzeme için  
Minimaster Plus  
Minimaster

MP10 Punta matkabı – Uç seçimi

SMG		$f_z$	$a_{so}$
			100%
P1	MP10-10006C90Z2-M03 F40M	0,042 0.0017	3,0 0.12
P2	MP10-10006C90Z2-M03 F40M	0,042 0.0017	3,0 0.12
P3	MP10-10006C90Z2-M03 F40M	0,040 0.0016	3,0 0.12
P4	MP10-10006C90Z2-M03 F40M	0,040 0.0016	3,0 0.12
P5	MP10-10006C90Z2-M03 F40M	0,040 0.0016	3,0 0.12
P6	MP10-10006C90Z2-M03 F40M	0,038 0.0015	3,0 0.12
P7	MP10-10006C90Z2-M03 F40M	0,038 0.0015	3,0 0.12
P8	MP10-10006C90Z2-M03 F40M	0,040 0.0016	3,0 0.12
P11	MP10-10006C90Z2-M03 F40M	0,038 0.0015	3,0 0.12
P12	MP10-10006C90Z2-M03 F40M	0,026 0.0010	2,0 0.080
M1	MP10-10006C90Z2-M03 F40M	0,042 0.0017	3,0 0.12
M2	MP10-10006C90Z2-M03 F40M	0,040 0.0016	3,0 0.12
M3	MP10-10006C90Z2-M03 F40M	0,032 0.0013	2,0 0.080
M4	MP10-10006C90Z2-M03 F40M	0,028 0.0011	1,7 0.065
M5	MP10-10006C90Z2-M03 F40M	0,028 0.0011	1,7 0.065
K1	MP10-10006C90Z2-M03 F40M	0,042 0.0017	3,0 0.12
K2	MP10-10006C90Z2-M03 F40M	0,040 0.0016	3,0 0.12
K3	MP10-10006C90Z2-M03 F40M	0,040 0.0016	3,0 0.12
K4	MP10-10006C90Z2-M03 F40M	0,040 0.0016	3,0 0.12
K5	MP10-10006C90Z2-M03 F40M	0,036 0.0014	3,0 0.12
K6	MP10-10006C90Z2-M03 F40M	0,040 0.0016	3,0 0.12
K7	MP10-10006C90Z2-M03 F40M	0,036 0.0014	3,0 0.12
N1	MP10-10006C90Z2-M03 F40M	0,055 0.0022	3,0 0.12
N2	MP10-10006C90Z2-M03 F40M	0,055 0.0022	3,0 0.12
N3	MP10-10006C90Z2-M03 F40M	0,055 0.0022	3,0 0.12
N11	MP10-10006C90Z2-M03 F40M	0,055 0.0022	3,0 0.12
S1	MP10-10006C90Z2-M03 F40M	0,028 0.0011	1,7 0.065
S2	MP10-10006C90Z2-M03 F40M	0,028 0.0011	1,7 0.065
S3	MP10-10006C90Z2-M03 F40M	0,025 0.0010	1,7 0.065
S11	MP10-10006C90Z2-M03 F40M	0,032 0.0013	1,9 0.075
S12	MP10-10006C90Z2-M03 F40M	0,032 0.0013	1,9 0.075
S13	MP10-10006C90Z2-M03 F40M	0,028 0.0011	1,7 0.065
H5	MP10-10006C90Z2-M03 F40M	0,026 0.0010	2,0 0.080
H8	MP10-10006C90Z2-M03 F40M	0,020 0.00080	1,9 0.075
H11	MP10-10006C90Z2-M03 F40M	0,026 0.0010	2,0 0.080
H12	MP10-10006C90Z2-M03 F40M	0,020 0.00080	1,9 0.075
H21	MP10-10006C90Z2-M03 F40M	0,020 0.00080	1,9 0.075

SMG = Seco malzeme grubu

$f_z$  = mm/ağız (inç/ağız),  $v_c$  = m/dk (sf/dk),  $a_e/DC$  = %

Tüm kesme verileri başlangıç değerleridir

MP10 Punta matkabı – Kesme verisi  $v_c = (m/dk)/(sf/dk)$ 

SMG	F40M			
		100%		
		305	Üniversal	
		1000		
P1		295	Çelik ve dökme demir	
P2		970		
P3		260		
P4		850		
P5		225		
P6		740		
P7		215		
P8		710		
P11		245		
P12		800		
		230		Paslanmaz çelik ve S iş parçası matzemeleri
		750		
M1		215	Paslanmaz çelik ve S iş parçası matzemeleri	
M2		710		
M3		225		
M4		740		
M5		135		
K1		445	Demir içermeyen matzemeler	
K2		240		
K3		195		
K4		640		
K5		150		
K6		490	Sertleştirilmiş çelik için	
K7		110		
N1		360		
N2		95		
N3		310		
N11		235		
S1		770		Sertleştirilmiş çelik için
S2		205		
S3		670		
S11		175		
S12		570		
S13		165		
H5		540	Plastik ve diğer matzemeler için	
H8		100		
H11		330		
H12		145		
H21		475		
		130		Plastik ve diğer matzemeler için
		425		
		1775		
		5825		
		710	Grafit malzeme için	
		2325		
		475		
		1550		
		540	Minimaster Plus	
		1775		
		50		
		165		
		42		
		140		
		36		
		120		
		75		
		245		
		50		
		165		
		29		
		95		
		45	Minimaster	
		150		
		46		
		150		
		55		
		180		
		85		
		280		
		46		
		150		

MP10 Pah kırma – Uç seçimi

SMG		$a_p$	$f_z$				
			100%	50%	30%	20%	10%
P1	MP10-10006C90Z2-M03 F40M	2,0	0,060	0,060	0,060	0,060	0,075
		0,080	0,0024	0,0024	0,0024	0,0024	0,0030
P2	MP10-10006C90Z2-M03 F40M	2,0	0,060	0,060	0,060	0,060	0,075
		0,080	0,0024	0,0024	0,0024	0,0024	0,0030
P3	MP10-10006C90Z2-M03 F40M	2,0	0,055	0,055	0,055	0,055	0,070
		0,080	0,0022	0,0022	0,0022	0,0022	0,0028
P4	MP10-10006C90Z2-M03 F40M	2,0	0,055	0,055	0,055	0,055	0,070
		0,080	0,0022	0,0022	0,0022	0,0022	0,0028
P5	MP10-10006C90Z2-M03 F40M	2,0	0,055	0,055	0,055	0,055	0,065
		0,080	0,0022	0,0022	0,0022	0,0022	0,0026
P6	MP10-10006C90Z2-M03 F40M	2,0	0,055	0,055	0,055	0,055	0,065
		0,080	0,0022	0,0022	0,0022	0,0022	0,0026
P7	MP10-10006C90Z2-M03 F40M	2,0	0,055	0,055	0,055	0,055	0,065
		0,080	0,0022	0,0022	0,0022	0,0022	0,0026
P8	MP10-10006C90Z2-M03 F40M	2,0	0,055	0,055	0,055	0,055	0,070
		0,080	0,0022	0,0022	0,0022	0,0022	0,0028
P11	MP10-10006C90Z2-M03 F40M	2,0	0,055	0,055	0,055	0,055	0,065
		0,080	0,0022	0,0022	0,0022	0,0022	0,0026
P12	MP10-10006C90Z2-M03 F40M	1,8	0,038	0,038	0,038	0,038	0,046
		0,070	0,0015	0,0015	0,0015	0,0015	0,0018
M1	MP10-10006C90Z2-M03 F40M	2,0	0,060	0,060	0,060	0,060	0,075
		0,080	0,0024	0,0024	0,0024	0,0024	0,0030
M2	MP10-10006C90Z2-M03 F40M	2,0	0,055	0,055	0,055	0,055	0,065
		0,080	0,0022	0,0022	0,0022	0,0022	0,0026
M3	MP10-10006C90Z2-M03 F40M	1,8	0,044	0,044	0,044	0,044	0,055
		0,070	0,0017	0,0017	0,0017	0,0017	0,0022
M4	MP10-10006C90Z2-M03 F40M	1,3	0,038	0,038	0,038	0,038	0,048
		0,050	0,0015	0,0015	0,0015	0,0015	0,0019
M5	MP10-10006C90Z2-M03 F40M	1,3	0,038	0,038	0,038	0,038	0,048
		0,050	0,0015	0,0015	0,0015	0,0015	0,0019
K1	MP10-10006C90Z2-M03 F40M	2,0	0,060	0,060	0,060	0,060	0,075
		0,080	0,0024	0,0024	0,0024	0,0024	0,0030
K2	MP10-10006C90Z2-M03 F40M	2,0	0,055	0,055	0,055	0,055	0,065
		0,080	0,0022	0,0022	0,0022	0,0022	0,0026
K3	MP10-10006C90Z2-M03 F40M	2,0	0,055	0,055	0,055	0,055	0,065
		0,080	0,0022	0,0022	0,0022	0,0022	0,0026
K4	MP10-10006C90Z2-M03 F40M	2,0	0,055	0,055	0,055	0,055	0,065
		0,080	0,0022	0,0022	0,0022	0,0022	0,0026
K5	MP10-10006C90Z2-M03 F40M	2,0	0,050	0,050	0,050	0,050	0,060
		0,080	0,0020	0,0020	0,0020	0,0020	0,0024
K6	MP10-10006C90Z2-M03 F40M	2,0	0,055	0,055	0,055	0,055	0,065
		0,080	0,0022	0,0022	0,0022	0,0022	0,0026
K7	MP10-10006C90Z2-M03 F40M	2,0	0,050	0,050	0,050	0,050	0,060
		0,080	0,0020	0,0020	0,0020	0,0020	0,0024
N1	MP10-10006C90Z2-M03 F40M	2,0	0,075	0,075	0,075	0,075	0,095
		0,080	0,0030	0,0030	0,0030	0,0030	0,0038
N2	MP10-10006C90Z2-M03 F40M	2,0	0,075	0,075	0,075	0,075	0,095
		0,080	0,0030	0,0030	0,0030	0,0030	0,0038
N3	MP10-10006C90Z2-M03 F40M	2,0	0,075	0,075	0,075	0,075	0,095
		0,080	0,0030	0,0030	0,0030	0,0030	0,0038
N11	MP10-10006C90Z2-M03 F40M	2,0	0,075	0,075	0,075	0,075	0,095
		0,080	0,0030	0,0030	0,0030	0,0030	0,0038
S1	MP10-10006C90Z2-M03 F40M	1,3	0,038	0,038	0,038	0,038	0,048
		0,050	0,0015	0,0015	0,0015	0,0015	0,0019
S2	MP10-10006C90Z2-M03 F40M	1,3	0,038	0,038	0,038	0,038	0,048
		0,050	0,0015	0,0015	0,0015	0,0015	0,0019
S3	MP10-10006C90Z2-M03 F40M	1,3	0,036	0,036	0,036	0,036	0,044
		0,050	0,0014	0,0014	0,0014	0,0014	0,0017
S11	MP10-10006C90Z2-M03 F40M	1,5	0,044	0,044	0,044	0,044	0,055
		0,060	0,0017	0,0017	0,0017	0,0017	0,0022
S12	MP10-10006C90Z2-M03 F40M	1,5	0,044	0,044	0,044	0,044	0,055
		0,060	0,0017	0,0017	0,0017	0,0017	0,0022
S13	MP10-10006C90Z2-M03 F40M	1,3	0,038	0,038	0,038	0,038	0,048
		0,050	0,0015	0,0015	0,0015	0,0015	0,0019
H5	MP10-10006C90Z2-M03 F40M	1,8	0,038	0,038	0,038	0,038	0,046
		0,070	0,0015	0,0015	0,0015	0,0015	0,0018
H8	MP10-10006C90Z2-M03 F40M	1,5	0,028	0,028	0,028	0,028	0,034
		0,060	0,0011	0,0011	0,0011	0,0011	0,0013
H11	MP10-10006C90Z2-M03 F40M	1,8	0,038	0,038	0,038	0,038	0,046
		0,070	0,0015	0,0015	0,0015	0,0015	0,0018
H12	MP10-10006C90Z2-M03 F40M	1,5	0,028	0,028	0,028	0,028	0,034
		0,060	0,0011	0,0011	0,0011	0,0011	0,0013
H21	MP10-10006C90Z2-M03 F40M	1,5	0,028	0,028	0,028	0,028	0,034
		0,060	0,0011	0,0011	0,0011	0,0011	0,0013

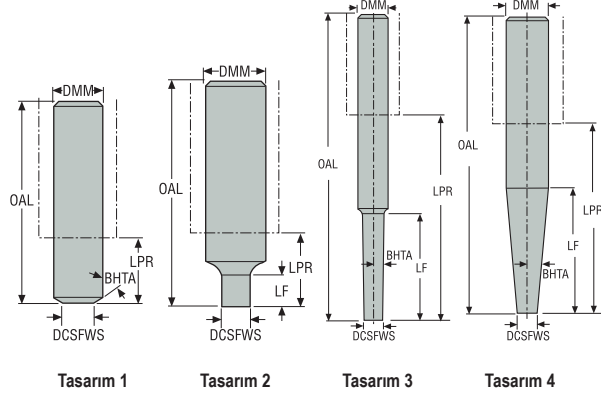
SMG = Seco malzeme grubu  
 $f_z$  = mm/ağız (inç/ağız),  $v_c$  = m/dk (sf/dk),  $a_p/DC$  = %  
Tüm kesme verileri başlangıç değerleridir

MP10 Pah kırma – Kesme verisi  $v_c = (m/dk)/(sf/dk)$

SMG	F40M				
	100%	50%	30%	20%	10%
P1	330	300	360	395	465
	1075	980	1175	1300	1525
P2	320	290	350	385	455
	1050	950	1150	1275	1500
P3	285	255	305	340	395
	940	840	1000	1125	1300
P4	250	225	270	300	350
	820	740	890	980	1150
P5	240	215	260	285	335
	790	710	850	940	1100
P6	265	240	290	320	380
	870	790	950	1050	1250
P7	250	230	275	300	355
	820	750	900	980	1175
P8	240	215	260	285	330
	790	710	850	940	1075
P11	245	220	265	295	345
	800	720	870	970	1125
P12	155	140	160	175	220
	510	460	520	570	720
M1	260	235	280	310	365
	850	770	920	1025	1200
M2	215	195	230	255	305
	710	640	750	840	1000
M3	170	150	175	195	240
	560	490	570	640	790
M4	130	110	125	140	185
	425	360	410	460	610
M5	105	90	105	120	155
	345	295	345	395	510
K1	255	230	275	305	360
	840	750	900	1000	1175
K2	225	205	245	270	320
	740	670	800	890	1050
K3	190	175	205	230	270
	620	570	670	750	890
K4	180	165	200	220	260
	590	540	660	720	850
K5	110	100	120	135	155
	360	330	395	445	510
K6	160	145	175	190	230
	520	475	570	620	750
K7	140	130	155	170	200
	460	425	510	560	660
N1	1925	1725	2075	2300	2700
	6325	5650	6800	7550	8850
N2	770	690	840	930	1100
	2525	2275	2750	3050	3600
N3	520	465	560	620	730
	1700	1525	1825	2025	2400
N11	590	530	640	710	830
	1925	1750	2100	2325	2725
S1	60	50	60	65	85
	195	165	195	215	280
S2	48	41	47	55	70
	155	135	155	180	230
S3	42	36	41	46	60
	140	120	135	150	195
S11	85	75	85	95	120
	280	245	280	310	395
S12	60	50	60	65	85
	195	165	195	215	280
S13	34	29	33	37	48
	110	95	110	120	155
H5	50	46	50	60	75
	165	150	165	195	245
H8	55	47	55	60	75
	180	155	180	195	245
H11	65	60	65	75	90
	215	195	215	245	295
H12	95	85	95	110	135
	310	280	310	360	445
H21	55	47	55	60	75
	180	155	180	195	245

Üniversal  
Çelik ve dökme demir  
Paslanmaz çelik ve S iş parçası malzemeleri  
Demir içermeyen malzemeler  
Sertleştirilmiş çelik için  
Plastik ve cırp malzemeler için  
Grafit malzeme için  
Minimaster Plus  
Minimaster

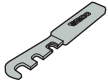
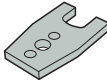
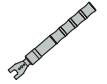
## MP12 Sap – Metrik



- Silindirik sap, DMM toleransı h5, Shrinkfit ile uyumlu

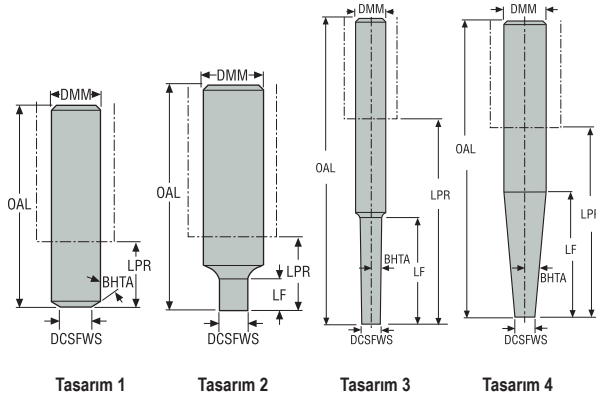
Ürün Tanımı	Montaj tipi	DCSFWS	DMM	OAL	LPR	LF	RPMX	BHTA°	Tasarım	Ağırlık	
		mm	mm	mm	mm	mm				kg	
MP12-12060-012.00	Silindirik	11,5	12,0	60,0	15,0	12,0	72700	0,0	2	✓	0,1
MP12-16068-000.60	Silindirik	11,5	16,0	68,0	20,0	0,0	72700	60,0	1	✓	0,2
MP12-16078-018.00	Silindirik	11,5	16,0	78,0	30,0	18,0	72700	0,0	2	✓	0,1
MP12-16153-042.01	Silindirik	11,5	16,0	153,0	105,0	42,0	72700	1,0	3	✓	0,2
MP12-20170-072.01	Silindirik	11,5	20,0	170,0	120,0	72,0	72700	1,0	3	✓	0,3
MP12-20110-055.03	Silindirik	11,5	20,0	110,0	60,0	55,0	72700	3,0	3	✓	0,2
MP12-20150-100.03	Silindirik	11,5	20,0	150,0	100,0	81,1	72700	3,0	3	✓	0,3
MP12-20155-105.05	Silindirik	11,5	20,0	155,0	105,0	48,6	72700	5,0	4	✓	0,4
MP12-16107-036.00-E	Silindirik	11,5	16,0	107,0	59,0	36,0	72700	0,0	2	✓	0,3
MP12-16120-048.00-E	Silindirik	11,5	16,0	120,0	72,0	48,0	72700	0,0	2	✓	0,3
MP12-16150-072.00-E	Silindirik	11,5	16,0	150,0	102,0	72,0	72700	0,0	2	✓	0,3
MP12-16120-060.01-E	Silindirik	11,5	16,0	120,0	72,0	60,0	72700	1,0	3	✓	0,3
MP12-16150-096.01-E	Silindirik	11,5	16,0	150,0	102,0	96,0	72700	1,0	3	✓	0,4
MP12-16175-120.01-E	Silindirik	11,5	16,0	175,0	127,0	120,0	72700	1,0	3	✓	0,4
MP12-16155-107.03-E	Silindirik	11,5	16,0	155,0	107,0	42,9	72700	3,0	4	✓	0,4
MP12-16180-132.03-E	Silindirik	11,5	16,0	180,0	132,0	42,9	72700	3,0	4	✓	0,5

### Aksesuarlar

Anahtar	Değiştirilebilir Çubuk	Tork anahtarı
		
MP1016	MP00-12M	MP00-12.150

Anahtar uçları tork anahtara dahildir

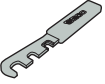
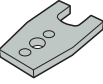
## MP12 Sap – İnç



• Silindirik sap, DMM toleransı h5, Shrinkfit ile uyumlu

Ürün Tanımı	Montaj tipi	DCSFMS	DMM	OAL	LPR	LF	RPMX	BHTA°	Tasarım	Ağırlık
		İnç	İnç	İnç	İnç	İnç				lb
MP12-0502.3-0.47.00	Silindirik	0.453	0.500	2.341	0.591	0.472	72700	0,0	2	0.220
MP12-0622.6-0.00.60	Silindirik	0.453	0.625	2.662	0.787	0	72700	60,0	1	0.220
MP12-0623.0-0.70.00	Silindirik	0.453	0.625	3.056	1.181	0.709	72700	0,0	2	0.220
MP12-0626.0-1.65.01	Silindirik	0.453	0.625	6.009	4.134	1.654	72700	1,0	3	0.440
MP12-0754.3-2.20.03	Silindirik	0.453	0.750	4.362	2.362	2.201	72700	3,0	3	0.440
MP12-0755.9-3.93.03	Silindirik	0.453	0.750	5.937	3.937	2.835	72700	3,0	3	0.660
MP12-0756.1-4.13.05	Silindirik	0.453	0.750	6.134	4.134	1.697	72700	5,0	4	0.660
MP12-0756.7-2.83.01	Silindirik	0.453	0.750	6.724	4.724	2.835	72700	1,0	4	0.660
MP12-0627.0-5.19.03-E	Silindirik	0.453	0.625	7.072	5.197	1.654	72700	3,0	4	1.100
MP12-0625.8-2.83.00-E	Silindirik	0.453	0.625	5.891	4.016	2.835	72700	0,0	2	0.660

## Aksesuarlar

Anahtar	Değiştirilebilir Çubuk	Tork anahtarı
		
MP1016	MP00-12M	MP00-12.150

Anahtar uçları tork anahtara dahildir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

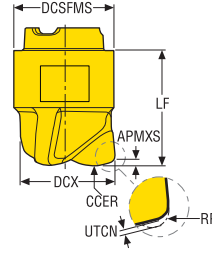
Plastik ve cırp materyaller için

Grafit materyal için

Minimaster Plus

Minimaster

## MP12 Yüksek ilerlemeli



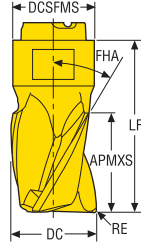
- Uç seçimi ve kesme verisi tavsiyeleri için bakınız sayfa 502-503

Z3



Ürün Tanımı	DCX	DC	APMXS	DCSFMS	CCER	RP	LF	UTCN	RMPX°	C min	C max	ZEFP	Kaliteler	Kaplama	
														MP3000	F40M
MP12-1200.7HFZ3-MD10	12,0 0.472	6,0 0.236	0,7 0.028	11,52 0.454	7,5 0.295	1,66 0.065	13,3 0.524	0,33 0.013	5,0	13,1	17,8	3	✓	■	
MP12-1270.7HFZ3-MD10	12,7 0.500	6,7 0.264	0,7 0.028	11,52 0.454	7,5 0.295	1,66 0.065	13,3 0.524	0,32 0.013	5,0	13,8	19,2	3	✓	■	



MP12 Dik kenar  
Kanal açma ve çevresel frezeleme

- Uç seçimi ve kesme verisi tavsiyeleri için bakınız sayfa 504-505

Z3



Ürün Tanımı	DC	APMXS	RE	DCSFMS	FHA	LF	RMPX°	C min	C max	ZEFP	Kaliteler	Kaplama	
												MP3000	F40M
	mm Inç	mm Inç	mm Inç	mm Inç	mm Inç	mm Inç							
MP12-12008R04Z3-E04	12,0 0.472	8,0 0.315	0,4 0.016	11,5 0.453	30 1.181	18,8 0.740	15,0	14,6	23,0	3	✓		■
MP12-12008R04Z3-M04	12,0 0.472	8,0 0.315	0,4 0.016	11,5 0.453	30 1.181	18,8 0.740	15,0	14,6	23,0	3	✓	■	
MP12-12008R05Z3-E04	12,0 0.472	8,0 0.315	0,5 0.020	11,5 0.453	30 1.181	18,8 0.740	15,0	14,6	22,8	3	✓		■
MP12-12008R08Z3-E04	12,0 0.472	8,0 0.315	0,8 0.031	11,5 0.453	30 1.181	18,8 0.740	15,0	14,6	22,2	3	✓		■
MP12-12008R08Z3-M04	12,0 0.472	8,0 0.315	0,8 0.031	11,5 0.453	30 1.181	18,8 0.740	15,0	14,6	22,2	3	✓	■	
MP12-12008R16Z3-E04	12,0 0.472	8,0 0.315	1,6 0.063	11,5 0.453	30 1.181	18,8 0.740	15,0	14,6	20,6	3	✓		■
MP12-12008R31Z3-E04	12,0 0.472	8,0 0.315	3,1 0.122	11,5 0.453	30 1.181	18,8 0.740	15,0	14,6	17,6	3	✓		■
MP12-12708R08Z3-M04	12,7 0.500	8,0 0.315	0,8 0.031	11,5 0.453	30 1.181	18,8 0.740	15,0	15,4	23,6	3	✓	■	

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve cırp materyaller için

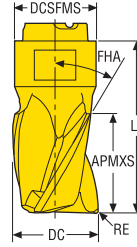
Grafit materyal için

Minimaster Plus

Minimaster

## MP12 Dik kenar

Kanal açma ve çevresel frezeleme

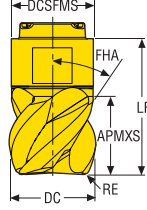


- Uç seçimi ve kesme verisi tavsiyeleri için bakınız sayfa 504-505

Z3



Ürün Tanımı	DC	APMXS	RE	DCSFMS	FHA	LF	RMPX°	C min	C max	ZEFP	Kaliteler	
											Kaplamalı	
	mm Inç	mm Inç	mm Inç	mm Inç	mm Inç	mm Inç					MP3000	F40M
MP12-11714KWZ3-E04	11,7 0.461	14,0 0.551	0,3 0.012	11,5 0.453	30 1.181	24,0 0.945	15,0	14,2	22,6	3	✓	■
MP12-12014R04Z3-E04	12,0 0.472	14,0 0.551	0,4 0.016	11,5 0.453	30 1.181	24,0 0.945	15,0	14,6	23,0	3	✓	■
MP12-12014R04Z3-M04	12,0 0.472	14,0 0.551	0,4 0.016	11,5 0.453	30 1.181	24,0 0.945	15,0	14,6	23,0	3	✓	■
MP12-12014R05Z3-E04	12,0 0.472	14,0 0.551	0,5 0.020	11,5 0.453	30 1.181	24,0 0.945	15,0	14,6	22,8	3	✓	■
MP12-12014R08Z3-M04	12,0 0.472	14,0 0.551	0,8 0.031	11,5 0.453	30 1.181	24,0 0.945	15,0	14,6	22,2	3	✓	■
MP12-12014R12Z3-E04	12,0 0.472	14,0 0.551	1,2 0.047	11,5 0.453	30 1.181	24,0 0.945	15,0	14,6	21,4	3	✓	■
MP12-12014R12Z3-M04	12,0 0.472	14,0 0.551	1,2 0.047	11,5 0.453	30 1.181	24,0 0.945	15,0	14,6	21,4	3	✓	■
MP12-12014R20Z3-E04	12,0 0.472	14,0 0.551	2,0 0.079	11,5 0.453	30 1.181	24,0 0.945	15,0	14,6	19,8	3	✓	■
MP12-12014R31Z3-E04	12,0 0.472	14,0 0.551	3,1 0.122	11,5 0.453	30 1.181	24,0 0.945	15,0	14,6	17,6	3	✓	■
MP12-12714R04Z3-E04	12,7 0.500	14,0 0.551	0,4 0.016	11,5 0.453	30 1.181	24,0 0.945	15,0	15,4	24,4	3	✓	■
MP12-12714R04Z3-M04	12,7 0.500	14,0 0.551	0,4 0.016	11,5 0.453	30 1.181	24,0 0.945	15,0	15,4	24,4	3	✓	■
MP12-12714R08Z3-E04	12,7 0.500	14,0 0.551	0,8 0.031	11,5 0.453	30 1.181	24,0 0.945	15,0	15,4	23,6	3	✓	■
MP12-12714R08Z3-M04	12,7 0.500	14,0 0.551	0,8 0.031	11,5 0.453	30 1.181	24,0 0.945	15,0	15,4	23,6	3	✓	■
MP12-12714R16Z3-E04	12,7 0.500	14,0 0.551	1,6 0.063	11,5 0.453	30 1.181	24,0 0.945	15,0	15,4	23,9	3	✓	■
MP12-12714R31Z3-E04	12,7 0.500	14,0 0.551	3,1 0.122	11,5 0.453	30 1.181	24,0 0.945	15,0	15,4	22,0	3	✓	■

MP12 Dik kenar  
Kanal açma ve çevresel frezeleme

- Uç seçimi ve kesme verisi tavsiyeleri için bakınız sayfa 504-505

Z4



Ürün Tanımı	DC	APMXS	RE	DCSFMS	FHA	LF	RMPX°	C min	C max	ZEFP	Kaliteler	
											Kaplamalı	
	mm Inç	mm Inç	mm Inç	mm Inç	mm Inç	mm Inç					MP3000	F40M
MP12-12008R04Z4-M03	12,0 0.472	8,0 0.315	0,4 0.016	11,5 0.453	50 1.969	18,8 0.740	15,0	14,6	23,0	4	■	
MP12-12008R05Z4-E03	12,0 0.472	8,0 0.315	0,5 0.020	11,5 0.453	50 1.969	18,8 0.740	15,0	14,6	22,8	4		■
MP12-12008R08Z4-E03	12,0 0.472	8,0 0.315	0,8 0.031	11,5 0.453	50 1.969	18,8 0.740	15,0	14,6	22,2	4		■
MP12-12008R08Z4-M03	12,0 0.472	8,0 0.315	0,8 0.031	11,5 0.453	50 1.969	18,8 0.740	15,0	14,6	22,2	4	■	
MP12-12008R12Z4-M03	12,0 0.472	8,0 0.315	1,2 0.047	11,5 0.453	50 1.969	18,8 0.740	15,0	14,6	21,4	4	■	
MP12-12008R24Z4-E03	12,0 0.472	8,0 0.315	2,4 0.094	11,5 0.453	50 1.969	18,8 0.740	15,0	14,6	19,0	4		■
MP12-12014R04Z4-M03	12,0 0.472	14,0 0.551	0,4 0.016	11,5 0.453	50 1.969	24,0 0.945	15,0	14,6	23,0	4	■	
MP12-12014R05Z4-E03	12,0 0.472	14,0 0.551	0,5 0.020	11,5 0.453	50 1.969	24,0 0.945	15,0	14,6	22,8	4		■
MP12-12014R08Z4-E03	12,0 0.472	14,0 0.551	0,8 0.031	11,5 0.453	50 1.969	24,0 0.945	15,0	14,6	22,2	4		■
MP12-12014R08Z4-M03	12,0 0.472	14,0 0.551	0,8 0.031	11,5 0.453	50 1.969	24,0 0.945	15,0	14,6	22,2	4	■	
MP12-12014R12Z4-E03	12,0 0.472	14,0 0.551	1,2 0.047	11,5 0.453	50 1.969	24,0 0.945	15,0	14,6	21,4	4		■
MP12-12014R12Z4-M03	12,0 0.472	14,0 0.551	1,2 0.047	11,5 0.453	50 1.969	24,0 0.945	15,0	14,6	21,4	4	■	
MP12-12014R16Z4-E03	12,0 0.472	14,0 0.551	1,6 0.063	11,5 0.453	50 1.969	24,0 0.945	15,0	14,6	20,6	4		■
MP12-12714R04Z4-E03	12,7 0.500	14,0 0.551	0,4 0.016	11,5 0.453	50 1.969	24,0 0.945	15,0	15,4	24,4	4		■
MP12-12714R04Z4-M03	12,7 0.500	14,0 0.551	0,4 0.016	11,5 0.453	50 1.969	24,0 0.945	15,0	15,4	24,4	4	■	
MP12-12714R08Z4-E03	12,7 0.500	14,0 0.551	0,8 0.031	11,5 0.453	50 1.969	24,0 0.945	15,0	15,4	23,9	4		■
MP12-12714R08Z4-M03	12,7 0.500	14,0 0.551	0,8 0.031	11,5 0.453	50 1.969	24,0 0.945	15,0	15,4	23,6	4	■	

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

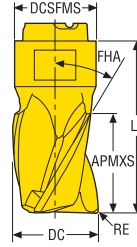
Grafit malzeme için

Minimaster Plus

Minimaster

## MP12 Dik kenar

Sadece çevresel frezeleme



- Uç seçimi ve kesme verisi tavsiyeleri için bakınız sayfa 504-505

Z6



Ürün Tanımı	DC	APMXS	RE	DCSFMS	LF	FHA	ZAFP	Kaliteler	Kaplama	
									MP3000	F40M
MP12-12014R04Z6-M03	12,0 0.472	14,0 0.551	0,4 0.016	11,5 0.453	24,0 0.945	40	6	■		
MP12-12714R04Z6-M03	12,7 0.500	14,0 0.551	0,4 0.016	11,5 0.453	24,0 0.945	40	6	■		

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

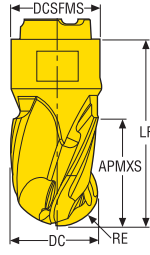
Plastik ve diğer malzemeler için

Grafit malzeme için

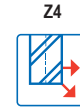
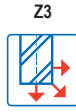
Minimaster Plus

Minimaster

## MP12 Tamamı yuvarlak versiyon



• Uç seçimi ve kesme verisi tavsiyeleri için bakınız sayfa 506-507



Ürün Tanımı	DC	APMXS	RE	DCSFMS	LF	FHA	RMPX°	ZEP	Kaliteler	Kaplama	
										MP3000	F40M
MP12-12008B90Z3-E04	12,0 0.472	8,0 0.315	6,0 0.236	11,5 0.453	18,8 0.740	30	15,0	3	✓		■
MP12-12008B90Z3-M04	12,0 0.472	8,0 0.315	6,0 0.236	11,5 0.453	18,8 0.740	30	15,0	3	✓	■	
MP12-12014B90Z3-E04	12,0 0.472	14,0 0.551	6,0 0.236	11,5 0.453	24,0 0.945	30	15,0	3	✓		■
MP12-12014B90Z3-M04	12,0 0.472	14,0 0.551	6,0 0.236	11,5 0.453	24,0 0.945	30	15,0	3	✓	■	
MP12-12008B90Z4-E03	12,0 0.472	8,0 0.315	6,0 0.236	11,5 0.453	18,7 0.736	20	15,0	4			■
MP12-12008B90Z4-M03	12,0 0.472	8,0 0.315	6,0 0.236	11,5 0.453	18,7 0.736	20	15,0	4		■	
MP12-12708B90Z3-E04	12,7 0.500	8,0 0.315	6,35 0.250	11,5 0.453	18,8 0.740	30	15,0	3	✓		■
MP12-12708B90Z3-M04	12,7 0.500	8,0 0.315	6,35 0.250	11,5 0.453	18,8 0.740	30	15,0	3	✓	■	
MP12-12714B90Z3-E04	12,7 0.500	14,0 0.551	6,35 0.250	11,5 0.453	24,0 0.945	30	15,0	3	✓		■
MP12-12714B90Z3-M04	12,7 0.500	14,0 0.551	6,35 0.250	11,5 0.453	24,0 0.945	30	15,0	3	✓	■	
MP12-12708B90Z4-E03	12,7 0.500	8,0 0.315	6,35 0.250	11,5 0.453	18,7 0.736	20	15,0	4			■
MP12-12708B90Z4-M03	12,7 0.500	8,0 0.315	6,35 0.250	11,5 0.453	18,7 0.736	20	15,0	4		■	

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

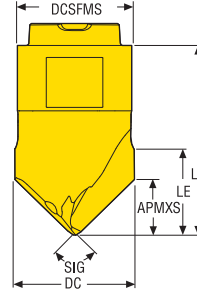
Plastik ve cırp materyaller için

Grafit materyale için

Minimaster Plus

Minimaster

## MP12 Punta matkabı



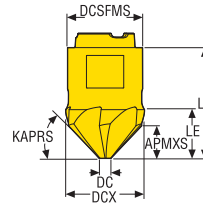
- Uç seçimi ve kesme verisi tavsiyeleri için bakınız sayfa 508-509

Z2



Ürün Tanımı	DC	APMXS	DCSFMS	LE	LF	SIG°	ZEPF	Kaliteler	Kaplama
MP12-12007C90Z2-M04	12,0 0.472	5,6 0.220	11,5 0.453	8,7 0.343	19,0 0.748	90,0	2	✓	■

## MP12 Pah kırma



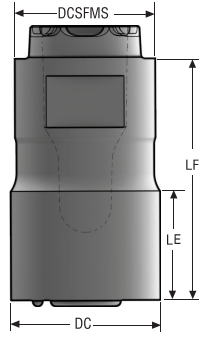
- Uç seçimi ve kesme verisi tavsiyeleri için bakınız sayfa 510-511

Z6



Ürün Tanımı	DCX	DC	APMXS	DCSFMS	LE	LF	KAPRS°	ZEPF	Kaliteler	Kaplama
MP12-12007C90Z6-M04	12,1 0.476	2,95 0.116	4,4 0.173	11,5 0.453	7,5 0.295	18,0 0.709	45,0	6	■	

## MP12 Silindirik işlenmemiş uç



- Kendi geometrilerinde üretim için silindirik karbür işlenmemiş uçlar



Ürün Tanımı	DC	DCSFMS	LE	LF	Kaliteler	Kaplamasız
MP12-12008CYL-SEMI	12,95 0.510	11,5 0.453	9,4 0.370	19,35 0.762		■
MP12-12014CYL-SEMI	12,95 0.510	11,5 0.453	14,3 0.563	24,15 0.951		■

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve çirp materyaller için

Grafit malzeme için

Minimaster Plus

Minimaster

MP12 Yüksek ilerlemeli frezeleme – Uç seçimi

SMG		$a_p$	$f_z$			
			100%	70%	30%	20%
P1	MP12-1200.7HFZ3-MD10 MP3000	0,48	0,55	0,55	0,70	0,90
		0,019	0,022	0,022	0,028	0,036
P2	MP12-1200.7HFZ3-MD10 MP3000	0,48	0,55	0,55	0,75	0,90
		0,019	0,022	0,022	0,030	0,036
P3	MP12-1200.7HFZ3-MD10 MP3000	0,48	0,55	0,55	0,70	0,85
		0,019	0,022	0,022	0,028	0,034
P4	MP12-1200.7HFZ3-MD10 MP3000	0,48	0,50	0,50	0,70	0,85
		0,019	0,020	0,020	0,028	0,034
P5	MP12-1200.7HFZ3-MD10 MP3000	0,48	0,50	0,50	0,65	0,80
		0,019	0,020	0,020	0,026	0,032
P6	MP12-1200.7HFZ3-MD10 MP3000	0,48	0,50	0,50	0,65	0,80
		0,019	0,020	0,020	0,026	0,032
P7	MP12-1200.7HFZ3-MD10 MP3000	0,48	0,50	0,50	0,65	0,80
		0,019	0,020	0,020	0,026	0,032
P8	MP12-1200.7HFZ3-MD10 MP3000	0,48	0,55	0,55	0,70	0,85
		0,019	0,022	0,022	0,028	0,034
P11	MP12-1200.7HFZ3-MD10 MP3000	0,48	0,50	0,50	0,65	0,80
		0,019	0,020	0,020	0,026	0,032
P12	MP12-1200.7HFZ3-MD10 MP3000	0,40	0,36	0,34	0,44	0,55
		0,016	0,014	0,013	0,017	0,022
M1	MP12-1200.7HFZ3-MD10 MP3000	0,48	0,55	0,55	0,75	0,90
		0,019	0,022	0,022	0,030	0,036
M2	MP12-1200.7HFZ3-MD10 MP3000	0,48	0,50	0,50	0,65	0,80
		0,019	0,020	0,020	0,026	0,032
M3	MP12-1200.7HFZ3-MD10 MP3000	0,40	0,42	0,42	0,55	0,65
		0,016	0,017	0,017	0,022	0,026
M4	MP12-1200.7HFZ3-MD10 MP3000	0,30	0,36	0,36	0,46	0,55
		0,012	0,014	0,014	0,018	0,022
M5	MP12-1200.7HFZ3-MD10 MP3000	0,30	0,36	0,36	0,46	0,55
		0,012	0,014	0,014	0,018	0,022
K1	MP12-1200.7HFZ3-MD10 MP3000	0,48	0,55	0,55	0,75	0,90
		0,019	0,022	0,022	0,030	0,036
K2	MP12-1200.7HFZ3-MD10 MP3000	0,48	0,50	0,50	0,65	0,80
		0,019	0,020	0,020	0,026	0,032
K3	MP12-1200.7HFZ3-MD10 MP3000	0,48	0,50	0,50	0,65	0,80
		0,019	0,020	0,020	0,026	0,032
K4	MP12-1200.7HFZ3-MD10 MP3000	0,48	0,50	0,50	0,65	0,80
		0,019	0,020	0,020	0,026	0,032
K5	MP12-1200.7HFZ3-MD10 MP3000	0,48	0,46	0,46	0,60	0,75
		0,019	0,018	0,018	0,024	0,030
K6	MP12-1200.7HFZ3-MD10 MP3000	0,48	0,50	0,50	0,65	0,80
		0,019	0,020	0,020	0,026	0,032
K7	MP12-1200.7HFZ3-MD10 MP3000	0,48	0,46	0,46	0,60	0,75
		0,019	0,018	0,018	0,024	0,030
N1	MP12-1200.7HFZ3-MD10 MP3000	0,48	0,70	0,70	0,95	1,2
		0,019	0,028	0,028	0,038	0,048
N2	MP12-1200.7HFZ3-MD10 MP3000	0,48	0,70	0,70	0,95	1,2
		0,019	0,028	0,028	0,038	0,048
N3	MP12-1200.7HFZ3-MD10 MP3000	0,48	0,70	0,70	0,95	1,2
		0,019	0,028	0,028	0,038	0,048
N11	MP12-1200.7HFZ3-MD10 MP3000	0,48	0,70	0,70	0,95	1,2
		0,019	0,028	0,028	0,038	0,048
S1	MP12-1200.7HFZ3-MD10 MP3000	0,30	0,36	0,36	0,46	0,55
		0,012	0,014	0,014	0,018	0,022
S2	MP12-1200.7HFZ3-MD10 MP3000	0,30	0,36	0,36	0,46	0,55
		0,012	0,014	0,014	0,018	0,022
S3	MP12-1200.7HFZ3-MD10 MP3000	0,30	0,34	0,34	0,42	0,50
		0,012	0,013	0,013	0,017	0,020
S11	MP12-1200.7HFZ3-MD10 MP3000	0,34	0,42	0,42	0,55	0,65
		0,013	0,017	0,017	0,022	0,026
S12	MP12-1200.7HFZ3-MD10 MP3000	0,34	0,42	0,42	0,55	0,65
		0,013	0,017	0,017	0,022	0,026
S13	MP12-1200.7HFZ3-MD10 MP3000	0,30	0,36	0,36	0,46	0,55
		0,012	0,014	0,014	0,018	0,022
H5	MP12-1200.7HFZ3-MD10 MP3000	0,40	0,36	0,34	0,44	0,55
		0,016	0,014	0,013	0,017	0,022
H8	MP12-1200.7HFZ3-MD10 MP3000	0,34	0,28	0,26	0,34	0,40
		0,013	0,011	0,010	0,013	0,016
H11	MP12-1200.7HFZ3-MD10 MP3000	0,40	0,36	0,34	0,44	0,55
		0,016	0,014	0,013	0,017	0,022
H12	MP12-1200.7HFZ3-MD10 MP3000	0,34	0,28	0,26	0,34	0,40
		0,013	0,011	0,010	0,013	0,016
H21	MP12-1200.7HFZ3-MD10 MP3000	0,34	0,28	0,26	0,34	0,40
		0,013	0,011	0,010	0,013	0,016

SMG = Seco malzeme grubu

$f_z$  = mm/ağız (inç/ağız),  $v_c$  = m/dk (sf/dk),  $a_p/DC$  = %

Tüm kesme verileri başlangıç değerleridir



MP12 Yüksek ilerlemeli frezeleme – Kesme verisi  $v_c = (m/dk)/(sf/dk)$ 

SMG	MP3000				Üniversal
	100%	70%	30%	20%	
P1	240	295	340	355	Çelik ve dökme demir
	790	970	1125	1175	
P2	235	285	325	345	Paslanmaz çelik ve S iş parçası matzemeleri
	770	940	1075	1125	
P3	205	245	285	300	Demir içermeyen matzemeler
	670	800	940	980	
P4	185	220	250	265	Sertleştirilmiş çelik için
	610	720	820	870	
P5	175	210	245	255	Plastik ve diğer matzemeler için
	570	690	800	840	
P6	195	240	275	290	Grafit matzeme için
	640	790	900	950	
P7	185	225	260	275	Minimaster Plus
	610	740	850	900	
P8	170	205	240	255	Minimaster
	560	670	790	840	
P11	180	220	250	265	
	590	720	820	870	
P12	115	140	160	170	
	375	460	520	560	
M1	175	215	245	260	
	570	710	800	850	
M2	145	175	205	215	
	475	570	670	710	
M3	120	140	160	170	
	395	460	520	560	
M4	95	110	125	135	
	310	360	410	445	
M5	80	90	105	110	
	260	295	345	360	
K1	185	225	260	275	
	610	740	850	900	
K2	165	200	230	245	
	540	660	750	800	
K3	140	170	195	205	
	460	560	640	670	
K4	135	160	190	195	
	445	520	620	640	
K5	80	100	115	120	
	260	330	375	395	
K6	120	145	165	175	
	395	475	540	570	
K7	105	125	145	150	
	345	410	475	490	
N1	1400	1700	1925	2025	
	4600	5575	6325	6650	
N2	560	680	780	820	
	1825	2225	2550	2700	
N3	375	455	520	540	
	1225	1500	1700	1775	
N11	430	520	600	620	
	1400	1700	1975	2025	
S1	44	50	60	60	
	145	165	195	195	
S2	35	41	47	50	
	115	135	155	165	
S3	31	36	42	44	
	100	120	140	145	
S11	60	70	80	85	
	195	230	260	280	
S12	42	49	55	60	
	140	160	180	195	
S13	25	29	33	35	
	80	95	110	115	
H5	36	44	50	55	
	120	145	165	180	
H8	39	46	55	55	
	130	150	180	180	
H11	46	55	65	65	
	150	180	215	215	
H12	75	90	100	110	
	245	295	330	360	
H21	39	46	55	55	
	130	150	180	180	

MP12 Kanal açma – Uç seçimi

SMG		$a_p$	$f_z$			
			100%	30%	10%	5%
P1	MP12-12008R04Z3-M04 MP3000	4,0	0,055	0,060	0,095	0,13
		0,16	0,0022	0,0024	0,0038	0,0050
P2	MP12-12008R04Z3-M04 MP3000	4,0	0,055	0,065	0,095	0,13
		0,16	0,0022	0,0026	0,0038	0,0050
P3	MP12-12008R04Z3-M04 MP3000	4,0	0,055	0,060	0,090	0,13
		0,16	0,0022	0,0024	0,0036	0,0050
P4	MP12-12008R04Z3-M04 MP3000	4,0	0,055	0,060	0,090	0,12
		0,16	0,0022	0,0024	0,0036	0,0048
P5	MP12-12008R04Z3-M04 MP3000	4,0	0,050	0,055	0,090	0,12
		0,16	0,0020	0,0022	0,0036	0,0048
P6	MP12-12008R04Z3-M04 MP3000	4,0	0,050	0,055	0,085	0,12
		0,16	0,0020	0,0022	0,0034	0,0048
P7	MP12-12008R04Z3-M04 MP3000	4,0	0,050	0,055	0,085	0,12
		0,16	0,0020	0,0022	0,0034	0,0048
P8	MP12-12008R04Z3-M04 MP3000	4,0	0,055	0,060	0,090	0,13
		0,16	0,0022	0,0024	0,0036	0,0050
P11	MP12-12008R04Z3-M04 MP3000	4,0	0,050	0,055	0,085	0,12
		0,16	0,0020	0,0022	0,0034	0,0048
P12	MP12-12008R08Z3-M04 MP3000	3,0	0,036	0,040	0,060	0,085
		0,12	0,0014	0,0016	0,0024	0,0034
M1	MP12-12008R04Z3-E04 F40M	4,0	0,055	0,065	0,095	0,13
		0,16	0,0022	0,0026	0,0038	0,0050
M2	MP12-12008R04Z3-E04 F40M	4,0	0,050	0,055	0,090	0,12
		0,16	0,0020	0,0022	0,0036	0,0048
M3	MP12-12008R04Z3-E04 F40M	3,0	0,042	0,046	0,070	0,095
		0,12	0,0017	0,0018	0,0028	0,0038
M4	MP12-12008R04Z3-E04 F40M	2,5	0,036	0,040	0,060	0,085
		0,10	0,0014	0,0016	0,0024	0,0034
M5	MP12-12008R04Z3-E04 F40M	2,5	0,036	0,040	0,060	0,085
		0,10	0,0014	0,0016	0,0024	0,0034
K1	MP12-12008R04Z3-M04 MP3000	4,0	0,055	0,065	0,095	0,13
		0,16	0,0022	0,0026	0,0038	0,0050
K2	MP12-12008R04Z3-M04 MP3000	4,0	0,050	0,055	0,090	0,12
		0,16	0,0020	0,0022	0,0036	0,0048
K3	MP12-12008R04Z3-M04 MP3000	4,0	0,050	0,055	0,090	0,12
		0,16	0,0020	0,0022	0,0036	0,0048
K4	MP12-12008R04Z3-M04 MP3000	4,0	0,050	0,055	0,090	0,12
		0,16	0,0020	0,0022	0,0036	0,0048
K5	MP12-12008R04Z3-M04 MP3000	4,0	0,048	0,050	0,080	0,11
		0,16	0,0019	0,0020	0,0032	0,0044
K6	MP12-12008R04Z3-M04 MP3000	4,0	0,050	0,055	0,090	0,12
		0,16	0,0020	0,0022	0,0036	0,0048
K7	MP12-12008R04Z3-M04 MP3000	4,0	0,048	0,050	0,080	0,11
		0,16	0,0019	0,0020	0,0032	0,0044
N1	MP12-12008R04Z3-E04 F40M	4,0	0,075	0,080	0,12	0,17
		0,16	0,0030	0,0032	0,0048	0,0065
N2	MP12-12008R04Z3-E04 F40M	4,0	0,075	0,080	0,12	0,17
		0,16	0,0030	0,0032	0,0048	0,0065
N3	MP12-12008R04Z3-E04 F40M	4,0	0,075	0,080	0,12	0,17
		0,16	0,0030	0,0032	0,0048	0,0065
N11	MP12-12008R04Z3-E04 F40M	4,0	0,075	0,080	0,12	0,17
		0,16	0,0030	0,0032	0,0048	0,0065
S1	MP12-12008R04Z3-E04 F40M	2,5	0,036	0,040	0,060	0,085
		0,10	0,0014	0,0016	0,0024	0,0034
S2	MP12-12008R04Z3-E04 F40M	2,5	0,036	0,040	0,060	0,085
		0,10	0,0014	0,0016	0,0024	0,0034
S3	MP12-12008R04Z3-E04 F40M	2,5	0,034	0,038	0,055	0,080
		0,10	0,0013	0,0015	0,0022	0,0032
S11	MP12-12008R04Z3-E04 F40M	2,5	0,042	0,046	0,070	0,095
		0,10	0,0017	0,0018	0,0028	0,0038
S12	MP12-12008R04Z3-E04 F40M	2,5	0,042	0,046	0,070	0,095
		0,10	0,0017	0,0018	0,0028	0,0038
S13	MP12-12008R04Z3-E04 F40M	2,5	0,036	0,040	0,060	0,085
		0,10	0,0014	0,0016	0,0024	0,0034
H5	MP12-12008R04Z3-M04 MP3000	3,0	0,036	0,038	0,060	0,080
		0,12	0,0014	0,0015	0,0024	0,0032
H8	MP12-12008R04Z3-M04 MP3000	2,5	0,028	0,030	0,046	0,065
		0,10	0,0011	0,0012	0,0018	0,0026
H11	MP12-12008R04Z3-M04 MP3000	3,0	0,036	0,038	0,060	0,080
		0,12	0,0014	0,0015	0,0024	0,0032
H12	MP12-12008R04Z3-M04 MP3000	2,5	0,028	0,030	0,046	0,065
		0,10	0,0011	0,0012	0,0018	0,0026
H21	MP12-12008R04Z3-M04 MP3000	2,5	0,028	0,030	0,046	0,065
		0,10	0,0011	0,0012	0,0018	0,0026

SMG = Seco malzeme grubu

$f_z$  = mm/ağız (inç/ağız),  $v_c$  = m/dk (sf/dk),  $a_p/DC$  = %

Tüm kesme verileri başlangıç değerleridir

MP12 Kanal ve Kenar frezeleme – Kesme verisi  $v_c = (m/dk)/(sf/dk)$ 

SMG	MP3000				F40M			
	100%	30%	10%	5%	100%	30%	10%	5%
P1	250	325	380	415	235	310	360	390
	820	1075	1250	1350	770	1025	1175	1275
P2	240	315	370	405	225	295	350	380
	790	1025	1225	1325	740	970	1150	1250
P3	210	275	320	345	200	260	305	325
	690	900	1050	1125	660	850	1000	1075
P4	185	240	285	310	175	230	270	295
	610	790	940	1025	570	750	890	970
P5	180	235	275	295	170	220	260	280
	590	770	900	970	560	720	850	920
P6	200	265	310	330	190	250	290	315
	660	870	1025	1075	620	820	950	1025
P7	190	250	290	315	180	235	275	295
	620	820	950	1025	590	770	900	970
P8	175	230	270	290	165	215	255	275
	570	750	890	950	540	710	840	900
P11	185	240	280	305	175	230	265	290
	610	790	920	1000	570	750	870	950
P12	115	150	175	195	110	145	165	180
	375	490	570	640	360	475	540	590
M1	180	235	275	300	180	240	280	305
	590	770	900	980	590	790	920	1000
M2	150	195	230	245	150	200	235	250
	490	640	750	800	490	660	770	820
M3	120	155	180	195	120	155	185	200
	395	510	590	640	395	510	610	660
M4	90	120	140	150	95	120	140	155
	295	395	460	490	310	395	460	510
M5	75	100	115	125	75	100	120	125
	245	330	375	410	245	330	395	410
K1	190	250	295	320	180	235	275	300
	620	820	970	1050	590	770	900	980
K2	170	220	260	280	160	210	245	265
	560	720	850	920	520	690	800	870
K3	145	190	220	240	135	180	210	225
	475	620	720	790	445	590	690	740
K4	140	180	210	225	130	170	200	215
	460	590	690	740	425	560	660	710
K5	85	110	125	135	80	105	120	130
	280	360	410	445	260	345	395	425
K6	120	160	185	200	115	150	175	190
	395	520	610	660	375	490	570	620
K7	105	140	160	175	100	130	155	165
	345	460	520	570	330	425	510	540
N1	1425	1875	2200	2375	1350	1775	2100	2250
	4675	6150	7225	7800	4425	5825	6900	7375
N2	570	760	890	960	540	720	840	910
	1875	2500	2925	3150	1775	2350	2750	2975
N3	385	500	600	640	360	475	560	610
	1275	1650	1975	2100	1175	1550	1825	2000
N11	440	580	680	730	415	540	640	690
	1450	1900	2225	2400	1350	1775	2100	2275
S1	43	55	65	70	43	55	65	70
	140	180	215	230	140	180	215	230
S2	34	45	50	55	35	46	55	55
	110	150	165	180	115	150	180	180
S3	30	39	46	49	31	40	46	50
	100	130	150	160	100	130	150	165
S11	60	80	90	100	60	80	95	100
	195	260	295	330	195	260	310	330
S12	42	55	65	70	42	55	65	70
	140	180	215	230	140	180	215	230
S13	24	31	36	39	24	32	37	40
	80	100	120	130	80	105	120	130
H5	36	47	55	60	36	48	55	60
	120	155	180	195	120	155	180	195
H8	38	49	55	60	38	50	60	60
	125	160	180	195	125	165	195	195
H11	46	60	70	75	46	60	70	75
	150	195	230	245	150	195	230	245
H12	70	95	110	120	70	90	105	110
	230	310	360	395	230	295	345	360
H21	38	49	55	60	38	50	60	60
	125	160	180	195	125	165	195	195

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve diğer malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

MP12 Kopya frezeleme – Uç seçimi

SMG		a <sub>p</sub>	f <sub>z</sub>				
			100%	30%	10%	5%	2%
P1	MP12-12008B90Z3-M04 MP3000	4,0	0,065	0,065	0,10	0,14	0,22
		0,16	0,0026	0,0026	0,0040	0,0055	0,0085
P2	MP12-12008B90Z3-M04 MP3000	4,0	0,065	0,070	0,10	0,14	0,22
		0,16	0,0026	0,0028	0,0040	0,0055	0,0085
P3	MP12-12008B90Z3-M04 MP3000	4,0	0,060	0,065	0,095	0,13	0,22
		0,16	0,0024	0,0026	0,0038	0,0050	0,0085
P4	MP12-12008B90Z3-M04 MP3000	4,0	0,060	0,065	0,095	0,13	0,22
		0,16	0,0024	0,0026	0,0038	0,0050	0,0085
P5	MP12-12008B90Z3-M04 MP3000	4,0	0,060	0,060	0,090	0,13	0,20
		0,16	0,0024	0,0024	0,0036	0,0050	0,0080
P6	MP12-12008B90Z3-M04 MP3000	4,0	0,060	0,060	0,090	0,13	0,20
		0,16	0,0024	0,0024	0,0036	0,0050	0,0080
P7	MP12-12008B90Z3-M04 MP3000	4,0	0,060	0,060	0,090	0,13	0,20
		0,16	0,0024	0,0024	0,0036	0,0050	0,0080
P8	MP12-12008B90Z3-M04 MP3000	4,0	0,060	0,065	0,095	0,13	0,22
		0,16	0,0024	0,0026	0,0038	0,0050	0,0085
P11	MP12-12008B90Z3-M04 MP3000	4,0	0,060	0,060	0,090	0,13	0,20
		0,16	0,0024	0,0024	0,0036	0,0050	0,0080
P12	MP12-12008B90Z3-M04 MP3000	3,0	0,044	0,044	0,060	0,085	0,14
		0,12	0,0017	0,0017	0,0024	0,0034	0,0055
M1	MP12-12008B90Z3-E04 F40M	4,0	0,065	0,070	0,10	0,14	0,22
		0,16	0,0026	0,0028	0,0040	0,0055	0,0085
M2	MP12-12008B90Z3-E04 F40M	4,0	0,060	0,060	0,090	0,13	0,20
		0,16	0,0024	0,0024	0,0036	0,0050	0,0080
M3	MP12-12008B90Z3-E04 F40M	3,0	0,050	0,050	0,075	0,10	0,16
		0,12	0,0020	0,0020	0,0030	0,0040	0,0065
M4	MP12-12008B90Z3-E04 F40M	2,5	0,046	0,046	0,065	0,090	0,14
		0,10	0,0018	0,0018	0,0026	0,0036	0,0055
M5	MP12-12008B90Z3-E04 F40M	2,5	0,046	0,046	0,065	0,090	0,14
		0,10	0,0018	0,0018	0,0026	0,0036	0,0055
K1	MP12-12008B90Z3-M04 MP3000	4,0	0,065	0,070	0,10	0,14	0,22
		0,16	0,0026	0,0028	0,0040	0,0055	0,0085
K2	MP12-12008B90Z3-M04 MP3000	4,0	0,060	0,060	0,090	0,13	0,20
		0,16	0,0024	0,0024	0,0036	0,0050	0,0080
K3	MP12-12008B90Z3-M04 MP3000	4,0	0,060	0,060	0,090	0,13	0,20
		0,16	0,0024	0,0024	0,0036	0,0050	0,0080
K4	MP12-12008B90Z3-M04 MP3000	4,0	0,060	0,060	0,090	0,13	0,20
		0,16	0,0024	0,0024	0,0036	0,0050	0,0080
K5	MP12-12008B90Z3-M04 MP3000	4,0	0,055	0,055	0,085	0,11	0,18
		0,16	0,0022	0,0022	0,0034	0,0044	0,0070
K6	MP12-12008B90Z3-M04 MP3000	4,0	0,060	0,060	0,090	0,13	0,20
		0,16	0,0024	0,0024	0,0036	0,0050	0,0080
K7	MP12-12008B90Z3-M04 MP3000	4,0	0,055	0,055	0,085	0,11	0,18
		0,16	0,0022	0,0022	0,0034	0,0044	0,0070
N1	MP12-12008B90Z3-E04 F40M	4,0	0,085	0,085	0,13	0,18	0,30
		0,16	0,0034	0,0034	0,0050	0,0070	0,012
N2	MP12-12008B90Z3-E04 F40M	4,0	0,085	0,085	0,13	0,18	0,30
		0,16	0,0034	0,0034	0,0050	0,0070	0,012
N3	MP12-12008B90Z3-E04 F40M	4,0	0,085	0,085	0,13	0,18	0,30
		0,16	0,0034	0,0034	0,0050	0,0070	0,012
N11	MP12-12008B90Z3-E04 F40M	4,0	0,085	0,085	0,13	0,18	0,30
		0,16	0,0034	0,0034	0,0050	0,0070	0,012
S1	MP12-12008B90Z3-E04 F40M	2,5	0,046	0,046	0,065	0,090	0,14
		0,10	0,0018	0,0018	0,0026	0,0036	0,0055
S2	MP12-12008B90Z3-E04 F40M	2,5	0,046	0,046	0,065	0,090	0,14
		0,10	0,0018	0,0018	0,0026	0,0036	0,0055
S3	MP12-12008B90Z3-E04 F40M	2,5	0,042	0,044	0,060	0,080	0,13
		0,10	0,0017	0,0017	0,0024	0,0032	0,0050
S11	MP12-12008B90Z3-E04 F40M	2,5	0,055	0,050	0,075	0,10	0,16
		0,10	0,0022	0,0020	0,0030	0,0040	0,0065
S12	MP12-12008B90Z3-E04 F40M	2,5	0,055	0,050	0,075	0,10	0,16
		0,10	0,0022	0,0020	0,0030	0,0040	0,0065
S13	MP12-12008B90Z3-E04 F40M	2,5	0,046	0,046	0,065	0,090	0,14
		0,10	0,0018	0,0018	0,0026	0,0036	0,0055
H5	MP12-12008B90Z3-M04 MP3000	3,0	0,044	0,044	0,060	0,085	0,14
		0,12	0,0017	0,0017	0,0024	0,0034	0,0055
H8	MP12-12008B90Z3-M04 MP3000	2,5	0,034	0,034	0,048	0,065	0,10
		0,10	0,0013	0,0013	0,0019	0,0026	0,0040
H11	MP12-12008B90Z3-M04 MP3000	3,0	0,044	0,044	0,060	0,085	0,14
		0,12	0,0017	0,0017	0,0024	0,0034	0,0055
H12	MP12-12008B90Z3-M04 MP3000	2,5	0,034	0,034	0,048	0,065	0,10
		0,10	0,0013	0,0013	0,0019	0,0026	0,0040
H21	MP12-12008B90Z3-M04 MP3000	2,5	0,034	0,034	0,048	0,065	0,10
		0,10	0,0013	0,0013	0,0019	0,0026	0,0040

SMG = Seco malzeme grubu

f<sub>z</sub> = mm/ağız (inç/ağız), v<sub>c</sub> = m/dk (sf/dk), a<sub>p</sub>/DC = %

Tüm kesme verileri başlangıç değerleridir

MP12 Kopya frezeleme – Kesme verisi  $v_c = (m/dk)/(sf/dk)$

SMG	MP3000					F40M				
	100%	30%	10%	5%	2%	100%	30%	10%	5%	2%
P1	265	320	345	375	370	250	300	325	355	350
	870	1050	1125	1225	1225	820	980	1075	1175	1150
P2	255	310	330	360	360	240	295	315	340	340
	840	1025	1075	1175	1175	790	970	1025	1125	1125
P3	220	265	290	315	315	210	255	270	295	295
	720	870	950	1025	1025	690	840	890	970	970
P4	195	240	255	275	275	185	225	240	260	260
	640	790	840	900	900	610	740	790	850	850
P5	190	230	245	265	265	175	215	230	250	250
	620	750	800	870	870	570	710	750	820	820
P6	210	255	275	300	295	200	240	260	285	280
	690	840	900	980	970	660	790	850	940	920
P7	200	240	260	285	280	190	230	245	265	265
	660	790	850	940	920	620	750	800	870	870
P8	185	225	240	265	265	175	210	230	250	250
	610	740	790	870	870	570	690	750	820	820
P11	195	235	250	275	270	185	220	240	260	255
	640	770	820	900	890	610	720	790	850	840
P12	120	150	160	170	170	115	140	150	160	160
	395	490	520	560	560	375	460	490	520	520
M1	190	230	250	270	270	190	235	255	275	275
	620	750	820	890	890	620	770	840	900	900
M2	155	190	205	225	220	160	195	210	225	225
	510	620	670	740	720	520	640	690	740	740
M3	125	155	160	175	175	130	155	165	180	175
	410	510	520	570	570	425	510	540	590	570
M4	100	120	125	135	135	100	120	125	135	135
	330	395	410	445	445	330	395	410	445	445
M5	85	100	105	110	110	85	100	105	115	115
	280	330	345	360	360	280	330	345	375	375
K1	200	245	265	285	285	190	235	250	270	270
	660	800	870	940	940	620	770	820	890	890
K2	180	215	230	255	250	170	205	220	240	235
	590	710	750	840	820	560	670	720	790	770
K3	150	185	195	215	210	140	175	185	200	200
	490	610	640	710	690	460	570	610	660	660
K4	145	175	185	205	205	135	165	175	195	190
	475	570	610	670	670	445	540	570	640	620
K5	85	105	115	125	125	80	100	105	115	115
	280	345	375	410	410	260	330	345	375	375
K6	125	155	165	180	180	120	145	155	170	170
	410	510	540	590	590	395	475	510	560	560
K7	110	135	145	160	155	105	130	135	150	150
	360	445	475	520	510	345	425	445	490	490
N1	1525	1850	1975	2150	2150	1450	1750	1875	2025	2025
	5000	6075	6475	7050	7050	4750	5750	6150	6650	6650
N2	620	750	800	870	870	580	710	760	820	820
	2025	2450	2625	2850	2850	1900	2325	2500	2700	2700
N3	410	500	530	580	580	390	470	500	550	550
	1350	1650	1750	1900	1900	1275	1550	1650	1800	1800
N11	470	570	610	660	660	445	540	580	620	630
	1550	1875	2000	2175	2175	1450	1775	1900	2025	2075
S1	46	55	60	65	60	47	55	60	65	65
	150	180	195	215	195	155	180	195	215	215
S2	37	45	47	50	50	38	45	47	50	50
	120	150	155	165	165	125	150	155	165	165
S3	32	39	40	44	44	33	40	41	45	44
	105	130	130	145	145	110	130	135	150	145
S11	65	80	80	90	90	65	80	85	90	90
	215	260	260	295	295	215	260	280	295	295
S12	44	55	55	60	60	45	55	60	60	60
	145	180	180	195	195	150	180	195	195	195
S13	26	31	33	35	35	27	32	33	36	36
	85	100	110	115	115	90	105	110	120	120
H5	38	47	49	55	55	38	47	49	55	55
	125	155	160	180	180	125	155	160	180	180
H8	40	48	50	55	55	40	49	50	55	55
	130	155	165	180	180	130	160	165	180	180
H11	48	60	60	65	70	49	60	65	70	70
	155	195	195	215	230	160	195	215	230	230
H12	75	95	95	105	105	70	85	90	100	100
	245	310	310	345	345	230	280	295	330	330
H21	40	48	50	55	55	40	49	50	55	55
	130	155	165	180	180	130	160	165	180	180

Üniversal  
Çelik ve dökme demir  
Paslanmaz çelik ve S iş parçası matzemeleri  
Demir içermeyen matzemeler  
Sertleştirilmiş çelik için  
Plastik ve cırp matzemeler için  
Grafit matzeme için  
Minimaster Plus  
Minimaster

MP12 Punta matkabı – Uç seçimi

SMG		$f_z$	$a_{so}$
			100%
P1	MP12-12007C90Z2-M04 F40M	0,055 0.0022	3,5 0.14
P2	MP12-12007C90Z2-M04 F40M	0,055 0.0022	3,5 0.14
P3	MP12-12007C90Z2-M04 F40M	0,055 0.0022	3,5 0.14
P4	MP12-12007C90Z2-M04 F40M	0,055 0.0022	3,5 0.14
P5	MP12-12007C90Z2-M04 F40M	0,050 0.0020	3,5 0.14
P6	MP12-12007C90Z2-M04 F40M	0,050 0.0020	3,5 0.14
P7	MP12-12007C90Z2-M04 F40M	0,050 0.0020	3,5 0.14
P8	MP12-12007C90Z2-M04 F40M	0,055 0.0022	3,5 0.14
P11	MP12-12007C90Z2-M04 F40M	0,050 0.0020	3,5 0.14
P12	MP12-12007C90Z2-M04 F40M	0,036 0.0014	2,5 0.10
M1	MP12-12007C90Z2-M04 F40M	0,055 0.0022	3,5 0.14
M2	MP12-12007C90Z2-M04 F40M	0,050 0.0020	3,5 0.14
M3	MP12-12007C90Z2-M04 F40M	0,042 0.0017	2,5 0.10
M4	MP12-12007C90Z2-M04 F40M	0,036 0.0014	2,0 0.080
M5	MP12-12007C90Z2-M04 F40M	0,036 0.0014	2,0 0.080
K1	MP12-12007C90Z2-M04 F40M	0,055 0.0022	3,5 0.14
K2	MP12-12007C90Z2-M04 F40M	0,050 0.0020	3,5 0.14
K3	MP12-12007C90Z2-M04 F40M	0,050 0.0020	3,5 0.14
K4	MP12-12007C90Z2-M04 F40M	0,050 0.0020	3,5 0.14
K5	MP12-12007C90Z2-M04 F40M	0,046 0.0018	3,5 0.14
K6	MP12-12007C90Z2-M04 F40M	0,050 0.0020	3,5 0.14
K7	MP12-12007C90Z2-M04 F40M	0,046 0.0018	3,5 0.14
N1	MP12-12007C90Z2-M04 F40M	0,075 0.0030	3,5 0.14
N2	MP12-12007C90Z2-M04 F40M	0,075 0.0030	3,5 0.14
N3	MP12-12007C90Z2-M04 F40M	0,075 0.0030	3,5 0.14
N11	MP12-12007C90Z2-M04 F40M	0,075 0.0030	3,5 0.14
S1	MP12-12007C90Z2-M04 F40M	0,036 0.0014	2,0 0.080
S2	MP12-12007C90Z2-M04 F40M	0,036 0.0014	2,0 0.080
S3	MP12-12007C90Z2-M04 F40M	0,034 0.0013	2,0 0.080
S11	MP12-12007C90Z2-M04 F40M	0,042 0.0017	2,5 0.10
S12	MP12-12007C90Z2-M04 F40M	0,042 0.0017	2,5 0.10
S13	MP12-12007C90Z2-M04 F40M	0,036 0.0014	2,0 0.080
H5	MP12-12007C90Z2-M04 F40M	0,036 0.0014	2,5 0.10
H8	MP12-12007C90Z2-M04 F40M	0,028 0.0011	2,5 0.10
H11	MP12-12007C90Z2-M04 F40M	0,036 0.0014	2,5 0.10
H12	MP12-12007C90Z2-M04 F40M	0,028 0.0011	2,5 0.10
H21	MP12-12007C90Z2-M04 F40M	0,028 0.0011	2,5 0.10

SMG = Seco malzeme grubu

$f_z$  = mm/ağız (inç/ağız),  $v_c$  = m/dk (sf/dk),  $a_e/DC$  = %

Tüm kesme verileri başlangıç değerleridir

MP12 Punta matkabı – Kesme verisi  $v_c = (m/dk)/(sf/dk)$ 

SMG	F40M		
		100%	
		275	Üniversal
		900	
P1		265	Çelik ve dökme demir
P2		870	
P3		235	
P4		770	
P5		205	
P6		670	
P7		195	Paslanmaz çelik ve S iş parçası matzemeleri
P8		640	
P11		200	
P12		660	
M1		125	Demir içermeyen matzemeler
M2		410	
M3		215	Demir içermeyen matzemeler
M4		175	
M5		710	
K1		570	
K2		140	
K3		460	Sertleştirilmiş çelik için
K4		105	
K5		345	Sertleştirilmiş çelik için
K6		85	
K7		280	
N1		210	
N2		690	
N3		185	
N11		610	
S1		155	Plastik ve diğer matzemeler için
S2		510	
S3		150	Plastik ve diğer matzemeler için
S11		90	
S12		490	
S13		90	
H5		295	
H8		130	
H11		425	
H12		120	Grafit matzeme için
H21		395	
S1		1575	Minimaster Plus
S2		5175	
S3		640	
S11		2100	Minimaster Plus
S12		39	
S13		130	
H5		34	
H8		110	
H11		70	
H12		230	
H21		48	Minimaster
		155	
		27	
		90	
		42	Minimaster
		140	
		43	
		140	
		55	
		180	Minimaster
		80	
		260	
		43	
		140	

MP12 Pah kırma – Uç seçimi

	SMG		$f_z$					
			$a_p$	100%	50%	30%	20%	10%
Üniversal	P1	MP12-12007C90Z2-M04 F40M	2,5	0,080	0,080	0,080	0,080	0,10
			0,10	0,0032	0,0032	0,0032	0,0032	0,0040
Çelik ve dökme demir	P2	MP12-12007C90Z2-M04 F40M	2,5	0,080	0,080	0,080	0,080	0,10
			0,10	0,0032	0,0032	0,0032	0,0032	0,0040
Paslanmaz çelik ve S iş parçası malzemeleri	P3	MP12-12007C90Z2-M04 F40M	2,5	0,075	0,075	0,075	0,075	0,095
			0,10	0,0030	0,0030	0,0030	0,0030	0,0038
Demir içermeyen malzemeler	P4	MP12-12007C90Z2-M04 F40M	2,5	0,075	0,075	0,075	0,075	0,095
			0,10	0,0030	0,0030	0,0030	0,0030	0,0038
Sertleştirilmiş çelik için	P5	MP12-12007C90Z2-M04 F40M	2,5	0,075	0,075	0,075	0,075	0,090
			0,10	0,0030	0,0030	0,0030	0,0030	0,0036
Plastik ve diğer malzemeler için	P6	MP12-12007C90Z2-M04 F40M	2,5	0,075	0,075	0,075	0,075	0,090
			0,10	0,0030	0,0030	0,0030	0,0030	0,0036
Grafit malzeme için	P7	MP12-12007C90Z2-M04 F40M	2,5	0,075	0,075	0,075	0,075	0,090
			0,10	0,0030	0,0030	0,0030	0,0030	0,0036
Minimaster Plus	P8	MP12-12007C90Z2-M04 F40M	2,5	0,075	0,075	0,075	0,075	0,095
			0,10	0,0030	0,0030	0,0030	0,0030	0,0038
Minimaster	P11	MP12-12007C90Z2-M04 F40M	2,5	0,075	0,075	0,075	0,075	0,090
			0,10	0,0030	0,0030	0,0030	0,0030	0,0036
Minimaster	P12	MP12-12007C90Z2-M04 F40M	2,0	0,050	0,050	0,050	0,050	0,060
			0,080	0,0020	0,0020	0,0020	0,0020	0,0024
Minimaster	M1	MP12-12007C90Z2-M04 F40M	2,5	0,080	0,080	0,080	0,080	0,10
			0,10	0,0032	0,0032	0,0032	0,0032	0,0040
Minimaster	M2	MP12-12007C90Z2-M04 F40M	2,5	0,075	0,075	0,075	0,075	0,090
			0,10	0,0030	0,0030	0,0030	0,0030	0,0036
Minimaster	M3	MP12-12007C90Z2-M04 F40M	2,0	0,060	0,060	0,060	0,060	0,075
			0,080	0,0024	0,0024	0,0024	0,0024	0,0030
Minimaster	M4	MP12-12007C90Z2-M04 F40M	1,6	0,050	0,050	0,050	0,050	0,065
			0,065	0,0020	0,0020	0,0020	0,0020	0,0026
Minimaster	M5	MP12-12007C90Z2-M04 F40M	1,6	0,050	0,050	0,050	0,050	0,065
			0,065	0,0020	0,0020	0,0020	0,0020	0,0026
Minimaster	K1	MP12-12007C90Z2-M04 F40M	2,5	0,080	0,080	0,080	0,080	0,10
			0,10	0,0032	0,0032	0,0032	0,0032	0,0040
Minimaster	K2	MP12-12007C90Z2-M04 F40M	2,5	0,075	0,075	0,075	0,075	0,090
			0,10	0,0030	0,0030	0,0030	0,0030	0,0036
Minimaster	K3	MP12-12007C90Z2-M04 F40M	2,5	0,075	0,075	0,075	0,075	0,090
			0,10	0,0030	0,0030	0,0030	0,0030	0,0036
Minimaster	K4	MP12-12007C90Z2-M04 F40M	2,5	0,075	0,075	0,075	0,075	0,090
			0,10	0,0030	0,0030	0,0030	0,0030	0,0036
Minimaster	K5	MP12-12007C90Z2-M04 F40M	2,5	0,065	0,065	0,065	0,065	0,085
			0,10	0,0026	0,0026	0,0026	0,0026	0,0034
Minimaster	K6	MP12-12007C90Z2-M04 F40M	2,5	0,075	0,075	0,075	0,075	0,090
			0,10	0,0030	0,0030	0,0030	0,0030	0,0036
Minimaster	K7	MP12-12007C90Z2-M04 F40M	2,5	0,065	0,065	0,065	0,065	0,085
			0,10	0,0026	0,0026	0,0026	0,0026	0,0034
Minimaster	N1	MP12-12007C90Z2-M04 F40M	2,5	0,10	0,10	0,10	0,10	0,13
			0,10	0,0040	0,0040	0,0040	0,0040	0,0050
Minimaster	N2	MP12-12007C90Z2-M04 F40M	2,5	0,10	0,10	0,10	0,10	0,13
			0,10	0,0040	0,0040	0,0040	0,0040	0,0050
Minimaster	N3	MP12-12007C90Z2-M04 F40M	2,5	0,10	0,10	0,10	0,10	0,13
			0,10	0,0040	0,0040	0,0040	0,0040	0,0050
Minimaster	N11	MP12-12007C90Z2-M04 F40M	2,5	0,10	0,10	0,10	0,10	0,13
			0,10	0,0040	0,0040	0,0040	0,0040	0,0050
Minimaster	S1	MP12-12007C90Z2-M04 F40M	1,6	0,050	0,050	0,050	0,050	0,065
			0,065	0,0020	0,0020	0,0020	0,0020	0,0026
Minimaster	S2	MP12-12007C90Z2-M04 F40M	1,6	0,050	0,050	0,050	0,050	0,065
			0,065	0,0020	0,0020	0,0020	0,0020	0,0026
Minimaster	S3	MP12-12007C90Z2-M04 F40M	1,6	0,048	0,048	0,048	0,048	0,060
			0,065	0,0019	0,0019	0,0019	0,0019	0,0024
Minimaster	S11	MP12-12007C90Z2-M04 F40M	1,9	0,060	0,060	0,060	0,060	0,075
			0,075	0,0024	0,0024	0,0024	0,0024	0,0030
Minimaster	S12	MP12-12007C90Z2-M04 F40M	1,9	0,060	0,060	0,060	0,060	0,075
			0,075	0,0024	0,0024	0,0024	0,0024	0,0030
Minimaster	S13	MP12-12007C90Z2-M04 F40M	1,6	0,050	0,050	0,050	0,050	0,065
			0,065	0,0020	0,0020	0,0020	0,0020	0,0026
Minimaster	H5	MP12-12007C90Z2-M04 F40M	2,0	0,050	0,050	0,050	0,050	0,060
			0,080	0,0020	0,0020	0,0020	0,0020	0,0024
Minimaster	H8	MP12-12007C90Z2-M04 F40M	1,9	0,038	0,038	0,038	0,038	0,048
			0,075	0,0015	0,0015	0,0015	0,0015	0,0019
Minimaster	H11	MP12-12007C90Z2-M04 F40M	2,0	0,050	0,050	0,050	0,050	0,060
			0,080	0,0020	0,0020	0,0020	0,0020	0,0024
Minimaster	H12	MP12-12007C90Z2-M04 F40M	1,9	0,038	0,038	0,038	0,038	0,048
			0,075	0,0015	0,0015	0,0015	0,0015	0,0019
Minimaster	H21	MP12-12007C90Z2-M04 F40M	1,9	0,038	0,038	0,038	0,038	0,048
			0,075	0,0015	0,0015	0,0015	0,0015	0,0019

SMG = Seco malzeme grubu  
 $f_z = \text{mm/ağız}$  (inç/ağız),  $v_c = \text{m/dk}$  (sf/dk),  $a_p/\text{DC} = \%$   
 Tüm kesme verileri başlangıç değerleridir

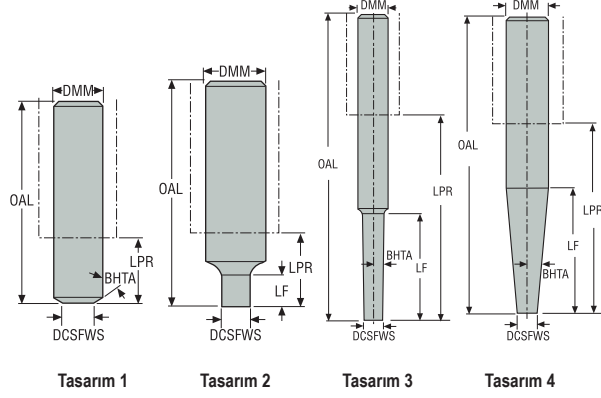


MP12 Pah kırma – Kesme verisi  $v_c = (m/dk)/(sf/dk)$

SMG	F40M				
	100%	50%	30%	20%	10%
P1	300	275	330	365	430
	980	900	1075	1200	1400
P2	290	270	320	355	415
	950	890	1050	1175	1350
P3	255	235	280	310	360
	840	770	920	1025	1175
P4	225	210	250	275	320
	740	690	820	900	1050
P5	215	200	235	260	310
	710	660	770	850	1025
P6	240	225	265	295	345
	790	740	870	970	1125
P7	225	210	250	275	325
	740	690	820	900	1075
P8	215	200	235	260	305
	710	660	770	850	1000
P11	220	205	245	270	320
	720	670	800	890	1050
P12	140	125	150	165	205
	460	410	490	540	670
M1	235	220	260	285	335
	770	720	850	940	1100
M2	190	180	215	235	280
	620	590	710	770	920
M3	150	135	165	180	220
	490	445	540	590	720
M4	115	100	115	130	170
	375	330	375	425	560
M5	95	85	95	110	140
	310	280	310	360	460
K1	230	215	255	280	330
	750	710	840	920	1075
K2	200	190	225	250	295
	660	620	740	820	970
K3	170	160	190	210	250
	560	520	620	690	820
K4	165	150	180	200	235
	540	490	590	660	770
K5	100	95	110	125	145
	330	310	360	410	475
K6	145	135	160	175	210
	475	445	520	570	690
K7	130	120	145	160	185
	425	395	475	520	610
N1	1725	1600	1900	2100	2450
	5650	5250	6225	6900	8050
N2	690	640	770	850	990
	2275	2100	2525	2800	3250
N3	460	430	510	570	660
	1500	1400	1675	1875	2175
N11	530	490	590	650	750
	1750	1600	1925	2125	2450
S1	55	47	55	60	80
	180	155	180	195	260
S2	44	38	44	50	65
	145	125	145	165	215
S3	38	33	38	43	55
	125	110	125	140	180
S11	75	70	80	85	110
	245	230	260	280	360
S12	55	47	55	60	75
	180	155	180	195	245
S13	30	27	30	35	45
	100	90	100	115	150
H5	46	42	50	55	70
	150	140	165	180	230
H8	49	44	50	55	70
	160	145	165	180	230
H11	60	55	65	70	85
	195	180	215	230	280
H12	85	80	90	100	125
	280	260	295	330	410
H21	49	44	50	55	70
	160	145	165	180	230

Üniversal  
Çelik ve dökme demir  
Paslanmaz çelik ve S iş parçası malzemeleri  
Demir içermeyen malzemeler  
Sertleştirilmiş çelik için  
Plastik ve cırp malzemeler için  
Grafit malzeme için  
Minimaster Plus  
Minimaster

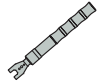
## MP16 Sap – Metrik



- Silindirik sap, DMM toleransı h5, Shrinkfit ile uyumlu

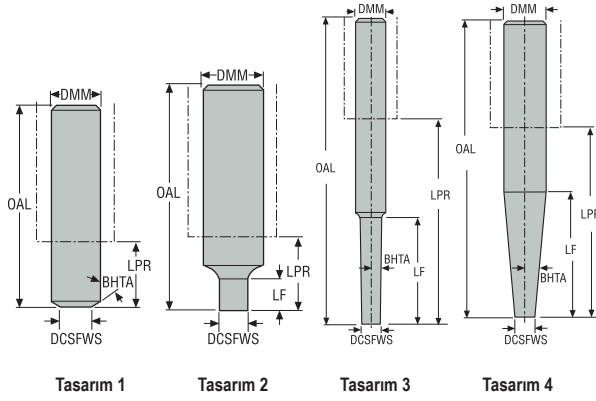
Ürün Tanımı	Montaj tipi	DCSFWS	DMM	OAL	LPR	LF	RPMX	BHTA°	Tasarım	Ağırlık	
		mm	mm	mm	mm	mm				kg	
MP16-16068-016.00	Silindirik	15,2	16,0	68,0	20,0	16,0	63600	0,0	2	✓	0,1
MP16-20070-000.60	Silindirik	15,2	20,0	70,0	20,0	0,0	63600	60,0	1	✓	0,2
MP16-20090-024.00	Silindirik	15,2	20,0	90,0	40,0	24,0	63600	0,0	2	✓	0,2
MP16-20190-056.01	Silindirik	15,2	20,0	190,0	140,0	56,0	63600	1,0	3	✓	0,4
MP16-20195-095.01	Silindirik	15,2	20,0	195,0	145,0	95,0	63600	1,0	3	✓	0,4
MP16-25136-075.03	Silindirik	15,2	25,0	136,0	80,0	75,0	63600	3,0	3	✓	0,4
MP16-25181-125.03	Silindirik	15,2	25,0	181,0	125,0	93,5	63600	3,0	4	✓	0,6
MP16-25181-125.05	Silindirik	15,2	25,0	181,0	125,0	56,0	63600	5,0	4	✓	0,6
MP16-16126-048.00-E	Silindirik	15,2	16,0	126,0	78,0	48,0	63600	0,0	2	✓	0,4
MP16-16140-064.00-E	Silindirik	15,2	16,0	140,0	92,0	64,0	63600	0,0	2	✓	0,4
MP16-16180-096.00-E	Silindirik	15,2	16,0	180,0	132,0	96,0	63600	0,0	2	✓	0,5
MP16-20135-080.01-E	Silindirik	15,2	20,0	135,0	85,0	80,0	63600	1,0	3	✓	0,5
MP16-20180-128.01-E	Silindirik	15,2	20,0	180,0	130,0	128,0	63600	1,0	3	✓	0,7
MP16-20200-150.01-E	Silindirik	15,2	20,0	200,0	150,0	137,5	63600	1,0	4	✓	0,8
MP16-20180-130.03-E	Silindirik	15,2	20,0	180,0	130,0	45,8	63600	3,0	4	✓	0,8
MP16-20210-160.03-E	Silindirik	15,2	20,0	210,0	160,0	45,8	63600	3,0	4	✓	0,9

### Aksesuarlar

Anahtar	Değiştirilebilir Çubuk	Tork anahtarı
		
MP1016	MP00-16M	MP00-16.190

Anahtar uçları tork anahtara dahildir

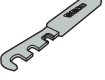
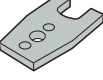

## MP16 Sap – İnç



• Silindirik sap, DMM toleransı h5, Shrinkfit ile uyumlu

Ürün Tanımı	Montaj tipi	DCSFMS	DMM	OAL	LPR	LF	RPMX	BHTA°	Tasarım	Ağırlık
		İnç	İnç	İnç	İnç	İnç				lb
MP16-0622.6-0.63.00	Silindirik	0.598	0.625	2.662	0.787	0.630	63600	0,0	2	0.220
MP16-0752.7-0.00.60	Silindirik	0.598	0.750	2.787	0.787	0	63600	60,0	1	1.540
MP16-0753.5-0.94.00	Silindirik	0.598	0.750	3.575	1.575	0.945	63600	0,0	2	0.440
MP16-0757.5-2.20.01	Silindirik	0.598	0.750	7.512	5.512	2.205	63600	1,0	3	0.880
MP16-0757.7-3.74.01	Silindirik	0.598	0.750	7.709	5.709	3.740	63600	1,0	3	0.880
MP16-1007.1-4.92.05	Silindirik	0.598	1.000	7.171	4.921	2.295	63600	5,0	4	0.440
MP16-0627.0-3.77.00-E	Silindirik	0.598	0.625	7.072	5.197	3.780	63600	0,0	2	1.100
MP16-0757.9-5.90.01-E	Silindirik	0.598	0.750	7.906	5.906	4.342	63600	1,0	4	1.540
MP16-0758.2-6.29.03-E	Silindirik	0.598	0.750	8.299	6.299	1.446	63600	3,0	4	1.760

## Aksesuarlar

Anahtar	Değiştirilebilir Çubuk	Tork anahtarı
		
MP1016	MP00-16M	MP00-16.190

Anahtar uçları tork anahtara dahildir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası matzemeleri

Demir içermeyen matzemeler

Sertleştirilmiş çelik için

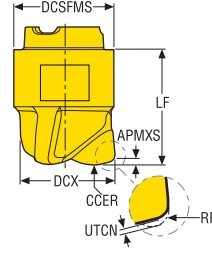
Plastik ve cırp matzemeler için

Grafit matzeme için

Minimaster Plus

Minimaster

## MP16 Yüksek ilerlemeli

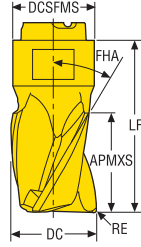


- Uç seçimi ve kesme verisi tavsiyeleri için bakınız sayfa 521-522

Z3



Ürün Tanımı	DCX	DC	APMXS	DCSFMS	CCER	RP	LF	UTCN	RMPX°	C min	C max	ZEFP	Kaliteler	Kaplama	
														MP3000	F40M
MP16-1600.9HFZ3-MD12	16,0 0.630	8,0 0.315	0,9 0.035	15,4 0.606	7,8 0.307	1,79 0.070	18,5 0.728	0,46 0.018	5,0	17,3	23,8	3	✓	■	
MP16-1580.9HFZ3-MD12	15,875 0.625	7,88 0.310	0,9 0.035	15,4 0.606	7,8 0.307	1,79 0.070	18,5 0.728	0,46 0.018	5,0	17,2	23,5	3	✓	■	

MP16 Dik kenar  
Kanal açma ve çevresel frezeleme

- Uç seçimi ve kesme verisi tavsiyeleri için bakınız sayfa 523-524

Z3



Ürün Tanımı	DC	APMXS	RE	DCSFMS	FHA	LF	RMPX°	C min	C max	ZEFP	Kaliteler		
											Kaplamalı		
	mm Inç	mm Inç	mm Inç	mm Inç	mm Inç	mm Inç					MP3000	F40M	
MP16-16010R04Z3-M05	16,0 0.630	10,0 0.394	0,4 0.016	15,4 0.606	30 1.181	24,6 0.969	15,0	19,4	31,0	3	✓	■	
MP16-16010R05Z3-E05	16,0 0.630	10,0 0.394	0,5 0.020	15,4 0.606	30 1.181	24,6 0.969	15,0	19,4	30,8	3	✓		■
MP16-16010R08Z3-E05	16,0 0.630	10,0 0.394	0,8 0.031	15,4 0.606	30 1.181	24,6 0.969	15,0	19,4	30,0	3	✓		■
MP16-16010R08Z3-M05	16,0 0.630	10,0 0.394	0,8 0.031	15,4 0.606	30 1.181	24,6 0.969	15,0	19,4	30,0	3	✓	■	
MP16-16010R12Z3-E05	16,0 0.630	10,0 0.394	1,2 0.047	15,4 0.606	30 1.181	24,6 0.969	15,0	19,4	29,4	3	✓		■
MP16-16010R20Z3-E05	16,0 0.630	10,0 0.394	2,0 0.079	15,4 0.606	30 1.181	24,6 0.969	15,0	19,4	27,8	3	✓		■
MP16-16010R31Z3-E05	16,0 0.630	10,0 0.394	3,1 0.122	15,4 0.606	30 1.181	24,6 0.969	15,0	19,4	25,6	3	✓		■
MP16-15719KWZ3-E05	15,7 0.618	19,0 0.748	0,3 0.012	15,4 0.606	30 1.181	32,6 1.283	15,0	19,0	29,6	3	✓		■
MP16-16019R04Z3-M05	16,0 0.630	19,0 0.748	0,4 0.016	15,4 0.606	30 1.181	32,6 1.283	15,0	19,4	31,0	3	✓	■	
MP16-16019R05Z3-E05	16,0 0.630	19,0 0.748	0,5 0.020	15,4 0.606	30 1.181	32,6 1.283	15,0	19,4	30,8	3	✓		■
MP16-16019R08Z3-E05	16,0 0.630	19,0 0.748	0,8 0.031	15,4 0.606	30 1.181	32,6 1.283	15,0	19,4	30,2	3	✓		■
MP16-16019R08Z3-M05	16,0 0.630	19,0 0.748	0,8 0.031	15,4 0.606	30 1.181	32,6 1.283	15,0	19,4	30,2	3	✓	■	
MP16-16019R20Z3-E05	16,0 0.630	19,0 0.748	2,0 0.079	15,4 0.606	30 1.181	32,6 1.283	15,0	19,4	27,8	3	✓		■
MP16-16019R31Z3-E05	16,0 0.630	19,0 0.748	3,1 0.122	15,4 0.606	30 1.181	32,6 1.283	15,0	19,4	25,6	3	✓		■
MP16-15919R04Z3-E05	15,875 0.625	19,0 0.748	0,4 0.016	15,4 0.606	30 1.181	32,6 1.283	15,0	19,3	30,7	3	✓		■
MP16-15919R04Z3-M05	15,875 0.625	19,0 0.748	0,4 0.016	15,4 0.606	30 1.181	32,6 1.283	15,0	19,3	30,7	3	✓	■	
MP16-15919R08Z3-E05	15,875 0.625	19,0 0.748	0,8 0.031	15,4 0.606	30 1.181	32,6 1.283	15,0	19,3	29,9	3	✓		■
MP16-15919R08Z3-M05	15,875 0.625	19,0 0.748	0,8 0.031	15,4 0.606	30 1.181	32,6 1.283	15,0	19,3	29,9	3	✓	■	
MP16-15919R31Z3-E05	15,875 0.625	19,0 0.748	3,1 0.122	15,4 0.606	30 1.181	32,6 1.283	15,0	19,3	25,3	3	✓		■

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

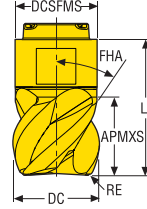
Grafit malzeme için

Minimaster Plus

Minimaster

## MP16 Dik kenar

Kanal açma ve çevresel frezeleme

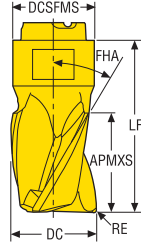


- Uç seçimi ve kesme verisi tavsiyeleri için bakınız sayfa 523-524

Z4



Ürün Tanımı	DC	APMXS	RE	DCSFMS	FHA	LF	RMPX°	C min	C max	ZEFP	Kaliteler	
											Kaplama	Kaplama
	mm Inç	mm Inç	mm Inç	mm Inç	mm Inç	mm Inç					MP3000	F40M
MP16-16010R04Z4-M04	16,0 0.630	10,0 0.394	0,4 0.016	15,4 0.606	50 1.969	24,6 0.969	15,0	19,4	31,0	4	■	
MP16-16010R05Z4-E04	16,0 0.630	10,0 0.394	0,5 0.020	15,4 0.606	50 1.969	24,6 0.969	15,0	19,4	30,8	4		■
MP16-16010R08Z4-E04	16,0 0.630	10,0 0.394	0,8 0.031	15,4 0.606	50 1.969	24,6 0.969	15,0	19,4	30,2	4		■
MP16-16010R08Z4-M04	16,0 0.630	10,0 0.394	0,8 0.031	15,4 0.606	50 1.969	24,6 0.969	15,0	19,4	30,2	4	■	
MP16-16010R16Z4-M04	16,0 0.630	10,0 0.394	1,6 0.063	15,4 0.606	50 1.969	24,6 0.969	15,0	19,4	28,6	4	■	
MP16-16010R31Z4-E04	16,0 0.630	10,0 0.394	3,1 0.122	15,4 0.606	50 1.969	24,6 0.969	15,0	19,4	25,6	4		■
MP16-16019R04Z4-E04	16,0 0.630	19,0 0.748	0,4 0.016	15,4 0.606	50 1.969	32,6 1.283	15,0	19,4	31,0	4		■
MP16-16019R04Z4-M04	16,0 0.630	19,0 0.748	0,4 0.016	15,4 0.606	50 1.969	32,6 1.283	15,0	19,4	31,0	4	■	
MP16-16019R05Z4-E04	16,0 0.630	19,0 0.748	0,5 0.020	15,4 0.606	50 1.969	32,6 1.283	15,0	19,4	30,8	4		■
MP16-16019R08Z4-E04	16,0 0.630	19,0 0.748	0,8 0.031	15,4 0.606	50 1.969	32,6 1.283	15,0	19,4	30,2	4		■
MP16-16019R08Z4-M04	16,0 0.630	19,0 0.748	0,8 0.031	15,4 0.606	50 1.969	32,6 1.283	15,0	19,4	30,2	4	■	
MP16-16019R16Z4-E04	16,0 0.630	19,0 0.748	1,6 0.063	15,4 0.606	50 1.969	32,6 1.283	15,0	19,4	28,6	4		■
MP16-16019R20Z4-E04	16,0 0.630	19,0 0.748	2,0 0.079	15,4 0.606	50 1.969	32,6 1.283	15,0	19,4	27,8	4		■
MP16-15919R04Z4-E04	15,875 0.625	19,0 0.748	0,4 0.016	15,4 0.606	50 1.969	32,6 1.283	15,0	19,3	30,7	4		■
MP16-15919R04Z4-M04	15,875 0.625	19,0 0.748	0,4 0.016	15,4 0.606	50 1.969	32,6 1.283	15,0	19,3	30,7	4	■	
MP16-15919R08Z4-E04	15,875 0.625	19,0 0.748	0,8 0.031	15,4 0.606	50 1.969	32,6 1.283	15,0	19,3	29,9	4		■
MP16-15919R08Z4-M04	15,875 0.625	19,0 0.748	0,8 0.031	15,4 0.606	50 1.969	32,6 1.283	15,0	19,3	29,9	4	■	

MP16 Dik kenar  
Sadece çevresel frezeleme

- Uç seçimi ve kesme verisi tavsiyeleri için bakınız sayfa 523-524

Z6/Z8



Ürün Tanımı	DC	APMXS	RE	DCSFMS	LF	FHA	ZEFP	Kaliteler	Kaplama	
									MP3000	F40M
MP16-16019R04Z6-M04	16,0 0.630	19,0 0.748	0,4 0.016	15,4 0.606	32,6 1.283	40	6	✓	■	
MP16-16019R04Z8-M04	16,0 0.630	19,0 0.748	0,4 0.016	15,4 0.606	32,6 1.283	40	8	✓	■	
MP16-15919R04Z6-M04	15,875 0.625	19,0 0.748	0,4 0.016	15,4 0.606	32,6 1.283	40	6	✓	■	

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

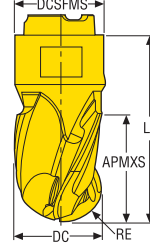
Plastik ve cırp malzemeleri için

Grafit malzeme için

Minimaster Plus

Minimaster

## MP16 Tamamı yuvarlak versiyon




- Uç seçimi ve kesme verisi tavsiyeleri için bakınız sayfa 525-526

Z3



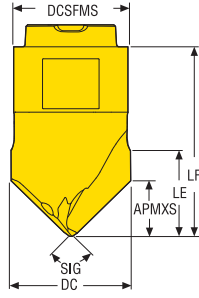
Z4



Ürün Tanımı	DC	APMXS	RE	DCSFMS	LF	FHA	RMPX°	ZEFP		Kaliteler	
										MP3000	F40M
MP16-16010B90Z3-E05	16,0 0.630	10,0 0.394	8,0 0.315	15,4 0.606	24,6 0.969	30	15,0	3	✓		■
MP16-16010B90Z3-M05	16,0 0.630	10,0 0.394	8,0 0.315	15,4 0.606	24,6 0.969	30	15,0	3	✓	■	
MP16-16019B90Z3-E05	16,0 0.630	19,0 0.748	8,0 0.315	15,4 0.606	32,6 1.283	30	15,0	3	✓		■
MP16-16019B90Z3-M05	16,0 0.630	19,0 0.748	8,0 0.315	15,4 0.606	32,6 1.283	30	15,0	3	✓	■	
MP16-16010B90Z4-E04	16,0 0.630	10,0 0.394	8,0 0.315	15,4 0.606	24,6 0.969	20	15,0	4			■
MP16-16010B90Z4-M04	16,0 0.630	10,0 0.394	8,0 0.315	15,4 0.606	24,6 0.969	20	15,0	4		■	
MP16-15910B90Z3-E05	15,875 0.625	10,0 0.394	7,9375 0.313	15,4 0.606	24,6 0.969	30	15,0	3	✓		■
MP16-15910B90Z3-M05	15,875 0.625	10,0 0.394	7,9375 0.313	15,4 0.606	24,6 0.969	30	15,0	3	✓	■	
MP16-15919B90Z3-E05	15,875 0.625	19,0 0.748	7,9375 0.313	15,4 0.606	32,6 1.283	30	15,0	3	✓		■
MP16-15919B90Z3-M05	15,875 0.625	19,0 0.748	7,9375 0.313	15,4 0.606	32,6 1.283	30	15,0	3	✓	■	
MP16-15910B90Z4-E04	15,875 0.625	10,0 0.394	7,9375 0.313	15,4 0.606	24,6 0.969	20	15,0	4			■
MP16-15910B90Z4-M04	15,875 0.625	10,0 0.394	7,9375 0.313	15,4 0.606	24,6 0.969	20	15,0	4		■	



## MP16 Punta matkabi



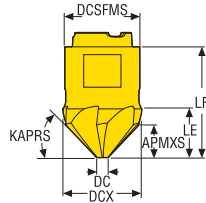
- Uç seçimi ve kesme verisi tavsiyeleri için bakınız sayfa 527-528

Z2



Ürün Tanımı	DC	APMXS	DCSFMS	LE	LF	SIG°	ZEFP	Kaliteler	Kaplama	
									MP3000	F40M
MP16-16009C90Z2-M05	16,0 0.630	7,4 0.291	15,4 0.606	12,0 0.472	26,4 1.039	90,0	2	✓		■

## MP16 Pah kırma



- Uç seçimi ve kesme verisi tavsiyeleri için bakınız sayfa 529-530

Z6



Ürün Tanımı	DCX	DC	APMXS	DCSFMS	LE	LF	KAPRS°	ZEFP	Kaliteler	Kaplama	
										MP3000	F40M
MP16-16009C90Z6-M05	16,4 0.646	3,95 0.156	6,0 0.236	15,4 0.606	10,4 0.409	23,5 0.925	45,0	6		■	

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

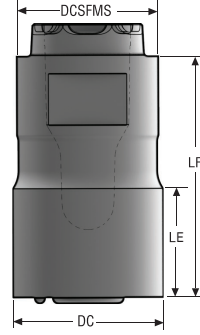
Plastik ve cırp malzemeleri için

Grafit malzeme için

Minimaster Plus

Minimaster

## MP16 Silindirik işlenmemiş uç



- Kendi geometrilerinde üretim için silindirik karbür işlenmemiş uçlar



Ürün Tanımı	DC	DCSFMS	LE	LF	Kaliteler
	mm <i>Inç</i>	mm <i>Inç</i>	mm <i>Inç</i>	mm <i>Inç</i>	H25
MP16-16010CYL-SEMI	16,4 <i>0.646</i>	15,4 <i>0.606</i>	11,4 <i>0.449</i>	24,8 <i>0.976</i>	■
MP16-16019CYL-SEMI	16,4 <i>0.646</i>	15,4 <i>0.606</i>	19,5 <i>0.768</i>	32,85 <i>1.293</i>	■ ✓

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

Sertleştirilmiş çelik için

Plastik ve cırp materyaller için

Grafit malzeme için

Minimaster Plus

Minimaster

**MP16 Yüksek ilerlemeli frezeleme – Uç seçimi**

SMG		$a_p$	$f_z$			
			100%	70%	30%	20%
P1	MP16-1600.9HFZ3-MD12 MP3000	0,65	0,60	0,65	0,85	1,0
		0,026	0,024	0,026	0,034	0,040
P2	MP16-1600.9HFZ3-MD12 MP3000	0,65	0,65	0,65	0,85	1,0
		0,026	0,026	0,026	0,034	0,040
P3	MP16-1600.9HFZ3-MD12 MP3000	0,65	0,60	0,60	0,80	1,0
		0,026	0,024	0,024	0,032	0,040
P4	MP16-1600.9HFZ3-MD12 MP3000	0,65	0,60	0,60	0,80	0,95
		0,026	0,024	0,024	0,032	0,038
P5	MP16-1600.9HFZ3-MD12 MP3000	0,65	0,60	0,60	0,75	0,95
		0,026	0,024	0,024	0,030	0,038
P6	MP16-1600.9HFZ3-MD12 MP3000	0,65	0,55	0,60	0,75	0,95
		0,026	0,022	0,024	0,030	0,038
P7	MP16-1600.9HFZ3-MD12 MP3000	0,65	0,55	0,60	0,75	0,95
		0,026	0,022	0,024	0,030	0,038
P8	MP16-1600.9HFZ3-MD12 MP3000	0,65	0,60	0,60	0,80	1,0
		0,026	0,024	0,024	0,032	0,040
P11	MP16-1600.9HFZ3-MD12 MP3000	0,65	0,55	0,60	0,75	0,95
		0,026	0,022	0,024	0,030	0,038
P12	MP16-1600.9HFZ3-MD12 MP3000	0,50	0,44	0,40	0,50	0,60
		0,020	0,017	0,016	0,020	0,024
M1	MP16-1600.9HFZ3-MD12 MP3000	0,65	0,65	0,65	0,85	1,0
		0,026	0,026	0,026	0,034	0,040
M2	MP16-1600.9HFZ3-MD12 MP3000	0,65	0,60	0,60	0,75	0,95
		0,026	0,024	0,024	0,030	0,038
M3	MP16-1600.9HFZ3-MD12 MP3000	0,50	0,55	0,46	0,60	0,75
		0,020	0,022	0,018	0,024	0,030
M4	MP16-1600.9HFZ3-MD12 MP3000	0,38	0,48	0,40	0,55	0,65
		0,015	0,019	0,016	0,022	0,026
M5	MP16-1600.9HFZ3-MD12 MP3000	0,38	0,48	0,40	0,55	0,65
		0,015	0,019	0,016	0,022	0,026
K1	MP16-1600.9HFZ3-MD12 MP3000	0,65	0,65	0,65	0,85	1,0
		0,026	0,026	0,026	0,034	0,040
K2	MP16-1600.9HFZ3-MD12 MP3000	0,65	0,60	0,60	0,75	0,95
		0,026	0,024	0,024	0,030	0,038
K3	MP16-1600.9HFZ3-MD12 MP3000	0,65	0,60	0,60	0,75	0,95
		0,026	0,024	0,024	0,030	0,038
K4	MP16-1600.9HFZ3-MD12 MP3000	0,65	0,60	0,60	0,75	0,95
		0,026	0,024	0,024	0,030	0,038
K5	MP16-1600.9HFZ3-MD12 MP3000	0,65	0,50	0,50	0,70	0,85
		0,026	0,020	0,020	0,028	0,034
K6	MP16-1600.9HFZ3-MD12 MP3000	0,65	0,60	0,60	0,75	0,95
		0,026	0,024	0,024	0,030	0,038
K7	MP16-1600.9HFZ3-MD12 MP3000	0,65	0,50	0,50	0,70	0,85
		0,026	0,020	0,020	0,028	0,034
N1	MP16-1600.9HFZ3-MD12 MP3000	0,65	0,80	0,80	1,1	1,4
		0,026	0,032	0,032	0,044	0,055
N2	MP16-1600.9HFZ3-MD12 MP3000	0,65	0,80	0,80	1,1	1,4
		0,026	0,032	0,032	0,044	0,055
N3	MP16-1600.9HFZ3-MD12 MP3000	0,65	0,80	0,80	1,1	1,4
		0,026	0,032	0,032	0,044	0,055
N11	MP16-1600.9HFZ3-MD12 MP3000	0,65	0,80	0,80	1,1	1,4
		0,026	0,032	0,032	0,044	0,055
S1	MP16-1600.9HFZ3-MD12 MP3000	0,38	0,48	0,40	0,55	0,65
		0,015	0,019	0,016	0,022	0,026
S2	MP16-1600.9HFZ3-MD12 MP3000	0,38	0,48	0,40	0,55	0,65
		0,015	0,019	0,016	0,022	0,026
S3	MP16-1600.9HFZ3-MD12 MP3000	0,38	0,44	0,38	0,50	0,60
		0,015	0,017	0,015	0,020	0,024
S11	MP16-1600.9HFZ3-MD12 MP3000	0,44	0,55	0,46	0,60	0,75
		0,017	0,022	0,018	0,024	0,030
S12	MP16-1600.9HFZ3-MD12 MP3000	0,44	0,55	0,46	0,60	0,75
		0,017	0,022	0,018	0,024	0,030
S13	MP16-1600.9HFZ3-MD12 MP3000	0,38	0,48	0,40	0,55	0,65
		0,015	0,019	0,016	0,022	0,026
H5	MP16-1600.9HFZ3-MD12 MP3000	0,50	0,44	0,40	0,50	0,60
		0,020	0,017	0,016	0,020	0,024
H8	MP16-1600.9HFZ3-MD12 MP3000	0,44	0,34	0,30	0,40	0,46
		0,017	0,013	0,012	0,016	0,018
H11	MP16-1600.9HFZ3-MD12 MP3000	0,50	0,44	0,40	0,50	0,60
		0,020	0,017	0,016	0,020	0,024
H12	MP16-1600.9HFZ3-MD12 MP3000	0,44	0,34	0,30	0,40	0,46
		0,017	0,013	0,012	0,016	0,018
H21	MP16-1600.9HFZ3-MD12 MP3000	0,44	0,34	0,30	0,40	0,46
		0,017	0,013	0,012	0,016	0,018

SMG = Seco malzeme grubu  
 $f_z$  = mm/ağız (inç/ağız),  $v_c$  = m/dk (sf/dk),  $a_e/DC$  = %  
 Tüm kesme verileri başlangıç değerleridir

Üniversal  
 Çelik ve dökme demir  
 Paslanmaz çelik ve S iş parçası malzemeleri  
 Demir içermeyen malzemeler  
 Sertleştirilmiş çelik için  
 Plastik ve cırp malzemeler için  
 Grafit malzeme için  
 Minimaster Plus  
 Minimaster

MP16 Yüksek ilerlemeli frezeleme – Kesme verisi  $v_c = (m/dk)$

Üniversal	SMG	MP3000			
		100%	70%	30%	20%
Çelik ve dökme demir	P1	225 740	270 890	315 1025	335 1100
	P2	215 710	265 870	305 1000	325 1075
Paslanmaz çelik ve S iş parçası malzemeleri	P3	190 620	230 750	265 870	280 920
	P4	165 540	205 670	235 770	250 820
Demir içermeyen malzemeler	P5	160 520	195 640	230 750	240 790
	P6	180 590	220 720	255 840	265 870
Sertleştirilmiş çelik için	P7	170 560	205 670	240 790	250 820
	P8	160 520	195 640	225 740	235 770
Plastik ve cırp malzemeleri için	P11	165 540	200 660	235 770	245 800
	P12	105 345	130 425	150 490	160 520
Grafit malzeme için	M1	160 520	195 640	230 750	245 800
	M2	130 425	165 540	190 620	200 660
Minimaster Plus	M3	105 345	135 445	155 510	160 520
	M4	85 280	105 345	115 375	125 410
Minimaster	M5	70 230	85 280	100 330	105 345
	K1	170 560	210 690	240 790	255 840
Minimaster Plus	K2	150 490	185 610	215 710	225 740
	K3	125 410	155 510	185 610	190 620
Minimaster Plus	K4	120 395	150 490	175 570	180 590
	K5	75 245	95 310	105 345	110 360
Minimaster Plus	K6	105 345	130 425	155 510	160 520
	K7	95 310	120 395	135 445	145 475
Minimaster Plus	N1	1275 4175	1550 5075	1775 5825	1850 6075
	N2	510 1675	630 2075	720 2350	750 2450
Minimaster Plus	N3	340 1125	420 1375	480 1575	500 1650
	N11	390 1275	480 1575	550 1800	570 1875
Minimaster Plus	S1	40 130	48 155	55 180	60 195
	S2	32 105	39 130	44 145	47 155
Minimaster Plus	S3	28 90	34 110	39 130	41 135
	S11	55 180	65 215	75 245	80 260
Minimaster Plus	S12	38 125	46 150	55 180	55 180
	S13	22 70	27 90	31 100	33 110
Minimaster Plus	H5	33 110	41 135	47 155	50 165
	H8	36 120	43 140	50 165	55 180
Minimaster Plus	H11	42 140	50 165	60 195	65 215
	H12	70 230	85 280	95 310	100 330
Minimaster Plus	H21	36 120	43 140	50 165	55 180

## MP16 Kanal açma – Uç seçimi

SMG		$a_p$	$f_z$			
			100%	30%	10%	5%
P1	MP16-16010R04Z3-M05 MP3000	5,0 0,20	0,070 0,0028	0,075 0,0030	0,12 0,0048	0,16 0,0065
P2	MP16-16010R04Z3-M05 MP3000	5,0 0,20	0,070 0,0028	0,080 0,0032	0,12 0,0048	0,17 0,0065
P3	MP16-16010R04Z3-M05 MP3000	5,0 0,20	0,070 0,0028	0,075 0,0030	0,11 0,0044	0,16 0,0065
P4	MP16-16010R04Z3-M05 MP3000	5,0 0,20	0,065 0,0026	0,075 0,0030	0,11 0,0044	0,16 0,0065
P5	MP16-16010R04Z3-M05 MP3000	5,0 0,20	0,065 0,0026	0,070 0,0028	0,11 0,0044	0,15 0,0060
P6	MP16-16010R04Z3-M05 MP3000	5,0 0,20	0,065 0,0026	0,070 0,0028	0,11 0,0044	0,15 0,0060
P7	MP16-16010R04Z3-M05 MP3000	5,0 0,20	0,065 0,0026	0,070 0,0028	0,11 0,0044	0,15 0,0060
P8	MP16-16010R04Z3-M05 MP3000	5,0 0,20	0,070 0,0028	0,075 0,0030	0,11 0,0044	0,16 0,0065
P11	MP16-16010R04Z3-M05 MP3000	5,0 0,20	0,065 0,0026	0,070 0,0028	0,11 0,0044	0,15 0,0060
P12	MP16-16010R04Z3-M05 MP3000	4,0 0,16	0,044 0,0017	0,048 0,0019	0,075 0,0030	0,10 0,0040
M1	MP16-16010R05Z3-E05 F40M	5,0 0,20	0,070 0,0028	0,080 0,0032	0,12 0,0048	0,17 0,0065
M2	MP16-16010R05Z3-E05 F40M	5,0 0,20	0,065 0,0026	0,070 0,0028	0,11 0,0044	0,15 0,0060
M3	MP16-16010R05Z3-E05 F40M	4,0 0,16	0,050 0,0020	0,055 0,0022	0,085 0,0034	0,12 0,0048
M4	MP16-16010R05Z3-E05 F40M	3,0 0,12	0,046 0,0018	0,050 0,0020	0,075 0,0030	0,11 0,0044
M5	MP16-16010R05Z3-E05 F40M	3,0 0,12	0,046 0,0018	0,050 0,0020	0,075 0,0030	0,11 0,0044
K1	MP16-16010R04Z3-M05 MP3000	5,0 0,20	0,070 0,0028	0,080 0,0032	0,12 0,0048	0,17 0,0065
K2	MP16-16010R04Z3-M05 MP3000	5,0 0,20	0,065 0,0026	0,070 0,0028	0,11 0,0044	0,15 0,0060
K3	MP16-16010R04Z3-M05 MP3000	5,0 0,20	0,065 0,0026	0,070 0,0028	0,11 0,0044	0,15 0,0060
K4	MP16-16010R04Z3-M05 MP3000	5,0 0,20	0,065 0,0026	0,070 0,0028	0,11 0,0044	0,15 0,0060
K5	MP16-16010R04Z3-M05 MP3000	5,0 0,20	0,060 0,0024	0,065 0,0026	0,10 0,0040	0,14 0,0055
K6	MP16-16010R04Z3-M05 MP3000	5,0 0,20	0,065 0,0026	0,070 0,0028	0,11 0,0044	0,15 0,0060
K7	MP16-16010R04Z3-M05 MP3000	5,0 0,20	0,060 0,0024	0,065 0,0026	0,10 0,0040	0,14 0,0055
N1	MP16-16010R05Z3-E05 F40M	5,0 0,20	0,090 0,0036	0,10 0,0040	0,15 0,0060	0,22 0,0085
N2	MP16-16010R05Z3-E05 F40M	5,0 0,20	0,090 0,0036	0,10 0,0040	0,15 0,0060	0,22 0,0085
N3	MP16-16010R05Z3-E05 F40M	5,0 0,20	0,090 0,0036	0,10 0,0040	0,15 0,0060	0,22 0,0085
N11	MP16-16010R05Z3-E05 F40M	5,0 0,20	0,090 0,0036	0,10 0,0040	0,15 0,0060	0,22 0,0085
S1	MP16-16010R05Z3-E05 F40M	3,0 0,12	0,046 0,0018	0,050 0,0020	0,075 0,0030	0,11 0,0044
S2	MP16-16010R05Z3-E05 F40M	3,0 0,12	0,046 0,0018	0,050 0,0020	0,075 0,0030	0,11 0,0044
S3	MP16-16010R05Z3-E05 F40M	3,0 0,12	0,042 0,0017	0,046 0,0018	0,070 0,0028	0,10 0,0040
S11	MP16-16010R05Z3-E05 F40M	3,5 0,14	0,055 0,0022	0,055 0,0022	0,085 0,0034	0,12 0,0048
S12	MP16-16010R05Z3-E05 F40M	3,5 0,14	0,055 0,0022	0,055 0,0022	0,085 0,0034	0,12 0,0048
S13	MP16-16010R05Z3-E05 F40M	3,0 0,12	0,046 0,0018	0,050 0,0020	0,075 0,0030	0,11 0,0044
H5	MP16-16010R04Z3-M05 MP3000	4,0 0,16	0,044 0,0017	0,048 0,0019	0,075 0,0030	0,10 0,0040
H8	MP16-16010R04Z3-M05 MP3000	3,5 0,14	0,034 0,0013	0,038 0,0015	0,055 0,0022	0,080 0,0032
H11	MP16-16010R04Z3-M05 MP3000	4,0 0,16	0,044 0,0017	0,048 0,0019	0,075 0,0030	0,10 0,0040
H12	MP16-16010R04Z3-M05 MP3000	3,5 0,14	0,034 0,0013	0,038 0,0015	0,055 0,0022	0,080 0,0032
H21	MP16-16010R04Z3-M05 MP3000	3,5 0,14	0,034 0,0013	0,038 0,0015	0,055 0,0022	0,080 0,0032

SMG = Seco malzeme grubu

 $f_z$  = mm/ağız $v_c$  = m/dak $a_e/D_c$  = %

Tüm kesme verileri başlangıç değerleridir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve dırpan malzemeleri için

Grafit malzeme için

Minimaster Plus

Minimaster

MP16 Kanal açma – Kesme verisi  $v_c = (m/dk)$

SMG	MP3000				F40M			
	100%	30%	10%	5%	100%	30%	10%	5%
P1	235	310	360	395	225	295	340	375
	770	1025	1175	1300	740	970	1125	1225
P2	230	300	350	380	215	280	335	360
	750	980	1150	1250	710	920	1100	1175
P3	195	260	310	330	185	245	290	315
	640	850	1025	1075	610	800	950	1025
P4	175	230	270	290	165	215	255	275
	570	750	890	950	540	710	840	900
P5	170	220	260	280	160	210	245	265
	560	720	850	920	520	690	800	870
P6	190	250	290	315	180	235	275	300
	620	820	950	1025	590	770	900	980
P7	180	235	275	300	170	225	260	285
	590	770	900	980	560	740	850	940
P8	165	220	260	280	155	205	245	265
	540	720	850	920	510	670	800	870
P11	175	230	265	290	165	215	255	275
	570	750	870	950	540	710	840	900
P12	110	145	170	185	105	140	160	175
	360	475	560	610	345	460	520	570
M1	170	225	265	285	175	225	270	290
	560	740	870	940	570	740	890	950
M2	140	185	215	235	145	190	220	240
	460	610	710	770	475	620	720	790
M3	115	150	175	190	115	150	175	190
	375	490	570	620	375	490	570	620
M4	85	115	135	145	90	115	135	145
	280	375	445	475	295	375	445	475
M5	75	95	110	120	75	95	115	120
	245	310	360	395	245	310	375	395
K1	180	235	280	300	170	225	265	285
	590	770	920	980	560	740	870	940
K2	160	210	245	270	150	200	235	255
	520	690	800	890	490	660	770	840
K3	135	180	210	225	130	170	195	215
	445	590	690	740	425	560	640	710
K4	130	170	200	215	120	160	190	205
	425	560	660	710	395	520	620	670
K5	80	105	120	130	75	95	115	125
	260	345	395	425	245	310	375	410
K6	115	150	175	190	110	140	165	180
	375	490	570	620	360	460	540	590
K7	100	130	155	165	95	125	145	160
	330	425	510	540	310	410	475	520
N1	1350	1775	2100	2250	1275	1675	1975	2125
	4425	5825	6900	7375	4175	5500	6475	6975
N2	550	720	850	910	520	680	800	860
	1800	2350	2800	2975	1700	2225	2625	2825
N3	365	475	560	600	345	450	530	570
	1200	1550	1825	1975	1125	1475	1750	1875
N11	415	540	640	690	395	520	610	650
	1350	1775	2100	2275	1300	1700	2000	2125
S1	41	55	60	65	42	55	65	70
	135	180	195	215	140	180	215	230
S2	33	43	50	55	34	44	50	55
	110	140	165	180	110	145	165	180
S3	29	38	44	47	29	38	45	48
	95	125	145	155	95	125	150	155
S11	60	75	90	95	60	75	90	95
	195	245	295	310	195	245	295	310
S12	40	50	60	65	40	55	60	65
	130	165	195	215	130	180	195	215
S13	23	30	35	38	23	31	36	38
	75	100	115	125	75	100	120	125
H5	35	45	55	60	35	46	55	60
	115	150	180	195	115	150	180	195
H8	36	47	55	60	37	48	55	60
	120	155	180	195	120	155	180	195
H11	44	60	65	75	45	60	70	75
	145	195	215	245	150	195	230	245
H12	70	90	105	115	65	85	100	110
	230	295	345	375	215	280	330	360
H21	36	47	55	60	37	48	55	60
	120	155	180	195	120	155	180	195

MP16 Kopya frezeleme – Uç seçimi

SMG		a <sub>p</sub>	f <sub>z</sub>				
			100%	30%	10%	5%	2%
P1	MP16-16010B90Z3-M05 MP3000	5,0 0.20	0,080 0.0032	0,085 0.0034	0,12 0.0048	0,17 0.0065	0,28 0.011
P2	MP16-16010B90Z3-M05 MP3000	5,0 0.20	0,085 0.0034	0,085 0.0034	0,13 0.0050	0,18 0.0070	0,28 0.011
P3	MP16-16010B90Z3-M05 MP3000	5,0 0.20	0,080 0.0032	0,080 0.0032	0,12 0.0048	0,17 0.0065	0,26 0.010
P4	MP16-16010B90Z3-M05 MP3000	5,0 0.20	0,075 0.0030	0,080 0.0032	0,12 0.0048	0,16 0.0065	0,26 0.010
P5	MP16-16010B90Z3-M05 MP3000	5,0 0.20	0,075 0.0030	0,080 0.0032	0,12 0.0048	0,16 0.0065	0,26 0.010
P6	MP16-16010B90Z3-M05 MP3000	5,0 0.20	0,075 0.0030	0,080 0.0032	0,11 0.0044	0,16 0.0065	0,26 0.010
P7	MP16-16010B90Z3-M05 MP3000	5,0 0.20	0,075 0.0030	0,080 0.0032	0,11 0.0044	0,16 0.0065	0,26 0.010
P8	MP16-16010B90Z3-M05 MP3000	5,0 0.20	0,080 0.0032	0,080 0.0032	0,12 0.0048	0,17 0.0065	0,26 0.010
P11	MP16-16010B90Z3-M05 MP3000	5,0 0.20	0,075 0.0030	0,080 0.0032	0,11 0.0044	0,16 0.0065	0,26 0.010
P12	MP16-16010B90Z3-M05 MP3000	4,0 0.16	0,055 0.0022	0,055 0.0022	0,080 0.0032	0,11 0.0044	0,17 0.0065
M1	MP16-16010B90Z3-E05 F40M	5,0 0.20	0,085 0.0034	0,085 0.0034	0,13 0.0050	0,18 0.0070	0,28 0.011
M2	MP16-16010B90Z3-E05 F40M	5,0 0.20	0,075 0.0030	0,080 0.0032	0,12 0.0048	0,16 0.0065	0,26 0.010
M3	MP16-16010B90Z3-E05 F40M	4,0 0.16	0,065 0.0026	0,065 0.0026	0,090 0.0036	0,13 0.0050	0,20 0.0080
M4	MP16-16010B90Z3-E05 F40M	3,0 0.12	0,060 0.0024	0,060 0.0024	0,080 0.0032	0,11 0.0044	0,18 0.0070
M5	MP16-16010B90Z3-E05 F40M	3,0 0.12	0,060 0.0024	0,060 0.0024	0,080 0.0032	0,11 0.0044	0,18 0.0070
K1	MP16-16010B90Z3-M05 MP3000	5,0 0.20	0,085 0.0034	0,085 0.0034	0,13 0.0050	0,18 0.0070	0,28 0.011
K2	MP16-16010B90Z3-M05 MP3000	5,0 0.20	0,075 0.0030	0,080 0.0032	0,12 0.0048	0,16 0.0065	0,26 0.010
K3	MP16-16010B90Z3-M05 MP3000	5,0 0.20	0,075 0.0030	0,080 0.0032	0,12 0.0048	0,16 0.0065	0,26 0.010
K4	MP16-16010B90Z3-M05 MP3000	5,0 0.20	0,075 0.0030	0,080 0.0032	0,12 0.0048	0,16 0.0065	0,26 0.010
K5	MP16-16010B90Z3-M05 MP3000	5,0 0.20	0,070 0.0028	0,070 0.0028	0,10 0.0040	0,14 0.0055	0,24 0.0095
K6	MP16-16010B90Z3-M05 MP3000	5,0 0.20	0,075 0.0030	0,080 0.0032	0,12 0.0048	0,16 0.0065	0,26 0.010
K7	MP16-16010B90Z3-M05 MP3000	5,0 0.20	0,070 0.0028	0,070 0.0028	0,10 0.0040	0,14 0.0055	0,24 0.0095
N1	MP16-16010B90Z3-E05 F40M	5,0 0.20	0,11 0.0044	0,11 0.0044	0,16 0.0065	0,22 0.0085	0,38 0.015
N2	MP16-16010B90Z3-E05 F40M	5,0 0.20	0,11 0.0044	0,11 0.0044	0,16 0.0065	0,22 0.0085	0,38 0.015
N3	MP16-16010B90Z3-E05 F40M	5,0 0.20	0,11 0.0044	0,11 0.0044	0,16 0.0065	0,22 0.0085	0,38 0.015
N11	MP16-16010B90Z3-E05 F40M	5,0 0.20	0,11 0.0044	0,11 0.0044	0,16 0.0065	0,22 0.0085	0,38 0.015
S1	MP16-16010B90Z3-E05 F40M	3,0 0.12	0,060 0.0024	0,060 0.0024	0,080 0.0032	0,11 0.0044	0,18 0.0070
S2	MP16-16010B90Z3-E05 F40M	3,0 0.12	0,060 0.0024	0,060 0.0024	0,080 0.0032	0,11 0.0044	0,18 0.0070
S3	MP16-16010B90Z3-E05 F40M	3,0 0.12	0,055 0.0022	0,055 0.0022	0,075 0.0030	0,10 0.0040	0,16 0.0065
S11	MP16-16010B90Z3-E05 F40M	3,5 0.14	0,065 0.0026	0,065 0.0026	0,090 0.0036	0,13 0.0050	0,20 0.0080
S12	MP16-16010B90Z3-E05 F40M	3,5 0.14	0,065 0.0026	0,065 0.0026	0,090 0.0036	0,13 0.0050	0,20 0.0080
S13	MP16-16010B90Z3-E05 F40M	3,0 0.12	0,060 0.0024	0,060 0.0024	0,080 0.0032	0,11 0.0044	0,18 0.0070
H5	MP16-16010B90Z3-M05 MP3000	4,0 0.16	0,055 0.0022	0,055 0.0022	0,080 0.0032	0,11 0.0044	0,17 0.0065
H8	MP16-16010B90Z3-M05 MP3000	3,5 0.14	0,042 0.0017	0,042 0.0017	0,060 0.0024	0,080 0.0032	0,13 0.0050
H11	MP16-16010B90Z3-M05 MP3000	4,0 0.16	0,055 0.0022	0,055 0.0022	0,080 0.0032	0,11 0.0044	0,17 0.0065
H12	MP16-16010B90Z3-M05 MP3000	3,5 0.14	0,042 0.0017	0,042 0.0017	0,060 0.0024	0,080 0.0032	0,13 0.0050
H21	MP16-16010B90Z3-M05 MP3000	3,5 0.14	0,042 0.0017	0,042 0.0017	0,060 0.0024	0,080 0.0032	0,13 0.0050

SMG = Seco malzeme grubu  
f<sub>z</sub> = mm/ağız  
v<sub>c</sub> = m/dak  
a<sub>e</sub>/D<sub>c</sub> = %  
Tüm kesme verileri başlangıç değerleridir

Üniversal  
Çelik ve dökme demir  
Paslanmaz çelik ve S iş parçası malzemeleri  
Demir içermeyen malzemeler  
Sertleştirilmiş çelik için  
Plastik ve çırp malzemeler için  
Grafit malzeme için  
Minimaster Plus  
Minimaster

MP16 Kopya frezeleme – Kesme verisi  $v_c = (m/dk)$

SMG	MP3000					F40M				
	100%	30%	10%	5%	2%	100%	30%	10%	5%	2%
P1	250	305	330	355	350	235	290	310	335	330
	820	1000	1075	1175	1150	770	950	1025	1100	1075
P2	240	295	320	345	340	225	275	300	325	325
	790	970	1050	1125	1125	740	900	980	1075	1075
P3	210	255	275	300	300	200	240	260	285	280
	690	840	900	980	980	660	790	850	940	920
P4	185	225	245	265	265	175	215	235	250	250
	610	740	800	870	870	570	710	770	820	820
P5	180	215	235	255	255	170	205	220	240	240
	590	710	770	840	840	560	670	720	790	790
P6	200	245	265	285	285	190	230	250	270	270
	660	800	870	940	940	620	750	820	890	890
P7	190	230	250	270	270	180	215	235	255	255
	620	750	820	890	890	590	710	770	840	840
P8	175	215	230	250	250	165	205	220	240	235
	570	710	750	820	820	540	670	720	790	770
P11	185	225	240	265	260	175	210	230	250	245
	610	740	790	870	850	570	690	750	820	800
P12	120	145	150	165	165	110	135	145	155	155
	395	475	490	540	540	360	445	475	510	510
M1	180	220	240	260	255	185	225	245	265	260
	590	720	790	850	840	610	740	800	870	850
M2	150	180	195	215	210	150	185	200	215	215
	490	590	640	710	690	490	610	660	710	710
M3	120	145	155	170	165	125	150	160	170	170
	395	475	510	560	540	410	490	520	560	560
M4	95	115	120	130	130	95	120	120	130	130
	310	375	395	425	425	310	395	395	425	425
M5	80	95	100	105	105	80	100	100	110	110
	260	310	330	345	345	260	330	330	360	360
K1	190	230	255	275	270	180	220	240	260	255
	620	750	840	900	890	590	720	790	850	840
K2	170	205	225	245	240	160	195	210	230	225
	560	670	740	800	790	520	640	690	750	740
K3	145	175	190	205	205	135	165	180	195	190
	475	570	620	670	670	445	540	590	640	620
K4	135	165	180	195	195	130	155	170	185	185
	445	540	590	640	640	425	510	560	610	610
K5	80	100	110	120	120	80	95	105	110	110
	260	330	360	395	395	260	310	345	360	360
K6	120	145	160	175	170	115	140	150	165	160
	395	475	520	570	560	375	460	490	540	520
K7	105	130	140	150	150	100	120	130	145	145
	345	425	460	490	490	330	395	425	475	475
N1	1425	1750	1900	2050	2025	1350	1650	1775	1950	1925
	4675	5750	6225	6725	6650	4425	5425	5825	6400	6325
N2	580	700	760	830	820	550	660	720	780	780
	1900	2300	2500	2725	2700	1800	2175	2350	2550	2550
N3	385	470	510	550	550	365	445	480	520	520
	1275	1550	1675	1800	1800	1200	1450	1575	1700	1700
N11	440	540	580	630	630	415	510	550	600	590
	1450	1775	1900	2075	2075	1350	1675	1800	1975	1925
S1	44	55	55	60	60	45	55	55	60	60
	145	180	180	195	195	150	180	180	195	195
S2	36	44	45	48	48	36	44	45	49	49
	120	145	150	155	155	120	145	150	160	160
S3	31	38	39	42	42	32	38	40	43	43
	100	125	130	140	140	105	125	130	140	140
S11	60	75	80	85	85	65	75	80	85	85
	195	245	260	280	280	215	245	260	280	280
S12	43	50	55	60	60	44	55	55	60	60
	140	165	180	195	195	145	180	180	195	195
S13	25	30	31	34	34	25	31	32	34	34
	80	100	100	110	110	80	100	105	110	110
H5	37	45	47	50	50	37	45	48	50	50
	120	150	155	165	165	120	150	155	165	165
H8	39	47	49	55	55	39	48	49	55	55
	130	155	160	180	180	130	155	160	180	180
H11	47	55	60	65	65	47	60	60	65	65
	155	180	195	215	215	155	195	195	215	215
H12	75	90	95	100	100	70	85	90	95	95
	245	295	310	330	330	230	280	295	310	310
H21	39	47	49	55	55	39	48	49	55	55
	130	155	160	180	180	130	155	160	180	180



## MP16 Punta matkabı – Uç seçimi – mm/İnç

SMG		$f_z$	$a_{so}$
			100%
P1	MP16-16009C90Z2-M05 F40M	0,070 0,0028	4,5 0,18
P2	MP16-16009C90Z2-M05 F40M	0,070 0,0028	4,5 0,18
P3	MP16-16009C90Z2-M05 F40M	0,070 0,0028	4,5 0,18
P4	MP16-16009C90Z2-M05 F40M	0,065 0,0026	4,5 0,18
P5	MP16-16009C90Z2-M05 F40M	0,065 0,0026	4,5 0,18
P6	MP16-16009C90Z2-M05 F40M	0,065 0,0026	4,5 0,18
P7	MP16-16009C90Z2-M05 F40M	0,065 0,0026	4,5 0,18
P8	MP16-16009C90Z2-M05 F40M	0,070 0,0028	4,5 0,18
P11	MP16-16009C90Z2-M05 F40M	0,065 0,0026	4,5 0,18
P12	MP16-16009C90Z2-M05 F40M	0,044 0,0017	3,5 0,14
M1	MP16-16009C90Z2-M05 F40M	0,070 0,0028	4,5 0,18
M2	MP16-16009C90Z2-M05 F40M	0,065 0,0026	4,5 0,18
M3	MP16-16009C90Z2-M05 F40M	0,050 0,0020	3,5 0,14
M4	MP16-16009C90Z2-M05 F40M	0,046 0,0018	2,5 0,10
M5	MP16-16009C90Z2-M05 F40M	0,046 0,0018	2,5 0,10
K1	MP16-16009C90Z2-M05 F40M	0,070 0,0028	4,5 0,18
K2	MP16-16009C90Z2-M05 F40M	0,065 0,0026	4,5 0,18
K3	MP16-16009C90Z2-M05 F40M	0,065 0,0026	4,5 0,18
K4	MP16-16009C90Z2-M05 F40M	0,065 0,0026	4,5 0,18
K5	MP16-16009C90Z2-M05 F40M	0,060 0,0024	4,5 0,18
K6	MP16-16009C90Z2-M05 F40M	0,065 0,0026	4,5 0,18
K7	MP16-16009C90Z2-M05 F40M	0,060 0,0024	4,5 0,18
N1	MP16-16009C90Z2-M05 F40M	0,090 0,0036	4,5 0,18
N2	MP16-16009C90Z2-M05 F40M	0,090 0,0036	4,5 0,18
N3	MP16-16009C90Z2-M05 F40M	0,090 0,0036	4,5 0,18
N11	MP16-16009C90Z2-M05 F40M	0,090 0,0036	4,5 0,18
S1	MP16-16009C90Z2-M05 F40M	0,046 0,0018	2,5 0,10
S2	MP16-16009C90Z2-M05 F40M	0,046 0,0018	2,5 0,10
S3	MP16-16009C90Z2-M05 F40M	0,042 0,0017	2,5 0,10
S11	MP16-16009C90Z2-M05 F40M	0,050 0,0020	3,0 0,12
S12	MP16-16009C90Z2-M05 F40M	0,050 0,0020	3,0 0,12
S13	MP16-16009C90Z2-M05 F40M	0,046 0,0018	2,5 0,10
H5	MP16-16009C90Z2-M05 F40M	0,044 0,0017	3,5 0,14
H8	MP16-16009C90Z2-M05 F40M	0,034 0,0013	3,0 0,12
H11	MP16-16009C90Z2-M05 F40M	0,044 0,0017	3,5 0,14
H12	MP16-16009C90Z2-M05 F40M	0,034 0,0013	3,0 0,12
H21	MP16-16009C90Z2-M05 F40M	0,034 0,0013	3,0 0,12

SMG = Seco malzeme grubu

 $f_z$  = mm/ağız (inç/ağız),  $v_c$  = m/dk (sf/dk),  $a_e/DC$  = %

Tüm kesme verileri başlangıç değerleridir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

MP16 Punta matkabı – Kesme verisi  $v_c = (m/dk)/(sf/dk)$

Üniversal	SMG	F40M	
			100%
Çelik ve dökme demir	P1	290 950	
	P2	285 940	
	P3	250 820	
	P4	220 720	
	P5	210 690	
	P6	235 770	
	P7	225 740	
	P8	210 690	
	P11	220 720	
	P12	140 460	
	Demir içermeyen malzemeler	M1	230 750
		M2	190 620
M3		150 490	
M4		115 375	
M5		95 310	
Sertleştirilmiş çelik için	K1	225 740	
	K2	200 660	
	K3	170 560	
	K4	160 520	
	K5	100 330	
	K6	145 475	
	K7	125 410	
Plastik ve diğer malzemeler için	N1	1650 5425	
	N2	670 2200	
	N3	445 1450	
	N11	510 1675	
	Minimaster Plus	S1	55 180
S2		43 140	
S3		37 120	
S11		75 245	
S12		50 165	
S13		30 100	
Minimaster		H5	46 150
		H8	48 155
		H11	60 195
		H12	85 280
		H21	48 155

## MP16 Pah kırma – Uç seçimi – mm/İnç

SMG		$a_p$	$f_z$				
			100%	50%	30%	20%	10%
P1	MP16-16009C90Z2-M05 F40M	3,5 0.14	0,10 0.0040	0,10 0.0040	0,10 0.0040	0,10 0.0040	0,12 0.0048
P2	MP16-16009C90Z2-M05 F40M	3,5 0.14	0,10 0.0040	0,10 0.0040	0,10 0.0040	0,10 0.0040	0,12 0.0048
P3	MP16-16009C90Z2-M05 F40M	3,5 0.14	0,095 0.0038	0,095 0.0038	0,095 0.0038	0,095 0.0038	0,12 0.0048
P4	MP16-16009C90Z2-M05 F40M	3,5 0.14	0,095 0.0038	0,095 0.0038	0,095 0.0038	0,095 0.0038	0,11 0.0044
P5	MP16-16009C90Z2-M05 F40M	3,5 0.14	0,090 0.0036	0,090 0.0036	0,090 0.0036	0,090 0.0036	0,11 0.0044
P6	MP16-16009C90Z2-M05 F40M	3,5 0.14	0,090 0.0036	0,090 0.0036	0,090 0.0036	0,090 0.0036	0,11 0.0044
P7	MP16-16009C90Z2-M05 F40M	3,5 0.14	0,090 0.0036	0,090 0.0036	0,090 0.0036	0,090 0.0036	0,11 0.0044
P8	MP16-16009C90Z2-M05 F40M	3,5 0.14	0,095 0.0038	0,095 0.0038	0,095 0.0038	0,095 0.0038	0,12 0.0048
P11	MP16-16009C90Z2-M05 F40M	3,5 0.14	0,090 0.0036	0,090 0.0036	0,090 0.0036	0,090 0.0036	0,11 0.0044
P12	MP16-16009C90Z2-M05 F40M	3,0 0.12	0,065 0.0026	0,065 0.0026	0,065 0.0026	0,065 0.0026	0,075 0.0030
M1	MP16-16009C90Z2-M05 F40M	3,5 0.14	0,10 0.0040	0,10 0.0040	0,10 0.0040	0,10 0.0040	0,12 0.0048
M2	MP16-16009C90Z2-M05 F40M	3,5 0.14	0,090 0.0036	0,090 0.0036	0,090 0.0036	0,090 0.0036	0,11 0.0044
M3	MP16-16009C90Z2-M05 F40M	3,0 0.12	0,075 0.0030	0,075 0.0030	0,075 0.0030	0,075 0.0030	0,090 0.0036
M4	MP16-16009C90Z2-M05 F40M	2,0 0.080	0,065 0.0026	0,065 0.0026	0,065 0.0026	0,065 0.0026	0,080 0.0032
M5	MP16-16009C90Z2-M05 F40M	2,0 0.080	0,065 0.0026	0,065 0.0026	0,065 0.0026	0,065 0.0026	0,080 0.0032
K1	MP16-16009C90Z2-M05 F40M	3,5 0.14	0,10 0.0040	0,10 0.0040	0,10 0.0040	0,10 0.0040	0,12 0.0048
K2	MP16-16009C90Z2-M05 F40M	3,5 0.14	0,090 0.0036	0,090 0.0036	0,090 0.0036	0,090 0.0036	0,11 0.0044
K3	MP16-16009C90Z2-M05 F40M	3,5 0.14	0,090 0.0036	0,090 0.0036	0,090 0.0036	0,090 0.0036	0,11 0.0044
K4	MP16-16009C90Z2-M05 F40M	3,5 0.14	0,090 0.0036	0,090 0.0036	0,090 0.0036	0,090 0.0036	0,11 0.0044
K5	MP16-16009C90Z2-M05 F40M	3,5 0.14	0,085 0.0034	0,085 0.0034	0,085 0.0034	0,085 0.0034	0,10 0.0040
K6	MP16-16009C90Z2-M05 F40M	3,5 0.14	0,090 0.0036	0,090 0.0036	0,090 0.0036	0,090 0.0036	0,11 0.0044
K7	MP16-16009C90Z2-M05 F40M	3,5 0.14	0,085 0.0034	0,085 0.0034	0,085 0.0034	0,085 0.0034	0,10 0.0040
N1	MP16-16009C90Z2-M05 F40M	3,5 0.14	0,13 0.0050	0,13 0.0050	0,13 0.0050	0,13 0.0050	0,16 0.0065
N2	MP16-16009C90Z2-M05 F40M	3,5 0.14	0,13 0.0050	0,13 0.0050	0,13 0.0050	0,13 0.0050	0,16 0.0065
N3	MP16-16009C90Z2-M05 F40M	3,5 0.14	0,13 0.0050	0,13 0.0050	0,13 0.0050	0,13 0.0050	0,16 0.0065
N11	MP16-16009C90Z2-M05 F40M	3,5 0.14	0,13 0.0050	0,13 0.0050	0,13 0.0050	0,13 0.0050	0,16 0.0065
S1	MP16-16009C90Z2-M05 F40M	2,0 0.080	0,065 0.0026	0,065 0.0026	0,065 0.0026	0,065 0.0026	0,080 0.0032
S2	MP16-16009C90Z2-M05 F40M	2,0 0.080	0,065 0.0026	0,065 0.0026	0,065 0.0026	0,065 0.0026	0,080 0.0032
S3	MP16-16009C90Z2-M05 F40M	2,0 0.080	0,060 0.0024	0,060 0.0024	0,060 0.0024	0,060 0.0024	0,070 0.0028
S11	MP16-16009C90Z2-M05 F40M	2,5 0.10	0,075 0.0030	0,075 0.0030	0,075 0.0030	0,075 0.0030	0,090 0.0036
S12	MP16-16009C90Z2-M05 F40M	2,5 0.10	0,075 0.0030	0,075 0.0030	0,075 0.0030	0,075 0.0030	0,090 0.0036
S13	MP16-16009C90Z2-M05 F40M	2,0 0.080	0,065 0.0026	0,065 0.0026	0,065 0.0026	0,065 0.0026	0,080 0.0032
H5	MP16-16009C90Z2-M05 F40M	3,0 0.12	0,065 0.0026	0,065 0.0026	0,065 0.0026	0,065 0.0026	0,075 0.0030
H8	MP16-16009C90Z2-M05 F40M	2,5 0.10	0,048 0.0019	0,048 0.0019	0,048 0.0019	0,048 0.0019	0,060 0.0024
H11	MP16-16009C90Z2-M05 F40M	3,0 0.12	0,065 0.0026	0,065 0.0026	0,065 0.0026	0,065 0.0026	0,075 0.0030
H12	MP16-16009C90Z2-M05 F40M	2,5 0.10	0,048 0.0019	0,048 0.0019	0,048 0.0019	0,048 0.0019	0,060 0.0024
H21	MP16-16009C90Z2-M05 F40M	2,5 0.10	0,048 0.0019	0,048 0.0019	0,048 0.0019	0,048 0.0019	0,060 0.0024

SMG = Seco malzeme grubu

 $f_z$  = mm/ağız (İnç/ağız),  $v_c$  = m/dk (sf/dk),  $a_e/DC$  = %

Tüm kesme verileri başlangıç değerleridir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

Grafit malzeme için

Minimaster Plus

Minimaster

Minimaster

Minimaster

Minimaster

MP16 Pah kırma – Kesme verisi  $v_c = (m/dk)/(sf/dk)$

Üniversal	SMG	F40M				
		100%	50%	30%	20%	10%
Çelik ve dökme demir	P1	290	270	315	350	415
		950	890	1025	1150	1350
Paslanmaz çelik ve S iş parçası matzemeleri	P2	285	260	310	345	400
		940	850	1025	1125	1300
Demir içermeyen matzemeler	P3	250	230	270	300	345
		820	750	890	980	1125
Sertleştirilmiş çelik için	P4	220	200	235	265	310
		720	660	770	870	1025
Plastik ve cırp matzemeleri için	P5	210	195	230	255	295
		690	640	750	840	970
Grafit matzeme için	P6	235	220	260	285	335
		770	720	850	940	1100
Minimaster Plus	P7	225	205	245	270	315
		740	670	800	890	1025
Minimaster	P8	210	190	225	250	290
		690	620	740	820	950
Minimaster	P11	220	200	235	260	305
		720	660	770	850	1000
Minimaster	P12	140	125	140	160	195
		460	410	460	520	640
Minimaster Plus	M1	230	210	250	275	325
		750	690	820	900	1075
Minimaster Plus	M2	190	175	205	230	265
		620	570	670	750	870
Minimaster Plus	M3	150	135	155	175	215
		490	445	510	570	710
Minimaster Plus	M4	115	95	115	125	165
		375	310	375	410	540
Minimaster Plus	M5	95	80	95	105	135
		310	260	310	345	445
Minimaster Plus	K1	225	205	245	270	320
		740	670	800	890	1050
Minimaster Plus	K2	200	185	220	240	280
		660	610	720	790	920
Minimaster Plus	K3	170	155	185	205	240
		560	510	610	670	790
Minimaster Plus	K4	160	150	175	195	230
		520	490	570	640	750
Minimaster Plus	K5	100	90	105	120	140
		330	295	345	395	460
Minimaster Plus	K6	145	130	155	170	200
		475	425	510	560	660
Minimaster Plus	K7	125	115	135	150	175
		410	375	445	490	570
Minimaster Plus	N1	1650	1500	1800	2000	2325
		5425	4925	5900	6550	7625
Minimaster Plus	N2	670	610	720	810	940
		2200	2000	2350	2650	3075
Minimaster Plus	N3	445	405	485	540	630
		1450	1325	1600	1775	2075
Minimaster Plus	N11	510	465	550	610	720
		1675	1525	1800	2000	2350
Minimaster Plus	S1	55	44	55	60	75
		180	145	180	195	245
Minimaster Plus	S2	43	35	43	47	60
		140	115	140	155	195
Minimaster Plus	S3	37	31	38	42	55
		120	100	125	140	180
Minimaster Plus	S11	75	65	75	85	110
		245	215	245	280	360
Minimaster Plus	S12	50	45	50	60	75
		165	150	165	195	245
Minimaster Plus	S13	30	25	30	33	43
		100	80	100	110	140
Minimaster Plus	H5	46	41	47	55	65
		150	135	155	180	215
Minimaster Plus	H8	48	42	48	55	70
		155	140	155	180	230
Minimaster Plus	H11	60	50	60	70	85
		195	165	195	230	280
Minimaster Plus	H12	85	75	85	100	125
		280	245	280	330	410
Minimaster Plus	H21	48	42	48	55	70
		155	140	155	180	230



## MINIMASTER™

Minimaster™, optimum erişilebilirlik, maksimum tutarlılık ve güvenlik için farklı çözümleri bir araya getirebilen benzersiz, çok amaçlı bir parmak frezeleme sistemidir.

Kullanım boyunu minimuma indirip, aynı zamanda maksimum tutarlılık sağlayarak tüm uygulamalarınızda çözüm bulmanızı sağlar.

- Dik Kenar ürün çeşitleri: 6-20 mm (0,25 - 0,75 inç)
- Tamamı Yuvarlak ürün çeşitleri: 6-20 mm (0,25 - 0,75 inç)
- Merkez Delme/Pah Kırma ürün çeşitleri: 6-19,05 mm (0,25 - 0,750 inç)
- Yüksek İlerleme ürün çeşitleri: 8-12 mm (0,375 - 0,625 inç)
- Dalma Kesme ürün çeşitleri: 6-16 mm (0,25 - 0,625 inç)
- Konkav Radyüs ürün çeşitleri: 12 mm (0,472 inç)

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Grafit malzeme için

Minimaster Plus

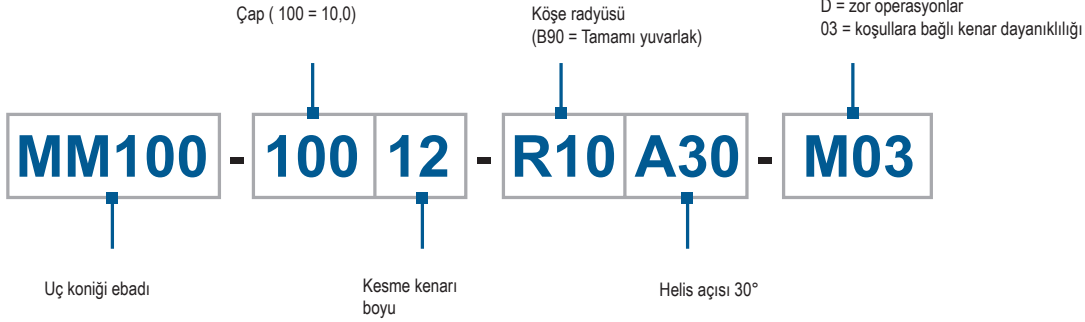
Minimaster

## Kod anahtarları

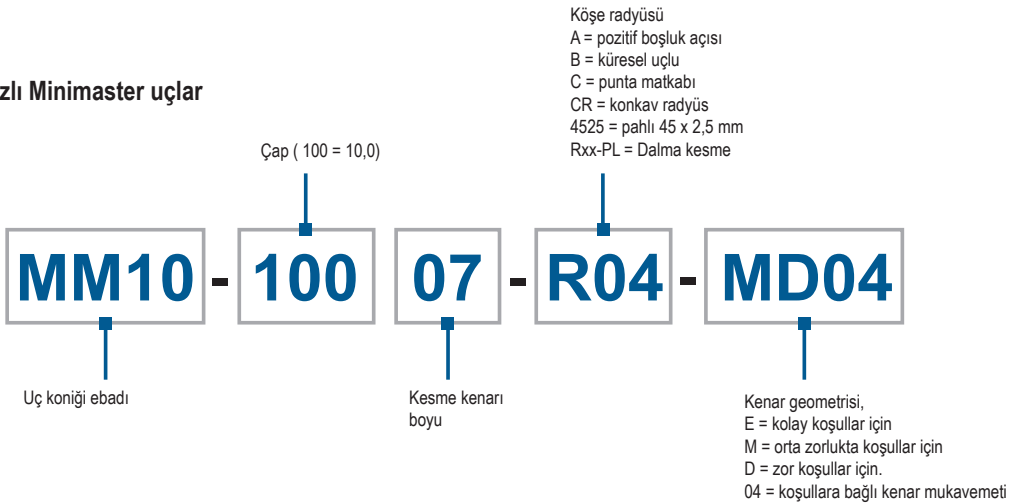
## Saplar



## 3 ağızlı Minimaster uçlar



## 2 ağızlı Minimaster uçlar

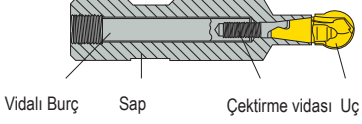
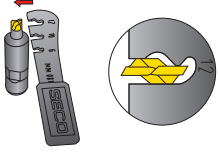
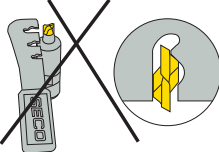
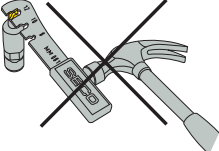
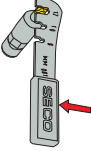


Kodun bazı bölümlerinin uçlara ya da saplara göre değişebileceğini unutmayın

## İçten soğutma



## 2 ağızlı Minimaster için montaj talimatları

Tork anahtarı	
 <p>Vidalı Burç    Sap    Çektirme vidası    Uç</p>	<p>Çektirme vidası ve uç oturtulmadan önce vidalı burç sapa güvenli biçimde bağlanmış olmalıdır. Ucu değiştirmek için anahtar kullanılmıyorsa (uç kırılmışsa veya sapta sıkışmışsa) vidalı burç gevşetilebilir, böylece uç da serbest kalacaktır. Uç serbest kalana kadar vidalı burcu gevşetmek için Allen anahtarını kullanın (saat yönünün tersine çevirin). Çektirme vidasını ve yeni ucu oturtmadan önce saptaki vidalı burcu yeniden sıkın. 3 ağızlı Minimaster için başka bir anahtar (MM0416) kullanılmalıdır.(ucun arkasındaki altıgen anahtar ağızı için.)</p>
	<p>Anahtarın doğru kullanıldığından emin olun</p>
	<p>Anahtar yanlış tarafta kullanılırsa hasara yol açar</p>
	<p>Aşırı kuvvet kullanmayın</p>
	<p>Normal el kuvveti yeterlidir</p>

## Seçim kılavuzu

### 1. Konik ebadını seçme

İş parçasının tasarımı ve işleme operasyonları uygun konik ebadını belirler. En iyi güç ve stabilite için mümkün olan en büyük konik ebadını seçin.

### 2. Uç seçme

- İş parçası malzemesini bir Seco malzeme grubuna sınıflandırmak için 626. sayfada başlayan tabloları kullanın.
- Seçilen konik ebadıyla ilgili sayfalara bakın ve uç seçimi tablosundan uygun bir uç seçin.

### 3. Sap seçme

- Seçilen konik ebadıyla ilgili sayfalara bakın ve takım verileri tablosundan uygun bir sap seçin.
- En iyi stabilite için her zaman mümkün olan en kısa sapı seçin.

### 4. Kesme verilerini seçinseçme

- Her bir konik ebadıyla ilgili kesme hızı tavsiyeleri kesme verisi tablosunda mevcuttur. Kesme verisi tavsiyelerinde stabil koşullar baz alınmıştır ve uygulamanın stabilitesine göre ayarlanmalıdır (takım, tezgah ve iş parçasının bağlanması). Kanal boşaltılırken maks. ap için genel kural  $DC*0,3 = Maks.$  APMXS'dir. (Bkz. şekil 1)
- İlerleme ve kesme hızı tavsiyeleri, kesme verisi dönüştürme tablosunda mevcuttur.
- Güvenlik nedeniyle hiçbir zaman aşılmaması gereken maksimum RPM, [XXX]. sayfada gösterilmiştir.
- Freze tam çap kullanıma uygun değilse ağız başına ilerleme ve kesme hızı tam temas eden frezeyle ilgili tavsiyelere kıyasla yükseltilmelidir. Bunun nedeni, kesme bölgesindeki ortalama talaş kalınlığını ve işleme sıcaklığını aynı tutmaktır.
- Gerçek freze çap kullanım yüzdesini ( $a_e/DC\%$ ) elde etmek için radyal kesme derinliğini freze çapına bölün. Tamamı yuvarlak uçlar için DC yerine efektif çalışma çapını  $D_w$  kullanın (Bkz. şekil 2 ve 6)
- Doğru ağız başına ilerleme ve kesme hızı tavsiyelerini elde etmek için yüzde değerini kullanın.

### 5. Genel

- Kovukların köşelerinde ve altlarında frezeleme yapılırken, ortalama talaş kalınlığının yükselmesi nedeniyle ilerleme oranı düşürülmelidir. Tam çap kullanılan frezeyle ilgili ağız başına ilerleme tavsiyelerini kullanın.
- Küçük kesme derinliğinde,  $40^\circ$  üzerinde bir açıyla aşağı yönde kopya frezeleme veya  $30^\circ$  üzerinde bir açıyla yukarı yönde kopya frezeleme yaparken (DC) çapını kullanın.
- Devir başına ilerleme ve ilerleme hızı hesaplanırken her zaman ZEFP değerini kullanın. Bu, kesme verisi hesaplamasında kullanılması gereken efektif ağız sayısıdır. ZEFP değeri uç seçim tablosunda bulunabilir.

**Not!** İlerleme oranı arttırıldığında iş parçası üzerindeki yüzey kalitesinde bir bozulma olur. (Bkz. şekil 3 ve 5)

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeler için

Grafit malzeme için

Minimaster Plus



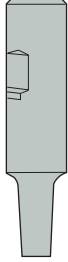


Minimaster



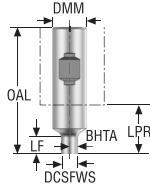
## Minimaster şekilleri

Şekil 1	Şekil 2	Üniversal Çelik ve dökme demir Paslanmaz çelik ve S iş parçası malzemeleri Paslanmaz çelik ve S iş parçası malzemeleri Demir içermeyen malzemeler Sertleştirilmiş çelik için Grafit malzeme için Minimaster Plus Minimaster
Şekil 3	Şekil 4	
Şekil 5	Şekil 6	

## Versiyon

Üniversal	Versiyon 1, Kama kanalı açma sapı	Versiyon 2, Silindirik/Weldon arka bağlantı ve 90° ön
Çelik ve dökme demir		
Paslanmaz çelik ve S iş parçası matzemeleri		
Versiyon 3, Silindirik/Weldon arka bağlantı konik ön 87°/89°	Versiyon 4, Silindirik/Weldon arka bağlantı konik ön 80°/85°/87°	
Demir içermeyen matzemeler		
Sertleştirilmiş çelik için		
Plastik ve çfrp matzemeler için		
Versiyon 5, Silindirik arka bağlantı çift konik ön uç 89°/85°		
Grafit matzeme için		
Minimaster Plus		




## MM06 Sap – Metrik



Ürün Tanımı	Ürün numarası	Montaj tipi	DCSFWS	DMM	OAL	LF	LPR	BHTA°	Tasarım	RPMX	Ağırlık	Yedek parça kod no.	
													mm
MM06-12070.3-0005	75080695	Weldon	5,75	12,0	70,0	5,0	25,0	0,0	2	✓	80000	0,1	1
MM06-16075.3-3009	75080696	Weldon	5,75	16,0	75,0	9,0	27,0	3,0	3	✓	80000	0,1	1
MM06-16110.3-5058	75080697	Weldon	5,75	16,0	110,0	58,6	62,0	5,0	4	✓	80000	0,2	4
MM06-10040.0-0007	00094747	Silindirik	5,75	10,0	40,0	7,0	7,0	0,0	2	✓	80000	0,1	2
MM06-12065.0-0000	75080694	Silindirik	5,7	12,0	65,0	0,0	15,0	60,0	1	✓	80000	0,1	1
MM06-16140.0-1020M	00027102	Silindirik	5,75	16,0	140,0	20,0	92,0	1,0	3	✓	80000	0,2	5
MM06-16140.0-1035M	00027103	Silindirik	5,75	16,0	140,0	35,0	92,0	1,0	3	✓	80000	0,2	6
MM06-16140.0-1050M	00094748	Silindirik	5,75	16,0	140,0	50,0	92,0	1,0	3	✓	80000	0,2	6
MM06-10050.0-0007DS	02580666	Silindirik	5,75	10,0	50,0	7,0	7,0	0,0	2	✓	80000	0,1	3
MM06-10075.0-3041DS	02580701	Silindirik	5,75	10,0	75,0	40,5	35,0	3,0	4	✓	80000	0,1	3
MM06-10100.0-1035DS	02580713	Silindirik	5,75	10,0	100,0	35,0	60,0	1,0	3	✓	80000	0,1	3
MM06-12120.0-1050DS	02580714	Silindirik	5,75	12,0	120,0	50,0	75,0	1,0	3	✓	80000	0,2	3
MM06-16090.0-0012DS	02580670	Silindirik	5,75	16,0	90,0	12,0	42,0	0,0	2	✓	80000	0,3	3
MM06-16095.0-0024DS	02580673	Silindirik	5,75	16,0	95,0	24,0	47,0	0,0	2	✓	80000	0,3	3
MM06-16140.0-1050DS	02580717	Silindirik	5,75	16,0	140,0	50,0	92,0	1,0	3	✓	80000	0,3	3
MM06-16140.0-1035DS	02580716	Silindirik	5,75	16,0	140,0	35,0	92,0	1,0	3	✓	80000	0,4	3
MM06-20250.0-1035DS	02580718	Silindirik	5,75	20,0	250,0	35,0	190,0	1,0	5	✓	80000	1,0	3

## Yedek parçalar

## Aksesuarlar

Şu freze için	Burç	Çektirme vidası	Burç anahtarı
1	 MM-035046	 MM06-03518	 H05-4
4	MM-035091	MM06-03518	H05-4
2	MM-035023	MM06-03518	H05-4
5	MM-035046	MM06-03544	H05-4
6	MM-035046	MM06-03564	H05-4
3	-	MM06-03518	-

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

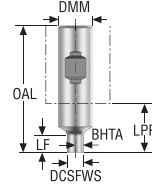
Sertleştirilmiş çelik için

Grafit materyale için

Minimaster Plus

Minimaster

## MM06 Sap – İnce



Ürün Tanımı	Ürün numarası	Montaj tipi	DCSFMS	DMM	OAL	LF	LPR	BHTA°	Tasarım	RPMX	Ağırlık	Yedek parça kod no.	
													İnce
MM06-0.50-2.8-3-0002	00096108	Weldon	0.224	0.500	2.756	0.197	0.984	0,0	2	✓	80000	0.220	1
MM06-0.62-3.0-3-3003	00096116	Weldon	0.224	0.625	2.953	0.354	1.063	3,0	1	✓	80000	0.220	1
MM06-0.62-4.3-3-5022	00096117	Weldon	0.224	0.625	4.331	2.291	2.441	5,0	2	✓	80000	0.440	4
MM06-0.38-1.6-0-0002	00096107	Silindirik	0.224	0.375	1.575	0.276	0.276	0,0	2	✓	80000	0.220	2
MM06-0.50-2.6-0-0000	00096106	Silindirik	0.224	0.500	2.559	0	0.787	60,0	1	✓	80000	0.220	1
MM06-0.62-5.5-0-1007	00096111	Silindirik	0.224	0.625	5.512	0.787	3.622	1,0	3	✓	80000	0.440	5
MM06-0.62-5.5-0-1013	00096112	Silindirik	0.224	0.625	5.512	1.378	3.622	1,0	3	✓	80000	0.440	6
MM06-0.62-5.5-0-1019	00096114	Silindirik	0.224	0.625	5.512	1.969	3.622	1,0	3	✓	80000	0.440	6
MM06-0.62-3.5-0-0004DS	02593394	Silindirik	0.224	0.625	3.543	0.472	1.654	0,0	2	✓	80000	0.660	3
MM06-0.62-3.7-0-0009DS	02593395	Silindirik	0.224	0.625	3.740	0.945	1.850	0,0	2	✓	80000	0.660	3
MM06-0.62-5.5-0-1013DS	02593396	Silindirik	0.224	0.625	5.512	1.378	3.622	1,0	3	✓	80000	0.880	3
MM06-0.62-5.5-0-1019DS	02593397	Silindirik	0.224	0.625	5.512	1.969	3.622	1,0	3	✓	80000	0.660	3
MM06-0.75-10.0-0-1013DS	02593399	Silindirik	0.224	0.750	9.843	1.378	7.874	1,0	5	✓	80000	1.980	3

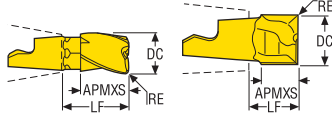
### Yedek parçalar

### Aksesuarlar

Şu freze için	Burç	Çektirme vidası	Burç anahtarı
1	MM-035046	MM06-03518	H05-4
4	MM-035091	MM06-03518	H05-4
2	MM-035023	MM06-03518	H05-4
5	MM-035046	MM06-03544	H05-4
6	MM-035046	MM06-03564	H05-4
3	-	MM06-03518	-



## Kanal açma/dik kenar frezeleme



• Tork anahtarları ve tork değerleri için bkz. sayfa 624

Ürün Tanımı	DC	APMXS	RE	LF	RMPX°	C min	C max	FHA	ZEPF	Tasarım	Kaliteler	Kaplama			
												T60M	F15M	F30M	F40M
												mm Inç	mm Inç	mm Inç	mm Inç
MM06-06007-A30-E02	6,0 0.236	7,5 0.295	0,0 0.0	9,9 0.390	15,0	7,4	11,8	30	3	MM0416	✓			■	
MM06-06007-R05A30-M02	6,0 0.236	7,5 0.295	0,5 0.020	9,9 0.390	15,0	7,4	10,8	30	3	MM0416	✓				■
MM06-06007-R10A30-E02	6,0 0.236	7,5 0.295	1,0 0.039	9,9 0.390	15,0	7,4	9,8	30	3	MM0416	✓			■	
MM06-06007-R10A30-M02	6,0 0.236	7,5 0.295	1,0 0.039	9,9 0.390	15,0	7,4	9,8	30	3	MM0416	✓				■
MM06-06007-R10A30-D02	6,0 0.236	7,5 0.295	1,0 0.039	9,9 0.390	15,0	7,4	9,8	30	3	MM0416	✓			■	
MM06-06007-R20A30-M02	6,0 0.236	7,5 0.295	2,0 0.079	9,9 0.390	15,0	7,4	7,8	30	3	MM0416	✓				■
MM06-06407-A30-E02	6,35 0.250	7,5 0.295	0,0 0.0	9,9 0.390	15,0	7,8	12,5	30	3	MM0416	✓			■	
MM06-06407-R04A30-M02	6,35 0.250	7,5 0.295	0,4 0.016	9,9 0.390	15,0	7,8	11,7	30	3	MM0416	✓				■
MM06-06407-R08A30-M02	6,35 0.250	7,5 0.295	0,8 0.031	9,9 0.390	15,0	7,8	10,9	30	3	MM0416	✓				■
MM06-06004-M02	6,0 0.236	4,1 0.161	0,0 0.0	5,1 0.201	15,0	7,4	11,8	0	2	MM0612		■			
MM06-06004-R04-MD02	6,0 0.236	4,1 0.161	0,4 0.016	5,1 0.201	15,0	7,4	11,0	0	2	MM0612		■		■	
MM06-06004-R10-MD02	6,0 0.236	4,1 0.161	1,0 0.039	5,1 0.201	15,0	7,4	9,8	0	2	MM0612				■	
MM06-05807-R02A30-M02	5,8 0.228	7,5 0.295	0,2 0.008	9,9 0.390	15,0	7,2	11,0	30	3	MM0612	✓				■
MM06-05804T-R02-D02	5,8 0.228	4,1 0.161	0,2 0.008	5,1 0.201	15,0	7,2	11,0	0	2	MM0612		■			

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

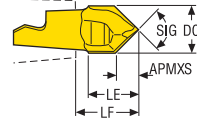
Sertleştirilmiş çelik için

Grafit malzeme için

Minimaster Plus

Minimaster

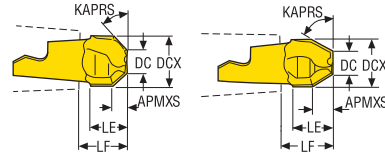
## Punta matkabi



• Tork anahtarları ve tork değerleri için bkz. sayfa 624

Ürün Tanımı	DC	APMXS	LE	LF	SIG°	ZEP	Tasarım	Kaliteler			
								T60M	F15M	F30M	F40M
MM06-06003-C90-M02	6,0 0.236	2,86 0.113	6,0 0.236	7,12 0.280	90,0	2	MM0612	■			
MM06-06003-C120-M02	6,0 0.236	1,6 0.063	6,27 0.247	7,19 0.283	120,0	2	MM0612	■			

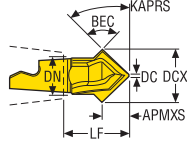
## Pah kırma



• Tork anahtarları ve tork değerleri için bkz. sayfa 624

Ürün Tanımı	DCX	DC	APMXS	LE	LF	KAPRS°	ZEP	Tasarım	Kaliteler			
									T60M	F15M	F30M	F40M
MM06-06004-4515-E02	6,0 0.236	1,8 0.071	2,1 0.083	4,0 0.157	5,1 0.201	45,0	2	MM0612	■			
MM06-06004-6015-E02	6,0 0.236	3,14 0.124	2,4 0.094	4,6 0.181	5,75 0.226	60,0	2	MM0612	■			

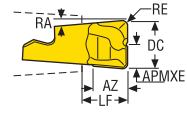
## Çift pah kırma



• Tork anahtarları ve tork değerleri için bkz. sayfa 624

Ürün Tanımı	DCX	DC	APMXS	LF	DN	BEC°	KAPRS°	ZEFP	Tasarım	Kaliteler			
										T60M	F15M	F30M	F40M
MM06-08008-D4510P-M02	8,0 0.315	0,6 0.024	3,7 0.146	8,5 0.335	6,0 0.236	90,0	45,0	2	MM0612		■		

## Dalma kesme frezeleme



• Tork anahtarları ve tork değerleri için bkz. sayfa 624

Ürün Tanımı	DC	APMXE	RE	AZ	LF	RA	ZEFP	Tasarım	Kaliteler			
									T60M	F15M	F30M	F40M
MM06-06004-R10-PL-MD02	6,0 0.236	3,0 0.118	1,0 0.039	4,3 0.169	5,08 0.200	5,0	2	MM0612			■	

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

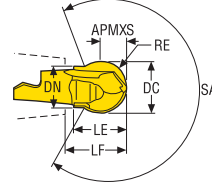
Sertleştirilmiş çelik için

Grafit malzeme için

Minimaster Plus

Minimaster

## Tüm malzemelerde yarı-finiş işleme için hassas uçlar



• Tork anahtarları ve tork değerleri için bkz. sayfa 624

Ürün Tanımı	DC	APMXS	RE	LE	LF	DN	SA	ZEFP	Tasarım	Kaliteler			
										T60M	F15M	F30M	F40M
MM06-08008-B120PF-M01	8,0 0.315	4,0 0.157	4,0 0.157	8,0 0.315	8,73 0.344	6,0 0.236	NaN	2	MM0612		■		
MM06-08008-B120P-M03	8,0 0.315	4,0 0.157	4,0 0.157	8,0 0.315	8,73 0.344	6,0 0.236	NaN	2	MM0612			■	

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Plastik ve cırp malzemeleri için

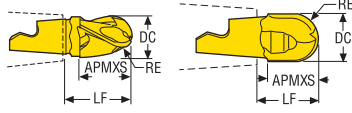
Grafit malzeme için

Minimaster Plus

Minimaster



## Kopya frezeleme



• Tork anahtarları ve tork değerleri için bkz. sayfa 624

Ürün Tanımı	DC	APMXS	RE	LF	FHA	ZEFP	Tasarım	Kaliteler	Kaplama			
									T60M	F15M	F30M	F40M
									mm Inç	mm Inç	mm Inç	mm Inç
MM06-06007-B90A30-E02	6,0 0.236	7,4 0.291	3,0 0.118	9,85 0.388	30,0	3	MM0416	✓			■	
MM06-06007-B90A30-M02	6,0 0.236	7,4 0.291	3,0 0.118	9,85 0.388	30,0	3	MM0416	✓				■
MM06-06006-B90-MD02	6,0 0.236	6,1 0.240	3,0 0.118	7,06 0.278	0,0	2	MM0612		■		■	
MM06-06006-B90S-E02	6,0 0.236	6,1 0.240	3,0 0.118	7,06 0.278	0,0	2	MM0612				■	
MM06-06406-B90S-E02	6,35 0.250	6,3 0.248	3,175 0.125	7,24 0.285	0,0	2	MM0612				■	
MM06-06006-B90P-M02	6,0 0.236	5,2 0.205	3,0 0.118	7,04 0.277	0,0	2	MM0612				■	
MM06-06406-B90P-M02	6,35 0.250	5,4 0.213	3,175 0.125	7,22 0.284	0,0	2	MM0612				■	
MM06-06006-B90PF-M01	6,0 0.236	5,2 0.205	3,0 0.118	7,04 0.277	0,0	2	MM0612		■			

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Grafit malzeme için

Minimaster Plus

Minimaster

## MM06 - Kanal ve Kenar frezeleme – Uç seçimi

SMG		$a_p$	$f_z$			
			100%	40%	20%	10%
P1	MM06-06007-R05A30-M02 F40M	1,3	0,030	0,030	0,036	0,048
		0,050	0,0012	0,0012	0,0014	0,0019
P2	MM06-06007-R05A30-M02 F40M	1,3	0,030	0,030	0,036	0,048
		0,050	0,0012	0,0012	0,0014	0,0019
P3	MM06-06007-R05A30-M02 F40M	1,3	0,028	0,028	0,034	0,046
		0,050	0,0011	0,0011	0,0013	0,0018
P4	MM06-06007-R05A30-M02 F40M	1,3	0,028	0,028	0,034	0,044
		0,050	0,0011	0,0011	0,0013	0,0017
P5	MM06-06007-R05A30-M02 F40M	1,3	0,028	0,028	0,032	0,044
		0,050	0,0011	0,0011	0,0013	0,0017
P6	MM06-06007-R05A30-M02 F40M	1,3	0,028	0,028	0,032	0,044
		0,050	0,0011	0,0011	0,0013	0,0017
P7	MM06-06007-R05A30-M02 F40M	1,3	0,028	0,028	0,032	0,044
		0,050	0,0011	0,0011	0,0013	0,0017
P8	MM06-06007-R05A30-M02 F40M	1,3	0,028	0,028	0,034	0,046
		0,050	0,0011	0,0011	0,0013	0,0018
P11	MM06-06007-R05A30-M02 F40M	1,3	0,028	0,028	0,032	0,044
		0,050	0,0011	0,0011	0,0013	0,0017
P12	MM06-06007-R05A30-M02 F40M	1,0	0,020	0,020	0,022	0,030
		0,040	0,00080	0,00080	0,00085	0,0012
M1	MM06-06007-R05A30-M02 F40M	1,3	0,030	0,030	0,036	0,048
		0,050	0,0012	0,0012	0,0014	0,0019
M2	MM06-06007-R05A30-M02 F40M	1,3	0,028	0,028	0,032	0,044
		0,050	0,0011	0,0011	0,0013	0,0017
M3	MM06-06007-R05A30-M02 F40M	1,0	0,024	0,024	0,026	0,036
		0,040	0,00095	0,00095	0,0010	0,0014
M4	MM06-06007-R05A30-M02 F40M	0,80	0,022	0,020	0,024	0,030
		0,032	0,00085	0,00080	0,00095	0,0012
M5	MM06-06007-R05A30-M02 F40M	0,80	0,022	0,020	0,024	0,030
		0,032	0,00085	0,00080	0,00095	0,0012
K1	MM06-06007-R10A30-D02 F30M	1,3	0,036	0,034	0,038	0,050
		0,050	0,0014	0,0013	0,0015	0,0020
K2	MM06-06007-R10A30-D02 F30M	1,3	0,032	0,032	0,034	0,044
		0,050	0,0013	0,0013	0,0013	0,0017
K3	MM06-06007-R10A30-D02 F30M	1,3	0,032	0,032	0,034	0,044
		0,050	0,0013	0,0013	0,0013	0,0017
K4	MM06-06007-R10A30-D02 F30M	1,3	0,032	0,032	0,034	0,044
		0,050	0,0013	0,0013	0,0013	0,0017
K5	MM06-06007-R10A30-D02 F30M	1,3	0,030	0,028	0,030	0,040
		0,050	0,0012	0,0011	0,0012	0,0016
K6	MM06-06007-R10A30-D02 F30M	1,3	0,032	0,032	0,034	0,044
		0,050	0,0013	0,0013	0,0013	0,0017
K7	MM06-06007-R10A30-D02 F30M	1,3	0,030	0,028	0,030	0,040
		0,050	0,0012	0,0011	0,0012	0,0016
N1	MM06-06007-R10A30-E02 F30M	1,3	0,046	0,044	0,048	0,065
		0,050	0,0018	0,0017	0,0019	0,0026
N2	MM06-06007-R10A30-E02 F30M	1,3	0,046	0,044	0,048	0,065
		0,050	0,0018	0,0017	0,0019	0,0026
N3	MM06-06007-R10A30-E02 F30M	1,3	0,046	0,044	0,048	0,065
		0,050	0,0018	0,0017	0,0019	0,0026
N11	MM06-06007-R10A30-E02 F30M	1,3	0,046	0,044	0,048	0,065
		0,050	0,0018	0,0017	0,0019	0,0026
S1	MM06-06007-R10A30-D02 F30M	0,80	0,028	0,026	0,025	0,032
		0,032	0,0011	0,0010	0,0010	0,0013
S2	MM06-06007-R10A30-D02 F30M	0,80	0,028	0,026	0,025	0,032
		0,032	0,0011	0,0010	0,0010	0,0013
S3	MM06-06007-R10A30-D02 F30M	0,80	0,026	0,025	0,024	0,028
		0,032	0,0010	0,0010	0,00095	0,0012
S11	MM06-06007-R05A30-M02 F40M	0,90	0,024	0,024	0,026	0,036
		0,036	0,00095	0,00095	0,0010	0,0014
S12	MM06-06007-R05A30-M02 F40M	0,90	0,024	0,024	0,026	0,036
		0,036	0,00095	0,00095	0,0010	0,0014
S13	MM06-06007-R05A30-M02 F40M	0,80	0,022	0,020	0,024	0,030
		0,032	0,00085	0,00080	0,00095	0,0012
H5	MM06-06007-R10A30-D02 F30M	1,0	0,025	0,024	0,024	0,030
		0,040	0,0010	0,00095	0,00095	0,0012
H8	MM06-06007-R10A30-D02 F30M	0,90	0,020	0,019	0,018	0,024
		0,036	0,00080	0,00075	0,00070	0,00095
H11	MM06-06007-R10A30-D02 F30M	1,0	0,025	0,024	0,024	0,030
		0,040	0,0010	0,00095	0,00095	0,0012
H12	MM06-06007-R10A30-D02 F30M	0,90	0,020	0,019	0,018	0,024
		0,036	0,00080	0,00075	0,00070	0,00095
H21	MM06-06007-R10A30-D02 F30M	0,90	0,020	0,019	0,018	0,024
		0,036	0,00080	0,00075	0,00070	0,00095

SMG = Seco malzeme grubu

 $f_z$  = mm/ağız (inç/ağız),  $v_c$  = m/dk (sf/dk),  $a_p/DC$  = %

Tüm kesme verileri başlangıç değerleridir

MM06 - Kanal ve Kenar frezeleme – Kesme verisi  $v_c = (m/dk)$

SMG	F30M				F40M				T60M			
	100%	40%	20%	10%	100%	40%	20%	10%	100%	40%	20%	10%
P1	280	350	395	435	270	335	375	415	220	270	300	330
	920	1150	1300	1425	890	1100	1225	1350	720	890	980	1075
P2	275	340	380	420	260	325	365	400	210	260	295	320
	900	1125	1250	1375	850	1075	1200	1300	690	850	970	1050
P3	240	295	330	365	225	285	315	350	185	230	255	280
	790	970	1075	1200	740	940	1025	1150	610	750	840	920
P4	210	260	295	320	200	250	280	305	160	200	225	245
	690	850	970	1050	660	820	920	1000	520	660	740	800
P5	200	250	280	310	190	240	265	295	155	190	215	235
	660	820	920	1025	620	790	870	970	510	620	710	770
P6	225	285	315	345	215	270	300	330	175	215	240	265
	740	940	1025	1125	710	890	980	1075	570	710	790	870
P7	215	265	295	325	205	255	285	310	165	205	230	250
	710	870	970	1075	670	840	940	1025	540	670	750	820
P8	200	250	280	305	190	240	265	290	155	190	215	235
	660	820	920	1000	620	790	870	950	510	620	710	770
P11	210	260	290	320	200	245	275	305	160	200	220	245
	690	850	950	1050	660	800	900	1000	520	660	720	800
P12	130	160	175	195	125	150	170	185	100	125	135	150
	425	520	570	640	410	490	560	610	330	410	445	490
M1	—	—	—	—	210	265	295	320	170	210	235	260
	—	—	—	—	690	870	970	1050	560	690	770	850
M2	—	—	—	—	175	215	240	265	140	170	195	210
	—	—	—	—	570	710	790	870	460	560	640	690
M3	—	—	—	—	135	165	190	205	110	135	150	165
	—	—	—	—	445	540	620	670	360	445	490	540
M4	—	—	—	—	105	130	145	155	85	105	115	125
	—	—	—	—	345	425	475	510	280	345	375	410
M5	—	—	—	—	85	105	120	130	70	85	95	105
	—	—	—	—	280	345	395	425	230	280	310	345
K1	215	270	305	335	205	260	290	315	165	210	230	255
	710	890	1000	1100	670	850	950	1025	540	690	750	840
K2	190	235	265	295	180	225	255	280	150	180	205	225
	620	770	870	970	590	740	840	920	490	590	670	740
K3	160	200	225	250	155	190	215	235	125	155	175	190
	520	660	740	820	510	620	710	770	410	510	570	620
K4	155	190	215	235	145	180	205	225	120	145	165	180
	510	620	710	770	475	590	670	740	395	475	540	590
K5	95	115	130	145	90	110	125	135	70	90	100	110
	310	375	425	475	295	360	410	445	230	295	330	360
K6	135	170	190	210	130	160	180	200	105	130	145	160
	445	560	620	690	425	520	590	660	345	425	475	520
K7	120	150	165	180	115	140	160	175	90	115	125	140
	395	490	540	590	375	460	520	570	295	375	410	460
N1	1650	2050	2325	2525	1575	1975	2200	2400	1275	1575	1775	1950
	5425	6725	7625	8275	5175	6475	7225	7875	4175	5175	5825	6400
N2	670	830	930	1025	640	790	890	970	510	640	710	790
	2200	2725	3050	3375	2100	2600	2925	3175	1675	2100	2325	2600
N3	445	560	620	680	425	530	590	650	340	425	475	530
	1450	1825	2025	2225	1400	1750	1925	2125	1125	1400	1550	1750
N11	510	630	710	780	485	600	680	740	390	485	540	600
	1675	2075	2325	2550	1600	1975	2225	2425	1275	1600	1775	1975
S1	50	65	70	75	49	60	65	75	39	49	55	60
	165	215	230	245	160	195	215	245	130	160	180	195
S2	41	50	55	60	39	48	55	60	32	39	44	48
	135	165	180	195	130	155	180	195	105	130	145	155
S3	36	44	49	55	34	42	47	50	27	34	38	41
	120	145	160	180	110	140	155	165	90	110	125	135
S11	—	—	—	—	70	85	95	105	55	70	75	85
	—	—	—	—	230	280	310	345	180	230	245	280
S12	—	—	—	—	48	60	65	70	38	48	55	60
	—	—	—	—	155	195	215	245	125	155	180	195
S13	—	—	—	—	27	34	38	41	22	27	30	33
	—	—	—	—	90	110	125	135	70	90	100	110
H5	43	55	60	65	41	50	55	60	33	41	45	50
	140	180	195	215	135	165	180	195	110	135	150	165
H8	44	55	60	65	42	50	60	65	34	42	47	50
	145	180	195	215	140	165	195	215	110	140	155	165
H11	55	65	75	85	50	65	70	80	42	50	60	65
	180	215	245	280	165	215	230	260	140	165	195	215
H12	80	95	110	120	75	90	105	115	60	75	85	90
	260	310	360	395	245	295	345	375	195	245	280	295
H21	44	55	60	65	42	50	60	65	34	42	47	50
	145	180	195	215	140	165	195	215	110	140	155	165

Üniversal  
Çelik ve dökme demir  
Paslanmaz çelik ve S iş parçaları materyalleri  
Paslanmaz çelik ve S iş parçaları materyalleri  
Demir içermeyen materyaller  
Demir içermeyen materyaller  
Sertleştirilmiş çelik için  
Sertleştirilmiş çelik için  
Grafit materyaller için  
Grafit materyaller için  
Minimaster Plus  
Minimaster

## MM06 Z3-Kopya frezeleme – Uç seçimi – Kaba işleme

SMG		$a_p$	$f_z$			
			100%	40%	20%	10%
P1	MM06-06007-B90A30-M02 F40M	1,3	0,036	0,034	0,036	0,048
		0,050	0,0014	0,0013	0,0014	0,0019
P2	MM06-06007-B90A30-M02 F40M	1,3	0,036	0,034	0,036	0,048
		0,050	0,0014	0,0013	0,0014	0,0019
P3	MM06-06007-B90A30-M02 F40M	1,3	0,034	0,034	0,034	0,046
		0,050	0,0013	0,0013	0,0013	0,0018
P4	MM06-06007-B90A30-M02 F40M	1,3	0,034	0,032	0,034	0,044
		0,050	0,0013	0,0013	0,0013	0,0017
P5	MM06-06007-B90A30-M02 F40M	1,3	0,032	0,032	0,034	0,044
		0,050	0,0013	0,0013	0,0013	0,0017
P6	MM06-06007-B90A30-M02 F40M	1,3	0,032	0,032	0,034	0,044
		0,050	0,0013	0,0013	0,0013	0,0017
P7	MM06-06007-B90A30-M02 F40M	1,3	0,032	0,032	0,034	0,044
		0,050	0,0013	0,0013	0,0013	0,0017
P8	MM06-06007-B90A30-M02 F40M	1,3	0,034	0,034	0,034	0,046
		0,050	0,0013	0,0013	0,0013	0,0018
P11	MM06-06007-B90A30-M02 F40M	1,3	0,032	0,032	0,034	0,044
		0,050	0,0013	0,0013	0,0013	0,0017
P12	MM06-06007-B90A30-M02 F40M	1,0	0,024	0,022	0,024	0,030
		0,040	0,00095	0,00085	0,00095	0,0012
M1	MM06-06007-B90A30-M02 F40M	1,3	0,036	0,034	0,036	0,048
		0,050	0,0014	0,0013	0,0014	0,0019
M2	MM06-06007-B90A30-M02 F40M	1,3	0,032	0,032	0,034	0,044
		0,050	0,0013	0,0013	0,0013	0,0017
M3	MM06-06007-B90A30-M02 F40M	1,0	0,028	0,026	0,028	0,036
		0,040	0,0011	0,0010	0,0011	0,0014
M4	MM06-06007-B90A30-M02 F40M	0,80	0,025	0,025	0,025	0,030
		0,032	0,0010	0,0010	0,0010	0,0013
M5	MM06-06007-B90A30-M02 F40M	0,80	0,025	0,025	0,025	0,030
		0,032	0,0010	0,0010	0,0010	0,0013
K1	MM06-06007-B90A30-E02 F30M	1,3	0,036	0,034	0,036	0,048
		0,050	0,0014	0,0013	0,0014	0,0019
K2	MM06-06007-B90A30-E02 F30M	1,3	0,032	0,032	0,034	0,044
		0,050	0,0013	0,0013	0,0013	0,0017
K3	MM06-06007-B90A30-E02 F30M	1,3	0,032	0,032	0,034	0,044
		0,050	0,0013	0,0013	0,0013	0,0017
K4	MM06-06007-B90A30-E02 F30M	1,3	0,032	0,032	0,034	0,044
		0,050	0,0013	0,0013	0,0013	0,0017
K5	MM06-06007-B90A30-M02 F40M	1,3	0,030	0,028	0,030	0,040
		0,050	0,0012	0,0011	0,0012	0,0016
K6	MM06-06007-B90A30-M02 F40M	1,3	0,032	0,032	0,034	0,044
		0,050	0,0013	0,0013	0,0013	0,0017
K7	MM06-06007-B90A30-M02 F40M	1,3	0,030	0,028	0,030	0,040
		0,050	0,0012	0,0011	0,0012	0,0016
N1	MM06-06007-B90A30-E02 F30M	1,3	0,046	0,044	0,046	0,060
		0,050	0,0018	0,0017	0,0018	0,0024
N2	MM06-06007-B90A30-E02 F30M	1,3	0,046	0,044	0,046	0,060
		0,050	0,0018	0,0017	0,0018	0,0024
N3	MM06-06007-B90A30-E02 F30M	1,3	0,046	0,044	0,046	0,060
		0,050	0,0018	0,0017	0,0018	0,0024
N11	MM06-06007-B90A30-E02 F30M	1,3	0,046	0,044	0,046	0,060
		0,050	0,0018	0,0017	0,0018	0,0024
S1	MM06-06007-B90A30-M02 F40M	0,80	0,025	0,025	0,025	0,030
		0,032	0,0010	0,0010	0,0010	0,0013
S2	MM06-06007-B90A30-M02 F40M	0,80	0,025	0,025	0,025	0,030
		0,032	0,0010	0,0010	0,0010	0,0013
S3	MM06-06007-B90A30-M02 F40M	0,80	0,024	0,022	0,022	0,028
		0,032	0,00095	0,00085	0,00085	0,0012
S11	MM06-06007-B90A30-M02 F40M	0,90	0,028	0,028	0,028	0,036
		0,036	0,0011	0,0011	0,0011	0,0014
S12	MM06-06007-B90A30-M02 F40M	0,90	0,028	0,028	0,028	0,036
		0,036	0,0011	0,0011	0,0011	0,0014
S13	MM06-06007-B90A30-M02 F40M	0,80	0,025	0,025	0,025	0,030
		0,032	0,0010	0,0010	0,0010	0,0013
H5	MM06-06007-B90A30-E02 F30M	1,0	0,024	0,022	0,024	0,030
		0,040	0,00095	0,00085	0,00095	0,0012
H8	MM06-06007-B90A30-E02 F30M	0,90	0,018	0,018	0,018	0,022
		0,036	0,00070	0,00070	0,00070	0,00095
H11	MM06-06007-B90A30-E02 F30M	1,0	0,024	0,022	0,024	0,030
		0,040	0,00095	0,00085	0,00095	0,0012
H12	MM06-06007-B90A30-E02 F30M	0,90	0,018	0,018	0,018	0,022
		0,036	0,00070	0,00070	0,00070	0,00095
H21	MM06-06007-B90A30-E02 F30M	0,90	0,018	0,018	0,018	0,022
		0,036	0,00070	0,00070	0,00070	0,00095

SMG = Seco malzeme grubu

 $f_z$  = mm/ağız (inç/ağız),  $v_c$  = m/dk (sf/dk),  $a_p/DC$  = %

Tüm kesme verileri başlangıç değerleridir

## MM06 Z3-Kopya frezeleme – Uç seçimi – Finiş frezeleme

SMG		$a_p$	$f_z$			
			15%	10%	5%	2%
P1	MM06-06007-B90A30-E02 F30M	1,3	0,040	0,048	0,065	0,11
		0,050	0,0016	0,0019	0,0026	0,0044
P2	MM06-06007-B90A30-E02 F30M	1,3	0,040	0,048	0,065	0,11
		0,050	0,0016	0,0019	0,0026	0,0044
P3	MM06-06007-B90A30-E02 F30M	1,3	0,038	0,046	0,065	0,10
		0,050	0,0015	0,0018	0,0026	0,0040
P4	MM06-06007-B90A30-E02 F30M	1,3	0,038	0,044	0,060	0,10
		0,050	0,0015	0,0017	0,0024	0,0040
P5	MM06-06007-B90A30-E02 F30M	1,3	0,036	0,044	0,060	0,10
		0,050	0,0014	0,0017	0,0024	0,0040
P6	MM06-06007-B90A30-E02 F30M	1,3	0,036	0,044	0,060	0,10
		0,050	0,0014	0,0017	0,0024	0,0040
P7	MM06-06007-B90A30-E02 F30M	1,3	0,036	0,044	0,060	0,10
		0,050	0,0014	0,0017	0,0024	0,0040
P8	MM06-06007-B90A30-E02 F30M	1,3	0,038	0,046	0,065	0,10
		0,050	0,0015	0,0018	0,0026	0,0040
P11	MM06-06007-B90A30-E02 F30M	1,3	0,036	0,044	0,060	0,10
		0,050	0,0014	0,0017	0,0024	0,0040
P12	MM06-06007-B90A30-E02 F30M	1,0	0,026	0,030	0,042	0,065
		0,040	0,0010	0,0012	0,0017	0,0026
M1	MM06-06007-B90A30-E02 F30M	1,3	0,040	0,048	0,065	0,11
		0,050	0,0016	0,0019	0,0026	0,0044
M2	MM06-06007-B90A30-E02 F30M	1,3	0,036	0,044	0,060	0,10
		0,050	0,0014	0,0017	0,0024	0,0040
M3	MM06-06007-B90A30-E02 F30M	1,0	0,030	0,036	0,048	0,080
		0,040	0,0012	0,0014	0,0019	0,0032
M4	MM06-06007-B90A30-E02 F30M	0,80	0,026	0,030	0,042	0,070
		0,032	0,0010	0,0013	0,0017	0,0028
M5	MM06-06007-B90A30-E02 F30M	0,80	0,026	0,030	0,042	0,070
		0,032	0,0010	0,0013	0,0017	0,0028
K1	MM06-06007-B90A30-E02 F30M	1,3	0,040	0,048	0,065	0,11
		0,050	0,0016	0,0019	0,0026	0,0044
K2	MM06-06007-B90A30-E02 F30M	1,3	0,036	0,044	0,060	0,10
		0,050	0,0014	0,0017	0,0024	0,0040
K3	MM06-06007-B90A30-E02 F30M	1,3	0,036	0,044	0,060	0,10
		0,050	0,0014	0,0017	0,0024	0,0040
K4	MM06-06007-B90A30-E02 F30M	1,3	0,036	0,044	0,060	0,10
		0,050	0,0014	0,0017	0,0024	0,0040
K5	MM06-06007-B90A30-E02 F30M	1,3	0,034	0,040	0,055	0,090
		0,050	0,0013	0,0016	0,0022	0,0036
K6	MM06-06007-B90A30-E02 F30M	1,3	0,036	0,044	0,060	0,10
		0,050	0,0014	0,0017	0,0024	0,0040
K7	MM06-06007-B90A30-E02 F30M	1,3	0,034	0,040	0,055	0,090
		0,050	0,0013	0,0016	0,0022	0,0036
N1	MM06-06007-B90A30-E02 F30M	1,3	0,050	0,060	0,085	0,14
		0,050	0,0020	0,0024	0,0034	0,0055
N2	MM06-06007-B90A30-E02 F30M	1,3	0,050	0,060	0,085	0,14
		0,050	0,0020	0,0024	0,0034	0,0055
N3	MM06-06007-B90A30-E02 F30M	1,3	0,050	0,060	0,085	0,14
		0,050	0,0020	0,0024	0,0034	0,0055
N11	MM06-06007-B90A30-E02 F30M	1,3	0,050	0,060	0,085	0,14
		0,050	0,0020	0,0024	0,0034	0,0055
S1	MM06-06007-B90A30-E02 F30M	0,80	0,026	0,030	0,042	0,070
		0,032	0,0010	0,0013	0,0017	0,0028
S2	MM06-06007-B90A30-E02 F30M	0,80	0,026	0,030	0,042	0,070
		0,032	0,0010	0,0013	0,0017	0,0028
S3	MM06-06007-B90A30-E02 F30M	0,80	0,025	0,028	0,040	0,065
		0,032	0,0010	0,0012	0,0016	0,0026
S11	MM06-06007-B90A30-E02 F30M	0,90	0,030	0,036	0,048	0,080
		0,036	0,0012	0,0014	0,0019	0,0032
S12	MM06-06007-B90A30-E02 F30M	0,90	0,030	0,036	0,048	0,080
		0,036	0,0012	0,0014	0,0019	0,0032
S13	MM06-06007-B90A30-E02 F30M	0,80	0,026	0,030	0,042	0,070
		0,032	0,0010	0,0013	0,0017	0,0028
H5	MM06-06007-B90A30-E02 F30M	1,0	0,026	0,030	0,042	0,065
		0,040	0,0010	0,0012	0,0017	0,0026
H8	MM06-06007-B90A30-E02 F30M	0,90	0,020	0,022	0,032	0,050
		0,036	0,00080	0,00095	0,0013	0,0020
H11	MM06-06007-B90A30-E02 F30M	1,0	0,026	0,030	0,042	0,065
		0,040	0,0010	0,0012	0,0017	0,0026
H12	MM06-06007-B90A30-E02 F30M	0,90	0,020	0,022	0,032	0,050
		0,036	0,00080	0,00095	0,0013	0,0020
H21	MM06-06007-B90A30-E02 F30M	0,90	0,020	0,022	0,032	0,050
		0,036	0,00080	0,00095	0,0013	0,0020

SMG = Seco malzeme grubu

 $f_z$  = mm/ağız (inç/ağız),  $v_c$  = m/dk (sf/dk),  $a_e/DC$  = %

Tüm kesme verileri başlangıç değerleridir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Grafit malzeme için

Minimaster Plus

Minimaster

MM06 Z3-Kopya frezeleme – Kesme verisi  $v_c = (m/dk)$

SMG	F30M					F40M				
	100%	20%	10%	5%	2%	100%	20%	10%	5%	2%
P1	295	350	370	405	400	280	330	355	385	380
	970	1150	1225	1325	1300	920	1075	1175	1275	1250
P2	285	340	360	395	390	275	325	345	375	370
	940	1125	1175	1300	1275	900	1075	1125	1225	1225
P3	250	295	315	340	340	235	280	300	320	325
	820	970	1025	1125	1125	770	920	980	1050	1075
P4	220	260	275	300	300	210	245	265	285	285
	720	850	900	980	980	690	800	870	940	940
P5	210	245	265	285	285	200	235	250	275	270
	690	800	870	940	940	660	770	820	900	890
P6	235	275	295	320	320	225	265	285	305	305
	770	900	970	1050	1050	740	870	940	1000	1000
P7	225	260	280	305	300	210	250	265	290	285
	740	850	920	1000	980	690	820	870	950	940
P8	210	245	265	285	285	200	235	250	270	270
	690	800	870	940	940	660	770	820	890	890
P11	215	255	270	295	295	205	240	260	280	280
	710	840	890	970	970	670	790	850	920	920
P12	135	160	165	180	180	125	150	160	170	170
	445	520	560	590	590	410	490	520	560	560
M1	230	275	290	315	315	220	260	280	300	300
	750	900	950	1025	1025	720	850	920	980	980
M2	190	220	240	260	255	180	210	225	245	245
	620	720	790	850	840	590	690	740	800	800
M3	150	180	185	200	200	140	170	175	190	190
	490	590	610	660	660	460	560	590	620	620
M4	105	145	140	150	150	100	135	135	145	145
	345	475	490	490	490	330	445	460	475	475
M5	85	120	115	125	125	85	115	110	120	120
	280	395	410	410	410	280	375	395	395	395
K1	230	270	285	310	310	215	255	275	295	295
	750	890	940	1025	1025	710	840	900	970	970
K2	200	235	250	270	270	190	225	240	260	255
	660	770	820	890	890	620	740	790	850	840
K3	170	200	210	230	230	160	190	200	220	220
	560	660	690	750	750	520	620	660	720	720
K4	160	190	205	220	220	155	180	195	210	210
	520	620	670	720	720	510	590	640	690	690
K5	95	115	120	130	130	90	110	115	125	125
	310	375	395	425	425	295	360	375	410	410
K6	140	165	180	195	190	135	160	170	185	185
	460	540	590	640	620	445	520	560	610	610
K7	125	145	155	170	170	120	140	150	160	160
	410	475	510	560	560	395	460	490	520	520
N1	1750	2075	2200	2375	2375	1675	1975	2100	2275	2250
	5750	6800	7225	7800	7800	5500	6475	6900	7475	7375
N2	710	830	890	960	950	670	790	850	920	910
	2325	2725	2925	3150	3125	2200	2600	2800	3025	2975
N3	470	560	590	640	640	450	530	570	610	610
	1550	1825	1925	2100	2100	1475	1750	1875	2000	2000
N11	540	630	680	730	730	510	600	650	700	690
	1775	2075	2225	2400	2400	1675	1975	2125	2300	2275
S1	49	65	65	70	70	46	65	65	70	65
	160	215	230	230	230	150	215	215	230	215
S2	39	55	55	55	55	37	50	50	55	55
	130	180	180	180	180	120	165	180	180	180
S3	34	47	46	50	49	32	44	44	47	47
	110	155	155	165	160	105	145	150	155	155
S11	75	95	95	100	100	70	90	90	95	95
	245	310	310	330	330	230	295	295	310	310
S12	50	65	65	70	70	48	60	60	65	65
	165	215	215	230	230	155	195	215	215	215
S13	27	38	37	40	40	26	36	35	38	38
	90	125	130	130	130	85	120	120	125	125
H5	44	55	55	60	60	42	50	55	55	55
	145	180	180	195	195	140	165	180	180	180
H8	44	55	55	60	60	42	55	55	60	60
	145	180	195	195	195	140	180	180	195	195
H11	55	70	70	75	75	55	65	65	70	75
	180	230	230	245	245	180	215	230	230	245
H12	80	100	100	110	110	75	95	95	105	105
	260	330	345	360	360	245	310	330	345	345
H21	44	55	55	60	60	42	55	55	60	60
	145	180	195	195	195	140	180	180	195	195

## MM06 Z2-Kopya frezeleme – Uç seçimi – Kaba işleme

SMG		$a_p$	$f_z$			
			100%	40%	20%	10%
P1	MM06-06006-B90S-E02 F30M	2,5	0,030	0,032	0,036	0,048
		0,10	0,0012	0,0013	0,0014	0,0019
P2	MM06-06006-B90S-E02 F30M	2,5	0,032	0,032	0,036	0,048
		0,10	0,0013	0,0013	0,0014	0,0019
P3	MM06-06006-B90S-E02 F30M	2,5	0,030	0,030	0,034	0,046
		0,10	0,0012	0,0012	0,0013	0,0018
P4	MM06-06006-B90-MD02 F30M	2,5	0,030	0,030	0,034	0,044
		0,10	0,0012	0,0012	0,0013	0,0017
P5	MM06-06006-B90-MD02 F30M	2,5	0,028	0,028	0,034	0,044
		0,10	0,0011	0,0011	0,0013	0,0017
P6	MM06-06006-B90-MD02 F30M	2,5	0,028	0,028	0,032	0,044
		0,10	0,0011	0,0011	0,0013	0,0017
P7	MM06-06006-B90-MD02 F30M	2,5	0,028	0,028	0,032	0,044
		0,10	0,0011	0,0011	0,0013	0,0017
P8	MM06-06006-B90-MD02 F30M	2,5	0,030	0,030	0,034	0,046
		0,10	0,0012	0,0012	0,0013	0,0018
P11	MM06-06006-B90-MD02 F30M	2,5	0,028	0,028	0,032	0,044
		0,10	0,0011	0,0011	0,0013	0,0017
P12	MM06-06006-B90-MD02 F30M	2,0	0,020	0,020	0,024	0,030
		0,080	0,00080	0,00080	0,00095	0,0012
M1	MM06-06006-B90S-E02 F30M	2,5	0,032	0,032	0,036	0,048
		0,10	0,0013	0,0013	0,0014	0,0019
M2	MM06-06006-B90S-E02 F30M	2,5	0,028	0,028	0,034	0,044
		0,10	0,0011	0,0011	0,0013	0,0017
M3	MM06-06006-B90S-E02 F30M	2,0	0,024	0,024	0,028	0,036
		0,080	0,00095	0,00095	0,0011	0,0014
M4	MM06-06006-B90-MD02 F30M	1,5	0,022	0,022	0,024	0,030
		0,060	0,00085	0,00085	0,00095	0,0013
M5	MM06-06006-B90-MD02 F30M	1,5	0,022	0,022	0,024	0,030
		0,060	0,00085	0,00085	0,00095	0,0013
K1	MM06-06006-B90S-E02 F30M	2,5	0,032	0,032	0,036	0,048
		0,10	0,0013	0,0013	0,0014	0,0019
K2	MM06-06006-B90S-E02 F30M	2,5	0,028	0,028	0,034	0,044
		0,10	0,0011	0,0011	0,0013	0,0017
K3	MM06-06006-B90S-E02 F30M	2,5	0,028	0,028	0,034	0,044
		0,10	0,0011	0,0011	0,0013	0,0017
K4	MM06-06006-B90S-E02 F30M	2,5	0,028	0,028	0,034	0,044
		0,10	0,0011	0,0011	0,0013	0,0017
K5	MM06-06006-B90S-E02 F30M	2,5	0,026	0,026	0,030	0,040
		0,10	0,0010	0,0010	0,0012	0,0016
K6	MM06-06006-B90-MD02 F30M	2,5	0,028	0,028	0,034	0,044
		0,10	0,0011	0,0011	0,0013	0,0017
K7	MM06-06006-B90-MD02 F30M	2,5	0,026	0,026	0,030	0,040
		0,10	0,0010	0,0010	0,0012	0,0016
N1	MM06-06006-B90S-E02 F30M	2,5	0,040	0,040	0,046	0,060
		0,10	0,0016	0,0016	0,0018	0,0024
N2	MM06-06006-B90S-E02 F30M	2,5	0,040	0,040	0,046	0,060
		0,10	0,0016	0,0016	0,0018	0,0024
N3	MM06-06006-B90S-E02 F30M	2,5	0,040	0,040	0,046	0,060
		0,10	0,0016	0,0016	0,0018	0,0024
N11	MM06-06006-B90S-E02 F30M	2,5	0,040	0,040	0,046	0,060
		0,10	0,0016	0,0016	0,0018	0,0024
S1	MM06-06006-B90-MD02 F30M	1,5	0,022	0,022	0,024	0,030
		0,060	0,00085	0,00085	0,00095	0,0013
S2	MM06-06006-B90-MD02 F30M	1,5	0,022	0,022	0,024	0,030
		0,060	0,00085	0,00085	0,00095	0,0013
S3	MM06-06006-B90-MD02 F30M	1,5	0,020	0,020	0,022	0,028
		0,060	0,00080	0,00080	0,00085	0,0012
S11	MM06-06006-B90-MD02 F30M	1,7	0,025	0,024	0,028	0,036
		0,065	0,0010	0,00095	0,0011	0,0014
S12	MM06-06006-B90-MD02 F30M	1,7	0,025	0,024	0,028	0,036
		0,065	0,0010	0,00095	0,0011	0,0014
S13	MM06-06006-B90-MD02 F30M	1,5	0,022	0,022	0,024	0,030
		0,060	0,00085	0,00085	0,00095	0,0013
H5	MM06-06006-B90-MD02 F30M	2,0	0,020	0,020	0,024	0,030
		0,080	0,00080	0,00080	0,00095	0,0012
H8	MM06-06006-B90-MD02 F30M	1,7	0,016	0,016	0,018	0,022
		0,065	0,00065	0,00065	0,00070	0,00095
H11	MM06-06006-B90-MD02 F30M	2,0	0,020	0,020	0,024	0,030
		0,080	0,00080	0,00080	0,00095	0,0012
H12	MM06-06006-B90-MD02 F30M	1,7	0,016	0,016	0,018	0,022
		0,065	0,00065	0,00065	0,00070	0,00095
H21	MM06-06006-B90-MD02 F30M	1,7	0,016	0,016	0,018	0,022
		0,065	0,00065	0,00065	0,00070	0,00095

SMG = Seco malzeme grubu

 $f_z$  = mm/ağız (inç/ağız),  $v_c$  = m/dk (sf/dk),  $a_e/DC$  = %

Tüm kesme verileri başlangıç değerleridir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Grafit malzeme için

Minimaster Plus

Minimaster

## MM06 Z2-Kopya frezeleme – Uç seçimi – Finiş frezeleme

SMG		$a_p$	$f_z$			
			15%	10%	5%	2%
P1	MM06-06006-B90PF-M01 F15M	2,0	0,020	0,024	0,034	0,055
		0,080	0,00080	0,00095	0,0013	0,0022
P2	MM06-06006-B90PF-M01 F15M	2,0	0,020	0,024	0,034	0,055
		0,080	0,00080	0,00095	0,0013	0,0022
P3	MM06-06006-B90PF-M01 F15M	2,0	0,020	0,024	0,032	0,050
		0,080	0,00080	0,00095	0,0013	0,0020
P4	MM06-06006-B90PF-M01 F15M	2,0	0,019	0,022	0,032	0,050
		0,080	0,00075	0,00085	0,0013	0,0020
P5	MM06-06006-B90PF-M01 F15M	2,0	0,019	0,022	0,030	0,048
		0,080	0,00075	0,00085	0,0012	0,0019
P6	MM06-06006-B90PF-M01 F15M	2,0	0,019	0,022	0,030	0,048
		0,080	0,00075	0,00085	0,0012	0,0019
P7	MM06-06006-B90PF-M01 F15M	2,0	0,019	0,022	0,030	0,048
		0,080	0,00075	0,00085	0,0012	0,0019
P8	MM06-06006-B90PF-M01 F15M	2,0	0,020	0,024	0,032	0,050
		0,080	0,00080	0,00095	0,0013	0,0020
P11	MM06-06006-B90PF-M01 F15M	2,0	0,019	0,022	0,030	0,048
		0,080	0,00075	0,00085	0,0012	0,0019
P12	MM06-06006-B90PF-M01 F15M	1,7	0,013	0,015	0,020	0,032
		0,065	0,00050	0,00060	0,00080	0,0013
M1	MM06-06006-B90PF-M01 F15M	2,0	0,020	0,024	0,034	0,055
		0,080	0,00080	0,00095	0,0013	0,0022
M2	MM06-06006-B90PF-M01 F15M	2,0	0,019	0,022	0,030	0,048
		0,080	0,00075	0,00085	0,0012	0,0019
M3	MM06-06006-B90PF-M01 F15M	1,7	0,015	0,018	0,025	0,038
		0,065	0,00060	0,00070	0,0010	0,0015
M4	MM06-06006-B90PF-M01 F15M	1,2	0,014	0,016	0,022	0,034
		0,048	0,00055	0,00065	0,00085	0,0013
M5	MM06-06006-B90PF-M01 F15M	1,2	0,014	0,016	0,022	0,034
		0,048	0,00055	0,00065	0,00085	0,0013
K1	MM06-06006-B90PF-M01 F15M	2,0	0,020	0,024	0,034	0,055
		0,080	0,00080	0,00095	0,0013	0,0022
K2	MM06-06006-B90PF-M01 F15M	2,0	0,019	0,022	0,030	0,048
		0,080	0,00075	0,00085	0,0012	0,0019
K3	MM06-06006-B90PF-M01 F15M	2,0	0,019	0,022	0,030	0,048
		0,080	0,00075	0,00085	0,0012	0,0019
K4	MM06-06006-B90PF-M01 F15M	2,0	0,019	0,022	0,030	0,048
		0,080	0,00075	0,00085	0,0012	0,0019
K5	MM06-06006-B90PF-M01 F15M	2,0	0,017	0,020	0,028	0,044
		0,080	0,00065	0,00080	0,0011	0,0017
K6	MM06-06006-B90PF-M01 F15M	2,0	0,019	0,022	0,030	0,048
		0,080	0,00075	0,00085	0,0012	0,0019
K7	MM06-06006-B90PF-M01 F15M	2,0	0,017	0,020	0,028	0,044
		0,080	0,00065	0,00080	0,0011	0,0017
N1	MM06-06006-B90PF-M01 F15M	2,0	0,026	0,032	0,044	0,070
		0,080	0,0010	0,0013	0,0017	0,0028
N2	MM06-06006-B90PF-M01 F15M	2,0	0,026	0,032	0,044	0,070
		0,080	0,0010	0,0013	0,0017	0,0028
N3	MM06-06006-B90PF-M01 F15M	2,0	0,026	0,032	0,044	0,070
		0,080	0,0010	0,0013	0,0017	0,0028
N11	MM06-06006-B90PF-M01 F15M	2,0	0,026	0,032	0,044	0,070
		0,080	0,0010	0,0013	0,0017	0,0028
S1	MM06-06006-B90PF-M01 F15M	1,2	0,014	0,016	0,022	0,034
		0,048	0,00055	0,00065	0,00085	0,0013
S2	MM06-06006-B90PF-M01 F15M	1,2	0,014	0,016	0,022	0,034
		0,048	0,00055	0,00065	0,00085	0,0013
S3	MM06-06006-B90PF-M01 F15M	1,2	0,013	0,014	0,020	0,032
		0,048	0,00050	0,00060	0,00080	0,0013
S11	MM06-06006-B90PF-M01 F15M	1,5	0,015	0,018	0,025	0,038
		0,060	0,00060	0,00070	0,0010	0,0015
S12	MM06-06006-B90PF-M01 F15M	1,5	0,015	0,018	0,025	0,038
		0,060	0,00060	0,00070	0,0010	0,0015
S13	MM06-06006-B90PF-M01 F15M	1,2	0,014	0,016	0,022	0,034
		0,048	0,00055	0,00065	0,00085	0,0013
H5	MM06-06006-B90PF-M01 F15M	1,7	0,013	0,015	0,020	0,032
		0,065	0,00050	0,00060	0,00080	0,0013
H8	MM06-06006-B90PF-M01 F15M	1,5	0,010	0,012	0,016	0,025
		0,060	0,00040	0,00048	0,00065	0,0010
H11	MM06-06006-B90PF-M01 F15M	1,7	0,013	0,015	0,020	0,032
		0,065	0,00050	0,00060	0,00080	0,0013
H12	MM06-06006-B90PF-M01 F15M	1,5	0,010	0,012	0,016	0,025
		0,060	0,00040	0,00048	0,00065	0,0010
H21	MM06-06006-B90PF-M01 F15M	1,5	0,010	0,012	0,016	0,025
		0,060	0,00040	0,00048	0,00065	0,0010

SMG = Seco malzeme grubu


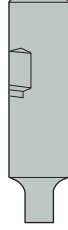
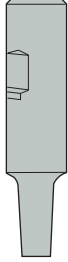


 $f_z$  = mm/ağız (inç/ağız),  $v_c$  = m/dk (sf/dk),  $a_p/DC$  = %

Tüm kesme verileri başlangıç değerleridir

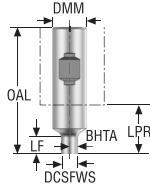




## Versiyon

Üniversal	Versiyon 1, Kama kanalı açma sapı	Versiyon 2, Silindirik/Weldon arka bağlantı ve 90° ön
Çelik ve dökme demir		
Paslanmaz çelik ve S iş parçası matzemeleri		
Versiyon 3, Silindirik/Weldon arka bağlantı konik ön 87°/89°	Versiyon 4, Silindirik/Weldon arka bağlantı konik ön 80°/85°/87°	
Demir içermeyen matzemeler		
Sertleştirilmiş çelik için		
Plastik ve çfrp matzemeler için		
Versiyon 5, Silindirik arka bağlantı çift konik ön uç 89°/85°		
Grafit matzeme için		
Minimaster Plus		

## MM08 Sap



Ürün Tanımı	Ürün numarası	Montaj tipi	DCSFWS	DMM	OAL	LF	LPR	BHTA°	Tasarım	RPMX	Ağırlık	Yedek parça kod no.	
													mm
MM08-16070.3-0007	75034241	Weldon	7,6	16,0	70,0	7,6	22,0	0,0	2	✓	80000	0,1	1
MM08-16075.3-3012	75034242	Weldon	7,6	16,0	75,0	12,0	27,0	3,0	3	✓	80000	0,1	1
MM08-16120.3-5048M	00042863	Weldon	7,6	16,0	120,0	48,0	72,0	5,0	4	✓	80000	0,2	5
MM08-10040.0-0007	00083980	Silindirik	7,6	10,0	40,0	7,0	7,0	0,0	2	✓	80000	0,1	2
MM08-12065.0-0000	75034240	Silindirik	7,6	12,0	65,0	0,0	20,0	60,0	1	✓	80000	0,1	1
MM08-16150.0-1030M	00094751	Silindirik	7,6	16,0	150,0	30,0	102,0	1,0	3	✓	80000	0,2	5
MM08-16150.0-1050M	00094752	Silindirik	7,6	16,0	150,0	50,0	102,0	1,0	3	✓	80000	0,2	4
MM08-16150.0-1070M	00094754	Silindirik	7,6	16,0	150,0	70,0	102,0	1,0	3	✓	80000	0,2	4
MM08-10050.0-0007DS	02580665	Silindirik	7,6	10,0	50,0	7,0	10,0	0,0	2	✓	80000	0,1	3
MM08-10080.0-3023DS	02580702	Silindirik	7,6	10,0	80,0	22,9	40,0	3,0	4	✓	80000	0,1	3
MM08-12100.0-1035DS	02580719	Silindirik	7,6	12,0	100,0	35,0	55,0	1,0	3	✓	80000	0,2	3
MM08-12120.0-1050DS	02580720	Silindirik	7,6	12,0	120,0	50,0	75,0	1,0	3	✓	80000	0,2	3
MM08-16085.0-0016DS	02580675	Silindirik	7,6	16,0	85,0	16,0	37,0	0,0	2	✓	80000	0,3	3
MM08-16100.0-0032DS	02580687	Silindirik	7,6	16,0	100,0	32,0	52,0	0,0	2	✓	80000	0,3	3
MM08-16150.0-1050DS	02580722	Silindirik	7,6	16,0	150,0	50,0	102,0	1,0	3	✓	80000	0,4	3
MM08-16150.0-1070DS	02580727	Silindirik	7,6	16,0	150,0	70,0	102,0	1,0	3	✓	80000	0,3	3

## Yedek parçalar

## Aksesuarlar

Şu freze için	Burç	Çektirme vidası	Burç anahtarı
1	MM-05044	MM08-0524	H05-4
5	MM-05044	MM08-0543	H05-4
2	MM-05019	MM08-0524	H05-4
4	MM-05044	MM08-0582	H05-4
3	–	MM08-0524	–

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

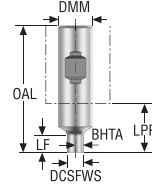
Sertleştirilmiş çelik için

Grafit materyale için

Minimaster Plus

Minimaster

## MM08 Sap – İnce



Ürün Tanımı	Ürün numarası	Montaj tipi	DCSFMS	DMM	OAL	LF	LPR	BHTA°	Tasarım	RPMX	Ağırlık	Yedek parça kod no.	
													İnce
MM08-0.62-2.8-3-0003	75054600	Weldon	0.299	0.625	2.756	0.299	0.866	0,0	2	✓	80000	0.220	1
MM08-0.62-3.0-3-3004	75054601	Weldon	0.299	0.625	2.953	0.472	1.063	3,0	3	✓	80000	0.220	1
MM08-0.62-4.7-3-5018	75054602	Weldon	0.299	0.625	4.724	1.850	2.835	5,0	4	✓	80000	0.440	2
MM08-0.38-1.6-0-0002	00096119	Silindirik	0.299	0.375	1.575	0.276	0.276	0,0	2	✓	80000	0.220	3
MM08-0.50-2.6-0-0000	75054599	Silindirik	0.299	0.500	2.559	0	0.787	60,0	1	✓	80000	0.220	1
MM08-0.62-5.9-0-1011	75054604	Silindirik	0.299	0.625	5.906	1.181	4.016	1,0	3	✓	80000	0.440	2
MM08-0.62-3.3-0-0006DS	02593402	Silindirik	0.299	0.625	3.346	0.630	1.457	0,0	2	✓	80000	0.660	4
MM08-0.62-4.0-0-0012DS	02593403	Silindirik	0.299	0.625	3.937	1.260	2.047	0,0	2	✓	80000	0.660	4
MM08-0.62-5.9-0-1019DS	02593407	Silindirik	0.299	0.625	5.906	1.969	4.016	1,0	3	✓	80000	0.880	4
MM08-0.62-5.9-0-1027DS	02593410	Silindirik	0.299	0.625	5.906	2.756	4.016	1,0	3	✓	80000	0.660	4
MM08-0.75-10.0-0-1019DS	02593413	Silindirik	0.299	0.750	9.843	1.969	7.874	1,0	5	✓	80000	1.980	4

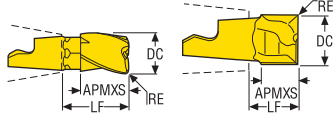
### Yedek parçalar

### Aksesuarlar

Şu freze için	Burç	Çektirme vidası	Burç anahtarı
1	MM-05044	MM08-0524	H05-4
2	MM-05044	MM08-0543	H05-4
3	MM-05019	MM08-0524	H05-4
4	-	MM08-0524	-



## Kanal açma/dik kenar frezeleme



• Tork anahtarları ve tork değerleri için bkz. sayfa 624

Ürün Tanımı	DC	APMXS	RE	LF	RMPX°	C min	C max	FHA	ZEFP	Tasarım	Kaliteler	Kaplama			
												Kaplama			
												T60M	F15M	F30M	F40M
MM08-08009-A30-E03	8,0 0.315	10,0 0.394	0,0 0.0	13,0 0.512	15,0	9,8	15,0	30	3	MM0416	✓			■	
MM08-08009-R05A30-M03	8,0 0.315	10,0 0.394	0,5 0.020	13,0 0.512	15,0	9,8	14,8	30	3	MM0416	✓				■
MM08-08009-R10A30-D03	8,0 0.315	10,0 0.394	1,0 0.039	13,0 0.512	15,0	9,8	13,8	30	3	MM0416	✓			■	
MM08-08009-R10A30-E03	8,0 0.315	10,0 0.394	1,0 0.039	13,0 0.512	15,0	9,8	13,8	30	3	MM0416	✓			■	
MM08-08009-R10A30-M03	8,0 0.315	10,0 0.394	1,0 0.039	13,0 0.512	15,0	9,8	13,8	30	3	MM0416	✓				■
MM08-08009-R20A30-M03	8,0 0.315	10,0 0.394	2,0 0.079	13,0 0.512	15,0	9,8	11,8	30	3	MM0416	✓				■
MM08-08009-R30A30-M03	8,0 0.315	10,0 0.394	3,0 0.118	13,0 0.512	15,0	9,8	9,8	30	3	MM0416	✓				■
MM08-08005-M03	8,0 0.315	5,5 0.217	0,0 0.0	6,8 0.268	15,0	9,8	15,8	0	2	MM0612		■			
MM08-08005-R04-MD03	8,0 0.315	5,5 0.217	0,4 0.016	6,8 0.268	15,0	9,8	15,0	0	2	MM0612		■		■	
MM08-08005-R04P-M02	8,0 0.315	5,4 0.213	0,4 0.016	6,7 0.264	15,0	9,8	15,0	0	2	MM0612				■	
MM08-08005-R10-MD03	8,0 0.315	5,4 0.213	1,0 0.039	6,8 0.268	15,0	9,8	13,8	0	2	MM0612				■	
MM08-08005-R04A8-E03	8,0 0.315	5,4 0.213	0,4 0.016	6,7 0.264	15,0	9,8	15,0	8	2	MM0612		■		■	
MM08-07809-R02A30-M03	7,8 0.307	10,0 0.394	0,2 0.008	13,0 0.512	15,0	9,6	15,0	30	3	MM0416	✓				■
MM08-07805T-R02-D03	7,8 0.307	5,4 0.213	0,2 0.008	6,8 0.268	15,0	9,6	15,0	0	2	MM0612		■			

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

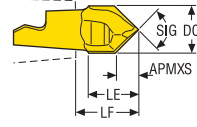
Sertleştirilmiş çelik için

Grafit malzeme için

Minimaster Plus

Minimaster

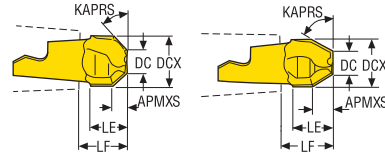
## Punta matkabi



• Tork anahtarları ve tork değerleri için bkz. sayfa 624

Ürün Tanımı	DC	APMXS	LE	LF	SIG°	ZEP	Tasarım	Kaliteler			
								T60M	F15M	F30M	F40M
MM08-08004-C90-M03	8,0 0.315	3,79 0.149	8,0 0.315	9,5 0.374	90,0	2	MM0612	■			
MM08-08006-C120-M03	8,0 0.315	2,15 0.085	8,32 0.328	9,46 0.372	120,0	2	MM0612	■			

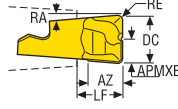
## Pah kırma



• Tork anahtarları ve tork değerleri için bkz. sayfa 624

Ürün Tanımı	DCX	DC	APMXS	LE	LF	KAPRS°	ZEP	Tasarım	Kaliteler			
									T60M	F15M	F30M	F40M
MM08-08005-4520-E03	8,0 0.315	3,87 0.152	2,1 0.083	5,5 0.217	6,7 0.264	45,0	2	MM0612	■			
MM08-08006-6030-E03	8,0 0.315	4,19 0.165	3,3 0.130	6,45 0.254	7,66 0.302	60,0	2	MM0612	■			

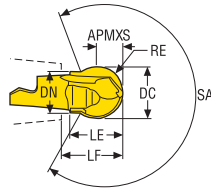
## Dalma kesme frezeleme



• Tork anahtarları ve tork değerleri için bkz. sayfa 624

Ürün Tanımı	DC	APMXE	RE	AZ	LF	RA	ZEPF	Tasarım	Kaliteler			
									T60M	F15M	F30M	F40M
MM08-08005-R10-PL-MD03	8,0 0.315	4,0 0.157	1,0 0.039	5,7 0.224	6,78 0.267	5,0	2	MM0612			■	

## Tüm malzemelerde yarı-finiş işleme için hassas uçlar



• Tork anahtarları ve tork değerleri için bkz. sayfa 624

Ürün Tanımı	DC	APMXS	RE	LE	LF	DN	SA	ZEPF	Tasarım	Kaliteler			
										T60M	F15M	F30M	F40M
MM08-10010-B120PF-M02	10,0 0.394	5,0 0.197	5,0 0.197	10,0 0.394	10,97 0.432	8,0 0.315	NaN	2	MM0612		■		
MM08-10010-B120P-M04	10,0 0.394	5,0 0.197	5,0 0.197	10,0 0.394	10,97 0.432	8,0 0.315	NaN	2	MM0612			■	

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

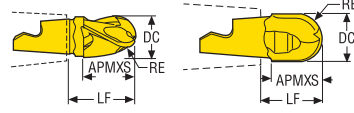
Sertleştirilmiş çelik için

Grafit malzeme için

Minimaster Plus

Minimaster

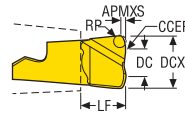
## Kopya frezeleme



• Tork anahtarları ve tork değerleri için bkz. sayfa 624

Ürün Tanımı	DC	APMXS	RE	LF	FHA	ZEFP	Tasarım	Kaliteler			
								T60M	F15M	F30M	F40M
MM08-08009-B90A30-E03	8,0 0.315	10,0 0.394	4,0 0.157	13,0 0.512	30,0	3	MM0416 ✓			■	
MM08-08009-B90A30-M03	8,0 0.315	10,0 0.394	4,0 0.157	13,0 0.512	30,0	3	MM0416 ✓				■
MM08-08008-B90-MD03	8,0 0.315	8,1 0.319	4,0 0.157	9,42 0.371	0,0	2	MM0612	■		■	
MM08-08008-B90S-E03	8,0 0.315	8,1 0.319	4,0 0.157	9,42 0.371	0,0	2	MM0612			■	
MM08-08008-B90P-M03	8,0 0.315	6,9 0.272	4,0 0.157	9,39 0.370	0,0	2	MM0612			■	
MM08-08008-B90PF-M01	8,0 0.315	6,9 0.272	4,0 0.157	9,39 0.370	0,0	2	MM0612		■		

## Yüksek ilerlemeli



• Tork anahtarları ve tork değerleri için bkz. sayfa 624

Ürün Tanımı	DCX	DC	APMXS	RP	CCER	LF	RMPX°	C min	C max	ZEFP	Tasarım	Kaliteler			
												T60M	F15M	F30M	F40M
MM08-08.40-HF-MD06	8,0 0.315	4,0 0.157	0,37 0.015	0,88 0.035	4,0 0.157	6,84 0.269	5,0	9,8	14,6	2	MM0612			■	



## MM08 - Kanal ve Kenar frezeleme – Uç seçimi

SMG		$a_p$	$f_z$			
			100%	40%	20%	10%
P1	MM08-08009-R05A30-M03 F40M	1,8	0,044	0,044	0,055	0,070
		0,070	0,0017	0,0017	0,0022	0,0028
P2	MM08-08009-R05A30-M03 F40M	1,8	0,044	0,046	0,055	0,070
		0,070	0,0017	0,0018	0,0022	0,0028
P3	MM08-08009-R05A30-M03 F40M	1,8	0,042	0,042	0,050	0,070
		0,070	0,0017	0,0017	0,0020	0,0028
P4	MM08-08009-R05A30-M03 F40M	1,8	0,042	0,042	0,050	0,065
		0,070	0,0017	0,0017	0,0020	0,0026
P5	MM08-08009-R05A30-M03 F40M	1,8	0,040	0,042	0,050	0,065
		0,070	0,0016	0,0017	0,0020	0,0026
P6	MM08-08009-R05A30-M03 F40M	1,8	0,040	0,040	0,048	0,065
		0,070	0,0016	0,0016	0,0019	0,0026
P7	MM08-08009-R05A30-M03 F40M	1,8	0,040	0,040	0,048	0,065
		0,070	0,0016	0,0016	0,0019	0,0026
P8	MM08-08009-R05A30-M03 F40M	1,8	0,042	0,042	0,050	0,070
		0,070	0,0017	0,0017	0,0020	0,0028
P11	MM08-08009-R05A30-M03 F40M	1,8	0,040	0,040	0,048	0,065
		0,070	0,0016	0,0016	0,0019	0,0026
P12	MM08-08009-R05A30-M03 F40M	1,4	0,028	0,028	0,034	0,044
		0,055	0,0011	0,0011	0,0013	0,0017
M1	MM08-08009-R05A30-M03 F40M	1,8	0,044	0,046	0,055	0,070
		0,070	0,0017	0,0018	0,0022	0,0028
M2	MM08-08009-R05A30-M03 F40M	1,8	0,040	0,042	0,050	0,065
		0,070	0,0016	0,0017	0,0020	0,0026
M3	MM08-08009-R05A30-M03 F40M	1,4	0,034	0,034	0,040	0,055
		0,055	0,0013	0,0013	0,0016	0,0022
M4	MM08-08009-R05A30-M03 F40M	1,0	0,030	0,030	0,034	0,046
		0,040	0,0012	0,0012	0,0013	0,0018
M5	MM08-08009-R05A30-M03 F40M	1,0	0,030	0,030	0,034	0,046
		0,040	0,0012	0,0012	0,0013	0,0018
K1	MM08-08009-R10A30-E03 F30M	1,8	0,050	0,048	0,055	0,075
		0,070	0,0020	0,0019	0,0022	0,0030
K2	MM08-08009-R10A30-E03 F30M	1,8	0,044	0,044	0,050	0,065
		0,070	0,0017	0,0017	0,0020	0,0026
K3	MM08-08009-R10A30-E03 F30M	1,8	0,044	0,044	0,050	0,065
		0,070	0,0017	0,0017	0,0020	0,0026
K4	MM08-08009-R10A30-E03 F30M	1,8	0,044	0,044	0,050	0,065
		0,070	0,0017	0,0017	0,0020	0,0026
K5	MM08-08009-R10A30-D03 F30M	1,8	0,040	0,040	0,046	0,060
		0,070	0,0016	0,0016	0,0018	0,0024
K6	MM08-08009-R10A30-D03 F30M	1,8	0,044	0,044	0,050	0,065
		0,070	0,0017	0,0017	0,0020	0,0026
K7	MM08-08009-R10A30-D03 F30M	1,8	0,040	0,040	0,046	0,060
		0,070	0,0016	0,0016	0,0018	0,0024
N1	MM08-08009-R10A30-E03 F30M	1,8	0,060	0,060	0,070	0,095
		0,070	0,0024	0,0024	0,0028	0,0038
N2	MM08-08009-R10A30-E03 F30M	1,8	0,060	0,060	0,070	0,095
		0,070	0,0024	0,0024	0,0028	0,0038
N3	MM08-08009-R10A30-E03 F30M	1,8	0,060	0,060	0,070	0,095
		0,070	0,0024	0,0024	0,0028	0,0038
N11	MM08-08009-R10A30-E03 F30M	1,8	0,060	0,060	0,070	0,095
		0,070	0,0024	0,0024	0,0028	0,0038
S1	MM08-08009-R10A30-D03 F30M	1,0	0,038	0,036	0,036	0,046
		0,040	0,0015	0,0014	0,0014	0,0019
S2	MM08-08009-R10A30-D03 F30M	1,0	0,038	0,036	0,036	0,046
		0,040	0,0015	0,0014	0,0014	0,0019
S3	MM08-08009-R10A30-D03 F30M	1,0	0,036	0,034	0,034	0,042
		0,040	0,0014	0,0013	0,0013	0,0017
S11	MM08-08009-R05A30-M03 F40M	1,2	0,034	0,034	0,040	0,055
		0,048	0,0013	0,0013	0,0016	0,0022
S12	MM08-08009-R05A30-M03 F40M	1,2	0,034	0,034	0,040	0,055
		0,048	0,0013	0,0013	0,0016	0,0022
S13	MM08-08009-R05A30-M03 F40M	1,0	0,030	0,030	0,034	0,046
		0,040	0,0012	0,0012	0,0013	0,0018
H5	MM08-08009-R10A30-E03 F30M	1,4	0,032	0,032	0,034	0,044
		0,055	0,0013	0,0013	0,0013	0,0018
H8	MM08-08009-R10A30-E03 F30M	1,2	0,026	0,025	0,026	0,034
		0,048	0,0010	0,0010	0,0010	0,0013
H11	MM08-08009-R10A30-E03 F30M	1,4	0,032	0,032	0,034	0,044
		0,055	0,0013	0,0013	0,0013	0,0018
H12	MM08-08009-R10A30-E03 F30M	1,2	0,026	0,025	0,026	0,034
		0,048	0,0010	0,0010	0,0010	0,0013
H21	MM08-08009-R10A30-E03 F30M	1,2	0,026	0,025	0,026	0,034
		0,048	0,0010	0,0010	0,0010	0,0013

SMG = Seco malzeme grubu

 $f_z$  = mm/ağız (inç/ağız),  $v_c$  = m/dk (sf/dk),  $a_e/DC$  = %

Tüm kesme verileri başlangıç değerleridir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Grafit malzeme için

Minimaster Plus

Minimaster



## MM08 Z3 – Kopya frezeleme – Uç seçimi – Kaba işleme

SMG		$a_p$	$f_z$			
			100%	40%	20%	10%
P1	MM08-08009-B90A30-M03 F40M	1,8	0,055	0,050	0,055	0,070
		0,070	0,0022	0,0020	0,0022	0,0028
P2	MM08-08009-B90A30-M03 F40M	1,8	0,055	0,050	0,055	0,070
		0,070	0,0022	0,0020	0,0022	0,0028
P3	MM08-08009-B90A30-M03 F40M	1,8	0,050	0,050	0,050	0,070
		0,070	0,0020	0,0020	0,0020	0,0028
P4	MM08-08009-B90A30-M03 F40M	1,8	0,050	0,048	0,050	0,065
		0,070	0,0020	0,0019	0,0020	0,0026
P5	MM08-08009-B90A30-M03 F40M	1,8	0,048	0,048	0,050	0,065
		0,070	0,0019	0,0019	0,0020	0,0026
P6	MM08-08009-B90A30-M03 F40M	1,8	0,048	0,048	0,050	0,065
		0,070	0,0019	0,0019	0,0020	0,0026
P7	MM08-08009-B90A30-M03 F40M	1,8	0,048	0,048	0,050	0,065
		0,070	0,0019	0,0019	0,0020	0,0026
P8	MM08-08009-B90A30-M03 F40M	1,8	0,050	0,050	0,050	0,070
		0,070	0,0020	0,0020	0,0020	0,0028
P11	MM08-08009-B90A30-M03 F40M	1,8	0,048	0,048	0,050	0,065
		0,070	0,0019	0,0019	0,0020	0,0026
P12	MM08-08009-B90A30-M03 F40M	1,4	0,034	0,034	0,034	0,044
		0,055	0,0013	0,0013	0,0013	0,0017
M1	MM08-08009-B90A30-M03 F40M	1,8	0,055	0,050	0,055	0,070
		0,070	0,0022	0,0020	0,0022	0,0028
M2	MM08-08009-B90A30-M03 F40M	1,8	0,048	0,048	0,050	0,065
		0,070	0,0019	0,0019	0,0020	0,0026
M3	MM08-08009-B90A30-M03 F40M	1,4	0,040	0,040	0,040	0,055
		0,055	0,0016	0,0016	0,0016	0,0022
M4	MM08-08009-B90A30-M03 F40M	1,0	0,038	0,036	0,036	0,046
		0,040	0,0015	0,0014	0,0014	0,0019
M5	MM08-08009-B90A30-M03 F40M	1,0	0,038	0,036	0,036	0,046
		0,040	0,0015	0,0014	0,0014	0,0019
K1	MM08-08009-B90A30-E03 F30M	1,8	0,055	0,050	0,055	0,070
		0,070	0,0022	0,0020	0,0022	0,0028
K2	MM08-08009-B90A30-E03 F30M	1,8	0,048	0,048	0,050	0,065
		0,070	0,0019	0,0019	0,0020	0,0026
K3	MM08-08009-B90A30-E03 F30M	1,8	0,048	0,048	0,050	0,065
		0,070	0,0019	0,0019	0,0020	0,0026
K4	MM08-08009-B90A30-E03 F30M	1,8	0,048	0,048	0,050	0,065
		0,070	0,0019	0,0019	0,0020	0,0026
K5	MM08-08009-B90A30-M03 F40M	1,8	0,044	0,042	0,046	0,060
		0,070	0,0017	0,0017	0,0018	0,0024
K6	MM08-08009-B90A30-M03 F40M	1,8	0,048	0,048	0,050	0,065
		0,070	0,0019	0,0019	0,0020	0,0026
K7	MM08-08009-B90A30-M03 F40M	1,8	0,044	0,042	0,046	0,060
		0,070	0,0017	0,0017	0,0018	0,0024
N1	MM08-08009-B90A30-E03 F30M	1,8	0,070	0,065	0,070	0,090
		0,070	0,0028	0,0026	0,0028	0,0036
N2	MM08-08009-B90A30-E03 F30M	1,8	0,070	0,065	0,070	0,090
		0,070	0,0028	0,0026	0,0028	0,0036
N3	MM08-08009-B90A30-E03 F30M	1,8	0,070	0,065	0,070	0,090
		0,070	0,0028	0,0026	0,0028	0,0036
N11	MM08-08009-B90A30-E03 F30M	1,8	0,070	0,065	0,070	0,090
		0,070	0,0028	0,0026	0,0028	0,0036
S1	MM08-08009-B90A30-M03 F40M	1,0	0,038	0,036	0,036	0,046
		0,040	0,0015	0,0014	0,0014	0,0019
S2	MM08-08009-B90A30-M03 F40M	1,0	0,038	0,036	0,036	0,046
		0,040	0,0015	0,0014	0,0014	0,0019
S3	MM08-08009-B90A30-M03 F40M	1,0	0,036	0,034	0,034	0,042
		0,040	0,0014	0,0013	0,0013	0,0017
S11	MM08-08009-B90A30-M03 F40M	1,2	0,042	0,040	0,042	0,055
		0,048	0,0017	0,0016	0,0017	0,0022
S12	MM08-08009-B90A30-M03 F40M	1,2	0,042	0,040	0,042	0,055
		0,048	0,0017	0,0016	0,0017	0,0022
S13	MM08-08009-B90A30-M03 F40M	1,0	0,038	0,036	0,036	0,046
		0,040	0,0015	0,0014	0,0014	0,0019
H5	MM08-08009-B90A30-E03 F30M	1,4	0,034	0,034	0,034	0,044
		0,055	0,0013	0,0013	0,0013	0,0017
H8	MM08-08009-B90A30-E03 F30M	1,2	0,028	0,026	0,026	0,034
		0,048	0,0011	0,0010	0,0010	0,0013
H11	MM08-08009-B90A30-E03 F30M	1,4	0,034	0,034	0,034	0,044
		0,055	0,0013	0,0013	0,0013	0,0017
H12	MM08-08009-B90A30-E03 F30M	1,2	0,028	0,026	0,026	0,034
		0,048	0,0011	0,0010	0,0010	0,0013
H21	MM08-08009-B90A30-E03 F30M	1,2	0,028	0,026	0,026	0,034
		0,048	0,0011	0,0010	0,0010	0,0013

SMG = Seco malzeme grubu

 $f_z$  = mm/ağız (inç/ağız),  $v_c$  = m/dk (sf/dk),  $a_e/DC$  = %

Tüm kesme verileri başlangıç değerleridir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Grafit malzeme için

Minimaster Plus

Minimaster

**MM08 Z3 – Kopya frezeleme – Uç seçimi – Finiş frezeleme**

SMG	a <sub>p</sub>	f <sub>z</sub>			
		15%	10%	5%	2%
P1	1,8	0,060	0,070	0,10	0,16
	0,070	0,0024	0,0028	0,0040	0,0065
P2	1,8	0,060	0,070	0,10	0,17
	0,070	0,0024	0,0028	0,0040	0,0065
P3	1,8	0,060	0,070	0,095	0,16
	0,070	0,0024	0,0028	0,0038	0,0065
P4	1,8	0,055	0,065	0,095	0,15
	0,070	0,0022	0,0026	0,0038	0,0060
P5	1,8	0,055	0,065	0,090	0,15
	0,070	0,0022	0,0026	0,0036	0,0060
P6	1,8	0,055	0,065	0,090	0,15
	0,070	0,0022	0,0026	0,0036	0,0060
P7	1,8	0,055	0,065	0,090	0,15
	0,070	0,0022	0,0026	0,0036	0,0060
P8	1,8	0,060	0,070	0,095	0,16
	0,070	0,0024	0,0028	0,0038	0,0065
P11	1,8	0,055	0,065	0,090	0,15
	0,070	0,0022	0,0026	0,0036	0,0060
P12	1,4	0,038	0,044	0,060	0,10
	0,055	0,0015	0,0017	0,0024	0,0040
M1	1,8	0,060	0,070	0,10	0,17
	0,070	0,0024	0,0028	0,0040	0,0065
M2	1,8	0,055	0,065	0,090	0,15
	0,070	0,0022	0,0026	0,0036	0,0060
M3	1,4	0,046	0,055	0,075	0,12
	0,055	0,0018	0,0022	0,0030	0,0048
M4	1,0	0,040	0,046	0,065	0,10
	0,040	0,0016	0,0019	0,0026	0,0040
M5	1,0	0,040	0,046	0,065	0,10
	0,040	0,0016	0,0019	0,0026	0,0040
K1	1,8	0,060	0,070	0,10	0,17
	0,070	0,0024	0,0028	0,0040	0,0065
K2	1,8	0,055	0,065	0,090	0,15
	0,070	0,0022	0,0026	0,0036	0,0060
K3	1,8	0,055	0,065	0,090	0,15
	0,070	0,0022	0,0026	0,0036	0,0060
K4	1,8	0,055	0,065	0,090	0,15
	0,070	0,0022	0,0026	0,0036	0,0060
K5	1,8	0,050	0,060	0,080	0,13
	0,070	0,0020	0,0024	0,0032	0,0050
K6	1,8	0,055	0,065	0,090	0,15
	0,070	0,0022	0,0026	0,0036	0,0060
K7	1,8	0,050	0,060	0,080	0,13
	0,070	0,0020	0,0024	0,0032	0,0050
N1	1,8	0,080	0,090	0,13	0,22
	0,070	0,0032	0,0036	0,0050	0,0085
N2	1,8	0,080	0,090	0,13	0,22
	0,070	0,0032	0,0036	0,0050	0,0085
N3	1,8	0,080	0,090	0,13	0,22
	0,070	0,0032	0,0036	0,0050	0,0085
N11	1,8	0,080	0,090	0,13	0,22
	0,070	0,0032	0,0036	0,0050	0,0085
S1	1,0	0,040	0,046	0,065	0,10
	0,040	0,0016	0,0019	0,0026	0,0040
S2	1,0	0,040	0,046	0,065	0,10
	0,040	0,0016	0,0019	0,0026	0,0040
S3	1,0	0,038	0,042	0,060	0,095
	0,040	0,0015	0,0017	0,0024	0,0038
S11	1,2	0,046	0,055	0,075	0,12
	0,048	0,0018	0,0022	0,0030	0,0048
S12	1,2	0,046	0,055	0,075	0,12
	0,048	0,0018	0,0022	0,0030	0,0048
S13	1,0	0,040	0,046	0,065	0,10
	0,040	0,0016	0,0019	0,0026	0,0040
H5	1,4	0,038	0,044	0,060	0,10
	0,055	0,0015	0,0017	0,0024	0,0040
H8	1,2	0,030	0,034	0,048	0,075
	0,048	0,0012	0,0013	0,0019	0,0030
H11	1,4	0,038	0,044	0,060	0,10
	0,055	0,0015	0,0017	0,0024	0,0040
H12	1,2	0,030	0,034	0,048	0,075
	0,048	0,0012	0,0013	0,0019	0,0030
H21	1,2	0,030	0,034	0,048	0,075
	0,048	0,0012	0,0013	0,0019	0,0030

SMG = Seco malzeme grubu

f<sub>z</sub> = mm/ağız (inç/ağız), v<sub>c</sub> = m/dk (sf/dk), a<sub>p</sub>/DC = %

Tüm kesme verileri başlangıç değerleridir

MM08 Z3 – Kopya frezeleme – Kesme verisi  $v_c = (m/dk)$

SMG	F30M					F40M				
	100%	20%	10%	5%	2%	100%	20%	10%	5%	2%
P1	280	330	355	380	380	265	315	335	360	360
	920	1075	1175	1250	1250	870	1025	1100	1175	1175
P2	270	325	345	370	365	260	310	325	350	350
	890	1075	1125	1225	1200	850	1025	1075	1150	1150
P3	235	280	295	320	320	225	270	280	305	300
	770	920	970	1050	1050	740	890	920	1000	980
P4	210	250	265	280	280	200	235	250	270	270
	690	820	870	920	920	660	770	820	890	890
P5	200	235	250	270	270	190	225	240	260	255
	660	770	820	890	890	620	740	790	850	840
P6	225	265	280	305	305	215	255	270	290	290
	740	870	920	1000	1000	710	840	890	950	950
P7	210	250	265	290	285	200	240	255	275	270
	690	820	870	950	940	660	790	840	900	890
P8	200	235	250	270	265	190	225	235	255	255
	660	770	820	890	870	620	740	770	840	840
P11	205	245	260	280	275	195	230	245	265	265
	670	800	850	920	900	640	750	800	870	870
P12	130	155	160	175	175	125	150	155	165	165
	425	510	520	570	570	410	490	510	540	540
M1	220	260	275	300	295	210	250	265	285	280
	720	850	900	980	970	690	820	870	940	920
M2	180	215	225	245	245	170	205	215	235	230
	590	710	740	800	800	560	670	710	770	750
M3	145	170	175	190	190	135	165	170	180	180
	475	560	570	620	620	445	540	560	590	590
M4	100	135	135	145	145	95	130	130	140	140
	330	445	475	475	475	310	425	445	460	460
M5	80	115	115	120	120	80	110	105	115	115
	260	375	395	395	395	260	360	375	375	375
K1	215	255	270	295	290	205	245	260	280	275
	710	840	890	970	950	670	800	850	920	900
K2	190	225	240	260	255	180	215	225	245	245
	620	740	790	850	840	590	710	740	800	800
K3	160	190	200	220	215	155	180	190	210	205
	520	620	660	720	710	510	590	620	690	670
K4	155	180	190	210	205	145	175	185	200	195
	510	590	620	690	670	475	570	610	660	640
K5	90	110	115	125	125	90	105	110	120	120
	295	360	375	410	410	295	345	360	395	395
K6	135	160	170	185	180	130	150	160	175	175
	445	520	560	610	590	425	490	520	570	570
K7	120	140	150	160	160	110	135	140	155	155
	395	460	490	520	520	360	445	460	510	510
N1	1625	1950	2075	2225	2200	1550	1850	1975	2125	2100
	5325	6400	6800	7300	7225	5075	6075	6475	6975	6900
N2	660	790	830	900	890	630	750	790	850	840
	2175	2600	2725	2950	2925	2075	2450	2600	2800	2750
N3	440	520	560	600	590	420	500	530	570	560
	1450	1700	1825	1975	1925	1375	1650	1750	1875	1825
N11	500	600	640	680	670	480	570	610	650	640
	1650	1975	2100	2225	2200	1575	1875	2000	2125	2100
S1	46	65	65	70	70	44	60	60	65	65
	150	215	215	230	230	145	195	215	215	215
S2	37	50	50	55	55	35	49	48	50	50
	120	165	180	180	180	115	160	165	165	165
S3	32	45	44	48	48	31	43	42	45	45
	105	150	155	155	155	100	140	150	150	150
S11	70	90	90	95	95	65	85	85	90	90
	230	295	295	310	310	215	280	280	295	295
S12	49	60	60	65	65	47	60	60	65	65
	160	195	215	215	215	155	195	195	215	215
S13	26	36	35	38	38	25	34	34	36	37
	85	120	125	125	125	80	110	120	120	120
H5	43	50	55	60	55	41	49	50	55	55
	140	165	180	195	180	135	160	165	180	180
H8	43	55	55	60	60	41	50	50	55	55
	140	180	180	195	195	135	165	180	180	180
H11	55	65	70	75	75	50	60	65	70	70
	180	215	230	245	245	165	195	215	230	230
H12	75	95	100	105	105	75	95	95	100	100
	245	310	330	345	345	245	310	310	330	330
H21	43	55	55	60	60	41	50	50	55	55
	140	180	180	195	195	135	165	180	180	180

Üniversal  
Çelik ve dökme demir  
Paslanmaz çelik ve S iş parçası malzemeleri  
Paslanmaz çelik ve S iş parçası malzemeleri  
Demir içermeyen malzemeler  
Demir içermeyen malzemeler  
Sertleştirilmiş çelik için  
Grafit malzeme için  
Minimaster Plus  
Minimaster

## MM08 Z2 – Kopya frezeleme – Uç seçimi – Kaba işleme

SMG		$a_p$	$f_z$			
			100%	40%	20%	10%
P1	MM08-08008-B90S-E03 F30M	3,0	0,048	0,046	0,055	0,070
		0,12	0,0019	0,0018	0,0022	0,0028
P2	MM08-08008-B90S-E03 F30M	3,0	0,048	0,048	0,055	0,075
		0,12	0,0019	0,0019	0,0022	0,0030
P3	MM08-08008-B90S-E03 F30M	3,0	0,046	0,044	0,050	0,070
		0,12	0,0018	0,0017	0,0020	0,0028
P4	MM08-08008-B90-MD03 F30M	3,0	0,044	0,044	0,050	0,070
		0,12	0,0017	0,0017	0,0020	0,0028
P5	MM08-08008-B90-MD03 F30M	3,0	0,044	0,042	0,050	0,065
		0,12	0,0017	0,0017	0,0020	0,0026
P6	MM08-08008-B90-MD03 F30M	3,0	0,044	0,042	0,050	0,065
		0,12	0,0017	0,0017	0,0020	0,0026
P7	MM08-08008-B90-MD03 F30M	3,0	0,044	0,042	0,050	0,065
		0,12	0,0017	0,0017	0,0020	0,0026
P8	MM08-08008-B90-MD03 F30M	3,0	0,046	0,044	0,050	0,070
		0,12	0,0018	0,0017	0,0020	0,0028
P11	MM08-08008-B90-MD03 F30M	3,0	0,044	0,042	0,050	0,065
		0,12	0,0017	0,0017	0,0020	0,0026
P12	MM08-08008-B90-MD03 F30M	2,5	0,030	0,030	0,034	0,044
		0,10	0,0012	0,0012	0,0013	0,0018
M1	MM08-08008-B90S-E03 F30M	3,0	0,048	0,048	0,055	0,075
		0,12	0,0019	0,0019	0,0022	0,0030
M2	MM08-08008-B90S-E03 F30M	3,0	0,044	0,042	0,050	0,065
		0,12	0,0017	0,0017	0,0020	0,0026
M3	MM08-08008-B90S-E03 F30M	2,5	0,036	0,036	0,040	0,055
		0,10	0,0014	0,0014	0,0016	0,0022
M4	MM08-08008-B90-MD03 F30M	1,9	0,034	0,034	0,036	0,046
		0,075	0,0013	0,0013	0,0014	0,0019
M5	MM08-08008-B90-MD03 F30M	1,9	0,034	0,034	0,036	0,046
		0,075	0,0013	0,0013	0,0014	0,0019
K1	MM08-08008-B90S-E03 F30M	3,0	0,048	0,048	0,055	0,075
		0,12	0,0019	0,0019	0,0022	0,0030
K2	MM08-08008-B90S-E03 F30M	3,0	0,044	0,042	0,050	0,065
		0,12	0,0017	0,0017	0,0020	0,0026
K3	MM08-08008-B90S-E03 F30M	3,0	0,044	0,042	0,050	0,065
		0,12	0,0017	0,0017	0,0020	0,0026
K4	MM08-08008-B90S-E03 F30M	3,0	0,044	0,042	0,050	0,065
		0,12	0,0017	0,0017	0,0020	0,0026
K5	MM08-08008-B90-MD03 F30M	3,0	0,040	0,038	0,046	0,060
		0,12	0,0016	0,0015	0,0018	0,0024
K6	MM08-08008-B90-MD03 F30M	3,0	0,044	0,042	0,050	0,065
		0,12	0,0017	0,0017	0,0020	0,0026
K7	MM08-08008-B90-MD03 F30M	3,0	0,040	0,038	0,046	0,060
		0,12	0,0016	0,0015	0,0018	0,0024
N1	MM08-08008-B90S-E03 F30M	3,0	0,060	0,060	0,070	0,095
		0,12	0,0024	0,0024	0,0028	0,0038
N2	MM08-08008-B90S-E03 F30M	3,0	0,060	0,060	0,070	0,095
		0,12	0,0024	0,0024	0,0028	0,0038
N3	MM08-08008-B90S-E03 F30M	3,0	0,060	0,060	0,070	0,095
		0,12	0,0024	0,0024	0,0028	0,0038
N11	MM08-08008-B90S-E03 F30M	3,0	0,060	0,060	0,070	0,095
		0,12	0,0024	0,0024	0,0028	0,0038
S1	MM08-08008-B90-MD03 F30M	1,9	0,034	0,034	0,036	0,046
		0,075	0,0013	0,0013	0,0014	0,0019
S2	MM08-08008-B90-MD03 F30M	1,9	0,034	0,034	0,036	0,046
		0,075	0,0013	0,0013	0,0014	0,0019
S3	MM08-08008-B90-MD03 F30M	1,9	0,032	0,030	0,034	0,042
		0,075	0,0013	0,0012	0,0013	0,0017
S11	MM08-08008-B90-MD03 F30M	2,5	0,036	0,036	0,042	0,055
		0,10	0,0014	0,0014	0,0017	0,0022
S12	MM08-08008-B90-MD03 F30M	2,5	0,036	0,036	0,042	0,055
		0,10	0,0014	0,0014	0,0017	0,0022
S13	MM08-08008-B90-MD03 F30M	1,9	0,034	0,034	0,036	0,046
		0,075	0,0013	0,0013	0,0014	0,0019
H5	MM08-08008-B90-MD03 F30M	2,5	0,030	0,030	0,034	0,044
		0,10	0,0012	0,0012	0,0013	0,0018
H8	MM08-08008-B90-MD03 F30M	2,5	0,024	0,024	0,026	0,034
		0,10	0,00095	0,00095	0,0010	0,0013
H11	MM08-08008-B90-MD03 F30M	2,5	0,030	0,030	0,034	0,044
		0,10	0,0012	0,0012	0,0013	0,0018
H12	MM08-08008-B90-MD03 F30M	2,5	0,024	0,024	0,026	0,034
		0,10	0,00095	0,00095	0,0010	0,0013
H21	MM08-08008-B90-MD03 F30M	2,5	0,024	0,024	0,026	0,034
		0,10	0,00095	0,00095	0,0010	0,0013

SMG = Seco malzeme grubu

 $f_z$  = mm/ağız (inç/ağız),  $v_c$  = m/dk (sf/dk),  $a_p/DC$  = %

Tüm kesme verileri başlangıç değerleridir

## MM08 Z2 – Kopya frezeleme – Uç seçimi – Finiş frezeleme

SMG		$a_p$	$f_z$			
			15%	10%	5%	2%
P1	MM08-08008-B90PF-M01 F15M	3,0	0,020	0,024	0,032	0,050
		0,12	0,00080	0,00095	0,0013	0,0020
P2	MM08-08008-B90PF-M01 F15M	3,0	0,020	0,024	0,034	0,055
		0,12	0,00080	0,00095	0,0013	0,0022
P3	MM08-08008-B90PF-M01 F15M	3,0	0,019	0,022	0,032	0,050
		0,12	0,00075	0,00085	0,0013	0,0020
P4	MM08-08008-B90PF-M01 F15M	3,0	0,019	0,022	0,030	0,048
		0,12	0,00075	0,00085	0,0012	0,0019
P5	MM08-08008-B90PF-M01 F15M	3,0	0,019	0,022	0,030	0,048
		0,12	0,00075	0,00085	0,0012	0,0019
P6	MM08-08008-B90PF-M01 F15M	3,0	0,018	0,022	0,030	0,048
		0,12	0,00070	0,00085	0,0012	0,0019
P7	MM08-08008-B90PF-M01 F15M	3,0	0,018	0,022	0,030	0,048
		0,12	0,00070	0,00085	0,0012	0,0019
P8	MM08-08008-B90PF-M01 F15M	3,0	0,019	0,022	0,032	0,050
		0,12	0,00075	0,00085	0,0013	0,0020
P11	MM08-08008-B90PF-M01 F15M	3,0	0,018	0,022	0,030	0,048
		0,12	0,00070	0,00085	0,0012	0,0019
P12	MM08-08008-B90PF-M01 F15M	2,0	0,013	0,020	0,020	0,032
		0,080	0,00050	0,00060	0,00080	0,0013
M1	MM08-08008-B90PF-M01 F15M	3,0	0,020	0,024	0,034	0,055
		0,12	0,00080	0,00095	0,0013	0,0022
M2	MM08-08008-B90PF-M01 F15M	3,0	0,019	0,022	0,030	0,048
		0,12	0,00075	0,00085	0,0012	0,0019
M3	MM08-08008-B90PF-M01 F15M	2,0	0,015	0,018	0,024	0,038
		0,080	0,00060	0,00070	0,00095	0,0015
M4	MM08-08008-B90PF-M01 F15M	1,7	0,014	0,015	0,022	0,034
		0,065	0,00055	0,00065	0,00085	0,0013
M5	MM08-08008-B90PF-M01 F15M	1,7	0,014	0,015	0,022	0,034
		0,065	0,00055	0,00065	0,00085	0,0013
K1	MM08-08008-B90PF-M01 F15M	3,0	0,020	0,024	0,034	0,055
		0,12	0,00080	0,00095	0,0013	0,0022
K2	MM08-08008-B90PF-M01 F15M	3,0	0,019	0,022	0,030	0,048
		0,12	0,00075	0,00085	0,0012	0,0019
K3	MM08-08008-B90PF-M01 F15M	3,0	0,019	0,022	0,030	0,048
		0,12	0,00075	0,00085	0,0012	0,0019
K4	MM08-08008-B90PF-M01 F15M	3,0	0,019	0,022	0,030	0,048
		0,12	0,00075	0,00085	0,0012	0,0019
K5	MM08-08008-B90PF-M01 F15M	3,0	0,017	0,020	0,028	0,044
		0,12	0,00065	0,00080	0,0011	0,0017
K6	MM08-08008-B90PF-M01 F15M	3,0	0,019	0,022	0,030	0,048
		0,12	0,00075	0,00085	0,0012	0,0019
K7	MM08-08008-B90PF-M01 F15M	3,0	0,017	0,020	0,028	0,044
		0,12	0,00065	0,00080	0,0011	0,0017
N1	MM08-08008-B90PF-M01 F15M	3,0	0,026	0,030	0,042	0,070
		0,12	0,0010	0,0012	0,0017	0,0028
N2	MM08-08008-B90PF-M01 F15M	3,0	0,026	0,030	0,042	0,070
		0,12	0,0010	0,0012	0,0017	0,0028
N3	MM08-08008-B90PF-M01 F15M	3,0	0,026	0,030	0,042	0,070
		0,12	0,0010	0,0012	0,0017	0,0028
N11	MM08-08008-B90PF-M01 F15M	3,0	0,026	0,030	0,042	0,070
		0,12	0,0010	0,0012	0,0017	0,0028
S1	MM08-08008-B90PF-M01 F15M	1,7	0,014	0,015	0,022	0,034
		0,065	0,00055	0,00065	0,00085	0,0013
S2	MM08-08008-B90PF-M01 F15M	1,7	0,014	0,015	0,022	0,034
		0,065	0,00055	0,00065	0,00085	0,0013
S3	MM08-08008-B90PF-M01 F15M	1,7	0,013	0,014	0,020	0,030
		0,065	0,00050	0,00060	0,00080	0,0012
S11	MM08-08008-B90PF-M01 F15M	1,9	0,015	0,018	0,024	0,038
		0,075	0,00060	0,00070	0,00095	0,0015
S12	MM08-08008-B90PF-M01 F15M	1,9	0,015	0,018	0,024	0,038
		0,075	0,00060	0,00070	0,00095	0,0015
S13	MM08-08008-B90PF-M01 F15M	1,7	0,014	0,015	0,022	0,034
		0,065	0,00055	0,00065	0,00085	0,0013
H5	MM08-08008-B90PF-M01 F15M	2,0	0,013	0,015	0,020	0,032
		0,080	0,00050	0,00060	0,00080	0,0013
H8	MM08-08008-B90PF-M01 F15M	1,9	0,010	0,011	0,016	0,025
		0,075	0,00040	0,00048	0,00065	0,0010
H11	MM08-08008-B90PF-M01 F15M	2,0	0,013	0,015	0,020	0,032
		0,080	0,00050	0,00060	0,00080	0,0013
H12	MM08-08008-B90PF-M01 F15M	1,9	0,010	0,011	0,016	0,025
		0,075	0,00040	0,00048	0,00065	0,0010
H21	MM08-08008-B90PF-M01 F15M	1,9	0,010	0,011	0,016	0,025
		0,075	0,00040	0,00048	0,00065	0,0010

SMG = Seco malzeme grubu

 $f_z$  = mm/ağız (inç/ağız),  $v_c$  = m/dk (sf/dk),  $a_e/DC$  = %

Tüm kesme verileri başlangıç değerleridir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Grafit malzeme için

Minimaster Plus

Minimaster





## MM08 Yüksek ilerlemeli – Uç seçimi

SMG		$a_p$	$f_z$			
			100%	70%	30%	20%
P1	MM08-08.40-HF-MD06 F30M	0,26	0,32	0,32	0,42	0,50
		0,010	0,013	0,013	0,017	0,020
P2	MM08-08.40-HF-MD06 F30M	0,26	0,32	0,32	0,42	0,50
		0,010	0,013	0,013	0,017	0,020
P3	MM08-08.40-HF-MD06 F30M	0,26	0,30	0,30	0,40	0,48
		0,010	0,012	0,012	0,016	0,019
P4	MM08-08.40-HF-MD06 F30M	0,26	0,30	0,30	0,38	0,48
		0,010	0,012	0,012	0,015	0,019
P5	MM08-08.40-HF-MD06 F30M	0,26	0,28	0,30	0,38	0,46
		0,010	0,011	0,012	0,015	0,018
P6	MM08-08.40-HF-MD06 F30M	0,26	0,28	0,28	0,38	0,46
		0,010	0,011	0,011	0,015	0,018
P7	MM08-08.40-HF-MD06 F30M	0,26	0,28	0,28	0,38	0,46
		0,010	0,011	0,011	0,015	0,018
P8	MM08-08.40-HF-MD06 F30M	0,26	0,30	0,30	0,40	0,48
		0,010	0,012	0,012	0,016	0,019
P11	MM08-08.40-HF-MD06 F30M	0,26	0,28	0,28	0,38	0,46
		0,010	0,011	0,011	0,015	0,018
P12	MM08-08.40-HF-MD06 F30M	0,20	0,20	0,20	0,25	0,30
		0,0080	0,0080	0,0080	0,010	0,012
M1	MM08-08.40-HF-MD06 F30M	0,26	0,32	0,32	0,42	0,50
		0,010	0,013	0,013	0,017	0,020
M2	MM08-08.40-HF-MD06 F30M	0,26	0,28	0,30	0,38	0,46
		0,010	0,011	0,012	0,015	0,018
M3	MM08-08.40-HF-MD06 F30M	0,20	0,24	0,24	0,30	0,36
		0,0080	0,0095	0,0095	0,012	0,014
M4	MM08-08.40-HF-MD06 F30M	0,16	0,20	0,20	0,26	0,32
		0,0065	0,0080	0,0080	0,010	0,013
M5	MM08-08.40-HF-MD06 F30M	0,16	0,20	0,20	0,26	0,32
		0,0065	0,0080	0,0080	0,010	0,013
K1	MM08-08.40-HF-MD06 F30M	0,26	0,32	0,32	0,42	0,50
		0,010	0,013	0,013	0,017	0,020
K2	MM08-08.40-HF-MD06 F30M	0,26	0,28	0,30	0,38	0,46
		0,010	0,011	0,012	0,015	0,018
K3	MM08-08.40-HF-MD06 F30M	0,26	0,28	0,30	0,38	0,46
		0,010	0,011	0,012	0,015	0,018
K4	MM08-08.40-HF-MD06 F30M	0,26	0,28	0,30	0,38	0,46
		0,010	0,011	0,012	0,015	0,018
K5	MM08-08.40-HF-MD06 F30M	0,26	0,26	0,26	0,34	0,42
		0,010	0,010	0,010	0,013	0,017
K6	MM08-08.40-HF-MD06 F30M	0,26	0,28	0,30	0,38	0,46
		0,010	0,011	0,012	0,015	0,018
K7	MM08-08.40-HF-MD06 F30M	0,26	0,26	0,26	0,34	0,42
		0,010	0,010	0,010	0,013	0,017
N1	MM08-08.40-HF-MD06 F30M	0,26	0,40	0,40	0,55	0,70
		0,010	0,016	0,016	0,022	0,028
N2	MM08-08.40-HF-MD06 F30M	0,26	0,40	0,40	0,55	0,70
		0,010	0,016	0,016	0,022	0,028
N3	MM08-08.40-HF-MD06 F30M	0,26	0,40	0,40	0,55	0,70
		0,010	0,016	0,016	0,022	0,028
N11	MM08-08.40-HF-MD06 F30M	0,26	0,40	0,40	0,55	0,70
		0,010	0,016	0,016	0,022	0,028
S1	MM08-08.40-HF-MD06 F30M	0,16	0,20	0,20	0,26	0,32
		0,0065	0,0080	0,0080	0,010	0,013
S2	MM08-08.40-HF-MD06 F30M	0,16	0,20	0,20	0,26	0,32
		0,0065	0,0080	0,0080	0,010	0,013
S3	MM08-08.40-HF-MD06 F30M	0,16	0,19	0,19	0,24	0,30
		0,0065	0,0075	0,0075	0,0095	0,012
S11	MM08-08.40-HF-MD06 F30M	0,18	0,24	0,24	0,30	0,36
		0,0070	0,0095	0,0095	0,012	0,014
S12	MM08-08.40-HF-MD06 F30M	0,18	0,24	0,24	0,30	0,36
		0,0070	0,0095	0,0095	0,012	0,014
S13	MM08-08.40-HF-MD06 F30M	0,16	0,20	0,20	0,26	0,32
		0,0065	0,0080	0,0080	0,010	0,013
H5	MM08-08.40-HF-MD06 F30M	0,20	0,20	0,20	0,25	0,30
		0,0080	0,0080	0,0080	0,010	0,012
H8	MM08-08.40-HF-MD06 F30M	0,18	0,16	0,15	0,19	0,24
		0,0070	0,0065	0,0060	0,0075	0,0095
H11	MM08-08.40-HF-MD06 F30M	0,20	0,20	0,20	0,25	0,30
		0,0080	0,0080	0,0080	0,010	0,012
H12	MM08-08.40-HF-MD06 F30M	0,18	0,16	0,15	0,19	0,24
		0,0070	0,0065	0,0060	0,0075	0,0095
H21	MM08-08.40-HF-MD06 F30M	0,18	0,16	0,15	0,19	0,24
		0,0070	0,0065	0,0060	0,0075	0,0095

SMG = Seco malzeme grubu

 $f_z$  = mm/ağız (inç/ağız),  $v_c$  = m/dk (sf/dk),  $a_e/DC$  = %

Tüm kesme verileri başlangıç değerleridir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Grafit malzeme için

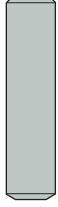
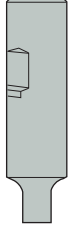
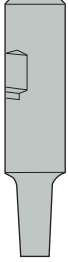
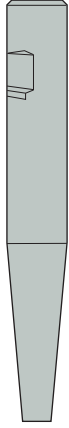

Minimaster Plus

Minimaster

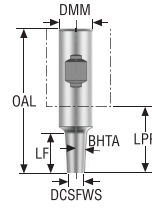
MM08 Yüksek ilerlemeli Kesme verileri

Üniversal	SMG	F30M				
		100%	70%	30%	20%	
Çelik ve dökme demir	P1	250 820	305 1000	350 1150	375 1225	
	P2	245 800	300 980	345 1125	365 1200	
	P3	215 710	260 850	300 980	315 1025	
	P4	190 620	230 750	265 870	275 900	
	P5	180 590	220 720	255 840	265 870	
	P6	205 670	250 820	285 940	300 980	
	P7	190 620	235 770	270 890	285 940	
	P8	180 590	220 720	250 820	265 870	
	P11	185 610	230 750	260 850	275 900	
	P12	120 395	145 475	165 540	175 570	
	Paslanmaz çelik ve S iş parçası malzemeleri	M1	195 640	240 790	275 900	295 970
		M2	165 540	195 640	230 750	240 790
M3		130 425	155 510	180 590	190 620	
M4		100 330	120 395	140 460	145 475	
M5		85 280	100 330	115 375	120 395	
Demir içermeyen malzemeler	K1	195 640	235 770	270 890	290 950	
	K2	170 560	210 690	240 790	255 840	
	K3	145 475	175 570	205 670	215 710	
	K4	140 460	170 560	195 640	205 670	
	K5	85 280	105 345	120 395	125 410	
	K6	125 410	150 490	170 560	180 590	
	K7	110 360	130 425	150 490	160 520	
Sertleştirilmiş çelik için	N1	1475 4850	1800 5900	2050 6725	2125 6975	
	N2	590 1925	720 2350	820 2700	860 2825	
	N3	395 1300	480 1575	550 1800	570 1875	
	N11	450 1475	550 1800	630 2075	650 2125	
Plastik ve cırp malzemeleri için	S1	48 155	55 180	65 215	70 230	
	S2	39 130	46 150	50 165	55 180	
	S3	33 110	40 130	46 150	48 155	
	S11	65 215	80 260	90 295	95 310	
	S12	46 150	55 180	65 215	65 215	
	S13	27 90	32 105	36 120	38 125	
	S21	40 130	47 155	55 180	60 195	
Grafit malzeme için	H5	41 135	50 165	55 180	60 195	
	H8	50 165	60 195	70 230	75 245	
	H11	75 245	90 295	100 330	105 345	
	H12	41 135	50 165	55 180	60 195	
	H21	41 135	50 165	55 180	60 195	

## Versiyon

Versiyon 1, Kama kanalı açma sapı	Versiyon 2, Silindirik/Weldon arka bağlantı ve 90° ön	Üniversal
		Çelik ve dökme demir
Versiyon 3, Silindirik/Weldon arka bağlantı konik ön 87°/89°	Versiyon 4, Silindirik/Weldon arka bağlantı konik ön 80°/85°/87°	Paslanmaz çelik ve S iş parçası malzemeleri
		Paslanmaz çelik ve S iş parçası malzemeleri
Versiyon 5, Silindirik arka bağlantı çift konik ön uç 89°/85°		Demir içermeyen malzemeler
		Sertleştirilmiş çelik için
		Grafit malzeme için
		Minimaster Plus
		Minimaster

## MM10 Sap



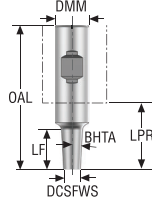
Ürün Tanımı	Ürün numarası	Montaj tipi	DCSFWS	DMM	OAL	LF	LPR	BHTA°	Tasarım	RPMX	Ağırlık	Yedek parça kod no.	
													mm
MM10-20075.3-0010	75012787	Weldon	9,5	20,0	75,0	10,0	25,0	0,0	2	✓	80000	0,2	4
MM10-20085.3-3023	75012788	Weldon	9,5	20,0	85,0	23,0	35,0	3,0	3	✓	80000	0,2	4
MM10-20140.3-5060	75012789	Weldon	9,5	20,0	140,0	60,0	90,0	5,0	4	✓	80000	0,3	5
MM10-10045.0-0007	00083979	Silindirik	9,6	10,0	45,0	7,0	7,0	0,0	2	✓	80000	0,1	2
MM10-16065.0-0000	75004925	Silindirik	9,5	16,0	65,0	0,0	17,0	60,0	1	✓	80000	0,1	1
MM10-16160.0-1035M	00094757	Silindirik	9,5	16,0	160,0	35,0	112,0	1,0	3	✓	80000	0,2	6
MM10-16160.0-1055M	00094758	Silindirik	9,5	16,0	160,0	55,0	112,0	1,0	3	✓	80000	0,2	7
MM10-16160.0-1075M	00094760	Silindirik	9,5	16,0	160,0	75,0	112,0	1,0	3	✓	80000	0,2	7
MM10-32250.0-10063	75069366	Silindirik	9,5	32,0	250,0	63,8	190,0	10,0	4	✓	80000	1,3	5
MM10-12060.0-0007DS	02580667	Silindirik	9,6	12,0	60,0	7,0	15,0	0,0	2	✓	76300	0,1	3
MM10-12085.0-3024DS	02580704	Silindirik	9,5	12,0	85,0	23,8	40,0	3,0	4	✓	76300	0,2	3
MM10-12100.0-1035DS	02580733	Silindirik	9,5	12,0	100,0	35,0	55,0	1,0	3	✓	76300	0,2	3
MM10-14120.0-1050DS	02580736	Silindirik	9,5	14,0	120,0	50,0	75,0	1,0	3	✓	76300	0,3	3
MM10-16085.0-0020DS	02580688	Silindirik	9,5	16,0	85,0	20,0	37,0	0,0	2	✓	76300	0,3	3
MM10-16105.0-0040DS	02580689	Silindirik	9,5	16,0	105,0	40,0	57,0	0,0	2	✓	76300	0,3	3
MM10-16160.0-1055DS	02580748	Silindirik	9,5	16,0	160,0	55,0	112,0	1,0	3	✓	76300	0,4	3
MM10-16160.0-1075DS	02580749	Silindirik	9,5	16,0	160,0	75,0	112,0	1,0	3	✓	76300	0,4	3
MM10-20250.0-1055DS	02580750	Silindirik	9,5	20,0	250,0	55,0	200,0	1,0	5	✓	76300	1,0	3

### Yedek parçalar

### Aksesuarlar

Şu freze için	Burç	Çektirme vidası	Burç anahtarı
4	MM-06048	MM10-0627	H06-4
5	MM-06116	MM10-0627	H06-4
2	MM-06020	MM10-0627	H05-4
1	MM-06032	MM10-0627	H06-4
6	MM-06048	MM10-0651	H06-4
7	MM-06032	MM10-0688	H06-4
3	-	MM10-061027	-

## MM10 Sap – İnc



Ürün Tanımı	Ürün numarası		DCSFMS	DMM	OAL	LF	LPR	BHTA°	Tasarım	RPMX	Ağırlık	Yedek parça kod no.	
													İnc
MM10-0.75-3.0-3-0004	75015052	Weldon	0.360	0.750	2.953	0.394	0.984	0,0	2	✓	80000	0.440	3
MM10-0.75-3.3-3-3009	75015053	Weldon	0.374	0.750	3.346	0.906	1.378	3,0	3	✓	80000	0.440	3
MM10-0.75-5.5-3-5021	75015054	Weldon	0.374	0.750	5.512	2.150	3.543	5,0	4	✓	80000	0.660	5
MM10-0.38-1.8-0-0002	00096126	Cylindrical	0.360	0.375	1.772	0.276	0.276	0,0	2	✓	80000	0.220	2
MM10-0.62-2.6-0-0000	75005069	Cylindrical	0.374	0.625	2.559	0	0.669	60,0	1	✓	80000	0.220	1
MM10-0.62-6.3-0-1021	75054608	Cylindrical	0.360	0.625	6.299	2.165	4.409	1,0	3	✓	80000	0.440	7
MM10-1.25-10.0-0-10024	00096132	Cylindrical	0.374	1.250	9.843	2.484	7.480	10,0	4	✓	80000	2.870	5
MM10-0.75-10.0-0-1021DS	02593420	Cylindrical Densimet	0.360	0.750	9.843	2.165	7.874	1,0	5	✓	76300	1.980	4
MM10-0.75-4.1-0-0015DS	02593422	Cylindrical Densimet	0.360	0.750	4.134	1.575	2.165	0,0	2	✓	76300	0.880	4

## Yedek parçalar

## Aksesuarlar

Şu freze için	Burç	Çektirme vidası	Burç anahtarı
3	MM-06048	MM10-0627	H06-4
5	MM-06116	MM10-0627	H06-4
2	MM-06020	MM10-0627	H05-4
1	MM-06032	MM10-0627	H06-4
7	MM-06032	MM10-0688	H06-4
4	-	MM10-061027	-

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

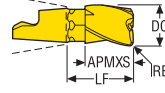
Sertleştirilmiş çelik için

Grafit malzeme için

Minimaster Plus

Minimaster

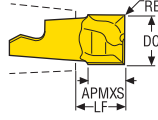
## Kanal açma/dik kenar frezeleme



• Tork anahtarları ve tork değerleri için bkz. sayfa 624

Ürün Tanımı	DC	APMXS	RE	LF	RMPX°	C min	C max	FHA	ZEPF	Tasarım		Kaliteler			
												T60M	F15M	F30M	F40M
MM10-10012-A30-E03	10,0 0.394	11,8 0.465	0,0 0.0	15,72 0.619	15,0	12,2	19,8	30	3	MM0416	✓			■	
MM10-10012-R05A30-M03	10,0 0.394	11,8 0.465	0,5 0.020	15,72 0.619	15,0	12,2	18,8	30	3	MM0416	✓				■
MM10-10012-R10A30-D03	10,0 0.394	11,8 0.465	1,0 0.039	15,72 0.619	15,0	12,2	17,8	30	3	MM0416	✓			■	
MM10-10012-R10A30-E03	10,0 0.394	11,8 0.465	1,0 0.039	15,72 0.619	15,0	12,2	17,8	30	3	MM0416	✓			■	
MM10-10012-R10A30-M03	10,0 0.394	11,8 0.465	1,0 0.039	15,72 0.619	15,0	12,2	17,8	30	3	MM0416	✓				■
MM10-10012-R20A30-M03	10,0 0.394	11,8 0.465	2,0 0.079	15,72 0.619	15,0	12,2	15,8	30	3	MM0416	✓				■
MM10-10012-R30A30-M03	10,0 0.394	11,8 0.465	3,0 0.118	15,72 0.619	15,0	12,2	13,8	30	3	MM0416	✓				■
MM10-09512-R03A30-M03	9,525 0.375	11,8 0.465	0,3 0.012	15,72 0.619	15,0	11,6	18,2	30	3	MM0416	✓				■
MM10-09512-A30-E03	9,525 0.375	11,8 0.465	0,0 0.0	15,72 0.619	15,0	11,6	18,8	30	3	MM0416	✓			■	
MM10-09512-R04A30-M03	9,525 0.375	11,8 0.465	0,4 0.016	15,72 0.619	15,0	11,6	18,0	30	3	MM0416	✓				■
MM10-09512-R08A30-M03	9,525 0.375	11,8 0.465	0,8 0.031	15,72 0.619	15,0	11,6	17,2	30	3	MM0416	✓				■
MM10-09512-R16A30-M03	9,525 0.375	11,8 0.465	1,6 0.063	15,72 0.619	15,0	11,6	15,6	30	3	MM0416	✓				■

## Kanal açma/dik kenar frezeleme



• Tork anahtarları ve tork değerleri için bkz. sayfa 624

Ürün Tanımı	DC	APMXS	RE	LF	RMPX°	C min	C max	FHA	ZEFP	Tasarım	Kaliteler			
											T60M	F15M	F30M	F40M
MM10-10007-M03	10,0 0.394	6,9 0.272	0,0 NaN	8,5 0.335	15,0	12,2	19,8	0	2	MM0612	■			
MM10-10007-R04-MD04	10,0 0.394	6,8 0.268	0,4 0.016	8,49 0.334	15,0	12,2	19,0	0	2	MM0612	■		■	
MM10-10007-R04P-M03	10,0 0.394	6,7 0.264	0,4 0.016	8,38 0.330	15,0	12,2	19,0	0	2	MM0612			■	
MM10-10007-R10-MD04	10,0 0.394	6,8 0.268	1,0 0.039	8,48 0.334	15,0	12,2	17,8	0	2	MM0612	■		■	
MM10-10007-R20-MD04	10,0 0.394	6,8 0.268	2,0 0.079	8,46 0.333	15,0	12,2	15,8	0	2	MM0612			■	
MM10-10007-R30-MD04	10,0 0.394	6,8 0.268	3,0 0.118	8,44 0.332	15,0	12,2	13,8	0	2	MM0612			■	
MM10-09510-M03	9,525 0.375	6,8 0.268	0,0 NaN	8,5 0.335	15,0	11,6	18,8	0	2	MM0612	■			
MM10-09510-R04-MD04	9,525 0.375	6,8 0.268	0,4 0.016	8,49 0.334	15,0	11,6	18,0	0	2	MM0612	■			
MM10-10007-R04A8-E03	10,0 0.394	6,6 0.260	0,4 0.016	8,44 0.332	15,0	12,2	19,0	8	2	MM0612	■		■	
MM10-09510-R08A8-E03	9,525 0.375	6,6 0.260	0,8 0.031	8,37 0.330	15,0	11,6	17,2	8	2	MM0612			■	
MM10-09807T-R03-D04	9,8 0.386	6,8 0.268	0,3 0.012	8,49 0.334	15,0	11,9	18,8	0	2	MM0612	■			

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

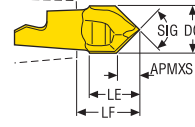
Sertleştirilmiş çelik için

Grafit malzeme için

Minimaster Plus

Minimaster

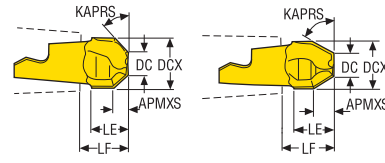
## Punta matkabi



• Tork anahtarları ve tork değerleri için bkz. sayfa 624

Ürün Tanımı	DC	APMXS	LE	LF	SIG°	ZEP	Tasarım	Kaliteler			
								T60M	F15M	F30M	F40M
MM10-10005-C90-M03	10,0 0.394	4,69 0.185	10,0 0.394	11,8 0.465	90,0	2	MM0612	■			
MM10-10007-C120-M03	10,0 0.394	2,7 0.106	10,4 0.409	11,8 0.465	120,0	2	MM0612	■			

## Pah kırma

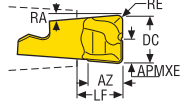


• Tork anahtarları ve tork değerleri için bkz. sayfa 624

Ürün Tanımı	DCX	DC	APMXS	LE	LF	KAPRS°	ZEP	Tasarım	Kaliteler			
									T60M	F15M	F30M	F40M
MM10-10007-4525-E03	10,0 0.394	4,82 0.190	2,6 0.102	6,94 0.273	8,48 0.334	45,0	2	MM0612	■			
MM10-10008-6040-E03	10,0 0.394	5,24 0.206	4,0 0.157	8,05 0.317	9,6 0.378	60,0	2	MM0612	■			



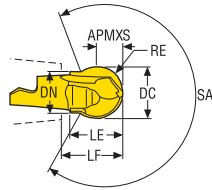
## Dalma kesme frezeleme



• Tork anahtarları ve tork değerleri için bkz. sayfa 624

Ürün Tanımı	DC	APMXE	RE	AZ	LF	RA	ZEFP	Tasarım	Kaliteler			
									T60M	F15M	F30M	F40M
MM10-10007-R10-PL-MD04	10,0 0.394	5,0 0.197	1,0 0.039	7,1 0.280	8,48 0.334	5,0	2	MM0612			■	

## Tüm malzemelerde yarı-finiş işleme için hassas uçlar



• Tork anahtarları ve tork değerleri için bkz. sayfa 624

Ürün Tanımı	DC	APMXS	RE	LE	LF	DN	SA	ZEFP	Tasarım	Kaliteler			
										T60M	F15M	F30M	F40M
MM10-12712-B120PF-M03	12,7 0.500	6,35 0.250	6,35 0.250	12,4 0.488	13,56 0.534	10,0 0.394	NaN	2	MM1420		■		
MM10-12012-B120P-M05	12,0 0.472	6,0 0.236	6,0 0.236	12,0 0.472	13,2 0.520	10,0 0.394	NaN	2	MM0612			■	
MM10-12712-B120P-M05	12,7 0.500	6,35 0.250	6,35 0.250	12,4 0.488	13,56 0.534	10,0 0.394	NaN	2	MM1420			■	

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

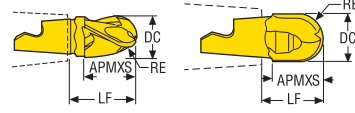
Sertleştirilmiş çelik için

Grafit malzeme için

Minimaster Plus

Minimaster

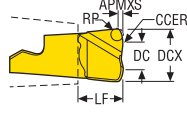
## Kopya frezeleme



• Tork anahtarları ve tork değerleri için bkz. sayfa 624

Ürün Tanımı	DC	APMXS	RE	LF	FHA	ZEP	Tasarım	Kaliteler			
								T60M	F15M	F30M	F40M
MM10-10012-B90A30-E03	10,0 0.394	11,8 0.465	5,0 0.197	15,72 0.619	30,0	3	MM0416 ✓			■	
MM10-10012-B90A30-M03	10,0 0.394	11,8 0.465	5,0 0.197	15,72 0.619	30,0	3	MM0416 ✓				■
MM10-10012-B90A30-D03	10,0 0.394	11,8 0.465	5,0 0.197	15,72 0.619	30,0	3	MM0416 ✓			■	
MM10-10010-B90-MD04	10,0 0.394	10,2 0.402	5,0 0.197	11,77 0.463	0,0	2	MM0612	■		■	
MM10-10010-B90S-E04	10,0 0.394	10,2 0.402	5,0 0.197	11,77 0.463	0,0	2	MM0612			■	
MM10-10010-B90P-M04	10,0 0.394	8,73 0.344	5,0 0.197	11,74 0.462	0,0	2	MM0612			■	
MM10-10010-B90PF-M02	10,0 0.394	8,73 0.344	5,0 0.197	11,74 0.462	0,0	2	MM0612		■		
MM10-09510-B90P-M04	9,525 0.375	8,7 0.343	4,763 0.188	11,74 0.462	0,0	2	MM0612	■		■	

## Yüksek ilerlemeli



• Tork anahtarları ve tork değerleri için bkz. sayfa 624

Ürün Tanımı	DCX	DC	APMXS	RP	CCER	LF	RMPX°	C min	C max	ZEFP	Tasarım	Kaliteler			
												T60M	F15M	F30M	F40M
MM10-10.50-HF-MD08	10,0 0.394	5,0 0.197	0,44 0.017	1,13 0.044	5,0 0.197	8,5 0.335	5,0	12,2	18,2	2	MM0612		■	■	

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Grafit malzeme için

Minimaster Plus

Minimaster

## MM10 - Kanal ve Kenar frezeleme – Uç seçimi

SMG		$a_p$	$f_z$			
			100%	40%	20%	10%
P1	MM10-10012-R05A30-M03 F40M	2,0	0,044	0,044	0,055	0,070
		0,080	0,0017	0,0017	0,0022	0,0028
P2	MM10-10012-R05A30-M03 F40M	2,0	0,044	0,044	0,055	0,070
		0,080	0,0017	0,0017	0,0022	0,0028
P3	MM10-10012-R05A30-M03 F40M	2,0	0,042	0,042	0,050	0,070
		0,080	0,0017	0,0017	0,0020	0,0028
P4	MM10-10012-R05A30-M03 F40M	2,0	0,042	0,042	0,050	0,065
		0,080	0,0017	0,0017	0,0020	0,0026
P5	MM10-10012-R05A30-M03 F40M	2,0	0,040	0,040	0,050	0,065
		0,080	0,0016	0,0016	0,0020	0,0026
P6	MM10-10012-R05A30-M03 F40M	2,0	0,040	0,040	0,048	0,065
		0,080	0,0016	0,0016	0,0019	0,0026
P7	MM10-10012-R05A30-M03 F40M	2,0	0,040	0,040	0,048	0,065
		0,080	0,0016	0,0016	0,0019	0,0026
P8	MM10-10012-R05A30-M03 F40M	2,0	0,042	0,042	0,050	0,070
		0,080	0,0017	0,0017	0,0020	0,0028
P11	MM10-10012-R05A30-M03 F40M	2,0	0,040	0,040	0,048	0,065
		0,080	0,0016	0,0016	0,0019	0,0026
P12	MM10-10012-R05A30-M03 F40M	1,7	0,028	0,028	0,034	0,044
		0,065	0,0011	0,0011	0,0013	0,0017
M1	MM10-10012-R05A30-M03 F40M	2,0	0,044	0,044	0,055	0,070
		0,080	0,0017	0,0017	0,0022	0,0028
M2	MM10-10012-R05A30-M03 F40M	2,0	0,040	0,040	0,050	0,065
		0,080	0,0016	0,0016	0,0020	0,0026
M3	MM10-10012-R05A30-M03 F40M	1,7	0,032	0,032	0,040	0,050
		0,065	0,0013	0,0013	0,0016	0,0020
M4	MM10-10012-R05A30-M03 F40M	1,2	0,030	0,030	0,034	0,046
		0,048	0,0012	0,0012	0,0013	0,0018
M5	MM10-10012-R05A30-M03 F40M	1,2	0,030	0,030	0,034	0,046
		0,048	0,0012	0,0012	0,0013	0,0018
K1	MM10-10012-R10A30-E03 F30M	2,0	0,048	0,048	0,055	0,075
		0,080	0,0019	0,0019	0,0022	0,0030
K2	MM10-10012-R10A30-E03 F30M	2,0	0,044	0,042	0,050	0,065
		0,080	0,0017	0,0017	0,0020	0,0026
K3	MM10-10012-R10A30-E03 F30M	2,0	0,044	0,042	0,050	0,065
		0,080	0,0017	0,0017	0,0020	0,0026
K4	MM10-10012-R10A30-E03 F30M	2,0	0,044	0,042	0,050	0,065
		0,080	0,0017	0,0017	0,0020	0,0026
K5	MM10-10012-R10A30-D03 F30M	2,0	0,040	0,038	0,044	0,060
		0,080	0,0016	0,0015	0,0017	0,0024
K6	MM10-10012-R10A30-D03 F30M	2,0	0,044	0,042	0,050	0,065
		0,080	0,0017	0,0017	0,0020	0,0026
K7	MM10-10012-R10A30-D03 F30M	2,0	0,040	0,038	0,044	0,060
		0,080	0,0016	0,0015	0,0017	0,0024
N1	MM10-10012-R10A30-E03 F30M	2,0	0,060	0,060	0,070	0,095
		0,080	0,0024	0,0024	0,0028	0,0038
N2	MM10-10012-R10A30-E03 F30M	2,0	0,060	0,060	0,070	0,095
		0,080	0,0024	0,0024	0,0028	0,0038
N3	MM10-10012-R10A30-E03 F30M	2,0	0,060	0,060	0,070	0,095
		0,080	0,0024	0,0024	0,0028	0,0038
N11	MM10-10012-R10A30-E03 F30M	2,0	0,060	0,060	0,070	0,095
		0,080	0,0024	0,0024	0,0028	0,0038
S1	MM10-10012-R10A30-D03 F30M	1,2	0,036	0,034	0,036	0,046
		0,048	0,0014	0,0013	0,0014	0,0018
S2	MM10-10012-R10A30-D03 F30M	1,2	0,036	0,034	0,036	0,046
		0,048	0,0014	0,0013	0,0014	0,0018
S3	MM10-10012-R10A30-D03 F30M	1,2	0,032	0,032	0,034	0,042
		0,048	0,0013	0,0013	0,0013	0,0017
S11	MM10-10012-R05A30-M03 F40M	1,4	0,034	0,034	0,040	0,050
		0,055	0,0013	0,0013	0,0016	0,0020
S12	MM10-10012-R05A30-M03 F40M	1,4	0,034	0,034	0,040	0,050
		0,055	0,0013	0,0013	0,0016	0,0020
S13	MM10-10012-R05A30-M03 F40M	1,2	0,030	0,030	0,034	0,046
		0,048	0,0012	0,0012	0,0013	0,0018
H5	MM10-10012-R10A30-D03 F30M	1,7	0,030	0,030	0,034	0,044
		0,065	0,0012	0,0012	0,0013	0,0017
H8	MM10-10012-R10A30-D03 F30M	1,4	0,025	0,024	0,026	0,034
		0,055	0,0010	0,00095	0,0010	0,0013
H11	MM10-10012-R10A30-D03 F30M	1,7	0,030	0,030	0,034	0,044
		0,065	0,0012	0,0012	0,0013	0,0017
H12	MM10-10012-R10A30-D03 F30M	1,4	0,025	0,024	0,026	0,034
		0,055	0,0010	0,00095	0,0010	0,0013
H21	MM10-10012-R10A30-D03 F30M	1,4	0,025	0,024	0,026	0,034
		0,055	0,0010	0,00095	0,0010	0,0013

SMG = Seco malzeme grubu

 $f_z = \text{mm/ağız}$  (inç/ağız),  $v_c = \text{m/dk}$  (sf/dk),  $a_p/DC = \%$ 

Tüm kesme verileri başlangıç değerleridir

MM10 - Kanal ve Kenar frezeleme – Kesme verisi  $v_c = (m/dk)$

SMG	F30M				F40M				T60M			
	100%	40%	20%	10%	100%	40%	20%	10%	100%	40%	20%	10%
P1	265	330	365	405	250	315	345	385	190	240	270	295
	870	1075	1200	1325	820	1025	1125	1275	620	790	890	970
P2	260	320	360	390	245	305	340	375	185	235	260	290
	850	1050	1175	1275	800	1000	1125	1225	610	770	850	950
P3	225	280	315	340	215	265	295	325	165	205	230	250
	740	920	1025	1125	710	870	970	1075	540	670	750	820
P4	200	245	275	305	190	235	260	290	145	180	200	225
	660	800	900	1000	620	770	850	950	475	590	660	740
P5	190	235	265	290	180	225	250	275	140	175	195	215
	620	770	870	950	590	740	820	900	460	570	640	710
P6	215	265	295	325	205	250	280	310	155	195	220	240
	710	870	970	1075	670	820	920	1025	510	640	720	790
P7	200	250	280	310	190	240	265	290	145	185	205	225
	660	820	920	1025	620	790	870	950	475	610	670	740
P8	190	235	265	285	180	225	250	270	140	175	190	210
	620	770	870	940	590	740	820	890	460	570	620	690
P11	195	245	270	300	185	230	260	285	140	180	200	220
	640	800	890	980	610	750	850	940	460	590	660	720
P12	125	150	170	185	115	145	160	175	90	115	125	140
	410	490	560	610	375	475	520	570	295	375	410	460
M1	—	—	—	—	200	245	275	305	150	190	210	235
	—	—	—	—	660	800	900	1000	490	620	690	770
M2	—	—	—	—	165	200	225	250	125	155	175	190
	—	—	—	—	540	660	740	820	410	510	570	620
M3	—	—	—	—	130	160	175	195	100	125	140	155
	—	—	—	—	425	520	570	640	330	410	460	510
M4	—	—	—	—	100	120	135	150	75	95	105	115
	—	—	—	—	330	395	445	490	245	310	345	375
M5	—	—	—	—	80	100	115	125	65	80	90	95
	—	—	—	—	260	330	375	410	215	260	295	310
K1	205	255	285	310	195	240	270	300	150	185	205	230
	670	840	940	1025	640	790	890	980	490	610	670	750
K2	180	225	250	275	170	215	235	260	130	165	185	200
	590	740	820	900	560	710	770	850	425	540	610	660
K3	150	190	210	235	145	180	200	220	110	140	155	170
	490	620	690	770	475	590	660	720	360	460	510	560
K4	145	180	200	225	140	170	190	210	105	130	150	165
	475	590	660	740	460	560	620	690	345	425	490	540
K5	90	110	125	135	85	105	115	125	65	80	90	100
	295	360	410	445	280	345	375	410	215	260	295	330
K6	130	160	180	195	120	150	170	185	95	115	130	145
	425	520	590	640	395	490	560	610	310	375	425	475
K7	110	140	155	170	105	135	150	165	85	105	115	125
	360	460	510	560	345	445	490	540	280	345	375	410
N1	1550	1925	2150	2350	1475	1825	2025	2250	1125	1400	1550	1725
	5075	6325	7050	7700	4850	6000	6650	7375	3700	4600	5075	5650
N2	630	780	870	950	600	740	820	910	450	570	630	690
	2075	2550	2850	3125	1975	2425	2700	2975	1475	1875	2075	2275
N3	415	520	580	630	395	495	550	610	300	380	420	460
	1350	1700	1900	2075	1300	1625	1800	2000	980	1250	1375	1500
N11	475	590	660	720	455	570	620	690	345	430	480	530
	1550	1925	2175	2350	1500	1875	2025	2275	1125	1400	1575	1750
S1	48	60	65	75	46	55	65	70	36	45	50	55
	155	195	215	245	150	180	215	230	120	150	165	180
S2	38	48	55	60	37	46	50	55	29	36	40	44
	125	155	180	195	120	150	165	180	95	120	130	145
S3	34	42	47	50	32	40	45	49	25	32	35	38
	110	140	155	165	105	130	150	160	80	105	115	125
S11	—	—	—	—	65	80	90	100	50	65	70	75
	—	—	—	—	215	260	295	330	165	215	230	245
S12	—	—	—	—	45	55	60	70	35	43	49	55
	—	—	—	—	150	180	195	230	115	140	160	180
S13	—	—	—	—	26	32	36	39	20	25	28	30
	—	—	—	—	85	105	120	130	65	80	90	100
H5	41	50	55	60	39	48	55	60	30	38	42	46
	135	165	180	195	130	155	180	195	100	125	140	150
H8	42	50	60	65	40	50	55	60	31	39	44	48
	140	165	195	215	130	165	180	195	100	130	145	155
H11	50	65	70	80	49	60	70	75	38	48	55	60
	165	215	230	260	160	195	230	245	125	155	180	195
H12	75	95	105	115	70	90	100	110	55	70	80	85
	245	310	345	375	230	295	330	360	180	230	260	280
H21	42	50	60	65	40	50	55	60	31	39	44	48
	140	165	195	215	130	165	180	195	100	130	145	155

Üniversal  
Çelik ve dökme demir  
Paslanmaz çelik ve S iş parçası malzemeleri  
Paslanmaz çelik ve S iş parçası malzemeleri  
Demir içermeyen malzemeler  
Demir içermeyen malzemeler  
Sertleştirilmiş çelik için  
Grafit malzeme için  
Minimaster Plus  
Minimaster

## MM10 Z3 – Kopya frezeleme – Uç seçimi – Kaba işleme

SMG		$a_p$	$f_z$			
			100%	40%	20%	10%
P1	MM10-10012-B90A30-M03 F40M	2,0	0,055	0,050	0,055	0,070
		0,080	0,0022	0,0020	0,0022	0,0028
P2	MM10-10012-B90A30-M03 F40M	2,0	0,055	0,050	0,055	0,075
		0,080	0,0022	0,0020	0,0022	0,0030
P3	MM10-10012-B90A30-M03 F40M	2,0	0,050	0,050	0,050	0,070
		0,080	0,0020	0,0020	0,0020	0,0028
P4	MM10-10012-B90A30-M03 F40M	2,0	0,050	0,048	0,050	0,065
		0,080	0,0020	0,0019	0,0020	0,0026
P5	MM10-10012-B90A30-M03 F40M	2,0	0,050	0,048	0,050	0,065
		0,080	0,0020	0,0019	0,0020	0,0026
P6	MM10-10012-B90A30-M03 F40M	2,0	0,050	0,048	0,050	0,065
		0,080	0,0020	0,0019	0,0020	0,0026
P7	MM10-10012-B90A30-M03 F40M	2,0	0,050	0,048	0,050	0,065
		0,080	0,0020	0,0019	0,0020	0,0026
P8	MM10-10012-B90A30-M03 F40M	2,0	0,050	0,050	0,050	0,070
		0,080	0,0020	0,0020	0,0020	0,0028
P11	MM10-10012-B90A30-M03 F40M	2,0	0,050	0,048	0,050	0,065
		0,080	0,0020	0,0019	0,0020	0,0026
P12	MM10-10012-B90A30-M03 F40M	1,7	0,034	0,034	0,034	0,044
		0,065	0,0013	0,0013	0,0013	0,0018
M1	MM10-10012-B90A30-M03 F40M	2,0	0,055	0,050	0,055	0,075
		0,080	0,0022	0,0020	0,0022	0,0030
M2	MM10-10012-B90A30-M03 F40M	2,0	0,050	0,048	0,050	0,065
		0,080	0,0020	0,0019	0,0020	0,0026
M3	MM10-10012-B90A30-M03 F40M	1,7	0,042	0,040	0,042	0,055
		0,065	0,0017	0,0016	0,0017	0,0022
M4	MM10-10012-B90A30-M03 F40M	1,2	0,038	0,036	0,036	0,046
		0,048	0,0015	0,0014	0,0014	0,0019
M5	MM10-10012-B90A30-M03 F40M	1,2	0,038	0,036	0,036	0,046
		0,048	0,0015	0,0014	0,0014	0,0019
K1	MM10-10012-B90A30-E03 F30M	2,0	0,055	0,050	0,055	0,075
		0,080	0,0022	0,0020	0,0022	0,0030
K2	MM10-10012-B90A30-E03 F30M	2,0	0,050	0,048	0,050	0,065
		0,080	0,0020	0,0019	0,0020	0,0026
K3	MM10-10012-B90A30-E03 F30M	2,0	0,050	0,048	0,050	0,065
		0,080	0,0020	0,0019	0,0020	0,0026
K4	MM10-10012-B90A30-E03 F30M	2,0	0,050	0,048	0,050	0,065
		0,080	0,0020	0,0019	0,0020	0,0026
K5	MM10-10012-B90A30-D03 F30M	2,0	0,044	0,042	0,046	0,060
		0,080	0,0017	0,0017	0,0018	0,0024
K6	MM10-10012-B90A30-D03 F30M	2,0	0,050	0,048	0,050	0,065
		0,080	0,0020	0,0019	0,0020	0,0026
K7	MM10-10012-B90A30-D03 F30M	2,0	0,044	0,042	0,046	0,060
		0,080	0,0017	0,0017	0,0018	0,0024
N1	MM10-10012-B90A30-E03 F30M	2,0	0,070	0,065	0,070	0,095
		0,080	0,0028	0,0026	0,0028	0,0038
N2	MM10-10012-B90A30-E03 F30M	2,0	0,070	0,065	0,070	0,095
		0,080	0,0028	0,0026	0,0028	0,0038
N3	MM10-10012-B90A30-E03 F30M	2,0	0,070	0,065	0,070	0,095
		0,080	0,0028	0,0026	0,0028	0,0038
N11	MM10-10012-B90A30-E03 F30M	2,0	0,070	0,065	0,070	0,095
		0,080	0,0028	0,0026	0,0028	0,0038
S1	MM10-10012-B90A30-D03 F30M	1,2	0,038	0,036	0,036	0,046
		0,048	0,0015	0,0014	0,0014	0,0019
S2	MM10-10012-B90A30-D03 F30M	1,2	0,038	0,036	0,036	0,046
		0,048	0,0015	0,0014	0,0014	0,0019
S3	MM10-10012-B90A30-D03 F30M	1,2	0,036	0,034	0,034	0,042
		0,048	0,0014	0,0013	0,0013	0,0017
S11	MM10-10012-B90A30-M03 F40M	1,4	0,042	0,042	0,042	0,055
		0,055	0,0017	0,0017	0,0017	0,0022
S12	MM10-10012-B90A30-M03 F40M	1,4	0,042	0,042	0,042	0,055
		0,055	0,0017	0,0017	0,0017	0,0022
S13	MM10-10012-B90A30-M03 F40M	1,2	0,038	0,036	0,036	0,046
		0,048	0,0015	0,0014	0,0014	0,0019
H5	MM10-10012-B90A30-D03 F30M	1,7	0,034	0,034	0,034	0,044
		0,065	0,0013	0,0013	0,0013	0,0018
H8	MM10-10012-B90A30-D03 F30M	1,4	0,028	0,026	0,026	0,034
		0,055	0,0011	0,0010	0,0010	0,0013
H11	MM10-10012-B90A30-D03 F30M	1,7	0,034	0,034	0,034	0,044
		0,065	0,0013	0,0013	0,0013	0,0018
H12	MM10-10012-B90A30-D03 F30M	1,4	0,028	0,026	0,026	0,034
		0,055	0,0011	0,0010	0,0010	0,0013
H21	MM10-10012-B90A30-D03 F30M	1,4	0,028	0,026	0,026	0,034
		0,055	0,0011	0,0010	0,0010	0,0013

SMG = Seco malzeme grubu

 $f_z$  = mm/ağız (inç/ağız),  $v_c$  = m/dk (sf/dk),  $a_p/DC$  = %

Tüm kesme verileri başlangıç değerleridir

## MM10 Z3 – Kopya frezeleme – Uç seçimi – Finitiş frezeleme

SMG		$a_p$	$f_z$			
			15%	10%	5%	2%
P1	MM10-10012-B90A30-E03 F30M	2,0	0,060	0,070	0,10	0,16
		0,080	0,0024	0,0028	0,0040	0,0065
P2	MM10-10012-B90A30-E03 F30M	2,0	0,060	0,075	0,10	0,16
		0,080	0,0024	0,0030	0,0040	0,0065
P3	MM10-10012-B90A30-E03 F30M	2,0	0,060	0,070	0,095	0,15
		0,080	0,0024	0,0028	0,0038	0,0060
P4	MM10-10012-B90A30-E03 F30M	2,0	0,055	0,065	0,095	0,15
		0,080	0,0022	0,0026	0,0038	0,0060
P5	MM10-10012-B90A30-E03 F30M	2,0	0,055	0,065	0,090	0,15
		0,080	0,0022	0,0026	0,0036	0,0060
P6	MM10-10012-B90A30-E03 F30M	2,0	0,055	0,065	0,090	0,15
		0,080	0,0022	0,0026	0,0036	0,0060
P7	MM10-10012-B90A30-E03 F30M	2,0	0,055	0,065	0,090	0,15
		0,080	0,0022	0,0026	0,0036	0,0060
P8	MM10-10012-B90A30-E03 F30M	2,0	0,060	0,070	0,095	0,15
		0,080	0,0024	0,0028	0,0038	0,0060
P11	MM10-10012-B90A30-E03 F30M	2,0	0,055	0,065	0,090	0,15
		0,080	0,0022	0,0026	0,0036	0,0060
P12	MM10-10012-B90A30-E03 F30M	1,7	0,038	0,044	0,060	0,10
		0,065	0,0015	0,0018	0,0024	0,0040
M1	MM10-10012-B90A30-E03 F30M	2,0	0,060	0,075	0,10	0,16
		0,080	0,0024	0,0030	0,0040	0,0065
M2	MM10-10012-B90A30-E03 F30M	2,0	0,055	0,065	0,090	0,15
		0,080	0,0022	0,0026	0,0036	0,0060
M3	MM10-10012-B90A30-E03 F30M	1,7	0,046	0,055	0,075	0,12
		0,065	0,0018	0,0022	0,0030	0,0048
M4	MM10-10012-B90A30-E03 F30M	1,2	0,040	0,046	0,065	0,10
		0,048	0,0016	0,0019	0,0026	0,0040
M5	MM10-10012-B90A30-E03 F30M	1,2	0,040	0,046	0,065	0,10
		0,048	0,0016	0,0019	0,0026	0,0040
K1	MM10-10012-B90A30-E03 F30M	2,0	0,060	0,075	0,10	0,16
		0,080	0,0024	0,0030	0,0040	0,0065
K2	MM10-10012-B90A30-E03 F30M	2,0	0,055	0,065	0,090	0,15
		0,080	0,0022	0,0026	0,0036	0,0060
K3	MM10-10012-B90A30-E03 F30M	2,0	0,055	0,065	0,090	0,15
		0,080	0,0022	0,0026	0,0036	0,0060
K4	MM10-10012-B90A30-E03 F30M	2,0	0,055	0,065	0,090	0,15
		0,080	0,0022	0,0026	0,0036	0,0060
K5	MM10-10012-B90A30-E03 F30M	2,0	0,050	0,060	0,080	0,13
		0,080	0,0020	0,0024	0,0032	0,0050
K6	MM10-10012-B90A30-E03 F30M	2,0	0,055	0,065	0,090	0,15
		0,080	0,0022	0,0026	0,0036	0,0060
K7	MM10-10012-B90A30-E03 F30M	2,0	0,050	0,060	0,080	0,13
		0,080	0,0020	0,0024	0,0032	0,0050
N1	MM10-10012-B90A30-E03 F30M	2,0	0,080	0,095	0,13	0,22
		0,080	0,0032	0,0038	0,0050	0,0085
N2	MM10-10012-B90A30-E03 F30M	2,0	0,080	0,095	0,13	0,22
		0,080	0,0032	0,0038	0,0050	0,0085
N3	MM10-10012-B90A30-E03 F30M	2,0	0,080	0,095	0,13	0,22
		0,080	0,0032	0,0038	0,0050	0,0085
N11	MM10-10012-B90A30-E03 F30M	2,0	0,080	0,095	0,13	0,22
		0,080	0,0032	0,0038	0,0050	0,0085
S1	MM10-10012-B90A30-E03 F30M	1,2	0,040	0,046	0,065	0,10
		0,048	0,0016	0,0019	0,0026	0,0040
S2	MM10-10012-B90A30-E03 F30M	1,2	0,040	0,046	0,065	0,10
		0,048	0,0016	0,0019	0,0026	0,0040
S3	MM10-10012-B90A30-E03 F30M	1,2	0,038	0,042	0,060	0,095
		0,048	0,0015	0,0017	0,0024	0,0038
S11	MM10-10012-B90A30-E03 F30M	1,4	0,046	0,055	0,075	0,12
		0,055	0,0018	0,0022	0,0030	0,0048
S12	MM10-10012-B90A30-E03 F30M	1,4	0,046	0,055	0,075	0,12
		0,055	0,0018	0,0022	0,0030	0,0048
S13	MM10-10012-B90A30-E03 F30M	1,2	0,040	0,046	0,065	0,10
		0,048	0,0016	0,0019	0,0026	0,0040
H5	MM10-10012-B90A30-E03 F30M	1,7	0,038	0,044	0,060	0,10
		0,065	0,0015	0,0018	0,0024	0,0040
H8	MM10-10012-B90A30-E03 F30M	1,4	0,030	0,034	0,048	0,075
		0,055	0,0012	0,0013	0,0019	0,0030
H11	MM10-10012-B90A30-E03 F30M	1,7	0,038	0,044	0,060	0,10
		0,065	0,0015	0,0018	0,0024	0,0040
H12	MM10-10012-B90A30-E03 F30M	1,4	0,030	0,034	0,048	0,075
		0,055	0,0012	0,0013	0,0019	0,0030
H21	MM10-10012-B90A30-E03 F30M	1,4	0,030	0,034	0,048	0,075
		0,055	0,0012	0,0013	0,0019	0,0030

SMG = Seco malzeme grubu

 $f_z$  = mm/ağız (inç/ağız),  $v_c$  = m/dk (sf/dk),  $a_e/DC$  = %

Tüm kesme verileri başlangıç değerleridir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Grafit malzeme için

Minimaster Plus

Minimaster

MM10 Z3 – Kopya frezeleme – Kesme verisi  $v_c = (m/dk)$ 

SMG	F30M					F40M				
	100%	20%	10%	5%	2%	100%	20%	10%	5%	2%
P1	280	330	355	380	380	270	310	335	365	360
	920	1075	1175	1250	1250	890	1025	1100	1200	1175
P2	275	320	340	370	370	260	305	325	355	355
	900	1050	1125	1225	1225	850	1000	1075	1175	1175
P3	240	280	295	320	320	230	265	280	305	305
	790	920	970	1050	1050	750	870	920	1000	1000
P4	210	245	265	285	285	200	235	250	270	270
	690	800	870	940	940	660	770	820	890	890
P5	200	235	250	275	270	190	225	240	260	260
	660	770	820	900	890	620	740	790	850	850
P6	225	265	285	305	305	215	250	270	290	290
	740	870	940	1000	1000	710	820	890	950	950
P7	215	250	265	290	285	205	235	255	275	275
	710	820	870	950	940	670	770	840	900	900
P8	200	235	250	270	270	190	225	235	260	260
	660	770	820	890	890	620	740	770	850	850
P11	205	240	260	280	280	195	230	245	265	265
	670	790	850	920	920	640	750	800	870	870
P12	130	160	160	175	175	125	150	155	165	165
	425	520	520	570	570	410	490	510	540	540
M1	220	255	275	300	300	210	245	260	285	285
	720	840	900	980	980	690	800	850	940	940
M2	180	210	225	245	245	175	200	215	235	230
	590	690	740	800	800	570	660	710	770	750
M3	145	175	175	190	190	135	165	170	185	180
	475	570	590	620	620	445	540	560	610	590
M4	95	140	135	145	145	95	130	130	140	140
	310	460	475	475	475	310	425	445	460	460
M5	80	115	115	120	120	75	110	105	115	115
	260	375	395	395	395	245	360	375	375	375
K1	220	255	270	295	295	205	240	255	280	280
	720	840	890	970	970	670	790	840	920	920
K2	190	220	240	260	255	180	210	230	245	245
	620	720	790	850	840	590	690	750	800	800
K3	160	190	200	220	215	155	180	195	210	205
	520	620	660	720	710	510	590	640	690	670
K4	155	180	195	210	205	145	170	185	200	195
	510	590	640	690	670	475	560	610	660	640
K5	95	110	115	125	125	90	105	110	120	120
	310	360	375	410	410	295	345	360	395	395
K6	135	160	170	185	185	130	150	160	175	175
	445	520	560	610	610	425	490	520	570	570
K7	120	140	150	160	160	115	130	140	155	155
	395	460	490	520	520	375	425	460	510	510
N1	1650	1925	2050	2225	2200	1575	1825	1950	2125	2100
	5425	6325	6725	7300	7225	5175	6000	6400	6975	6900
N2	670	780	830	900	890	640	740	790	860	850
	2200	2550	2725	2950	2925	2100	2425	2600	2825	2800
N3	445	520	550	600	590	425	495	530	570	560
	1450	1700	1800	1975	1925	1400	1625	1750	1875	1825
N11	510	590	630	690	680	485	560	600	650	650
	1675	1925	2075	2275	2225	1600	1825	1975	2125	2125
S1	45	65	65	70	70	43	60	60	65	65
	150	215	215	230	230	140	195	215	215	215
S2	37	50	50	55	55	35	49	48	50	50
	120	165	180	180	180	115	160	165	165	165
S3	32	45	44	48	48	30	43	42	46	45
	105	150	155	155	155	100	140	150	150	150
S11	70	90	90	95	95	65	85	85	90	90
	230	295	295	310	310	215	280	280	295	295
S12	48	60	60	65	65	45	60	60	65	65
	155	195	215	215	215	150	195	195	215	215
S13	26	36	36	38	38	24	34	34	37	37
	85	120	125	125	125	80	110	120	120	120
H5	43	55	55	60	55	41	50	50	55	55
	140	180	180	195	180	135	165	165	180	180
H8	41	55	55	60	60	39	50	50	55	55
	135	180	180	195	195	130	165	180	180	180
H11	55	65	70	75	75	50	65	65	70	70
	180	215	230	245	245	165	215	215	230	230
H12	75	100	100	105	105	70	95	95	100	100
	245	330	330	345	345	230	310	310	330	330
H21	41	55	55	60	60	39	50	50	55	55
	135	180	180	195	195	130	165	180	180	180



## MM10 Z2 – Kopya frezeleme – Uç seçimi – Kaba işleme

SMG		$a_p$	$f_z$			
			100%	40%	20%	10%
P1	MM10-10010-B90S-E04 F30M	4,0	0,060	0,060	0,070	0,095
		0.16	0.0024	0.0024	0.0028	0.0038
P2	MM10-10010-B90S-E04 F30M	4,0	0,065	0,065	0,075	0,095
		0.16	0.0026	0.0026	0.0030	0.0038
P3	MM10-10010-B90S-E04 F30M	4,0	0,060	0,060	0,070	0,090
		0.16	0.0024	0.0024	0.0028	0.0036
P4	MM10-10010-B90-MD04 F30M	4,0	0,060	0,060	0,070	0,090
		0.16	0.0024	0.0024	0.0028	0.0036
P5	MM10-10010-B90-MD04 F30M	4,0	0,060	0,055	0,065	0,090
		0.16	0.0024	0.0022	0.0026	0.0036
P6	MM10-10010-B90-MD04 F30M	4,0	0,055	0,055	0,065	0,085
		0.16	0.0022	0.0022	0.0026	0.0034
P7	MM10-10010-B90-MD04 F30M	4,0	0,055	0,055	0,065	0,085
		0.16	0.0022	0.0022	0.0026	0.0034
P8	MM10-10010-B90-MD04 F30M	4,0	0,060	0,060	0,070	0,090
		0.16	0.0024	0.0024	0.0028	0.0036
P11	MM10-10010-B90-MD04 F30M	4,0	0,055	0,055	0,065	0,085
		0.16	0.0022	0.0022	0.0026	0.0034
P12	MM10-10010-B90-MD04 F30M	3,5	0,040	0,040	0,046	0,060
		0.14	0.0016	0.0016	0.0018	0.0024
M1	MM10-10010-B90S-E04 F30M	4,0	0,065	0,065	0,075	0,095
		0.16	0.0026	0.0026	0.0030	0.0038
M2	MM10-10010-B90S-E04 F30M	4,0	0,060	0,055	0,065	0,090
		0.16	0.0024	0.0022	0.0026	0.0036
M3	MM10-10010-B90S-E04 F30M	3,5	0,048	0,048	0,055	0,070
		0.14	0.0019	0.0019	0.0022	0.0028
M4	MM10-10010-B90-MD04 F30M	2,5	0,044	0,044	0,048	0,060
		0.10	0.0017	0.0017	0.0019	0.0026
M5	MM10-10010-B90-MD04 F30M	2,5	0,044	0,044	0,048	0,060
		0.10	0.0017	0.0017	0.0019	0.0026
K1	MM10-10010-B90S-E04 F30M	4,0	0,065	0,065	0,075	0,095
		0.16	0.0026	0.0026	0.0030	0.0038
K2	MM10-10010-B90S-E04 F30M	4,0	0,060	0,055	0,065	0,090
		0.16	0.0024	0.0022	0.0026	0.0036
K3	MM10-10010-B90S-E04 F30M	4,0	0,060	0,055	0,065	0,090
		0.16	0.0024	0.0022	0.0026	0.0036
K4	MM10-10010-B90S-E04 F30M	4,0	0,060	0,055	0,065	0,090
		0.16	0.0024	0.0022	0.0026	0.0036
K5	MM10-10010-B90-MD04 F30M	4,0	0,050	0,050	0,060	0,080
		0.16	0.0020	0.0020	0.0024	0.0032
K6	MM10-10010-B90-MD04 F30M	4,0	0,060	0,055	0,065	0,090
		0.16	0.0024	0.0022	0.0026	0.0036
K7	MM10-10010-B90-MD04 F30M	4,0	0,050	0,050	0,060	0,080
		0.16	0.0020	0.0020	0.0024	0.0032
N1	MM10-10010-B90S-E04 F30M	4,0	0,080	0,080	0,095	0,12
		0.16	0.0032	0.0032	0.0038	0.0048
N2	MM10-10010-B90S-E04 F30M	4,0	0,080	0,080	0,095	0,12
		0.16	0.0032	0.0032	0.0038	0.0048
N3	MM10-10010-B90S-E04 F30M	4,0	0,080	0,080	0,095	0,12
		0.16	0.0032	0.0032	0.0038	0.0048
N11	MM10-10010-B90S-E04 F30M	4,0	0,080	0,080	0,095	0,12
		0.16	0.0032	0.0032	0.0038	0.0048
S1	MM10-10010-B90S-E04 F30M	2,5	0,044	0,044	0,048	0,060
		0.10	0.0017	0.0017	0.0019	0.0026
S2	MM10-10010-B90S-E04 F30M	2,5	0,044	0,044	0,048	0,060
		0.10	0.0017	0.0017	0.0019	0.0026
S3	MM10-10010-B90S-E04 F30M	2,5	0,042	0,042	0,044	0,055
		0.10	0.0017	0.0017	0.0017	0.0024
S11	MM10-10010-B90S-E04 F30M	3,0	0,048	0,048	0,055	0,070
		0.12	0.0019	0.0019	0.0022	0.0028
S12	MM10-10010-B90S-E04 F30M	3,0	0,048	0,048	0,055	0,070
		0.12	0.0019	0.0019	0.0022	0.0028
S13	MM10-10010-B90S-E04 F30M	2,5	0,044	0,044	0,048	0,060
		0.10	0.0017	0.0017	0.0019	0.0026
H5	MM10-10010-B90-MD04 F30M	3,5	0,040	0,040	0,046	0,060
		0.14	0.0016	0.0016	0.0018	0.0024
H8	MM10-10010-B90-MD04 F30M	3,0	0,032	0,032	0,036	0,046
		0.12	0.0013	0.0013	0.0014	0.0018
H11	MM10-10010-B90-MD04 F30M	3,5	0,040	0,040	0,046	0,060
		0.14	0.0016	0.0016	0.0018	0.0024
H12	MM10-10010-B90-MD04 F30M	3,0	0,032	0,032	0,036	0,046
		0.12	0.0013	0.0013	0.0014	0.0018
H21	MM10-10010-B90-MD04 F30M	3,0	0,032	0,032	0,036	0,046
		0.12	0.0013	0.0013	0.0014	0.0018

SMG = Seco malzeme grubu

 $f_z$  = mm/ağız (inç/ağız),  $v_c$  = m/dk (sf/dk),  $a_e/DC$  = %

Tüm kesme verileri başlangıç değerleridir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Grafit malzeme için

Minimaster Plus

Minimaster

## MM10 Z2 – Kopya frezeleme – Uç seçimi – Finiş frezeleme

SMG		$a_p$	$f_z$			
			15%	10%	5%	2%
P1	MM10-10010-B90PF-M02 F15M	3,5	0,040	0,048	0,065	0,11
		0,14	0,0016	0,0019	0,0026	0,0044
P2	MM10-10010-B90PF-M02 F15M	3,5	0,042	0,048	0,070	0,11
		0,14	0,0017	0,0019	0,0028	0,0044
P3	MM10-10010-B90PF-M02 F15M	3,5	0,038	0,046	0,065	0,10
		0,14	0,0015	0,0018	0,0026	0,0040
P4	MM10-10010-B90PF-M02 F15M	3,5	0,038	0,046	0,065	0,10
		0,14	0,0015	0,0018	0,0026	0,0040
P5	MM10-10010-B90PF-M02 F15M	3,5	0,038	0,044	0,060	0,10
		0,14	0,0015	0,0017	0,0024	0,0040
P6	MM10-10010-B90PF-M02 F15M	3,5	0,038	0,044	0,060	0,095
		0,14	0,0015	0,0017	0,0024	0,0038
P7	MM10-10010-B90PF-M02 F15M	3,5	0,038	0,044	0,060	0,095
		0,14	0,0015	0,0017	0,0024	0,0038
P8	MM10-10010-B90PF-M02 F15M	3,5	0,038	0,046	0,065	0,10
		0,14	0,0015	0,0018	0,0026	0,0040
P11	MM10-10010-B90PF-M02 F15M	3,5	0,038	0,044	0,060	0,095
		0,14	0,0015	0,0017	0,0024	0,0038
P12	MM10-10010-B90PF-M02 F15M	3,0	0,026	0,030	0,042	0,065
		0,12	0,0010	0,0012	0,0017	0,0026
M1	MM10-10010-B90PF-M02 F15M	3,5	0,042	0,048	0,070	0,11
		0,14	0,0017	0,0019	0,0028	0,0044
M2	MM10-10010-B90PF-M02 F15M	3,5	0,038	0,044	0,060	0,10
		0,14	0,0015	0,0017	0,0024	0,0040
M3	MM10-10010-B90PF-M02 F15M	3,0	0,030	0,036	0,048	0,075
		0,12	0,0012	0,0014	0,0019	0,0030
M4	MM10-10010-B90PF-M02 F15M	2,0	0,028	0,030	0,042	0,070
		0,080	0,0011	0,0013	0,0017	0,0028
M5	MM10-10010-B90PF-M02 F15M	2,0	0,028	0,030	0,042	0,070
		0,080	0,0011	0,0013	0,0017	0,0028
K1	MM10-10010-B90PF-M02 F15M	3,5	0,042	0,048	0,070	0,11
		0,14	0,0017	0,0019	0,0028	0,0044
K2	MM10-10010-B90PF-M02 F15M	3,5	0,038	0,044	0,060	0,10
		0,14	0,0015	0,0017	0,0024	0,0040
K3	MM10-10010-B90PF-M02 F15M	3,5	0,038	0,044	0,060	0,10
		0,14	0,0015	0,0017	0,0024	0,0040
K4	MM10-10010-B90PF-M02 F15M	3,5	0,038	0,044	0,060	0,10
		0,14	0,0015	0,0017	0,0024	0,0040
K5	MM10-10010-B90PF-M02 F15M	3,5	0,034	0,040	0,055	0,085
		0,14	0,0013	0,0016	0,0022	0,0034
K6	MM10-10010-B90PF-M02 F15M	3,5	0,038	0,044	0,060	0,10
		0,14	0,0015	0,0017	0,0024	0,0040
K7	MM10-10010-B90PF-M02 F15M	3,5	0,034	0,040	0,055	0,085
		0,14	0,0013	0,0016	0,0022	0,0034
N1	MM10-10010-B90PF-M02 F15M	3,5	0,050	0,060	0,085	0,14
		0,14	0,0020	0,0024	0,0034	0,0055
N2	MM10-10010-B90PF-M02 F15M	3,5	0,050	0,060	0,085	0,14
		0,14	0,0020	0,0024	0,0034	0,0055
N3	MM10-10010-B90PF-M02 F15M	3,5	0,050	0,060	0,085	0,14
		0,14	0,0020	0,0024	0,0034	0,0055
N11	MM10-10010-B90PF-M02 F15M	3,5	0,050	0,060	0,085	0,14
		0,14	0,0020	0,0024	0,0034	0,0055
S1	MM10-10010-B90PF-M02 F15M	2,0	0,028	0,030	0,042	0,070
		0,080	0,0011	0,0013	0,0017	0,0028
S2	MM10-10010-B90PF-M02 F15M	2,0	0,028	0,030	0,042	0,070
		0,080	0,0011	0,0013	0,0017	0,0028
S3	MM10-10010-B90PF-M02 F15M	2,0	0,025	0,028	0,040	0,065
		0,080	0,0010	0,0012	0,0016	0,0026
S11	MM10-10010-B90PF-M02 F15M	2,5	0,030	0,036	0,048	0,075
		0,10	0,0012	0,0014	0,0019	0,0030
S12	MM10-10010-B90PF-M02 F15M	2,5	0,030	0,036	0,048	0,075
		0,10	0,0012	0,0014	0,0019	0,0030
S13	MM10-10010-B90PF-M02 F15M	2,0	0,028	0,030	0,042	0,070
		0,080	0,0011	0,0013	0,0017	0,0028
H5	MM10-10010-B90PF-M02 F15M	3,0	0,026	0,030	0,042	0,065
		0,12	0,0010	0,0012	0,0017	0,0026
H8	MM10-10010-B90PF-M02 F15M	2,5	0,020	0,022	0,032	0,050
		0,10	0,00080	0,00095	0,0013	0,0020
H11	MM10-10010-B90PF-M02 F15M	3,0	0,026	0,030	0,042	0,065
		0,12	0,0010	0,0012	0,0017	0,0026
H12	MM10-10010-B90PF-M02 F15M	2,5	0,020	0,022	0,032	0,050
		0,10	0,00080	0,00095	0,0013	0,0020
H21	MM10-10010-B90PF-M02 F15M	2,5	0,020	0,022	0,032	0,050
		0,10	0,00080	0,00095	0,0013	0,0020

SMG = Seco malzeme grubu

 $f_z$  = mm/ağız (inç/ağız),  $v_c$  = m/dk (sf/dk),  $a_p/DC$  = %

Tüm kesme verileri başlangıç değerleridir



## MM10 Yüksek ilerlemeli Uç seçimi

SMG		$a_p$	$f_z$			
			100%	70%	30%	20%
P1	MM10-10.50-HF-MD08 F30M	0,30	0,48	0,48	0,65	0,80
		0,012	0,019	0,019	0,026	0,032
P2	MM10-10.50-HF-MD08 F30M	0,30	0,50	0,50	0,65	0,80
		0,012	0,020	0,020	0,026	0,032
P3	MM10-10.50-HF-MD08 F30M	0,30	0,46	0,46	0,60	0,75
		0,012	0,018	0,018	0,024	0,030
P4	MM10-10.50-HF-MD08 F30M	0,30	0,46	0,46	0,60	0,75
		0,012	0,018	0,018	0,024	0,030
P5	MM10-10.50-HF-MD08 F30M	0,30	0,44	0,46	0,60	0,75
		0,012	0,017	0,018	0,024	0,030
P6	MM10-10.50-HF-MD08 F30M	0,30	0,44	0,44	0,60	0,75
		0,012	0,017	0,017	0,024	0,030
P7	MM10-10.50-HF-MD08 F30M	0,30	0,44	0,44	0,60	0,75
		0,012	0,017	0,017	0,024	0,030
P8	MM10-10.50-HF-MD08 F30M	0,30	0,46	0,46	0,60	0,75
		0,012	0,018	0,018	0,024	0,030
P11	MM10-10.50-HF-MD08 F30M	0,30	0,44	0,44	0,60	0,75
		0,012	0,017	0,017	0,024	0,030
P12	MM10-10.50-HF-MD08 F30M	0,25	0,30	0,30	0,40	0,48
		0,010	0,012	0,012	0,016	0,019
M1	MM10-10.50-HF-MD08 F30M	0,30	0,50	0,50	0,65	0,80
		0,012	0,020	0,020	0,026	0,032
M2	MM10-10.50-HF-MD08 F30M	0,30	0,44	0,46	0,60	0,75
		0,012	0,017	0,018	0,024	0,030
M3	MM10-10.50-HF-MD08 F30M	0,25	0,36	0,36	0,46	0,55
		0,010	0,014	0,014	0,018	0,022
M4	MM10-10.50-HF-MD08 F30M	0,18	0,32	0,32	0,40	0,50
		0,0070	0,013	0,013	0,016	0,020
M5	MM10-10.50-HF-MD08 F30M	0,18	0,32	0,32	0,40	0,50
		0,0070	0,013	0,013	0,016	0,020
K1	MM10-10.50-HF-MD08 F30M	0,30	0,50	0,50	0,65	0,80
		0,012	0,020	0,020	0,026	0,032
K2	MM10-10.50-HF-MD08 F30M	0,30	0,44	0,46	0,60	0,75
		0,012	0,017	0,018	0,024	0,030
K3	MM10-10.50-HF-MD08 F30M	0,30	0,44	0,46	0,60	0,75
		0,012	0,017	0,018	0,024	0,030
K4	MM10-10.50-HF-MD08 F30M	0,30	0,44	0,46	0,60	0,75
		0,012	0,017	0,018	0,024	0,030
K5	MM10-10.50-HF-MD08 F30M	0,30	0,40	0,40	0,55	0,65
		0,012	0,016	0,016	0,022	0,026
K6	MM10-10.50-HF-MD08 F30M	0,30	0,44	0,46	0,60	0,75
		0,012	0,017	0,018	0,024	0,030
K7	MM10-10.50-HF-MD08 F30M	0,30	0,40	0,40	0,55	0,65
		0,012	0,016	0,016	0,022	0,026
N1	MM10-10.50-HF-MD08 F30M	0,30	0,65	0,65	0,85	1,1
		0,012	0,026	0,026	0,034	0,044
N2	MM10-10.50-HF-MD08 F30M	0,30	0,65	0,65	0,85	1,1
		0,012	0,026	0,026	0,034	0,044
N3	MM10-10.50-HF-MD08 F30M	0,30	0,65	0,65	0,85	1,1
		0,012	0,026	0,026	0,034	0,044
N11	MM10-10.50-HF-MD08 F30M	0,30	0,65	0,65	0,85	1,1
		0,012	0,026	0,026	0,034	0,044
S1	MM10-10.50-HF-MD08 F30M	0,18	0,32	0,32	0,40	0,50
		0,0070	0,013	0,013	0,016	0,020
S2	MM10-10.50-HF-MD08 F30M	0,18	0,32	0,32	0,40	0,50
		0,0070	0,013	0,013	0,016	0,020
S3	MM10-10.50-HF-MD08 F30M	0,18	0,30	0,30	0,38	0,46
		0,0070	0,012	0,012	0,015	0,018
S11	MM10-10.50-HF-MD08 F30M	0,22	0,36	0,36	0,46	0,55
		0,0085	0,014	0,014	0,018	0,022
S12	MM10-10.50-HF-MD08 F30M	0,22	0,36	0,36	0,46	0,55
		0,0085	0,014	0,014	0,018	0,022
S13	MM10-10.50-HF-MD08 F30M	0,18	0,32	0,32	0,40	0,50
		0,0070	0,013	0,013	0,016	0,020
H5	MM10-10.50-HF-MD08 F15M	0,25	0,30	0,30	0,40	0,48
		0,010	0,012	0,012	0,016	0,019
H8	MM10-10.50-HF-MD08 F15M	0,22	0,24	0,24	0,30	0,36
		0,0085	0,0095	0,0095	0,012	0,014
H11	MM10-10.50-HF-MD08 F15M	0,25	0,30	0,30	0,40	0,48
		0,010	0,012	0,012	0,016	0,019
H12	MM10-10.50-HF-MD08 F15M	0,22	0,24	0,24	0,30	0,36
		0,0085	0,0095	0,0095	0,012	0,014
H21	MM10-10.50-HF-MD08 F15M	0,22	0,24	0,24	0,30	0,36
		0,0085	0,0095	0,0095	0,012	0,014

SMG = Seco malzeme grubu


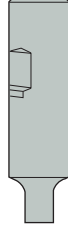
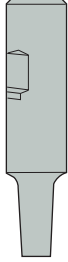


 $f_z = \text{mm/ağız (inç/ağız)}$ ,  $v_c = \text{m/dk (sf/dk)}$ ,  $a_p/DC = \%$ 

Tüm kesme verileri başlangıç değerleridir

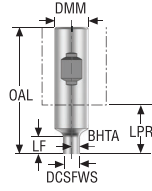
MM10 Yüksek ilerlemeli Kesme verisi  $v_c = (m/dk)$ 

SMG	F15M				F30M				Üniversal
	100%	70%	30%	20%	100%	70%	30%	20%	
P1	—	—	—	—	230	280	325	340	Çelik ve dökme demir
	—	—	—	—	750	920	1075	1125	
P2	—	—	—	—	225	270	315	330	Çelik ve dökme demir
	—	—	—	—	740	890	1025	1075	
P3	—	—	—	—	195	240	275	290	Çelik ve dökme demir
	—	—	—	—	640	790	900	950	
P4	—	—	—	—	170	210	240	255	Çelik ve dökme demir
	—	—	—	—	560	690	790	840	
P5	—	—	—	—	165	200	230	240	Çelik ve dökme demir
	—	—	—	—	540	660	750	790	
P6	—	—	—	—	185	225	260	270	Çelik ve dökme demir
	—	—	—	—	610	740	850	890	
P7	—	—	—	—	175	215	245	255	Paslanmaz çelik ve S iş parçası matzemeleri
	—	—	—	—	570	710	800	840	
P8	—	—	—	—	165	200	230	240	Paslanmaz çelik ve S iş parçası matzemeleri
	—	—	—	—	540	660	750	790	
P11	—	—	—	—	170	210	240	250	Paslanmaz çelik ve S iş parçası matzemeleri
	—	—	—	—	560	690	790	820	
P12	—	—	—	—	110	135	150	160	Paslanmaz çelik ve S iş parçası matzemeleri
	—	—	—	—	360	445	490	520	
M1	—	—	—	—	180	220	255	265	Paslanmaz çelik ve S iş parçası matzemeleri
	—	—	—	—	590	720	840	870	
M2	—	—	—	—	150	180	210	220	Paslanmaz çelik ve S iş parçası matzemeleri
	—	—	—	—	490	590	690	720	
M3	—	—	—	—	120	145	165	175	Paslanmaz çelik ve S iş parçası matzemeleri
	—	—	—	—	395	475	540	570	
M4	—	—	—	—	95	110	130	135	Paslanmaz çelik ve S iş parçası matzemeleri
	—	—	—	—	310	360	425	445	
M5	—	—	—	—	80	95	110	115	Paslanmaz çelik ve S iş parçası matzemeleri
	—	—	—	—	260	310	360	375	
K1	190	230	270	280	175	215	250	260	Demir içermeyen matzemeler
	620	750	890	920	570	710	820	850	
K2	170	205	235	245	160	190	220	230	Demir içermeyen matzemeler
	560	670	770	800	520	620	720	750	
K3	145	175	200	210	135	160	185	195	Demir içermeyen matzemeler
	475	570	660	690	445	520	610	640	
K4	135	165	190	200	125	155	175	185	Demir içermeyen matzemeler
	445	540	620	660	410	510	570	610	
K5	85	100	115	125	75	95	105	115	Sertleştirilmiş çelik için
	280	330	375	410	245	310	345	375	
K6	120	145	170	175	110	135	155	165	Sertleştirilmiş çelik için
	395	475	560	570	360	445	510	540	
K7	105	130	150	155	100	120	140	145	Sertleştirilmiş çelik için
	345	425	490	510	330	395	460	475	
N1	—	—	—	—	1325	1600	1850	1925	Grafit malzeme için
	—	—	—	—	4350	5250	6075	6325	
N2	—	—	—	—	530	650	750	780	Grafit malzeme için
	—	—	—	—	1750	2125	2450	2550	
N3	—	—	—	—	355	430	500	520	Grafit malzeme için
	—	—	—	—	1175	1400	1650	1700	
N11	—	—	—	—	405	495	570	590	Grafit malzeme için
	—	—	—	—	1325	1625	1875	1925	
S1	—	—	—	—	45	50	60	65	Minimaster Plus
	—	—	—	—	150	165	195	215	
S2	—	—	—	—	36	42	49	50	Minimaster Plus
	—	—	—	—	120	140	160	165	
S3	—	—	—	—	31	37	42	45	Minimaster Plus
	—	—	—	—	100	120	140	150	
S11	—	—	—	—	60	75	85	90	Minimaster Plus
	—	—	—	—	195	245	280	295	
S12	—	—	—	—	43	50	60	60	Minimaster Plus
	—	—	—	—	140	165	195	195	
S13	—	—	—	—	25	29	34	36	Minimaster Plus
	—	—	—	—	80	95	110	120	
H5	40	48	55	60	37	44	50	55	Minimaster
	130	155	180	195	120	145	165	180	
H8	42	50	55	60	39	46	55	55	Minimaster
	140	165	180	195	130	150	180	180	
H11	50	60	70	75	47	55	65	70	Minimaster
	165	195	230	245	155	180	215	230	
H12	75	90	105	110	70	85	95	100	Minimaster
	245	295	345	360	230	280	310	330	
H21	42	50	55	60	39	46	55	55	Minimaster
	140	165	180	195	130	150	180	180	

## Versiyon

Üniversal	Versiyon 1, Kama kanalı açma sapı	Versiyon 2, Silindirik/Weldon arka bağlantı ve 90° ön
Çelik ve dökme demir		
Paslanmaz çelik ve S iş parçası matzemeleri		
Versiyon 3, Silindirik/Weldon arka bağlantı konik ön 87°/89°	Versiyon 4, Silindirik/Weldon arka bağlantı konik ön 80°/85°/87°	
Demir içermeyen matzemeler		
Sertleştirilmiş çelik için		
Plastik ve çfrp matzemeler için		
Versiyon 5, Silindirik arka bağlantı çift konik ön uç 89°/85°		
Grafit matzeme için		
Minimaster Plus		

## MM12 Sap



Ürün Tanımı	Ürün numarası	Montaj tipi	DCSFWS	DMM	OAL	LF	LPR	BHTA°	Tasarım	RPMX	Ağırlık	Yedek parça kod no.	
													mm
MM12-20080.3-0012	75012864	Weldon	11,4	20,0	80,0	12,0	30,0	0,0	2	✓	80000	0,2	4
MM12-20095.3-3027	75012865	Weldon	11,4	20,0	95,0	27,0	45,0	3,0	3	✓	80000	0,2	4
MM12-20150.3-5049	75012866	Weldon	11,4	20,0	150,0	49,1	100,0	5,0	4	✓	80000	0,3	5
MM12-12055.0-0008	00083978	Silindirik	11,5	12,0	55,0	8,5	10,0	0,0	2	✓	80000	0,1	2
MM12-16065.0-0000	75004926	Silindirik	11,4	16,0	65,0	0,0	17,0	60,0	1	✓	80000	0,1	1
MM12-16170.0-1040	75034505	Silindirik	11,4	16,0	170,0	40,0	122,0	1,0	3	✓	80000	0,2	5
MM12-16170.0-1060	75034506	Silindirik	11,4	16,0	170,0	60,0	122,0	1,0	3	✓	80000	0,2	5
MM12-16170.0-1080	75034507	Silindirik	11,4	16,0	170,0	80,0	122,0	1,0	3	✓	80000	0,2	5
MM12-12070.0-0008DS	02580668	Silindirik	11,5	12,0	70,0	8,5	25,0	0,0	2	✓	63600	0,1	3
MM12-16095.0-0024DS	02580690	Silindirik	11,4	16,0	95,0	24,0	47,0	0,0	2	✓	63600	0,3	3
MM12-16090.0-3044DS	02580705	Silindirik	11,4	16,0	90,0	43,9	42,0	3,0	4	✓	63600	0,3	3
MM12-16120.0-1045DS	02580752	Silindirik	11,4	16,0	120,0	45,0	72,0	1,0	3	✓	63600	0,3	3
MM12-16115.0-0048DS	02580691	Silindirik	11,4	16,0	115,0	48,0	67,0	0,0	2	✓	63600	0,3	3
MM12-16170.0-1060DS	02580753	Silindirik	11,4	16,0	170,0	60,0	122,0	1,0	3	✓	63600	0,5	3
MM12-16170.0-1080DS	02580755	Silindirik	11,4	16,0	170,0	80,0	122,0	1,0	3	✓	63600	0,5	3
MM12-20250.0-1060DS	02580756	Silindirik	11,4	20,0	250,0	60,0	200,0	1,0	5	✓	63600	1,0	3

## Yedek parçalar

## Aksesuarlar

Şu freze için	Burç	Çektirme vidası	Burç anahtarı
4	MM-06048	MM12-0637	H06-4
5	MM-06116	MM12-0637	H06-4
2	MM-06020	MM12-0637	H05-4
1	MM-06032	MM12-0637	H06-4
3	–	MM12-061037	–

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

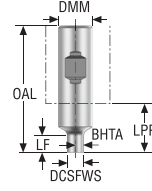
Sertleştirilmiş çelik için


Grafit materyale için

Minimaster Plus

Minimaster




## MM12 Sap – İnç



Ürün Tanımı	Ürün numarası		DCSFMS	DMM	OAL	LF	LPR	BHTA°	Tasarım		RPMX	Ağırlık	Yedek parça kod no.
			İnç	İnç	İnç	İnç	İnç			✓		lb	
MM12-0.75-3.1-3-0004	75015055	Weldon	0.449	0.750	3.150	0.472	1.181	0,0	2	✓	80000	0.440	3
MM12-0.75-3.7-3-3010	75015056	Weldon	0.449	0.750	3.740	1.063	1.772	3,0	3	✓	80000	0.440	3
MM12-0.75-5.9-3-5017	75015057	Weldon	0.449	0.750	5.906	1.720	3.937	5,0	4	✓	80000	0.660	5
MM12-0.50-2.2-0-0003	00096133	Cylindrical	0.453	0.500	2.165	0.335	0.394	0,0	2	✓	80000	0.220	2
MM12-0.62-2.6-0-0000	75005070	Cylindrical	0.449	0.625	2.559	0	0.669	60,0	1	✓	80000	0.220	1
MM12-0.62-6.7-0-1015	75054728	Cylindrical	0.449	0.625	6.693	1.575	4.803	1,0	3	✓	80000	0.660	5
MM12-0.62-6.7-0-1023	75054729	Cylindrical	0.449	0.625	6.693	2.362	4.803	1,0	3	✓	80000	0.440	5
MM12-0.62-6.7-0-1023DS	02593423	Cylindrical Densimet	0.449	0.625	6.693	2.362	4.803	1,0	3	✓	63600	1.100	4
MM12-0.62-6.7-0-1031DS	02593426	Cylindrical Densimet	0.449	0.625	6.693	3.150	4.803	1,0	3	✓	63600	1.100	4
MM12-0.75-10.0-0-1023DS	02593427	Cylindrical Densimet	0.449	0.750	9.843	2.362	7.874	1,0	5	✓	63600	2.200	4
MM12-0.75-3.8-0-0009DS	02593428	Cylindrical Densimet	0.449	0.750	3.740	0.945	1.772	0,0	2	✓	63600	0.880	4
MM12-0.75-4.5-0-0018DS	02593430	Cylindrical Densimet	0.449	0.750	4.528	1.890	2.559	0,0	2	✓	63600	0.880	4

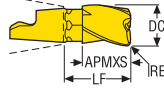
### Yedek parçalar

### Aksesuarlar

Şu freze için	Burç	Çektirme vidası	Burç anahtarı
3	 MM-06048	 MM12-0637	 H06-4
5	MM-06116	MM12-0637	H06-4
2	MM-06020	MM12-0637	H05-4
1	MM-06032	MM12-0637	H06-4
4	–	MM12-061037	–



## Kanal açma/dik kenar frezeleme



• Tork anahtarları ve tork değerleri için bkz. sayfa 624

Ürün Tanımı	DC	APMXS	RE	LF	RMPX°	C min	C max	FHA	ZEPF	Tasarım	Kaliteler	Kaplama			
												Kaplama			
												T60M	F15M	F30M	F40M
MM12-12015-A30-E04	12,0 0.472	15,35 0.604	0,0 0.0	19,9 0.783	15,0	14,6	23,8	30	3	MM0416	✓			■	
MM12-12015-R05A30-M04	12,0 0.472	15,35 0.604	0,5 0.020	19,9 0.783	15,0	14,6	22,8	30	3	MM0416	✓				■
MM12-12015-R10A30-E04	12,0 0.472	15,35 0.604	1,0 0.039	19,9 0.783	15,0	14,6	21,8	30	3	MM0416	✓			■	
MM12-12015-R10A30-M04	12,0 0.472	15,35 0.604	1,0 0.039	19,9 0.783	15,0	14,6	21,8	30	3	MM0416	✓				■
MM12-12015-R15A30-D04	12,0 0.472	15,35 0.604	1,5 0.059	19,9 0.783	15,0	14,6	20,8	30	3	MM0416	✓			■	
MM12-12015-R20A30-M04	12,0 0.472	15,35 0.604	2,0 0.079	19,9 0.783	15,0	14,6	19,8	30	3	MM0416	✓				■
MM12-12015-R30A30-E04	12,0 0.472	15,3 0.602	3,0 0.118	19,9 0.783	15,0	14,6	17,8	30	3	MM0416	✓			■	
MM12-12015-R30A30-M04	12,0 0.472	15,35 0.604	3,0 0.118	19,9 0.783	15,0	14,6	17,8	30	3	MM0416	✓				■
MM12-12015-R40A30-M04	12,0 0.472	15,35 0.604	4,0 0.157	19,9 0.783	15,0	14,6	15,8	30	3	MM0416	✓				■
MM12-11715-R03A30-M04	11,7 0.461	15,35 0.604	0,3 0.012	19,9 0.783	15,0	14,2	22,6	30	3	MM0416	✓				■
MM12-12715-A30-E04	12,7 0.500	15,35 0.604	0,0 0.0	19,9 0.783	15,0	15,4	25,2	30	3	MM0416	✓			■	
MM12-12715-R08A30-M04	12,7 0.500	15,35 0.604	0,8 0.031	19,9 0.783	15,0	15,4	23,6	30	3	MM0416	✓				■
MM12-12715-R16A30-M04	12,7 0.500	15,35 0.604	1,6 0.063	19,9 0.783	15,0	15,4	22,0	30	3	MM0416	✓				■

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

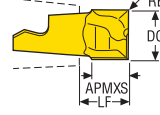
Sertleştirilmiş çelik için

Grafit malzeme için

Minimaster Plus

Minimaster

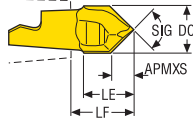
## Kanal açma/dik kenar frezeleme



• Tork anahtarları ve tork değerleri için bkz. sayfa 624

Ürün Tanımı	DC	APMXS	RE	LF	RMPX°	C min	C max	FHA	ZEPF	Tasarım	Kaliteler					
											T60M	F15M	F30M	F40M		
	mm Inç	mm Inç	mm Inç	mm Inç												
MM12-12008-M04	12,0 0.472	8,2 0.323	0,0 NaN	10,2 0.402	15,0	14,6	23,8	0	2	MM0612	■					
MM12-12008-R08-MD05	12,0 0.472	8,2 0.323	0,8 0.031	10,18 0.401	15,0	14,6	22,2	0	2	MM0612	■		■			
MM12-12008-R08A8-E04	12,0 0.472	8,1 0.319	0,8 0.031	10,15 0.400	15,0	14,6	22,2	8	2	MM0612	■					
MM12-12008-R08P-M04	12,0 0.472	8,1 0.319	0,8 0.031	10,05 0.396	15,0	14,6	22,2	0	2	MM0612			■			
MM12-12008-R20-MD05	12,0 0.472	8,2 0.323	2,0 0.079	10,16 0.400	15,0	14,6	19,8	0	2	MM0612			■			
MM12-12008-R30-MD05	12,0 0.472	8,2 0.323	3,0 0.118	10,14 0.399	15,0	14,6	17,8	0	2	MM0612			■			
MM12-14009-M04	14,0 0.551	9,3 0.366	0,0 NaN	11,26 0.443	15,0	17,0	27,8	0	2	MM1420	■					
MM12-14009-R08-MD05	14,0 0.551	9,3 0.366	0,8 0.031	11,26 0.443	15,0	17,0	26,2	0	2	MM1420	■		■			
MM12-14009-R08A8-E04	14,0 0.551	9,2 0.362	0,8 0.031	11,06 0.435	15,0	17,0	26,2	8	2	MM1420	■		■			
MM12-12708-M04	12,7 0.500	9,3 0.366	0,0 NaN	11,25 0.443	15,0	15,4	25,2	0	2	MM1420	■					
MM12-12708-R08-MD05	12,7 0.500	9,3 0.366	0,8 0.031	11,23 0.442	15,0	15,4	23,6	0	2	MM1420	■					
MM12-12708-R08P-M04	12,7 0.500	9,3 0.366	0,8 0.031	11,23 0.442	15,0	15,4	23,6	0	2	MM1420			■			
MM12-12708-R32-MD05	12,7 0.500	9,3 0.366	3,175 0.125	11,18 0.440	15,0	15,4	18,8	0	2	MM1420			■			
MM12-11708T-R03-D05	11,7 0.461	8,2 0.323	0,3 0.012	10,18 0.401	15,0	14,2	22,6	0	2	MM0612	■					
MM12-13709T-R03-D05	13,7 0.539	9,3 0.366	0,3 0.012	11,25 0.443	15,0	16,6	26,6	0	2	MM1420	■					

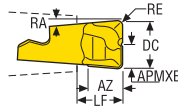
## Punta matkabi



• Tork anahtarları ve tork değerleri için bkz. sayfa 624

Ürün Tanımı	DC	APMXS	LE	LF	SIG°	ZEFP	Tasarım	Kaliteler			
								T60M	F15M	F30M	F40M
MM12-12006-C90-M04	12,0 0.472	5,65 0.222	12,65 0.498	14,64 0.576	90,0	2	MM0612	■			

## Dalma kesme frezeleme



• Tork anahtarları ve tork değerleri için bkz. sayfa 624

Ürün Tanımı	DC	APMXE	RE	AZ	LF	RA	ZEFP	Tasarım	Kaliteler			
									T60M	F15M	F30M	F40M
MM12-12008-R10-PL-MD05	12,0 0.472	6,0 0.236	1,0 0.039	8,5 0.335	10,2 0.402	5,0	2	MM0612			■	

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası matzemeleri

Paslanmaz çelik ve S iş parçası matzemeleri

Demir içermeyen matzemeler

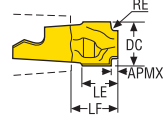
Sertleştirilmiş çelik için

Grafit matzeme için

Minimaster Plus

Minimaster

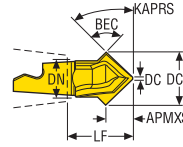
## Konkav radyüs



• Tork anahtarları ve tork değerleri için bkz. sayfa 624

Ürün Tanımı	DC	APMXS	RE	LF	ZEFP	Tasarım	Kaliteler			
							T60M	F15M	F30M	F40M
MM12-12010-CR10-MD05	12,0 0.472	2,2 0.087	1,0 0.039	12,14 0.478	2	MM0612	■			
MM12-12010-CR20-MD05	12,0 0.472	2,4 0.094	2,0 0.079	12,25 0.482	2	MM0612	■			
MM12-12010-CR30-MD05	12,0 0.472	3,3 0.130	3,0 0.118	12,2 0.480	2	MM0612	■			

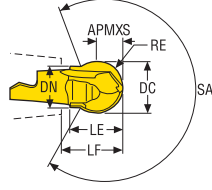
## Pah kırma



• Tork anahtarları ve tork değerleri için bkz. sayfa 624

Ürün Tanımı	DCX	DC	APMXS	LF	DN	BEC°	KAPRS°	ZEFP	Tasarım	Kaliteler			
										T60M	F15M	F30M	F40M
MM12-16016-D3020P-M02	16,0 0.630	1,0 0.039	4,3 0.169	15,2 0.598	11,5 0.453	60,0	30,0	2	MM1420		■		
MM12-16016-D4520P-M02	16,0 0.630	1,0 0.039	7,5 0.295	17,2 0.677	11,5 0.453	90,0	45,0	2	MM1420		■		

## Tüm malzemelerde yarı-finiş işleme için hassas uçlar



• Tork anahtarları ve tork değerleri için bkz. sayfa 624

Ürün Tanımı	DC	APMXS	RE	LE	LF	DN	SA	ZEFP	Tasarım	Kaliteler	Kaplama			
											T60M	F15M	F30M	F40M
MM12-14014-B120P-M05	14,0 0.551	7,0 0.276	7,0 0.276	14,0 0.551	15,45 0.608	12,0 0.472	NaN	2	MM1420			■		
MM12-16016-B120P-M07	16,0 0.630	8,0 0.315	8,0 0.315	16,0 0.630	17,46 0.687	12,0 0.472	NaN	2	MM1420			■		
MM12-16016-B120PF-M03	16,0 0.630	8,0 0.315	8,0 0.315	16,0 0.630	17,46 0.687	12,0 0.472	NaN	2	MM1420		■			

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

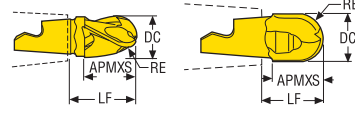
Sertleştirilmiş çelik için

Grafit malzeme için

Minimaster Plus

Minimaster

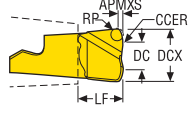
## Kopya frezeleme



• Tork anahtarları ve tork değerleri için bkz. sayfa 624

Ürün Tanımı	DC	APMXS	RE	LF	FHA	ZEP	Tasarım	Kaliteler			
								T60M	F15M	F30M	F40M
MM12-12015-B90A30-E04	12,0 0.472	15,3 0.602	6,0 0.236	19,9 0.783	30,0	3	MM0416 ✓			■	
MM12-12015-B90A30-M04	12,0 0.472	15,3 0.602	6,0 0.236	19,9 0.783	30,0	3	MM0416 ✓				■
MM12-12715-B90A30-M04	12,7 0.500	15,3 0.602	6,35 0.250	19,75 0.778	30,0	3	MM0416 ✓				■
MM12-12012-B90-MD05	12,0 0.472	12,2 0.480	6,0 0.236	14,12 0.556	0,0	2	MM0612	■		■	
MM12-12012-B90S-E05	12,0 0.472	12,3 0.484	6,0 0.236	14,12 0.556	0,0	2	MM0612			■	
MM12-14014-B90S-E05	14,0 0.551	14,1 0.555	7,0 0.276	15,92 0.627	0,0	2	MM1420			■	
MM12-12012-B90P-M05	12,0 0.472	10,4 0.409	6,0 0.236	14,09 0.555	0,0	2	MM0612			■	
MM12-12713-B90P-M05	12,7 0.500	12,2 0.480	6,35 0.250	15,92 0.627	0,0	2	MM1420	■		■	
MM12-12012-B90PF-M02	12,0 0.472	10,4 0.409	6,0 0.236	14,09 0.555	0,0	2	MM0612		■		

## Yüksek ilerlemeli



• Tork anahtarları ve tork değerleri için bkz. sayfa 624

Ürün Tanımı	DCX	DC	APMXS	RP	CCER	LF	RMPX°	C min	C max	ZEFP	Tasarım	Kaliteler			
												T60M	F15M	F30M	F40M
MM12-12.60-HF-MD10	12,0 0.472	6,0 0.236	0,51 0.020	1,21 0.048	6,5 0.256	10,25 0.404	5,0	14,6	22,2	2	MM0612		■	■	

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Grafit malzeme için

Minimaster Plus

Minimaster

## MM12 - Kanal ve Kenar frezeleme – Uç seçimi

SMG		$a_p$	$f_z$			
			100%	40%	20%	10%
P1	MM12-12015-R05A30-M04 F40M	2,5	0,055	0,060	0,070	0,095
		0,10	0,0022	0,0024	0,0028	0,0038
P2	MM12-12015-R05A30-M04 F40M	2,5	0,060	0,060	0,070	0,095
		0,10	0,0024	0,0024	0,0028	0,0038
P3	MM12-12015-R05A30-M04 F40M	2,5	0,055	0,055	0,070	0,090
		0,10	0,0022	0,0022	0,0028	0,0036
P4	MM12-12015-R05A30-M04 F40M	2,5	0,055	0,055	0,065	0,090
		0,10	0,0022	0,0022	0,0026	0,0036
P5	MM12-12015-R05A30-M04 F40M	2,5	0,055	0,055	0,065	0,085
		0,10	0,0022	0,0022	0,0026	0,0034
P6	MM12-12015-R05A30-M04 F40M	2,5	0,050	0,055	0,065	0,085
		0,10	0,0020	0,0022	0,0026	0,0034
P7	MM12-12015-R05A30-M04 F40M	2,5	0,050	0,055	0,065	0,085
		0,10	0,0020	0,0022	0,0026	0,0034
P8	MM12-12015-R05A30-M04 F40M	2,5	0,055	0,055	0,070	0,090
		0,10	0,0022	0,0022	0,0028	0,0036
P11	MM12-12015-R05A30-M04 F40M	2,5	0,050	0,055	0,065	0,085
		0,10	0,0020	0,0022	0,0026	0,0034
P12	MM12-12015-R05A30-M04 F40M	2,0	0,036	0,036	0,044	0,060
		0,080	0,0014	0,0014	0,0017	0,0024
M1	MM12-12015-R05A30-M04 F40M	2,5	0,060	0,060	0,070	0,095
		0,10	0,0024	0,0024	0,0028	0,0038
M2	MM12-12015-R05A30-M04 F40M	2,5	0,055	0,055	0,065	0,085
		0,10	0,0022	0,0022	0,0026	0,0034
M3	MM12-12015-R05A30-M04 F40M	2,0	0,042	0,044	0,050	0,070
		0,080	0,0017	0,0017	0,0020	0,0028
M4	MM12-12015-R05A30-M04 F40M	1,6	0,038	0,038	0,046	0,060
		0,065	0,0015	0,0015	0,0018	0,0024
M5	MM12-12015-R05A30-M04 F40M	1,6	0,038	0,038	0,046	0,060
		0,065	0,0015	0,0015	0,0018	0,0024
K1	MM12-12015-R10A30-E04 F30M	2,5	0,060	0,060	0,070	0,095
		0,10	0,0024	0,0024	0,0028	0,0038
K2	MM12-12015-R10A30-E04 F30M	2,5	0,055	0,055	0,065	0,090
		0,10	0,0022	0,0022	0,0026	0,0036
K3	MM12-12015-R10A30-E04 F30M	2,5	0,055	0,055	0,065	0,090
		0,10	0,0022	0,0022	0,0026	0,0036
K4	MM12-12015-R10A30-E04 F30M	2,5	0,055	0,055	0,065	0,090
		0,10	0,0022	0,0022	0,0026	0,0036
K5	MM12-12015-R15A30-D04 F30M	2,5	0,055	0,055	0,060	0,080
		0,10	0,0022	0,0022	0,0024	0,0032
K6	MM12-12015-R15A30-D04 F30M	2,5	0,060	0,060	0,065	0,090
		0,10	0,0024	0,0024	0,0026	0,0036
K7	MM12-12015-R15A30-D04 F30M	2,5	0,055	0,055	0,060	0,080
		0,10	0,0022	0,0022	0,0024	0,0032
N1	MM12-12015-R10A30-E04 F30M	2,5	0,080	0,080	0,090	0,12
		0,10	0,0032	0,0032	0,0036	0,0048
N2	MM12-12015-R10A30-E04 F30M	2,5	0,080	0,080	0,090	0,12
		0,10	0,0032	0,0032	0,0036	0,0048
N3	MM12-12015-R10A30-E04 F30M	2,5	0,080	0,080	0,090	0,12
		0,10	0,0032	0,0032	0,0036	0,0048
N11	MM12-12015-R10A30-E04 F30M	2,5	0,080	0,080	0,090	0,12
		0,10	0,0032	0,0032	0,0036	0,0048
S1	MM12-12015-R15A30-D04 F30M	1,6	0,050	0,048	0,048	0,060
		0,065	0,0020	0,0019	0,0019	0,0026
S2	MM12-12015-R15A30-D04 F30M	1,6	0,050	0,048	0,048	0,060
		0,065	0,0020	0,0019	0,0019	0,0026
S3	MM12-12015-R15A30-D04 F30M	1,6	0,046	0,044	0,044	0,055
		0,065	0,0018	0,0017	0,0017	0,0024
S11	MM12-12015-R05A30-M04 F40M	1,9	0,044	0,044	0,050	0,070
		0,075	0,0017	0,0017	0,0020	0,0028
S12	MM12-12015-R05A30-M04 F40M	1,9	0,044	0,044	0,050	0,070
		0,075	0,0017	0,0017	0,0020	0,0028
S13	MM12-12015-R05A30-M04 F40M	1,6	0,038	0,038	0,046	0,060
		0,065	0,0015	0,0015	0,0018	0,0024
H5	MM12-12015-R15A30-D04 F30M	2,0	0,044	0,042	0,046	0,060
		0,080	0,0017	0,0017	0,0018	0,0024
H8	MM12-12015-R15A30-D04 F30M	1,9	0,034	0,034	0,036	0,046
		0,075	0,0013	0,0013	0,0014	0,0018
H11	MM12-12015-R15A30-D04 F30M	2,0	0,044	0,042	0,046	0,060
		0,080	0,0017	0,0017	0,0018	0,0024
H12	MM12-12015-R15A30-D04 F30M	1,9	0,034	0,034	0,036	0,046
		0,075	0,0013	0,0013	0,0014	0,0018
H21	MM12-12015-R15A30-D04 F30M	1,9	0,034	0,034	0,036	0,046
		0,075	0,0013	0,0013	0,0014	0,0018

SMG = Seco malzeme grubu

 $f_z = \text{mm/ağız}$  (inç/ağız),  $v_c = \text{m/dk}$  (sf/dk),  $a_p/DC = \%$ 

Tüm kesme verileri başlangıç değerleridir





## MM12 Z3 – Kopya frezeleme – Uç seçimi – Kaba işleme

SMG		$a_p$	$f_z$			
			100%	40%	20%	10%
P1	MM12-12015-B90A30-M04 F40M	2,5	0,070	0,070	0,070	0,095
		0,10	0,0028	0,0028	0,0028	0,0038
P2	MM12-12015-B90A30-M04 F40M	2,5	0,070	0,070	0,075	0,095
		0,10	0,0028	0,0028	0,0030	0,0038
P3	MM12-12015-B90A30-M04 F40M	2,5	0,070	0,065	0,070	0,090
		0,10	0,0028	0,0026	0,0028	0,0036
P4	MM12-12015-B90A30-M04 F40M	2,5	0,065	0,065	0,070	0,090
		0,10	0,0026	0,0026	0,0028	0,0036
P5	MM12-12015-B90A30-M04 F40M	2,5	0,065	0,065	0,065	0,090
		0,10	0,0026	0,0026	0,0026	0,0036
P6	MM12-12015-B90A30-M04 F40M	2,5	0,065	0,065	0,065	0,085
		0,10	0,0026	0,0026	0,0026	0,0034
P7	MM12-12015-B90A30-M04 F40M	2,5	0,065	0,065	0,065	0,085
		0,10	0,0026	0,0026	0,0026	0,0034
P8	MM12-12015-B90A30-M04 F40M	2,5	0,070	0,065	0,070	0,090
		0,10	0,0028	0,0026	0,0028	0,0036
P11	MM12-12015-B90A30-M04 F40M	2,5	0,065	0,065	0,065	0,085
		0,10	0,0026	0,0026	0,0026	0,0034
P12	MM12-12015-B90A30-M04 F40M	2,0	0,046	0,044	0,046	0,060
		0,080	0,0018	0,0017	0,0018	0,0024
M1	MM12-12015-B90A30-M04 F40M	2,5	0,070	0,070	0,075	0,095
		0,10	0,0028	0,0028	0,0030	0,0038
M2	MM12-12015-B90A30-M04 F40M	2,5	0,065	0,065	0,065	0,090
		0,10	0,0026	0,0026	0,0026	0,0036
M3	MM12-12015-B90A30-M04 F40M	2,0	0,055	0,055	0,055	0,070
		0,080	0,0022	0,0022	0,0022	0,0028
M4	MM12-12015-B90A30-M04 F40M	1,6	0,050	0,048	0,048	0,060
		0,065	0,0020	0,0019	0,0019	0,0026
M5	MM12-12015-B90A30-M04 F40M	1,6	0,050	0,048	0,048	0,060
		0,065	0,0020	0,0019	0,0019	0,0026
K1	MM12-12015-B90A30-E04 F30M	2,5	0,070	0,070	0,075	0,095
		0,10	0,0028	0,0028	0,0030	0,0038
K2	MM12-12015-B90A30-E04 F30M	2,5	0,065	0,065	0,065	0,090
		0,10	0,0026	0,0026	0,0026	0,0036
K3	MM12-12015-B90A30-E04 F30M	2,5	0,065	0,065	0,065	0,090
		0,10	0,0026	0,0026	0,0026	0,0036
K4	MM12-12015-B90A30-E04 F30M	2,5	0,065	0,065	0,065	0,090
		0,10	0,0026	0,0026	0,0026	0,0036
K5	MM12-12015-B90A30-M04 F40M	2,5	0,060	0,055	0,060	0,080
		0,10	0,0024	0,0022	0,0024	0,0032
K6	MM12-12015-B90A30-M04 F40M	2,5	0,065	0,065	0,065	0,090
		0,10	0,0026	0,0026	0,0026	0,0036
K7	MM12-12015-B90A30-M04 F40M	2,5	0,060	0,055	0,060	0,080
		0,10	0,0024	0,0022	0,0024	0,0032
N1	MM12-12015-B90A30-E04 F30M	2,5	0,090	0,090	0,095	0,12
		0,10	0,0036	0,0036	0,0038	0,0048
N2	MM12-12015-B90A30-E04 F30M	2,5	0,090	0,090	0,095	0,12
		0,10	0,0036	0,0036	0,0038	0,0048
N3	MM12-12015-B90A30-E04 F30M	2,5	0,090	0,090	0,095	0,12
		0,10	0,0036	0,0036	0,0038	0,0048
N11	MM12-12015-B90A30-E04 F30M	2,5	0,090	0,090	0,095	0,12
		0,10	0,0036	0,0036	0,0038	0,0048
S1	MM12-12015-B90A30-M04 F40M	1,6	0,050	0,048	0,048	0,060
		0,065	0,0020	0,0019	0,0019	0,0026
S2	MM12-12015-B90A30-M04 F40M	1,6	0,050	0,048	0,048	0,060
		0,065	0,0020	0,0019	0,0019	0,0026
S3	MM12-12015-B90A30-M04 F40M	1,6	0,046	0,046	0,046	0,055
		0,065	0,0018	0,0018	0,0018	0,0024
S11	MM12-12015-B90A30-M04 F40M	1,9	0,055	0,055	0,055	0,070
		0,075	0,0022	0,0022	0,0022	0,0028
S12	MM12-12015-B90A30-M04 F40M	1,9	0,055	0,055	0,055	0,070
		0,075	0,0022	0,0022	0,0022	0,0028
S13	MM12-12015-B90A30-M04 F40M	1,6	0,050	0,048	0,048	0,060
		0,065	0,0020	0,0019	0,0019	0,0026
H5	MM12-12015-B90A30-E04 F30M	2,0	0,046	0,044	0,046	0,060
		0,080	0,0018	0,0017	0,0018	0,0024
H8	MM12-12015-B90A30-E04 F30M	1,9	0,036	0,036	0,036	0,046
		0,075	0,0014	0,0014	0,0014	0,0018
H11	MM12-12015-B90A30-E04 F30M	2,0	0,046	0,044	0,046	0,060
		0,080	0,0018	0,0017	0,0018	0,0024
H12	MM12-12015-B90A30-E04 F30M	1,9	0,036	0,036	0,036	0,046
		0,075	0,0014	0,0014	0,0014	0,0018
H21	MM12-12015-B90A30-E04 F30M	1,9	0,036	0,036	0,036	0,046
		0,075	0,0014	0,0014	0,0014	0,0018

SMG = Seco malzeme grubu

 $f_z = \text{mm/ağız (inç/ağız)}$ ,  $v_c = \text{m/dk (sf/dk)}$ ,  $a_p/DC = \%$ 

Tüm kesme verileri başlangıç değerleridir

## MM12 Z3 – Kopya frezeleme – Uç seçimi – Finitş frezeleme

SMG		$a_p$	$f_z$			
			15%	10%	5%	2%
P1	MM12-12015-B90A30-E04 F30M	2,5	0,080	0,095	0,13	0,22
		0,10	0,0032	0,0038	0,0050	0,0085
P2	MM12-12015-B90A30-E04 F30M	2,5	0,080	0,095	0,13	0,22
		0,10	0,0032	0,0038	0,0050	0,0085
P3	MM12-12015-B90A30-E04 F30M	2,5	0,075	0,090	0,13	0,20
		0,10	0,0030	0,0036	0,0050	0,0080
P4	MM12-12015-B90A30-E04 F30M	2,5	0,075	0,090	0,12	0,20
		0,10	0,0030	0,0036	0,0048	0,0080
P5	MM12-12015-B90A30-E04 F30M	2,5	0,075	0,090	0,12	0,20
		0,10	0,0030	0,0036	0,0048	0,0080
P6	MM12-12015-B90A30-E04 F30M	2,5	0,075	0,085	0,12	0,19
		0,10	0,0030	0,0034	0,0048	0,0075
P7	MM12-12015-B90A30-E04 F30M	2,5	0,075	0,085	0,12	0,19
		0,10	0,0030	0,0034	0,0048	0,0075
P8	MM12-12015-B90A30-E04 F30M	2,5	0,075	0,090	0,13	0,20
		0,10	0,0030	0,0036	0,0050	0,0080
P11	MM12-12015-B90A30-E04 F30M	2,5	0,075	0,085	0,12	0,19
		0,10	0,0030	0,0034	0,0048	0,0075
P12	MM12-12015-B90A30-E04 F30M	2,0	0,050	0,060	0,080	0,13
		0,080	0,0020	0,0024	0,0032	0,0050
M1	MM12-12015-B90A30-E04 F30M	2,5	0,080	0,095	0,13	0,22
		0,10	0,0032	0,0038	0,0050	0,0085
M2	MM12-12015-B90A30-E04 F30M	2,5	0,075	0,090	0,12	0,20
		0,10	0,0030	0,0036	0,0048	0,0080
M3	MM12-12015-B90A30-E04 F30M	2,0	0,060	0,070	0,095	0,16
		0,080	0,0024	0,0028	0,0038	0,0065
M4	MM12-12015-B90A30-E04 F30M	1,6	0,055	0,060	0,085	0,14
		0,065	0,0022	0,0026	0,0034	0,0055
M5	MM12-12015-B90A30-E04 F30M	1,6	0,055	0,060	0,085	0,14
		0,065	0,0022	0,0026	0,0034	0,0055
K1	MM12-12015-B90A30-E04 F30M	2,5	0,080	0,095	0,13	0,22
		0,10	0,0032	0,0038	0,0050	0,0085
K2	MM12-12015-B90A30-E04 F30M	2,5	0,075	0,090	0,12	0,20
		0,10	0,0030	0,0036	0,0048	0,0080
K3	MM12-12015-B90A30-E04 F30M	2,5	0,075	0,090	0,12	0,20
		0,10	0,0030	0,0036	0,0048	0,0080
K4	MM12-12015-B90A30-E04 F30M	2,5	0,075	0,090	0,12	0,20
		0,10	0,0030	0,0036	0,0048	0,0080
K5	MM12-12015-B90A30-E04 F30M	2,5	0,065	0,080	0,11	0,18
		0,10	0,0026	0,0032	0,0044	0,0070
K6	MM12-12015-B90A30-E04 F30M	2,5	0,075	0,090	0,12	0,20
		0,10	0,0030	0,0036	0,0048	0,0080
K7	MM12-12015-B90A30-E04 F30M	2,5	0,065	0,080	0,11	0,18
		0,10	0,0026	0,0032	0,0044	0,0070
N1	MM12-12015-B90A30-E04 F30M	2,5	0,10	0,12	0,17	0,28
		0,10	0,0040	0,0048	0,0065	0,011
N2	MM12-12015-B90A30-E04 F30M	2,5	0,10	0,12	0,17	0,28
		0,10	0,0040	0,0048	0,0065	0,011
N3	MM12-12015-B90A30-E04 F30M	2,5	0,10	0,12	0,17	0,28
		0,10	0,0040	0,0048	0,0065	0,011
N11	MM12-12015-B90A30-E04 F30M	2,5	0,10	0,12	0,17	0,28
		0,10	0,0040	0,0048	0,0065	0,011
S1	MM12-12015-B90A30-E04 F30M	1,6	0,055	0,060	0,085	0,14
		0,065	0,0022	0,0026	0,0034	0,0055
S2	MM12-12015-B90A30-E04 F30M	1,6	0,055	0,060	0,085	0,14
		0,065	0,0022	0,0026	0,0034	0,0055
S3	MM12-12015-B90A30-E04 F30M	1,6	0,050	0,055	0,080	0,13
		0,065	0,0020	0,0024	0,0032	0,0050
S11	MM12-12015-B90A30-E04 F30M	1,9	0,060	0,070	0,095	0,16
		0,075	0,0024	0,0028	0,0038	0,0065
S12	MM12-12015-B90A30-E04 F30M	1,9	0,060	0,070	0,095	0,16
		0,075	0,0024	0,0028	0,0038	0,0065
S13	MM12-12015-B90A30-E04 F30M	1,6	0,055	0,060	0,085	0,14
		0,065	0,0022	0,0026	0,0034	0,0055
H5	MM12-12015-B90A30-E04 F30M	2,0	0,050	0,060	0,080	0,13
		0,080	0,0020	0,0024	0,0032	0,0050
H8	MM12-12015-B90A30-E04 F30M	1,9	0,040	0,046	0,065	0,10
		0,075	0,0016	0,0018	0,0026	0,0040
H11	MM12-12015-B90A30-E04 F30M	2,0	0,050	0,060	0,080	0,13
		0,080	0,0020	0,0024	0,0032	0,0050
H12	MM12-12015-B90A30-E04 F30M	1,9	0,040	0,046	0,065	0,10
		0,075	0,0016	0,0018	0,0026	0,0040
H21	MM12-12015-B90A30-E04 F30M	1,9	0,040	0,046	0,065	0,10
		0,075	0,0016	0,0018	0,0026	0,0040

SMG = Seco malzeme grubu

 $f_z$  = mm/ağız (inç/ağız),  $v_c$  = m/dk (sf/dk),  $a_e/DC$  = %

Tüm kesme verileri başlangıç değerleridir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Grafit malzeme için

Minimaster Plus

Minimaster

MM12 Z3 – Kopya frezeleme – Kesme verisi  $v_c = (m/dk)$ 

SMG	F30M					F40M				
	100%	20%	10%	5%	2%	100%	20%	10%	5%	2%
P1	270	315	335	365	360	255	300	320	345	340
	890	1025	1100	1200	1175	840	980	1050	1125	1125
P2	265	305	325	355	350	250	290	310	335	330
	870	1000	1075	1175	1150	820	950	1025	1100	1075
P3	225	265	285	305	305	215	255	270	290	290
	740	870	940	1000	1000	710	840	890	950	950
P4	200	235	250	270	270	190	225	235	260	255
	660	770	820	890	890	620	740	770	850	840
P5	195	225	240	260	255	185	215	225	245	245
	640	740	790	850	840	610	710	740	800	800
P6	215	255	270	290	290	205	240	255	275	275
	710	840	890	950	950	670	790	840	900	900
P7	205	240	255	275	275	195	230	240	260	260
	670	790	840	900	900	640	750	790	850	850
P8	190	225	240	255	255	180	215	225	245	245
	620	740	790	840	840	590	710	740	800	800
P11	200	235	245	265	265	190	220	235	255	255
	660	770	800	870	870	620	720	770	840	840
P12	125	150	155	170	165	120	140	145	160	160
	410	490	510	560	540	395	460	490	520	520
M1	210	245	265	285	280	200	235	250	270	270
	690	800	870	940	920	660	770	820	890	890
M2	175	205	215	235	230	165	195	205	220	220
	570	670	710	770	750	540	640	670	720	720
M3	140	165	170	185	185	130	155	160	175	175
	460	540	560	610	610	425	510	540	570	570
M4	100	130	130	140	140	95	125	125	135	135
	330	425	460	460	460	310	410	425	445	445
M5	80	110	110	115	115	80	105	105	110	110
	260	360	375	375	375	260	345	360	360	360
K1	210	240	260	280	275	200	230	245	265	265
	690	790	850	920	900	660	750	800	870	870
K2	185	215	225	245	245	175	205	215	235	230
	610	710	740	800	800	570	670	710	770	750
K3	155	180	190	210	205	145	175	180	200	195
	510	590	620	690	670	475	570	590	660	640
K4	150	175	180	200	195	140	165	175	190	185
	490	570	590	660	640	460	540	570	620	610
K5	90	105	110	120	120	85	100	105	115	115
	295	345	360	395	395	280	330	345	375	375
K6	130	155	160	175	175	125	145	155	165	165
	425	510	520	570	570	410	475	510	540	540
K7	115	135	140	155	155	110	125	135	145	145
	375	445	460	510	510	360	410	445	475	475
N1	1575	1825	1950	2100	2100	1500	1750	1850	2000	2000
	5175	6000	6400	6900	6900	4925	5750	6075	6550	6550
N2	640	740	790	850	840	610	700	750	810	800
	2100	2425	2600	2800	2750	2000	2300	2450	2650	2625
N3	425	495	530	570	560	405	470	500	540	540
	1400	1625	1750	1875	1825	1325	1550	1650	1775	1775
N11	485	560	600	650	640	460	540	570	620	610
	1600	1825	1975	2125	2100	1500	1775	1875	2025	2000
S1	46	60	60	65	65	44	60	60	65	60
	150	195	215	215	215	145	195	195	215	195
S2	37	50	49	55	55	35	47	47	50	50
	120	165	165	180	180	115	155	165	165	165
S3	32	43	43	46	46	31	41	41	44	44
	105	140	150	150	150	100	135	140	145	145
S11	70	85	85	95	90	65	80	80	90	90
	230	280	295	310	295	215	260	280	295	295
S12	48	60	60	65	65	46	55	55	60	60
	155	195	195	215	215	150	180	195	195	195
S13	26	35	34	37	37	25	33	33	35	35
	85	115	120	120	120	80	110	115	115	115
H5	42	50	50	55	55	40	47	49	55	55
	140	165	165	180	180	130	155	160	180	180
H8	42	55	55	55	55	40	50	50	55	55
	140	180	180	180	180	130	165	165	180	180
H11	55	65	65	70	70	50	60	60	65	65
	180	215	215	230	230	165	195	195	215	215
H12	75	95	95	105	105	75	90	90	100	100
	245	310	330	345	345	245	295	310	330	330
H21	42	55	55	55	55	40	50	50	55	55
	140	180	180	180	180	130	165	165	180	180

## MM12 Z2 – Kopya frezeleme – Uç seçimi – Kaba işleme

SMG		$a_p$	$f_z$			
			100%	40%	20%	10%
P1	MM12-12012-B90S-E05 F30M	5,0 0.20	0,075 0.0030	0,080 0.0032	0,090 0.0036	0,12 0.0048
P2	MM12-12012-B90S-E05 F30M	5,0 0.20	0,080 0.0032	0,080 0.0032	0,090 0.0036	0,12 0.0048
P3	MM12-12012-B90S-E05 F30M	5,0 0.20	0,075 0.0030	0,075 0.0030	0,085 0.0034	0,11 0.0044
P4	MM12-12012-B90-MD05 F30M	5,0 0.20	0,075 0.0030	0,075 0.0030	0,085 0.0034	0,11 0.0044
P5	MM12-12012-B90-MD05 F30M	5,0 0.20	0,070 0.0028	0,070 0.0028	0,085 0.0034	0,11 0.0044
P6	MM12-12012-B90-MD05 F30M	5,0 0.20	0,070 0.0028	0,070 0.0028	0,080 0.0032	0,11 0.0044
P7	MM12-12012-B90-MD05 F30M	5,0 0.20	0,070 0.0028	0,070 0.0028	0,080 0.0032	0,11 0.0044
P8	MM12-12012-B90-MD05 F30M	5,0 0.20	0,075 0.0030	0,075 0.0030	0,085 0.0034	0,11 0.0044
P11	MM12-12012-B90-MD05 F30M	5,0 0.20	0,070 0.0028	0,070 0.0028	0,080 0.0032	0,11 0.0044
P12	MM12-12012-B90-MD05 F30M	4,0 0.16	0,050 0.0020	0,050 0.0020	0,060 0.0024	0,075 0.0030
M1	MM12-12012-B90S-E05 F30M	5,0 0.20	0,080 0.0032	0,080 0.0032	0,090 0.0036	0,12 0.0048
M2	MM12-12012-B90S-E05 F30M	5,0 0.20	0,070 0.0028	0,070 0.0028	0,085 0.0034	0,11 0.0044
M3	MM12-12012-B90S-E05 F30M	4,0 0.16	0,060 0.0024	0,060 0.0024	0,070 0.0028	0,090 0.0036
M4	MM12-12012-B90-MD05 F30M	3,0 0.12	0,055 0.0022	0,055 0.0022	0,060 0.0024	0,075 0.0032
M5	MM12-12012-B90-MD05 F30M	3,0 0.12	0,055 0.0022	0,055 0.0022	0,060 0.0024	0,075 0.0032
K1	MM12-12012-B90S-E05 F30M	5,0 0.20	0,080 0.0032	0,080 0.0032	0,090 0.0036	0,12 0.0048
K2	MM12-12012-B90S-E05 F30M	5,0 0.20	0,070 0.0028	0,070 0.0028	0,085 0.0034	0,11 0.0044
K3	MM12-12012-B90S-E05 F30M	5,0 0.20	0,070 0.0028	0,070 0.0028	0,085 0.0034	0,11 0.0044
K4	MM12-12012-B90S-E05 F30M	5,0 0.20	0,070 0.0028	0,070 0.0028	0,085 0.0034	0,11 0.0044
K5	MM12-12012-B90-MD05 F30M	5,0 0.20	0,065 0.0026	0,065 0.0026	0,075 0.0030	0,10 0.0040
K6	MM12-12012-B90-MD05 F30M	5,0 0.20	0,070 0.0028	0,070 0.0028	0,085 0.0034	0,11 0.0044
K7	MM12-12012-B90-MD05 F30M	5,0 0.20	0,065 0.0026	0,065 0.0026	0,075 0.0030	0,10 0.0040
N1	MM12-12012-B90S-E05 F30M	5,0 0.20	0,10 0.0040	0,10 0.0040	0,12 0.0048	0,15 0.0060
N2	MM12-12012-B90S-E05 F30M	5,0 0.20	0,10 0.0040	0,10 0.0040	0,12 0.0048	0,15 0.0060
N3	MM12-12012-B90S-E05 F30M	5,0 0.20	0,10 0.0040	0,10 0.0040	0,12 0.0048	0,15 0.0060
N11	MM12-12012-B90S-E05 F30M	5,0 0.20	0,10 0.0040	0,10 0.0040	0,12 0.0048	0,15 0.0060
S1	MM12-12012-B90-MD05 F30M	3,0 0.12	0,055 0.0022	0,055 0.0022	0,060 0.0024	0,075 0.0032
S2	MM12-12012-B90-MD05 F30M	3,0 0.12	0,055 0.0022	0,055 0.0022	0,060 0.0024	0,075 0.0032
S3	MM12-12012-B90-MD05 F30M	3,0 0.12	0,050 0.0020	0,050 0.0020	0,055 0.0022	0,070 0.0030
S11	MM12-12012-B90-MD05 F30M	3,5 0.14	0,060 0.0024	0,060 0.0024	0,070 0.0028	0,090 0.0036
S12	MM12-12012-B90-MD05 F30M	3,5 0.14	0,060 0.0024	0,060 0.0024	0,070 0.0028	0,090 0.0036
S13	MM12-12012-B90-MD05 F30M	3,0 0.12	0,055 0.0022	0,055 0.0022	0,060 0.0024	0,075 0.0032
H5	MM12-12012-B90-MD05 F30M	4,0 0.16	0,050 0.0020	0,050 0.0020	0,060 0.0024	0,075 0.0030
H8	MM12-12012-B90-MD05 F30M	3,5 0.14	0,040 0.0016	0,040 0.0016	0,044 0.0017	0,055 0.0024
H11	MM12-12012-B90-MD05 F30M	4,0 0.16	0,050 0.0020	0,050 0.0020	0,060 0.0024	0,075 0.0030
H12	MM12-12012-B90-MD05 F30M	3,5 0.14	0,040 0.0016	0,040 0.0016	0,044 0.0017	0,055 0.0024
H21	MM12-12012-B90-MD05 F30M	3,5 0.14	0,040 0.0016	0,040 0.0016	0,044 0.0017	0,055 0.0024

SMG = Seco malzeme grubu

 $f_z$  = mm/ağız (inç/ağız),  $v_c$  = m/dk (sf/dk),  $a_e/DC$  = %

Tüm kesme verileri başlangıç değerleridir

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Grafit malzeme için

Minimaster Plus

Minimaster

## MM12 Z2 – Kopya frezeleme – Uç seçimi – Finiş frezeleme

SMG		$a_p$	$f_z$			
			15%	10%	5%	2%
P1	MM12-12012-B90PF-M02 F15M	4,0	0,040	0,048	0,065	0,11
		0,16	0,0016	0,0019	0,0026	0,0044
P2	MM12-12012-B90PF-M02 F15M	4,0	0,042	0,048	0,070	0,11
		0,16	0,0017	0,0019	0,0028	0,0044
P3	MM12-12012-B90PF-M02 F15M	4,0	0,040	0,046	0,065	0,10
		0,16	0,0016	0,0018	0,0026	0,0040
P4	MM12-12012-B90PF-M02 F15M	4,0	0,038	0,046	0,065	0,10
		0,16	0,0015	0,0018	0,0026	0,0040
P5	MM12-12012-B90PF-M02 F15M	4,0	0,038	0,044	0,060	0,095
		0,16	0,0015	0,0017	0,0024	0,0038
P6	MM12-12012-B90PF-M02 F15M	4,0	0,038	0,044	0,060	0,095
		0,16	0,0015	0,0017	0,0024	0,0038
P7	MM12-12012-B90PF-M02 F15M	4,0	0,038	0,044	0,060	0,095
		0,16	0,0015	0,0017	0,0024	0,0038
P8	MM12-12012-B90PF-M02 F15M	4,0	0,040	0,046	0,065	0,10
		0,16	0,0016	0,0018	0,0026	0,0040
P11	MM12-12012-B90PF-M02 F15M	4,0	0,038	0,044	0,060	0,095
		0,16	0,0015	0,0017	0,0024	0,0038
P12	MM12-12012-B90PF-M02 F15M	3,5	0,026	0,030	0,042	0,065
		0,14	0,0010	0,0012	0,0017	0,0026
M1	MM12-12012-B90PF-M02 F15M	4,0	0,042	0,048	0,070	0,11
		0,16	0,0017	0,0019	0,0028	0,0044
M2	MM12-12012-B90PF-M02 F15M	4,0	0,038	0,044	0,060	0,095
		0,16	0,0015	0,0017	0,0024	0,0038
M3	MM12-12012-B90PF-M02 F15M	3,5	0,030	0,036	0,050	0,075
		0,14	0,0012	0,0014	0,0020	0,0030
M4	MM12-12012-B90PF-M02 F15M	2,5	0,028	0,032	0,042	0,065
		0,10	0,0011	0,0013	0,0017	0,0026
M5	MM12-12012-B90PF-M02 F15M	2,5	0,028	0,032	0,042	0,065
		0,10	0,0011	0,0013	0,0017	0,0026
K1	MM12-12012-B90PF-M02 F15M	4,0	0,042	0,048	0,070	0,11
		0,16	0,0017	0,0019	0,0028	0,0044
K2	MM12-12012-B90PF-M02 F15M	4,0	0,038	0,044	0,060	0,095
		0,16	0,0015	0,0017	0,0024	0,0038
K3	MM12-12012-B90PF-M02 F15M	4,0	0,038	0,044	0,060	0,095
		0,16	0,0015	0,0017	0,0024	0,0038
K4	MM12-12012-B90PF-M02 F15M	4,0	0,038	0,044	0,060	0,095
		0,16	0,0015	0,0017	0,0024	0,0038
K5	MM12-12012-B90PF-M02 F15M	4,0	0,034	0,040	0,055	0,085
		0,16	0,0013	0,0016	0,0022	0,0034
K6	MM12-12012-B90PF-M02 F15M	4,0	0,038	0,044	0,060	0,095
		0,16	0,0015	0,0017	0,0024	0,0038
K7	MM12-12012-B90PF-M02 F15M	4,0	0,034	0,040	0,055	0,085
		0,16	0,0013	0,0016	0,0022	0,0034
N1	MM12-12012-B90PF-M02 F15M	4,0	0,055	0,060	0,085	0,14
		0,16	0,0022	0,0024	0,0034	0,0055
N2	MM12-12012-B90PF-M02 F15M	4,0	0,055	0,060	0,085	0,14
		0,16	0,0022	0,0024	0,0034	0,0055
N3	MM12-12012-B90PF-M02 F15M	4,0	0,055	0,060	0,085	0,14
		0,16	0,0022	0,0024	0,0034	0,0055
N11	MM12-12012-B90PF-M02 F15M	4,0	0,055	0,060	0,085	0,14
		0,16	0,0022	0,0024	0,0034	0,0055
S1	MM12-12012-B90PF-M02 F15M	2,5	0,028	0,032	0,042	0,065
		0,10	0,0011	0,0013	0,0017	0,0026
S2	MM12-12012-B90PF-M02 F15M	2,5	0,028	0,032	0,042	0,065
		0,10	0,0011	0,0013	0,0017	0,0026
S3	MM12-12012-B90PF-M02 F15M	2,5	0,025	0,028	0,040	0,065
		0,10	0,0010	0,0012	0,0016	0,0026
S11	MM12-12012-B90PF-M02 F15M	3,0	0,030	0,036	0,050	0,075
		0,12	0,0012	0,0014	0,0020	0,0030
S12	MM12-12012-B90PF-M02 F15M	3,0	0,030	0,036	0,050	0,075
		0,12	0,0012	0,0014	0,0020	0,0030
S13	MM12-12012-B90PF-M02 F15M	2,5	0,028	0,032	0,042	0,065
		0,10	0,0011	0,0013	0,0017	0,0026
H5	MM12-12012-B90PF-M02 F15M	3,5	0,026	0,030	0,042	0,065
		0,14	0,0010	0,0012	0,0017	0,0026
H8	MM12-12012-B90PF-M02 F15M	3,0	0,020	0,024	0,032	0,050
		0,12	0,00080	0,00095	0,0013	0,0020
H11	MM12-12012-B90PF-M02 F15M	3,5	0,026	0,030	0,042	0,065
		0,14	0,0010	0,0012	0,0017	0,0026
H12	MM12-12012-B90PF-M02 F15M	3,0	0,020	0,024	0,032	0,050
		0,12	0,00080	0,00095	0,0013	0,0020
H21	MM12-12012-B90PF-M02 F15M	3,0	0,020	0,024	0,032	0,050
		0,12	0,00080	0,00095	0,0013	0,0020

SMG = Seco malzeme grubu

 $f_z$  = mm/ağız (inç/ağız),  $v_c$  = m/dk (sf/dk),  $a_p/DC$  = %

Tüm kesme verileri başlangıç değerleridir



## MM12 Yüksek ilerlemeli Uç seçimi

SMG		$a_p$	$f_z$			
			100%	70%	30%	20%
P1	MM12-12.60-HF-MD10 F30M	0,36	0,55	0,55	0,75	0,95
		0,014	0,022	0,022	0,030	0,038
P2	MM12-12.60-HF-MD10 F30M	0,36	0,55	0,60	0,75	0,95
		0,014	0,022	0,024	0,030	0,038
P3	MM12-12.60-HF-MD10 F30M	0,36	0,55	0,55	0,70	0,90
		0,014	0,022	0,022	0,028	0,036
P4	MM12-12.60-HF-MD10 F30M	0,36	0,55	0,55	0,70	0,90
		0,014	0,022	0,022	0,028	0,036
P5	MM12-12.60-HF-MD10 F30M	0,36	0,50	0,55	0,70	0,85
		0,014	0,020	0,022	0,028	0,034
P6	MM12-12.60-HF-MD10 F30M	0,36	0,50	0,50	0,70	0,85
		0,014	0,020	0,020	0,028	0,034
P7	MM12-12.60-HF-MD10 F30M	0,36	0,50	0,50	0,70	0,85
		0,014	0,020	0,020	0,028	0,034
P8	MM12-12.60-HF-MD10 F30M	0,36	0,55	0,55	0,70	0,90
		0,014	0,022	0,022	0,028	0,036
P11	MM12-12.60-HF-MD10 F30M	0,36	0,50	0,50	0,70	0,85
		0,014	0,020	0,020	0,028	0,034
P12	MM12-12.60-HF-MD10 F30M	0,28	0,36	0,36	0,46	0,55
		0,011	0,014	0,014	0,018	0,022
M1	MM12-12.60-HF-MD10 F30M	0,36	0,55	0,60	0,75	0,95
		0,014	0,022	0,024	0,030	0,038
M2	MM12-12.60-HF-MD10 F30M	0,36	0,50	0,55	0,70	0,85
		0,014	0,020	0,022	0,028	0,034
M3	MM12-12.60-HF-MD10 F30M	0,28	0,42	0,42	0,55	0,65
		0,011	0,017	0,017	0,022	0,026
M4	MM12-12.60-HF-MD10 F30M	0,22	0,36	0,36	0,48	0,60
		0,0085	0,014	0,014	0,019	0,024
M5	MM12-12.60-HF-MD10 F30M	0,22	0,36	0,36	0,48	0,60
		0,0085	0,014	0,014	0,019	0,024
K1	MM12-12.60-HF-MD10 F30M	0,36	0,55	0,60	0,75	0,95
		0,014	0,022	0,024	0,030	0,038
K2	MM12-12.60-HF-MD10 F30M	0,36	0,50	0,55	0,70	0,85
		0,014	0,020	0,022	0,028	0,034
K3	MM12-12.60-HF-MD10 F30M	0,36	0,50	0,55	0,70	0,85
		0,014	0,020	0,022	0,028	0,034
K4	MM12-12.60-HF-MD10 F30M	0,36	0,50	0,55	0,70	0,85
		0,014	0,020	0,022	0,028	0,034
K5	MM12-12.60-HF-MD10 F30M	0,36	0,48	0,48	0,60	0,75
		0,014	0,019	0,019	0,024	0,030
K6	MM12-12.60-HF-MD10 F30M	0,36	0,50	0,55	0,70	0,85
		0,014	0,020	0,022	0,028	0,034
K7	MM12-12.60-HF-MD10 F30M	0,36	0,48	0,48	0,60	0,75
		0,014	0,019	0,019	0,024	0,030
N1	MM12-12.60-HF-MD10 F30M	0,36	0,75	0,75	1,0	1,3
		0,014	0,030	0,030	0,040	0,050
N2	MM12-12.60-HF-MD10 F30M	0,36	0,75	0,75	1,0	1,3
		0,014	0,030	0,030	0,040	0,050
N3	MM12-12.60-HF-MD10 F30M	0,36	0,75	0,75	1,0	1,3
		0,014	0,030	0,030	0,040	0,050
N11	MM12-12.60-HF-MD10 F30M	0,36	0,75	0,75	1,0	1,3
		0,014	0,030	0,030	0,040	0,050
S1	MM12-12.60-HF-MD10 F30M	0,22	0,36	0,36	0,48	0,60
		0,0085	0,014	0,014	0,019	0,024
S2	MM12-12.60-HF-MD10 F30M	0,22	0,36	0,36	0,48	0,60
		0,0085	0,014	0,014	0,019	0,024
S3	MM12-12.60-HF-MD10 F30M	0,22	0,34	0,34	0,44	0,55
		0,0085	0,013	0,013	0,017	0,022
S11	MM12-12.60-HF-MD10 F30M	0,25	0,42	0,42	0,55	0,65
		0,010	0,017	0,017	0,022	0,026
S12	MM12-12.60-HF-MD10 F30M	0,25	0,42	0,42	0,55	0,65
		0,010	0,017	0,017	0,022	0,026
S13	MM12-12.60-HF-MD10 F30M	0,22	0,36	0,36	0,48	0,60
		0,0085	0,014	0,014	0,019	0,024
H5	MM12-12.60-HF-MD10 F15M	0,28	0,36	0,36	0,46	0,55
		0,011	0,014	0,014	0,018	0,022
H8	MM12-12.60-HF-MD10 F15M	0,25	0,28	0,28	0,36	0,42
		0,010	0,011	0,011	0,014	0,017
H11	MM12-12.60-HF-MD10 F15M	0,28	0,36	0,36	0,46	0,55
		0,011	0,014	0,014	0,018	0,022
H12	MM12-12.60-HF-MD10 F15M	0,25	0,28	0,28	0,36	0,42
		0,010	0,011	0,011	0,014	0,017
H21	MM12-12.60-HF-MD10 F15M	0,25	0,28	0,28	0,36	0,42
		0,010	0,011	0,011	0,014	0,017

SMG = Seco malzeme grubu

 $f_z = \text{mm/ağız (inç/ağız)}$ ,  $v_c = \text{m/dk (sf/dk)}$ ,  $a_p/DC = \%$ 

Tüm kesme verileri başlangıç değerleridir


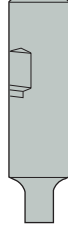
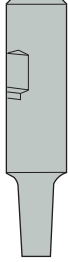




MM12 Yüksek ilerlemeli Kesme verisi  $v_c = (m/dk)$

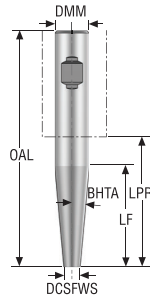
SMG	F15M				F30M			
	100%	70%	30%	20%	100%	70%	30%	20%
P1	—	—	—	—	225	275	315	330
	—	—	—	—	740	900	1025	1075
P2	—	—	—	—	220	265	310	320
	—	—	—	—	720	870	1025	1050
P3	—	—	—	—	190	230	270	280
	—	—	—	—	620	750	890	920
P4	—	—	—	—	165	205	235	245
	—	—	—	—	540	670	770	800
P5	—	—	—	—	165	195	225	240
	—	—	—	—	540	640	740	790
P6	—	—	—	—	185	225	255	270
	—	—	—	—	610	740	840	890
P7	—	—	—	—	170	210	240	255
	—	—	—	—	560	690	790	840
P8	—	—	—	—	160	195	225	235
	—	—	—	—	520	640	740	770
P11	—	—	—	—	165	205	235	245
	—	—	—	—	540	670	770	800
P12	—	—	—	—	110	130	150	160
	—	—	—	—	360	425	490	520
M1	—	—	—	—	175	215	250	260
	—	—	—	—	570	710	820	850
M2	—	—	—	—	145	175	205	215
	—	—	—	—	475	570	670	710
M3	—	—	—	—	120	140	165	175
	—	—	—	—	395	460	540	570
M4	—	—	—	—	95	110	125	130
	—	—	—	—	310	360	410	425
M5	—	—	—	—	80	90	105	110
	—	—	—	—	260	295	345	360
K1	185	225	260	275	175	210	245	255
	610	740	850	900	570	690	800	840
K2	165	200	230	245	155	185	215	225
	540	660	750	800	510	610	710	740
K3	140	170	195	205	130	155	180	190
	460	560	640	670	425	510	590	620
K4	135	160	185	195	125	150	175	185
	445	520	610	640	410	490	570	610
K5	80	100	115	120	75	90	105	110
	260	330	375	395	245	295	345	360
K6	120	140	165	175	110	130	155	160
	395	460	540	570	360	425	510	520
K7	105	125	145	155	95	115	135	145
	345	410	475	510	310	375	445	475
N1	—	—	—	—	1275	1575	1800	1875
	—	—	—	—	4175	5175	5900	6150
N2	—	—	—	—	520	630	730	750
	—	—	—	—	1700	2075	2400	2450
N3	—	—	—	—	345	420	485	500
	—	—	—	—	1125	1375	1600	1650
N11	—	—	—	—	395	480	550	570
	—	—	—	—	1300	1575	1800	1875
S1	—	—	—	—	44	50	60	60
	—	—	—	—	145	165	195	195
S2	—	—	—	—	35	41	47	50
	—	—	—	—	115	135	155	165
S3	—	—	—	—	31	36	42	44
	—	—	—	—	100	120	140	145
S11	—	—	—	—	60	70	85	90
	—	—	—	—	195	230	280	295
S12	—	—	—	—	42	50	55	60
	—	—	—	—	140	165	180	195
S13	—	—	—	—	25	29	33	35
	—	—	—	—	80	95	110	115
H5	39	46	55	55	36	43	50	55
	130	150	180	180	120	140	165	180
H8	41	49	55	60	38	45	50	55
	135	160	180	195	125	150	165	180
H11	49	60	70	70	46	55	65	65
	160	195	230	230	150	180	215	215
H12	75	90	100	105	70	80	95	100
	245	295	330	345	230	260	310	330
H21	41	49	55	60	38	45	50	55
	135	160	180	195	125	150	165	180

Üniversal  
Çelik ve dökme demir  
Paslanmaz çelik ve S iş parçası malzemeleri  
Paslanmaz çelik ve S iş parçası malzemeleri  
Demir içermeyen malzemeler  
Sertleştirilmiş çelik için  
Grafit malzeme için  
Minimaster Plus  
Minimaster

## Versiyon

Üniversal	Versiyon 1, Kama kanalı açma sapı	Versiyon 2, Silindirik/Weldon arka bağlantı ve 90° ön
Çelik ve dökme demir		
Paslanmaz çelik ve S iş parçası matzemeleri		
Versiyon 3, Silindirik/Weldon arka bağlantı konik ön 87°/89°	Versiyon 4, Silindirik/Weldon arka bağlantı konik ön 80°/85°/87°	
Demir içermeyen matzemeler		
Sertleştirilmiş çelik için		
Plastik ve çfrp matzemeler için		
Versiyon 5, Silindirik arka bağlantı çift konik ön uç 89°/85°		
Grafit matzeme için		
Minimaster Plus		

## MM16 Sap



Ürün Tanımı	Ürün numarası	Montaj tipi	DCSFWS	DMM	OAL	LF	LPR	BHTA°	Tasarım	RPMX	Ağırlık	Yedek parça kod no.	
													mm
MM16-20115.3-3045	75014109	Weldon	15,2	20,0	115,0	45,8	65,0	3,0	4	✓	63600	0,2	3
MM16-25100.3-0019	75012790	Weldon	15,2	25,0	100,0	19,0	40,0	0,0	2	✓	63600	0,3	3
MM16-25115.3-3035	75012791	Weldon	15,2	25,0	115,0	35,0	59,0	3,0	3	✓	63600	0,3	3
MM16-25170.3-5056	75012792	Weldon	15,2	25,0	170,0	56,0	114,0	5,0	4	✓	63600	0,6	4
MM16-16070.0-0011M	00023547	Silindirik	15,2	16,0	70,0	11,3	22,0	0,0	2	✓	63600	0,1	1
MM16-20070.0-0000	00023548	Silindirik	15,2	20,0	70,0	0,0	20,0	60,0	1	✓	63600	0,2	1
MM16-20190.0-1055M	00094766	Silindirik	15,2	20,0	190,0	55,0	140,0	1,0	3	✓	63600	0,4	5
MM16-20190.0-1075M	00094768	Silindirik	15,2	20,0	190,0	75,0	140,0	1,0	3	✓	63600	0,4	5
MM16-20190.0-1095M	00094770	Silindirik	15,2	20,0	190,0	95,0	140,0	1,0	3	✓	63600	0,4	6
MM16-25170.0-1060	00094767	Silindirik	19,0	25,0	170,0	60,0	114,0	1,0	3	✓	63600	0,5	5
MM16-32250.0-10047	75069368	Silindirik	15,2	32,0	250,0	47,6	190,0	10,0	4	✓	63600	1,3	4
MM16-16150.0-0080DS	02580692	Silindirik	15,2	16,0	150,0	80,0	102,0	0,0	2	✓	47600	0,4	2
MM16-20080.0-0011DS	02580669	Silindirik	15,2	20,0	80,0	11,3	30,0	0,0	2	✓	47600	0,4	2
MM16-20150.0-0038DS	02580695	Silindirik	15,2	20,0	150,0	38,0	100,0	0,0	2	✓	47600	0,6	2
MM16-20160.0-0076DS	02580699	Silindirik	15,2	20,0	160,0	76,0	110,0	0,0	2	✓	47600	0,6	2
MM16-20130.0-1045DS	02580757	Silindirik	15,2	20,0	130,0	45,0	80,0	1,0	3	✓	47600	0,5	2
MM16-20190.0-1075DS	02580758	Silindirik	15,2	20,0	190,0	75,0	140,0	1,0	3	✓	47600	0,8	2
MM16-20190.0-1095DS	02580760	Silindirik	15,2	20,0	190,0	95,0	140,0	1,0	3	✓	47600	0,8	2
MM16-25250.0-1075DS	02580761	Silindirik	15,2	25,0	250,0	75,0	194,0	1,0	5	✓	47600	1,6	2

## Yedek parçalar

Şu freze için	Burç	Çektirme vidası
3	MM-10062	MM16-1045
4	MM-10132	MM16-1045
1	MM-10030	MM16-1045
5	MM-10062	MM16-1093
6	MM-10062	MM16-10113
2	-	MM16-1045

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası materyalleri

Paslanmaz çelik ve S iş parçası materyalleri

Demir içermeyen materyaller

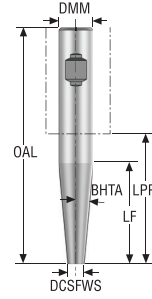
Sertleştirilmiş çelik için

Grafit materyal için

Minimaster Plus

Minimaster

MM16 Sap – İnç

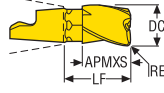


Ürün Tanımı	Ürün numarası	Montaj tipi	DCSFMS	DMM	OAL	LF	LPR	BHTA°	Tasarım	RPMX	Ağırlık	Yedek parça kod no.	
													İnç
MM16-0.75-4.5-3-3018	75054603	Weldon	0.598	0.750	4.528	1.445	2.559	3,0	3	✓	63600	0.440	4
MM16-1.00-3.9-3-0007	75015058	Weldon	0.598	1.000	3.937	0.748	1.732	0,0	2	✓	63600	0.880	4
MM16-1.00-4.5-3-3013	75015059	Weldon	0.598	1.000	4.528	1.378	2.323	3,0	3	✓	63600	0.880	4
MM16-1.00-6.7-3-5022	75015060	Weldon	0.598	1.000	6.693	2.295	4.488	5,0	4	✓	63600	1.320	5
MM16-0.62-2.8-0M-0004	00037209	Silindirik	0.598	0.625	2.756	0.445	0.866	0,0	2	✓	63600	0.220	1
MM16-0.75-2.8-0-0000	00037175	Silindirik	0.598	0.750	2.756	0	0.787	60,0	1	✓	63600	0.440	1
MM16-0.75-7.5-0-1021	75054731	Silindirik	0.598	0.750	7.480	2.165	5.512	1,0	3	✓	63600	0.880	6
MM16-0.75-7.5-0-1037	75054733	Silindirik	0.598	0.750	7.480	3.740	5.512	1,0	3	✓	63600	0.880	7
MM16-0.75-7.5-0-1029DS	02567719	Silindirik	0.598	0.750	7.480	2.953	5.512	1,0	3	✓	47600	1.760	3
MM16-0.75-7.5-0-1037DS	02593431	Silindirik	0.598	0.750	7.480	3.740	5.512	1,0	3	✓	47600	1.540	3
MM16-1.00-5.9-0-0015DS	02593433	Silindirik	0.598	1.000	5.906	1.496	3.701	0,0	2	✓	47600	2.200	3
MM16-1.00-6.3-0-0030DS	02593434	Silindirik	0.598	1.000	6.299	2.992	4.094	0,0	2	✓	47600	1.980	3

Yedek parçalar

Şu freze için	Burç	Çektirme vidası
4	MM-10062	MM16-1045
5	MM-10132	MM16-1045
1	MM-10030	MM16-1045
6	MM-10062	MM16-1093
7	MM-10062	MM16-10113
3	-	MM16-1045

## Kanal açma/dik kenar frezeleme



• Tork anahtarları ve tork değerleri için bkz. sayfa 624

Ürün Tanımı	DC	APMXS	RE	LF	RMPX°	C min	C max	FHA	ZEFP	Tasarım	Kaliteler	Kaplama			
												Kaplama			
												T60M	F15M	F30M	F40M
MM16-15719-R03A30-M06	15,7 0.618	19,05 0.750	0,3 0.012	24,5 0.965	15,0	19,0	30,6	30	3	MM0416	✓				■
MM16-16019-A30-E06	16,0 0.630	19,05 0.750	0,0 0.0	24,5 0.965	15,0	19,4	31,8	30	3	MM0416	✓			■	
MM16-16019-R05A30-M06	16,0 0.630	19,05 0.750	0,5 0.020	24,5 0.965	15,0	19,4	30,8	30	3	MM0416	✓				■
MM16-16019-R10A30-E06	16,0 0.630	19,05 0.750	1,0 0.039	24,5 0.965	15,0	19,4	29,8	30	3	MM0416	✓			■	
MM16-16019-R10A30-M06	16,0 0.630	19,05 0.750	1,0 0.039	24,5 0.965	15,0	19,4	29,8	30	3	MM0416	✓				■
MM16-16019-R20A30-M06	16,0 0.630	19,05 0.750	2,0 0.079	24,5 0.965	15,0	19,4	27,8	30	3	MM0416	✓				■
MM16-16019-R30A30-E06	16,0 0.630	19,05 0.750	3,0 0.118	24,5 0.965	15,0	19,4	25,8	30	3	MM0416	✓			■	
MM16-16019-R30A30-M06	16,0 0.630	19,05 0.750	3,0 0.118	24,5 0.965	15,0	19,4	25,8	30	3	MM0416	✓				■
MM16-16019-R40A30-M06	16,0 0.630	19,05 0.750	4,0 0.157	24,5 0.965	15,0	19,4	23,8	30	3	MM0416	✓				■
MM16-16019-R50A30-M06	16,0 0.630	19,05 0.750	5,0 0.197	24,5 0.965	15,0	19,4	21,8	30	3	MM0416	✓				■
MM16-16019-R60A30-M06	16,0 0.630	19,05 0.750	6,0 0.236	24,5 0.965	15,0	19,4	19,8	30	3	MM0416	✓				■
MM16-20015-A30-E06	20,0 0.787	15,0 0.591	0,0 0.0	20,15 0.793	15,0	24,2	39,8	30	3	MM0416	✓			■	
MM16-20015-R05A30-M06	20,0 0.787	15,0 0.591	0,5 0.020	20,15 0.793	15,0	24,2	38,8	30	3	MM0416	✓				■
MM16-20015-R10A30-M06	20,0 0.787	15,0 0.591	1,0 0.039	20,15 0.793	15,0	24,2	37,8	30	3	MM0416	✓				■
MM16-20015-R20A30-D06	20,0 0.787	15,0 0.591	2,0 0.079	20,15 0.793	15,0	24,2	35,8	30	3	MM0416	✓			■	
MM16-20015-R30A30-M06	20,0 0.787	15,0 0.591	3,0 0.118	20,15 0.793	15,0	24,2	33,8	30	3	MM0416	✓				■
MM16-20015-R50A30-M06	20,0 0.787	15,0 0.591	5,0 0.197	20,15 0.793	15,0	24,2	29,8	30	3	MM0416	✓				■
MM16-15919-R08A30-M06	15,875 0.625	19,05 0.750	0,8 0.031	24,5 0.965	15,0	19,2	29,9	30	3	MM0416	✓				■

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

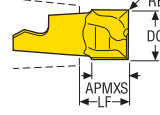
Sertleştirilmiş çelik için

Grafit malzeme için

Minimaster Plus

Minimaster

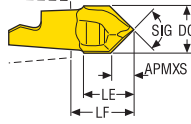
## Kanal açma/dik kenar frezeleme



• Tork anahtarları ve tork değerleri için bkz. sayfa 624

Ürün Tanımı	DC	APMXS	RE	LF	RMPX°	C min	C max	FHA	ZEPF	Tasarım	Kaliteler			
											T60M	F15M	F30M	F40M
MM16-15711T-R03-D07	15,7 0.618	11,0 0.433	0,3 0.012	13,6 0.535	15,0	19,0	30,6	0	2	MM1420	■			
MM16-16011-M06	16,0 0.630	11,0 0.433	0,0 NaN	13,6 0.535	15,0	19,4	31,8	0	2	MM1420	■			
MM16-16011-R08A8-E06	16,0 0.630	10,5 0.413	0,8 0.031	13,62 0.536	15,0	19,4	30,2	8	2	MM1420	■		■	
MM16-16011-R08-MD07	16,0 0.630	11,0 0.433	0,8 0.031	13,58 0.535	15,0	19,4	30,2	0	2	MM1420	■		■	
MM16-16011-R08P-M05	16,0 0.630	10,8 0.425	0,8 0.031	13,41 0.528	15,0	19,4	30,2	0	2	MM1420			■	
MM16-16011-R20-MD07	16,0 0.630	10,9 0.429	2,0 0.079	13,55 0.533	15,0	19,4	27,8	0	2	MM1420			■	
MM16-16011-R30-MD07	16,0 0.630	10,9 0.429	3,0 0.118	13,54 0.533	15,0	19,4	25,8	0	2	MM1420			■	
MM16-16011-R40-MD07	16,0 0.630	10,9 0.429	4,0 0.157	13,52 0.532	15,0	19,4	23,8	0	2	MM1420	■			
MM16-16011-R50-MD07	16,0 0.630	10,9 0.429	5,0 0.197	13,5 0.531	15,0	19,4	21,8	0	2	MM1420	■			
MM16-20013-R08A8-E06	20,0 0.787	12,7 0.500	0,8 0.031	15,42 0.607	15,0	24,2	38,2	8	2	MM1420	■		■	
MM16-19013-R08A8-E06	19,05 0.750	12,7 0.500	0,8 0.031	15,39 0.606	15,0	23,1	36,3	8	2	MM1420			■	

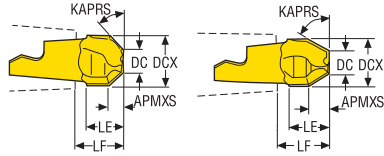
## Punta matkabi



• Tork anahtarları ve tork değerleri için bkz. sayfa 624

Ürün Tanımı	DC	APMXS	LE	LF	SIG°	ZEFP	Tasarım	Kaliteler			
								T60M	F15M	F30M	F40M
MM16-16008-C90-M06	16,0 0.630	7,53 0.296	16,7 0.657	19,2 0.756	90,0	2	MM1420	■			
MM16-16011-C120-M06	16,0 0.630	4,3 0.169	16,64 0.655	18,9 0.744	120,0	2	MM1420	■			
MM16-19019-C90	19,05 0.750	9,6 0.378	20,3 0.799	22,15 0.872	90,0	2	MM1420	■			

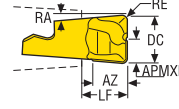
## Pah kırma



• Tork anahtarları ve tork değerleri için bkz. sayfa 624

Ürün Tanımı	DCX	DC	APMXS	LE	LF	KAPRS°	ZEFP	Tasarım	Kaliteler			
									T60M	F15M	F30M	F40M
MM16-16011-4540-E06	16,0 0.630	7,69 0.303	3,9 0.154	10,9 0.429	13,25 0.522	45,0	2	MM1420	■			
MM16-16012-6060-E06	16,0 0.630	8,38 0.330	6,7 0.264	12,9 0.508	15,3 0.602	60,0	2	MM1420	■			

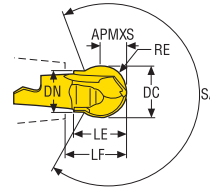
## Dalma kesme frezeleme



• Tork anahtarları ve tork değerleri için bkz. sayfa 624

Ürün Tanımı	DC	APMXE	RE	AZ	LF	RA	ZEFP	Tasarım	Kaliteler			
									T60M	F15M	F30M	F40M
MM16-16011-R10-PL-MD07	16,0 0.630	8,0 0.315	1,0 0.039	11,3 0.445	11,3 0.445	5,0	2	MM1420			■	
MM16-16011-R20-PL-MD07	16,0 0.630	8,0 0.315	2,0 0.079	11,3 0.445	11,3 0.445	5,0	2	MM1420			■	

## Tüm malzemelerde yarı-finiş işleme için hassas uçlar

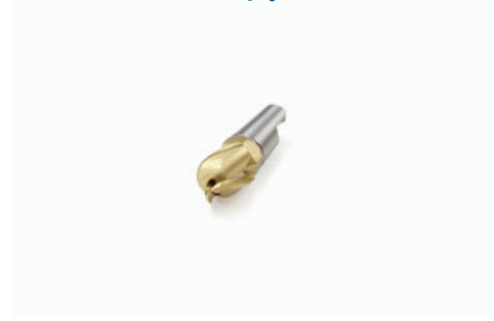
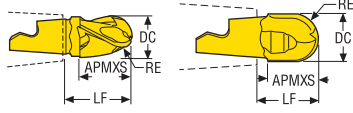


• Tork anahtarları ve tork değerleri için bkz. sayfa 624

Ürün Tanımı	DC	APMXS	RE	LE	LF	DN	SA	ZEFP	Tasarım	Kaliteler			
										T60M	F15M	F30M	F40M
MM16-20020-B120PF-M04	20,0 0.787	10,0 0.394	10,0 0.394	20,0 0.787	21,94 0.864	15,9 0.626	NaN	2	MM1420		■		
MM16-20020-B120P-M07	20,0 0.787	10,0 0.394	10,0 0.394	20,0 0.787	21,94 0.864	15,9 0.626	NaN	2	MM1420			■	



## Kopya frezeleme



• Tork anahtarları ve tork değerleri için bkz. sayfa 624

Ürün Tanımı	DC	APMXS	RE	LF	FHA	ZEFP	Tasarım	Kaliteler	Kaplama			
									Kaplama			
									T60M	F15M	F30M	F40M
MM16-16019-B90A30-E06	16,0 0.630	19,0 0.748	8,0 0.315	24,5 0.965	30,0	3	MM1420	✓			■	
MM16-20015-B90A30-E06	20,0 0.787	15,0 0.591	10,0 0.394	20,15 0.793	30,0	3	MM1420	✓			■	
MM16-16019-B90A30-M06	16,0 0.630	19,0 0.748	8,0 0.315	24,5 0.965	30,0	3	MM1420	✓				■
MM16-20015-B90A30-M06	20,0 0.787	15,0 0.591	10,0 0.394	20,15 0.793	30,0	3	MM1420	✓				■
MM16-16016-B90-MD07	16,0 0.630	16,2 0.638	8,0 0.315	18,4 0.724	0,0	2	MM1420		■		■	
MM16-20020-B90-MD07	20,0 0.787	20,3 0.799	10,0 0.394	22,15 0.872	0,0	2	MM1420		■		■	
MM16-16016-B90P-M07	16,0 0.630	13,8 0.543	8,0 0.315	18,4 0.724	0,0	2	MM1420				■	
MM16-20020-B90P-M07	20,0 0.787	17,4 0.685	10,0 0.394	22,12 0.871	0,0	2	MM1420				■	
MM16-15916-B90P-M07	15,875 0.625	13,8 0.543	7,938 0.313	18,4 0.724	0,0	2	MM1420				■	
MM16-19020-B90P-M07	19,05 0.750	7,4 0.291	9,525 0.375	22,12 0.871	0,0	2	MM1420		■			
MM16-16016-B90PF-M03	16,0 0.630	13,8 0.543	8,0 0.315	18,4 0.724	0,0	2	MM1420			■		

Üniversal

Çelik ve dökme demir

Paslanmaz çelik ve S iş parçası malzemeleri

Paslanmaz çelik ve S iş parçası malzemeleri

Demir içermeyen malzemeler

Sertleştirilmiş çelik için

Grafit malzeme için

Minimaster Plus

Minimaster

## MM16 - Kanal ve Kenar frezeleme – Uç seçimi

SMG		$a_p$	$f_z$			
			100%	40%	20%	10%
P1	MM16-16019-R05A30-M06 F40M	3,5	0,085	0,085	0,11	0,14
		0,14	0,0034	0,0034	0,0044	0,0055
P2	MM16-16019-R05A30-M06 F40M	3,5	0,085	0,090	0,11	0,14
		0,14	0,0034	0,0036	0,0044	0,0055
P3	MM16-16019-R05A30-M06 F40M	3,5	0,080	0,085	0,10	0,14
		0,14	0,0032	0,0034	0,0040	0,0055
P4	MM16-16019-R05A30-M06 F40M	3,5	0,080	0,080	0,10	0,13
		0,14	0,0032	0,0032	0,0040	0,0050
P5	MM16-16019-R05A30-M06 F40M	3,5	0,080	0,080	0,10	0,13
		0,14	0,0032	0,0032	0,0040	0,0050
P6	MM16-16019-R05A30-M06 F40M	3,5	0,080	0,080	0,095	0,13
		0,14	0,0032	0,0032	0,0038	0,0050
P7	MM16-16019-R05A30-M06 F40M	3,5	0,080	0,080	0,095	0,13
		0,14	0,0032	0,0032	0,0038	0,0050
P8	MM16-16019-R05A30-M06 F40M	3,5	0,080	0,085	0,10	0,14
		0,14	0,0032	0,0034	0,0040	0,0055
P11	MM16-16019-R05A30-M06 F40M	3,5	0,080	0,080	0,095	0,13
		0,14	0,0032	0,0032	0,0038	0,0050
P12	MM16-16019-R05A30-M06 F40M	2,5	0,055	0,055	0,065	0,090
		0,10	0,0022	0,0022	0,0026	0,0036
M1	MM16-16019-R05A30-M06 F40M	3,5	0,085	0,090	0,11	0,14
		0,14	0,0034	0,0036	0,0044	0,0055
M2	MM16-16019-R05A30-M06 F40M	3,5	0,080	0,080	0,10	0,13
		0,14	0,0032	0,0032	0,0040	0,0050
M3	MM16-16019-R05A30-M06 F40M	2,5	0,065	0,065	0,080	0,10
		0,10	0,0026	0,0026	0,0032	0,0040
M4	MM16-16019-R05A30-M06 F40M	2,0	0,055	0,055	0,070	0,090
		0,080	0,0022	0,0022	0,0028	0,0036
M5	MM16-16019-R05A30-M06 F40M	2,0	0,055	0,055	0,070	0,090
		0,080	0,0022	0,0022	0,0028	0,0036
K1	MM16-16019-R10A30-E06 F30M	3,5	0,090	0,090	0,11	0,14
		0,14	0,0036	0,0036	0,0044	0,0055
K2	MM16-16019-R10A30-E06 F30M	3,5	0,080	0,080	0,10	0,13
		0,14	0,0032	0,0032	0,0040	0,0050
K3	MM16-16019-R10A30-E06 F30M	3,5	0,080	0,080	0,10	0,13
		0,14	0,0032	0,0032	0,0040	0,0050
K4	MM16-16019-R10A30-E06 F30M	3,5	0,080	0,080	0,10	0,13
		0,14	0,0032	0,0032	0,0040	0,0050
K5	MM16-16019-R10A30-M06 F40M	3,5	0,075	0,075	0,090	0,12
		0,14	0,0030	0,0030	0,0036	0,0048
K6	MM16-16019-R10A30-M06 F40M	3,5	0,080	0,080	0,10	0,13
		0,14	0,0032	0,0032	0,0040	0,0050
K7	MM16-16019-R10A30-M06 F40M	3,5	0,075	0,075	0,090	0,12
		0,14	0,0030	0,0030	0,0036	0,0048
N1	MM16-16019-R10A30-E06 F30M	3,5	0,11	0,11	0,14	0,18
		0,14	0,0044	0,0044	0,0055	0,0070
N2	MM16-16019-R10A30-E06 F30M	3,5	0,11	0,11	0,14	0,18
		0,14	0,0044	0,0044	0,0055	0,0070
N3	MM16-16019-R10A30-E06 F30M	3,5	0,11	0,11	0,14	0,18
		0,14	0,0044	0,0044	0,0055	0,0070
N11	MM16-16019-R10A30-E06 F30M	3,5	0,11	0,11	0,14	0,18
		0,14	0,0044	0,0044	0,0055	0,0070
S1	MM16-16019-R05A30-M06 F40M	2,0	0,055	0,055	0,070	0,090
		0,080	0,0022	0,0022	0,0028	0,0036
S2	MM16-16019-R05A30-M06 F40M	2,0	0,055	0,055	0,070	0,090
		0,080	0,0022	0,0022	0,0028	0,0036
S3	MM16-16019-R05A30-M06 F40M	2,0	0,050	0,055	0,065	0,085
		0,080	0,0020	0,0022	0,0026	0,0034
S11	MM16-16019-R05A30-M06 F40M	2,5	0,065	0,065	0,080	0,10
		0,10	0,0026	0,0026	0,0032	0,0040
S12	MM16-16019-R05A30-M06 F40M	2,5	0,065	0,065	0,080	0,10
		0,10	0,0026	0,0026	0,0032	0,0040
S13	MM16-16019-R05A30-M06 F40M	2,0	0,055	0,055	0,070	0,090
		0,080	0,0022	0,0022	0,0028	0,0036
H5	MM16-16019-R10A30-E06 F30M	2,5	0,055	0,055	0,065	0,090
		0,10	0,0022	0,0022	0,0026	0,0036
H8	MM16-16019-R10A30-E06 F30M	2,5	0,044	0,044	0,050	0,070
		0,10	0,0017	0,0017	0,0020	0,0028
H11	MM16-16019-R10A30-E06 F30M	2,5	0,055	0,055	0,065	0,090
		0,10	0,0022	0,0022	0,0026	0,0036
H12	MM16-16019-R10A30-E06 F30M	2,5	0,044	0,044	0,050	0,070
		0,10	0,0017	0,0017	0,0020	0,0028
H21	MM16-16019-R10A30-E06 F30M	2,5	0,044	0,044	0,050	0,070
		0,10	0,0017	0,0017	0,0020	0,0028

SMG = Seco malzeme grubu

 $f_z$  = mm/ağız (inç/ağız),  $v_c$  = m/dk (sf/dk),  $a_p/DC$  = %

Tüm kesme verileri başlangıç değerleridir



MM16 Z3 – Kopya frezeleme – Uç seçimi – Kaba işleme

SMG		a <sub>p</sub>	f <sub>z</sub>			
			100%	40%	20%	10%
P1	MM16-16019-B90A30-M06 F40M	3,5	0,11	0,10	0,11	0,14
		0,14	0,0044	0,0040	0,0044	0,0055
P2	MM16-16019-B90A30-M06 F40M	3,5	0,11	0,10	0,11	0,15
		0,14	0,0044	0,0040	0,0044	0,0060
P3	MM16-16019-B90A30-M06 F40M	3,5	0,10	0,10	0,10	0,14
		0,14	0,0040	0,0040	0,0040	0,0055
P4	MM16-16019-B90A30-M06 F40M	3,5	0,10	0,095	0,10	0,13
		0,14	0,0040	0,0038	0,0040	0,0050
P5	MM16-16019-B90A30-M06 F40M	3,5	0,10	0,095	0,10	0,13
		0,14	0,0040	0,0038	0,0040	0,0050
P6	MM16-16019-B90A30-M06 F40M	3,5	0,095	0,095	0,10	0,13
		0,14	0,0038	0,0038	0,0040	0,0050
P7	MM16-16019-B90A30-M06 F40M	3,5	0,095	0,095	0,10	0,13
		0,14	0,0038	0,0038	0,0040	0,0050
P8	MM16-16019-B90A30-M06 F40M	3,5	0,10	0,10	0,10	0,14
		0,14	0,0040	0,0040	0,0040	0,0055
P11	MM16-16019-B90A30-M06 F40M	3,5	0,095	0,095	0,10	0,13
		0,14	0,0038	0,0038	0,0040	0,0050
P12	MM16-16019-B90A30-M06 F40M	2,5	0,070	0,070	0,070	0,090
		0,10	0,0028	0,0028	0,0028	0,0036
M1	MM16-16019-B90A30-M06 F40M	3,5	0,11	0,10	0,11	0,15
		0,14	0,0044	0,0040	0,0044	0,0060
M2	MM16-16019-B90A30-M06 F40M	3,5	0,10	0,095	0,10	0,13
		0,14	0,0040	0,0038	0,0040	0,0050
M3	MM16-16019-B90A30-M06 F40M	2,5	0,085	0,080	0,080	0,11
		0,10	0,0034	0,0032	0,0032	0,0044
M4	MM16-16019-B90A30-M06 F40M	2,0	0,075	0,075	0,075	0,090
		0,080	0,0030	0,0030	0,0030	0,0038
M5	MM16-16019-B90A30-M06 F40M	2,0	0,075	0,075	0,075	0,090
		0,080	0,0030	0,0030	0,0030	0,0038
K1	MM16-16019-B90A30-E06 F30M	3,5	0,11	0,10	0,11	0,15
		0,14	0,0044	0,0040	0,0044	0,0060
K2	MM16-16019-B90A30-E06 F30M	3,5	0,10	0,095	0,10	0,13
		0,14	0,0040	0,0038	0,0040	0,0050
K3	MM16-16019-B90A30-E06 F30M	3,5	0,10	0,095	0,10	0,13
		0,14	0,0040	0,0038	0,0040	0,0050
K4	MM16-16019-B90A30-E06 F30M	3,5	0,10	0,095	0,10	0,13
		0,14	0,0040	0,0038	0,0040	0,0050
K5	MM16-16019-B90A30-E06 F30M	3,5	0,090	0,085	0,090	0,12
		0,14	0,0036	0,0034	0,0036	0,0048
K6	MM16-16019-B90A30-E06 F30M	3,5	0,10	0,095	0,10	0,13
		0,14	0,0040	0,0038	0,0040	0,0050
K7	MM16-16019-B90A30-E06 F30M	3,5	0,090	0,085	0,090	0,12
		0,14	0,0036	0,0034	0,0036	0,0048
N1	MM16-16019-B90A30-E06 F30M	3,5	0,14	0,13	0,14	0,19
		0,14	0,0055	0,0050	0,0055	0,0075
N2	MM16-16019-B90A30-E06 F30M	3,5	0,14	0,13	0,14	0,19
		0,14	0,0055	0,0050	0,0055	0,0075
N3	MM16-16019-B90A30-E06 F30M	3,5	0,14	0,13	0,14	0,19
		0,14	0,0055	0,0050	0,0055	0,0075
N11	MM16-16019-B90A30-E06 F30M	3,5	0,14	0,13	0,14	0,19
		0,14	0,0055	0,0050	0,0055	0,0075
S1	MM16-16019-B90A30-M06 F40M	2,0	0,075	0,075	0,075	0,090
		0,080	0,0030	0,0030	0,0030	0,0038
S2	MM16-16019-B90A30-M06 F40M	2,0	0,075	0,075	0,075	0,090
		0,080	0,0030	0,0030	0,0030	0,0038
S3	MM16-16019-B90A30-M06 F40M	2,0	0,070	0,070	0,070	0,085
		0,080	0,0028	0,0028	0,0028	0,0036
S11	MM16-16019-B90A30-M06 F40M	2,5	0,085	0,080	0,085	0,11
		0,10	0,0034	0,0032	0,0034	0,0044
S12	MM16-16019-B90A30-M06 F40M	2,5	0,085	0,080	0,085	0,11
		0,10	0,0034	0,0032	0,0034	0,0044
S13	MM16-16019-B90A30-M06 F40M	2,0	0,075	0,075	0,075	0,090
		0,080	0,0030	0,0030	0,0030	0,0038
H5	MM16-16019-B90A30-E06 F30M	2,5	0,070	0,070	0,070	0,090
		0,10	0,0028	0,0028	0,0028	0,0036
H8	MM16-16019-B90A30-E06 F30M	2,5	0,055	0,050	0,055	0,070
		0,10	0,0022	0,0020	0,0022	0,0028
H11	MM16-16019-B90A30-E06 F30M	2,5	0,070	0,070	0,070	0,090
		0,10	0,0028	0,0028	0,0028	0,0036
H12	MM16-16019-B90A30-E06 F30M	2,5	0,055	0,050	0,055	0,070
		0,10	0,0022	0,0020	0,0022	0,0028
H21	MM16-16019-B90A30-E06 F30M	2,5	0,055	0,050	0,055	0,070
		0,10	0,0022	0,0020	0,0022	0,0028

SMG = Seco malzeme grubu

f<sub>z</sub> = mm/ağız (inç/ağız), v<sub>c</sub> = m/dk (sf/dk), a<sub>p</sub>/DC = %

Tüm kesme verileri başlangıç değerleridir

MM16 Z3 – Kopya frezeleme – Uç seçimi – Finiş frezeleme

SMG		$a_p$	$f_z$			
			15%	10%	5%	2%
P1	MM16-16019-B90A30-E06 F30M	3,5	0,12	0,14	0,20	0,32
		0,14	0,0048	0,0055	0,0080	0,013
P2	MM16-16019-B90A30-E06 F30M	3,5	0,12	0,15	0,20	0,34
		0,14	0,0048	0,0060	0,0080	0,013
P3	MM16-16019-B90A30-E06 F30M	3,5	0,12	0,14	0,19	0,32
		0,14	0,0048	0,0055	0,0075	0,013
P4	MM16-16019-B90A30-E06 F30M	3,5	0,11	0,13	0,19	0,30
		0,14	0,0044	0,0050	0,0075	0,012
P5	MM16-16019-B90A30-E06 F30M	3,5	0,11	0,13	0,18	0,30
		0,14	0,0044	0,0050	0,0070	0,012
P6	MM16-16019-B90A30-E06 F30M	3,5	0,11	0,13	0,18	0,30
		0,14	0,0044	0,0050	0,0070	0,012
P7	MM16-16019-B90A30-E06 F30M	3,5	0,11	0,13	0,18	0,30
		0,14	0,0044	0,0050	0,0070	0,012
P8	MM16-16019-B90A30-E06 F30M	3,5	0,12	0,14	0,19	0,32
		0,14	0,0048	0,0055	0,0075	0,013
P11	MM16-16019-B90A30-E06 F30M	3,5	0,11	0,13	0,18	0,30
		0,14	0,0044	0,0050	0,0070	0,012
P12	MM16-16019-B90A30-E06 F30M	2,5	0,075	0,090	0,12	0,20
		0,10	0,0030	0,0036	0,0048	0,0080
M1	MM16-16019-B90A30-E06 F30M	3,5	0,12	0,15	0,20	0,34
		0,14	0,0048	0,0060	0,0080	0,013
M2	MM16-16019-B90A30-E06 F30M	3,5	0,11	0,13	0,18	0,30
		0,14	0,0044	0,0050	0,0070	0,012
M3	MM16-16019-B90A30-E06 F30M	2,5	0,090	0,11	0,15	0,24
		0,10	0,0036	0,0044	0,0060	0,0095
M4	MM16-16019-B90A30-E06 F30M	2,0	0,080	0,090	0,13	0,20
		0,080	0,0032	0,0038	0,0050	0,0080
M5	MM16-16019-B90A30-E06 F30M	2,0	0,080	0,090	0,13	0,20
		0,080	0,0032	0,0038	0,0050	0,0080
K1	MM16-16019-B90A30-E06 F30M	3,5	0,12	0,15	0,20	0,34
		0,14	0,0048	0,0060	0,0080	0,013
K2	MM16-16019-B90A30-E06 F30M	3,5	0,11	0,13	0,18	0,30
		0,14	0,0044	0,0050	0,0070	0,012
K3	MM16-16019-B90A30-E06 F30M	3,5	0,11	0,13	0,18	0,30
		0,14	0,0044	0,0050	0,0070	0,012
K4	MM16-16019-B90A30-E06 F30M	3,5	0,11	0,13	0,18	0,30
		0,14	0,0044	0,0050	0,0070	0,012
K5	MM16-16019-B90A30-E06 F30M	3,5	0,10	0,12	0,17	0,26
		0,14	0,0040	0,0048	0,0065	0,010
K6	MM16-16019-B90A30-E06 F30M	3,5	0,11	0,13	0,18	0,30
		0,14	0,0044	0,0050	0,0070	0,012
K7	MM16-16019-B90A30-E06 F30M	3,5	0,10	0,12	0,17	0,26
		0,14	0,0040	0,0048	0,0065	0,010
N1	MM16-16019-B90A30-E06 F30M	3,5	0,16	0,19	0,26	0,44
		0,14	0,0065	0,0075	0,010	0,017
N2	MM16-16019-B90A30-E06 F30M	3,5	0,16	0,19	0,26	0,44
		0,14	0,0065	0,0075	0,010	0,017
N3	MM16-16019-B90A30-E06 F30M	3,5	0,16	0,19	0,26	0,44
		0,14	0,0065	0,0075	0,010	0,017
N11	MM16-16019-B90A30-E06 F30M	3,5	0,16	0,19	0,26	0,44
		0,14	0,0065	0,0075	0,010	0,017
S1	MM16-16019-B90A30-E06 F30M	2,0	0,080	0,090	0,13	0,20
		0,080	0,0032	0,0038	0,0050	0,0080
S2	MM16-16019-B90A30-E06 F30M	2,0	0,080	0,090	0,13	0,20
		0,080	0,0032	0,0038	0,0050	0,0080
S3	MM16-16019-B90A30-E06 F30M	2,0	0,075	0,085	0,12	0,19
		0,080	0,0030	0,0036	0,0048	0,0075
S11	MM16-16019-B90A30-E06 F30M	2,5	0,090	0,11	0,15	0,24
		0,10	0,0036	0,0044	0,0060	0,0095
S12	MM16-16019-B90A30-E06 F30M	2,5	0,090	0,11	0,15	0,24
		0,10	0,0036	0,0044	0,0060	0,0095
S13	MM16-16019-B90A30-E06 F30M	2,0	0,080	0,090	0,13	0,20
		0,080	0,0032	0,0038	0,0050	0,0080
H5	MM16-16019-B90A30-E06 F30M	2,5	0,075	0,090	0,12	0,20
		0,10	0,0030	0,0036	0,0048	0,0080
H8	MM16-16019-B90A30-E06 F30M	2,5	0,060	0,070	0,095	0,15
		0,10	0,0024	0,0028	0,0038	0,0060
H11	MM16-16019-B90A30-E06 F30M	2,5	0,075	0,090	0,12	0,20
		0,10	0,0030	0,0036	0,0048	0,0080
H12	MM16-16019-B90A30-E06 F30M	2,5	0,060	0,070	0,095	0,15
		0,10	0,0024	0,0028	0,0038	0,0060
H21	MM16-16019-B90A30-E06 F30M	2,5	0,060	0,070	0,095	0,15
		0,10	0,0024	0,0028	0,0038	0,0060

SMG = Seco malzeme grubu  
 $f_z$  = mm/ağız (inç/ağız),  $v_c$  = m/dk (sf/dk),  $a_e/DC$  = %  
 Tüm kesme verileri başlangıç değerleridir

Üniversal  
 Çelik ve dökme demir  
 Paslanmaz çelik ve S iş parçası malzemeleri  
 Paslanmaz çelik ve S iş parçası malzemeleri  
 Demir içermeyen malzemeler  
 Sertleştirilmiş çelik için  
 Grafit malzeme için  
 Minimaster Plus  
 Minimaster

MM16 Z3 – Kopya frezeleme – Kesme verisi  $v_c = (m/dk)$

SMG	F30M					F40M				
	100%	20%	10%	5%	2%	100%	20%	10%	5%	2%
P1	245	295	310	335	335	235	280	295	320	320
	800	970	1025	1100	1100	770	920	970	1050	1050
P2	240	285	300	325	320	230	270	285	310	305
	790	940	980	1075	1050	750	890	940	1025	1000
P3	210	250	260	285	280	200	240	250	270	265
	690	820	850	940	920	660	790	820	890	870
P4	185	220	235	250	250	175	210	225	240	240
	610	720	770	820	820	570	690	740	790	790
P5	175	210	225	240	240	170	200	215	230	230
	570	690	740	790	790	560	660	710	750	750
P6	200	235	250	270	270	190	225	240	260	255
	660	770	820	890	890	620	740	790	850	840
P7	190	225	235	255	255	180	210	225	245	240
	620	740	770	840	840	590	690	740	800	790
P8	175	210	220	240	235	170	200	210	230	225
	570	690	720	790	770	560	660	690	750	740
P11	185	215	230	250	245	175	205	220	235	235
	610	710	750	820	800	570	670	720	770	770
P12	115	145	145	160	155	110	140	140	150	150
	375	475	475	520	510	360	460	460	490	490
M1	195	230	240	265	260	185	220	230	250	245
	640	750	790	870	850	610	720	750	820	800
M2	160	190	200	220	215	150	180	190	205	205
	520	620	660	720	710	490	590	620	670	670
M3	130	160	160	170	170	120	150	150	165	165
	425	520	520	560	560	395	490	490	540	540
M4	90	125	125	130	135	85	120	115	125	125
	295	410	425	425	445	280	395	410	410	410
M5	75	105	100	110	110	70	100	100	105	105
	245	345	360	360	360	230	330	345	345	345
K1	190	225	235	260	255	180	215	225	245	245
	620	740	770	850	840	590	710	740	800	800
K2	170	200	210	230	225	160	190	200	220	215
	560	660	690	750	740	520	620	660	720	710
K3	140	170	180	195	190	135	160	170	185	185
	460	560	590	640	620	445	520	560	610	610
K4	135	160	170	185	185	130	155	165	175	175
	445	520	560	610	610	425	510	540	570	570
K5	85	100	105	110	110	80	95	100	105	105
	280	330	345	360	360	260	310	330	345	345
K6	120	140	150	165	160	115	135	145	155	155
	395	460	490	540	520	375	445	475	510	510
K7	105	125	130	145	145	100	120	125	135	135
	345	410	425	475	475	330	395	410	445	445
N1	1425	1700	1775	1925	1900	1350	1625	1700	1850	1800
	4675	5575	5825	6325	6225	4425	5325	5575	6075	5900
N2	580	690	720	780	770	550	650	680	740	730
	1900	2275	2350	2550	2525	1800	2125	2225	2425	2400
N3	385	455	480	520	510	365	435	455	495	485
	1275	1500	1575	1700	1675	1200	1425	1500	1625	1600
N11	440	520	550	600	580	420	495	520	570	560
	1450	1700	1800	1975	1900	1375	1625	1700	1875	1825
S1	42	60	55	60	60	40	55	55	60	60
	140	195	195	195	195	130	180	195	195	195
S2	34	48	46	50	50	33	45	44	47	48
	110	155	160	165	165	110	150	155	155	155
S3	30	41	40	43	43	28	39	38	41	41
	100	135	140	140	140	90	130	135	135	135
S11	65	80	80	85	85	60	80	75	85	80
	215	260	280	280	280	195	260	260	280	260
S12	45	55	55	60	60	43	55	55	55	55
	150	180	195	195	195	140	180	180	180	180
S13	24	33	32	35	35	23	32	31	33	33
	80	110	110	115	115	75	105	110	110	110
H5	39	48	48	55	50	37	46	46	50	50
	130	155	160	180	165	120	150	150	165	165
H8	40	50	50	55	55	38	49	48	50	50
	130	165	165	180	180	125	160	165	165	165
H11	50	60	60	65	65	47	60	60	65	65
	165	195	195	215	215	155	195	195	215	215
H12	70	90	90	100	100	70	85	85	95	95
	230	295	310	330	330	230	280	295	310	310
H21	40	50	50	55	55	38	49	48	50	50
	130	165	165	180	180	125	160	165	165	165

MM16 Z2 – Kopya frezeleme – Uç seçimi – Kaba işleme

SMG		a <sub>p</sub>	f <sub>z</sub>			
			100%	40%	20%	10%
P1	MM16-16016-B90-MD07 F30M	6,0	0,11	0,11	0,13	0,17
		0,24	0,0044	0,0044	0,0050	0,0065
P2	MM16-16016-B90-MD07 F30M	6,0	0,11	0,11	0,13	0,17
		0,24	0,0044	0,0044	0,0050	0,0065
P3	MM16-16016-B90-MD07 F30M	6,0	0,11	0,10	0,12	0,16
		0,24	0,0044	0,0040	0,0048	0,0065
P4	MM16-16016-B90-MD07 F30M	6,0	0,10	0,10	0,12	0,16
		0,24	0,0040	0,0040	0,0048	0,0065
P5	MM16-16016-B90-MD07 F30M	6,0	0,10	0,10	0,12	0,15
		0,24	0,0040	0,0040	0,0048	0,0060
P6	MM16-16016-B90-MD07 F30M	6,0	0,10	0,10	0,12	0,15
		0,24	0,0040	0,0040	0,0048	0,0060
P7	MM16-16016-B90-MD07 F30M	6,0	0,10	0,10	0,12	0,15
		0,24	0,0040	0,0040	0,0048	0,0060
P8	MM16-16016-B90-MD07 F30M	6,0	0,11	0,10	0,12	0,16
		0,24	0,0044	0,0040	0,0048	0,0065
P11	MM16-16016-B90-MD07 F30M	6,0	0,10	0,10	0,12	0,15
		0,24	0,0040	0,0040	0,0048	0,0060
P12	MM16-16016-B90-MD07 F30M	5,0	0,070	0,070	0,080	0,10
		0,20	0,0028	0,0028	0,0032	0,0044
M1	MM16-16016-B90-MD07 F30M	6,0	0,11	0,11	0,13	0,17
		0,24	0,0044	0,0044	0,0050	0,0065
M2	MM16-16016-B90-MD07 F30M	6,0	0,10	0,10	0,12	0,15
		0,24	0,0040	0,0040	0,0048	0,0060
M3	MM16-16016-B90-MD07 F30M	5,0	0,085	0,080	0,095	0,12
		0,20	0,0034	0,0032	0,0038	0,0050
M4	MM16-16016-B90-MD07 F30M	4,0	0,080	0,080	0,085	0,11
		0,16	0,0032	0,0032	0,0034	0,0044
M5	MM16-16016-B90-MD07 F30M	4,0	0,080	0,080	0,085	0,11
		0,16	0,0032	0,0032	0,0034	0,0044
K1	MM16-16016-B90-MD07 F30M	6,0	0,11	0,11	0,13	0,17
		0,24	0,0044	0,0044	0,0050	0,0065
K2	MM16-16016-B90-MD07 F30M	6,0	0,10	0,10	0,12	0,15
		0,24	0,0040	0,0040	0,0048	0,0060
K3	MM16-16016-B90-MD07 F30M	6,0	0,10	0,10	0,12	0,15
		0,24	0,0040	0,0040	0,0048	0,0060
K4	MM16-16016-B90-MD07 F30M	6,0	0,10	0,10	0,12	0,15
		0,24	0,0040	0,0040	0,0048	0,0060
K5	MM16-16016-B90-MD07 F30M	6,0	0,090	0,090	0,11	0,14
		0,24	0,0036	0,0036	0,0044	0,0055
K6	MM16-16016-B90-MD07 F30M	6,0	0,10	0,10	0,12	0,15
		0,24	0,0040	0,0040	0,0048	0,0060
K7	MM16-16016-B90-MD07 F30M	6,0	0,090	0,090	0,11	0,14
		0,24	0,0036	0,0036	0,0044	0,0055
N1	MM16-16016-B90PF-M03 F15M	6,0	0,060	0,060	0,070	0,095
		0,24	0,0024	0,0024	0,0028	0,0038
N2	MM16-16016-B90PF-M03 F15M	6,0	0,060	0,060	0,070	0,095
		0,24	0,0024	0,0024	0,0028	0,0038
N3	MM16-16016-B90PF-M03 F15M	6,0	0,060	0,060	0,070	0,095
		0,24	0,0024	0,0024	0,0028	0,0038
N11	MM16-16016-B90PF-M03 F15M	6,0	0,060	0,060	0,070	0,095
		0,24	0,0024	0,0024	0,0028	0,0038
S1	MM16-16016-B90-MD07 F30M	4,0	0,080	0,080	0,085	0,11
		0,16	0,0032	0,0032	0,0034	0,0044
S2	MM16-16016-B90-MD07 F30M	4,0	0,080	0,080	0,085	0,11
		0,16	0,0032	0,0032	0,0034	0,0044
S3	MM16-16016-B90-MD07 F30M	4,0	0,070	0,070	0,080	0,10
		0,16	0,0028	0,0028	0,0032	0,0040
S11	MM16-16016-B90-MD07 F30M	4,5	0,085	0,085	0,095	0,12
		0,18	0,0034	0,0034	0,0038	0,0050
S12	MM16-16016-B90-MD07 F30M	4,5	0,085	0,085	0,095	0,12
		0,18	0,0034	0,0034	0,0038	0,0050
S13	MM16-16016-B90-MD07 F30M	4,0	0,080	0,080	0,085	0,11
		0,16	0,0032	0,0032	0,0034	0,0044
H5	MM16-16016-B90-MD07 F30M	5,0	0,070	0,070	0,080	0,10
		0,20	0,0028	0,0028	0,0032	0,0044
H8	MM16-16016-B90-MD07 F30M	4,5	0,055	0,055	0,060	0,080
		0,18	0,0022	0,0022	0,0024	0,0032
H11	MM16-16016-B90-MD07 F30M	5,0	0,070	0,070	0,080	0,10
		0,20	0,0028	0,0028	0,0032	0,0044
H12	MM16-16016-B90-MD07 F30M	4,5	0,055	0,055	0,060	0,080
		0,18	0,0022	0,0022	0,0024	0,0032
H21	MM16-16016-B90-MD07 F30M	4,5	0,055	0,055	0,060	0,080
		0,18	0,0022	0,0022	0,0024	0,0032

SMG = Seco malzeme grubu  
 f<sub>z</sub> = mm/ağız (inç/ağız), v<sub>c</sub> = m/dk (sf/dk), a<sub>e</sub>/DC = %  
 Tüm kesme verileri başlangıç değerleridir

Üniversal  
 Çelik ve dökme demir  
 Paslanmaz çelik ve S iş parçası malzemeleri  
 Paslanmaz çelik ve S iş parçası malzemeleri  
 Demir içermeyen malzemeler  
 Sertleştirilmiş çelik için  
 Grafit malzeme için  
 Minimaster Plus  
 Minimaster

## MM16 Z2 – Kopya frezeleme – Uç seçimi – Finiş frezeleme

Üniversal	SMG		$f_z$				
			$a_p$	15%	10%	5%	2%
Çelik ve dökme demir	P1	MM16-16016-B90PF-M03 F15M	6,0 0,24	0,060 0,0024	0,070 0,0028	0,10 0,0040	0,16 0,0065
		P2	MM16-16016-B90PF-M03 F15M	6,0 0,24	0,060 0,0024	0,075 0,0030	0,10 0,0040
Paslanmaz çelik ve S iş parçası matzemeleri	P3	MM16-16016-B90PF-M03 F15M	6,0 0,24	0,060 0,0024	0,070 0,0028	0,095 0,0038	0,15 0,0060
		P4	MM16-16016-B90PF-M03 F15M	6,0 0,24	0,055 0,0022	0,070 0,0028	0,095 0,0038
Demir içermeyen matzemeler	P5	MM16-16016-B90PF-M03 F15M	6,0 0,24	0,055 0,0022	0,065 0,0026	0,090 0,0036	0,15 0,0060
		P6	MM16-16016-B90PF-M03 F15M	6,0 0,24	0,055 0,0022	0,065 0,0026	0,090 0,0036
Sertleştirilmiş çelik için	P7	MM16-16016-B90PF-M03 F15M	6,0 0,24	0,055 0,0022	0,065 0,0026	0,090 0,0036	0,14 0,0055
		P8	MM16-16016-B90PF-M03 F15M	6,0 0,24	0,060 0,0024	0,070 0,0028	0,095 0,0038
Plastik ve çirp matzemeleri için	P11	MM16-16016-B90PF-M03 F15M	6,0 0,24	0,055 0,0022	0,065 0,0026	0,090 0,0036	0,14 0,0055
		P12	MM16-16016-B90PF-M03 F15M	4,5 0,18	0,038 0,0015	0,046 0,0018	0,060 0,0024
Grafit matzeme için	M1	MM16-16016-B90PF-M03 F15M	6,0 0,24	0,060 0,0024	0,075 0,0030	0,10 0,0040	0,16 0,0065
		M2	MM16-16016-B90PF-M03 F15M	6,0 0,24	0,055 0,0022	0,065 0,0026	0,090 0,0036
Minimaster Plus	M3	MM16-16016-B90PF-M03 F15M	4,5 0,18	0,046 0,0018	0,055 0,0022	0,075 0,0030	0,12 0,0048
		M4	MM16-16016-B90PF-M03 F15M	3,5 0,14	0,040 0,0016	0,046 0,0019	0,065 0,0026
Minimaster	M5	MM16-16016-B90PF-M03 F15M	3,5 0,14	0,040 0,0016	0,046 0,0019	0,065 0,0026	0,10 0,0040
		K1	MM16-16016-B90PF-M03 F15M	6,0 0,24	0,060 0,0024	0,075 0,0030	0,10 0,0040
Minimaster	K2	MM16-16016-B90PF-M03 F15M	6,0 0,24	0,055 0,0022	0,065 0,0026	0,090 0,0036	0,15 0,0060
		K3	MM16-16016-B90PF-M03 F15M	6,0 0,24	0,055 0,0022	0,065 0,0026	0,090 0,0036
Minimaster	K4	MM16-16016-B90PF-M03 F15M	6,0 0,24	0,055 0,0022	0,065 0,0026	0,090 0,0036	0,15 0,0060
		K5	MM16-16016-B90PF-M03 F15M	6,0 0,24	0,050 0,0020	0,060 0,0024	0,085 0,0034
Minimaster	K6	MM16-16016-B90PF-M03 F15M	6,0 0,24	0,055 0,0022	0,065 0,0026	0,090 0,0036	0,15 0,0060
		K7	MM16-16016-B90PF-M03 F15M	6,0 0,24	0,050 0,0020	0,060 0,0024	0,085 0,0034
Minimaster	N1	MM16-16016-B90PF-M03 F15M	6,0 0,24	0,080 0,0032	0,095 0,0038	0,13 0,0050	0,20 0,0080
		N2	MM16-16016-B90PF-M03 F15M	6,0 0,24	0,080 0,0032	0,095 0,0038	0,13 0,0050
Minimaster	N3	MM16-16016-B90PF-M03 F15M	6,0 0,24	0,080 0,0032	0,095 0,0038	0,13 0,0050	0,20 0,0080
		N11	MM16-16016-B90PF-M03 F15M	6,0 0,24	0,080 0,0032	0,095 0,0038	0,13 0,0050
Minimaster	S1	MM16-16016-B90PF-M03 F15M	3,5 0,14	0,040 0,0016	0,046 0,0019	0,065 0,0026	0,10 0,0040
		S2	MM16-16016-B90PF-M03 F15M	3,5 0,14	0,040 0,0016	0,046 0,0019	0,065 0,0026
Minimaster	S3	MM16-16016-B90PF-M03 F15M	3,5 0,14	0,038 0,0015	0,044 0,0017	0,060 0,0024	0,095 0,0038
		S11	MM16-16016-B90PF-M03 F15M	4,0 0,16	0,046 0,0018	0,055 0,0022	0,075 0,0030
Minimaster	S12	MM16-16016-B90PF-M03 F15M	4,0 0,16	0,046 0,0018	0,055 0,0022	0,075 0,0030	0,12 0,0048
		S13	MM16-16016-B90PF-M03 F15M	3,5 0,14	0,040 0,0016	0,046 0,0019	0,065 0,0026
Minimaster	H5	MM16-16016-B90PF-M03 F15M	4,5 0,18	0,038 0,0015	0,046 0,0018	0,060 0,0024	0,10 0,0040
		H8	MM16-16016-B90PF-M03 F15M	4,0 0,16	0,030 0,0012	0,034 0,0014	0,048 0,0019
Minimaster	H11	MM16-16016-B90PF-M03 F15M	4,5 0,18	0,038 0,0015	0,046 0,0018	0,060 0,0024	0,10 0,0040
		H12	MM16-16016-B90PF-M03 F15M	4,0 0,16	0,030 0,0012	0,034 0,0014	0,048 0,0019
Minimaster	H21	MM16-16016-B90PF-M03 F15M	4,0 0,16	0,030 0,0012	0,034 0,0014	0,048 0,0019	0,075 0,0030

SMG = Seco matzeme grubu

 $f_z$  = mm/ağız (inç/ağız),  $v_c$  = m/dk (sf/dk),  $a_p/DC$  = %

Tüm kesme verileri başlangıç değerleridir





## Tork anahtarlar ve maksimum RPM değerleri

### Tork anahtarı

Tüm Seco frezeler için tavsiye edilen RPM her bir katalog sayfasında gösterilmiştir. Normalde 10.000'e kadar RPM için takımlarda balans ayarlamaya ihtiyaç yoktur. Ancak, örneğin küçük tezgahlarda ağır takımların ve takım tutucuların kullanılması gibi bazı durumlarda balans ayarlama gereklidir



Minimaster ucun tutucusuna monte edilmesi sırasında doğru sıkma kuvvetini garanti etmek için sabit tork değerlerine sahip dinamomentik anahtar mevcuttur. Dinamomentik anahtarlar ISO 6789 uyarınca kalibre edilmiştir. Kodlama anahtar: MM02-4006  
MM02 = 2 ağızlı (MM03 = 3 ağızlı)  
40 = Tork değeri 4 Nm  
06 = Uç boyutu

10.000 RPM üzeri:  
Takımın ve takım tutucuların en azından ayrı olarak balans ayarlamalarının yapılmasını tavsiye ederiz.  
20.000 RPM üzeri:  
Takımın ve takım tutucuların her ikisinin de en azından ayrı olarak balans ayarlamalarının yapılmasını tavsiye ederiz.  
30.000 RPM üzeri:  
Takım ve takım tutucuların balans ayarlamaları ünite olarak yapılmalıdır. Tablolardaki maksimum RPM hiçbir zaman aşılmamalıdır.)

### 2 ağızlı uçlar

Uç boyutu	Dinamomentik anahtar (anahtar ucu dahil)	Değiştirilebilir anahtar ucu	Tork değeri
MM06	MM02-4006	MM02-06	4 Nm
MM08	MM02-8008	MM02-08	8 Nm
MM10	MM02-1201012	MM02-1012	12 Nm
MM12	MM02-1201012	MM02-1012	12 Nm
MM12 DC= Ø 14,0	MM02-16014	MM02-14	16 Nm
MM12 DCX= Ø 16,0	MM02-1601620	MM02-1620	16 Nm
MM16	MM02-1601620	MM02-1620	16 Nm

### 3 ağızlı uçlar

Uç boyutu	Dinamomentik anahtar (anahtar ucu dahil)	Değiştirilebilir anahtar ucu	Tork değeri
MM06	MM03-4006	MM03-06	4 Nm
MM08	MM03-8008	MM03-08	8 Nm
MM10	MM03-1201012	MM03-1012	12 Nm
MM12	MM03-1201012	MM03-1012	12 Nm
MM16	MM03-16016	MM03-16	16 Nm

## SMG – Giriş



SMG temelli ilgili işlenebilirliklerinden ziyade tiplerine göre iş parçası malzemelerinin sınıflandırmasına dayanır ve dolayısıyla kompozitlere benzer iş parçası malzemeleri içerir. Yeteri kadar genişler ancak hangi malzemenin SMG'ye ait olduğunu tespit etmek kolaydır.

Her bir SMG, Seco ürününe kıyasla herhangi bir malzemenin kesme verisinin kolay ayarlanmasına göre belirlenen özel durumda bir malzeme standardına sahiptir bakınız sayfa 626 - 629.

Referans malzemelerine örnek olarak; SMG P4 için EN C45E ve SMG P5 ile SMG H5 için EN 42 CrMo 4 gösterilebilir daha ayrıntılı bilgi için aşağıdaki tablolara bakın. SMG Seco referans malzemesine kıyasla herhangi bir gerçek malzemenin kesme verisinin kolay ve anlaşılır ayarlanması için iş parçası malzemeleri özel durumda belirli bir materyal standardı sınıflandırması içerir. Referans seviyesi malzemeleri özelliklerinin gösterildiği tablo 1'de örnek olarak referans malzemeleri SMG P4 için EN C45E ve SMG P5 ile SMG H5 için EN 42 CrMo 4 olarak gösterilmiştir.

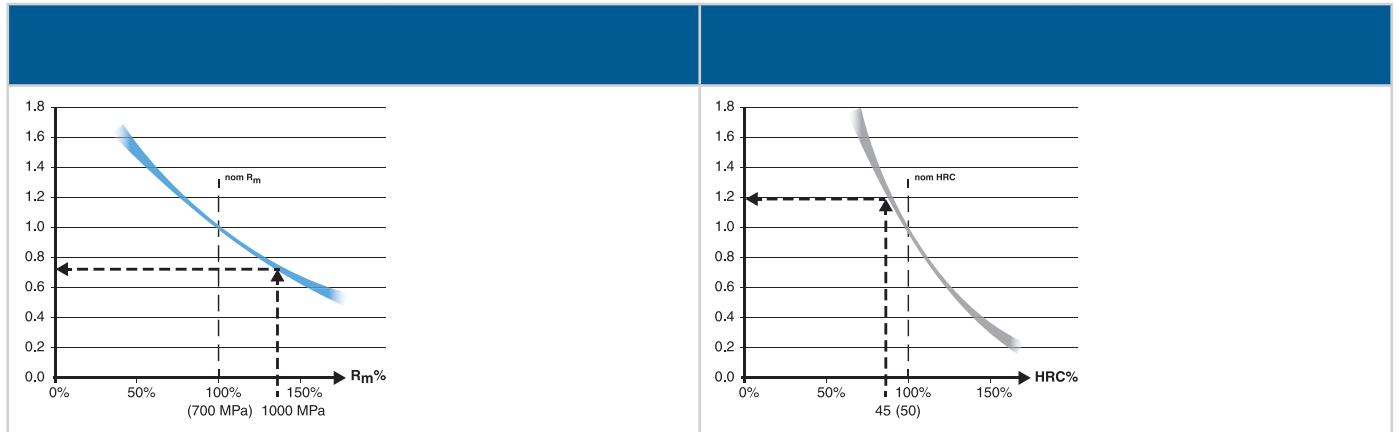
SMG	Tanım	Özellikleri	Örn. Malz.	SMG	Tanım	Özellikleri	Örn. Malz.
P4	Düşük alaşımli genel yapı çelikleri, %0,25 < C < %0,67 wt Düşük alaşımli, Su verilmiş ve Temperlenmiş çelikler	520 < R <sub>m</sub> < 1200	C 45E R <sub>m</sub> = 660 N/mm <sup>2</sup>	H5	Su Verilmiş ve Temperlenmiş çelikler	38 < HRC < 56	42 CrMo 4 50 HRC
P5	Yapı çelikleri, %0,25 < C < %0,67 wt Su verilmiş ve Temperlenmiş çelikler	550 < R <sub>m</sub> < 1200	42 CrMo 4 R <sub>m</sub> = 700 N/mm <sup>2</sup>				

Özellikle tavlama durumunda EN 42 CrMo 4'e odaklanıldığında R<sub>m</sub>'nin yüksek mukavemeti genellikle R<sub>m</sub> = 630 N/mm<sup>2</sup> ve R<sub>m</sub> = 780 N/mm<sup>2</sup> arasında değişebilir; bu durum da SMG P5 için bir referans seviyesi sağlar. Su verilmiş ve tavlama durumunda, R<sub>m</sub>'nin yüksek mukavemeti genellikle R<sub>m</sub> = 900 N/mm<sup>2</sup> ve R<sub>m</sub> = 1100 N/mm<sup>2</sup> arasında değişebilir ve böylelikle hala SMG P5'e ait olur. Ancak sertleştirilirse yukarıda belirtilen R<sub>m</sub> = 1200 N/mm<sup>2</sup> SMG H5'e ait olur.

SMG	EN	W.-Nr	AFNOR	BS	UNI	JIS	AISI / ASTM	GOST	Durum	R <sub>m_nom</sub>	HRC <sub>nom</sub>
P5	42 CrMo 4	1.1201	42 CD 4	708 M 40	42 CrMo 4	SCM 440 (H)	4142, 4140	38HM	Tavlama	700	
	42 CrMo 4	1.1201	42 CD 4	708 M 40	42 CrMo 4	SCM 440 (H)	4142, 4140	38HM	Su verilmiş ve Sertleştirme yoluyla tavlama	1000	
H5	42 CrMo 4	1.1201	42 CD 4	708 M 40	42 CrMo 4	SCM 440 (H)	4142, 4140	38HM	Su verilmiş ve Sertleştirme yoluyla tavlama		45
	42 CrMo 4	1.1201	42 CD 4	708 M 40	42 CrMo 4	SCM 440 (H)	4142, 4140	38HM	Su verilmiş ve Sertleştirme yoluyla tavlama		50

Su verilmiş ve tavlama EN 42CrMo4 çelik, malzemelerin işlenebilirliğini göstermek için kullanılabilir.

Aşağıda yer alan grafikler nominal malzeme koşullarının hız tavsiyelerinin ilgili R<sub>m</sub>'ye (ISO-P için geçerli olan sol diyagram) ve ilgili HRC'ye (ISO-H için geçerli) nasıl ayarlanabileceğini gösterir.



SMG P5 nominal v<sub>c</sub>'nin tavsiye edilen daha doğru bir v<sub>c</sub>'ye nasıl ayarlanabileceğini daha da açıklamak gerekirse yüksek mukavemetli R<sub>m</sub> verisine ihtiyacımız vardır ve bu durumda yukarıdaki tabloya göre (kalın mavi oklar) R<sub>m</sub> = 1000 N/mm<sup>2</sup>'ye su verilmiş ve sertleştirme yoluyla tavlama EN 42 CrMo 4 kullanılır.

Belirli bir ürün ve işleme için SMG P5 nominal v<sub>c</sub> = 280 m/dk bulunduğumuzu varsayalım.

Ardından, tavsiye edilen gerçek v<sub>c</sub> = 280 m/dk x 0.75 = 210 m/dk olur.

Sonuç olarak SMG H5'te nominal v<sub>c</sub> HRC 45'te sertleştirilmiş EN 42 CrMo 4 kullanılarak ayarlanabilir (daha küçük gri oklar).

Kaplamalı dolgu karbür araçları kullanarak belirli bir ürün ve işleme için SMG H5 nominal v<sub>c</sub> = 50 m/dk olduğunu varsayarsak tavsiye edilen gerçek v<sub>c</sub> = 50 m/dk x 1.2 = 60 m/dk olur.

İş parçası malzemeleri ile ilgili daha fazla bilgi için lütfen sayfa 630-637 ve ilgili sayfalardaki tavsiye edilen kesme verilerine bakın.

Daha kolay kesme verisi hesaplamaları için web sitemizdeki - [www.secotools.com](http://www.secotools.com) - My Pages sayfasında bulunan Suggest (Tavsiye) uygulamasına bakmanızı öneririz

## Çelikler, ferritik ve martenzitik paslanmaz çelikler

SMG	Tanım	Özellikleri	Örn. Malz.	$k_{c1.1}$	$m_c$
P1	Otomat çelikler	$360 < R_m < 880$	11 SMn30 $R_m = 385 \text{ N/mm}^2$	1500	0,14
P2	Düşük alaşımlı ferritik çelikler, C < %0.25wt Düşük alaşımlı, kaynak yapılabilir genel yapı çelikleri	$320 < R_m < 600$	S235JRG2 $R_m = 420 \text{ N/mm}^2$	1600	0,23
P3	Ferritik ve Ferritik/Perlitik çelikler, C < %0.25wt Kaynak yapılabilir genel yapı çelikleri Sertleştirilmiş sementasyon çelikleri	$430 < R_m < 610$	16 MnCr 5 $R_m = 550 \text{ N/mm}^2$	1800	0,14
P4	Düşük alaşımlı genel yapı çelikleri, %0,25 < C < %0,67 wt Düşük alaşımlı, Su verilmiş ve Temperlenmiş çelikler	$520 < R_m < 1200$	C 45E $R_m = 660 \text{ N/mm}^2$	2000	0,15
P5	Yapı çelikleri, %0,25 < C < %0,67 wt Su verilmiş ve Temperlenmiş çelikler	$550 < R_m < 1200$	42 CrMo 4 $R_m = 700 \text{ N/mm}^2$	2020	0,18
P6	Düşük alaşımlı yumuşak dövülebilir çelikler, C > %0.67wt Düşük alaşımlı Yay ve rulman çelikleri	$520 < R_m < 1200$	C 100S $R_m = 600 \text{ N/mm}^2$	2100	0,17
P7	Yumuşak dövülebilir çelikler, C > %0.67wt Yay ve rulman çelikleri	$600 < R_m < 1200$	100 Cr 6 $R_m = 650 \text{ N/mm}^2$	2160	0,17
P8	Takım çelikleri Yüksek Hız Çelikleri (HSS)	$600 < R_m < 1200$	X 40 CrMoV 5 1 $R_m = 700 \text{ N/mm}^2$	2400	0,20
P11	Ferritik ve martenzitik paslanmaz çelikler	$415 < R_m < 1200$	X 20 Cr 13 $R_m = 675 \text{ N/mm}^2$	2000	0,15
P12	Martenzitik yaşlandırılmış ve çöktürme ile sertleştirilmiş paslanmaz çelikler	$500 < R_m < 1200$	X 5 CrNiCuNb 16 4 $R_m = 1100 \text{ N/mm}^2$	2100	0,17

## Otomat, östenitik ve dupleks paslanmaz çelikler

SMG	Tanım	Özellikleri	Örn. Malz.	$k_{c1.1}$	$m_c$
M1	Otomat, östenitik paslanmaz çelikler		X 10 CrNiS 18 9	1700	0,14
M2	Düşük alaşımlı, östenitik paslanmaz çelikler		X 5 CrNi 18 10	1920	0,18
M3	Orta alaşımlı, östenitik paslanmaz çelikler		X 2 CrNiMo 18 14 3	2070	0,17
M4	Yüksek alaşımlı, östenitik ve dupleks paslanmaz çelikler		X 2 CrNiMoN 22 5 3	2230	0,16
M5	Zor yüksek alaşımlı östenitik ve dupleks paslanmaz çelikler		X 2 CrNiMoN 25 7 4	2510	0,13

## Dökme demirler

SMG	Tanım	Özellikleri	Örn. Malz.	$k_{c1.1}$	$m_c$
K1	Gri dökme demirler (GCI)		EN-GJL-250	930	0,32
K2	Kompakt grafit demirler (CGI)		EN-GJV-400	1000	0,35
K3	Dövülebilir dökme demirler (MCI)		EN-GJMB-550-4	1050	0,37
K4	Nodüler dökme demirler (SGI)		EN-GJS-500-7	1160	0,37
K5	Östempelenmiş sünek dökme demirler (ADI)		EN-GJS-1000-5		
K6	Östenitik katmanlı dökme demirler		EN-GJLA-XNiCuCr15-6-2		
K7	Östenitik nodüler dökme demirler		EN-GJSA-XNiMn23-4		

## Demir içermeyen metaller

SMG	Tanım	Özellikleri	Örn. Malz.	$k_{c1.1}$	$m_c$
N1	Alüminyum alaşımlar, Si < 9%		AW-7075		
N2	Alüminyum alaşımlar, 9% < Si < 16%		AC-44200 Si = 12%		
N3	Alüminyum alaşımlar, Si > 16%		AlSi17Cu5		
N11	Bakır alaşımlar		CW614N	740	0,26

## Süper alaşımlar ve titanyum

SMG	Tanım	Özellikleri	Örn. Malz.	$k_{c1.1}$	$m_c$
S1	Demir bazlı süper alaşımlar		Discolloy		
S2	Kobalt bazlı süper alaşımlar		Stellite 21		
S3	Nikel bazlı süper alaşımlar		Inconel 718	2530	0,21
S11	Titanyum, düşük alaşımlı, ( $\alpha$ )		Ti		
S12	Titanyum, orta alaşımlı, ( $\alpha+\beta$ )		TiAl6V4	1500	0,24
S13	Titanyum, yüksek alaşımlı, (yaklaşık $\beta$ ve $\beta$ )		Ti10V2Fe3Al		

## Sert Malzemeler

SMG	Tanım	Özellikleri	Örn. Malz.	$k_{c1.1}$	$m_c$
H3	Sertleştirilmiş sementasyon çelikleri	58 < HRC < 62	16 MnCr 5 60 HRC	2070	0,14
H5	Su Verilmiş ve Temperlenmiş çelikler	38 < HRC < 56	42 CrMo 4 50 HRC	2320	0,18
H7	Su verilmiş ve Temperlenmiş çelikler Yatak çelikleri	56 < HRC < 64	100 Cr 6 60 HRC	2480	0,17
H8	Takım çelikleri Yüksek Hız Çelikleri (HSS)	38 < HRC < 64	X 40 CrMoV 5 1 50 HRC	2750	0,20
H11	Martenzitik paslanmaz çelikler	38 < HRC < 50	X 20 Cr 13 45 HRC	2300	0,15
H12	Martenzitik yaşlandırılmış ve çökteltme ile sertleştirilmiş paslanmaz çelikler	1200 < $R_m$ < 1650	X 5 CrNiCuNb 16 4 $R_m = 1450 \text{ N/mm}^2$	2410	0,17
H21	Manganez çelikler	23 < HRC < 64	X 120 Mn 12 50 HRC		
H31	Beyaz dökme demirler	50 < HRC < 64	EN-GJN-HV600(XCr11) 55 HRC		

## Diğer zor malzemeler

SMG	Tanım	Özellikleri	Örn. Malz.	$k_{c1.1}$	$m_c$
PM1	Düşük alaşımlı Toz Metal malzemeler		F-0008 Fe-0.7C		
PM2	Orta alaşımlı Toz Metal malzemeler		FLC-4608 Fe2Cu1.8Ni 0.5Mo0.2Mn0.8C		
PM3	Yüksek alaşımlı toz metal (PM) malzemeler Egzoz valf yatağı malzemeleri				
HF1	Sert yüzeyli alaşımlar Kaynak yapılmış ya da plazma kalıntılı kobalt ve demir bazlı alaşımlar				
HF2	Sert yüzeyli alaşımlar Kaynak yapılmış ya da plazma kalıntılı kobalt ve nikel bazlı alaşımlar				
CC1	Sinterlenmiş tungsten karbür		G50		

## Plastik ve Kompozitler

SMG	Tanım	Özellikleri	Örn. Malz.	$k_{c1.1}$	$m_c$
TS1	Sıcakta sertleşen polimerler		Üre formaldehid (UF)		
TS2	Sıcakta sertleşen Karbon fiber kompozitler		T300 T700 T800 HTA-S IMA - Epoxy (M21)...		
TS3	Sıcakta sertleşen Cam fiber kompozitler		Epoxy - HX..(42..)/E glass (7781...)...		
TS4	Sıcakta sertleşen Aramid fiber kompozitler		Kevlar 49		
TP1	Termoplastik polimerler		Polykarbon (PC)		
TP2	Termoplastik Karbon fiber kompozitler		PPS/PEEK - T300..		
TP3	Termoplastik Cam fiber kompozitler		PPS/PEEK - E cam ya da A cam...		
TP4	Termoplastik Aramid fiber kompozitler				

## Grafit

SMG	Tanım	Özellikleri	Örn. Malz.	$k_{c1.1}$	$m_c$
GR1	Grafit		R 8500		

## SMG

SMG	EN	EN-Nr	W.-Nr	DIN	AFNOR	BS	UNI	JIS	SS	UNS
P1	11 SMn 30	1.0715	1.0715	9 SMn 28	S 250	230 M 07	CF 9 SMn 28	SUM 22	1912	G12130
	11 SMnPb 30	1.0718	1.0718	9 SMnPb 28	S 250 Pb		CF 9 SMnPb 28	SUM 22 L	1914	G12134
	10 S 20	1.0721	1.0721	10 S 20	10 F 1	210 M 15	CF 10 S 20			
			1.0722	10 SPb 20	10 PbF 2		CF 10 SPb 20			
	15 SMn 13	1.0725	1.0723	15 S 20		210 A 15		SUM 32	1922	
	35 S20	1.0726	1.0726	35 S 20	35 MF 4	212 M 36			1957	G11400
	46 S20	1.0727	1.0727	46 S 20	45 MF 4	212 M 44			1973	G11460
	11 SMn 37	1.0736	1.0736	9 SMn 36	S 300	240 M 07	CF 9 SMn 36			G12150
11 SMn 37	1.0736	1.0736	9 SMn 36	S 300	240 M 07	CF 9 SMn 36			G12150	
S235JR	1.0037	1.0037	St 37-2	E 24-2		Fe 360 B	STKM 12 C	1311		
S235JRG2	1.0038	1.0116	St 37-3	E 24-3, E 24-4	4360-40 C	Fe 360 D FF		1312, 1313		
S275J2G3	1.0144	1.0144	St 44-3 N	E 28-3, E 28-4	4360-43 C	Fe 430 D FF	SM 41 C	1412, 1414		
C 10	1.0301	1.0301	C 10	34 C 10, XC 10	045 M 10	C 10	S 10 C		G10100	
		1.0401	C 15	37 C 12, XC 18	080 M 15	C 15, C 16		1350	G10170	
C22	1.0402	1.0402	C 22	C 20	050 A 20	C 20, C 21		1450	G10200	
S355JR	1.0570	1.0570	St 52-3	E 36-3, E 36-4	4360-50 C	Fe 510 B	SM 50 YA	2172, 2132		
C 15R	1.1141	1.1141	Ck 15	XC 15, XC 18	080 M 15	C 15, C 16		1370	G10170	
		1.1158	Ck 25	XC 25	060 A 25	C 25	S 25 C		G10250	
		1.2162	21 MnCr 5	20 NC 5			SCR 420 H			
P3	16 Mo 3	1.5415	1.5415	15 Mo 3	15 D 3	1501-240	16 Mo 3		2912	
			1.5423	16 Mo 5		1503-245-420	16 Mo 5	SB 450 M		G45200
	14 NiCr 14	1.5752	1.5752	14 NiCr 14	12 NC 15	655 M 13		SNC 815 (H)		G33106
			1.5919	15 CrNi 6	16 NC 6	S 107	16 CrNi 4			
	18 NiCrMo 7 6	1.6587	1.6587	18 CrNiMo 7 6	18 NCD 6	820 A 16	18 NiCrMo 7			
	16 MnCr 5	1.7131	1.7131	16 MnCr 5	16 MC 5	527 M 17	16 MnCr 5	SCR 415	2511	G51170
	16 MnCrS 5	1.7139	1.7139	16 MnCrS 5						
	20 MnCr 5	1.7147	1.7147	20 MnCr 5	20 MC 5		20 MnCr 5	SMnC 420 (H)		G51200
	20 MnCrS 5	1.7149	1.7149	20 MnCrS 5	20 MnCrS 5			SMnC 21 H		
	13 CrMo 4 5	1.7335	1.7335	13 CrMo 4 4	15 CD 3.5	1501-620 Gr. 27	14 CrMo 4 5		2216	
		1.7337	16 CrMo 4 4	15 CD 4.5	1501-620 Gr. 27	14 CrMo 4 5		2216		
10 CrMo 9 10	1.7380	1.7380	10 CrMo 9 10	10 CD 9.10	1501-622 Gr. 31	12 CrMo 9 10		2218	J21890	
P4	C35		1.0501	C 35	55 C 35	060 A 35	C 35		1550	G10350
	E 335	1.0503	1.0503	C 45	65 C 45	80 M 46	C 45	S 45 C	1650	G10430
	C40		1.0511	C 40	60 C 40	080 M 40	C 40	S 40 C		
	E 360	1.0070	1.0535	St 70-2	A 70-2		Fe 690		1655	
	C60	1.0601	1.0601	C 60	CC 55	080 A 62	C 60			G10600
			1.1157	40 Mn 4	35 M 5	150 M 36				G10390
	G 28 Mn6	1.1165	1.1165	30 Mn 5		120 M 36		SMn 1 H, SCMn 2		G13300
	C 35E	1.1181	1.1181	Ck 35	XC 38 H1	080 M 36	C 35	S 35 C	1572	G10340
	C 45E	1.1191	1.1191	Ck 45	XC 42	080 M 46	C 45	S 45 C	1672	G10420
	C 60E	1.1221	1.1221	Ck 60	XC 60	080 A 62	C 60	S 58 C	1665, 1678	G10640
			1.1740	C 60 W	Y3 55			SK 7		
P5	55 SiCr7	1.7100	1.0904	55 Si 7	55 S 7	250 A 53	55 Si 8		2085, 2090	
			1.2330	35 CrMo 4	34 CD 4	708 A 37	35 CrMo 4			T51620
			1.2542	45 WCrV 7		BS 1	45 WCrV 8 KU		2710	T41901
			1.2714	56 NiCrMoV 7		BH 224-5	56 NiCrMoV7-KU	SKT 4		T61206
			1.5121	46 MnSi 4						
			1.5710	36 NiCr 6	35 NC 6	640 A 35			SNC 236	
			1.5736	36 NiCr 10	35 NC 11		35 NiCr 9	SNC 631 (H)		
	36 CrNiMo 4		1.6511	36 CrNiMo 4	40 NCD 3	816 M 40	38 NiCrMo 4 (KB)			G98400
	34 CrNiMo 6	1.6582	1.6582	34 CrNiMo 6	35 NCD 6	817 M 40	35 NiCrMo 6 (KW)	SNCM 447	2541	G43400
	34 Cr 4	1.7033	1.7033	34 Cr 4	32 C 4	530 A 32	34 Cr 4 (KB)	SCR 430 (H)		G51320
	41 Cr 4	1.7035	1.7035	41 Cr 4	42 C 4	530 M 40	41 Cr 4	SCR 440 (H)		G51400
	25 CrMo 4	1.7218	1.7218	25 CrMo 4	25 CD 4 S	708 M 25	25 CrMo 4 (KB)	SCM 425	2225	G41300
	42 CrMo 4	1.7225	1.7225	42 CrMo 4	42 CD 4	708 M 40	42 CrMo 4	SCM 440 (H)	2244	G41400
	42 CrMo 4	1.7225	1.7225	42 CrMo 4	42 CD 4	708 M 40	42 CrMo 4	SCM 440 (H)	2244	G41400
		1.7361	32 CrMo 12	30 CD 12	722 M 24	32 CrMo 12		2240		
50 CrV 4	1.8159	1.8159	50 CrV 4	50 CV 4	735 A 50	51 CrV 4	SUP 10	2230	H61500	
41 CrAlMo 7 10	1.8509	1.8509	41 CrAlMo 7	40 CAD 6.12	905 M 39	41 CrAlMo 7	SACM 645	2940	K24065	
C 67S	1.1231	1.1231	Ck 67	XC 68	060 A 67	C 70		1770	G10700	
C 100S	1.1274	1.1274	Ck 101		060 A 96		SUP 4	1870	G10950	
C 105U	1.1545	1.1545	C 105 W1	Y1 105		C 100 KU		1880		
		1.1645	C 105 W2	Y1 105		C 100 KU	SK 3			
		1.1663	C 125 W	Y2 120		C 120 KU	SK 2			



## SMG

U.N.E./ I.H.A.	AISI / ASTM	GOST	ÇSN	Çeşitli Markalar	Durum	Yapı
	1213				Tavlanmış	
	12 L 13				Tavlanmış	
	1108				Tavlanmış	
	11 L 08				Tavlanmış	
					Tavlanmış	
	1140	40			Tavlanmış	
	1146				Tavlanmış	
	1215				Tavlanmış	
	12 L 14				Tavlanmış	
		16D			Tavlanmış	
	A573 Grade 58	18kp	11 378		Tavlanmış	
	A573 Grade 70	St14kP	11 448		Tavlanmış	
	1010	10			Tavlanmış	
F.1110	1015	15			Tavlanmış	
	1020, 1023	20	12 024		Tavlanmış	
		17G1S	11 523		Tavlanmış	
F.1511	1015	15			Tavlanmış	
F.1120	1025	25			Tavlanmış	
					Tavlanmış	
	A204 Grade A		15 020		Tavlanmış	
	4520				Tavlanmış	
	3310, 9314	20X2H4A	16 420		Tavlanmış	
	4320		16 220		Tavlanmış	
					Tavlanmış	
F.1516	5115	12KHN2	14 220		Tavlanmış	
		18HG			Tavlanmış	
	5120	20KH	14 221		Tavlanmış	
	5120 H	20KH			Tavlanmış	
	A182-F11, A182-F12	12KHM	15 121		Tavlanmış	
	A387 Grade 12 Cl. 2				Tavlanmış	
F.155	A182-F22	12KH8	15 313		Tavlanmış	
F.1130	1035	35	12 040		Tavlanmış	
F.5110	1045	45	12 050		Tavlanmış	
	1040	40	12 041		Tavlanmış	
F.1150	1055	55			Tavlanmış	
	1060	60	12 061		Tavlanmış	
	1039	40G			Tavlanmış	
	1330	30G2			Tavlanmış	
F.1135	1035	35			Tavlanmış	
F.1140	1045	45	12 050		Tavlanmış	
F.1150	1064	60			Tavlanmış	
	1060	60			Tavlanmış	
F.144	9255	55S2			Tavlanmış	
F.1250	4135	35KHM			Tavlanmış	
F.5241	S1	5KHV2S			Tavlanmış	
	L6	5KHNV			Tavlanmış	
	5045				Tavlanmış	
	3135				Su verilmiş ve Temperlenmiş	
	3435				Tavlanmış	
	9840				Su verilmiş ve Temperlenmiş	
F.1280	4340	38H2N2MA	16 343		Tavlanmış	
	5132	35KH			Su verilmiş ve Temperlenmiş	
	5140	40H			Su verilmiş ve Temperlenmiş	
F.1251	4130	20KHM	130		Su verilmiş ve Temperlenmiş	
F.1252	4142, 4140	38HM			Tavlanmış	
F.1252	4142, 4140	38HM			Su verilmiş ve Temperlenmiş	
					Su verilmiş ve Temperlenmiş	
F.143	6150	50KHFA			Su verilmiş ve Temperlenmiş	
F.1740	A				Tavlanmış	
F.5103	1070	70			Tavlanmış	
F.5117	1095				Tavlanmış	
F.5118	W1	U10A			Tavlanmış	
		U10			Tavlanmış	
	W1	U13			Tavlanmış	



## SMG

U.N.E./ I.H.A.	AIISI / ASTM	GOST	ÇSN	Çeşitli Markalar	Durum	Yapı
F.520L	L2	11KHF			Tavlanmış	
F.5220	O1	9KHVG			Tavlanmış	
	O2	9G2F			Tavlanmış	
F.5230	52100	SHKH15	14 109		Tavlanmış	
F.5212	D3	KH12			Tavlanmış	
	H11	4KH5MFS			Tavlanmış	
F.5318	H13	4KH5MF1S			Tavlanmış	
F.5227	A2	9KH5VF			Tavlanmış	
	H10	3KH3M3F			Tavlanmış	
F.5213		KH12			Tavlanmış	
		KH12MF			Tavlanmış	
F.520.S	L6	5KHNM			Tavlanmış	
F.5613	M35	R6M5K5			Tavlanmış	
	M42	R2AM9K5			Tavlanmış	
	T4	R18K5F2			Tavlanmış	
F.5603	M2	R6M5			Tavlanmış	
	M7				Tavlanmış	
	T1	R18			Tavlanmış	
	403	08KH13			Tavlanmış	Feritik
F.3401	410, CA-15	12KH13, 08KH13			Tavlanmış	Martenzitik
F.3113	430	12KH17			Tavlanmış	Feritik
F.5261	420	20KH13	17 022		Tavlanmış	Martenzitik
F.3404	420	40KH13			Tavlanmış	Martenzitik
	440 A				Tavlanmış	Martenzitik
	440 B	95KH18			Tavlanmış	Martenzitik
	440 C	95KH18			Tavlanmış	Martenzitik
	A182 F6NM			F6NM	Tavlanmış	Martenzitik
	446	15KH28			Tavlanmış	Feritik
	XM-13			PH 13-8 Mo	Çözelti tavlanmış	Östenitik
	XM-12			15-5 PH	H1150	Martenzitik
	XM-12			15-5 PH	Çözelti tavlanmış	Martenzitik
	XM-12			15-5 PH	H1025	Martenzitik
	SAE 630			17-4 PH	H1150	Martenzitik
	630			17-4 PH	Çözelti tavlanmış	Martenzitik
	631	09KH17N7YU1		17-7 PH	Çözelti tavlanmış	Östenitik/Feritik
	AMS 6515			Marage 350	Çözelti tavlanmış	Martenzitik
	AMS 6521			Marage 300	Çözelti tavlanmış	Martenzitik
	AMS 6514			Marage 300, Vascomax C300	Çözelti tavlanmış	Martenzitik
	AMS 6512			Marage 250	Çözelti tavlanmış	Martenzitik
	AMS 6512			Marage 250, Vascomax C250	Çözelti tavlanmış	Martenzitik
F.3508	303	12KH19N9			Tavlanmış	Östenitik
F.3504	304 L	03KH18N11			Tavlanmış	Östenitik
F.3504	304	08KH18N10	17 240		Tavlanmış	Östenitik
F.3534	316	08KH17H13M2T	17 346		Tavlanmış	Östenitik
F.3524	347	08KH18N12B			Tavlanmış	Östenitik
F.3517	301	07KH16N6			Tavlanmış	Östenitik
	302	12KH18N9			Tavlanmış	Östenitik
F.3533	(316 L)	03KH17N14M3	17 349		Tavlanmış	Östenitik
	316 LN	03KH16N15M3			Tavlanmış	Östenitik
F.3541	304 LN	03KH18N11			Tavlanmış	Östenitik
	317	08KH17H15M3T			Tavlanmış	Östenitik
				253 MA	Tavlanmış	Östenitik
	310 S	12KH25N20			Tavlanmış	Östenitik
	329 LN			SAF 2205	Tavlanmış	Dubleks
				3RE60	Tavlanmış	Dubleks
	904L				Tavlanmış	Süper Östenitik
	329				Tavlanmış	Dubleks
	660			A286	Çözelti tavlanmış	Östenitik
				254 SMO	Tavlanmış	Süper Östenitik
				654 SMO	Tavlanmış	Süper Östenitik
				Alloy 800	Tavlanmış	Östenitik
	F 53			SAF 2507	Tavlanmış	Süper dubleks

SMG

SMG	EN	EN-Nr	W.-Nr	DIN	AFNOR	BS	UNI	JIS	SS	UNS	
K1	EN-GJL-150	0.6150	0.6150	GG-15	Ft 15 D	Grade 150	G15	FC 150	01 15-00	F11601	
	EN-GJL-200	0.6200	0.6200	GG-20	Ft 20 D	Grade 220	G20	FC 200	01 20-00	F12101	
	EN-GJL-250	0.6250	0.6250	GG-25	Ft 25 D	Grade 260	G25	FC 250	01 25-00	F12401	
	EN-GJL-350	0.6350	0.6350	GG-35	Ft 35 D	Grade 350	G35	FC 350	01 35-00	F13502	
	EN-GJL-215			GG-220 HB					02 19		
K2	EN-GJV-300			GJV-300							
	EN-GJV-350			GJV-350							
	EN-GJV-400			GJV-400							
	EN-GJV-450			GJV-450							
	EN-GJV-500			GJV-500							
K3	EN-GJMB-550-4	0.8155		GTS-55-04	P 540/5	P 540/5	P 55-04	PCMP55-04	08 54-00	F24130	
K4	EN-GJS-350-22	0.7033	0.7033	GGG-35.3	FGS 370-17	Grade 350/22		FCD 350-22L	07 17-15		
	EN-GJS-400-15	0.7040	0.7040	GGG-40	FGS 400-12	Grade 420/12	GS 400-12	FCD 400-18L	07 17-02	F32800	
	EN-GJS-400-18	0.7043	0.7043	GGG-40.3	FGS 370-17	Grade 370/17	GSO 42/17		07 17-12	F32800	
	EN-GJS-500-7	0.7050	0.7050	GGG-50	FGS 500-7	Grade 500/7	GS 500-7	FCD 500-7	07 27-02	F33800	
	EN-GJS-600-3	0.7060	0.7060	GGG-60	FGS 600-3	Grade 600/3	GS 600-3	FCD 600-3	07 32-03	F34100	
	EN-GJS-700-2	0.7070	0.7070	GGG-70	FGS 700-2	Grade 700/2	GS 700-2	FCD 700-2	07 37-01	F34800	
K5	EN-GJS-1000-5			GJS-1000-5						ADI grade 5	
	EN-GJS-1200-2			GJS-1200-2						ADI grade 2	
	EN-GJS-1400-1			GJS-1400-1						ADI grade 3	
	EN-GJS-800-8			GJS-800-8						ADI grade 4	
										ADI grade 1	
K6	EN-GJLA-XNiCr 20-2	0.6660	0.6660	GGL-NiCr 20 2	FGL Ni20 Cr2	Grade F2			05 23-00	F41002	
	EN-GJLA-XNiCr 30-3	0.6676	0.6676	GGL-NiCr 30 3	FGL Ni30 Cr3	Grade F3				F41004	
	EN-GJLA-XNiCuCr 15-6-2	0.6655	0.6655	GGL-NiCuCr 15 6 2	FGL Ni15 Cu6 Cr2	Grade F1				F41000	
K7	EN-GJSA-XNiMn 13-7	0.7652	0.7652	GGG-NiMn 13 7	FGS Ni13 Mn7	Grade S6			07 72-00		
	EN-GJSA-XNiCr 20-2	0.7660	0.7660	GGG-NiCr 20 2	FGS Ni20 Cr2	Grade S2				F43000	
	EN-GJSA-XNiMn 23-4	0.7673	0.7673	GGG-NiMn 23 4	FGS Ni23 Mn4	Grade S2M				F43010	
	EN-GJSA-XNiCr 30-3	0.7676	0.7676	GGG-NiCr 30 3	FGS Ni30 Cr3	Grade S3				F43003	
	EN-GJSA-XNi 35	0.7683	0.7683	GGG-Ni 35	FGS Ni35					F43006	
	AW-1050A	Al99.5	3.0255	Al99.5	A-5/1050A	1B	(A1050)		4007	AA1050A	
N1	AW-2011	AlCuBiPb	3.1655	AlCuBiPb	A-U5PbBi/2011	FC1		A2011	4355	AA2011	
	AW-2014	AlCuSiMn	3.1255	AlCuSiMn	A-U4SG/2014	H15			4338	AA2014	
	AW-5005	AlMg1	3.3315	AlMg1	A-G0.6	N41			4106	AA5005	
	AW-6060	AlMgSi0.5	3.3206	AlMgSi0.5	A-GS/6060	(H9)			4103	AA6060	
	AW-6063	AlMgSi0.7	3.3210	AlMgSi0.7	A-GSUC/6061	(H10)		(A6063)	4104, 4107	AA6005	
	AW-3103	AlMn1	3.0515	AlMn1		N3			4054	AA3103	
	AW-3003	AlMn1Cu	3.0517	AlMn1Cu	A-M1/3003			A3003		AA3003	
	AW-7020	AlZn4.5Mg1	3.4335	AlZn4.5Mg1	A-Z5G/7020	H17			4425	AA7020	
	AW-7075		3.4365	AlZnMgCu1.5	A-Z5GU/7075	2L95/2L96			A7075	AA7075	
	AC-42000		3.2341	G-AlSi5Mg	A-S7G	LM25	3599		AC 4C	4244	
	AC-46200	AlSi8Cu3(Si)	3.2161	G-AlSi8Cu3						4251	A13800
	Mg-P-63	MgAl6Zn	3.5612	G-MgAl6Zn	G-A6-Z1	MAG-E-121					M11600
	Mg-P-61	MgAl8Zn	3.5812	G-MgAl8Zn	(G-A7-Z1)						
	MN65120	MgSe3Zn2Zr1	3.5103	G-MgSe3Zn2Zr1	ZRE1	MAG6-TE					M12330
	N2	AC-43400	AlSi10Mg(Fe)	3.2381	G-AlSi10Mg	A-S10G	LM9			4253	A13600
		AC-44200	AlSi12	3.2382	GD-AlSi12						
AW-6082		AlMgSi1	3.2315	AlMgSi1	A-SGM0.7/6082	H30			4212	AA6082	
N3	AlSi17Cu5						ADC14				
N11	CC331G		2.0940.01	CuAl10Fe	CuAl10Fe	AB1			5710	C95200	
	CC333G		2.0975.01	CuAl10Ni	CuAl10Ni5Fe5	AB2			5716	C95500	
		CuNi10Fe1Mn	2.0872	CuNi10Fe1Mn	CuNi10Fe1Mn	CN102			5667	C70600	
				CuNi10Zn45							
		CW408J	2.0790	CuNi18Zn19Pb	CuNi18Zn19Pb1						C76300
	CW352H		2.1176	CuPb10Sn	CuSn10Pb10	LB2			5640	C93700	
	CC480K		2.1050.01	CuSn10	CuSn10	CT1			5443	C90700	
			2.1087	CuSn10Zn					5458	C90500	
	CW452K	CuSn6	2.1020	CuSn6	CuSn6	PB103		C5191	5428	C51900	
	CW502L	CuZn15	2.0240	CuZn15	CuZn15	CZ102		C2300	5112	C23000	
	CW706R	CuZn28Sn1	2.0470	CuZn28Sn1	CuZn29Sn1				5220	C44300	
	CW508L	CuZn37	2.0321	CuZn37	CuZn37	CZ108			5150	C27200	
	CW717R	CuZn38Sn1	2.0530	CuZn38Sn1						C46400	
	CW614N	CuZn39Pb3	2.0401	CuZn39Pb3	CuZn39Pb3	CZ121			5170	C38500	
	CW612N	CuZn40Pb2	2.0402	CuZn40Pb2	CuZn39Pb2	CZ120			5168	C37800	
	CW622N	CuZn44Pb2	2.0410	CuZn44Pb2		CZ104			5272	C68700	

SMG

U.N.E./I.H.A.	AISI / ASTM	GOST	ČSN	Çeşitli Markalar	Durum	Yapı
	A48 25 B	Sc 15	422 415			Gri dökme demirler (GCI)
	A48 30 B	Sc 20	422 420			Gri dökme demirler (GCI)
	A48 35 B	Sc 25	422 425			Gri dökme demirler (GCI)
	A48 50 B	Sc 35				Gri dökme demirler (GCI)
	G 3500					Gri dökme demirler (GCI)
	Grade 350					Kompakt grafit demirler (CGI)
	Grade 400					Kompakt grafit demirler (CGI)
	Grade 400-15					Kompakt grafit demirler (CGI)
	Grade 450					Kompakt grafit demirler (CGI)
	Grade 500					Kompakt grafit demirler (CGI)
	A220 60004				Temperlenmiş	Dövülebilir dökme demirler (MCI)
						Nodüler dökme demirler (SGI)
FGE 38-17	60-40-18	Vc 42-12	422 304			Nodüler dökme demirler (SGI)
	60-40-18	Vc 42-12				Nodüler dökme demirler (SGI)
FGE 50-7	A536, 80-55-06	Vc 50-2	422 305			Nodüler dökme demirler (SGI)
FGE 60-2	A476, 80-60-03	Vc 60-2	422 306			Nodüler dökme demirler (SGI)
FGE 70-2	A536, 100-70-03	Vc 70-2				Nodüler dökme demirler (SGI)
	1600/1300/-					Östempelenmiş sünek dökme demirler (ADI)
	1050/700/7					Östempelenmiş sünek dökme demirler (ADI)
	1200/850/4					Östempelenmiş sünek dökme demirler (ADI)
	1400/1100/1					Östempelenmiş sünek dökme demirler (ADI)
	850/550/10					Östempelenmiş sünek dökme demirler (ADI)
	A436 Type 2			Ni-Resist 2		Östenitik katmanlı dökme demirler
	A436 Type 3			Ni-Resist 3		Östenitik katmanlı dökme demirler
	A436 Type 1			Ni-Resist 1		Östenitik katmanlı dökme demirler
				Nodumag		Östenitik nodüler dökme demirler
	A436 Type D-2			Ni-Resist D-2		Östenitik nodüler dökme demirler
	A439 Type D-2M			Ni-Resist D-2M		Östenitik nodüler dökme demirler
	A436 Type D-3			Ni-Resist D-3		Östenitik nodüler dökme demirler
	A439 Type D-5			Ni-Resist D-5		Östenitik nodüler dökme demirler
	B26					
	A380					
	AZ61A					
	AZ80A					
	AMS 4442					
	B85					
	A413.2					
	B390.0					
	CA952	BrA9ZH3L				
	CA955	BrA10ZH4N4L				
	CA937					
		BrOF6.5-0.15				
		L90				
		LOMsh70-1-0.05				
		LO60-1				
		LAMsh77-2-0.05				

SMG

SMG	EN	EN-Nr	W.-Nr	DIN	AFNOR	BS	UNI	JIS	SS	UNS	
S1											
S2											
S3	NiMo30		2.4810							N10002	
	NiMo16Cr15W		2.4819							N10276	
	NiCr19Fe19Nb5Mo3		2.4668							N07718	
			2.4669							N07750	
	NiCr20TiAl		2.4631							N07080	
S3	NiCr19Co18Mo4Ti3Al3									N07500	
	NiCr20Co13Mo4Ti3Al		2.4654							N07001	
S11			3.7024							R54620	
S12										R56320	
S12	TiAl6V4		3.7164							R56400	
S13				TiV10Fe2Al3							
H3	16 MnCr 5	1.7131	1.7131	16 MnCr 5	16 MC 5	527 M 17	16 MnCr 5	SCR 415	2511	G51170	
H5	C 67S	1.1231	1.1231	Ck 67	XC 68	060 A 67	C 70		1770	G10700	
	C 75S	1.1248	1.1248	Ck 75	XC 75	060 A 78	C 75		1774, 1778	G10780	
	C 100S	1.1274	1.1274	Ck 101		060 A 96		SUP 4	1870	G10950	
	C 105U	1.1545	1.1545	C 105 W1	Y1 105				1880		
			1.2550		60 WCrV 7	55 WC 20		55 WCv 8 KU			
H5	55 Cr 3	1.7176	1.7176	55 Cr 3	55 C 3	527 A 60	55 Cr 3	SUP 9 (A)	2253	G51550	
	42 CrMo 4	1.7225	1.7225	42 CrMo 4	42 CD 4	708 M 40	42 CrMo 4	SCM 440 (H)	2244	G41400	
	107 CrV 3	1.2210	1.2210	115 CrV 3	100 C 3		107 CrV 3 KU			T61202	
H7			1.2510	100 MnCrW 4	90 MWCV 5	BO 1	95 MnWCr 5 KU	SKS 3	2140	T31501	
	90 MnCrV 8	1.2842	1.2842	90 MnCrV 8	90 MV 8	BO 2	90 MnVCr 8 KU			T31502	
	100 Cr 6	1.3505	1.3505	100 Cr 6	100 C 6	534 A 99	100 Cr 6	SUJ 2	2258	G51986	
H8	X 40 CrMoV 5 1	1.2344	1.2344	X 40 CrMoV 5 1	Z 40 CDV 5	BH 13	X 40 CrMo 5 1 1 KU	SKD 61	2242	T20813	
	X 100 CrMoV 5	1.2363	1.2363	X 100 CrMoV 5 1	Z 100 CDV 5	BA 2	X 100 CrMoV 5 1 KU	SKD 12	2260	T30102	
	X 155 CrVMo 12 1		1.2379	X 155 CrVMo 12 1	Z 160 CDV 12	BD 2	X 155 CrVMo 12 1 KU	SKD 11		T30402	
			1.2436	X 210 CrW 12				X 215 CrW 12 1 KU	SKD 2	2312	
			1.2601	X 165 CrMoV 12				X 165 CrMoV 12 KU		2310	
H8			1.2713	55 NiCrMoV 6	55 NCDV 7			SKT 4		T61206	
	HS 6-5-2-5	1.3243	1.3243	S 6-5-2-5	Z 85 WDKCV 06-05-05-04-02		HS 6-5-2-5	SKH 55	2723		
	HS 2-10-1-8	1.3247	1.3247	S 2-10-1-8	Z 110 DKCWV 09-08-	BM 42	HS 2-9-1-8	SKH 51		T11342	
	HS 18-0-1	1.3355	1.3355	S 18-0-1	Z 80 WCV 18-04-01	BT 1	HS 18-0-1	SKH 2		T12001	
	X 20 Cr 13	1.4021	1.4021	X 20 Cr 13	Z 20 C 13	420 S 37	X 20 Cr 13	SUS 420 J 1	2303	S42000	
H11	X 70 CrMo 15	1.4109	1.4109	X 65 CrMo 14	Z 70 D 14			SUS 440 A		S44002	
	X 90 CrMoV 18	1.4112	1.4112	X 90 CrMoV 18	Z 2 CND 18 05	409 S 19	X CrTi 12	SUS 440 B	2327	S44003	
	X 105 CrMo 17	1.4125	1.4125	X 105 CrMo 17	Z 100 CD 17		X 105 CrMo 17	SUS 440 C		S44004	
	X 4 CrNiCuNb 16 4	1.4540	1.4540	X 4 CrNiCuNb 16 4						S15500	
	X 5 CrNiCuNb 16 4	1.4542	1.4542	X 5 CrNiCuNb 16 4				SUS 630		S17400	
H12	X 5 CrNiCuNb 16 4	1.4542	1.4542	X 5 CrNiCuNb 16 4				SUS 630		S17400	
	X 7 CrNiAl 17 7	1.4568	1.4568	X 7 CrNiAl 17 7	Z 9 CAN 17.7	301 S 81	X 7 CrNiAl 17 7	SUS 631	2388	S17700	
	X 8 CrNiMoAl 15 7 5	1.4574	1.4574	X 8 CrNiMoAl 15 7 5						S15700	
	X 6 NiCrTiMoV 25 15	1.4980	1.4943	X 4 NiCrTi 25 15	Z 6 NCTDV 25.15	HR 51		SUH 660	2570	S66286	
	X 2 NiCoMo 18 8 5	1.6359	1.6359	X 2 NiCoMo 18 8 5		S 162				K92890	
	X 2 NiCoMoTi 18 9 5	1.6358	1.6358	X 2 NiCoMoTi 18 9 5	Z 2 NKD 19-09					K93120	
	X 2 NiCoMoTi 18 9 5	1.6358	1.6358	X 2 NiCoMoTi 18 9 5	Z 2 NKD 19-09					K93120	
	X 2 NiCoMoTi 18 12 4	1.6356	1.6356	X 2 NiCoMoTi 18 12 4						K93160	
	X 120 Mn 12	1.3401	1.3401	X 120 Mn 12	Z 120 M 12	BW 10		SC MnH 1	2183		
	H21	EN-GJN-HV520	0.9620	0.9620	G-X330 NiCr 4 2	FB Ni4 Cr2 BC	Grade 2 A			05 12-00	F45001
H31	EN-GJN-HV550	0.9625	0.9625	G-X260 NiCr 4 2	FB Ni4 Cr2 HC	Grade 2 B			05 13-00	F45000	
	EN-GJN-HV600(XCr11)	0.9630	0.9630	G-X300 CrNiSi 9 5 2	FB Cr9 Ni5	Grade 2 C, D, E			04 57-00	F45003	

## SMG

U.N.E./ I.H.A.	AISI / ASTM	GOST	ČSN	Çeşitli Markalar	Durum	Yapı
				Discalloy	Çökeltme ile sertleştirilmiş	
				Haynes 25		
				Stellite 21		
				Hastelloy C		
		KHN65MV		Hastelloy C-276		
				IN 100		
				Inconel 718		
				Inconel X-750	Çözelti tavlama	
				Nimonic 80A		
				René 41		
				Udimet 500		
				Waspalloy		
				Ti	Tecimsel arlıkta	Ti (α)
	AMS 4919			Ti 6-2-4-2	Tavlama	Ti (α)
	AMS 4943			Ti 3Al-2.5V (grd 9)	Tavlama	Ti (α+β)
	AMS 4920, Grade 5	VT6		Ti 6Al-4V	Tavlama	Ti (α+β)
	AMS 4986			Ti 10V-2Fe-3Al	Tavlama	Ti (β)
F.1516	5115	12KH2	14 220		Sertleştirilmiş sementasyon	
F.5103	1070	70			Su verilmiş ve Temperlenmiş	
F.5107	1078, 1080	75			Su verilmiş ve Temperlenmiş	
F.5117	1095				Su verilmiş ve Temperlenmiş	
F.5118	W1	U10A			Su verilmiş ve Temperlenmiş	
	S1	5KHV2SF			Su verilmiş ve Temperlenmiş	
	5155				Su verilmiş ve Temperlenmiş	
F.1252	4142, 4140	38HM	15 142		Su verilmiş ve Temperlenmiş	
F.520L	L2	11KHF			Su verilmiş ve Temperlenmiş	
F.5220	O1	9KHVG			Su verilmiş ve Temperlenmiş	
	O2	9G2F			Su verilmiş ve Temperlenmiş	
F.5230	52100	SHKH15	14 109		Su verilmiş ve Temperlenmiş	
F.5318	H13	4KH5MF1S			Su verilmiş ve Temperlenmiş	
F.5227	A2	9KH5VF			Su verilmiş ve Temperlenmiş	
F.5211	D2	KH12MF			Su verilmiş ve Temperlenmiş	
F.5213		KH12			Su verilmiş ve Temperlenmiş	
		KH12MF			Su verilmiş ve Temperlenmiş	
F.520.S	L6	5KHNM			Su verilmiş ve Temperlenmiş	
F.5613	M35	R6M5K5			Su verilmiş ve Temperlenmiş	
	M42	R2AM9K5			Su verilmiş ve Temperlenmiş	
	T1	R18			Su verilmiş ve Temperlenmiş	
F.5261	420	20KH13	17 022		Su verilmiş ve Temperlenmiş	Martenzitik
	440 A				Su verilmiş ve Temperlenmiş	Martenzitik
	440 B	95KH18			Su verilmiş ve Temperlenmiş	Martenzitik
	440 C	95KH18			Su verilmiş ve Temperlenmiş	Martenzitik
	XM-12			15-5 PH	H900	Martenzitik
	SAE 630			17-4 PH	H1025	Martenzitik
	SAE 630			17-4 PH	H900	Martenzitik
	AMS 5528	09KH17N7YU1		17-7 PH	TH1050	Martenzitik
	632			PH 15-7 Mo	TH1050	Martenzitik
	660			A286	Çökeltme ile sertleştirilmiş	Östenitik
	AMS 6512			Marage 250	Çökeltme ile sertleştirilmiş	Martenzitik
	AMS 6521			Marage 300	Çökeltme ile sertleştirilmiş	Martenzitik
	AMS 6521			Marage 300	Çökeltme ile sertleştirilmiş	Martenzitik
	AMS 6515			Marage 350	Çökeltme ile sertleştirilmiş	Martenzitik
	A128 Grade A			Hadfield		
	A532 IB (NiCr-LC)			Ni-Hard 2		Beyaz dökme demir
	A532 IA (NiCr-HC)			Ni-Hard 1		Beyaz dökme demir
	A532 ID (Ni-HiCr)			Ni-Hard 4		Beyaz dökme demir

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