

Kesme Hızları

Materyal	Karbon Çelikler S50C, Q235		Araşımli Çelikler 4Cr5MoSiV1, Cr12		Paslanmaz Çelik SUS304,316,0Cr19Ni9		Dökme Demir HT250, QT450		Alüminyum	
	Vc=m/min	f=mm/rev	Vc=m/min	f=mm/rev	Vc=m/min	f=mm/rev	Vc=m/min	f=mm/rev	Vc=m/min	f=mm/rev
İç Çap Kesme	80-150	0.05-0.30	30-100	0.05-0.30	70-120	0.05-0.30	80-150	0.05-0.30	120-300	0.05-0.30
Dış Çap Kesme	60-120	0.05-0.30	20-80	0.05-0.30	50-100	0.05-0.30	50-100	0.05-0.30	80-250	0.05-0.30
Yüzey	80-150	0.05-0.30	30-100	0.05-0.30	70-120	0.05-0.30	60-120	0.05-0.30	80-250	0.05-0.30

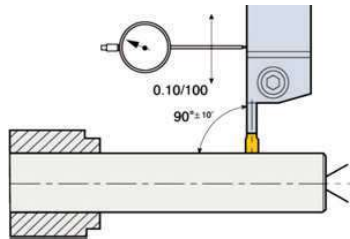
TAKIM TUTUCU VE KESİCİ BOYUTU

Vibrasyona ve parçadan kopma riskini en aza indirmek için her zaman;

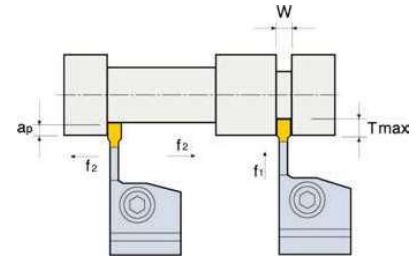
- Takım tutucu ve kesici ucun Mümkün olan en küçük sapma ile talaş kaldırması.
- Maximum tutucu boyutuna sahip kesici uç tercihi yapılmasıdır.

90° SIFIRLAMA

İş parçalarının 90° olarak sıfırlaması alınması kesme operasyonlarında çok önemlidir. Daha iyi yüzey ve kesim ömrü istenildiği takdirde bu işlemin yapılması önemlidir.



Parça işleme tanımlamaları



KANAL

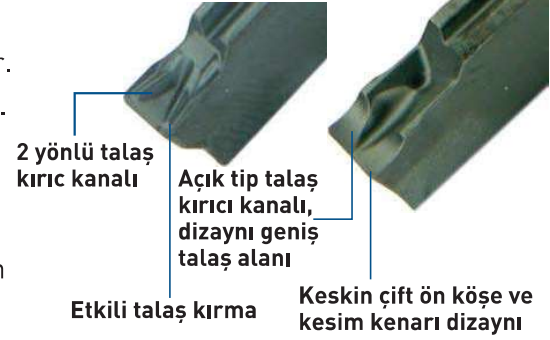
- Vc-Kesme hızı (m/dk)
- T-Max. Kesme derinliği (mm)
- f₁-Radyal ilerleme (mm/devir)

TORNALAMA

- Vc-Kesme hızı (m/dk)
- T-Max. Kesme derinliği (mm)
- f₂-Yanal ilerleme (mm/devir)

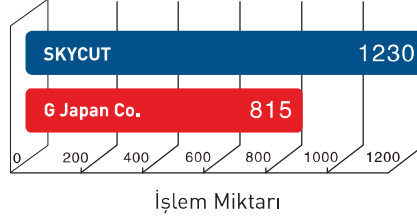
MGMN - ÜRÜN ÖZELLİKLERİ

- Talaş kırıcı formu kare başlıklı ve çift kanallıdır.
- Kanal açma ve tornalama operasyonları içindir.
- Talaş derinliği 20 mm'den azdır.
- P / M / K materyallerini işlemek için uygundur.
- Genel ve havacılık endüstrinde kullanılan paslanmaz, yüksek dereceli alaşım ve titanyum alaşımları için uygundur.



Örnek Deneme - 1

	
İş Parçası	316 / Paslanmaz Çelik
Operasyon	Dış Çap Kesme
Uç	MGMN300-T / SKY4125

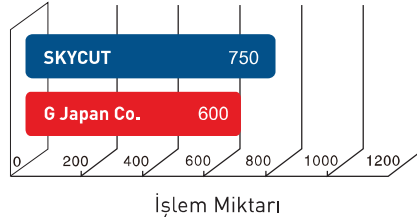


Kesme parametreleri
 $VC = 110 \text{ m / min.}$
 $f = 0,11 \text{ mm / r}$
 $ap = 3 \text{ mm}$
 $\phi d = 22 \text{ mm}$



Örnek Deneme - 2

	
İş Parçası	304 / Paslanmaz Çelik
Operasyon	Dış Çap Kesme
Uç	MGMN200-T / SKY4125



Kesme parametreleri
 $VC = 106 \text{ m / min.}$
 $f = 0,11 \text{ mm / r}$
 $ap = 3 \text{ mm}$
 $\phi d = 22 \text{ mm}$



DIŞ ÇAP KANAL AÇMA



■ Dış Çap

Yarı çap işleme aralığı

MIN - D30 ~ 140

MAX - D38 ~ 240

Maximum kesme derinliği: 8 ~ 27 mm

■ İç Çap Kanal

Yarı çap işleme aralığı

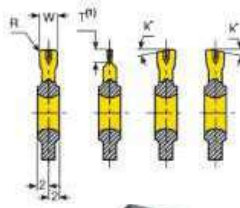
MIN - D50 ~ 80

MAX - D80 ~ 120

Maximum kesme derinliği: 8 ~ 27 mm

PENTA - CUT KANAL AÇMA UCU

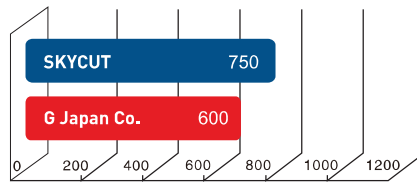
- Kanal açma derinliği: 2.5 ~ 6 mm
- Kanal genişliği: 0.5 ~ 3 mm
- Kesme kenarının düz ve eğimli kenar açısı vardır.



Örnek Deneme



İş Parçası	316 L / Paslanmaz Çelik
Operasyon	Diş Çap Kesme
Uç	MGMN400-T / SKY4125



İşlem Miktarı



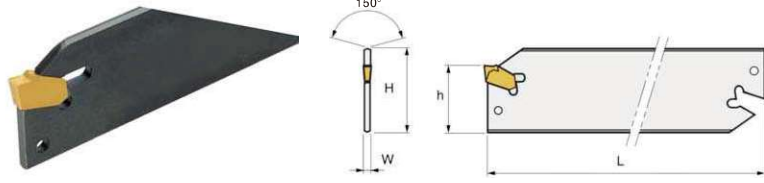
Kesme parametreleri
VC= 85 m / min.
f= 0,11 mm / r
ap= 3 mm
φd= 22 mm



Kesim Ömrü
+30%

Uç Şekli	Ürün Kodu	Ölçüler									Kaplama Seçimi			
		R	L	W	R	B	d	L	H	A	SKY4125	SKY1200	SKY8280	SKY9115
	FMM300R-03	●		3,00	0,30	2,00		15,00	3,91		▲	●	●	
	FMM400R-03	●		4,00	0,40	3,00		15,00	3,96		▲	●	●	
	FMM500R-04	●		5,00	0,40	4,00		15,00	4,42		▲	●	●	
	FGD300R-03	●		3,00	0,30	2,00		15,00	4,00		▲	●	●	
	FGD400R-03	●		4,00	0,40	3,00		15,00	4,50		▲	●	●	
	FGD500R-04	●		5,00	0,40	4,00		15,00	5,00		▲	●	●	
	MFMN300R	●		3,00	0,30	2,10		19,00	5,40		▲	●	●	
											▲	●	●	
	SP200-NM			2,20	0,20			9,30			▲	●	●	
	SP300-NM			3,10	0,20			11,30			▲	●	●	
	SP400-NM			4,10	0,25			11,30			▲	●	●	
	SP500-NM			5,10	0,30			11,40			▲	●	●	
	MGGN200L			2,00	0,20	1,50		16,00	3,50		●	●	●	▲
	MGGN300L			3,00	0,40	2,35		21,00	4,80		●	●	●	▲
	MGGN400L			4,00	0,40	3,30		21,00	4,80		●	●	●	▲
	MGGN500L			5,00	0,80	4,12		25,90	5,80		●	●	●	▲
	MGMN200J			2,00	0,20	1,60		16,00	3,50		▲	●	●	
	MGMN300J			3,00	0,40	2,35		21,00	4,80		▲	●	●	
	MGMN400J			4,00	0,40	3,30		21,00	4,80		▲	●	●	
	MGMN500J			5,00	0,80	4,12		26,00	5,80		▲	●	●	
	MGMN200T			2,00	0,20	1,60		16,00	3,50		▲	●	●	
	MGMN300T			3,00	0,40	2,35		21,00	4,80		▲	●	●	
	MGMN400T			4,00	0,40	3,30		21,00	4,80		▲	●	●	
	MGMN500T			5,00	0,80	4,12		26,00	5,80		▲	●	●	
	MGMN150M				0,20			14,50			▲	▲	▲	
	MGMN200M				0,20			15,85			▲	▲	▲	
	MGMN250M				0,20			18,45			▲	▲	▲	
	MGMN300M				0,40			21,00			▲	▲	▲	
	MGMN400M				0,40			21,00			▲	▲	▲	
	MGMN500M				0,80			25,85			▲	▲	▲	
	MGMN600M				0,80			25,85			▲	▲	▲	
	MRMN200M			2,00	1,00	1,60		16,00	3,50		▲	●	●	
	MRMN300M			3,00	1,50	2,35		21,00	4,80		▲	●	●	
	MRMN400M			4,00	2,00	3,30		21,00	4,80		▲	●	●	
	MRMN500M			5,00	2,50	4,12		26,00	5,80		▲	●	●	
	MRGN400M			2,00	1,00	1,60		16,00	3,50		●	●	●	▲
	MRGN500M			3,00	1,50	2,35		21,00	4,80		●	●	●	▲
	MRGN600M			4,00	2,00	3,30		21,00	4,80		●	●	●	▲
	MRGN800M			5,00	2,50	4,12		26,00	5,80		●	●	●	▲
	TDJ2			2,00	0,20	1,70		20,00	3,90		▲	●	●	
	TDJ3			3,00	0,20	2,40		20,00	4,00		▲	●	●	
	TDJ4			4,00	0,30	3,00		20,00	4,00		▲	●	●	
	TDJ5			5,00	0,30	4,00		25,00	4,90		▲	●	●	
	TDC2			2,00	0,20	1,70		20,00	3,90		▲	●	●	
	TDC3			3,00	0,20	2,40		20,00	4,00		▲	●	●	
	TDC4			4,00	0,30	3,00		20,00	4,00		▲	●	●	
	TDC5			5,00	0,30	4,00		25,00	4,90		▲	●	●	

▲ Önerilen kalite (Sürekli stok) ● Sipariş üzerine

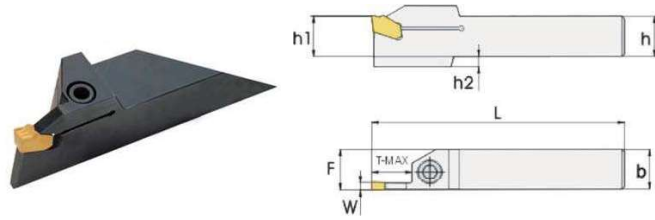
SPB






Ürün Kodu	Stok		Ölçüler (mm)					Uç	Vida
	R	W	h	H	L				
SPB226-S	●	1.6	21	26	110	SP200	SW80-S		
SPB326-S	●	2.4	21	26	110	SP300			
SPB426-S	●	3.2	21	26	110	SP400			
SPB526-S	●	4	21	26	110	SP500			
SPB232-S	●	1.6	25	32	150	SP200			
SPB332-S	●	2.4	25	32	150	SP300			
SPB432-S	●	3.2	25	32	150	SP400			
SPB532-S	●	4	25	32	150	SP500			

● Sipariş üzerine

ZQR/L



Ürün Kodu	Stok		Ölçüler (mm)						Uç	Vida	Alyen
	R	L	W	h	H	b	F	L			
ZQR/L1616H-02	●	●	1.6	16	16	16	16.3	100	SP200	NLJ0416	L3.0
ZQR/L2020K-02	●	●	1.6	20	20	20	20.3	125			
ZQR/L1616H-03	●	●	2.4	16	16	16	16.3	100	SP300	NLJ0520	L4.0
ZQR/L2020K-03	●	●	2.4	20	20	20	20.3	125			
ZQR/L2525M-03	●	●	2.4	25	25	25	25.3	150	SP400	NLJ0520	L4.0
ZQR/L3232P-03	●	●	2.4	32	32	32	32.3	170			
ZQR/L1616H-04	●	●	3.2	16	16	16	16.3	100	SP400	NLJ0520	L4.0
ZQR/L2020K-04	●	●	3.2	20	20	20	20.3	125			
ZQR/L2525M-04	●	●	3.2	25	25	25	25.3	150			
ZQR/L3232P-04	●	●	3.2	32	32	32	32.3	170			

● Sipariş üzerine

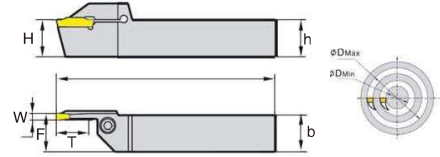
MGFHRR



Ürün Kodu	Stok		Ölçüler (mm)							Uç	Vida	Alyen	
	R	h	b	L	S	D	H	T	W				
MGFHRR 325-24/35-T10	●					24-35					MFMN300R	NLJ0620	L5.0
MGFHRR 325-29/40-T10	●					29-40							
MGFHRR 325-34/50-T10	●					34-50		10	3.0				
MGFHRR 325-44/70-T10	●	25	25	150	25.6	44-70	25						
MGFHRR 325-64/99-T10	●					64-99							
MGFHRR 425-62/120-T15	●					62-120		15	4.0	MG*N400			
MGFHRR 425-112/200-T15	●					112-200							

● Sipariş üzerine

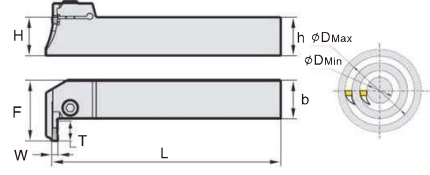
MGFHR/L



Ürün Kodu	Stok		Ölçüler (mm)							Uç	Vida	Alyen	
	R	L	h	b	L	F	D	H	T				W
MGFHR/L 325-24/35-T10	●	○					24-35				MFMN300R	NLJ0620	L5.0
MGFHR/L 325-29/40-T10	●	○					29-40						
MGFHR/L 325-34/50-T10	●	○	25	25	150	25.6	34-50	25	10	3.0			
MGFHR/L 325-44/70-T10	●	○					44-70						
MGFHR/L 325-64/99-T10	●	○					64-99						
MGFHR/L 320-44/62-T15	●	○					44-62						
MGFHR/L 320-62/120-T15	●	○	20	20	125	20.6	62-120	20		3.0	MG*N300	NLJ0620	L5.0
MGFHR/L 320-112/200-T15	●	○					112-200						
MGFHR/L 325-44/62-T15	●	○					44-62						
MGFHR/L 325-62/120-T15	●	○	25	25	150	25.6	62-120	25					
MGFHR/L 325-112/200-T15	●	○					112-200						
MGFHR/L 420-44/62-T15	●	○					44-62						
MGFHR/L 420-62/120-T15	●	○	20	20	125	20.6	62-120	20		3.0	MG*N400	NLJ0620	L5.0
MGFHR/L 420-112/200-T15	●	○					112-200						
MGFHR/L 425-44/62-T15	●	○					44-62						
MGFHR/L 425-62/120-T15	●	○	25	25	150	25.6	62-120	25		4.0			
MGFHR/L 425-112/200-T15	●	○					112-200						
MGFHR/L 425-44/62-T15	●	○					44-62						

● Sipariş üzerine

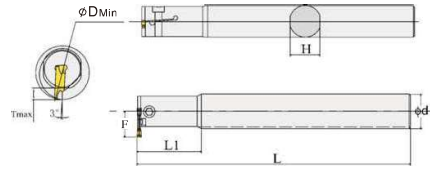
MGFVR/L



Ürün Kodu	Stok		Ölçüler (mm)							Uç	Vida	Alyen	
	R	L	h	b	L	F	D	H	T				W
MGFVR/L 320-44/62-T15	●	○	20	20	125	20,6	44-64	20	15	3,0	MG*N300	NLJ0620	L5.0
MGFVR/L 320-62/120-T15	●	○					62-120						
MGFVR/L 320-112/200-T15	●	○					112-200						
MGFVR/L 325-44/62-T15	●	○	25	25	150	25,6	62-120	25	15	4,0	MG*N400	NLJ0620	L5.0
MGFVR/L 325-62/120-T15	●	○					62-120						
MGFVR/L 325-112/200-T15	●	○					112-200						
MGFVR/L 420-44/62-T15	●	○	20	20	125	20,6	62-120	20	15	4,0	MG*N400	NLJ0620	L5.0
MGFVR/L 420-62/120-T15	●	○					62-120						
MGFVR/L 420-112/200-T15	●	○					112-200						
MGFVR/L 425-44/62-T15	●	○	25	25	150	25,6	62-120	25	15	4,0	MG*N400	NLJ0620	L5.0
MGFVR/L 425-62/120-T15	●	○					62-120						
MGFVR/L 425-112/200-T15	●	○					112-200						

● Sipariş üzerine

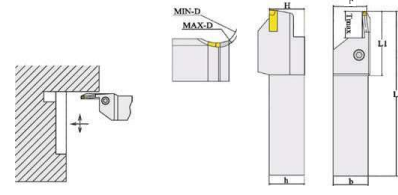
MGNVR/L



Ürün Kodu	Stok		Ölçüler (mm)							Uç	Vida	Alyen
	R	L	D	d	L	L1	T	H	F			
MGNVR/L 2016K-2	●	●	20	16	125	35	5	15	12.4	MG*N200	M5*15	T-20
MGNVR/L 2520M-2	●	●	25	20	150	45		18	14			
MGNVR/L 2925R-2	●	●	29	25	200	45		23	17.2			
MGNVR/L 2520M-2,5	●	●	25	20	150	45	6	18	15.1	MG*N250	NLJ0516	L4.0
MGNVR/L 2925R-2,5	●	●	29	25	200	45		23	18.2			
MGNVR/L 2520M-3	●	●	25	20	150	45		18	15.6			
MGNVR/L 3125R-3	●	●	31	25	200	45	8	23	18.9	MG*N300	NLJ0516	L4.0
MGEVR/L 3732S-3	●	●	37	32	250	65		29	21.5			
MGNVR/L 2520M-4	●	●	25	20	150	45		18	15.6			
MGNVR/L 3125R-4	●	●	31	25	200	45	8	23	18.9	MG*N400	NLJ0516	L4.0
MGEVR/L 3732S-4	●	●	27	32	250	65		29	21.5			
MGNVR/L 3125R-5	●	●	31	25	200	45		23	19.4			
MGEVR/L 3732S-5	●	●	37	32	250	65	29	21.5	MG*N500			

● Sipariş üzerine

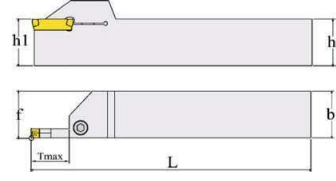
FGDHX



Ürün Kodu	Stok	Ölçüler (mm)							Uç	Vida	Alyen	
		R	h	b	L	F	D	H				T
FGDHX2020K25/30-3	●						25-30					
FGDHX2020K30/35-3	●						30-35					
FGDHX2020K35/48-3	●						35-48					
FGDHX2020K48/60-3	●		20	20	125	21.8	48-60	20			NLJ0520	L4.0
FGDHX2020K60/75-3	●						60-75		22			
FGDHX2020K75/100-3	●						75-100					
FGDHX2020K100/140-3	●						100-140					
FGDHX2525M25/30-3	●						25-30					
FGDHX2525M30/35-3	●						30-35					
FGDHX2525M35/48-3	●		25	25	150	27.8	35-48	25			NLJ0520	L4.0
FGDHX2525M48/60-3	●						48-60					
FGDHX2525M60/75-3	●						60-75		22			
FGDHX2525M75/100-3	●						75-100					
FGDHX2525M100/140-3	●						100-140					
FGDHX2020K25/30-4	●						25-30					
FGDHX2020K30/35-4	●						30-35					
FGDHX2020K35/48-4	●						35-48					
FGDHX2020K48/60-4	●		20	20	125	21.8	48-60	20			NLJ0520	L4.0
FGDHX2020K60/75-4	●						60-75		22			
FGDHX2020K75/100-4	●						75-100					
FGDHX2020K100/140-4	●						100-140					
FGDHX2525M25/30-4	●						25-30					
FGDHX2525M30/35-4	●						30-35					
FGDHX2525M35/48-4	●		25	25	150	27.8	35-48	25			NLJ0520	L4.0
FGDHX2525M48/60-4	●						48-60					
FGDHX2525M60/75-4	●						60-75		22			
FGDHX2525M75/100-4	●						75-100					
FGDHX2525M100/140-4	●						100-140					
FGDHX2020K25/30-5	●						25-30					
FGDHX2020K30/35-5	●						30-35					
FGDHX2020K35/48-5	●						35-48					
FGDHX2020K48/60-5	●		20	20	125	21.8	48-60	20			NLJ0520	L4.0
FGDHX2020K60/75-5	●						60-75		22			
FGDHX2020K75/100-5	●						75-100					
FGDHX2020K100/140-5	●						100-140					
FGDHX2525M25/30-5	●						25-30					
FGDHX2525M30/35-5	●						30-35					
FGDHX2525M35/48-5	●		25	25	150	27.8	35-48	25			NLJ0520	L4.0
FGDHX2525M48/60-5	●						48-60					
FGDHX2525M60/75-5	●						60-75		22			
FGDHX2525M75/100-5	●						75-100					
FGDHX2525M100/140-5	●						100-140					

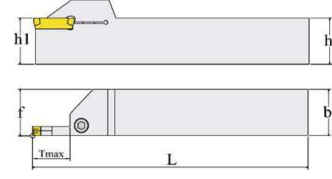
● Sipariş üzerine

MGEHR/L



Ürün Kodu	Stok		Ölçüler (mm)						Uç	Vida	Alyen
	R	L	h	b	L	f	T	h1			
MGEHR/L1616H-2	●	●	16	16	100	16,25	14,5	16	MG*N200	NLJ0520	L4.0
MGEHR/L2020K-2	●	●	20	20	125	20,25	14,5	20			
MGEHR/L2020K-2-T10	●	●	20	20	125	20,25	10	20			
MGEHR/L2525M-2	●	●	25	25	150	25,25	14,5	25			
MGEHR/L2525M-2-T10	●	●	25	25	150	25,25	10	25			
MGEHR/L3232P-2	●	●	32	32	170	32,25	14,5	32		NLJ0620	L5.0
MGEHR/L1616H-2,5	●	●	16	16	100	16,25	16	16	MG*N250	NLJ0520	L4.0
MGEHR/L2020K-2,5	●	●	20	20	125	20,25	16	20			
MGEHR/L2020K-2,5-T10	●	●	20	20	125	20,25	10	20			
MGEHR/L2525M-2,5	●	●	25	25	150	25,25	16	25			
MGEHR/L2525M-2,5-T10	●	●	25	25	150	25,25	10	25			
MGEHR/L3232P-2,5	●	●	32	32	170	32,25	16	32		NLJ0620	L5.0
MGEHR/L1616H-3	●	●	16	16	100	16,25	18	16	MG*N300	NLJ0520	L4.0
MGEHR/L2020K-3	●	●	20	20	125	20,25	18	20			
MGEHR/L2020K-3-T10	●	●	20	20	125	20,25	10	20			
MGEHR/L2525M-3	●	●	25	25	150	25,25	18	25			
MGEHR/L2525M-3-T10	●	●	25	25	150	25,25	10	25			
MGEHR/L3232P-3	●	●	32	32	170	32,25	18	32		NLJ0620	L5.0
MGEHR/L3232P-3-T10	●	●	16	16	100	16,25	10	32			
MGEHR/L2020K-4	●	●	20	20	125	20,25	18	20	MG*N400	NLJ0520	L4.0
MGEHR/L2020K-4-T10	●	●	20	20	125	20,25	10	20			
MGEHR/L2525M-4	●	●	25	25	150	25,25	18	25			
MGEHR/L2525M-4-T10	●	●	25	25	150	25,25	10	25			
MGEHR/L3232P-4	●	●	32	32	170	32,25	18	32			
MGEHR/L3232P-4-T10	●	●	16	16	100	16,25	10	32		NLJ0620	L5.0
MGEHR/L2020K-5	●	●	20	20	125	20,25	23	20	MG*N500	NLJ0520	L4.0
MGEHR/L2020K-5-T10	●	●	20	20	125	20,25	10	20			
MGEHR/L2525M-5	●	●	25	25	150	25,25	23	25			
MGEHR/L2525M-5-T10	●	●	25	25	150	25,25	10	25			
MGEHR/L3232P-5	●	●	32	32	170	32,25	23	32			
MGEHR/L3232P-5-T10	●	●	16	16	100	16,25	10	32		NLJ0620	L5.0

● Sipariş üzerine

TTER/L


Ürün Kodu	Stok		Ölçüler (mm)						Uç	Vida	Alyen
	R	L	h	b	L	F	T	h1			
TTER/L1616H-2	●	●	16	16	100	16.1	12	16	TD*200	NLJ0520	L4.0
TTER/L1616H-2-T17	●	●	20	20	125	16.1	17	20			
TTER/L2020K-2	●	●	20	20	125	20.1	12	20			
TTER/L2020K-2-T17	●	●	25	25	150	20.1	17	25			
TTER/L2525M-2	●	●	25	25	150	25.1	12	25			
TTER/L2525M-2-T17	●	●	32	32	170	32.1	17	32	TD*300	NLJ0520	L4.0
TTER/L1616H-3	●	●	16	16	100	16.25	12	16			
TTER/L1616H-3-T20	●	●	20	20	125	20.25	20	20			
TTER/L2020K-3	●	●	20	20	125	20.25	12	20			
TTER/L2020K-3-T20	●	●	25	25	150	25.25	20	25			
TTER/L2525M-3	●	●	25	25	150	25.25	12	25	TD*400	NLJ0520	L4.0
TTER/L2525M-3-T20	●	●	32	32	170	32.25	20	32			
TTER/L1616H-4	●	●	16	16	100	16.5	15	16			
TTER/L1616H-4-T25	●	●	20	20	125	20.5	25	20			
TTER/L2020K-4	●	●	20	20	125	20.5	15	20			
TTER/L2020K-4-T25	●	●	25	25	150	25.5	25	25	TD*500	NLJ0520	L4.0
TTER/L2525M-4	●	●	25	25	150	25.5	15	25			
TTER/L2525M-4-T25	●	●	32	32	170	32.5	25	32			
TTER/L2020K-5	●	●	20	20	125	20.6	20	20			
TTER/L2020K-5-T25	●	●	25	25	150	25.6	25	25			
TTER/L2525M-5	●	●	25	25	150	25.6	20	25	TD*500	NLJ0520	L4.0
TTER/L2525M-5-T25	●	●	32	32	170	32.6	25	32			

● Sipariş üzerine