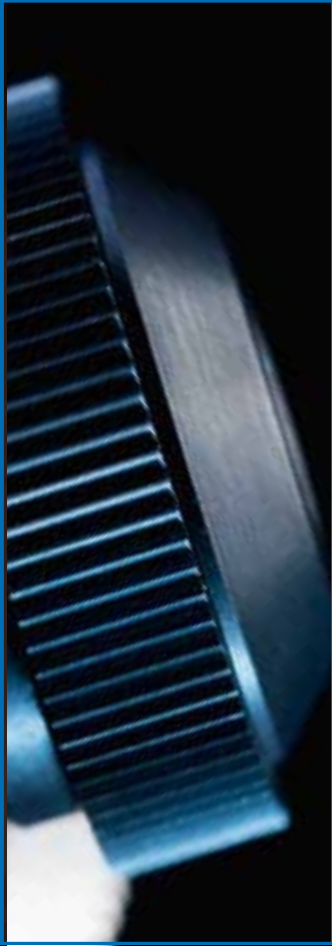


2026



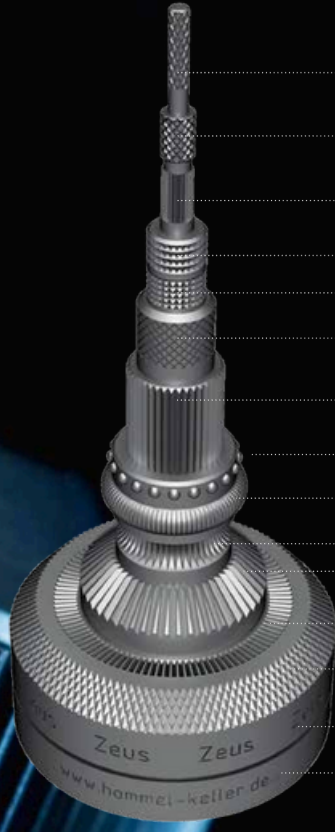
ZEUS | FİYAT LİSTESİ





ZEUS Tırtıl Aletleri

Standart profillerin yanı sıra, zeus tırtıl alma aletleri konik, dışbükey, içbükey ve özel profillerin üretiminde de kullanılabilir. İş parçası üzerinde profil üretimi için en önemli uygulamalar, yanındaki uygulama örneğinde gösterilmektedir.



Uygulama	Profil (DIN 82) İşaretleme	Araç Örnekleri	Tırtıl tekerlekler / markalama silindiri
Kesici Tırtıl, Eksenel	RGE30°	291	3x AA 1x
Kesici Tırtıl, Eksenel	RGE45°	241	1x BL15° 1x BR15°
Kesici Tırtıl, Eksenel	RAA	231	1x BR30°
Ezme Tırtıl, Dairesel	RKV	131	1x KE
Ezme Tırtıl, Dairesel	RKE	132	1x KV
Ezme Tırtıl, Dairesel	RGE45°	141	1x BL45° 1x BR45°
Ezme Tırtıl, Dairesel + Köşeye Kadar Eksenel	RAA	162	2x AA
Küresel Boncuk Dairesel	RHE	131	1x HV
Ezme Tırtıl, Dairesel	RE	131	1x C
Ezme Tırtıl, Dairesel	RC	131	1x E
Ezme Tırtıl, Dairesel	RKAA	311	1x KAA
Ezme Tırtıl, Eksenel	RAA-face	311	1x AA
Ezme Tırtıl	RKGV	311	1x KGE
Dairesel Markalama	zeus	130	40 W
Yaylı Kısmi Markalama	hommel+keller.de	431	41 W

45°'lik profiller Hommel+Keller Präzisionswerkzeuge GmbH'da standarttır, ancak DIN 403 ve DIN 82'de tanımlanmamıştır.

	RAA	RBL / RBR	RGE	RGV	RKE	RKV
Ezme Tırtıl İşlemleri	Ezme Tırtıl Kater Seçimi					
	İş parçası merkezinde tırtıl	131 141 161	131 (E) 141 161	131 (E)		
	Tırtıl, iş parçasının başlangıcından itibaren başlar	131 141 161 191 391	131 (E) 141 161 191 391			
	Tırtıl açma işlemi iş parçası merkezinden başlar	131 141 161	131 (E) 141 161			
	Tırtıl, iş parçası merkezinden başlayarak köşeye kadar ilerler	132 142 162	132 (E) 142 162	132 (E)		
	Tırtıl, iş parçasının başlangıcından köşeye kadar ilerler	132 142 162 192	132 (E) 142 162 192			
	Konik tırtıl	311 312 161	161	311 312	—	—
	Delik içine tırtıl	330 332	330 (E) 332 (E) 342	330 (E) 332 (E)		
Kesici Tırtıl İşlemleri	Kesme Tırtıl Kater Seçimi					
	Tırtılın iş parçası başlangıcından itibaren başlar	231	231 Note installation See RW231 (P. 22)	241 291	—	—
	Tırtıl açma işlemi iş parçası merkezinden başlar dalma kesiminden sonra			241	—	—



Tüm tırtıl profilleri için ideal, son derece kolay kullanım özelliği

İş Parçasındaki Tırtıl Profilleri (DIN 82):
Dalma Tırtıl



İlerleyerek Tırtıl



Tırtıl seçimi:

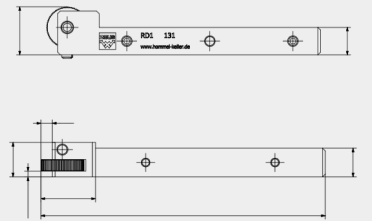


Ürün Özellikleri:

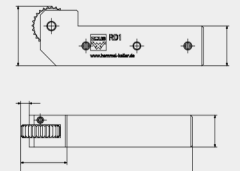
- Click-Pin® sistemi ile donatılmış tüm tutucular tırtılların hızlı bir şekilde yeniden takılmasını sağlar
- Açıklık açısı düzeltmesi için şaftta ayar vidaları
- Karbür pim

	Ürün Kodu (Sağ Versiyon)	EURO €		Ürün Kodu (Sol Versiyon)	EURO €	Model	Tırtıl Kateri Ölçüleri (Ø x w x b) [mm]	İş Parçası Ø [mm]	Ürün Kodu Pim
	31013703	140.31 €		31013704	140.31 €	131-08	10 / 15 x 4 x 4	3 - 50	06TER1015
	31002706	140.31 €		31002709	140.31 €	131-10	10 / 15 x 4 x 4	3 - 50	06TER1015
	31013690	140.31 €		31013691	140.31 €	131-10	15 x 6 x 4	3 - 50	06TER1036
	31002707	140.31 €		31002710	140.31 €	131-12	10 / 15 x 4 x 4	3 - 50	06TER1015
	31013692	200.39 €		31013693	200.39 €	131-12	20 / 25 x 6 x 6	8 - 200	06TER1018
	31013694	200.39 €		31013695	200.39 €	131-12	20 / 25 x 8 x 6	8 - 200	06TER1018
	31013696	140.31 €		31013697	140.31 €	131-14	10 / 15 x 6 x 4	3 - 50	06TER1036
	31013698	200.39 €		31013699	200.39 €	131-14	20 / 25 x 6 x 6	8 - 200	06TER1018
	31002708	140.31 €		31002711	140.31 €	131-16	10 / 15 x 4 x 4	3 - 50	06TER1036
	31013700	200.39 €		31013701	200.39 €	131-16	20 / 25 x 6 x 6	8 - 200	06TER1018
	31003646	200.39 €		31003647	200.39 €	131-16	20 / 25 x 8 x 6	8 - 200	06TER1018
	31000714				200.39 €	131-20	20 / 25 x 8 x 6	8 - 200	06TER1018
	31013702				200.39 €	131-20	20 / 25 x 10 x 6	8 - 200	06TER1018
	31000715				200.39 €	131-25	20 / 25 x 8 x 6	8 - 200	06TER1018

	Ürün Kodu (Sağ Versiyon)	EURO €		Ürün Kodu (Sol Versiyon)	EURO €	Boyutlar						
						a	b	c	d	e	f	x
	31013703	140.31 €		31013704	140.31 €	8	8	99	12	19	15.5	1.5 / 4
	31002706	140.31 €		31002709	140.31 €	10	10	99	12	19	17.5	1.5 / 4
	31013690	140.31 €		31013691	140.31 €	10	10	99	16	19	17.5	1.5 / 4
	31002707	140.31 €		31002710	140.31 €	12	12	99	12	19	19.5	1.5 / 4
	31013692	200.39 €		31013693	200.39 €	12	12	109.5	20	29.5	24.5	3 / 5.5
	31013694	200.39 €		31013695	200.39 €	12	12	109.5	20	29.5	24.5	3 / 5.5
	31013696	140.31 €		31013697	200.39 €	14	14	99	16	19	21.5	1.5 / 4
	31013698	200.39 €		31013699	200.39 €	14	14	109.5	20	29.5	26.5	3 / 5.5
	31002708	140.31 €		31002711	140.31 €	16	16	99	16	19	23.5	4
	31013700	200.39 €		31013701	200.39 €	16	16	109.5	20	29.5	28.5	3 / 5.5
	31003646	200.39 €		31003647	200.39 €	16	16	113.5	20	33.5	28.5	6.5



	Ürün Kodu (Sağ Versiyon)	EURO €	Boyutlar						
			a	b	c	d	e	f	x
	31000714	200.39 €	20	20	109.5	20	29.5	32.5	3 / 5.5
	31013702	200.39 €	20	20	109.5	20	29.5	32.5	3 / 5.5
	31000715	200.39 €	25	20	109.5	20	29.5	37.5	3 / 5.5





iş parçasının köşesine kadar
yanaşabilir

İş Parçasındaki Tırtıl Profilleri (DIN 82):
Dalma Tırtıl



İlerleyerek Tırtıl



Tırtıl Seçimi:

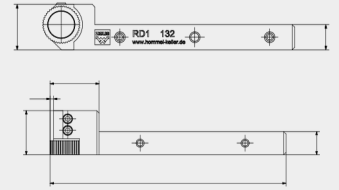


Ürün Özellikleri:

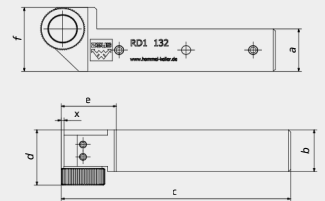
- Tırtıl sert metal vida ile sabitlenmiştir
- Sapta açılabilir vidası vardır
- Modüler sap tasarımı: Sap ölçüsü 10x10 opsiyonel olarak adapte edilir

	Ürün Kodu (Sağ Versiyon)	EURO €		Ürün Kodu (Sol Versiyon)	EURO €	MODEL	Tırtıl Kateri Ölçüleri (Ø x w x b) [mm]	İş Parçası Ø [mm]	Ürün Kodu Pim	Ürün Kodu Pul	Ürün Kodu Grup Vida
	31002726	305.76€		31002727	305.76€	132-10	15 x 6 x 6A11	3 - 50	06TER0444	21BHR0375	06TER2147
	31002227	305.76€		31002728	305.76€	132-12	15 x 6 x 6A11	3 - 50	06TER0444	21BHR0375	06TER2147
	31002729	305.76€		31002730	305.76€	132-16	15 x 6 x 6A11	3 - 50	06TER0444	21BHR0375	06TER2147
	31000742				331.96 €	132-20	20 x 8 x 6A13	8 - 200	06TER0445	21BHR0380	06TER2101
	31000743				344.54 €	132-25	20 x 8 x 6A13	8 - 200	06TER0445	21BHR0380	06TER2101

	Ürün Kodu (Sağ Versiyon)	EURO €		Ürün Kodu (Sol Versiyon)	EURO €	Boyutlar						
						a	b	c	d	e	f	x
	31002726	305.76€		31002727	305.76€	10	10	101	19	21	18	1.5
	31002227	305.76€		31002728	305.76€	12	12	101	19	21	20	1.5
	31002729	305.76€		31002730	305.76€	16	16	101	19	21	24	1.5



	Ürün Kodu	EURO €	Boyutlar						
			a	b	c	d	e	f	x
	31000742	331.96 €	20	20	105.3	26.5	25.3	30	1.3
	31000743	344.54 €	25	20	105.3	26.5	25.3	35	1.3



Eksenel tırtıl çekme için
idealdir

İş Parçasındaki Tırtıl Profilleri (DIN 82):
İlerleyerek tırtıl çekme



Tırtıl Seçimi:

2x AA	2x BR	2x BL	1x BL / 1x BR
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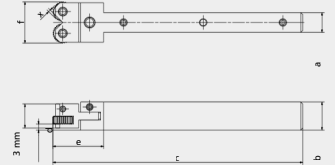
Ürün Özellikleri:

- Sap ölçüsü 20 x 20 mm ve 25 x 25 mm Click-Pim® sistem ile kolay tırtıl değişimi
- Modüler Tasarım: takım sağ ve sol olarak kullanılabilir
- Knurling head with flexible centring
- Açı ayar vidası
- Karbür Pim
- LD = İsviçre tipi tezgahları için model



	Ürün Kodu	EURO €	MODEL	Tırtıl Kateri Ölçüleri (Ø x w x b) [mm]	İş Parçası Ø [mm]	Ürün Kodu Pim	Ürün Kodu Grup Vida	Ürün Kodu Knurling Head
	31013761	269.32 €	141-10-LD	10 x 4 x 4	3 - 25	06TER0960	06TER2154	21BHR0528
	31013762	269.32 €	141-12-LD	10 x 4 x 4	3 - 25	06TER0960	06TER2154	21BHR0528
	31013763	269.32 €	141-16-LD	15 x 4 x 4	3 - 50	06TER0964	06TER2154	21BHR9779
	31002702	269.32 €	141-10	10 x 4 x 4	3 - 25	06TER0960	06TER2154	21BHR0528
	31002703	269.32 €	141-12	10 x 4 x 4	3 - 25	06TER0960	06TER2154	21BHR0528
	31002658	269.32 €	141-16	15 x 4 x 4	6 - 60	06TER0964	06TER2155	21BHR1791
	31000741	269.32 €	141-16	15 x 6 x 4	6 - 60	06TER0964	06TER2155	21BHR0529
	31003648	319.27 €	141-16	20 x 8 x 6	10 - 110	06TER1018	06TER1016	21BHR1795
	31002704	319.27 €	141-20	20 x 8 x 6	10 - 110	06TER1018	06TER1016	21BHR1795
	31002705	344.54 €	141-25	20 x 8 x 6	10 - 110	06TER1018	06TER1016	21BHR1795
	31002721	344.54 €	141-25	25 x 8 x 6	15 - 220	06TER1018	06TER1016	21BHR1796

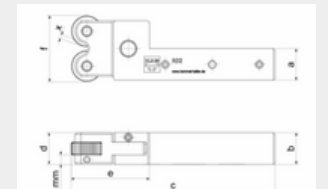
	Ürün Kodu	EURO €	Boyutlar						
			a	b	c	d	e	f	x
	31013761	269.32 €	10	14	125.5	12	25.5	21	1
	31013762	269.32 €	12	14	125.5	12	25.5	21	1
	31013763	269.32 €	16	16	135	16	32.5	30.4	2.5



	Ürün Kodu	EURO €	Boyutlar						
			a	b	c	d	e	f	x
	31002702	269.32 €	10	10	105.5	12	25.5	21	1
	31002703	269.32 €	12	12	105.5	12	25.5	22.5	1
	31002658	269.32 €	16	16	119	16	39	33	1.5
	31000741	269.32 €	16	16	119	16	39	33	1.5



	Ürün Kodu	EURO €	Boyutlar						
			a	b	c	d	e	f	x
	31003648	319.27 €	16	16	130	20	50	42	2.5
	31002704	319.27 €	20	20	130	20	50	42	2.5
	31002705	344.54 €	25	20	130	20	50	46	2.5
	31002721	344.54 €	25	20	136	20	56	55	2.5



Eksenel tırtıl çekme için iş parçasının köşesine kadar yanaşabilir

İş Parçasındaki Tırtıl Profilleri (DIN 82):
İlerleyerek tırtıl çekme



Tırtıl Seçimi:

2x AA	2x BR	2x BL	1x BL / 1x BR
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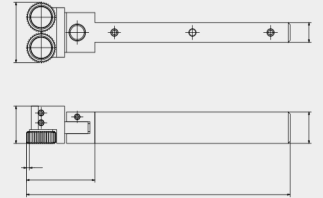
Ürün Özellikleri:

- Tırtıl karbir vida ile sabitlenmiştir
- Modüler tasarım: takım sağ ve sol olarak kullanılabilir
- Retooling by simply turning the knurling head
- Knurling head with flexible centring
- Açık ayar vidası vardır
- LD = İsviçre tipi tezgahları için model

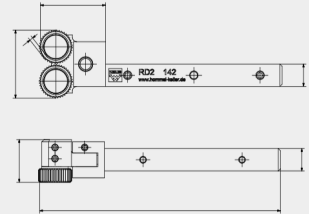
	Ürün Kodu	EURO €	MODEL	Tırtıl Kateri Ölçüleri (Ø x w x b) [mm]	İş Parçası Ø [mm]	Ürün Kodu Pim	Ürün Kodu Grup Vida	Ürün Kodu Washer (??)	Item No. Knurling Head (??)
	31003957	363.40 €	142-10-LD	15 x 6 x 6A11	3 – 40	06TER0444	06TER2154	21BHR0375	21BHR9778
	31003958	363.40 €	142-12-LD	15 x 6 x 6A11	3 – 40	06TER0444	06TER2154	21BHR0375	21BHR9778
	31003959	363.40 €	142-16-LD	15 x 6 x 6A11	3 – 40	06TER0444	06TER2154	21BHR0375	21BHR9778
	31002801	363.40 €	142-10	15 x 6 x 6A11	3 – 40	06TER0444	06TER2154	21BHR0375	21BHR1797
	31002803	363.40 €	142-12	15 x 6 x 6A11	3 – 40	06TER0444	06TER2154	21BHR0375	21BHR1797
	31000751	363.40 €	142-16	15 x 6 x 6A11	10 – 110	06TER0444	06TER2155	21BHR0375	21BHR0532
	31000752	444.56 €	142-20	20 x 8 x 6A13	10 – 110	06TER0445	06TER1016	21BHR0380	21BHR0533
	31000753	444.56 €	142-25	20 x 8 x 6A13	10 – 110	06TER0445	06TER1016	21BHR0380	21BHR0533



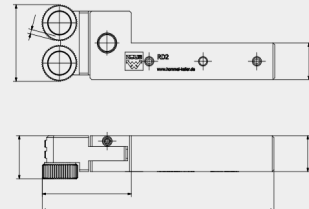
	Ürün Kodu	EURO €	Boyutlar						
			a	b	c	d	e	f	x
	31003957	363.40 €	10	16	135	19	35	30.3	2.4
	31003958	363.40 €	12	16	135	19	35	30.3	2.4
	31003959	363.40 €	16	16	135	19	35	30.3	2.4



	Ürün Kodu	EURO €	Boyutlar						
			a	b	c	d	e	f	x
	31002801	363.40 €	10	10	110	19	30	30.4	1.5
	31002803	363.40 €	12	12	110	19	30	30.4	1.5
	31000751	363.40 €	16	16	118	19	39	33	1.5



	Ürün Kodu	EURO €	Boyutlar						
			a	b	c	d	e	f	x
	31000752	444.56 €	20	20	130	24	50	42	1.2
	31000753	444.56 €	25	20	130	24	50	46	1.2





Küçük parçalar için
ideal

İş Parçasındaki Tırtıl Profilleri (DIN 82):
Dalma ve ilerleyerek tırtıl çekme



Tırtıl Seçimi:

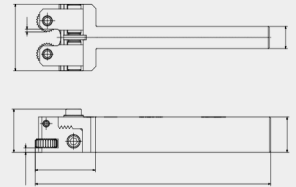
2x AA	2x BR	2x BL	1x BL / 1x BR
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Ürün Özellikleri:

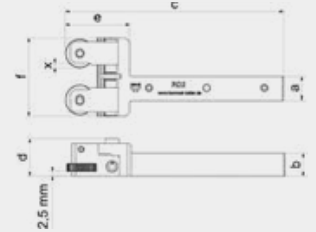
- Senkron yapısı ile iş parçasının çapına uyum sağlar
- Açık ayar vidası vardır
- Karbür pin
- LD = İsviçre tipi tornalar için

	Item no. (right-hand version)	EURO €		Item no. (left-hand version)	EURO €	Model	Tırtıl Kateri Ölçüleri (Ø x w x b) [mm]	İş Parçası Ø [mm]	Ürün Kodu Pim	Ürün Kodu Grup Vida	Item No. Jaws (???)
	31013787	607.22 €			607.22 €	161-08-LD	10 x 4 x 4	0 – 12.5	06TER0964	06TER2155	21BHR9748
	31013788	607.22 €			607.22 €	161-10-LD	10 x 4 x 4	0 – 12.5	06TER0964	06TER2155	21BHR9748
	31013789	607.22 €			607.22 €	161-12-LD	10 x 4 x 4	0 – 12.5	06TER0964	06TER2155	21BHR9748
	31013790	607.22 €			607.22 €	161-16-LD	10 x 4 x 4	0 – 12.5	06TER0964	06TER2155	21BHR9748
	31002719	607.22 €		31002720	607.22 €	161-10	15 x 4 x 4	0 – 15	06TER0964	06TER2155	21BHR1672
	31002722	607.22 €		31002723	607.22 €	161-12	15 x 4 x 4	0 – 15	06TER0964	06TER2155	21BHR1672
	31002724	607.22 €		31002725	607.22 €	161-16	15 x 4 x 4	0 – 15	06TER0964	06TER2155	21BHR1672
	31002127	663.90 €			663.90 €	161-20	20 x 8 x 6 25 x 8 x 6	3.5 – 65 0 – 65	21BHR1248 06TER2147	06TER2147	21BHR1213
	31002176	663.90 €			663.90 €	161-25	20 x 8 x 6 25 x 8 x 6	3.5 – 65 0 – 65	21BHR1248 06TER2147	06TER2147	21BHR1213

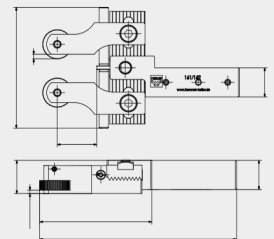
	Ürün Kodu	EURO €	Boyutlar							
			a	b	c	d	e	f	x	xa
	31013787	607.22 €	8	16	107.4	19.6	27.4	30	1.3	5.4
	31013788	607.22 €	10	16	107.4	19.6	27.4	30	1.3	5.4
	31013789	607.22 €	12	16	107.4	19.6	27.4	30	1.3	5.4
	31013790	607.22 €	16	16	107.4	19.6	27.4	30	1.3	5.4



	Item no. (right-hand version)	EURO €		Item no. (left-hand version)	EURO €	Boyutlar							
						a	b	c	d	e	f	x	xa
	31002719	607.22 €		31002720	607.22 €	10	10	113.4	19.6	33.4	40	2.5	8.9
	31002722	607.22 €		31002723	607.22 €	12	12	113.4	19.6	33.4	40	2.5	8.9
	31002724	607.22 €		31002725	607.22 €	16	16	113.4	19.6	33.4	40	2.5	8.9



	Ürün Kodu	EURO €	Boyutlar							
			a	b	c	d	e	f	x	xa
	31002127	663.93 €	20	25	164.8	28.4	92.8	103	1.5	33.5
			20	25	167.3	28.4	95.3	103	4	33.5
	31002176	663.93 €	25	25	167.3	28.4	92.8	103	1.5	33.5
			25	25	167.3	28.4	95.3	103	4	33.5



Küçük parçalar için ve parçanın köşesine kadar yanaşabilmek için

İş Parçasındaki Tırtıl Profilleri (DIN 82):
Dalarak ve ilerleyerek tırtıl çekme



Tırtıl seçimi:

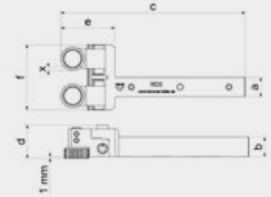
2x AA	2x BR	2x BL	1x BL / 1x BR
-------	-------	-------	---------------

Ürün Özellikleri:

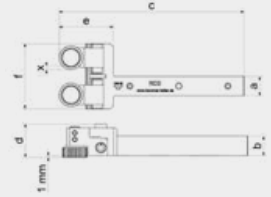
- Tırtıl karbür vida ile sabitlenmiştir
- Senkron yapısı ile iş parçasının çapına uyum sağlar
- Açık ayar vidası vardır
- Modüler sap tasarımı: 10 x 10 mm sap ölçüsü adapte edilebilir
- LD = İsviçre tipi tornalar için

	Item no. (right-hand version)	EURO €		Item no. (left-hand version)	EURO €	Model	Tırtıl Kateri Ölçüleri (Ø x w x b) [mm]	İş Parçası Ø [mm]	Ürün Kodu Pim	Item no. Grub screw	Item No. Jaws	Item no. Jaws	
	31002713	695.25 €		31002716	695.25 €	162-10	15 x 6 x 6A11	0 – 15	06TER0444	06TER2155	21BHR0375	21BHR1673	
	31002714	695.25 €		31002717	695.25 €	162-12	15 x 6 x 6A11	0 – 15	06TER0444	06TER2155	21BHR0375	21BHR1673	
	31002715	695.25 €		31002718	695.25 €	162-16	15 x 6 x 6A11	0 – 15	06TER0444	06TER2155	21BHR0375	21BHR1673	
	31002128				713.99 €	162-20	20 x 8 x 6A13	3.5 – 65	06TER0445	06TER2147	21BHR0380	21BHR1214	21BHR1673
	31002178				713.99 €	162-25	20 x 8 x 6A13	3.5 – 65	06TER0445	06TER2147	21BHR0380	21BHR1214	21BHR1214

	Item no. (right-hand version)	EURO €		Item no. (left-hand version)	EURO €	Boyutlar							
						a	b	c	d	e	f	x	xa
	31002713	695.25 €		31002716	695.25 €	10	10	113.4	20.6	33.4	40	2.5	8.9
	31002714	695.25 €		31002717	695.25 €	12	12	113.4	20.6	33.4	40	2.5	8.9
	31002715	695.25 €		31002718	695.25 €	16	16	113.4	20.6	33.4	40	2.5	8.9



	Item no. (right-hand version)	EURO €	Boyutlar							
			a	b	c	d	e	f	x	xa
	31002128	713.99 €	20	25	164.8	28.4	92.8	103	1.5	33.5
	31002178	713.99 €	25	25	164.8	28.4	92.8	103	1.5	33.5



Set içeriği:



- 1pc. - 31002707 - RW131-12R150404-A
- 1pc. - 31002703 - RW141-12M100404-A
- 2pcs. - 41008170 - AA-1044-0.5-11
- 2pcs. - 41008452 - AA-1044-0.6-11
- 2pcs. - 41007356 - AA-1044-0.8-11
- 1pc. - 41007191 - AA-1544-0.5-11
- 1pc. - 41007312 - AA-1544-0.6-11
- 1pc. - 41007807 - AA-1544-0.8-11
- 1pc. - 41010091 - BL30-1044-0.5-11
- 1pc. - 41008997 - BL30-1044-0.6-11
- 1pc. - 41011077 - BL30-1044-0.8-11
- 1pc. - 41010092 - BR30-1044-0.5-11
- 1pc. - 41008998 - BR30-1044-0.6-11
- 1pc. - 41011072 - BR30-1044-0.8-11
- 1pc. - 06TER6724 - INBUS-SW1.5

İş parçasındaki tırtıl profilleri (DIN82) 131 için:
[Dalarak ve ilerleyerek tırtıl çekme](#)



Bu profillere uygun tırtıllar:



İş parçasındaki tırtıl profilleri (DIN82) 141 için:
[Dalarak ve ilerleyerek tırtıl çekme](#)



Bu profillere uygun tırtıllar:



	Ürün Kodu	EURO €	Item No. Holder	MODEL	Tırtıl Kateri Ölçüleri (Ø x w x b) [mm]	İş Parçası Ø [mm]
	31002691	857.91€	31002707	131-12	15 x 4 x 4	3 – 50
			31002703	141-12	15x4x4	3 - 25

Set 100-16

Set içeriği:



- 1pc. - 31002708 - RW131-16R150404-A
- 1pc. - 31002658 - RW141-16M150404-A
- 3pcs. - 41007312 - AA-1544-0.6-11
- 3pcs. - 41007807 - AA-1544-0.8-11
- 3pcs. - 41007737 - AA-1544-1.0-11
- 1pc. - 41007033 - BL30-1544-0.6-11
- 1pc. - 41011079 - BL30-1544-0.8-11
- 1pc. - 41008148 - BL30-1544-1.0-11
- 1pc. - 41007032 - BR30-1544-0.6-11
- 1pc. - 41011074 - BR30-1544-0.8-11
- 1pc. - 41008147 - BR30-1544-1.0-11
- 1pc. - 06TER6724 - INBUS-SW1.5

İş parçasındaki tırtıl profilleri (DIN82) 131 için:
[Dalarak ve ilerleyerek tırtıl çekme](#)



Bu profillere uygun tırtıllar:



İş parçasındaki tırtıl profilleri (DIN82) 141 için:
[Dalarak ve ilerleyerek tırtıl çekme](#)



Bu profillere uygun tırtıllar:



	Ürün Kodu	EURO €	Item No. Holder	MODEL	Tırtıl Kateri Ölçüleri (Ø x w x b) [mm]	İş Parçası Ø [mm]
	31002694	908.21€	31002708	131-16	10 / 15 x 4 x 4	3 – 50
			31002658	141-16	15 x 4 x 4	6 – 60

Set içeriği:

- 1pc. - 31000714 - RW131-20U250806-A
- 1pc. - 31002704 - RW141-20M200806-B
- 3pcs. - 41008208 - AA-2086-0.8-11
- 3pcs. - 41007357 - AA-2086-1.0-11
- 3pcs. - 41008354 - AA-2086-1.5-11
- 1pc. - 41008999 - BL30-2086-0.8-11
- 1pc. - 41008918 - BL30-2086-1.0-11
- 1pc. - 41010397 - BL30-2086-1.5-11
- 1pc. - 41009000 - BR30-2086-0.8-11
- 1pc. - 41008917 - BR30-2086-1.0-11
- 1pc. - 41010398 - BR30-2086-1.5-11
- 1pc. - 06TER6719 - INBUS-SW2

İş parçasındaki tırtıl profilleri (DIN82) 131 için:
Dalarak ve ilerleyerek tırtıl çekme



Bu profillere uygun tırtıllar:



İş parçasındaki tırtıl profilleri (DIN82) 141 için:
Dalarak ve ilerleyerek tırtıl çekme



Bu profillere uygun tırtıllar:



	Ürün Kodu	EURO €	Item No. Holder	MODEL	Tırtıl Kateri Ölçüleri (Ø x w x b) [mm]	İş Parçası Ø [mm]
	31002695	1.070.88€	31000714	131-20	20 / 25 x 8 x 6	8 – 200
			31002704	141-20	20 x 8 x 6	10 – 110

Set 100-25

Set içeriği:

- 1pc. - 31000715 - RW131-25U250806-A
- 1pc. - 31002705 - RW141-25M200806-B
- 3pcs. - 41008208 - AA-2086-0.8-11
- 3pcs. - 41007357 - AA-2086-1.0-11
- 3pcs. - 41008354 - AA-2086-1.5-11
- 1pc. - 41008999 - BL30-2086-0.8-11
- 1pc. - 41008918 - BL30-2086-1.0-11
- 1pc. - 41010397 - BL30-2086-1.5-11
- 1pc. - 41009000 - BR30-2086-0.8-11
- 1pc. - 41008917 - BR30-2086-1.0-11
- 1pc. - 41010398 - BR30-2086-1.5-11
- 1pc. - 06TER6719 - INBUS-SW2

İş parçasındaki tırtıl profilleri (DIN82) 131 için:
Dalarak ve ilerleyerek tırtıl çekme



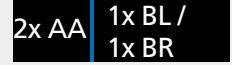
Bu profillere uygun tırtıllar:



İş parçasındaki tırtıl profilleri (DIN82) 141 için:
Dalarak ve ilerleyerek tırtıl çekme



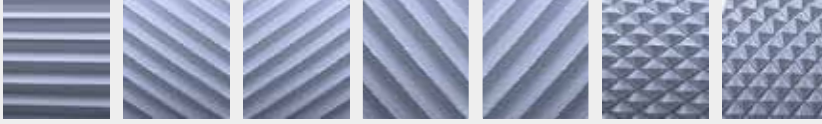
Bu profillere uygun tırtıllar:



	Ürün Kodu	EURO €	Item No. Holder	MODEL	Tırtıl Kateri Ölçüleri (??) (Ø x w x b) [mm]	Workpiece Ø [mm]
	31002696	1.070.88€	31000715	131-25	20 / 25 x 8 x 6	8 – 200
			31002705	141-25	20 x 8 x 6	10 – 110

Kesici tırtıl katerleri ve profillerine göre tırtılları aşağıdaki tabloda bulabilirsiniz.

İş parçasında tırtıl profilleri :



RAA RBR30° RBL30° RBR45° RBL45° RGE30° RGE45°

Tırtıl Kateri	İş Parçası Ø [mm]	İş Parçasındaki profil	Tırtıldaki Profil	Kater Sapı [mm]	Tırtıl Ø [mm]	Tırtıl Çekme İşlemi	RAA	RBL	RBR	RGE
 231	0 – 15 / 3 – 50 10 – 300	RAA RBR30° RBL30° RBR45° RBL45°	1x BR30° 1x AA 1x AA 1x BL15° 1x BR15°	10 / 12 / 16 20 / 25	10 / 15 25	İş parçasının başlangıcından itibaren tırtıl Daldırma kesimi sonrasında başlayan tırtıl	• •	• •	• •	– –
 241	3 – 50 10 – 250	RGE30° RGE45°	2x AA 1x BR15° / 1x BL15°	10 / 12 / 16 / 20 16 / 20 / 25	15 25	İş parçasının başlangıcından itibaren tırtıl Daldırma kesimi sonrasında başlayan tırtıl	– –	– –	– –	• •

DEĞİŞTİRİLEBİLİR ÇENELİ EZME TIRTIL VE KESİCİ TIRTIL BAŞLIKLARI

Tırtıl Başlığı	İş Parçası Ø [mm]	İş Parçasındaki profil	Tırtıldaki Profil	Kater Sapı [mm]	Tırtıl Ø [mm]	Tırtıl Çekme İşlemi	RAA	RBL	RBR	RGE
 191	2 – 13.5 3 – 8.5	RAA RBR30° RBL30° RBR45° RBL45° RGE30° RGE45°	3x AA 3x BL30° 3x BR30° 3x BL45° 3x BR45° 1x BL30° + 2x BR30° or 2x BL30° + 1x BR30° 1x BL45° + 2x BR45° or 2x BL45° + 1x BR45°	Ø 12	10 15	İş parçasından başlayarak Tırtıl başlangıcı	•	•	•	•
 192	3 – 12	RAA RBR30° RBL30° RBR45° RBL45° RGE30° RGE45°	3x AA 3x BL30° 3x BR30° 3x BL45° 3x BR45° 1x BL30° + 2x BR30° or 2x BL30° + 1x BR30° 1x BL45° + 2x BR45° or 2x BL45° + 1x BR45°	Ø 12	15	İş parçasının başlangıcından itibaren tırtıl	•	•	•	•
 291	3.5 – 13.5	RAA RGE30° RGE45°	1x BR30° + 2x BL30° 3x AA 2x BR15° + 1x BL15°	Ø 12	10	İş parçasının başlangıcından itibaren tırtıl	•	–	–	•

Modüler tasarım

İş parçasındaki profil (DIN82):
İlerleyerek tırtıl çekme

		
RAA	RBL 30° / 45°	RBR 30° / 45°

Tırtıl seçimi:

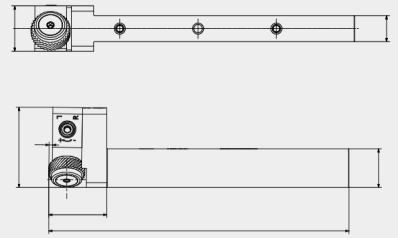
1x BR30° (right-hand use)	1x AA (left-hand use) /	1x AA (right-hand use)
1x BL30° (left-hand use)	1x BR15° (left-hand use)	1x BL15° (right-hand use)

Ürün Özellikleri:

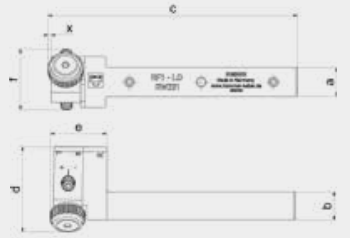
- Ölçüm ve konumlandırma kolaylığı
- Profile göre ince ayarlama
- Açı ayarlama
- Kaplamalı bilyalı yatak sürtünmeyi azaltır
- LD = İsviçre tezgahlarına uygun

	Ürün Kodu	EURO €	Model	Tırtıl Kateri Ölçüleri (Ø x w x b) [mm]	İş Parçası Ø [mm]	Ürün Kodu E-Kit (pul, yatak, vida)	Ürün Kodu Pul	Ürün Kodu Vida
	31003826	582.65 €	231-08 - LD	10 x 3 x 6	0 – 15	21BHR9757	--	06TER0390
	31003828	582.65 €	231-08 - LD	15 x 4 x 8	3 – 50	21BHR9758	06TER0125	06TER0448
	31003827	582.65 €	231-10- LD	10 x 3 x 6	0 – 15	21BHR9757	--	06TER0390
	31003829	582.65 €	231-10- LD	15 x 4 x 8	3 – 50	21BHR9758	06TER0125	06TER0448
	31003901	582.65 €	231-12- LD	10 x 3 x 6	0 – 15	21BHR9757	--	06TER0390
	31003900	582.65 €	231-12- LD	15 x 4 x 8	3 – 50	21BHR9758	06TER0125	06TER0448
	31003902	582.65 €	231-16- LD	10 x 3 x 6	0 – 15	21BHR9757	--	06TER0390
	31003903	582.65 €	231-16- LD	15 x 4 x 8	3 – 50	21BHR9758	06TER0125	06TER0448
	31002739	582.65 €	231-10	15 x 4 x 8	3 – 50	21BHR0792	06TER0125	06TER0443
	31002740	582.65 €	231-12	15 x 4 x 8	3 – 50	21BHR0792	06TER0125	06TER0390
	31002741	582.65 €	231-16	15 x 4 x 8	3 – 50	21BHR0792	06TER0125	06TER0390
	31003650	607.22 €	231-16	25 x 6 x 8	10 – 300	21BHR0506	21BHR0016	06TER0864
	31002652	607.22 €	231-20	25 x 6 x 8	10 – 300	21BHR0506	21BHR0016	06TER0864
	31002445	620.03 €	231-25	25 x 6 x 8	10 – 300	21BHR0506	21BHR0016	06TER0864

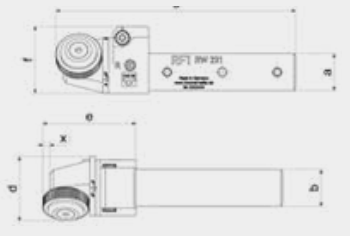
	Ürün Kodu	EURO €	Boyutlar						
			a	b	c	d	e	f	x
	31003826	582.65 €	8	16	120	33	20	17.5	0.5
	31003828	582.65 €	8	16	124	33	24	17.5	1.5
	31003827	582.65 €	10	16	120	33	20	17.5	0.5
	31003829	582.65 €	10	16	124	33	24	17.5	1.5
	31003901	582.65 €	12	16	120	33	20	17.5	0.5
	31003900	582.65 €	12	16	124	33	24	17.5	1.5
	31003902	582.65 €	16	16	120	33	20	17.5	0.5
	31003903	582.65 €	16	16	124	33	24	17.5	1.5



	Ürün Kodu	EURO €	Boyutlar						
			a	b	c	d	e	f	x
	31002739	582.65 €	10	10	104.1	36.2	24.1	25.3	1.2
	31002740	582.65 €	12	12	104.1	36.2	24.1	25.3	1.5
	31002741	582.65 €	16	16	104.1	36.2	24.1	25.3	0.5



	Ürün Kodu	EURO €	Boyutlar						
			a	b	c	d	e	f	x
	31003650	607.22 €	16	16	130.8	35	50.4	36.3	3.8
	31002652	607.22 €	20	20	130.4	35	50.4	36.3	3.7
	31002445	620.03 €	25	25	130.8	35	50.8	40	3.7





Sağlam ve güçlü yapı

İş parçasındaki profil (DIN82):
İlerleyerek tırtıl çekme



RGE30° RGE45°

Tırtıl seçimi:

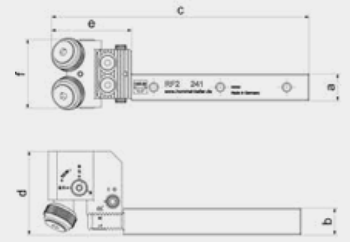
2x AA 1x BL15°/ 1x BR15°

Ürün Özellikleri:

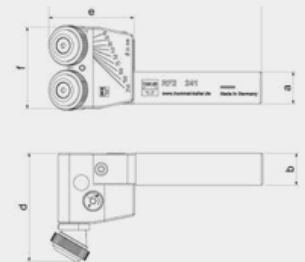
- Modüler tasarım. Sağ ve sol yönlü olarak kullanılır
- Kolay değişebilir
- Conversion to alternative full shank dimensions is possible
- Modüler sap tasarımı: Sap boyu 10 x 10 mm optionally adaptable
- İnce ayar, merkez yükseklik ayarı
- İnce aç ayarı
- Kaplamalı bilyalı yatak sürtünmeyi engeller. Dikey yükseklik ayarıyla 20mm sap 25mm de kullanılabilir

	Ürün Kodu	EURO €	Model	Tırtıl Kateri Ölçüleri (Ø x w x b) [mm]	Workpiece Ø [mm]	Ürün Kodu E-Kit (Pul, Yatak, Vida)	Ürün Kodu Pul	Ürün Kodu Vida
	31001926	889.23 €	241-10	15 x 4 x 8	3 - 50	21BHR0792	06TER0125	06TER0390
	31001901	889.23 €	241-12	15 x 4 x 8	3 - 50	21BHR0792	06TER0125	06TER0390
	31001945	889.23 €	241-16	15 x 4 x 8	3 - 50	21BHR0792	06TER0125	06TER0390
	31000804	1.258.92 €	241-20	15 x 4 x 8	3 - 50	21BHR0792	06TER0125	06TER0390
	31003651	1.365.35 €	241-16	25 x 6 x 8	10 - 250	21BHR0506	21BHR0016	06TER0864
	31000666	1.365.35 €	241-20	25 x 6 x 8	10 - 250	21BHR0506	21BHR0016	06TER0864
	31001899	1.365.35 €	241-25	25 x 6 x 8	10 - 250	21BHR0506	21BHR0016	06TER0864

	Ürün Kodu	EURO €	Boyutlar						
			a	b	c	d	e	f	x
	31001926	889.23 €	10	10	116	36.7	36	17.5	32.7
	31001901	889.23 €	12	12	116	37.7	36	17.5	32.7
	31001945	889.23 €	16	16	116	39.7	36	17.5	32.7
	31000804	1.258.92 €	20	20	116	44.7	36	17.5	36.7



	Ürün Kodu	EURO €	Boyutlar						
			a	b	c	d	e	f	
	31003651	1.365.35 €	16	20	133.3	68	53.3	53	
	31000666	1.365.35 €	20	20	133.3	67.7	53.3	53	
	31001899	1.365.35 €	25	20	133.3	67.8	53.3	52.9	



Set 200-12

Set içeriği:

- 1pc. - 31002740 - RW231-12M150408-A
- 1pc. - 31001901 - RW241-12M150408-A
- 1pc. - 41010764 - BL30-1548-0.5-16
- 1pc. - 41008587 - BL30-1548-0.6-16
- 1pc. - 41007857 - BL30-1548-0.8-16
- 1pc. - 41007309 - BR30-1548-0.5-16
- 1pc. - 41008402 - BR30-1548-0.6-16
- 1pc. - 41007045 - BR30-1548-0.8-16
- 1pc. - 41008406 - AA-1548-0.5-16
- 1pc. - 41008407 - AA-1548-0.6-16
- 1pc. - 41007464 - AA-1548-0.8-16
- 1pc. - 06TER6719 - INBUS-SW2
- 1pc. - 06TER6720 - INBUS-SW3
- 1pc. - 06TER6721 - INBUS-SW4
- 1pc. - 21BHR2187 - Setting gauge for RW231

İş parçasındaki profil (DIN82) 231 için:
İlerleyerek tırtıl çekme

		
RAA	RBL	RBR

Tırtıl seçimi:

1x BR30° (right-hand use)	1x AA (left-hand use)	1x AA (right-hand use)
1x BL30° (left-hand use)		

İş parçasındaki profil (DIN82) 241 için:
İlerleyerek tırtıl çekme


RGE30°

Tırtıl seçimi:

2x AA

	Ürün Kodu	EURO €	Item No. Holder	MODEL	Tırtıl Kateri Ölçüleri (Ø x w x b) [mm]	İş Parçası Ø [mm]
	31002697	1.828.07€	31002740	231-12	15 x 4 x 8	3 – 50
			31001901	241-12	15 x 4 x 8	3 – 50

Set 200-16

Set içeriği:

- 1pc. - 31002741 - RW231-16M150408-A
- 1pc. - 31001945 - RW241-16M150408-A
- 1pc. - 41008587 - BL30-1548-0.6-16
- 1pc. - 41007857 - BL30-1548-0.8-16
- 1pc. - 41007043 - BL30-1548-1.0-16
- 1pc. - 41008402 - BR30-1548-0.6-16
- 1pc. - 41007045 - BR30-1548-0.8-16
- 1pc. - 41007046 - BR30-1548-1.0-16
- 2pcs. - 41008407 - AA-1548-0.6-16
- 2pcs. - 41007464 - AA-1548-0.8-16
- 2pcs. - 41008409 - AA-1548-1.0-16
- 1pc. - 06TER6719 - INBUS-SW2
- 1pc. - 06TER6720 - INBUS-SW3
- 1pc. - 06TER6721 - INBUS-SW4
- 1pc. - 21BHR2187 - Setting gauge for RW231

İş parçasındaki profil (DIN82) 231 için:
İlerleyerek tırtıl çekme

		
RAA	RBL	RBR

Tırtıl seçimi:

1x BR30° (right-hand use)	1x AA (left-hand use)	1x AA (right-hand use)
1x BL30° (left-hand use)		

İş parçasındaki profil (DIN82) 241 için:
İlerleyerek tırtıl çekme


RGE30°

Tırtıl Seçimi :

2x AA

	Ürün Kodu	EURO €	Item No. Holder	MODEL	Tırtıl Kateri Ölçüleri (Ø x w x b) [mm]	İş Parçası Ø [mm]
	31002698	1.828.07€	31002741	231-16	15 x 4 x 8	3 – 50
			31001945	241-16	15 x 4 x 8	3 – 50

Set 200-20



Set İçeriği:

- 1pc. - 31002652 - RW231-20M250608-B
- 1pc. - 31000666 - RW241-20M250608-A1
- 1pc. - 41008501 - BL30-2568-0.8-16
- 1pc. - 41007031 - BL30-2568-1.0-16
- 1pc. - 41007424 - BL30-2568-1.5-16
- 1pc. - 41007752 - BR30-2568-0.8-16
- 1pc. - 41007465 - BR30-2568-1.0-16
- 1pc. - 41007197 - BR30-2568-1.5-16
- 2pcs. - 41001107 - AA-2568-0.8-16
- 2pcs. - 41001109 - AA-2568-1.0-16
- 2pcs. - 41001111 - AA-2568-1.5-16
- 1pc. - 06TER6720 - INBUS-SW3
- 1pc. - 06TER6722 - INBUS-SW5
- 1pc. - 06TER6723 - INBUS-SW6
- 1pc. - 21BHR2187 - Setting gauge for RW231

İş parçasındaki profil (DIN82) 231 için:
İlerleyerek tırtıl çekme

		
RAA	RBL	RBR

Tırtıl seçimi:

1x BR30° (right-hand use)	1x AA (left-hand use)	1x AA (right-hand use)
1x BL30° (left-hand use)		

İş parçasındaki profil (DIN82) 241 için:
İlerleyerek tırtıl çekme


RGE30°

Tırtıl seçimi:

2x AA

	Ürün Kodu	EURO €	Item No. Holder	MODEL	Tırtıl Kateri Ölçüleri (Ø x w x b) [mm]	İş Parçası Ø [mm]
	31002699	2.466.73€	31002652	231-20	25 x 6 x 8	10 – 300
			31000666	241-20	25 x 6 x 8	10 – 250

Set 200-25



Set İçeriği:

- 1pc. - 31002445 - RW231-25M250608-B
- 1pc. - 31001899 - RW241-25M250608-A1
- 1pc. - 41008501 - BL30-2568-0.8-16
- 1pc. - 41007031 - BL30-2568-1.0-16
- 1pc. - 41007424 - BL30-2568-1.5-16
- 1pc. - 41007752 - BR30-2568-0.8-16
- 1pc. - 41007465 - BR30-2568-1.0-16
- 1pc. - 41007197 - BR30-2568-1.5-16
- 2pcs. - 41001107 - AA-2568-0.8-16
- 2pcs. - 41001109 - AA-2568-1.0-16
- 2pcs. - 41001111 - AA-2568-1.5-16
- 1pc. - 06TER6720 - INBUS-SW3
- 1pc. - 06TER6722 - INBUS-SW5
- 1pc. - 21BHR2187 - INBUS-SW6
- 1pc. - 21BHR2187 - Setting gauge for RW231

İş parçasındaki profil (DIN82) 231 için:
İlerleyerek tırtıl çekme

		
RAA	RBL	RBR

Tırtıl seçimi:

1x BR30° (right-hand use)	1x AA (left-hand use)	1x AA (right-hand use)
1x BL30° (left-hand use)		

İş parçasındaki profil (DIN82) 241 için:
İlerleyerek tırtıl çekme


RGE30°

Tırtıl seçimi:

2x AA

	Ürün Kodu	EURO €	Item No. Holder	MODEL	Tırtıl Kateri Ölçüleri (Ø x w x b) [mm]	İş Parçası Ø [mm]
	31002700	2.480.00€	31002445	231-25	25 x 6 x 8	10 – 300
			31001899	241-25	25 x 6 x 8	10 – 250

KNURLING TOOL WITH CUT JAWS:

291



KNURLING TOOL WITHFORM JAWS:

191



KNURLING TOOL WITHFORM JAWS:

192



İş parçasındaki tırtıl profilleri (DIN82) 291 için:



Bu profillere uygun tırtıllar (DIN403):

1x BR30° | 3x AA | 2x BR15°
2x BL30° | 1x BL15°

İş parçasındaki tırtıl profilleri (DIN82) 191 ve 192 için:

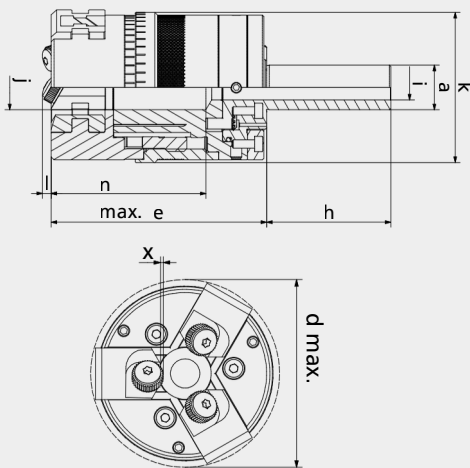


Bu profillere uygun tırtıllar (DIN 403):

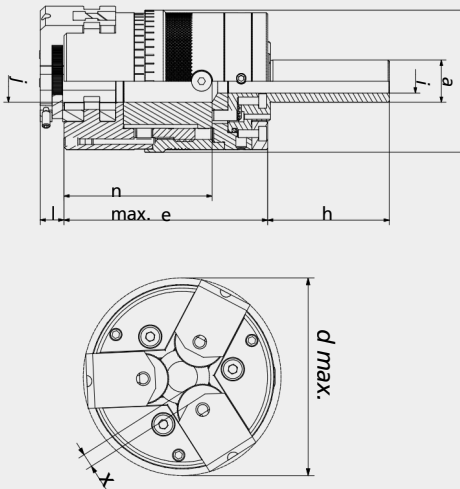
3xAA | 3x BL30° | 3xBR30° | 3x BL45° | 3x BR45° | 1x BR30° | 1x BR45°
2x BL 30° | 2x BR45° or
1x BL 30° | 1x BL 45°

	Ürün Kodu	EURO €	Model	İş Parçası Ø [mm]	Tırtıl Kateri Ölçüleri (Ø x w x b) [mm]	Ürün Kodu E-KIT (pul, yatak, Torx)	Ürün Kodu Pim	Ürün Kodu Grub screw	Ürün Kodu Interchangeable jaws
	31001946	2.223.49€	291-12	3.5-13.5	10 x 3 x 6	21BHR0791	-	-	21BHR1127
	31001902	1.972.80€	191-12	2-13.5	10 x 4 x 4	-	06TER0960	06TER2153	21BHR1096
				3-8.5	15 x 4 x 4	-	06TER0960	06TER2153	21BHR1096
	31001948	2.098.09€	192-12	3-12	15 x 6 x 6A8	21BHR0510	-	-	21BHR1128

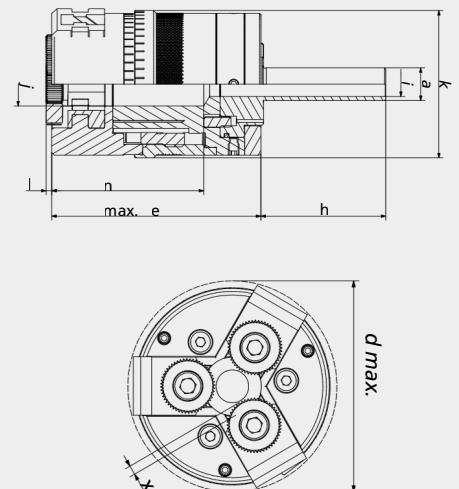
BOYUTLAR 291



BOYUTLAR 191



BOYUTLAR 192



	Ürün Kodu	EURO €	a Ø	d max	e	h	i Ø	j Ø	k Ø	l	n max	x Ø
	31003651	1.365.35 €	12	57	78	45	9	16	54	3	56	2.5
	31000666	1.365.35 €	12	57	78	45	9	16	54	9	56	1.5
												4
	31001899	1.365.35 €	12	57	78	45	9	16	54	2	56	2.5



AA

DIN 403'e göre zeus tirtillar, DIN 82'ye göre profiller için, 45° pahlı, PM

	Ürün Kodu	EURO €	Product group	Profil	Spiral angle	Çap Ø (mm)	Genişlik (mm)	Delik (mm)	Hatve (mm)
	41014502	31.21 €	11	AA	0	10	4	4	0.3
	41009690	31.21 €	11	AA	0	10	4	4	0.4
	41008170	31.21 €	11	AA	0	10	4	4	0.5
	41008452	31.21 €	11	AA	0	10	4	4	0.6
	41010150	31.21 €	11	AA	0	10	4	4	0.7
	41007356	31.21 €	11	AA	0	10	4	4	0.8
	41010136	31.21 €	11	AA	0	10	4	4	1
	41011071	31.21 €	11	AA	0	10	4	4	1.2
	41015697	31.21 €	11	AA	0	10	4	4	1.5
	41013392	34.93 €	11	AA	0	15	4	4	0.3
	41012169	34.93 €	11	AA	0	15	4	4	0.4
	41007191	34.93 €	11	AA	0	15	4	4	0.5
	41007312	34.93 €	11	AA	0	15	4	4	0.6
	41011113	34.93 €	11	AA	0	15	4	4	0.7
	41007807	34.93 €	11	AA	0	15	4	4	0.8
	41015073	34.93 €	11	AA	0	15	4	4	0.9
	41007737	34.93 €	11	AA	0	15	4	4	1
	41007748	34.93 €	11	AA	0	15	4	4	1.2
	41007739	34.93 €	11	AA	0	15	4	4	1.5
	41012009	34.93 €	11	AA	0	15	6	4	0.3
	41015306	34.93 €	11	AA	0	15	6	4	0.4
	41012066	34.93 €	11	AA	0	15	6	4	0.5
	41011047	34.93 €	11	AA	0	15	6	4	0.6
	41012783	34.93 €	11	AA	0	15	6	4	0.8
	41015307	34.93 €	11	AA	0	15	6	4	0.9
	41011375	34.93 €	11	AA	0	15	6	4	1
	41014956	34.93 €	11	AA	0	15	6	4	1.2
	41014958	34.93 €	11	AA	0	15	6	4	1.5
	41015963	44.94 €	11	AA	0	15	6	6A8	0.6
	41012084	44.94 €	11	AA	0	15	6	6A8	0.8
	41015390	44.94 €	11	AA	0	15	6	6A8	1
	41014708	44.94 €	11	AA	0	15	6	6A11	0.5
	41011751	44.94 €	11	AA	0	15	6	6A11	0.6
	41010869	44.94 €	11	AA	0	15	6	6A11	0.8
	41010201	44.94 €	11	AA	0	15	6	6A11	1
	41012902	44.94 €	11	AA	0	15	6	6A11	1.2
	41015060	38.31 €	11	AA	0	20	6	6	0.4
	41012734	38.31 €	11	AA	0	20	6	6	0.5
	41012735	38.31 €	11	AA	0	20	6	6	0.6
	41008306	38.31 €	11	AA	0	20	6	6	0.8
	41007514	38.31 €	11	AA	0	20	6	6	1
	41007802	38.31 €	11	AA	0	20	6	6	1.2
	41007948	38.31 €	11	AA	0	20	6	6	1.5
	41007041	38.31 €	11	AA	0	20	6	6	1.6

	Ürün Kodu	EURO €	Product group	Profil	Spiral angle	Çap Ø (mm)	Genişlik (mm)	Delik (mm)	Hatve (mm)
	41015173	38.31 €	11	AA	0	20	8	6	0.3
	41015174	38.31 €	11	AA	0	20	8	6	0.4
	41007303	38.31 €	11	AA	0	20	8	6	0.5
	41007304	38.31 €	11	AA	0	20	8	6	0.6
	41010305	38.31 €	11	AA	0	20	8	6	0.7
	41008208	38.31 €	11	AA	0	20	8	6	0.8
	41015175	38.31 €	11	AA	0	20	8	6	0.9
	41007357	38.31 €	11	AA	0	20	8	6	1
	41008603	38.31 €	11	AA	0	20	8	6	1.2
	41008354	38.31 €	11	AA	0	20	8	6	1.5
	41012327	38.31 €	11	AA	0	20	8	6	1.6
	41010418	38.31 €	11	AA	0	20	8	6	2
	41013770	51.47 €	11	AA	0	20	8	6A13	0.5
	41015455	51.47 €	11	AA	0	20	8	6A13	0.6
	41011477	51.47 €	11	AA	0	20	8	6A13	0.8
	41009204	51.47 €	11	AA	0	20	8	6A13	1
	41012892	51.47 €	11	AA	0	20	8	6A13	1.2
	41012893	51.47 €	11	AA	0	20	8	6A13	1.5
	41007741	43.31 €	11	AA	0	20	10	6	0.5
	41013841	43.31 €	11	AA	0	20	10	6	0.6
	41008281	43.31 €	11	AA	0	20	10	6	0.8
	41008672	43.31 €	11	AA	0	20	10	6	1
	41011395	43.31 €	11	AA	0	20	10	6	1.2
	41008564	43.31 €	11	AA	0	20	10	6	1.5
	41015934	47.51 €	11	AA	0	25	6	6	0.6
	41007361	47.51 €	11	AA	0	25	6	6	0.8
	41008030	47.51 €	11	AA	0	25	6	6	1
	41007716	47.51 €	11	AA	0	25	6	6	1.2
	41016215	47.51 €	11	AA	0	25	6	6	1.5
	41016224	47.51 €	11	AA	0	25	8	6	0.6
	41010169	47.51 €	11	AA	0	25	8	6	0.8
	41007421	47.51 €	11	AA	0	25	8	6	1
	41007554	47.51 €	11	AA	0	25	8	6	1.2
	41009373	47.51 €	11	AA	0	25	8	6	1.5



BL30°



BL45°

DIN 403'e göre zeus tırtıllar DIN 82'ye göre profiller için, 45° pahlı, PM

Profile BL

	Ürün Kodu	EURO €	Product group	Profil	Spiral angle	Çap Ø (mm)	Genişlik (mm)	Delik (mm)	Hatve (mm)
	41015698	31.21 €	11	BL	30	10	4	4	0.3
	41015699	31.21 €	11	BL	30	10	4	4	0.4
	41010091	31.21 €	11	BL	30	10	4	4	0.5
	41008997	31.21 €	11	BL	30	10	4	4	0.6
	41008673	31.21 €	11	BL	30	10	4	4	0.7
	41011077	31.21 €	11	BL	30	10	4	4	0.8
	41010803	31.21 €	11	BL	30	10	4	4	1
	41011078	31.21 €	11	BL	30	10	4	4	1.2
	41015701	31.21 €	11	BL	30	10	4	4	1.5
	41015702	31.21 €	11	BL	45	10	4	4	0.3
	41015703	31.21 €	11	BL	45	10	4	4	0.4
	41014711	31.21 €	11	BL	45	10	4	4	0.5
	41013953	31.21 €	11	BL	45	10	4	4	0.6
	41010089	31.21 €	11	BL	45	10	4	4	0.8
	41013954	31.21 €	11	BL	45	10	4	4	1
	41013000	31.21 €	11	BL	45	10	4	4	1.2
	41011664	34.93 €	11	BL	30	15	4	4	0.5
	41007033	34.93 €	11	BL	30	15	4	4	0.6
	41011079	34.93 €	11	BL	30	15	4	4	0.8
	41008148	34.93 €	11	BL	30	15	4	4	1
	41011080	34.93 €	11	BL	30	15	4	4	1.2
	41007691	34.93 €	11	BL	30	15	4	4	1.5
	41015252	34.93 €	11	BL	45	15	4	4	0.5
	41015253	34.93 €	11	BL	45	15	4	4	0.6
	41015254	34.93 €	11	BL	45	15	4	4	0.8
	41015256	34.93 €	11	BL	45	15	4	4	1
	41008146	34.93 €	11	BL	45	15	4	4	1.2
	41012730	34.93 €	11	BL	30	15	6	4	0.5
	41010784	34.93 €	11	BL	30	15	6	4	0.6
	41012731	34.93 €	11	BL	30	15	6	4	0.8
	41015312	34.93 €	11	BL	30	15	6	4	1
	41015313	34.93 €	11	BL	30	15	6	4	1.2
	41015316	34.93 €	11	BL	45	15	6	4	0.4
	41011684	34.93 €	11	BL	45	15	6	4	0.8
	41013332	34.93 €	11	BL	45	15	6	4	1
	41015320	34.93 €	11	BL	45	15	6	4	1.2
	41016114	44.94 €	11	BL	30	15	6	6A8	0.6
	41016115	44.94 €	11	BL	30	15	6	6A8	0.8
	41016116	44.94 €	11	BL	30	15	6	6A8	1
	41009186	44.94 €	11	BL	30	15	6	6A11	0.5
	41016144	44.94 €	11	BL	30	15	6	6A11	0.8
	41016145	44.94 €	11	BL	30	15	6	6A11	1
	41014710	44.94 €	11	BL	45	15	6	6A11	0.5
	41012904	44.94 €	11	BL	45	15	6	6A11	0.8
	41012906	44.94 €	11	BL	45	15	6	6A11	1
	41012910	44.94 €	11	BL	45	15	6	6A11	1.2

	Ürün Kodu	EURO €	Product group	Profile	Spiral angle	Çap Ø (mm)	Genişlik (mm)	Delik (mm)	Hatve (mm)
	41011558	38.31 €	11	BL	30	20	8	6	0.6
	41010919	38.31 €	11	BL	30	20	8	6	0.8
	41012655	38.31 €	11	BL	30	20	8	6	1
	41012736	38.31 €	11	BL	30	20	8	6	1.2
	41014277	38.31 €	11	BL	30	20	8	6	1.5
	41015102	38.31 €	11	BL	45	20	8	6	0.8
	41013021	38.31 €	11	BL	45	20	8	6	1
	41013023	38.31 €	11	BL	45	20	8	6	1.2
	41015104	38.31 €	11	BL	45	20	8	6	1.5
	41012738	38.31 €	11	BL	30	20	8	6	0.5
	41011081	38.31 €	11	BL	30	20	8	6	0.6
	41015178	38.31 €	11	BL	30	20	8	6	0.7
	41008999	38.31 €	11	BL	30	20	8	6	0.8
	41015179	38.31 €	11	BL	30	20	8	6	0.9
	41008918	38.31 €	11	BL	30	20	8	6	1
	41010393	38.31 €	11	BL	30	20	8	6	1.2
	41010397	38.31 €	11	BL	30	20	8	6	1.5
	41010102	38.31 €	11	BL	30	20	8	6	1.6
	41015180	38.31 €	11	BL	30	20	10	6	1.8
	41014360	38.31 €	11	BL	30	20	10	6	2
	41026032	51.47 €	11	BL	30	20	10	6A13	0.5
	41016168	51.47 €	11	BL	30	20	10	6A13	0.6
	41014603	51.47 €	11	BL	30	20	10	6A13	0.8
	41008375	51.47 €	11	BL	30	20	10	6A13	1
	41014841	51.47 €	11	BL	30	20	6	6A13	1.2
	41013684	51.47 €	11	BL	30	20	6	6A13	1.5
	41014351	38.31 €	11	BL	45	20	6	6	0.5
	41010279	38.31 €	11	BL	45	20	6	6	0.6
	41007644	38.31 €	11	BL	45	20	6	6	0.8
	41008565	38.31 €	11	BL	45	20	8	6	1
	41008343	38.31 €	11	BL	45	20	8	6	1.2
	41009011	38.31 €	11	BL	45	20	8	6	1.5
	41007385	38.31 €	11	BL	45	20	8	6	2
	41008582	51.47 €	11	BL	45	20	8	6A13	1
	41012213	51.47 €	11	BL	45	20	8	6A13	1.2
	41016235	47.51 €	11	BL	30	25	8	6	0.8
	41007742	47.51 €	11	BL	30	25	8	6	1
	41009849	47.51 €	11	BL	30	25	8	6	1.2
	41007745	47.51 €	11	BL	30	25	8	6	1.5
	41012286	47.51 €	11	BL	45	25	8	6	0.8
	41008538	47.51 €	11	BL	45	25	8	6	1
	41015577	47.51 €	11	BL	45	25	8	6	1.2
	41014944	47.51 €	11	BL	45	25	8	6	1.5



BR30°



BR45°

DIN 403'e göre zeus tırtıllar, DIN 82'ye göre profiller için, 45° pahlı, PM

Profile BR

	Ürün Kodu	EURO €	Product group	Profil	Spiral angle	Çap Ø (mm)	Genişlik (mm)	Delik (mm)	Hatve (mm)
	41015707	31.21 €	11	BR	30	10	4	4	0.3
	41015708	31.21 €	11	BR	30	10	4	4	0.4
	41010092	31.21 €	11	BR	30	10	4	4	0.5
	41008998	31.21 €	11	BR	30	10	4	4	0.6
	41008674		11	BR	30	10	4	4	0.7
	41011072	31.21 €	11	BR	30	10	4	4	0.8
	41010805	31.21 €	11	BR	30	10	4	4	1
	41011073	31.21 €	11	BR	30	10	4	4	1.2
	41015710	31.21 €	11	BR	30	10	4	4	1.5
	41015711	31.21 €	11	BR	45	10	4	4	0.3
	41015712	31.21 €	11	BR	45	10	4	4	0.4
	41014712	31.21 €	11	BR	45	10	4	4	0.5
	41013958	31.21 €	11	BR	45	10	4	4	0.6
	41010090	31.21 €	11	BR	45	10	4	4	0.8
	41013955	31.21 €	11	BR	45	10	4	4	1
	41012999	31.21 €	11	BR	45	10	4	4	1.2
	41011665	34.93 €	11	BR	30	15	4	4	0.5
	41007032	34.93 €	11	BR	30	15	4	4	0.6
	41011074	34.93 €	11	BR	30	15	4	4	0.8
	41008147	34.93 €	11	BR	30	15	4	4	1
	41011075	34.93 €	11	BR	30	15	4	4	1.2
	41007690	34.93 €	11	BR	30	15	4	4	1.5
	41015262	34.93 €	11	BR	45	15	4	4	0.5
	41015263	34.93 €	11	BR	45	15	4	4	0.6
	41008106	34.93 €	11	BR	45	15	4	4	0.8
	41015265	34.93 €	11	BR	45	15	4	4	1
	41008145	34.93 €	11	BR	45	15	4	4	1.2
	41012732	34.93 €	11	BR	30	15	6	4	0.5
	41010783	34.93 €	11	BR	30	15	6	4	0.6
	41012733	34.93 €	11	BR	30	15	6	4	0.8
	41013882	34.93 €	11	BR	30	15	6	4	1
	41015425	34.93 €	11	BR	30	15	6	4	1.2
	41015427	34.93 €	11	BR	45	15	6	4	0.4
	41011683	34.93 €	11	BR	45	15	6	4	0.8
	41013333	34.93 €	11	BR	45	15	6	4	1
	41015431	34.93 €	11	BR	45	15	6	4	1.2
	41016127	44.94 €	11	BR	30	15	6	6A8	0.6
	41016128	44.94 €	11	BR	30	15	6	6A8	0.8
	41016129	44.94 €	11	BR	30	15	6	6A8	1
	41009187	44.94 €	11	BR	30	15	6	6A11	0.5
	41016149	44.94 €	11	BR	30	15	6	6A11	0.8
	41016150	44.94 €	11	BR	30	15	6	6A11	1
	41014709	44.94 €	11	BR	45	15	6	6A11	0.5
	41012905	44.94 €	11	BR	45	15	6	6A11	0.8
	41012907	44.94 €	11	BR	45	15	6	6A11	1
	41012908	44.94 €	11	BR	45	15	6	6A11	1.2

	Ürün Kodu	EURO €	Product group	Profil	Spiral angle	Çap Ø (mm)	Genişlik (mm)	Delik (mm)	Hatve (mm)
	41011559	38.31 €	11	BR	30	20	6	6	0.6
	41010917	38.31 €	11	BR	30	20	6	6	0.8
	41012729	38.31 €	11	BR	30	20	6	6	1
	41012737	38.31 €	11	BR	30	20	6	6	1.2
	41014278	38.31 €	11	BR	30	20	6	6	1.5
	41015146	38.31 €	11	BR	45	20	6	6	0.8
	41015146	38.31 €	11	BR	45	20	6	6	1
	41015146	38.31 €	11	BR	45	20	6	6	1.2
	41015146	38.31 €	11	BR	45	20	6	6	1.5
	41012739	38.31 €	11	BR	30	20	8	6	0.5
	41011076	38.31 €	11	BR	30	20	8	6	0.6
	41015201	38.31 €	11	BR	30	20	8	6	0.7
	41009000	38.31 €	11	BR	30	20	8	6	0.8
	41015202	38.31 €	11	BR	30	20	8	6	0.9
	41008917	38.31 €	11	BR	30	20	8	6	1
	41010392	38.31 €	11	BR	30	20	8	6	1.2
	41010398	38.31 €	11	BR	30	20	8	6	1.5
	41010101		11	BR	30	20	8	6	1.6
	41015203	38.31 €	11	BR	30	20	8	6	1.8
	41014359	38.31 €	11	BR	30	20	8	6	2
	41026033	51.47 €	11	BR	30	20	8	6A13	0.5
	41016170	51.47 €	11	BR	30	20	8	6A13	0.6
	41014604	51.47 €	11	BR	30	20	8	6A13	0.8
	41008374	51.47 €	11	BR	30	20	8	6A13	1
	41014842	51.47 €	11	BR	30	20	8	6A13	1.2
	41013685	51.47 €	11	BR	30	20	8	6A13	1.5
	41015206	38.31 €	11	BR	45	20	8	6	0.5
	41010274	38.31 €	11	BR	45	20	8	6	0.6
	41007637	38.31 €	11	BR	45	20	8	6	0.8
	41008839	38.31 €	11	BR	45	20	8	6	1
	41008346	38.31 €	11	BR	45	20	8	6	1.2
	41009010	38.31 €	11	BR	45	20	8	6	1.5
	41007384	38.31 €	11	BR	45	20	8	6	2
	41008584	51.47 €	11	BR	45	20	8	6A13	1
	41012214	51.47 €	11	BR	45	20	8	6A13	1.2
	41016238	47.51 €	11	BR	30	25	8	6	0.8
	41007743	47.51 €	11	BR	30	25	8	6	1
	41009850	47.51 €	11	BR	30	25	8	6	1.2
	41007744	47.51 €	11	BR	30	25	8	6	1.5
	41016240	47.51 €	11	BR	45	25	8	6	0.8
	41008537	47.51 €	11	BR	45	25	8	6	1
	41016126	47.51 €	11	BR	45	25	8	6	1.2
	41014945	47.51 €	11	BR	45	25	8	6	1.5



GE30°



GE45°



GV30°



GV45°

DIN 403'e göre zeus tırtıllar, DIN 82'ye göre profiller için, 45° pahlı, PM

Profil GE

	Ürün Kodu	EURO €	Product group	Profil	Spiral angle	Çap Ø (mm)	Genişlik (mm)	Delik (mm)	Hatve (mm)
	41015267	51.00 €	11	GE	30	15	4	4	0.5
	41013348	51.00 €	11	GE	30	15	4	4	0.6
	41014787	51.00 €	11	GE	30	15	4	4	0.8
	41014788	51.00 €	11	GE	30	15	4	4	1
	41014789	51.00 €	11	GE	30	15	4	4	1.2
	41015786	51.00 €	11	GE	30	15	6	4	0.5
	41014077	51.00 €	11	GE	30	15	6	4	0.6
	41015857	51.00 €	11	GE	30	15	6	4	0.8
	41014037	51.00 €	11	GE	30	15	6	4	1
	41016100	51.00 €	11	GE	45	15	6	4	1
	41014595	58.92 €	11	GE	30	20	6	6	0.8
	41015155	58.92 €	11	GE	30	20	6	6	1
	41015166	58.92 €	11	GE	45	20	6	6	0.8
	41015217	58.92 €	11	GE	30	20	8	6	0.5
	41013960	58.92 €	11	GE	30	20	8	6	0.6
	41013060	58.92 €	11	GE	30	20	8	6	0.8
	41007788	58.92 €	11	GE	30	20	8	6	1
	41013061	58.92 €	11	GE	30	20	8	6	1.2
	41013062	58.92 €	11	GE	30	20	8	6	1.5
	41015223	58.92 €	11	GE	30	20	8	6	2
	41015224	58.92 €	11	GE	45	20	8	6	0.3
	41015196	58.92 €	11	GE	45	20	8	6	0.5
	41012085	58.92 €	11	GE	45	20	8	6	0.8
	41008500	58.92 €	11	GE	45	20	8	6	1
	41008675	58.92 €	11	GE	45	20	8	6	1.2
	41014950	58.92 €	11	GE	45	20	8	6	1.5

Profil GV

	Ürün Kodu	EURO €	Product group	Profil	Spiral angle	Çap Ø (mm)	Genişlik (mm)	Delik (mm)	Hatve (mm)
	41020546	43.90 €	21	GV	45	10	4	4	0.3
	41016943	43.90 €	21	GV	45	10	4	4	0.4
	41020547	43.90 €	21	GV	45	10	4	4	0.5
	41015461	43.90 €	21	GV	45	10	4	4	0.6
	41007192	43.90 €	21	GV	30	15	4	4	0.5
	41011393	43.90 €	21	GV	30	15	4	4	0.6
	41014087	43.90 €	21	GV	30	15	4	4	0.8
	41013229	43.90 €	21	GV	30	15	4	4	1
	41015621	43.90 €	21	GV	30	15	4	4	1.2
	41015625	43.90 €	21	GV	45	15	4	4	0.5
	41011846	43.90 €	21	GV	45	15	4	4	0.6
	41015629	43.90 €	21	GV	45	15	4	4	1
	41015630	43.90 €	21	GV	45	15	4	4	1.2
	41023634	43.90 €	21	GV	30	15	6	4	0.5
	41015446	43.90 €	21	GV	30	15	6	4	0.6
	41014830	43.90 €	21	GV	30	15	6	4	0.8
	41013787	43.90 €	21	GV	30	15	6	4	1
	41015644	43.90 €	21	GV	30	15	6	4	1.2
	41015197	59.73 €	21	GV	30	20	6	6	0.6
	41015673	59.73 €	21	GV	30	20	6	6	0.8
	41013622	59.73 €	21	GV	30	20	6	6	1
	41015684	59.73 €	21	GV	30	20	8	6	0.5
	41015685	59.73 €	21	GV	30	20	8	6	0.6
	41014562	59.73 €	21	GV	30	20	8	6	0.8
	41013436	59.73 €	21	GV	30	20	8	6	1
	41015688	59.73 €	21	GV	30	20	8	6	1.2
	41015689	59.73 €	21	GV	30	20	8	6	1.5
	41015498	59.73 €	21	GV	45	20	8	6	0.5
	41015383	59.73 €	21	GV	45	20	8	6	0.6
	41013170	59.73 €	21	GV	45	20	8	6	0.8
	41010183	59.73 €	21	GV	45	20	8	6	1
	41015695	59.73 €	21	GV	45	20	8	6	1.2
	41015351	59.73 €	21	GV	45	20	8	6	1.5
	41016070	65.09 €	21	GV	30	25	8	6	0.8
	41008338	65.09 €	21	GV	30	25	8	6	1



KESİCİ (CUT) TIRTILLAR

Kesme İşlemli



AA

DIN 403'e göre ZEUS tırtıllar
DIN 82'ye göre profiller için,
pahsız, PM

Profil AA

	Ürün Kodu	EURO €	Product group	Profil	Spiral angle	Çap Ø (mm)	Genişlik (mm)	Delik (mm)	Hatve (mm)
	41015794	25.03 €	16	AA	0	8.9	2,5	4	0.3
	41013748	25.03 €	16	AA	0	8.9	2,5	4	0.5
	41008427	25.03 €	16	AA	0	8.9	2,5	4	0.6
	41010772	25.03 €	16	AA	0	8.9	2,5	4	0.7
	41012043	25.03 €	16	AA	0	8.9	2,5	4	0.8
	41015136	25.03 €	16	AA	0	8.9	2,5	4	1
	41010879	31.09 €	16	AA	0	10	3	6	0.5
	41010724	31.09 €	16	AA	0	10	3	6	0.6
	41010727	31.09 €	16	AA	0	10	3	6	0.8
	41009767	31.09 €	16	AA	0	10	3	6	1
	41015135	31.09 €	16	AA	0	10	3	6	1.2
	41015860	33.18 €	16	AA	0	14.5	3	5	0.5
	41010740	33.18 €	16	AA	0	14.5	3	5	0.6
	41015864	33.18 €	16	AA	0	14.5	3	5	0.7
	41009300	33.18 €	16	AA	0	14.5	3	5	0.8
	41008428	33.18 €	16	AA	0	14.5	3	5	1
	41010741	33.18 €	16	AA	0	14.5	3	5	1.2
	41008406	34.93 €	16	AA	0	15	4	8	0.5
	41008407	34.93 €	16	AA	0	15	4	8	0.6
	41008408	34.93 €	16	AA	0	15	4	8	0.7
	41007464	34.93 €	16	AA	0	15	4	8	0.8
	41008409	34.93 €	16	AA	0	15	4	8	1
	41007053	34.93 €	16	AA	0	15	4	8	1.2
	41010443	34.93 €	16	AA	0	15	4	8	1.5
	41008554	38.31 €	16	AA	0	21.5	5	8	0.6
	41010502	38.31 €	16	AA	0	21.5	5	8	0.8
	41010503	38.31 €	16	AA	0	21.5	5	8	1
	41010743	38.31 €	16	AA	0	21.5	5	8	1.2
	41008595	38.31 €	16	AA	0	21.5	5	8	1.5
	41011886	38.31 €	16	AA	0	21.5	5	8	2
	41001104	47.51 €	16	AA	0	25	6	8	0.5
	41001105	47.51 €	16	AA	0	25	6	8	0.6
	41001107	47.51 €	16	AA	0	25	6	8	0.8
	41001109	47.51 €	16	AA	0	25	6	8	1
	41001110	47.51 €	16	AA	0	25	6	8	1.2
	41001111	47.51 €	16	AA	0	25	6	8	1.5
	41001112	47.51 €	16	AA	0	25	6	8	1.6
	41001114	47.51 €	16	AA	0	25	6	8	2



BL15°



BL30°

DIN 403'e göre ZEUS tırtıllar, DIN 82'ye göre profiller için, 45° pahlı, PM

Profil BL

	Ürün Kodu	EURO €	Product group	Profil	Spiral angle	Çap Ø (mm)	Genişlik (mm)	Delik (mm)	Hatve (mm)
	41015785	25.03 €	16	BL	30	8,9	2,5	4	0.8
	41015809	25.03 €	16	BL	30	8,9	2,5	4	1
	41011615	31.09 €	16	BL	15	10	3	6	0.5
	41010733	31.09 €	16	BL	15	10	3	6	0.6
	41010409	31.00 €	16	BL	15	10	3	6	0.8
	41008687	31.09 €	16	BL	15	10	3	6	1
	41015835	31.09 €	16	BL	30	10	3	6	0.5
	41010728	31.09 €	16	BL	30	10	3	6	0.6
	41015836	31.09 €	16	BL	30	10	3	6	0.7
	41010466	31.09 €	16	BL	30	10	3	6	0.8
	41010729	31.09 €	16	BL	30	10	3	6	1
	41015838	31.09 €	16	BL	30	10	3	6	1.2
	41015868	33.18 €	16	BL	15	14,5	3	5	0.5
	41010752	33.18 €	16	BL	15	14,5	3	5	0.6
	41015869	33.18 €	16	BL	15	14,5	3	5	0.7
	41010753	33.18 €	16	BL	15	14,5	3	5	0.8
	41018680		16	BL	15	14,5	3	5	1
	41000754		16	BL	15	14,5	3	5	1.2
	41010671	33.18 €	16	BL	30	14,5	3	5	0.5
	41010132	33.18 €	16	BL	30	14,5	3	5	0.6
	41010405	33.18 €	16	BL	30	14,5	3	5	0.8
	41009779	33.18 €	16	BL	30	14,5	3	5	1
	41010193	33.18 €	16	BL	30	14,5	3	5	1.2
	41011754	34.93 €	16	BL	15	15	4	8	0.5
	41009251	34.93 €	16	BL	15	15	4	8	0.6
	41007333	34.93 €	16	BL	15	15	4	8	0.8
	41007382	34.93 €	16	BL	15	15	4	8	1
	41007639	34.93 €	16	BL	15	15	4	8	1.2
	41008013	34.93 €	16	BL	15	15	4	8	1.5
	41015894	34.93 €	16	BL	30	15	4	8	0.3
	41015895	34.93 €	16	BL	30	15	4	8	0.4
	41010764	34.93 €	16	BL	30	15	4	8	0.5
	41008587	34.93 €	16	BL	30	15	4	8	0.6
	41010445	34.93 €	16	BL	30	15	4	8	0.7
	41007857	34.93 €	16	BL	30	15	4	8	0.8
	41015896	34.93 €	16	BL	30	15	4	8	0.9
	41007043	34.93 €	16	BL	30	15	4	8	1
	41010517	34.93 €	16	BL	30	15	4	8	1.2
	41010730	34.93 €	16	BL	30	15	4	8	1.5

	Ürün Kodu	EURO €	Product group	Profil	Spiral angle	ÇapØ (mm)	Genişlik (mm)	Delik (mm)	Hatve (mm)
	41009960	38.31 €	16	BL	15	21,5	5	8	0.8
	41008513	38.31 €	16	BL	15	21,5	5	8	1
	41010758	38.31 €	16	BL	15	21,5	5	8	1.2
	41009132	38.31 €	16	BL	15	21,5	5	8	1.5
	41009561	38.31 €	16	BL	30	21,5	5	8	0.8
	41008591	38.31 €	16	BL	30	21,5	5	8	1
	41010332	47.51 €	16	BL	15	25	6	8	0.5
	41010495	47.51 €	16	BL	15	25	6	8	0.6
	41009607	47.51 €	16	BL	15	25	6	8	0.8
	41007044	47.51 €	16	BL	15	25	6	8	1
	41006373	47.51 €	16	BL	15	25	6	8	1.2
	41007299	47.51 €	16	BL	15	25	6	8	1.5
	41008502	47.51 €	16	BL	15	25	6	8	1.6
	41007300	47.51 €	16	BL	15	25	6	8	2
	41012128	47.51 €	16	BL	30	25	6	8	0.5
	41009147	47.51 €	16	BL	30	25	6	8	0.6
	41008501	47.51 €	16	BL	30	25	6	8	0.8
	41007031	47.51 €	16	BL	30	25	6	8	1
	41007209	47.51 €	16	BL	30	25	6	8	1.2
	41007424	47.51 €	16	BL	30	25	6	8	1.5
	41010807	47.51 €	16	BL	45	25	6	8	1.6
	41010620	47.51 €	16	BL	45	25	6	8	2



BR15°



BR30°

DIN 403'e göre ZEUS tırtıllar, DIN 82'ye göre profiller için, 45° pahlı, PM

Profil BR

	Ürün Kodu	EURO €	Product group	Profil	Spiral angle	Çap Ø (mm)	Genişlik (mm)	Delik (mm)	Hatve (mm)
	41011952	25.03 €	16	BR	30	8,9	2,5	4	0.8
	41015823	25.03 €	16	BR	30	8,9	2,5	4	1
	41011616	31.09 €	16	BR	15	10	3	6	0.5
	41010734	31.09 €	16	BR	15	10	3	6	0.6
	41010408	31.09 €	16	BR	15	10	3	6	0.8
	41008688	31.09 €	16	BR	15	10	3	6	1
	41012951	31.09 €	16	BR	30	10	3	6	0.5
	41010731	31.09 €	16	BR	30	10	3	6	0.6
	41015844	31.09 €	16	BR	30	10	3	6	0.7
	41009757	31.09 €	16	BR	30	10	3	6	0.8
	41010732	31.09 €	16	BR	30	10	3	6	1
	41015846	31.09 €	16	BR	30	10	3	6	1.2
	41015877	33.18 €	16	BR	15	14,5	3	5	0.5
	41010736	33.18 €	16	BR	15	14,5	3	5	0.6
	41015878	33.18 €	16	BR	15	14,5	3	5	0.7
	41010737	33.18 €	16	BR	15	14,5	3	5	0.8
	41008682	33.18 €	16	BR	15	14,5	3	5	1
	41010738	33.18 €	16	BR	15	14,5	3	5	1.2
	41015882	33.18 €	16	BR	30	14,5	3	5	0.5
	41010133	33.18 €	16	BR	30	14,5	3	5	0.6
	41010750	33.18 €	16	BR	30	14,5	3	5	0.8
	41010751	33.18 €	16	BR	30	14,5	3	5	1
	41010299	33.18 €	16	BR	30	14,5	3	5	1.2
	41011753	34.93 €	16	BR	15	15	4	8	0.5
	41009252	34.93 €	16	BR	15	15	4	8	0.6
	41007332	34.93 €	16	BR	15	15	4	8	0.8
	41007381	34.93 €	16	BR	15	15	4	8	1
	41010735	34.93 €	16	BR	15	15	4	8	1.2
	41007423	34.93 €	16	BR	15	15	4	8	1.5
	41009516	34.93 €	16	BR	30	15	4	8	0.3
	41015899	34.93 €	16	BR	30	15	4	8	0.4
	41007309	34.93 €	16	BR	30	15	4	8	0.5
	41008402	34.93 €	16	BR	30	15	4	8	0.6
	41010446	34.93 €	16	BR	30	15	4	8	0.7
	41007045	34.93 €	16	BR	30	15	4	8	0.8
	41013942	34.93 €	16	BR	30	15	4	8	0.9
	41007046	34.93 €	16	BR	30	15	4	8	1
	41008403	34.93 €	16	BR	30	15	4	8	1.2
	41007230	34.93 €	16	BR	30	15	4	8	1.5

	Ürün Kodu	EURO €	Product group	Profil	Spiral angle	Çap Ø (mm)	Genişlik (mm)	Delik (mm)	Hatve (mm)
	41010172	38.31 €	16	BR	15	21,5	5	8	0.8
	41008514	38.31 €	16	BR	15	21,5	5	8	1
	41010173	38.31 €	16	BR	15	21,5	5	8	1.2
	41009133	38.31 €	16	BR	15	21,5	5	8	1.5
	41010746	38.31 €	16	BR	30	21,5	5	8	0.8
	41008592	38.31 €	16	BR	30	21,5	5	8	1
	41011088	47.51 €	16	BR	15	25	6	8	0.5
	41010496	47.51 €	16	BR	15	25	6	8	0.6
	41009624	47.51 €	16	BR	15	25	6	8	0.8
	41007047	47.51 €	16	BR	15	25	6	8	1
	41006374	47.51 €	16	BR	15	25	6	8	1.2
	41006375	47.51 €	16	BR	15	25	6	8	1.5
	41008518	47.51 €	16	BR	15	25	6	8	1.6
	41007301	47.51 €	16	BR	15	25	6	8	2
	41009788	47.51 €	16	BR	30	25	6	8	0.5
	41008637	47.51 €	16	BR	30	25	6	8	0.6
	41007752	47.51 €	16	BR	30	25	6	8	0.8
	41007465	47.51 €	16	BR	30	25	6	8	1
	41008240	47.51 €	16	BR	30	25	6	8	1.2
	41007197	47.51 €	16	BR	30	25	6	8	1.5
	41014036	47.51 €	16	BR	45	25	6	8	1.6
	41007369	47.51 €	16	BR	45	25	6	8	2

Yaylı sistem

Marking tool	Marking segment/ Marking roll	Shank [mm] (adaptable to shank size)	Marking on workpiece, on different geometries	Marking up to a shoulder	Changing marking text possible	Center height integrated
 432	 Marking segment No. 43	8 (10 / 12 / 16) 16 (20 / 25)	> on a flat surface > on a spherical surface > on the end face > on the outer diameter	?	?	?
 431	 Marking segment No. 42	16 (20 / 25)	> on a flat surface > on a spherical surface > on the end face > on the outer diameter	X	?	?
 422	 Marking roll No. 41	8 (10 / 12 / 16)	> on a flat surface > on a spherical surface > on the end face > on the outer diameter	?	X	?
 421	 Marking roll No. 41	16 (20 / 25)	> on a flat surface > on a spherical surface > on the end face > on the outer diameter	X	X	?

Döner Sistem

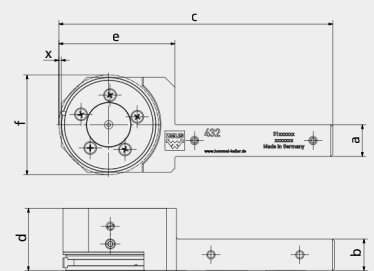
 131	 Marking roll No. 41	10 / 12 / 16 20 / 25	> on a conical surface > on the end face on > the outer diameter	X	X	?
 311	 Marking roll No. 40-K	application- specific	> on a conical surface > on the end face	X	X	?
 312	 Marking roll No. 40-K	application- specific	> on a conical surface > on the end face	X	X	?



PRODUCT FEATURES

- Modüler sap tasarımı
- top edge of shank = centre height set
- screws in shank for correcting alignment
- hardened pin
- exact positioning of the marking on the circumference of the workpiece
- marking up to a shoulder
- center height corresponds to the first marking point
- marking position individually adjustable
- sets in high quality packaging

	Ürün Kodu (right-hand version)	EURO €		Ürün Kodu (left-hand version)	EURO €	Model / Sets (with shank adapter)	Ürün Kodu. E-Kit		
							right	left	
	31002833 (Set small version for segments ø 30)	1.039.90€		31002915 (Set small version for segments ø 30)	1.039.90€	432-08	21BHR1081	21BHR1082	
						with adapter 10 x 10 mm			
						with adapter 12 x 12 mm			
						with adapter 16 x 16 mm inkl. start- u. end segment			
	31002849 (Set big version for segments ø 50)	1.302.59€		31002873 (Set big version for segments ø 50)	1.302.59€	432-16	21BHR1111	21BHR1112	
						with adapter 20 x 20 mm			
						with adapter 25 x 25 mm			
						inkl. start- u. end segment			

	Ürün Kodu (right-hand version)	EURO €		Ürün Kodu (left-hand version)	EURO €	Boyutlar							
						a	b	c	d	e	f	x	
	31002833 (small version)	1.039.90€		31002915 (small version)	1.039.90€	8	8	112.5	31.5	32.5	30	1	
						10	10	112.5	31.5	32.5	30	1	
						12	12	112.5	31.5	32.5	30	1	
						16	16	112.5	31.5	57.5	31	1	
	31002849 (big version)	1.302.59€		31002873 (big version)	1.302.59€	16	16	137.5	31.5	57.5	48	1	
						20	20	137.5	31.5	57.5	48	1	
						25	25	137.5	31.5	57.5	48	1	

CHANGING MARKING TEXT

MARKING SEGMENTS
IMMEDIATELY
AVAILABLE: A-Z, 0-9,
-/-.





SEGMENTS ø30 - Küçük tip
Ürün Kodu 31002833 / 31002915

Standard design	
flank angle	90°
Boyutlar (çap ø x en x delik, mm)	30 x 8 x 18
font	according to DIN 1451



SEGMENTS ø 50 - Büyük Tip
Ürün Kodu: 31002849 / 31002873

Standard design	
flank angle	90°
Boyutlar (çap ø x en x delik, mm)	50 x 8 x 38
font	according to DIN 1451

Item no. character height 2 mm	EURO €	Item no. character height 3 mm	EURO €	Segments designations
85000000			52.40€	Start segment
85001018	1.320.75€	85001139	1.320.75€	Letter set A-Z
85000992	52.40€	85000346	52.40€	A
85000993	52.40€	85000356	52.40€	B
85000994	52.40€	85000344	52.40€	C
85000995	52.40€	85000347	52.40€	D
85000996	52.40€	85000348	52.40€	E
85000997	52.40€	85000349	52.40€	F
85000998	52.40€	85000350	52.40€	G
85000999	52.40€	85000351	52.40€	H
85001000	52.40€	85001407	52.40€	I
85001001	52.40€	85000352	52.40€	J
85001002	52.40€	85000353	52.40€	K
85001003	52.40€	85000354	52.40€	L
85001004	52.40€	85000355	52.40€	M
85001005	52.40€	85000852	52.40€	N
85001006	52.40€	85001408	52.40€	O
85001007	52.40€	85000855	52.40€	P
85001008	52.40€	85001409	52.40€	Q
85001009	52.40€	85001063	52.40€	R
85001010	52.40€	85000856	52.40€	S
85001011	52.40€	85001410	52.40€	T
85001012	52.40€	85001411	52.40€	U
85001013	52.40€	85001412	52.40€	V
85001014	52.40€	85000851	52.40€	W
85001015	52.40€	85001413	52.40€	X
85001016	52.40€	85001414	52.40€	Y
85001017	52.40€	85001415	52.40€	Z
85000991	507.20€	85000621	507.20€	Numerical Set 0-9
85000981	52.40€	85000622	52.40€	0
85000982	52.40€	85000623	52.40€	1
85000983	52.40€	85000345	52.40€	2
85000984	52.40€	85000357	52.40€	3
85000985	52.40€	85000624	52.40€	4
85000986	52.40€	85000625	52.40€	5
85000987	52.40€	85000626	52.40€	6
85000988	52.40€	85000627	52.40€	7
85000989	52.40€	85000628	52.40€	8
85000990	52.40€	85000629	52.40€	9
85002186			52.40€	Space Segment
85001654	52.40€	85001257	52.40€	special character - (Minus)
85001019	52.40€	85002485	52.40€	special character . (Point)
85001059	52.40€	85001537	52.40€	special character / (Slash)
85000003			136.12€	End segment

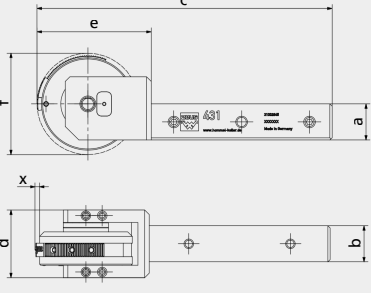
Item no. character height 2 mm	EURO €	Item no. character height 3 mm	EURO €	Segments designations
85000113			52.40€	Start segment
85001819	1.320.75€	85001283	1.320.75€	Letter set A-Z
85001793	52.40€	85001108	52.40€	A
85001794	52.40€	85001109	52.40€	B
85001795	52.40€	85001289	52.40€	C
85001796	52.40€	85001533	52.40€	D
85001797	52.40€	85001565	52.40€	E
85001798	52.40€	85001130	52.40€	F
85001799	52.40€	85001581	52.40€	G
85001800	52.40€	85001534	52.40€	H
85001801	52.40€	85001566	52.40€	I
85001802	52.40€	85001567	52.40€	J
85001803	52.40€	85001535	52.40€	K
85001804	52.40€	85001568	52.40€	L
85001805	52.40€	85001569	52.40€	M
85001806	52.40€	85001570	52.40€	N
85001807	52.40€	85001571	52.40€	O
85001808	52.40€	85001572	52.40€	P
85001809	52.40€	85001573	52.40€	Q
85001810	52.40€	85001574	52.40€	R
85001811	52.40€	85001575	52.40€	S
85001812	52.40€	85001576	52.40€	T
85001813	52.40€	85001290	52.40€	U
85001814	52.40€	85001577	52.40€	V
85001815	52.40€	85001578	52.40€	W
85001816	52.40€	85001579	52.40€	X
85001817	52.40€	85001580	52.40€	Y
85001818	52.40€	85001536	52.40€	Z
85001431	507.20€	85000476	507.20€	Numerical Set 0-9
85001421	52.40€	85000466	52.40€	0
85001422	52.40€	85000467	52.40€	1
85001423	52.40€	85000468	52.40€	2
85001424	52.40€	85000469	52.40€	3
85001425	52.40€	85000470	52.40€	4
85001426	52.40€	85000471	52.40€	5
85001427	52.40€	85000472	52.40€	6
85001428	52.40€	85000473	52.40€	7
85001429	52.40€	85000474	52.40€	8
85001430	52.40€	85000475	52.40€	9
85003870			52.40€	Space Segment
85001912	52.40€	85001600	52.40€	special character - (Minus)
85002486	52.40€	85002487	52.40€	special character . (Point)
85001857	52.40€	85001131	52.40€	special character / (Slash)
85000114			136.12€	End segment



PRODUCT FEATURES

- modular shank design
- top edge of shank = centre height
- set screws in shank for correcting alignment
- hardened pin
- exact positioning of the marking on the circumference of the workpiece
- center height corresponds to the first marking point
- marking position individually adjustable
- sets in high quality packaging

	Item no.	EURO €	Model / Sets (with shank adapter)	Item no. E-Kit		
				right	left	
	31002845	1.246.11€	431-16	21BHR1509	21BHR1510	
			with adapter 20 x 20 mm			
			with adapter 25 x 25 mm			
			incl. start- and endsegment			

	Item no. (right-hand version)	EURO €	Boyutlar							
			a	b	c	d	e	f	x	
	31002845	1.246.11€	16	16	130.5	30	50.5	45	2	
			20	20	130.5	30	50.5	45	2	
			25	25	130.5	30	50.5	47.5	2	

CHANGING MARKING TEXT

MARKING SEGMENTS
IMMEDIATELY
AVAILABLE: A-Z, 0-9,
-./.





SEGMENTS Ürün Kodu 31002845

Standard design	
flank angle	90°
Boyutlar (çap ø x en x delik, mm)	45 x 6 x 33
font	according to DIN 1451

Item no. character height 2 mm	EURO €	Item no. character height 3 mm	EURO €	Segments designations
82000067			52.40€	Start segment
82002237	1.320.75€	82002300	1.320.75€	Letter set A-Z
82000438	52.40€	82000028	52.40€	A
82000439	52.40€	82002232	52.40€	B
82002236	52.40€	82002301	52.40€	C
82001063	52.40€	82002302	52.40€	D
82002240	52.40€	82002303	52.40€	E
82001064	52.40€	82002304	52.40€	F
82002242	52.40€	82000430	52.40€	G
82002243	52.40€	82000431	52.40€	H
82002244	52.40€	82002045	52.40€	I
82002245	52.40€	82002308	52.40€	J
82002246	52.40€	82002309	52.40€	K
82002247	52.40€	82002310	52.40€	L
82002248	52.40€	82002311	52.40€	M
82002249	52.40€	82002312	52.40€	N
82002250	52.40€	82002313	52.40€	O
82002251	52.40€	82000429	52.40€	P
82002252	52.40€	82002315	52.40€	Q
82001089	52.40€	82002316	52.40€	R
82002254	52.40€	82000379	52.40€	S
82002255	52.40€	82002318	52.40€	T
82002256	52.40€	82002319	52.40€	U
82002257	52.40€	82002320	52.40€	V
82000867	52.40€	82002321	52.40€	W
82002259	52.40€	82002322	52.40€	X
82002260	52.40€	82002323	52.40€	Y
82002261	52.40€	82002324	52.40€	Z

Item no. character height 2 mm	EURO €	Item no. character height 3 mm	EURO €	Segments designations
82000441	507.20€	82000378	507.20€	Numerical set 0-9
82000001	52.40€	82000187	52.40€	0
82000141	52.40€	82000189	52.40€	1
82000142	52.40€	82000039	52.40€	2
82000143	52.40€	82000029	52.40€	3
82000239	52.40€	82000190	52.40€	4
82000145	52.40€	82000030	52.40€	5
82000146	52.40€	82000191	52.40€	6
82000147	52.40€	82000421	52.40€	7
82000148	52.40€	82000193	52.40€	8
82000149	52.40€	82000031	52.40€	9
82000416	52.40€	82000040	52.40€	special character - (Minus)
82000433	52.40€	82000041	52.40€	special character . (Point)
82000879	52.40€	82002230	52.40€	special character / (Slash)
82000065			136.12€	End segment

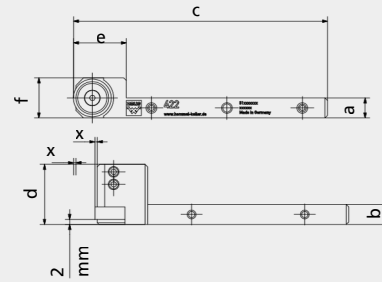


PRODUCT FEATURES

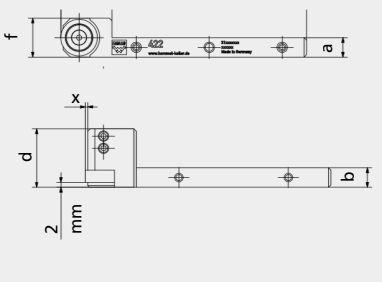
- modular shank design
- compact design - optimized for Swiss type lathe applications
- top edge of shank = centre height
- set screws in shank for correcting alignment
- hardened pin
- exact positioning of the marking on the circumference of the workpiece marking up to a shoulder
- center height corresponds to the first marking point
- marking position individually adjustable
- sets in high quality packaging

	Ürün Kodu (right-hand version)	EURO €		Ürün Kodu (left-hand version)	EURO €	Model / Sets (with shank adapter)	Boyutlar Marking roll (Ø x w x b)	Ürün Kodu. E-Kit		
								right	left	
	31002843 Tool for marking up to a shoulder	764.06€		31002913 Tool for marking up to a shoulder	764.06€	422	15 x 5 x 6	21BHR1505	21BHR1506	
						with adapter 10 x 10 mm				
						with adapter 12 x 12 mm				
						with adapter 16 x 16 mm				
	31002846 Tool for marking up to a shoulder	764.06€		31002914 Tool for marking up to a shoulder	764.06€	422	15 x 7 x 6	21BHR1507	21BHR1508	
						with adapter 10 x 10 mm				
						with adapter 12 x 12 mm				
						with adapter 16 x 16 mm				

	Ürün Kodu (right-hand version)	EURO €		Ürün Kodu (left-hand version)	EURO €	Boyutlar						
						a	b	c	d	e	f	x
	31002843	764.06€		31002913	764.06€	8	8	101	24	21	16	1
						10	10	101	24	21	18	1
						12	12	101	24	21	20	1
						16	16	101	24	21	24	1



	Ürün Kodu (right-hand version)	EURO €		Ürün Kodu (left-hand version)	EURO €	Boyutlar						
						a	b	c	d	e	f	x
	31002846 Tool for marking up to a shoulder	764.06€		31002914 Tool for marking up to a shoulder	764.06€	8	8	101	24.5	21	16	1
						10	10	101	24.5	21	18	1
						12	12	101	24.5	21	20	1
						16	16	101	24.5	21	24	1



MARKING ROLL Nr. 41

(for tool set 422)



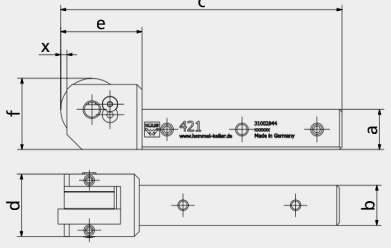
Standard design	
flank angle	90°
Boyutlar (çap Ø x en x delik, mm)	15 x 5 x 6 15 x 7 x 6
font	according to



PRODUCT FEATURES

- modular shank design
- top edge of shank = centre height
- set screws in shank for correcting alignment
- exact positioning of the marking on the circumference of the workpiece
- Marking independent of workpiece diameter
- center height corresponds to the first marking point
- marking position individually adjustable
- sets in high quality packaging

	Item no.	EURO €	Model / Sets (with shank adapter)	Size Marking roll (Ø x w x b)	Item no. E-Kit		
					right	left	
	31002844		421	25 x 6 x 6	21BHR1503	21BHR1504	
			with adapter 20 x 20 mm				
			with adapter 25 x 25 mm				

	Item no. (right-hand version)	EURO €	Boyutlar								
			a	b	c	d	e	f	x		
	31002844		16	16	112.5	25	32.5	28.5	2.5		
			20	20	112.5	25	32.5	28.5	2.5		
			25	25	112.5	25	32.5	28.5	2.5		

MARKING ROLL Nr. 41

(for tool set 421)



Standard design	
flank angle	90°
Boyutlar (çap ø x en x delik, mm)	25 x 6 x 6
font	according to DIN 1451



Product features

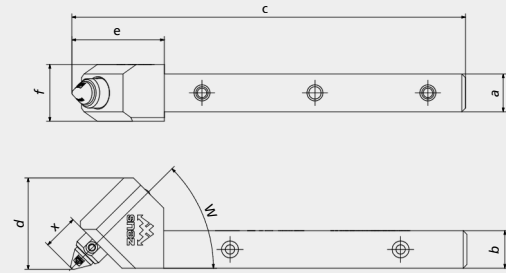
- Fixed tool head
- New entry-level model for simple burnishing applications, e.g. for burnishing shafts with cylindrical surfaces
- Tool universally applicable
- Compact design - developed for Swiss type lathes
- Center height at middle of the shank
- Long tool life of the diamond burnishing tip due to eightfold change of tip position

Recommendations

- Burnishing speed up to 200 m/min
- Feed rate up to 0.2 mm/U
- Material allowance of 0.01 mm (~Rz 10) and 0.02 mm (~Rz 20)
- For an optimum result it is recommended to use a cooling lubricant

	Ürün Kodu	EURO €	Tool holder model	Head angle	Basic shank [mm]	Boyutlar								Including shank adapter [mm]	
						a	b	c	d	e	f	x			
	31003955	788.00€	510-10	35°	10 x 10	10	10	113	22	28	15	9.5	12 x 12		
													16 x 16		
	31003956	814.60€	510-10	45°	10 x 10	10	10	104.6	24	24.6	15	9.5	12 x 12		
													16 x 16		

	Ürün Kodu	EURO €	Tip radii [mm]
🛒	06TGW0024	1.104.90€	0.2
🛒	06TGW0008	1.104.90€	0.4
🛒	06TGW0009	1.104.90€	0.6
🛒	06TGW0010	1.104.90€	0.8
🛒	06TGW0011	1.104.90€	1.0
🛒	06TGW0007	1.560.52€	2.0



The zeus burnishing tool integrates the burnishing of a component into the machining process on a machine.

EXTREMELY COST EFFICIENT

It can perform subsequent machining steps such as grinding, polishing, superfinishing, honing or hardening.



Product features

- Tool head is variably adjustable
- Tool universally applicable
- Swivel range $\pm 90^\circ$
- Thanks to the adjustability of the tool head, it is possible to burnish end face, conical, convex and concave geometries
- Application up to a shoulder
- Long tool life of the diamond burnishing tip due to eightfold change of tip position

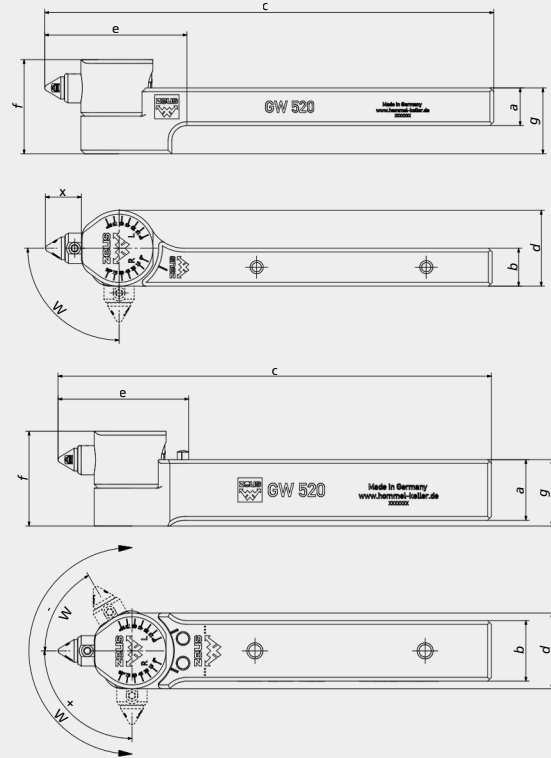
Recommendations

- Burnishing speed up to 200 m/min
- Feed rate up to 0.2 mm/U
- Material allowance 0.01 mm ($\sim R_z 10$) and 0.02 mm ($\sim R_z 20$)
- For an optimum result it is recommended to use a cooling lubricant

	Ürün Kodu (right-hand version)	EURO €		Ürün Kodu (left-hand version)	EURO €	Tool holder model	Basic shank [mm]	Boyutlar								Angle [°]		Including Shank Adapter [mm]
								a	b	c	d	e	f	g	x	+w	+w	
	31003922	983.31€		31013577	983.31€	520-10	10 x 10	10	10	118.5	20	37.5	25	17.5	9.5	90	90	12 x 12
																		16 x 16
	31003923	1.033.85€			520-16	16 x 16	16	16	114.5	20	34.6	25	17.5	9.5	90	90	20 x 20	
																	25 x 25	

DIAMOND BURNISHING TIP VERSIONS:

Item no.	EURO €	Tip radii [mm]
06TGW0024	1.104.90€	0.2
06TGW0008	1.104.90€	0.4
06TGW0009	1.104.90€	0.6
06TGW0010	1.104.90€	0.8
06TGW0011	1.104.90€	1.0
06TGW0007	1.560.52€	2.0





RRA



RRE

zeus burnishing rolls can be used in standard zeus form knurling tools. On request, we can develop and produce a custom holding system.

Use in this tool system is suitable for machining cylindrical work-pieces, bores, end faces, conical workpieces and for convex and concave outer contours.

Applications:

zeus burnishing rolls are used primarily for roller-burnishing and supporting round material during machining on lathes.

Result:

Improved surface quality
Increased dimensional stability
Increased hardness of surfaces

Advantages:

- Burnished workpieces exhibit low friction and increased resistance to corrosion after machining
- Reworking, such as grinding, honing and lapping can be replaced by simple roller-burnishing machining
- When used as support rolls, they reduce wear on the bearings and clamping devices and minimise the pressure on the workpiece

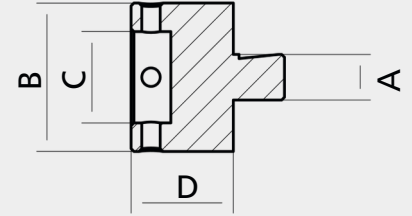
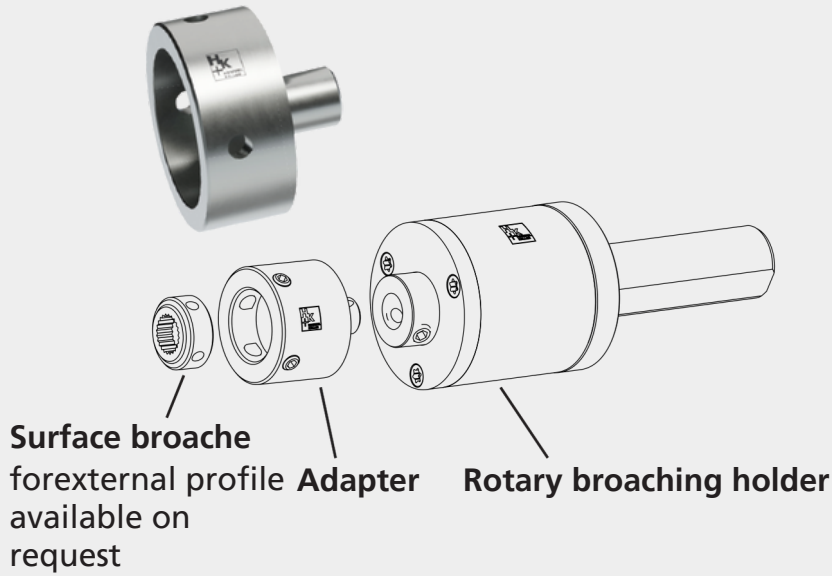
	Ürün Kodu	EURO €	Rz-Class	Profil	Çap Ø (mm)	Genişlik (mm)	Delik (mm)	Bore fit
	41020520	34.12€	4	RRA	10	4	4	G7
	41000000	(Fiyat Sorunuz)	5	RRA	10	4	4	G7
	41020521	49.84€	6	RRA	10	4	4	G7
	41020522	35.86€	4	RRA	15	4	4	G7
	41000012	(Fiyat Sorunuz)	5	RRA	15	4	4	G7
	41020523	51.47€	6	RRA	15	4	4	G7
	41020524	39.36€	4	RRA	20	8	6	G7
	41000045	(Fiyat Sorunuz)	5	RRA	20	8	6	G7
	41020525	53.91€	6	RRA	20	8	6	G7
	41000055	40.17€	4	RRA	25	8	6	G7
	41020588	(Fiyat Sorunuz)	5	RRA	25	8	6	G7
	41020526	55.77€	6	RRA	25	8	6	G7

	Ürün Kodu	EURO €	Rz-Class	Profil	Çap Ø (mm)	Genişlik (mm)	Delik (mm)	Bore fit
	41000006	58.22€	4	RRE	10	4	4	G7
	41020589	(Fiyat Sorunuz)	5	RRE	10	4	4	G7
	41020527	252.90€	6	RRE	10	4	4	G7
	41000020	59.73€	4	RRE	15	4	4	G7
	41020590	(Fiyat Sorunuz)	5	RRE	15	4	4	G7
	41019677	252.90€	6	RRE	15	4	4	G7
	41020528	61.94€	4	RRE	20	8	6	G7
	41000047	(Fiyat Sorunuz)	5	RRE	20	8	6	G7
	41020529	255.46€	6	RRE	20	8	6	G7
	41000057	63.92€	4	RRE	25	8	6	G7
	41020591	(Fiyat Sorunuz)	5	RRE	25	8	6	G7
	41020530	256.63€	6	RRE	25	8	6	G7

BROŞLAMA TAKIMLARI FİYAT LİSTESİ



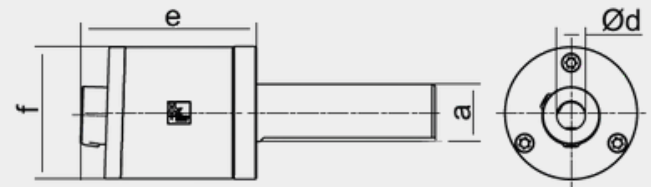
Adapter (for surface broach for external profiles)



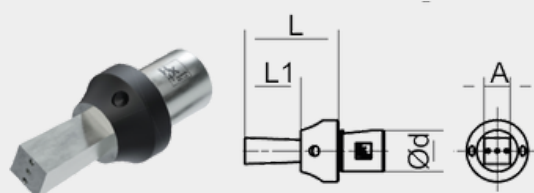
dimensions in
mm

	Ürün Kodu	EURO €	A	B	C	D
	60000004	202.14€	8	8	16	18
	60000005	202.14€	12	12	32	18

Rotary broaching holder



	Ürün Kodu	EURO €	Shank Ø (a)	e	f	Ød
	60000000	1.168.66€	12	46	35	8
	60000001	1.168.66€	16	46	35	8
	60000002	1.245.42€	16	65	47	12
	60000014	1.245.42€	20	65	47	12
	60000009	1.245.42€	22	65	47	12
	60000015	1.245.42€	25	65	47	12



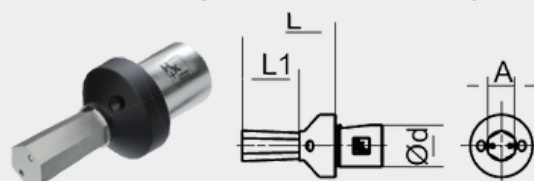
dimensions in mm

	Item no.	EURO €	L	L1	Ød	A
	61000013		18	5	8	2
	61000014		18	6	8	2.5
	61000015		18	7	8	3
	61000016		18	8	8	3.5
	61000017		18	9	8	4
	61000018		18	9	8	4.5
	61000019		18	11	8	5
	61000020		18	11	8	5.5
	61000021		18	13	8	6
	61000022		18	15	8	7
	61000023		18	15	8	8
	61000042		25	5	12	2
	61000043		25	6	12	2.5
	61000044		25	7	12	3
	61000045		25	8	12	3.5
	61000046		25	9	12	4
	61000047		25	9	12	4.5
	61000048		25	11	12	5
	61000049		25	11	12	5.5
	61000050		25	13	12	6
	61000051		25	15	12	7
	61000052		25	17	12	8
	61000053		25	19	12	9
	61000054		25	21	12	10
	61000055		25	21	12	11
	61000056		25	21	12	12

High process reliability and stability

- Holder and broach lie fl at against each other.
- All Hommel+Keller broaches are provided with Hommel+Keller's own INOX Plus coating.

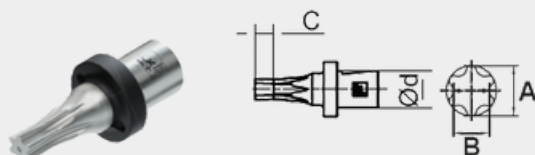
Broaching insert Hexagon



dimensions in mm

	Item no.	EURO €	L	L1	Ød	A
	61000000		18	5	8	2
	61000001		18	6	8	2.5
	61000002		18	7	8	3
	61000003		18	8	8	3.5
	61000004		18	9	8	4
	61000005		18	9	8	4.5
	61000006		18	11	8	5
	61000007		18	11	8	5.5
	61000008		18	13	8	6
	61000009		18	15	8	7
	61000010		18	15	8	8
	61000011		18	15	8	9
	61000012		18	15	8	10
	61000024		25	5	12	2
	61000025		25	6	12	2.5
	61000026		25	7	12	3
	61000027		25	8	12	3.5
	61000028		25	9	12	4
	61000029		25	9	12	4.5
	61000030		25	11	12	5
	61000031		25	11	12	5.5
	61000032		25	13	12	6
	61000033		25	15	12	7
	61000034		25	17	12	8
	61000035		25	19	12	9
	61000036		25	21	12	10
	61000037		25	21	12	11
	61000038		25	21	12	12
	61000039		25	21	12	13
	61000040		25	21	12	14
	61000041		25	21	12	15

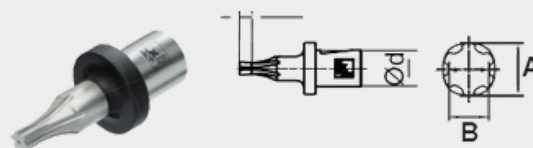
Broaching insert **Torx**



dimensions in mm

	Item no.	EURO €	Size	C	Ød	A	B
	61000057		8	2	8	2,418	1,756
	61000058		9	2	8	2,603	1,889
	61000059		10	2	8	2,844	2,057
	61000060		15	3	8	3,378	2,438
	61000061		20	3.5	8	3,962	2,857
	61000062		25	4	8	4,559	3,276
	61000063		27	4	8	5,118	3,672
	61000064		30	4.5	8	5,651	4,064
	61000065		40	5	8	6,807	4,889
	61000066		8	2	12	2,418	1,756
	61000067		9	2	12	2,603	1,889
	61000068		10	2	12	2,844	2,057
	61000069		15	3	12	3,378	2,438
	61000070		20	3.5	12	3,962	2,857
	61000071		25	4	12	4,559	3,276
	61000072		27	4	12	5,118	3,672
	61000073		30	4.5	12	5,651	4,064
	61000074		40	5	12	6,807	4,889
	61000075		45	5.5	12	7,975	5,689
	61000076		50	6	12	8,991	6,502
	61000077		55	7	12	11,404	8,089
	61000078		60	7.5	12	13,487	9,677

Broaching insert **Torx Plus**



dimensions in mm

	Item no.	EURO €	Size	C	Ød	A	B
	61000079		8	2	8	2,418	1,86
	61000080		9	2	8	2,603	2,014
	61000081		10	2	8	2,844	2,174
	61000082		15	3	8	3,378	2,606
	61000083		20	3.5	8	3,962	3,088
	61000084		25	4	8	4,559	3,492
	61000085		27	4	8	5,118	3,99
	61000086		30	4.5	8	5,651	4,391
	61000087		40	5	8	6,807	5,283
	61000088		8	2	12	2,418	1,86
	61000089		9	2	12	2,603	2,014
	61000090		10	2	12	2,844	2,174
	61000091		15	3	12	3,378	2,606
	61000092		20	3.5	12	3,962	3,088
	61000093		25	4	12	4,559	3,492
	61000094		27	4	12	5,118	3,99
	61000095		30	4.5	12	5,651	4,391
	61000096		40	5	12	6,807	5,283
	61000097		45	6	12	7,975	6,923
	61000098		50	7	12	8,991	8,766
	61000099		55	7.5	12	11,385	10,35
	61000100		60	8	12	13,442	12,156



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