

URMA Tools

Reaming & Boring



Ø 0.2 - 2'400 mm	
Ø 0.2 - 40 mm	FINISHING
Ø 19.5 - 153 mm	ROUGHING
Ø 18 - 153 mm	FINISHING
Ø 49 - 297 mm	ROUGHING + FINISHING
Ø 150 - 805 mm	ROUGHING + FINISHING
Ø 500 - 2'400 mm	ROUGHING + FINISHING
Ø 20 - 51 mm	













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● Stok standart
Stock standard

○ Indeks B, talep üzerine
Index B, availability on request

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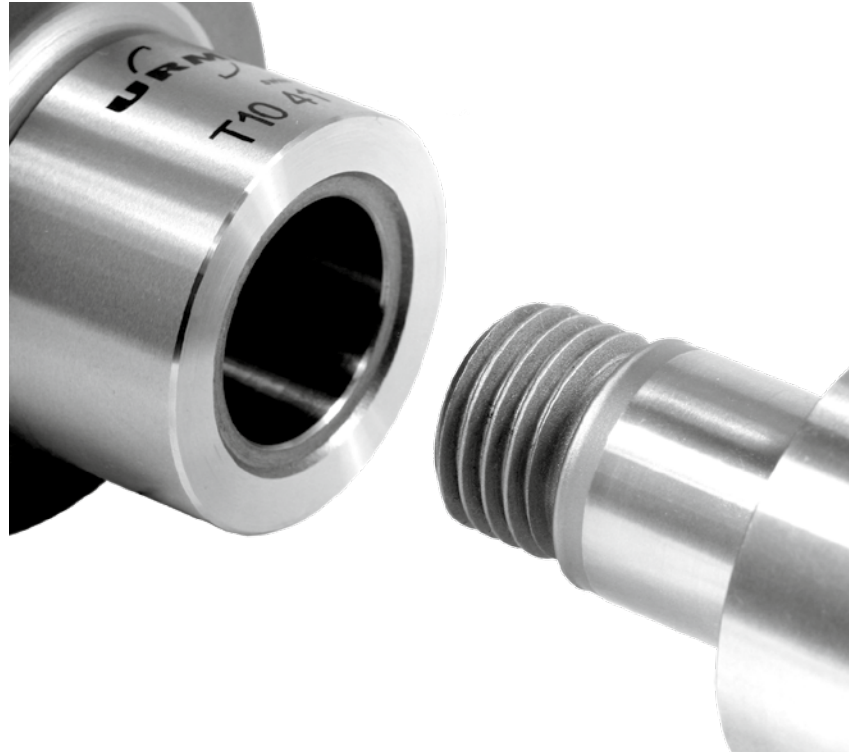
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URMA Systems
Alpha-/Beta-Modul System

Ø 0.2 - 2'400 mm

Alfa-Modül-Sistemi



Eksenel vidalı bağlantı

- Yüksek stabilite
- yüksek eş eksenlilik sayesinde, yüksek devirlerde çalışabilme
- kolay kullanım
- Beta-Modül adaptörü

Axial Threaded Connection

- high stability
- mass symmetry allows high revolutions per minute
- simpler handling
- adaptor for Beta-Modul

Ø 0.2 - 2'400 mm

Beta-Modül Sistemi

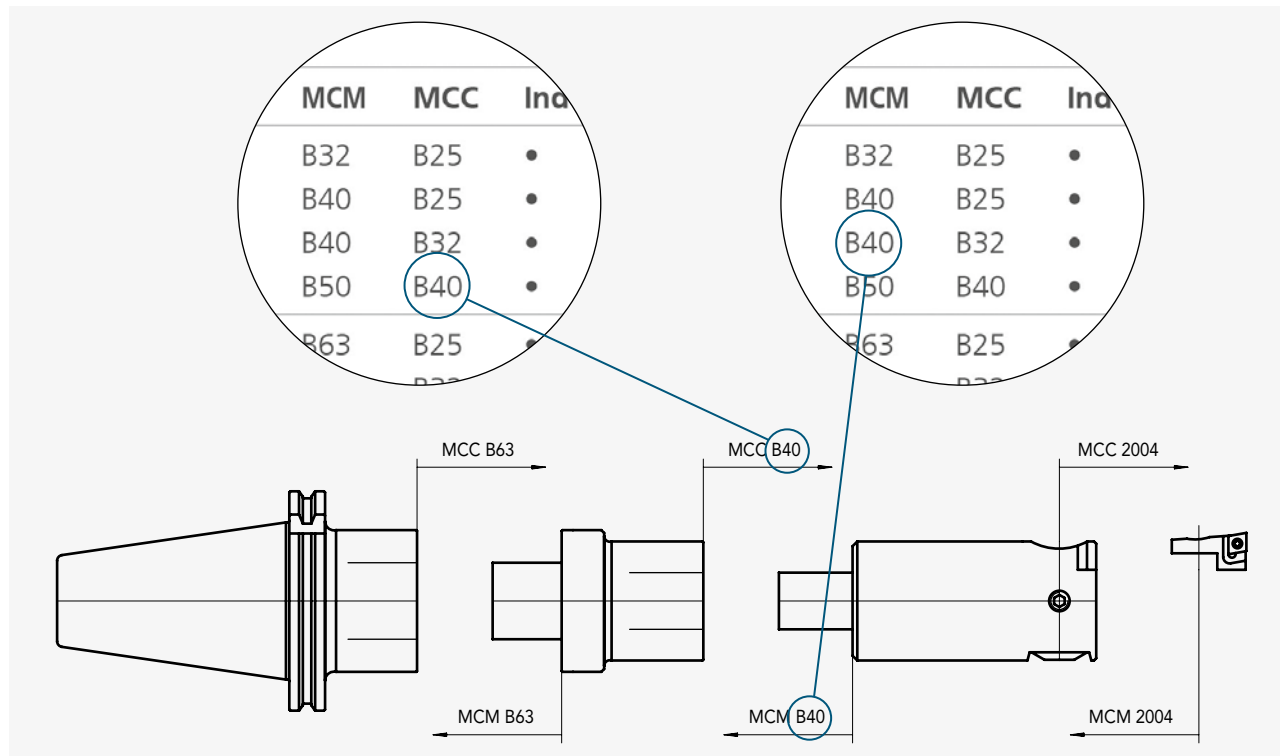


Yandan sabitleme sistemi

- esnek kullanım
- diğer sistemlerle uyumlu
- konik vida ile büyük temas yüzeyi ve tork aktarımı
- kolay kullanım
- Alfa-Modül adaptörü

With Side Lock System

- high flexibility
- compatible to other systems
- large surface area of conical drive key allows for higher torque transmission
- simpler handling
- adaptor for Alpha-Modul



URMA kısa kod anahtarı

- MCC kesici kenardan başlayan kodlama
MCM tezgah tarafından başlayan kodlama

MCC ve MCM ekipmanların farklı şekillerde bağlanabileceğini gösterir
Kodlar birbirleriyle uyum içindedir (örnek sayfa 8)

Handling of URMA Match Codes

- MCC Match Code towards Cutting Edges
MCM Match Code towards Machine

MCC and MCM show the different couplings to mount the tool components.
These match codes have to correspond (example page 8).

URMA Systems
DigiTec

Ø 0.2 - 2'400 mm

DigiTec

Dijital hassas delik işleme sistemleri.

The digital fine boring system at a fair price!



Ø 0.2 den 2,400 mm ye kadar tüm yelpaze için dijital hassas delik işleme teknolojisi

- Tüm DigiTec ailesi için tek bir kontrol ünitesi
- bakım gerektirmeyen, minimum hata riskine sahip
- pil ve gösterge el ünitesi içindedir
- 2011 versiyon hassas delik işleme kafaları için mükemmel fiyat-performans oranı

Digital-Technology for the entire URMA fine boring head family from Ø 0.2 up to 2'400 mm

- only one control unit for the entire DigiTec family
- no maintenance and minimal risk of failure
- battery and display are located in the handheld control unit.
- excellent price-performance ratio upgrade possible on the fine boring heads - version 2011

Ø 0.2 - 2'400 mm

...mikronları ayarlayın, hem de tezgah içinde - kolay ve hatasız!

...adjustable in microns, even in the machine - easy and faultless!



diğer avantajlar

- direk kafadaki hareketi okuyarak çok hassas ayar yapabilme
- ayar esnasında hata yapmayı azaltan büyük gösterge
- düşük ışık altında bile güvenle ayar yapabilme (tezgah içi, atölye, vb.)
- kolay metrik/inç ya da çap/yarıçap değişimi
- "Hibrit" kullanım - tüm kafalar analog olarak da ayarlanabilir

Further Advantages

- highest precision through direct measuring of the movement
- large digital display reduces setup error
- safe handling, even under poor lighting conditions (machine tool workspace, etc.)
- easy to switch metric/Inch or Diameter/Radius
- «Hybrid» usage - the boring heads also work conventionally with scale

Ø 7.3 - 25 mm

Takım-Setleri
Tool-Set



İçerik
Content

Order Number	Tanım	Description	Details	Amount
05 42 30-D	DigiTec hassas bara	Fine boring head DigiTec	ø 2-40 mm	1
H06 06 07	Karbür kartuş	Carbide boring bar	ø 7.3-11 mm l = 24-48 mm	1
HW/C06 10 12	Karbür kartuş	Carbide boring bar	ø 11.8-16 mm l = 50-80 mm	1
W/C06 16 15	Kartuş	Boring bar	ø 15-20 l = 45 mm	1
07 00 06	Çap düşürücü	Reducer	ø 6 mm	1
07 00 10	Çap düşürücü	Reducer	ø 10 mm	1
06 16 20	Kartuş	Boring bar	20-25 mm l = 60 mm	1
W/C20 02 06	Hassas uç kartuşu	Fine boring insert holder		1
C00 20 01	Yedek parça (uç civatası)	Spare parts (insert clamping screw)		3
C00 20 10	Yedek parça (uç civatası)	Spare parts (insert clamping screw)		3
CPGT060202FXUT150	Sermet uç	Insert cermet		10
WCGT020102FYUT150	Sermet uç	Insert cermet		10
92 00 25-D	DigiTec gösterge	Display unit for DigiTec		1
DIGI 00 05	Çanta	Empty case		1
05 42 30-D 17	Seçilebilir adaptörler	Adapter to choose:		
05 42 30-D 37	D10 41 16 DIN 69871-A/40	D10 41 16 DIN 69871-A/40		
05 42 30-D 57	T10 41 16 MAS-BT-A/40	T10 41 16 MAS-BT-A/40		
	HSKA10 63 17 HSK63-A	HSKA10 63 17 HSK63-A		

Dijital hassas baralar için gösterge

Display Unit for Digital Fine Boring Heads

DigiTec gösterge

Display Unit for DigiTec

Order Number	L	B	H	kg	Index
92 00 25-D	120	80	25	0.185*	•

* pil dahildir
Battery included

**SPARE PARTS**

9V E-Block
Z92 00 25 12

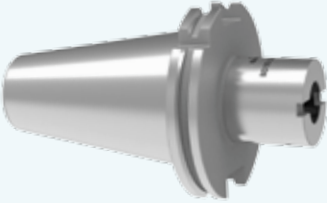




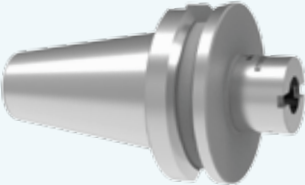
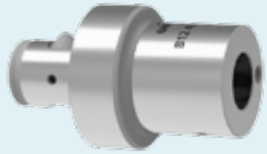
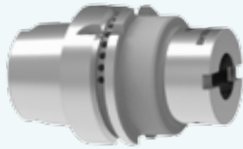


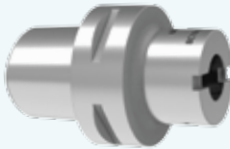

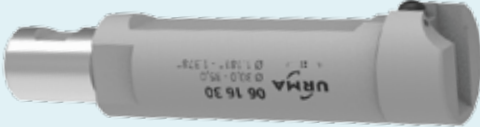

URMA Systems
MicroMax

Ø 0.2 - 40 mm

Ø 0.2 - 40 mm

MicroMax

DIGITEC

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			Page 25	Page 25
				
			Page 26	
				
			Page 26	Page 27
				

Ø 0.2 - 40 mm



DIGITEC

1µm/Ø ayarlı hassas bara, balans alma özelliği olan ve olmayan
Fine Boring Head 1 µm/Ø *, with or without Balancing Features

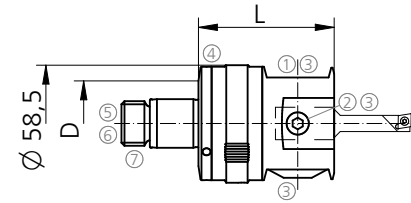
Balans alma özellikli hassas bara

Fine Boring Head, Balanceable

Alpha	Order Number	L	D	kg	SW	MCM	MCC	Index
42	05 42 30-D	67	42	1,3	50	42	Z16	•
42	05 42 30	67	42	1,3	50	42	Z16	•

Dijital gösterge için sayfa 17 ye bakınız

DigiTec display unit for digital fine boring heads page 17

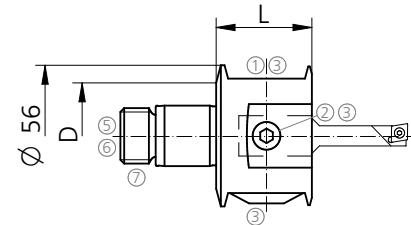
**Balans alma özelliği olmayan hassas bara**

Non balanceable fine boring head

Alpha	Order Number	L	D	kg	SW	MCM	MCC	Index
42	05 42 40-D	38	42	0,7	50	42	Z16	•
42	05 42 40	38	42	0,7	50	42	Z16	•

Dijital gösterge için sayfa 17 ye bakınız

DigiTec display unit for digital fine boring heads page 17

**SPARE PARTS**

Alpha	1	2	3	4	5	6	7
42	Z00 05 01	Z00 23 01	G00 02 06	G00 02 03	G00 02 04	G00 02 07	Z00 22 42

Ø 0.2 - 40 mm



DIGITEC

1µm/Ø ayarlı hassas bara, balans alma özelliği olan ve olmayan
Fine Boring Head 1 µm/Ø *, with or without Balancing Features

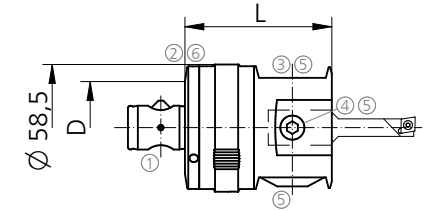
Balans alma özellikli hassas bara

Fine Boring Head, Balanceable

Beta	Order Number	L	D	kg	MCM	MCC	Index
40	B05 40 30 067-D	67	42	1,3	B40	Z16	•
40	B05 40 30 067	67	42	1,3	B40	Z16	•

Dijital gösterge için sayfa 17 ye bakınız

DigiTec display unit for digital fine boring heads page 17



* (-D) sadece DigiTec versiyonu içindir (sayfa 17) diğerleri için ayarlama hassasiyeti 10µm/Ø
Only with DigiTec version (-D) in connection with the display (page 17) otherwise 10 µm/Ø adjustable

SPARE PARTS

Beta	1	2	3	4	5	6
40	Z00 40 21	Z00 40 23	Z00 05 01	Z00 23 01	G00 02 06	G00 02 03

Ø 0.2 - 6 mm

**Bara kartuşları**

Boring Bars

Mini-baralar için çap düşürücüler

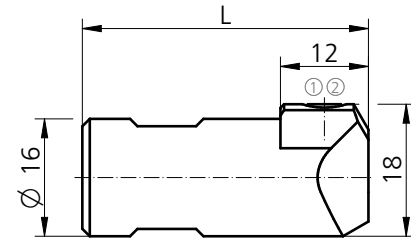
Reducer for Mini-Boring Bars

Ø 0,2 - 6 mm

Order Number	L	MCM	MCC	Index
B105.0016.U1.01	39	Z16	B105	●

Kesme yönüne bakınız!

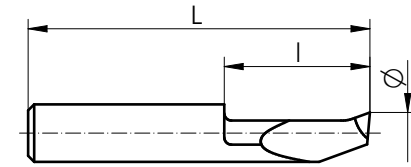
Attention: Note the direction of cutting!

**Karbür mini-bara kartuşları**

Carbide Mini-Boring Bars

Ø 0,2 - 6 mm

Order Number	Ø-range	L	I	MCM	Index
L105.1802.0.02MG12	0,2 - 0,8	23	1,0	B105	●
L105.1802.0.03MG12	0,3 - 0,9	23	1,0	B105	●
L105.1803.0.07MG12	0,7 - 2,3	23	2,0	B105	●
R105.1805.1.1TN35	1,0 - 3,4	25	6,0	B105	●
R105.1809.1.2TN35	2,0 - 6,0	25	9	B105	●

**SPARE PARTS**

B105..	①	②
	6.075T15	G00 20 03

Ø 5.8 - 22.5 mm

**8xD baralama boyu için karbür saplı kartuşlar**

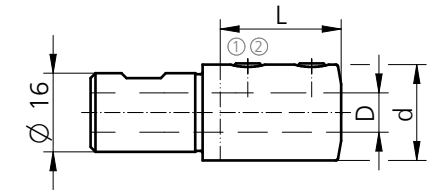
Boring Bars with Carbide Shank for Boring Depths up to 8xD

Çap düşürücüler

Reducers

Ø 5,8 - 22,5 mm

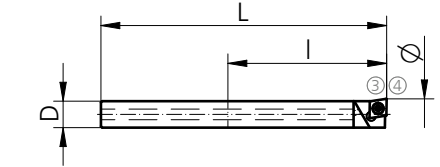
Order Number	L	D	d	MCM	MCC	Index
07 00 05	17	5	16	Z16	ZS5	●
07 00 06	17	6	16	Z16	ZS6	●
07 00 08	22	8	19	Z16	ZS8	●
07 00 10	25	10	22	Z16	ZS10	●
07 00 12	31	12	22	Z16	ZS12	●

**Karbür saplar**

Boring Bars with Carbide Shanks

Ø 5,8 - 22,5 mm

Order Number	Ø-range	L	I	D	Inserts	MCM	MCC	Index
H06 05 06	5,8 - 10	65	20-40	5	WC.. 0201	ZS5	WC02	●
H06 06 07	7,3 - 11	70	24-48	6	WC.. 0201	ZS6	WC02	●
HW/C06 08 09	8,8 - 13	90	40-64	8	CC../CP.. 0602	ZS8	CP06	●
HW/C06 10 12	11,8 - 16	105	50-80	10	CC../CP.. 0602	ZS10	CP06	●
HW/C06 12 14	13,8 - 18	120	60-96	12	CC../CP.. 0602	ZS12	CP06	●
HW/C06 16 16	15,8 - 20	130	100	16	CC../CP.. 0602	ZS16	CP06	●
HW/C06 16 18	18,3 - 22,5	145	115	16	CC../CP.. 0602	ZS16	CP06	●

**Kombine uç yuvalı kartuş için sayfa 27 ye bakınız**

Insert holder with combined insert pocket see page 27

SPARE PARTS

D	①	②	③	④
5-6	C00 07 01	G00 02 03	C00 20 10	G00 20 01
8-10	C00 25 03	G00 02 04	C00 20 04	G00 20 05
10-12	C00 07 02	G00 02 04	C00 20 01	G00 20 05
16			C00 20 01	G00 20 05

Ø 10 - 40 mm

**Çelik saplı kartuşlar**

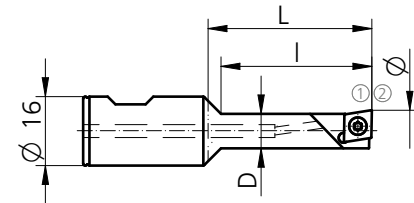
Boring Bars with Steel Shank

Kartuşlar

Boring Bars

Ø 10 - 20 mm

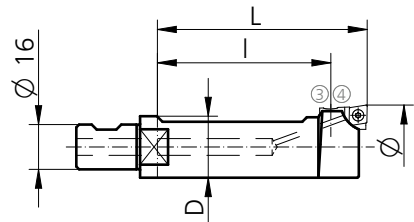
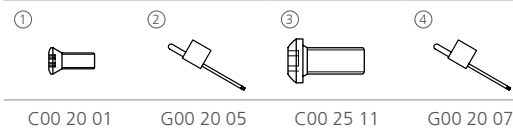
Order Number	Ø-range	L	I	D	Inserts	MCM	MCC	Index
W/C06 16 10	10 - 15	38	35	8	CC../CP.. 0602..	Z16	CP06	●
W/C06 16 15	15 - 20	48	45	12,5	CC../CP.. 0602..	Z16	CP06	●
W06 16 10	10 - 15	38	35	8	CC.. 0602..	Z16	CC06	●
W06 16 15	15 - 20	48	45	12,5	CC.. 0602..	Z16	CC06	●

**Kartuşlar**

Boring Bars

Ø 20 - 40 mm

Order Number	Ø-range	L	I	D	MCM	MCC	Index
06 16 20	20 - 25	60	47	17	Z16	2002	●
06 16 25	25 - 30	75	62	22	Z16	2002	●
06 16 30	30 - 35	75	62	27	Z16	2002	●
06 16 35	35 - 40	75	62	32	Z16	2002	●

**SPARE PARTS**

C00 20 01 G00 20 05 C00 25 11 G00 20 07

Ø 10 - 40 mm

**Uç kartuşları**

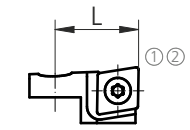
Insert Holders

Uç kartuşları

Insert Holders

Ø 20 - 40 mm

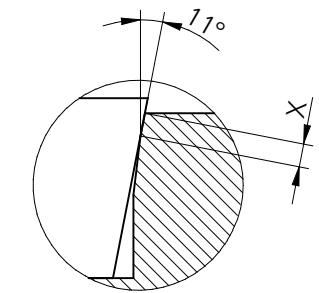
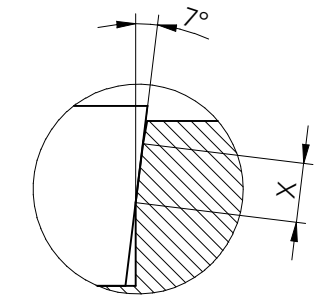
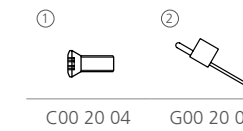
Order Number	L	Inserts	MCM	MCC	Index
W/C20 02 06	13	CC../CP.. 0602..	2002	CP06	●
W20 02 06	13	CC.. 0602..	2002	CC06	●
WW20 02 06	13	Wiper CC.. 0602..	2002	CC06	●

**Kombine uç yuvalı kartuşlar**

Insert Holder with Combined Insert Pocket

W/C... ile başlayan kartuşlar ve HW/C06... ile başlayan baralar hem 7° (CCGT...) hem de 11° (CPGT...) uçları bağlayabilirler. Uç ve yuva uyumunu en iyi şekilde elde edebilmek için taşlanmış uç kullanılması tavsiye edilir.

Insert holders type W/C... and boring bars HW/C06... are designed to hold inserts with 7° (CCGT...) as well as 11° (CPGT...) clearance angle. We highly recommend to use only precision (ground) inserts (CCG... or CPG...) on such holders to guarantee a perfect fit.

**SPARE PARTS**

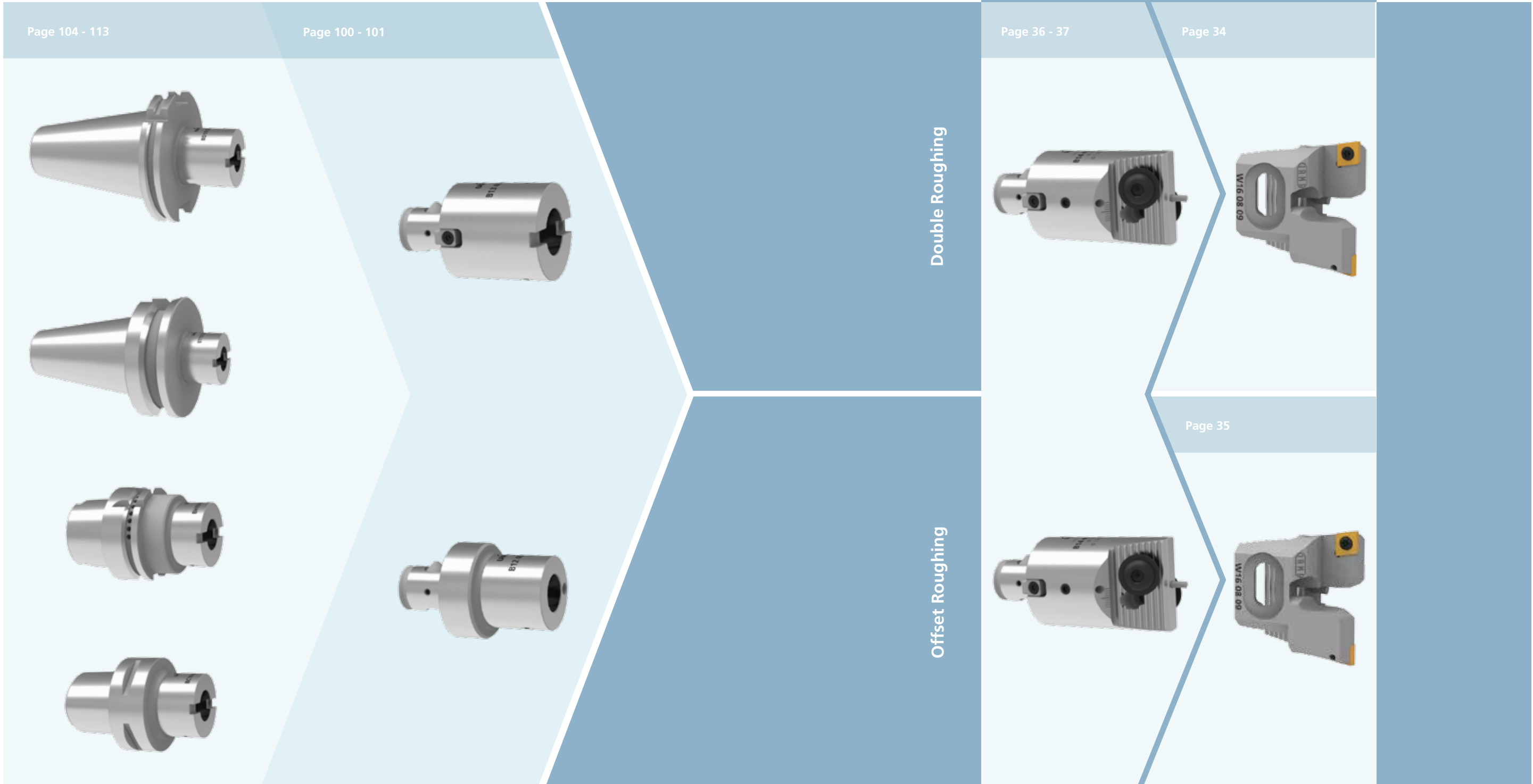
C00 20 04 G00 20 05

URMA Systems
VersaMax - Type 14

Ø 19.5 - 153 mm

Ø 19.5 - 153 mm

VersaMax - Type 14

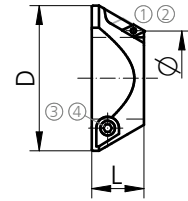


Ø 22.5 - 96 mm

Pah için kartuş
Chamfer Ring

45° pah kartuşu
45° Chamfer Rings

Alpha	Beta	Order Nr.	Ø-range	L	D ₁	kg	Inserts	MCM	MCC	Index
18,5		W29 00 18	22.5 - 33	18	37	0,1	DC.. 0702..	18,5	DC07	o
24,5		W29 00 24	29 - 45	22	48	0,2	DC.. 0702..	24,5	DC07	o
	25	W29 00 25	29 - 45	22	48	0,2	DC.. 07 02..	B25	DC07	o
32	32	W29 00 32	38 - 61	28	64	0,4	DC.. 11T3..	32/B32	DC11	o
42	40	W29 00 42	50 - 72	35	80	0,7	DC.. 11T3..	42/B40	DC11	o
55		W29 00 55	66 - 96	42	100	1,2	DC.. 11T3..	55	DC11	o

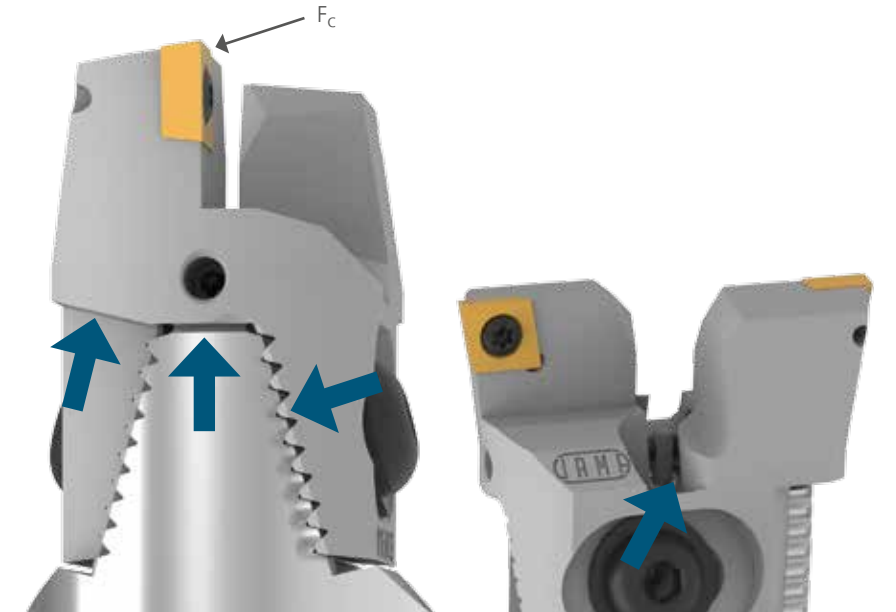


SPARE PARTS

Alpha Beta ① ② ③ ④

Ø 19.5 - 153 mm

URMA patentli çift kaba kartuşlu baranın avantajları
Advantages of the Patented URMA Double Cutter Head



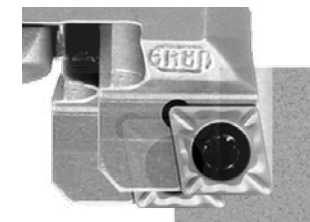
Kesme kuvvetlerini (F_c) direk bara gövdesine yönlendiren ve bu sayede yüksek stabilite ve kullanım çeşitliliği yaratan patentli tasarım ile:

- Çift kaba kartuşlu
- Talaşı bölen çift kartuşlu
- Tek tek radyal ayarlanabilen
- ISO-standart uç bağlayan
- İçten su vermeli
- Yüksek güvenilirlikli
- Kolay kullanımlı
- Optimum stabiliteye sahiptir

Patented design to direct cutting forces (F_c) directly into the body and guarantee highest stability, versatility and allows:

- double cutter roughing
- offset roughing
- individual radial adjustment
- ISO-Standard inserts
- coolant through
- high reliability
- simple handling
- optimized stability

Talaşı bölen çift kartuş
Offset Roughing



Büyük talaşları hem aksel hem de radyal olarak bölen kartuşlar
(Sayfa 35 de verilen değerleri tek ağızlı kesme yapacak şekilde kullanınız.)

Axial and radial offset roughing for larger cutting depth
(consider only one cutting edge for the feed rate per minute calculation, details page 35)

Ø 19.5 - 153 mm



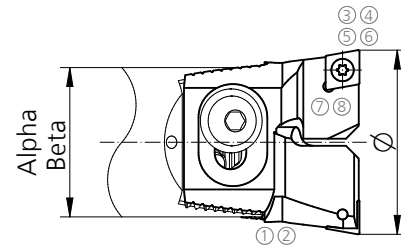
Kartuşlar

Insert Holders

90° Kartuşlar

Insert Holders 90°

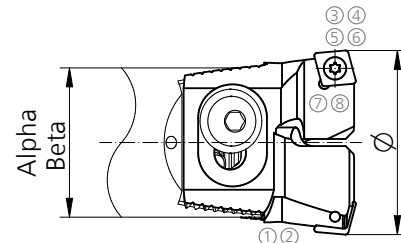
Alpha	Beta	Order Number	Ø-range	kg	Inserts	MCM	MCC	Index
18,5		W16 01 06	19,5 - 25	0,1	CC.. 0602..	1418	CC06	●
18,5		W16 02 06	22,5 - 30	0,1	CC.. 0602..	1418	CC06	●
24,5	25	W16 04 06	29 - 39	0,1	CC.. 0602..	1424	CC06	●
32	32	W16 06 09	38 - 51	0,1	CC.. 09T3..	1432	CC09	●
42	40	W16 08 09	50 - 67	0,1	CC.. 09T3..	1442	CC09	●
55	63	W16 10 13	66 - 88	0,2	CC.. 1204..	1455	CC12	●
55	63	W16 10 12P	66 - 88	0,2	CN.. 1204..	1455	CN12	●
72	80	W16 12 12P	87 - 116	0,5	CN.. 1204..	1472	CN12	●
72	80	W16 12 16P	87 - 116	0,5	CN.. 1606..	1472	CN16	●
94	100	W16 14 16P	115 - 153	1,3	CN.. 1606..	1494	CN16	●



75° Kartuşlar

Insert Holders 75°

Alpha	Beta	Order Number	Ø-range	kg	Inserts	MCM	MCC	Index
18,5		W18 02 06	22,5 - 30	0,1	CC.. 0602..	1418	CC06	●
24,5	25	W18 04 06	29 - 39	0,1	CC.. 0602..	1424	CC06	●
32	32	W18 06 09	38 - 51	0,1	CC.. 09T3..	1432	CC09	●
42	40	W18 08 09	50 - 67	0,1	CC.. 09T3..	1442	CC09	●
55	63	W18 10 12P	66 - 88	0,2	CN.. 1204..	1455	CN12	●
72	80	W18 12 16P	87 - 116	0,5	CN.. 1606..	1472	CN16	●
94	100	W18 14 16P	115 - 153	1,3	CN.. 1606..	1494	CN16	●



⑦⑧ Teslimata dahil değildir
Not included in the delivery

SPARE PARTS

Alpha	Beta	①	②	③	④	⑤	⑥	⑦	⑧
18,5		G00 02 01	C00 02 10	C00 20 01	G00 20 05				
24,5	25	G00 02 01	C00 02 11	C00 20 01	G00 20 05				
32	32	G00 02 02	C00 02 12	C00 20 02	G00 20 03				
42	40	G00 02 03	C00 02 13	C00 20 02	G00 20 03				
55	63	G00 02 03	C00 02 14	C00 20 05	G00 20 03				
55	63	G00 02 03	C00 02 14		G00 20 03	A00 12 11	Z00 12 02	A00 02 17	A00 32 07
72	80	G00 02 04	C00 02 15		G00 20 03	A00 12 11	Z00 12 02	A00 02 17	A00 32 07
72	80	G00 02 04	C00 02 15		G00 20 03	A00 12 12	Z00 16 03	A00 02 16	A00 32 08
94	100	G00 02 05	C00 02 16		G00 20 03	A00 12 12	Z00 16 03	A00 02 16	A00 32 08

Ø 22.5 - 153 mm



Talaş bölerek işleyen kartuşlar

Insert Holders for Offset Roughing

Uç hem çapta hem de yükseklik olarak kaçıktır

Eşit talaş yükü oluşur

Yarı ilerleme ile iki kat talaş kaldırma

Inserts offset in diameter and height

Equal chip load

Double cutting depth capacity with half the feed rate

90° Kartuşlar

Insert Holders 90°

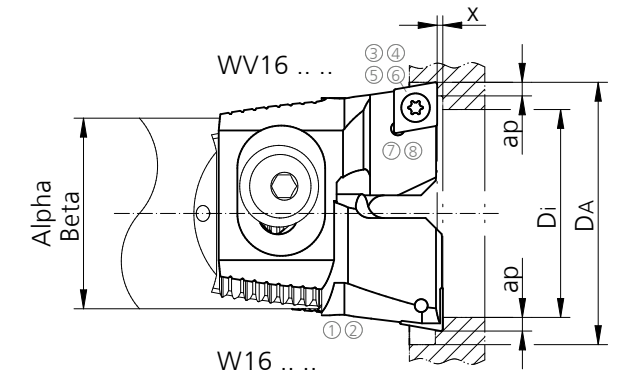
Alpha	Beta	Order Number	Order Number	Ø-range	kg	Inserts	$a_{p \max}$	x	MCM	MCC	Index
18,5		WV16 02 06	W16 02 06	22,5 - 30	0,1	CC.. 0602..	2-3	0,2	1418	CC06	●
24,5	25	WV16 04 06	W16 04 06	29 - 39	0,1	CC.. 0602..	2-3	0,2	1424	CC06	●
32	32	WV16 06 09	W16 06 09	38 - 51	0,1	CC.. 09T3..	3-4	0,2	1432	CC09	●
42	40	WV16 08 09	W16 08 09	50 - 67	0,2	CC.. 09T3..	3-4	0,25	1442	CC09	●
55	63	WV16 10 12P	W16 10 12P	66 - 88	0,5	CN.. 1204..	4-6	0,3	1455	CN12	●
72	80	WV16 12 12P	W16 12 12P	87 - 116	1,2	CN.. 1204..	4-6	0,3	1472	CN12	●
94	100	WV16 14 16P	W16 14 16P	115 - 153	3,0	CN.. 1606..	6-8	0,4	1494	CN16	●

$$\text{Formula } a_p = \frac{D_A - D_i}{4}$$

⑦⑧ Teslimata dahil değildir
Not included in the delivery

SPARE PARTS

Alpha	Beta	①	②	③	④	⑤	⑥	⑦	⑧
18,5		G00 02 01	C00 02 10	C00 20 01	G00 20 05				
24,5	25	G00 02 01	C00 02 11	C00 20 01	G00 20 05				
32	32	G00 02 02	C00 02 12	C00 20 02	G00 20 03				
42	40	G00 02 03	C00 02 13	C00 20 02	G00 20 03				
55	63	G00 02 03	C00 02 14		G00 20 03	A00 12 11	Z00 12 02	A00 02 17	A00 32 07
72	80	G00 02 04	C00 02 15		G00 20 03	A00 12 11	Z00 12 02	A00 02 17	A00 32 07
94	100	G00 02 05	C00 02 16		G00 20 03	A00 12 12	Z00 16 03	A00 02 16	A00 32 08



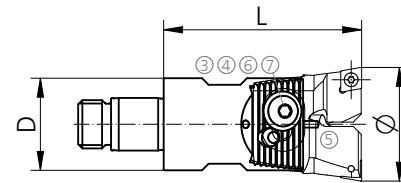
Ø 19.5 - 153 mm



Kaba bara gövdeleri
Double Cutter Heads

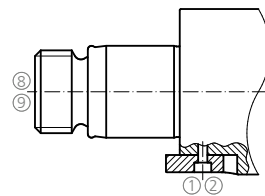
Kaba bara gövdeleri
Double Cutter Heads

Alpha	Order Number	Ø-range	L	D	kg	SW	MCM	MCC	Index
18,5	14 18 00	19,5 - 30	40	18,5	0,1	17	18,5	1418	●
24,5	14 24 00	29 - 39	50	24,5	0,2	22	24,5	1424	●
32	14 32 00	38 - 51	65	32	0,3	27	32	1432	●
42	14 42 00	50 - 67	90	42	0,6	36	42	1442	●
55	14 55 00	66 - 88	115	55	1,3	46	55	1455	●
72	14 72 00*	87 - 116	150	72	2,9	60	72	1472	●
94	14 94 00*	115 - 153	195	94	6,3	75	94	1494	●



⑨ Teslimata dahil değildir
Not included in the delivery

* Anahtar ile birlikte gelir
Supplied with a driving key



SPARE PARTS

Alpha	①	②	③	④	⑤	⑥	⑦	⑧	⑨
18,5			B00 22 01		C00 12 01	K00 02 01	G00 20 23		
24,5			B00 22 02		C00 12 01	K00 02 02	G00 20 24		
32			B00 22 03	G00 02 05	C00 12 08	K00 02 03			
42			B00 22 04	G00 02 06	C00 12 04	K00 02 04			
55			B00 22 05	G00 02 07	C00 12 05	K00 02 05			
72	Z00 00 72	C00 22 11	B00 22 06	G00 02 08	C00 12 06	K00 02 06	Z00 14 74	53 74 96	
94	Z00 00 94	C00 24 17	B00 22 07	G00 02 10	C00 12 07	K00 02 07	Z00 14 96	53 74 96	

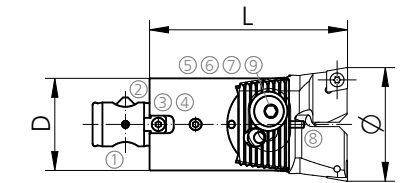
Ø 29 - 153 mm



Kaba bara gövdeleri
Double Cutter Heads

Kaba bara gövdeleri
Double Cutter Heads

Beta	Order Number	Ø-range	L	D	kg	MCM	MCC	Index
25	B14 25 00 050	29 - 39	50	25	0,2	B25	1424	●
32	B14 32 00 065	38 - 51	65	32	0,3	B32	1432	●
40	B14 40 00 090	50 - 67	90	42	0,6	B40	1442	●
63	B14 63 00 100	66 - 88	100	63	1,5	B63	1455	●
80	B14 80 00 115	87 - 116	115	80	2,5	B80	1472	●
100	B14 100 00 145	115 - 153	145	100	4,4	B100	1494	●



SPARE PARTS

Beta	①	②	③	④	⑤	⑥	⑦	⑧	⑨
25	Z00 25 21	Z00 25 23			B00 22 02		C00 12 01	K00 02 02	G00 20 24
32	Z00 32 21	Z00 32 23			B00 22 03	G00 02 05	C00 12 08	K00 02 03	
40	Z00 40 21	Z00 40 23	Z00 40 25	C00 22 58	B00 22 04	G00 02 06	C00 12 04	K00 02 04	
63	Z00 63 21	Z00 63 23	Z00 63 25	C00 22 05	B00 22 05	G00 02 07	C00 12 05	K00 02 05	
80	Z00 80 21	Z00 80 23	Z00 80 25	C00 22 07	B00 22 06	G00 02 08	C00 12 06	K00 02 06	
100	Z00 100 21	Z00 100 23	Z00 100 25	C00 22 71	B00 22 07	G00 02 10	C00 12 07	K00 02 07	

URMA Systems
VersaMax - Type 25 / A25

Ø 18 - 153 mm

Ø 18 - 153 mm

VersaMax - Type 25 / Type A25

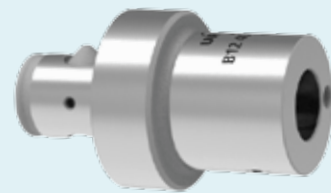
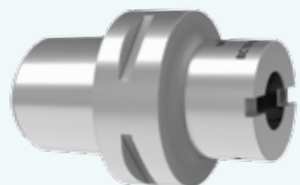
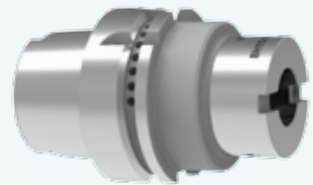
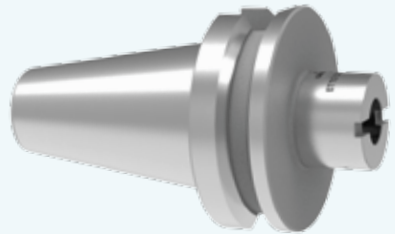
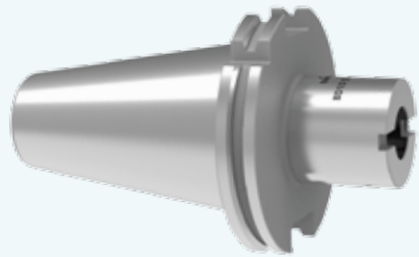
DIGITEC

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Ø 18 - 153 mm



DIGITEC

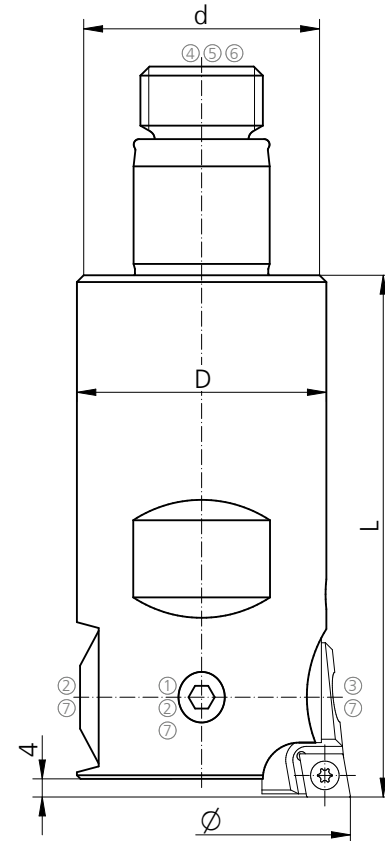
1µm/Ø ayarlı hassas bara gövdeleri*

Fine Boring Heads 1 µm/Ø *

Hassas bara gövdesi

Fine Boring Heads

Alpha	Order Number	Ø-range	L	D	d	kg	SW	MCM	MCC	Index
24,5	25 24 30-D	29 - 39	50	26	24,5	0,2	22	24,5	2002	●
32	25 32 30-D	38 - 51	65	32	32	0,4	27	32	2004	●
42	25 42 30-D	50 - 67	90	42	42	1	36	42	2004	●
55	25 55 30-D	66 - 88	115	55	55	2,2	46	55	2006	●
72	25 72 30-D	87 - 116	75	72	72	2,5	55	72	2006	●
94	25 94 30-D	115 - 153	95	94	94	5,2	55	94	2006	●
18,5	25 16 00	18 - 22,5	65	16	18,5	0,2	17	18,5	2016	●
18,5	25 08 00	20 - 25	40	19,7	18,5	0,1	17	18,5	2002	●
18,5	25 18 00	22,5 - 30	40	20	18,5	0,1	17	18,5	2002	●
24,5	25 24 30	29 - 39	50	26	24,5	0,2	22	24,5	2002	●
32	25 32 30	38 - 51	65	32	32	0,4	27	32	2004	●
42	25 42 30	50 - 67	90	42	42	1	36	42	2004	●
55	25 55 30	66 - 88	115	55	55	2,2	46	55	2006	●
72	25 72 30	87 - 116	75	72	72	2,5	55	72	2006	●
94	25 94 30	115 - 153	95	94	94	5,2	55	94	2006	●



DigiTec gösterge için sayfa 17 ye bakınız

DigiTec display unit for digital fine boring heads page 17

* (-D) sadece DigiTec versiyonu içindir (sayfa 17) diğerleri için ayarlama hassasiyeti 10µm/Ø

Only with DigiTec version (-D) in connection with the display (page 17) otherwise 10 µm/Ø adjustable

SPARE PARTS

Alpha	Ø-range	①	②	③	④	⑤	⑥	⑦
18,5	18 - 22,5	C00 25 18		C00 25 19	G00 02 04	G00 02 01	Z00 10 18	G00 20 02
18,5	20 - 30	C00 25 01		C00 25 11	G00 02 04	G00 02 01	Z00 10 18	G00 20 07
24,5		C00 25 02		C00 25 11	G00 02 05	G00 02 02	Z00 12 24	G00 20 07
32		C00 25 03	G00 02 04	C00 25 12	G00 02 06	G00 02 03	Z00 16 32	G00 20 03
42		C00 25 04	G00 02 04	C00 25 12	G00 02 07	G00 02 04	Z00 22 42	G00 20 03
55		C00 25 05	G00 02 06	C00 25 13	G00 02 05	G00 02 08	Z00 27 55	
72		C00 25 05	G00 02 06	C00 25 13	G00 02 10	G00 02 08	Z00 15 74	
94		C00 25 05	G00 02 06	C00 25 13	G00 02 10	G00 02 08	Z00 15 96	

Ø 29 - 153 mm



DIGITEC

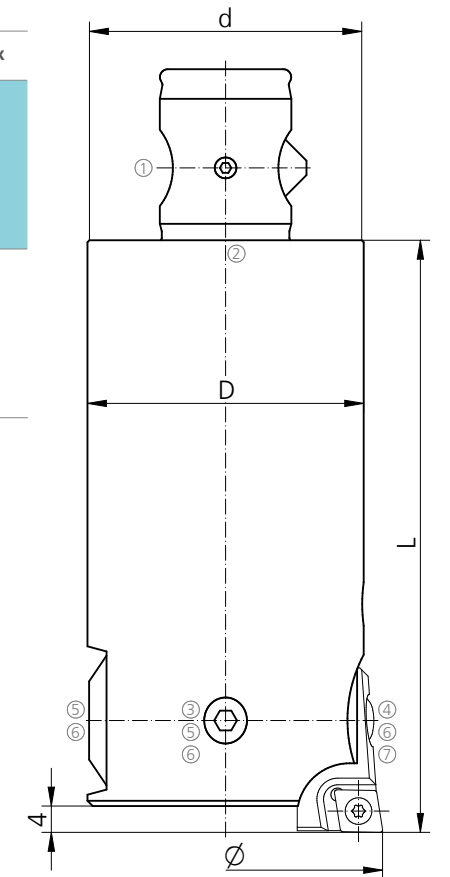
1µm/Ø ayarlı hassas bara gövdeleri*

Fine Boring Heads 1 µm/Ø *

Hassas bara gövdeleri

Fine Boring Heads

Beta	Order Number	Ø-range	L	D	d	kg	MCM	MCC	Index
25	B25 25 30 050-D	29 - 39	50	26	25	0,2	B25	2002	●
32	B25 32 30 065-D	38 - 51	65	32	32	0,4	B32	2004	●
40	B25 40 30 090-D	50 - 67	90	42	40	1	B40	2004	●
63	B25 63 30 100-D	66 - 88	100	63	63	2,5	B63	2006	●
80	B25 80 30 115-D	87 - 116	115	80	80	4,3	B80	2006	●
100	B25 100 30 145-D	115 - 153	145	100	100	9,2	B100	2006	●
25	B25 25 30 050	29 - 39	50	26	25	0,2	B25	2002	●
32	B25 32 30 065	38 - 51	65	32	32	0,4	B32	2004	●
40	B25 40 30 090	50 - 67	90	42	40	1	B40	2004	●
63	B25 63 30 100	66 - 88	100	63	63	2,5	B63	2006	●
80	B25 80 30 115	87 - 116	115	80	80	4,3	B80	2006	●
100	B25 100 30 145	115 - 153	145	100	100	9,2	B100	2006	●



DigiTec gösterge için sayfa 17 ye bakınız

DigiTec display unit for digital fine boring heads page 17

* (-D) sadece DigiTec versiyonu içindir (sayfa 17) diğerleri için ayarlama hassasiyeti 10µm/Ø

Only with DigiTec version (-D) in connection with the display (page 17) otherwise 10 µm/Ø adjustable

SPARE PARTS

Beta	①	②	③	④	⑤	⑥	⑦
25	Z00 25 21	Z00 25 23	C00 25 02	C00 25 11		G00 20 07	
32	Z00 32 21	Z00 32 23	C00 25 03	C00 25 12	G00 02 04	G00 20 03	
40	Z00 40 21	Z00 40 23	C00 25 04	C00 25 12	G00 02 04	G00 20 03	
63	Z00 63 21	Z00 63 23	C00 25 05	C00 25 13	G00 02 06		G00 02 05
80	Z00 80 21	Z00 80 23	C00 25 05	C00 25 13	G00 02 06		G00 02 05
100	Z00 100 21	Z00 100 23	C00 25 05	C00 25 13	G00 02 06		G00 02 05

Balans ayarlı hassas bara gövdelerinin avantajları

Advantages of Balanced Fine Boring Heads

A25 tip balansı ayarlanabilir hassas baralar, normal baralara kıyasla 100 kata kadar daha az balanslıdır U(gmm), bu sayede belirgin şekilde daha yüksek devir- lere çıkabilirler. Ayrıca balans alma işlemi hem kolay hem de güvenilirdir, bu da:

- çok iyi yüzey kalitesi
- titreşimsiz işleme
- daha iyi dairesellik
- daha yüksek uç ömrü

olarak ekstra maliyeti hızlıca geri öder!

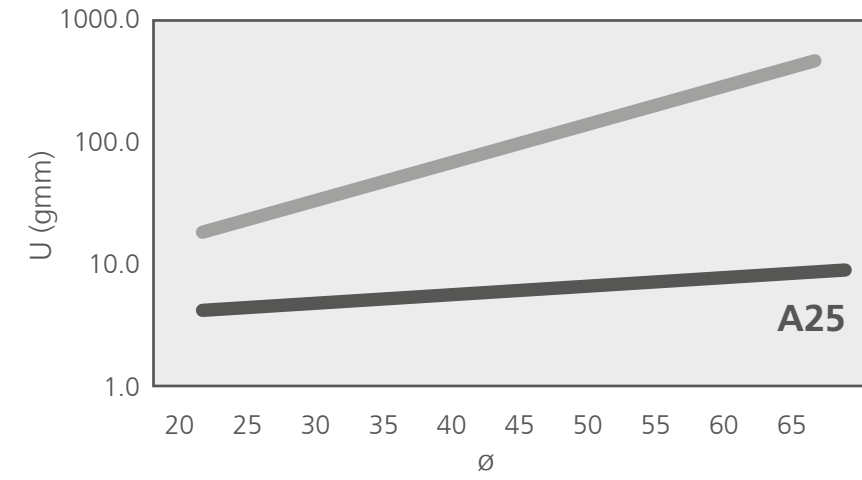
Balancable fine boring heads such as the A25 features up to 100 times less residual imbalance U (gmm) compared to standard fine boring heads and allow remarkably higher revolutions per minute! At the same time the balancing is most simple, reliable and results in:

- best surface quality
- vibration free machining
- better roundness tolerance
- improved tool life

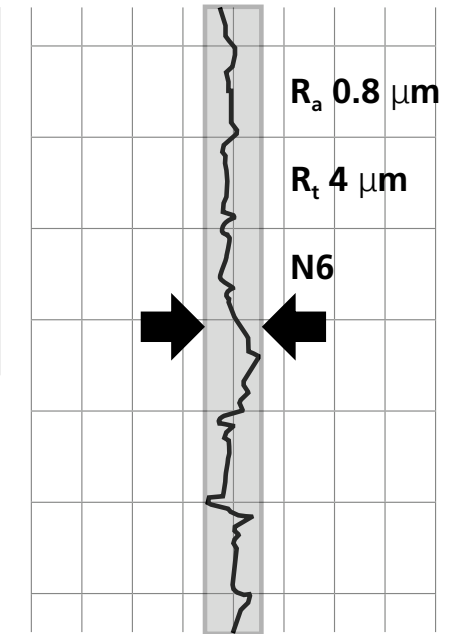
An additional investment that pays back!



Kolay balans alma
Easy to handle balancing



A25 baranın normal bara ile karşılaştırılması
Comparison A25 to conventional fine boring head



Daha iyi yüzey kalitesi
Better surface quality

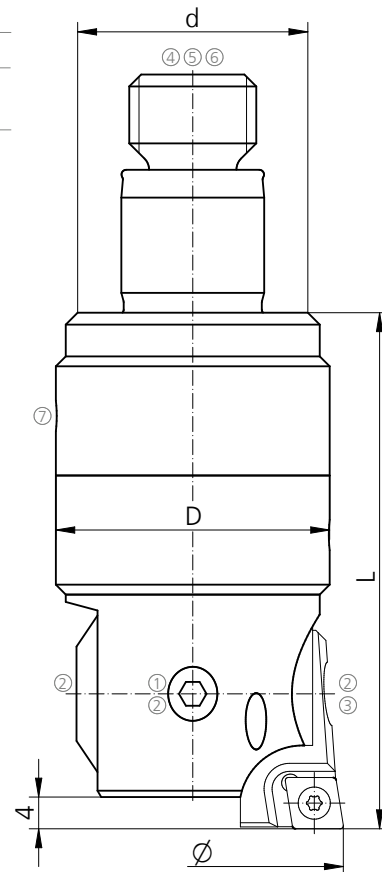
Ø 20 - 30 mm



2µm/Ø ayarlı balansı alınabilir hassas bara gövdeleri
Balanceable Fine Boring Heads 2 µm/Ø

Hassas bara gövdeleri
Fine Boring Heads

Alpha	Order Number	Ø-range	L	D	d	kg	SW	MCM	MCC	Index
18,5	A25 08 00	20 - 25	40	19,7	18,5	0,1	17	18,5	2002	●
18,5	A25 18 00	22,5 - 30	40	21	18,5	0,1	17	18,5	2002	●



SPARE PARTS

Alpha	1	2	3	4	5	6	7
18,5	C00 25 01	G00 20 07	C00 25 11	Z00 10 18	G00 02 01	G00 02 04	G00 02 13

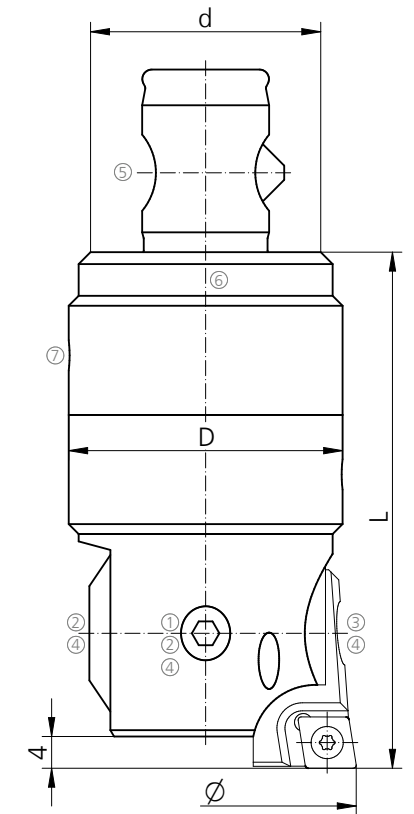
Ø 29 - 67 mm



2µm/Ø ayarlı balansı alınabilir hassas bara gövdeleri
Balanceable Fine Boring Heads 2 µm/Ø

Hassas bara gövdeleri
Fine Boring Heads

Beta	Order Number	Ø-range	L	D	d	kg	MCM	MCC	Index
25	A25 25 00 050	29 - 39	50	27	25	0,2	B25	2002	●
32	A25 32 00 065	38 - 51	65	34,5	32	0,4	B32	2004	●
40	A25 40 00 090	50 - 67	90	45	42	1	B42	2004	●



SPARE PARTS

Beta	1	2	3	4	5	6	7
25	C00 25 02		C00 25 11	G00 20 07	Z00 25 21	Z00 25 23	G00 02 01
32	C00 25 03	G00 02 04	C00 25 12	G00 20 03	Z00 32 21	Z00 32 33	G00 02 02
40	C00 25 04	G00 02 04	C00 25 12	G00 20 03	Z00 40 21	Z00 40 23	G00 02 03

Ø 18 - 153 mm

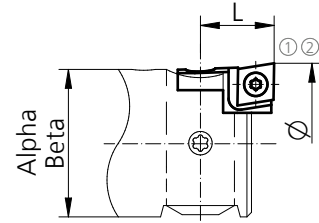
**Hassas bara kartuşları**

Fine Boring Insert Holders

7° ve 11° ISO uçlar için kombine kartuşlar

Combination Insert Holders for ISO Inserts with 7° and 11° Clearance Angle

Alpha	Beta	Order Number	Ø-range	L	Inserts	MCM	MCC	Index
18,5		W/C20 16 00 06	18 - 20,5	14	CC../CP.. 0602..	2016	CP06	●
18,5		W/C20 16 01 06	20 - 22,5	14	CC../CP.. 0602..	2016	CP06	●
18,5		W/C20 02 06	20 - 30	13	CC../CP.. 0602..	2002	CP06	●
24,5	25	W/C20 02 06	29 - 39	13	CC../CP.. 0602..	2002	CP06	●
32	32	W/C20 04 06	38 - 51	17	CC../CP.. 0602..	2004	CP06	●
42	40	W/C20 04 06	50 - 67	17	CC../CP.. 0602..	2004	CP06	●
55	63	W/C20 06 06	66 - 88	22	CC../CP.. 0602..	2006	CP06	●
72	80	W/C20 06 06	87 - 116	22	CC../CP.. 0602..	2006	CP06	●
94	100	W/C20 06 06	115 - 153	22	CC../CP.. 0602..	2006	CP06	●

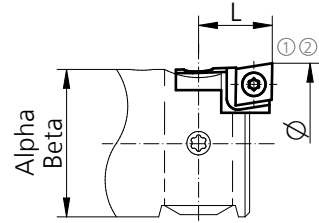
**Kombine uç kartuşları için sayfa 27 ye bakınız**

Insert holder with combined insert pocket see page 27

7° ISO uçlar için kartuşlar

Insert Holders for ISO Inserts with 7° Clearance Angle

Alpha	Beta	Order Number	Ø-range	L	Inserts	MCM	MCC	Index
18,5		W20 02 06	20 - 30	13	CC.. 0602..	2002	CC06	●
24,5	25	W20 02 06	29 - 39	13	CC.. 0602..	2002	CC06	●
32	32	W20 04 06	38 - 51	17	CC.. 0602..	2004	CC06	●
42	40	W20 04 06	50 - 67	17	CC.. 0602..	2004	CC06	●
55	63	W20 06 09	66 - 88	22	CC.. 09T3..	2006	CC09	●
72	80	W20 06 09	87 - 116	22	CC.. 09T3..	2006	CC09	●
94	100	W20 06 09	115 - 153	22	CC.. 09T3..	2006	CC09	●

**SPARE PARTS**

Order Number	①	②
W/C20 02 06	C00 20 04	G00 20 05
W/C20 04 06	C00 20 01	G00 20 05
W/C20 06 06	C00 20 01	G00 20 05
W20 02 06	C00 20 04	G00 20 05
W20 04 06	C00 20 01	G00 20 05
W20 06 09	C00 20 37	G00 20 03

Ø 20 - 153 mm

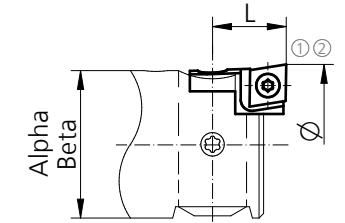
**Hassas bara kartuşları**

Fine Boring Insert Holders

7° silicili uçlar için 95° kartuşlar

Insert Holders 95° for Wiper Inserts with 7° Clearance Angle

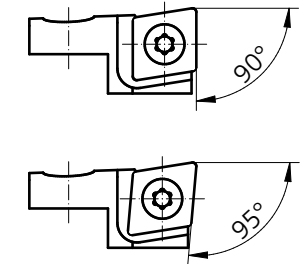
Alpha	Beta	Order Number	Ø-range	L	Inserts	MCM	MCC	Index
18,5		WW20 02 06	20 - 30	13	Wiper CC.. 0602..	2002	CC06	●
24,5	25	WW20 02 06	29 - 39	13	Wiper CC.. 0602..	2002	CC06	●
32	32	WW20 04 06	38 - 51	17	Wiper CC.. 0602..	2004	CC06	●
42	40	WW20 04 06	50 - 67	17	Wiper CC.. 0602..	2004	CC06	●
55	63	WW20 06 09	66 - 88	22	Wiper CC.. 09T3..	2006	CC09	●
72	80	WW20 06 09	87 - 116	22	Wiper CC.. 09T3..	2006	CC09	●
94	100	WW20 06 09	115 - 153	22	Wiper CC.. 09T3..	2006	CC09	●

**Silicili uçlar**

Wiper Inserts

Silicili uçlar kullanabilmek için (yüzey kalitesini koruyarak ilerlemeyi artırmak ya da aynı ilerleme ile daha iyi yüzeyler elde etmek için) 95° kartuşlar kullanılmalıdır.

The advantages of Wiper inserts (double feed rate at equal surface quality or improved surface quality at equal feed rate) can only be used with insert holders with 95° setting angle.

**SPARE PARTS**

Order Number	①	②
WW20 02 06	C00 20 04	G00 20 05
WW20 04 06	C00 20 01	G00 20 05
WW20 06 09	C00 20 37	G00 20 03

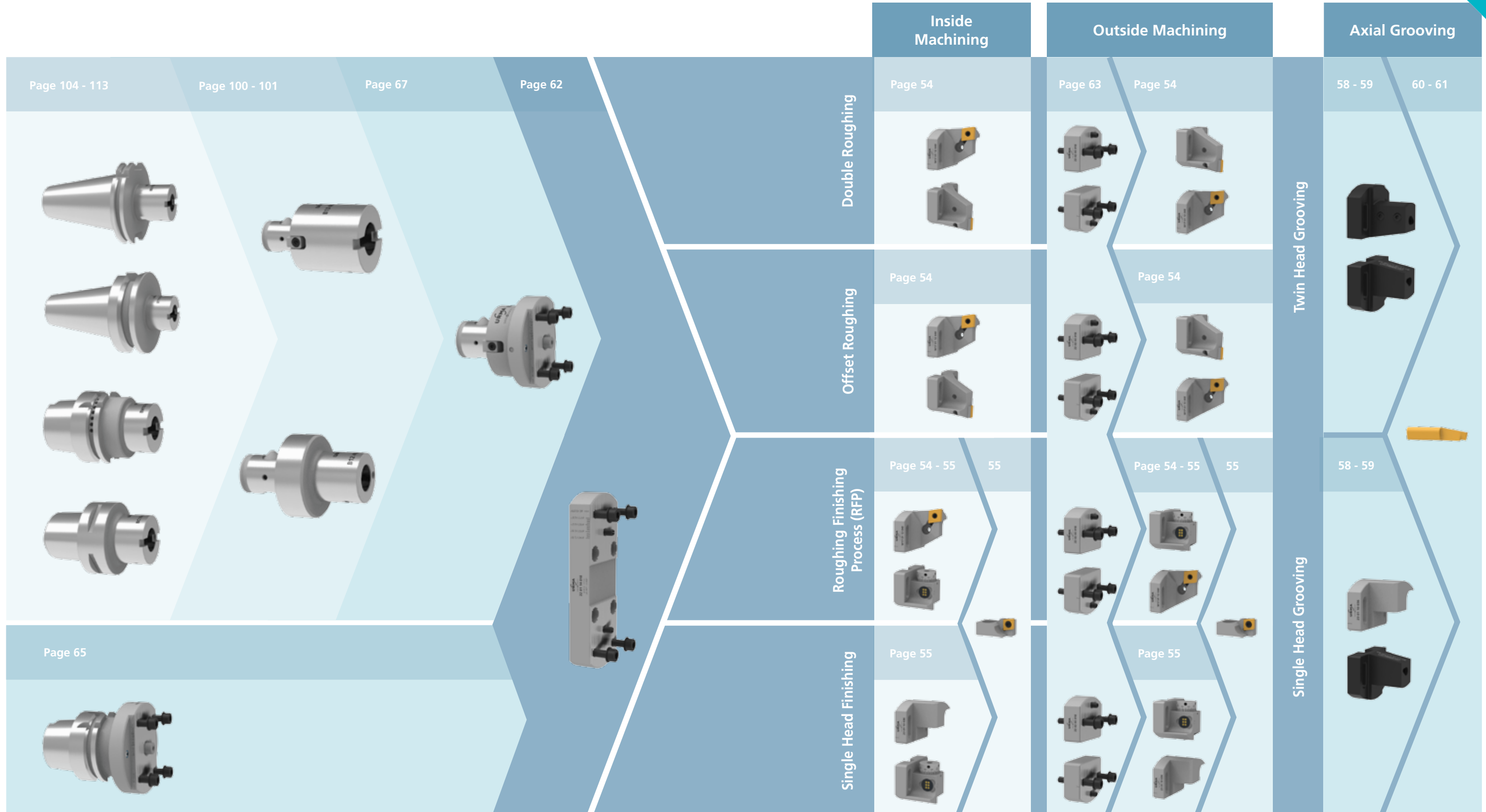
URMA Systems
IntraMax

Ø 49 - 297 mm

Ø 49 - 297 mm

IntraMax

DIGITEC



Ø 49 - 297 mm

Kaba kartuşlar

Insert Holders Roughing

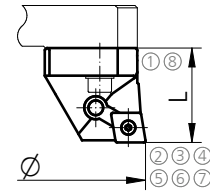
İç ve dış çap işleme için

For Internal and External Machining

Kartuşlar

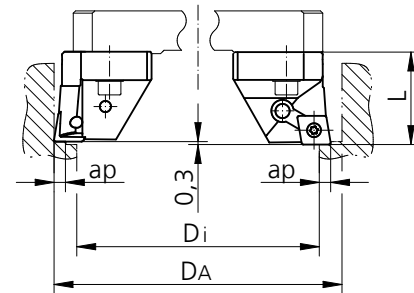
Insert holders

Order Number	Ø-range	L	kg	Inserts	MCM	MCC	Index
W17 02 09 028	49 - 88	28	0,1	CC.. 09T3..	DK2203	CC09	●
W17 01 12 040	87 - 297	40	0,3	CN.. 1204..	DK2201	CN12	●

**Talaş bölerek işleme kartuşları**

Insert Holder for Offset Roughing

Order Number	Ø-range	L	kg	Inserts	a _p	MCM	MCC	Index
WW17 01 12 040	87 - 297	39,7	0,3	CN.. 1204..	4 - 6	DK2201	CN12	●
W17 01 12 040	87 - 297	40	0,3	CN.. 1204..	4 - 6	DK2201	CN12	●



$$\text{Formula} \quad a_p = \frac{D_a - D_i}{4}$$

SPARE PARTS

	①	②	③	④	⑤	⑥	⑦	⑧
W17 02..	C00 02 86		C00 20 02	G00 20 03				G00 02 01
W17 01 (WV)	C00 02 79	Z00 12 02		G00 20 03	A00 12 11	A00 02 17	A00 32 07	G00 02 02

⑥⑦ Teslimata dahil değildir
Not included in the delivery

Ø 49 - 297 mm

Hassas bara kartuşları

Fine Boring Heads

İç ve dış çap işleme için

For Internal and External Machining

5 µm/Ø Hassas kartuşlar

Fine Boring Heads 5 µm/Ø

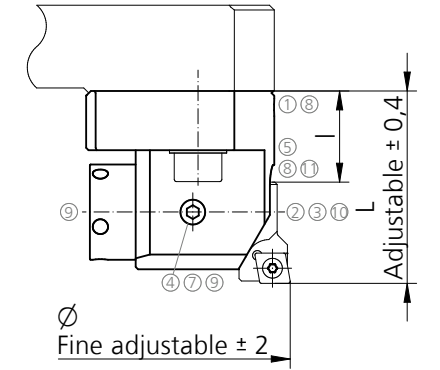
Order Number	Ø-range	L	l	kg	MCM	MCC	Index
23 02 10 028	49 - 88	28	10	0,15	DK2203	2012	●
23 01 30 040-D	87 - 297	40	18	0,4	DK2201	2010	●
23 01 30 040	87 - 297	40	18	0,4	DK2201	2010	●

Çift kartuş kullanılması durumunda : A_{min} = 53

DigiTec (-D) 1 µm/Ø için sayfa 17 ye bakınız

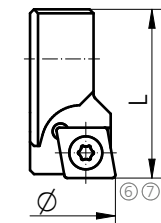
When using of 2 heads simultaneously: A_{min} = 53

DigiTec (-D) 1 µm/Ø with display unit (page 17)

**Hassas bara kartuşları**

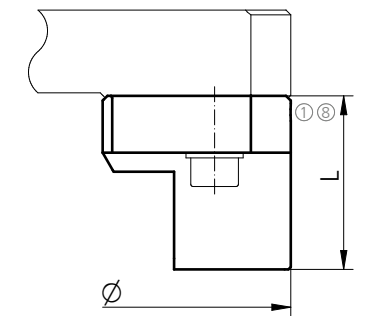
Fine Boring Insert Holders

Order Number	Ø-range	L	Inserts	MCM	MCC	Index
WC20 12 06 000	49 - 88	18	CP..0602../CC..0602..	2012	CP06	●
WC20 10 06 000	87 - 297	22	CP..0602../CC..0602..	2010	CP06	●
W20 12 06 000	49 - 88	18	CC..0602..	2012	CC06	●
W20 10 06 000	87 - 297	22	CC..0602..	2010	CC06	●
WW20 12 06 000	49 - 88	18	Wiper CC..0602..	2012	CC06	●
WW20 10 06 000	87 - 297	22	Wiper CC..0602..	2010	CC06	●

**Karşı ağırlıklar**

Counter Weights

Order Number	Ø-range	L	kg	MCM	Index
23 02 10 024	49 - 88	28	0,1	DK2203	●
23 01 10 036	87 - 297	40	0,3	DK2201	●

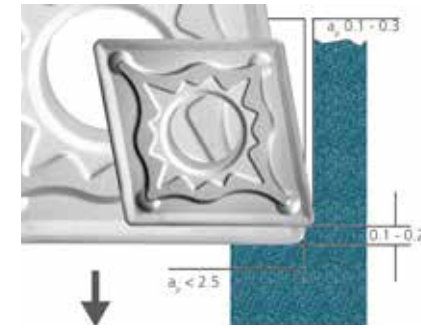
**SPARE PARTS**

Ø-range	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪
49 - 88	C00 02 86	C00 22 56	K00 02 44	C00 25 01	Z00 23 02		G00 20 07	G00 02 01	G00 02 03		
87 - 297	C00 02 79	C00 22 11	K00 02 01	C00 07 01	Z00 23 02			G00 02 02	G00 02 03	G00 02 04	G00 02 01
W..20							C00 20 01	G00 20 05			

Ø 49 - 297 mm	IntraMax
Ø 150 - 805 mm	MegaMax
Ø 500 - 2'400 mm	SuperMegaMax

Aynı anda hem kaba hem de hassas işleme (KHİ)

Simultaneous Single-Pass Rough and Finish (RFP)



Kaba ve hassas kartuşların ayarlanması
Presetting of roughing and finishing cutting edge

Aynı anda kaba ve hassas işleme yapabilmek için kartuşlar radyal ve aksel kaçık ayarlanmalıdır. İşleme süresi dramatik şekilde azalır.
(KHİ = Kaba-Hassas-İşleme)

Tüm sistemlerde, çap 49 ile 2'400 arasında IntraMax ve MegaMax/SuperMegaMax kullanılabilir. Çelik malzeme için tavsiye edilen kaba kesme a_p si 2,5 mm dir.

Diğer avantajları :

- takım yatırımını azaltmak
- kısa işleme süresi
- yüksek yüzey kalitesi
- tek seferde IT7 toleransı

Simultaneous single-pass roughing and finishing requires radial and axial boring head offset. Cutting time is dramatically reduced.
(RFP = Roughing-Finishing-Process)

On both systems IntraMax and MegaMax/SuperMegaMax RFP can be applied and covers the entire diameter range from 49 to 2'400 mm. Recommended cutting depth on the roughing insert is a_p 2,5 mm for steel.

Further advantages:

- reduced tooling investment
- shorter cutting time
- high surface quality
- IT7 tolerances in one pass



IntraMax KHİ kombinasyonu
IntraMax RFP combination

Ø 5 - 45 mm

Alın kanal

Face Grooving

Kartuş

Insert Holder

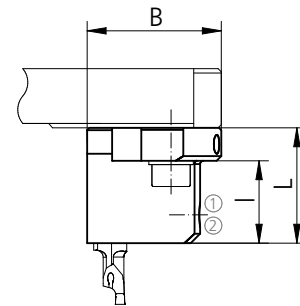
Dış kanal

Outer Groove

Order Number	L	I	B	Type	Index
BKT105.U90K.01	24,5	17,5	28,5	R105	•

Ø $D_{amin} = 2x (6 \text{ mm} + f_{insert})$ den itibaren 2 kartuş kullanılabilir (f değeri için sayfa 60 ve 61 e bakınız). D_{amin} den küçük çaplar için tek kartuş ve karşı ağırlık kullanılmalıdır.

From Ø $D_{amin} = 2x (6 \text{ mm} + f_{insert})$ two insert holders can be used simultaneously (f see pages 60 and 61). For smaller D_{amin} , only one insert holder plus counter weight can be used together.



Çap büyütücüler

Diameter Extender

Order Number	Ø-range	Page	Insert holder	Index
1)	5 - 18	65 - 66		•
22 03 06 012	18 - 31	62	BKT105.U90K.01	•
22 03 07 012	31 - 45	62		•

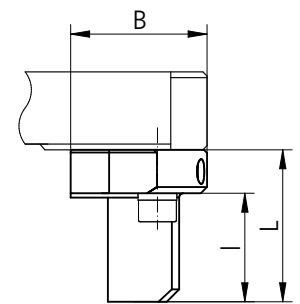
1) Tutucuya direk bağlanabilir ya da ara adaptörler ile kullanılabilir (sayfa 65 - 67)

Direct via basic holder or intermediate adaptor (pages 65 - 67)

Karşı ağırlık

Counter Weight

Order Number	L	I	B	Index
020.U00K.2040	24,5	17,5	22	•



SPARE PARTS



BKT105. ... 6.075T15 G00 20 035

Ø 31 - 242 mm

Kartuş

Insert Holder

Dış kanal

Outer Groove

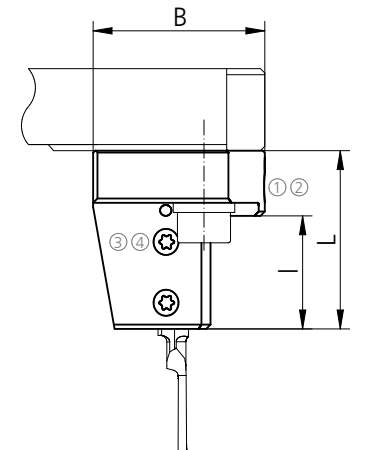
Order Number	L	I	B	Type	Index
BKT105.U90G.01 ¹⁾	36,4	24,4	39,5	R105	•
BKT110.U17G.02 ²⁾	41	26	39,5	RA110	•

1) Ø $D_{amin} = 2x (6 \text{ mm} + f_{insert})$ den itibaren 2 kartuş kullanılabilir (f değeri için sayfa 60 ve 61 e bakınız). D_{amin} den küçük çaplar için tek kartuş ve karşı ağırlık kullanılmalıdır.

From Ø $D_{amin} = 2x (6 \text{ mm} + f_{insert})$ two insert holders can be used simultaneously (f see pages 60 and 61). For smaller D_{amin} , only one insert holder plus counter weight can be used together.

2) Ø $D_{amin} = 2x (13,5 \text{ mm} + f_{insert})$ den itibaren 2 kartuş kullanılabilir (f değeri için sayfa 61 e bakınız). D_{amin} den küçük çaplar için tek kartuş ve karşı ağırlık kullanılmalıdır.

From Ø $D_{amin} = 2x (13,5 \text{ mm} + f_{insert})$ two insert holders can be used simultaneously (f see page 61). For smaller D_{amin} , only one insert holder plus counter weight can be used together.



Çap büyütücüler

Diameter Extender

Order Number	Ø-range	Page	Insert holder	Index
1)	31 - 61	65 - 66		•
22 01 11 018	61 - 91	62		•
22 01 14 018	91 - 122	62	BKT105.U90G.01	•
22 01 17 018	122 - 152	62	BKT110.U17G.02	•
22 01 20 023	152 - 182	62		•
22 01 23 023	182 - 212	62		•
22 01 26 028	212 - 242	62		•

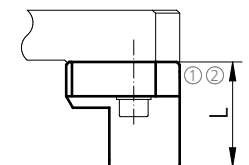
1) Tutucuya direk bağlanabilir ya da ara adaptörler ile kullanılabilir (sayfa 65 - 67)

Direct via basic holder or intermediate adaptor (pages 65 - 67)

Karşı ağırlık

Counter Weight

Order Number	Ø-range	L	kg	MCM	Index
23 01 10 036	31 - 242	40	0,3	DK2201	•



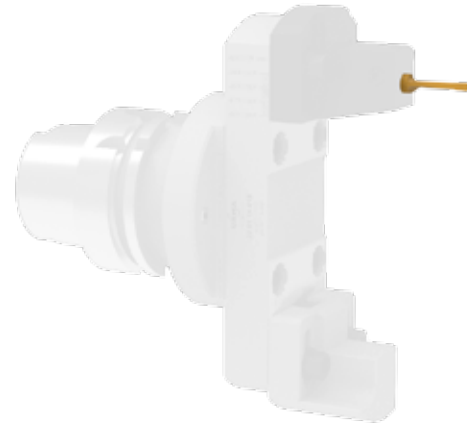
SPARE PARTS



31 - 242 C00 02 79 G00 02 02 6.075T15 G00 20 030

Alın kanal sistemi

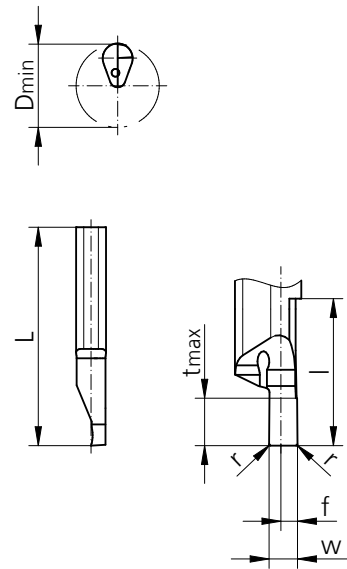
Face Grooving (System HORN-URMA)



Uç tipi 105...8

Inserts Type 105...8

Order Number	W ^{+0.05}	f	r	L	l	t _{max}	D _{min}	Type	Kaliteler		Index
									Carbide grades	MG12	
R105.0510.1.8	1,0	2,0	0,05	25	10	2,0	5,0	BKT105...	●	●	●
R105.0515.1.8	1,5	2,0	0,05	25	10	3,0	5,0	BKT105...	●	●	●
R105.0520.1.8	2,0	2,0	0,05	25	10	5,0	5,0	BKT105...	●	●	●
R105.0510.2.8	1,0	2,0	0,05	35	15	2,0	5,0	BKT105...	●	●	●
R105.0515.2.8	1,5	2,0	0,05	35	15	3,0	5,0	BKT105...	●	●	●
R105.0520.2.8	2,0	2,0	0,05	35	15	5,0	5,0	BKT105...	●	●	●
R105.0610.1.8	1,0	2,0	0,05	25	10	2,0	6,0	BKT105...	●	●	●
R105.0615.1.8	1,5	2,0	0,05	25	10	3,0	6,0	BKT105...	●	●	●
R105.0620.1.8	2,0	2,0	0,05	25	10	5,0	6,0	BKT105...	●	●	●
R105.0610.2.8	1,0	2,0	0,05	35	15	2,0	6,0	BKT105...	●	●	●
R105.0615.2.8	1,5	2,0	0,05	35	15	3,0	6,0	BKT105...	●	●	●
R105.0620.2.8	2,0	2,0	0,05	35	15	5,0	6,0	BKT105...	●	●	●
R105.0810.1.8	1,0	2,0	0,15	25	10	2,0	8,0	BKT105...	●	●	●
R105.0815.1.8	1,5	2,0	0,15	25	10	3,0	8,0	BKT105...	●	●	●
R105.0820.1.8	2,0	2,0	0,15	25	10	4,0	8,0	BKT105...	●	●	●
R105.0825.1.8	2,5	2,0	0,15	25	10	5,0	8,0	BKT105...	●	●	●
R105.0830.1.8	3,0	2,0	0,15	25	10	6,0	8,0	BKT105...	●	●	●
R105.0810.2.8	1,0	2,0	0,15	35	15	2,0	8,0	BKT105...	●	●	●
R105.0815.2.8	1,5	2,0	0,15	35	15	3,0	8,0	BKT105...	●	●	●
R105.0820.2.8	2,0	2,0	0,15	35	15	4,0	8,0	BKT105...	●	●	●
R105.0825.2.8	2,5	2,0	0,15	35	15	5,0	8,0	BKT105...	●	●	●
R105.0830.2.8	3,0	2,0	0,15	35	15	6,0	8,0	BKT105...	●	●	●



MG12

Düşük kesme hızları için, çelik, döküm ve demir içermeyen malzemelere uygun kaplamasız karbür

TI25

Orta kesme hızları için, çelik ve demir içermeyen malzemelere uygun TiCN kaplamalı karbür

Diğer ölçü ve profiller talep üzerine yapılmaktadır

MG12

Uncoated carbide for low cutting speed in steel, cast iron and non-ferrous metals

TI25

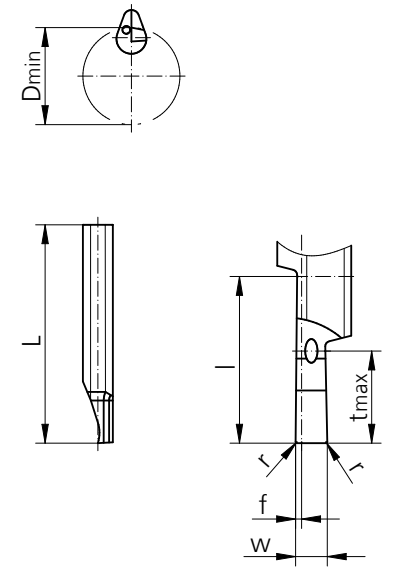
TiCN coated carbide for medium cutting speed in steel and non-ferrous metals

Further dimension and insert profiles on demand

Uç tipi 105...9

Inserts Type 105...9

Order Number	W ^{+0.05}	f	r	L	l	t _{max}	D _{min}	Type	Kaliteler		Index
									Carbide grades	TI25	
R105.0810.1.9	1,0	0,4	0,15	25	10	2,0	8,0	BKT105...	●	●	●
R105.0815.1.9	1,5	0,4	0,15	25	10	3,0	8,0	BKT105...	●	●	●
R105.0820.1.9	2,0	0,4	0,15	25	10	4,0	8,0	BKT105...	●	●	●
R105.0825.1.9	2,5	0,4	0,15	25	10	5,0	8,0	BKT105...	●	●	●
R105.0830.1.9	3,0	0,4	0,15	25	10	6,0	8,0	BKT105...	●	●	●



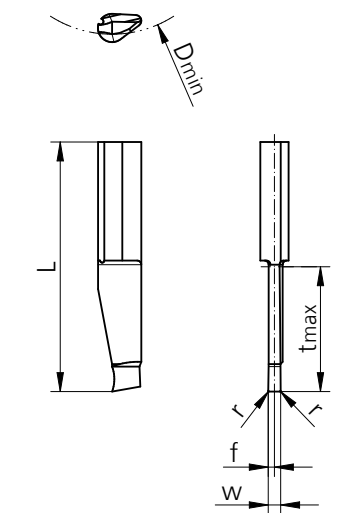
Uç tipi A110

Inserts Type A110

Order Number	W ^{+0.05}	f	r	L	t _{max}	D _{min}	Type	Kaliteler		Index
								Carbide grades	TI25	
RA110.2030.3.0	3,0	1,5	0,2	50	20	20 - 50*	BKT110...	●	●	●
RA110.2030.5.0	3,0	1,5	0,2	60	30	20 - 50*	BKT110...	●	●	●
RA110.5030.3.0	3,0	1,5	0,2	50	20	>50	BKT110...	●	●	●
RA110.5030.5.0	3,0	1,5	0,2	60	30	>50	BKT110...	●	●	●

* Tüm kesme derinliğini tek seferde işlemek için D_a = 20 - 50 mm olmalıdır.

Face grooving with full width to the full depth only possible between D_a = 20 - 50 mm



Ø 49 - 297 mm

Çap büyütücüler

Diameter Extenders



Çap büyütücüler

Diameter Extenders

Ø 49 - 88 mm

Order Number	Ø-range	L	I	D	kg	MCM	MCC	Index
1)	49 - 62							●
22 03 06 012	62 - 75	12	40	59	0,2	Z2203	DK2203	●
22 03 07 012	75 - 88	12	40	72	0,3	Z2203	DK2203	●

1) Tutucuya direk bağlanabilir ya da ara adaptörler ile kullanılabilir (sayfa 65 - 67)

Direct via basic holder or intermediate adaptor (pages 65 - 67)



Çap büyütücüler

Diameter Extenders

Ø 87 - 297 mm

Order Number	Ø-range	L	I	D	kg	MCM	MCC	Index
1)	87 - 117						DK2201	●
22 01 11 018	117 - 147	18	58	110	0,8	Z2201	DK2201	●
22 01 14 018	147 - 177	18	58	140	1	Z2201	DK2201	●
22 01 17 018	177 - 207	18	58	170	1,2	Z2201	DK2201	●
22 01 20 023	207 - 237	23	63	200	1,6	Z2201	DK2201	●
22 01 23 023	237 - 267	23	63	230	1,9	Z2201	DK2201	●
22 01 26 028	267 - 297	28	63	260	2,6	Z2201	DK2201	●

1) Tutucuya direk bağlanabilir ya da ara adaptörler ile kullanılabilir (sayfa 65 - 67)

Direct via basic holder or intermediate adaptor (pages 65 - 67)

SPARE PARTS

Ø-range	①	②	③
49 - 88	C00 22 05	K00 02 01	C00 12 08
87 - 297	C00 22 02	K00 02 20	C00 12 61

Ø 9 - 249 mm

Dış çap işleme için adaptörler

Intermediate Adaptors for External Machining



Adaptörler

Intermediate Adaptors

Ø 9 - 35 mm

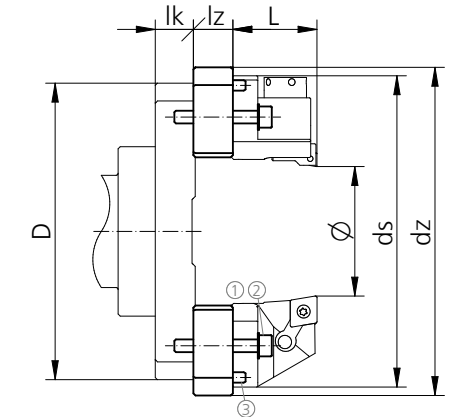
Order Number	Ø-range	D	dz	ds	L	lz	lk	kg	Diameter extender	MCM	MCC	Index
22 04 00 012	9 - 22	59	74	Ø + 56 mm	28	12	12	0,1	22 03 06 012	DK2203	DK2203	●
22 04 00 012	22 - 35	72	87	Ø + 56 mm	28	12	12	0,1	22 03 07 012	DK2203	DK2203	●

Adaptörler

Intermediate Adaptors

Ø 9 - 249 mm

Order Number	Ø-range	D	dz	ds	L	lz	lk	kg	Diameter extender	MCM	MCC	Index
22 02 00 018	9 - 39	110	125	Ø + 100 mm	40	18	18	0,25	22 01 11 018	DK2201	DK2201	●
22 02 00 018	39 - 69	140	155	Ø + 100 mm	40	18	18	0,25	22 01 14 018	DK2201	DK2201	●
22 02 00 018	69 - 99	170	185	Ø + 100 mm	40	18	18	0,25	22 01 17 018	DK2201	DK2201	●
22 02 00 018	99 - 129	200	215	Ø + 100 mm	40	18	23	0,25	22 01 20 023	DK2201	DK2201	●
22 02 00 018	129 - 159	230	245	Ø + 100 mm	40	18	23	0,25	22 01 23 023	DK2201	DK2201	●
22 02 00 018	159 - 189	260	275	Ø + 100 mm	40	18	28	0,25	22 01 26 028	DK2201	DK2201	●
22 02 00 018	189 - 219	290	305	Ø + 100 mm	40	18	28	0,25	22 01 29 028	DK2201	DK2201	●
22 02 00 018	219 - 249	320	335	Ø + 100 mm	40	18	28	0,25	22 01 32 028	DK2201	DK2201	●



SPARE PARTS

Ø-range	①	②	③
9 - 35	C00 22 05	K00 02 01	C00 12 08
9 - 249	C00 22 74	K00 02 20	C00 12 61

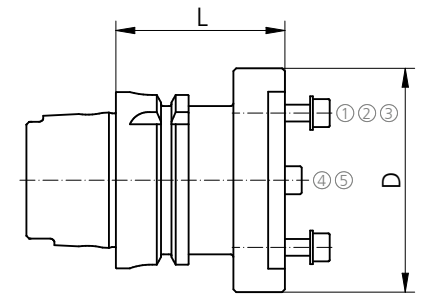
Ø 49 - 297 mm

Direk Adaptörler
Direct Adaptors



Konsolen direkt
Direct Adaptors

Order Number	□	Ø-range	D	L	kg	MCC	Index
D11 41 03 052	SK40 / A	49 - 88	46	52	1,2	Z2203	●
H11 43 03 052	SK40 / B	49 - 88	46	52	1,2	Z2203	●
T11 41 03 052	MAS-BT40	49 - 88	46	52	1,3	Z2203	●
HSKA11 63 03	HSKA-63	49 - 88	46	60	1,3	Z2203	●
D11 41 01 054	SK40 / A	87 - 297	80	54	1,4	Z2201	●
H11 43 01 054	SK40 / B	87 - 297	80	54	1,4	Z2201	●
T11 41 01 054	MAS-BT40	87 - 297	80	54	1,5	Z2201	●
HSKA11 63 01	HSKA-63	87 - 297	80	60	1,4	Z2201	●



SPARE PARTS

Ø-range	①	②	③	④	⑤
49 - 88	C00 22 05	K00 02 01	G00 02 04	Z00 21 20	C00 12 08
87 - 207	C00 22 02	K00 02 20	G00 02 06	Z00 21 20	C00 12 08

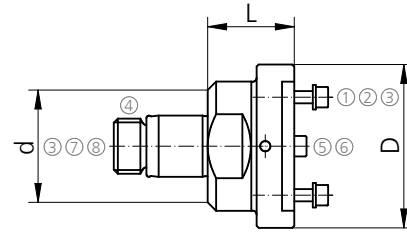
Ø 49 - 297 mm

Ara adaptörler
Intermediate Adaptors



Ara adaptörler
Intermediate Adaptors

Alpha	Order Number	Ø-range	L	D	d	kg	MCM	MCC	Index
42	21 42 46 036	49 - 88	36	46	42	0,5	42	Z2203	●
55	21 55 80 042	87 - 297	42	80	55	0,8	55	Z2201	●



SPARE PARTS

Ø-range	1	2	3	4	5	6	7	8
49 - 88	C00 22 05	K00 02 01	G00 02 04	Z00 22 42		C00 12 08	G00 02 07	
87 - 297	C00 22 02	K00 02 20	G00 02 06	Z00 27 55	Z00 21 20		G00 02 08	G00 02 05

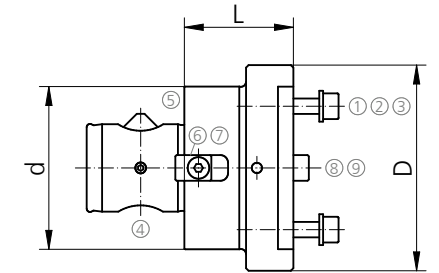
Ø 49 - 297 mm

Ara adaptörler
Intermediate Adaptors



Ara adaptörler
Intermediate Adaptors

Beta	Order Number	Ø-range	L	D	d	kg	MCM	MCC	Index
40	B21 40 46 036	49 - 88	36	46	42	0,5	B40	Z2203	●
63	B21 63 80 042	87 - 297	42	80	63	0,8	B63	Z2201	●



SPARE PARTS

Ø-range	1	2	3	4	5	6	7	8	9
49 - 88	C00 22 05	K00 02 01	G00 02 04	Z00 40 21	Z00 40 23	Z00 40 25	C00 22 58		C00 12 08
87 - 297	C00 22 02	K00 02 20	G00 02 06	Z00 63 21	Z00 63 23	Z00 63 25	C00 22 05	Z00 21 20	

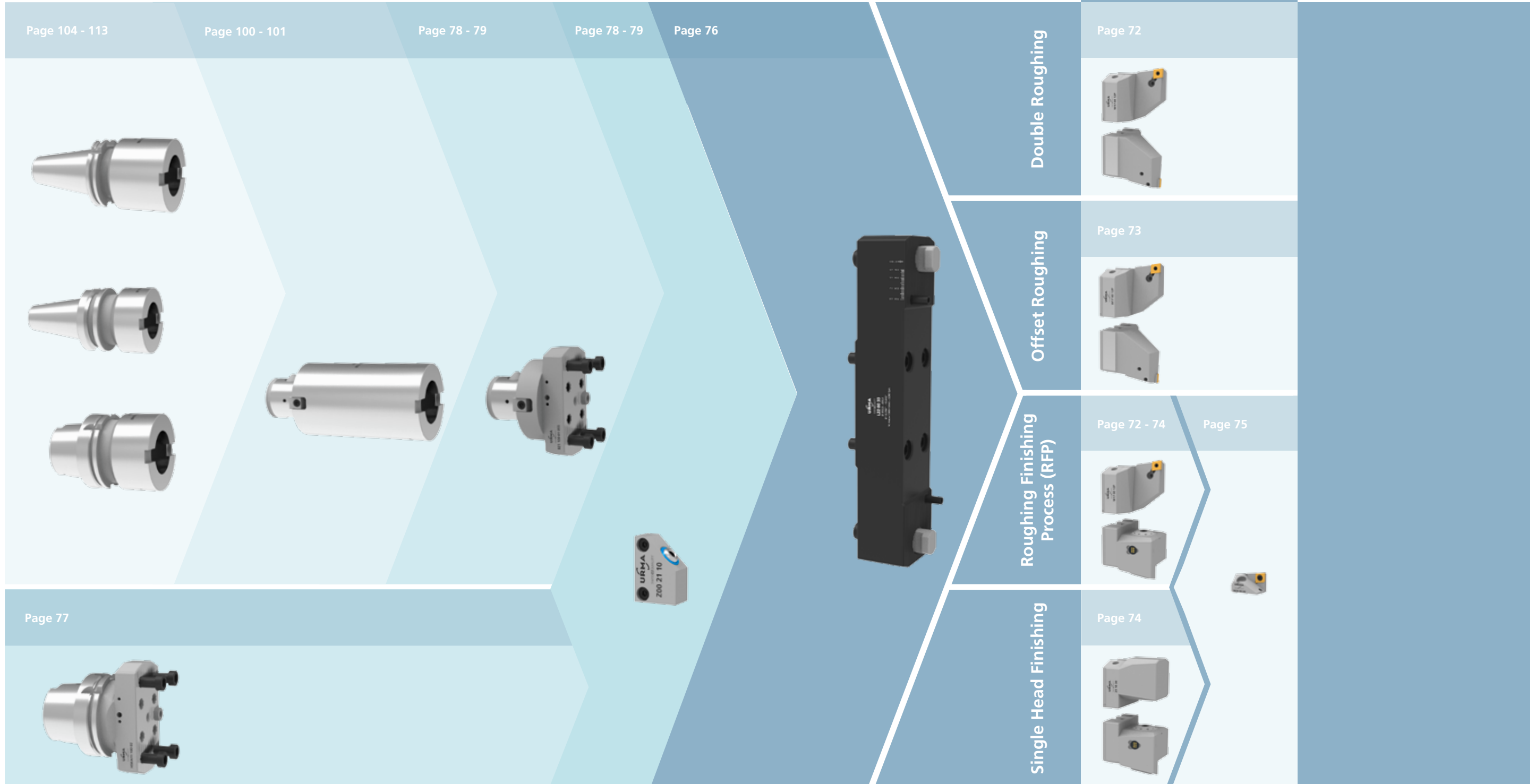
URMA Systems
MegaMax

Ø 150 - 805 mm

Ø 150 - 805 mm

MegaMax

DIGITEC



Ø 150 - 805 mm	MegaMax
Ø 500 - 2'400 mm	SuperMegaMax

Kartuşlar

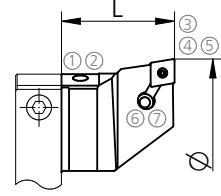
Insert Holders



90° kartuşlar

Insert Holders 90°

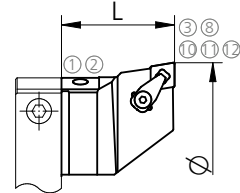
Order Number	Ø-range	L	kg	Inserts	MCM	MCC	Index
W17 00 12P	150 - 2400	75	1,5	CN.. 1204..	K00	CN12	●
W17 00 16P	150 - 2400	75	1,5	CN.. 1606..	K00	CN16	●



Seramik uçlar için 90° kartuşlar

Insert Holders 90° for Ceramic Inserts

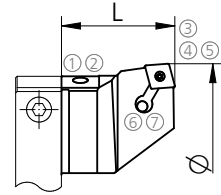
Order Number	Ø-range	L	kg	Inserts	MCM	MCC	Index
K17 00 16	150 - 2400	75	1,5	CN.. 1607..	K00	CN1607	●



75° kartuşlar

Insert Holders 75°

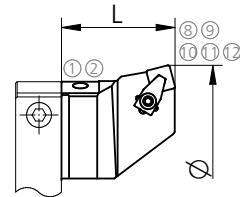
Order Number	Ø-range	L	kg	Inserts	MCM	MCC	Index
W19 00 16P	150 - 2400	75	1,5	CN.. 1606..	K00	CN16	●



Seramik uçlar için 75° kartuşlar

Insert Holders 75° for Ceramic Inserts

Order Number	Ø-range	L	kg	Inserts	MCM	MCC	Index
K19 00 15	150 - 2400	75	1,5	SN.. 1507..	K00	SN15	●



⑥⑦ Teslimata dahil değildir

Not included in the delivery

SPARE PARTS

1	2	3	4	5	6	7	8	9	10	11	12	
CN.. 1204..	C00 02 17	G00 02 06	A00 12 11	Z00 12 02	G00 20 03	A00 02 17	A00 32 07				G00 02 04	
CN.. 1606..	C00 02 17	G00 02 06	A00 12 12	Z00 16 03	G00 20 03	A00 02 16	A00 32 08					
CN.. 1607..	C00 02 17	G00 02 06	A00 12 18					G00 02 05	A00 02 15	A00 42 05	G00 02 04	
SN.. 1507..	C00 02 17	G00 02 06						G00 02 05	A00 12 06	A00 02 14	A00 42 05	G00 02 04

Ø 150 - 805 mm	MegaMax
Ø 500 - 2'400 mm	SuperMegaMax

Talaş bölerek işleme için kartuşlar

Insert Holders For Offset Roughing



Hem çap hem de boy kaçırılmalı kartuşlar

Eşit talaş yükü

İki kat talaş miktarı

Inserts offset in diameter and height

Equal chip load

Double cutting depth capacity

90° kartuşlar

Insert Holders 90°

Order Number	Ø-range	L	kg	Inserts	a _p	MCM	MCC	Index
W17 00 12P	150 - 2400	75,0	1,5	CN.. 1204..	6	K00	CN12	●
WV17 00 12P	150 - 2400	74,5	1,5	CN.. 1204..	6	K00	CN12	●
W17 00 16P	150 - 2400	75,0	1,5	CN.. 1606..	8	K00	CN16	●
WV17 00 16P	150 - 2400	74,5	1,5	CN.. 1606..	8	K00	CN16	●
K17 00 16*	150 - 2400	75,0	1,5	CNMX 1607.. T..	8	K00	CN1607	●
KV17 00 16*	150 - 2400	74,5	1,5	CNMX 1607.. T..	8	K00	CN1607	●

* Ceramtec çentik tipi bağlanmalı seramik uçlar için
for ceramic inserts with Ceramtec notch type clamping

$$\text{Formula} \quad a_p = \frac{D_A - D_i}{4}$$

⑥⑦ Teslimata dahil değildir

Not included in the delivery

SPARE PARTS

1	2	3	4	5	6	7	8	9
CN.. 1204..	C00 02 17	G00 02 06	A00 12 11	Z00 12 02	G00 20 03	A00 02 17	A00 32 07	
CN.. 1606..	C00 02 17	G00 02 06	A00 12 12	Z00 16 03	G00 20 03	A00 02 16	A00 32 08	
CN.. 1607..	C00 02 17	G00 02 06	A00 12 18					A00 42 05
								A00 02 15

Ø 150 - 805 mm	MegaMax
Ø 500 - 2'400 mm	SuperMegaMax

Hassas Kartuşlar

Fine Boring Head

1 µm/Ø hassas kartuşlar*

Fine Boring Head 1 µm/Ø *

Order Number	Ø-range	L	I	kg	MCM	MCC	Index
23 00 30-D	150 - 2400	77	42	2,3	K00	DK2200	•
23 00 30	150 - 2400	77	42	2,3	K00	DK2200	•

DigiTec üniteleri için sayfa 17 ye bakınız
DigiTec display unit for digital fine boring heads page 17

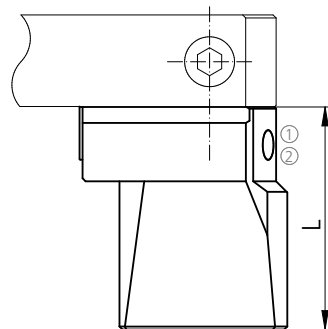
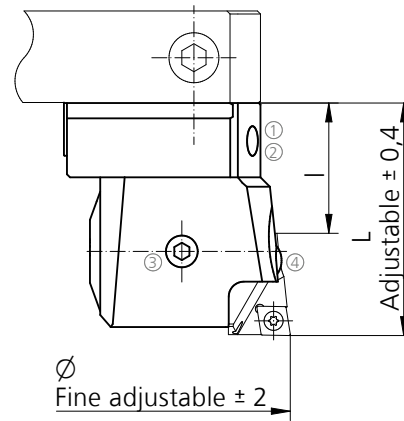
* Sadece DigiTec (-D) içindir (sayfa 17) diğerleri için 10µm/Ø

Only with DigiTec version (-D) in connection with the display (page 17)
otherwise 10 µm/Ø adjustable

Karşı ağırlık

Counter Weight

Order Number	Ø-range	L	kg	MCM	Index
23 10 20	150 - 2400	64	2,3	K00	•



SPARE PARTS

①	②	③	④
C00 02 17	G00 02 06	Z00 23 01	C00 23 01

Ø 150 - 805 mm	MegaMax
Ø 500 - 2'400 mm	SuperMegaMax

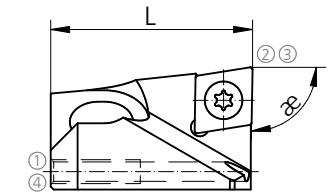
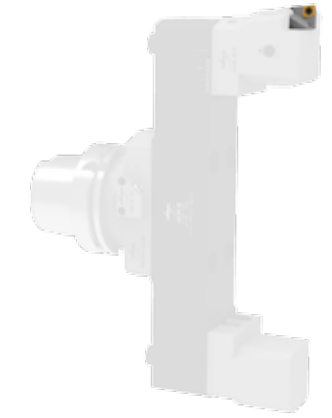
Hassas kartuşlar

Fine Boring Insert Holders

90° kartuşlar

Insert Holders 90°

Order Number	Ø-range	L	Inserts	æ	MCM	MCC	Index
W/C20 00 06	150 - 2400	34	CP./CC.. 0602..	90	DK2200	CP06	•
W20 00 09	150 - 2400	34	CC.. 09T3..	90	DK2200	CC09	•
WW20 00 09	150 - 2400	34	WIPER CC.. 09T3	95	DK2200	CC09	•



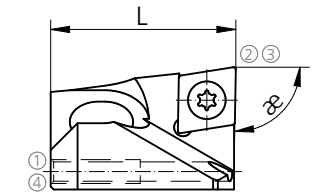
Aynı anda kaba ve hassas işleme için (KHİ)

For Simultaneous Roughing and Finishing (RFP)

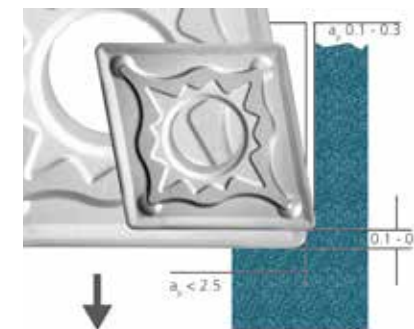
90° KHİ kartuşlar

RFP Insert Holders 90°

Order Number	Ø-range	L	Inserts	æ	MCM	MCC	Index
W20 00 09RFP	150 - 2400	31	CC.. 09T3..	90	DK2200	CC09	•
WW20 00 09RFP	150 - 2400	31	WIPER CC.. 09T3	95	DK2200	CC09	•



RFP = Roughing-Finishing-Process



Kaba ve hassas kartuş ayarları için sayfa 57 ye bakınız
Presetting of roughing and finishing cutting edge
Description see page 57

Aynı anda W17 00 12P kaba kartuşla kullanılabilir (sayfa 72)
Simultaneously applicable with roughing insert holder W17 00 12P (page 72)

SPARE PARTS

①	②	③	④
CP./CC.. 0602..	G00 02 02	C00 20 01	G00 20 05
CC.. 09T3..	G00 02 02	C00 20 02	G00 20 03
			C00 02 12

Ø 150 - 805 mm

Çap büyütücüler

Diameter Extenders

Çelik çap büyütücüler

Diameter Extenders Made of Steel

Order Number	Ø-range	L	I	D	kg	MCM	MCC	Index
Z2 00 13	150 - 205	30	105	130	1,8	Z2200	K00	●
Z2 00 18	200 - 255	30	105	180	2,6	Z2200	K00	●
Z2 00 23	250 - 305	35	110	230	4	Z2200	K00	●

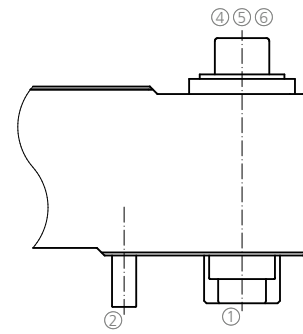
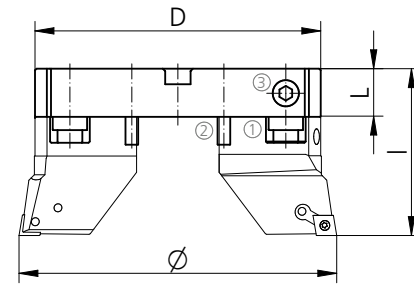
diğer ölçüler talep üzerine yapılır

Further dimensions available on request

Alüminyum çap büyütücüler

Diameter Extenders Made of Aluminium

Order Number	Ø-range	L	I	D	kg	MCM	MCC	Index
L22 00 23	250 - 305	55	130	230	2,8	Z2200	K00	●
L22 00 28	300 - 355	55	130	280	3,3	Z2200	K00	●
L22 00 33	350 - 405	55	130	330	3,8	Z2200	K00	●
L22 00 38	400 - 455	55	130	380	4,3	Z2200	K00	●
L22 00 43	450 - 505	55	130	430	4,8	Z2200	K00	●
L22 00 48	500 - 555	65	140	480	6,1	Z2200	K00	●
L22 00 53	550 - 605	65	140	530	6,7	Z2200	K00	●
L22 00 58	600 - 655	65	140	580	7,3	Z2200	K00	●
L22 00 63	650 - 705	65	140	630	8,9	Z2200	K00	●
L22 00 68	700 - 755	65	140	680	9,6	Z2200	K00	●
L22 00 73	750 - 805	65	140	730	10,2	Z2200	K00	●



Ø = 250 den itibaren
from Ø = 250

SPARE PARTS

D	①	②	③	④	⑤	⑥
130-180	Z00 22 24	Z00 22 21	Z00 22 23			
230 steel	Z00 22 16	Z00 22 21		Z00 22 15	C00 24 04	K00 02 06
230-280	Z00 22 16	Z00 22 21		Z00 22 15	C00 24 04	K00 02 06
480-805	Z00 22 16	Z00 22 21		Z00 22 15	C00 26 09	K00 02 06

Ø 150 - 805 mm

Direk adaptörler

Direct Adaptors

DIN 69871-A/D

Order Number	◁	L	D	kg	MCC	Index
D11 50 02	50	85	130	5,6	Z2200	●

DIN 69871B

Order Number	◁	L	D	kg	MCC	Index
H11 53 02	50	85	130	5,6	Z2200	●

MAS-BT

Order Number	◁	L	D	kg	MCC	Index
T11 51 02	50	88	130	5,6	Z2200	●

DIN 69893A HSK

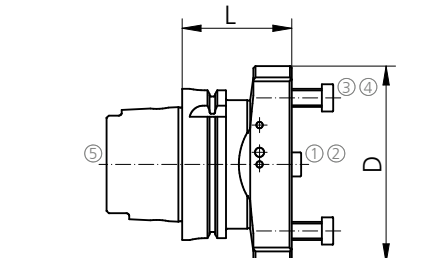
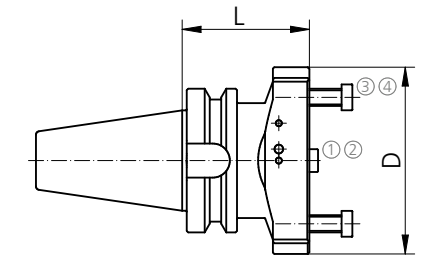
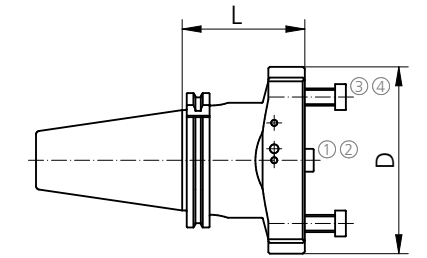
Order Number	◁	L	D	kg	MCC	Index
HSKA11 100 02*	100	72	130	4,4	Z2200	●

* Soğutma tüpü dahil değildir

Coolant tube is not included

SPARE PARTS

①	②	③	④	⑤
Z00 21 02	C00 22 27	C00 22 03	G00 02 19	H00 100 01



Soğutma tüpleri için s. 78 ve s. 79 a bakınız
Coolant nozzle see pages 78 and 79

Ø 150 - 805 mm

Ara adaptörler

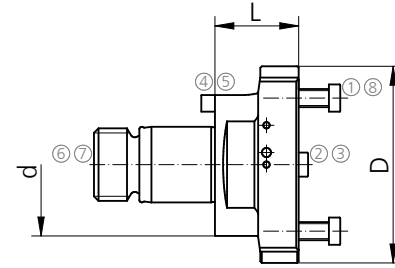
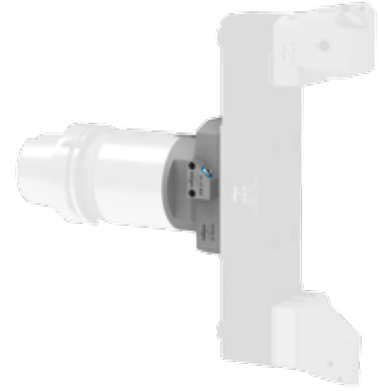
Intermediate Adaptors

Ara adaptörler

Intermediate Adaptors

Alpha	Order Number	L	D	d	MCM	MCC	Index
94	21 94 01	55	130	94	94	Z2200	●

- ⑦ **Teslimata dahil değildir**
Not included in the delivery



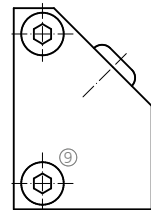
Soğutma nozülü

Coolant Nozzle

Alpha	Order Number	MCC	Index
94	Z00 21 10	Z0021	●

Her ara adaptör için 2 adet gereklidir

2 pieces per intermediate adaptor necessary



SPARE PARTS

Alpha	①	②	③	④	⑤	⑥	⑦	⑧	⑨
94	C00 22 03	Z00 21 02	C00 22 27	Z00 00 94	C00 24 17	Z00 14 96	53 74 96	G00 02 19	C00 22 05

Ø 150 - 805 mm

Ara adaptörler

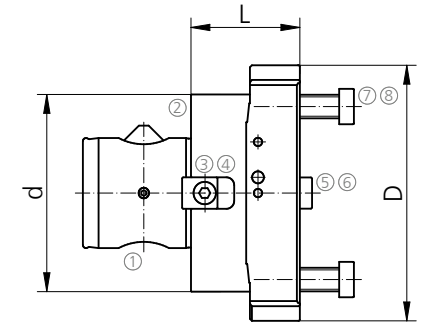
Intermediate Adaptors

Ara adaptörler

Intermediate Adaptors

Beta	Order Number	L	D	d	kg	MCM	MCC	Index
100	B21 100 01 055	55	130	100	4,7	B100	Z2200	●

- ⑦ **Teslimata dahil değildir**
Not included in the delivery



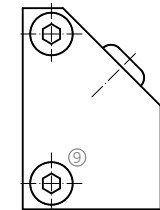
Soğutma nozülü

Coolant Nozzle

Beta	Order Number	MCC	Index
100	Z00 21 10	Z0021	●

Her ara adaptör için 2 adet gereklidir

2 pieces per intermediate adaptor necessary



SPARE PARTS

Beta	①	②	③	④	⑤	⑥	⑦	⑧	⑨
100	Z00 100 21	Z00 100 23	Z00 100 25	C00 22 71	Z00 21 02	C00 22 27	C00 22 03	G00 02 19	C00 22 05

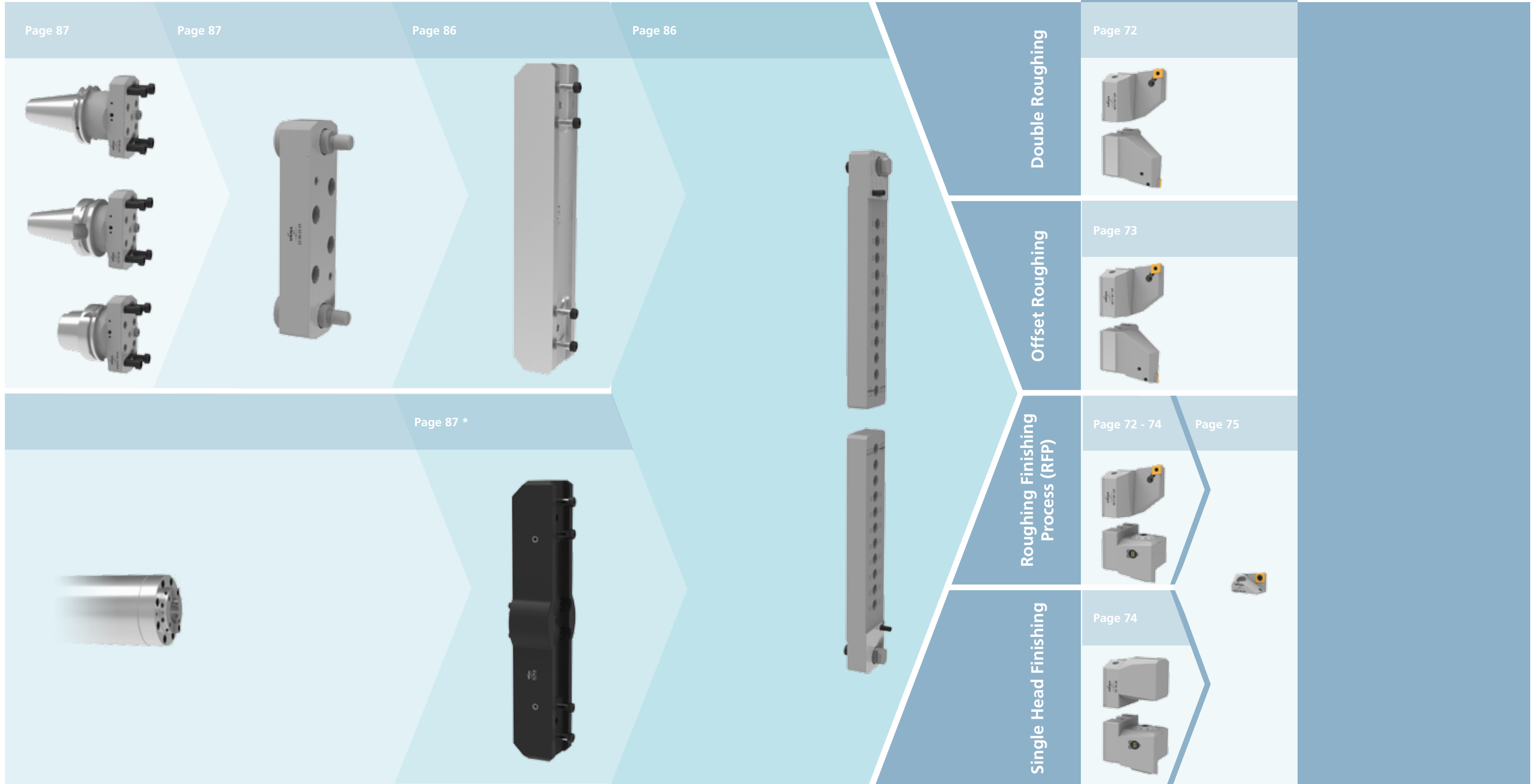
URMA Systems
SuperMegaMax

Ø 500 - 2'400 mm

Ø 500 - 2'400 mm

SuperMegaMax

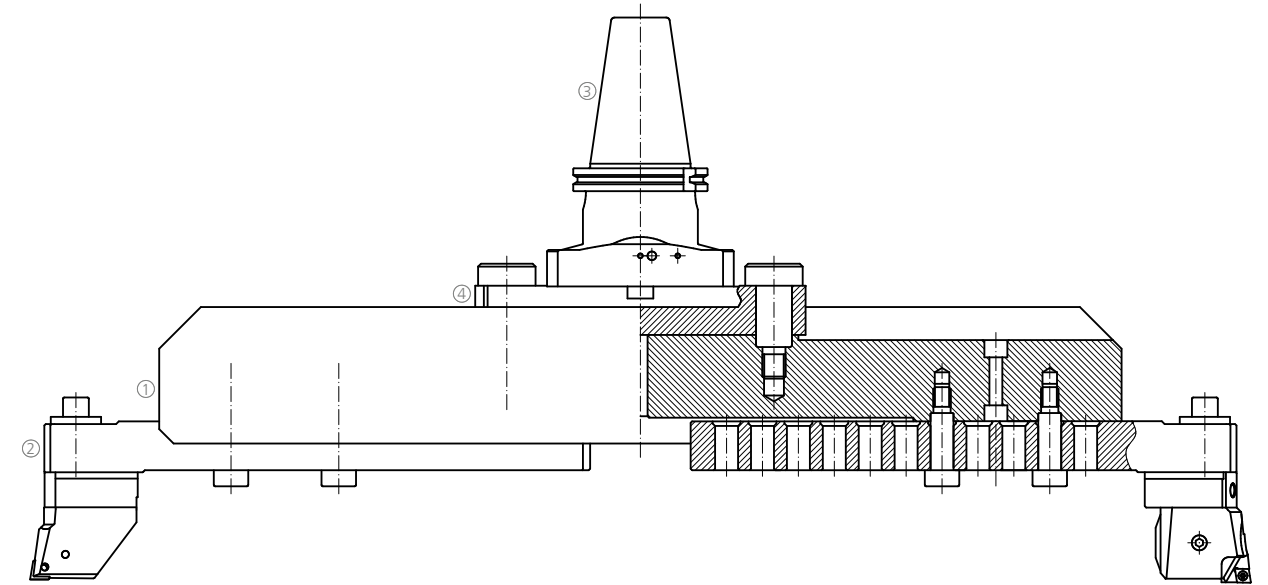
DIGITEC



* talep edilmesi durumunda, takımın fener miline cıvata ile sabitlenmesi şiddetle önerilir
on request; it is highly recommended to bolt the tools to the spindle nose

Ø 500 - 2'400 mm

SuperMegaMax Montajı
Assembling SuperMegaMax



- ① **Adaptör (alüminyum)**
Adaptor (aluminium)
- ② **Çap büyütücü**
Diameter Extender
- ③ **Tutucu**
Tool Holder
- ④ **Özel kilit mekanizmalı çap büyütücü**
Diameter Extender with Special Lock Stud

kesme şartlarını talep ediniz
Cutting data on request

Ø 500 - 2'400 mm



Adaptör / Çap büyütücü

Adaptor / Diameter Extender

Adaptör (alüminyum)

Adaptor (Aluminium)

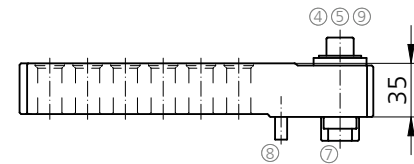
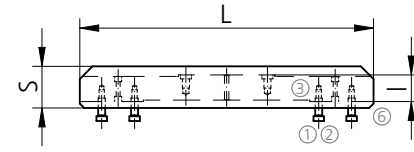
Order Number	Ø-range	L	I	S	kg	Index
21 20 05 *	500 - 700	350	50	65	6	●
21 20 07 *	700 - 900	550	60	75	12	●
21 20 10	800 - 1200	670	60	95	17	●
21 20 11	1200 - 1600	1070	60	95	28	●
21 20 12	1600 - 2000	1470	115	150	64	●
21 20 13	2000 - 2400	1870	115	150	81.5	●

* **Tutucuya direk monte edilir**
Directly assembled to the tool holder

Çap büyütücü

Diameter Extender

Order Number	Ø-range	kg	Index
22 00 05	500 - 900	6.3	●
22 20 10	800 - 2400	8	○



Kartuşlar için s. 72, gösterge için s. 17, hassas baralar için s. 74, hassas kartuşlar için s. 75, karşı ağırlıklar için s. 74 ve soğutma nozülü için s. 78 e bakınız

Information about insert holder p. 72, display unit p. 17, fine boring heads p. 74, fine boring insert holders p. 75, counterweight p. 74 and coolant nozzle p. 78

SPARE PARTS

	①	②	③	④	⑤	⑥	⑦	⑧	⑨
21 20 05	G00 02 08	C00 23 02							
21 20 07	G00 02 08	C00 23 02							
21 20 10	G00 02 08	C00 23 02							
21 20 11	G00 02 08	C00 23 02							
21 20 12	G00 02 08	C00 23 02	C00 96 13	C00 23 48	Z00 21 13	22 20 13			
21 20 13	G00 02 08	C00 23 02	C00 96 13	C00 22 92	Z00 21 13	22 20 13			
22 00 05				C00 24 04	Z00 22 15		Z00 22 16	Z00 22 21	K00 02 06
22 20 10				C00 24 04	Z00 22 15		Z00 22 16	Z00 22 21	K00 02 06

Ø 500 - 2'400 mm



Tutucu / Çap büyütücü

Tool Holder / Diameter Extender

Tutucu*

Tool Holder *

Order Number	Ø-range	□	L	D	kg	Index
D11 50 02	500 - 2400	DIN 69871 A	50	85	130	5.6 ●
H11 53 02	500 - 2400	DIN 69871 B	50	85	130	5.6 ●
T11 51 02	500 - 2400	MAS-BT	50	88	130	5.6 ●
HSKA11 100 02	500 - 2400	DIN 69893 A	100	72	130	4.4 ●

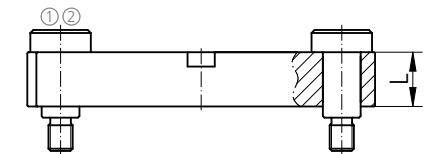
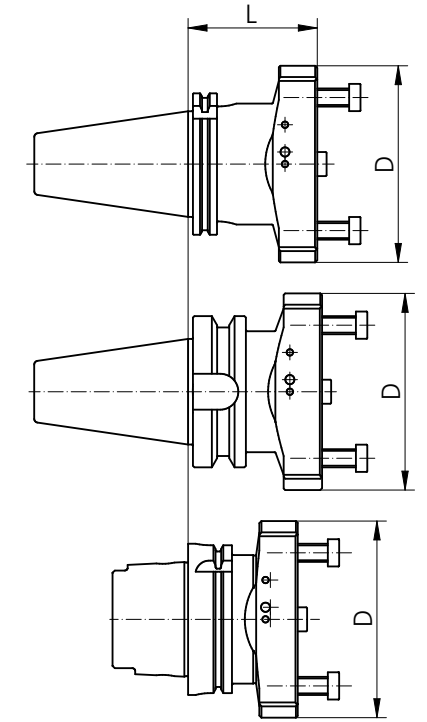
* **Takımın fener miline cıvatalanması şiddetle önerilir**
Adaptörler talep üzerine yapılır

It is highly recommended to bolt the tools to the spindle nose
Adaptors on request

Özel kilit mekanizmalı çap büyütücü

Diameter extender with special lock stud

Order Number	Ø-range	L	kg	Index
22 00 23 21	800 - 1600	35	5	●
22 00 43 21	1600 - 2400	40	9.7	●



SPARE PARTS

	①	②
Z00 21 21	G00 02 10	

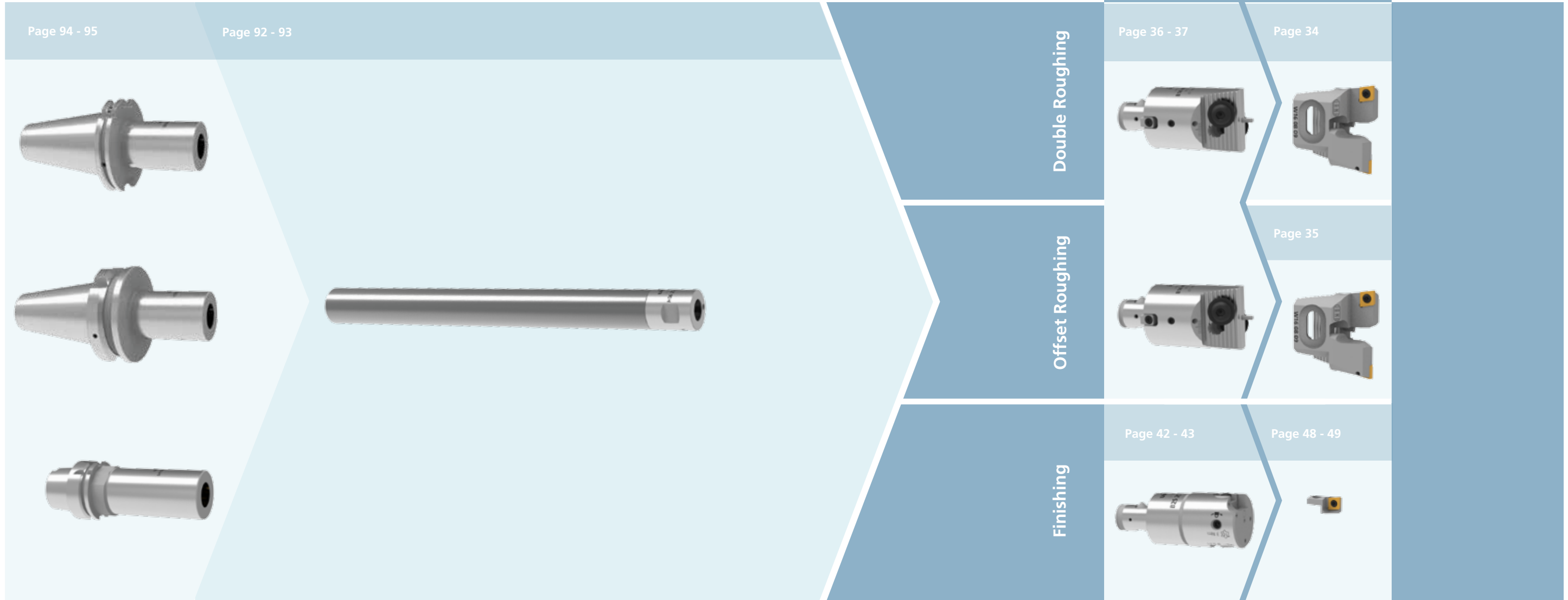
URMA Systems

LBS-System

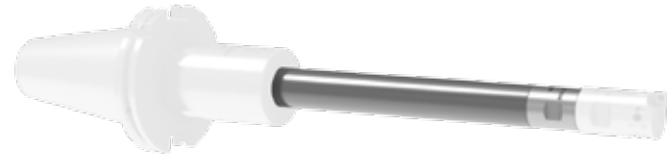
Ø 20 - 51 mm

Ø 20 - 51 mm

LBS-System
LBS-System



Ø 20 - 51 mm



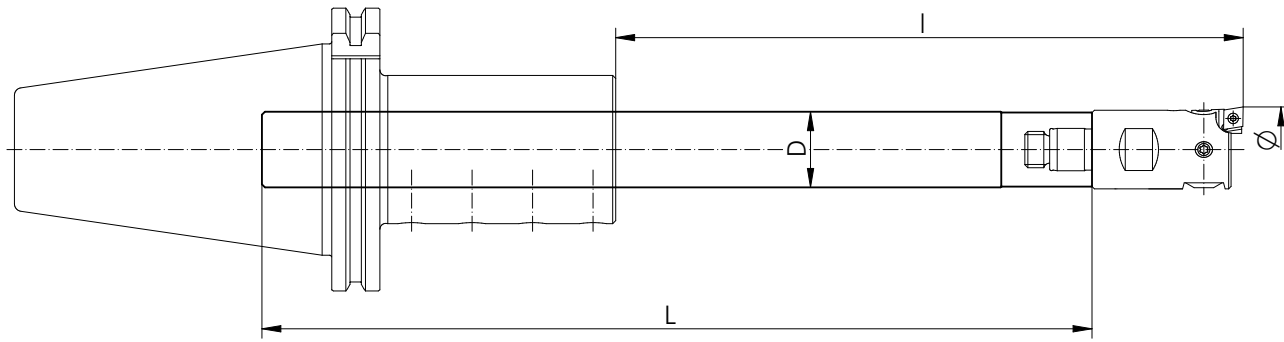
Karbür saplar

Carbide Boring Bars

Karbür saplar

Carbide Boring Bars

Alpha	Order Number	Ø-range	L	I	D	kg	SW	MCM	MCC	Index
18,5	H06 18 A18 200	20 - 30	200	139 - 185	18,5	0,65	17	ZS18,5	18,5	●
25	H06 25 A24 234	29 - 39	234	167 - 209	25	1,4	22	ZS25	24,5	●
25	H06 25 A24 276	29 - 39	276	209 - 251	25	1,7	22	ZS25	24,5	●
32	H06 32 A32 351	38 - 51	351	240 - 320	32	3,5	27	ZS25	32	●



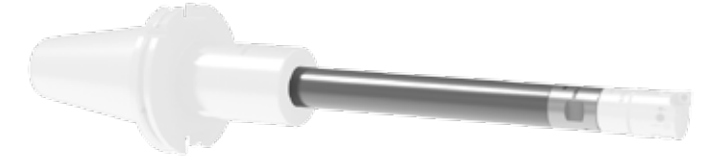
LBS-Sistemi hem kaba hem de hassas işleme için uygundur

The LBS-System is suitable for both roughing and finishing

Sisteme uygun hassas baralar için s. 42 ve s. 46 ya, kaba baralar için s. 36 ya bakınız

Suitable fine boring heads see pages 42 and 46, double cutter roughing heads see page 36

Ø 29 - 51 mm



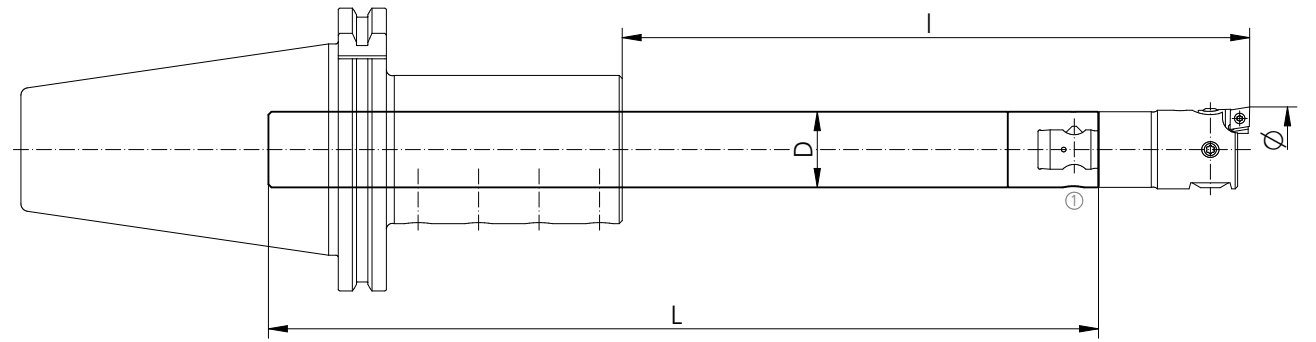
Karbür saplar

Carbide Boring Bars

Karbür saplar

Carbide Boring Bars

Beta	Order Number	Ø-range	L	I	D	kg	SW	MCM	MCC	Index
25	H06 25 B25 234	29 - 39	234	167 - 209	25	1,4	22	ZS25	B25	●
25	H06 25 B25 276	29 - 39	276	209 - 251	25	1,7	22	ZS25	B25	●
32	H06 32 B32 351	38 - 51	351	240 - 320	32	3,5	27	ZS32	B32	●



LBS-Sistemi hem kaba hem de hassas işleme için uygundur

The LBS-System is suitable for both roughing and finishing

Sisteme uygun hassas baralar için s. 43 ve s. 47 ye, kaba baralar için s. 37 ye bakınız

Suitable Fine boring heads see pages 43 and 47, double cutter roughing heads see page 37

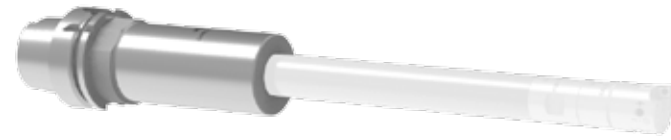
SPARE PARTS

Beta



25 Z00 25 24

32 Z00 32 24



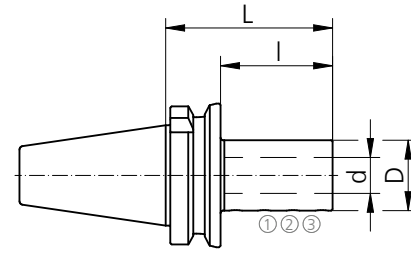
LBS-Tutucular

LBS-Tool Holders

MAS-BT tutucular

Tool Holders MAS-BT

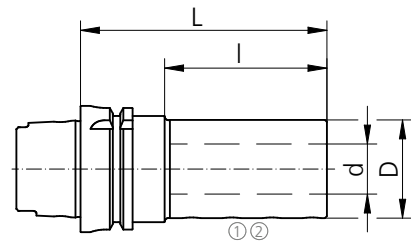
Order Number	L	I	D	d	□	MCC	Index
LT10 41 18 040	67	40	44	18,5	MAS-BT-A/40	ZS18,5	●
LT10 43 18 040	67	40	44	18,5	MAS-BT-B/40	ZS18,5	●●
LT10 51 18 060	98	60	44	18,5	MAS-BT-A/50	ZS18,5	●●
LT10 53 18 060	98	60	44	18,5	MAS-BT-B/50	ZS18,5	●●
LT10 41 25 057	84	57	49	25	MAS-BT-A/40	ZS25	●●
LT10 43 25 057	84	57	49	25	MAS-BT-B/40	ZS25	●●
LT10 51 25 078	116	78	49	25	MAS-BT-A/50	ZS25	●●
LT10 53 25 078	116	78	49	25	MAS-BT-B/50	ZS25	●●
LT10 51 32 095	133	95	60	32	MAS-BT-A/50	ZS32	●●
LT10 53 32 095	133	95	60	32	MAS-BT-B/50	ZS32	●●



HSK tutucular

Tool Holders HSK

Order Number	L	I	D	d	□	MCC	Index
LH10 63 18 101	127	85	44	18,5	HSK 63-A	ZS18,5	●
LH10 63 25 117	143	101	49	25	HSK 63-A	ZS25	●●
LH10 100 18 107	152	107	44	18,5	HSK 100-A	ZS18,5	●●
LH10 100 25 159	204	159	49	25	HSK 100-A	ZS25	●●
LH10 100 32 170	215	170	60	32	HSK 100-A	ZS32	●●



SPARE PARTS

d	①	②	③
18,5	G00 02 05	C00 96 10	
25	G00 02 05		Z00 10 91
32	G00 02 06	C00 96 11	



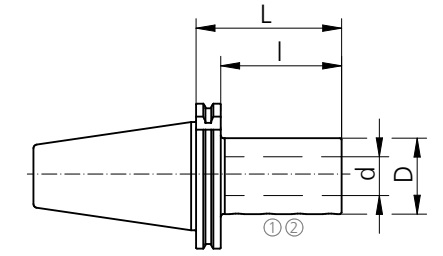
LBS-Tutucular

LBS-Tool Holders

DIN 69871 tutucular

Tool Holders DIN 69871

Order Number	L	I	D	d	□	MCC	Index
LD10 41 18 042	61	42	44	18.5	DIN 69871-A/40	ZS18,5	●
LD10 43 18 042	61	42	44	18.5	DIN 69871-B/40	ZS18,5	●●
LD10 50 18 060	79	60	44	18.5	DIN 69871-A/50	ZS18,5	●●
LD10 53 18 060	79	60	44	18.5	DIN 69871-B/50	ZS18,5	●●
LD10 41 25 059	79	59	49	25	DIN 69871-A/40	ZS25	●●
LD10 43 25 059	79	59	49	25	DIN 69871-B/40	ZS25	●●
LD10 50 25 078	98	78	49	25	DIN 69871-A/50	ZS25	●●
LD10 53 25 078	98	78	49	25	DIN 69871-B/50	ZS25	●●
LD10 50 32 095	114	95	60	32	DIN 69871-A/50	ZS32	●●
LD10 53 32 095	114	95	60	32	DIN 69871-B/50	ZS32	●●



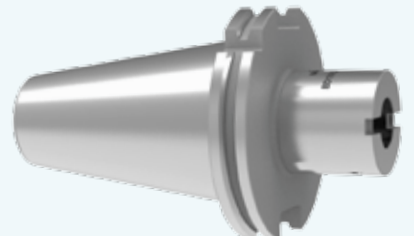

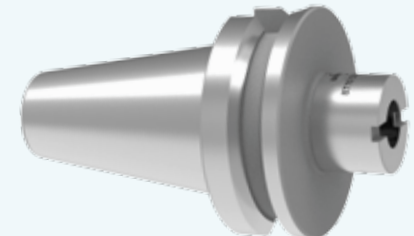

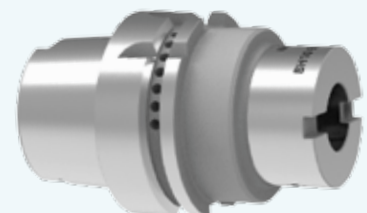
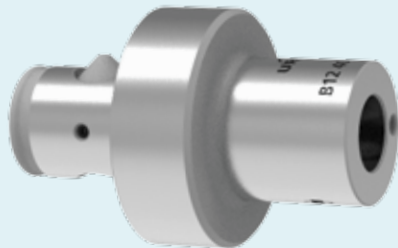
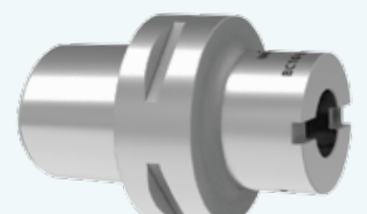
SPARE PARTS

d	①	②
18,5	G00 02 05	C00 96 10
25	G00 02 05	C00 96 10
32	G00 02 06	C00 96 11

URMA Systems

Modular Components

Modüler ekipmanlar
Modular Components

Page 104 - 113	Page 100 - 101	DigiTec	Page 11
		MicroMax	Page 19
		VersaMax - Type 14	Page 29
	Page 102 - 103	VersaMax - Type 25 / Type A25	Page 39
		IntraMax	Page 51
		MegaMax	Page 69
		SuperMegaMax	Page 81

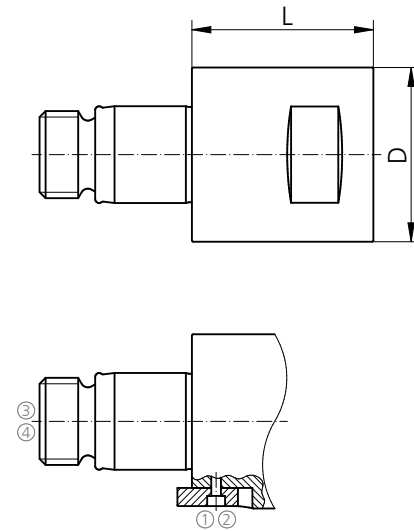


Uzatmalar
Extensions

Alpha-Alpha Uzatmalar
Extensions

Alpha	Order Number	L	D	kg	SW	MCM	MCC	Index
18,5	13 18 01	25	18,5	0,1	17	18,5	18,5	●
18,5	13 18 11	35	18,5	0,1	17	18,5	18,5	●
24,5	13 24 01	30	24,5	0,1	22	24,5	24,5	●
24,5	13 24 11	45	24,5	0,2	22	24,	24,5	●
32	13 32 01	40	32	0,2	27	32	32	●
32	13 32 11	60	32	0,3	27	32	32	●
42	13 42 01	50	42	0,5	36	42	42	●
42	13 42 11	80	42	0,8	36	42	42	●
55	13 55 01	70	55	1,2	46	55	55	●
55	13 55 11	105	55	1,5	46	55	55	●
72	13 72 01*	75	72	2,2	60	72	72	●
94	13 94 01*	100	94	5,1	75	94	94	●

* anahtar ile birlikte gelir
Supplied with a driving key



④ Teslimata dahil değildir
Not included in the delivery

SPARE PARTS

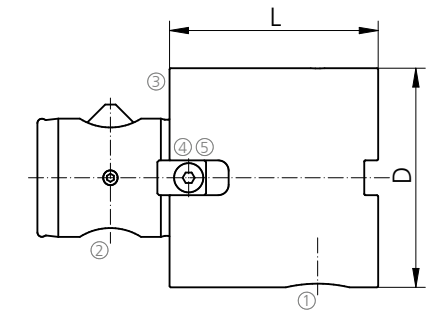
Alpha	Beta	①	②	③	④
72	80	Z00 00 72	C00 22 11	Z00 14 74	53 74 96
94	100	Z00 00 94	C00 24 17	Z00 14 96	53 74 96



Uzatmalar
Extensions

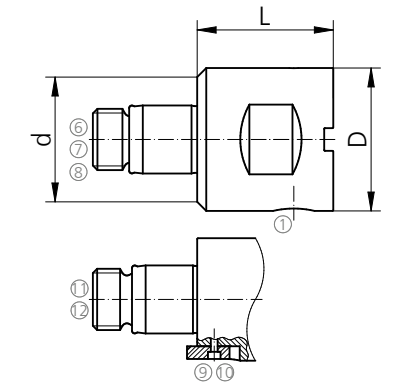
Beta-Beta Uzatmalar
Extensions Beta-Beta

Beta	Order Number	L	D	kg	MCM	MCC	Index
25	B13 25 25 045	45	25	0,2	B25	B25	●
25	B13 25 25 070	70	25	0,3	B25	B25	●
32	B13 32 32 035	35	32	0,2	B32	B32	●
32	B13 32 32 070	70	32	0,4	B32	B32	●
40	B13 40 40 045	45	42	0,4	B42	B42	●
40	B13 40 40 070	70	42	0,7	B42	B42	●
50	B13 50 50 065	65	50	1,0	B50	B50	●
50	B13 50 50 100	100	50	1,5	B50	B50	●
63	B13 63 63 060	60	63	1,3	B63	B63	●
63	B13 63 63 125	125	63	2,9	B63	B63	●
80	B13 80 80 080	80	80	2,9	B80	B80	●
80	B13 80 80 160	160	80	6,1	B80	B80	●
100	B13 100 100 080	80	100	4,9	B100	B100	●
100	B13 100 100 180	180	100	10,9	B100	B100	●



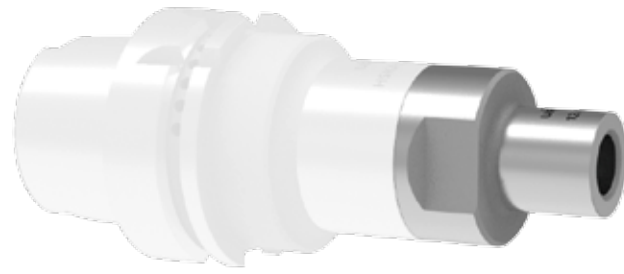
Alpha-Beta Uzatmalar
Extensions Alpha-Beta

Alpha	Beta	Order Number	L	D	d	kg	SW	MCM	MCC	Index
24,5	25	B13 24 25 030	30	25	24,5	0,1	22	24,5	B25	○
32	32	B13 32 32 040	40	32	32	0,2	27	32	B32	○
42	40	B13 42 40 045	45	42	42	0,5	36	42	B40	○
55	63	B13 55 63 060	60	63	55	1,3	45	55	B63	○
72	80	B13 72 80 080	80	80	72	2,9	55	72	B80	○
94	100	B13 94 100 080	80	100	94	4,1	90	94	B100	○



SPARE PARTS

Beta	①	②	③	④	⑤
25	Z00 25 24	Z00 25 21	Z00 25 23		
32	Z00 32 24	Z00 32 21	Z00 32 23		
40	Z00 40 24	Z00 40 21	Z00 40 23	Z00 40 25	C00 22 58
50	Z00 50 24	Z00 50 21	Z00 50 23	Z00 50 25	C00 22 60
63	Z00 63 24	Z00 63 21	Z00 63 23	Z00 63 25	C00 22 05
80	Z00 80 24	Z00 80 21	Z00 80 23	Z00 80 25	C00 22 07
100	Z00 100 24	Z00 100 21	Z00 100 23	Z00 100 25	C00 22 71



Çap düşürücüler

Reducers

Alpha	Alpha 1	Order Number	L	I	D	d	kg	SW	MCM	MCC	Index
24,5	18,5	12 24 02	30	15	18,5	24,5	0,1	22	24,5	18,5	●
24,5	18,5	12 24 03	55	40	18,5	24,5	0,2	22	24,5	18,5	●
32	18,5	12 32 02	30	15	18,5	32	0,2	27	32	18,5	●
32	24,5	12 32 07	40	25	24,5	32	0,3	27	32	24,5	●
32	24,5	12 32 08	70	55	24,5	32	0,3	27	32	24,5	●
42	18,5	12 42 02	35	15	18,5	42	0,4	36	42	18,5	●
42	24,5	12 42 07	45	25	24,5	42	0,4	36	42	24,5	●
42	32	12 42 12	45	25	32	42	0,4	36	42	32	●
42	32	12 42 13	85	65	32	42	0,7	36	42	32	●
55	18,5	12 55 02	40	15	18,5	55	0,7	46	55	18,5	●
55	24,5	12 55 07	50	25	24,5	55	0,7	46	55	24,5	●
55	32	12 55 12	50	25	32	55	0,7	46	55	32	●
55	42	12 55 17	55	30	42	55	0,8	46	55	42	●
55	42	12 55 18	105	80	42	55	1,3	46	55	42	●
		12 72 02									○
		12 72 03									○
		12 72 07									○
		12 72 13									○
72	42	12 72 17	60	30	42	72	1,6	60	72	42	●
72	55	12 72 22	60	30	55	72	1,7	60	72	55	●
		12 94 03									○
		12 94 08									○
		12 94 12									○
		12 94 13									○
94	55	12 94 22	6	30	55	94	3,1	75	94	55	●
94	72	12 94 27*	80	45	72	94	3,5	75	94	72	●

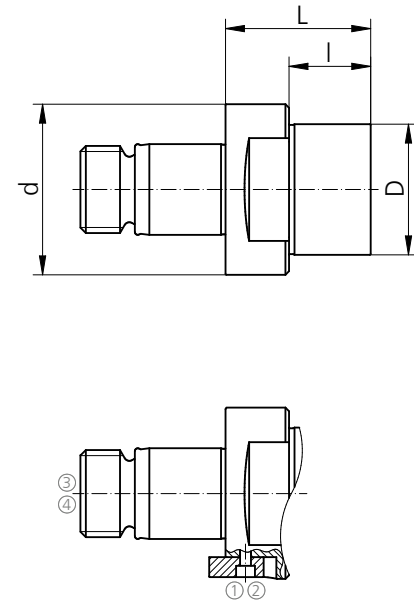
Alfa-Beta çap düşürücüler

Reducers Alpha-Beta

Alpha	Beta	Order Number	L	I	D	d	kg	SW	MCM	MCC	Index
32	25	B12 32 25 035	35	18	25	32	0,3	27	32	B25	○
42	25	B12 42 25 045	45	25	25	42	0,4	36	42	B25	○
42	32	B12 42 32 050	50	30	32	42	0,4	36	42	B32	○
55	32	B12 55 32 055	55	30	32	55	0,7	46	55	B32	○
55	40	B12 55 40 060	60	35	42	55	0,8	46	55	B40	○
		B12 72 40 065									○
		B12 72 63 065									○
		B12 94 63 070									○

SPARE PARTS

Alpha	①	②	③	④
94	Z00 00 94	C00 24 17	Z00 14 96	53 74 96



* anahtar ile birlikte gelir
supplied with a driving key

④ Teslimata dahil değildir
Not included in the delivery



Çap düşürücüler

Reducers

Beta-Beta çap düşürücüler

Reducers Beta-Beta

Beta	Beta 1	Order Number	L	I	D	d	kg	SW	MCM	MCC	Index
32	25	B12 32 25 040	40	25	25	32	0,2		B32	B25	●
40	25	B12 40 25 040	40	25	25	42	0,3		B40	B25	●
40	32	B12 40 32 045	45	30	32	42	0,3		B40	B32	●
50	40	B12 50 40 050	50	35	42	50	0,5		B50	B40	●
63	25	B12 63 25 045	45	25	25	63	0,7		B63	B25	●
63	32	B12 63 32 050	50	30	32	63	0,9		B63	B32	●
63	40	B12 63 40 055	55	35	42	63	1,1		B63	B40	●
63	50	B12 63 50 060	60	40	50	63	1,1		B63	B50	●
80	40	B12 80 40 060	60	35	42	80	2,2		B80	B40	●
80	63	B12 80 63 060	60	35	63	80	2,4		B80	B63	●
		B12 100 40 060									○
		B12 100 50 080									○
100	63	B12 100 63 060	60	35	63	100	3,3		B100	B63	●
100	80	B12 100 80 075	75	50	80	100	3,5		B100	B80	●

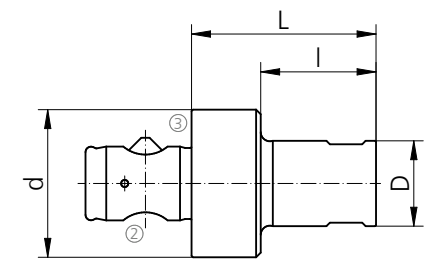
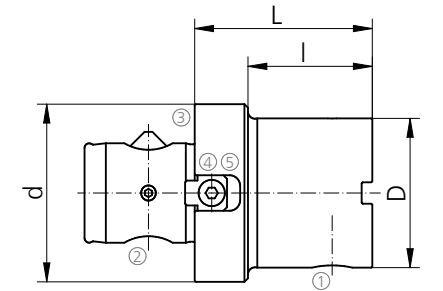
Beta-Alfa çap düşürücüler

Reducers Beta-Alpha

Beta	Alpha	Order Number	L	I	D	d	kg	SW	MCM	MCC	Index
25	18,5	B12 25 18 040	40	25	18,5	25	0,1	17	B25	18,5	●
32	18,5	B12 32 18 040	40	25	18,5	32	0,1	17	B32	18,5	●
40	18,5	B12 40 18 040	40	25	18,5	42	0,2	17	B40	18,5	●
		B12 50 18 040									○
		B12 50 24 050									○
		B12 50 32 050									○
		B12 63 24 055									○
		B12 63 32 055									○
		B12 63 42 060									○

SPARE PARTS

Beta	①	②	③	④	⑤
25	Z00 25 24	Z00 25 21	Z00 25 23		
32	Z00 32 24	Z00 32 21	Z00 32 23		
40	Z00 40 24	Z00 40 21	Z00 40 23	Z00 40 25	C00 22 58
50	Z00 50 24	Z00 50 21	Z00 50 23	Z00 50 25	C00 22 60
63	Z00 63 24	Z00 63 21	Z00 63 23	Z00 63 25	C00 22 05
80	Z00 80 24	Z00 80 21	Z00 80 23	Z00 80 25	C00 22 07
100	Z00 100 24	Z00 100 21	Z00 100 23	Z00 100 25	C00 22 71





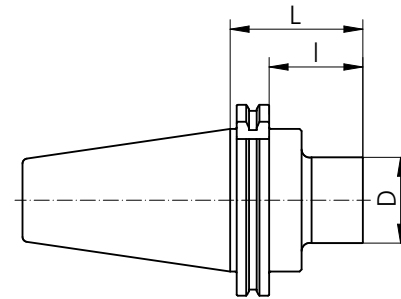
Sistem adaptörleri

System Adaptors

Eksenel vidalı bağlantılar
With Axial Threaded Connection

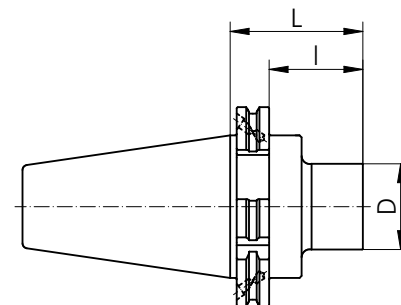
DIN 69871-A/D

Alpha	Order Number	□	L	I	D	kg	MCC	Index
42	D10 31 02	30	35	16	42	0,8	42	○
	D10 31 12							○
	D10 31 16							●
	D10 31 17							○
18,5	D10 41 03	40	75	40	18,5	1,1	18,5	●
24,5	D10 41 07	40	60	25	24,5	1,1	24,5	●
24,5	D10 41 08	40	90	55	24,5	1,2	24,5	●
32	D10 41 12	40	60	25	32	1,1	32	●
32	D10 41 13	40	100	65	32	1,4	32	●
42	D10 41 14	40	35	16	42	1,2	42	○
	D10 41 16							●
	D10 41 17							●
	D10 41 22							●
55	D10 41 23	40	65	46	55	1,2	55	○
	D10 41 23A							○
	D10 41 27							○
	D10 50 03							○
24,5	D10 50 07	50	60	25	24,5	3,2	24,5	●
32	D10 50 12	50	60	25	32	3,2	32	●
42	D10 50 17	50	65	30	42	4,0	42	●
55	D10 50 22	50	65	30	55	3,3	55	●
72	D10 50 24A	50	80	61	72	3,7	72	○
	D10 50 27							●
94	D10 50 32	50	85	66	94	4,0	94	●

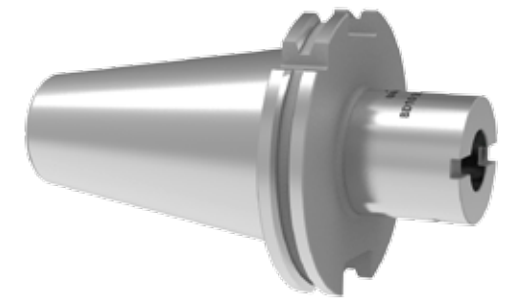
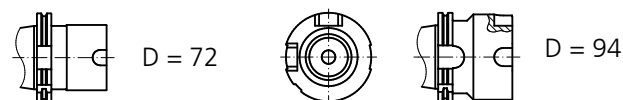


DIN 69871-B

Alpha	Order Number	□	L	I	D	kg	MCC	Index
42	H10 43 16	40	35	16	42	1,2	42	●
55	H10 43 22	40	65	46	55	1,2	55	●
42	H10 53 17	50	65	30	42	4,0	42	●
55	H10 53 22	50	65	30	55	3,3	55	●
72	H10 53 27	50	80	61	72	3,7	72	●
94	H10 53 32	50	85	66	94	4,0	94	●



D = 72 mm tek sıkma civatası ile
D = 94 mm çift sıkma civatası ile
D = 72 mm with one driving keyway
D = 94 mm with two driving keyways



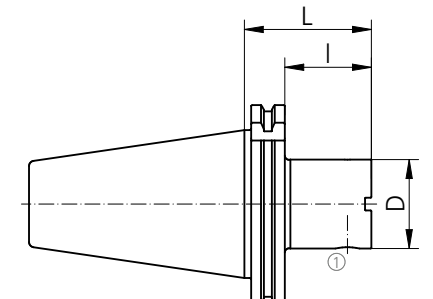
Sistem adaptörleri

System Adaptors

Yandan vidalı sistem
With Side Lock System

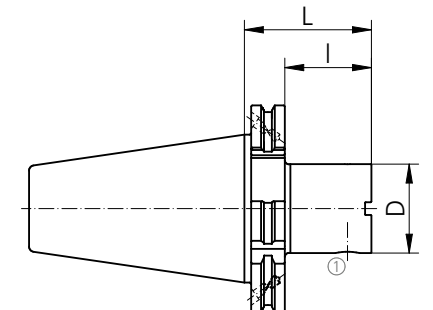
DIN 69871-A/D

Beta	Order Number	□	L	I	D	kg	MCC	Index
25	BD10 40A 25 050	40	50	31	25	0,8	B25	●
32	BD10 40A 32 050	40	50	31	32	0,9	B32	●
40	BD10 40A 40 035	40	35	16	42	0,9	B40	●
40	BD10 40A 40 050	40	50	31	42	1,1	B40	●
50	BD10 40A 50 050	40	50	31	50	1,2	B50	●
63	BD10 40A 63 065	40	65	46	63	1,5	B63	●
25	BD10 50A 25 060	50	60	41	25	2,8	B25	●
32	BD10 50A 32 060	50	60	41	32	2,9	B32	●
40	BD10 50A 40 060	50	60	41	42	3,0	B40	●
50	BD10 50A 50 060	50	60	41	50	3,2	B50	●
63	BD10 50A 63 060	50	60	41	63	3,3	B63	●
80	BD10 50A 80 070	50	70	51	80	4,0	B80	●
100	BD10 50A 100 115	50	115	96	100	6,9	B100	●



DIN 69871-B

Beta	Order Number	□	L	I	D	kg	MCC	Index
40	BD10 40B 40 035	40	35	16	42	0,9	B40	●
63	BD10 40B 63 065	40	65	46	63	1,5	B63	●
	BD10 40B 63 090							○
40	BD10 50B 40 060	50	60	41	42	3,0	B40	●
50	BD10 50B 50 060	50	60	41	50	3,2	B50	●
63	BD10 50B 63 060	50	60	41	63	3,3	B63	●
100	BD10 50B 100 115	50	115	96	100	6,9	B100	●



SPARE PARTS

Beta	①
25	Z00 25 24
32	Z00 32 24
40	Z00 40 24
50	Z00 50 24
63	Z00 63 24
80	Z00 80 24
100	Z00 100 24



Sistem adaptörleri

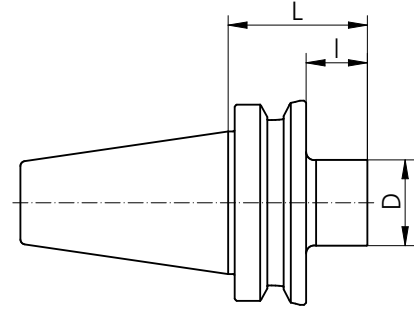
System Adaptors

Eksenel vida bağlantılı

With Axial Threaded Connection

MAS-BT-A

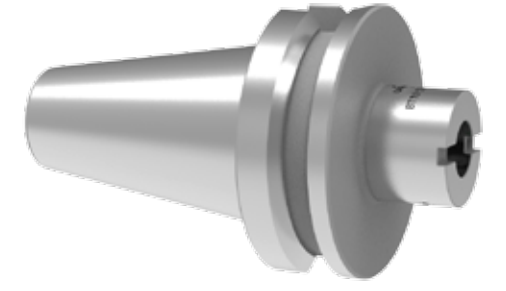
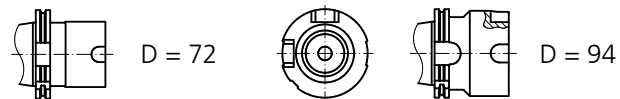
Alpha	Order Number		L	I	D	kg	MCC	Index
42	T10 31 02	30	32	10	42	0,8	42	○
	T10 31 12							○
	T10 31 16							○
18,5	T10 41 03	40	67	40	18,5	1,0	18,5	●
24,5	T10 41 04	40	52	25	24,5	1,0	24,5	○
	T10 41 07							●
32	T10 41 12	40	52	25	32	1,0	32	●
42	T10 41 16	40	29	2	42	1,0	42	●
42	T10 41 17	40	57	30	42	1,1	42	●
55	T10 41 18	40	57	30	55	1,2	55	○
	T10 41 22							●
	T10 41 23							○
32	T10 51 09	50	103	65	32	4,0	32	○
	T10 51 13							●
42	T10 51 17	50	68	30	42	3,3	42	●
55	T10 51 19	50	68	30	55	3,8	55	○
	T10 51 22							●
	T10 51 24							○
72	T10 51 27	50	83	45	72	4,2	72	●
94	T10 51 29	50	88	50	94	4,5	94	○
	T10 51 32							●



MAS-BT-B

Alpha	Order Number		L	I	D	kg	MCC	Index
	T10 43 07							○
	T10 43 12							○
	T10 43 16							○
	T10 43 22							○

D = 72 mm tek sıkma cıvatası ile
D = 94 mm çift sıkma cıvatası ile
D = 72 mm with one driving keyway
D = 94 mm with two driving keyways



Sistem adaptörleri

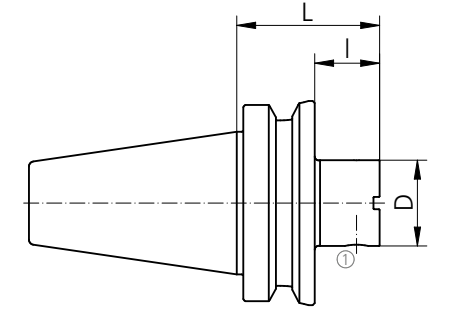
System Adaptors

Yandan vidalı sistem

With Side Lock System

MAS-BT-A

Beta	Order Number		L	I	D	kg	MCC	Index
25	BT10 40A 25 060	40	60	33	25	0,8	B25	●
32	BT10 40A 32 060	40	60	33	32	0,9	B32	●
40	BT10 40A 40 028	40	28	1	42	0,9	B40	●
40	BT10 40A 40 060	40	60	33	42	1,2	B40	●
50	BT10 40A 50 060	40	60	33	50	1,3	B50	●
63	BT10 40A 63 055	40	55	28	63	1,4	B63	●
32	BT10 50A 32 070	50	70	32	32	3,7	B32	●
40	BT10 50A 40 070	50	70	32	42	3,9	B40	●
50	BT10 50A 50 070	50	70	32	50	4,1	B50	●
63	BT10 50A 63 080	50	80	42	63	4,3	B63	●
80	BT10 50A 80 100	50	100	62	80	5,5	B80	●
100	BT10 50A 100 110	50	110	72	100	7,0	B100	●



MAS-BT-B

Alpha	Order Number		L	I	D	kg	MCC	Index
	BT10 40B 40 060							○
	BT10 40B 40 055							○
	BT10 40B 40 070							○
	BT10 50B 32 070							○
	BT10 50B 50 070							○
	BT10 50B 63 080							○
	BT10 50B 100 110							○

SPARE PARTS

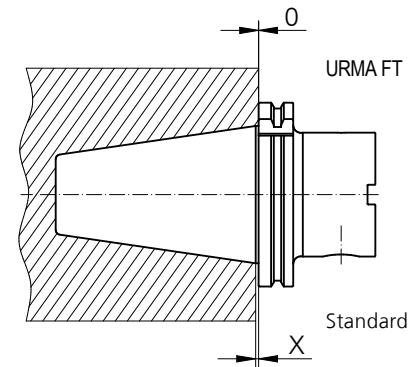
Beta	
25	Z00 25 24
32	Z00 32 24
40	Z00 40 24
50	Z00 50 24
63	Z00 63 24
80	Z00 80 24
100	Z00 100 24

URMA-FT sistem adaptörleri

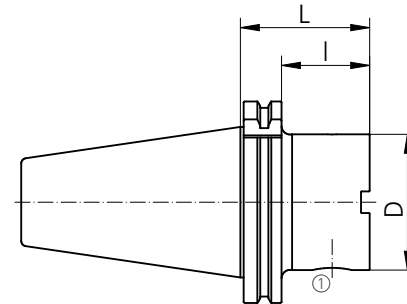
System Adaptors URMA-FT

Yandan vidalı sistem

With Side Lock System

**Daha yüksek kesme performansı ve daha yüksek sağlamlık
Mevcut sistemlerle eşdeğerdir**For improved rigidity and higher cutting performance
Equivalent to existing systems**DIN 69871-A**

Beta	Order Number		L	I	D	kg	MCC	Index
40	BDP10 50A 40 060	50	60	41	42	3,0	B40	●
63	BDP10 50A 63 060	50	60	41	63	3,3	B63	●
80	BDP10 50A 80 070	50	70	51	80	4,0	B80	●
100	BDP10 50A 100 115	50	115	96	100	6,9	B100	●

**SPARE PARTS**

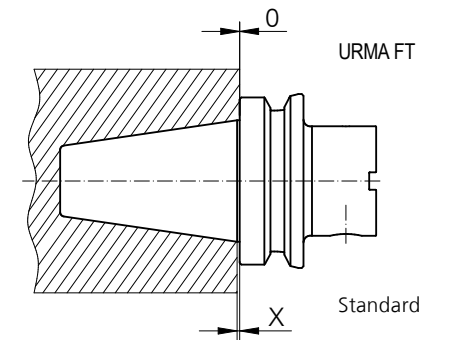
Beta	
40	Z00 40 24
63	Z00 63 24
80	Z00 80 24
100	Z00 100 24

URMA-FT sistem adaptörleri

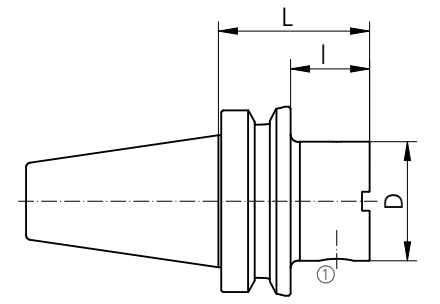
System Adaptors URMA-FT

Yandan vidalı sistem

With Side Lock System

**Daha yüksek kesme performansı ve daha yüksek sağlamlık
Mevcut sistemlerle eşdeğerdir**For improved rigidity and higher cutting performance
Equivalent to existing systems**MAS-BT-A**

Beta	Order Number		L	I	D	kg	MCC	Index
40	BTP10 40A 40 028	40	28	1	42	0,9	B40	●
63	BTP10 40A 63 055	40	55	28	63	1,5	B63	●
63	BTP10 50A 63 080	50	80	42	63	4,3	B63	●
100	BTP10 50A 100 110	50	110	72	100	7,0	B100	●

**SPARE PARTS**

Beta	
40	Z00 40 24
63	Z00 63 24
80	Z00 80 24
100	Z00 100 24



Sistem adaptörleri

System Adaptors

Eksenel vida bağlantılı

With Axial Threaded Connection

DIN 69893-A

Alpha	Order Number	▽	L	I	D	kg	MCC	Index
	HSKA10 40 02							○
	HSKA10 40 07							○
	HSKA10 40 12							○
	HSKA10 50 17							○
18,5	HSKA10 63 02*	63	57	15	18,5	1,0	18,5	●
24,5	HSKA10 63 07*	63	67	25	24,5	1,0	24,5	●
32	HSKA10 63 12*	63	67	25	32	1,1	32	●
42	HSKA10 63 17*	63	72	30	42	1,2	42	●
55	HSKA10 63 21*	63	82	56	55	1,4	55	●
	HSKA10 63 26							○
	HSKA10 80 21							○
	HSKA10 80 26							○
	HSKA10 80 32							○
	HSKA10 100 03							○
	HSKA10 100 07							○
	HSKA10 100 08							○
	HSKA10 100 12							○
	HSKA10 100 13							○
42	HSKA10 100 17*	100	75	30	42	3,0	42	●
	HSKA10 100 18							○
55	HSKA10 100 21*	100	85	40	55	3,3	55	●
72	HSKA10 100 26**	100	100	55	72	4,2	72	●
94	HSKA10 100 32**	100	125	96	94	6,0	94	●

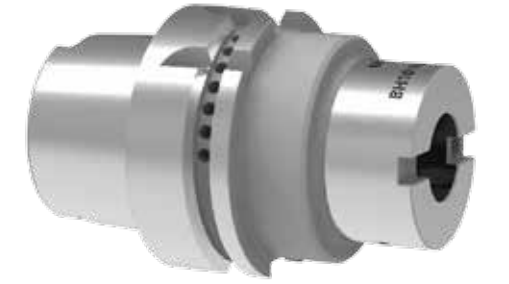
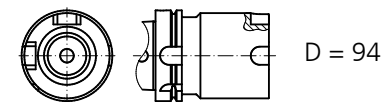
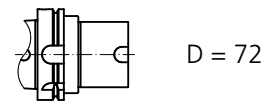
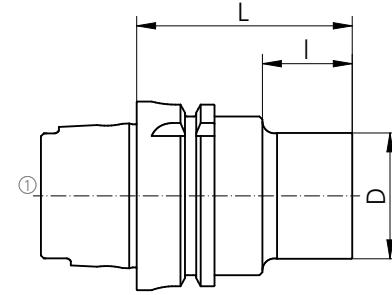
* Soğutma tüpü dahil değildir
Coolant tube is not included

** Soğutma tüpü dahildir
Coolant tube included

D = 72 mm tek sıkma civatası ile
D = 94 mm çift sıkma civatası ile
D = 72 mm with one driving keyway
D = 94 mm with two driving keyways

SPARE PARTS

▽	①	②
63	H00 63 01	
100	H00 100 01	



Sistem adaptörleri

System Adaptors

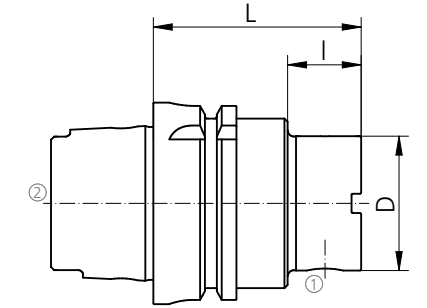
Yandan vidalı sistem

With Side Lock System

DIN 69893-A

Beta	Order Number	▽	L	I	D	kg	MCC	Index
	BH10 50A 25 055							○
	BH10 50A 32 060							○
	BH10 50A 40 065							○
25	BH10 63A 25 055*	63	55	29	25	0,9	B25	●
32	BH10 63A 32 060*	63	60	34	32	1,0	B32	●
40	BH10 63A 40 065*	63	65	23	42	1,1	B40	●
50	BH10 63A 50 070*	63	70	28	50	1,5	B50	●
63	BH10 63A 63 080*	63	80	54	63	1,5	B63	●
	BH10 80A 40 065							○
	BH10 80A 63 080							○
	BH10 80A 80 090							○
	BH10 80A 100 100							○
32	BH10 100A 32 060*	100	60	31	32	2,3	B32	●
40	BH10 100A 40 080*	100	80	35	42	3,1	B40	●
50	BH10 100A 50 080*	100	80	35	50	3,2	B50	●
63	BH10 100A 63 080*	100	80	35	63	3,3	B63	●
80	BH10 100A 80 090*	100	90	45	80	4,0	B80	●
100	BH10 100A 100 100*	100	100	71	100	5,0	B100	●

* Soğutma tüpü dahil değildir
Coolant tube is not included



SPARE PARTS

Beta	①	②
25	Z00 25 24	63 H00 63 01
32	Z00 32 24	100 H00 100 01
40	Z00 40 24	
50	Z00 50 24	
63	Z00 63 24	
80	Z00 80 24	
100	Z00 100 24	

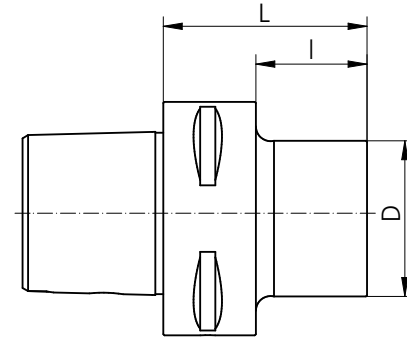
Sistem adaptörleri

System Adaptors

Eksenel vida bağlantılı
With Axial Threaded Connection

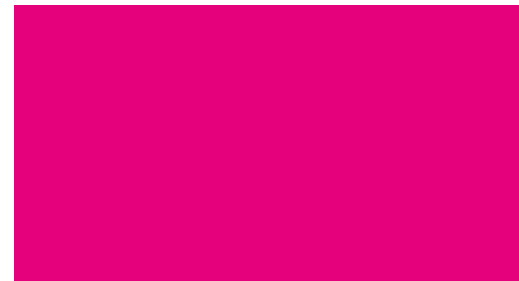
ISO 26623 PSC

Alpha	Order Number	□	L	I	D	kg	MCC	Index
42	AC10 63 17 055	Size 6	55	30	42	1.0	42	●
55	AC10 63 21 060	Size 6	60	35	55	1.3	55	●



ISO DIN 2080

Alpha	Order Number	□	L	I	D	kg	MCC	Index
42	10 40 16	40	13,6	2	42	0,9	42	○
42	10 40 17	40	41,6	30	42	1,0	42	○
55	10 40 22	40	41,6	30	55	1,0	55	○
42	10 55 17	50	45,2	30	42	2,8	42	○
55	10 50 22	50	45,2	30	55	2,8	55	○
72	10 50 27	50	60,2	45	72	3,2	72	○
94	10 50 32	50	65,2	50	94	3,5	94	○



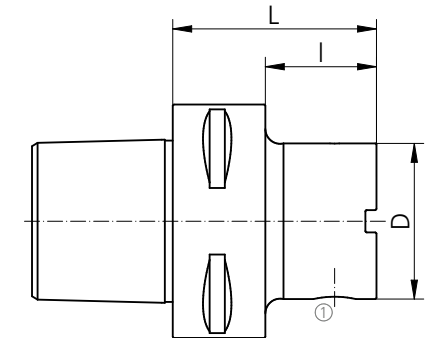
Sistem adaptörleri

System Adaptors

Yandan vidalı sistem
With Side Lock System

ISO 26623 PSC

Beta	Order Number	□	L	I	D	kg	MCC	Index
40	BC10 63 40 055	Size 6	55	30	42	1.0	B40	●
50	BC10 63 50 060	Size 6	60	35	50	1.2	B50	●
63	BC10 63 63 065	Size 6	65	-	63	1.5	B63	●



ISO DIN 2080

Beta	Order Number	□	L	I	D	kg	MCC	Index
40	B110 40 40 035	40	35	23	42	0,7	B40	○
40	B110 40 40 050	40	50	38	42	1,1	B40	○
63	B110 40 63 070	40	70	58	63	1,8	B63	○
40	B110 50 40 060	50	60	45	42	3,0	B40	○
63	B110 50 63 060	50	60	45	63	3,5	B63	○
100	B110 50 100 100	50	100	85	100	6,8	B100	○



SPARE PARTS

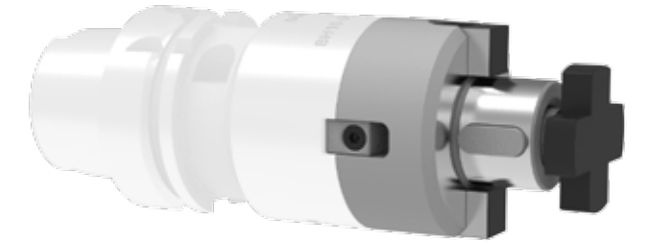
Beta ①



40	Z00 40 24
50	Z00 50 24
63	Z00 63 24

URMA Systems

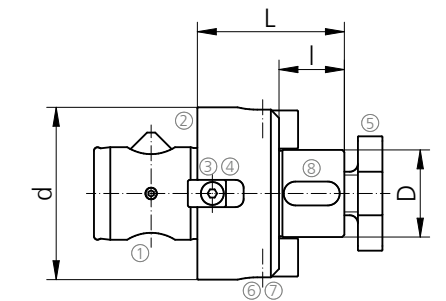
Adaptor Toolholders



Freze adaptörleri
Shell Mill Adaptors

Freze adaptörleri
Shell End Mill Adaptors

Beta	Order Number	L	I	D	d	kg	MCM	Index
63	B44 63 13 030	30	12	13	63	0,8	B63	○
	B44 63 16 030	30	17	16	63	0,8	B63	○
	B44 63 22 030	30	19	22	63	0,9	B63	○
	B44 63 27 030	30	21	27	63	1	B63	○
	B44 63 32 030	30	24	32	63	1,1	B63	○
	B44 63 40 030	30	27	40	63	1,3	B63	○



SPARE PARTS

D	①	②	③	④	⑤	⑥	⑦	⑧
	Z00 63 21	Z00 63 23	Z00 63 25	C00 22 05				
13					52 01 13	Z00 B44 16 01	C00 22 30	
16					52 01 16	Z00 B44 16 01	C00 22 30	F00 04 13
22					52 01 22	Z00 B44 22 01	C00 22 31	F00 04 14
27					52 01 27	Z00 B44 27 01	C00 22 05	F00 04 15
32					52 01 32	Z00 B44 32 01	C00 22 71	F00 04 16
40					52 01 40	Z00 B44 40 01	C00 22 71	F00 04 17



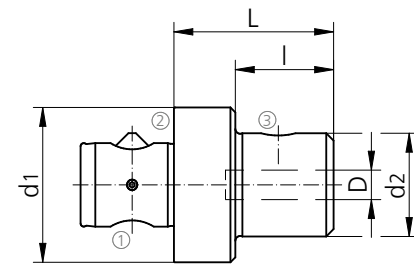
DIN 1835 B Weldon adaptörler

Weldon Adaptors DIN 1835 B

Weldon adaptörler

Weldon Adaptors

Beta	Order Number	L	I	D	d ₁	d ₂	kg	MCM	Index
40	B55 40 06 045	45	30	6	42	25	0,3	B40	○
40	B55 40 08 045	45	30	8	42	28	0,3	B40	○
40	B55 40 10 055	55	40	10	42	35	0,4	B40	○
40	B55 40 12 065	65	65	12	42	42	0,6	B40	○
63	B55 63 06 050	50	25	6	63	25	0,9	B63	○
63	B55 63 08 050	50	25	8	63	28	0,9	B63	○
63	B55 63 10 055	55	30	10	63	35	1	B63	○
63	B55 63 12 065	65	40	12	63	42	1,1	B63	○
63	B55 63 14 065	65	40	14	63	45	1,2	B63	○
63	B55 63 16 065	65	40	16	63	48	1,2	B63	○
63	B55 63 18 065	65	40	18	63	50	1,3	B63	○
63	B55 63 20 065	65	40	20	63	52	1,3	B63	○
63	B55 63 25 075	75	75	25	63	65	1,8	B63	○



SPARE PARTS

Beta	D	①	②	③
40		Z00 40 21	Z00 40 23	
63		Z00 63 21	Z00 63 23	
	6			Z00 55 06
	8			Z00 55 08
	10			Z00 55 10
	12			Z00 55 12
	14			Z00 55 14
	16			Z00 55 16
	18			Z00 55 18
	20			Z00 55 20
	25			Z00 55 25



Pens adaptörler

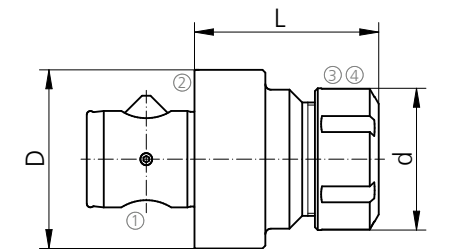
Collet Adaptors

Pens adaptörler

Collet Adaptors

Beta	Order Number	L	D	d	kg	ER/ESX	MCM	Index
40	B60 40 25 065	65	42	42	0,4	25	B40	○
63	B60 63 32 065	65	63	50	1	32	B63	○

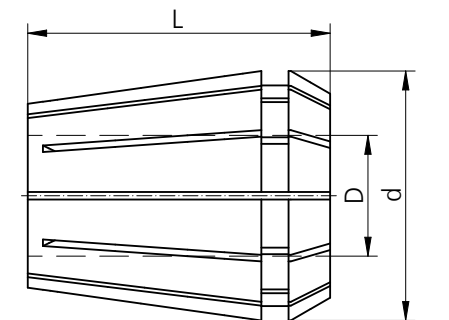
④ **Teslimata dahil değildir**
Not included in the delivery



Pens setleri

Collet Sets

Order Number	L	D	d	ER/ESX	MCM	Index
62 25 00	34	1-15	26	25	ER25	○
62 32 00	40	2,0-20	33	32	ER32	○



Pensler

Single Collets

Order Number	L	D	d	ER/ESX	MCM	Index
62 25 dd ¹⁾	34	1-17	26	25	ER25	○
62 32 dd ¹⁾	40	2,0-20	33	32	ER32	○

¹⁾ **gewünschten Durchmesser angeben**
Indicate required diameter

SPARE PARTS

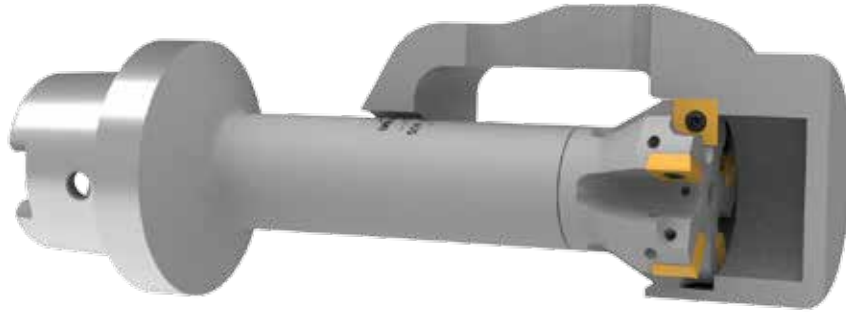
Beta	①	②	③	④
40	Z00 40 21	Z00 40 23	H00 05 05	00 05 05
63	Z00 63 21	Z00 63 23	H00 05 03	00 05 02

URMA Systems

Special Tools

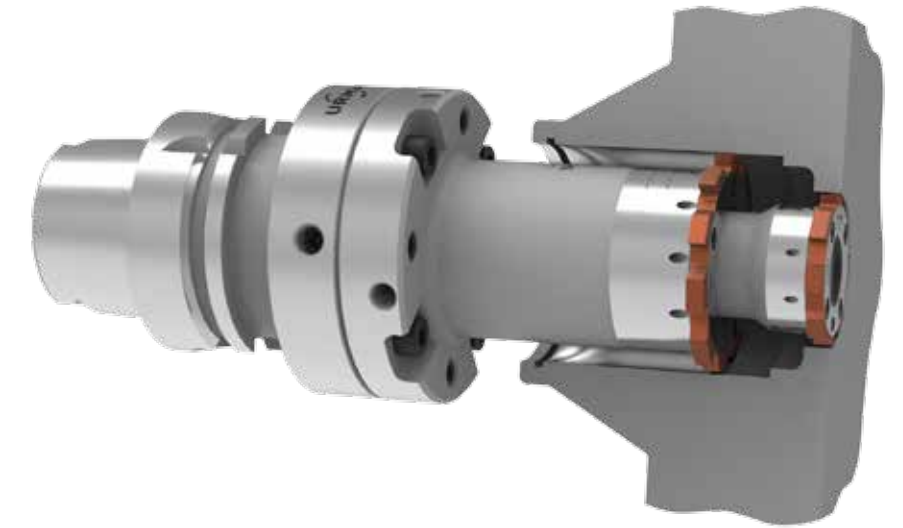
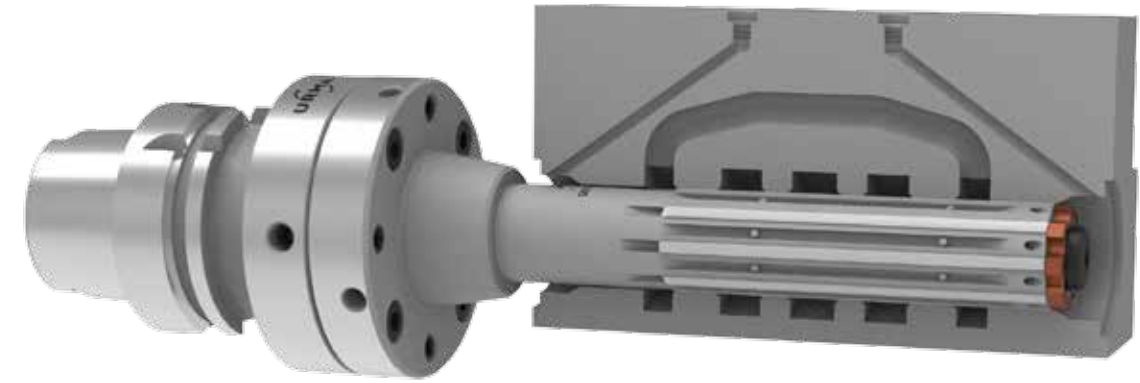
Özel takımlar
Special Tools

İstek üzerine üretilir
Available on Request



Özel takımlar
Special Tools

İstek üzerine üretilir
Available on Request



URMA Systems Machining Study

İşleme Analizi

Machining study

Gönderen * Sender		Number
Firma Company		URMA Distribütörü URMA Distributor
Adres Address		Kontakt Contact
		Bölüm Department
Telefon Telephone	Faks Fax	E-Mail E-Mail
Tezgah Machine-Tool		
Tezgah tipi Machine Type		Güç (kW) Drive Power (kW)
Yatay * Horizontal <input type="checkbox"/>	Dikey * Vertical <input type="checkbox"/>	Döner takım * Tool rotating <input type="checkbox"/>
Fener mili koniği * Spindle Holder		Stabilite Stability
Kısıtlamalar Restrictions Due to		
Kesme Sıvısı Lubricant		
Yağ * Oil <input type="checkbox"/>	MMS * 1) MLS 1) <input type="checkbox"/>	Emülsiyon * Emulsion <input type="checkbox"/>
İçten su verme * Intern. Coolant Supply <input type="checkbox"/>		Karışım oranı Ratio of Mixture
		Sıvı basıncı * Coolant Pressure (Bar)
İş Parçası Workpiece		
Tanımı Designation	Çizim no Drawing Number	Malzeme no * Material Number
Özellikleri * Specification	Isıl işlem * Treatment Condition	Mukavemeti * Strength
Yıllık delik sayısı * Number of Bores per Year	Parti büyüklüğü Batch Size	
İşleme Gereklilikleri Machining Requirements		
Delik Ø * Bore ø	İşleme boyu * Bore Length	Ön delik Ø * Pre-Machined ø
Tolerans * Tolerance	Kontrol boyu Gage Length (xs)	Ön delik metodu * Method of Pre-Machining
Ek tolerans gerekleri Additional Tolerance Requirements	Kapalı delik * Blind Hole <input type="checkbox"/>	Hedef süre Target Time
Yüzey kalitesi (µm) * Surface Quality (µm)	Darbeli işleme * Cutting Interruption <input type="checkbox"/>	Hedef adet Target Quantity
R _a <input type="checkbox"/> R _z <input type="checkbox"/> R _t <input type="checkbox"/>	İşleme süresi Cycle Time <input type="checkbox"/>	Ek: Çizim * Attachement: Your Application Sketch
Tarih * Date	Vize * Visa	

* Gerekli alanlar
Mandatory fields

1) Minimum yağlama sistemi (yağ buharı)
Minimal lubrication system (mist coolant)

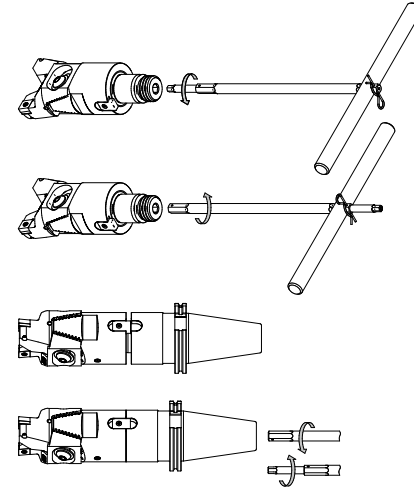
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URMA Systems
Manuals

Alfa-Modül sistem montajı

Assembly of Systems Alpha-Modul

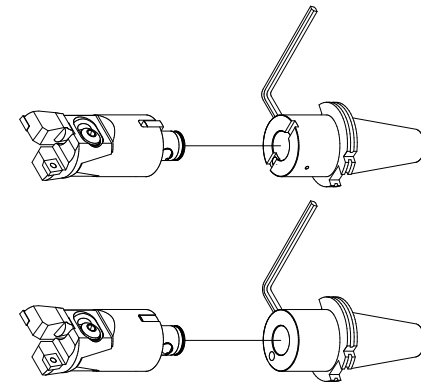
- | | |
|--|--|
| 1. Kilitleme civatasını gevşetin (saatin ters yönünde) | 1. Loosen locking screw with small hexagonal key (turn counter clock wise) |
| 2. Vidalı tapayı sıkın (saat yönünde) | 2. Screw threaded plug with large hexagonal key (clockwise) down to the bottom |
| 3. Kanal ve kama tam hizalanana kadar kaba barayı yerleştirin | 3. Screw double cutter head and adaptor together until the slot and key align |
| 4. Vidalı tapayı saatin ters yönünde çevirin. Kilitleme vidasını saat yönünde sıkın. | 4. Screw threaded plug into the adaptor with the large hexagonal key by turning counter clock wise. Tighten the locking screw with the small hexagonal key by turning clock wise |



Beta-Modül ekipman montajı

Assembly of Beta-Modul Components

- | | |
|---|--|
| 1. Montajdan önce, hareketli civatanın yönünü kontrol ediniz (düz kısım civataya doğru bakmalıdır) | 1. Before assembling, check that the floating bolt has been correctly mounted (indentation must point towards the screw) |
| 2. Eğer standart adaptörler kullanılacaksa, kanallar 180° dönerilmelidir (40 dan sonraki boyutlar için) | 2. If standard adaptors are being used, the keyway must be turned through 180° (valid from system size 40) |



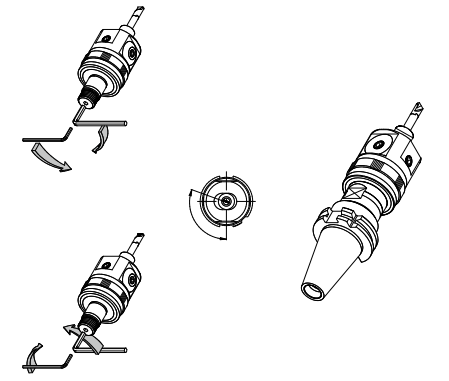
Hassas bara kartuşlarında kesme kenar yön ayarı

Cutting Edge Orientation of Fine Boring Heads

Ø 0.2 - 153 mm

MicroMax, VersaMax - Type 25/A25

- | | |
|---|---|
| 1. Kilit civatasını gevşetin, vidalı tapayı sonuna kadar sıkın | 1. Loosening the locking screw, screw the threaded plug in completely with the spanner |
| 2. Bara yüzeyi ile adaptör yüzeyi tamamen temas edene kadar civatayı sıkın (Alfa) | 2. Screw in the boring head until both faces boring head and adaptor are in contact - define the correction angle (Alpha) |
| 3. Vidalı tapayı 1,5 tur kadar gevşetin (Alfa). Kilit civatasını yeniden sıkın. | 3. Unscrew the threaded plug with the spanner by about 1,5 times the correction angle (Alpha). Re-tighten the locking screw |
| 4. Kesme kenar yön ayarı adaptörün duruş şekline göre yapılmıştır | 4. The cutting edge is now orientated on the stop-position of the adaptor |



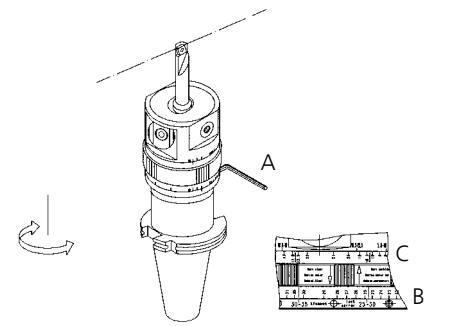
Hassas baranın balansının alınması

Balancing the Fine Boring Head

Ø 0.2 - 40 mm

MicroMax

- | | |
|--|---|
| 1. A ile gösterilen kilit civatasını gevşetin | 1. Loosen the locking screw A on the balance ring |
| 2. İki halkayı uygun çapa döndürün. B halkası çelik kartuşlar, C halkası karbür kartuşlar içindir. | 2. Align the two scales to set the bore diameter. Scale B corresponds with steel boring bars, scale C with carbide boring bars. |
| 3. Kilit civatasını sıkın | 3. Re-tighten the locking screw |
| 4. Hassas baranın bu şekilde kendiliğinden istenilen çap için balansı alınmış olacaktır | 4. The boring head is now automatically balanced for the required boring diameter |



Hassas baranın balansının alınması

Balancing the Fine Boring Head

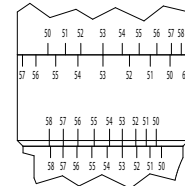
VersaMax - Type A25

Örnek Ø53 mm

A25 için balans alma, istenilen çap değerinin eşleştirilmesi ve kilit civatasının sıkılması ile yapılır

Example ø 53 mm

To balance the A25, simply position the graduated rings to the required diameter value and lock



Ø 20 - 67 mm

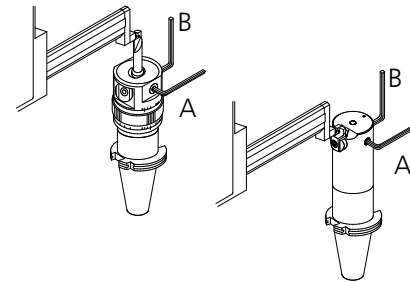
Hassas baraların ön ayarı

Pre-Setting Fine Boring Heads

MicroMax, VersaMax - Type 25/A25

1. A civatasını gevşetin
2. B civatası ile çapı ayarlayın
3. Kilit civatasını yeniden sıkın

1. Loosen locking screw A
2. Set the boring diameter at the micrometer screw B
3. Re-tighten the locking screw



Ø 0.2 - 153 mm

IntraMax sistem montajı

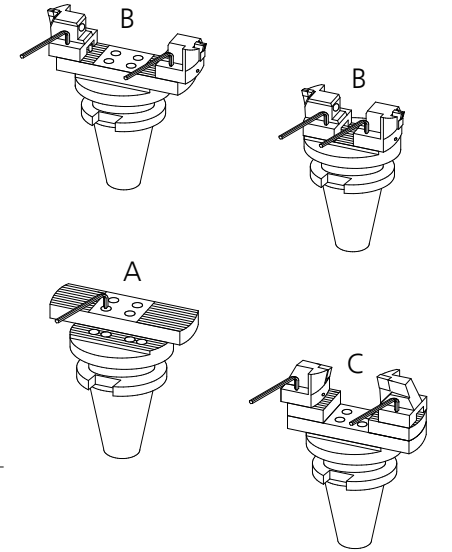
Assembly of System IntraMax

IntraMax

1. Durchmesserkonsole (falls nötig) mit vier Schrauben A auf Aufnahme oder Zwischenkonsole montieren
2. Schrupp- oder Schlichtplattenhalter mit je zwei Schrauben B montieren (im Normalfall werden zwei Köpfe gleichzeitig eingesetzt)
3. Über grobskalieren an Kopf und Konsole Plattenhalter ausrichten
4. Für die Aussenbearbeitung muss die Zwischenplatte montiert werden
5. Danach die Schrupp- oder Schlichtplattenhalter mit je zwei Schrauben C montieren

1. (gerekli ise) 4 civata ile çap adaptörünü ya da ara adaptörü A ile gösterilen şekilde bağlayınız
2. Kaba ya da hassas kartuşları B ile gösterilen şekilde iki civata ile bağlayınız
3. Kafa üzerindeki kaba ayar çizgileriyle kartuşları kabaca ayarlayınız
4. Dış çap işleme için kartuşlar C de gösterilen şekilde takılmalıdır
5. C de gösterilen şekilde kaba ya da hassas uçları kartuşlara takınız

Ø 49 - 297 mm

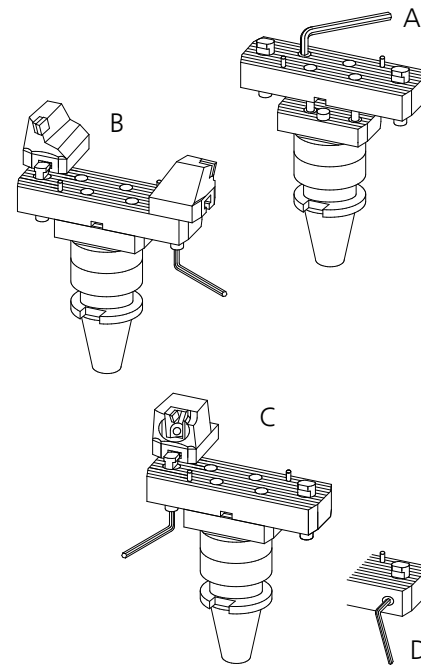


Sistem montajı

Assembly of System

MegaMax

1. A da gösterilen şekilde çap büyütücü dört cıvata ile bağlanır
 2. B de gösterilen şekilde kartuşlar önce dikey yerleştirilir sonra döndürülür. Ø150-250 mm arası çap büyütücüler için sıkma cıvataları C de gösterildiği şekilde tamamen çıkartılır, kartuşlar takıldıktan sonra yerine takılır (D de gösterilen şekilde sıkıştırma cıvatası koniktir)
 3. Kaba ayar çizgileri kullanılarak kartuşlar ayarlanır
1. The diameter extender is fastened to the intermediate adaptor with four bolts A
 2. Roughing insert holders and fine boring heads are slid laterally across the line of the serration and then rotated B. With diameter extenders Ø 150-250 mm it is also necessary to fully unscrew the clamping screws C and refit them after mounting the heads (note taper bore on clamping bolt D).
 3. Align the insert holders using the coarse graduations on the head and the adaptor



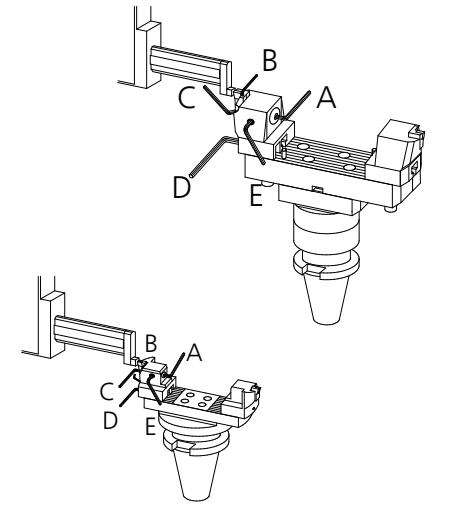
Ø 150 - 805 mm

Sistemin ön ayarı

Pre-Setting the System

IntraMax, MegaMax, SuperMegaMax

1. A da ya da D de gösterilen şekilde işleme çapı ayarlanır
 2. E de gösterilen şekilde sistem kilitle-nir
 3. Eğer iki hassas kartuş aynı anda kullanılacaksa, C vidası gevşetilir ve B vidasıyla ayar yapıldıktan sonra yeniden sıkılır
1. Set the boring diameter to the pre-set position using setting dial A or adjusting screw D respectively
 2. Tighten the setting dial locking device E
 3. If two fine boring heads are to be used simultaneously, loosen the fine boring insert using key C, set the blade with key B, and reclamp with the key C



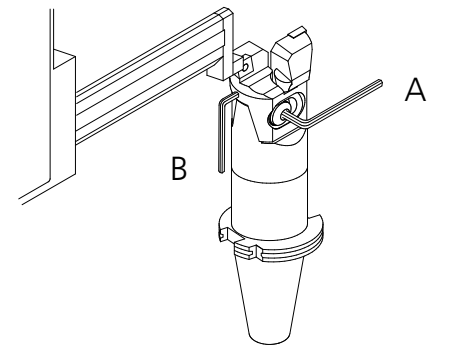
Ø 49 - 2'400 mm

Kaba baralar için ön ayar

Setting the Bore Diameter on a Double Cutter

VersaMax - Type 14

1. A cıvatasını hafifçe sıkın (yaylı pulun olmasına dikkat edin)
 2. B cıvatası ile çapı ayarlayın
 3. Yavaşça A cıvatasını sıkın
1. Gently tighten clamping screws A (spring washer must be fitted)
 2. Set the cutter to the exact diameter with the adjusting screw B
 3. Firmly tighten clamping screw A

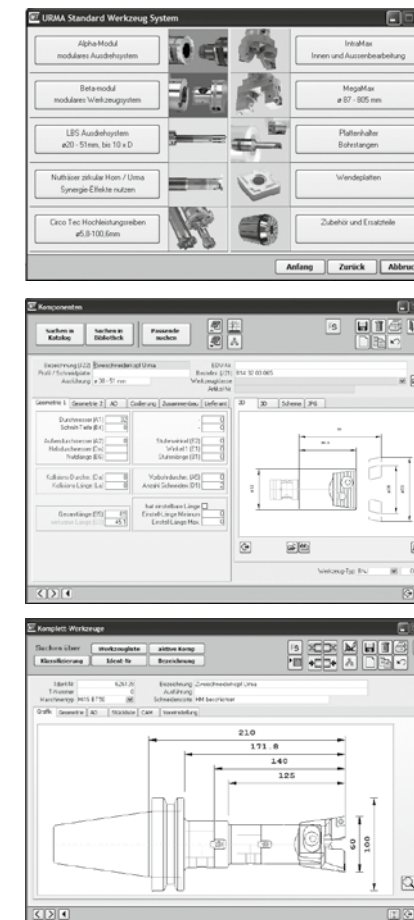


Ø 19.5 - 153 mm

URMA Systems
WinTool

WinTool

URMA katalog ile takım yönetimi E-Tool Management with URMA Catalogue



Tool Sheet URMA		URMA																									
600035	Double Cutter URMA	Machine Typ	- no attachment -																								
		<table border="1"> <tr><td>Diameter</td><td>60</td></tr> <tr><td>Cutting length</td><td>0</td></tr> <tr><td>Radius</td><td>0</td></tr> <tr><td>Main Arc</td><td>0</td></tr> <tr><td>Length</td><td>210</td></tr> <tr><td>Width</td><td>0</td></tr> <tr><td>Collision Lgt. (L)</td><td>145.6</td></tr> <tr><td>Collision Dia.</td><td>100</td></tr> <tr><td>Cutting Width</td><td>0</td></tr> <tr><td>Side Angle</td><td>0</td></tr> <tr><td>Weight</td><td>5.4</td></tr> <tr><td>Price</td><td>0</td></tr> </table>		Diameter	60	Cutting length	0	Radius	0	Main Arc	0	Length	210	Width	0	Collision Lgt. (L)	145.6	Collision Dia.	100	Cutting Width	0	Side Angle	0	Weight	5.4	Price	0
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Product Code / Sort	Description / Item No.																										
1 BT10 50A 50 070 ø 50x70 mm Beta-modul	Adaptor URMA BT -A																										
1 B12 50 40 050 ø 50/40x50 mm Beta-modul	Reduction URMA																										
1 B14 40 00 090 ø 50 - 67 mm	Double Cutter URMA																										
2 W16 08 09 CC., 09T3., ø 50 - 67 mm	Double Cutter Insert Holder 90																										
Cold work tool steel low alloyed up to 1000 N/mm ²		ap	ae																								
		3	30																								
		D	60																								
		z	2																								
		Vc	220																								
		fz	0.2																								
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		F	466.8																								
		P	0																								
		T (min)	0																								

Standart takım yönetim sistemi ile URMA ekipmanları ve takım montajına erişebilirsiniz.

Son sürüm katalog ve WinTool yazılımına, farklı dil seçenekleri ile aşağıdaki adresten ulaşabilirsiniz:
www.wintool.com

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