

MACROBOHR

Lightweight tools line for large diameter boring

- FOR HEAVY ROUGHING AND PRECISION FINISHING
- HIGH STRENGTH ALUMINIUM PLATES
- MODULAR BORING SYSTEM

from $\varnothing$ 220 mm up to 1020 mm





PRECISION FINISHING

- Using one cartridge available among several standard insert geometries.
- High precision adjustment through a graduated dial featuring a read out with accuracy of 0.002 mm in diameter.

HEAVY ROUGHING

- Using two cartridges available among several standard insert geometries.
- The unit is adjusted through both the boring head adjusting screw and the own's cartridge adjusting screw.
- Safety lock provided by the boring head's locking screw as well as the locking nut.
- 75° or 90° cutting angle choice.

MODULAR BORING SYSTEM

- 8 aluminium plates allow a wide boring range from Ø 220 mm up to 1020 mm.
- Arbors, boring heads and counterweight are fully interchangeable on all aluminium plates.
- Each aluminium plate features a large boring range of 100 mm allowing finish, rough and reverse boring as well as outside diameter turning.
- Wide variety of arbors in order to meet each user's needs.

LIGHTWEIGHT TOOLS LINE

- High strength aluminium plates reduce the weight of the tool.

SECURE ASSEMBLY

- All boring heads feature a pre-load device keeping the displacement perpendicularity with the rotation axis.
- Boring heads and counterweight are fixed to the aluminium plates by tapered screws providing high axial pressure. This allows making stable borings with the highest rigidity and avoiding vibrations.

EASY ADJUSTMENT

- Boring heads and counterweight do have two radial positions on the aluminium plates to maximize the boring range.

BEST RELIABILITY

- Hard coated aluminium and Nickel-Chrome alloy steel to ensure the accuracy and repeatability of all components.

Table of contents



Finish boring overview	4
------------------------------	---



Outside diameter finish turning overview	5
--	---



Reverse finish boring overview	6
--------------------------------------	---

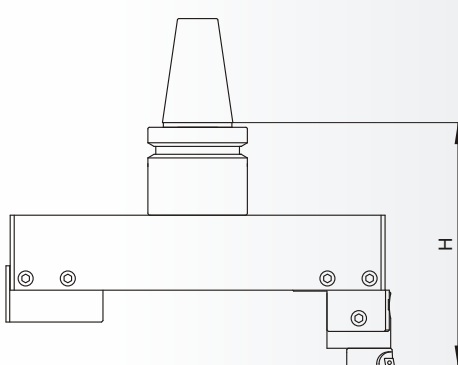
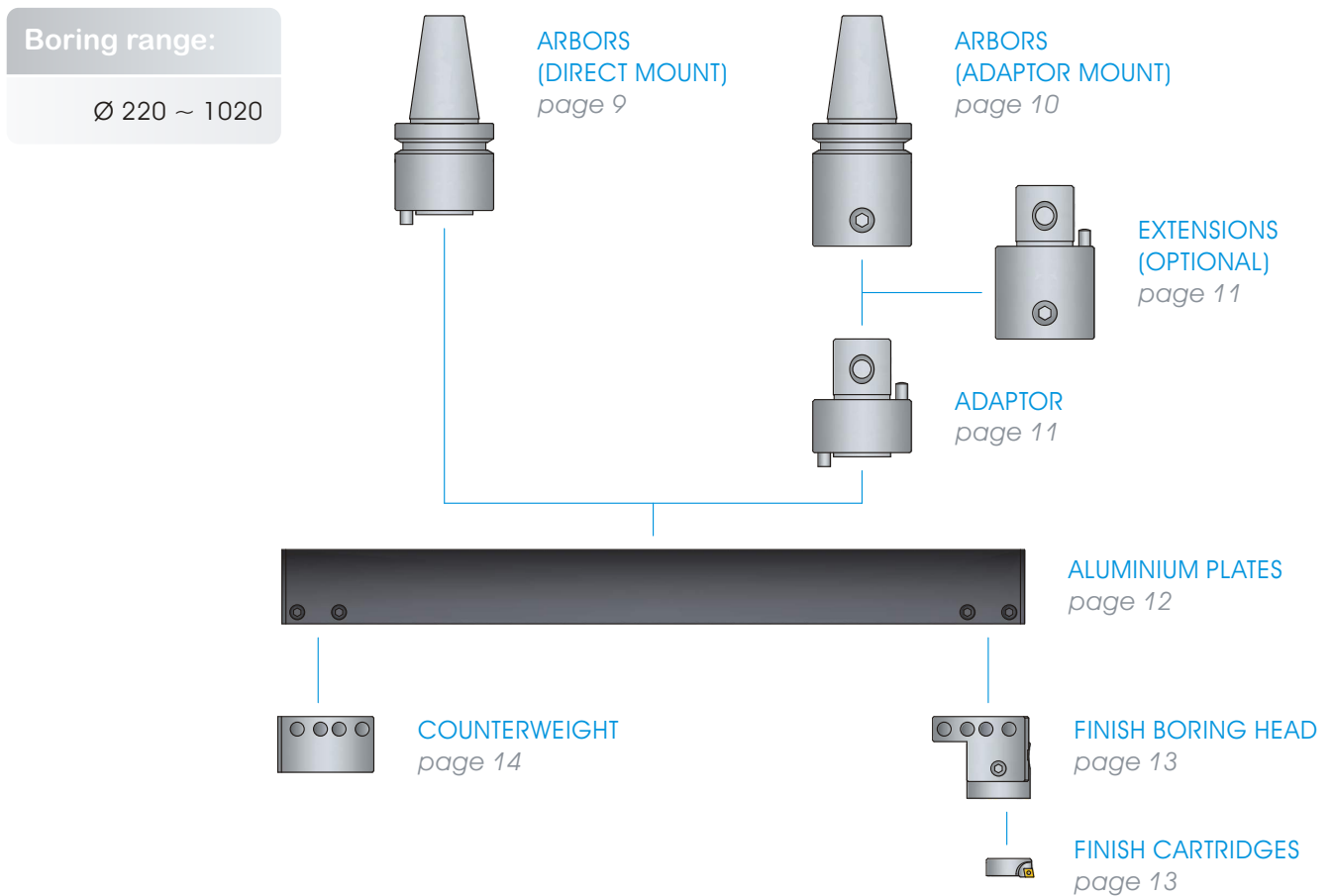


Rough boring overview	7
-----------------------------	---



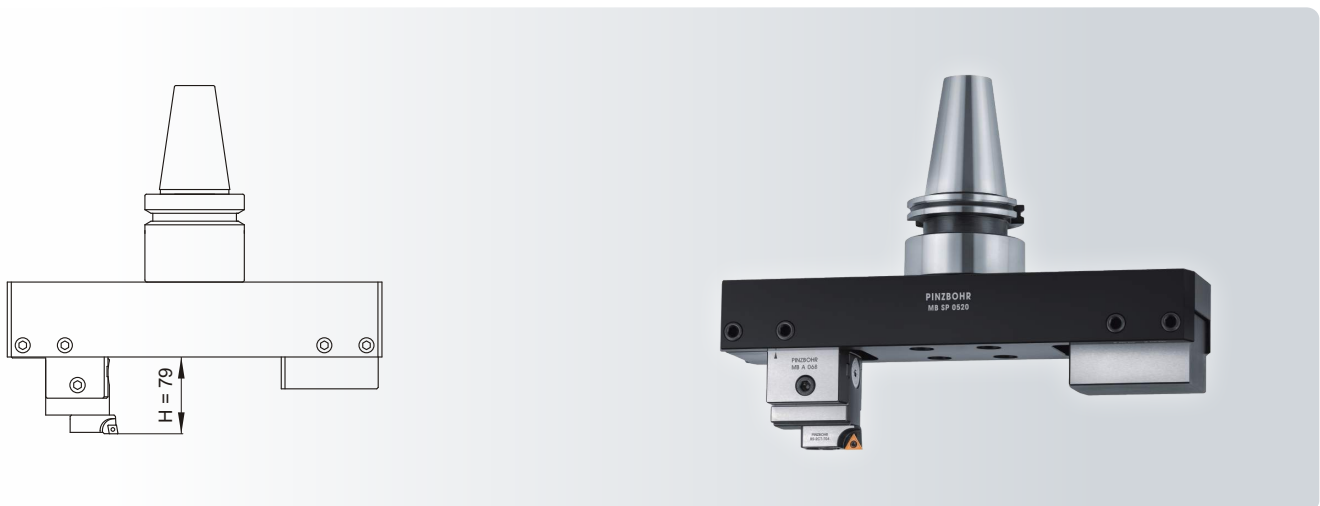
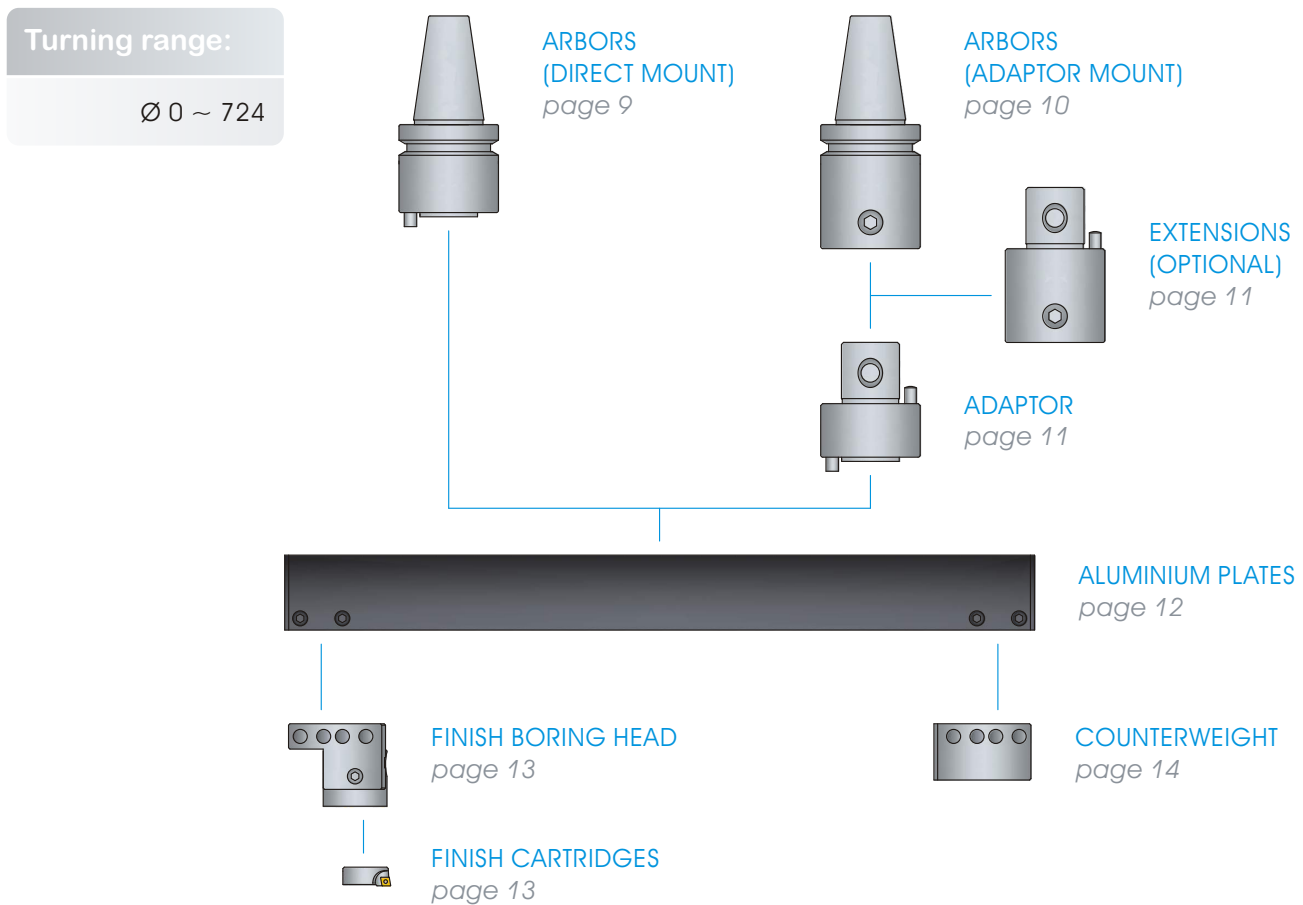
Outside diameter rough turning overview	8
---	---

Finish boring overview



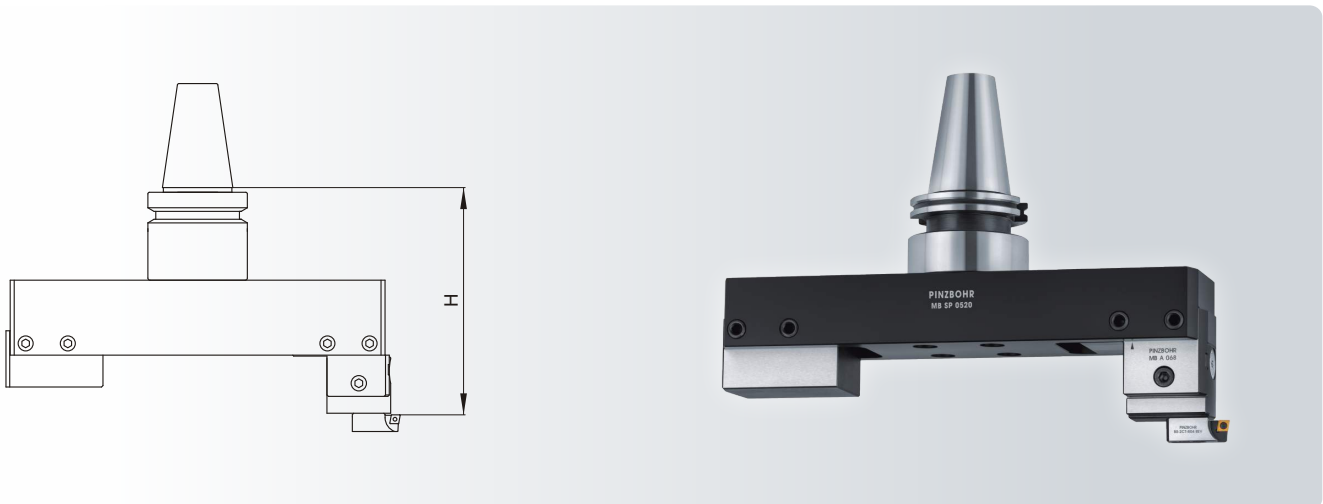
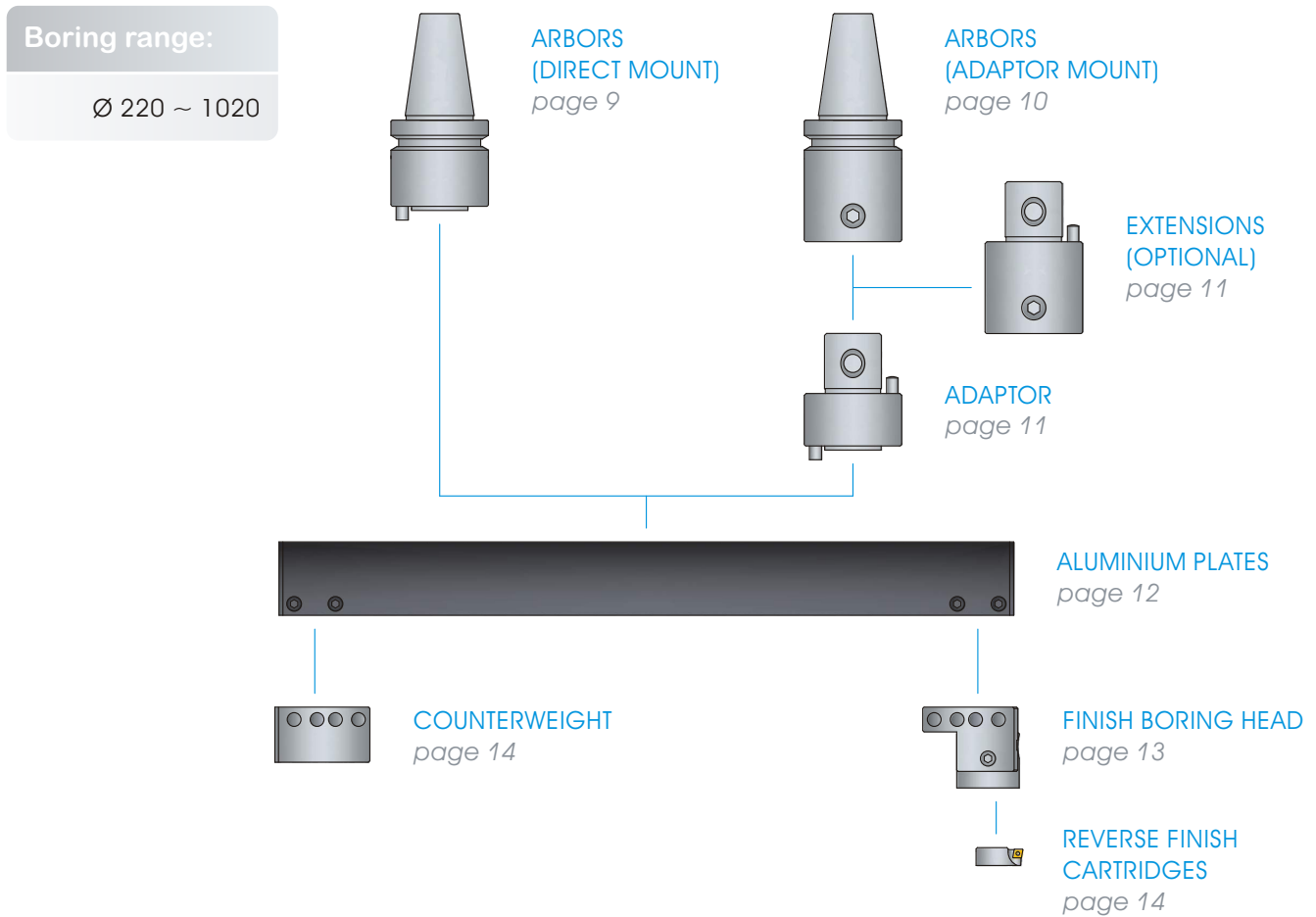
➤ The total boring depth of the application is calculated by adding the "H" value of each item assembled.

Outside diameter finish turning overview



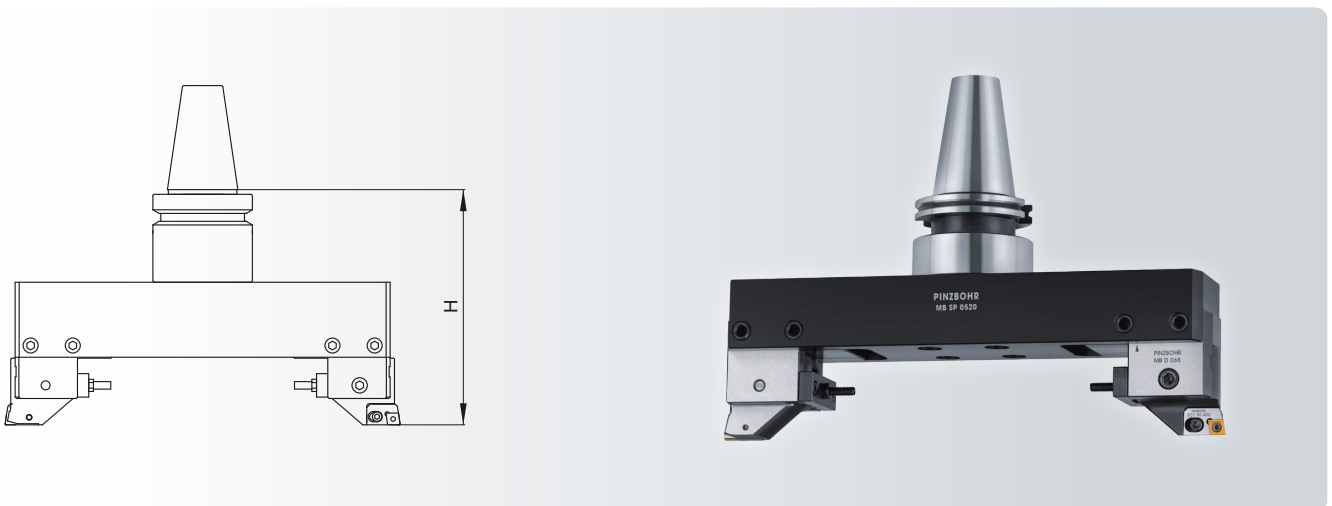
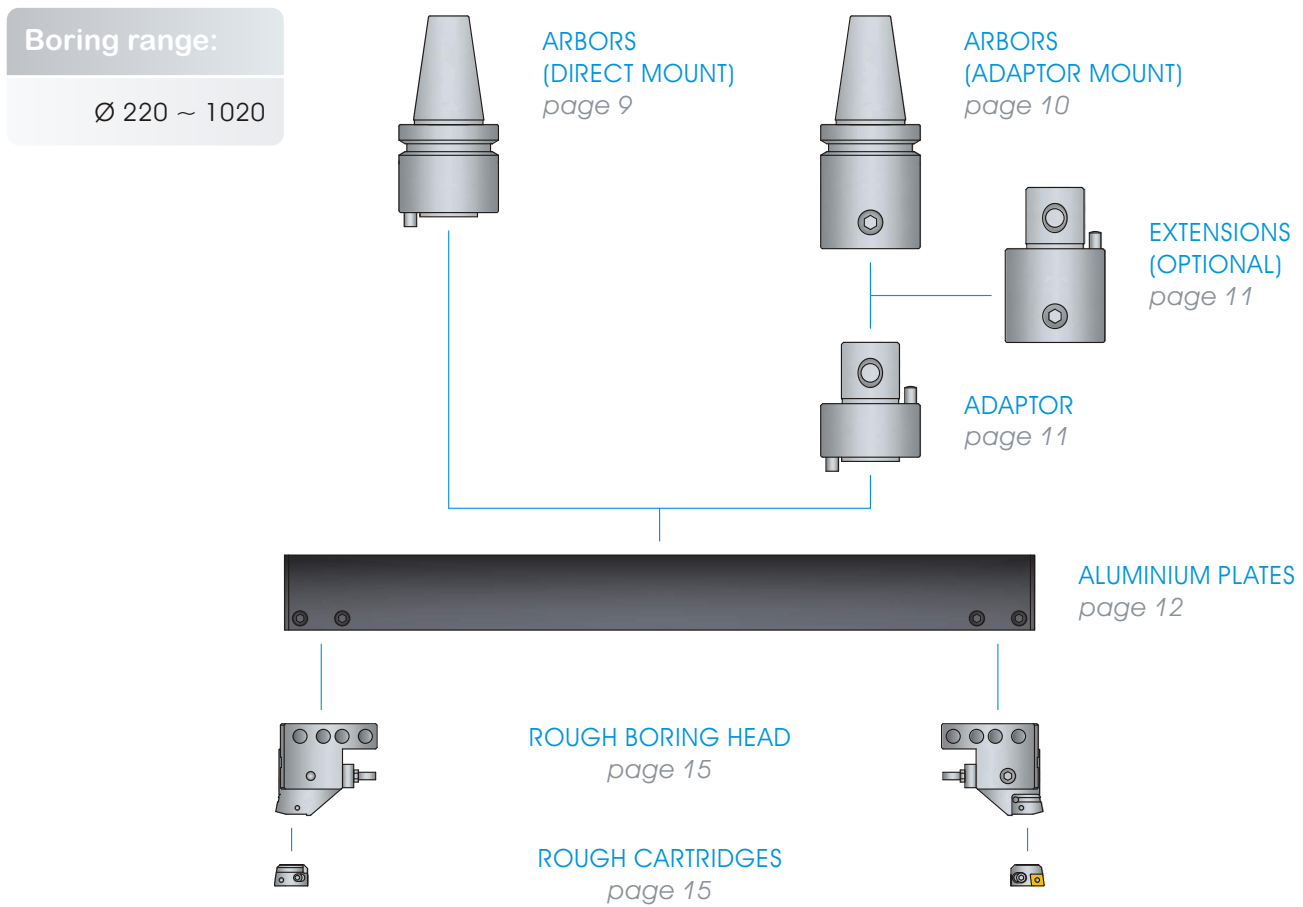
- Outside diameter finish turning is performed by reversing the position of the finish boring head and counterweight as shown above.
- Outside diameter finish turning depth up to 79 mm maximum.
- Machine must allow left-hand turning.

Reverse finish boring overview



- The total boring depth of the application is calculated by adding the "H" value of each item assembled.
- Reverse boring requires entering through a previous hole with the tool stopped and off-center from the axis of the boring hole.

Rough boring overview

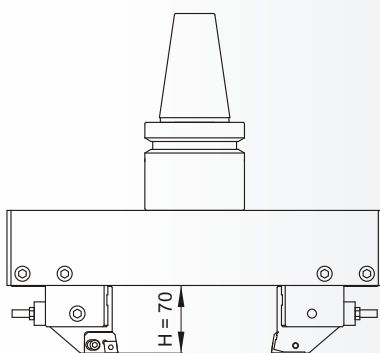
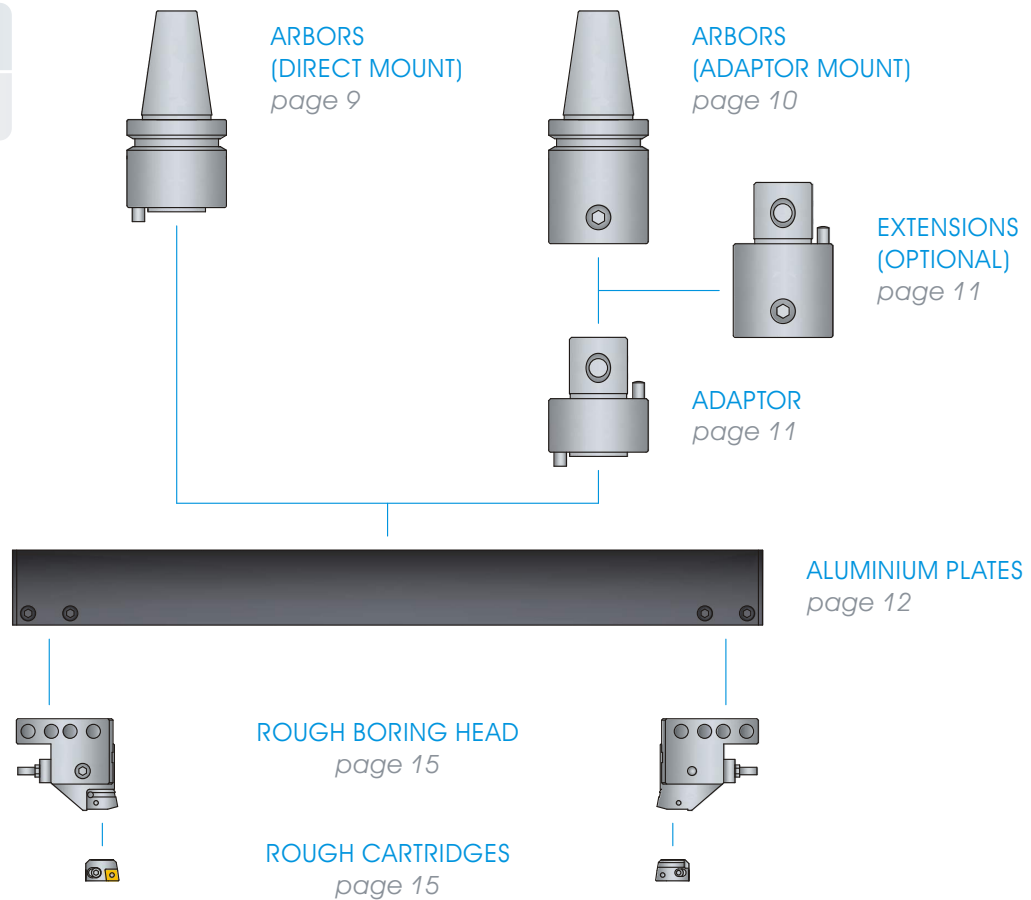


➤ The total boring depth of the application is calculated by adding the "H" value of each item assembled.

Outside diameter rough turning overview

Turning range:

Ø 0 ~ 724



- Outside diameter rough turning is performed by reversing the position of the rough boring heads as shown above.
- Outside diameter rough turning depth up to 70 mm maximum.
- Machine must allow left-hand turning.

Arbors

Direct mount

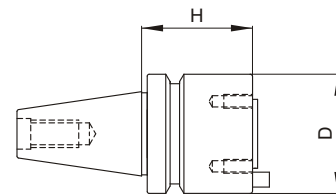


➔ **Direct mount** arbor configuration.



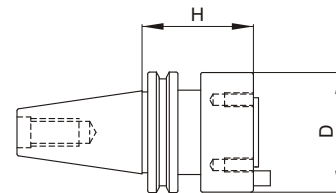
MAS BT 403 (BT)

	Dimension		Product Number	Kg.
	øD	H		
ISO 40	100	70	BT 540 160	3.710
ISO 50	100	70	BT 550 160	6.010



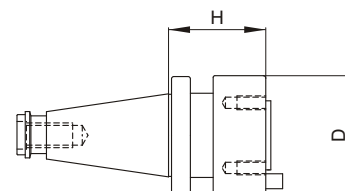
DIN 69871 (AS)

	Dimension		Product Number	Kg.
	øD	H		
ISO 40	100	70	AS 540 160	3.670
ISO 50	100	70	AS 550 160	5.650



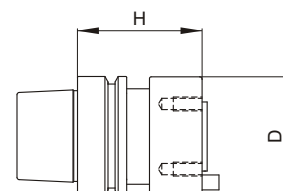
DIN 2080 (OTT)

	Dimension		Product Number	Kg.
	øD	H		
ISO 40	100	70	OTT 540 160	3.450
ISO 50	100	70	OTT 550 160	5.910



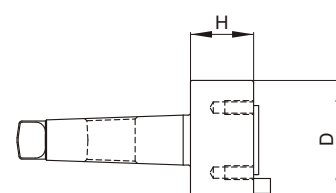
DIN 69873 (HSK)

	Dimension		Product Number	Kg.
	øD	H		
100A	100	80	HSK 550 160	5.240



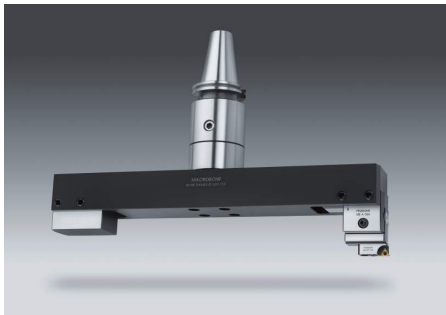
DIN 1806

	Dimension		Product Number	Kg.
	øD	H		
MORSE 5	100	56	505 160	4.700



Arbors

Adaptor mount

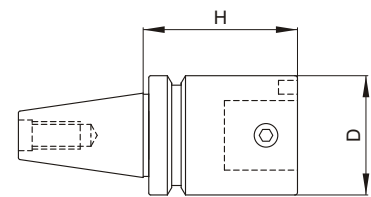


➤ **Adaptor mount** arbor configuration is used when extended boring depths are required.



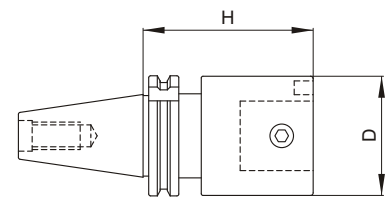
MAS BT 403 (BT)

	Dimension		Product Number	Kg.	Coupling Screw	Qty.
	øD	H				
ISO 40	100	120	BT 340 100 200	4.910	TC 100	2
ISO 50	100	95	BT 350 100 170	5.780	TC 100	2
	100	202	BT 350 100 260	12.460	TC 100	2
	100	262	BT 350 100 320	16.080	TC 100	2



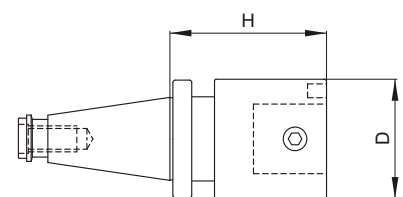
DIN 69871 (AS)

	Dimension		Product Number	Kg.	Coupling Screw	Qty.
	øD	H				
ISO 40	100	124	AS 340 100 200	5.160	TC 100	2
ISO 50	100	114	AS 350 100 190	6.600	TC 100	2
	100	184	AS 350 100 260	11.000	TC 100	2
	100	244	AS 350 100 320	14.660	TC 100	2



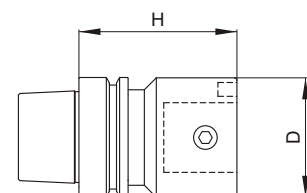
DIN 2080 (OTT)

	Dimension		Product Number	Kg.	Coupling Screw	Qty.
	øD	H				
ISO 40	100	111	OTT 340 100 200	5.010	TC 100	2
ISO 50	100	93	OTT 350 100 170	5.680	TC 100	2
	100	181	OTT 350 100 260	11.250	TC 100	2
	100	241	OTT 350 100 320	15.100	TC 100	2



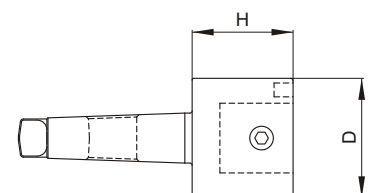
DIN 69873 (HSK)

	Dimension		Product Number	Kg.	Coupling Screw	Qty.
	øD	H				
100A	100	114	HSK 100A 100 185	5.670	TC 100	2



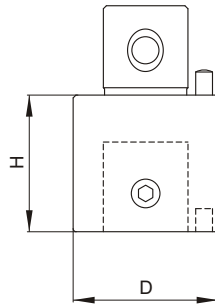
DIN 1806

	Dimension		Product Number	Kg.	Coupling Screw	Qty.
	øD	H				
MORSE 5	100	176	305 100 260	8.440	TC 100	2
	100	236	305 100 320	11.430	TC 100	2



Extensions (Optional)

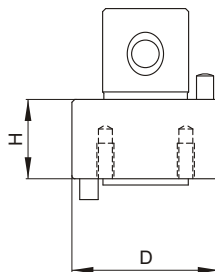
Adaptor mount



Dimension		Product Number	Kg.	Coupling Screw	Qty.
øD	H				
100	80	P 100 080	4.580	TC 100	2
100	120	P 100 120	7.060	TC 100	2

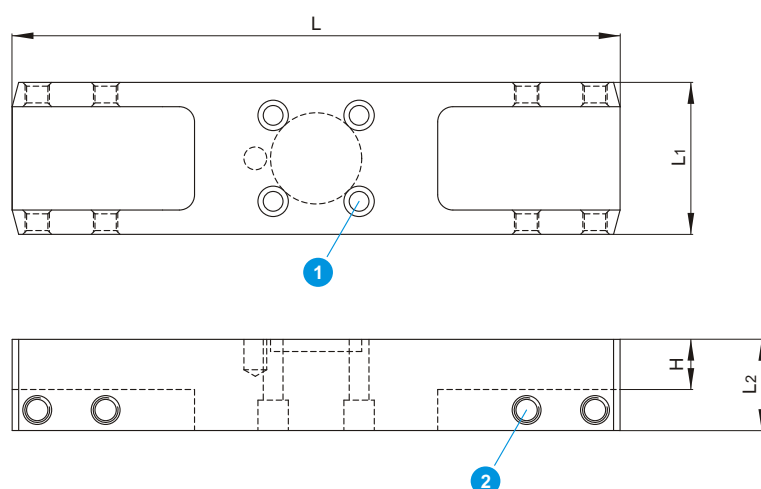
Adaptor

Adaptor mount



Dimension		Product Number	Kg.
øD	H		
100	50	ADT 100 050	4.360

Aluminium plates

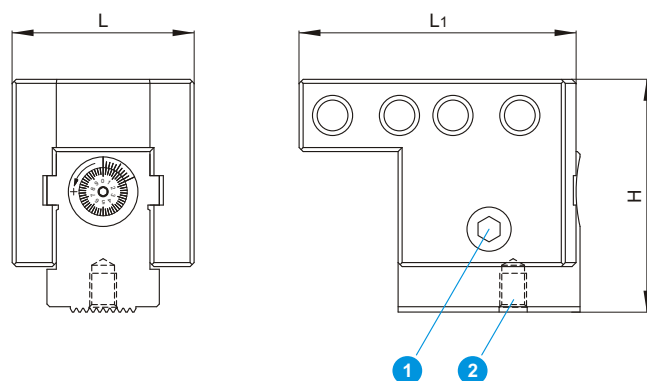


Inside Diameter		Outside Diameter										1		2	
Boring Range		Turning Range		Dimension				Product Number	Kg.	Coupling Screw	Qty.	Fixing Screw	Qty.		
Min	Max	Min	Max	*H	L	L ₁	L ₂								
220	320	0	24	31	200	100	58	MB SP 0320	2.160	TF 100	4	TC 068	8		
320	420	24	124	31	300	100	58	MB SP 0420	3.270	TF 100	4	TC 068	8		
420	520	124	224	31	400	100	58	MB SP 0520	5.200	TF 101	4	TC 068	8		
520	620	224	324	41	500	100	68	MB SP 0620	8.200	TF 102	4	TC 068	8		
620	720	324	424	41	600	100	68	MB SP 0720	10.100	TF 102	4	TC 068	8		
720	820	424	524	41	700	100	68	MB SP 0820	11.900	TF 102	4	TC 068	8		
820	920	524	624	51	800	100	78	MB SP 0920	16.000	TF 103	4	TC 068	8		
920	1020	624	724	51	900	100	78	MB SP 1020	18.100	TF 103	4	TC 068	8		

* "H" shall be applied to obtain the total boring depth only in case of Inside Diameter boring.

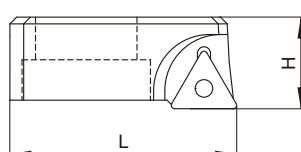
Finish boring head

Adjusting accuracy 0.002 mm Ø



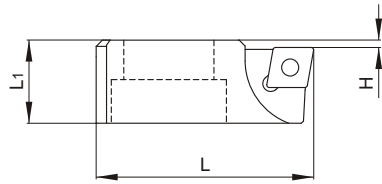
Dimension			Product Number	Kg.	Adjusting Key	1		2	
H	L	L1				Locking Screw	Locking Key	Cartridge Screw	Cartridge Key
87	68	103.5	MB A 068	3.070	HK 050	D 068 21	HK 080	CS 10 25	HK 080

Finish cartridges



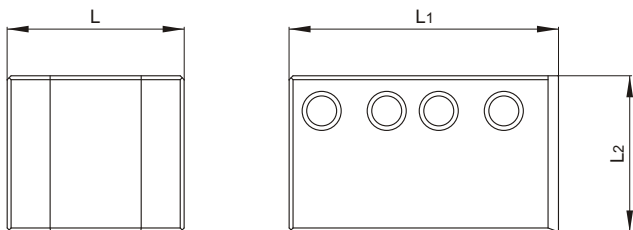
Dimension		Product Number	Insert	Kg.	Torx Screw	Torx Key
H	L					
20	51	BS 2CT R04	CC□□ 09T3□□	0.100	TT 409	TK 15
20	51	BS 2CT T03	TP□□ 1102□□	0.100	TT 400	TK 08
20	51	BS 2CT T04	TC□□ 16T3□□	0.100	TT 409	TK 15

Reverse finish cartridges



Dimension			Product Number	Insert	Kg.	Torx Screw	Torx Key
H	L	L1					
1	51	20	BS 2CT R04 REV	CC□□ 09T3□□	0.100	TT 409	TK 15
1	51	20	BS 2CT T04 REV	TC□□ 16T3□□	0.100	TT 409	TK 15

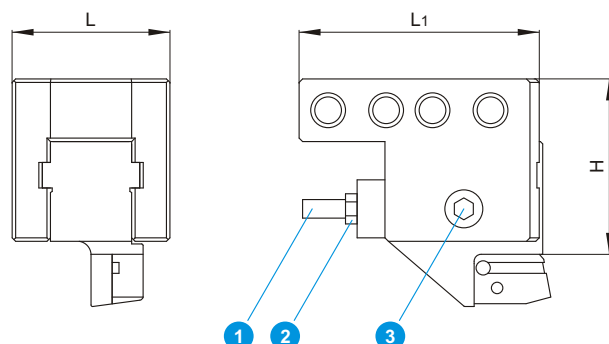
Counterweight



Dimension			Product Number	Kg.
L	L1	L2		
68	103.5	60	MB CW	3.170

Rough boring head

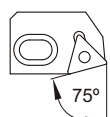
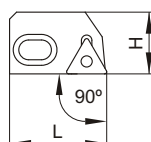
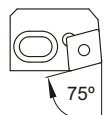
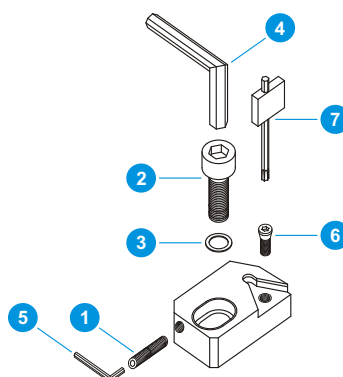
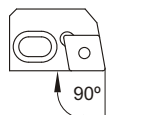
- Rough boring head moves forward through its adjusting screw.
- Safety lock provided by the boring head's locking screw as well as the locking nut.
- Two units of boring head *MB D 068* are needed for any roughing application.



Dimension			Product Number	Kg.	1		2	3	
H	L	L1			Adjusting Screw	Adjusting Key	Locking Nut	Locking Screw	Locking Key
75.5	68	103.5	MB D 068	3.030	MB D 068 29	HK 040	MB D 068 58	D 068 21	HK 080

Rough cartridges

- Rough cartridges also have their own adjusting screw: 1

TYPE 75 300

TYPE 90 300

TYPE 75 402

TYPE 90 402


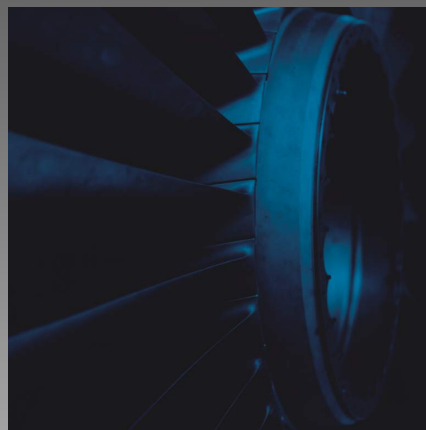
Dimension		Product Number	Insert	Kg.	1	2	3	4	5	6	7
H	L										
22.5	35	2CT 75 300	TC□□ 16T3□□	0.050	D 068 29	A 068 26	D 068 28	HK 050	HK 020	TT 409	TK 15
22.5	35	2CT 75 311	TP□□ 1103□□	0.050	D 068 29	A 068 26	D 068 28	HK 050	HK 020	TT 401	TK 10
22.5	35	2CT 75 402	CC□□ 1204□□	0.050	D 068 29	A 068 26	D 068 28	HK 050	HK 020	TT 116	TK 20
22.5	35	2CT 75 402 N	CN□□ 1204□□ R	0.070	D 068 29	A 068 26	D 068 28	HK 050	HK 020	TT 402 N	HK 025
22.5	35	2CT 90 300	TC□□ 16T3□□	0.050	D 068 29	A 068 26	D 068 28	HK 050	HK 020	TT 409	TK 15
22.5	35	2CT 90 311	TP□□ 1103□□	0.050	D 068 29	A 068 26	D 068 28	HK 050	HK 020	TT 401	TK 10
22.5	35	2CT 90 402	CC□□ 1204□□	0.050	D 068 29	A 068 26	D 068 28	HK 050	HK 020	TT 116	TK 20
22.5	35	2CT 90 402 N	CN□□ 1204□□ L	0.070	D 068 29	A 068 26	D 068 28	HK 050	HK 020	TT 402 N	HK 025

MACROBOHR

www.pinzbohr.com



Lightweight tools line for large diameter boring



Distributed by: