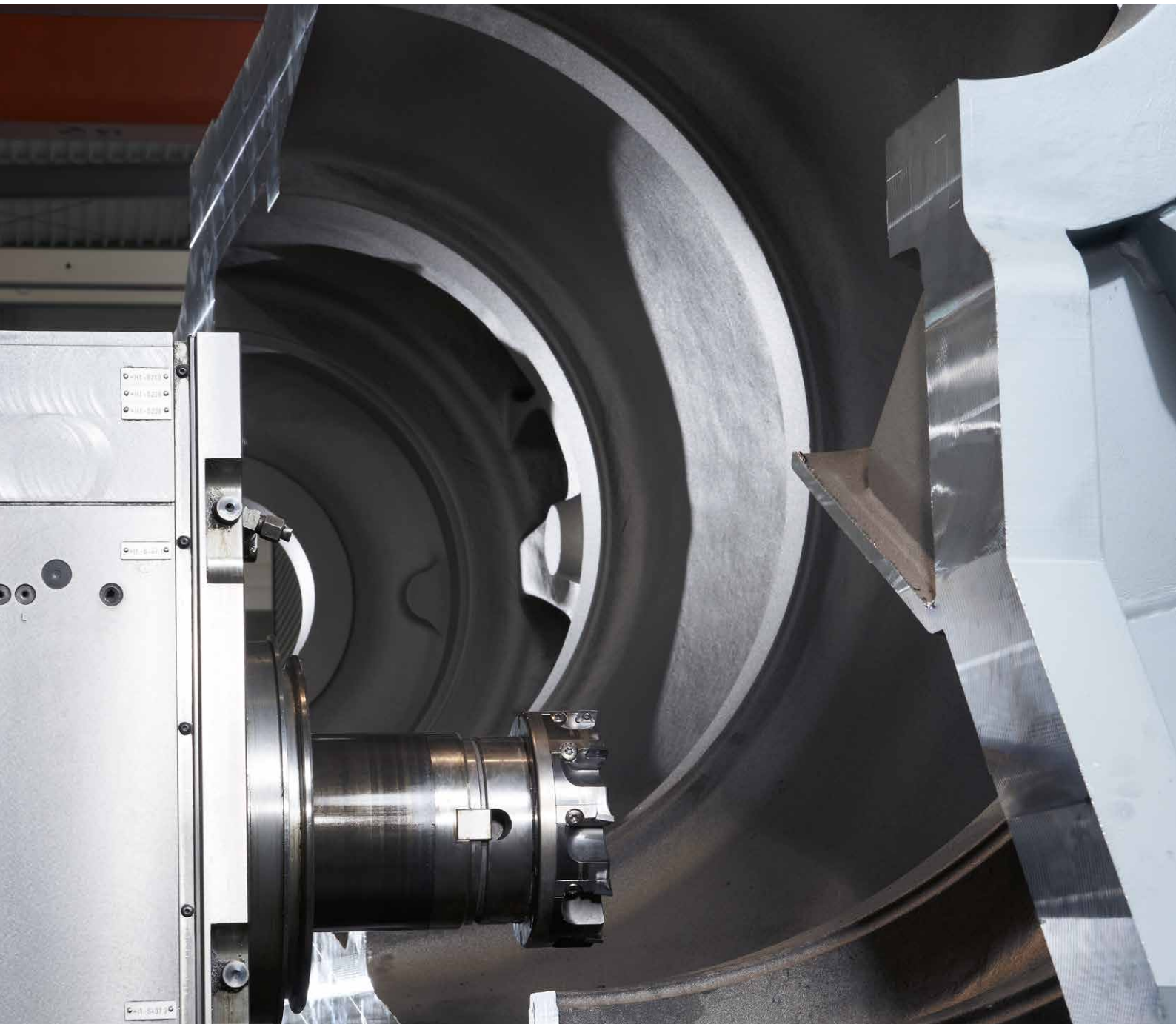


Scope of supply



Powerful precision



P-SERIES
K-SERIES
T-SERIES
MILLFORCE-SERIES

02		Company
03		Values
04		Scope of supply
16		Options and equipment
19		Special machines



UnionChemnitz – Innovation based on tradition

As Europe's oldest machine tool manufacturer, UnionChemnitz has been committed to precision, performance and efficiency for more than 160 years. Customers all over the world rely on the pioneering know-how of UnionChemnitz to solve the most challenging machining tasks by using the company's machine tools.

The traveling column mills of the MILLFORCE-Series or the horizontal boring and milling machines in floor, planer or table type – machine tools “made in Chemnitz” can be used for any application due to their rigid modular design. They provide for efficient and highly precise machining of large workpieces with up to 40 m length, 10 m height and a weight of more than 250 t.



Your partner for precise heavy-duty cutting

Wind energy, subcontracting, motor manufacturers or general engineering – each industry's demands on the horizontal boring and milling machines by UnionChemnitz are high. Therefore, our 180 employees work on optimizing and further developing our products every day.

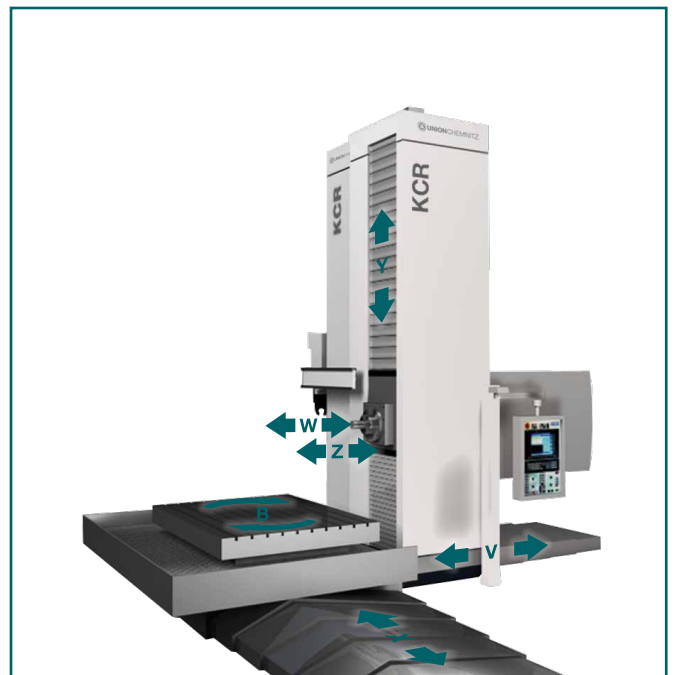
The name UnionChemnitz is a synonym for excellent service all over the world. A worldwide network of HerkulesGroup sales and service representatives ensures that competent contact persons react promptly to all requests and questions. A wide range of after-sales services guarantees the availability of every machine for many decades – for example training the operating, programming and maintenance personnel, machine repairs or complete modernizations.

Customized solutions – the UnionChemnitz product range

T-Series – Table type horizontal boring mills
available as compact boring mill TM 125



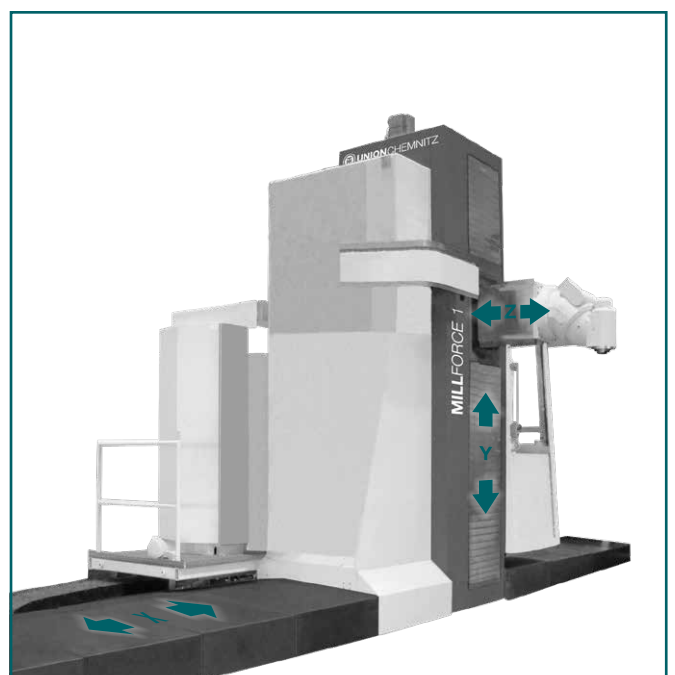
K-Series – Planer type horizontal boring mills
with or without ram



P-/PR-Series – Floor type horizontal boring mills
with or without ram



MILLFORCE-Series – Traveling column mills

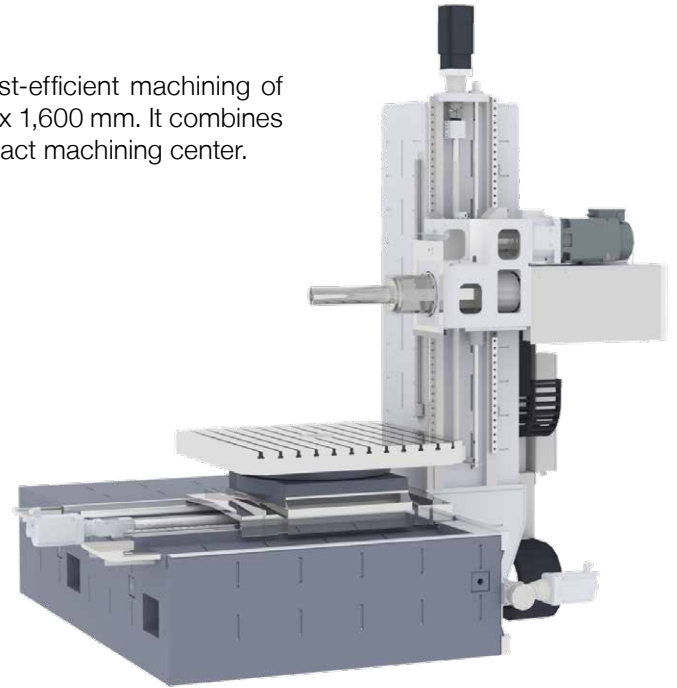


TM 125 – foundation-free compact boring mill with Monolith™ bed

Foundation-free compact boring mill for the effective and cost-efficient machining of workpieces up to 10 t with a set-up area of up to 2,500 x 2,000 x 1,600 mm. It combines the advantages of a table type boring mill with those of a compact machining center.

Classification

Table type	T
with Monolith™ bed	M
Boring spindle diameter	125



Technical data

TM 125

Boring spindle

Diameter	mm	125
Drive power, max.	kW	34
Torque, max.	Nm	1,660
Speed range, continuous	min ⁻¹	5 – 6,000

Clamping table

Table size	mm	1,600 × 1,600
Table load, max.	kg	10,000

Traverses

	Axes		
Column (cross)	X	mm	2,000
Headstock (vertical)	Y	mm	1,600
Table (lengthwise)	Z	mm	1,000
Boring spindle (axial)	W	mm	600

Feeds / Rapid traverses

Feed range of all axes	mm/min	1 – 10,000
Rapid traverse of linear axes, max.	mm/min	30,000

Options

Automatic tool changer (60 or 80 tools in magazine)

T-Series – Table type CNC horizontal boring and milling machines

The machines of the T-Series are the ideal 5-axes machines for the efficient multi-side manufacturing of medium-sized workpieces with a weight up to 10 t. The machines of the T-Series are multi-functional due to comprehensive options, including an automatic pallet changer or an integrated NC facing head.

Classification

Table type	T
With automatic tool changer	C
With integrated facing head	U
Boring spindle diameters available:	110, 125, 130, 150 and 162 mm





Robust and precisely machined machine bed



Protruding main bearing of the boring spindle

Technical data**T/TC 110****T/TC 130****T/TC/TCU 150****Boring spindle**

Diameter	mm	110/125	130	150/162
Drive power, max.	kW	37	46	73
Torque, max.	Nm	2,012	2,179	3,170
Speed range, continuous	min ⁻¹	5 – 6,000	5 – 4,000	5 – 3,500
Facing head diameter*	mm			700
Speed range, facing head*	min ⁻¹			2.5 – 330

Clamping table

Table size	mm	1,000 × 1,250	1,250 × 1,600	1,250 × 1,600
Optional	mm	1,250 × 1,600	up to 1,800 × 2,000	up to 1,800 × 2,000
Table load, max.	kg	7,000	10,000	10,000

Traverses**Axes**

Table (cross)	X	mm	1,500/2,000	2,000/2,500	2,000/2,500
Headstock (vertical)	Y	mm	1,250/1,600	2,000/2,500	2,000/2,500
Table (lengthwise)	Z	mm	1,000/1,500	1,500	1,500
Boring spindle (axial)	W	mm	550	750	750

Feeds / Rapid traverses

Feed range of all axes	mm/min	1 – 6,000	1 – 6,000	1 – 6,000
Rapid traverse of linear axes, max.	mm/min	18,000	15,000	15,000
Feed range of facing head*	U mm/min			1 – 1,000

Options

Automatic tool changer (40 – 120 tools in magazine)
Automatic pallet change

* for headstocks with integrated facing head only

K-Series – Planer type horizontal boring and milling machines

The reliable machines of the K-Series allow for the efficient complete machining of workpieces with a size up to 4 x 3 x 2 m. They are available with an automatic tool changer, pallet changer, various table versions, milling head changer or integrated NC facing head. Thus, they are universally applicable.

Classification

Planer type	K
With automatic tool changer	C
With integrated facing head	U
And ram	R
Boring spindle diameters available:	110, 125, 130, 150 and 162 mm



Technical data

Boring spindle

Diameter
Drive power, max.
Torque, max.
Speed, continuous

Clamping table

Table size
Optional
Table load, max.

Traverses

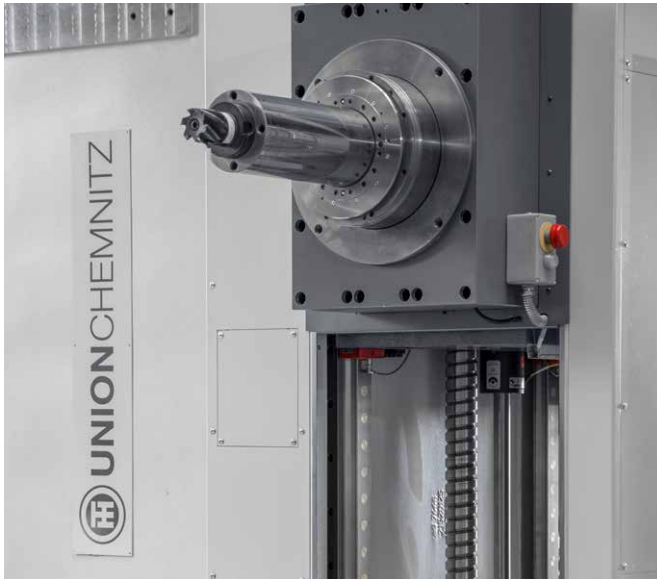
Table (cross)
Headstock (vertical)
Column (lengthwise)
Boring spindle (axial)

Feeds / Rapid traverses

Feed range of all axes
Rapid traverse of linear axes, max.
Feed range of the facing slide*

Options

High-precision boring mill
Autom. tool changer



Boring spindle



Twin-table machine

		K/KC 110	K/KC 130	K/KC/KCU 150	K S/KC S 130	KR/KCR 150
	mm	110/125	130	150/162	130/150	150/162
	kW	37	67	73	73	84
	Nm	2,012	2,179	3,170	3,312	5,800
	min ⁻¹	5 – 6,000	5 – 5,000	5 – 3,500	5 – 4,000	5 – 3,500
Axes	mm	1,000 × 1,250	1,250 × 1,600	1,600 × 2,000	1,250 × 1,600	1,800 × 2,000
	mm	1,400 × 1,600	up to 2,000 × 3,000	up to 3,000 × 4,000	up to 3,000 × 4,000	up to 4,000 × 4,000
	kg	8,000	25,000	45,000	45,000	75,000
X	mm	2,000 – 2,500	2,500 – 6,000	3,200 – 6,000	2,500 – 6,000	3,200 – 6,000
Y	mm	1,600 – 2,000	2,000 – 3,500	2,000 – 3,500	2,000 – 3,500	2,500 – 4,000
Z	mm	1,000 – 2,000	1,000 – 3,000	1,500 – 3,000	1,500 – 3,200	1,500 – 3,500
W	mm	550	750	750	800	750/1,000
	mm/min	1 – 20,000	1 – 15,000	1 – 15,000	1 – 15,000	1 – 15,000
	mm/min	20,000	22,500	22,500	28,000	25,000
	mm/min			1 – 1,000		
KG 110/125						
(40 – 176 tools in magazine), automatic pallet change, twin-table machine						

* for headstocks with integrated facing head only

P-Series – Floor type boring mills for highest efficiency

The machines of the P-Series are highly precise horizontal boring and milling machines for the reliable machining of medium-sized workpieces. The machines can be flexibly applied due to the broad range of equipment available, including an automatic tool changer, additional machining aggregates and rotary/traversing tables.

Classification

Floor type

P

With automatic tool changer

C

Boring spindle diameters available:

130, 150 and 162 mm





Measuring probe for automatically finding the zero point



Automatic tool changing

Technical data

P/PC 130

P/PC/PU 150

Boring spindle

Diameter	mm	130	150/162
Drive power, max.	kW	67	73
Torque, max.	Nm	2,179	3,170
Speed, continuous	min ⁻¹	5 – 5,000	5 – 3,500

Traverses

Axes

Column (cross)	X	mm	4,000	5,000
Optional extension in steps of	X	mm	1,000	1,000
Headstock (vertical)	Y	mm	2,000	2,500
Extension in steps of 500 mm up to	Y	mm	3,500	3,500
Column (lengthwise)	Z	mm	800	800
Boring spindle (axial)	W	mm	750	750

Feeds / Rapid traverses

Feed range of all axes	mm/min	15,000	15,000
Rapid traverse of linear axes, max.	mm/min	15,000	15,000

Options

Automatic tool changer (40 – 60 tools in magazine)

Pick-up station, additional aggregates: milling heads, spindle unit, NC facing head

Floor plate, rotary and traversing tables

PR-Series – Floor type boring mills with ram

The machines of the PR-Series are the ideal horizontal boring and milling machines for reliable heavy-duty cutting, precise finishing and effective 5-side machining of complex, large and heavy workpieces with up to 40 m length, up to 10 m height and more than 250 t of weight.

Classification

Floor type with ram

With automatic tool changer

Type range

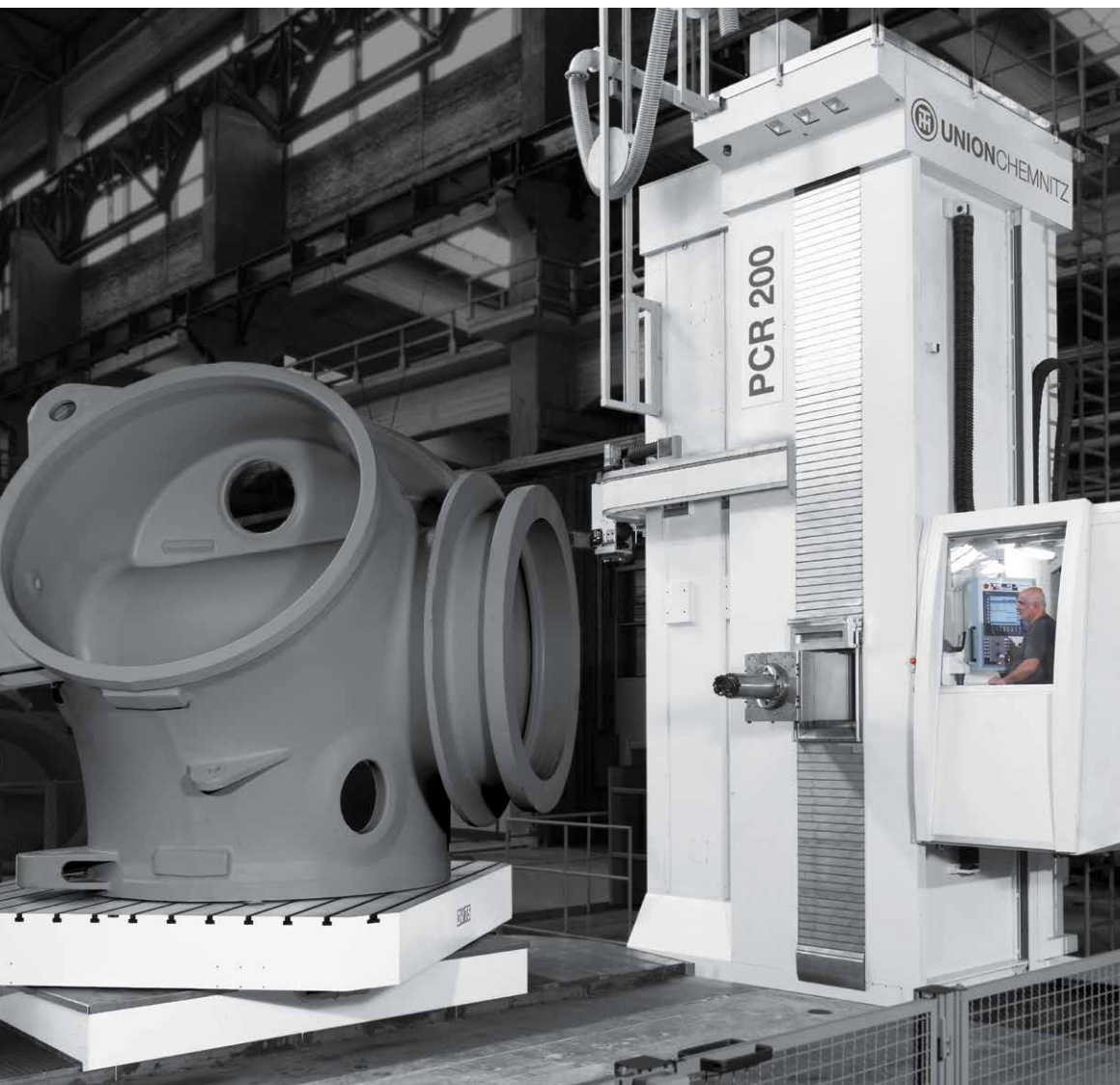
Boring spindle diameters available:

PR

C

I, II and III

130, 150, 162, 180, 200 and 262 mm





Automatic pick-up of aggregates



Regulator to regulate the consistent and precise gap distance in the hydrostatic pockets

Technical data

PR I

PR II

PR II S

PR III

Boring spindle

Diameter	mm	130/150	130 – 200	162 – 200	180 – 262
Drive power, max.	kW	63	91	97	128
Torque, max.	Nm	3,100	7,094	7,534	19,847
Speed, continuous	min ⁻¹	5 – 4,400	5 – 4,000	5 – 3,000	5 – 2,200

Traverses

Axes

Column (cross)	X	mm	4,000	4,000	4,000	4,000
Optional extension in steps of	X	mm	1,000	1,000	1,000	1,000
Headstock (vertical)	Y	mm	2,000	2,500	2,500	3,000
Extension in steps of 500 mm up to	Y	mm	4,500	6,500	6,500	10,000
Ram, max.	Z	mm	1,100	1,500	2,000	1,700
Boring spindle (axial)	W	mm	750	1,000	1,400	1,400

Feeds / Rapid traverses

Feed range of all axes	mm/min	10,000	10,000	10,000	8,000
Rapid traverse of linear axes, max.	mm/min	32,000	28,000	28,000	20,000

Options

Automatic tool changer (40 – 165 tools in magazine)

Floor plate, rotary and traversing tables, high-speed rotary table

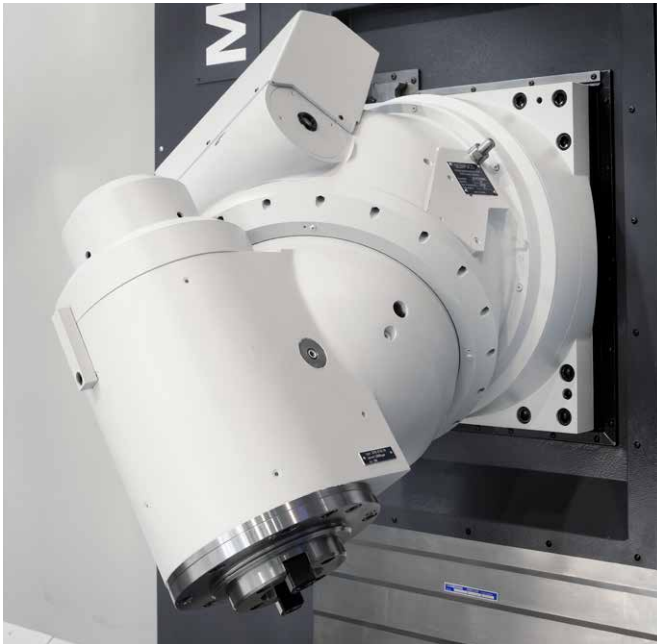
Additional aggregates: milling heads, additional spindle unit, NC facing head

Pick-up station

MILLFORCE-Series – flexible traveling column mills

With the MILLFORCE-Series, UnionChemnitz provides robust and dynamic traveling column mills for the efficient 5-side machining of medium-sized workpieces in one set-up. Even the basic version can complete all conventional machining tasks. The optional pick-up station for different machining aggregates further extends the flexibility of the machine's applications.





Flexible universal milling head



Traveling operating platform

Technical data

MILLFORCE 1

MILLFORCE 2

MILLFORCE 3

Performance

Speed, continuous	min ⁻¹	5 – 5,000/6,000	5 – 5,000/6,000	5 – 4,000/5,000
Drive power, max.	kW	30	30	52
Torque, max.	Nm	850	1,000	2,022

Traverses

Axes

Column (cross)	X	mm	3,000	4,000	4,000
Optional extension in steps of	X	mm	1,000	1,000	1,000
Vertical traverse	Y	mm	2,000 – 3,000	2,000 – 4,500	2,500 – 6,500
Ram (lengthwise)	Z	mm	1,500	1,500	1,800

Feeds / Rapid traverses

Feed range of all axes	mm/min	1 – 6,000	1 – 6,000	1 – 6,000
Rapid traverses	m/min	20/40	15/32	15/28
Acceleration	m/s ²	1.25/1.5	1.25/1.5	1.25
Feed force, max.	N	10,000	20,000	25,000

Options

Automatic tool changer (40 – 100 tools in magazine)
Pick-up station
Additional aggregates: milling heads, spindle unit, NC facing head
Floor plate, rotary and traversing tables

Control options

UnionChemnitz uses controls preferred by market leaders:

- Siemens 840 D sl
- Heidenhain TNC 640
- FANUC 31i

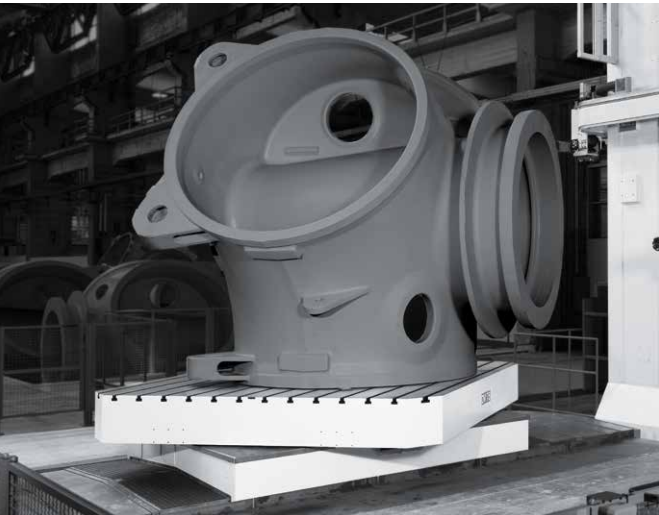
Tables

To extend the range of application of our machine tools, UnionChemnitz offers a large number of clamping tables manufactured in-house. The tables are equipped with sliding guides, roller guides or hydrostatic guideways. A trunnion device for machining the circumference of barrel-shaped workpieces completes the program. The table program comprises the following options:

- Rotary tables
- Rotary and traversing tables
- Rotary, traversing and tilting tables
- High-speed rotating table for vertical turning

// Each table is adapted individually to meet the customers requirements.

Table range		
Clamping area (rectangular, square, circular)	mm	1,000 × 1,000 – 5,000 × 6,000
Load	t	6 – 250
Speed	min ⁻¹	1.5 – 80
Traverse range	mm	0 – 5,000
Feed range	N	10,000 – 50,000



Rotary and traversing table



High-speed rotary table

Milling heads

All milling heads for the UnionChemnitz machines are designed and manufactured within our own group of companies.

UnionChemnitz offers the right milling head for every application. You can choose from a broad selection of aggregates:

- Automatically or manually loaded
- Manual positioning, automatic positioning, in steps of 1° or infinitely adjustable, automatic positioning (NC)
- Vertical, universal and orthogonal heads as well as NC fork-type milling heads
- Numerous other solutions: for example special designs, motorized spindles for high-speed applications, changing of heads via the tool magazine

Depending on the milling head and machine type, UnionChemnitz provides optional milling heads with the following performance range:

Performance	kW	14 – over 85
Speed	min ⁻¹	5 – over 15,000
Torque	Nm	50 – over 6,000

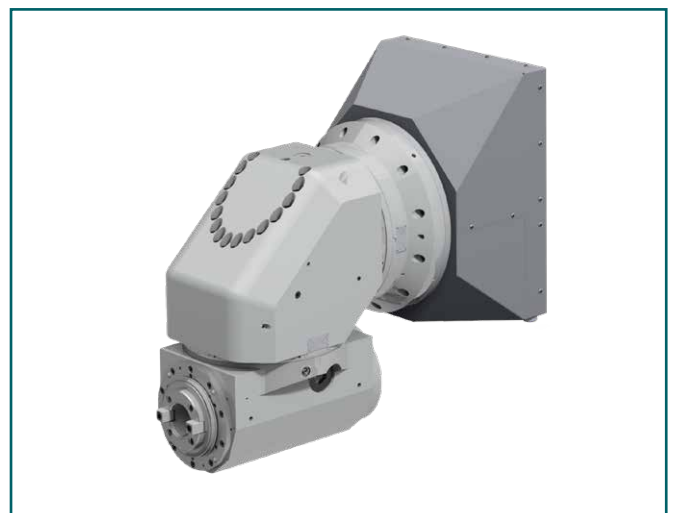
// The UnionChemnitz experts will gladly help you find the optimal head for your specific application.



Vertical milling head



Universal milling head



Orthogonal milling head

Further equipment

All UnionChemnitz machine tools are designed to optimize their application and are tailored to the customer's needs. UnionChemnitz provides a comprehensive selection of additional equipment, which extends the functionality of the boring and milling machines even further:

- Pick-up station for the automatic exchange of milling heads and special tools
- Support bearings
- NC facing head D'Andrea
- Special flange for the automatic docking of equipment
- Different cooling devices
- Measuring probes
- Control devices
- Tool measuring
- Trunnion device with counter bearing
- Etc.

// On request, UnionChemnitz will gladly integrate additional equipment for you.



Pick-up station for the automatic exchange of optional accessories



NC facing head D'Andrea

Special machines

For all applications exceeding the regular tasks of a boring mill, the UnionChemnitz experts have developed specialized machines.

Turning and grinding

Optionally, the UnionChemnitz machines are available with turning and grinding functions. A high-speed rotary table can be supplied for vertical turning or a grinding aggregate can be integrated.

High-precision boring mill

The UnionChemnitz high-precision boring mill KG 110/125 fulfills even the most demanding tolerances.

DUO arrangement

For the simultaneous machining of workpieces on two sides, UnionChemnitz developed a concept of pairing machines to prevent downtimes and increase efficiency.

Boring mill with swiveling ram

To optimize machining, UnionChemnitz offers boring mills with swiveling ram.

Boring mill for roll machining

Equipped with special clamping devices (roller blocks), UnionChemnitz boring mills efficiently machine rolls with a weight of more than 250 t.



MILLFORCE 1 and PCR 150 in DUO arrangement

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