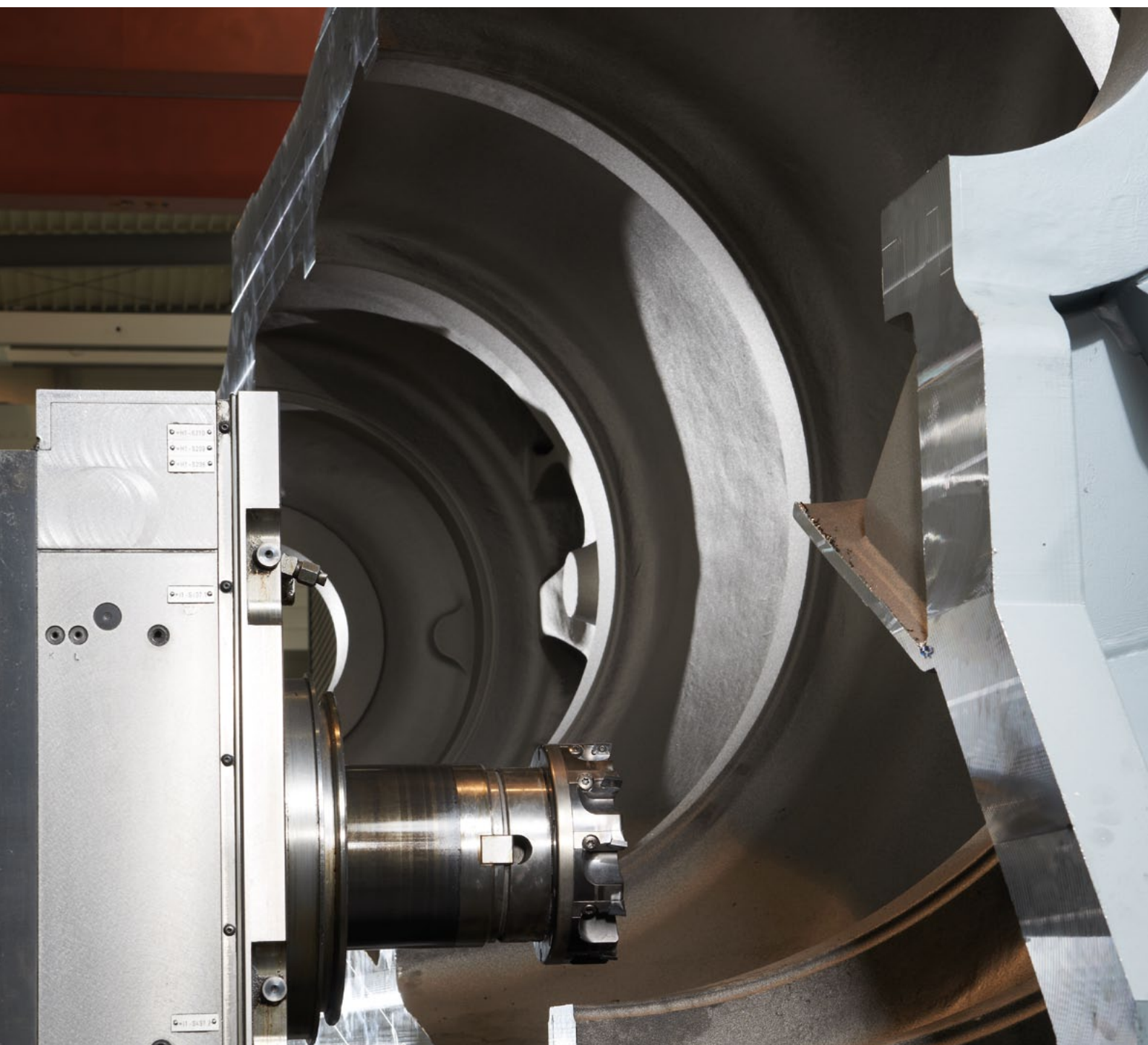


Scope of supply

Powerful precision



P-SERIES
K-SERIES
T-SERIES
MILLFORCE

 **UNIONCHEMNITZ**

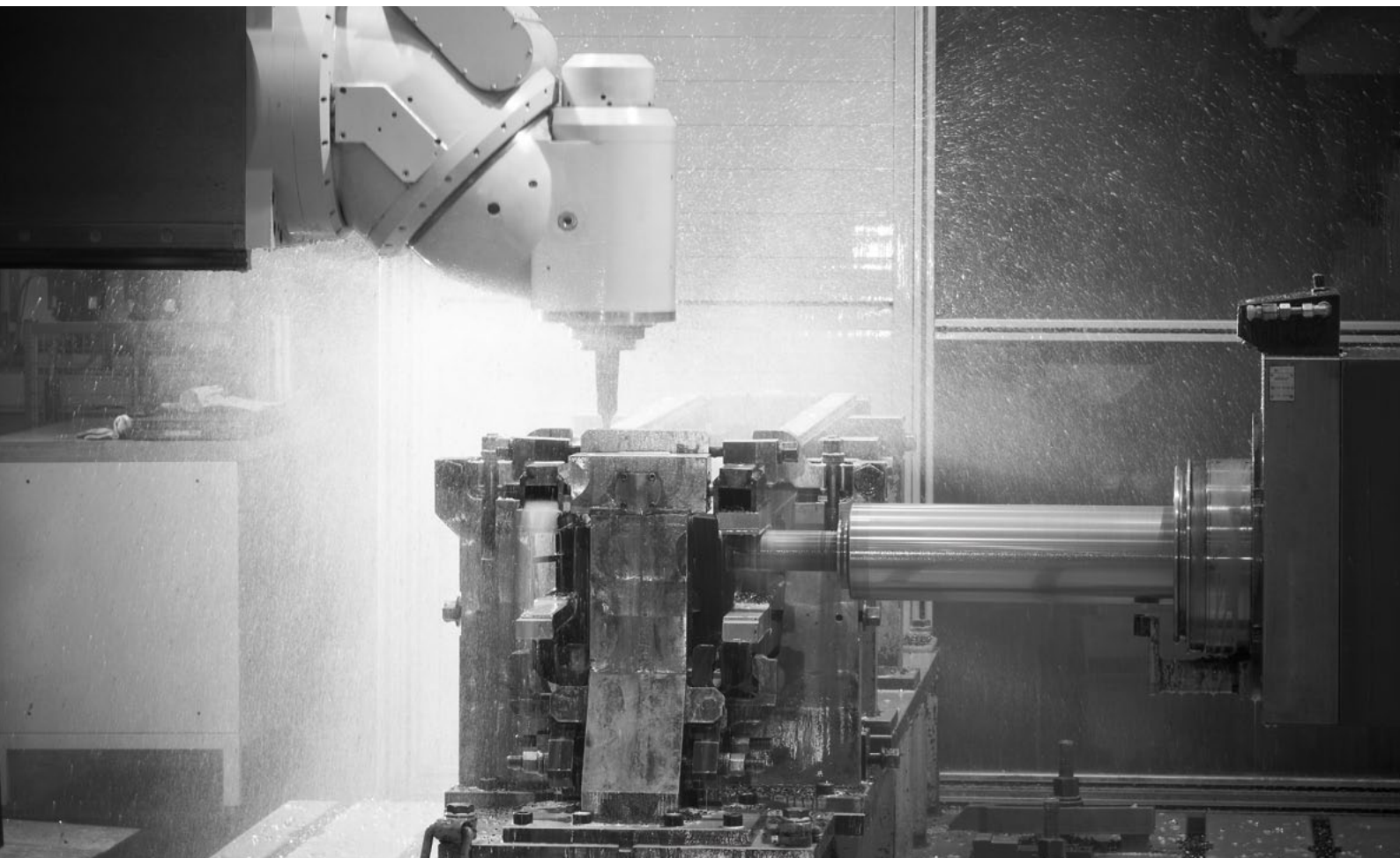
02 / Company
03 / Values
04 / Scope of supply
16 / Accessories
19 / Special machines



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 trust the pioneering know-how of UnionChemnitz to solve the most challenging machining tasks by using the company's machine tools.

Whether in flexible applications using the travelling column mills of the MILL-FORCE series or the horizontal boring and milling machines in floor, planer or table type – machine tools "made in Chemnitz" are used for any application due to their rigid modular design. They provide for efficient and highly precise machining of large work pieces 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 industry, subcontracting, motor manufacturers or general engineering – each industry's demands on the horizontal boring and milling machines of UnionChemnitz are high. Therefore, the 180 employees work daily on the optimization and further development of the products.

Worldwide, the name UnionChemnitz is a synonym for excellent service. A worldwide network of sales and service group representatives ensure that competent contact persons react promptly on requests and questions. The after-sales-service with its various offers provides options promoting the operational availability of any machine – from training of the operating, programming and maintenance personnel or machine repair up to complete modernization.

T-series - Table Type



K-series - Planer Type



Technical Data

T-series

Spindle

Diameter	mm	110 - 150
Drive power, max.	kW	73
Torque, max.	Nm	3,170
Speed range, stepless, max.	min ⁻¹	5,000

Traverses

Table cross traverse (X), max.	mm	2,500
Head stock vertical traverse (Y), max.	mm	2,500
Table longitudinal traverse (Z), max.	mm	1,500
Boring spindle axial traverse (W), max.	mm	750

K-series

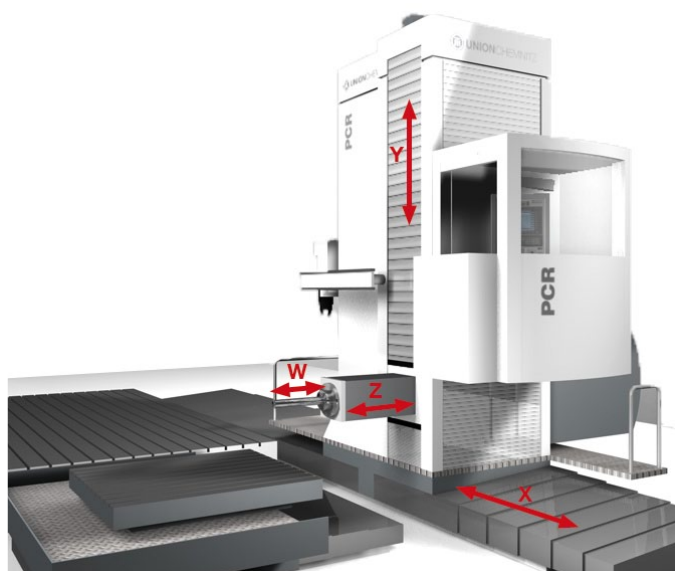
Spindle

Diameter	mm	110 - 162
Drive power, max.	kW	84
Torque, max.	Nm	5,800
Speed range, stepless, max.	min ⁻¹	6,000

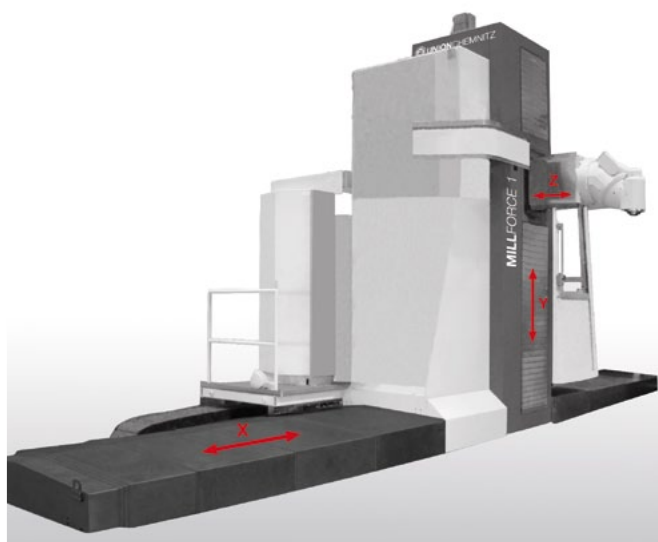
Traverses

Table cross traverse (X), max.	mm	6,000
Head stock vertical traverse (Y), max.	mm	4,000
Table longitudinal traverse (Z), max.	mm	3,500
Boring spindle axial traverse (W), max.	mm	1,000

P-series/PR-series - Floor Type



MILLFORCE-series - Travelling Column Mills



P-series/PR-series

Spindle

Diameter	mm	130 - 262
Drive power, max.	kW	128
Torque, max.	Nm	19,000
Speed range, stepless, max.	min ⁻¹	5,000

Traverses

Bar cross traverse (X), max.	mm	40,000
Head stock vertical traverse (Y), max.	mm	10,000
RAM traverse (PR) (Z), max.	mm	1,700
Boring spindle axial traverse (W), max.	mm	1,400

MILLFORCE-series

Drive power, max.	kW	52
Torque, max.	Nm	2,022
Speed range, stepless, max.	min ⁻¹	6,000

Traverses

Bar cross traverse (X), max.	mm	40,000
Vertical traverse (Y), max.	mm	6,500
RAM traverse (Z), max.	mm	1,800

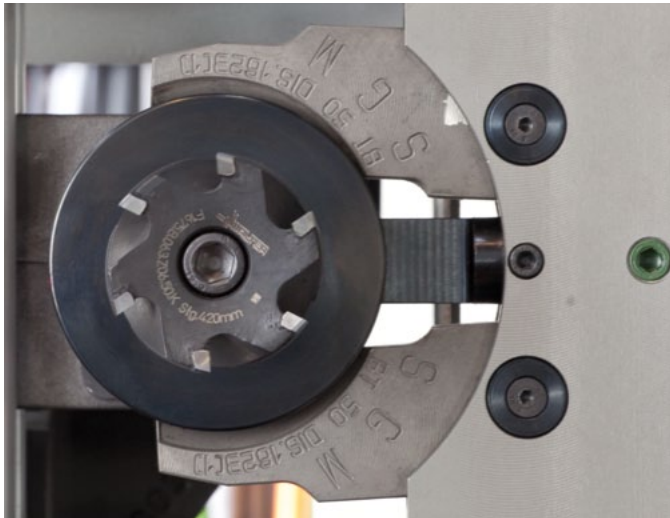
T-series – CNC horizontal boring and milling machine table type

The machines of the T-series are the ideal 5 axes machines for the efficient multi-side manufacturing of medium-sized work pieces 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.

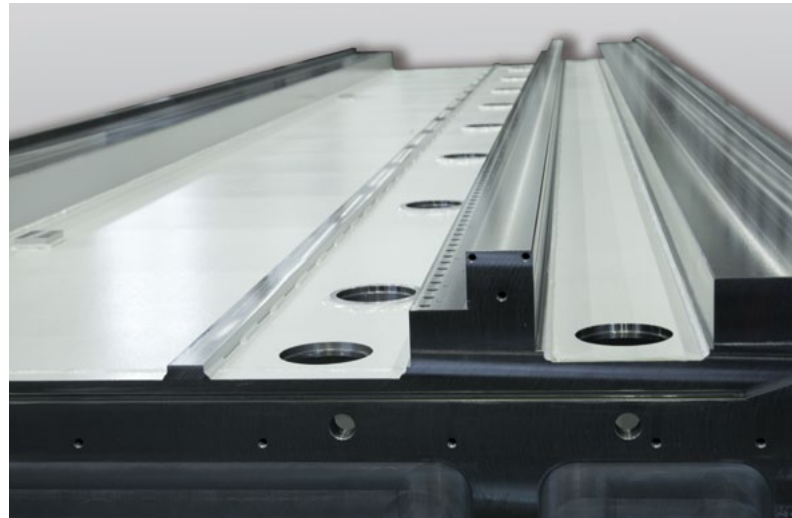
Classification

Table type	T
With integrated tool changer	C
With permanently integrated facing head	U
Boring spindle diameter available	110, 125, 130 and 150 mm





Automatic tool changer



Robustly and precisely machined machine bed

Technical data

T/TC 110

T/TC 130

T/TC/TCU 150¹

Boring spindle

Diameter	mm	110/125	130	150
Drive power, max. (S6)	kW	37	46	73
Torque, max. (S6)	Nm	2,012	2,179	3,170
Speed range, stepless, max.	min ⁻¹	5...6,000	5...4,000	5...3,500
Facing head diameter*	mm			700
Facing head, speed range*	min ⁻¹			2.5...330

Clamping table

Table longitudinal	mm	1,000 x 1,250	1,250 x 1,600	1,250 x 1,600
Optional	mm	1,250 x 1,600	bis 1,800 x 2,000	bis 1,800 x 2,000
Loads on table, max.	kg	7,000	10,000	10,000

Traverses

	Axes				
Table cross traverse	X	mm	1,500/2,000	2,000/2,500	2,000/2,500
Head stock vertical traverse	Y	mm	1,250/1,600	2,000/2,500	2,000/2,500
Table longitudinal traverse	Z	mm	1,000/1,500	1,500	1,500
Boring spindle axial traverse	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 the facing slide*	U ² mm/min			1...1,000

Options

Automatic pallet change (40 - 120 magazine places)

Automatic pallet change

¹ with ceramic-coated boring spindle² for headstocks with integrated facing head only

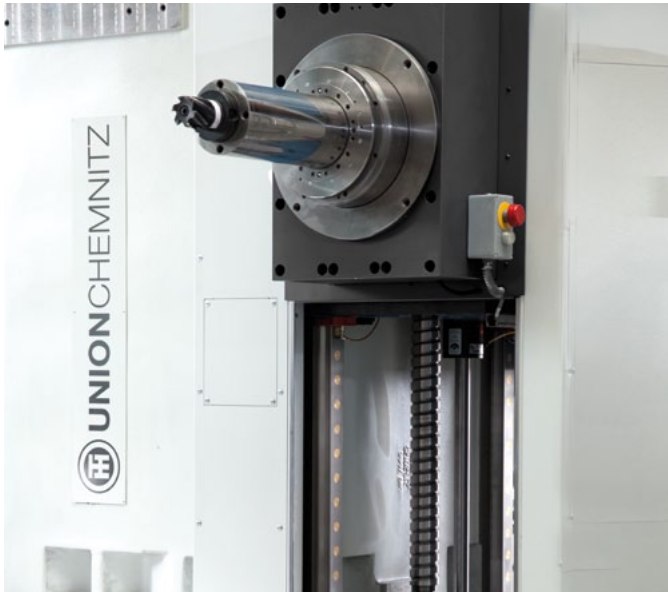
K-series – Precise horizontal boring and milling machines planer type

The reliable machines of the K-series allow the efficient complete machining of work pieces 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 for any use.

Classification

Planer type	K
With integrated tool changer	C
With permanently integrated facing head	U
With a RAM	R
Boring spindle diameter available:	110, 125, 130 and 150 mm





Boring spindle



Machine in duo arrangement

Technical data

		K/KC 110	K/KC 130	K/KC/KCU 150 ¹	KR/KCR 150 ¹
Boring spindle					
Diameter	mm	110/125	130	150	150/162
Drive power, max. (S6)	kW	37	46	73	84
Torque, max. (S6)	Nm	2,012	2,179	3,170	5,800
Speed range, stepless, max.	min ⁻¹	5...6,000	5...4,000	5...3,500	5...3,500
Clamping table					
Clamping table surface	mm	1,000 x 1,250	1,250 x 1,600	1,600 x 2,000	1,800 x 2,000
Optional	mm	1,400 x 1,600	bis 2,000 x 3,000	bis 3,000 x 4,000	bis 4,000 x 4,000
Loads on table, max.	kg	8,000	25,000	45,000	75,000
Traverses					
Table cross traverse	X mm	2,000...2,500	2,500...6,000	3,200...6,000	3,200...6,000
Head stock vertical traverse	Y mm	1,600...2,000	2,000...3,500	2,000...3,500	2,500...4,000
RAM longitudinal	Z mm	1,000...2,000	1,000...2,100	1,500...3,000	1,500...3,500
Boring spindle axial traverse	W mm	550	750	750	700 / 1,000
Feeds / Rapid traverses					
Feed range of all axes	mm/min	1...20,000	1...15,000	1...15,000	1...15,000
Rapid traverse of linear axes	mm/min	20,000	22,500	22,500	25,000
Radial feed of the facing slide*	U ² mm/min			1...1,000	
Options					
Automatic tool change (40 - 176 magazine places), automatic pallet change, double table machine					
High-precision boring mill KG 110/125					

¹ with ceramic-coated boring spindle² for headstocks with integrated facing head only

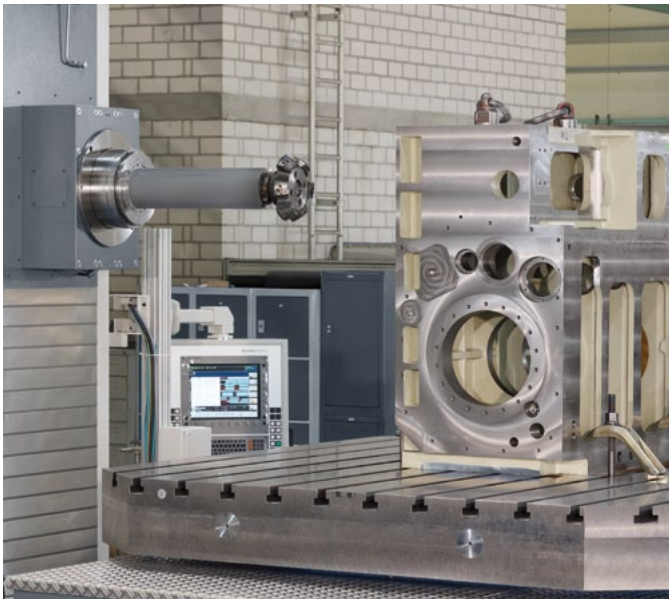
P-series – Boring mill floor type for highest efficiency

The machines of the P-series are highly precise horizontal boring and milling machines for the reliable machining of medium-sized work pieces. The machines are flexibly applied due to the broad support equipment available, including an automatic tool changer, additional aggregates and rotary and traversing tables.

Classification

Boring mill table type	P
With integrated tool changer	C
Boring spindle diameter available:	130 and 150 mm





Ceramic-coated boring spindle



Automatic tool change from the magazine

Technical data

P / PC 130

P / PC / PU 150¹

Boring spindle			P / PC 130	P / PC / PU 150 ¹
Diameter	mm		130	150
Drive power, max.	kW		46	73
Torque, max.	Nm		2,179	3,170
Speed range, stepless, max.	min ⁻¹		5...4,000	5...3,500
Traverses	Axes			
Column cross traverse	X	mm	4,000	5,000
Optional extension in steps of	X	mm	1,000	1,000
Spindle stock vertical traverse	Y	mm	2,000	2,500
Optional extension in steps from 500 mm up to max.	Y	mm	3,500	3,500
Column longitudinal traverse	Z	mm	800	800
Boring spindle axial traverse	W	mm	750	750
Feeds / rapid traverses				
Feed range of all axes, max.	mm/min		15,000	15,000
Rapid traverse of linear axes, max.	mm/min		15,000	15,000
Options				
Automatic tool change (40 - 60 magazine places)				
Pick-up station, additional aggregates: milling heads, spindle unit, NC facing head				
Plate field, rotary and traversing tables				

¹ with ceramic-coated boring spindle

PR-series – Boring mill floor type with column

The machines of the PR-series are the ideal horizontal boring and milling machines for stable heavy cutting, precise finishing and effective 5 side machining of large complex and heavy work pieces up to 40 m length, up to 10 m height and up to 250 t weight.

Classification

Boring mill table type with RAM

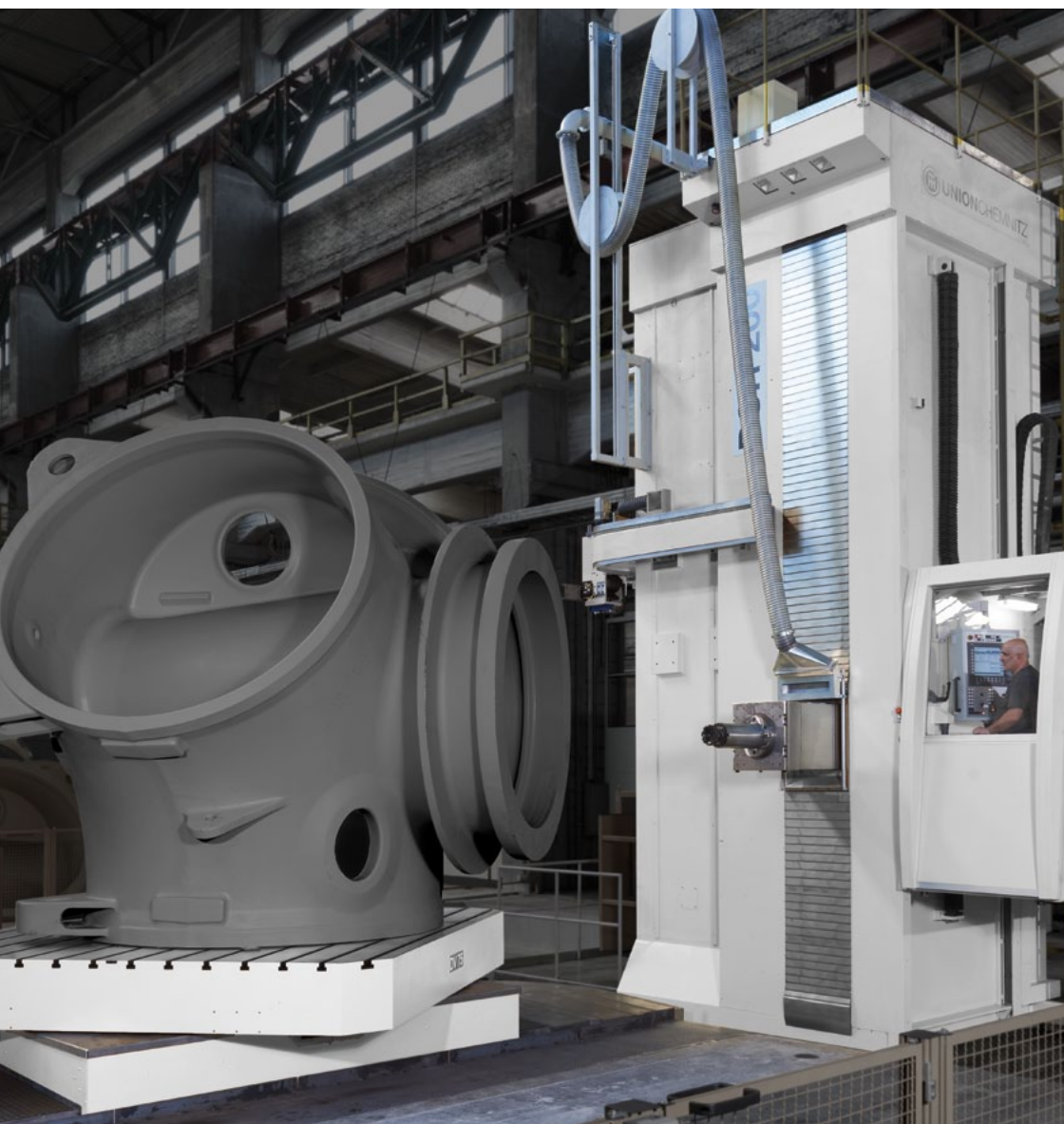
With integrated tool changer

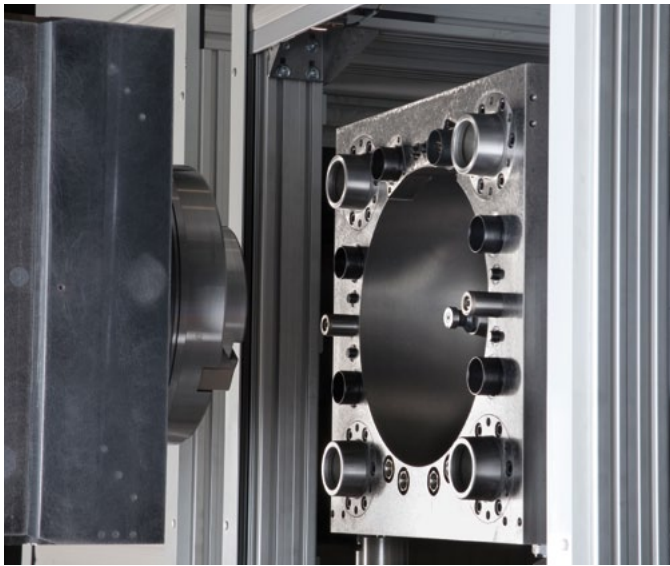
Boring spindle diameter available:

PR

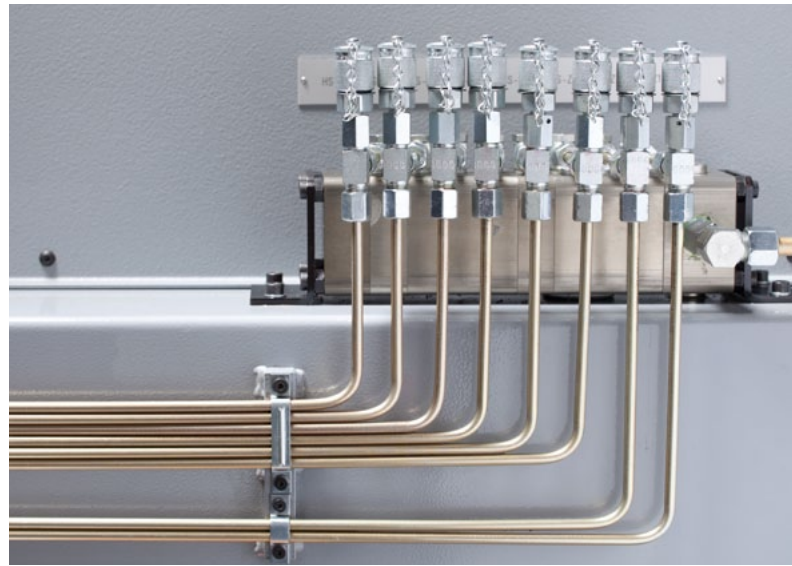
C

130, 150, 160, 180, 200 and 260 mm





Automatic pick-up of aggregates



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

Technical data

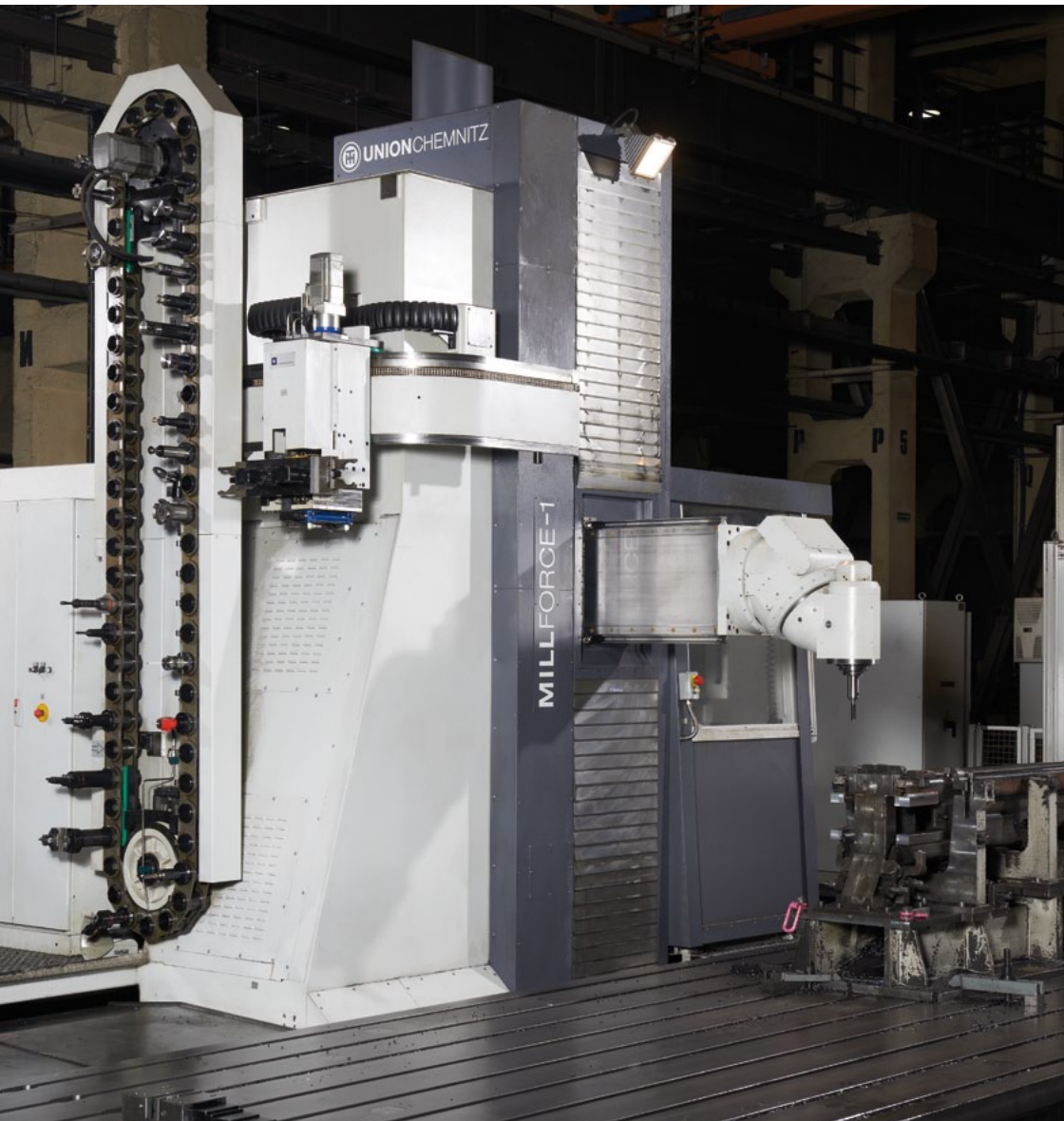
PR 130/150¹PR 150/160/180¹PR 200/260¹

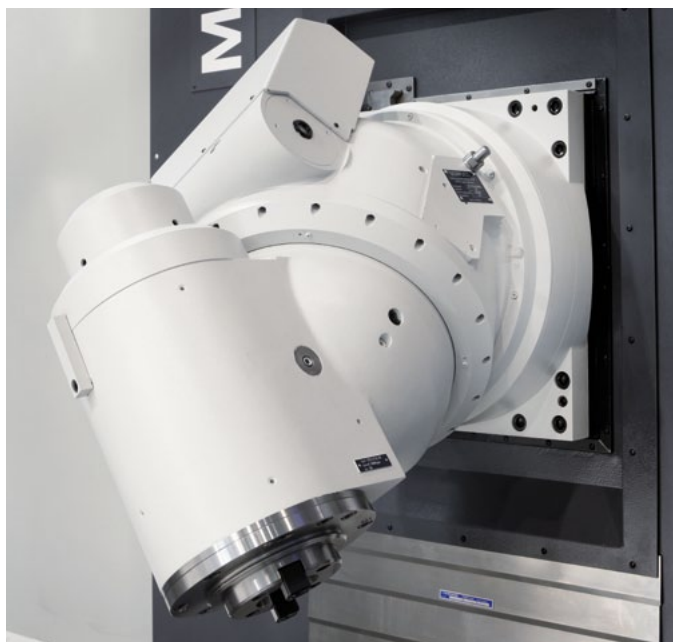
Boring spindle			PR 130/150 ¹	PR 150/160/180 ¹	PR 200/260 ¹
Diameter	mm		130/150	150/162/180	200/262
Drive power, max.	kW		63	84	128
Torque, max.	Nm		3,100	7.500	19.000
Speed range, stepless, max.	min ⁻¹		5...5.000	5...3,500	5...2,200
Traverses		Axes			
Column cross traverse	X	mm	4,000	4,000	4,000
Optional extension in steps of	X	mm	1,000	1,000	1,000
Spindle stock vertical traverse	Y	mm	2,000	2,500	3,000
Optional extension in steps from 500 mm up to max.	Y	mm	4,500	6,500	10,000
RAM cross traverse, max.	Z	mm	1,100	1,500	1,700
Boring spindle axial traverse	W	mm	750	1,000	1,400
Feeds / rapid traverses					
Feed range of all axes, max.	mm/min		10,000	10,000	8,000
Rapid traverse of linear axes, max.	mm/min		32,000	28,000	20,000
Options					
Automatic tool change (40 - 165 magazine places)					
Plate field, rotary and traversing tables, fast rotating tables					
Additional equipment: milling heads, additional spindle, NC facing head					
Pick-up station					

¹ with ceramic-coated boring spindle from 150 mm diameter

The MILLFORCE-series – flexible travelling column mills

With the MILLFORCE-series, UnionChemnitz provides robust and dynamic travelling column mills for the efficient 5 side machining of medium-sized work pieces in one set up. Even the basic version can complete all usual machining tasks. The optionally available pick-up station for different changing aggregates extends the flexibility of the machine applications significantly.





Flexibly applicable universal milling head



Travelling, closed operating platform

Technical data

MILLFORCE 1

MILLFORCE 2

MILLFORCE 3

Performance			MILLFORCE 1	MILLFORCE 2	MILLFORCE 3
Speed range, stepless		min ⁻¹	5...5,000/6,000	5...5,000/6,000	5...5,000
Drive Power, max.		kW	30	30	52
Torque, max.		Nm	850	850	2.022
Operating area		Axes			
RAM cross traverse	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
Milling bar longitudinal traverse	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 traverse		m/min	20/40	15/22	15
Acceleration		m/s ²	1.25/1.5	1.25/1.5	1.25
Feed force, max.		N	10,000	20,000	20,000
Options					
Automatic tool changer (40 - 100 tools)					
Pick-up station					
Additional aggregates: milling heads, spindle unit, NC-facing head					
Plate field, rotary and traversing tables					

Controller options

UnionChemnitz uses current control platforms preferred by market leaders:

- Siemens 840 D sl
- Heidenhain iTNC 530 oder TNC 640
- FANUC 31i

Table program

For the extension and versatility of the application area of the machine tools, Union-Chemnitz provides options for a large number of in-house manufactured clamping tables. The tables are equipped with slideways, guideways or hydrostatic guideways. A trunnion device for the machining of the circumference of barrel-shaped work pieces completes the program. The table program comprises the following variants:

- Rotary, traversing tables and tilting tables
- Fast rotating tables for carousel machining

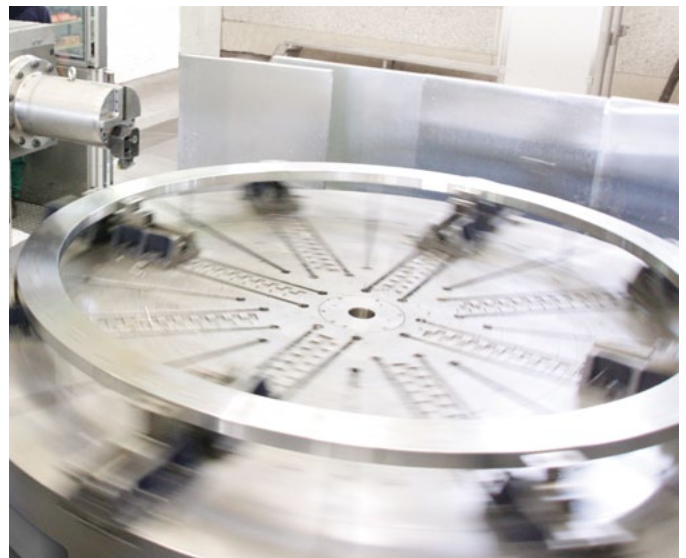
Each table is adapted individually to meet the customers requirements.

Table spectrum

Clamping area (rectangular, square, circular)	mm	1,000 x 1,000...5,000 x 6,000
Loads	t	6...250
Speed	min ⁻¹	1.5...80
Traverses	mm	0...5,000
Feed range	N	10,000...50,000



Rotary and traversing table



Fast rotating table

Milling heads

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

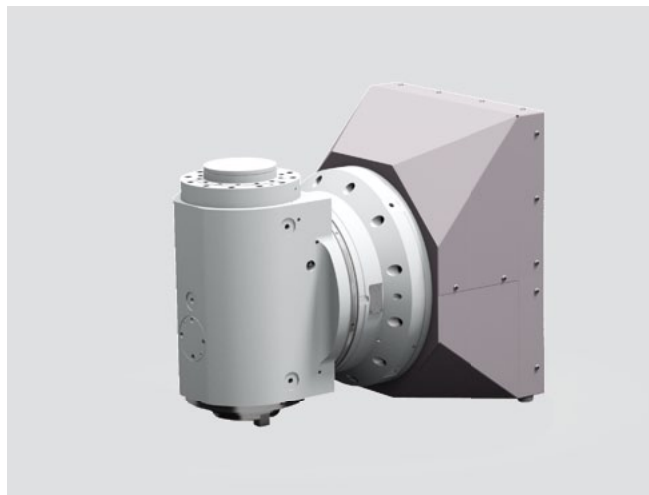
UnionChemnitz provides an exceptional milling head for every application. You can choose from a broad selection of aggregates:

- Automatic 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 head
- Numerous special solutions: special designs, motorized spindles for high speed applications, heads changeability via the tool magazine and many additional solutions

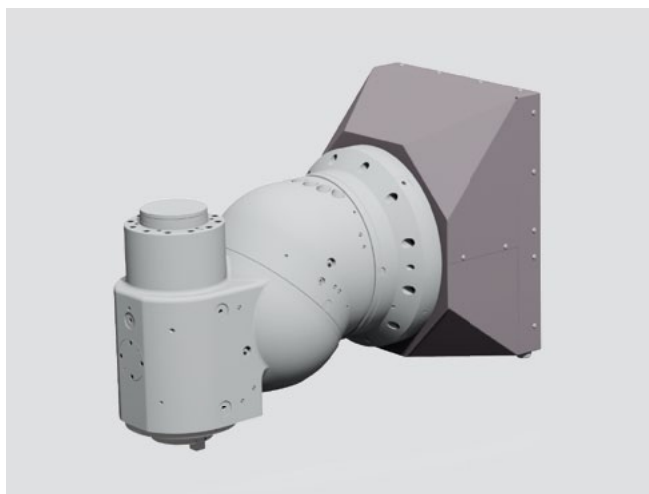
Dependant upon the milling head and machine type, UnionChemnitz provides optional milling heads with the following power spectrum:

Drive power	kW	14...85
Drive power	min ⁻¹	5...15,000
Torque	Nm	50...6,000

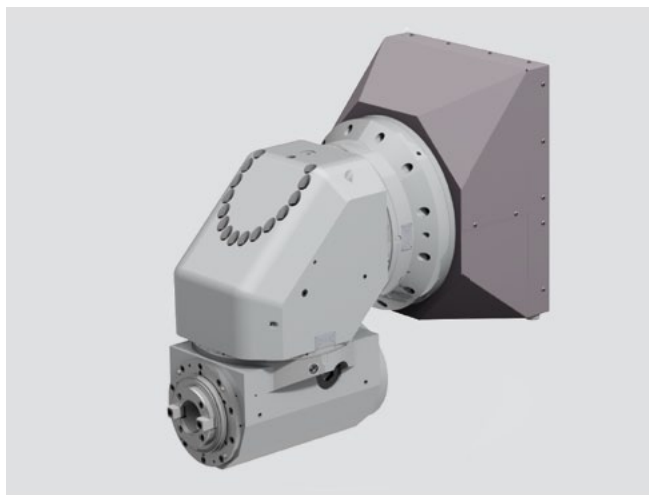
The UnionChemnitz experts will gladly advise you which milling head is optimal for your specific application.



Vertical milling head



Universal milling head



Orthogonal milling head

Optional accessories

All machine tools from UnionChemnitz are carefully constructed to optimize the required 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 the milling head
- Support bearings
- NC-facing head D'Andrea
- Special flange for the automatic docking of equipment
- Diverse coolant devices
- Measuring sensor
- Control devices
- Tool measuring
- Trunnion device with counter bearing
- Etc.

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



Pick-up station for the automatic exchange of optional accessories NC-facing head D'Andrea

Special machines

For all special applications beyond 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. For this, a faster rotating table can be supplied for vertical turning or a grinding aggregate can be integrated.

High precision boring mill

For precision manufacturing, the UnionChemnitz high precision boring mill KG 110 fulfills the utmost in demanding tolerances.

Duo-installation

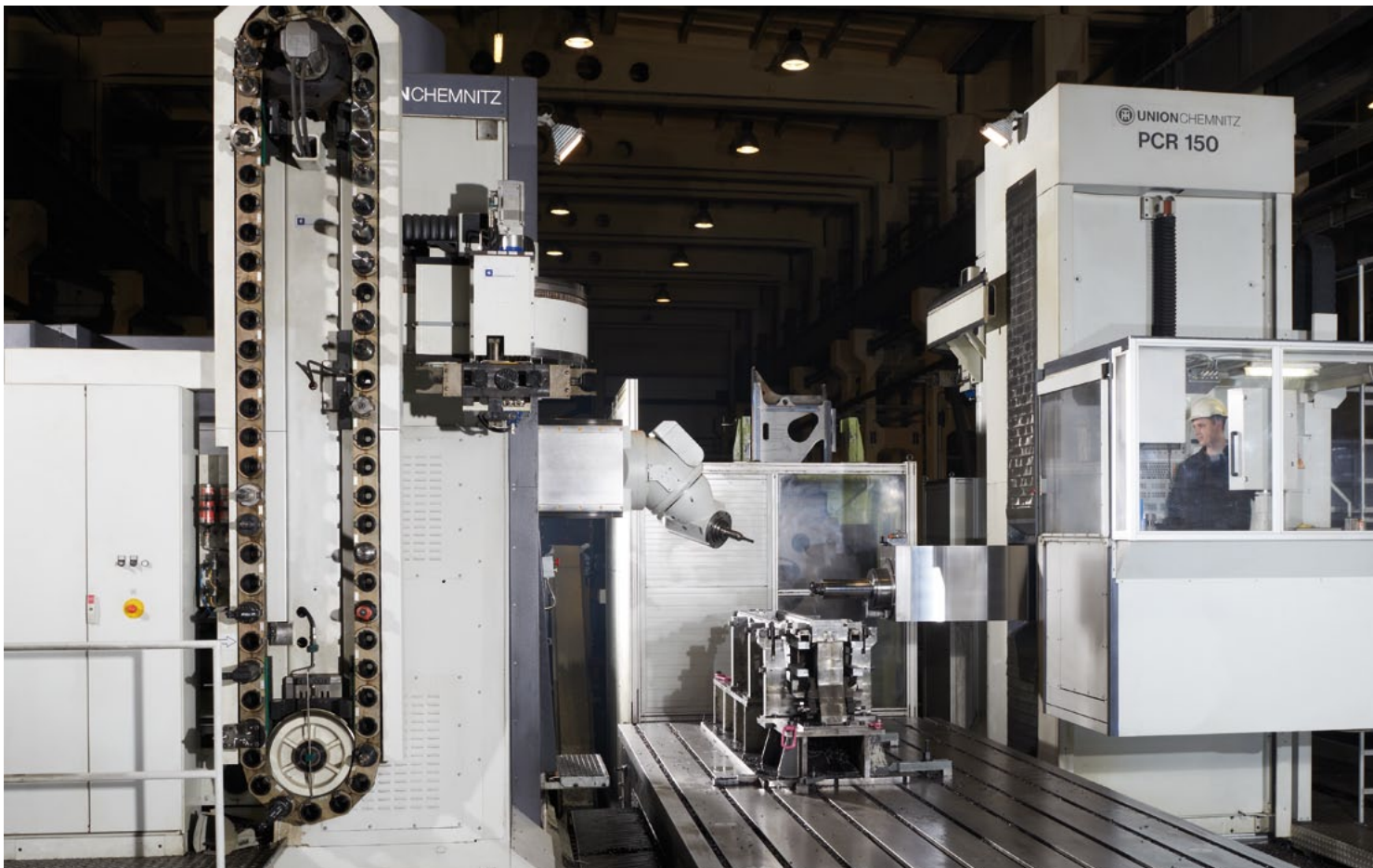
For the simultaneous machining of work pieces on two sides, UnionChemnitz developed a concept of pairing machines to prevent downtime and efficiency wastes.

Boring mill with swivel support

To optimized machining within the working envelope, UnionChemnitz provides boring mills with swiveling roll support. Equipped with special supports, boring mills from UnionChemnitz machine rolls with a weight up to 250 t efficiently.

Boring mill with roll neck machining

Equipped with special support (roller block), UnionChemnitz boring mills efficiently machine rolls with a weight up to 250 t.



MILLFORCE 1 and PCR 150 in DUO arrangement

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