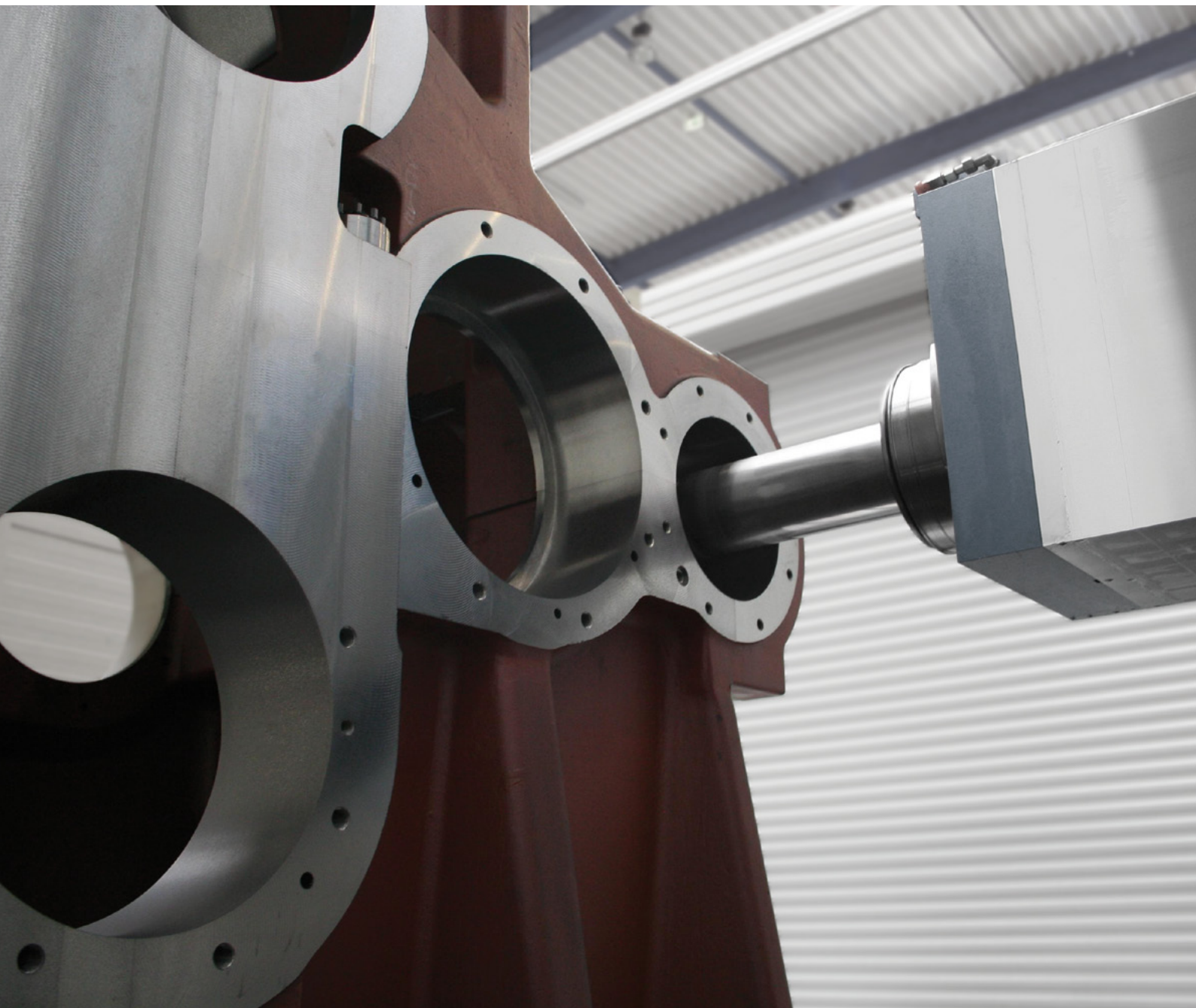


PR 150 / PR 160 / PR 180 / PR 200 / PR 260

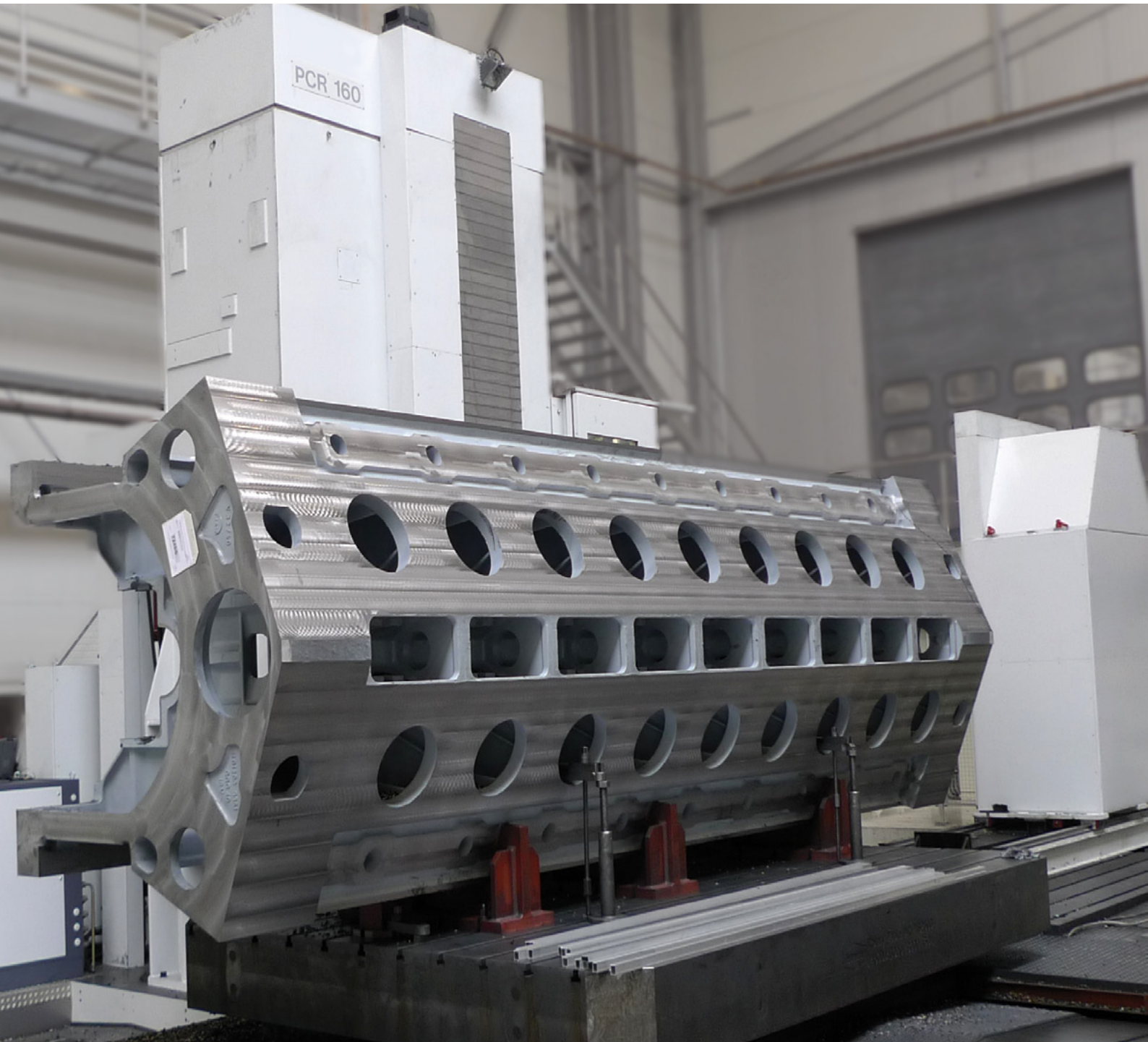
Precise heavy-duty cutting



P-SERIES
K-SERIES
T-SERIES
MILLFORCE

 **UNIONCHEMNITZ**

02 / Fields of application
03 / Machine concept
04 / Machine technology
05 / Options and equipment variants
06 / Working area
07 / Technical data



Efficient machining of various complex, heavy components used in the power, mining, railroad, shipbuilding, aerospace and machine tool industries to name a few.

The PR-Series – Precise horizontal boring and milling machines

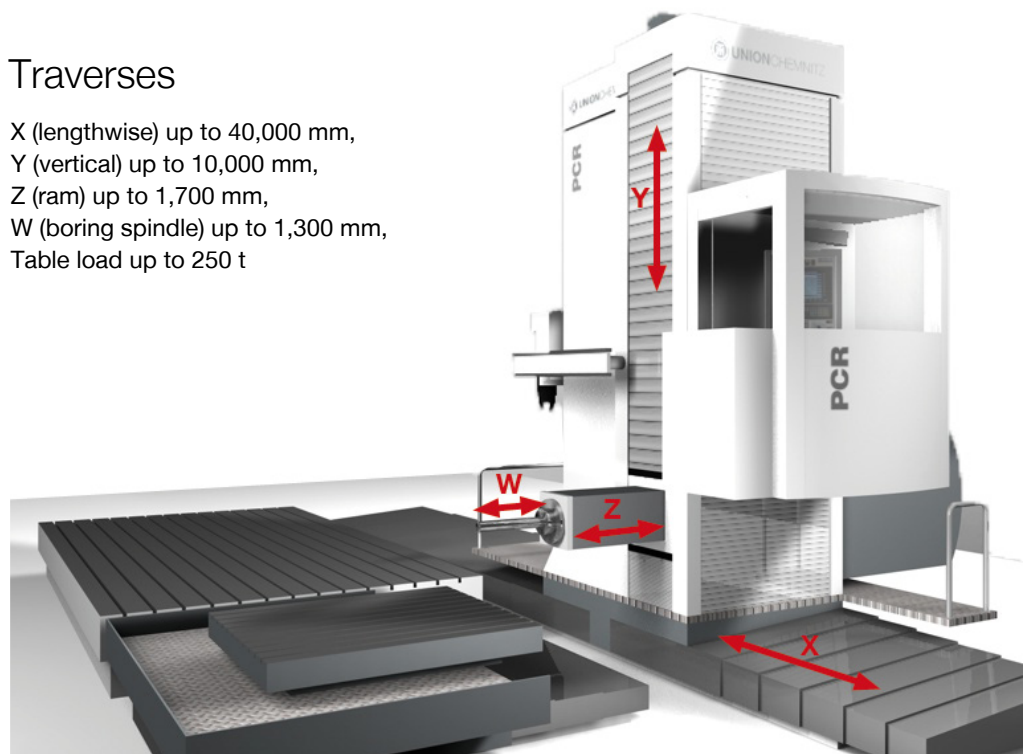
Perfect machine tools for precise and robust heavy-duty cutting, precise finish machining and effective 5 side machining of large, complex and heavy work pieces. Floor plates, rotary traversing and tilting tables, reversible clamps, automatic changing of spindle units or heavy tools via pick-up stations can be integrated. These options guarantee efficient machining of all work pieces.

Your advantages at one glance:

- Promotes both rough machining and high precision super finishing consecutively
- Double hydrostatically guide ways completely enclosing the ram
- Extremely rigid and heavily ribbed column
- Compensation of spindle and ram droop as well as of column tilt
- Length compensation of boring spindle and ram
- Ceramic-coated boring spindle

Traverses

X (lengthwise) up to 40,000 mm,
 Y (vertical) up to 10,000 mm,
 Z (ram) up to 1,700 mm,
 W (boring spindle) up to 1,300 mm,
 Table load up to 250 t



Classification

Floor type	P
with automatic tool changer	C
with ram	R
Boring spindle diameters available:	150, 160, 200 and 260 mm

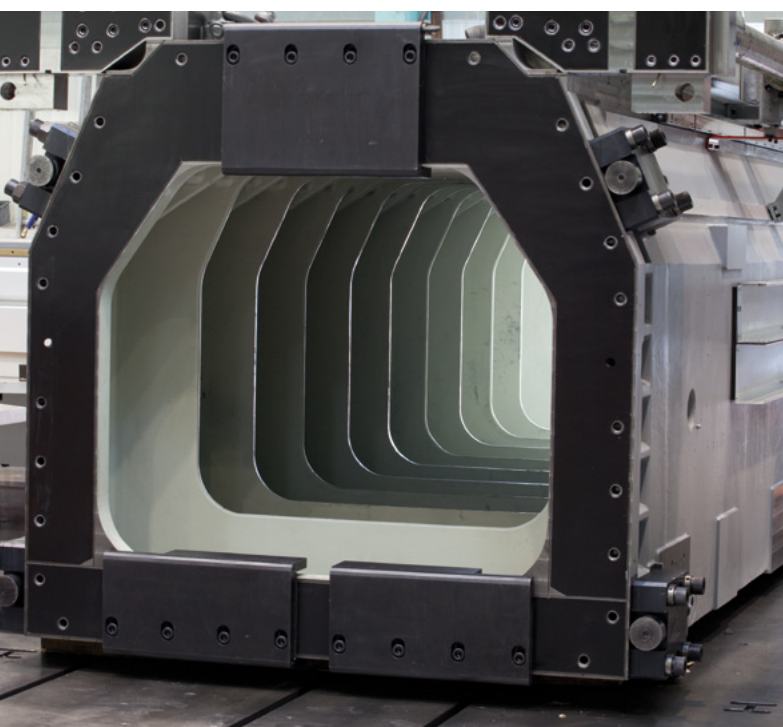
Adapted to every need – modular machine technology

PR 150 / PR 160 / PR 180 design

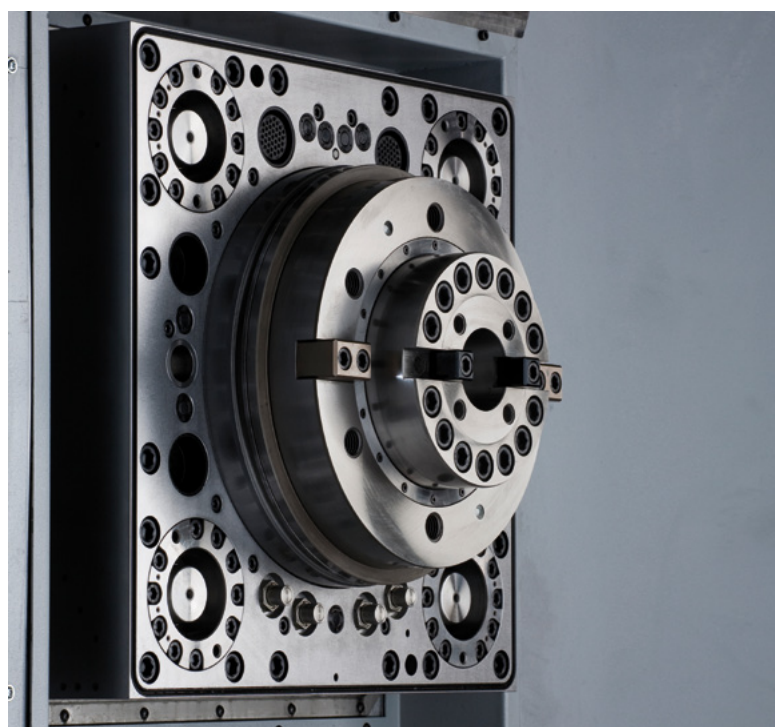
Precision boring due to highest rigidity: the robust machine bed with a zero backlash double pinion drive and rack combined with the highly ribbed steel column guarantee highest stiffness. These guidance concepts are precise and have a low rate of wear. They can be optionally equipped with controlled hydrostatics in the X, Y and Z axes or with a hydrostatic Z axis and preloaded linear compact roller guide ways in the X and Y axes. A completely closed guidance system, three droop compensations, a double precision spindle bearing with life cycle lubrication and thermal monitoring of the spindle bearings within the ram promote the most accurate boring and milling results.

PR 200 / PR 260 design

The machines have vibration damping, strongly ribbed cast iron beds with generously dimensioned guide ways. Two water-cooled AC motors provide excellent backlash free driving power in the X axis. The machine column is also cast and has highly reinforced outer walls. The Y drive is utilizing two external preloaded ball screws driven independently by two water-cooled AC motors. The machine guidance concepts are using controlled hydrostatics in the X, Y and Z axis that allow the highest precision and stiffness even during maximum cutting performances. Analogous to the PR 150/ PR 160 design, the hydrostatically guided ram is manufactured with a preloaded high precision spindle and cylinder roller bearings.



Robust, strongly ribbed machine design



Ram with automatic adapter plate

Optionally available

Automatic change of tools

- Tool magazine with up to 300 tools
- Horizontal/vertical change of tools
- Tool holder SK 50, SK 60, HSK 100, others upon request

Automatic change of aggregates via pick-up stations for

- A wide range of milling heads
- NC facing heads
- Spindle support, spindle extensions and special tools

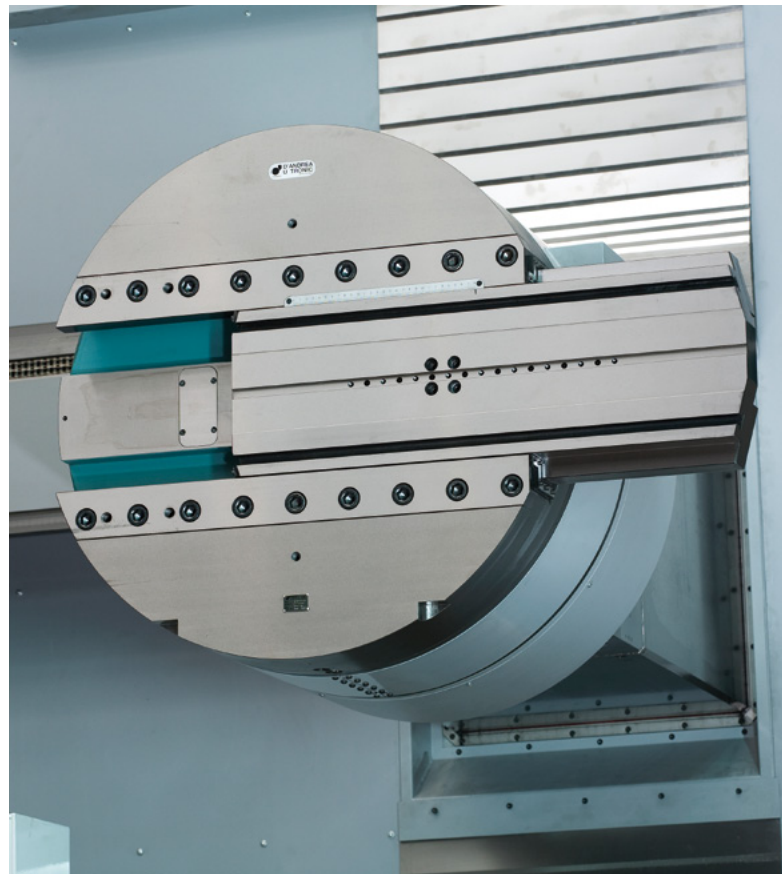
Process monitoring

- Tool breakage monitoring, automatic tool measurement
- Torque monitoring, collision monitoring
- Capture of production data and remote diagnosis

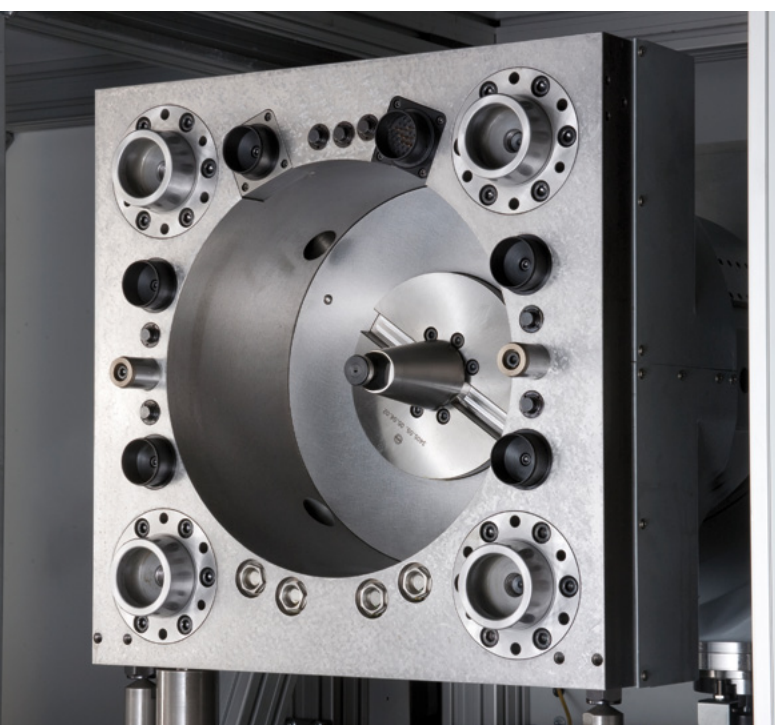
Technological solutions

- Rotary and traversing tables supporting a load of up to 250 t
- Tilting tables with controlled tilting axis 0 ... 90°
- Swiveling tables and high-speed carousel tables

// Further options are available upon request.



Ram with integrated facing slide



Pick-up station with milling head

Equipment variants

A wide range of heads – manufactured within our group of companies – is available. We offer the best milling head solution for every application:

- Vertical, universal and orthogonal milling heads with performances of up to 65 kW
- a NC facing head for NC contouring, facing and turning up to 1,250 mm

Other effective components for simplifying your machining processes are also available: a 3D touch probe including measurement cycles for automatic measurement of work pieces, pick-up stations for automatic accessory change and a wireless hand wheel for the utmost operator flexibility when setting the work pieces.

Individual solutions – we manufacture customer specific solutions on your request.

Layout of a PCR 200

Model with

X = 15,000 mm,

Y = 6,000 mm,

Z = 1,600 mm,

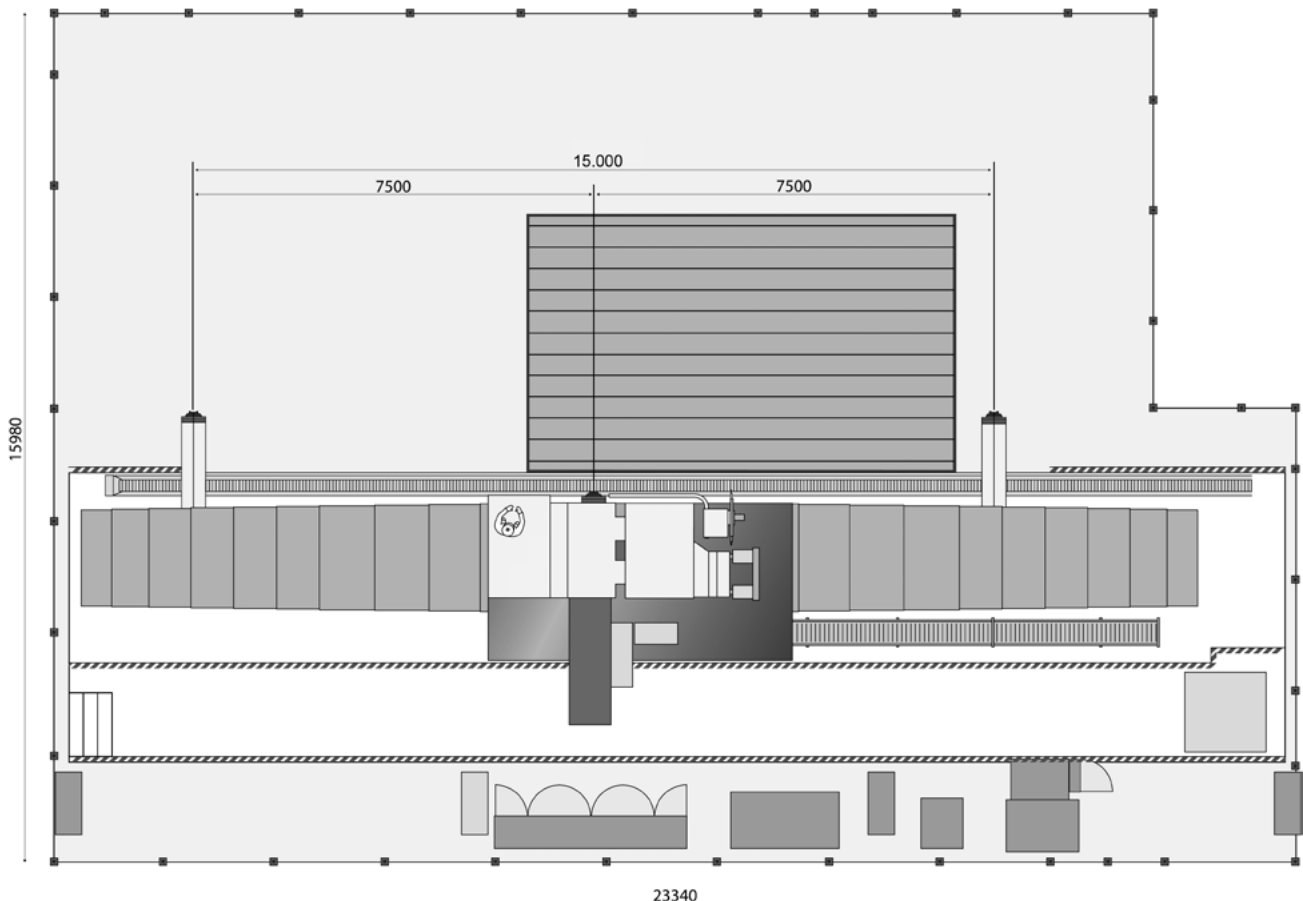
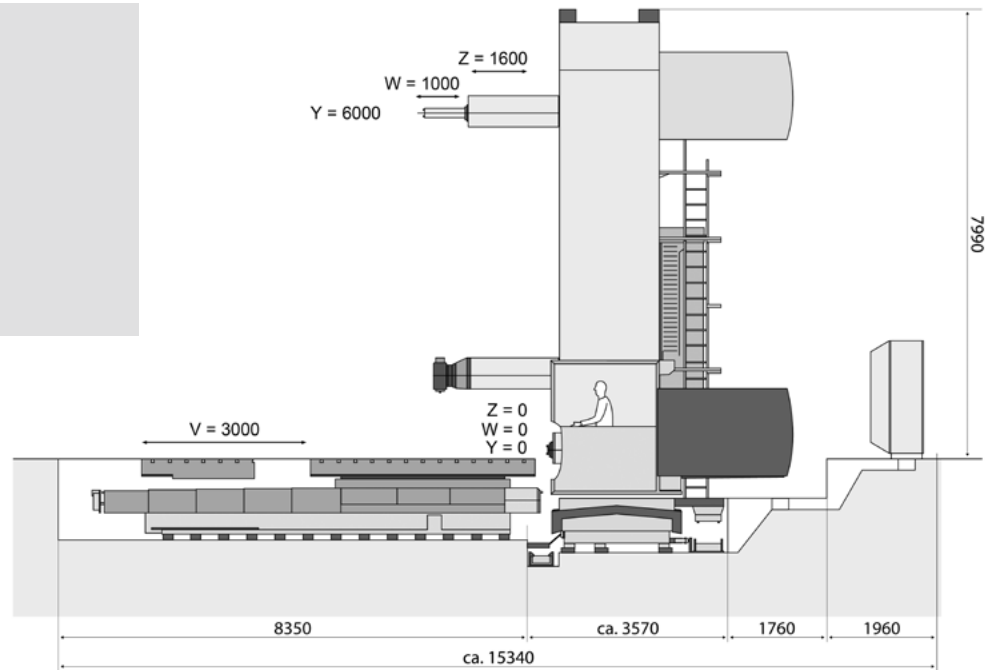
W = 1,000 mm,

Plate field:

7,000 x 4,000 mm,

Rotary and traversing table:

V = 3,000 mm



Technical data

			PR 150 / 160	PR 180	PR 200 / 260
Boring spindle					
Diameter	mm		150 / 162	180	200 / 262
Drive power, max.	kW		84	84	128
Torque, max.	Nm		6,100	6,100	15,000 / 19,000
Speed range, continuous, max.	U/min		5 ... 3,500	2,000	5 ... 2,000 / 1,600
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
Head stock vertical traverse	Y	mm	2,500	2,500	3,000
Opt. ext. in steps of 500 mm up to max.	Y	mm	6,000	6,000	10,000
RAM extension	Z	mm	1,000 / 1,500	1,500	1,600 / 1,700
Boring spindle axial traverse	W	mm	700 / 900	700 / 900	1,000 / 1,300
Feed range / Rapid traverses					
Feed range of all axes		mm / min	10,000	10,000	10,000
Rapid traverse of linear axes, max.		mm / min	25,000	25,000	20,000
Automatic tool changer					
Number of tools in the magazine			40 - 165	40 - 165	40 - 165
Tool diameter, max.		mm	250	250	420
Tool length, max.		mm	500	500	600
Tool weight, max.		kg	50	50	75
Net weight of basic machine		kg	38,500	41,200	81,500

Union
Werkzeugmaschinen GmbH Chemnitz
Clemens-Winkler-Straße 5
09116 Chemnitz / Germany

Phone: +49-371-8741-0
Fax: +49-371-8741-407

Email: info@unionchemnitz.de

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