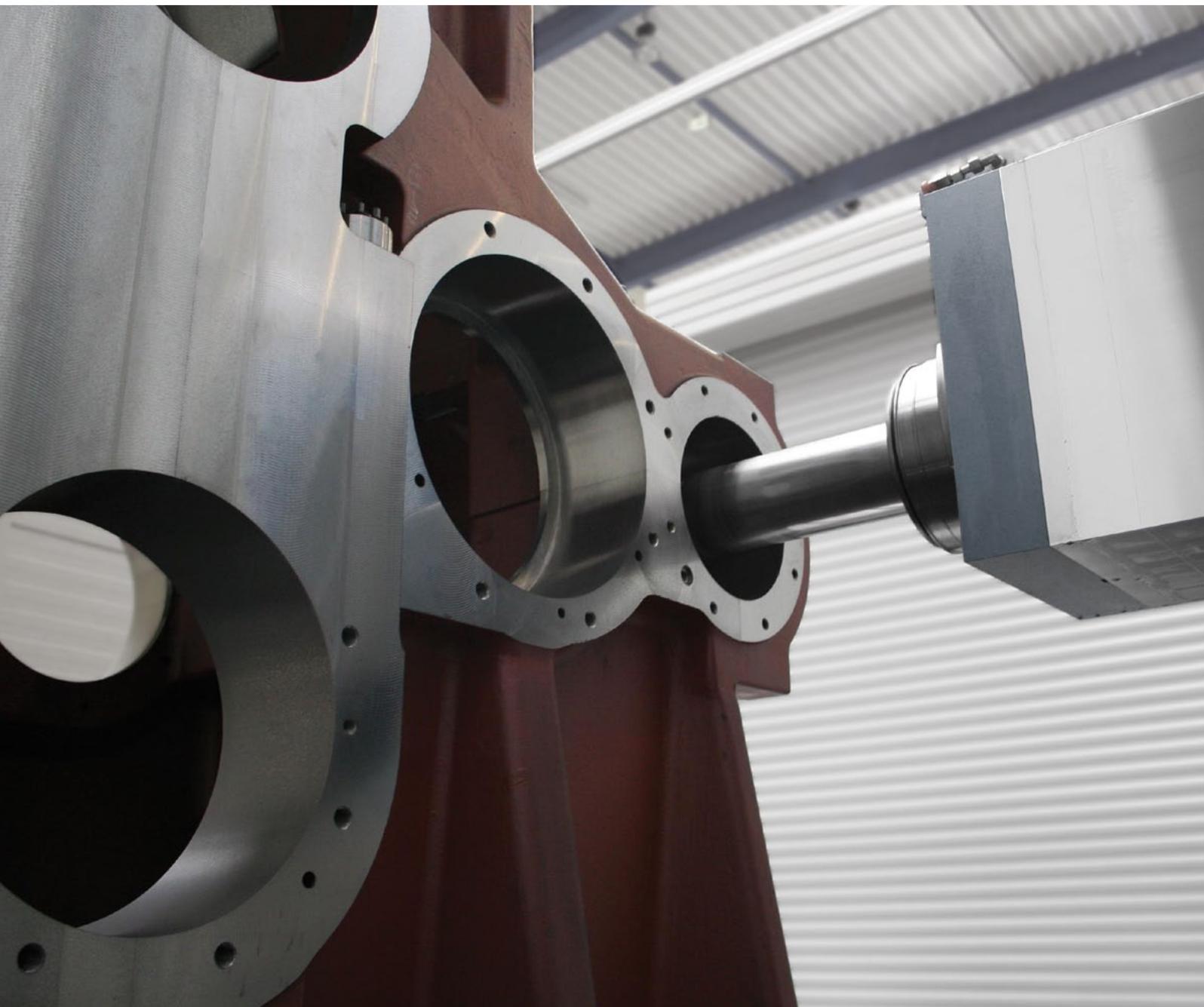


PR 130 / PR 150 / PR 160 / PR 180 / PR 200 / PR 260

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

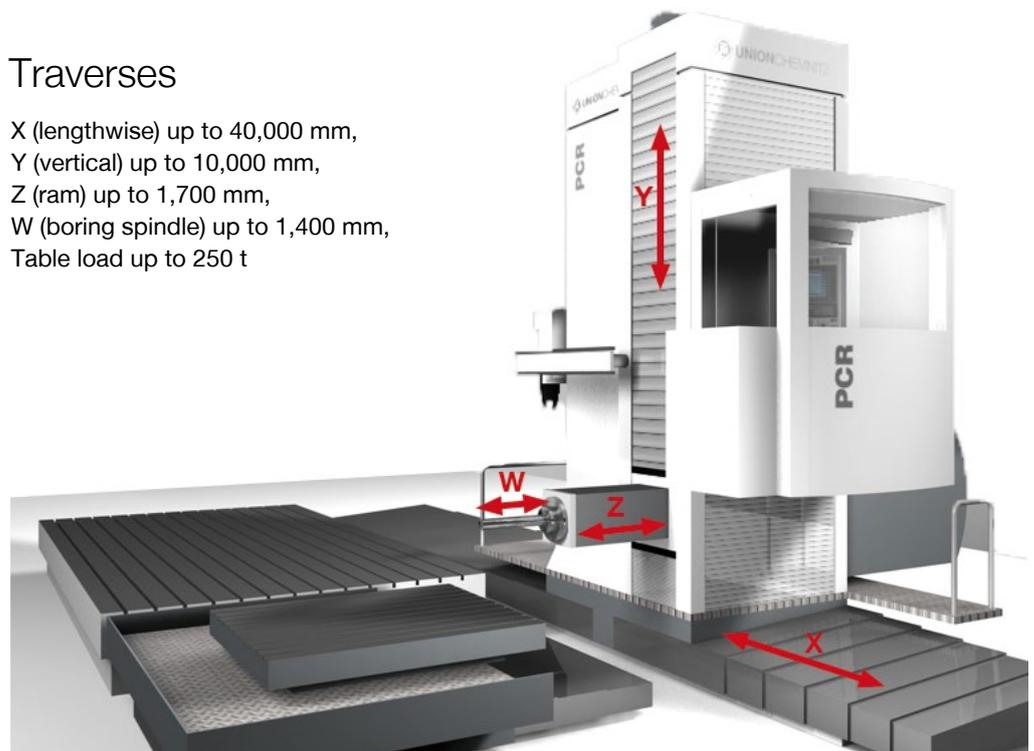
Perfect machine tools for precise and robust heavy-duty cutting, precise finish machining and effective 5 side machining of large, complex and heavy work pieces. Floor plates, rotary traversing and tilting tables, reversible clamps, automatic changing of spindle units or heavy tools via pick-up stations 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 hydrostatic guideways completely enclosing the ram
- Dynamically controlled hydrostatic systems
- 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 (option)
- Ceramic-coated boring spindle as standard for boring spindles of 150 mm or larger

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 1,400 mm,
 Table load up to 250 t



Classification

Floor type	P
with automatic tool changer	C
with ram	R
Boring spindle diameters available:	130, 150, 162, 180, 200 and 262 mm

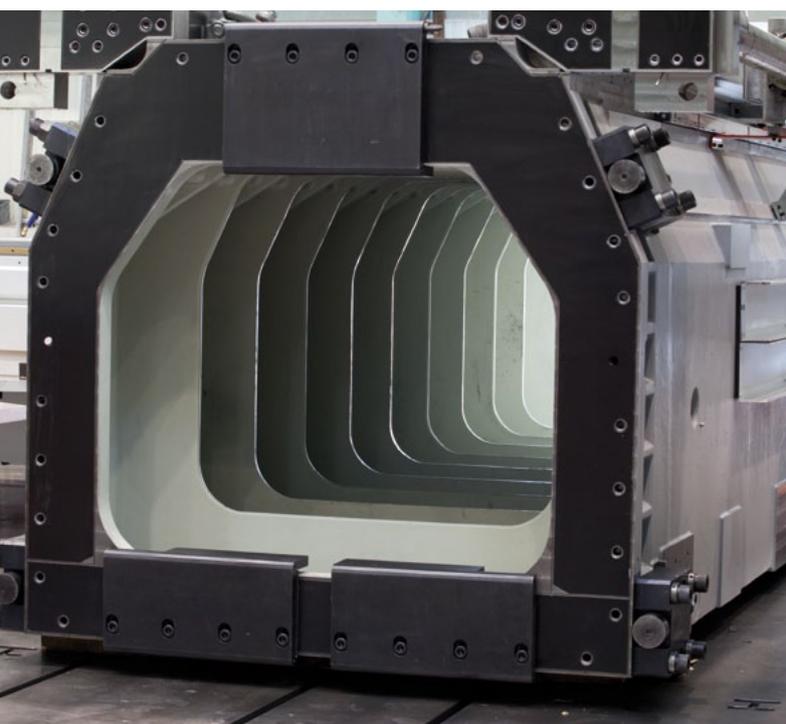
Adapted to every need – modular machine technology

PR 130 / PR 150 / PR 160 / PR 180 design

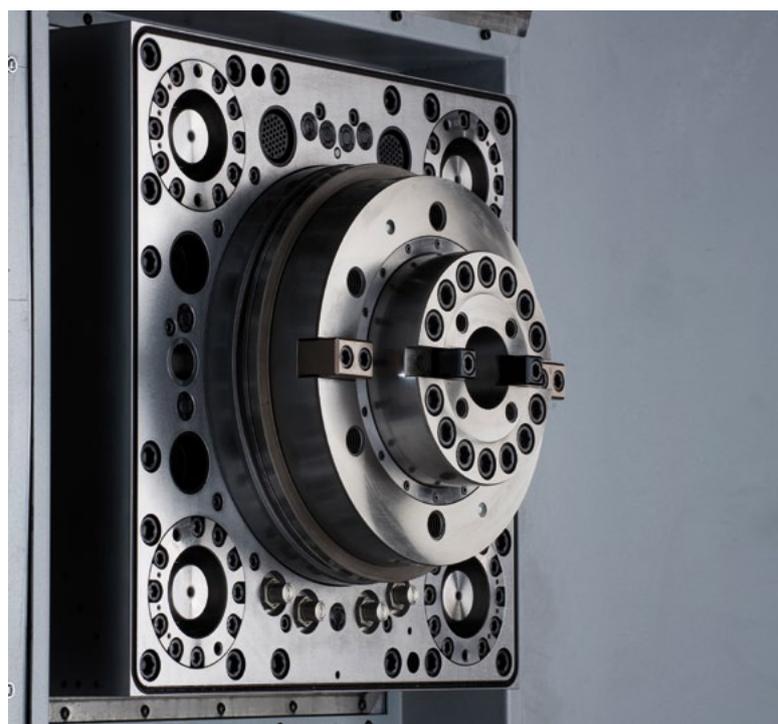
Precision boring due to highest rigidity: the robust machine bed with a zero backlash double pinion drive and rack combined with the highly ribbed steel column guarantee the highest stiffness. These guidance concepts are precise and have a low rate of wear. You can choose between controlled hydrostatics or preloaded linear roller guideways. 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 guideways. Water-cooled AC motors provide for more than sufficient performances of the boring spindle and feeding forces in all axes. 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. The hydrostatically guided ram is manufactured with a preloaded high precision spindle and cylinder roller bearings.



Robust, strongly ribbed machine column of the PR 200 / PR 260 machines



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°
- 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 85 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 upon your request.

Layout of a PCR 200 – example

Model with

X = 15,000 mm,

Y = 6,000 mm,

Z = 1,600 mm,

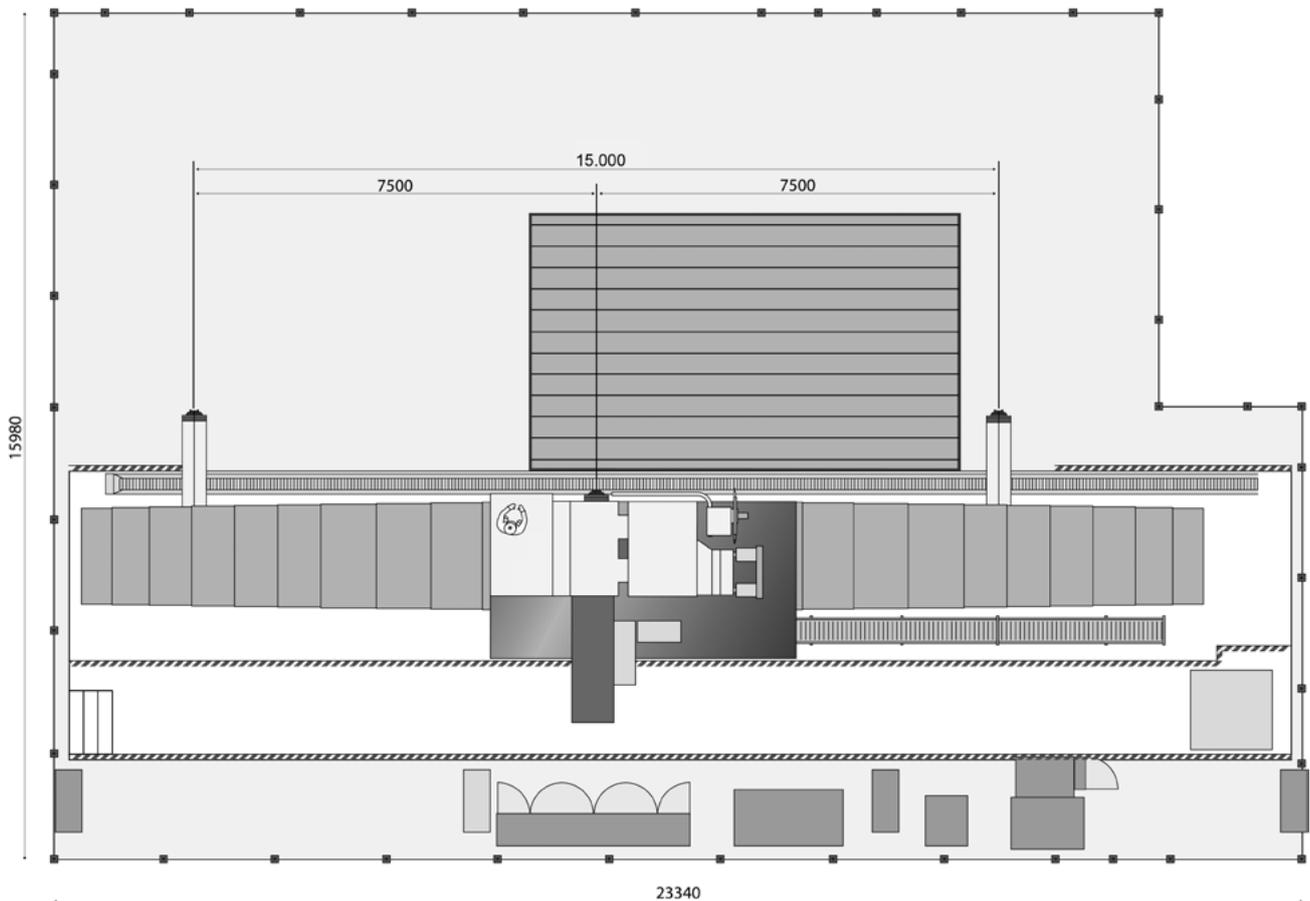
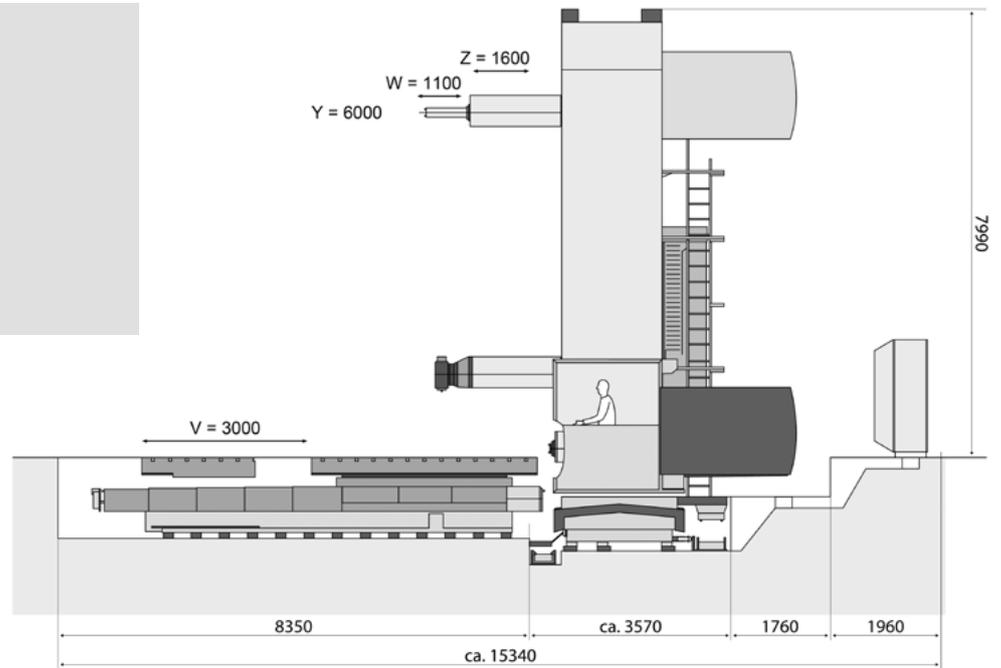
W = 1,100 mm

Plate field:

7,000 x 4,000 mm

Rotary and traversing table:

V = 3,000 mm



Technical data

PR 130/150¹PR 150/160/180¹PR 200/260¹

Boring spindle					
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, continuous	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
Head stock vertical traverse	Y	mm	2,000	2,500	3,000
Opt. ext. in steps of 500 mm up to max.	Y	mm	4,500	6,500	10,000
RAM extension, max.	Z	mm	1,100	1,500	1,700
Boring spindle axial traverse	W	mm	750	1,000	1,400
Feed range / 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
Equipment variants					
Automatic tool change (40 - 300 magazine places)					
Plate field, rotary, traversing and tilting tables, fast rotating tables					
Additional equipment: milling heads, NC facing head, spindle support, spindle extension (increased speed or torque)					
Pick-up station					

¹ with ceramic-coated boring spindle from 150 mm diameter

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