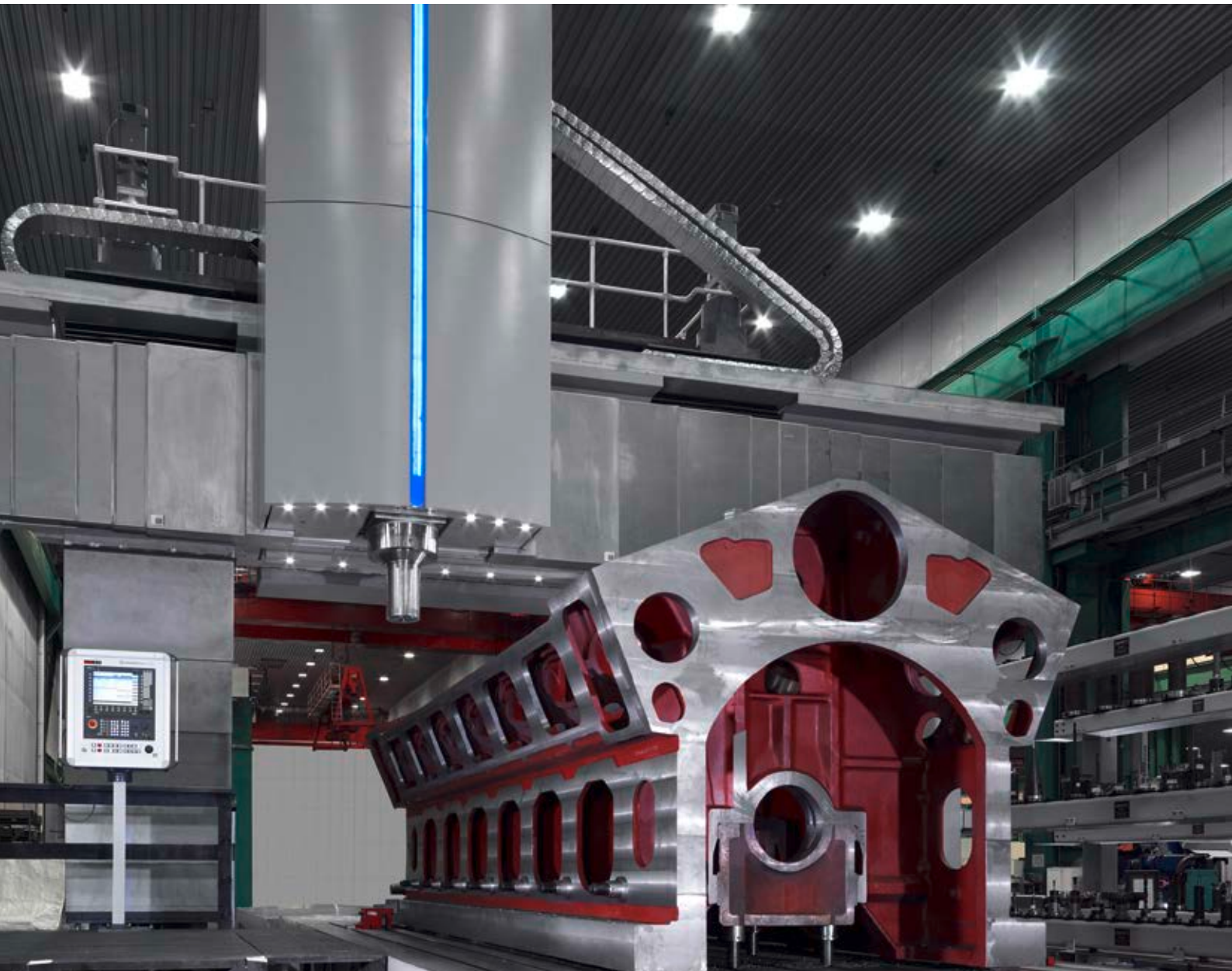




Portal Milling Machine

In Table, Twin-Table and Gantry Design



Highest Quality and Performance

The portal milling machines of the ProfiMill series are setting standards in the market with regard to precision and performance. The ProfiMill machines have been developed for the precise machining of workpieces and adapt flexibly to your individual demands.

In developing the ProfiMill concept WaldrichSiegen has worked consistently towards a maximum standardization of all major machine components. Hence, the ProfiMill is both technically and economically the optimal solution for economic machining of complex large workpieces.

The Modular Design of the ProfiMill:

- Table or gantry design
- Twin-table design
- Table with integrated rotary table
- Floor plate with integrated rotary table
- Pallet system
- Fixed or movable cross rail
- Dimensions between 3,000 and 14,000 mm



The ProfiMill processes machine beds with highest precision

Machine Highlights:

- All major machine components are made of high quality cast iron
- Hydrostatic guideways in all axes
- Highest damping with simultaneously high stiffness
- Highest thermostability for longterm precision over the entire day
- Masterhead interface for milling units

ProfiMill – Your Advantages at a Glance

- ▶ Significant increase of performance and torque compared to all other concepts already available on the global market
- ▶ Increase of operational availability while reducing maintenance and service costs
- ▶ Reproducible machine geometry at any time
- ▶ Modular design system for optimal adaption to customer requirements
- ▶ High profitability through energy efficiency, maintenance and service
- ▶ Comprehensive equipment



ProfiMill in gantry design

Highest Productivity and Precision – Portal Milling Machine ProfiMill

Fully Hydrostatic Guidance in all Axes

Hydrostatic guideways and drives guarantee wear free machining and high damping properties.

- Highest static and dynamic stiffness
- Maximum table load and zero backlash
- Hydrostatic worm drives allow for ultimate stiffness of the drives needed for the move of maximum mass
- Workpiece weights up to 500 t



Masterhead interface for different machining units

Masterhead Concept up to 140 kW

- Masterhead interface for all machining units
- Highest availability
- High temperature stability prevents geometrical distortion
- Long service life of bearings supporting the drive shaft
- Low noise level in the power train
- Exchangeable machining units for highest performance and highly diverse working processes



ProfiMill slider with integrated c-axis and milling head

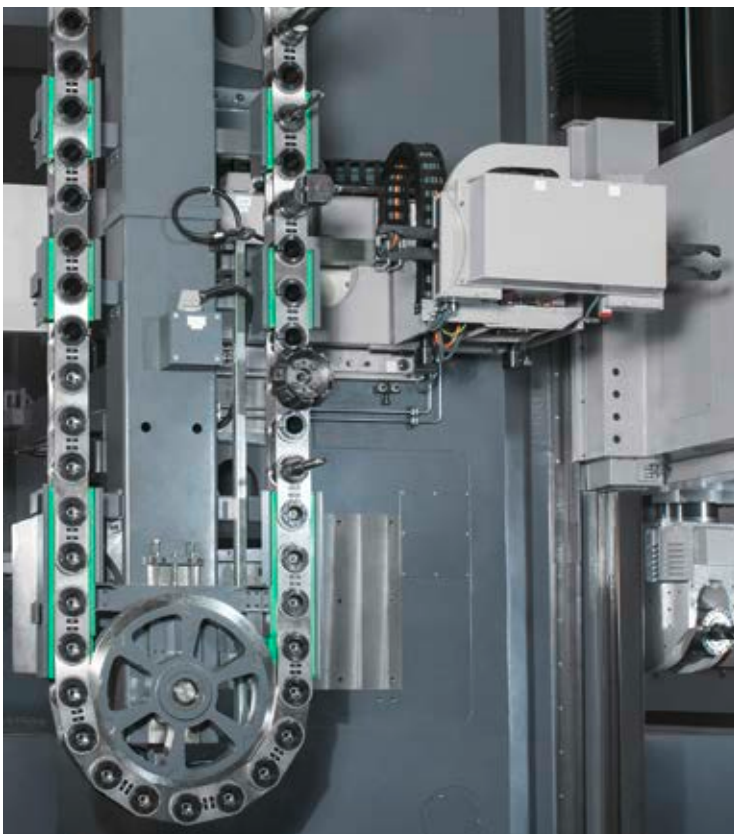
Innovative Machine Technology for High Performance

Machine Structure of Major Machine Components

- Preloaded ball screws guarantee for highly precise positioning of the adjustable cross rail
- Excellent positioning through electrically preloaded master-slave-drives
- Minimal deflections of the system are compensated by applying compensation curves to the portal and cross rail guideways



Effective 5-axis machining of workpieces



Tool changer with chain magazine

Tool Changer

WaldrichSiegen offers the optimal tool changer for every number of required tools.

- Chain type changer with 40 – 140 pockets
- Rack type tool changer with 80 – 500 pockets
- Tool arena with buckling arm robot with up to 400 pockets
- Individual pockets for special tools and individual changing systems can be provided

A separate tool loading station allows preparation of the magazine with new tools for the next workpiece to be machined parallel to the production process.



Depending on the requirements, all machining units are automatically loaded by an attachment changer

Machining Unit Changer

The wide range of different workpieces requires a large number of optional machining units which will be automatically exchanged via an attachment changer depending on the application.

The exact positioning of the changing carriage is carried out performed by a servo drive.

The machining units are accessible for inspection and maintenance during machine operation.

Through various design variants, the change system is adapted to the machine, the required space and the number of machining units.



Optional machining units for different workpiece shapes

Machining Units

The machining units are designed and manufactured in-house at WaldrichSiegen, including all the required gears. A milling head test bench is available for pre-commissioning.

- Standard spindle units for vertical and horizontal machining
- Expansion variants in almost all diameter, length and width ratios
- Multiple-axis, NC-controlled universal machining units
- Grinding spindles
- Turning tools
- Facing heads

Accessories and Options

With a broad range of accessories and options, the operational capability and productivity can be further enhanced:

- Optional machining units built in-house
- Automatic attachment changer
- Tool changers
- Automatic tool management
- Operating equipment such as operating or lifting platforms according to customer requirements

Special solutions are available on request.



Tool change tower with manipulator

Control and Industry 4.0

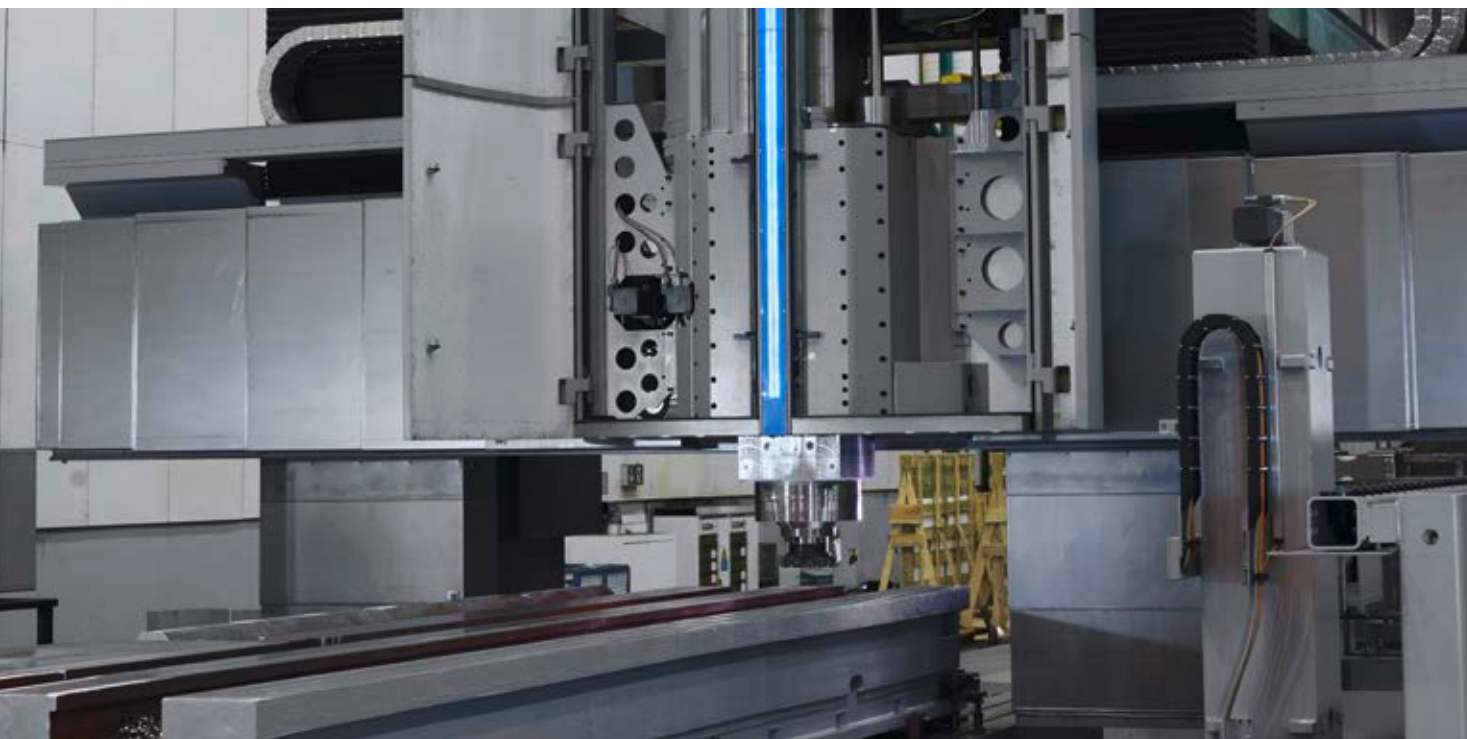
WaldrichSiegen offers you a practical access to Industry 4.0 and intelligent, application-oriented linking of data.

The machines are equipped with the latest control systems.

- Preventive maintenance
- Teleservice
- Collision monitoring
- Network connection
- Machine data logging and provision (OPC UA)
- Control panel



Protected control cabin with view into the working space



Milling and boring unit for all types of processing

Technical Data

Milling and Boring Unit

	MR 450	MR 550	MR 600
Power	38 – 71 kW	80 – 103 kW	100 – 140 kW
Torque	up to 2,750 Nm	up to 7,500 Nm	8,000 – 11,000 Nm
Speed, continuous, up to	6,000 rpm	4,000 rpm	2,500 rpm
Nominal speed	260 rpm	130 rpm	120 rpm
Traverses	up to 2,500 mm	up to 4,000 mm	up to 4,000 mm
Cross section	450 × 450 mm	550 × 550 mm	600 × 600 mm
C-axis CNC positioning	± 190 degrees, continuous	± 190 degrees via Hirth serration with 0.5 degree steps or continuous	± 190 degrees via Hirth serration with 0.5 degree steps or continuous

Dimensions

Clearance width	3,000 – 14,000 mm
Clearance height	2,000 – 12,000 mm
Table widths	2,500 – 8,500 mm
Table lengths	starting 4,000 mm
Table traverse	table length + 1,000 mm
Gantry set-up area	2,500 – 13,000 mm
Gantry set-up length	customer specification
Portal traverse	set-up length + 1,000 mm

Rotary Table

Diameter	3,000 mm – 12,000 mm
Speed	25 – 300 rpm
Workpiece weight	500 t



The glass housing provides insights into the work area

Equipment

Fixed cross rail	
Movable cross rail	as NC-controlled W-axis
Automatic tool changer	12 – 500 tools
Automatic unit changer	4 – 20 units
Attachment units	according to application
Single table / double table / floor plate	with integrated rotary table
Pallet system	with single cart, double cart, loading stations, storage stations

