

MC5

DEPENDABLE GRINDING
FOR MAXIMUM PRODUCTION



C.O.R.E.®

 **BLOHM**  **JUNG**

A member of UNITED MACHINING SOLUTIONS

MC5

DIMENSIONS

- X-axis (longitudinal stroke): 700 mm
- Y-axis (vertical stroke): 550 mm
- Z-axis (transverse stroke): 560 mm

HARDWARE

- Moving column concept
- Linear guideways and direct measuring scales for all axes
- Grinding wheel size up to 400 mm
- Spindle power: 27.5 kW
- Spindle speeds up to 8,000 min⁻¹
- 5-axis system
- C.O.R.E. panel

SOFTWARE

- Pre-programmed grinding and dressing cycles
- Intuitive operation
- Focus on work and production safety
- CAD/CAM connection
- C.O.R.E. operating system

« Whether precision or profile grinding – the MC5 masters every task in one machine: efficient, compact, ready for automation. »

YOUR BENEFIT

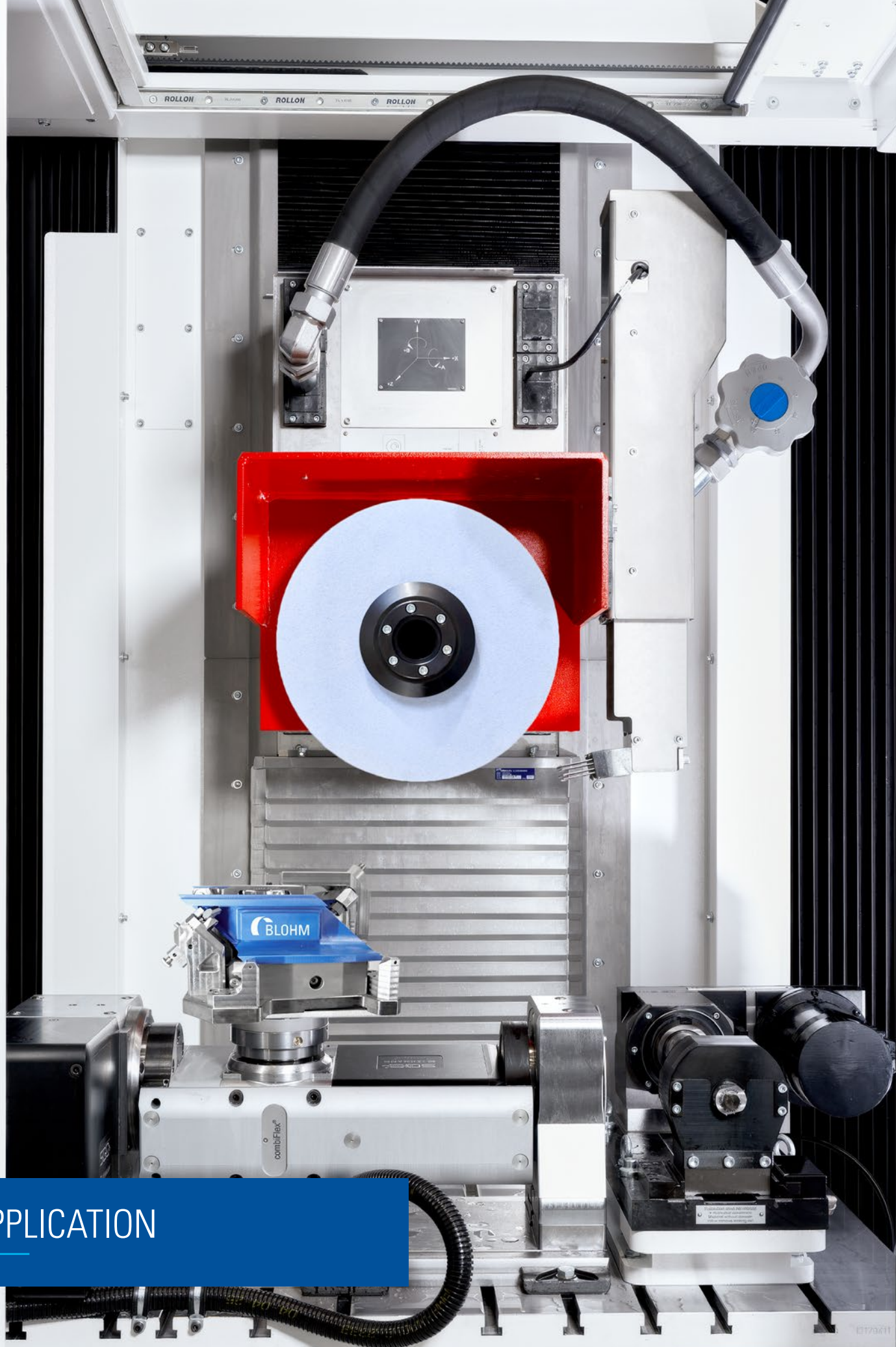
BLOHM designed the MC5 as a versatile grinding center for precision and profile grinding in a single machine. With its moving column concept, 5-axis flexibility and spindle speeds up to $8,000 \text{ min}^{-1}$, it handles a wide range of workpieces, from turbine components to precision tooling.

The all-abrasive technology approach allows the best cutting technology to be used for every dedicated part. Linear guideways and direct measuring scales on all axes ensure highest accuracy, while pre-programmed grinding and dressing cycles keep setup and changeover times to a minimum.

The MC5's compact footprint delivers maximum productivity per square meter, making it your efficient solution for flexible grinding production.

- All-abrasive technology machine using the best cutting technology for any dedicated part
- Minimized downtimes for changeover to increase productivity
- Optimized floor space for maximum productivity per square meter
- Minimal maintenance requirements, made as easy as possible
- Digital Solutions™ products used directly on the machine
- Fast support thanks to direct machine interaction





APPLICATION

APPLICATION EXAMPLES AND MACHINING CAPABILITIES

In the aviation and energy sectors, component complexity continues to increase while tolerances become ever tighter. The MC5 grinding center meets these challenges through its 5-axis flexibility and compact, production-ready design.

From small aerospace turbine blades to industrial gas turbine vanes, from shrouded designs to precision-ground root forms – the MC5 handles the full spectrum of turbine components. Beyond turbines, the same platform produces thread rolling dies, mold components, gear wheels, and bearing rings with equal precision.

Turbine



Mold and Die

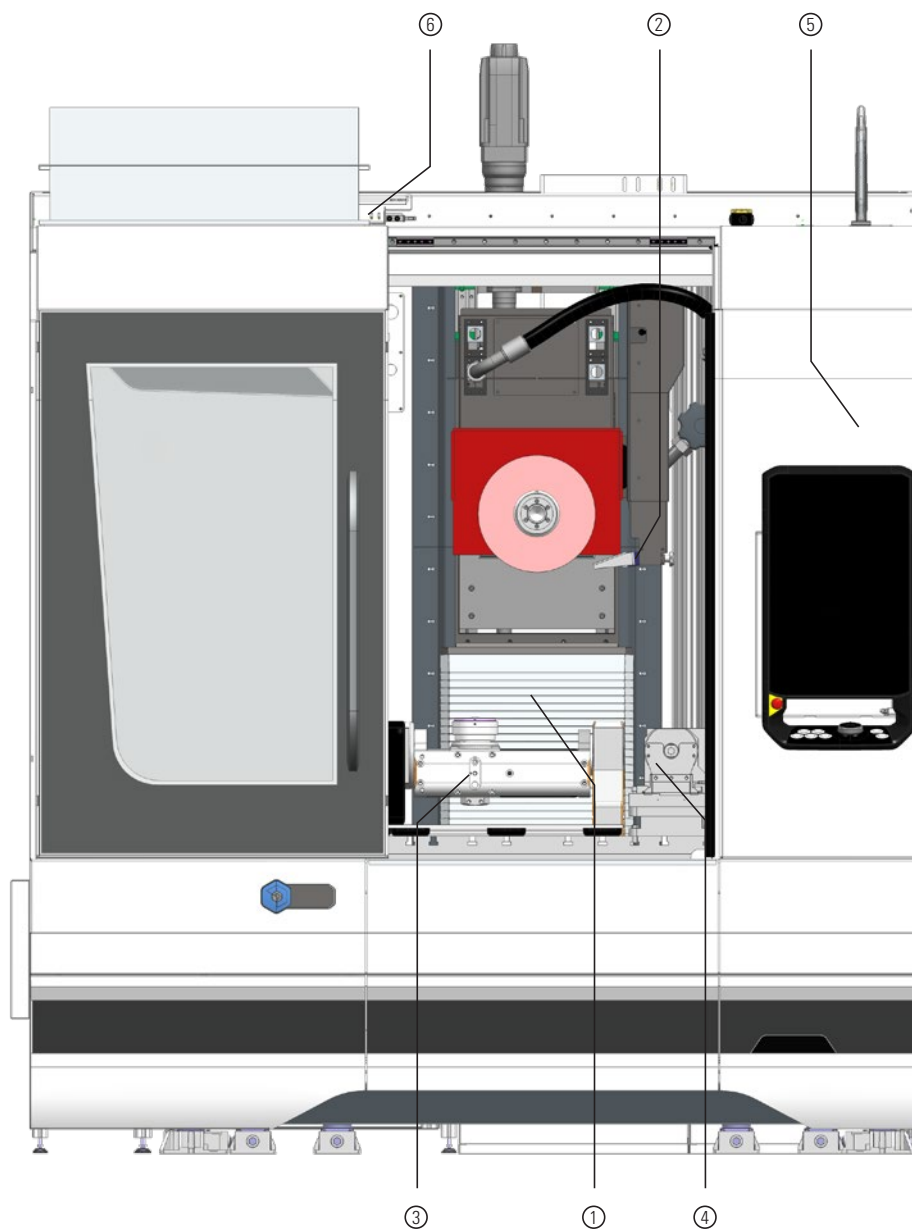


Various parts



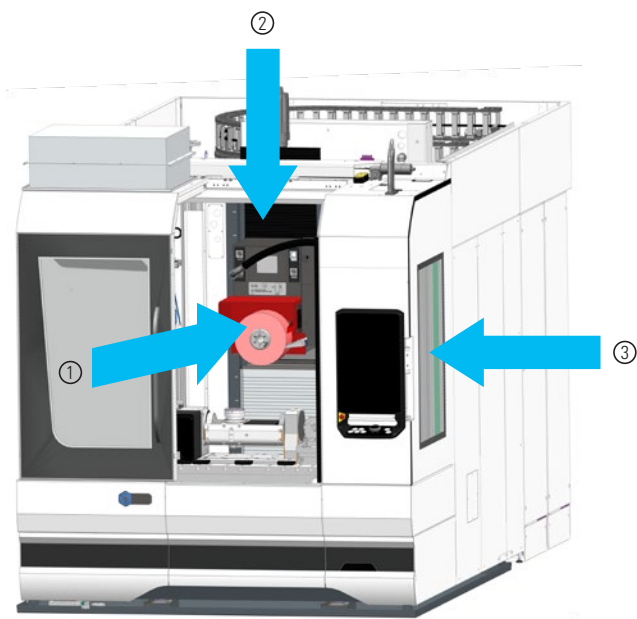
AUTOMATION

- ① MC5 Working area
- ② Automatic coolant nozzle
- ③ NC indexing head 2 axis
- ④ Dressing device
- ⑤ Safty splash guard cabin
- ⑥ Automatic door drive



Automation and manufacturing cells

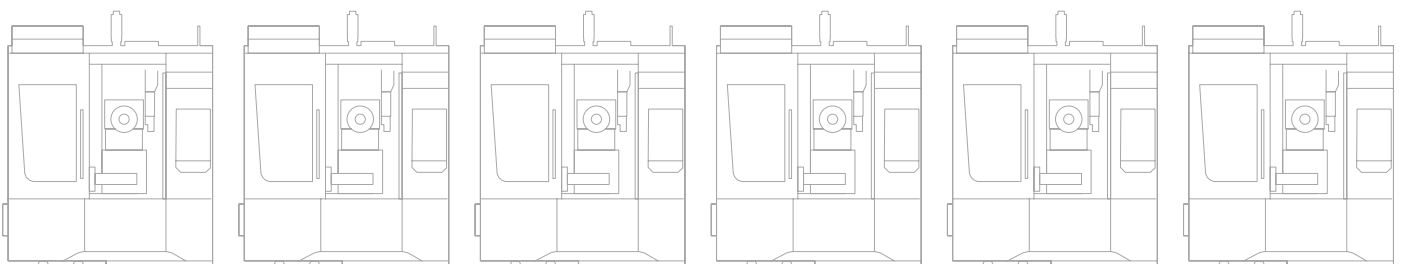
The MC5 is designed for automation from the ground up. Three loading concepts provide maximum flexibility: operator or robot access from the front, crane loading from the top, and robot loading from the side via the optional automated pallet system. The automatic door drive enables seamless integration of robots and linear systems in every expansion stage.



- ① Front access for operator or robot
- ② Crane loading from the top
- ③ Robotic side loading

Space-saving integration into manufacturing cells

Thanks to its compact footprint, several MC5 machines can be combined into space-saving manufacturing cells, delivering maximum productivity per square meter. The integration of additional process steps such as cleaning, inspection and measuring is possible. BLOHM's expertise and experience with realized automation solutions ensure maximum productivity and long-term competitiveness.

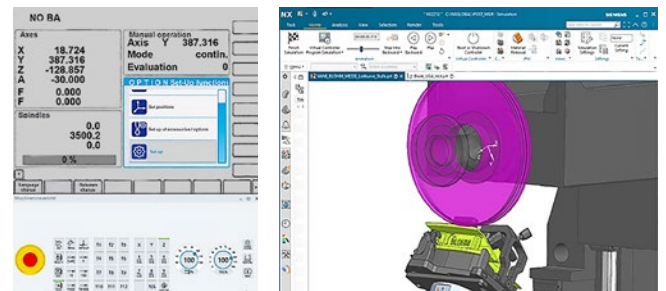
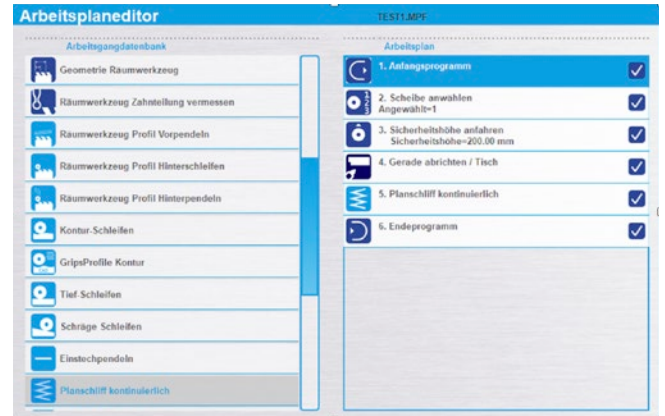


PROGRAMMING

Intuitive programming

The best machines in a performance class offer more than just technically advanced components. Their high capabilities are made possible by the use of perfectly matched software and technology. The MC5 is therefore equipped with the SIEMENS SINUMERIK ONE control with graphical operator guidance developed specifically for grinding applications. Visualized and parameterizable grinding and dressing cycles are available for efficient programming of the workpieces.

A SIEMENS NX postprocessor is available for CAM process development. The generated NC programs take account of the BLOHM grinding cycles. As a result, the programs can be easily edited on the machine control unit via operator guidance.



DIGITAL SUPPORT: ENSURE PRODUCTIVITY, AVOID DOWNTIME

Health monitoring

In C.O.R.E. the load of the axis drive motors are traced and recorded. The data is recorded after assembly of the axes and saved as a fingerprint of the individual axes. Monitoring live data to baseline helps detect small anomalies before failures occur. The HEALTH MONITOR is the tool for predictive maintenance.

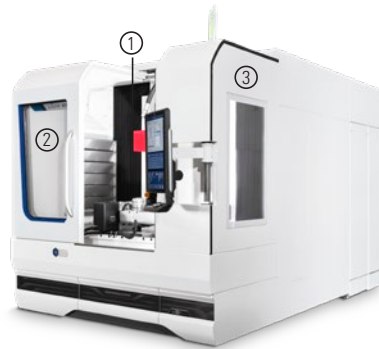
Remote service

Remote Service is your digital helpline for BLOHM CustomerCare. Alarm and error logs, as well as machine data, are transmitted directly via the service request on the C.O.R.E. panel or via smartphone, ensuring fast and professional support.

EASE OF OPERATION AND MAINTENANCE

Operation

The machine operates via the swiveling control panel with a view of the working area in the front of the machine. When the splash guard is opened, heavy workpieces including clamping fixture can also be loaded from the top with a gantry or jib crane. Loading from the right side by an automated pallet system is an option.



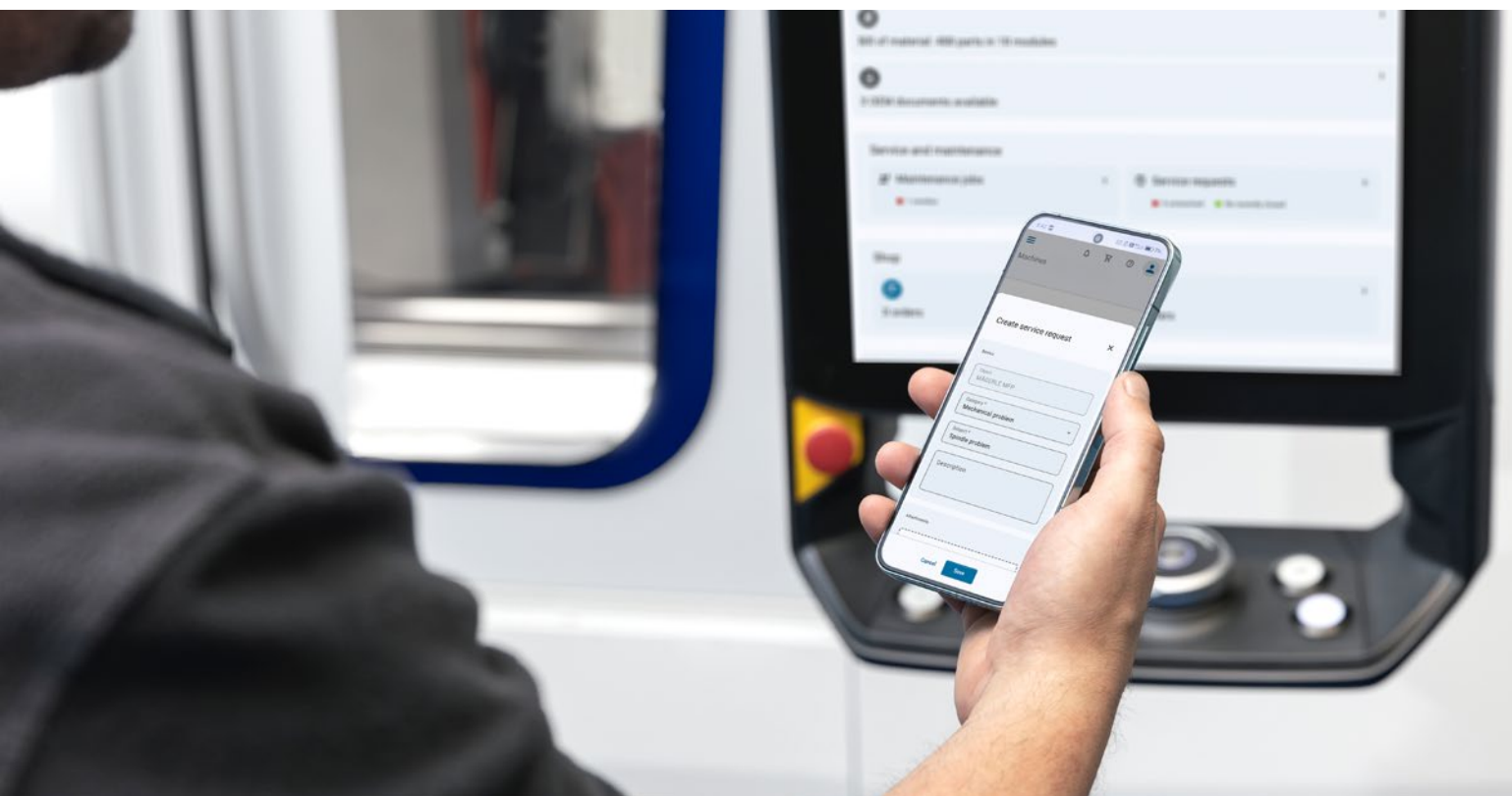
- ① Working area
- ② Splash guard opened at the top
- ③ Automatic side door, closed

Maintenance

Access for maintenance of the respective units and components of the entire machine is centrally positioned and designed to make maintenance easy. Remote maintenance activities can thus be efficiently performed.



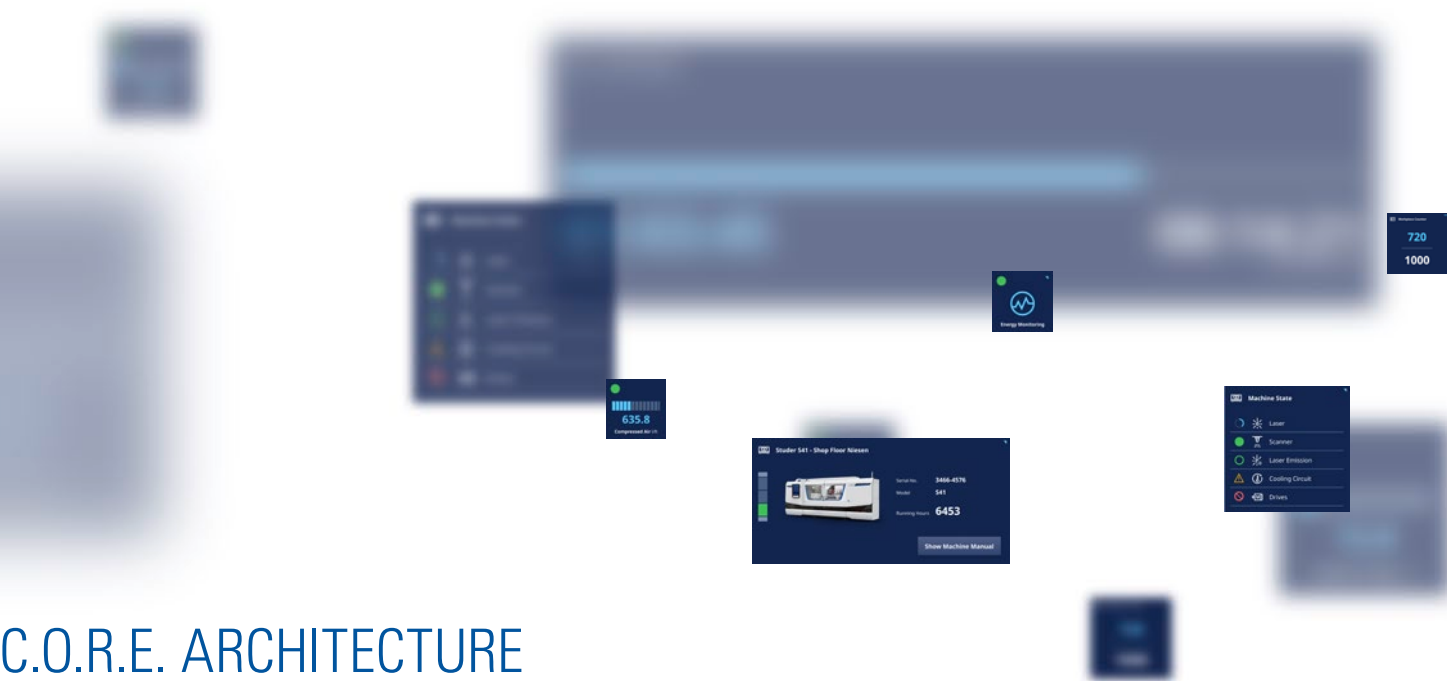
- ① Easy access to all pneumatic, hydraulic and other maintenance-relevant components



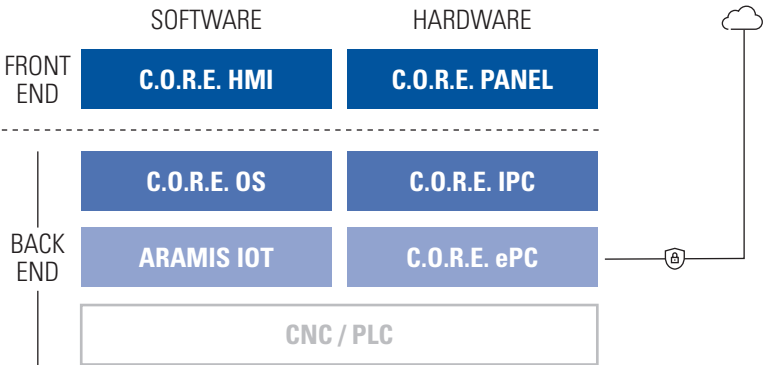
C.O.R.E. – CUSTOMER ORIENTED REVOLUTION

With C.O.R.E., we make your production fit for the digital future. The C.O.R.E. system from UNITED GRINDING is a future-oriented hardware and software platform that takes the operation, networking and digitalization of machine tools to a new level. C.O.R.E. was developed to make our machines and your production environment fit for the digital industry of tomorrow. Operation is simple and intuitive via the multi-touch display, with a modern and customizable user interface. Thanks to the standard-

ized hardware and software architecture, all UNITED GRINDING machines equipped with C.O.R.E. technology are network-compatible and can be easily integrated into digital factories. All common interface formats are supported. C.O.R.E.'s modern IoT technology core also enables data-based value-added services and integration and communication with cloud-based customer platforms.



C.O.R.E. ARCHITECTURE



C.O.R.E. PANEL & HMI – NEXT-GENERATION MACHINE OPERATION

Like a large smartphone

With C.O.R.E., UNITED GRINDING has redefined the interaction between man and machine tool. Modern design combined with the most advanced technology to meet the operator requirements of tomorrow. The 24" multi-touch display enables navigation by touch and swipe gestures, similar to a smartphone. The uniform HMI for all UNITED GRINDING machines facilitates set-up, operation and general maintenance. Customizable user roles enable the display and restriction to role-relevant information and thus increase user-friendliness and safety. With the integrated front camera on the panel, assistance can be provided directly at the machine via Remote Service.

Future-proof

The digital capabilities of your machine with C.O.R.E. technology continue to grow. The C.O.R.E. HMI is continuously being expanded with new functionalities, widgets and apps to make it even more user-friendly and customizable. The arrangement, type and size of the tiles on the HMI can be customized so that every machine operator always has the information that is important to him or her at a glance.

In future, new software updates and functionalities will be easy to install via the customer portal, so you will always be up to date.



Technical data

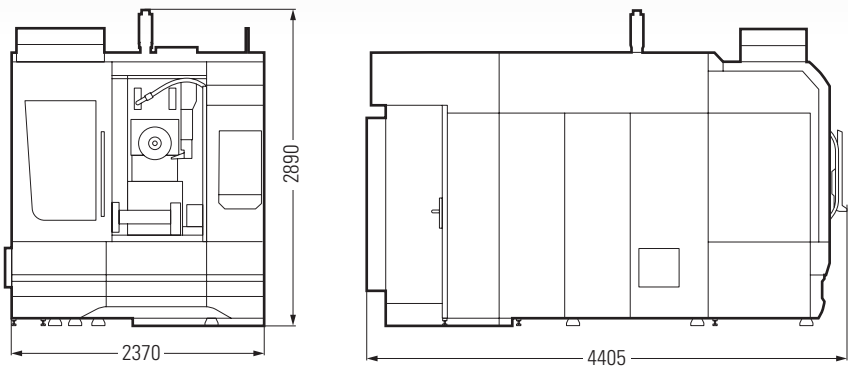
- 24" Full HD Multitouch-Display
- Override rotary switch with cycle start
- Standardized function keys
- Integrated 2-hand start
- Electronic key system (RFID)
- Integrated front camera
- Tilt adjustment

TECHNICAL DATA

MC5

X-axis,	Longitudinal stroke	700 mm
	Travel speed	0 – 30,000 mm/min
Y-axis,	Longitudinal stroke	550 mm
	Travel speed	0 – 12,000 mm/min
Z-axis,	Longitudinal stroke	560 mm
	Travel speed	0 – 12,000 mm/min
Maximum continuous power grinding wheel drive		27.5 kW
Rpm range max.		1,250 – 8,000 min ⁻¹
Profile dressing device on table, roll width, max.		200 mm
Grinding wheel dimensions max. (d x w)		400 x 150 mm
Quick-clamping spindles		HSK-A80
Measuring system with measuring probe (optional)		

Technical specifications subject to change



MC5

Dimensions in mm. Options, accessories, or doors in the open position may increase the dimensions of the machine. Subject to change without notice due to technical progress and errors excepted. Information provided without guarantee.

WE ARE HERE FOR YOU!

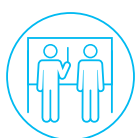
Our products are designed to meet customer demands for as long as possible, they are intended to operate efficiently, reliably, and be available at any time.

From “Start up” through to “Retrofit” – our Customer Care is there for you throughout the working life of your machine. For this reason, you can rely on competent HelpLines worldwide and Service Engineers near you:

- We will provide you with fast, straight-forward support.
- We will help to increase your productivity.
- We work professionally, reliably and transparently.
- We will provide a professional solution to your problems.



Start up
Commissioning
Extension of the guarantee



Qualification
Training
Product support



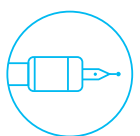
Prevention
Maintenance
Inspection



Service
Customer service
Customer advice
Helpline



Digital Solutions
Remote Service



Material
Spare parts
Replacement parts
Accessories



Rebuild
Machine overhauling
Refurbishing of assemblies



Retrofit
Conversions
Retrofitting parts

DIGITAL SOLUTIONS

Digital Solutions stand for products and services that open up the data space of your machine through IoT-based networking, enable seamless integration across the entire store floor in digital value-added networks and provide data-based value-added services and

digital services – for greater efficiency, productivity and competitiveness. You can find out more about the services of Digital Solutions on our website under the Customer Care section.

CUSTOMER CARE



BLOHM JUNG GMBH

Productivity, performance, and precision—these are the three characteristics that users worldwide associate with flat and profile grinding machines from BLOHM and JUNG. For decades, our machines have been successfully used in a wide variety of applications and under a wide range of conditions. The experience gained from more than 35,000 machines delivered is continuously incorporated into innovations and further developments – with the aim of sustainably increasing our customers' production efficiency.

Our portfolio ranges from surface grinding machines and universal solutions to customer-specific production machines. Our service and techno-

logy specialists accompany our customers throughout the entire life cycle of the machines – from grinding trials and training to maintenance contracts and retrofit projects. Personal, fast, and competent.

In 2008, the two established brands BLOHM and JUNG were merged under the umbrella of Blohm Jung GmbH. Since then, this combined expertise has set new standards in precision, quality, and cost-effectiveness. As part of UNITED MACHINING SOLUTIONS and with a global sales and service network, Blohm Jung GmbH supports its customers worldwide – and is always close at hand.



ABOUT US

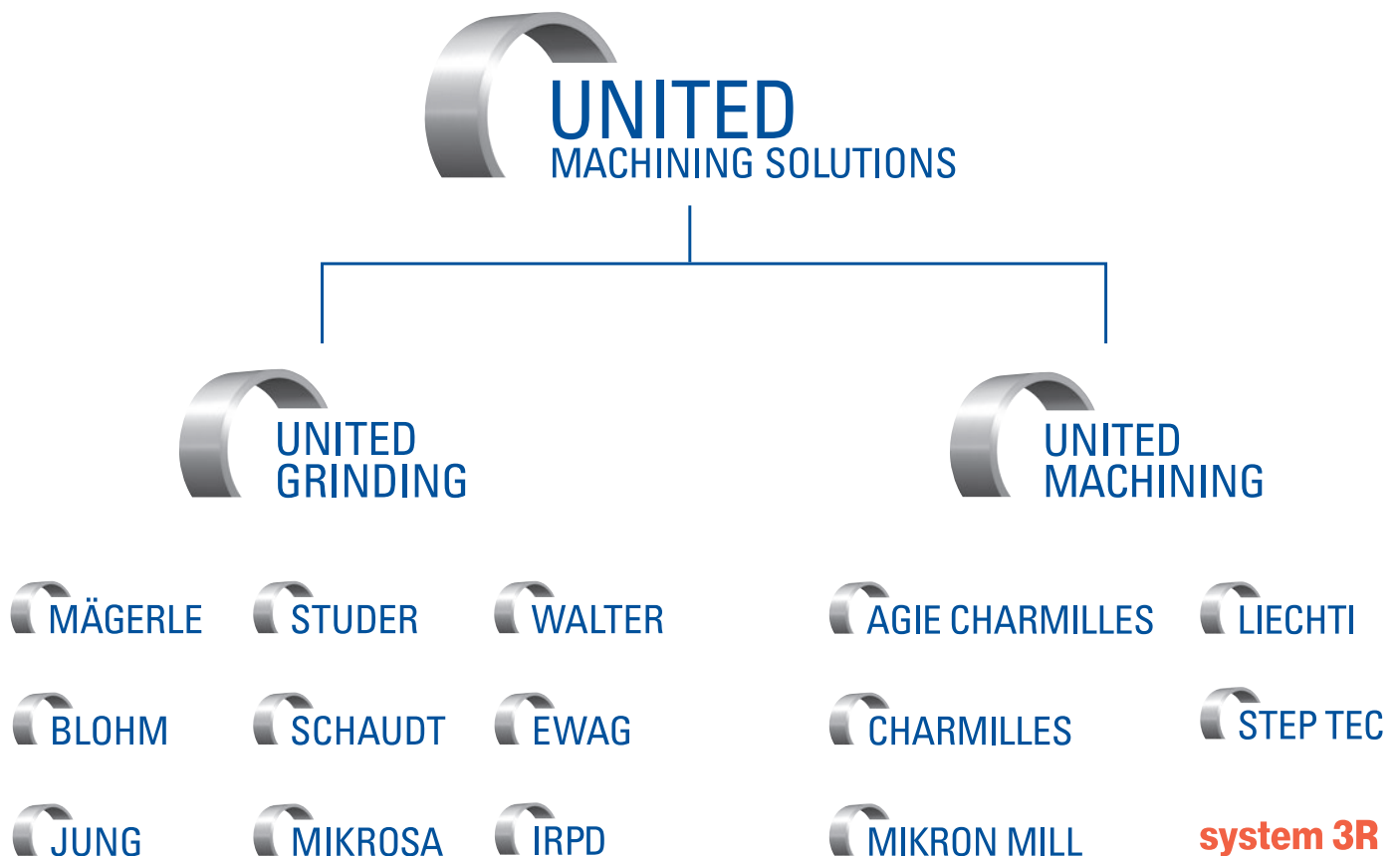
UNITED MACHINING SOLUTIONS

UNITED MACHINING SOLUTIONS is one of the largest machine tool manufacturers in the world. With around 5,000 employees at over 50 global production, service and sales locations, UNITED MACHINING SOLUTIONS is close to its customers and highly efficient. The group is organized into two divisions: UNITED GRINDING and UNITED MACHINING.

UNITED GRINDING includes the brands MÄGERLE, BLOHM, JUNG, STUDER, SCHAUDT, MIKROSA, WALTER, EWAG and IRPD. Its technologies include surface and profile grinding machines, cylindrical grinding machines, machines for tool machining and machine tools for additive manufacturing.

The UNITED MACHINING division includes the brands AGIE CHARMILLES, CHARMILLES, MIKRON MILL, LIECHTI, STEP TEC and SYSTEM 3R. It includes machines for EDM (Electrical Discharge Machining), high-speed milling and laser technology as well as spindle production and automation solutions.

“We want to make our customers even more successful”





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