

# PROFIMAT XT

THE NEW BENCHMARK FOR  
PRODUCTIVITY AND PRECISION



C.O.R.E.®



A member of UNITED MACHINING SOLUTIONS

# PROFIMAT XT

## DIMENSIONS

- 5 machine sizes with the following grinding ranges:
  - 400 × 800 mm
  - 400 × 1,200 mm
  - 600 × 800 mm
  - 600 × 1,200 mm
  - 600 × 2,000 mm<sup>1</sup>

## HARDWARE

- C.O.R.E. Panel
- Fully modular system
- Design characteristics: very high rigidity, minimum vibrations, minimized thermal influences
- Precision linear guideways
- High quality, recirculating ballscrews
- Option: linear direct drive (X-axis)

## SOFTWARE

- C.O.R.E. OS operating system
- Optimal operator guidance
- Programming with menu-guided grinding and dressing cycles
- Digital Solutions

<sup>1</sup>) coming soon



## YOUR BENEFITS

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- Intuitive, user-friendly, and efficient operation
- Access to important information directly at the control panel (e.g. production progress, task details, etc.)
- Reduced programming when exchanging data between C.O.R.E. machines
- Use of Digital Solutions products directly on the machine
- Fast support thanks to direct interaction with our Customer Care team on the machine

«Higher axis speeds, higher accelerations and increased system rigidity – the combination of these improved influencing factors consistently leads to an increase in productivity while at the same time improving workpiece quality.»

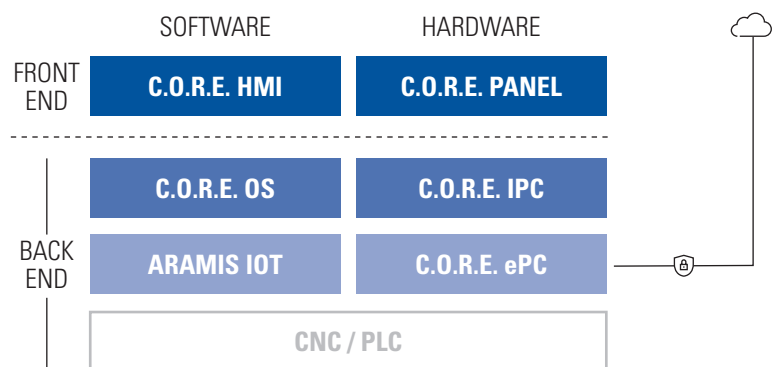
## C.O.R.E. – CUSTOMER ORIENTED REVOLUTION

### 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

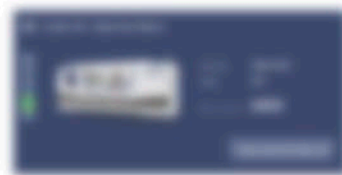
## Like a large smartphone

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.

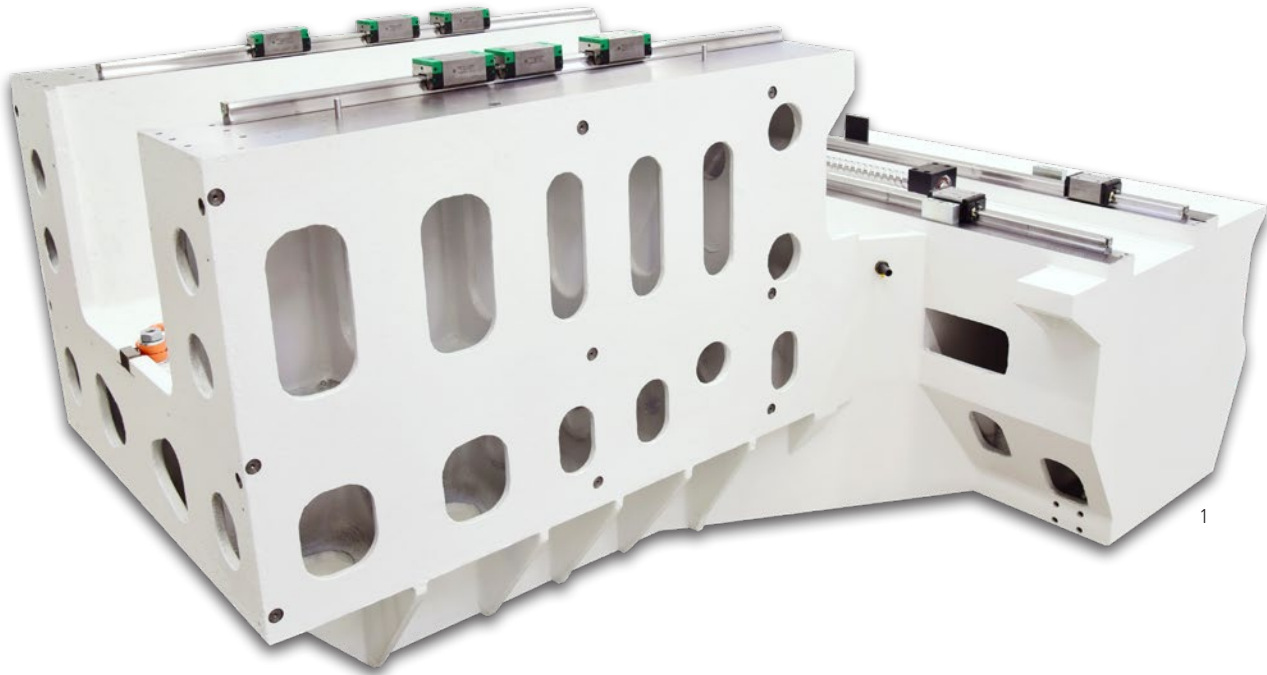


## Technical data

- 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



## WELL-PROVEN CONSTRUCTION PRINCIPLES



«The use of machine components specifically designed on the modular system ensures high precision and a long machine life.»

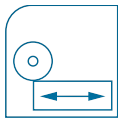
The PROFIMAT XT has been designed purely as a high performance profile grinding machine with maximum flexibility for various applications. The PROFIMAT XT is the right choice for applications where the production process requires high metal removal rates. Grinding spindle drives up to 62 kW guarantee outstanding performance using conventional, CD or IPD as well as all CBN grinding methods. Pre-loaded anti-friction guideways in all machine axes guarantee the necessary system rigidity and reduce maintenance requirements. The extremely efficient BLOHM software ensures exact interpolation of the axes and thus high workpiece quality. A large spectrum of standard accessories and special part clamping and part handling systems offer a quick and economic adaptation to customer specific production requirements at high quality.

- 1 Machine bed
- 2 Re-circulating ballscrew
- 3 Precision linear guideways

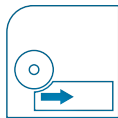
# OPTIMUM DRESSING

By using process-optimized dressing methods, workpieces can be manufactured with high precision at short cycle times and with minimum grinding wheel wear.

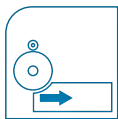
FIT – Four Integrated Technologies: The BLOHM PROFIMAT XT combines four technologies in one machine.



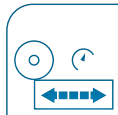
**Reciprocate grinding**



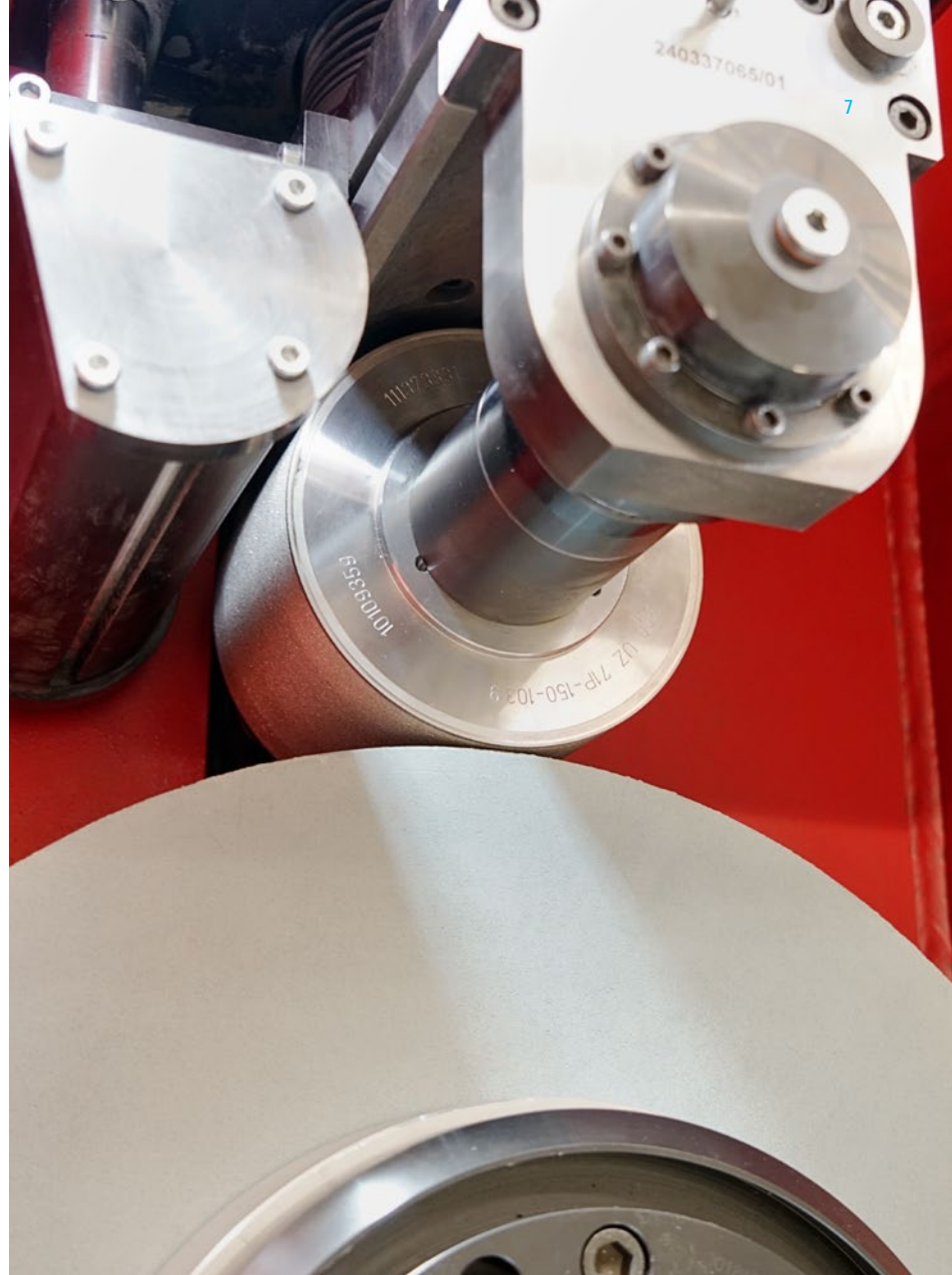
**Creep feed grinding**



**Creep feed grinding with continuous dressing (CDCF)**

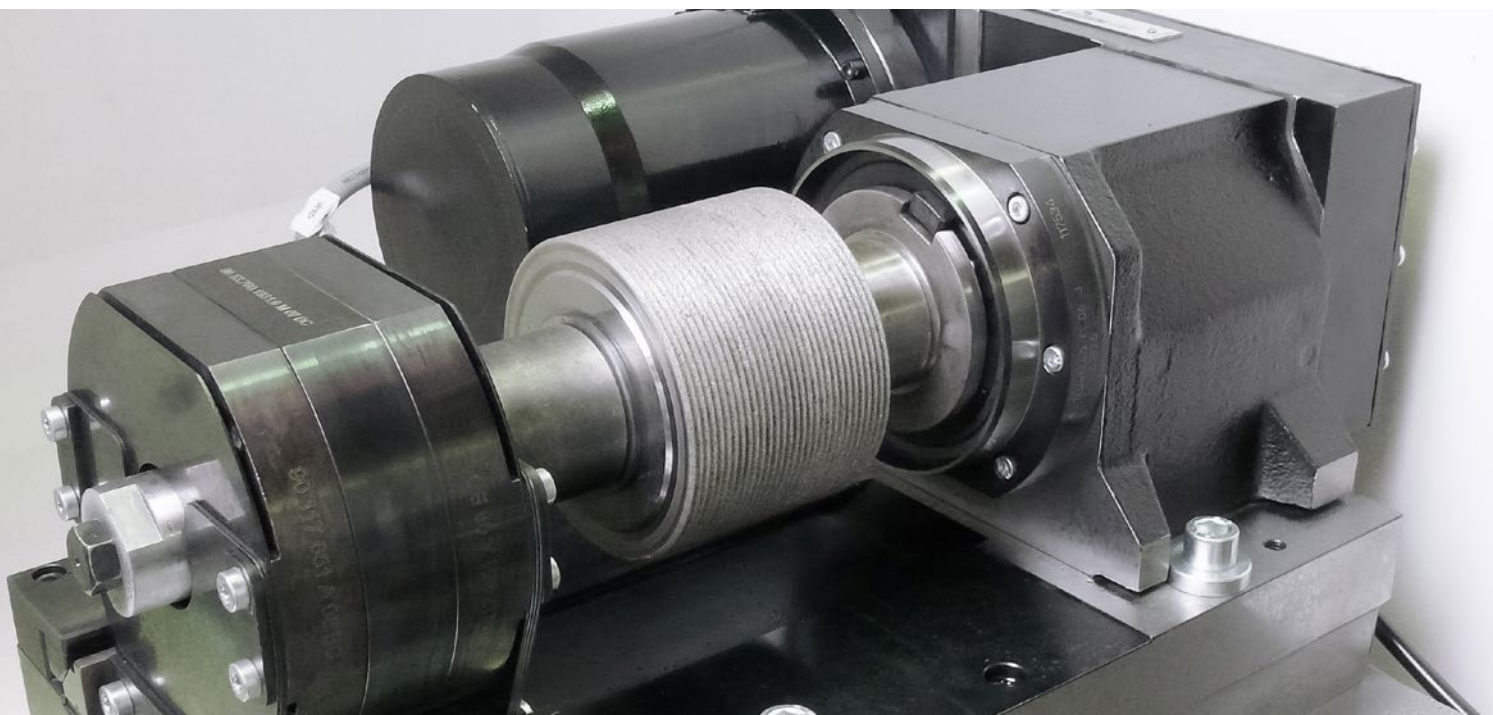


**Speed stroke grinding**



▲ Overhead dressing system PEA-K for IPD and CD grinding methods designed for a grinding wheel width of up to 200 mm.

Table mounted dresser type PA-TL 200S for diamond rolls up to a width of 200 mm or for contour dressing with universal ▼ diamond dressing discs and a rough dressing disc.





# CNC CONTROLS

## The comfortable solution for profile grinding applications

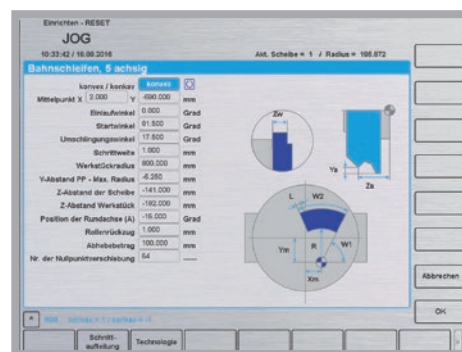
The best machines in a performance class offer more than just technically advanced components. Their high capabilities are made possible by the use of perfectly matched software and technology.

The CNC control Siemens Sinumerik 840D solution line with graphical operator guidance especially developed for grinding applications guarantees an optimal process. The simple programming is supported by menu guided grinding and dressing cycles.

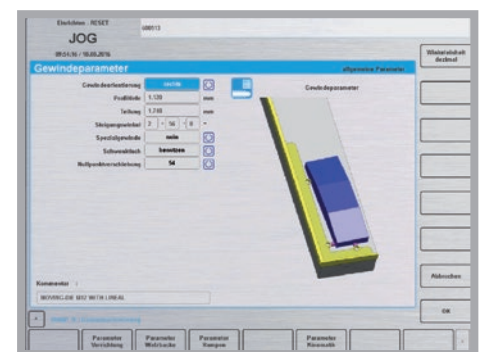
The software option GripsProfile is a comfortable tool for the automatic generation of grinding and dressing programs, especially for the single piece and batch production.

## KNOWN BLOHM USER INTERFACE

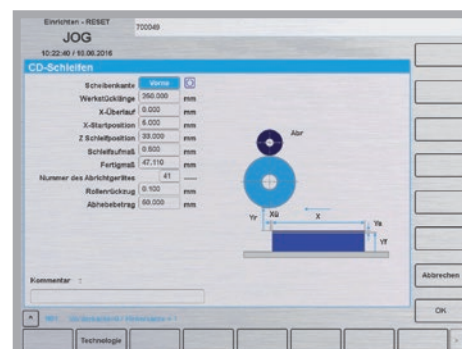
### 5-axes continuous path controlled grinding



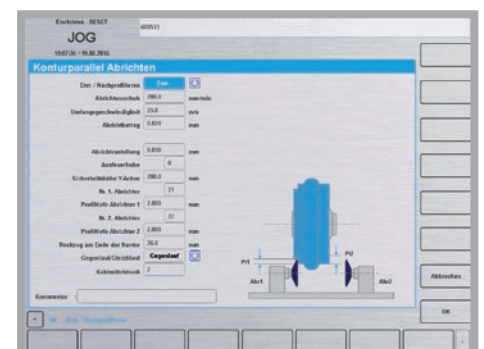
### Grinding of a thread rolling die



### CD grinding



### Contour parallel dressing





## APPLICATIONS

For grinding complex shapes in a wide variety of demanding materials, you need a flexible surface and profile grinding machine that delivers exceptional performance and efficiency. Manufacturers rely on innovative surface and profile grinding technology from BLOHM for a wide range of machining requirements, from creepfeed grinding to multi-step part production in a single setup. With the PROFIMAT XT, you get an industry-leading solution for a wide variety of production environments

and industries. A powerful drive and an advanced machine control ensure the highest level of reliability and precision in the production of your parts. To develop a specific surface and profile grinding solution tailored to your individual needs, our application engineers will be glad to work closely with your team.

- |                      |                   |
|----------------------|-------------------|
| 1 Piston rack nut    | 7 Blade           |
| 2 Sector shaft       | 8 Vane            |
| 3 Rocker arms        | 9 Shroud          |
| 4 Fin disc           | 10 Hirth coupling |
| 5 Powder metal punch | 11 Chuck jaw      |
| 6 Wood chipper blade | 12 Pump rotor     |



1



2



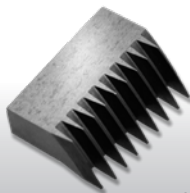
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10



11



12

## OPTIONAL TOOL CHANGER

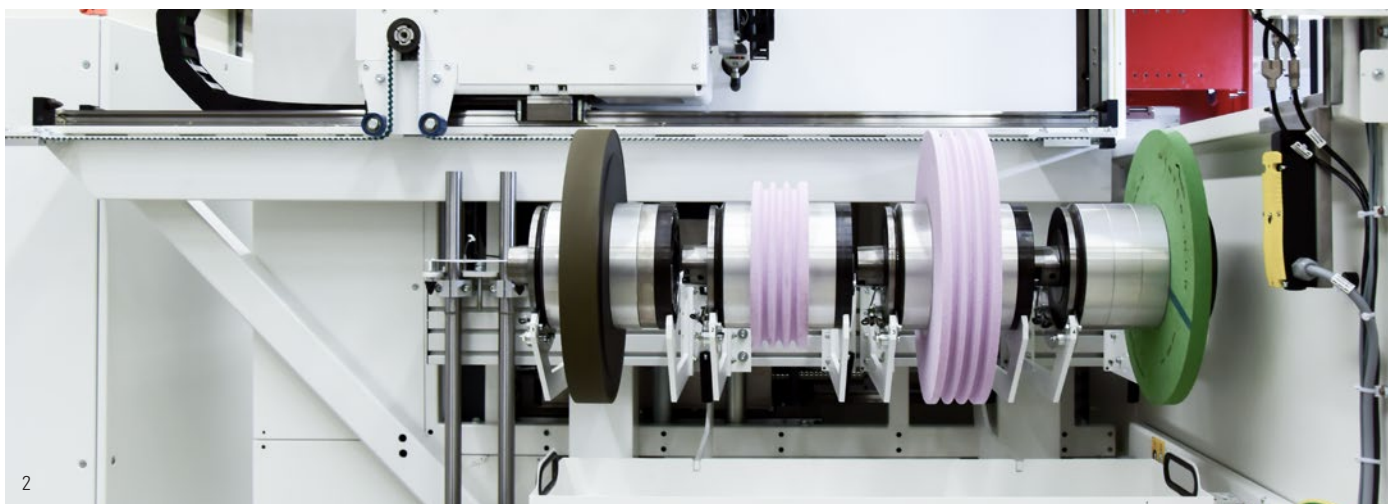
The optional tool changer of the PROFIMAT XT enables the automated and largely unmanned operation for diverse grinding technologies.

Increase your productivity by preparing, for example, roughing and finishing wheels or conventional and CBN wheels in the changer – this enables a high stock removal rate as well as the precise finishing of surfaces in one operation.

- Magazine with up to eight grinding wheels
- max. wheel diameter 400 mm<sup>1</sup>
- max. wheel weight 40 kg
- max. wheel width 160 mm<sup>1</sup>

<sup>1</sup>) depending on total number of loaded wheels





### Set-up during the process

The loading device enables easy and safe set-up of grinding wheels during production. This further reduces the set-up times.

### Automation of production

The use of sister tools ensures continuous production in unmanned operation for complex workpieces.

- 1 Tool changer
- 2 Prepared grinding wheels
- 3 Loading device
- 4 Grinding wheel change

## 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 Helpline 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



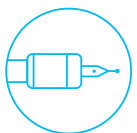
**Prevention**  
Maintenance  
Inspection



**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



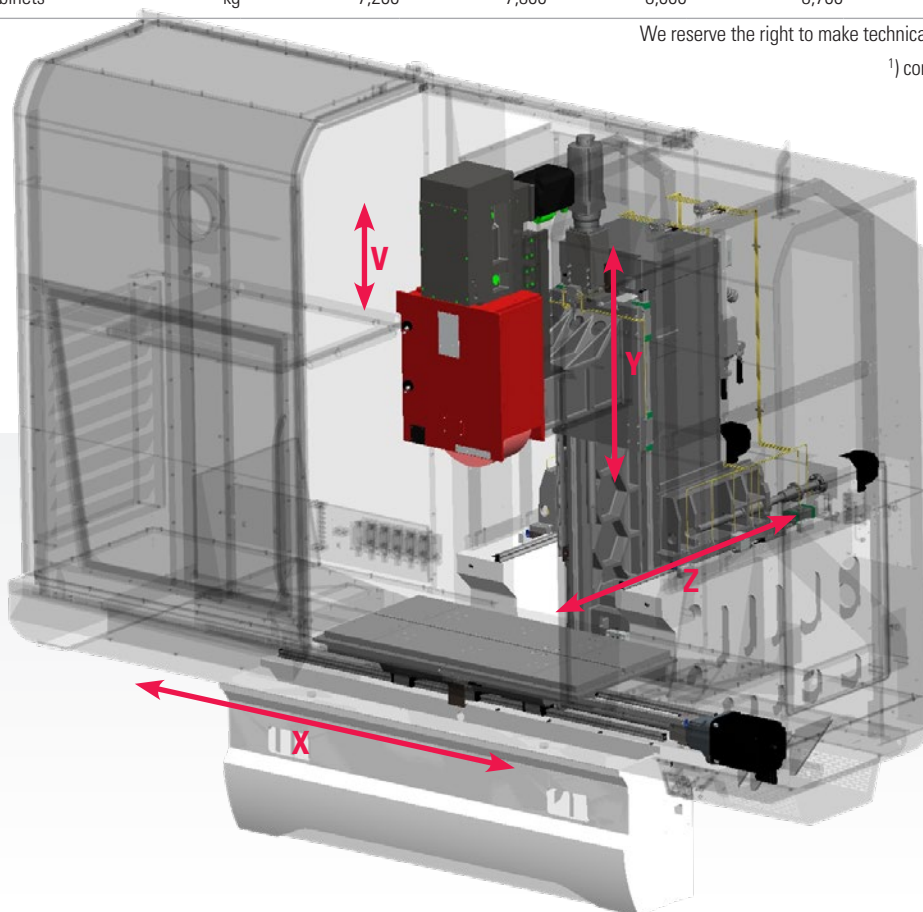


## TECHNICAL DATA

PROFIMAT XT		408	412	608	612	620 <sup>1</sup>
Grinding range	mm	400 × 800	400 × 1,200	600 × 800	600 × 1,200	600 × 2,000
	inch	15,7 × 31,5»	15,7 × 47,2	23,6 × 31,5	23,6 × 47,2	23,6 × 78,7
Table clamping area with auxiliary surface	mm	400 × 1,300	400 × 1,700	600 × 1,300	600 × 1,700	600 × 2,500
	inch	15,7 × 51,2	15,7 × 66,9	23,6 × 51,2	23,6 × 66,9	23,6 × 98,4
Distance table to spindle center	mm			970		
	inch			37,4		
X-axis, machine table longitudinal travel, max.	mm	1,100	1,500	1,100	1,500	2,300
	inch	43,3	59,0	43,3	59,0	90,5
Feed rate	mm/min	30 ... 40,000				
Y-axis, wheel head vertical travel	mm (inch)	800 (31,5)				
	Feed rate	4 ... 10,000				
Z-axis, column cross travel	mm (inch)	360 (14,1)	360 (14,1)	560 (22,0)	560 (22,0)	560 (22,0)
	Feed rate	4 ... 16,000				
V-axis, stroke of overhead dresser (opt.)	mm (inch)	160 (6,3)				
Grinding spindle drive, variable speed, AC motor	kW/rpm	44/8,000 (Option 62/8,000)				
Grinding wheel size (d × w × bore)	mm	400 × 160 × 127 (Option 500 × 200 × 203,2)				
Dimensions width	mm	4,000	4,800	4,000	4,800	6,400
depth, incl. electr. cabinet and panel	mm	3,615	3,615	4,450	4,450	4,450
height	mm	3,445	3,445	3,445	3,445	3,485
Machine weight, without electrical cabinets	kg	7,200	7,800	8,000	8,700	10,000

We reserve the right to make technical changes

<sup>1)</sup> coming soon



## 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



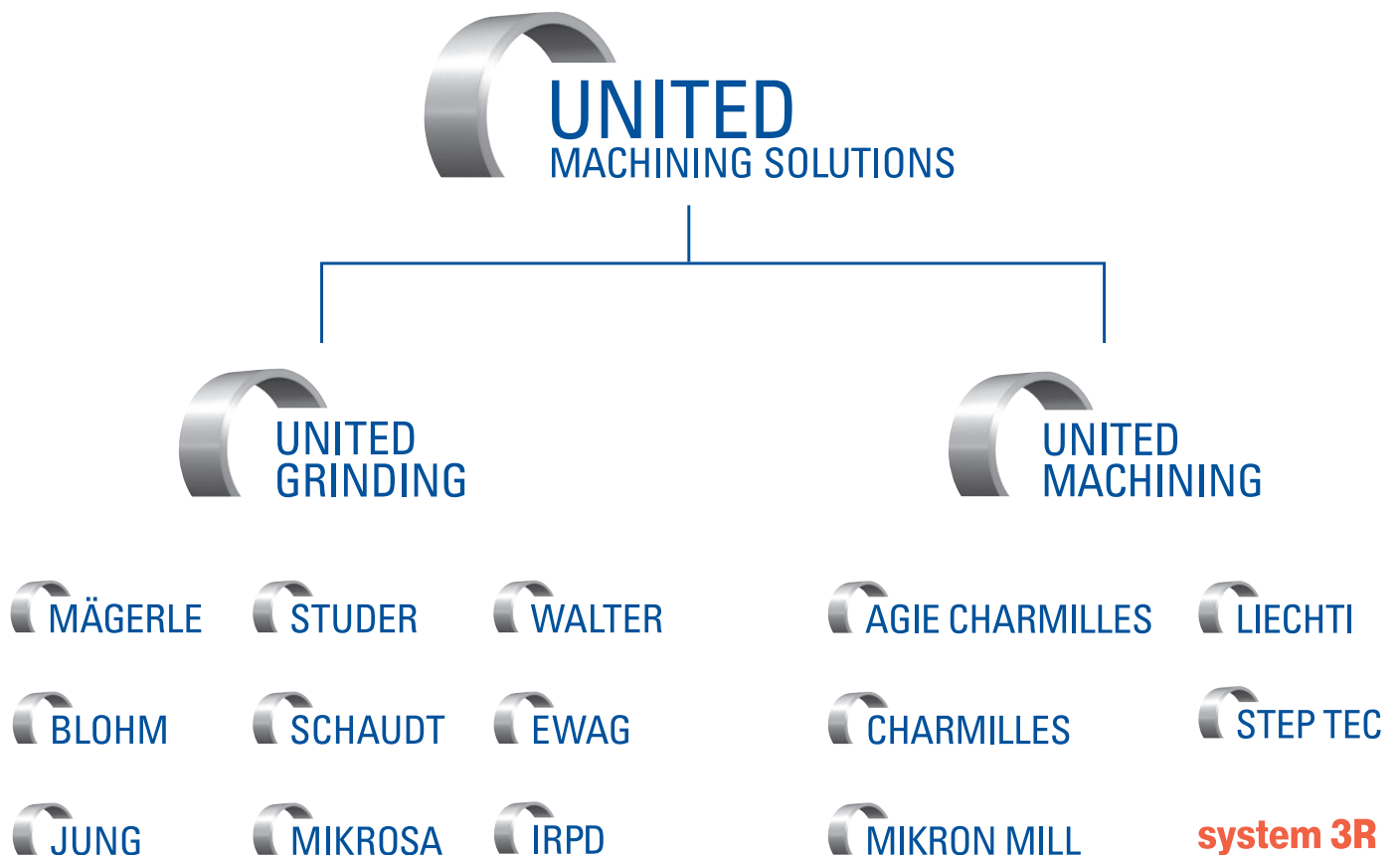
# UNITED MACHINING SOLUTIONS

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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