

MÄGERLE GRINDING SYSTEMS



A member of UNITED MACHINING SOLUTIONS

MÄGERLE AG MASCHINENFABRIK

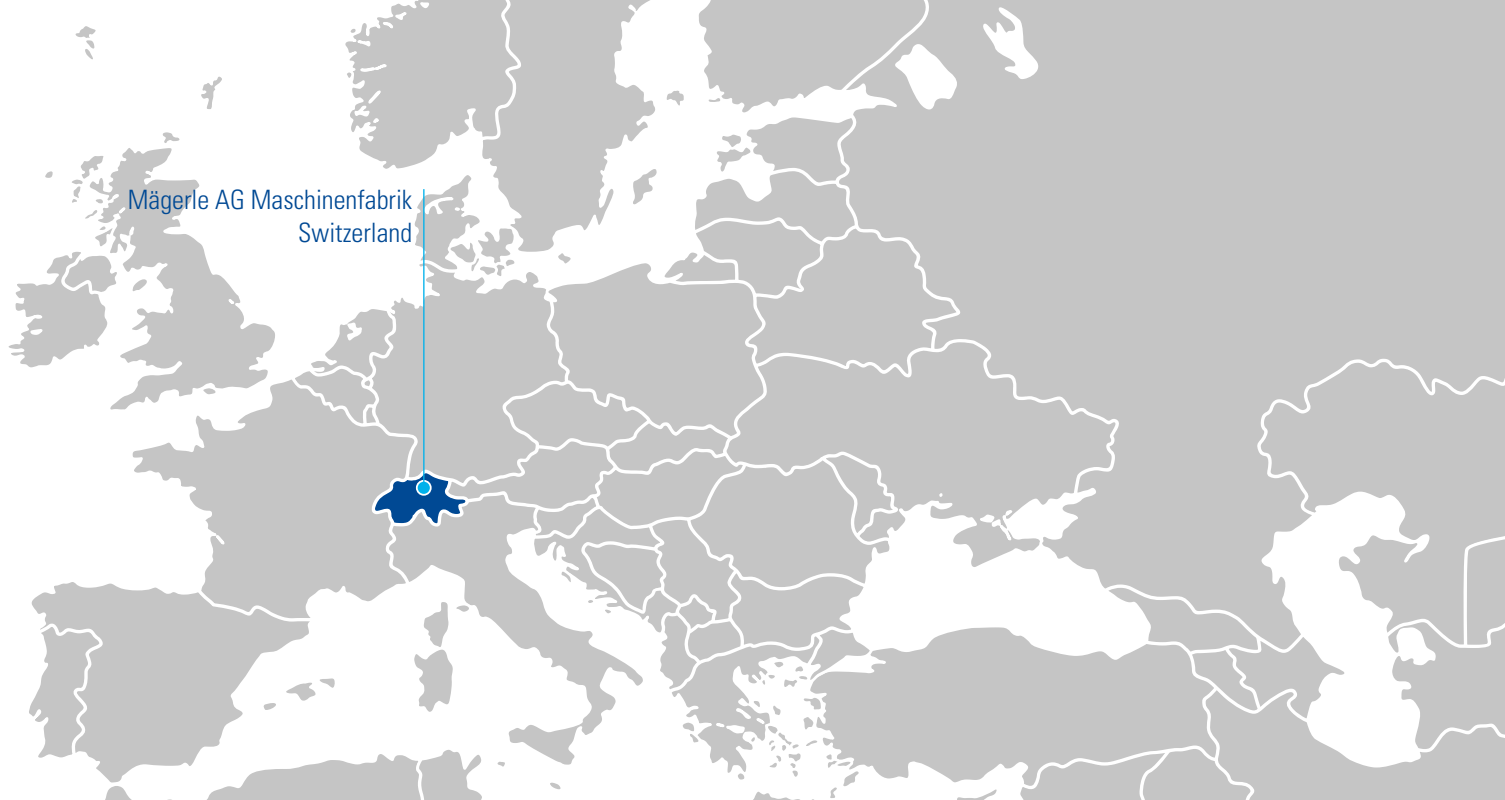
Precision, quality and flexibility are key attributes of the products manufactured by Mägerle AG Maschinenfabrik. A technology leader for high performance surface and profile grinding systems, the company founded in 1929 primarily specializes in customized solutions.

At the heart of the international success of our high quality Swiss machinery is the unique design principle of the MÄGERLE modular system. Thanks to state-of-the-art technology, MÄGERLE can offer customers from many branches of industry reliable grinding centers. The high machining precision of the custom special-purpose machines ensures that our customers remain competitive.

Alongside decades of accumulated expertise, our highly motivated and dedicated employees play a key role in the success of the company.



ABOUT US



SWISS PRECISION

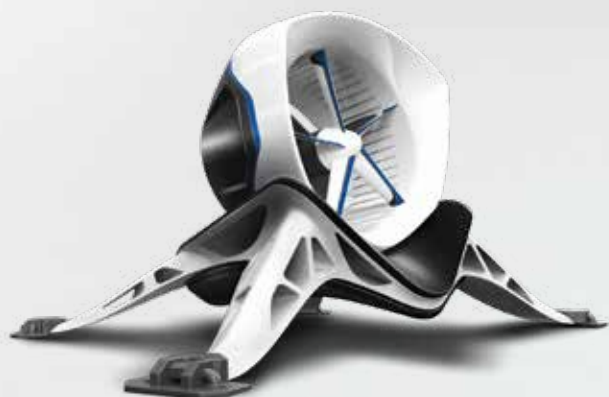
In 2002, MÄGERLE moved into the new building in Fehraltorf. The exterior of the award-winning structure reflects what is hidden inside: engineering skill and world class machine tools. With an increased production area, MÄGERLE created new space for further growth.

A STRONG PARTNER

As part of the UNITED MACHINING SOLUTIONS, MÄGERLE is firmly embedded within the cooperation network of the leading grinding solutions manufacturers. Access to an international sales and service network means we can be where our customers are around the world. The synergy, which arises from being part of a group of companies, boosts MÄGERLE's position in the top quality segment.

FOR DEMANDING TASKS

With their equally high material removal and machining precision, MÄGERLE's grinding centers are recognized on the market as top-class machines. They demonstrate their performances and versatility daily in demanding applications in the turbine industry, the automotive and aircraft industry, the hydraulics industry and the energy sector,



as well as machine tools and toolmaking. All industries that make the highest demands in respect of mechanical, ergonomic and operational qualities.



5-AXIS GRINDING CENTERS



MFP 30

The compact MFP 30 5-axis grinding center is ideally suited for grinding complex geometries, particularly those of blades and vanes or heat shields for aviation turbines. The compact and space-saving design allows optimal use of the available production area and enables an effective production flow.



MFP 50 / 51

The MFP 50 and MFP 51 combine flexibility and performance in a compact design. These grinding and machining centers show their top form when dealing with challenging workpieces. Processes such as grinding with continuous dressing, milling and drilling can be carried out to perfection in a single clamping. The intelligent design principle takes production quality, safety and cost efficiency to a new level.



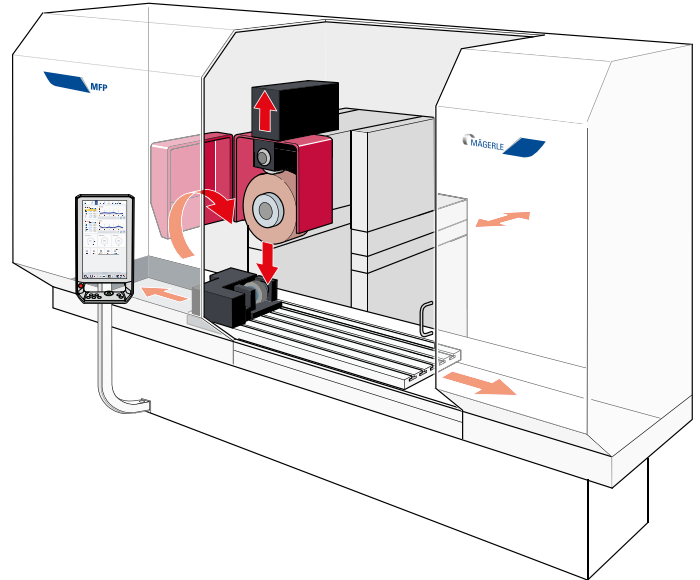
MFP 100

The MFP 100, designed for versatility and productivity, is characterized by its large working envelope and flexible tool changer. It is considered specifically for those markets where multi-feature machining of heavy and complex parts in a few clamping operations is required.

SURFACE AND PROFILE GRINDING MACHINES

MOVING TABLE MACHINES

With the MFP series, MÄGERLE comprehensively covers the requirements for surface and profile grinding machines. The moving table series are specialized in creep feed grinding as well as profile and surface grinding.



MOVING COLUMN MACHINES

With the MGC, MÄGERLE offers a series in moving column design with versatile configuration options for a wide range of applications:

> MGC FT with Stationary Workpiece Carrier

Highest load bearing capacity for large and heavy workpieces

> MGC ST with Swivel Table

Maximum productivity in batch production

> MGC RH with Rotary Table

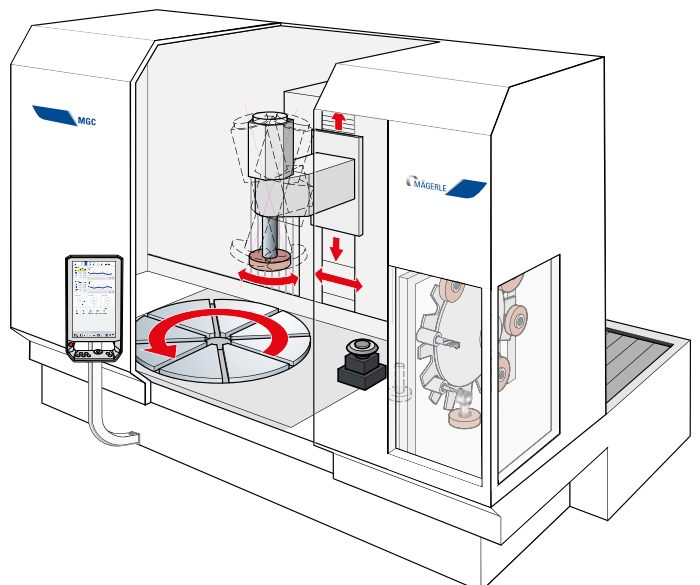
First-class results for Hirth gears and curvic couplings

> MGC RV with Swivel Vertical Spindle

Huge versatility at the highest performance level

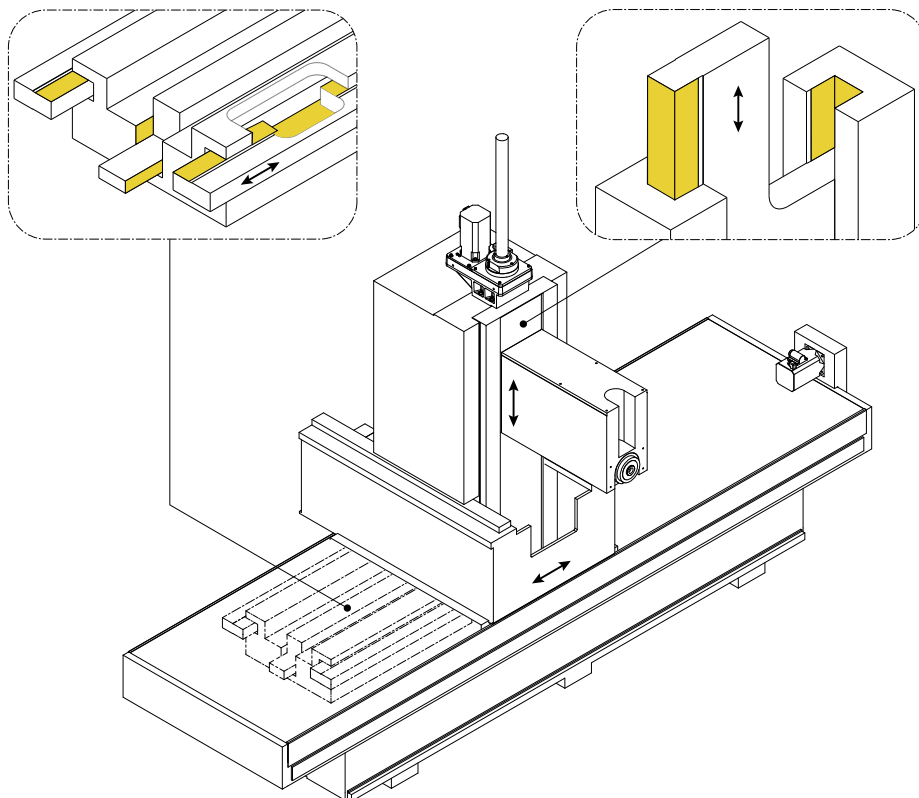
> MGC Special

Tailor-made grinding centers for specific requirements





HYDROSTATIC GUIDEWAYS



The unique design principle of MÄGERLE grinding systems forms the basis for the overall machine quality. The axis structure is supported by hydrostatic wrap-around guideways on a thin oil film and is completely separated from the machine bed. As a result, MÄGERLE grinding machines can withstand high loads without signs of wear – even in long-term use. The oil film has a vibration-damping effect and guarantees high-precision machining of simple or complex workpieces.

POWERFUL DRIVES

PRECISE AND RELIABLE DOWN TO THE SMALLEST DETAIL

MÄGERLE guarantees precision and reliability down to the smallest detail of its grinding machines. Water-cooled direct drive motors for the grinding spindles ensure maximum performance in demanding continuous operation. An optional balancing system dynamically balances unequal forces in the rotating grinding wheel.

FRONT-RUNNER IN GRINDING POWER

Powerful motors from 25 kW to 115 kW drive the spindles on MÄGERLE grinding machines and lead to outstanding results in respect of removal capacity. MÄGERLE surface and profile grinding machines combine top quality with maximum productivity.

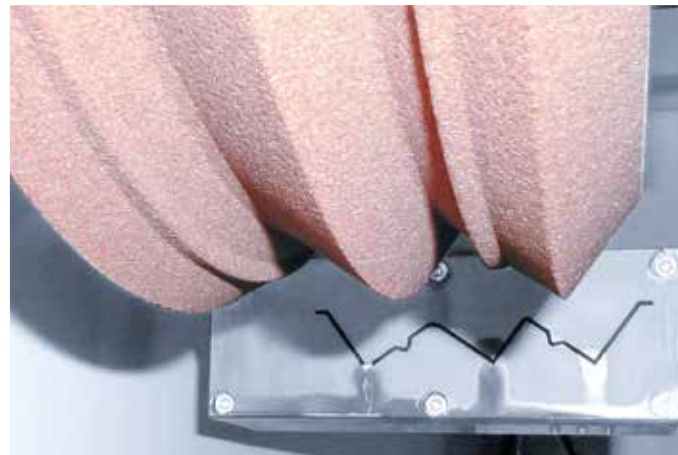




COOLING INTELLIGENCE

COST-SAVING COOLING INTELLIGENCE

The NC systems currently used in MÄGERLE grinding centers allow precise positioning of the coolant supply together with the respective grinding wheel geometry over two NC axes. An optional profile adjustment enables precise application of the coolant to the workpiece zones for machining. Minimal coolant amounts thus provide maximum cooling capacity. Labyrinth seals with a sealing air arrangement protect all bearings in the machining area from impurities and contribute to the long working life of the overall system.

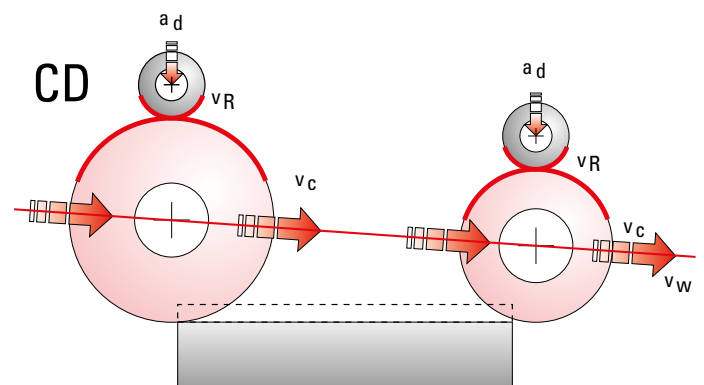
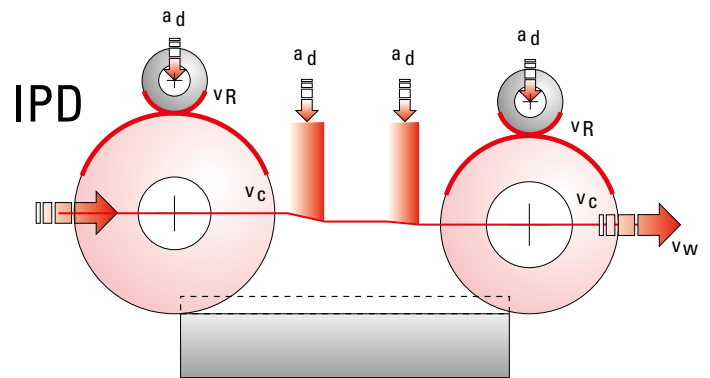




DRESSING METHOD

The dressing of the grinding wheels is a crucial factor for the efficiency of the grinding process. With overhead and table dressing devices, MÄGERLE provides professional solutions for the various requirements of this process step.

The overhead principle unfolds its potential especially in the continuous dressing (CD) and the in-process dressing (IPD). Table dressing devices are used for fixed or rotating dressing tools, where the rotating principle produces optimal results in full form dressing, crushing or CNC dressing. MÄGERLE uses servomotors for driving the dressing devices; these can be freely programmed across the entire rpm range.





MFP 30

COMPACT SOLUTION FOR HIGH PRODUCTIVITY

The compact MFP 30 5-axis grinding center from MÄGERLE is ideally suited for grinding complex geometries, particularly those of blades and vanes or heat shields for aviation turbines. The workpieces to be machined are ergonomically loaded into the work area directly from the front. Heavy workpieces with a clamping fixture can be loaded from the top using a crane. The compact and space-saving design allows optimal use of the available production area and enables an effective production flow.

The powerful drive of the high-performance spindle enables different grinding processes to be combined, such as creep feed grinding with aluminum oxide or grinding with CBN. The full performance and a high torque are available even at low spindle speeds. With the robust tool holders, wide machining contours with high material removal rates can be achieved. The grinding process can use emulsion or oil. The high-performance spindle offers optimal machining conditions for demanding grinding and high speed milling processes in a single clamping.



TECHNICAL DATA MFP 30

X-axis	longitudinal stroke	mm	500
	travel speed	mm/min	0...50,000
Y-axis	vertical stroke	mm	450
	travel speed	mm/min	0...30,000
Z-axis	transverse stroke	mm	500
	travel speed	mm/min	0...30,000
Power grinding wheel drive S6-40% duty cycle		kW	26
Rpm range		min ⁻¹	0...12,000
Profile dressing device, roll width, max.		mm	307
Profile dressing device, roll diameter, max.		mm	200
Tool changer positions		n/pos	24
Grinding wheel dimensions (D x T x H)		mm	300 x 60 x 76.2

We reserve the right to make technical changes



MFP 50



MFP 51

MFP 50 / 51

HIGH FLEXIBILITY FOR DEMANDING APPLICATIONS

The MÄGERLE MFP 50 and MFP 51 combine flexibility and performance in a compact design. As a 5- or 6-axis system, these CD grinding and machining centers show their top form when dealing with challenging workpieces. Processes such as grinding, milling and drilling can be carried out to perfection in a single clamping. High productive benefit together with simple operation are the result. The intelligent design principle takes production quality, safety and cost efficiency to a new level. The coolant nozzle, controllable via two axes, allows unrestricted freedom of movement and precise positioning of the coolant jet. In terms of automation a variety of solutions are available for production cells from a single source.

The MFP 51 grinding center has an extended range of functions. The tool changer with 68 positions and the automatic diamond roll change enable efficient machining of several different workpieces without altering the tooling. The coolant supply can be ideally adapted to the process with the automatic nozzle changer, enabling optimal grinding results.



TECHNICAL DATA

			MFP 50	MFP 51
X-axis	longitudinal stroke	mm	500	500
	travel speed	mm/min	0...30,000	0...50,000
Y-axis	vertical stroke	mm	650	650
	travel speed	mm/min	0...20,000	0...30,000
Z-axis	transverse stroke	mm	650	650
	travel speed	mm/min	0...20,000	0...30,000
Maximum continuous power grinding wheel drive		kW	25/50	25/50
Rpm range		min ⁻¹	0...10,000	0...12,000
V-axis profile dressing device, roll width, max.		mm	215	60
Tool changer positions		n/pos	24	68
Nozzle changer positions (optionally)		n/pos	-	6
Grinding wheel dimensions (D x T x H)		mm	300 x 60 x 76.2	300 x 60 x 76.2

We reserve the right to make technical changes



MFP 100

FULLY AUTOMATIC COMPLETE MACHINING OF COMPLEX WORKPIECES

The MFP 100, designed for versatility and productivity, is characterized by its large working envelope and flexible tool changer.

It is considered specifically for those markets where multi-face machining of heavy and complex parts in a few clamping operations is required.

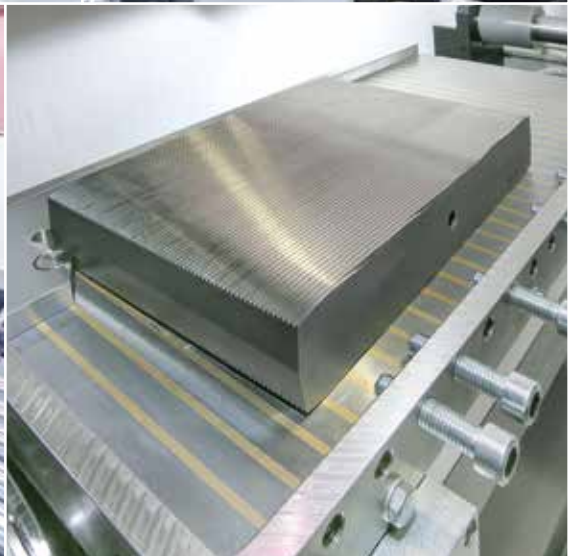
The two-axis NC table can be conveniently loaded from above or from the front, manually, with a crane or with a robot. The tool changer of the MFP 100 works twice as fast as conventional solutions. The dual gripper changes grinding wheels and associated diamond dressing rolls simultaneously. This can significantly reduce the idle time. The strength of the MFP 100 is also in its machining variety. Loading of the tool changer is possible with any desired tools, such as drills, milling cutters, CBN wheels or measuring probes.



TECHNICAL DATA MFP 100

X-axis	longitudinal stroke	mm	1,000
	travel speed	mm/min	0...50,000
Y-axis	vertical stroke	mm	900
	travel speed	mm/min	0...30,000
Z-axis	transverse stroke	mm	750
	travel speed	mm/min	0...30,000
Maximum continuous power grinding wheel drive		kW	50
Rpm range		min ⁻¹	0...12,000
V-axis profile dressing device, roll width, max.		mm	100
Tool changer positions		n/pos	68
Nozzle changer positions (optionally)		n/pos	6
Grinding wheel dimensions (D x T x H)		mm	300 x 100 x 76.2

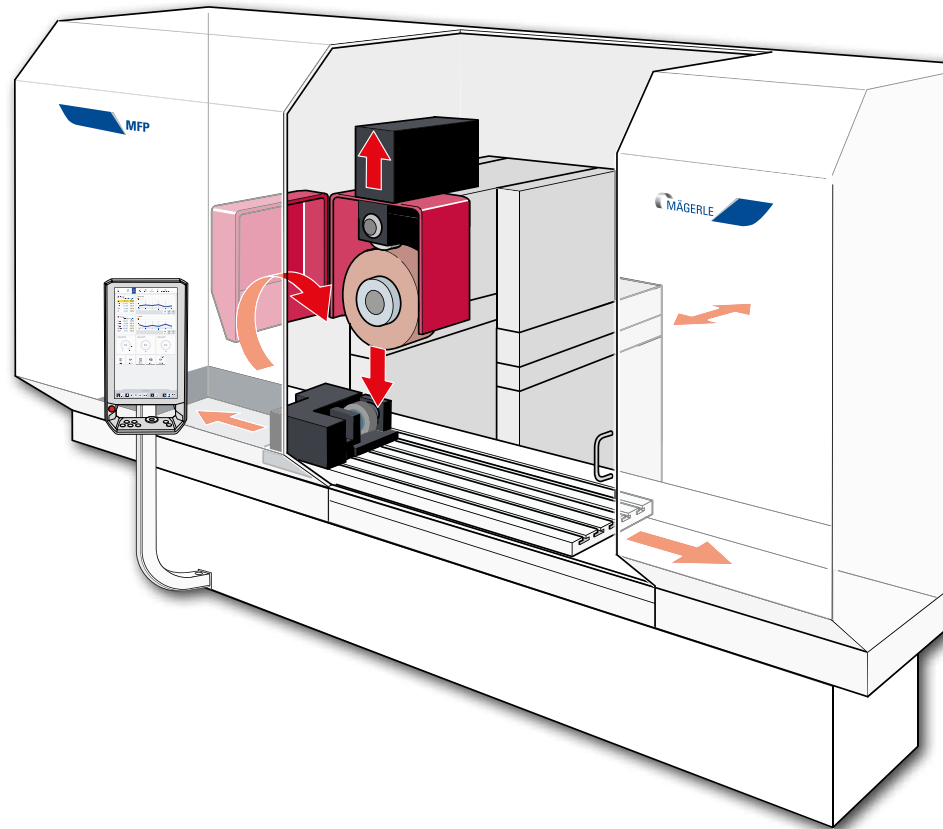
We reserve the right to make technical changes



MFP SURFACE AND PROFILE GRINDING MACHINE

CONSTANT PRECISION IN 24/7 CONTINUOUS OPERATION

With the MFP series, MÄGERLE comprehensively covers the requirements for surface and profile grinding machines. The moving table series are specialized in creep feed grinding as well as profile and surface grinding. They demonstrate their full performance potential in applications where workpieces must be produced in large batches and with high stock removal volumes in the customary high MÄGERLE precision. Thanks to their robust construction, the machines in the MFP series also master these requirements in hard 24/7 continuous operation. The machine has a modular design, table lengths and vertical strokes across a large range can be freely combined with different additional axes and special components. This flexible modular system enables diverse machine configurations, which are precisely geared to the specific user requirements.

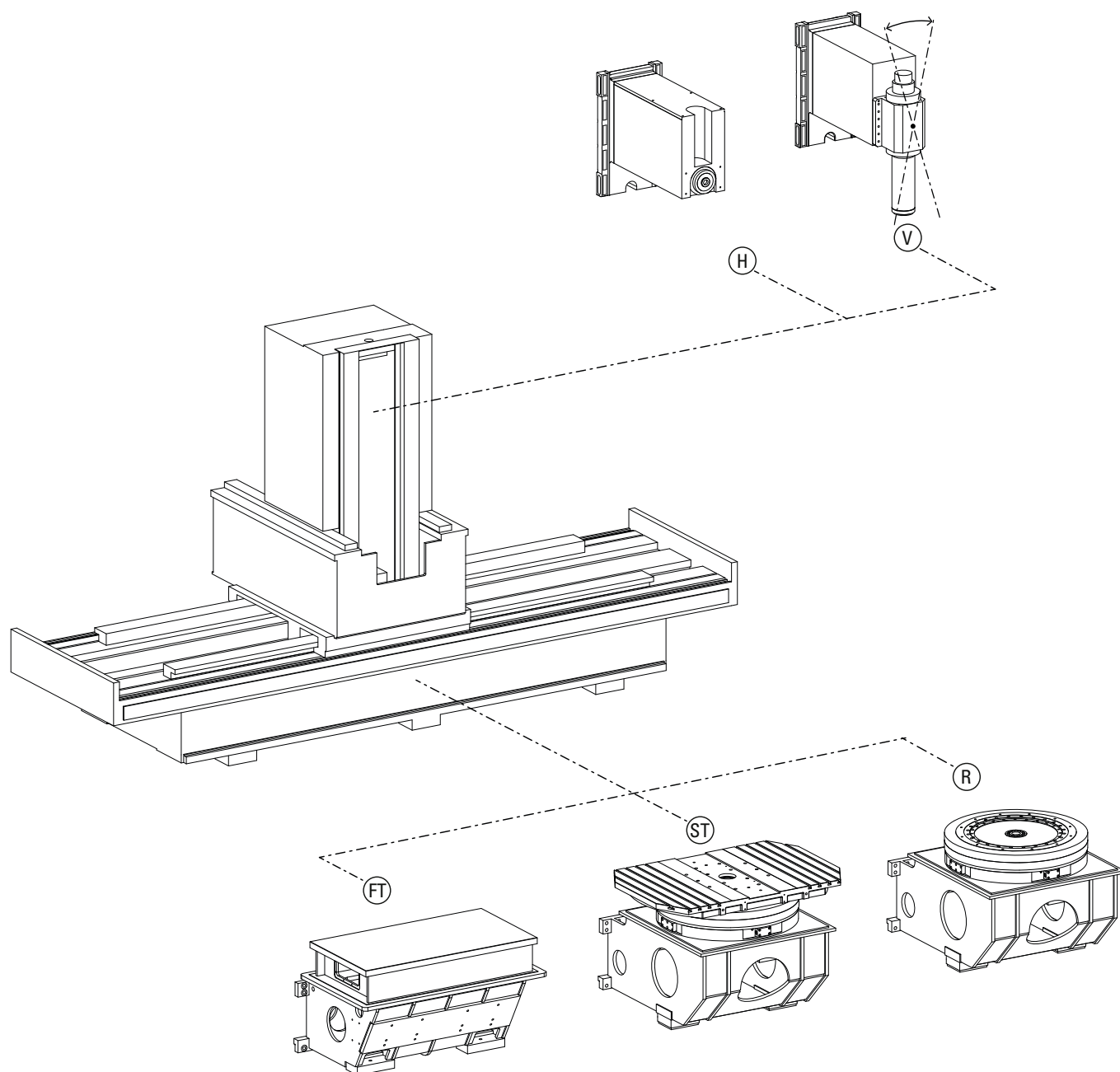


TECHNICAL DATA MFP			080	125	160	220	260	330
X-axis	longitudinal stroke	mm	800	1,250	1,600	2,200	2,600	3,300
	travel speed	mm/min	30,000	30,000	30,000	30,000	30,000	30,000
Y-axis	vertical stroke	mm	450 / 650	450 / 650	450 / 650	450 / 650	450 / 650	450 / 650
	travel speed	mm/min	10,000 ¹⁾	10,000 ¹⁾	10,000 ¹⁾	10,000 ¹⁾	10,000 ¹⁾	10,000 ¹⁾
Z-axis	transverse stroke	mm	350 / 500	350 / 500	350 / 500	350 / 500	350 / 500	750 / 900
	travel speed	mm/min	10,000 ¹⁾	10,000 ¹⁾	10,000 ¹⁾	10,000 ¹⁾	10,000 ¹⁾	10,000 ¹⁾
V-axis profile dressing device, roll widths		mm	167 / 207 / 247 / 307 ²⁾					
Roll diameter max.		mm	160					
Rpm max.		min ⁻¹	6,000					
Grinding spindle drive – power		kW	25 / 50 / 75 / 115 ²⁾					
Rpm range		min ⁻¹	5,000 (optionally 8,000)					
Grinding wheel diameters		mm	400 / 500 / 600 ²⁾					
Grinding wheel widths		mm	160 / 200 / 240 / 300 ²⁾					
Table size / grinding area		mm	longitudinal stroke x transverse stroke					

¹⁾ Optionally 20,000 mm/min

²⁾ Depending on machine size and model

MGC MODULAR SYSTEM



LEGEND

- (FT) MGC with stationary console
- (ST) MGC swivel table
- (RH) MGC with rotary table and horizontal spindle
- (RV) MGC with rotary table and swivel vertical spindle



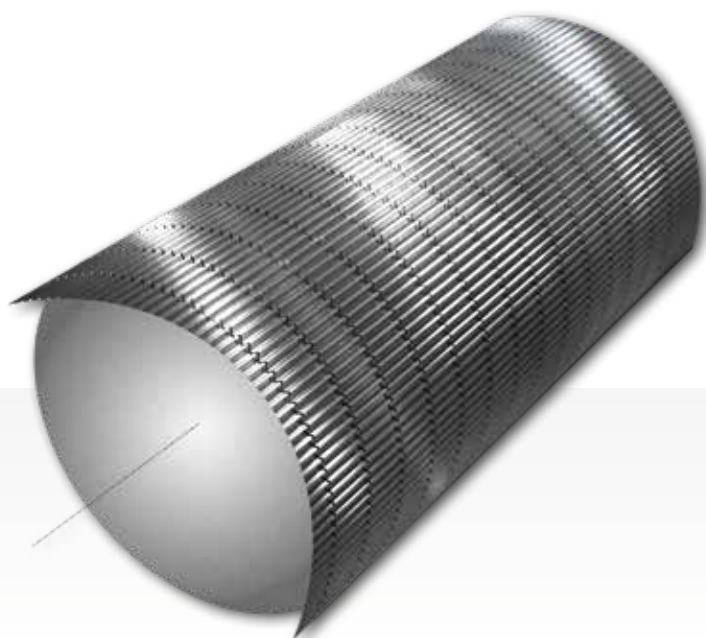
MODULAR SYSTEM FOR INDIVIDUALLY DESIGNED HIGH-QUALITY PRODUCTS

MÄGERLE grinding machines are individually assembled high-quality products. Using tried and tested standard components, MÄGERLE, in close collaboration with the customer, de-

velops a complete solution which is precisely tailored to a specific workpiece or family of parts. Each axis stroke is defined according to the respective workpiece dimensions. The use of dependable standard components allows

the grinding centers to excel with proven reliability. In the MGC series, the vertical axis can be optimally matched to the workpiece height and the required grinding depth, thanks to three different machine bed heights.

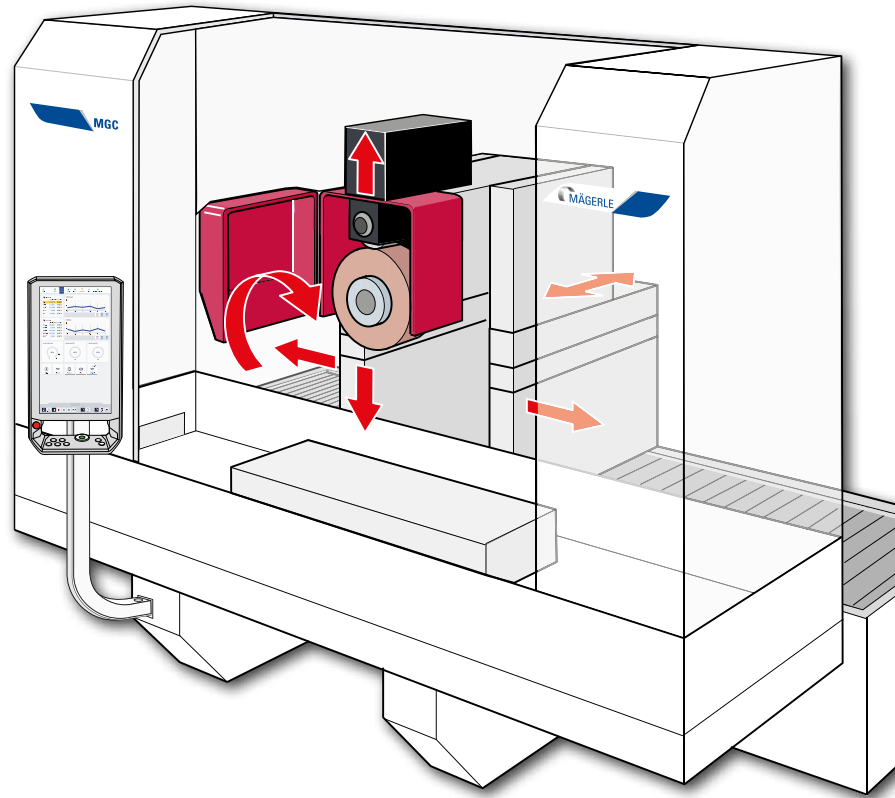




MGC FT WITH STATIONARY WORKPIECE CARRIER

HIGHEST LOAD BEARING CAPACITY FOR LARGE AND HEAVY WORKPIECES

The MGC FT grinding center with stationary table is designed for the high-precision processing of large and heavy workpieces. With a broad range of different table sizes and vertical strokes, this machine meets the highest requirements in respect of load bearing capacity. Like all models in the MGC series, this grinding center is also based on the proven modular concept. Thanks to its variety of configurations with one or several spindles in a horizontal or vertical arrangement as well as a multitude of additional components, the MGC with fixed console is also one of the front-runners in its category with regard to flexibility.



TECHNICAL DATA MGC FT			080	140	210	260	330	440	550
X-axis	longitudinal stroke	mm	800	1,400	2,100	2,600	3,300	4,400	5,500
	travel speed	mm/min	20,000	20,000	20,000	20,000	20,000	20,000	20,000
Y-axis	vertical stroke	mm	450 / 650 900	650 / 900	650	650 / 900	650 / 900	650	650
	travel speed	mm/min	10,000 ¹⁾	10,000 ¹⁾	10,000 ¹⁾	10,000 ¹⁾	10,000 ¹⁾	10,000 ¹⁾	10,000 ¹⁾
Z-axis	transverse stroke	mm	500 / 750	500 / 750	500 / 750	500 / 750	500 / 750	500 / 750	500 / 750
	travel speed	mm/min	10,000 ¹⁾	10,000 ¹⁾	10,000 ¹⁾	10,000 ¹⁾	10,000 ¹⁾	10,000 ¹⁾	10,000 ¹⁾
V-axis profile dressing device, roll widths		mm	167 / 207 / 247 / 307 ²⁾						
Roll diameter max.		mm	160						
Rpm max.		min ⁻¹	6,000						
Grinding spindle drive – power		kW	25 / 50 / 75 / 115 ²⁾						
Rpm range		min ⁻¹	5,000 (optionally 8,000)						
Grinding wheel diameters		mm	400 / 500 / 600 ²⁾						
Grinding wheel widths		mm	160 / 200 / 240 / 300 ²⁾						
Table size / grinding area		mm	longitudinal stroke x transverse stroke						

¹⁾ Optionally 20,000 mm/min

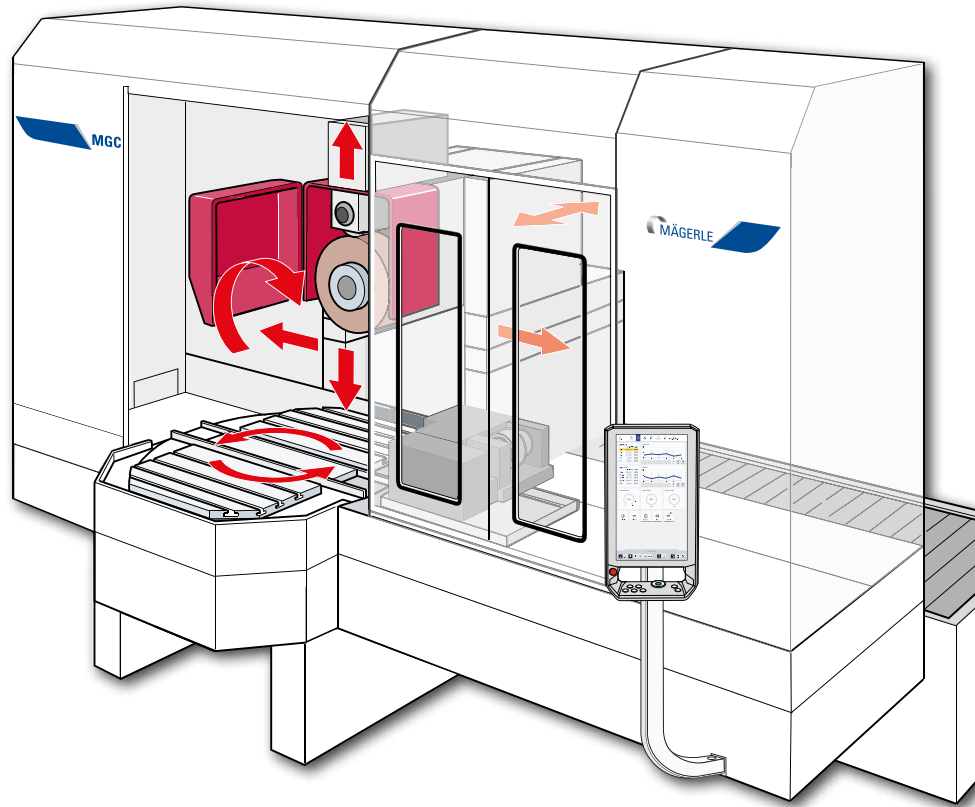
²⁾ Depending on machine size and model



MGC ST WITH SWIVEL TABLE

MAXIMUM PRODUCTIVITY IN BATCH PRODUCTION

Similar to the MFP series, the MÄGERLE Grinding Center delivers superb results for creep feed grinding as well as for profile and surface grinding. In its swivel table version, the MGC ST is also designed for maximum production capacity. The 180° swiveling table allows loading and unloading of workpieces while machining is in operation. Non-productive times for workpiece change are thus largely eliminated. This results in maximum productivity for small and large batches, as well as in special applications. In conjunction with the automatic loading and unloading system, the MGC ST frees up additional resources. The openly accessible swivel table also provides the ideal interface.

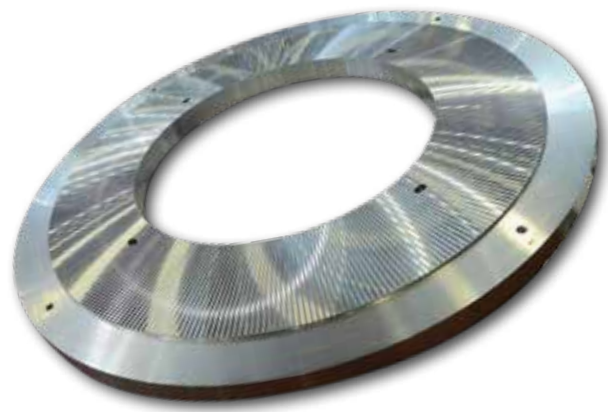
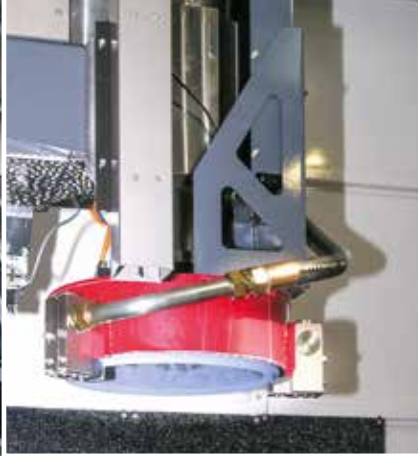


TECHNICAL DATA MGC ST

TECHNICAL DATA MGC ST			130	140	210	260
X-axis	longitudinal stroke	mm	800	1,400	2,100	2,600
	travel speed	mm/min	20,000	20,000	20,000	20,000
Y-axis	vertical stroke	mm	450 / 650	650 / 900	450 / 650 / 900	650 / 900
	travel speed	mm/min	10,000 ¹⁾	10,000 ¹⁾	10,000 ¹⁾	10,000 ¹⁾
Z-axis	transverse stroke	mm	300 / 500	500 / 750	500 / 750	500 / 750
	travel speed	mm/min	10,000 ¹⁾	10,000 ¹⁾	10,000 ¹⁾	10,000 ¹⁾
V-axis profile dressing device, roll widths		mm	167 / 207 / 247 / 307 ²⁾			
Roll diameter max.		mm	160			
Rpm max.		min ⁻¹	6,000			
Grinding spindle drive – power		kW	25 / 50 / 75 / 115 ²⁾			
Rpm range		min ⁻¹	5,000 (optionally 8,000)			
Grinding wheel diameters		mm	400 / 500 / 600 ²⁾			
Grinding wheel widths		mm	160 / 200 / 240 / 300 ²⁾			
Swivel table +/- 180°		mm	760 x 325	760 x 325 ²⁾	760 x 325 ²⁾	1,000 x 485
with 2 clamping surfaces (L x W)			1,000 x 485	1,000 x 485	1,000 x 485	

¹⁾ Optionally 20,000 mm/min

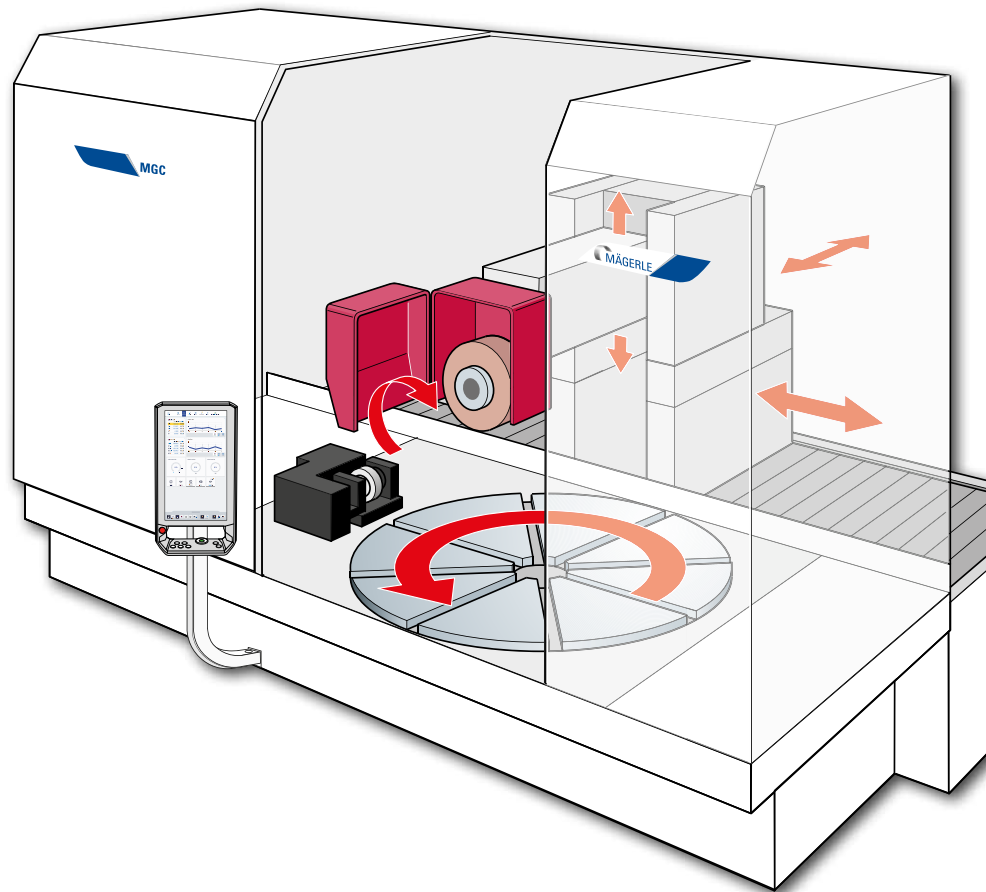
²⁾ Depending on machine size and model



MGC RH WITH ROTARY TABLE

FIRST-CLASS RESULTS FOR HIRTH GEARS AND CURVIC COUPLINGS

With table diameters of up to 2.5 meters and a maximum load bearing capacity of 15 tons, the MGC RH grinding center is unequalled throughout the world. Well-known companies in the turbine industry rely on this powerful concept. This grinding center is unrivalled particularly when it comes to machining turbine disks with Hirth gears and curvic couplings of the highest quality. The direct-drive rotary table mounted on hydrostatic bearings ensures the necessary precision, with a positioning accuracy of less than three angular seconds.



TECHNICAL DATA MGC RH

			140	210	260
X-axis	longitudinal stroke	mm	1,400	2,100	2,600
	travel speed	mm/min	20,000	20,000	20,000
Y-axis	vertical stroke	mm	450 / 650 / 900 / 1,200	450 / 650 / 900 / 1,200	650 / 900
	travel speed	mm/min	10,000 ¹⁾	10,000 ¹⁾	10,000 ¹⁾
Z-axis	transverse stroke	mm	300 / 500	500 / 750	500 / 750
	travel speed	mm/min	10,000 ¹⁾	10,000 ¹⁾	10,000 ¹⁾
Grinding spindle drive – power		kW		25 / 50 / 75	
Rpm range		min ⁻¹		5,000 (optionally 8,000)	
Grinding wheel diameters		mm		400 / 500 / 600 ²⁾	
Grinding wheel widths		mm		160 / 200 / 240 / 300 ²⁾	
Rotary table diameters		mm	800 / 1,000 / 1,200	800 / 1,000 / 1,200	1,200 / 1,500 / 2,000 / 2,500

¹⁾ Optionally 20,000 mm/min

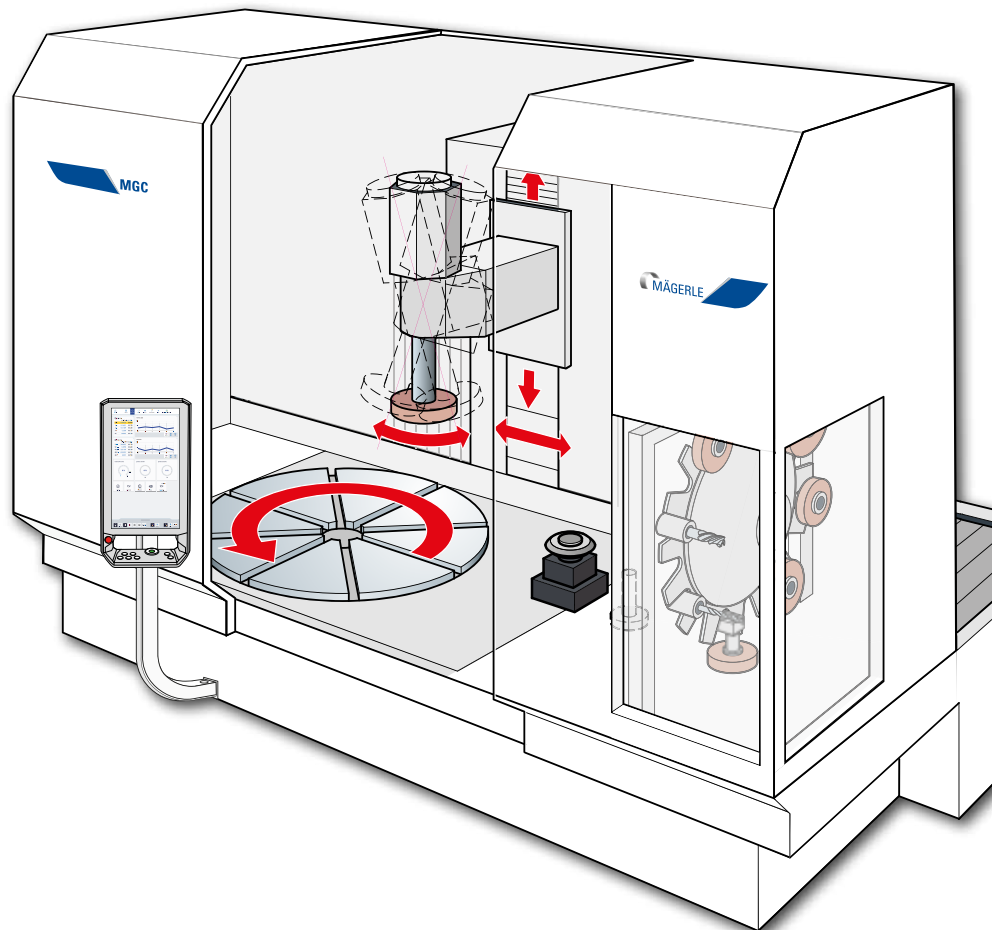
²⁾ Depending on machine size and model



MGC RV WITH SWIVEL VERTICAL SPINDLE

HUGE VERSATILITY AT THE HIGHEST PERFORMANCE LEVEL

Versatility with the highest production quality level is the outstanding strength of this vertical grinding machine. It demonstrates its capabilities particularly in the manufacture of bearing rings, where optimum runout characteristics are required for maximum smooth running. Equipped with rotary table and fully automatic tool changer, this vertical grinding machine can master other functions in addition to grinding. Whether turning, milling, drilling, reaming or boring, this system delivers the same impressive results. The vertically arranged spindle swivels in the range of $\pm 50^\circ$ offering plenty of space for machining a wide variety of workpieces. An interchangeable measuring probe guarantees that each individual workpiece is machined in a single clamping with consistently high perfection.



TECHNICAL DATA MGC RV

			140	210	260
X-axis	longitudinal stroke	mm	1,400	2,100	2,600
	travel speed	mm/min	20,000	20,000	20,000
Y-axis	vertical stroke	mm	650 / 900	650 / 900	650 / 900
	travel speed	mm/min	10,000 ¹⁾	10,000 ¹⁾	10,000 ¹⁾
Z-axis	transverse stroke	mm	500	500	500
	travel speed	mm/min	10,000 ¹⁾	10,000 ¹⁾	10,000 ¹⁾
Grinding spindle drive - power		kW		25 / 35	
Rpm range		min ⁻¹		5,000 ... 15,000 ²⁾	
Tool changer positions		n/pos		4...24	
Grinding wheels widths		mm		300 / 400 ²⁾	
Tool lengths		mm		300	
Tool holder		type		HSK-B80 / HSK-B100 ²⁾	
Rotary table diameters		mm	800 / 1,000 / 1,200	1,200 / 1,500	1,500 / 2,000

¹⁾ Optionally 20,000 mm/min

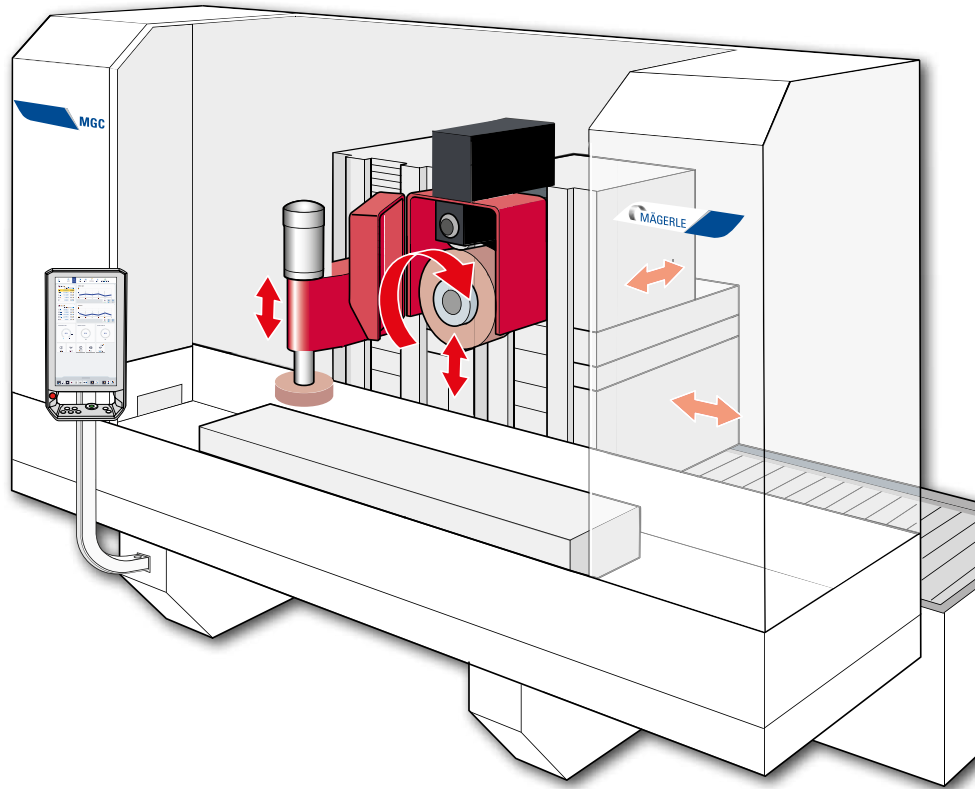
²⁾ Depending on machine size and model



MGC SPECIAL

TAILOR-MADE GRINDING CENTERS FOR SPECIFIC REQUIREMENTS

The standardized components of the MÄGERLE modular concept can be freely configured to provide individual solutions. This makes possible the production of grinding centers fully tailored to exact customer specifications. Single and multiple spindle systems with a horizontal or vertical arrangement can be combined as desired with stationary workpiece carriers, swivel table and rotary table, in any dimensions. The result in all cases is a made-to-measure tool, which fulfills the high requirements on manufacturing quality in the turbine, automotive, machine tool and bearing sectors with optimal cost effectiveness.



TECHNICAL DATA MGC SPECIAL WITH EXTENDED MACHINE CONFIGURATIONS

X-axis	longitudinal stroke	mm	max. 5,500
	travel speed	mm/min	up to 20,000
Y-axis	vertical stroke	mm	450 / 650 / 900 / 1,200
	travel speed	mm/min	up to 20,000
Z-axis	transverse stroke	mm	500 – 900
	travel speed	mm/min	up to 20,000
V-axis profile dressing device, roll widths		mm	167 – 307
Grinding spindle drive – power		kW	25 – 115
Rpm range		min ⁻¹	up to 24,000
Tool changer positions		n/pos	4...24
Grinding wheel widths		mm	30 – 1,150
Rotary table diameters		mm	1,000 – 2,500
Rotary table variants		Rotary indexing table, rotary table with hydrostatic bearings	
Spindle configurations		Horizontal, vertical, swivel spindle(s), special spindles, multiple spindle configurations	

We reserve the right to make technical changes

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

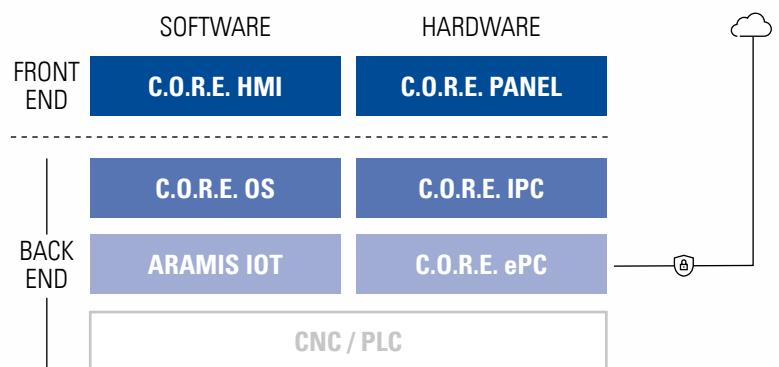
With C.O.R.E., we make your production fit for the digital future.

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 standardized 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 personalizable. 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 multi-touch display
- Override rotary switch with cycle start
- Standardized function keys
- Integrated 2-hand start
- Electronic key system (RFID)
- Integrated front camera
- Tilt adjustment

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
Warranty extension



Qualification
Training
Product support



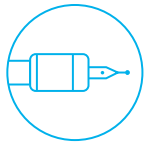
Prevention
Maintenance
Inspection



Service
Customer service
Customer consultation
Helpline



Digital solutions
Remote Service



Material
Spare parts
Replacement parts
Accessories



Rebuild
Machine overhaul
Assembly overhaul



Retrofit
Modifications
Retrofits

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

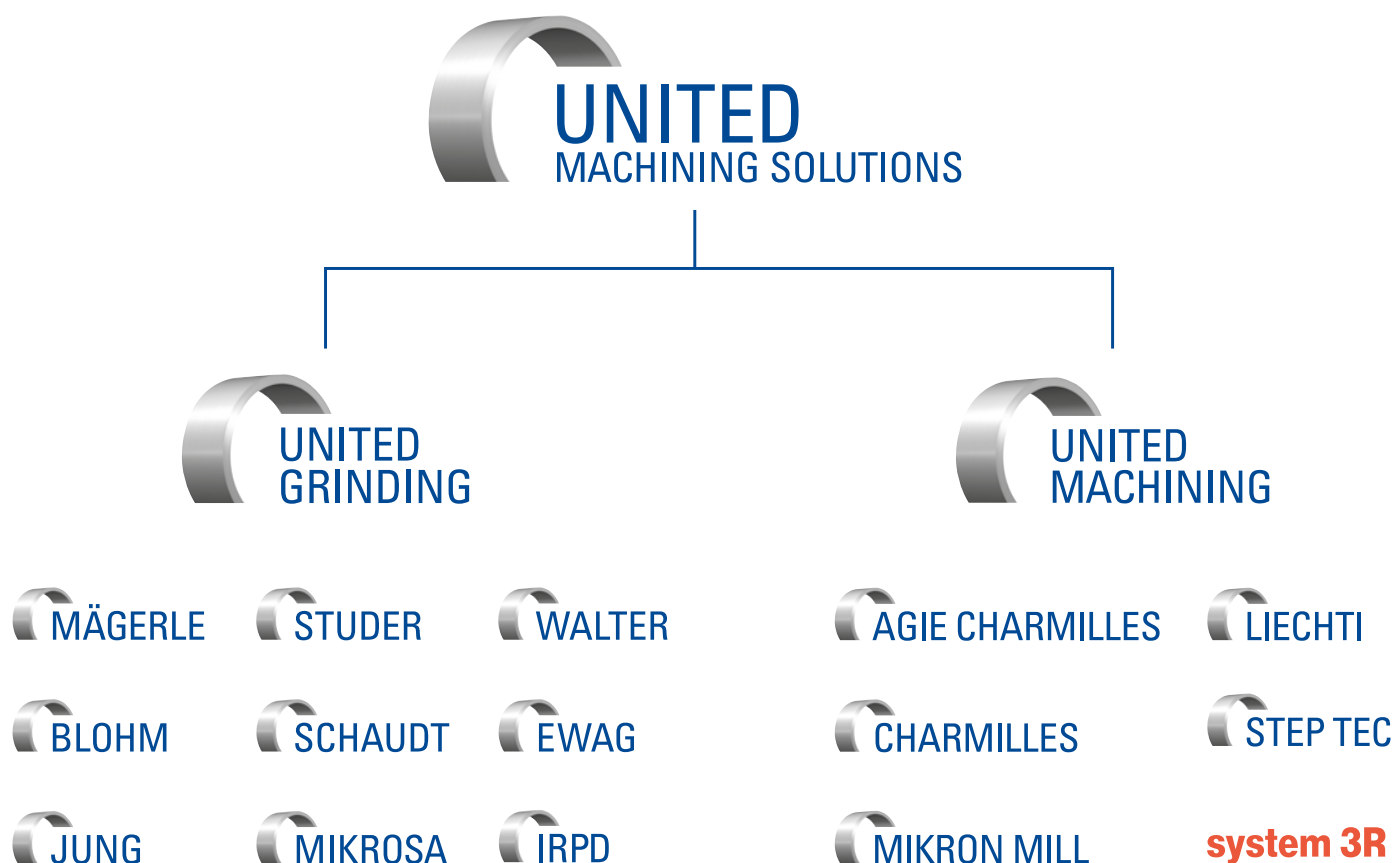
UNITED MACHINING SOLUTIONS

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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