MÄGERLE GRINDING SYSTEMS

Power and precision

Key data

Modular system for customized solutions

Maximum performance and productivity

Swiss-made precision

Special-purpose machinery with the reliability of standard equipment

MÄGERLE

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.

As part of the UNITED GRINDING Group, MÄGERLE is a strong member of the group of globally leading machinery engineering companies for grinding machines. All over the world, this gives MÄGERLE customers access to an extensive network of experienced service and engineering technicians.

MÄGERLE GRINDING SYSTEMS

Established modular system · Hydrostatic guideways · Maximum grinding and cooling performance · Process expertise for high process reliability · System integration expertise

Power • Precision • Reliability

MÄGERLE Modular System

The unique design principle of the MÄGERLE grinding centers forms the basis of the machines' high quality and reliability. Welded box-type steel construction designs, premium materials and components, and powerful drives guarantee the thermal stability of the systems and extreme machining precision.

Frictionless motion, even under extreme loads

MÄGERLE set an important milestone with the invention of the fully enclosed hydrostatic guideway system. This ground-breaking design principle still distinguishes MÄGERLE's high class technology today, and forms the basis for its unsurpassed results in precision, cost effectiveness, reliability and long working life.

Demanding tasks

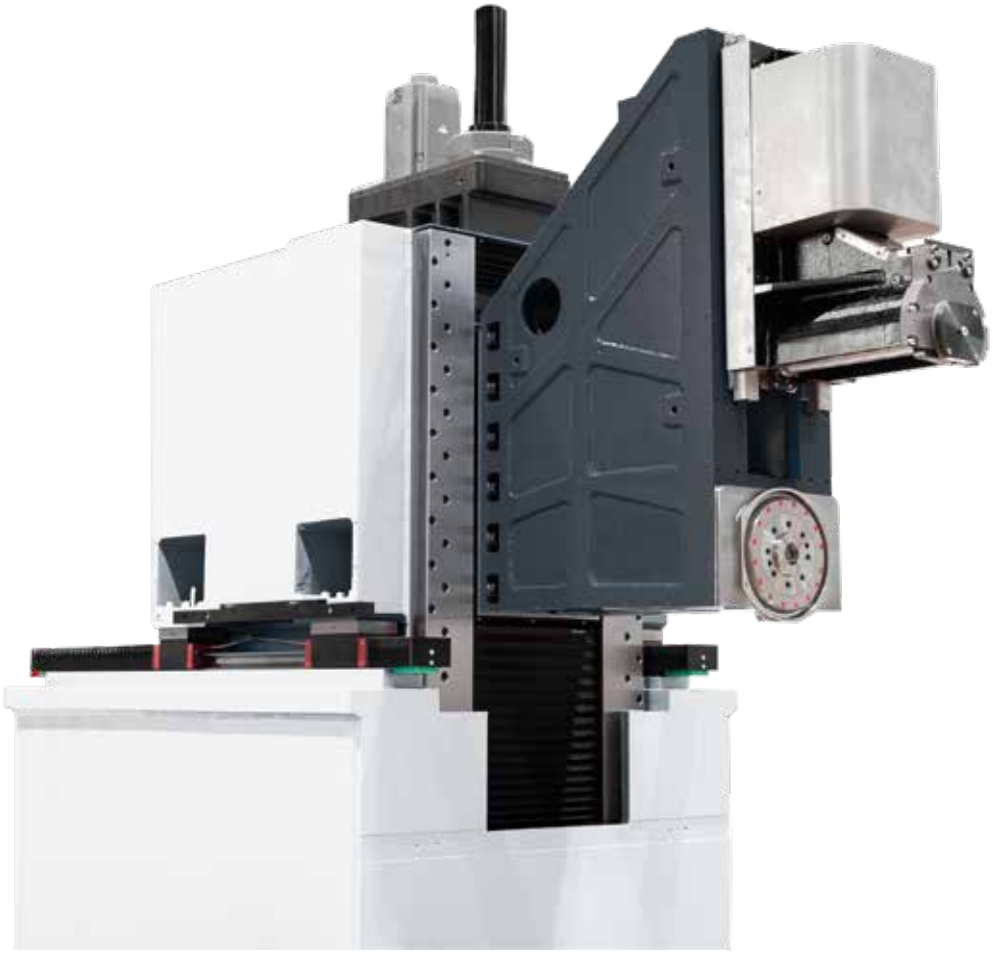
With their equally high removal capacity and machining precision, MÄGERLE's grinding centers are recognized on the market as top-class machines. They demonstrate their performances and versatility daily in demanding applications in the turbine industry, the automotive and aircraft industry, the hydraulics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

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 worldclass machine tools. With an increased production area MÄGERLE created new space for further growth.

A strong partner
As part of the UNITED GRINDING Group, 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.

Intelligent Modular System

Using standard components to create individual solutions

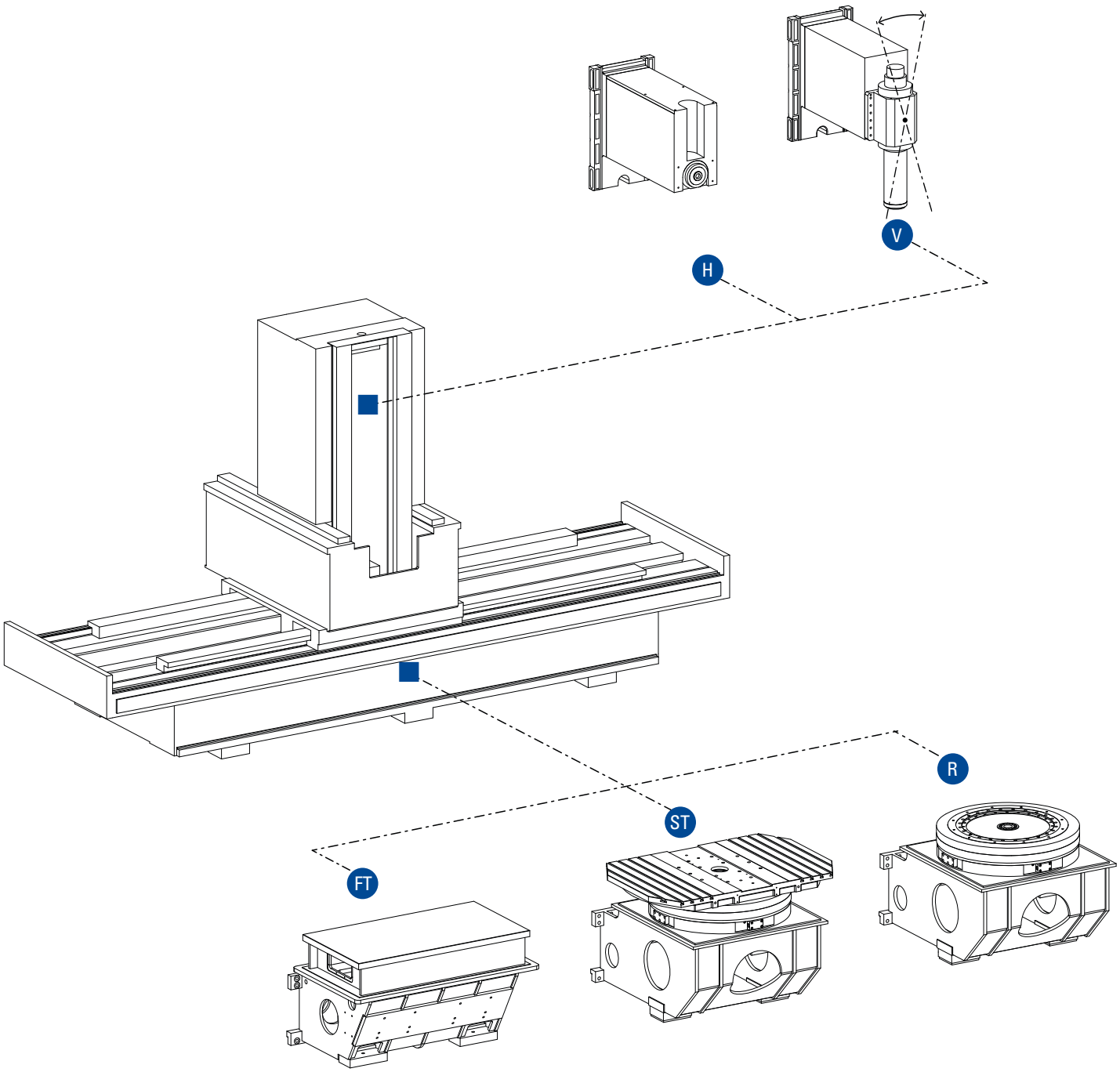


First class material, high-quality workmanship
The surface and profile grinding machines of MÄGERLE are used especially in applications where quality and reliability are of prime importance. To meet these requirements, the Swiss specialists only use first class materials. Precision-ground, hand-scraped sliding surfaces and seatings combined with high quality ball-type linear drives ensure excellent grinding results.

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, develops 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 immersion depth, thanks to three different machine bed heights.

Modular System

MÄGERLE Grinding Center MGC

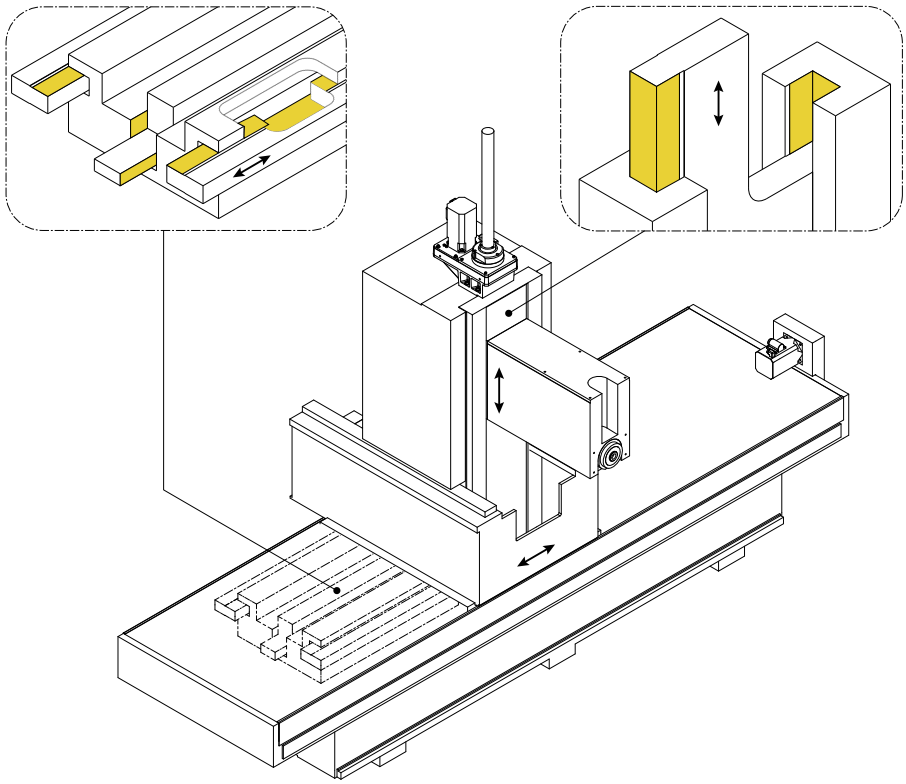


MGC legend:

- FT MGC with stationary console
- ST MGC with swivelling table
- RH MGC with rotary table and horizontal spindle
- RV MGC with rotary table and vertical spindle

Hydrostatic Guideways

Wear-free guideway concepts

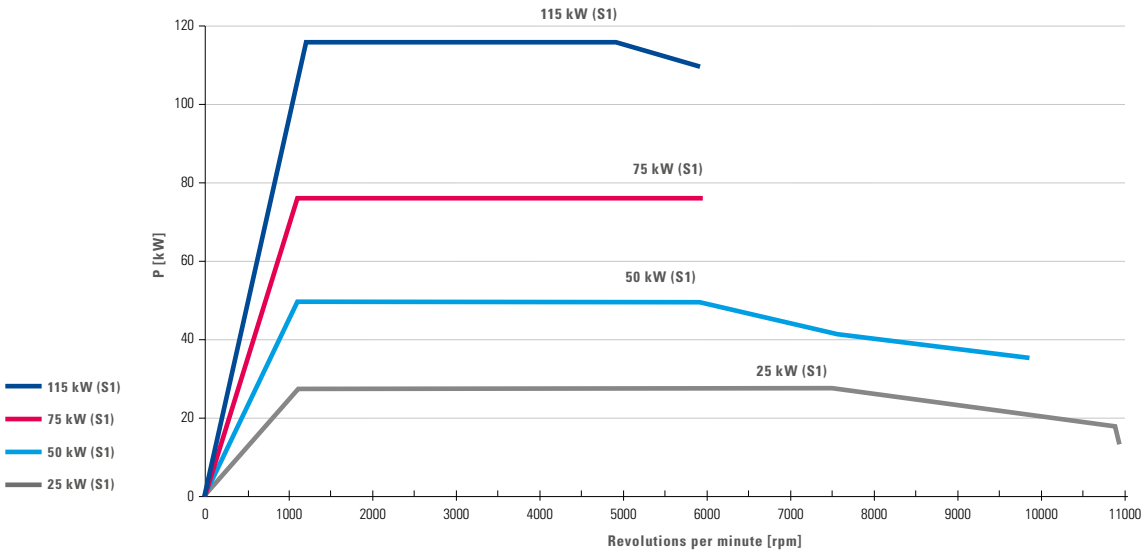


The whole quality of the MÄGERLE Grinding Centers is based on the unique design principle. The axis structure is supported by hydrostatic wrap-around guideways on a thin oil film and is completely separated from the machine bed. As a result MÄGERLE grinding machines can withstand high loads without signs 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.

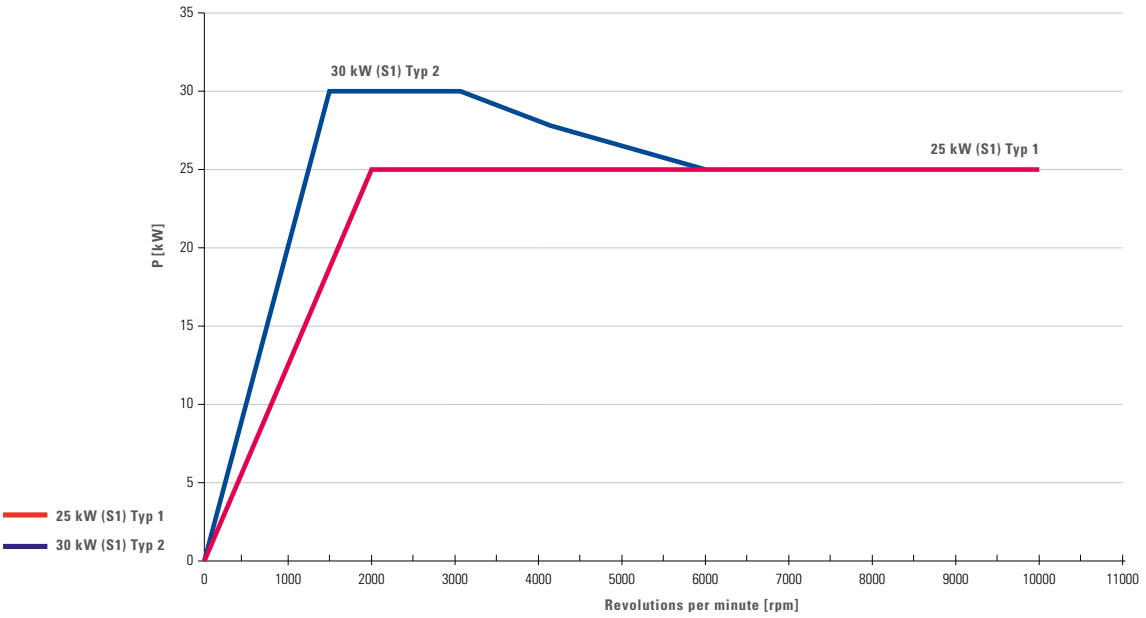
Powerful Grinding Wheel Drives

Power curves (S1)

Grinding wheel spindle drives – horizontal



Grinding wheel spindle drives – vertical



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 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.

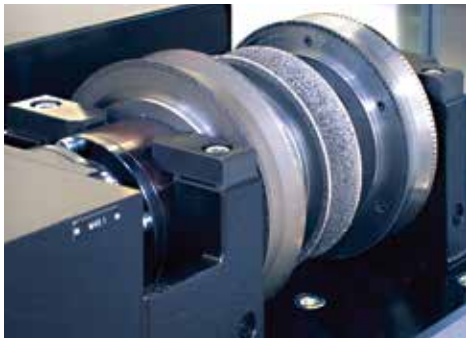
Cooling Intelligence and Correct Dressing Methods

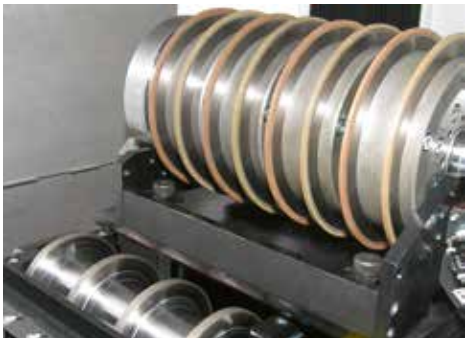
Perfect protection of the machining area, long working life of the entire system

Cost-saving cooling intelligence

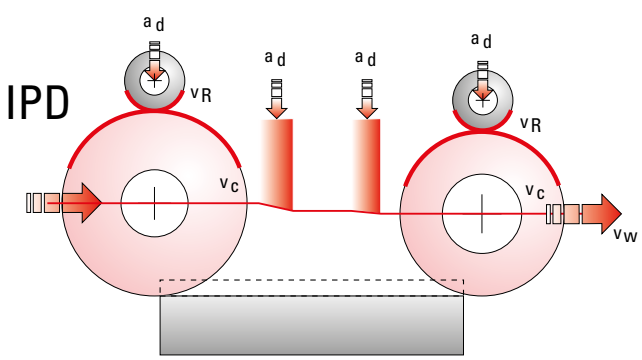
The NC systems currently used in MÄGERLE grinding centers allow precise positioning of the coolant supply together with the respective grinding wheel geometry over 2 NC axes. An optional profile adjustment enables precise application of the coolant to the workpiece zones for machining. Minimal coolant 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.

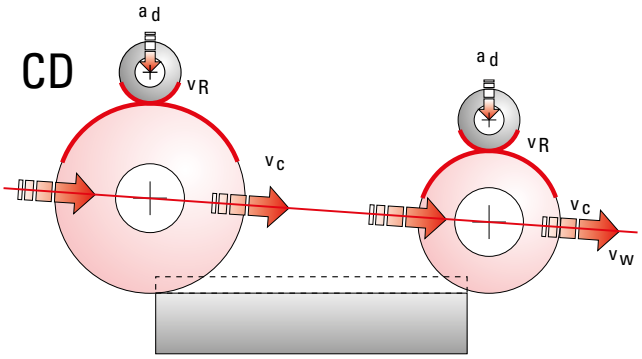
The right dressing method





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 potential of the overhead principle is developed in continuous dressing (CD) and inprocess dressing (IPD). Table dressing devices are used for fixed or rotating dressing tools, where the rotating principle produces optimal results in full form dressing, cushing or CNC dressing. MÄGERLE uses servo motors for driving the dressing devices; these can be freely programmed across the entire rpm range.





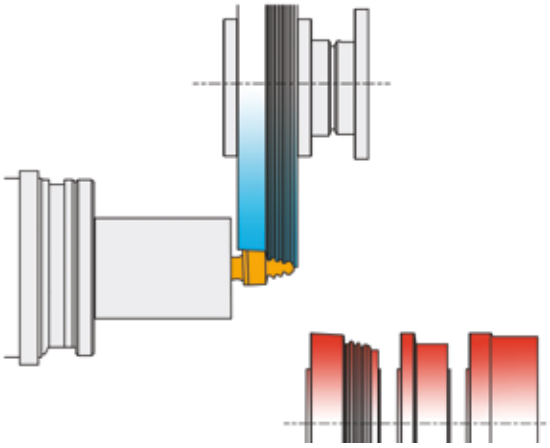
MFP 30

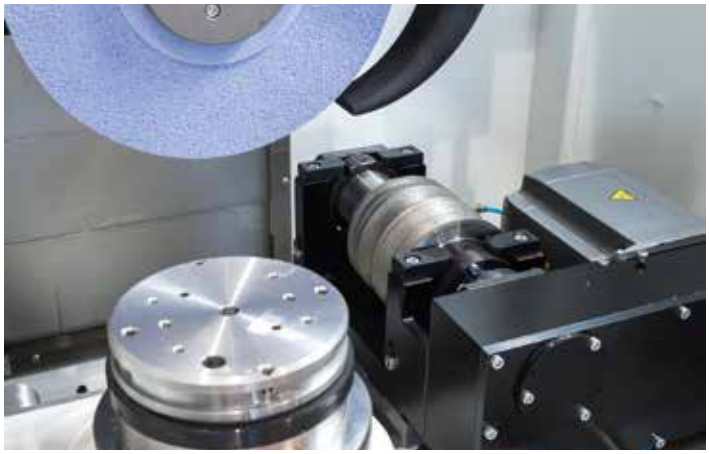
Compact solution for high productivity

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 aluminium oxide or grinding with CBN. The full performance and a high torque are available even at low spindle speeds. The robust tool holding fixtures enable wide machining contours to be achieved, together with high removal rates. 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.

Applications





Technical data for MFP 30

X-a xis	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% ED		kW	26
Rpm range max.		rpm	0...12.000
Quick-clamping spindle		n	HSK-B80
Tool changer positions		n/pos	12/24
Tool length max.		mm	180
Profile dressing device, roll width, max.		mm	307
Profile dressing device, roll diameter, max.		mm	150
Grinding wheel dimensions (D x T x H)		mm	300 x 60 x 76,2
NC-combination – rotary/swivel axes		n/axes	2/3
Measuring system with measuring probe (optional)			

We reserve the right to make technical changes

MFP 50, MFP 51

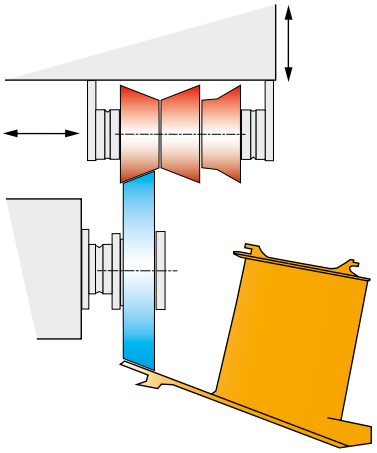
High flexibility for demanding applications

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.

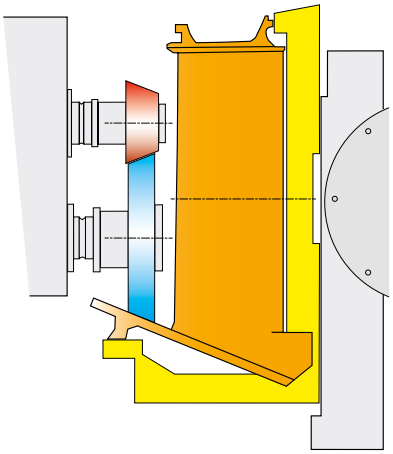
The MFP 51 grinding center has an extended range of functions. The tool changer with 66 positions and the automatic diamond roll change enable efficient machining of several different workpieces without altering the tooling. The coolant supply can be ideally adapted to the process with the automatic nozzle changer, enabling optimal grinding results.

Applications

MFP 50:
2-axis overhead dresser



MFP 51:
Simultaneous tool & dresser roll changer



MFP 50:
24 position tool changer

MFP 51:
66 position portal tool magazine

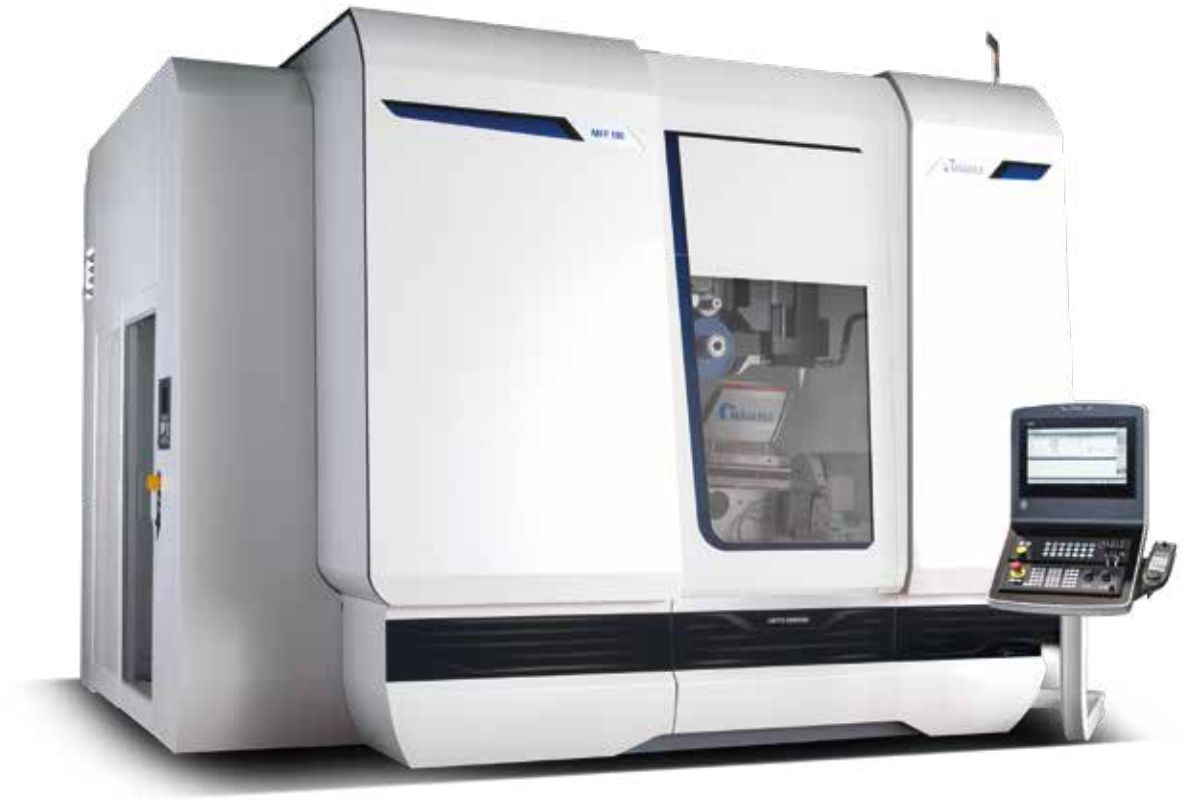
Technical data

			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
Grinding spindle drive - power max.		kW	25/50	25/50
Rpm range max.		rpm	0...10,000	0...12,000
V-axis profile dressing device, roll width, max.		mm	215	60
Tool changer positions		n/pos	24	66
Nozzle changer positions (optionaly)		n/pos	-	6
Tool length max.		mm	200	250
Grinding wheel dimensions (D x T x H)		mm	300 x 60 x 76.2	300 x 60 x 76.2
Tool holder			HSK-B80	2x HSK-B80
NC combination - rotary/swivel axes		n/axes	2/3	2/3

We reserve the right to make technical changes

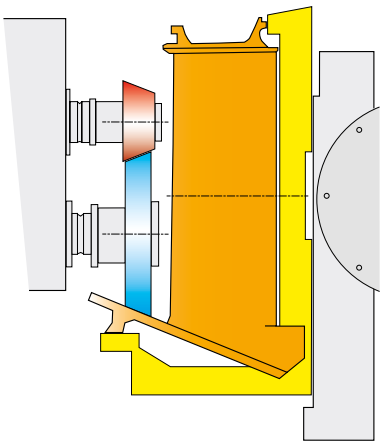
MFP 100

Fully automatic complete machining of complex workpieces



The MFP 100, designed for versatility and productivity, is characterized by its high working speed and expandable tool changer. The MFP 100 is designed specifically for those markets where multi-face machining of heavy and complex parts in just a single clamping operation is demanded. 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 accelerated tool change cycles are accompanied by markedly increased axis dynamics. The integrated automatic nozzle changer minimizes idle time. The increase in productivity achieved in this way manifests itself in the low unit costs.
The strength of the MFP 100 is also in its machining variety. The standard version of the tool changer is equipped with a total of 30 tool holders, which can optionally be increased to up to 60. Loading is possible with any desired tools, such as drills, milling cutters, CBN wheels or measuring probes.

Applications



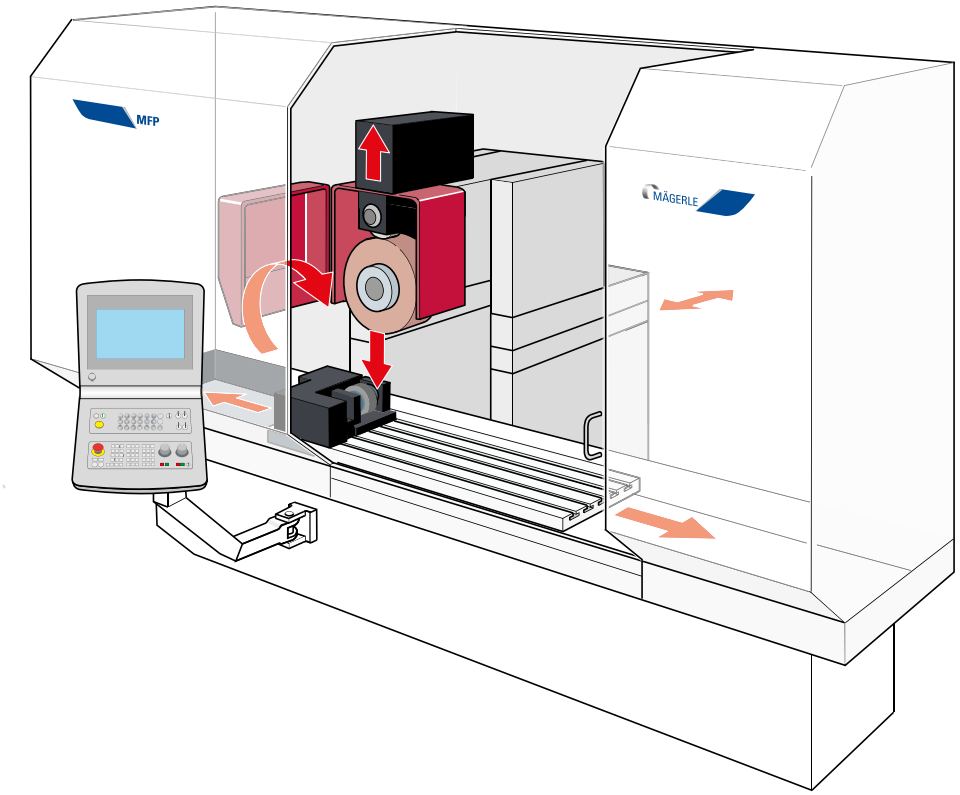
Technical data MFP 100

X-axis	longitudinal stroke	mm	1000
	Travel speed	mm/min	0...40,000
Y-axis	vertical stroke	mm	950
	Travel speed	mm/min	0...30,000
Z-axis	transverse stroke	mm	750
	Travel speed	mm/min	0...30,000
Grinding spindle drive - power max.		kW	50
Rpm range max.		rpm	0...10,000
V-axis profile dressing device, roll width, max.		mm	100
Tool changer positions		n/Pos	30/60
Nozzle changer positions (optionally)		n/Pos	8
Tool length, max.		mm	280
Grinding wheel dimensions (Ø-external x W x Ø-bore)		mm	300 x 100 x 76.2
2 quick-clamping spindles			HSK-B80
Indexer swivel axes		n/axes	2/3
integrated swivel single side dresser roll			
Measuring system with probe			

We reserve the right to make technical changes

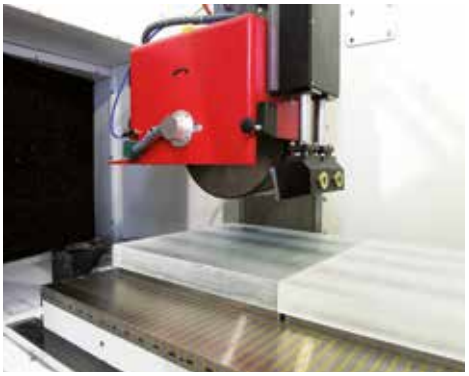
MFP - Surface and Profile Grinding Machine

Constant precision in 24/7 continuous operation

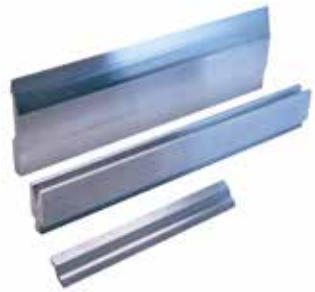


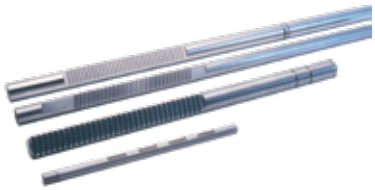
With the MFP series, MÄGERLE comprehensively covers the requirements for surface and profile grinding machines. These machines specialize in creep feed grinding as well as profile and surface grinding operations using the pendulum method. They demonstrate their full performance potential in applications 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 MÄGERLE MFP series 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.

Applications



Applications



Technical data MFP

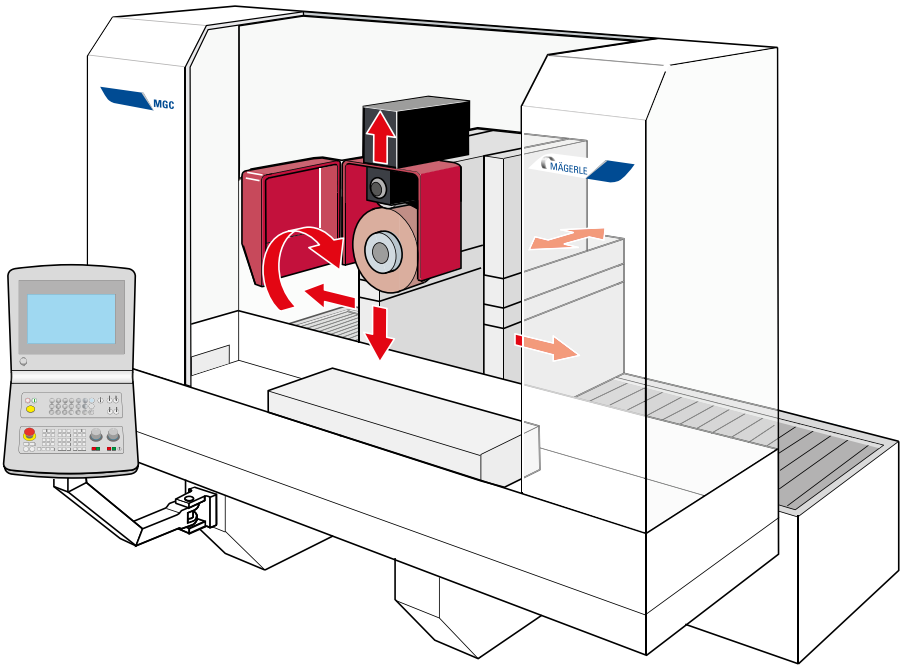
		080	125	160	220	260
X-axis - longitudinal stroke	mm	800	1,250	1,600	2,200	2,600
Travel speed	mm/min	0...30,000	0...30,000	0...30,000	0...30,000	0...30,000
Y-axis - vertical stroke	450 mm	■	■	■	■	■
	650 mm	■	■	■	■	■
	750 mm	-	■	■	■	■
Travel speed	mm/min	0...10,000[1)]	0...10,000[1)]	0...10,000[1)]	0...10,000[1)]	0...10,000[1)]
Z-axis - transverse stroke	350 mm	■	■	■	■	■
	500 mm	■	■	■	■	■
	750 mm	-	■	■	■	■
	900 mm	-	-	■	■	■
Travel speed	mm/min	0...10,000[1)]	0...10,000[1)]	0...10,000[1)]	0...10,000[1)]	0...10,000[1)]
V-axis profile dressing device, roll width, max.	167 mm	■	■	■	■	■
	207 mm	■	■	■	■	■
	247 mm	■	■	■	■	■
	307 mm	-	■ [2)]	■ [2)]	■ [2)]	■ [2)]
Roll diameter max.	mm	160	160	160	160	160
Roll drive AC drive, max.	rpm	6,000	6,000	6,000	6,000	6,000
Grinding spindle drive – power	25 kW	■	■	■	■	■
	50 kW	■	■	■	■	■
	75 kW	■	■	■	■	■
	115 kW	-	■ [2)]	■ [2)]	■ [2)]	■ [2)]
Rpm range	rpm	5,000 (8,000)	5,000 (8,000)	5,000 (8,000)	5,000 (8,000)	5,000 (8,000)
Grinding wheel peripheral speed	m/s	35	35	35	35	35
– switchable with key-operated switch	m/s	50	50	50	50	50
– with additional flange monitoring switchable up to	m/s	63	63	63	63	63
Grinding wheel diameter	mm	400/500	400/500/600[2)]	400/500/600[2)]	400/500/600[2)]	400/500/600[2)]
Grinding wheel width	mm	160/200/240	160/200/240 optimized to 300 mm	160/200/240 optimized to 300 mm	160/200/240 optimized to 300 mm	160/200/240 optimized to 300 mm

[1)] optionally 20m/min [2)] dependent on size

We reserve the right to make technical changes

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

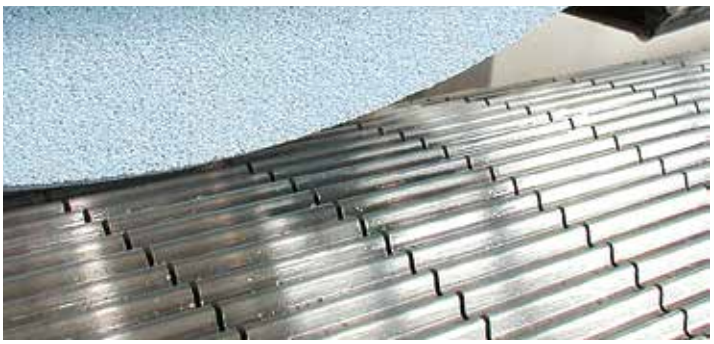
		080	130	140	210
X-axis - longitudinal stroke	mm	800	1,300	1,400	2,100
Travel speed	mm/min	0...20,000	0...20,000	0...20,000	0...20,000
Y-axis - vertical stroke	450 mm	■	■	-	-
	650 mm	■	■	■	■
	900 mm	■	-	■	-
Travel speed	mm/min	0...10,000[1)]	0...10,000[1)]	0...10,000[1)]	0...10,000[1)]
Z-axis - transverse stroke	mm	500/750	350/500	500/750	500/750
Travel speed	mm/min	0...10,000[1)]	0...10,000[1)]	0...10,000[1)]	0...10,000[1)]
V-axis profile dressing device, roll width, max.	167 mm	■	■	■	■
	207 mm	■	■	■	■
	247 mm	■	■	■	■
	307 mm	■ [2)]	-	■ [2)]	■ [2)]
Roll diameter max.	mm	160	160	160	160
Roll drive AC drive, max.	rpm	6,000	6,000	6,000	6,000
Grinding spindle drive – power	kW	25/50/75/115[2)]	25/50/75	50/75/115[2)]	50/75/115[2)]
Rpm range	rpm	5,000 (8,000)	5,000 (8,000)	5,000 (8,000)	5,000 (8,000)
Grinding wheel peripheral speed	m/s	35	35	35	35
– switchable with key-operated switch	m/s	50	50	50	50
– with additional flange monitoring switchable	m/s	63	63	63	63
Grinding wheel diameter	mm	400/500/600[2)]	400/500/600[2)]	400/500/600[2)]	400/500/600[2)]
Grinding wheel width	mm	160/200/240	160/200/240/300[2)]	160/200/240/300[2)]	160/200/240/300[2)]
Fixed table (L x W)	mm	800 x 500/750	1,300 x 500	1,400 x 500/750	2,100 x 500/750

[1)] optionally 20m/min [2)] dependent on size

We reserve the right to make technical changes

Applications



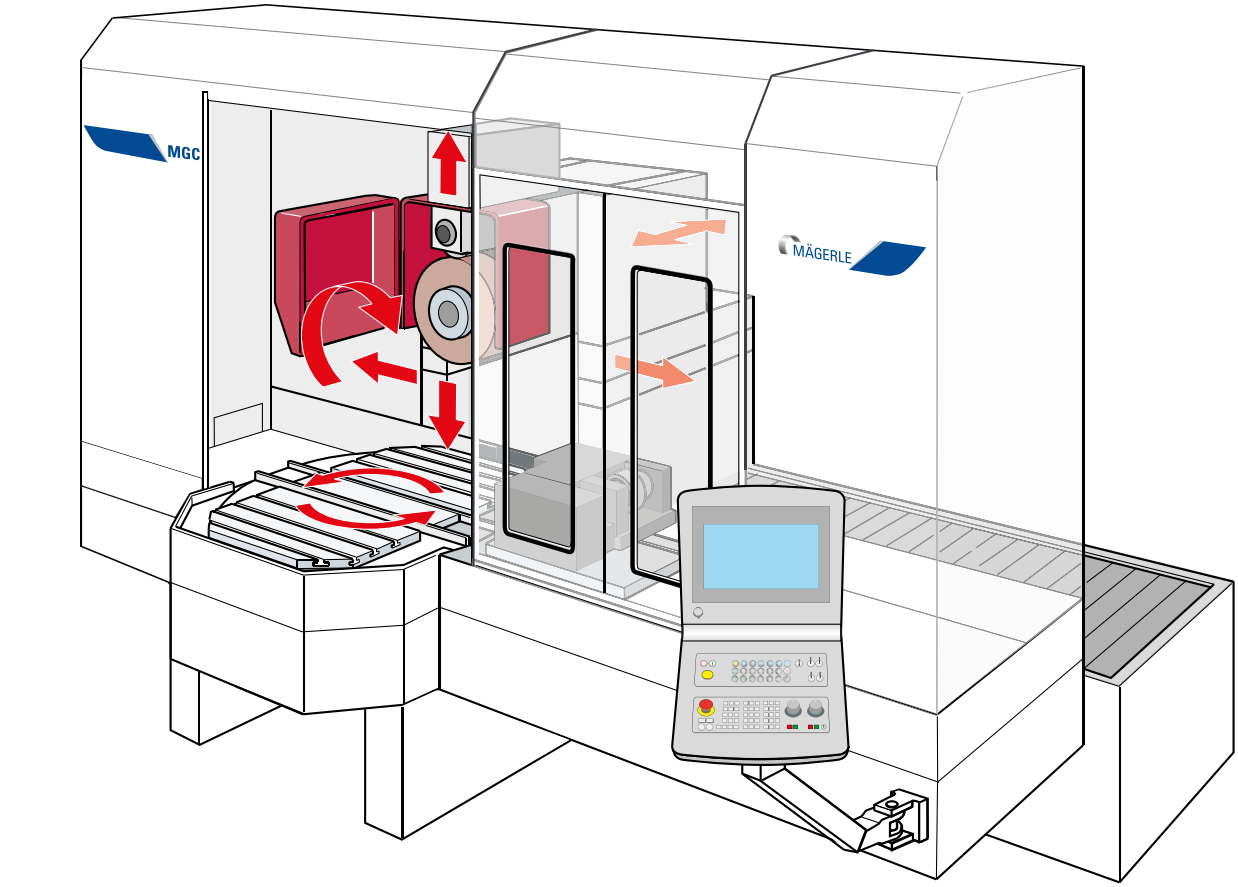
260	330	440	550	Technical data MGC FT
2,600	3,300	4,400	5,500	X-axis - longitudinal stroke
0...20,000	0...20,000	0...30,000	0...30,000	Travel speed
-	-	-	-	Y-axis - vertical stroke
■	■	■	■	
■	■	-	-	
0...10,000[1]	0...10,000[1]	0...10,000[1]	0...10,000[1]	Travel speed
500/750	500/750	750	750	Z-axis - transverse stroke
0...10,000[1]	0...10,000[1]	0...10,000[1]	0...10,000[1]	Travel speed
■	■	■	■	V-axis profile dressing device, roll width, max.
■	■	■	■	
■	■	■	■	
■ [2]	■ [2]	■ [2]	■ [2]	
160	160	160	160	Roll diameter max.
6,000	6,000	6,000	6,000	Roll drive AC drive, max.
50/75/115[1]	50/75/115[2]	50/75/115[2]	50/75/115[2]	Grinding spindle drive – power
5,000 (8,000)	5,000 (8,000)	5,000 (8,000)	5,000 (8,000)	Rpm range
35	35	35	35	Grinding wheel peripheral speed
50	50	50	50	– switchable with key-operated switch
63	63	63	63	– with additional flange monitoring switchable
400/500/600[2]	400/500/600[2]	400/500/600[2]	400/500/600[2]	Grinding wheel diameter
160/200/240/300[2]	160/200/240/300[2]	160/200/240/300[2]	160/200/240/300[2]	Grinding wheel width
2,600 x 500/750	3,300 x 750	4,400 x 750	5,500 x 750	Fixed table (L x W)

We reserve the right to make technical changes

[1] optionally 20m/min [2] dependent on size

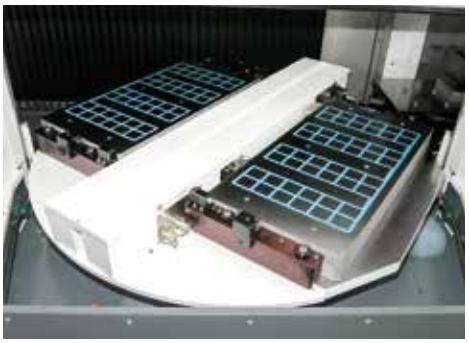
MGC ST with Swivelling Table

Maximum productivity in batch production



Like its sister systems in the MFP series, the MÄGERLE Grinding Center delivers superb results for creep feed grinding as well as for profile and surface grinding. In its swivelling table version, the MGC is also designed for maximum production capacity. The 180° swivelling 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 with swivelling table frees up additional resources. The openly accessible swivelling table also provides the ideal interface.

Applications



Applications

Technical data MGC ST

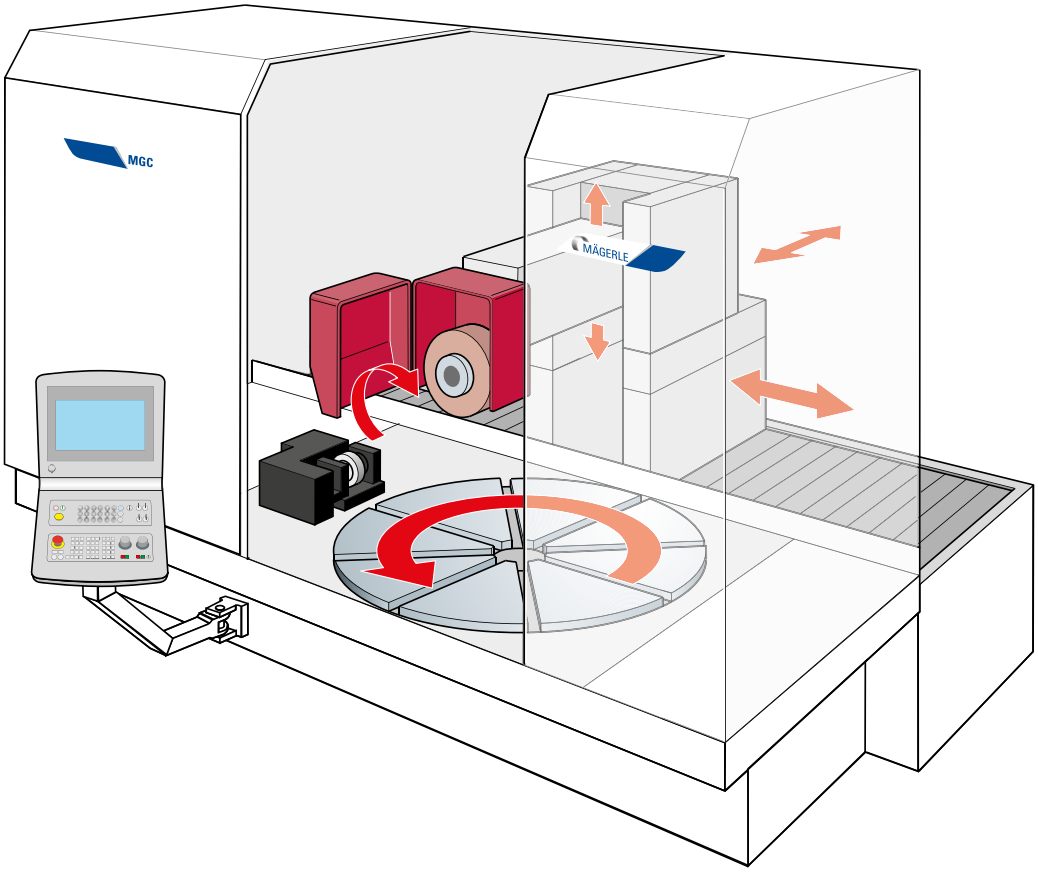
		130	140	210	260	330
X-axis - longitudinal stroke	mm	1,300	1,400	2,100	2,600	3,300
Travel speed	mm/min	0…20,000	0…20,000	0…20,000	0…20,000	0…20,000
Y-axis - vertical stroke	450 mm	■	-	■	-	-
	650 mm	■	■	■	■	■
	900 mm	-	■	■	■	■
Travel speed	mm/min	0…10,000[1)]	0…10,000[1)]	0…10,000[1)]	0…10,000[1)]	0…10,000[1)]
Z-axis - transverse stroke	mm	350/500	500/750	500/750	500/750	500/750
Travel speed	mm/min	0…10,000[1)]	0…10,000[1)]	0…10,000[1)]	0…10,000[1)]	0…10,000[1)]
V-axis profile dressing device, roll width, max.	167 mm	■	■	■	■	■
	207 mm	■	■	■	■	■
	247 mm	■	■	■	■	■
	307 mm	-	■ [2)]	■ [2)]	■ [2)]	■ [2)]
Roll diameter max.	mm	160	160	160	160	160
Roll drive AC drive, max.	rpm	6,000	6,000	6,000	6,000	6,000
Grinding spindle drive – power	kW	25/50/75	50/75/115[2)]	50/75/115[2)]	50/75/115[2)]	50/75/115[2)]
Rpm range	rpm			5,000 (8,000)		
Grinding wheel peripheral speed	m/s			35		
– switchable with key-operated switch	m/s			50		
– with additional flange monitoring switchable	m/s			63		
Grinding wheel diameter	mm			400/500/600[2)]		
Grinding wheel width	mm			160/200/240/300[2)]		
Swivelling table +/- 180° with 2 clamping surfaces (L x W)	mm	760 x 325	760 x 325	1,000 x 440	1,000 x 440	1,150 x 600

[1)] optionally 20m/min [2)] dependent on size

We reserve the right to make technical changes

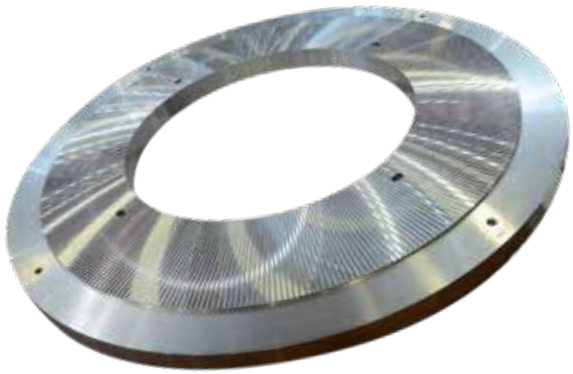
MGC RH with Rotary Table and Horizontal Spindle

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 12 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.

Applications



Applications

Technical data MGC RH

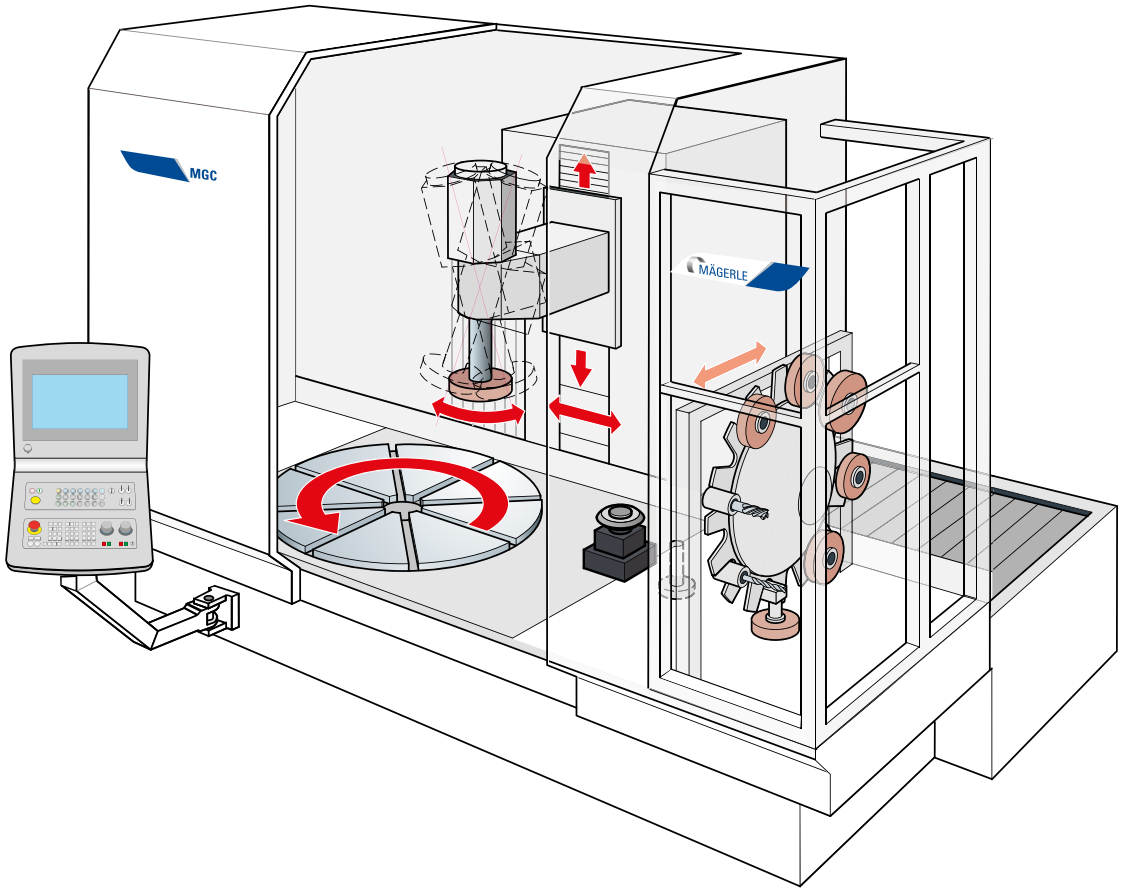
		140	210	260
X-axis - longitudinal stroke	mm	1,400	2,100	2,600
Travel speed	mm/min	0...20,000	0...20,000	0...20.000
Y-axis - vertical stroke	450 mm	■	■	-
	650 mm	■	■	■
	900 mm	■	-	■
	1,200 mm	■	■	-
Travel speed	mm/min	0...10,000[1)]	0...10,000[1)]	0...10,000[1)]
Z-axis - transverse stroke	mm	500/750	500/750	500/750
Travel speed	mm/min	0...10,000[1)]	0...10,000[1)]	0...10,000[1)]
V-axis profile dressing device, roll width, max.	167 mm	■	■	■
	207 mm	■	■	■
	247 mm	■	■	■
	307 mm	■	■	■
Roll diameter max.	mm	160	160	160
Roll drive AC drive, max.	rpm	6,000	6,000	6,000
Grinding spindle drive – power	kW	50/75/115[2)]	50/75/115[2)]	50/75/115[2)]
Rpm range	rpm	5,000 (8,000)	5,000 (8,000)	5,000 (8,000)
Grinding wheel peripheral speed	m/s	35	35	35
– switchable with key-operated switch	m/s	50	50	50
– with additional flange monitoring switchable	m/s	63	63	63
Grinding wheel diameter	mm	400/500/600[2)]	400/500/600[2)]	400/500/600[2)]
Grinding wheel width	mm	160/200/240/300[2)]	160/200/240/300[2)]	160/200/240/300[2)]
Rotary table – diameter	mm	800/1,000/1,200	800/1,000/1,200	1,200/1,500/2,000/2,500

[1)] optionally 20m/min [2)] dependent on size

We reserve the right to make technical changes

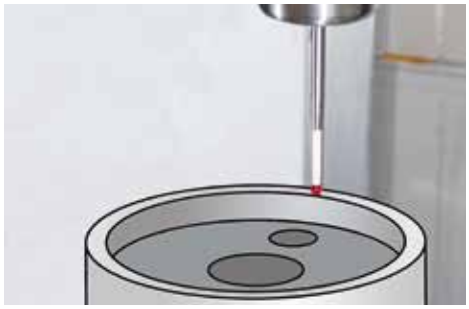
MGC RV with Rotary Table and Vertical Spindle

Huge versatility at the highest performance level

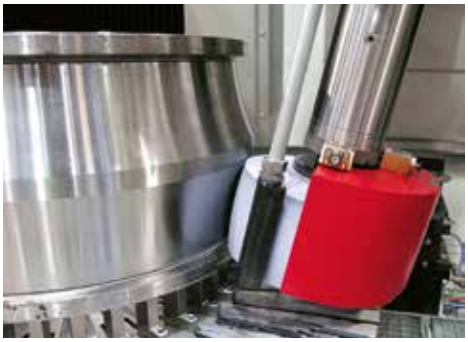


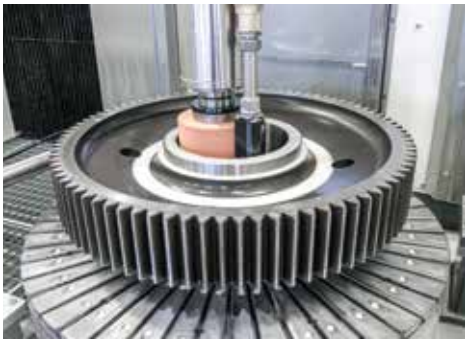
Versatility with the highest production quality level is the outstanding strength of this vertical grinding machine. It demonstrates its capabilities particularly in the manufacture of bearing rings, where optimum runout characteristics are required for maximum smooth running. Equipped with rotary table 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 swivelling in the range of ± 50° offers plenty of space for machining a wide variety of workpieces. An interchangeable spindle measuring probe guarantees that each individual workpiece is machined in a single clamping with consistently high perfection.

Applications



Applications

Technical data MGC RV

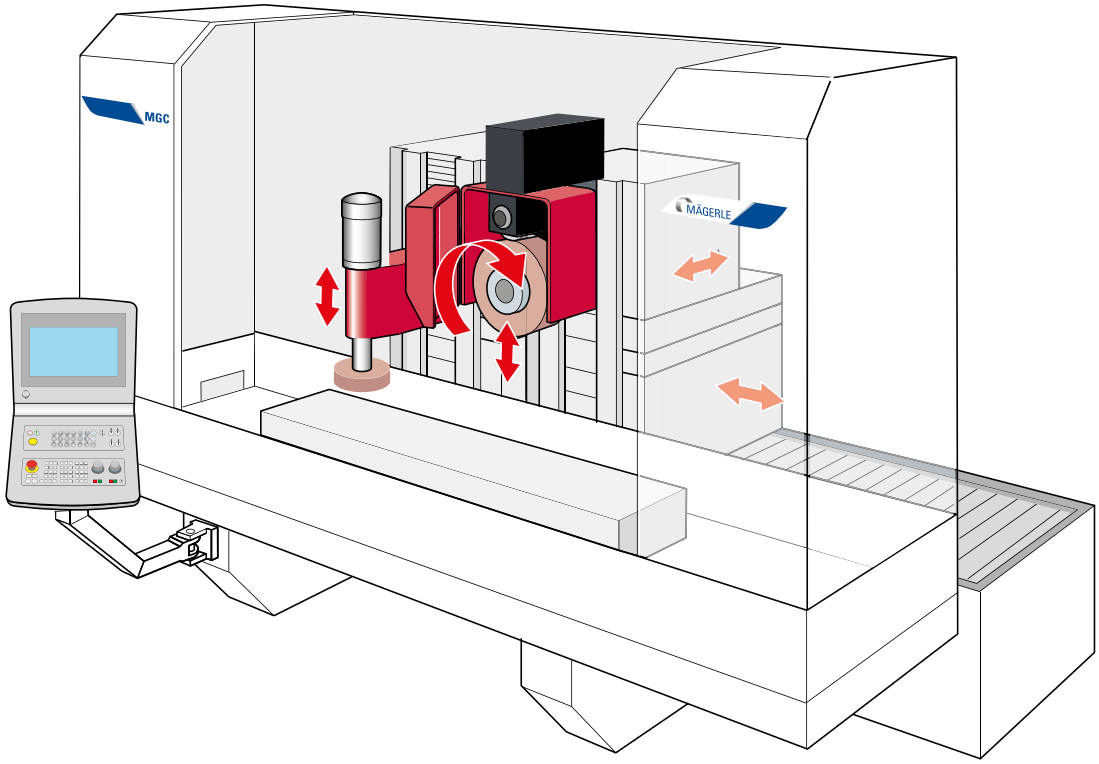
		140	210	260
X-axis - longitudinal stroke	mm	1,400	2,100	2,600
Travel speed	mm/min	0...20,000	0...20,000	0...20,000
Y-axis - vertical stroke	650 mm	■	■	■
	900 mm	■	■	■
Travel speed	mm/min	0...10,000[1)]	0...10,000[1)]	0...10,000[1)]
Z-axis - transverse stroke	mm	500	500	500
Travel speed	mm/min	0...10,000[1)]	0...10,000[1)]	0...10,000[1)]
Grinding spindle drive - power	kW	30	30	30
Rpm range	rpm	0...12,000	0...12,000	0...12,000
Tool change holders	n/pos		24	
Tool length	mm	300	300	300
Grinding wheel dimensions (D x T x H)	mm	300 x 150 x 76.2	300 x150 x 76.2	300 x150 x 76.2
Tool holder		HSK-B80	HSK-B80	HSK-B80
Rotary table – diameter	mm	800/1,000/1,200	1,200/1,500	1,500/2,000

[1)] optionally 20 m/min

We reserve the right to make technical changes

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, swivelling 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 automotive, aviation and hydraulic sectors, in turbine engines and machine tools, as well as in the roller bearing and tool industry, with optimal cost effectiveness.

Applications

Applications

Technical data MGC RH
MGC with extended machine configurations

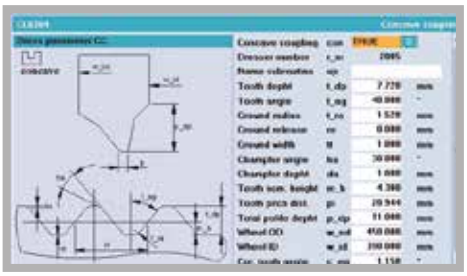
X-axis - longitudinal stroke	mm	max. 5,500
Travel speed	mm/min	0...10,000[1)]
Y-axis - vertical stroke	mm	450/650/900/1,200
Travel speed	mm/min	0...10,000[1)]
Z-axis - transverse stroke	mm	500 – 900
Travel speed	mm/min	0...10,000[1)]
V-axis profile dressing device, roll width, max.	mm	167 – 307
Grinding spindle drive – power	kW	25 – 115
Rpm range	rpm	0. . .24,000
Grinding wheel dimensions	mm	30 – 1,150
Rotary table – diameter	mm	1,000 – 2,500
Rotary table variants		Rotary indexing table, rotary table with hydrostatic bearings and direct drive
Spindle configurations		Horizontal, vertical, swivelling spindle(s), special spindles Multiple spindle configurations

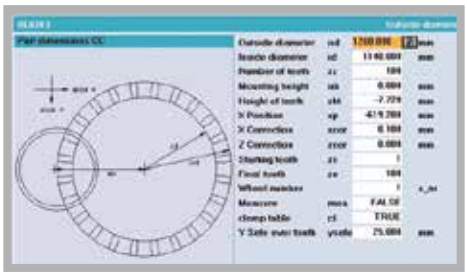
[1)] optionally bis 20 m/min and dependent on size

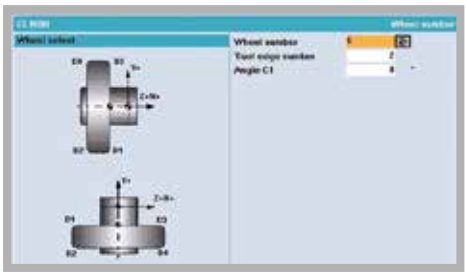
We reserve the right to make technical changes

Control Systems

Operational safety and user-friendliness in the center



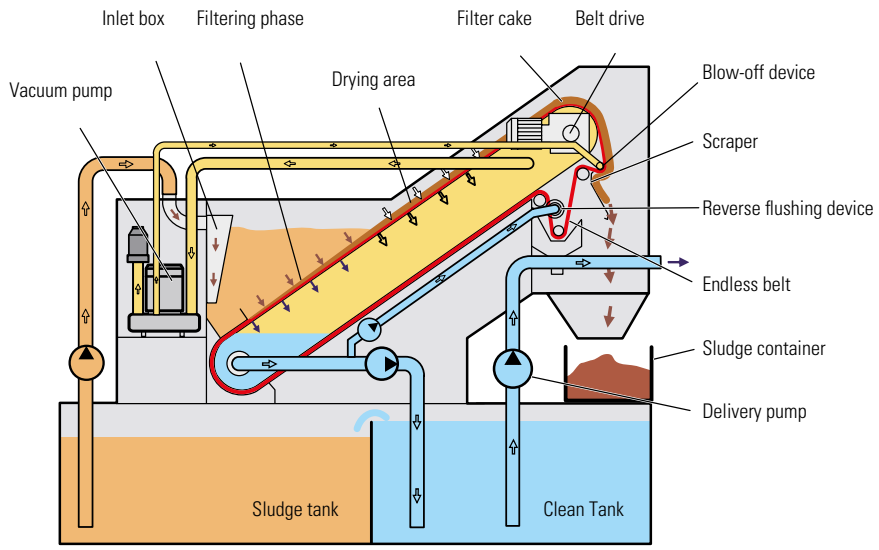




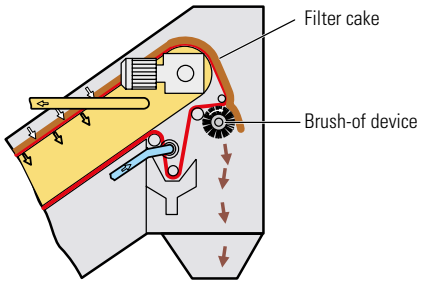
At MÄGERLE, experienced software engineers work on advanced control concepts. The focus is on intuitive operation and the highest level of operational and production safety. The freely programmable software allows the control unit to be configured workpiece-specifically and in accordance with customer requirements. A mobile manual control unit with visualization of all relevant functions on the LCD monitor simplifies and accelerates precise setup of the machine directly at the workpiece. The SIEMENS Sinumerik 840D solution line control unit assures the highly automated operation of MÄGERLE grinding centers with precise control of the individual axes. Innovative control architecture and MÄGERLE's groundbreaking machine tools thus form a perfectly functioning unit geared to customer requirements.

Coolant Cleaning Units

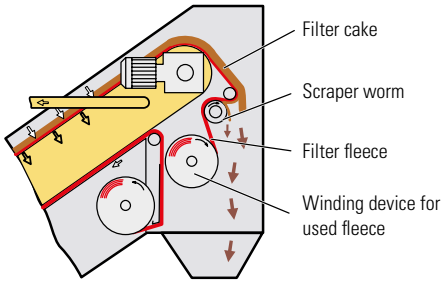
The optimal solution for every application



Endless belt with brush-of device

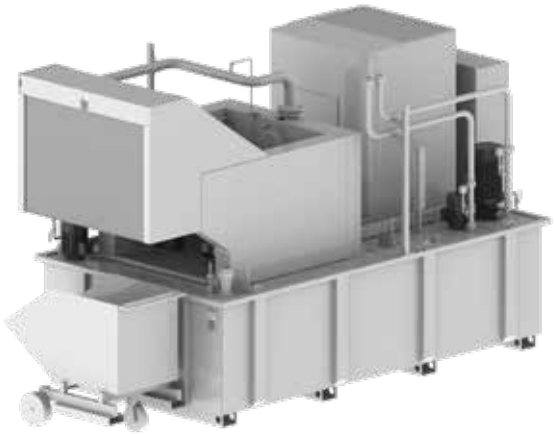


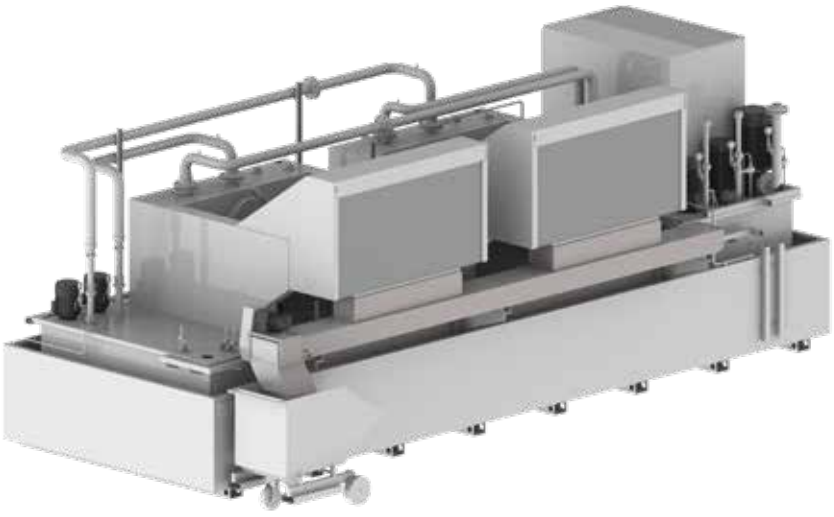
Filter fleece with take-up unit



An eye on the big picture

MÄGERLE considers the grinding process as a system of different components and thus creates the necessary conditions for a high cost effectiveness. The system concept for coolant supply and cleaning is of central importance. Correct dimensioning is essential for utilization of the full coolant potential with low disposal costs. Taking account of these economic and ecological aspects, MÄGERLE in conjunction with the coolant system supplier matches integrated solutions to the customer-specific requirements.





Customer Care

MÄGERLE surface and profile grinding machines should fulfill the customer›s requirements for as long as possible, work cost-effectively, function reliably and be available at all times. From "start up" through to "retrofit" – our Customer Care is there for you throughout the working life of your machine. 3 professional helplines are available in your area, wherever you are in the world.

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

Prevention

Maintenance – Your advantages:
- Increased machine availability thanks to reduced downtime
- Higher and more constant production quality
- Well-founded statements on the machine condition
- Cost transparency thanks to flat rate

Inspection – Your advantages:
- Early identification of defects
- Service tasks easier to schedule
- Increased machine availability thanks to reduced downtime

Start up

Commissioning – Your advantages:
- Smooth start to production
- Optimal basic knowledge
- Trained staff

Warranty extension –
Your advantages:
- Ability to plan
- Financial security at low additional costs

Qualification

Training – Your advantages:
- Learning of processes under real conditions
- Trained and motivated staff
- Increased productivity
- Lower risk of a machine failure due to incorrect operation

Production support – Your advantages:
- Increase in your company's know-how
- Support of your production team by our specialists
- Increased productivity

Service

Customer service – Your advantages:
- Fast response times thanks to locally based service technicians
- Rapid troubleshooting
- Quick and effective problem solving

Customer consultation – Your advantages:
- Availability of expert consultants
- Individual consultation

HelpLine – Your advantages:
- Personal contact
- Increased machine availability thanks to fast response times

Digital Solutions™

Remote Service
- Service request at the touch of a button
- Increased availability of your system
- Minimise downtimes

Service Monitor
- Structured maintenance planning
- Easier maintenance thanks to guides and instructions
- Maintenance documentation available online

Production Monitor
- Information and key data about your machines – around the clock
- Support for your planners and production staff
- Data for optimisation of availability and utilisation

Rebuild

Machine overhaul – Your advantages:
- Same precision and productivity as a new machine
- Extended service life of your machine
- Retraining of employees on a new machine unnecessary

Assembly overhaul – Your advantages:
- You receive an assembly that's as good as new
- Extended service life of the machine
- Rectification of geometry problems

Material

Spare parts – Your advantages:
- Fast and flexible response to your requirements
- Fitting accuracy and process reliability thanks to original spare parts
- High precision is maintained

Replacement parts – Your advantages:
- Lower costs when purchasing replacement parts
- Fast problem-solving
- Replacement parts that are a perfect fit

Accessories – Your advantages:
- Customisation of your machine
- Accessories that are a perfect fit

Retrofit

Conversions – Your advantages:
- Use your machine for new applications
- Extended service life of the machine
- Retraining of employees on a new machine unnecessary

Retrofits – Your advantages:
- Retrofitting of components to the current state of the art
- Preservation of your machine's value
- Your machine remains in-situ

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