

MAR

CYLINDRICAL GRINDING MACHINES

**M
C
R**

PASSION FOR GRINDING



THE SMALL GRINDING CENTER

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ID CARD

MCR is a cylindrical grinding machine for external and/or internal diameters with mobile table, suitable for machining pieces up to 250 mm. of length and a rotating diameter of 250 mm.

TECHNICAL SPECIFICATIONS

GENERAL DATA

Centres height / Max. rotating diameter	130 / 260	mm.
Max. lenght between heights / grindable lenght (E)	300 / 250	mm.
Distance between worhead and spindle support (I)	550	mm.
Max load in overhang machining (device incl.)	30	kg.
Max. load between centres (E)	50	kg.
Machine weight	4500	kg.

WHEEL HEAD – “X” AXIS

Axis travel	285	mm.
Max. axis speed	12	m/min.
Axis resolution	0,0001	mm.
Standard transducer	absolute linear encoder	

MOBILE TABLE – “Z” AXIS

Axis travel	440	mm.
Max. axis speed	12	m/min.
Axis resolution	0,0001	mm.
Standard transducer	absolute linear encoder	

WORHEAD WITH LIVE CENTER

Mounting taper	4	Morse
Bar passage	20	mm.
Max. speed	1000	rpm
Spindle torque output	7	Nm.
Standard transducer	encoder	

TAILSTOCK *

Sleeve diameter	55	mm.
Sleeve stroke	30	mm.
Mounting taper	4	Morse
Max. weight between pointes	50	kg.
Cilindricity correction range	+ / - 0,15	mm.

*Option

THE STARTING BLOCK

The natural granite base, in addition to ensuring maximum stability over time, is equipped with only 3 leveling points, to always rest on any floor. The granite is worked in Italy with the same accuracy of the best measuring instruments, guaranteeing at the same time a long life.



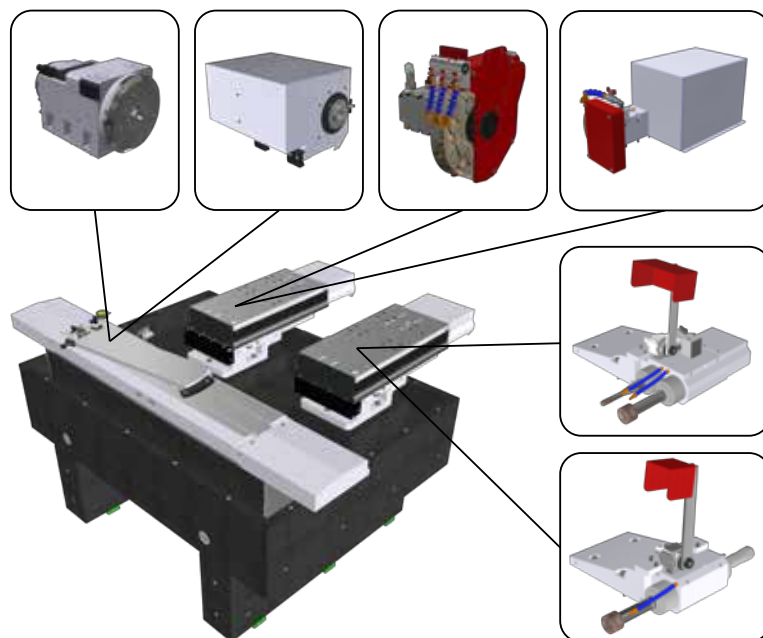
THE ESSENCE OF PRECISION

The flat-prismatic sliding of the table, with the interposition of anti-friction material, is made directly on the granite base. The wheel-holder carriages run on linear guides with recirculating roller and all axes are controlled by pressurized absolute optical scales.



MODULARITY WITHOUT LIMITS

MCR is a grinding center that allows the assembly of 2 different wheel-holder carriages (X1 and X2). It is therefore possible to obtain a machine only for processing internal or external diameters (right angled wheel with 508 x 60 mm. of dimensions) or with 2 separate units for sequential processing in a single piece clamp.



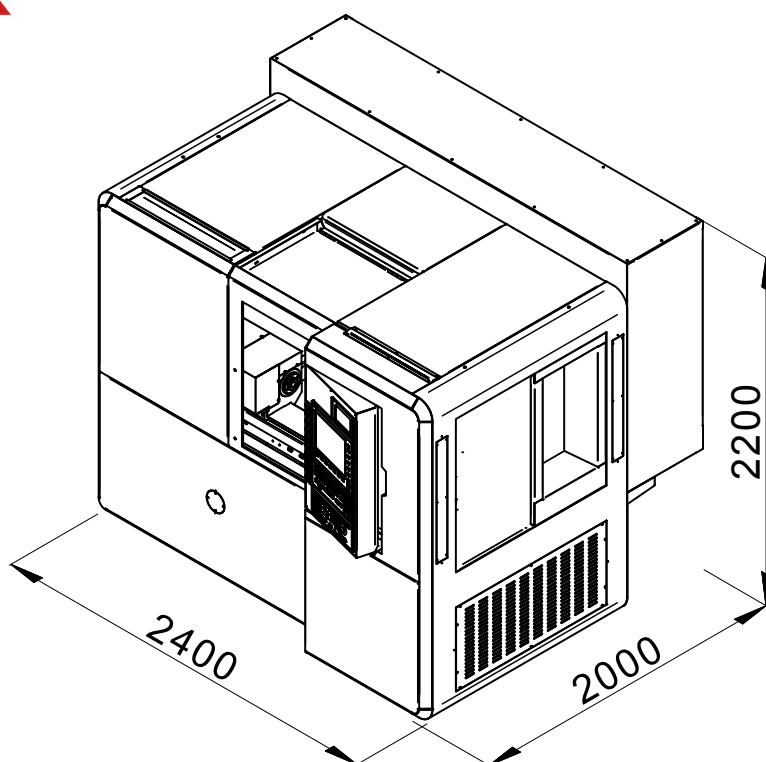
GEOMETRIC PERFECTION



The arrangement of the axes on several distinct units provides for a differentiated setup for each individual tool. Each linear movement is therefore always aligned with the processing to be carried out, reducing the moving times of the individual grinding wheels. All the most advanced control systems also find space on MCR: from the automatic grinding wheel balancer to in-process or post-process control tools.

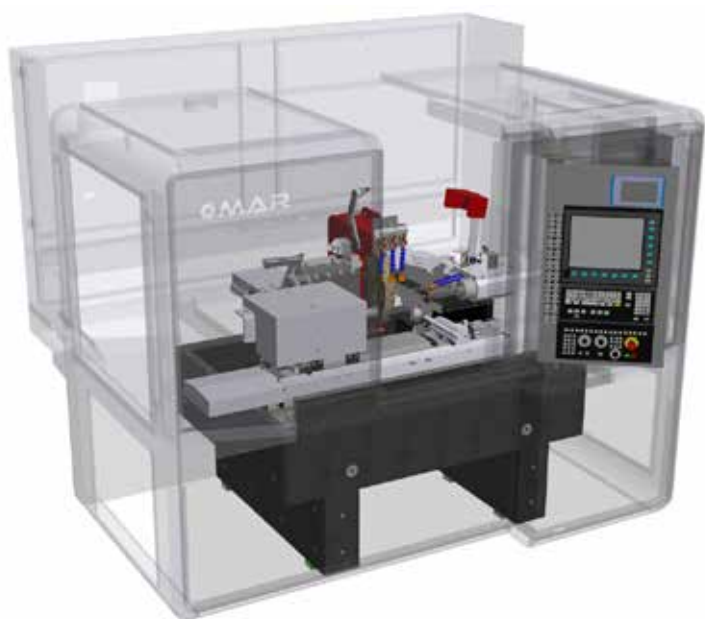
COMPACT DIMENSION

Despite its extreme configurability, **MCR** occupies a very small floor space: 2400 x 2000 x 2200 mm in which all the groups necessary for its operation are included. The hydraulic unit, the pneumatic part and the electrical cabinet are integral with the machine so as to make **MCR** a complete and independent grinding unit.



EXTREME ACCESSIBILITY

As per tradition, **MCR** collects the experience of MAR in the maintenance of cylindrical grinding machines: for this reason the fairing and the arrangement of the components is designed to let the end user the maximum accessibility and maintainability, thanks to convenient doors and the position of the machine units.

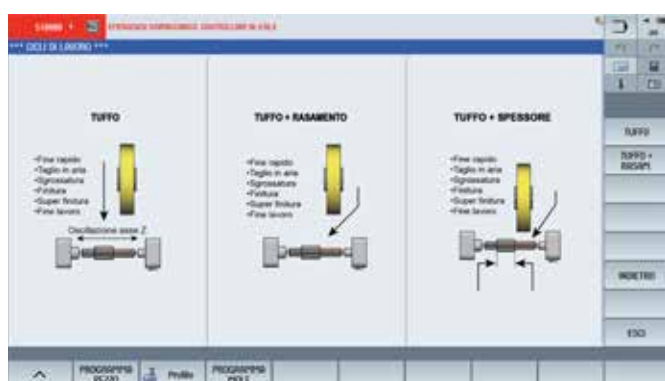


PROCESS CONTROL

The hardware of the CN package can be Fagor or Siemens, and includes motors, drives and peripherals machine management. Digital technology always integrates the free remote diagnosis, so as to allow us to be at your side without making you wait even a minute second. Industry 4.0 has never been so close!



SOFTWARE FOR EVERYONE



We have developed our management software internally, to provide you a simple, complete and reliable user interface. To use **MCR** you do not need high mechanical skills, our software with touch screen interface simplifies the programming of work cycles.

ACCESSORIES FOR EVERY NEED

MAR collaborates with the most important companies in the sector to be able to provide you with all the customizations that make the difference. In addition to automatic loading systems, integrated measuring devices, piece holding equipment or dressing spindles, it is also possible to rely on **MAR** for process expertise, specific training courses and tailor-made services. On **MCR** there is room for everything.



CUSTOMER CARE

On **MCR**, attention to the customer passes through several points: a design pleasant and simple, great inspectionability of the machine and a simple and clear layout of all the components. In addition to this, we continuously implement the best technologies on the market, with the aim of freeing the customer from operations complex and confusing. Thanks to fieldbuses and diagnostics

on board we can communicate in real time with the customer for identify and correct each usage problem. We also offer a service scheduled maintenance to maintain the quality of your machine over time.



EXTERNAL, INTERNAL AND UNIVERSAL GRINDING MACHINES



MAR srl was born in San Marino in June 2015 from the intuition of 5 friends with the same decades of experience in precision mechanics. In 2017 the idea of designing and producing completely new grinding machines was born: flexible and modular machines, high-performance and accessible to all customers, united by modern technologies such as natural granite bases, linear motors and customized software interface. The standard production range covers grinding needs for external, internal and universal diameters up to 2,000 mm. in length.



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VERTICAL GRINDING MACHINES AND SPECIAL APPLICATIONS



FEF, owned by the Fumagalli brothers, was founded in 1967 and was the first Italian tangential grinding machine company to introduce the CNC as early as 1980. FEF grinding machines have always used the most innovative technologies to adapt to the multiple requests of its customers. The technologies used range from the hydrostatic support system developed entirely by FEF, to linear motors, Torque axes and the use of electrospindles built specifically for individual applications.



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AUTOMOTIVE AND HIGH PRODUCTION GRINDING MACHINES



SAGITECH was born in Alessandria in 2015, providing technological support in the cylindrical grinding machines sector. In 2021 it expands with a new operational form and becomes part of a group of companies all operating in the sector of cylindrical grinding machines and special applications. As part of group synergies, SAGITECH operates mainly in the sector of production cylindrical grinding machines with high-speed tools.



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