

OMAR

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. length between heights / grindable length (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.



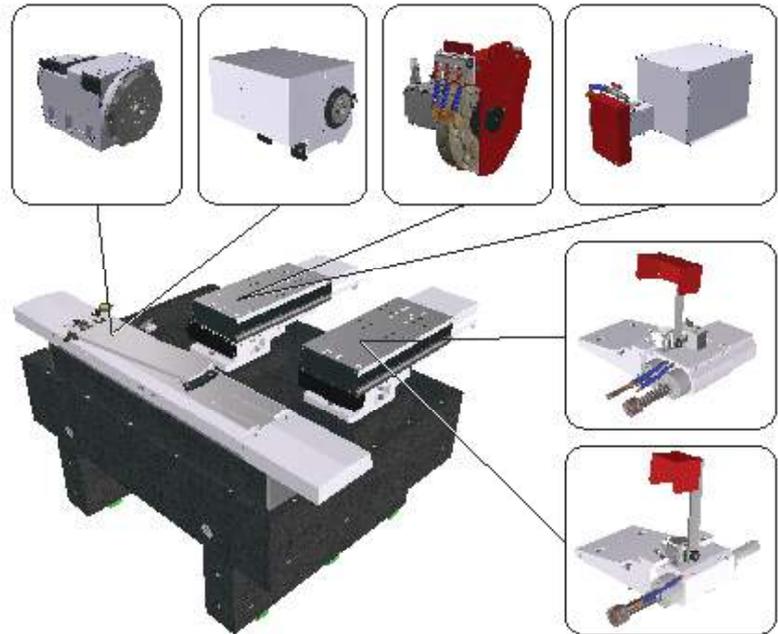
THE ESSENCE OF PRECISION



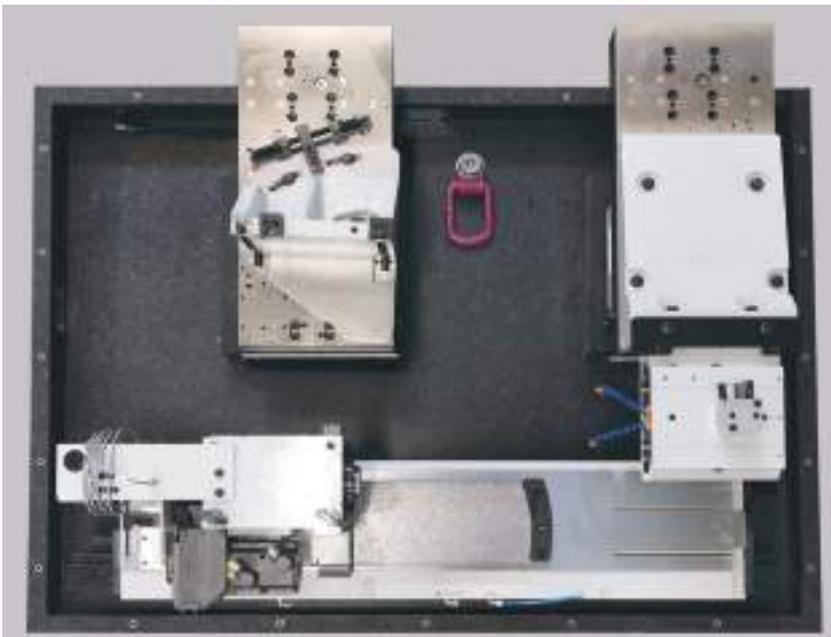
The flat-prismatic sliding of the table, with the interposition of anti-friction material, is made directly on the granite base. The wheel-holder carriages run on linear guides with recirculating roller and all axes are controlled by pressurized absolute optical scales.

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.



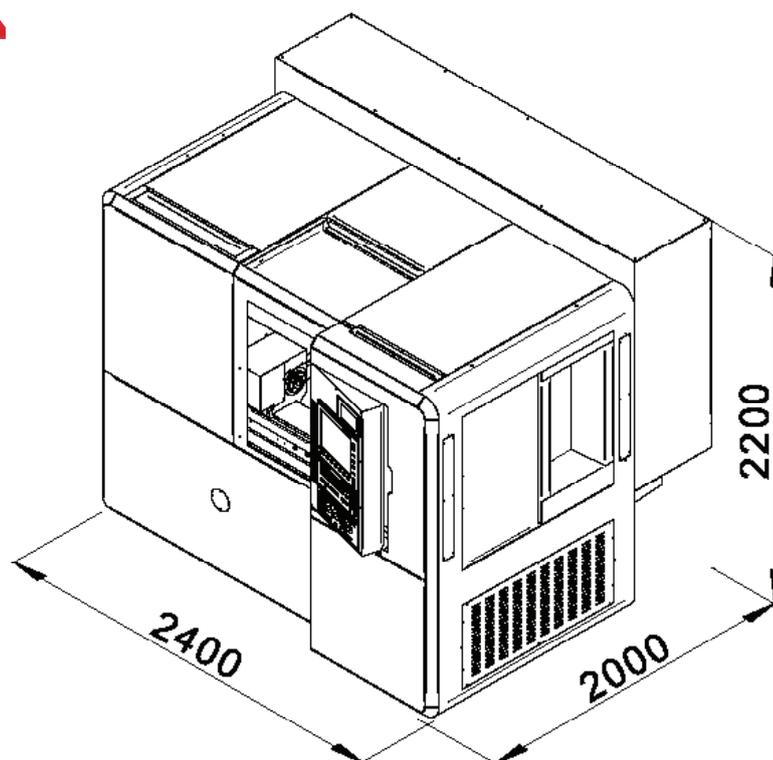
GEOMETRIC PERFECTION



The positioning of the axes on several distinct units provides a different set-up for each single tool. Each single linear movement is therefore always perfectly aligned with the machining to be performed, also reducing the time needed to move the individual wheels.

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 motor drives, drives and machine management peripherals. Digital technology always integrates free telediagnosis, so that we can be by your side without making you wait either a second. Industry 4.0 has never been so close!



THE 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 market to provide you with all the devices that make the difference. Whether it's integrated measurement systems, equipment for workpiece or loading processes, on **MCR** there is space for everything.



CUSTOMER CARE

On **MCR**, attention to the customer goes from different points: a pleasant and simple design, a great machine inspectability and a simple and clear arrangement of all components.

In addition to this we continuously improve the best technologies on the market, with the intent to free the customer from complex and confusing operations.



Thanks to the field buses and the on-board diagnostics we can communicate in real time with the customer to identify and correct every problem of use.

We also offer a scheduled maintenance service to maintain the quality of your machine over time.

HISTORY

Mar srl was born in San Marino in June 2015 from the intuition of 5 friends with the same decades of experience in cylindrical grinding machines.

The three initial activities of assembly, assistance and overhaul of automatic machine tools are soon joined by the re-engineering and design of increasingly complex groups. In 2017 the idea was born to design and produce completely new grinding machines: flexible and modular machines, performing and accessible to all customers. Two lines are then launched into production: the innovative TITAN, THE UNIVERSAL FOR EVERY NEED, a true family of universal grinding machines in three sizes, and the efficient X, THE COMPACT MOUNTING MOBILE, in size 1000. In 2020 "X500" comes out, compact version with mobile carriages for minimizing production spaces.

THE STRATEGY

Democratic precision. Maximize customer satisfaction by providing adjustments designed to ensure high quality and a quick return on investment, achieved with excellent skills, with innovation and attention to design, always supporting the customer, even in the re-engineering of the installed machine park.

THE TEAM

The team is composed of highly skilled technical experts who deal with the design, construction, overhaul / reengineering, and technical assistance of round grinding machines. MAR strongly believes in the value of people, and every one of our employees comes constantly made up of more experienced technicians to create a cohesive and autonomous group in their skills. Every single employee, with his / her own acquired experiences, allows MAR to operate on every specific sector of the machines, both in mechanical and electronic field and software.

ASSEMBLY ACTIVITIES

The assembly activity, the founding pillar of MAR, continues in a completely independent department that operates "on behalf of third parties", addressing manufacturers of automatic machines and systems that require competent and reliable labor.

Procurement, engineering and reverse engineering activities are also available on-demand.

HEADQUARTERS

Approximately 1,500 square meters are destined for the production area, divided into several zones used for specialized assembly and a tool room equipped with the machine tools necessary to perform the most important and delicate processes.

A large automated parts warehouse to cope with to the needs of our customers and a modern and functional office area for designers, commercial and administrative, complete the location.

CIRCULAR ECONOMY
VALUE DURABLE
INNOVATION
EXCEPTIONAL COMPETENCES
PEOPLE, NOT NUMBERS

