

# **OMAR**

**CYLINDRICAL GRINDING MACHINES**

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**PASSION FOR GRINDING**



**THE COMPACT GRINDING**

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## ID CARD

**X1000** is a round grinding machine for external or internal diameters with moving column, suitable for machining pieces up to 1,000 mm. of length and a rotating diameter of 360 or 460 mm.

## TECHNICAL SPECIFICATIONS

### GENERAL DATA

Max. grindable length	1000	mm.
Centres height (standard / optional)	180 / 230*	mm.
Max. rotating diameter	360 / 460*	mm.
Max. load between centres	200 / 300*	kg.
Max load in overhang machining	100 / 200*	kg.
Machine weight	8000	kg.

### WHEEL HEAD – “X” AXIS

Axis travel	400	mm.
Max. axis speed	12	m/min.
Axis resolution	0,0001	mm.
Standard transducer	encoder lineare	

### MOBILE TABLE – “Z” AXIS

Axis travel	1330	mm.
Max. axis speed	12	m/min.
Axis resolution	0,0001	mm.
Standard transducer	encoder lineare	

### UNIVERSAL WORHEAD

Mounting taper	5 / 6*	Morse
External taper	5 / 6*	ASA
Max. speed	800	rpm
Spindle torque output	60 / 100*	Nm.
Standard transducer	encoder	

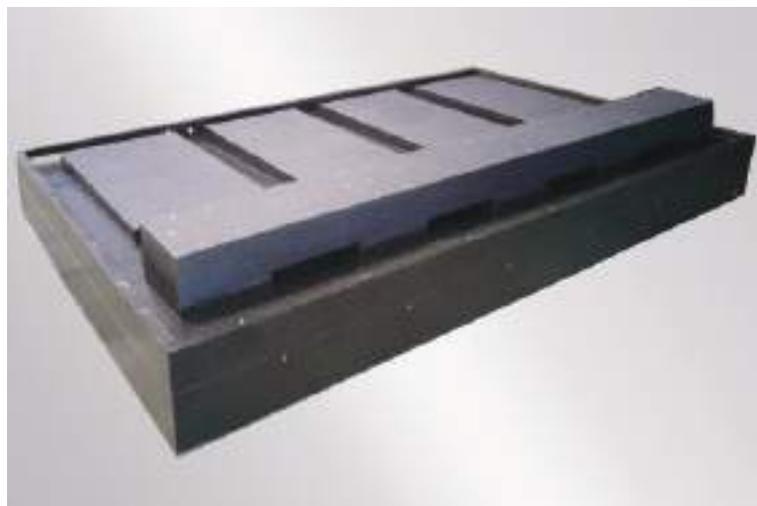
### TAILSTOCK

Sleeve diameter	55 / 80*	mm.
Sleeve stroke	45 / 120*	mm.
Mounting taper	4 / 5*	Morse
Max. weight between pointes	60 (spring) / 300 (hydraulic)*	kg.
Cilindricity correction range	+ / - 0,15	mm.

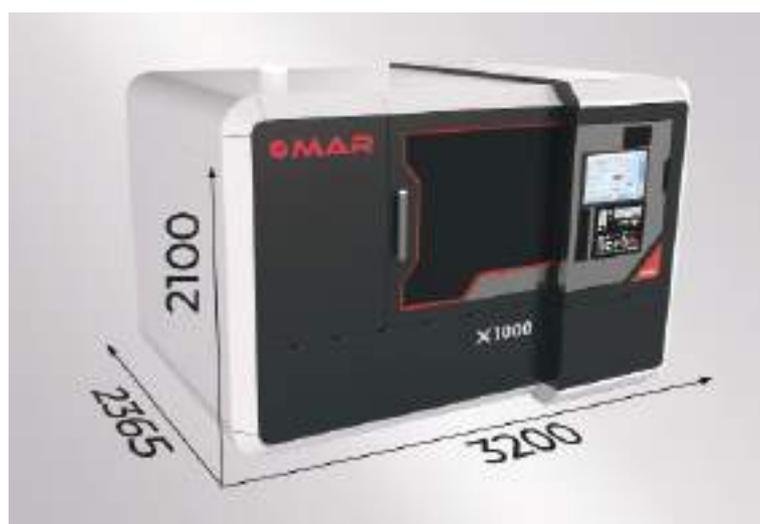
\*Option

## THE STARTING BLOCK

A monoblock of natural granite is the excellent base of **X1000**. Only with these kinds of machine bed we can get the best speed and quality of grinding, ensuring at the same time a long duration over the years. The granite is worked in Italy with exact precisions like a surface plate.



## SAVE MONEY WITH REDUCED FLOOR SPACE



The project was born from the desire to create a medium-sized machine in a contained space.

The solution of the mobile carriage allows **X1000** to contain its footprint on the ground in a space of 3,200 x 2,400 mm, without losing a record rigidity.

**X1000** it is also available with a dedicated piece loading system, to better optimize the occupied space., all managed by our operator interface.

## FLEXIBLE UNIT

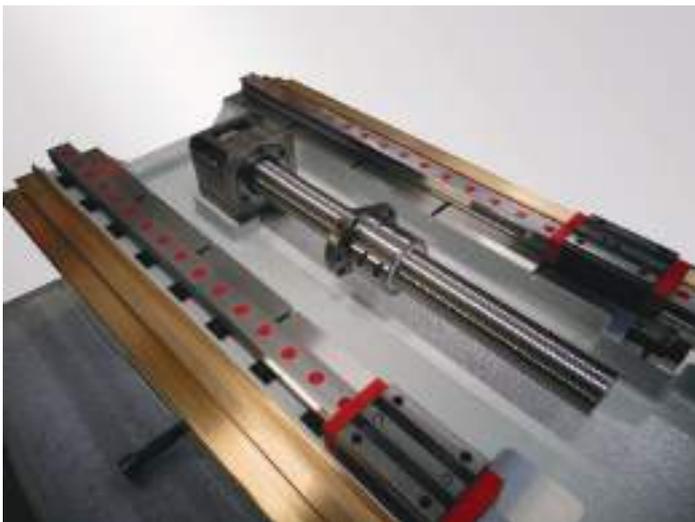
In the standard configuration, **X1000** uses a left straight wheel spindle or a right swivelling spindle with several possible dimensions:

- Electerspindle on bearings 508 x 80 x 203.2 mm.
- Electerspindle on bearings 610 x 80 x 203.2 mm.
- Spindle on hydrodynamic bushes 508 x 100 x 203.2 mm.
- Spindle on hydrodynamic bushes 610 x 100 x 203.2 mm.
- Spindle on hydrodynamic bushes 610 x 130 x 304.8 mm.
- Spindle on hydrodynamic bushes 610 x 190 x 304.8 mm.

The peripheral speed is managed by the CNC for all versions, as well as the automatic wheel balancing integrated in the spindle together with a gap elimination sensor.



## THE KINEMATICS AS YOU WANT



Whether you prefer a traditional kinematics, with brushless motors coupled to a recirculating ball screw, or a more powerful kinematics, with linear motors, the modularity and the flexibility of the support groups installed on **X1000** guarantee your favorite version for both the transverse axis (X) and the longitudinal axis (Z).

## WITH YOUR RIGHT HEAD

**X1000** can be equipped with 2 types of work head: with belt or with Torque direct drive. In the belt version, the spindle is universal and has a Morse 5 - ASA 5 cone for fixing any clamping devices. In the Torque version, a micrometric angular control is added for the execution of complex profiles or profiles tracking operations. In both cases, two different heights are possible: 180 and 230 mm. The group is moved along the fixed bench by means of a rack which facilitates the operator in the setup operations.



## ALL-IN-ONE TAILSTOCK



The **X1000** tailstock unit has everything you need: movement manually controlled by lever or automatically by pedal; the centre pressure can be adjusted by spring or hydraulic force. The cylindricity correction of the pieces is made by a practical knob equipped with an optical scale. The movement of the group along the table takes place through a rack that facilitates the operator in the setup operations.

## 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 telerdiagnosis, 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 **X1000** 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 **X1000** there is space for everything.



## CUSTOMER CARE

On **X1000**, 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 X1000, THE COMPACT MOUNTING MOBILE, in size 1000. In 2020 "X500" comes out, compact version with mobile carriages for minimizing pro-

## 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**

