OMAR

CYLINDRICAL GRINDING MACHINES

X500

PASSION FOR GRINDING

THE SMALL ONE FOR BIG PRODUCTIONS

Via Guardia di Rocca 33, 47899 Serravalle, RSM
+39 0549 960507
info@mar.sm

ID CARD

X500 is a cylindrical grinding machine for external or internal diameters with moving column, suitable for machining pieces up to 500 mm. in length and a rotating diameter of 250 or 360 mm.

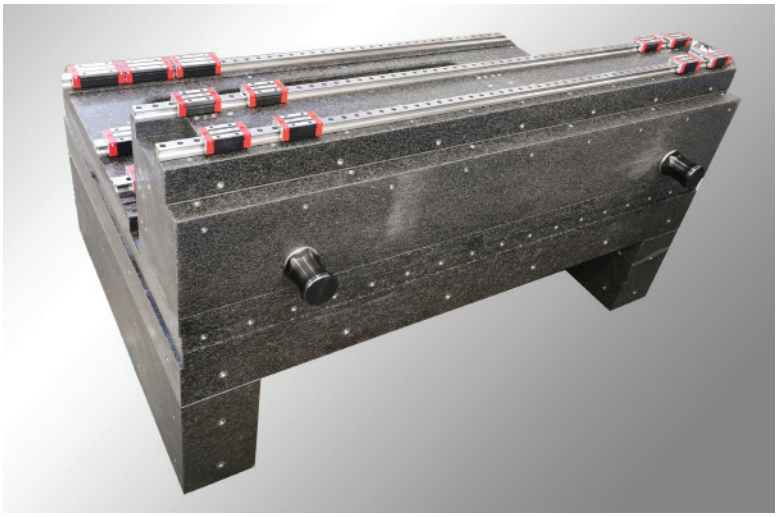
TECHNICAL SPECIFICATIONS

GENERAL DATA		
Max. grindable lenght	500	mm.
Centres height (standard / optional)	130 / 180*	mm.
Max. rotating diameter	260 / 360*	mm.
Max. load between centres	50 / 150*	kg.
Max load in overhang machining	50 / 70*	kg.
Machine weight	5500	kg.
WHEEL HEAD – "X" AXIS		
Axis travel	350	mm.
Max. axis speed	12	m/min.
Axis resolution	0,0001	mm.
Standard transducer	encoder lineare	
MOBILE TABLE – "Z" AXIS		
Axis travel	980	mm.
Max. axis speed	12	m/min.
Axis resolution	0,0001	mm.
Standard transducer	encoder lineare	
UNIVERSAL WORHEAD		
Mounting taper	4 / 5*	Morse
External taper	4 / 5*	ASA
Max. speed	800	rpm
Spindle torque output	30 / 60*	Nm.
Standard transducer	encoder	
TAILSTOCK		
Sleeve diameter	55	mm.
Sleeve stroke	30	mm.
Mounting taper	4	Morse
Max. weight between pointes	50 (spring) / 150 (pneumatic)*	kg.
Cilindricity correction range	+ / - 0,15	mm.

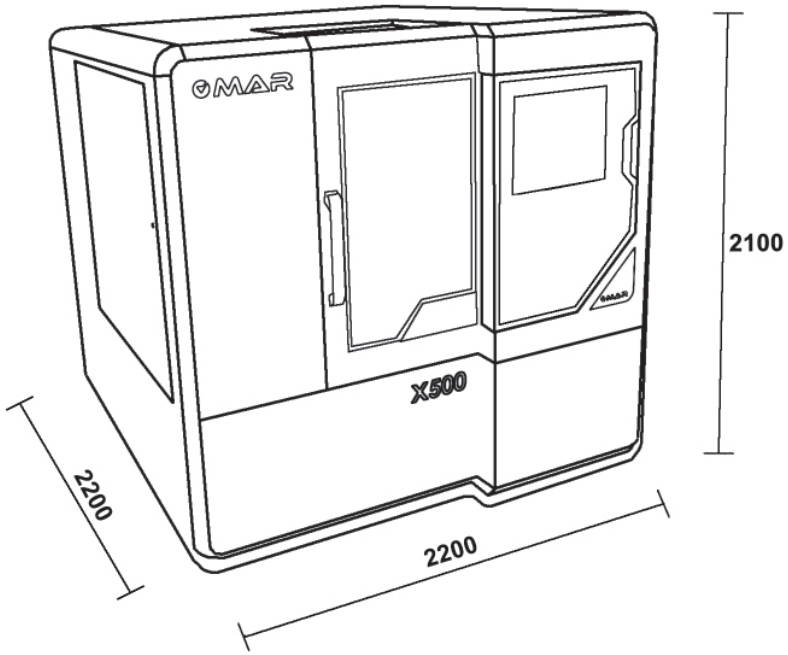
*Option

THE STARTING BLOCK

The natural granite base, in addition to ensuring maximum stability over time, is equipped with only 3 leveling points, to always be perfect on each floor. The granite is worked in Italy with exact precisions like a surface plate and guarantees at the same time a long duration in time.



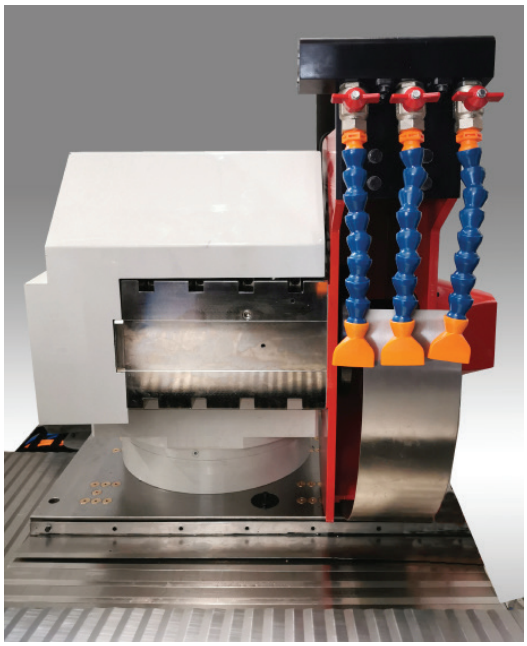
ALL, IN LESS THAN 5 SQUARE METERS



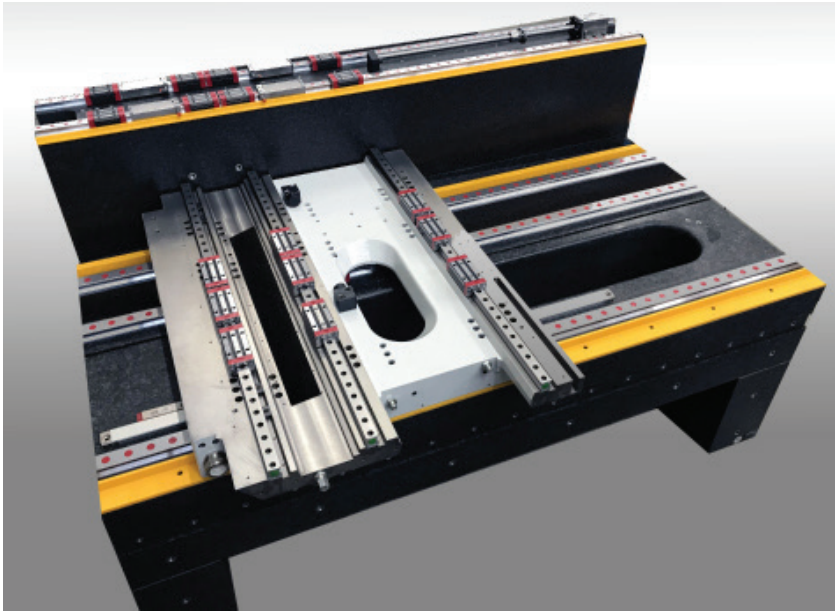
The cross arrangement of the X and Z axes, combined with movement by linear motors, allows the smallest possible footprint on the ground, limiting it to 2,200 x 2,200 mm. This is all the space that **X500** needs to produce your details.

FLEXIBLE UNIT

One of the novelties of the **X500** is the passage of the various connections, inside the Torque axes and directly into the electrical cabinet, reducing cable lengths, joints and extensions. On the turret we can place up to 2 electrospindles, with variable configurations for external and internal grinding wheels.



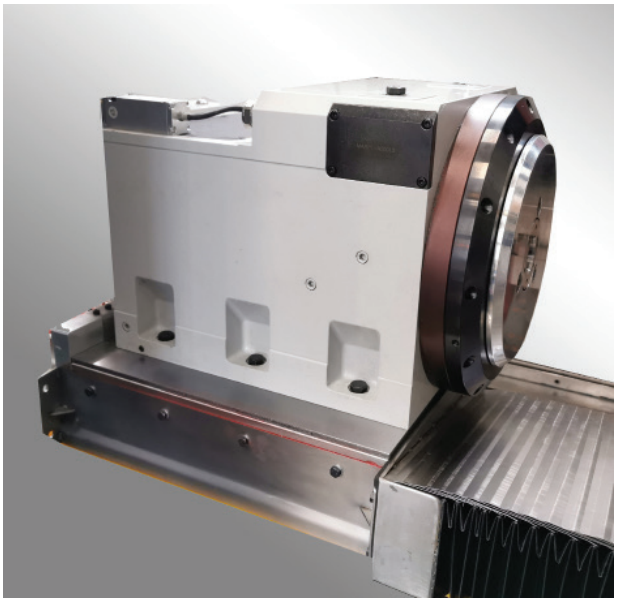
THE MAXIMUM OF MOTION



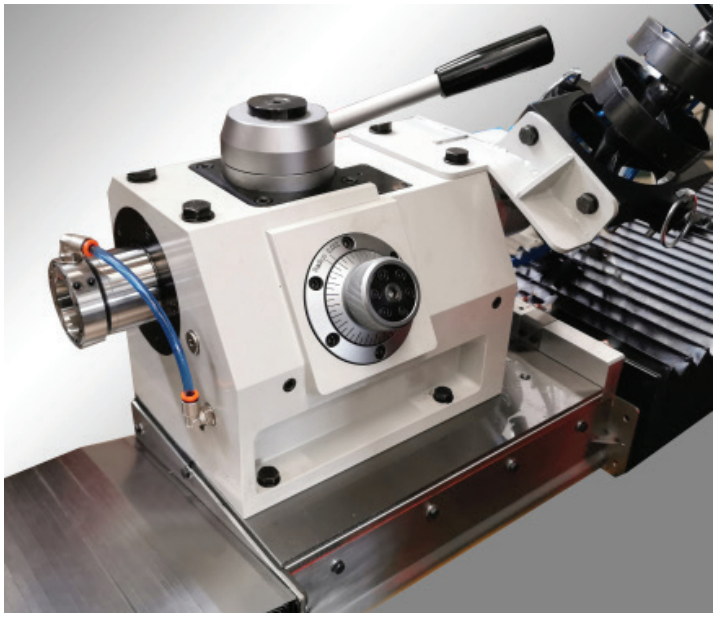
Both the X and Z axes move on a triple linear guide with recirculating roller units, driven by latest generation linear motors and controlled by absolute optical linear scale pressurized. Despite the size of **X500**, the stiffness of the movement is record-breaking!

WITH YOUR RIGHT HEAD

Universal workhead (C axis), for machining between fixed or rotating centers, with Torque motor and Morse 4 / ASA 4 attachment cone (Morse 5 option / ASA5). Alternatively, it is possible to have a workhead with electro-spindle for machining only overhanging with speeds up to 2000 rpm and housing for disk diamond. The group, mounted on linear guides and locked by electro-pneumatic brakes, can be moved automatically by means of a recirculating ball screw coupled to a digital brushless motor, with position controlled by absolute optical scale pressurized.



ALL-IN-ONE TAILSTOCK

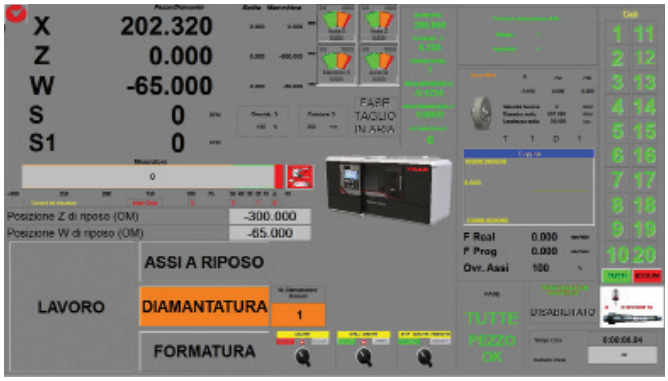


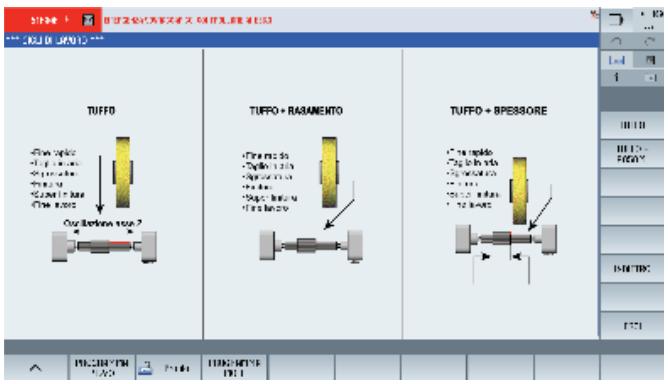
Manual lever movement and push with adjustable preload spring, with Morse 3 connection (optional Morse 4). The sleeve, sliding on adjustable bushings, can have a pneumatic opening and closing movement to facilitate the loading and unloading of the pieces. The fine adjustment of the cylindricity, equipped as standard in the tailstock, can be motorized and managed by the NC, to reduce the machine alignment time. Programming is done by directly entering the correction value in a specific CNC mask.

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 **X500** 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 **X500** there is space for everything.

CUSTOMER CARE

On **X500**, 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.

MAR
CYLINDRICAL GRINDING MACHINES

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

Via Guardia di Rocca 33, 47899 Serravalle, RSM
+39 0549 960507
info@mar.sm