

# OMAR

CYLINDRICAL GRINDING MACHINES

2011YU

PASSION FOR GRINDING



THE SOLUTION FOR COMPLEX HOLES

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## ID CARD

**PYTHON** is a modular cylindrical grinding machine for internal or external diameters suitable for machining pieces with a rotating diameter of up to 260 or 460 mm. The length of the mountable piece can reach 500 mm. and the continuous Torque turret (B Axis) can accommodate up to 4 electrospindles.

## TECHNICAL SPECIFICATIONS

### GENERAL DATA

VERSION	260	460	
Maximum rotating diameter	260	460	mm.
Maximum rectifiable length	150	250	mm.
Head distance p.p. and fulcrum	250 / 500 *		mm.
Max load in overhang machining (device incl.)	200	300	kg.
Machine weight	4500	6000	kg.

### "X" AXIS - DIAMETERAL MOVEMENT OF GRINDING CARRIAGE

Axis travel	350	mm.
Max. axis speed	12	m/min.
Axis resolution	0,0001	mm.
Standard transducer	absolute linear encoder	

### "Z" AXIS - TRANSVERSAL MOVEMENT OF GRINDING CARRIAGE

Axis travel	400	500	mm.
Max. axis speed	12	m/min.	
Axis resolution	0,0001	mm.	
Standard transducer	absolute linear encoder		

### WORHEAD WITH LIVE CENTER

External taper	4 / 5 *	6 / 8 *	ASA
Internal taper	4 / 5 *	5 / 6 *	Morse
Bar passage	38	40	mm.
Max. speed	900	1100	rpm
Spindle torque output	85	120	Nm.
Standard transducer	absolute ring		

\*Option

## THE STARTING BLOCK

The natural granite base, in addition to guaranteeing maximum stability over time, is equipped with only 3 leveling points, to always rest on any flooring. The granite is worked in Italy with precision identical to that of the most accurate and precise test benches, simultaneously guaranteeing long life over time.



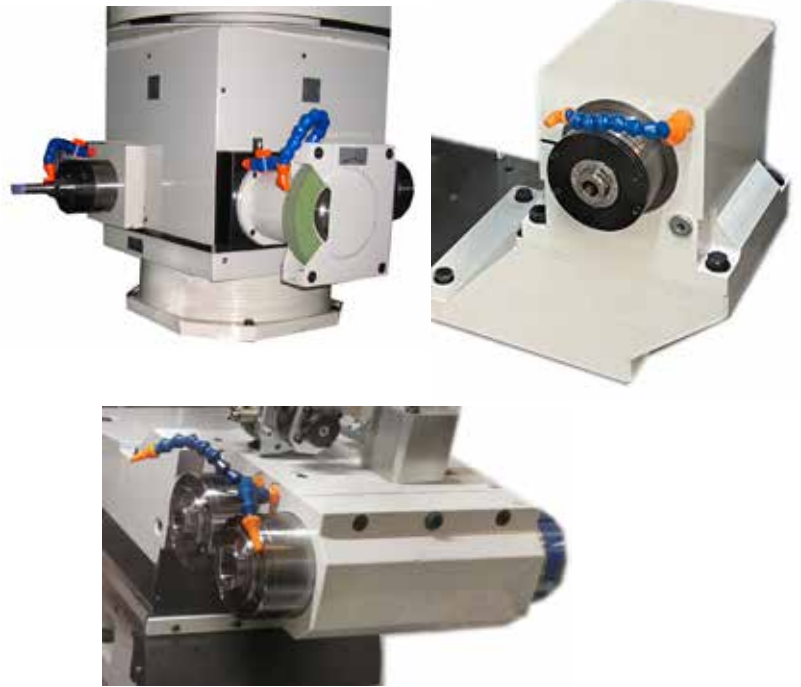
## THE ESSENCE OF PRECISION



The X and Z linear movement axes slide on ultra-precise recirculating roller guides and are moved by latest generation linear motors. The absolute and pressurized optical scales are mounted inside the movement structure and the quick connections allow easy maintenance of all machine groups.

## MODULARITY WITHOUT LIMITS

The **PYTHON** grinding wheel unit allows the assembly of different grinding units for each type of workpiece. From the single-spindle carriage to the double parallel support up to the multi-spindle B axis with continuous torque rotation, every process is possible on **PYTHON**.



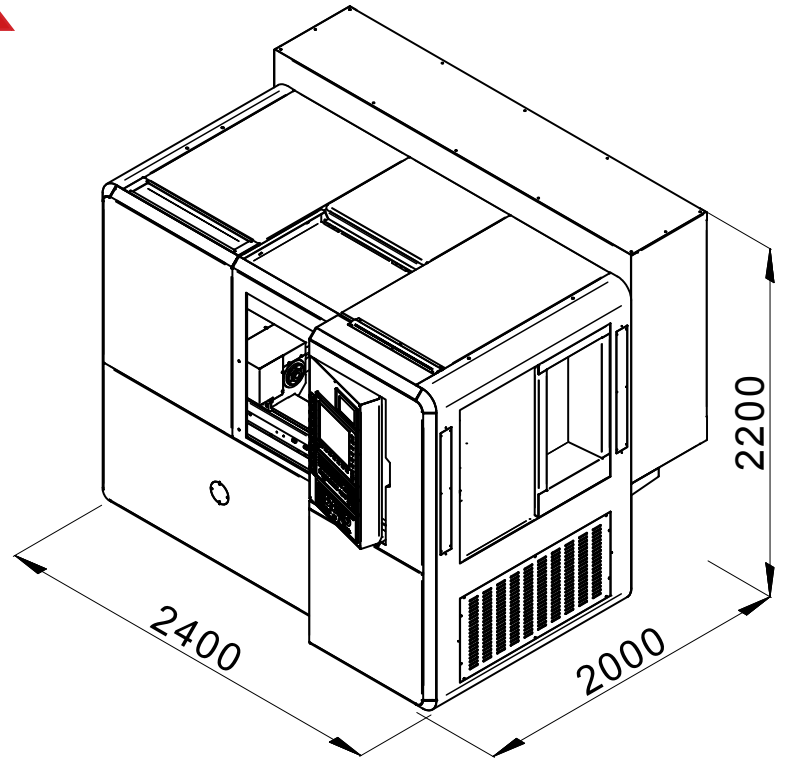
## ADVANCED ROTATION



Among the available accessories, the A axis for the angular positioning of the continuous workpiece head allows the operator to perform cylindrical and conical diameters in a single positioning. The system with backlash recovery and automatic unlocking eliminates long machine setups without having to change the setup positions.

## COMPACT DIMENSIONS

Despite its extreme configurability, **PYTHON** takes up very little floor space: 2400 x 2000 x 2200 mm which includes all the groups necessary for its operation. The hydraulic control unit, the pneumatic part and the electrical cabinet are integral with the machine so as to make **PYTHON** a complete and independent grinding island.



## EXTREME ACCESSIBILITY



As per tradition, **PYTHON** gathers MAR's experience in the field maintenance of cylindrical grinding machines: for this reason the casing and the arrangement of the components are designed to allow the end user 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 **PYTHON** 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 **PYTHON** there is room for everything.



## CUSTOMER CARE

On **PYTHON**, 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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