

OMAR

CYLINDRICAL GRINDING MACHINES

MT700

PASSION FOR GRINDING



POWER AND PRECISION, TOGETHER

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ID CARD

MT700 is a lathe for machining high precision parts, suitable for machining pieces up to 500 mm. in length and a center height of 250 mm.

TECHNICAL SPECIFICATIONS

GENERAL DATA

Maximum workable length	500	mm.
Tip height / Maximum rotating diameter	250 / 500	mm.
Maximum workable diameter	150	mm.
Max. hang weight	200	kg.
Machine weight	8000	kg.

"X" AXIS - DIAMETERAL MOVEMENT OF TOOL CARRIAGE

Axis travel	300	mm.
Max. axis speed	20	m/min.
Axis resolution	0,0001	mm.
Standard transducer	absolute linear encoder	

"Z" AXIS - TRANSVERSAL MOVEMENT OF TOOL CARRIAGE

Axis travel	630	mm.
Max. axis speed	20	m/min.
Axis resolution	0,0001	mm.
Standard transducer	absolute linear encoder	

"Y" AXIS - VERTICAL MOVEMENT OF THE TOOL HOLDER TURRET

Axis travel	100	mm.
Max. axis speed	10	m/min.
Axis resolution	0,001	mm.
Standard transducer	absolute linear encoder	

"Z2" AXIS - COUNTER-SPINDLE TRANSVERSAL MOVEMENT

Axis travel	600	mm.
Max. axis speed	10	m/min.
Axis resolution	0,0001	mm.
Standard transducer	absolute linear encoder	

"C" / "C1" AXIS - TORQUE SPINDLE AND COUNTER SPINDLE

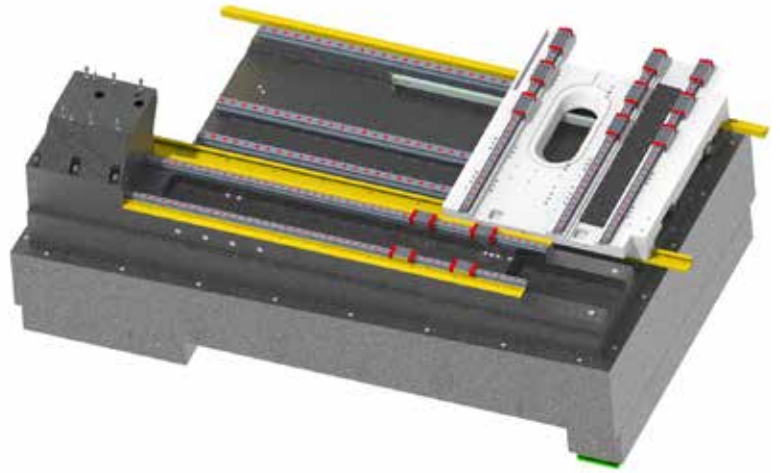
Mounting taper	5	Morse
External taper	5	ASA
Max. speed	2000	rpm
Spindle torque output	64	Nm.

MOTORIZED TOOL TURRET

Number of tool holder stations	12	
Connection type	BMT 55	
Motor Torque	6	Nm.

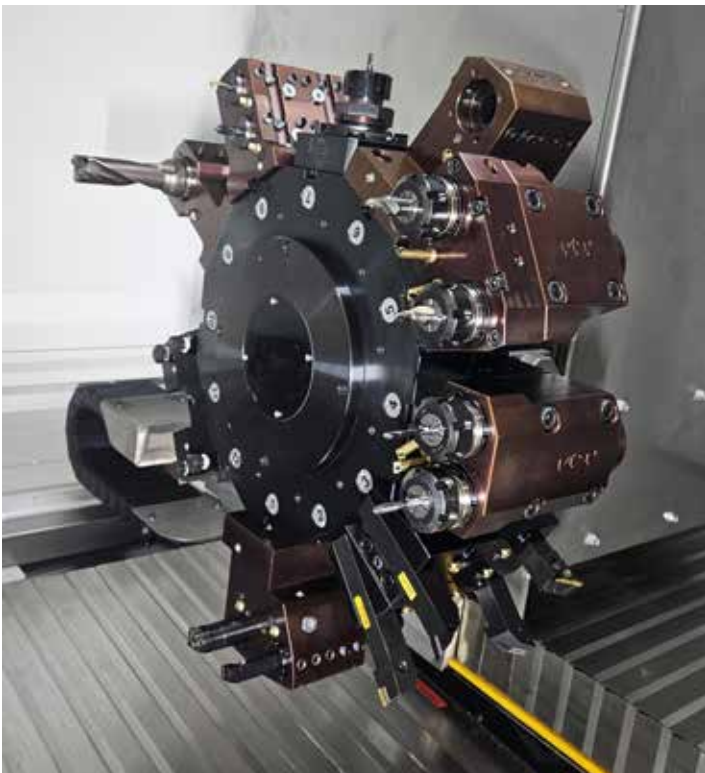
EXTREME STIFFNESS

MT700 shares the base and structure of the X and Z linear axes of the **X500** grinding machine. Thanks to the triple sliding guide for each single axis and the technology of the liquid-cooled linear motors, the rigidity of the structure allows extremely precise and very high precision removals, with micrometric repeatability.



TOOL TURRET

The **MT700** tool turret consists of a 12-station Toque motor, with a BMT-55 base. In addition to the motorization of the tools, there is a Y axis with a 100 mm stroke, moved by a ball screw and controlled by an absolute optical scale. Inside the turret it is possible to bring both compressed air and high pressure refrigerant. Every possibility is available to the operator.



TORQUE SPINDLE

MT700 is equipped with a rotating workhead with a liquid-cooled torque motor, with a maximum speed of 2,000 or 4,000 rpm. The extremely robust spindle line, equipped with Morse 5 / CM 5 connection, allows the assembly of automatic piece-holding equipment moved by precision pneumatic cylinders, with a maximum body of 150 mm. in diameter.



MOVING COUNTER SPINDLE

The synchronous counter spindle (obviously mirrored to the main spindle) is housed above a high precision linear axis controlled by a linear optical scale to allow back machining operations thanks to the high quality of movement. Spindle synchronism is managed using latest generation absolute rings.



ERGONOMICS AND STYLE

Both the fairing and the mobile protections are designed to optimize the evacuation of processing residues, conveying them to a single collection point. All metal protections have no visible wear parts and the base is equipped with lubricating jets to keep it clean. The maintenance areas are peripheral and external to the fairing to guarantee maximum operating ergonomics.



PERFECT ALIGNMENT



MT700 has a multi-directional tool calibration arm attachment. Thanks to the software present in the machine, the three-dimensional probe can carry out presetting operations also thanks to the Y axis present on the tool turret. The arm is then placed in a special housing on the machine for maximum setup speed.

PROCESS CONTROL

The hardware of the CN package is FANUC 32iB-PLUS, with 19" touch monitor and numerous functions integrated on board:

FANUC



- 02 Paths, 10 Axes, 6 Spindles
- Actual Spindle Speed Output
- Automatic Data Back-up
- Background Editing
- Compact Flash Card G4 (8 GB)
- Constant Surface Speed Programming
- CPU Card A3, DRAM 256 MB
- Dual Check Safety
- Dual Screen Display Function (Dual SDF)
- Fast Ethernet Board
- FROM / SRAM Memory U (256 MB / 4 MB)
- G-Code System B / C
- iHMI Machining Cycle
- Learning Axis Number
- Learning Control
- MPG Manual Pulse Generator
- Multi-Spindle Control
- One Touch Macro Call Function
- PROFINET I/O Software
- Servo Learning Oscillation
- Spindle Control Function with CS Contour
- Spindle Control with Servo Motor
- Turning Package
- USB Control Software
- Y-Axis Offset

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 **MT700** there is space for everything.



CUSTOMER CARE

On **MT700**, 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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