

JUARISTI

MP RAM Series

**FLOOR TYPE HYDROSTATIC
BORING MILLING MACHINES**



POWER ROBUSTNESS PRECISION

JUARISTI founded in 1941 has been designing and manufacturing high precision boring and milling machines for over 70 years.

We have succeeded by combining our years of tradition and experience with continuous innovations and ongoing developments in the machine tool sector.

MP RAM travelling column horizontal boring-mills, are designed for the heaviest machining jobs and to guarantee maximum rigidity particularly for large workpieces.

This machine concept allows the machining of the most demanding components in a single set-up.

Precision machining in large workpieces requires an extremely responsive and robust machine with smooth movements at fine feed rates, minimal friction and with a RAM-head that stays thermally stable at high spindle speeds.

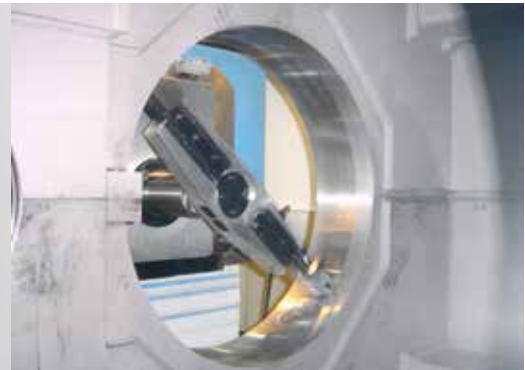
Machining with large facing cutters, powerful boring operations and deep drilling cuts, are processes that are easily performed because of the outstanding torque and power of these machines.



EXPERIENCE AND INNOVATION...

More than 40 years of experience in research and development of hydrostatic systems, continuously implementing optimal solution of accuracy, stiffness and dynamism.

...IN HYDROSTATIC MACHINES



HYDROSTATIC GUIDING

ACCURACY, SMOOTHNESS AND DURABILITY

Machine structural components done in sturdy and heavily ribbed cast iron are equipped with large hardened and ground hydrostatic guides.

The column has a strong double wall construction and is moved along the X-axis bed with a 2 motor and pinion-rack system over 2 or 4 ways.





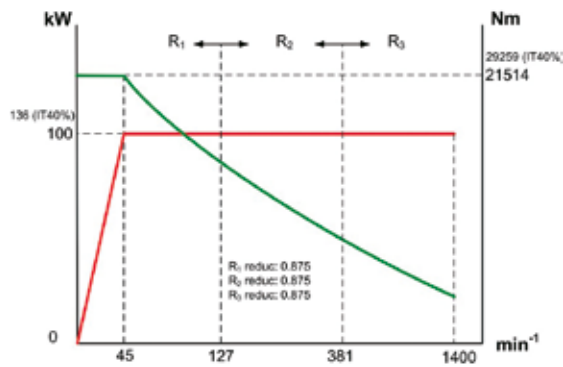
ASSEMBLY PROCESS: MP10 RAM...

All machine components are made of top quality materials, commercial elements are first class renowned brands.

Highly skilled and experienced personnel during the machine assembly and start up process guarantee a superb heavy duty boring machine with extraordinary smooth motion and shock absorption ability during extreme cutting conditions.

...WITH 8 METER
VERTICAL TRAVEL
AND 125 t ROTARY
TABLE

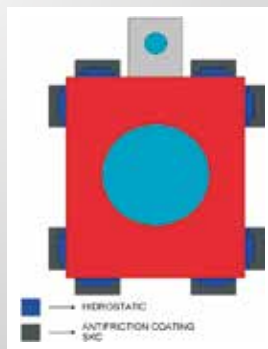
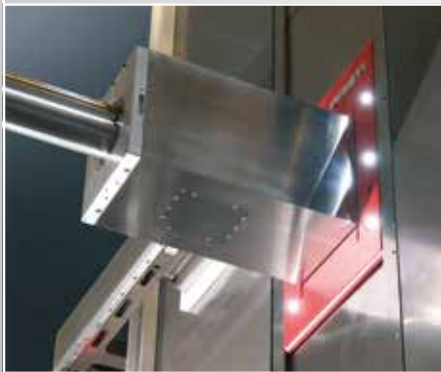
RAM-HEADSTOCK



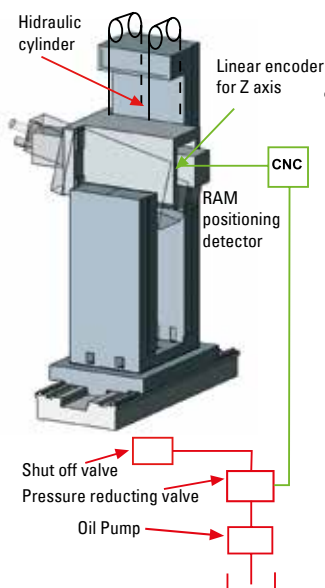
Fully enclosed RAM with hydrostatic guiding on 4 faces. RAM is done in alloyed nodular casting, hardened and ground.

Spindle drive system with 2-3 ranges gear box, is maintained at constant temperature via internal recirculation of thermally controlled oil.

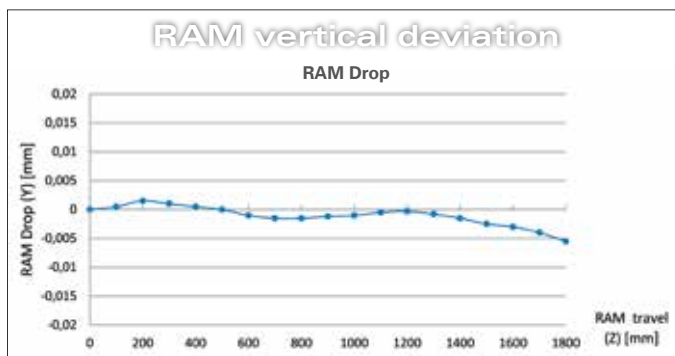
High torque available on the spindle thanks to the sturdy structure and oversized gears : more than 20.000 Nm.



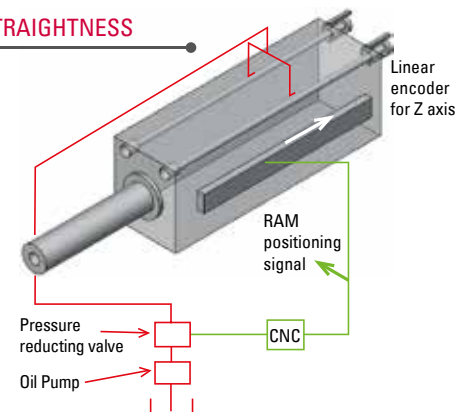
HYDRO-MECHANICAL COMPENSATION SYSTEM



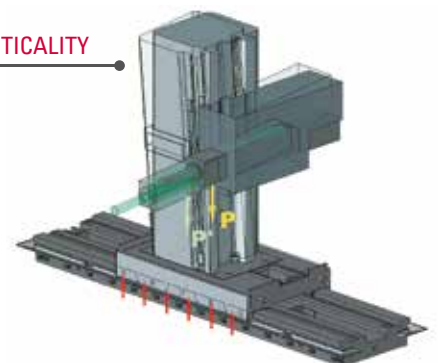
HEADSTOCK HORIZONTALITY



RAM STRAIGHTNESS



COLUMN VERTICALITY



DYNAMIC BALANCING SYSTEMS...

The 3 compensation systems act simultaneously to guarantee a perfect geometry on the RAM-HEADSTOCK-COLUMN assembly. The balance is done in real time thanks to the immediate response of all hydro-mechanical systems, compensating the bending of the RAM, rocking of the headstock and tilting of the column.

...FOR VERTICAL AND CROSS MOVEMENTS



APPLICATIONS SECTORS & CUSTOMERS

Renowned multinational companies as well as satisfied job shops in all industrial sectors, improve their productivity with JUARISTI's machines worldwide.



APPLICATIONS

MP5 - MP6 - MP7 - MP10 RAM



CONSTRUCTION Tunnel boring equipment



ENGINE Big gear Box



ENERGY Gas turbine



OIL & GAS Subsea



MINING EQUIPMENT frame



CEMENT/MINING EQUIPMENT Extra large gear machining



POWER GENERATION Gas turbine

METAL FORMING Press frame



POWER GENERATION

OIL INDUSTRY Slurry pumps



ENERGY Pump housing



POWER GENERATION Pulverizer

OPTIONS & ACCESSORIES



Univ. Aut. Head 1° x 1° / 0,001° x 0,001°
37 kW – 6.000 min-1 / 60 kW – 3.000 Nm



Angular head 1°
60 kW – 4.000 Nm



1 & 2 axes continuous CNC
6.000 min-1 / 15.000 min-1



Orthogonal head 1° x 1°
46 kW – 5.000 min-1 / 60 kW – 2.500 Nm



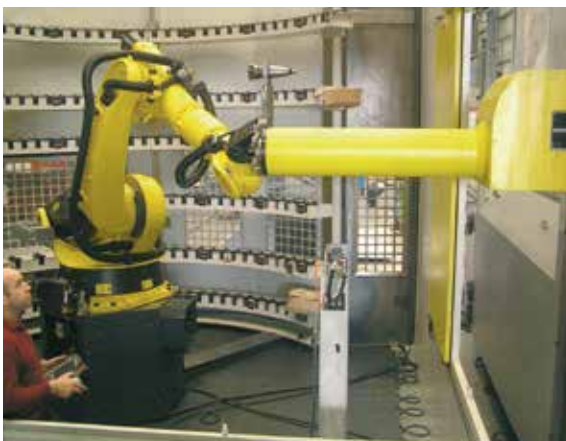
Facing Heads up to 2.000 mm



AAC Head changer pick-up magazine up to 10 accessories,
as well as heavy and long tools.

A wide range of automatic heads and accessories are available to improve machine performance and flexibility.

Maximum efficiency and minimum idle and set up time is achieved with the use of recessing tools, angular, universal, 5-axis and facing heads, rotary tables, automatic tool and head changers, workpiece measuring and tools set up probes, etc.

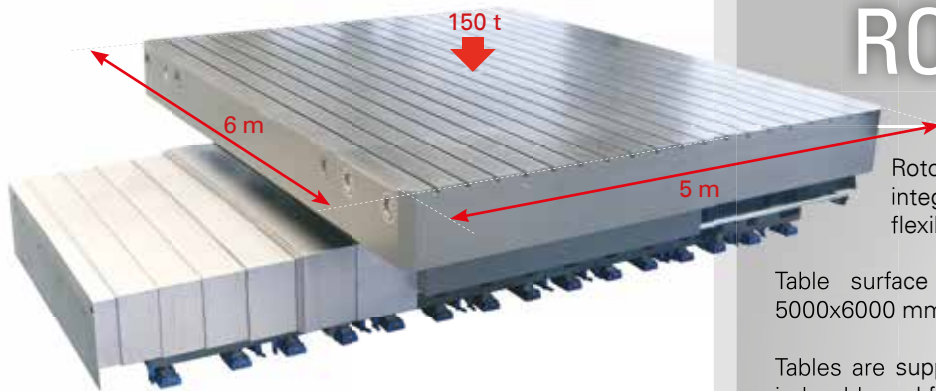


ATC different solutions for tool magazine and changer:

- Chain type up to 160 tools
- Robot type up to 500 tools

Several kind of probes for workpieces and tool calibration devices can be used for in-process measuring and tool wear and breakage control





ROTARY TABLES

Roto-traversing tables are accessories that can be integrated on any floor type machine, improving flexibility and productivity.

Table surface dimensions range from 1000x1000 up to 5000x6000 mm and load capacity from 8000 to 150.000 kg.

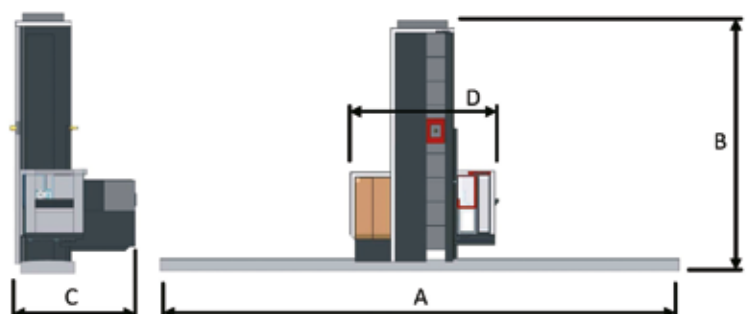
Tables are supplied with 1 or 2 CNC axes, with a hydrostatic indexable and full contouring B-axis.



MODULAR CONFIGURATION

TECHNICAL SPECIFICATIONS		MP5 RAM	MP6 RAM	MP7 RAM	MP10 RAM
X-axis Longitudinal travel column	mm	4000 + Nx2000	4000 + Nx2000	4000 + Nx2000	4000 + Nx2000
Y-axis Vertical travel headstock	mm	2000 + Nx500 ... 4000	2000 + Nx500 ... 5000	3000 + Nx500 ... 6500	4000 + Nx500 ... 10000
Z-axis RAM travel	mm	1000	1500	1500-1800	1600-2000
W-axis boring spindle travel	mm	800	1000	1000-1200	1000-1400-1600
Z+W travel	mm	1800	2500	2500-2800	2800-3000-3400
SPINDLE-HEADSTOCK					
Boring spindle diameter	mm	130-160	160-180-205	180-205-225	205-225-260
Tool taper		ISO 50	ISO 50	ISO 50	ISO 50/ISO 60
RAM cross section	mm	460x520	460x520	460x520	580x650
Max. rotation speed	min ⁻¹	3500-3000	3000-2500-2000	2500-2000-1600	2000-1600-1400
Spindle gear ranges		2	2	2-3	3
Spindle power (S1-100%)	kW	64-96	64-96	71-100	100-125
Spindle torque (S1-100%)	Nm	3800-9700	3800-9700	5000-20000	19000-23000
FEED RATES					
Rapid feed rates X-Y-Z	mm/min	20000	20000	20000-15000	15000

Machine Dimensions	A	B	C	D
MP5 RAM	X + 5000	Y + 3500	4000	6100
MP6 RAM	X + 5500	Y + 4000	5070	6100
MP7 RAM	X + 5500	Y + 4000	5070	6345
MP10 RAM	X + 7000	Y + 4500	5660	7245



BORING AND MILLING EXPERTS SINCE 1941



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