

**JUARISTI**

# ML Series

**MILLING-BORING AND TURNING CENTERS**



# MULTIPURPOSE CENTERS FOR MILLING-BORING AND TURNING

ML series machines are the result of a deep Value Analysis responding to a market segment where customers demand **high dynamics and best precision level.**

These machines are requested in different sectors: Mold & Die, Aerospace, Oil & Gas, Power generation, Pumps & Valves, General machining, etc. where the customer chooses the most suitable machine according to each application.

ML3 Moving column Milling machine is supplied with either: ASD Horizontal Head, ACD Universal head or AOD Orthogonal head, in different configurations.



ASD



ACD



AOD

# ML3 RAM MOVING COLUMN BORING CENTER

This boring center has been conceived to obtain high precision machining in different components sizes. Equipped with RAM stroke of 1000 and boring bar stroke of 700 mm, it's a **cost-effective machine** that allows many end users to acquire a boring machine, with a **quick return of investment**.



## OPTIMIZING THE DESIGN

Good results are achieved even machining at 3 m. height, with **high cutting performance and excellent finishing quality**.

Ergonomics and Easy operation design are remarkable thanks to the 75 years experience building these type of machines.



# MODULAR SYSTEM FOR DIFFERENT MACHINE CONFIGURATIONS

ML3 & ML3RAM models are easily adapted to a wide range of configurations with different automation systems, pallets systems, size and styles of ATC's, a wide range of heads that are automatically changeable, all customized to each customer's request.

Different type of rotary tables can be installed at the machine, 8 to 100 t capacity, for **milling and mill/turn** in cases that true multi-tasking machine operations are required.



## MULTIFUNCTION AND AUTOMATION

A great variety of milling, boring and turning operations can be done on these centers with the use of different heads and the suitable tool on each Universal or Orthogonal head.

The rotary table may have a double function: large clamping torque for milling purposes and high rotation speed for use as a turning table.

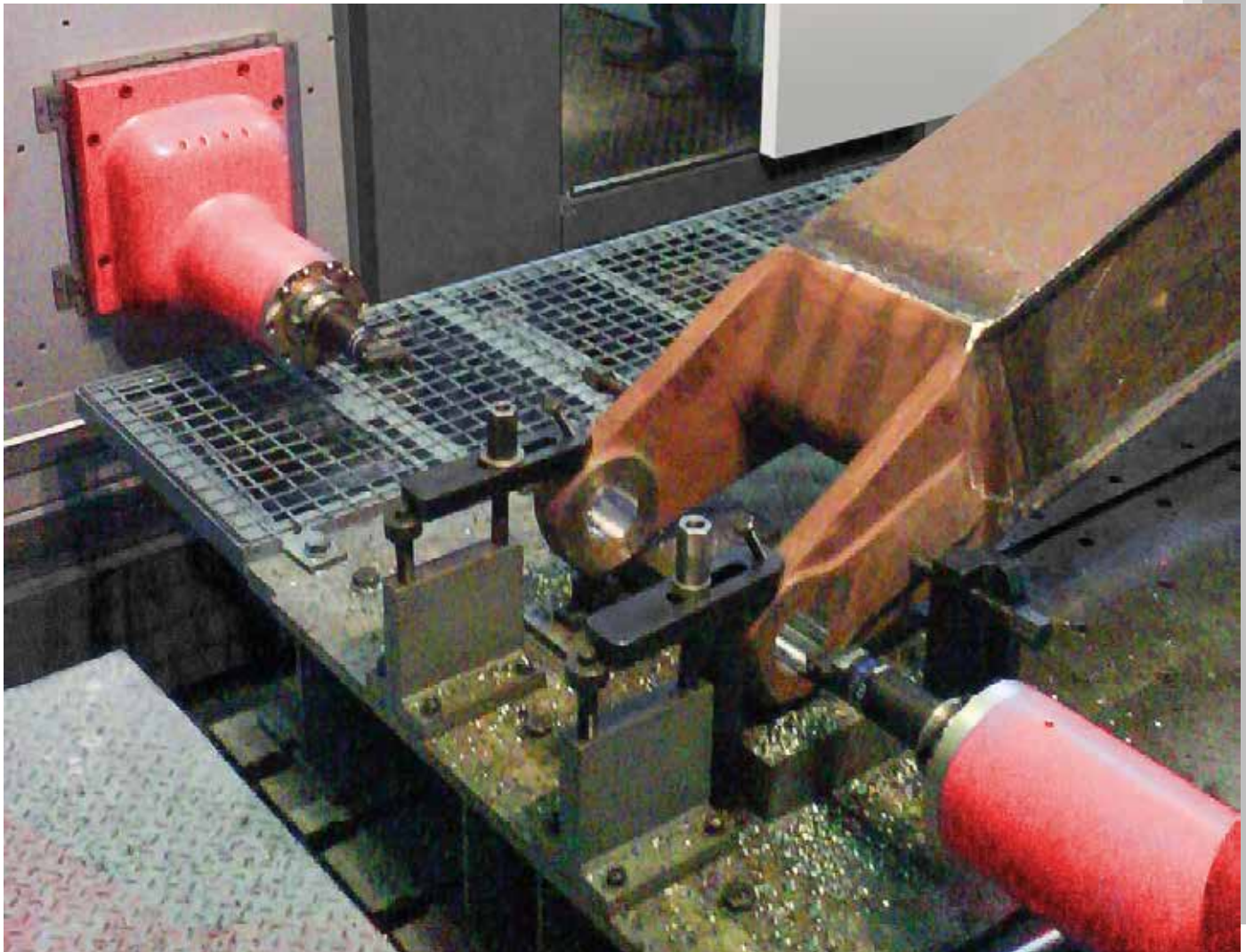
When **high productivity and automation** level is needed the machine can work in pendular mode with 2 rotary tables and additionally milling/turning heads can be changed automatically.



# HIGH PRODUCTIVITY AND PRECISION

With the use of 2 machines installed face-to-face, several operations can be done simultaneously and therefore highest productivity is achieved.

Additionally as calibration of 2 machines is done automatically, **high precision components** can be machined.



AHC Automatic Head Calibration



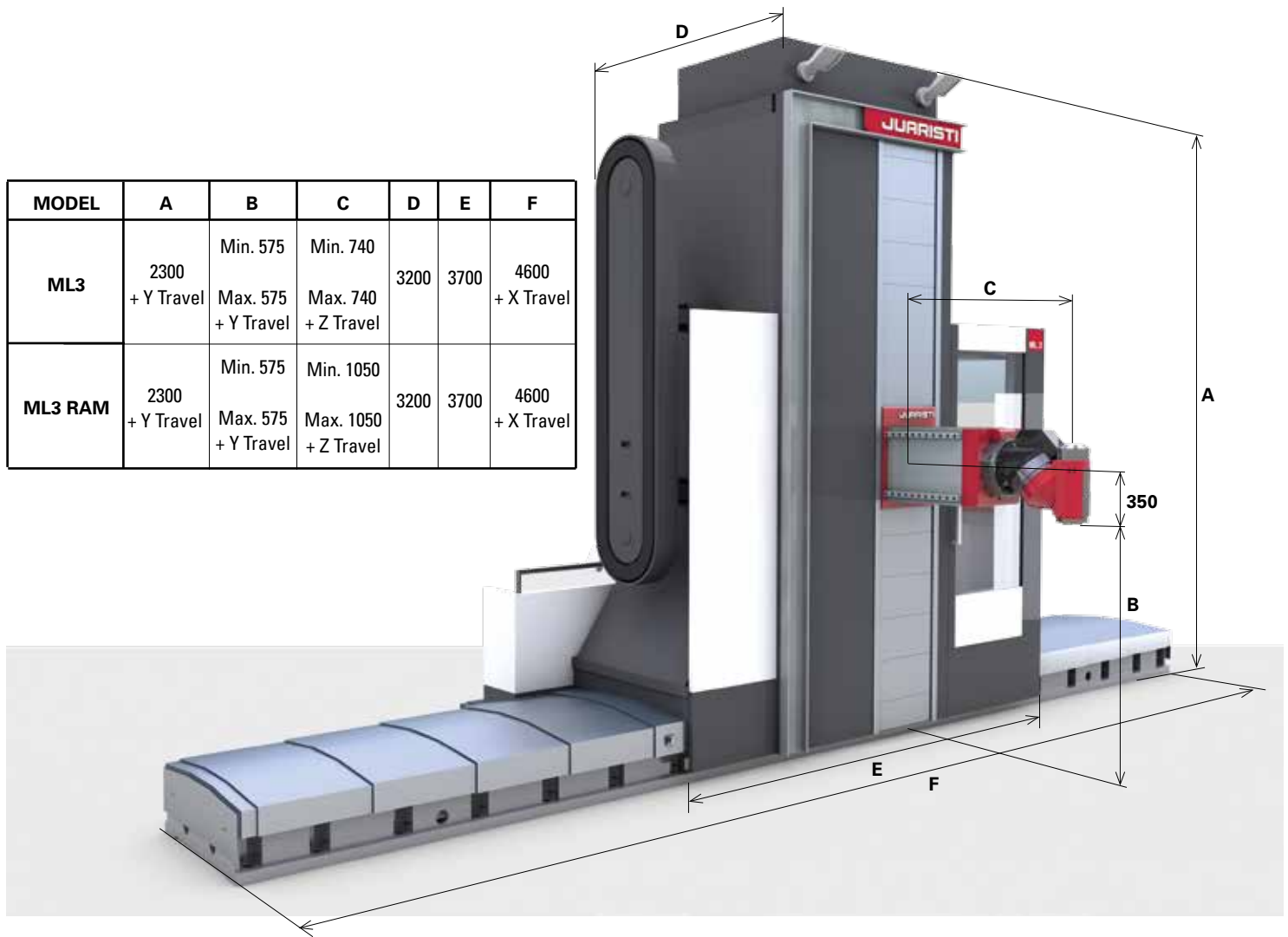
AV Automatic Right Angle Head for machining hard to reach features



# APPLICATION EXAMPLES ON DIFFERENT SECTORS



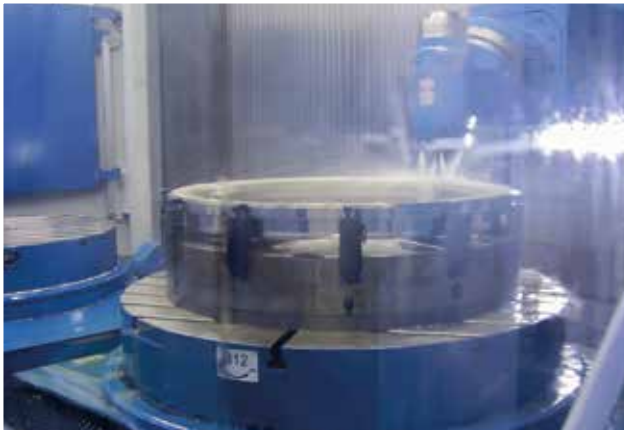
MODEL	A	B	C	D	E	F
<b>ML3</b>	2300 + Y Travel	Min. 575	Min. 740	3200	3700	4600 + X Travel
		Max. 575 + Y Travel	Max. 740 + Z Travel			
<b>ML3 RAM</b>	2300 + Y Travel	Min. 575	Min. 1050	3200	3700	4600 + X Travel
		Max. 575 + Y Travel	Max. 1050 + Z Travel			



## TECHNICAL SPECIFICATIONS

ML SERIES			ML3	ML3 RAM
TRAVELS	X-axis Longitudinal Column	mm	4000 - 14000	4000 - 14000
	Y-axis Vertical Headstock	mm	1500 - 3000	1500 - 3000
	Z-axis Cross RAM	mm	1300	1000
	W-axis Boring bar	mm	-	700
RAM HEADSTOCK	Boring bar diameter	mm	-	130
	Spindle power	kW	43	37
	Spindle torque	Nm	900	1800
	Spindle speed	min <sup>-1</sup>	5000	3500
FEED RATES	Rapid feed rates	m/min	35 - 40	35 - 40
ROTARY TABLE MGX	Rotary table		360.000 positions / 5 min <sup>-1</sup> / Clamped when positioned	
	Table size	mm	1250x1450 - 3000x3500	
	Load capacity	t	8 - 20 - 40 - 60 - 80 - 100	
TURNING TABLE MGT	Turning table		Double rotary system: milling and turning	
	Table diameter	mm	1600 - 2000 - 2500	1600 - 2000 - 2500
	Load capacity	t	6 - 12	
	Table rotation speed	min <sup>-1</sup>	250	
HEADS	ASD Horizontal head	Dimensions Ø x L	200 x 550	-
	ACD Universal head	Aut. Indexing	2.5° x 2.5° - 1° x 1° - 0.001° x 0.001°	
	AOD Orthogonal head	Aut. Indexing	1° x 1° - 0.001° x 0.001°	

# BORING AND MILLING EXPERTS SINCE 1941



**JUARISTI**



ISO 9001 Cert. No. E199156

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