



| ROMI PH 400 | ROMI PH 630

HORIZONTAL MACHINING CENTERS

ROMI PH SERIES



ROMI Industrial Complex, in
Santa Bárbara d'Oeste - SP, Brazil

INNOVATION + QUALITY

ROMI: Producing high quality technology since 1930.

Since the beginning, Romi has been recognized for its focus on creating products and innovative solutions which has guaranteed its technological leadership among large manufacturers of machine tools. Romi's industrial complex is among the most modern and productive sites in the fields of machine tools, plastic processing machines, and high quality cast iron parts.

Continuous investments in Research & Development result in products with state-of-the-art technology.

The technology applied to Romi machines offers highly reliable products, with high accuracy, efficiency and great flexibility for several types of machining processes.

Romi R&D is focused on increasing competitiveness for its customers.

Present throughout Brazil and in over 60 countries.

Romi covers all domestic territory through its sale subsidiaries network fully prepared to support customers by supplying an extensive range of services from marketing to after sales assistance.

The international market is covered by Romi's subsidiaries which are located in the United States, Mexico, Europe, and by its many dealers located in strategic logistic centers around the globe that are capable of serving customers in 5 continents.



Plant 16

ROMI PH SERIES



| ROMI 400



| ROMI PH 630

**High chip removal capacity,
precision, flexibility with
assured productivity**

Machines designed for high performance and productivity in machining processes. Used in the production of automotive vehicles, agricultural machinery, pumps, gearboxes components and general equipment.

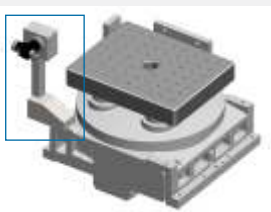
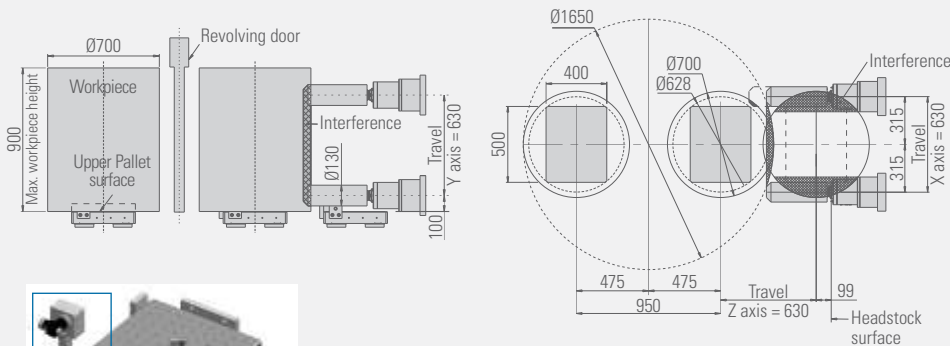
Robust structure dimensioned to support heavy machining with high acceleration, rigidity and precision.



- Headstock: 10.000 rpm
- Spindle taper ISO 40 for BT / BBT 40 tool shank
- Main motor: 30 hp / 22 kW
- Pallet surface: 400 x 500 mm
- Indexing table with increment of 1° (360 programable positions) or NC Table with minimum increase of 0,001° (optional)
- Automatic pallet changer - 2 pallets
- Automatic tool changer with magazine - 40 tools capacity

ROMI PH 400

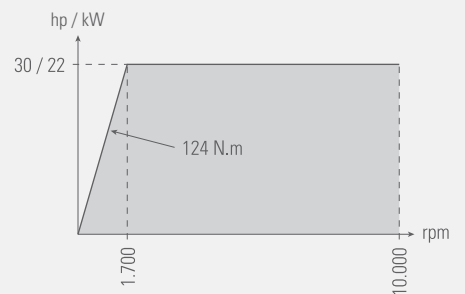
Work layout - Standard machine



Note: for machines equipped with the Preset of tools OTS sensor (optional), the prior layout analysis is essential to identify possible collisions.

Power Graphs

Headstock - 10.000 rpm
(S6 - 60% - 10 min.)



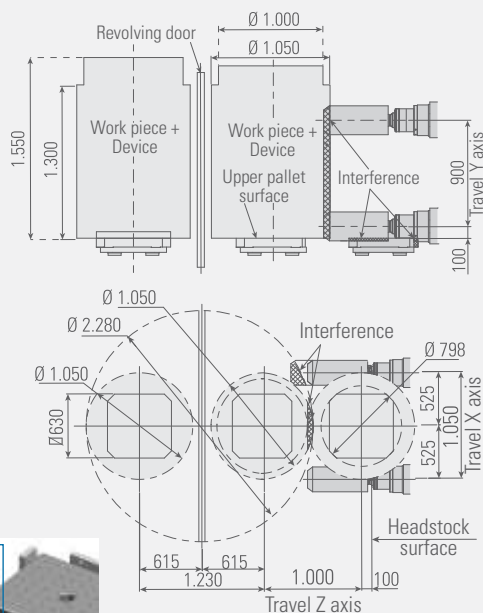


High capability of chip removal,
accuracy, flexibility and productivity.



- Headstock: 6.000 rpm
- Spindle taper ISO 50 for BT / BBT 50 tool shank
- Main motor: 46 hp / 34,5 kW
- Pallet surface: 630x 630 mm
- Indexing table with increment of 1° (360 programable positions) or NC Table with minimum increase of 0,001° (optional)
- Automatic pallet changer - 2 pallets
- Automatic tool changer with magazine - 60 tools capacity

Work layout - Standard machine

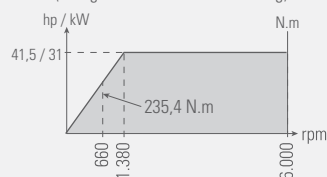


Note: for machines equipped with the Preset of tools OTS sensor (optional), the prior layout analysis is essential to identify possible collisions.

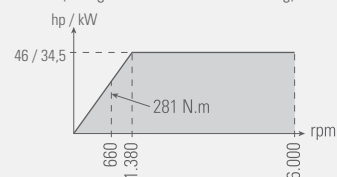
ROMI PH 630

Power Graphs

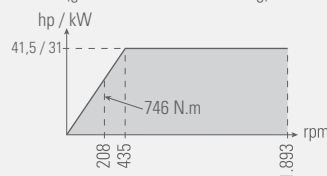
Headstock - 6.000 rpm (continuous rating)
(non-g geared transmission housing)



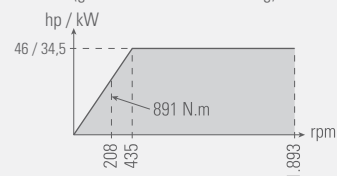
Headstock - 6.000 rpm (S6 - 60% - 10 min.)
(non-g geared transmission housing)



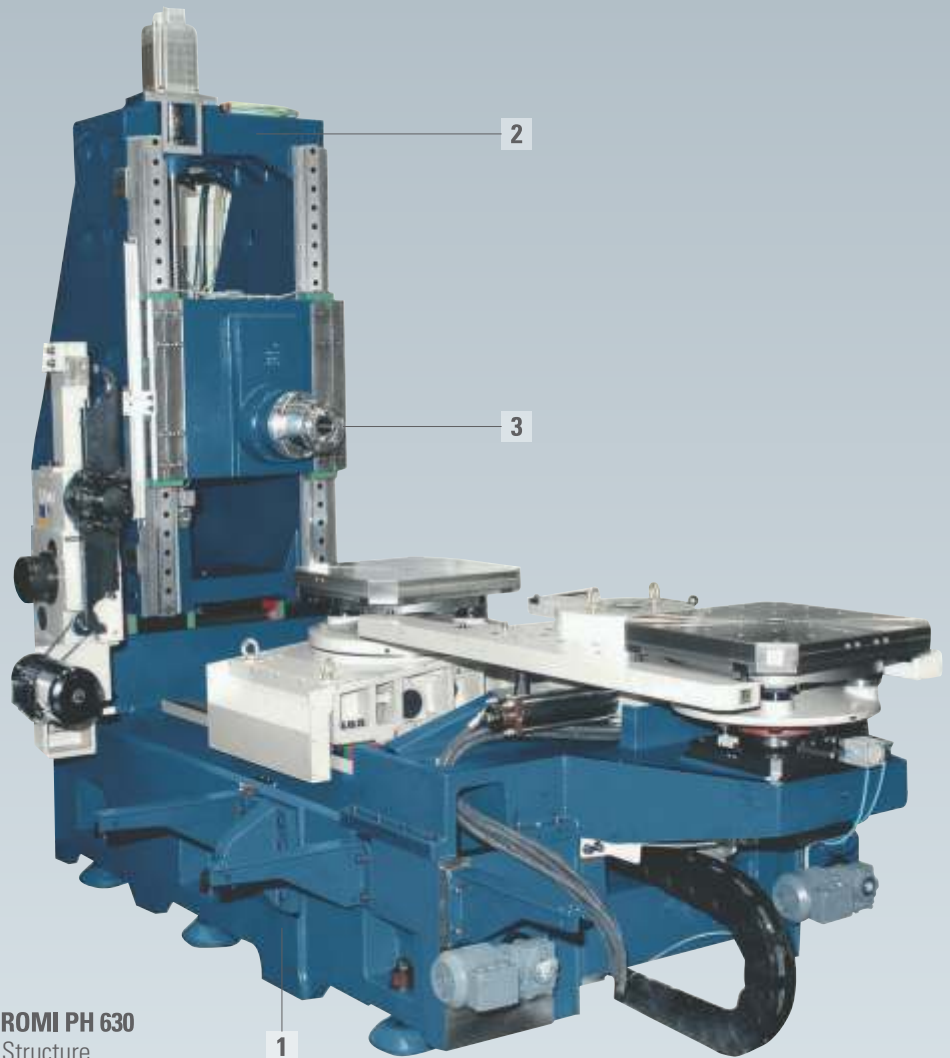
Headstock - 6.000 rpm (continuous rating)
(geared transmission housing)



Headstock - 6.000 rpm (S6 - 60% - 10 min.)
(geared transmission housing)



Structure designed using CAD 3D system and dimensioned by finite elements analysis (FEA) software.



ROMI PH 630
Structure

STRUCTURE

1 Monoblock base

Robust cast iron structure provides superior rigidity and vibration absorption under the heaviest cutting conditions and maintain its stability regardless of the temperatures. Houses X and Z linear guideway seats that provide the high precision alignments necessary for deep hole boring. All machine subassemblies are mounted on the base including the column, saddle, pallet changer and automatic tool changer.

2 Column

Properly ribbed and dimensioned to support the headstock assembly. Extra wide distance between guideways offers excellent geometric stability.

3 Headstock

Structure that houses main spindle cartridge and main motor. tool changer. High rigidity and excellent vibration absorption even under heavy duty machining operations.

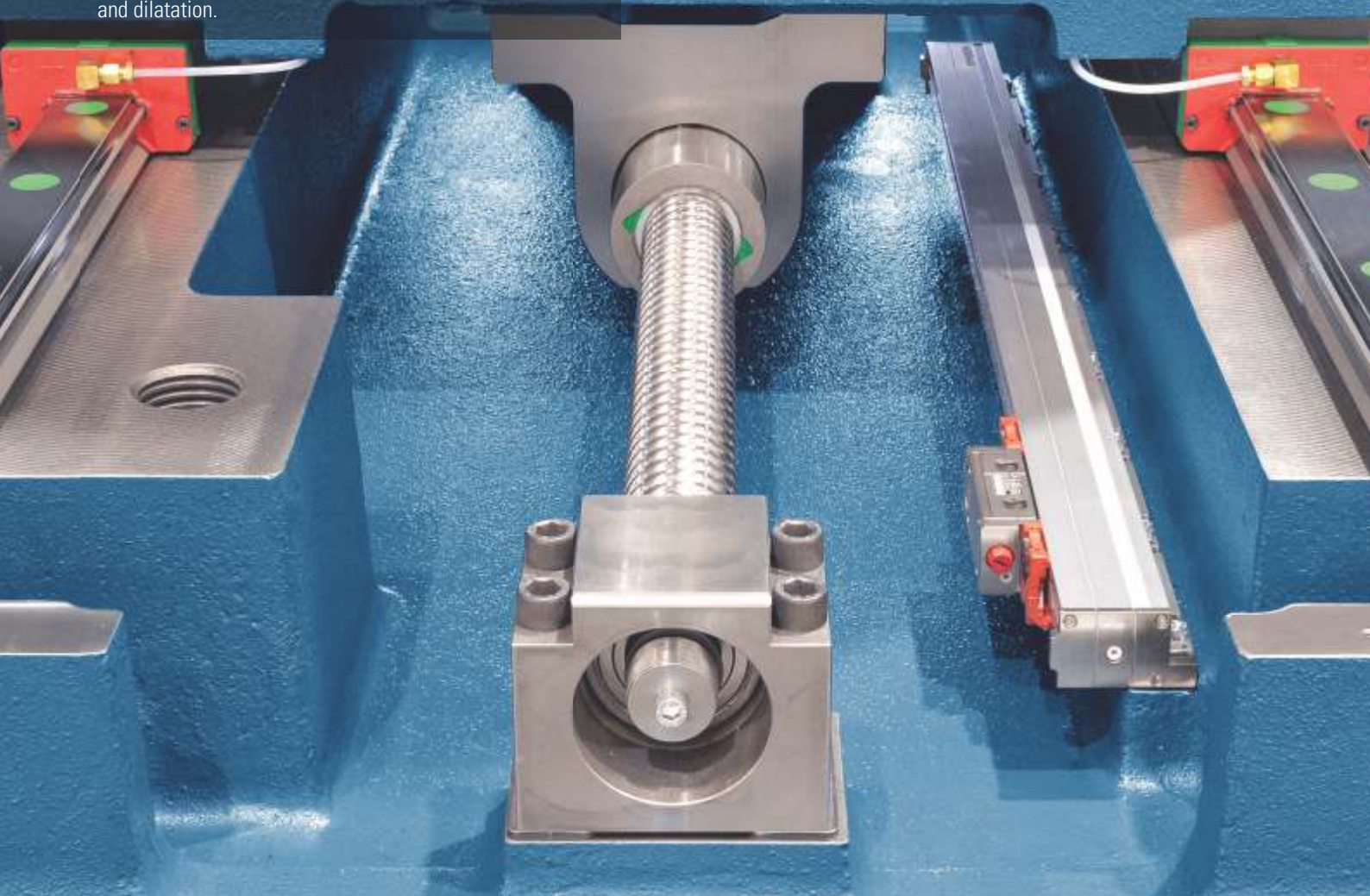
4 Tool changer

Automatic tool changer ATC. With magazine for BT / BBT tool holders, for 40 tool capacity (ROMI PH 400) or 60 tool capacity (ROMI PH 630). (*)



Linear scale on X, Y and Z axes (standard)

Provides high positioning accuracy, required in high precision processes. Position reading made through optical scale is a direct reading, thus having no interference of ballscrew pitch error, originated by heat and dilatation.



BALLSCREWS AND LINEAR GUIDEWAYS

Recirculating Ballscrews

Hardened and ground, provide excellent accuracy for axes positioning, rigidity and repeatability. Together with the servo motors, enable fast and accurate axes displacements, high speeds and accelerations.

Linear guideways

Properly dimensioned for heavy duty machining. Enable fast and accurate axes displacements, due to low friction between rails and pads.

ROMI PH 400 - roller linear guideways on Y axis (column) and ball bearing linear guideways on X and Z axes.

ROMI PH 630 - roller linear guideways on X, Y and Z axes.

Linear Guideways benefits

- Feeds up to 60 m/min (2,362 in/min) (*)
- Fast axes positioning, reducing the idle times and increasing productivity
- Allow high acceleration
- Low consumption of lubricating oil
- Easy maintenance
- High rigidity and durability

(*) ROMI PH 400



Pallet changer

Mechanism is integral with the machine mounted directly on the monoblock base. Pallet rotation and lifting system is hydraulic. The location at the front of the machine gives easy access for part loading and unloading and makes set up and part clamping fast and easy.

TABLE AND PALLET CHANGER

Table

Dimensioned to support robust workpieces and heavy machining loads with excellent assembly stability.

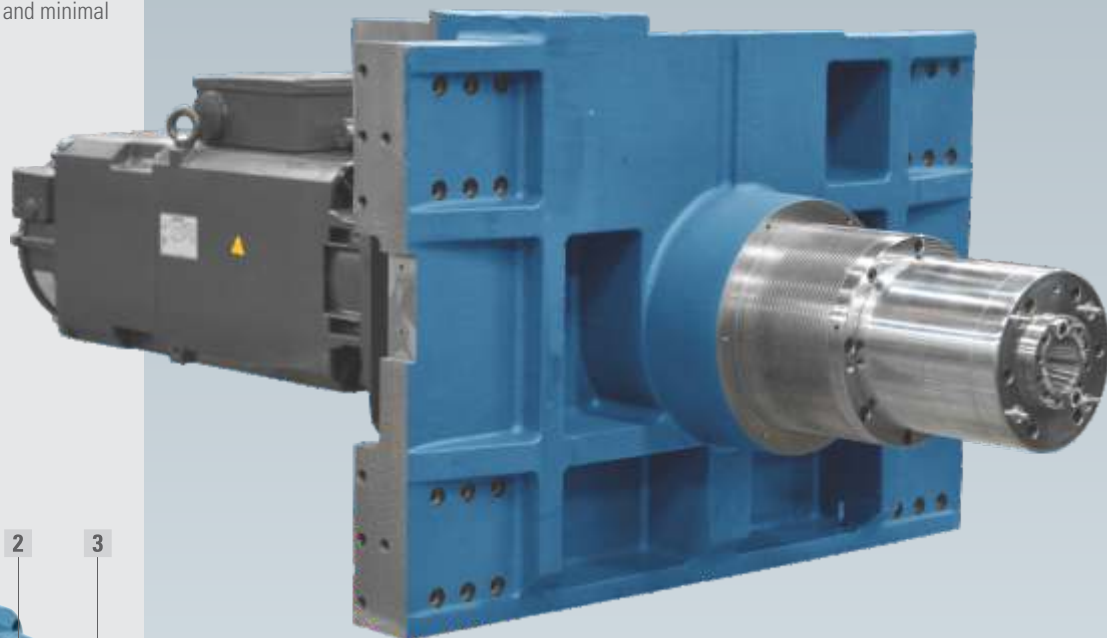
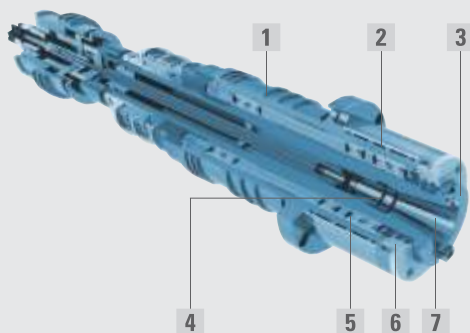
Provided with pallet indexing mechanism, driven by servomotor and high precision drive gear. Enables 360 indexing positions with flexibility for complex workpiece machining.



Headstock

Structure that houses main spindle cartridge and main motor. High rigidity and excellent vibration absorption even under heavy duty machining operations. Main spindle is supported by ultra high precision bearings, permanently grease lubricated, dimensioned to support heavy machining, with excellent high speed performance, superior rotational accuracy and minimal temperature increase.

- 1 Cartridge prepared to through the spindle coolant system (optional)
- 2 Cooling chamber, where circulation of cutting fluid helps to cool the bearing
- 3 Coolant system through holes
- 4 Pneumatic system for cleaning the spindle cone, to avoid accumulation of chips and malfunctions in the tool holders
- 5 Angular contact ball bearings, precision with high load capacity
- 6 Sealing of bearings by labyrinth
- 7 Tool shank prepared for BBT, which provides greater rigidity in tool clamping



Direct drive headstock - 10.000 rpm providing efficient torque and power transmission (ROMI PH 400)

OPTIONALS

- 1 Wash gun for the loading area and Wash gun for the machining area
- 2 Mist exhausting system
- 3 Air conditioning for electrical cabinet
- 4 Interface hydraulic for device





CNC

Technology, high performance and reliability

Horizontal machining centers from ROMI PH Series are equipped with CNC Siemens Sinumerik 828D which offers the user very ease programming system. Offers 15,6" LCD color monitor, Compact Flash card drive, USB port and ethernet interface for factory network, bringing a great flexibility for loading programs and parameters.

Advanced Surface Function

Increases machine performance in complex machining processes, providing precision and smooth motion at high cutting speeds (high rotations and feeds), better finish surface of machined parts and reduced machining times.

Conversational programming programGUIDE

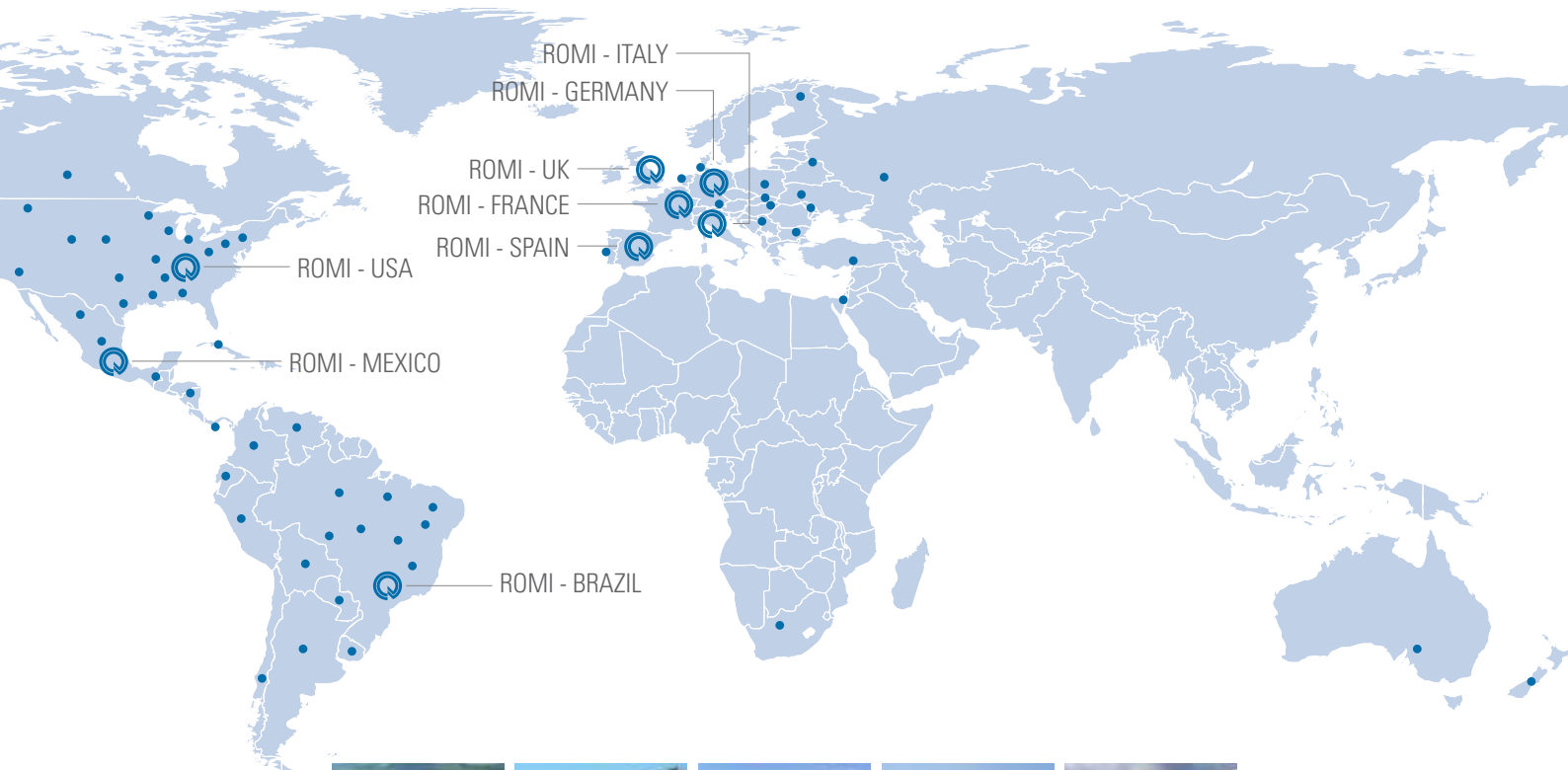
CNC Siemens Sinumerik 828D programGUIDE facilitates program creation thru the input of data in user-friendly screens and animated elements which helps in unequivocal data input. Programming is simplified thru cycles of drilling, boring, tapping and milling and free-shape profile cuts.



Technical Specifications		ROMI PH 400		ROMI PH 630
Headstock				
Spindle nose	type	ISO 40		ISO 50
Speed range (6.000 rpm)		-		6 to 6.000
Range 1	rpm	-		1 to 1.893
Range 2	rpm	-		6 to 6.000
Speed range (10.000 rpm)	rpm	10 a 10.000		-
Feeds				
Rapid traverse (X / Y / Z axes)	m/min (in/min)	60 (2,362)		50 (1,969)
Programmable cutting feed	m/min (in/min)	30 (1,181)		50 (1,969)
Acceleration (X / Y / Z axis)	G	(0,47 / 0,80 / 0,80)		-
Travels				
Column (X axis)	mm (in)	630 (24.8)		1.050 (41.3)
Saddle (Z axis)	mm (in)	630 (24.8)		1,000 (39.4)
Headstock (Y axis)	mm (in)	630 (24.8)		900 (35.4)
Distance from spindle nose to table center	mm (in)	100 to 730 (3.94 to 28.7)		100 to 1,100 (3.94 to 43.3)
Distance from spindle nose to table top	mm (in)	100 to 730 (3.94 to 28.7)		100 to 1,100 (3.94 to 43.3)
Table				
Type	-	Indexing table	NC (opt)	Indexing table
Pallet surface	mm (in)	400 x 500 (15.7 x 19.7)	400 x 500 (15.7 x 19.7)	630 x 630 (24.8 x 24.8)
Max. weight admissible on pallet (uniformly distributed)	kg (lbs)	600 (1,323)	500 (1,100)	1,200 (2,645)
Table indexing	degrees	1	0,001	1
Indexing time 90°	s	1,62		4,95
Automatic tool changer				
Tool capacity	un	40		60 or 120 (optional)
Maximum tool diameter	mm (in)	75 (2.95)		115 (4.5)
Maximum tool diameter when adjacent stations are empty	mm (in)	130 (5.1)		230 (9.0)
Maximum tool diameter when 2 adjacent stations are empty	mm (in)	-		270 (10.6)
Maximum tool length	mm (in)	400 (15.7)		630 (24.8)
Tool shank	type	BT 40 / BBT 40		BT 50 / BBT 50
Maximum tool weight	kg (lbs)	8 (17.6)		25 (55.1)
Tool change time / tool to tool at the change point (*) (15 kg tool)	s	4,4		5,93
Pallets changer				
Number of pallets	un	2		2
Pallet change time (no charge)	s	12		18,8
Power				
AC spindle motor (S6 - 60% - 10 min.)	hp/kW	30 / 22		46 / 34,5
Total power	kVA	55		70
Dimensions and weight - Standard Machine				
Height	mm (in)	3.065 (120)		4.190 (165)
Floor space required (front x side)	mm (in)	4.535 x 6.070 (178 x 239)		4.905 x 7.100 (193 x 278)
Net weight (approximate)	kg (lbs)	14,600 (32,187)		38,000 (83,776)

(*) According to VDI 2852-1

WORLDWIDE PRESENCE



Brazil



United States



Germany



England



France



Spain



Italy



Mexico



Germany - B+W



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