

HIGH PRODUCTIVITY • ROBUSTNESS • PRECISION • TECHNOLOGY

TURNING CENTERS

# ROMI GL SERIES

NEW GENERATION



[www.romi.com](http://www.romi.com)





MUCH MORE  
PRODUCTIVITY  
AND PROFITABILITY  
FOR YOUR  
BUSINESS!

*In the constant process of transformation of the industry, it is crucial to have **differentials that make your products superior to those offered by competitors.***

*In this context, the insertion of new technologies in your production process, mainly by means of **modern, fast and precise machine tools, raises your production performance.***

*You get higher quality, productivity, efficiency and the best: higher profits than what you have already achieved in your business!*

With over 90 years of history and global presence, we have preserved the values that made our products known worldwide. **We offer the most cost-effective machine tools in the market.** Our commitment to the constant development of new solutions and dedication to innovation results in robust, high technology and quality machine tools.

**We guarantee full support at all stages of the purchase** through our teams: sales and sales engineering, customer training, specialized technical assistance and spare parts.

Having a Romi machine tool assures that **you have a state-of-the-art equipment produced in the present and in the future.** And in the future, when you need to replace it with another more modern Romi, you will see that you have made a big deal: your equipment is highly valued in the market.

At Romi, you get a complete solution, much more than just a piece of equipment: **you have the security and tranquility of counting on the manufacturer at all times, whenever you need it.** Count on us to find a solution that fits your needs. **Our main goal is to make your business even more productive and profitable.**



Ultra Clean Room



Development Engineering



Flexible Manufacturing System



Technical Assistance



Training



Spare Parts

# ROMI GL SERIES

NEW GENERATION

High productivity with robustness, precision and technology.





Designed to operate in environments of medium and high production, the ROMI GL Series has high power and torque. Its robust structure is ideal for machining at full power. It offers high rigidity even during severe machining operations. Thermal and geometric stability, grants accuracy, high performance and productivity.



### ROMI GL 250

<b>Headstock</b>	6.000 or 4.500 rpm
<b>Spindle nose</b>	ASA A2-5" or A2-6"
<b>Main motor</b>	19,4 hp / 14,3 kW
<b>Max. turning diameter*</b>	up to 282mm (11")
<b>Rapid traverse X/Z</b>	30m/min (1,18in/min)



### ROMI GL 300

<b>Headstock</b>	4.500 or 3.500 rpm
<b>Spindle nose</b>	ASA A2-6" or A2-8"
<b>Main motor</b>	25,2 hp / 18,5 kW
<b>Max. turning diameter*</b>	up to 330mm (13")
<b>Rapid traverse X/Z</b>	30m/min (1,18in/min)



### ROMI GL 350

<b>Headstock</b>	3.000 or 2.500 rpm
<b>Spindle nose</b>	ASA A2-8" or A2-11"
<b>Main motor</b>	34 hp / 25 kW
<b>Max. turning diameter*</b>	up to 410mm (16")
<b>Rapid traverse X/Z</b>	30m/min (1,18in/min)



### ROMI GL 450

<b>Headstock</b>	3.000 or 2.500 rpm
<b>Spindle nose</b>	ASA A2-8" or A2-11"
<b>Main motor</b>	40,8 hp / 30 kW
<b>Max. turning diameter*</b>	up to 490mm (19.3")
<b>Rapid traverse X/Z</b>	30m/min (1,18in/min)

\*see specifications for each version

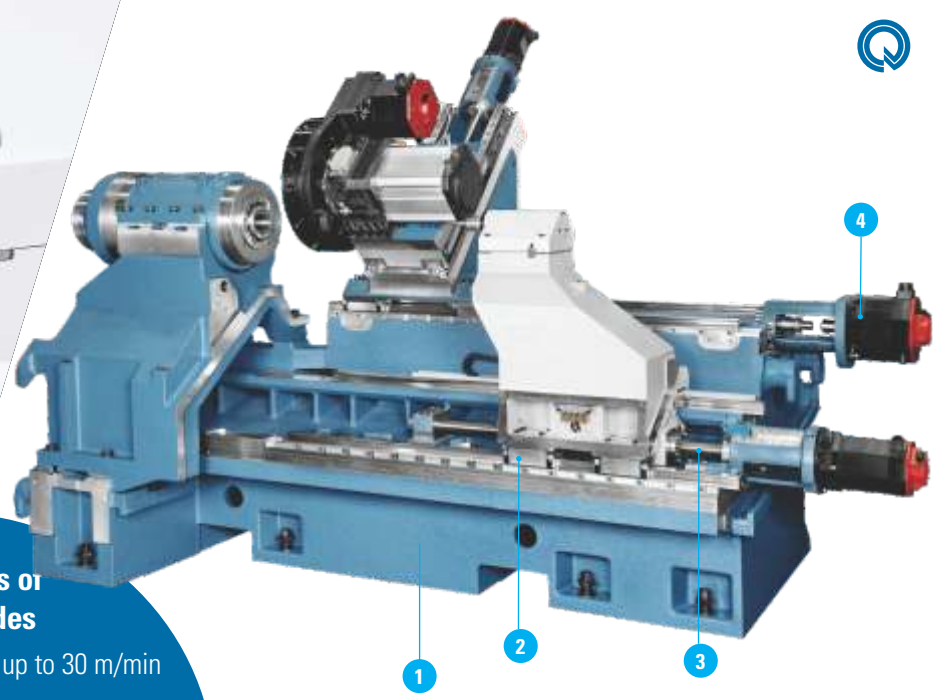


# STRUCTURE


## ROBUSTNESS AND TECHNOLOGY

The quality of the manufacturing processes grants reliability and operational efficiency of ROMI machines.

Projected in 3D CAD system, the entire structure of the **ROMI GL SERIES** is dimensioned by Finite Element Analysis software (FEA), resulting in adequate structures for each machine size.

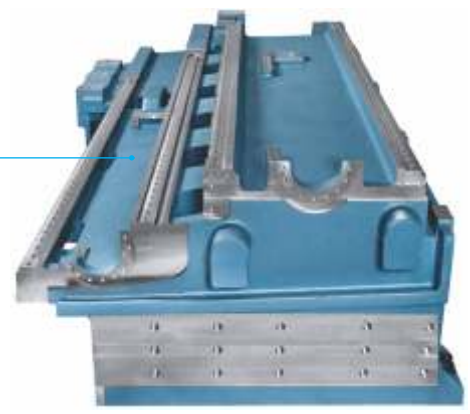


- The benefits of Linear Guides**
- Rapid traverse speeds up to 30 m/min
  - Fast positioning of axes minimizing idle times and increasing productivity
    - Allows high accelerations
    - Low lubricant consumption
    - Easy maintenance
    - High rigidity and long durability

**THERMAL COMPENSATION** 

System developed to reduce the effects of thermal expansion. In this way, stable, dimensional results are obtained even during long working periods.

**1** **MONOBLOCK BASE**, robust and designed to absorb vibrations; offers better parts finishing, longer durability for machine and cutting tools.



**3** **BALL SCREWS** are hardened and ground with preloaded nuts; designed to offer high rigidity, high accuracy in both positioning and repeatability of axes.



**2** **LINEAR GUIDES** allow fast displacements, great rigidity, great movement accuracy and positioning of the axis due to low friction coefficient between rails and blocks.

**4** **Brushless AC SERVOMOTORS** with integrated absolute encoders, which transmit the movement of the ball screws directly, providing accurate positioning and excellent repeatability of axes.



# HEADSTOCK

## HIGH PERFORMANCE AND PRECISION

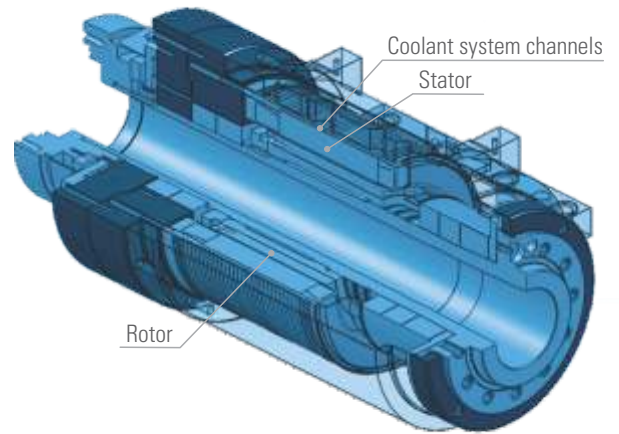
Offers huge power and torque; has a cooling system which brings great thermal and geometric stability to the assembly. High precision spindle is designed to withstand high machining forces and high speeds with continuous variation.





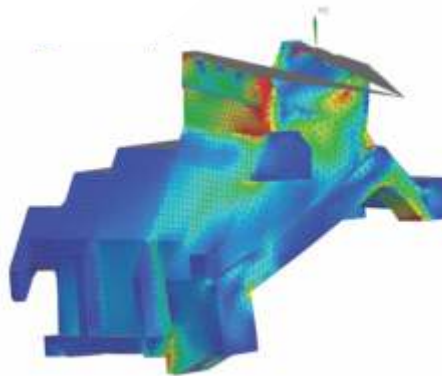
## HEADSTOCK WITH BUILT-IN MOTOR

The headstock with built-in motor is a compact system compared to the conventional headstock. It is comprised of a motor incorporated to the spindle cartridge, where the rotor is fixed to the spindle and the stator is fixed in the housing.



### Benefits

- High torque in low rotations
- Excellent level of power and performance
- High stability system, without vibrations due to the absence of pulleys and belts
- Excellent spindle run-out which contributes to obtaining great surface finishing and roundness on turning operations
- Low inertia contributing to high accelerations
- Incorporated high resolution encoder assuring extreme precise angular positioning (C axis) for operations with driven tools (for versions with driven tools)
- Offers high thermal and geometric stability of the assembly due to its efficient cooling system

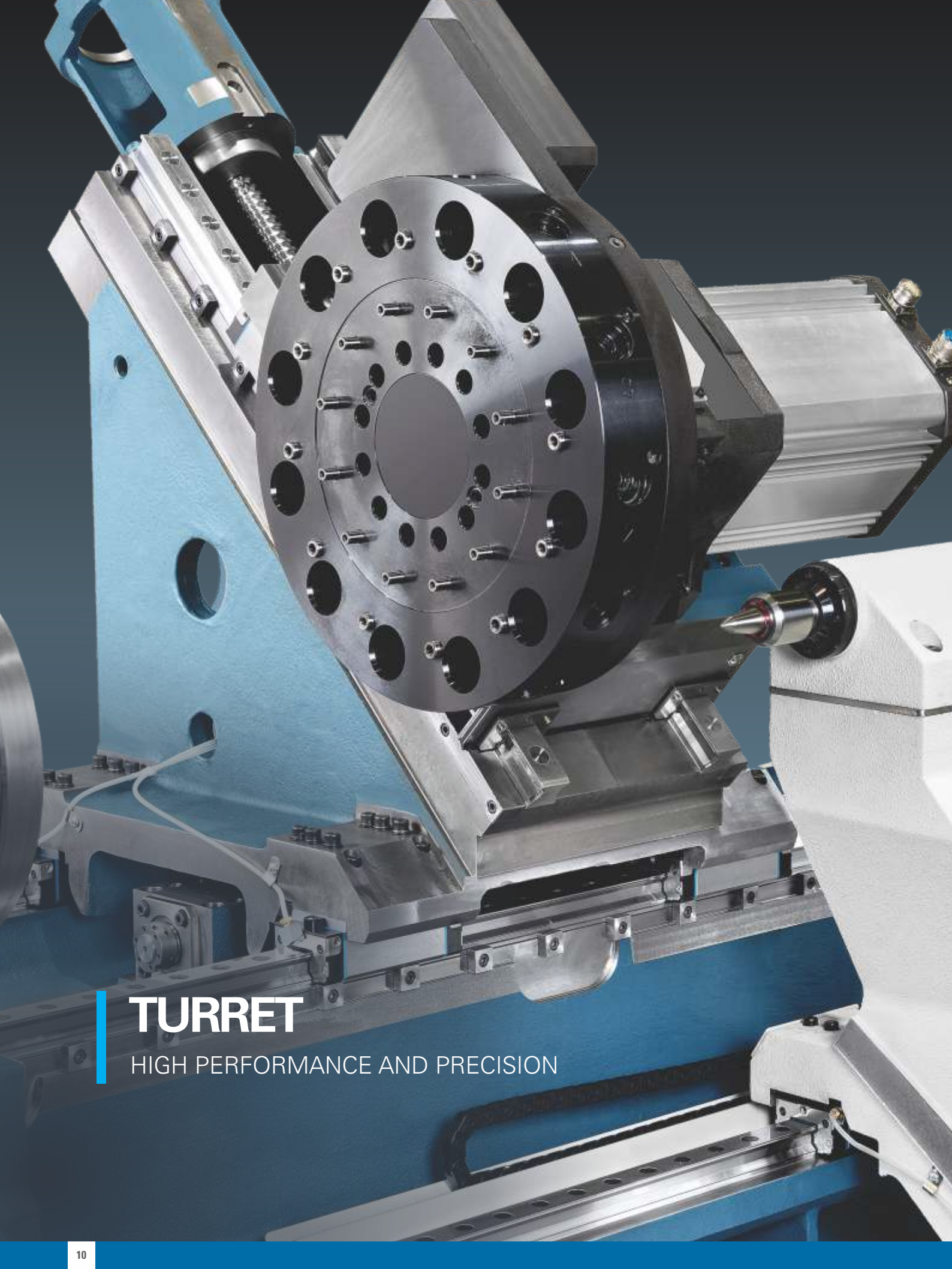


◀ Structure that offers excellent thermal and geometric stability, rigidity and high capacity to absorb machining efforts, even in heavy duty machining conditions.

**FRONTAL ARRANGEMENT OF ROLLER BEARINGS** and angular ball bearings; rear arrangement of high-precision angular contact ball bearings with permanent lubrication.

**BEARINGS** sealing by labyrinths.

**COOLING SYSTEM** guided by a closed circuit through channels located in a labyrinth between the outer surface of the stator and the housing, dissipating the heat generated by the built-in motor. The liquid first passes through a heat exchanger. There it is cooled and then returned to the headstock. The system is monitored by a flow sensor. This ensures that the headstock is always cooled.



# TURRET

HIGH PERFORMANCE AND PRECISION



12-station turret for fixed tools, with Romi disk



12-station turret for driven tools, with VDI- or BMT disk\*



12-station turret for driven tools with Y Axis

## ◀ Y AXIS

Enables turning operations out of workpiece center line allowing drilling, milling and tapping operations with only one fixation.

\*see specifications for each version

# SECOND HEADSTOCK





# TAILSTOCK



## TAILSTOCK

Tailstock supported on high precision linear guides. Positioning and axial force adjustable via CNC. Prepared for cartridge with MT-4 or built-in live center (with incorporated bearings).\*

## SECOND HEADSTOCK ▶

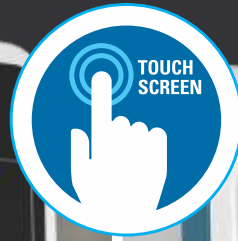
The headstock with built-in motor is a compact system compared to the conventional headstock. It is comprised of a motor incorporated to the spindle cartridge, where the rotor is fixed to the spindle and the stator is fixed in the housing (with half-pass or total pass of 51 mm).



\*see specifications for each version

# CNC

TECHNOLOGY AND RELIABILITY



**Fanuc 32i-B *i*-HMI CNC (for S versions) with 19" Touchscreen LED color monitor**



**Fanuc 0i-TF *i*-HMI CNC (for T, M and Y versions) with 15" Touchscreen LED color monitor**



**ROMI GL Series** Turning Centers are equipped with Fanuc CNC, which facilitates programming, with main screen with separate areas for planning, machining, improvements and utilities, allowing access to functions in just only two clicks. It is equipped with Ethernet interface, drive for Compact Flash card and USB port.



1. Display of various information on a single screen. E.g.: feed axes and main spindle load indicators, ongoing program, modal codes, tool information, icons, alarms, etc.



2. Complete and dynamic tool manager, enabling quick access to information.



3. Functions for corrective, preventive and predictive maintenance (messages, alarms, message history, etc.). Warning messages are generated before the fault even occurs. This enables efficient preventive maintenance.



4. The machining programs can be easily accessed, they are organized in a folder structure with illustration of the workpiece, program name and number for easy identification.



5. Thanks to the compatibility with numerous file formats, manuals, diagrams and other important information can be stored.



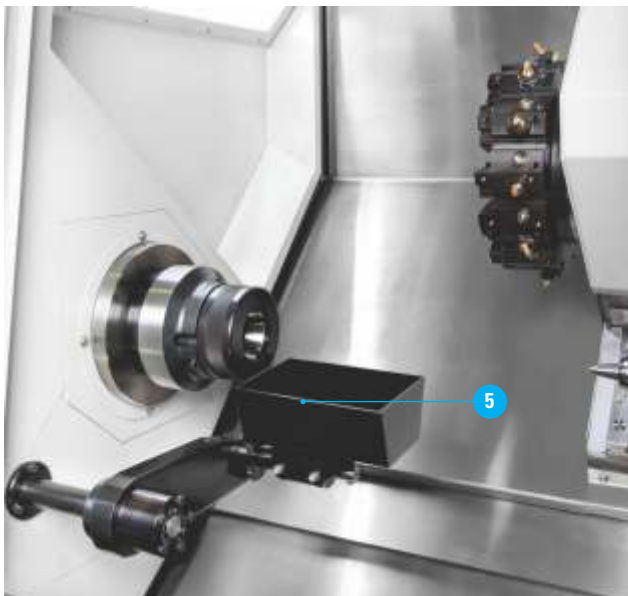
6. Various interactive machining cycles: cavity cycles, milling, tapping, measurements, etc.

# OPTIONAL EQUIPMENT

## VERSATILITY FOR YOUR PRODUCTION

Thanks to the large selection of optional equipment, we can perfectly adapt your ROMI GL Turning Center to your individual requirements and thus make it even more versatile.

1. Automatic Door and Safety Light Curtain
2. Chip Conveyor
3. Mist Exhausting System
4. Wash Gun
5. Parts Catcher
6. Tool Position Reader







Technical Specifications		ROMI GL 250	ROMI GL 300	ROMI GL 350	ROMI GL 450
<b>Capacity</b>					
Maximum cutting diameter	mm (in)	T = 282 (11) M, Y and S = 250 (9.8)	T = 330 (13) M, Y and S = 300 (11.8)	T = 410 (16.1) M and Y = 350 (13.7)	T = 490 (19.3) M and Y = 450 (17.7)
Swing diameter over Z axis cover	mm (in)	530 (20.8)	530 (20.8)	660 (26)	660 (26)
Swing diameter over X table	mm (in)	420 (16.5)	420 (16.5)	530 (20.8)	530 (20.8)
Swing diameter over Y table (with Y=0)	mm (in)	400 (15.7)	400 (15.7)	500 (19.7)	500 (19.7)
Travel (X Axis)	mm (in)	T/Y/S = 160 (6.3) / M = 195 (7.7)	T/Y/S = 185 (7.3) / M = 230 (9)	230 (9)	255 (10)
Travel (Z Axis)	mm (in)	600 (23.6)	600 (23.6)	1200 (47.2)	1200 (47.2)
Travel (Y Axis)	mm (in)	± 50 (1.97)	± 50 (1.97)	± 75 (3)	± 75 (3)
Travel (tailstock or second headstock)	mm (in)	540 (21.2)	540 (21.2)	1160 (45.7)	1160 (45.7)
<b>Headstock</b>					
Type		built-in			
Spindle nose	ASA	A2-5" / A2-6"	A2-6" / A2-8"	A2-8" / A2-11"	
Spindle hole diameter	mm (in)	61 (2.4) / 73 (2.9)	73 (2.9) / 85 (3.35)	104 (4.1) / 116 (4.56)	
Chuck diameter	mm (in)	165, 175 or 210 / 210 (6.5, 6.9 or 8.3 / 8.3)	210 or 254 / 254 (8.3 or 10 / 10)	254 or 315 / 315, 390 or 450 (10 or 12.4 / 12.4, 15.3 or 17.7)	
Maximum bar capacity	mm (in)	42 or 51 / 51 or 64 (1.65 or 2 / 2 or 2.5)	51 or 64 / 64 or 76 (2 or 2.5 / 2.5 or 3)	76 or 89 / 89 or 102 (3 or 3.5 / 3.5 or 4)	
Speed range	rpm	6000 / 4500	4500 / 3500	3000 / 2500	
<b>Second Headstock</b>					
Type		built-in			
Spindle nose	ASA	A2-5"			
Spindle hole diameter	mm (in)	61 (2,4)			
Chuck diameter	mm (in)	165, 175 or 210 (6.5, 6.9 or 8.3)			
Maximum bar capacity	mm (in)	51 (2)			
Speed range	rpm	6000			
<b>Feeds</b>					
Rapid traverse - X axis	m/min (in/min)	30 (1,181)			
Rapid traverse - Z axis	m/min (in/min)	30 (1,181)			
Rapid traverse - Y axis	m/min (in/min)	18 (708)			
Rapid traverse - W axis (tailstock or second headstock)	m/min (in/min)	10 (393)			
<b>Turret</b>					
Number of tools / stations	pc.	12			
Tool section: square	mm (in)	20 x 20 (3/4" x 3/4")	25 x 25 (1" x 1")	25 x 25 (1" x 1")	25 x 25 (1" x 1")
<b>T Turret (for fixed tools)</b>					
Tool holder	type	Romi			
Tool section: bar	mm (in)	Ø 32 (1 1/4")	Ø 40 (1 1/2")	Ø 40 (1 1/2")	Ø 50 (2")
<b>M or T Turret (for driven tools)</b>					
Tool holder	type	M: VDI 30 / Y: BMT-45	M: VDI 40 / Y: BMT-55	BMT 65	BMT 75
Tool section: bar	mm	Ø 32 (1 1/4")	Ø 40 (1 1/2")	Ø 40 (1 1/2")	Ø 50 (2")
Axial/radial driven tool holder	DIN 6499	M: ER-25 (Ø1 - Ø16mm) M: ER-25 (Ø0.039 - Ø0.63") Y: ER-20 (Ø1 - Ø13mm) Y: ER-20 (Ø0.039 - Ø0.51")	M: ER-32 (Ø2 - Ø20mm) M: ER-32 (Ø0.078 - Ø0.78") Y: ER-25 (Ø1 - Ø16mm) Y: ER-25 (Ø0.039 - Ø0.63")	ER-32 (Ø2 - Ø20mm) ER-32 (Ø0.078 - Ø0.78")	ER-40 (Ø3 - Ø26mm) ER-40 (Ø0.118 - Ø1.02")
Speed range for driven tool	rpm	0 ~ 6,000	0 ~ 4,000	0 ~ 4,000	0 ~ 4,000
Minimum allowed motor torque (continuum regime)	N-m	18	30	30	40
<b>Y Turret (for driven tools) for S versions (with counter spindle)</b>					
Tool holder	type	BMT 45	BMT 55	-	-
Tool section: bar	mm	Ø 32 (1 1/4")	Ø 40 (1 1/2")	-	-
Axial/radial driven tool holder	DIN 6499	ER-20 (Ø1 - Ø16mm)	ER-25 (Ø1 - Ø16mm)	-	-
Speed range for driven tool	rpm	0 ~ 6,000	0 ~ 4,000	-	-
Minimum allowed motor torque (continuum regime)	N-m	18	30	-	-
<b>Automatic tailstock (servodriven)</b>					
Taper hole for body positioning		MT-4	MT-4	built-in	built-in
Maximum axial force	kgf	300	500	700	1000
<b>Power</b>					
AC Main motor (intermittent regime - built-in)	hp/kW	19.4 / 14.3	25.2 / 18.5	34 / 25	40.8 / 30
AC Right motor (intermittent regime - built-in)	hp/kW	19.4 / 14.3	19.4 / 14.3	-	-
Total installed power (T/M and Y versions)	kVA	30	40	45	50
Total installed power (S versions)	kVA	45	50	-	-
<b>Dimensions and weights (approx.)</b>					
Machine weight (without chip conveyor)	kg	4,800	5,200	7,300	7,700
		GL 250 / GL 300		GL 350 / GL 450	
		T and M versions	Y and S versions	T and M versions	Y versions
Height	mm	2,051 (80.75)	2,235 (88)	2,270 (89.3)	2,350 (92.5)
Area (front x side) (**)	mm	3,513 x 2,006 (138.3 x 79)	3,901 x 2,268 (153.6 x 89.3)	4,230 x 2,360 (166.5 x 92.9)	4,390 x 2,523 (172.8 x 99.3)



## Standard equipment

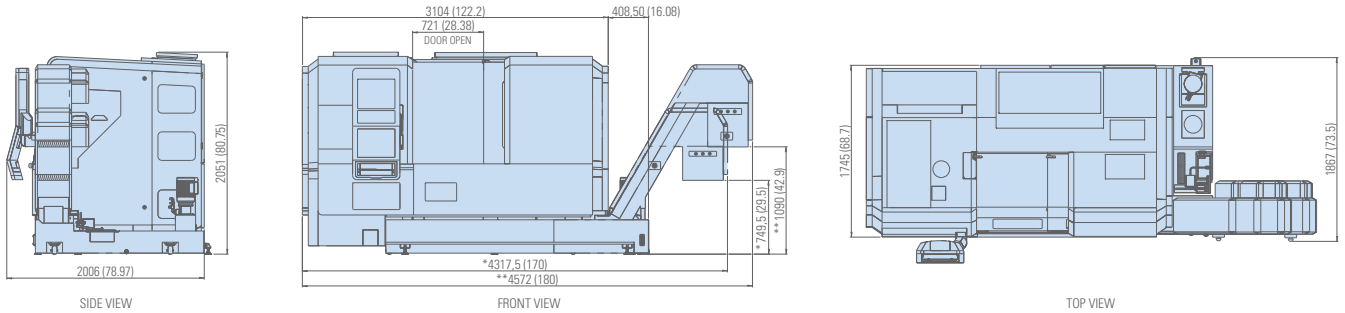
- Spindle nose Built-in ASA A2-5" (GL 250)
- Spindle nose Built-in ASA A2-6" (GL 250 or GL 300)
- Spindle nose Built-in ASA A2-8" (GL 300, GL 350 or GL 450)
- Spindle nose Built-in ASA A2-11" (GL 350 or GL 450)
- Right Spindle nose (Built-in) ASA A2-5" (S versions)
- Cross slide (X axis) and longitudinal (Z axis) supported on roller guides and actuated by AC servomotor with direct-drive transmission thru preloaded ballscrew and anti-impact system (T and M versions)
- Cross slide (X axis), longitudinal (Z axis) and upper transverse (X' axis) supported on roller guides and actuated by AC servomotor with direct-drive transmission thru preloaded ballscrew (Y versions)
- Cross slide (X axis), lower longitudinal (Z axis), upper transverse (X' axis) and right spindle (W axis) supported on roller guides and actuated by AC servomotor with direct-drive transmission thru preloaded ballscrew (S versions)
- Tailstock with Long live center MT-4, supported on roller guides and actuated by AC servomotor with direct-drive transmission thru preloaded ballscrew and anti-impact system (T, M and Y versions)
- Fanuc Oi-TF CNC with 15" color monitor (LCD) touchscreen and integrated security system (T, M and Y versions)
- Fanuc control series 32iB with 19" color monitor (LCD) - Touchscreen and integrated security system (S versions)
- Fully enclosed splash guard with interlocked sliding safety door
- Air cleaning system to remove chips from the chuck - Right and Left Spindle (S versions)
- Complete documentation for ROMI product
- Electrical installation available for the following voltage/frequencies: 380 Vca, 50 / 60 Hz
- Set of wrenches for machine operation
- Set of levelling screws and nuts
- Worklight LED type
- Electric panel with centrifugal climatization and positive pressure
- Centralized lubrication system with line filter and oil level sensor
- Coolant system with tank and four coolant pumps for choice (5, 7, 15 or 30 bar), with derivation through mechanical valve for guides cleaning
- 12-station programmable Diplomatic turret, servomotor driven, horizontal axis, hydraulically clamped and Romi disk, provided with a basic set of tools (T versions)
- 12-station programmable Diplomatic turret, servomotor driven, horizontal axis, hydraulically clamped and VDI disk ready for driven tool provided with a basic set of tools (GL 250M and GL 300M)
- 12-station programmable Diplomatic turret, servomotor driven, horizontal axis, hydraulically clamped BMT disk, ready for driven tool provided with a basic set of tools (GL 350M, GL 450M and all Y and S versions)
- Hydraulic unit with max. pressure 50 bar, 10,2 / 12,4 liters/min, 50/60 Hz, 41 liters capacity, pressure control circuit of fixing device, fixed pump controlled by frequency inverter and pressure control through proportional valves and pressure transducers
- Thermal compensation
- Standard colors: Texturized Epoxy Enamel Munsell Blue 10B-3/4 and Texturized Epoxy Gray RAL 7035

## Optional equipment

- Longitudinal hinge belt chip conveyor (TCE): high (1,090 mm distance from conveyor outlet to floor) or low (750 mm distance from conveyor outlet to floor), and coolant tank
  - Longitudinal drag belt chip conveyor (TCA): high (1,090 mm distance from conveyor outlet to floor) or low (750 mm distance from conveyor outlet to floor), and coolant tank
  - Jaw Hydraulic chuck with diameters: 165 mm (Ø 42 mm bar capacity), 175 mm (Ø 51 mm bar capacity), 210 mm (Ø 51 or Ø 64 mm bar capacity), 254 mm (Ø 64, Ø 76 or Ø 89 mm bar capacity) and 315, 390 and 450 mm (Ø 76, Ø 89 or Ø 102 mm bar capacity) - according to headstock version
  - Collet chuck CN42 (Ø 42 mm bar capacity), CN60 (Ø 51 or Ø 60 mm bar capacity) or CN80 (Ø 60, Ø 64 or Ø 76 mm bar capacity) - according to headstock/machine version
  - Hydraulic cylinder and draw tube with Ø 42 mm, Ø 51 mm, Ø 64 mm, Ø 76 mm, Ø 89 mm or Ø 102 mm bar capacity - according to headstock version
  - Collet chuck in addition to hydraulic chuck C42 (Ø 42 mm bar capacity), C60 (Ø 51 mm or Ø 60 bar capacity) or C80 (Ø 64 mm or Ø 76 mm bar capacity) - according to headstock/machine version
  - Auto power off
  - External M code interface with 3 pairs of Ms codes (3 independents outputs - 3 Ms Code Enable and 3 Ms Code Disable)(C)
  - Status light indicator
  - Automatic door electronic sensor security system (C)
  - Parts ejector for hydraulic chuck (C)
  - Self-centering hydraulic chuck
  - Tool setter (C)
  - Air cleaning system to remove chips from the chuck (A)
  - Remote diagnosis interface via cable (C)
  - Remote operation panel with handwheel and JOG functions for axes
  - Ethernet Data-Server with 16 GB
  - Parts catcher max. Ø 76 mm x 220 mm x 2,5 kg (C)
  - Parts catcher for right spindle - máx Ø 76 mm x 180 mm x 2,5 kg (S versions) (C)
  - Oil skimmer disc type with residues collect box
  - Mist exhausting system (C)
  - Filter for smoke (F)
  - Bar feeder interface (C)
  - Modular bar guide tubes for Ø 42 mm, Ø 51 mm, Ø 64 mm or Ø 76 mm bar capacity (according to the spindle bore)
  - Nylon discs set (blind) for Ø 42 mm, Ø 51 mm, Ø 64 mm and Ø 76 mm bar guide (according to machine spindle bore)
  - Air conditioning for electrical cabinet (required if plant temperature exceeds 38°C)
  - Autotransformer for 220 Vca, 200 / 250 Vca or 360 / 480 Vca (D)
  - Electronic interface (B)
  - Basic pneumatic kit (E)
  - Foot switch for fixing device cylinder
  - Foot switch for tailstock base
  - Coolant pump 5, 7, 15 or 30 bar
  - Wash gun with additional 5 bar motor pump
  - Long or short MT-4 live center
  - Linear scale (optical scale) for Z or X axis (A)
  - Hydraulic steady and follow rest with programmable positioning (A)
  - Extra set of operating, maintenance, programing, instalation and parts manuals in electronic media
  - Extra set of operating, maintenance, programing, instalation and parts manuals on paper
  - Extra tooling: jaw chuck sets, clamping collets, tool holders, reduction sleeves, bar puller and stop
- (A)** Must purchase also the accessory: "Basic pneumatic kit".
- (B)** Only one accessory "Electronic interface" covers the accessories: "Mist exhausting system", "Automatic door", "Bar feeder interface", "3 M codes for external automation interface", "Tool setter", "Parts catcher" and "Remote diagnostics interface via cable".
- (C)** Must purchase also the accessory: "Electronic interface".
- (D)** Just for voltage different from 380VCA.
- (E)** Only accessory "Basic pneumatic kit" covers the accessories: "Air cleaning system (to remove chips from chuck) for Main Spindle" and "Linear scale for X axis".
- (F)** Must purchase also the accessory: "Mist exhausting system".

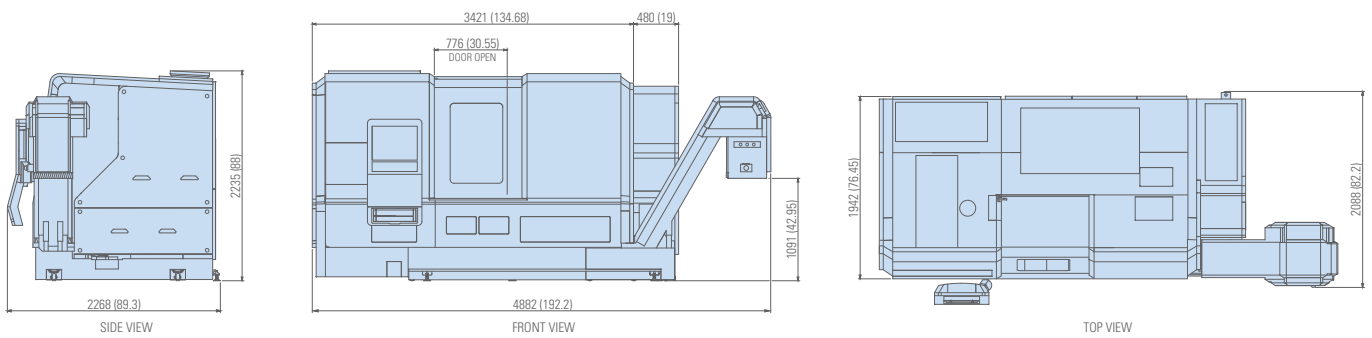
## Machine dimensions - dimensions in mm (in)

### ROMI GL 250 / GL 250M / GL 300 / GL 300M

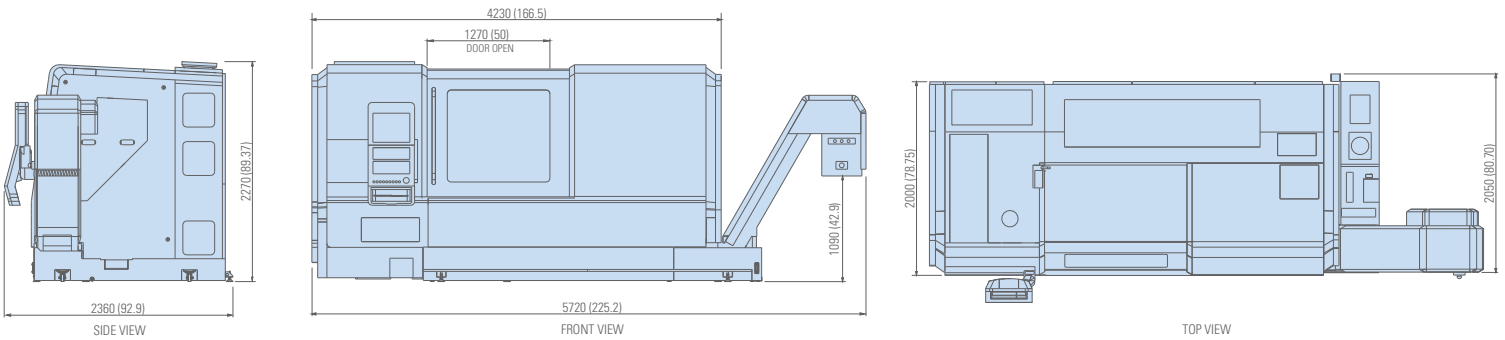


\*Smaller layout chip conveyor / \*\* Larger layout chip conveyor

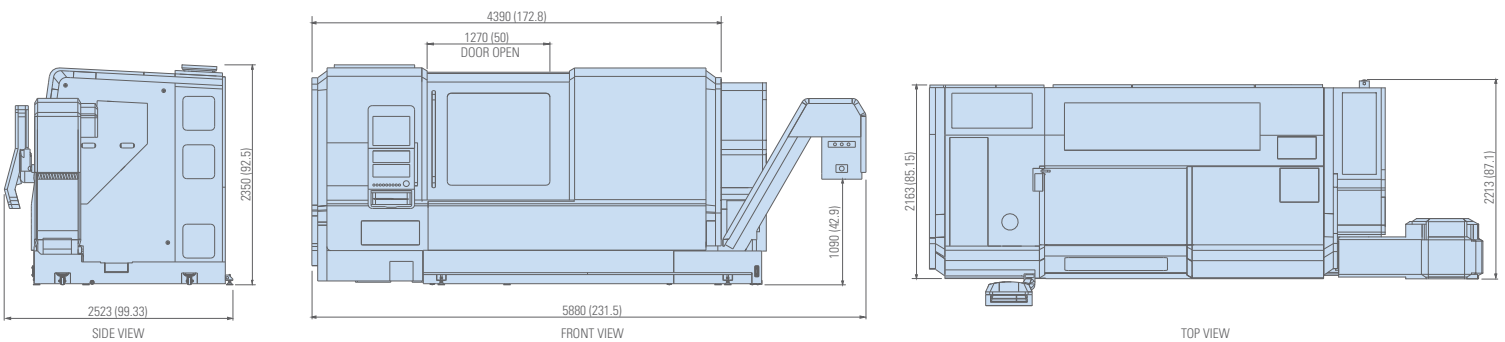
### ROMI GL 250Y / GL 250S / GL 300Y / GL 300S



### ROMI GL 350 / GL 350M / GL 450 / GL 450M



### ROMI GL 350Y / GL 450Y

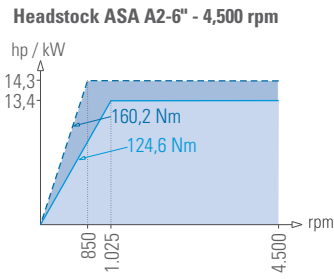
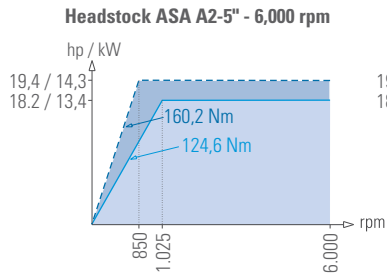


Designs are not in scale

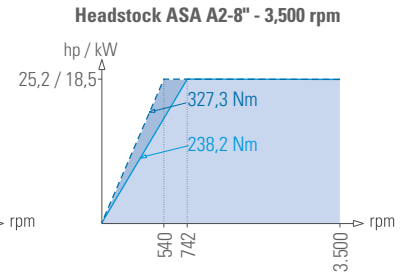
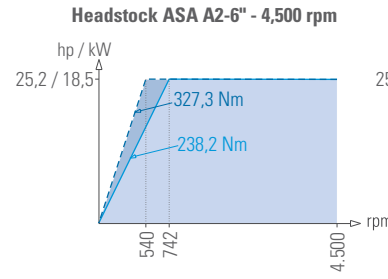


## Power graphs

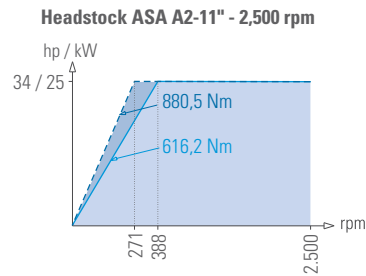
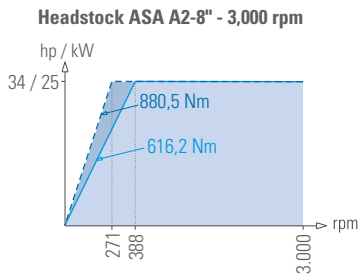
**ROMI GL 250**



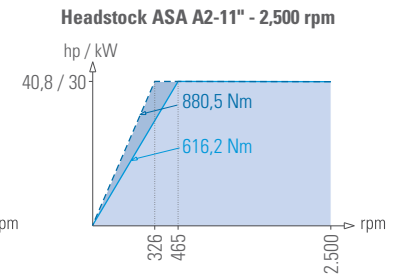
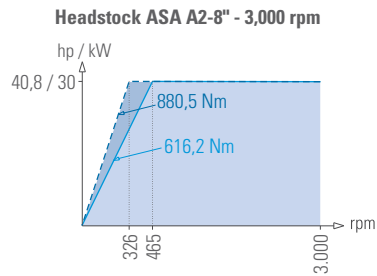
**ROMI GL 300**



**ROMI GL 350**



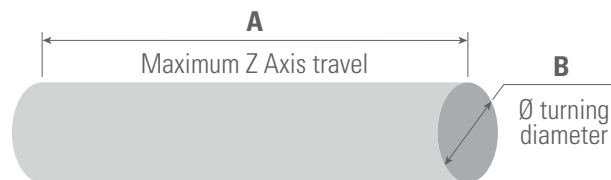
**ROMI GL 450**



■ Continuous regime S1  
▨ Intermittent regime S6-40%

Graphics are not in scale

## Capacities - dimensions in mm (in)



	<b>A</b>	<b>B</b>
<b>ROMI GL 250</b>	600 (23.6)	280 (11)
<b>ROMI GL 250M / Y / S</b>	600 (23.6)	250 (9.84)
<b>ROMI GL 300</b>	600 (23.6)	330 (13)
<b>ROMI GL 300M / Y / S</b>	600 (23.6)	300 (11.8)
<b>ROMI GL 350</b>	1200 (47.2)	410 (16.14)
<b>ROMI GL 350M / Y</b>	1200 (47.2)	350 (13.77)
<b>ROMI GL 450</b>	1200 (47.2)	490 (19.3)
<b>ROMI GL 450M / Y</b>	1200 (47.2)	450 (17.7)

**FANUC Oi-TF i-HMI CNC**  
**ROMI GL 250 / GL 300 / GL 350 / GL 450**  
**Versions T / M / Y**



**1 - Resources:**

- . 15" Touchscreen LED monitor
- . Qwerty keyboard
- . Operation panel
- . Look ahead = 20
- . Minimum Increment Positioning 0.001 mm or inches and 0.0001°
- . Simultaneous control of up to 4 axes
- . Stroke limit check before move
- . Linear Interpolation (G01)
- . Circular Interpolation (G02 and G03)
- . Helical Interpolation (G02 and G03 with X, Y, Z simultaneous) - only for Y versions
- . Y-Axis (angular axis control) - only for Y versions
- . Protection key with 4 access level
- . PCMCIA Interface
- . Embedded Ethernet Interface 10Mb
- . USB Interface V1.1
- . Data automatic backup
- . Auxiliary functions (T, S, M, F)
- . Parts number display
- . Clock
- . Calculator
- . Machining cycle time (not available in DNC mode)
- . Pitch Error Compensation
- . Bell-Shaped
- . Linear acceleration/deceleration after interpolation for rapid traverse
- . Rapid Traverse Block Overlap
- . Power Mate Manager
- . Machine Lock
- . Software limit
- . Inter-Locking
- . Backlash compensation
- . Torque Limit Skip
- . Languages (Portuguese, English, German, French, Italian, Spanish)
- . Energy Saving Level Selecting Function
- . Protective film anti-reflective 15\*\*
- . Stylus touch pen for CNC monitor

**2 - Programming Resources:**

- . Thread cutting
- . Thread repair
- . Floating Tapping
- . Variable Lead Thread Cutting
- . Threading Retract
- . Programmable Return to Reference Position of machine (G28, G30 e G53)
- . Wrong operation Prevention

**3 - Feedrate Functions:**

- . Feed per Minute
- . Feed per Rotation
- . Dwell (G04)

**4 - Graphic Functions:**

- . Graphic Simulation – 2D
- . Graphic Simulation – 3D
- . Residual Material Removal

**5 - Coordinate Systems:**

- . Local Coordinate System Setting
- . Machine Coordinate System Selection (53)
- . Workpiece Coordinate System (G54-G59)
- . Workpiece Coordinate Preset (G92, G92.1)
- . Tool Geometry and Wear Compensation = 100

**6 - Coordinate Values and Dimensions:**

- . Coordinate System Shift
- . Absolute (G90) or Incremental (G91) Programming Mode
- . Inch/Metric Conversion (G20, G21)
- . Coordinate System Rotation - Y axis required - Note: Only for Y version.
- . Transfer Zero Point
- . Programmable Mirror Image
- . Programmable in radius or diameter
- . Programmable Data Input

**7 - Spindle Functions:**

- . C Axis Control (M19 + G0 C \_\_\_)
- . Constant Surface Speed Control (G96)
- . Spindle Speed Function (G97)
- . Spindle Orientation (M19)
- . Monitoring of current Spindle Speed
- . Live tool Indexed Stop\*\*

**8 - Applied Tool Functions:**

- . Tool Radius Compensation (G40, G41 and G42)
- . Input Relative Corrector Tool
- . Direct Measurement of Tool Offset
- . Tool Life Management
- . Tool length measuring Screen – Manual Mode

**9 - Macro:**

- . Macro B
- . Addition of Custom Macro Common Variable
- . Macro Executor
- . Mbytes of memory for application in "Macro Executor" and "Fanuc Picture" = 6MB
- . Ladder

**10 - Simplification Program Functions:**

- . Finishing Cycle (G70)
- . Stock Removal in Turning (G71)
- . Stock Removal in Facing (G72)
- . Pattern Repeating (G73)
- . End Face Peck Drilling Cycle (G74)

- . Multiple Threading Cycle (G76)
- . Multiple Repetitive Cycle Type II
- . Direct Drawing Dimension
- . Drilling/ Boring (G83, G85)
- . Rigid Tapping (M29 + G84,G88)
- . Engraving Cycle
- . Retraction for Rigid Tapping
- . Cylindrical Interpolation (G07.1)\*\*
- . Polar Coordinate Interpolation (G12.1, G13.1)
- . Polygon Turning\*\*
- . Threading Cycles (G78)
- . Face cutting cycle (G79)

**11 - Programming Format:**

- . Programming Format Command ISO Fanuc-10 / 11
- . Conversational Programming i-HMI
- . Parameter Configuration

**12 - Execution Operations:**

- . Number / Program Research
- . Comments
- . Sub-program Call
- . MDI Operation
- . Cycle Start
- . Single Block
- . Stop Program Execution
- . Optional Stop - (M01)
- . Block Skip and Extension ("//")
- . Program Restart
- . DNC Function (not available by USB)
- . Program Test Function
- . Dry Run Function
- . Machine Home
- . High Speed Skip
- . Spindle Override Switch
- . Toll retract and recover
- . G-Codes System A/B/C
- . Sequence Number Search
- . Extend Part Program Editing
- . Background Editing
- . Registerable Part Programs = 400
- . Number of Programs in Memory (1000)\*
- . Ethernet Data Server with 16Gb\*
- . Part Program Storage Size = 2 Mbytes (5.120 m tape)
- . Manual handle Feed
- . JOG Feed
- . Feed Override Switch

**13 - Maintenance Functions:**

- . Course Limits
- . Chuck and Tailstock Barrier
- . Emergency Stop
- . External Message Ladder
- . Alarm History
- . Operating History
- . Maintenance
- . Analysis of behavior System of Servo Mechanism
- . Help On-line
- . Diagnosis Screen
- . Maintenance Screen
- . Safety Integrated by DCS
- . Power consumption monitoring

\*optional

\*\*for versions with driven tools

**CNC FANUC 32i-B i-HMI  
ROMI GL 250 / GL 300  
S Version**



**1 - Resources**

- . 19" Touchscreen LED monitor
- . Qwerty keyboard
- . Operation Panel
- . Look Ahead: 20
- . Minimum Increment Positioning 0.001mm or inches and 0.001°
- . Simultaneous control of up to 4 axes
- . Stroke Limit Check Before Move
- . Linear Interpolation (G01)
- . Circular Interpolation (G02 and G03)
- . Helical Interpolation (G02 and G03 with X, Y, Z Simultaneous) - only for Y versions
- . Balanced Cutting
- . Y-Axis (Angular Axis Control)
- . Protection Key with 4 access level
- . PCMCIA Interface
- . Embedded Ethernet Interface: 10 Mb
- . USB Interface V1.1
- . Data automatic backup
- . Auxiliary functions (T, S, M, F)
- . Parts number display
- . Clock
- . Calculator
- . Machining Cycle Time (Not available in DNC mode)
- . Pitch Error Compensation Interpolated Type
- . Bell-Shaped Accel./Decc. in Rapid Feed
- . Linear acceleration/deceleration after interpolation for rapid traverse
- . Rapid traverse Block Overlap
- . Machine Lock
- . Software limit
- . Interlocking
- . Backlash Compensation
- . Torque Limit Skip
- . Idioms: Portuguese, English, German, French, Italian and Spanish
- . Energy Saving Level Selecting Function
- . Stylus touch pen for CNC monitor
- . Protective film anti-reflective 19"

**2 - Programming Resources:**

- . Thread Cutting

- . Thread Repair
- . Floating Tapping
- . Variable Lead Thread Cutting
- . Threading Retract
- . Wrong operation Prevention
- . Programmable Return to Reference Position of machine (G28, G30 e G53)

**3 - Feedrate Functions:**

- . Feed per Minute
- . Feed per Rotation
- . Dwell (G04)

**4 - Graphic Functions:**

- . Graphic Simulation – 2D
- . Graphic Simulation – 3D
- . Residual Material Removal

**5 - Coordinate Systems:**

- . Local Coordinate System Setting
- . Machine Coordinate System Selection (53)
- . Machine Coordinate System Selection (53)
- . Workpiece Coordinate System (G54–G59)
- . Workpiece Coordinate Preset (G92, G92.1)
- . Tool Geometry and Wear Compensation = 100

**6 - Coordinate Values and Dimensions:**

- . Coordinate System Shift
- . Absolute (G90) or Incremental (G91) Programming Mode
- . Inch/Metric Conversion (G20, G21)
- . Transfer Zero Point
- . Programmable Mirror Image
- . Programmable in radius or diameter
- . Programmable Data Input (G10)

**7 - Spindle Functions:**

- . C Axis Control (M19 + G0 C \_\_)
- . Constant Surface Speed Control (G96)
- . Spindle Speed Function (G97)
- . Spindle Orientation (M19)
- . Monitoring of current Spindle Speed
- . Live tool Indexed Stop.
- . Spindle synchronous control

**8 - Applied Tool Functions:**

- . Tool Radius Compensation (G40, G41 e G42)
- . Input Relative Corrector Tool
- . Direct Measurement of Tool Offset
- . Tool Life Management
- . Tool length measuring Screen – Manual Mode

**9 - Macro:**

- . Macro B
- . Addition of Custom Macro Common Variable
- . Macro Executor
- . Mbytes of memory for application in "Macro Executor" and "Fanuc Picture" = 6MB
- . Ladder programming

**10 - Simplification Program Functions:**

- . Finishing Cycle (G70)
- . Stock Removal in Turning (G71)
- . Stock Removal in Face Turning (G72)
- . Pattern Repeating (G73)
- . End Face Peck Drilling Cycle (G74)

- . Multiple Threading Cycle (G76)
- . Multiple Repetitive Cycle Type II
- . Direct Drawing Dimension
- . Drilling/ Boring (G83, G85)
- . Rigid Tapping (M29 + G84, G88)
- . Engraving Cycle
- . Retraction for Rigid Tapping
- . Cylindrical Interpolation (G07.1)\*\*
- . Polar Coordinate Interpolation (G12.1, G13.1)
- . Polygon Turning \*\*
- . Polygon Turning (G50.2, G51.2)
- . Canned Cycle for Turning (G77)
- . Threading Cycles (G78)
- . Face cutting cycle (G79)

**11 - Programming Format:**

- . Programming Format Command ISO Fanuc-10/11
- . i-HMI CNC-Programming
- . Parameter Configuration

**12 - Execution Operations:**

- . Number / Program Research
- . Comments
- . Sub-program Call
- . MDI Operation
- . Cycle Start . Cycle Start
- . Single Block
- . Stop Program Execution
- . Optional Stop (M01)
- . Block Skip and Extension (" / ")
- . Program Restart
- . DNC Function (Not available by USB)
- . Program Test Function
- . Dry Run Function
- . Machine Home
- . High Speed Skip
- . Spindle Override Switch
- . Toll retract and recover
- . G-Codes System A/B/C
- . Sequence Number Search
- . Extend Part Program Editing
- . Background Editing
- . Registerable Part Programs = 1.000
- . Part Program Storage Size = 2 Mbytes (5.120m tape)
- . Part Program Storage Size = 4 Mbytes (10.240m)
- . Manual handle Feed
- . JOG Feed
- . Feed Override Switch
- . Ethernet data server with 16GB\*

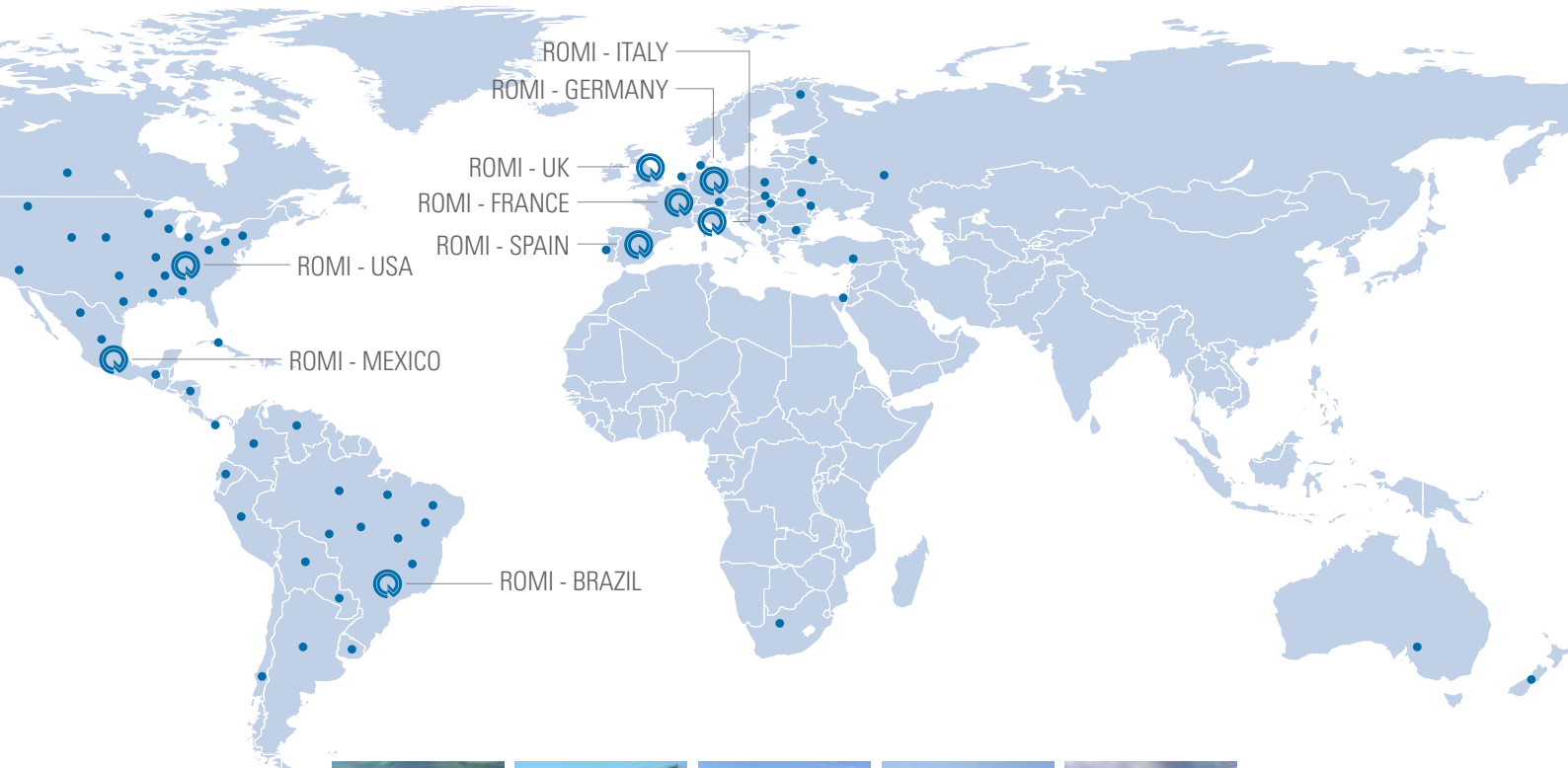
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- . Course Limits
- . Chuck and Tailstock Barrier
- . Emergency Stop
- . External Message Ladder
- . Alarm History
- . Operating History
- . Maintenance
- . Analysis of behavior System of Servo Mechanism
- . Help On-line
- . Diagnosis Screen
- . Maintenance Screen
- . Safety Integrated by DCS
- . Power consumption monitoring

\*optional

\*\*for versions with driven tools

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