| ROMI D 600 | ROMI D 800 | ROMI D 1000 | ROMI D 1000AP | ROMI D 1250 | ROMI D 1500

VERTICAL MACHINING CENTERS

ROMI D SERIES

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

INNOVATION + QUALITY

ROMI: Since 1930 producing high technology.
Since its foundation, the company is recognized by its focus on creating products and innovative solutions which guarantees its technological leadership among big manufacturers of machine tools market. ROMI industrial complex is among the most modern and productive ones in the segments of machine tools, plastic processing machines and cast iron parts of high quality.

Continuous investments in Research & Development result in products with state-of-the-art technology.
The high technology applied to Romi machines offer 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 sales subsidiaries network fully prepared to support customers supplying an extensive range of services from marketing to after sales.
International market is covered by its subsidiaries located in United States, Mexico and Europe and also by its dealers network located in strategic logistic centers around the globe completely capable for serving customers in 5 continents.

Plant 16

ROMI D SERIES


ROMI D 600


ROMI D 800


ROMI D 1000


ROMI D 1000AP


ROMI D 1250


ROMI D 1500

A wide range of Vertical Machining Centers.

Machines from ROMI D Series are extremely versatile to work with several machining applications. They are designed to operate in high production sites as well as in tool rooms.

It offers high rigidity even under severe machining conditions and present thermal and geometric stability ensuring great performance, precision and productivity.

High metal removal rates with great accuracy and assured productivity.

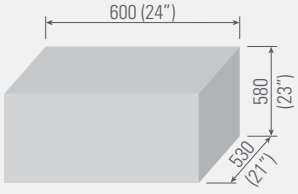
- Headstock 8.000 or 10.000 rpm
- Spindle taper: ISO 40
- Main motor: 20 hp / 15 kW (Fanuc)
  22,5 hp / 16,5 kW (Siemens)
- Automatic Tool Changer - 20 tools capacity
- Table: 840 x 500 mm (33" x 20")
- CNC with high performance and reliability:
  Fanuc 0i-MD or Siemens Sinumerik 828D

- Headstock 8.000 or 10.000 rpm
- Spindle taper: ISO 40
- Main motor: 20 hp / 15 kW (Fanuc)
  22,5 hp / 16,5 kW (Siemens)
- Automatic Tool Changer - 30 tools capacity
- Table: 914 x 500 mm (36" x 20")
- CNC with high performance and reliability:
  Fanuc 0i-MD or Siemens Sinumerik 828D

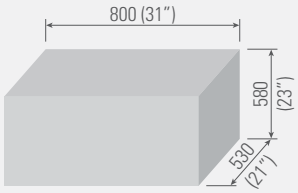
ROMI **D 600** / ROMI **D 800**

Travels

ROMI **D 600**



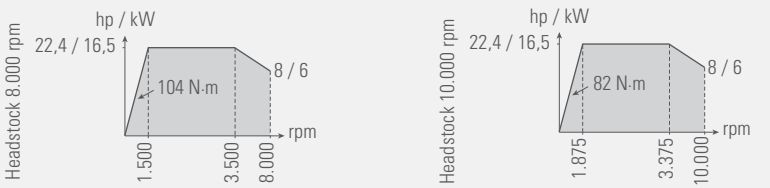
ROMI **D 800**



Power Graphs

CNC Fanuc 0i-MD (S3 - 25% - 15 min rating)

CNC Siemens 828D (S6 - 40% - 10 min rating)



Drawings are not in scale.

Flexibility to work with multiple applications generating significant productivity increases that result in improved profitability.

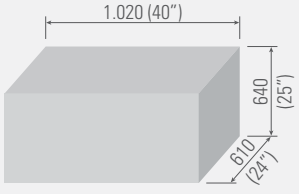
- Headstock 8.000 or 10.000 rpm
- Spindle taper: ISO 40
- Main motor: 25 hp / 18,5 kW (Fanuc)
  22,5 hp / 16,5 kW (Siemens)
- Automatic Tool Changer - 30 tools capacity
- Table: 1.220 x 560 mm (48" x 22")
- CNC with high performance and reliability:
  Fanuc 0i-MD or Siemens Sinumerik 828D

- Headstock 8.000 or 10.000 rpm
- Spindle taper: ISO 40
- Main motor: 25 hp / 18,5 kW (Fanuc)
  22,5 hp / 16,5 kW (Siemens)
- Automatic Tool Changer - 30 tools capacity
- Table: 1.320 x 560 mm (52" x 22")
- CNC with high performance and reliability:
  Fanuc 0i-MD or Siemens Sinumerik 828D

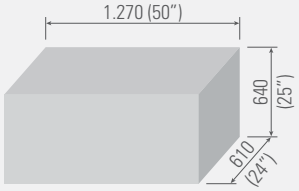
ROMI **D 1000** / ROMI **D 1250**

Travels

ROMI **D 1000**

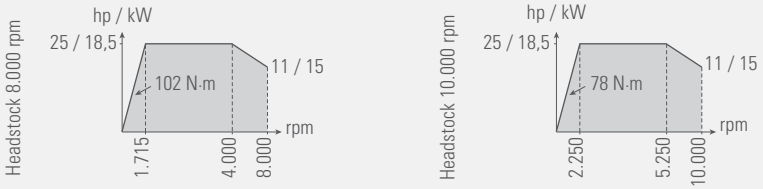


ROMI **D 1250**

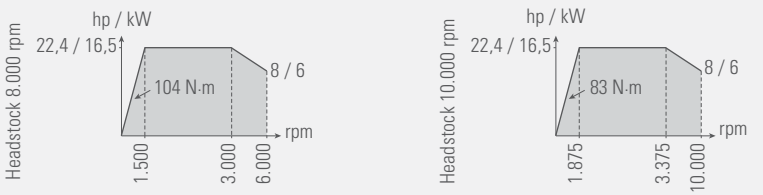


Power Graphs

CNC Fanuc 0i-MD (S3 - 25% - 15 min rating)



CNC Siemens 828D (S6 - 40% - 10 min rating)



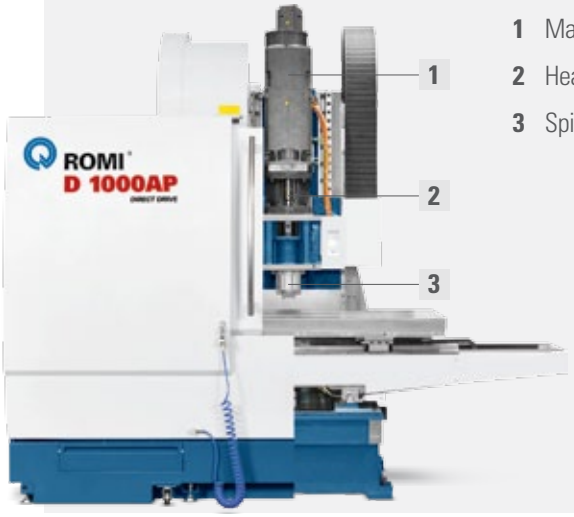
Drawings are not in scale.

High performance for machining simple and complex profiles with excellent surface finishing quality.

- Headstock 15.000 rpm
- Spindle taper: ISO 40
- **40 m/min (1.575 in/min)** feedrate in X, Y and Z axes
- Automatic Tool Changer -30 tools capacity
- Table: 1.220 x 560 mm (48" x 22")
- Roller guides in X, Y and Z axes
- CNC Siemens Sinumerik 828D with high performance and reliability

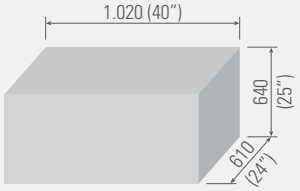
Ideal for machining of mold & die, aeronautical parts and other applications where high machining performance is required.
It enables roughing and finishing operations with high feedrate (rotation + feed) in parts of hardened steel, cast iron, alluminium alloys and other materials with high metal removal rates upon machining concept HSC (High Speed Cutting), with excellent surface finishing quality.
It has hardware and software adequate configuration for agreat performance in complex profiles machining, with high feed rates, smooth axes movement and quick program blocks processing.

ROMI **D 1000AP** *Direct Drive*

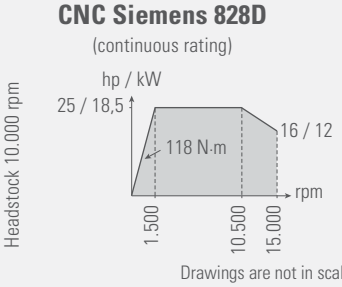


1 Main motor: 25 hp / 18,5 kW
2 Headstock Direct Drive: 15.000 rpm
3 Spindle taper: ISO 40 for BT
BBT 40 toolholder

Travels



Power Graph



Drawings are not in scale.

Robust and powerful machining of big parts
in environments of production, maintenance and tool rooms.

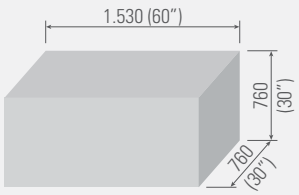
- Headstock 6.000 rpm (ISO 50)
- Headstock 8.000, 10.000 or 12.000 rpm (ISO 40)
- Spindle taper: ISO 40 or ISO 50
- Automatic Tool Changer - 30 tools capacity (ISO 40) or 24 tools capacity (ISO 50)
- Table: 1.700 x 750 mm (67" x 30")
- CNC Siemens Sinumerik 828D

Machines present robust structure, rigidity and vibrations absorption in heavy machining operations. They are equipped with powerful motorization enabling high metal removal rates.
Superior and inferior tables supported on linear guides with high loading capacity are designed to supprt heavy parts with excellent stability, high speed, great movement accuracy and axes positioning. ROMI D 1500 inferior table is supported on four linear guides giving to the set of tables the possibility to withstand parts of up to 1.800 kg (4.000 lbs).

ROMI **D 1500**

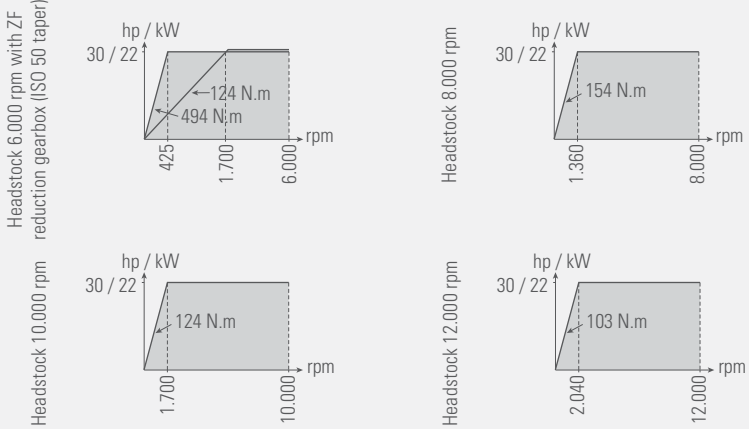
Travels

ROMI **D 1500**



Power Graphs

ROMI **D 1500** - **CNC Siemens 828D** (S6 - 60% - 10 min rating)



Drawings are not in scale.

Speed, high accelerations, rigidity, thermal and geometric stability.

1 Spindle
It enables high speed with continuous variation assuring excellent performance in heavy machining condition at full power.

2 Motor
High power and high torque spindle drive unit.

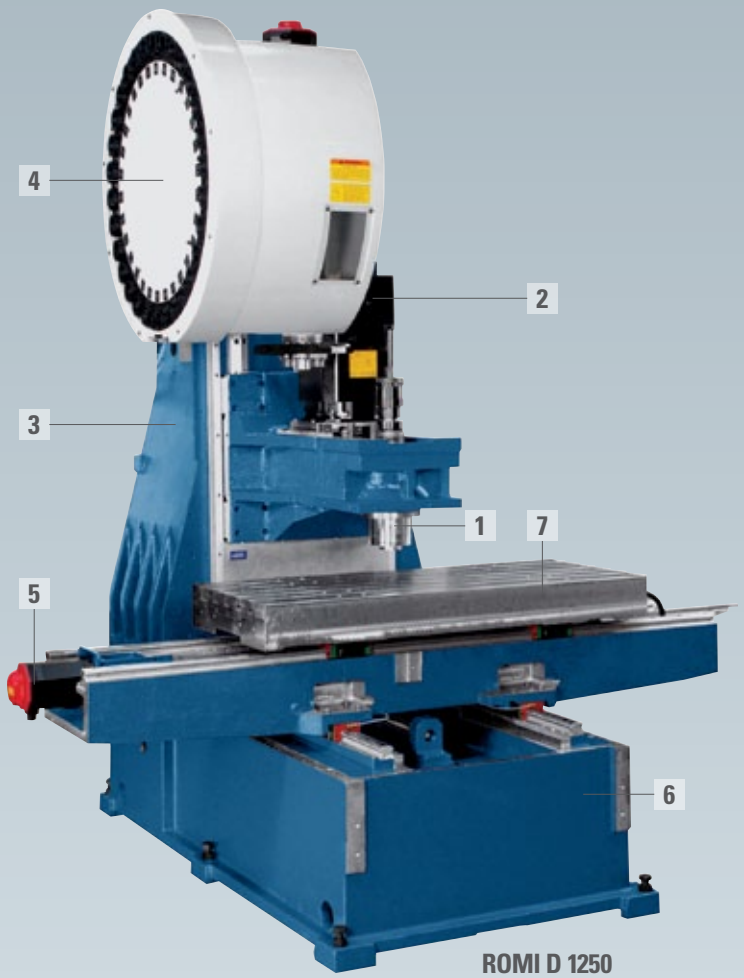
3 Column
It provides excellent support of the headstock assembly with high geometric stability.

4 Automatic tool changer
High reliability and less maintenance.

5 Servomotors
Directly coupled to high precision ballscrews providing accurate positioning and excellent repeatability of axes.

6 Base
Its wide stance design is highly stable resulting in better part finishes, longer cutting tool life and longer machine life. Compact to fit in a minimum space.

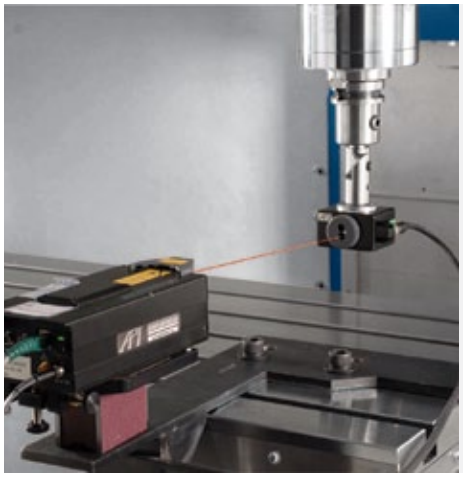
7 Tables
Designed to withstand heavy loads with excellent stability. Superior and inferior tables are supported on linear guides to guarantee high speed, great movement accuracy and axes positioning.



ROMI D 1250
Structure

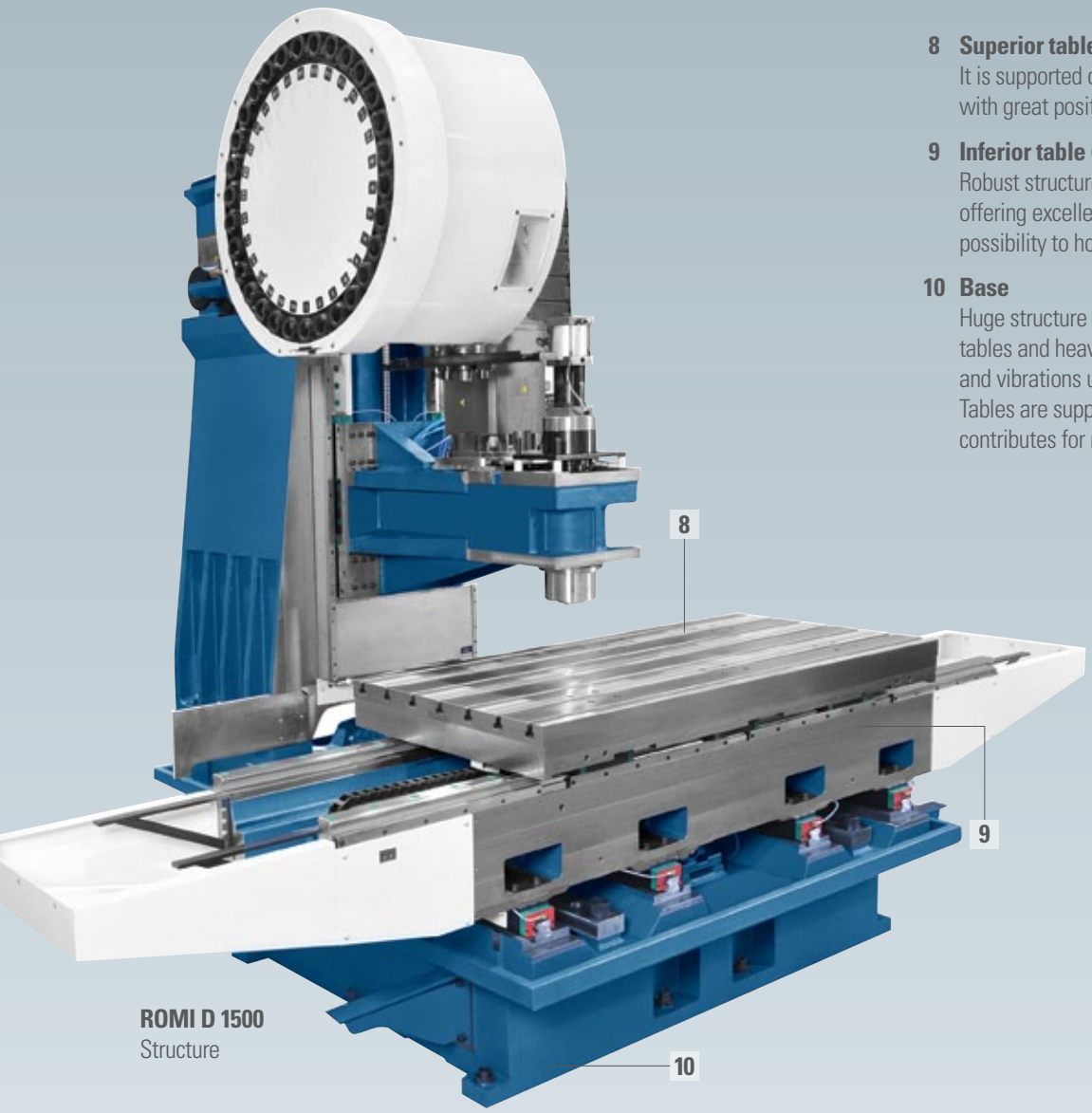
ROMI D Series machines were designed with 3D CAD system and all the structure was dimensioned by finite elements analysis software (FEA).

STRUCTURE



QUALITY + TECHNOLOGY

Manufacturing process quality grants reliability and operational efficiency of ROMI machines. All machines are inspected with laser system for positioning measurement and repeatability. Axes alignment inspection is performed with ballbar sytem ensuring perfect interpolation of X, Y and Z axis.

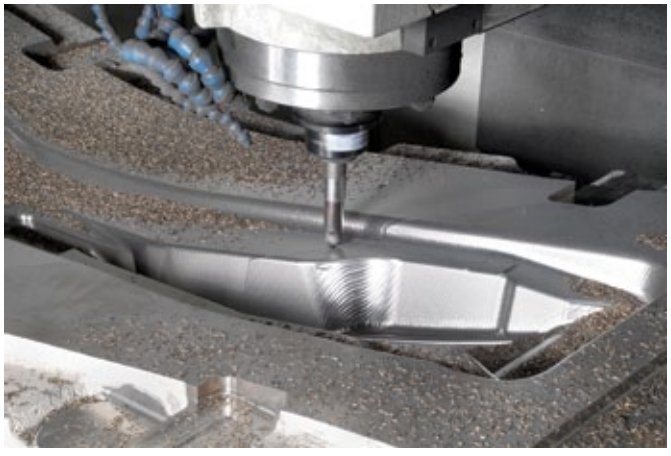


ROMI D 1500
Structure

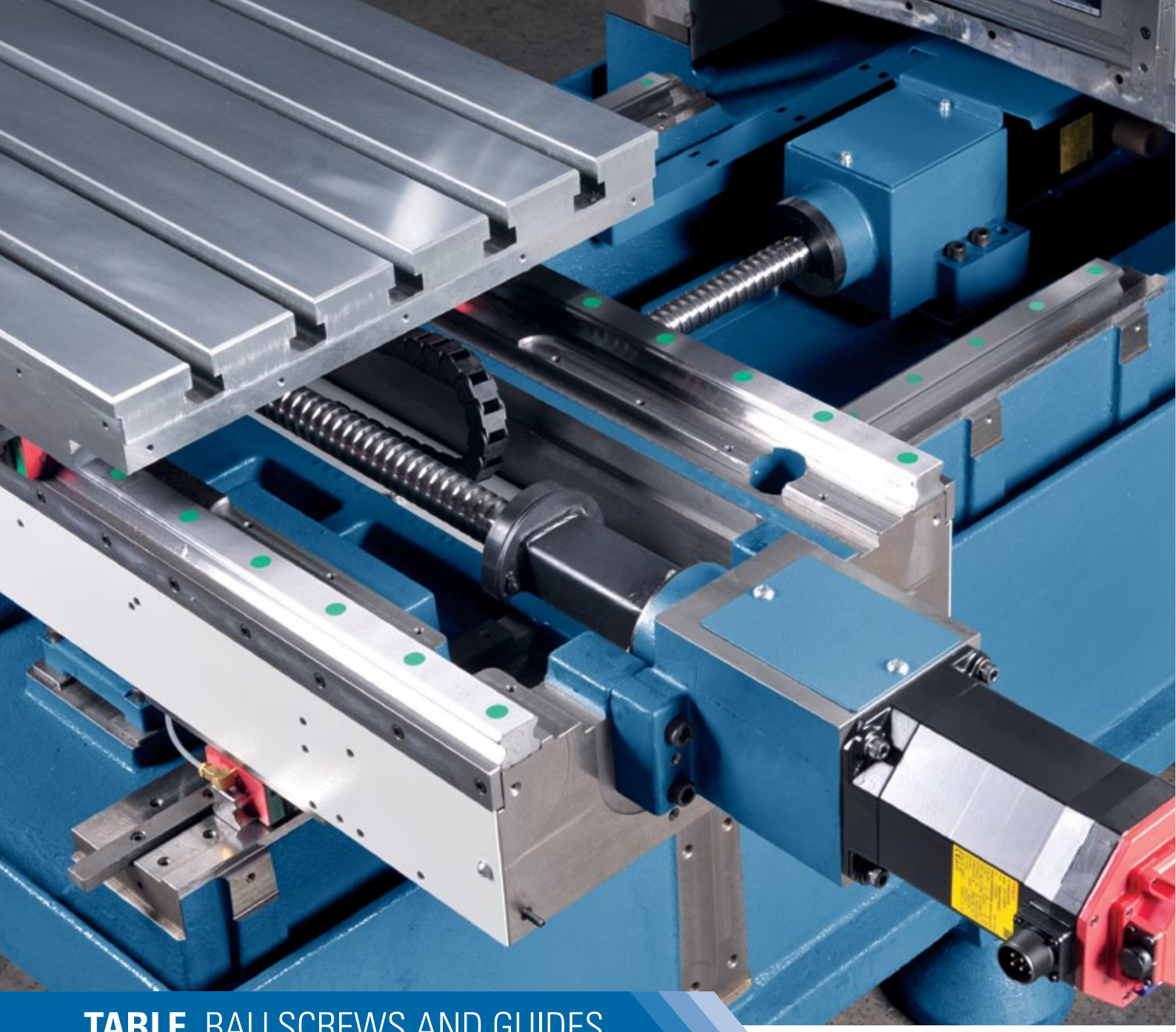
8 Superior table (X axis)
It is supported on linear guides to hold high loads with great positioning performance.

9 Inferior table (Y axis)
Robust structure supported on four linear guides offering excellent rigidity, stability and the possibility to hold parts up to **1.800 kg (4.000 lbs)**.

10 Base
Huge structure designed to give support to set of tables and heavy parts, to absorb cutting efforts and vibrations under severe machining conditions. Tables are supported on four linear guides which contributes for machine outstanding stability.



Examples of
machined parts



TABLE, BALLSCREWS AND GUIDES

Ballscrews
Hardened and ground with pre-loaded nuts provide high rigidity and high accuracy on positioning and repeatability of axes. Together with servomotors they offer precision and fast displacements, high speeds and accelerations.

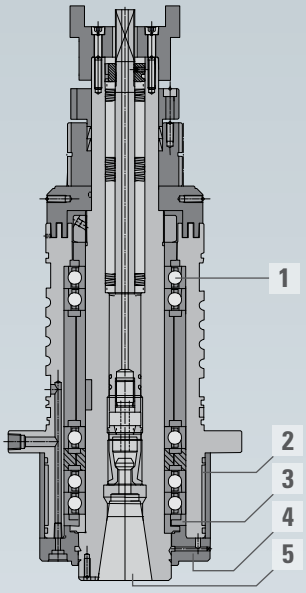
Linear guides
Enable fast displacements with precision and high accelerations due to low friction coefficient between rails and blocks.

Servomotors
Elements of high technology (Fanuc or Siemens) offers high performance and reliability. Servomotors of three axes are directly coupled to ballscrews bringing higher accuracy to the positioning and repeatability of axes when compared with systems of pulleys and belts.

Linear guides benefits

- Feed rates up to 40 m/min (1.575 in/min) (*)
- Fast positioning of axes minimizing idle times and increasing productivity
- High rates of acceleration (up to 1g)
- Low lubrication oil consumption
- Easy maintenance
- High rigidity and long durability

(*) for **ROMI D 1000AP**



1 Ultra precision angular contact ball bearings, P4 class, with permanent lubrication.

2 The cutting coolant flows around the front bearings, contributing to refrigerate it.

3 Bearing sealing by labyrinth.

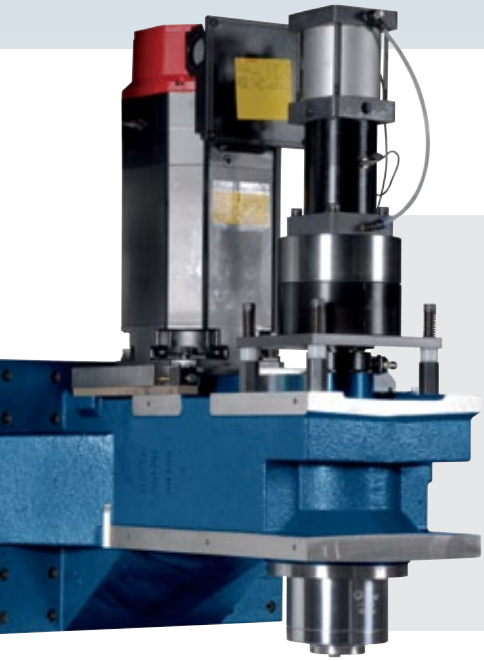
4 Pressurized system - pneumatic seal: has the purpose to avoid the bearing against contamination by cutting coolant and particles.

5 Pneumatic system for spindle taper cleaning, preventing the entry of chips and avoiding damages on the tool shanks.

- Spindle taper ISO-40 or ISO-50.
- Cutting coolant adjustable nozzles.
- Cartridge prepared for cooling system (optional). For headstocks with 12.000 rpm and 15.000 rpm, the cooling system is standard contributing for thermal and geometric stability of the assembly.

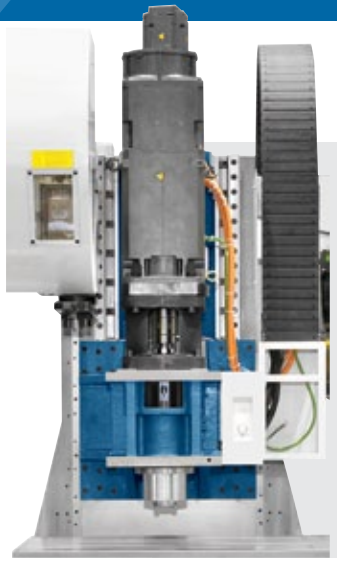
Robust spindle cartridge with ultra precision bearings. It enables excellent run out precision, with low temperature elevation of bearings even when operating continuously in high rotations.

HEADSTOCK



Headstock Structure

Offers great thermal and geometric stability, rigidity and high capacity to absorb machining efforts without vibrations even the ones generated from heavy machining.



ROMI D 1000AP Direct Drive Headstock

Main motor directly coupled to headstock cartridge offers great efficiency in transmission of torque, power and rotation. Spindle taper is prepared for BT / BBT, offering great rigidity for tool holders.

Automatic
Tool Changer

Efficiency and productivity

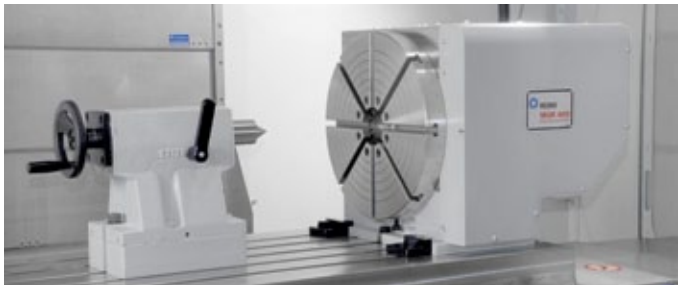
ROMI D Series machining centers are equipped with fast, accurate, and reliable automatic tool changers, helping to increase productivity and machining efficiency. They have double arm automatic tool changer with 30 tools capacity - ISO 40 (ROMI D 800 / D 1000 / D 1000AP / D 1250 / D 1500) or 24 tools capacity - ISO 50 (ROMI D 1500).

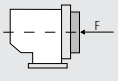
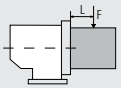
Automatic Tool Changer with
20 tools capacity (ROMI D 600)

TOOL CHANGER

4th axis circular indexing table ROMI MGR

This optional allows the machining of parts at any angle and with continuous interpolation. It provides excellent positioning and repeatability. Its heavy duty construction and rigidity offers excellent vibration dampening. For machinig of long parts it can be supplied with the optional tailstock.



Technical specifications		MGR 230	MGR 400
Face	mm (in)	230 (9,1)	400 (15,7)
Height from table to center	mm (in)	170 (6,7)	250 (9,8)
Max weight on chuck (workpiece)	kg (lbs)	175 (390)	250 (550)
Brake locking torque	N.m	480	1.500
Positioning accuracy (A)	s	+/- 15	+/- 15
Repeatability (A)	s	+/- 10	+/- 10
Height	mm (in)	285 (11,2)	460 (18,1)
Area	mm (in)	355 x 610 (14 x 24)	470 x 480 (18,5 x 18,9)
Total weight (approx.)	kg (lbs)	92 (200)	300 (660)
Max. work load 	N	11.000	23.000
Max. work load 	N.m (F x L)	850	2.500

(A) Results obtained with a new MGR, properly installed in a controlled temperature facility, at 22°C (+/- 1°C)

CNC

Technology, performance and reliability

Vertical Machining Centers from ROMI D Series can be equipped with CNC Fanuc 0i-MD or Siemens Sinumerik 828D, which offers the user great facilities for programming.

CNC Fanuc 0i-MD

(ROMI D 600 / D 800 / D 1000 / D 1250)

- 10,4" LCD color monitor
- Interfaces: drive for PCMCIA card, RS 232 serial plug and Ethernet interface
- Kit Plus, a software package (optional) to increase the machine performance mainly when machining mold & die, offering precision and smoothness of movements at high cutting speeds (high spindle RPM and high axis feed), granting better surface finishing and shorter machining time when compared with conventional processes.

CNC Siemens Sinumerik 828D

(ROMI D 600 / D 800 / D 1000 / D 1000AP / D 1250 / D 1500)

- 10,4" LCD color monitor
- Interfaces: drive for Compact Flash card, USB port and Ethernet interface
- Function Advanced Surface that allows the machine work with precision and smooth motion at high feed rates in the axes, allowing a better surface finishing of machined parts, in shorter time and with high finish machining quality in comparison to conventional machining processes.

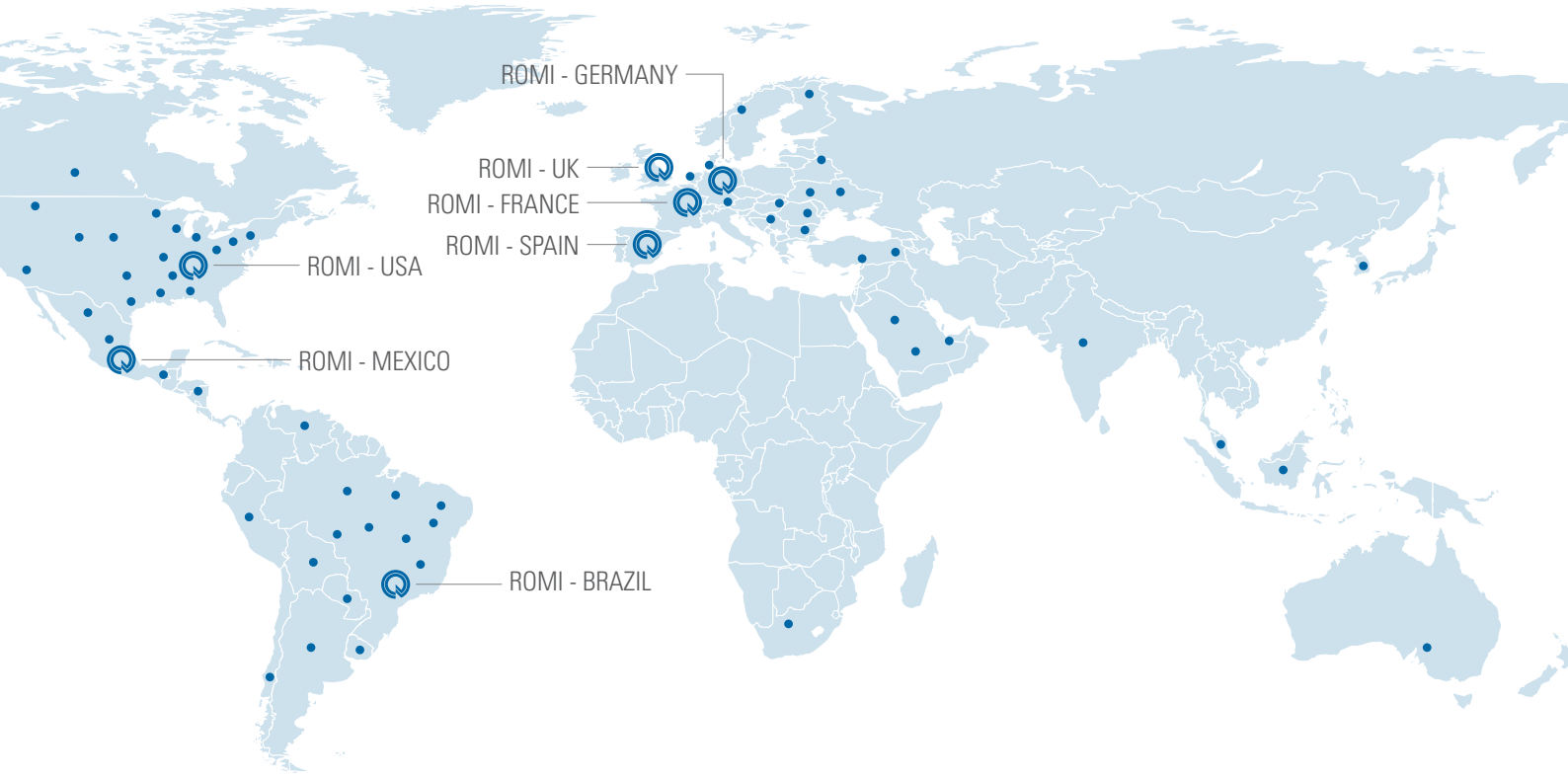
Technical Specifications		ROMI D 600	ROMI D 800	ROMI D 1000
Vertical headstock				
Spindle taper	ISO	40	40	40
Speed ranges (version 8.000 rpm)	rpm	8 to 8.000	8 to 8.000	8 to 8.000
Speed ranges (version 10.000 rpm)	rpm	10 to 10.000	10 to 10.000	10 to 10.000
Feeds				
Rapid traverse (X / Y axes)	m/min (in/min)	30 (1.181)	30 (1.181)	30 (1.181)
Rapid traverse (Z axis)	m/min (in/min)	30 (1.181)	30 (1.181)	30 (1.181)
Max. programmable cutting feed	m/min (in/min)	20 (787)	20 (787)	20 (787)
Travels				
Superior table travel (X axis)	mm (in)	600 (24)	800 (31)	1.020 (40)
Inferior table travel (Y axis)	mm (in)	530 (21)	530 (21)	610 (24)
Headstock travel (Z axis)	mm (in)	580 (23)	580 (23)	640 (25)
Distance from spindle nose to table	mm (in)	115 to 695 (4,5 to 27)	115 to 695 (4,5 to 27)	110 to 750 (4,3 to 30)
Table				
Surface	mm (in)	840 x 500 (33 x 20)	914 x 500 (36 x 20)	1.220 x 560 (48 x 22)
T-slot width x distance	mm (in)	18 x 89 (0,71 x 3,5)	18 x 89 (0,71 x 3,5)	18 x 89 (0,71 x 3,5)
Number of T-slots	un	5	5	5
Max. Weight on table (uniformly distributed)	kg (lbs)	800 (1.800)	900 (2.000)	1.000 (2.200)
Automatic Tool Changer				
Type		carousel	automatic arm	automatic arm
Tools capacity	un	20	30	30
Max. tool diameter	mm (in)	105 (4,1)	80 (3,1)	80 (3,1)
Max. tool diameter when adjacent stations are empty	mm (in)	210 (8,3)	150 (5,9)	150 (5,9)
Max. tool length	mm (in)	254 (10)	300 (11,8)	300 (11,8)
Tool holder type	type	BT / CAT / DIN	BT / CAT / DIN	BT / CAT / DIN
Max. tool weight	kg (lbs)	6 (13)	8 (18)	8 (18)
Max. tool weight on ATC	kg (lbs)	68 (150)	102 (225)	102 (225)
Tool change time (chip to chip) (*)	s	-	4,7	4,6
CNC				
Model		Fanuc 0i-MD Siemens 828D	Fanuc 0i-MD Siemens 828D	Fanuc 0i-MD Siemens 828D
Installed power (Fanuc motor)				
Main motor AC	hp / kW	20 / 15 (S3 - 25% 15 min rating)	20 / 15 (S3 - 25% 15 min rating)	25 / 18,8 (S3 - 25% 15 min rating)
Total installed power	kVA	30	30	40
Installed power (Siemens motor)				
Main motor AC	hp / kW	22,4 / 16,5 (S6 - 40% 10 min rating)	22,4 / 16,5 (S6 - 40% 10 min rating)	22,4 / 16,5 (S6 - 40% 10 min rating)
Total installed power	kVA	30	30	-
Dimension and weight (approx.)				
Height	mm (in)	2.700 (106)	2.700 (106)	2.915 (115)
Area (front x side) (**)	mm (in)	2.120 x 2.280 (83 x 90)	2.600 x 2.280 (102 x 90)	2.960 x 2.310 (117 x 91)
Net weight	kg (lbs)	5.000 (11.000)	5.500 (12.100)	8.100 (17.900)

(*) According to VDI 2852-1 and ISO 230-2 Standards (**) Without chip conveyor

Technical Specifications		ROMI D 1000AP	ROMI D 1250	ROMI D 1500	
Vertical headstock					
Spindle taper	ISO	40	40	40	50
Speed ranges (version 6.000 rpm)	rpm	-	8 to 8.000	-	6 to 6.000 (***)
Speed ranges (version 8.000 rpm)	rpm	-	-	8 to 8.000	-
Speed ranges (version 10.000 rpm)	rpm	-	10 to 10.000	10 to 10.000	-
Speed ranges (version 12.000 rpm)	rpm	-	-	12 to 12.000	-
Speed ranges (version 15.000 rpm)	rpm	15 to 15.000	-	-	-
Feeds					
Rapid traverse (X / Y axes)	m/min (in/min)	40 (1.575)	30 (1.181)	30 (1.181)	
Rapid traverse (Z axis)	m/min (in/min)	40 (1.575)	30 (1.181)	30 (1.181)	
Max. programmable cutting feed	m/min (in/min)	20 (787)	20 (787)	30 (1.181)	20 (787)
Travels					
Superior table travel (X axis)	mm (in)	1.020 (40)	1.270 (50)	1.530 (60)	
Inferior table travel (Y axis)	mm (in)	610 (24)	610 (24)	760 (30)	
Headstock travel (Z axis)	mm (in)	640 (25)	640 (25)	760 (30)	
Distance from spindle nose to table	mm (in)	110 to 750 (4,3 to 30)	110 to 750 (4,3 to 30)	150 to 910 (5,9 to 36)	
Table					
Surface	mm (in)	1.220 x 560 (48 x 22)	1.320 x 560 (52 x 22)	1.700 x 750 (67 x 30)	
T-slot width x distance	mm (in)	18 x 89 (0,17 x 3,5)	18 x 89 (0,71 x 3,5)	18 x 110 (0,71 x 4,3)	
Number of T-slots	un	5	5	7	
Max. Weight on table (uniformly distributed)	kg (lbs)	1.100 (2.400)	1.400 (3.000)	1.800 (4.000)	
Automatic Tool Changer					
Type		automatic arm	automatic arm	automatic arm	automatic arm
Tools capacity	un	30	30	30	24
Max. tool diameter	mm (in)	80 (3,1)	80 (3,1)	80 (3,1)	110 (4,3)
Max. tool diameter when adjacent stations are empty	mm (in)	150 (5,9)	150 (5,9)	150 (5,9)	200 (7,9)
Max. tool length	mm (in)	300 (11,8)	300 (11,8)	300 (11,8)	350 (13,8)
Tool holder type	type	BT / BBT	BT / CAT / DIN	BT / BBT / CAT / DIN	BT / BBT / CAT / DIN
Max. tool weight	kg (lbs)	8 (18)	8 (18)	8 (18)	15 (33)
Max. tool weight on ATC	kg (lbs)	102 (225)	102 (225)	102 (225)	150 (331)
Tool change time (chip to chip) (*)	s	4,6	4,8	4,8	4,8
CNC					
Model		Siemens 828D	Fanuc 0i-MD Siemens 828D	Siemens 828D	
Installed power (Fanuc motor)					
Main motor AC	hp / kW	-	25 / 18,5 (S3 - 25% 15 min rating)	-	
Total installed power	kVA	-	35	-	
Installed power (Siemens motor)					
Main motor AC	hp / kW	25 / 18,5 (continuous rating)	22,4 / 16,5 (S6 - 40% - 10 min rating)	30 / 22 (S6 - 40% - 10 min rating)	
Total installed power	kVA	40	40	45	
Dimension and weight (approx.)					
Height	mm (in)	3.205 (126)	2.915 (115)	3.280 (129)	
Area (front x side) (**)	mm (in)	2.960 x 2.310 (117 x 91)	3.300 x 2.615 (130 x 103)	4.300 x 3.055 (169 x 120)	
Net weight	kg (lbs)	8.100 (17.900)	8.200 (18.100)	13.000 (28.700)	

(*) According to VDI 2852-1 and ISO 230-2 Standards (**) Without chip conveyor (***) With ZF reduction gearbox

WORLDWIDE PRESENCE

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