TECHNICAL SPECIFICATION

VERTICAL MACHINING CENTERS

ROMI D SERIES
### Technical specifications

#### ROMI D 600   ROMI D 800   ROMI D 1000

<table>
<thead>
<tr>
<th>Vertical headstock</th>
<th>ISO 40</th>
<th>ISO 40</th>
<th>ISO 40</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spindle taper</td>
<td>40</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Speed range (version 8,000 rpm)</td>
<td>8 to 8,000</td>
<td>8 to 8,000</td>
<td>8 to 8,000</td>
</tr>
<tr>
<td>Speed range (version 10,000 rpm)</td>
<td>10 to 10,000</td>
<td>10 to 10,000</td>
<td>10 to 10,000</td>
</tr>
</tbody>
</table>

#### Feeds

<table>
<thead>
<tr>
<th>Rapid traverse (X / Y axes)</th>
<th>m/min (ipm)</th>
<th>30 (1,181)</th>
<th>30 (1,181)</th>
<th>30 (1,181)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rapid traverse (Z axis)</td>
<td>m/min (ipm)</td>
<td>30 (1,181)</td>
<td>30 (1,181)</td>
<td>30 (1,181)</td>
</tr>
<tr>
<td>Max. programmable cutting feed</td>
<td>m/min (ipm)</td>
<td>20 (787)</td>
<td>20 (787)</td>
<td>20 (787)</td>
</tr>
</tbody>
</table>

#### Travels

<table>
<thead>
<tr>
<th>Superior table travel (X axis)</th>
<th>mm (in)</th>
<th>600 (24)</th>
<th>800 (31)</th>
<th>1,020 (40)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inferior table travel (Y axis)</td>
<td>mm (in)</td>
<td>530 (21)</td>
<td>530 (21)</td>
<td>610 (24)</td>
</tr>
<tr>
<td>Headstock travel (Z axis)</td>
<td>mm (in)</td>
<td>580 (23)</td>
<td>580 (23)</td>
<td>640 (25)</td>
</tr>
<tr>
<td>Distance from spindle nose to table</td>
<td>mm (in)</td>
<td>115 to 695 (4.5 to 27)</td>
<td>115 to 695 (4.5 to 27)</td>
<td>110 to 750 (4.3 to 30)</td>
</tr>
</tbody>
</table>

#### Table

<table>
<thead>
<tr>
<th>Surface</th>
<th>mm (in)</th>
<th>840 x 500 (33 x 20)</th>
<th>914 x 500 (36 x 20)</th>
<th>1,220 x 560 (48 x 22)</th>
</tr>
</thead>
<tbody>
<tr>
<td>T-slot width x distance</td>
<td>mm (in)</td>
<td>18 x 89 (0.71 x 3.5)</td>
<td>18 x 89 (0.71 x 3.5)</td>
<td>18 x 89 (0.71 x 3.5)</td>
</tr>
<tr>
<td>Number of T-slots</td>
<td>un</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Max. Weight on table (uniformly distributed)</td>
<td>kg (lbs)</td>
<td>800 (1,800)</td>
<td>900 (2,000)</td>
<td>1,000 (2,200)</td>
</tr>
</tbody>
</table>

#### Automatic Tool Changer

<table>
<thead>
<tr>
<th>Type</th>
<th>carousel</th>
<th>automatic arm</th>
<th>automatic arm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tools capacity</td>
<td>un</td>
<td>20</td>
<td>30</td>
</tr>
<tr>
<td>Tools capacity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. tool diameter</td>
<td>mm (in)</td>
<td>105 (4.1)</td>
<td>80 (3.1)</td>
</tr>
<tr>
<td>Max. tool diameter when adjacent stations are empty</td>
<td>mm (in)</td>
<td>210 (8.3)</td>
<td>150 (5.9)</td>
</tr>
<tr>
<td>Max. tool length</td>
<td>mm (in)</td>
<td>254 (10)</td>
<td>300 (11.8)</td>
</tr>
<tr>
<td>Tool holder type</td>
<td>type</td>
<td>BT / CAT / DIN</td>
<td>BT / CAT / DIN</td>
</tr>
<tr>
<td>Max. tool weight</td>
<td>kg (lbs)</td>
<td>6 (13)</td>
<td>8 (18)</td>
</tr>
<tr>
<td>Max. tool weight on ATC</td>
<td>kg (lbs)</td>
<td>68 (150)</td>
<td>102 (225)</td>
</tr>
<tr>
<td>Tool change time (chip to chip) (*)</td>
<td>s</td>
<td>4.7</td>
<td>4.6</td>
</tr>
</tbody>
</table>

#### CNC

<table>
<thead>
<tr>
<th>Model</th>
<th>Fanuc 0i-MD Siemens 828D</th>
<th>Fanuc 0i-MD Siemens 828D</th>
<th>Fanuc 0i-MD Siemens 828D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installed power (CNC Fanuc)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AC main motor</td>
<td>hp / kW</td>
<td>20 / 15</td>
<td>20 / 15</td>
</tr>
<tr>
<td></td>
<td>(S3 - 25% - 15 min rating)</td>
<td>(S3 - 25% - 15 min rating)</td>
<td>(S3 - 25% - 15 min rating)</td>
</tr>
<tr>
<td>Total installed power</td>
<td>kVA</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Installed power (CNC Siemens)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AC main motor</td>
<td>hp / kW</td>
<td>22.4 / 16.5</td>
<td>22.4 / 16.5</td>
</tr>
<tr>
<td></td>
<td>(S6 - 40% 10 min rating)</td>
<td>(S6 - 40% 10 min rating)</td>
<td>(S6 - 40% 10 min rating)</td>
</tr>
<tr>
<td>Total installed power</td>
<td>kVA</td>
<td>30</td>
<td>30</td>
</tr>
</tbody>
</table>

#### Dimension and weight (approx.)

<table>
<thead>
<tr>
<th>Height</th>
<th>mm (in)</th>
<th>2,700 (106)</th>
<th>2,700 (106)</th>
<th>2,915 (115)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area (front x side) (**)</td>
<td>mm (in)</td>
<td>2,120 x 2,280 (83 x 90)</td>
<td>2,600 x 2,280 (102 x 90)</td>
<td>2,960 x 2,310 (117 x 91)</td>
</tr>
<tr>
<td>Net weight</td>
<td>kg (lbs)</td>
<td>5,000 (11,000)</td>
<td>5,500 (12,100)</td>
<td>8,100 (17,900)</td>
</tr>
</tbody>
</table>

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

### Vertical headstock

<table>
<thead>
<tr>
<th></th>
<th>ROMI D 1000AP</th>
<th>ROMI D 1250</th>
<th>ROMI D 1500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spindle taper</td>
<td>ISO 40</td>
<td>40</td>
<td>40</td>
</tr>
</tbody>
</table>
| Speed range (version 6,000 rpm) | rpm | - | 8 to 8,000 | - | 6 to 6,000 (***)
| Speed range (version 8,000 rpm) | rpm | - | - | 8 to 8,000 | - |
| Speed range (version 10,000 rpm) | rpm | - | 10 to 10,000 | 10 to 10,000 | - |
| Speed range (version 12,000 rpm) | rpm | - | - | 12 to 12,000 | - |
| Speed range (version 15,000 rpm) | rpm | - | 15 to 15,000 | - | - |

### Feeds

<table>
<thead>
<tr>
<th></th>
<th>ROMI D 1000AP</th>
<th>ROMI D 1250</th>
<th>ROMI D 1500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rapid traverse (X / Y axes)</td>
<td>m/min (ipm)</td>
<td>40 (1,575)</td>
<td>30 (1,181)</td>
</tr>
<tr>
<td>Rapid traverse (Z axis)</td>
<td>m/min (ipm)</td>
<td>40 (1,575)</td>
<td>30 (1,181)</td>
</tr>
<tr>
<td>Max. programmable cutting feed</td>
<td>m/min (ipm)</td>
<td>20 (787)</td>
<td>20 (787)</td>
</tr>
</tbody>
</table>

### Travels

<table>
<thead>
<tr>
<th></th>
<th>ROMI D 1000AP</th>
<th>ROMI D 1250</th>
<th>ROMI D 1500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Superior table travel (X axis)</td>
<td>mm (in)</td>
<td>1,020 (40)</td>
<td>1,270 (50)</td>
</tr>
<tr>
<td>Inferior table travel (Y axis)</td>
<td>mm (in)</td>
<td>610 (24)</td>
<td>610 (24)</td>
</tr>
<tr>
<td>Headstock travel (Z axis)</td>
<td>mm (in)</td>
<td>640 (25)</td>
<td>640 (25)</td>
</tr>
<tr>
<td>Distance from spindle nose to table</td>
<td>mm (in)</td>
<td>110 to 750 (4.3 to 30)</td>
<td>110 to 750 (4.3 to 30)</td>
</tr>
</tbody>
</table>

### Table

<table>
<thead>
<tr>
<th></th>
<th>ROMI D 1000AP</th>
<th>ROMI D 1250</th>
<th>ROMI D 1500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface</td>
<td>mm (in)</td>
<td>1,220 x 560 (48 x 22)</td>
<td>1,320 x 560 (52 x 22)</td>
</tr>
<tr>
<td>T-slot width x distance</td>
<td>mm (in)</td>
<td>18 x 89 (0.71 x 3.5)</td>
<td>18 x 89 (0.71 x 3.5)</td>
</tr>
<tr>
<td>Number of T-slots</td>
<td>un</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Max. Weight on table (uniformly distributed)</td>
<td>kg (lbs)</td>
<td>1,100 (2,400)</td>
<td>1,400 (3,000)</td>
</tr>
</tbody>
</table>

### Automatic Tool Changer

<table>
<thead>
<tr>
<th></th>
<th>ROMI D 1000AP</th>
<th>ROMI D 1250</th>
<th>ROMI D 1500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>automatic arm</td>
<td>automatic arm</td>
<td>automatic arm</td>
</tr>
<tr>
<td>Tools capacity un</td>
<td>30</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Max. tool diameter mm (in)</td>
<td>80 (3.1)</td>
<td>80 (3.1)</td>
<td>80 (3.1)</td>
</tr>
<tr>
<td>Max. tool diameter when adjacent stations are empty mm (in)</td>
<td>150 (5.9)</td>
<td>150 (5.9)</td>
<td>150 (5.9)</td>
</tr>
<tr>
<td>Max. tool length mm (in)</td>
<td>300 (11.8)</td>
<td>300 (11.8)</td>
<td>300 (11.8)</td>
</tr>
<tr>
<td>Tool holder type type</td>
<td>BT / CAT / BBT</td>
<td>BT / CAT / DIN</td>
<td>BT / BBT / CAT / DIN</td>
</tr>
<tr>
<td>Max. tool weight kg (lbs)</td>
<td>8 (18)</td>
<td>8 (18)</td>
<td>8 (18)</td>
</tr>
<tr>
<td>Max. tool weight on ATC kg (lbs)</td>
<td>102 (225)</td>
<td>102 (225)</td>
<td>102 (225)</td>
</tr>
<tr>
<td>Tool change time (chip to chip) s</td>
<td>4.6</td>
<td>4.8</td>
<td>4.8</td>
</tr>
</tbody>
</table>

### CNC

<table>
<thead>
<tr>
<th></th>
<th>Siemens 828D</th>
<th>Fanuc Oi-MD</th>
<th>Siemens 828D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td></td>
<td>Siemens 828D</td>
<td></td>
</tr>
</tbody>
</table>

### Installed power (CNC Fanuc)

<table>
<thead>
<tr>
<th></th>
<th>ROMI D 1000AP</th>
<th>ROMI D 1250</th>
<th>ROMI D 1500</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC main motor hp / kW</td>
<td>-</td>
<td>25 / 18.5</td>
<td>-</td>
</tr>
<tr>
<td>Total installed power kVA</td>
<td>-</td>
<td>35</td>
<td>-</td>
</tr>
</tbody>
</table>

### Installed power (CNC Siemens)

<table>
<thead>
<tr>
<th></th>
<th>ROMI D 1000AP</th>
<th>ROMI D 1250</th>
<th>ROMI D 1500</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC main motor hp / kW (continuous rating)</td>
<td>25 / 18.5</td>
<td>22.4 / 16.5</td>
<td>30 / 22</td>
</tr>
<tr>
<td>Total installed power kVA</td>
<td>40</td>
<td>40</td>
<td>45</td>
</tr>
</tbody>
</table>

### Dimension and weight (approx.)

<table>
<thead>
<tr>
<th></th>
<th>ROMI D 1000AP</th>
<th>ROMI D 1250</th>
<th>ROMI D 1500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height mm (in)</td>
<td>3,205 (126)</td>
<td>2,915 (115)</td>
<td>3,280 (129)</td>
</tr>
<tr>
<td>Area (front x side) (**): mm (in)</td>
<td>2,960 x 2,310 (117 x 91)</td>
<td>3,300 x 2,615 (130 x 103)</td>
<td>4,300 x 3,055 (169 x 120)</td>
</tr>
<tr>
<td>Net weight kg (lbs)</td>
<td>8,100 (17,900)</td>
<td>8,200 (18,100)</td>
<td>13,000 (28,700)</td>
</tr>
</tbody>
</table>

(*) According to VDI 2852-1 and ISO 230-2 Standards

(**) Without chip conveyor

(***) With ZF reduction gearbox
Standard equipment

- Fanuc controlOi-MD with 10.4” color monitor (except for ROMI D 1000AP / D 1500)
- Siemens control Sinumerik 828D with 10.4” color monitor
- Fully enclosed splash guard
- CE safety regulation compliance (for European Community only)
- Complete documentation on CD
- Electrical installation available for 220 Vca (Fanuc control - USA market) or 400 Vca (Fanuc control - CE market), 50 / 60Hz
- Electrical installation available for 380 Vca (Siemens control - USA market) or 400 Vca (Siemens control - CE market), 50 / 60Hz
- Set of wrenches for machine operation
- Set of levelling screws and nuts
- Sealed worklight
- Pendant type MPG and jog function control
- Standard colors: 10B-3/4 Munsell blue texture enamel epoxy and textured gray RAL 7035 powder epoxy paint
- Interlocked sliding safety door
- Interlocked sliding side door (ROMI D 1500)
- Coolant cleaning system for guide covers (for ROMI D 1000 / D 1250 / D 1500)
- Automatic lubrication system with line filter for linear guides and ball screws
- Coolant system for headstock housing (stand for 12,000 rpm version only)
- Coolant system with pumps:
  - 5 bar - 18 l/min (ROMI D 600 / D 800)
  - 5 bar - 25 l/min (ROMI D 1000 / D 1250)
  - 7 bar - 10 l/min (ROMI D 1500)
- Pneumatic system for spindle taper cleaning and tool unlock
- Vertical coolant tank, with 720 liters capacity (ROMI D 1000 / D 1000AP / D 1250)
- Automatic tool changer, 20 tools capacity for BT 40 (for ROMI D 600)
- Double Arm Automatic tool changer, 24 tools capacity for BT 40 (for ROMI D 1500)
- Double Arm Automatic tool changer, 30 tools capacity for BT 40 (for ROMI D 1000 / ROMI D 1000AP / ROMI D 1250), and BT 40 (for ROMI D 1000AP / ROMI D 1500)
- Pull study: MAS 407-P40T-IN

Optional equipment

- Adaptation for hydraulic clamping device (100 bar max. Pressure) (for ROMI D 1000AP)
- Adaptation for hydraulic clamping device (50 bar max pressure) (B)
- Air conditioning for electric cabinet
- Auto power off
- Autotransformer 360 ~ 480 Vca, 50 / 60Hz (Fanuc control)
- Autotransformer 220 ~ 250 Vca or 360 to 480 Vca, 50 / 60Hz (Siemens control)
- Box for chips collecting (cooler tank): 130 liters (ROMI D 600), 200 liters (ROMI D 800), 250 liters (ROMI D 1000 / D 1250), 300 liters (ROMI D 1500) (F)
- High pressure pump for thru spindle coolant system, 7 bar or 15 bar (with HDA filter) (A)
- High pressure pump for thru spindle coolant system, 20 bar or 50 bar (Machsystem system with ecological filter) (for ROMI D 1500 and ROMI D 1000AP only option 50 bar) (A)
- Filter for smoke
- Electronic interface
- 6 M codes for external automation interface (3 independents outputs - 3 Ms code enable and 3 Ms code disable)
- Ethernet data server interface
- Rotary table MGR 230 interface (F)
- Rotary table MGR 480 interface
- Status light indicator (3 colors)
- Rotary table MGR 230 (D) (F)
- MT-3 center for rotary table
- Manual tailstock for rotary table MGR 230 (F)
- Pneumatic tailstock manually driven for rotary table MGR 230
- Adapter plate for Ø 200 mm chuck
- Ø 200 mm universal chuck, with 3 hard jaws
- Rotary table MGR 480 (ROMI D 1000 / D 1250AP / D 1250 / D 1500) (C)
- Manual tailstock for rotary table MGR 400
- Adapter plate for Ø 250 and Ø 400 mm chuck
- Ø 250 mm and Ø 400 mm universal chuck
- Wash gun
- Automatic door with electronic sensor security system
- Oil skimmer
- Mist exhausting system
- Pneumatic chip cleaning system during machining process
- Measure and inspection of parts system with OMP40, OMI optical sensor, PS3-1C stylus, D=6mm / L=50mm / M4 and Romi EZ FLEX-M software (G)
- Headstock - coolant system with temperature control (D)
- Cooling system (3 bar - 50 l/min) (ROMI D 1000AP)
- Preset of tools (TS-27R) and EZ FLEX-M software
- Linear scale for X, Y and Z axis (C)
- Hinged belt type chip conveyor (TCE) + coolant tank (B) (F)
- Drag belt type chip conveyor (TCE) + coolant tank (B) (F)
- Auger type chip conveyor (TCH) (except for ROMI D 1000AP / ROMI D 1500) (F)
- Automatic tool changer, 20 tools capacity for CAT-40 or DIN-40 tool shank (ROMI D 600)
- Automatic tool changer, 24 tools capacity for CAT-50 or DIN-50 tool shank (ROMI D 1500)
- Automatic tool changer, 30 tools capacity for CAT-40 or DIN-40 tool shank (C)

(A) Requires headstock prepared for thru spindle coolant system (optional)
(B) For ROMI D 800 / D 1000 / D 1250 / D 1500
(C) Requires rotary table interface (optional)
(D) Does not apply to machines with 12,000 and 15,000 rpm headstock
(E) Not available for ROMI 1000AP / ROMI D 1500
(F) Optional equipment of mandatory choice
(G) Requires “Electronic interface” (optional)

Tool dimensions (*) - dimensions in mm

<table>
<thead>
<tr>
<th>Type</th>
<th>ROMI D 600</th>
<th>ROMI D 800 / D 1000 / D 1250</th>
<th>ROMI D 1000 AP</th>
<th>ROMI D 1500</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (mm)</td>
<td>BT-40</td>
<td>BT-40</td>
<td>BT-40</td>
<td>BT-50</td>
</tr>
<tr>
<td>B (mm)</td>
<td>105 (4.1)</td>
<td>80 (3.1)</td>
<td>80 (3.1)</td>
<td>80 (3.1)</td>
</tr>
<tr>
<td>C (mm)</td>
<td>210 (8.3)</td>
<td>150 (5.9)</td>
<td>150 (5.9)</td>
<td>150 (5.9)</td>
</tr>
<tr>
<td>Max. weight (kg lbs)</td>
<td>6 (13)</td>
<td>8 (18)</td>
<td>8 (18)</td>
<td>8 (18)</td>
</tr>
</tbody>
</table>

(*) For machines with thru spindle coolant system, the tool shanks and pull studs must have a hole to pass the coolant thru spindle
Power graphs

ROMI D 600 / ROMI D 800

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

8,000 rpm headstock

- hp / kW: 20 / 15
- 94 N.m (69.33 lbf.ft)
- 1,500, 3,500, 8,000 rpm

10,000 rpm headstock

- hp / kW: 20 / 15
- 75 N.m (55.32 lbf.ft)
- 1,875, 4,375, 10,000 rpm

ROMI D 1000 / ROMI D 1250

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

8,000 rpm headstock

- hp / kW: 25 / 18.5
- 102 N.m (75.23 lbf.ft)
- 1,715, 4,000, 8,000 rpm

10,000 rpm headstock

- hp / kW: 25 / 18.5
- 78 N.m (57.53 lbf.ft)
- 2,250, 5,250, 10,000 rpm

ROMI D 600 / ROMI D 800

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

8,000 rpm headstock

- hp / kW: 22.4 / 16.5
- 104 N.m (76.70 lbf.ft)
- 1,500, 3,500, 8,000 rpm

10,000 rpm headstock

- hp / kW: 22.4 / 16.5
- 82 N.m (60.48 lbf.ft)
- 1,925, 3,375, 10,000 rpm

Drawings are not in scale.
Power graphs

ROMI D 1000 / ROMI D 1250

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

- 8,000 rpm headstock
- 10,000 rpm headstock

ROMI D 1000AP *Direct Drive*

CNC Siemens 828D (continuous rating)

- 15,000 rpm headstock

ROMI D 1500

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

- 6,000 rpm headstock with ZF reduction gearbox (ISO 50 taper)
- 8,000 rpm headstock

- 10,000 rpm headstock
- 12,000 rpm headstock

Drawings are not in scale.
### Machine dimensions - dimensions in mm (in)

#### ROMI D 600 / ROMI D 800 / ROMI D 1000 / ROMI D 1000AP

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROMI D 600</td>
<td>2,120</td>
<td>2,280</td>
<td>2,700</td>
<td>940</td>
<td>950</td>
<td>835</td>
<td>580</td>
<td>660</td>
<td>735</td>
<td>1,330</td>
<td>1,230</td>
<td>538</td>
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<tr>
<td></td>
<td>(83)</td>
<td>(90)</td>
<td>(106)</td>
<td>(37)</td>
<td>(37)</td>
<td>(33)</td>
<td>(23)</td>
<td>(26)</td>
<td>(29)</td>
<td>(52)</td>
<td>(48)</td>
<td>(21)</td>
<td>(0.79)</td>
<td>(9.8)</td>
</tr>
<tr>
<td>ROMI D 800</td>
<td>2,600</td>
<td>2,280</td>
<td>2,700</td>
<td>940</td>
<td>950</td>
<td>835</td>
<td>580</td>
<td>660</td>
<td>855</td>
<td>1,330</td>
<td>1,230</td>
<td>538</td>
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<tr>
<td></td>
<td>(102)</td>
<td>(90)</td>
<td>(106)</td>
<td>(37)</td>
<td>(37)</td>
<td>(33)</td>
<td>(23)</td>
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<td>(34)</td>
<td>(52)</td>
<td>(48)</td>
<td>(21)</td>
<td>(0.79)</td>
<td>(9.8)</td>
</tr>
<tr>
<td>ROMI D 1000</td>
<td>2,960</td>
<td>2,490</td>
<td>3,185</td>
<td>1,050</td>
<td>990</td>
<td>690</td>
<td>580</td>
<td>660</td>
<td>1,110</td>
<td>1,350</td>
<td>1,200</td>
<td>615</td>
<td>35</td>
<td>140</td>
</tr>
<tr>
<td></td>
<td>(117)</td>
<td>(98)</td>
<td>(125)</td>
<td>(41)</td>
<td>(39)</td>
<td>(27)</td>
<td>(23)</td>
<td>(26)</td>
<td>(44)</td>
<td>(53)</td>
<td>(47)</td>
<td>(24)</td>
<td>(1.38)</td>
<td>(5.5)</td>
</tr>
<tr>
<td>ROMI D 1000AP</td>
<td>2,960</td>
<td>2,490</td>
<td>3,185</td>
<td>1,050</td>
<td>990</td>
<td>690</td>
<td>580</td>
<td>660</td>
<td>1,110</td>
<td>1,350</td>
<td>1,200</td>
<td>615</td>
<td>35</td>
<td>140</td>
</tr>
<tr>
<td></td>
<td>(117)</td>
<td>(98)</td>
<td>(125)</td>
<td>(41)</td>
<td>(39)</td>
<td>(27)</td>
<td>(23)</td>
<td>(26)</td>
<td>(44)</td>
<td>(53)</td>
<td>(47)</td>
<td>(24)</td>
<td>(1.38)</td>
<td>(5.5)</td>
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</table>

#### ROMI D 1250 / ROMI D 1500

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>H1</th>
<th>H2</th>
<th>I</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
<th>N</th>
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</thead>
<tbody>
<tr>
<td>ROMI D 1250</td>
<td>3,300</td>
<td>2,495</td>
<td>3,070</td>
<td>1,100</td>
<td>940</td>
<td>720</td>
<td>625</td>
<td>360</td>
<td>-</td>
<td>1,410</td>
<td>1,475</td>
<td>1,200</td>
<td>620</td>
<td>35</td>
<td>140</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(130)</td>
<td>(98)</td>
<td>(121)</td>
<td>(43)</td>
<td>(37)</td>
<td>(28)</td>
<td>(25)</td>
<td>(14)</td>
<td>-</td>
<td>(56)</td>
<td>(58)</td>
<td>(47)</td>
<td>(24)</td>
<td>(1.38)</td>
<td>(5.5)</td>
<td></td>
</tr>
<tr>
<td>ROMI D 1500</td>
<td>4,300</td>
<td>3,075</td>
<td>3,280</td>
<td>1,110</td>
<td>1,065</td>
<td>795</td>
<td>1,040</td>
<td>920</td>
<td>-</td>
<td>1,105</td>
<td>1,840</td>
<td>1,295</td>
<td>830</td>
<td>64</td>
<td>164</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(169)</td>
<td>(121)</td>
<td>(129)</td>
<td>(44)</td>
<td>(42)</td>
<td>(31)</td>
<td>(41)</td>
<td>(38)</td>
<td>-</td>
<td>(44)</td>
<td>(72)</td>
<td>(51)</td>
<td>(33)</td>
<td>(2.5)</td>
<td>(6.5)</td>
<td></td>
</tr>
</tbody>
</table>

Drawings are not in scale.
Work area layout - dimensions in mm (in)

Internal space - dimensions in mm (in)

Table dimensions - dimensions in mm (in)
ROMI D Series machining centers can be equipped with manual pallet changer in order to optimize the parts setup. While one piece is being machined on the pallet inside the machine the operator can clamp the next piece on the second pallet outside the machine.

**Manual pallets changer (optional)**

**Manual pallets changer layout** - dimensions in mm (in)

<table>
<thead>
<tr>
<th>Changer</th>
<th>ROMI D 600 / D 800</th>
<th>ROMI D 1000 / D 1250</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Total length</td>
<td>2,790 (110)</td>
<td>2,780 (109)</td>
</tr>
<tr>
<td>B Pallet station length (each one)</td>
<td>830 (33)</td>
<td>924 (36)</td>
</tr>
<tr>
<td>C Pallet station width</td>
<td>608 (24)</td>
<td>670 (26)</td>
</tr>
<tr>
<td>D Operator area</td>
<td>750 (30)</td>
<td>932 (37)</td>
</tr>
</tbody>
</table>

**Pallet (each one)**

| E Length | 360 (14.2) | 400 (15.7) |
| F Width | 600 (24) | 750 (30) |
| Thickness | 40 (1.57) | 40 (1.57) |
| Weight | 70 (154) | 90 (198) |
| Positioning repetitive accuracy | 0.01 (0.0004) | 0.02 (0.0008) |
| Max, load capacity | 300 (661) | 150 (331) |

**Pallet station**

| Net weight (approximate) | 120 (4.7) | 100 (3.9) |
| Pneumatic clamping force | kgf 1,910 | 1,910 |
| Pneumatic work pressure | kgf/cm² 5 | 5 |

**Pallet with station**

| G Height | 149 (5.87) | 148 (5.8) |
| Net weight (approximate) | kg (lbs) 190 (419) | 190 (419) |
| H Door opening | mm (in) 735 (29) | 1,400 (55) |
| I Machine Z axis Travel | mm (in) 580 (23) | 640 (25) |
| J Min. and max. distance from spindle nose to pallet | mm (in) 0 to 545 (0 to 21) | 0 to 605 (0 to 24) |
| K Distance from table surface to the floor | mm (in) 940 (37) | 1,015 (40) |

**Manual pallet changer operating instructions**

1. Place the pallet station in front of the machine
   - 1° 2°
2. Pull the first pallet out of the machine onto the pallet station
   - 1° 2°
3. Move the two pallets to left side
   - 1° 2°
4. Move the second pallet into the machine
   - 1° 2°
**CNC Features**

**CNC Fanuc 0i-MD**

### CNC Fanuc 0i-MC CNC, provided on
**Romi D 600, Romi D 800, Romi D 1000**
**and Romi D 1250**

- High technology command with excellent performance and reliability
- Fanuc 0i-MD is provided with 10.4” color LCD, 12 softkeys and two communication interfaces: RS 232 serial plug and PCMCIA card drive, offering to the user great flexibility to loading programs and parameters.

### Resources and CNC Performance
- Block processing time = 1ms
- Look Ahead = 20 blocks
- Idiom: English
- PCMCIA Interface
- RS232C Interface
- Ethernet Interface
- Part Number, Machining Cycle Time and Clock
- AI Advanced Preview control
- Inch / Metric conversion
- Protection Key

### Programming Resources
- Subprogram Call
- Program Block Search
- Background Editing
- Extend Part Program Editing
- Programmable data input
- Memory Program Number = 400
- Part Program Storage = 256 KB
- Program Load / Save
- Program Creation and Editing
- Sub-Program Editing
- Program Executing from PCMCIA
- Linear, Circular and Helical Interpolation
- Chamfering and Rounding Corner
- Dwell Time

### Feedrate Functions
- Simultaneous Axis Control for 4 Axes (Requires Interpolated Rotary Table)
- Feedrate in mm/min or inch/min (G94)
- Feedrate in mm/min or inch/min (G95)
- Bell-Shaped
- Acceleration/deceleration after interpolation for rapid traverse
- Feedrate and Precision Position on the Corners
- Exact Stop

### Graphic Functions
- Help on-line
- Graphic Display

### Coordinate Systems
- Work Plane Selection
- Workpiece Coordinate System = 48
- Machine Coordinate System
- Workpiece Coordinate System Presetting
- Local Workpiece Coordinate System
- Polar Coordinate

### Coordinate Values and Dimensions
- Speed and Dimension in Inch or Metric
- Absolute and Incremental Programming Mode
- Linear and Circular InterpolWith Polar Coordinates
- Scale / Ascale
- Mirror / Amirror
- Coordinate System Rotating
- Transfer Zero Point

### Spindle Functions
- RPM in S coder
- Spindle Angular Positioning (M19)

### Functions applied to the tool
- Tool Length and Radius Manual Measurement
- Tool Length Automatic Measurement
- Tool Offset Compensation Pairs (Length and Diameter) = 400
- Tool Management
- Tool Life Management

### Macro
- Macro B
- Addition of Custom Macro Common Variable
- Macro Executor

### Functions to simplify programs
- Thread Cutting (G33)
- Canned Cycle for Drilling, Boring and Tapping
- Linear and Circular Pattern for Drilling
- Canned Cycle for Rigid Tapping
- Canned Cycle for Thread Milling
- Floating Tapping
- Cylindrical Interpolation (Requires Interpolated Rotary Table)

### Programming Format
- Formato de Programação ISO

### Execution Operations
- JOG Mode
- Handwheel Mode
- MDI Operation
- Teach-In for MDI Mode
- Automatic Mode
- Single Block Mode
- Program Stop Mode
- Optional Stop Mode
- Program Test Operation Mode
- Block Delete Mode
- Axes Referencing by Program
- Manual Intervention and Return
- Program Restart
- Automatic Operation by Memory or Remote

### Maintenance Functions
- Emergency Stop
- Diagnostics and Alarms Functions

### Optional
- Kit Plus (set of software that increases feed speed, improvement of part surface finishing and smooth movements, reducing workpiece machining time and improve quality. The Kit Plus is comprised of: Look ahead of 200 blocks; BELL SHAPE ACC/DEC AFTER CUT FEED INTERPOL FS0i-MD, BELL TYPE ACC/DEC BEFORE LOOK-AHEAD INTERPOLFS0i-MD, MACHINE CONDITION SELECTION FS0i-MD, JERK CONTROL FS0i-MD, AI CONTOUR CONTROL II FS0i-MD and Parameters Set (tune-up)
- Manual Guide I (set of software that enables the programs creation in a simplified way through conversational language through data entry on friendly screens. Offers fixed drilling and tapping cycles, cycles for milling, cutting free profiles and graphic simulation of machining).
CNC Siemens Sinumerik 828D

**CNC Features**

**CNC Siemens Sinumerik 828D**

**Resources and Performance**
- Precision 80bit NANOPF
- Advanced Surface for Mold & Die applications
- Block processing time = 2 ms
- Look Ahead = 100 blocks
- Look Ahead = 150 blocks (for ROMI D 100AP DD)
- Acceleration with Jerk Control
- Synchronous Actions and High Speed Output
- Idioms: Portuguese, English, Spanish, Italian, German, French
- Ethernet Interface
- USB Interface
- Part Number, Machining Cycle Time and Clock
- Calculation Function

**Programming Resources**
- Directory Classified by Program, Subprogram and Cycles
- High Level Language
- Program Guide
- Dynamic G Code Groups
- Subprogram Call
- Program Block Search
- Background Editing
- Memory Program Number = 300
- Part Program Storage = 3 MB
- Program Load / Save
- Program Creation and Editing
- Linear, Circular and Helical Interpolation
- Circular Pocket
- Rectangular Pocket
- Rectangular and Circular Bosses Milling
- Face Milling
- Profile Milling
- Dwell Time

**Feedrate Functions**
- Feedrate in mm/min or in/min
- Feedrate in mm/min or in/min
- Feedrate and Precision Position on the Corners
- Exact Stop

**Graphic Functions**
- PC alike
- Graphic Simulation

**Coordinate Systems**
- Work Plane Selection
- Workpiece Coordinate System with 100 Pairs
- Machine Coordinate System
- Workpiece Coordinate System Presetting
- Local Workpiece Coordinate System

**Coordinate Values and Dimensions**
- Speed and Dimension in Inch or Metric
- Absolute and Incremental Programming Mode
- Linear and Circular Interpolation with Polar Coordinates
- Scale/Ascale
- Mirror/Amirror
- Coordinate System Rotating
- Transfer Zero Point

**Spindle Functions**
- RPM in S code
- Spindle Angular Positioning (M19 ou Spos)

**Applied Tool Function**
- Tool Radius Compensation
- Tool Length and Radius Manual Measurement
- Tool Offset Compensation Pairs (Length and Diameter) = 256
- Tool Management
- Tool Life Management

**Macro**
- Parametric Programming
- Macro and User Variables
- System Variables

**Functions for Program Simplification**
- Canned Cycle for Drilling, Boring and Tapping
- Linear and Circular Pattern for Drilling
- Grid Pattern for Drilling
- Circular Pattern for Straight and Circular Slots
- Circular Pattern for Oblong Milling
- Canned Cycle for Rigid Tapping
- Canned Cycle for Thread Milling
- Floating Tapping
- Engraving Cycle
- Rigid Tapping

**Programming Format - 828D sl Serie**
- Programming format ISO for the command 828D sl

**Execution Operations**
- JOG Mode
- Handwheel Mode
- MDA Operation
- Teach-In for MDA Mode
- Automatic Mode
- Single Block Mode
- Program Stop Mode
- Optional Stop Mode
- Program Test Operation Mode
- Block Delet Mode
- Axes Referencing by Program
- Tool Retract and Repositioning in JOG Mode (Key REPOS)
- Program Restart
- Automatic Operation by Memory or Remote

**Maintenance Functions**
- Emergency Stop
- Diagnostics and Alarms Functions

**Optional**
- Spline Interpolation (A,B e C)
- Kit Graf (set of software: Residual Material Detection; 3D Simulation and Real Time Simulation, to facilitate the programming and visualization).
- Conversational Programming SHOPMILL (Software that enables the programs creation in a simplified form by data entering on friendly screens; offers fixed drilling and tapping cycles, milling cycles, free profiles cutting and graphic machining simulation).
The 4th axis rotary table Romi allows the machining of parts at any angle and with interpolation. It provides excellent positioning and repeatability.

Its heavy duty construction and rigidity offers excellent vibration dampening and minimizes deflection during heavy duty machining.

### Specifications

<table>
<thead>
<tr>
<th>Face</th>
<th>MGR 230</th>
<th>MGR 400</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height from table to center (mm (in))</td>
<td>170 (6.7)</td>
<td>250 (9.8)</td>
</tr>
<tr>
<td>Center hole diameter (mm (in))</td>
<td>50 (2.0)</td>
<td>81 (3.2)</td>
</tr>
<tr>
<td>Face diameter (mm (in))</td>
<td>230 (9.1)</td>
<td>400 (15.7)</td>
</tr>
<tr>
<td>T-slot width (mm (in))</td>
<td>12 (0.47)</td>
<td>14 (0.55)</td>
</tr>
<tr>
<td>Number of T-slots</td>
<td>4</td>
<td>4</td>
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<tr>
<td>Work position</td>
<td>horizontal</td>
<td>horizontal</td>
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### Capacities

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<tr>
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<th>MGR 400</th>
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<tbody>
<tr>
<td>Max. load capacity (on chuck only) (kg (lbs))</td>
<td>175 (390)</td>
<td>250 (550)</td>
</tr>
<tr>
<td>Available torque (N.m (lbf.ft))</td>
<td>500 (368.8)</td>
<td>1,000 (737.6)</td>
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<tr>
<td>Maximum speed (rpm)</td>
<td>17</td>
<td>11</td>
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### Accuracy (A)

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Positioning (s)</td>
<td>+/- 15</td>
<td>+/- 15</td>
</tr>
<tr>
<td>Repeatability (s)</td>
<td>+/- 10</td>
<td>+/- 10</td>
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### Hydropneumatic breaking system

<table>
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<tr>
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</thead>
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<tr>
<td>Work pressure (bar (kgf/cm²) (psi))</td>
<td>6 (87)</td>
<td>6 (87)</td>
</tr>
<tr>
<td>Brake locking torque (N.m (lbf.ft))</td>
<td>480 (354)</td>
<td>1,500 (1,106.3)</td>
</tr>
</tbody>
</table>

### Dimensions and weight

<table>
<thead>
<tr>
<th></th>
<th>MGR 230</th>
<th>MGR 400</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height (mm (in))</td>
<td>285 (11.2)</td>
<td>460 (18.1)</td>
</tr>
<tr>
<td>Area (mm (in))</td>
<td>487 x 410 (19.2 x 16.1)</td>
<td>470 x 480 (18.5 x 18.9)</td>
</tr>
<tr>
<td>Total weight with motor (approx.) (kg (lbs))</td>
<td>92 (203)</td>
<td>300 (661)</td>
</tr>
</tbody>
</table>

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