FANUC ROBONANO α-NMIA
Ultra precision, enhanced ease of use and sustainability

State of the art machining technology
More info: fanuc.eu/uk/en/robonano
Ultra precision for mass production

- suitable for machining complex shaped cores and parts
- suitable for a wide range of applications requiring nano precision

Features and benefits

- controlled by the latest FANUC CNC and motors
- 0.1 nm programming command
- up to 60kg workpiece weight
- oil hydrostatic bearing
- linear motors
- active damping system
- HMI screen for operating peripheral devices

**FANUC ROBONANO α-NM/A specifications:**

<table>
<thead>
<tr>
<th>Specifications</th>
<th>Axis information:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stroke</td>
<td></td>
</tr>
<tr>
<td>X axis</td>
<td>450 mm</td>
</tr>
<tr>
<td>Y axis</td>
<td>300 mm</td>
</tr>
<tr>
<td>Z axis</td>
<td>200 mm</td>
</tr>
<tr>
<td>T axis</td>
<td>360 degrees continuous rotation</td>
</tr>
<tr>
<td>B, C axes</td>
<td></td>
</tr>
<tr>
<td>Table size</td>
<td>Ø 215 mm</td>
</tr>
<tr>
<td>Maximum feed rate</td>
<td></td>
</tr>
<tr>
<td>X, Z axes</td>
<td>1,000 mm/min</td>
</tr>
<tr>
<td>Y axis</td>
<td>200 mm/min</td>
</tr>
<tr>
<td>B axis</td>
<td>3,600 deg/min</td>
</tr>
<tr>
<td>C axis</td>
<td>3,600 deg/min</td>
</tr>
<tr>
<td>Maximum spindle speed</td>
<td>50,000 min⁻¹ (Milling spindle is attached to C axis)</td>
</tr>
<tr>
<td>Mass</td>
<td>3,600 kg</td>
</tr>
<tr>
<td>Standard accessories</td>
<td>CNC cabinet, operator panel, milling spindle, option mount, hydraulic power unit, active damper system, cutting fluid unit, precision compressed air temperature control system</td>
</tr>
<tr>
<td>Options</td>
<td>Smart M-Setup (Microscope, Electric micrometer, Field balancer), Smart M-Form, Transformer</td>
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<tr>
<td>Requirements</td>
<td>5x5 m² installation area, 7 kVA three phase 400 VAC 50 Hz power supply [CEE 32A 3P+N+E socket-outlet], ISO 8573-1:2010 [1:6:1] clean and dry compressed air with 0.7 MPa pressure, ±0.01 MPa pressure stability, 1.0 m³/min flow rate capacity, air temperature between 15°C and 28°C (connection with Ø16 mm outer diameter tube), less than 0.1 µm floor vibration amplitude (less than 0.1 Gal floor vibration acceleration), 23°C constant room temperature with ±1°C maximum fluctuation in 30 minutes (temperature stability is directly proportional to machining accuracy), less than 50% relative humidity; mist collector, transformer (available as option).</td>
</tr>
</tbody>
</table>

**WATCHMAKERS**

**Watch parts (hologram)**

- Method: Scribing
- Material: Ni-P plate
- Tool: Monocrystalline diamond
- Surface roughness: Ra 1.7 nm

**Spherical machining**

- Method: Ultrasonic vibration scribing
- Material: STAVAX® ESR
- Tool: Monocrystalline diamond
- Surface roughness: Ra 4 nm

**BIOMEDICAL**

**Microchannels**

- Method: Milling
- Material: Ni-P plate
- Tool: Monocrystalline diamond
- Minimum width: 30 µm
- Minimum depth: 10 µm

**AUTOMOTIVE**

**Head UP display (HUD) core**

- Method: Scribing
- Material: STAVAX® ESR
- Workpiece size: 300x210 mm
- Tool: Monocrystalline diamond
- Surface roughness: Ra 6 nm

**Curved car emblem**

- Method: Scribing
- Material: Ni-P plate
- Workpiece size: 300x90 mm
- Tool: Monocrystalline diamond
- Surface roughness: Ra 1.7 nm

**WATCHMAKERS**

**Brilliant cutting model**

- Method: Milling
- Material: Brass
- Workpiece size: Ø50 mm
- Tool: Monocrystalline diamond
- Surface roughness: Ra 1.3 nm

**BIOMEDICAL**

**Spherical machining**

- Method: Ultrasonic vibration scribing
- Material: STAVAX® ESR
- Tool: Monocrystalline diamond
- Surface roughness: Ra 4 nm

**AUTOMOTIVE**

**Watch parts (hologram)**

- Method: Scribing
- Material: Ni-P plate
- Tool: Monocrystalline diamond
- Surface roughness: Ra 1.7 nm