Basic Description

The M-6iB series is FANUC Robotics’ latest-generation family of small robots. The series is offered in two sizes designed to approximate the reach of an operator. Feature-rich standard capabilities and options provide dexterity, reliability and high speeds to make the M-6iB the perfect solution for countless applications and working environments.

M-6iB Series, the Solution for:

- Machine tending
- Material handling
- Assembly
- Picking and packing
- Material removal
- Cleanroom operations
- Testing and sampling
- Dispensing

Features and Benefits

- 6 degrees of freedom
- ±0.08 mm repeatability
- Up to 10 kg payload at wrist
- Large wrist moments and inertias for real-world EOATs and workpieces
- Supplementary payload mount on J3 casting
- Yoked wrist structure for increased rigidity
- Pneumatic and electrical (8 DI/8 DO) connections for EOAT on J3
- Pneumatic lines routed from J1 inlet to J3 outlet
- Compact size, slim wrist, and small footprint permit operation in tight work spaces
- Upright, angle, wall, or invert mounting for increased installation flexibility
- Robot can flip over backwards for a larger work envelope
- High joint speeds maximize throughput
- Fail-safe brakes and adjustable J1 hardstops increase safety, functionality, and control
- Absolute encoder positioning eliminates homing at power-up
- Same footprint and wrist bolt pattern as previous generation for easy upgrades
- Color, graphical, network-ready teach iPendant™

Reliability

- Latest generation of a proven design
- RV reducer, gear and harmonic drivetrains eliminate unreliable belts, pulleys and chains while providing rigidity and performance in a compact package
- Grease fittings on all lubrication points for quick and easy maintenance
- Sealed bearings and brushless, maintenance-free AC motors provide protection and improve reliability
Robot and Controller Options

- Larger variant for greater reach (M-6iB)
- Smaller variant for tight installations (M-6iB/6S)
- Class 100 variant for cleanroom use (M-6iB/6C; see Cleanroom Robots datasheet)
- Higher-speed variant for greater throughput (M-6iB/2HS)
- Solution arm variants minimize EOAT dress-out complexity and cost (M-6iB/2HS)
- Severe dust and liquid protection package for harsh environments
- J1/J2 motor cooling fans for sustained high-duty operation
- 360° J1 rotation eliminates rear dead zone
- Machine vision for guidance and inspection
- Up to 16 axes (robot + auxiliary) on same controller
- Extended communications capabilities: FTP, DeviceNet, A/B RIO, Profibus, Genius, FANUC Model A I/O rack, CC-Link, etc.
- Linear or circular conveyor tracking
- CE-Mark
- 14 m or 21 m controller-to-robot cables

Unique Software Options

- Singularity avoidance
- AccuDeflash™ for plastic deflashing
- Internet connectivity
- KAREL® programming language
- And over 40 other powerful software solutions

Solution Arm features a hollow wrist flange and pre-engineered EOAT cabling to reduce dress-out cost, snag interference, and to increase durability.

Class 100 option brings off-the-shelf FANUC reliability to electronics, pharmaceuticals and other cleanroom manufacturing operations. M-6iB/6C shown invert-mounted.
M-6iB Series Dimensions

Top

Footprint

Standard Wrist

Isometric

Note: Dimensions are shown in millimeters. Detailed CAD data are available upon request.
## M-6iB Series Specifications

<table>
<thead>
<tr>
<th>Items</th>
<th>M-6iB</th>
<th>M-6iB/6C Cleanroom</th>
<th>M-6iB/6S 6 kg Payload</th>
<th>M-6iB/6S 10 kg Payload</th>
<th>M-6iB/2HS</th>
<th>M-6iB/2HS Solution Arm</th>
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<tbody>
<tr>
<td>Axes</td>
<td>6</td>
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<td>Payload at Wrist (kg)</td>
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<td>Supplementary Payload on J3 Casting (kg)</td>
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<td>Reach (mm)</td>
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<td>Repeatability (mm)</td>
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<td>Interference Radius (mm)</td>
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<td>Motion Range (degrees)</td>
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<td>J2</td>
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<td>J3</td>
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<td>J4</td>
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<td>J5</td>
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<td>Mass (kg)</td>
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<td>Vibration (m/s²)</td>
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<td>≤4.9 (0.5G)</td>
<td>≤4.9 (0.5G)</td>
<td>≤4.9 (0.5G)</td>
<td>≤4.9 (0.5G)</td>
<td>≤4.9 (0.5G)</td>
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<tr>
<td>Special Application Environments</td>
<td>IP67 forearm and wrist / IP54 lower body</td>
<td>ISO Class 5 (Class 100 per U.S. Federal Standard 209E)</td>
<td>IP67 forearm and wrist / IP54 lower body</td>
<td>IP67 forearm and wrist / IP54 lower body</td>
<td>IP67 forearm and wrist / IP54 lower body</td>
<td>IP67 forearm and wrist / IP54 lower body (No IP rating for solenoid box)</td>
</tr>
</tbody>
</table>

### Notes:
1. Payload on J3 casting is in addition to wrist payload capacity.
2. Repeatability per JISB8432.
3. 360° J1 rotation optional.
4. Higher sustained motion speeds available with High Duty option on all variants except M-6iB and M-6iB/6C.
5. J1 and J2 motion range de-rated when M-6iB is angle- or wall-mounted.
6. IP67 forearm and wrist / IP55 body optional. Organic solvents, acids, alkalis and chlorine/gasoline coolants or any chemicals which may harm NBR (nitrile rubber) must not be used. See Cleanroom Robots datasheet for more information regarding M-6iB/6C.
7. M-6iB/6S default wrist payload is 6 kg. Included software permits toggling between 6 kg and 10 kg with no mechanical alterations required to mechanical unit. No motion restrictions in either mode.

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