**Basic Description**
The LR Mate 200iB is a six-axis, modular construction, electric servo-driven, tabletop robot designed for a variety of manufacturing and system processes. The FANUC LR Mate 200iB robot, is engineered to provide maximum flexibility, and accuracy, in a compact design.

**LR Mate 200iB, the Solution for:**
- Machine load/unload
- Material handling
- Testing and sampling
- Electronics/Cleanroom
- Parts cleaning
- Dispensing
- Assembly
- Material removal

**Features**
- Axes speeds of up to 480 degrees/sec.
- End effector connector built into the wrist
- Integral, internally mounted solenoid valve pack
- Fail-safe brakes on axes 2 and 3

**Reliability Features**
- Based on a proven, reliable design of the FANUC LR Mate 100iB, which has an installed base exceeding 4,000 units worldwide.
- Brushless AC servo motors minimize motor maintenance.
- Harmonic drives on all axes result in higher reliability and reduced maintenance costs.
- Sealed bearings and drives.
- All motors, cables and tooling services are located internally for protection from environment.
- Standard IP65 dust and liquid intrusion package.

**Benefits**
- Tabletop size allows use in a wide range of applications from commercial to industrial installations.
- Upright, invert or angle mounting positions with no robot modifications.
- Small footprint allows placement in tight surroundings.

- Hollow joint construction encloses all cable routing to eliminate snagging.
- Absolute serial encoders eliminate the need for calibration at power-up.

**Options**
- Available with R-J3iB Mate Controller for basic material handling.
- R-J3iB Mate Controller features low voltage I/O: 20 inputs, 20 outputs and 6 inputs at end-of-arm connector.
- R-J3iB Mate Controller supports FANUC Robotics KAREL application software and standard FANUC Robotics I/O modules.
- FANUC Sensor Interface serial communications software allows robot to exchange data with third party devices such as bar code readers, vision systems and PCs.
- Data Transfer Function serial communications software allows robot two-way data exchange with a PC; users can control robot actions through VB graphical interface.

**R-J3iB Mate Controller Features**
- Small size minimizes installation footprint
- Based on standard R-J3iB CPU
- Integrated 24VDC I/O: 20 inputs and 20 outputs
- α - i Series Amplifiers w/FSSB
- FANUC I/O Link (master or slave)
- Extended communications capabilities (Ethernet, FTP, Serial, Profibus, DeviceNet)
- Line tracking option
- CE Mark compliant
- High Sensitive Collision Detection
- PC Vision Interface
- Softfloat

**Robot and Controller Options**
- Single (220VAC) or three-phase power (380-500VAC)
- All axes mechanical brakes
- Longer robot cables (7 or 14 m)
- Compact Ethernet/FTP card
- Cable for integrated I/O (CRM79)
- FANUC Model A I/O rack
- FANUC I/O link cable to FANUC CNC
- Cleanroom/Class 100 (LR Mate 200iB)
- FANUC Process I/O Board
**LR Mate 200iB/3L Specifications**

<table>
<thead>
<tr>
<th>Items</th>
<th>200iB</th>
<th>200iB/3L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Axis</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Payload (kg)</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Reach (mm)</td>
<td>700</td>
<td>856</td>
</tr>
<tr>
<td>Interference radius (mm)</td>
<td>±0.04</td>
<td>±0.04</td>
</tr>
<tr>
<td>Motion range (degrees)</td>
<td>320</td>
<td>320</td>
</tr>
<tr>
<td>Motion speed (degrees/sec.)</td>
<td>180</td>
<td>185</td>
</tr>
<tr>
<td>Wrist moment (N.m)</td>
<td>7.25</td>
<td>7.25</td>
</tr>
<tr>
<td>Wrist inertia (kg.m²)</td>
<td>0.138</td>
<td>0.138</td>
</tr>
<tr>
<td>Mechanical brakes</td>
<td>Std. All axes option</td>
<td>Std. All axes option</td>
</tr>
<tr>
<td>Mechanical weight (kg)</td>
<td>45</td>
<td>47</td>
</tr>
<tr>
<td>Mounting method</td>
<td>Floor, Upside-down, Angle mount</td>
<td>Floor, Upside-down, Angle mount</td>
</tr>
</tbody>
</table>

**Operating environment**
- Ambient temperature: 0 to 45°C
- Humidity: 75% RH or less
- Non-condensing (95% max)
- Vibration: 4.9 m/s² (0.5G) or less

**Power Supply**
- Single-phase 200-220 VAC opt.
- +10%, -15%, 50/60Hz ± 1 Hz
- Three-phase 380-500 VAC std.

**Power Consumption**
- 0.4-0.5 kW (average)
- 1 kVA-1.2 kVA (maximum)

**Motion range**
- J1 320
- J2 185
- J3 316
- J4 380
- J5 240
- J6 720
- J7 180
- J8 150
- J9 225
- J10 400
- J11 330
- J12 480

**Wrist moment**
- J4 7.25
- J5 7.25
- J6 5.21
- J7 0.138
- J8 0.138
- J9 0.071

**Notes:**
- In case of angle mount for LR Mate 200iB and 200iB/3L, motion range is limited.

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**R-J3iB Mate Controller Specifications**

<table>
<thead>
<tr>
<th>Items</th>
<th>R-J3iB Mate Controller Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-size cabinet</td>
<td>See drawing for dimensions</td>
</tr>
</tbody>
</table>
| Operating environment | Ambient temperature: -0 to 45°C
- Humidity: 75% RH or less
- Non-condensing (95% max)
- Vibration: 4.9 m/s² (0.5G) or less |
- +10%, -15%, 50/60Hz ± 1 Hz
- Three-phase 380-500 VAC std.
| Power Consumption | 0.4-0.5 kW (average)
- 1 kVA-1.2 kVA (maximum) |
| CPU | Multi-processor architecture based on R-J3iB (separate motion and communication) with real time clock-calendar |
| Controlled axes | 5 (LR Mate 100iB)
- 6 (LR Mate 200iB, 200iB/3L)
- 8 (including robot axes) using 8 axis control card Additional axes available using mini-slot on CPU |
| I/O sub-systems | Built-in digital I/O (20 input/20 output)
- Built-in FANUC I/O Link
- Built-in Serial RS-232
- Model A opt. (modular rack mounted 5 or 10 slots – user must supply enclosure) |
| I/O types | DVD/D.: 512 point maximum each
- Digital AC or DC input modules
- Digital AC or DC output modules
- 12-bit Analog input or output modules |
| Remote I/O sub-systems | Options: Ethernet, Profibus, DeviceNet |
| Miscellaneous Options | Supports line-tracking, vision and Karel |
| Memory card slot | Built-in PCMCIA type 2 interface to ATA flash disc cards |
| Teach pendant | Rear-lit LCD, multi-function |
| Controller weight | 35 kg |

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**R-J3iB Mate Controller Dimensions**

- Precision jewelry polishing system with part shape recognition uses FANUC Vision System V-500i.
Over 4,500 LR Mate systems are installed in a variety of machine automation applications.

Flexible Loading Solution with Vision.

Cost effective metal/plastic deburring systems utilize the LR Mate 200iB series.

The LR Mate is the industry’s leading mini robot for factory automation, machine tools and lab environments.

Note: Dimensions are shown in millimeters.

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