

ARC Mate® 100iB

Basic Description

The ARC Mate 100iB is a six-axis, modular construction, electric servo-driven robot designed for precise, high-speed welding and cutting. Based on its simple and reliable construction, the ARC Mate 100iB provides accurate and consistent path performance. The R-J3iB Controller and easy-to-use ArcTool software provide reliable performance with high productivity.

The new ARC Mate 100iB, the latest generation arc welding robot, has a compact design with improved motion range and speed. The compact yet flexible design simplifies installation, maximizes reach capability within confined areas and enables high-density installation of robots and peripherals.

Benefits

- Features highest motion speeds in class for maximum performance and productivity.
- Best in class reach versus stroke ratio.
- Compact design simplifies installation and transportation of system.
- The ARC Mate 100iB offers an extremely large work envelope useful for large parts or complex tooling.
- Extremely fast wrist axes reduces airtcut times, thus improving throughput.

Features

- The motion envelope of the arm includes that of the previous model and has an 8% larger horizontal stroke.
- The wrist size has been reduced by 19%, enabling the robot to enter into smaller openings in the workspace.

Note: ARC Mate is a registered trademark of FANUC LTD.



- Compatible with all major brands of welding equipment.
- Designed with integral utilities including gas/air lines and a Lincoln Electric wire feed motor cable routed inside the robot arm. This offers improved reliability, reduced setup time and eliminates external cabling requirements.
- TurboMove™ advanced servo control features allow quick and smooth point-to-point motion, which increases arc on-time and throughput.
- Wire feed motor (up to 12 kg) mounted directly to robot's upper arm, shortens welding torch length, which improves wire feed reliability and arc start capability.
- "Plug and play" simplicity with Lincoln Electric's Power Wave™ or STT™ (Surface Tension Transfer) power sources.
- Arc welding teach pendant with application-specific hard keys offers intuitive control over the process.
- Interfaces with most types of servo-driven or indexing positioners.
- 1,373 mm reach and 985 mm stroke.
- 6 kg payload on faceplate.
- Multiple mounting positions include upright, inverted, wall or angle mount with no changes to the mechanical unit.
- Sealed bearings and drives provide protection and improve reliability.
- RV reducer drivetrain with integral bearings provides rigidity and performance in a compact package.

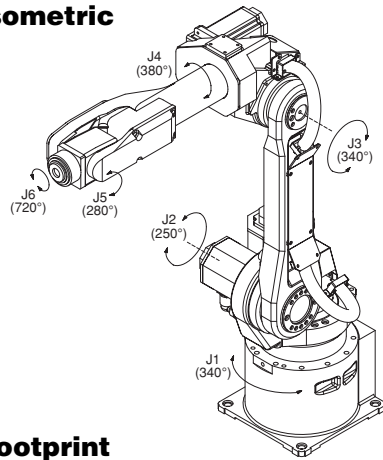
Options

- EMI shielding kits for TIG (GTAW), plasma (PAW) and plasma cutting (PAC) allow operation in harsh EMI (electro-magnetic interference) environments.
- Additional process welding I/O integrates multi-channel welding equipment such as 4 channel TIG and 3 channel MIG (STT).
- Various robot connection cable lengths for flexible cabinet placement and optional track rated cables.
- J1 axis stroke modification kit.
- Auxiliary axis packages for integration into welding positioners.

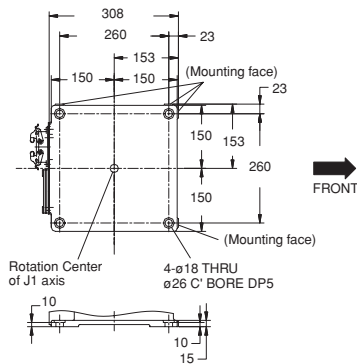
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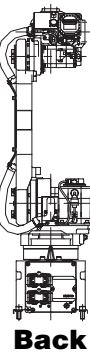
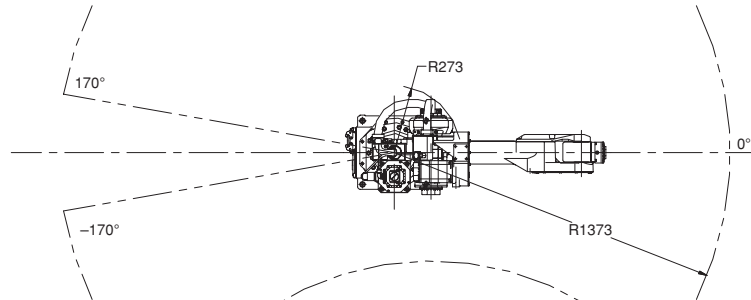
Isometric



Footprint

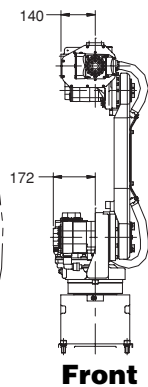
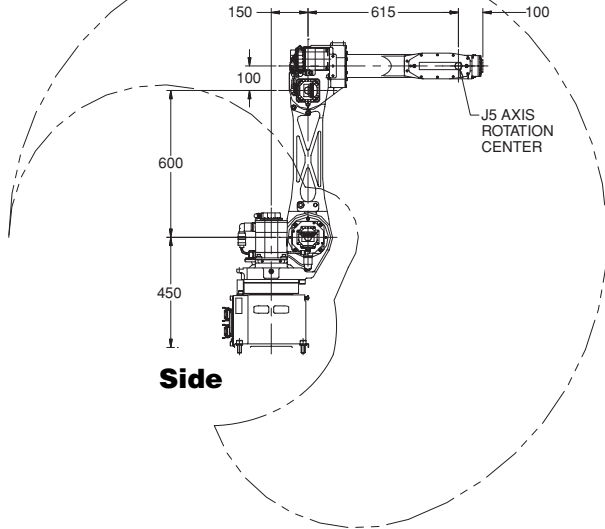


Top



Back

Side



Front

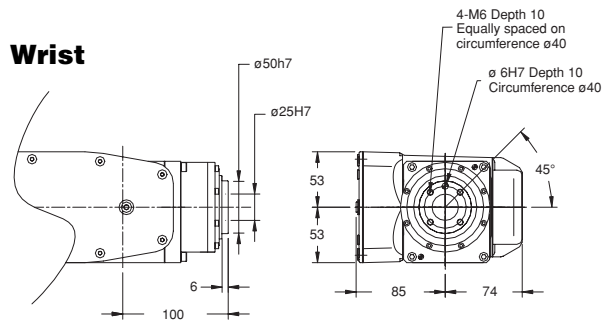
ARC Mate 100iB Specifications



| Items | | |
|--------------------------------|--|----------|
| Axes | 6 | |
| Payload (kg) | 6 | |
| Reach (mm) | 1373 | |
| Repeatability (mm) | ±0.08 | |
| Interference radius (mm) | 273 | |
| Motion range (degrees) | J1 | 340 |
| | J2 | 250 |
| | J3 | 340 |
| | J4 | 380 |
| | J5 | 280 |
| | J6 | 720 |
| Motion speed (degrees/sec.) | J1 | 150 |
| | J2 | 160 |
| | J3 | 170 |
| | J4 | 400 |
| | J5 | 400 |
| | J6 | 520 |
| Wrist moment (kgfcm) | J4 | 160 |
| | J5 | 100 |
| | J6 | 60 |
| | Wrist inertia (kgfcm ²) | J4 |
| J5 | | 2.2 |
| J6 | | 0.61 |
| Mechanical brakes | | All axes |
| Mechanical weight (kg) | 138 | |
| Mounting method ⁽¹⁾ | Upright, inverted, wall and angle mount | |
| Installation environment | | |
| Temperature °C | 0 to 45 | |
| Humidity | Normally: 75% or less Short term (within a month): 95% or less No condensation | |
| Vibration (m/s ²) | 4.9 or less | |
| Payload at axis 3 (kg) | 12 | |

Notes:
(1) Motion range is de-rated for wall and angle mount.

Wrist



Note: Dimensions are shown in millimeters.
Detailed CAD data are available upon request.



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