

# 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.

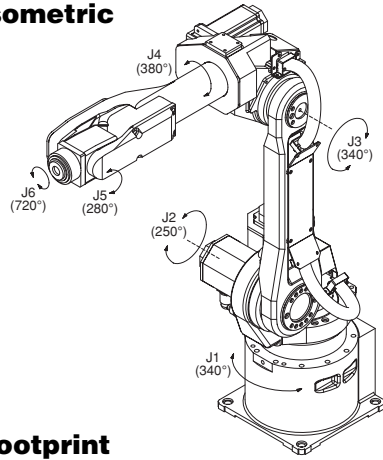
## Options

- 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.

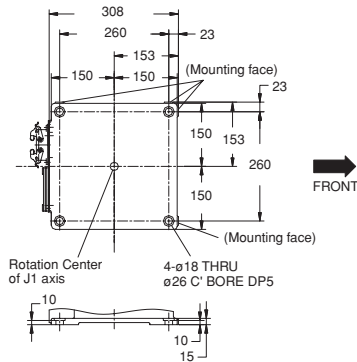
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Robotics

# ARC Mate 100iB

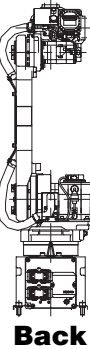
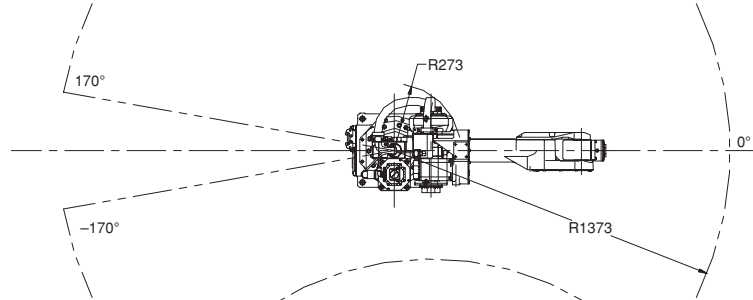
## Isometric



## Footprint

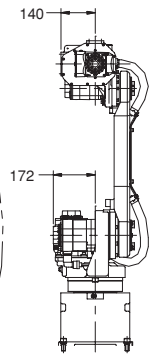
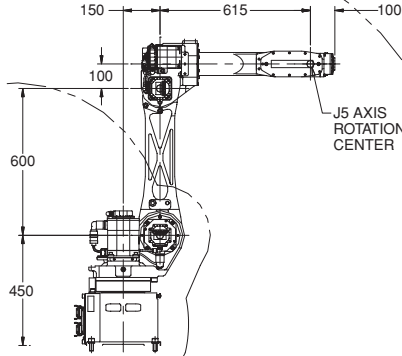


## Top



Back

Side



Front

## ARC Mate 100iB Specifications

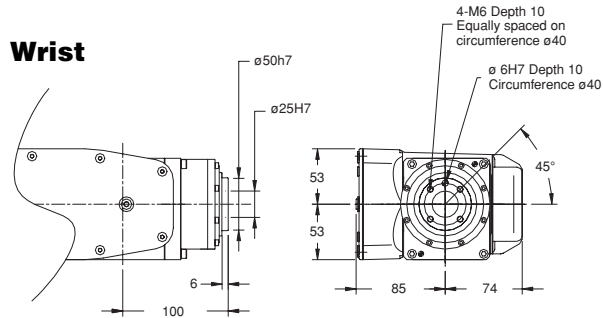


Items		
Axes	6	
Payload (kg)	6	
Reach (mm)	1373	
Repeatability (mm)	±0.08	
Interference radius (mm)	273	
Motion range (degrees)	J1	340
	J2	250
	J3	340
	J4	380
	J5	280
	J6	720
Motion speed (degrees/sec.)	J1	150
	J2	160
	J3	170
	J4	400
	J5	400
	J6	520
Wrist moment (kgfcm)	J4	160
	J5	100
	J6	60
Wrist inertia (kgfcm <sup>2</sup> )	J4	6.4
	J5	2.2
	J6	0.61
Mechanical brakes	All axes	
Mechanical weight (kg)	138	
Mounting method <sup>(1)</sup>	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 <sup>2</sup> )	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.



**FANUC Robotics America, Inc.**  
**3900 W. Hamlin Road**  
**Rochester Hills, MI 48309-3253**  
**(248) 377-7000**  
**Fax (248) 276-4133**

Charlotte, NC  
 (704) 596-5121

Chicago, IL  
 (847) 898-6000

Cincinnati, OH  
 (513) 754-2400

Los Angeles, CA  
 (949) 595-2700

Toledo, OH  
 (419) 866-0788

Toronto, Canada  
 (905) 812-2300

Montréal, Canada  
 (450) 492-9001

Aguaascalientes, Mexico  
 52 (449) 922-8000

Sao Paulo, Brazil  
 (55) (11) 3619-0599

**For sales or technical information, call:**  
**1-800-47-ROBOT**

**marketing@fanurobotics.com**  
**www.fanurobotics.com**