

ARC Mate® 100iC & 100iC/6L

Basic Description

The ARC Mate 100iC series is a six-axis, modular construction, electric servo-driven family of robots designed for precise, high-speed welding and cutting. Based on its simple and reliable construction, the ARC Mate 100iC and ARC Mate 100iC/6L provide accurate and consistent path performance. The robot controller and easy-to-use ArcToo® software provide reliable performance with high productivity.

The ARC Mate 100iC robot series has a process specific design that protects the weld torch cable from the wire feeder to the torch goose neck, reducing cable wear and minimizing wire feeder issues. This simplified routing prevents cable interference with parts and tooling and allows offline programs to be generated and tested without compensating for the torch cable.

Benefits

- Process specific arm protects and minimizes wear of the torch cable.
- 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 100iC series offers an extremely large work envelope useful for large parts or complex tooling.
- Extremely fast wrist axes reduces airtut times, thus improving throughput.

Features

- Slim wrist size enables the robot to enter into smaller openings in the work space.

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



- J3 flip-over capability provides large working envelope that is ideal for inverted applications.
- 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.
- Wire feed motor (up to 12 kg) mounted behind the J4 hollow opening, 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.
- Compatible with all major brands of welding equipment.
- Interfaces with most types of servo-driven or indexing positioners.
- ARC Mate 100iC has 1,420 mm reach and 1,066 mm stroke.
- ARC Mate 100iC/6L has 1,632 mm reach and 1,154 mm stroke.
- 10 kg payload on faceplate for ARC Mate 100iC.
- 6 kg payload on faceplate for ARC Mate 100iC/6L.

- Multiple mounting positions include upright, inverted, wall or angle mount with no changes to the mechanical unit.

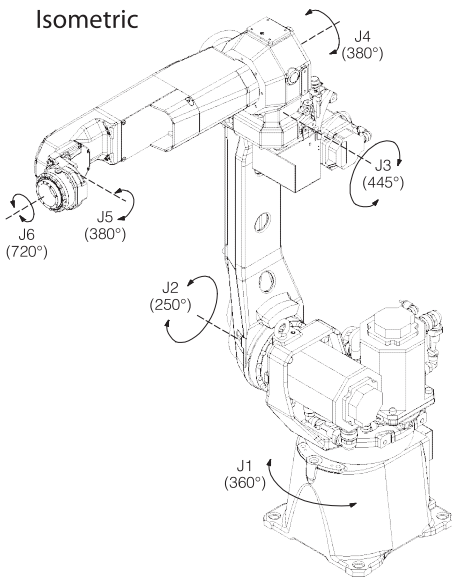
Options

- ServoTorch™ provides precise wire feed control for aluminum and soft wire application.
- Integrated weld power cable
- EMI shielding kits for TIG (GTAW), plasma (PAW) and plasma cutting (PAC) allow operation in harsh EMI (electro-magnetic interference) environments.
- Multiple process I/O welding boards integrate multi-channel welding equipment such as 4 channel TIG and 3 channel MIG.
- 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.
- iRVision™ (Integrated Robot Vision) system delivers high-performance 2-D and 3-D machine vision capabilities with FANUC reliability.

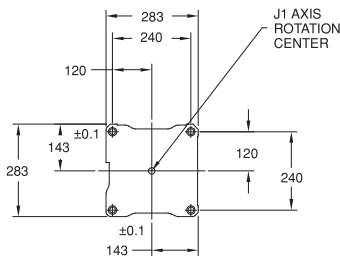
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ARC Mate 100iC Dimensions

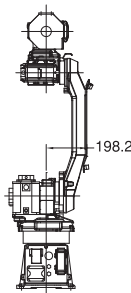
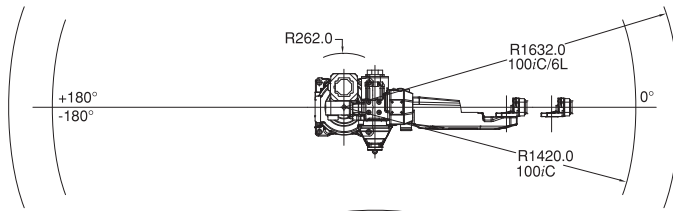
Isometric



Footprint

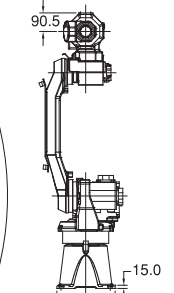
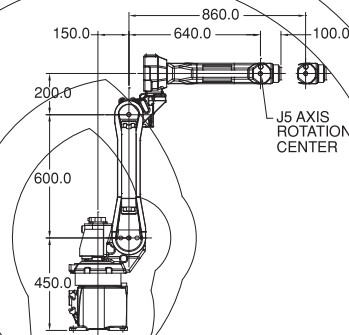


Top



Back

Side



Front

MOTION RANGE OF J5 AXIS ROTATION CENTER (100iC)

MOTION RANGE OF J5 AXIS ROTATION CENTER (100iC/6L)

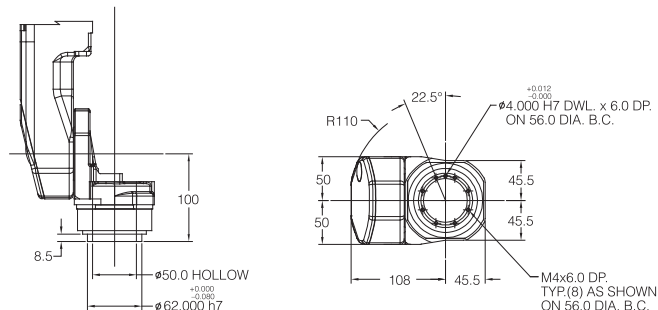
ARC Mate 100iC Specifications

Items	AM100iC	AM100iC/6L
Axes	6	6
Payload (kg)	10	6
Reach (mm)	1420	1632
Repeatability (mm)	±0.08	±0.1
Interference radius (mm)	262	262
Motion range (degrees)	J1	360
	J2	250
	J3	445
	J4	380
	J5	380 / 280 ⁽¹⁾
	J6	720 / 540 ⁽¹⁾
Motion speed (degrees/s)	J1	210
	J2	190
	J3	210
	J4	400
	J5	400
	J6	600
Wrist moments N-m (kgf-m)	J4	22 (2.2)
	J5	22 (2.2)
	J6	9.8 (1.0)
Wrist load inertia (kg-m²)	J4	.63
	J5	.63
	J6	.15
Mechanical brakes	All axes	All axes
Mechanical weight (kg)	130	135
Mounting method⁽²⁾	Floor, ceiling, angle, and wall	Floor, ceiling, angle, and wall
Installation environment		
Temperature (°C)	0 to 45	0 to 45
Humidity	Normally: 75% or less Short term (within a month): 95% or less No condensation	
Vibration (m/s²)	4.9 or less	
Payload at axis 3 (kg)	12	12

Notes:

- (1) J5 and J6 motion range when internal torch cable is installed.
(2) Motion range is de-rated for wall and angle mount.

Wrist



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

Intelligent Robot Solutions

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