

ARC Mate 120™

Basic Description

Six-axis, modular construction, electric servo-driven robot designed for precision, high-speed welding and cutting. The FANUC ARC Mate 120 robot is engineered for maximum reliability in a variety of welding environments, supported by universal welding technology and our extensive service and parts network.

ARC Mate 120 the Solution for:

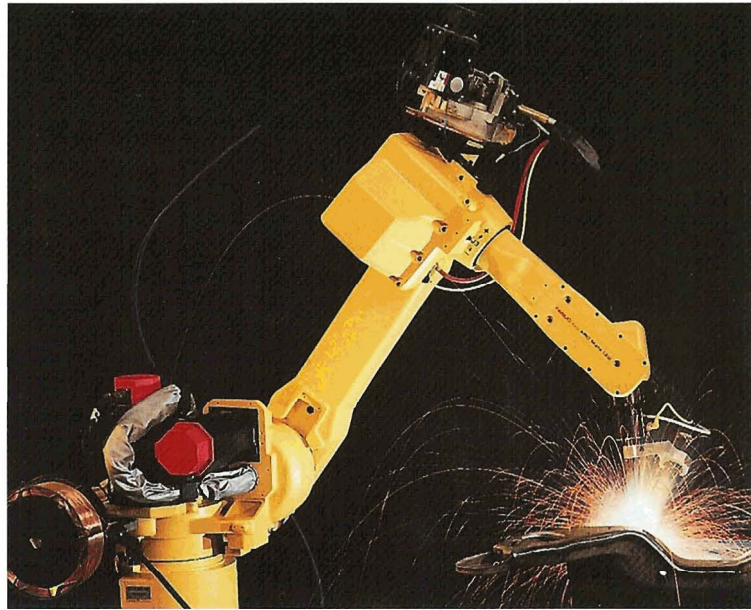
- Welding
- Cutting

Benefits

- Large work envelope allows processing of heavy fabrications and small precise components
- No robot modification required for upright, inverted, angle or wall mounting
- Process specific robot designed with integral welding utilities and wire feed motor drive cables
- TurboMove motion control reduces cycle time
- High motion speed reduces time between welds

Features

- 6 axes of motion
- 12 kg (26.4 lb) load capacity
- Extremely rigid mechanical construction allows precise positioning
- High frequency shielding kits for TIG (GTAW), plasma (PAW) and plasma cutting (PAC)
- Direct drive on all axes results in higher reliability and reduced maintenance costs
- Unique hollow RV speed reducers simplify cable routing
- 6 axes allow programming of optimum torch angles for fast



- and efficient welding, including out of position locations
- Sealed bearings and drives provide protection and improve reliability
- High-resolution pulse encoders offer higher path accuracy and motion control
- ArcTool, easy-to-use, menu-driven welding application software package
- Teach pendant editor with common welding terminology makes setup quick and easy
- Advanced servo control increases speed and smooths motion paths
- Digital servo drives increase speed, reduce positioning time and improve path accuracy
- Absolute serial encoder positioning
- Maintenance reduced with simple, direct coupled drives and no bevel gear adjustments
- Compatible with all major brands of welding equipment
- Interfaces with most types of servo driven or indexing positioners

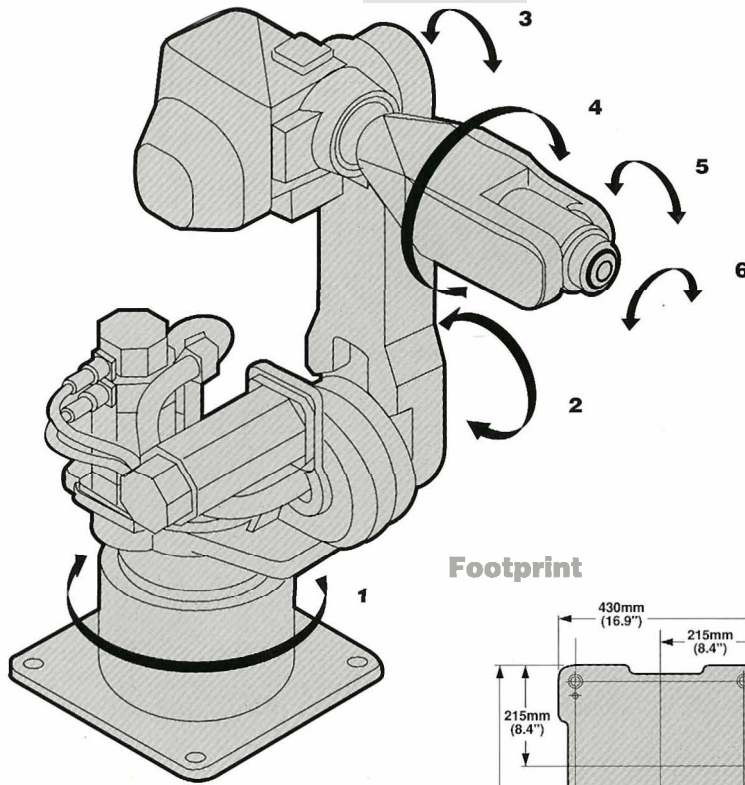
- 6 axes brakes

Options

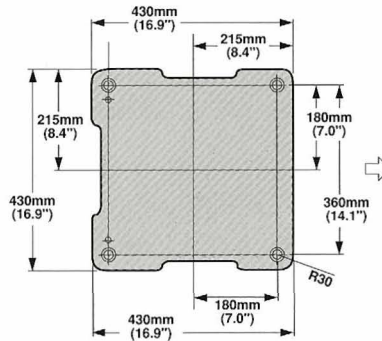
- 360° Axis 1 base rotation
- Touch Sensing and Thru-Arc Seam Tracking (TAST) software package available for seam location and continuous path correction
- Automatic voltage control (AVC) for GTAW and PAW
- On-line position modification
- 3.5" floppy disk drive for off-line storage
- Program/data printer
- Axis 2 motor cover
- Base riser
- CRT and keyboard
- RS-232-C communication port
- Up to 10 integrated auxiliary axes
- Additional I/O PCB's and remote Allen-Bradley and GE Fanuc Genius interfaces
- Detached jogging of auxiliary axes
- RPM and Multipass welding

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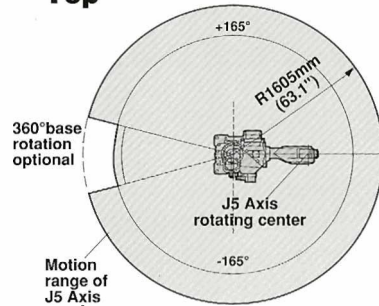
ARC Mate 120 Dimensions



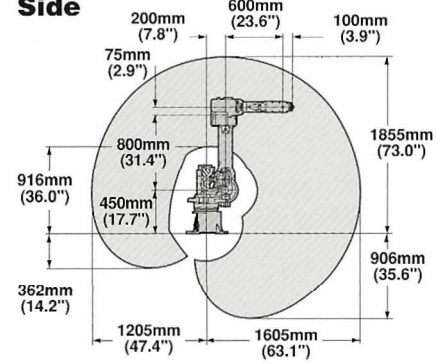
Footprint



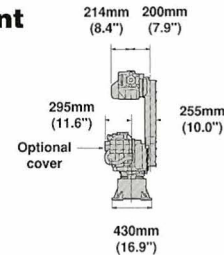
Top



Side



Front



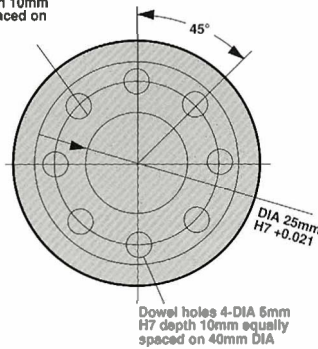
SCALE
1/60"

ARC Mate 120 Specifications

Items	Range	Speed
Motion range and speed	Axis 1	330° 135°/sec (360° optional)
	Axis 2	265° 120°/sec
	Axis 3	450° 135°/sec
	Axis 4	380° 240°/sec
	Axis 5	280° 240°/sec
	Axis 6	540° 400°/sec
Moments	Axis 4	2.8 kgf · m
	Axis 5	2.0 kgf · m
	Axis 6	1.2 kgf · m
Load inertia	Axis 4	7.7 kgf · cm · s ²
	Axis 5	4.9 kgf · cm · s ²
	Axis 6	0.78 kgf · cm · s ²
Repeatability	±0.1mm (±0.004") per JISB 8432	
Maximum load capacity	Wrist	12kg (26.4 lbs)
	Axis 3	20kg (44 lbs)
	Axis 2	40kg (88 lbs)
Mounting method	Upright, inverted, angle, shelf & wall	
Mechanical brakes	All axes	
Mechanical weight	230kg (507 lbs)	

Mounting plate

4-DIA 6mm tapped holes depth 10mm equally spaced on 40mm DIA



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