

Paint Mate 200iA & Paint Mate 200iA/5L

Basic Description

FANUC Robotics' Paint Mate robot is a compact, electric servo-driven paint robot with best-in-class performance designed for operation in a hazardous environment. Based on the highly-acclaimed LR Mate® series, this robot's envelopes, speed, and dexterity are a perfect fit for coatings and hazardous duty applications. The Paint Mate can be used for small parts painting or a material saving alternative to multiple fixed guns.

Paint Mate, the Solution for:

- Painting
- Coating
- Assembly and Handling in Hazardous Environments
- Material removal where hazardous cooling chemicals are present
- Dispensing

Features

- *iPendant™*, a color, Internet-ready teach pendant for even easier programming and custom cell user interface design.
- Optional one or four pneumatic three-way solenoid valves located in the purge cavity for gun triggering capability.
- Floor, invert, angle and wall mounting permits versatility for robot location and allows for minimal spray booth size.
- Absolute serial encoders eliminate the need for calibration at power-up.
- Standard FANUC Robotics purge control.



- FM and ATEX Hazardous approval for Class I, II and III Div. 1 environments
- FM: Flex field and rigid conduit ATEX: ROX
- Tabletop size, slim wrist, and small footprint permit operation in tight work spaces
- Extremely fast acceleration and deceleration motion results in faster cycle times.
- Control Reliable Safety Circuit (RIA1506.1999 compliant)

Reliability and Maintenance Advantages

- The latest generation of a proven design
- Sealed bearings and brushless AC motors
- Purged and pressurized cavities
- Designed for painting environment

Software

Two standard software applications are available:

- HandlingTool™ allows for the setup, programming, and operation for basic and custom applications. Built-in macro functions including paint application plug-in routines and menu-driven programming tools allow users to create, test, and run robot application programs with minimal training and program assistance.

- PaintTool™ software with optional configurations for stand alone or multi robot systems with built-in paint function controls:

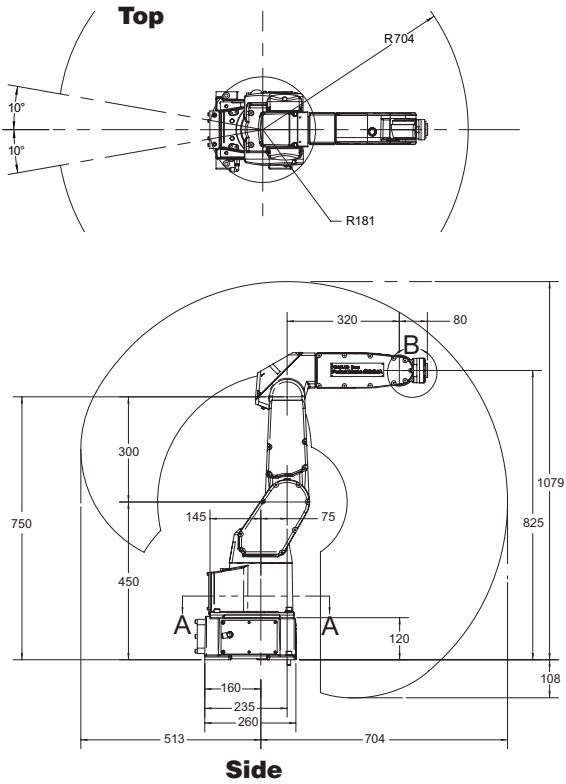
- Analog parameter control
- Color change control
- "Cancel/Continue" feature
- Integral 2K variable ratio Pump Control
- ACCUFLOW™ closed-loop fluid control.
- Line tracking
- Collision detection
- Internet connectivity
- KAREL® programming language

Process control hardware must be added separately.

FANUC
Robotics

Dimensions

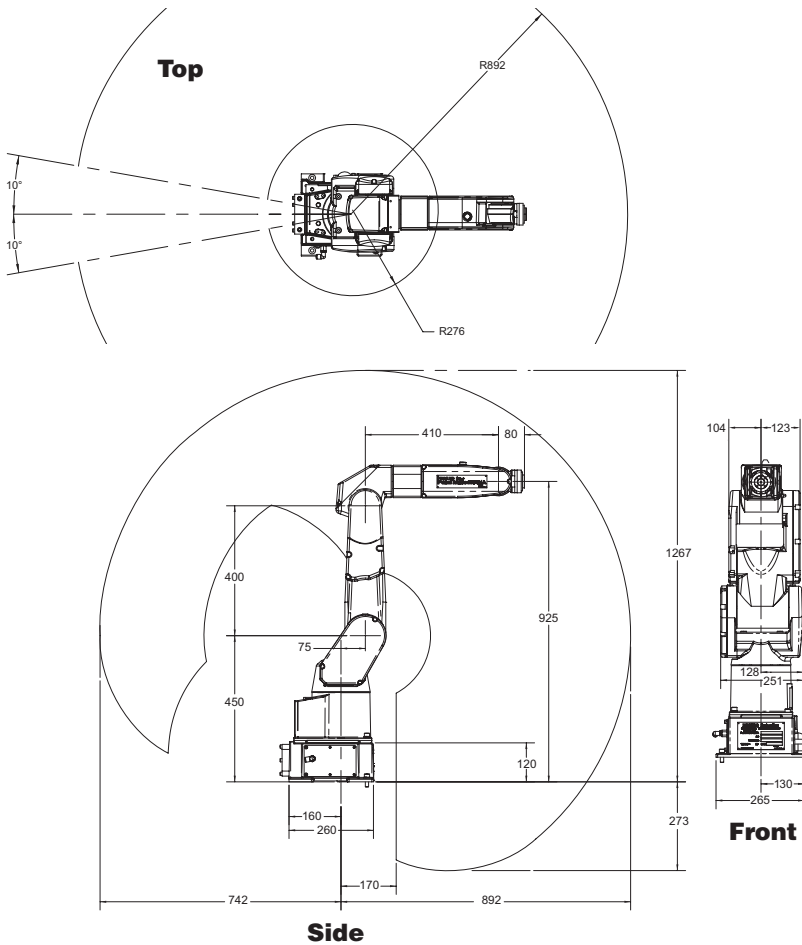
Paint Mate 200iA



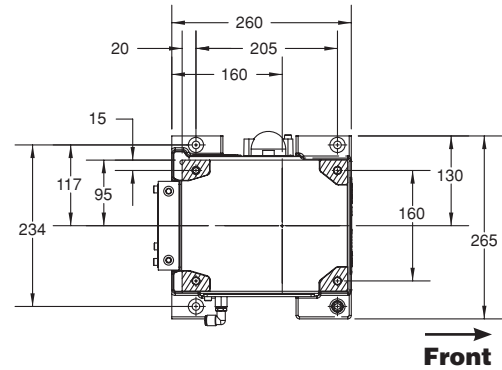
Paint Mate Isometric



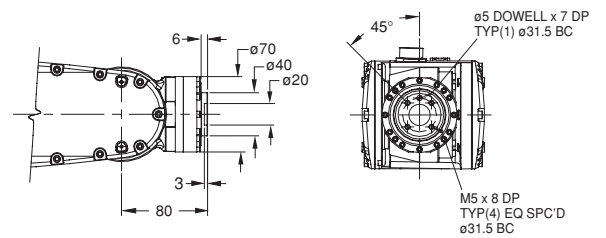
Paint Mate 200iA/5L



Footprint (All models)



Wrist (All models)

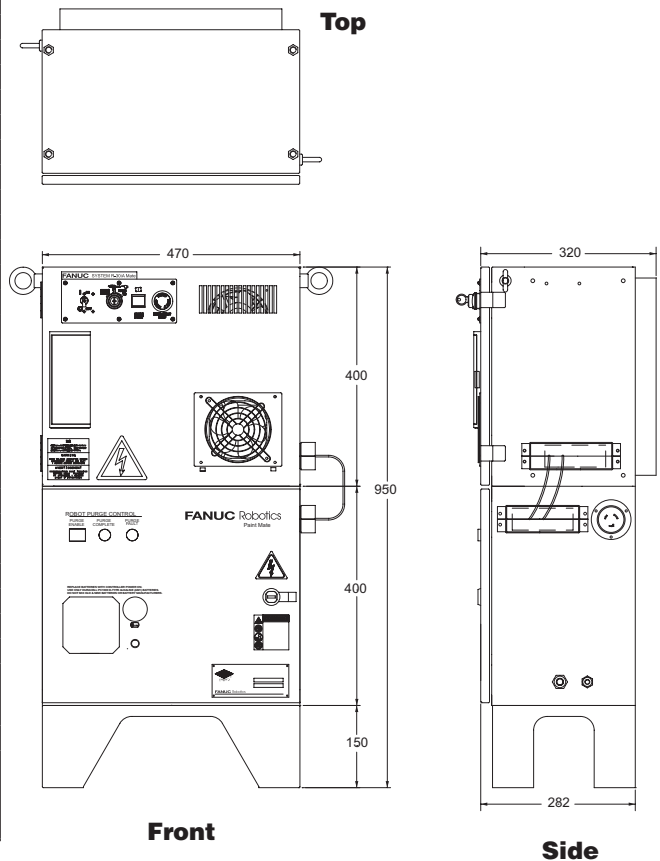


Paint Mate Series Robot Specifications

Items	Paint Mate 200iA	Paint Mate 200iA/5L
Axes	6	6
Payload - wrist (kg)	5	5
Reach (mm)	704	892
Repeatability (mm)	±0.02	±0.03
Interference Radius (mm)	181	181
Motion range (degrees)	J1	340
	J2	200
	J3	388
	J4	380
	J5	240
	J6	720
Motion speed (degrees/s)	J1	350
	J2	350
	J3	400
	J4	450
	J5	450
	J6	720
Wrist moments N-m (kgf-m)	J4	11.9 (1.21)
	J5	11.9 (1.21)
	J6	6.7 (0.68)
Wrist load inertia (kg-m ²)	J4	0.3
	J5	0.3
	J6	0.1
Mechanical brakes	All axes	All axes
Mechanical weight (kg)	35	37
Mounting method ⁽¹⁾	Floor, ceiling, angle and wall	
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 (G)	0.5 or less	
Ratings	FM Class I, II, III, Div I, Group C, D, E, F, G T4 45°C Ambient ATEX $\text{C} \llcorner \text{II} 2 \text{ G c Ex ib px IIB Ta=0}^\circ\text{C to } +45^\circ\text{C}$ ATEX $\text{C} \llcorner \text{II} 2 \text{ D c Ex pD 21 TI 35}^\circ\text{C Ta=0}^\circ\text{ to } =45^\circ\text{C}$ Note: <i>i</i> Pendant™ for non-hazardous areas only	

Note: (1) J1 and J2 axes motion range will be limited for angle and wall mount installations.

R-30iA Mate Controller Dimensions



R-30iA™ Mate Controller Specifications

Items	
External Dimensions (mm)	- 470(W) x 320(D) x 950(H)
Weight	- 56 kg
Operating Environment	- Ambient temperature: 0 - 45 °C (R-30iA Mate) Humidity: 75% RH or less; Short term (within a month): 95% or less Vibration: 0.5G or less
Power Supply	- 200-230VAC Single Phase; +10%, -15%, 50/60 Hz ± 1Hz
Power Consumption	- 0.5 KW (average), 1.2 KVA (maximum)
CPU	- Multi-processor architecture (separate motion and communication) with real-time clock/calendar
Controlled Axes	- 24 (up to 5 motion groups for R-30iA Mate)
Serial/host communications	- One 100 Base-TX/10 Base-T Ethernet port with RJ-45 connector - One RS-232-C / RS-485 port
Teach Pendant	- Color graphic <i>i</i> Pendant™ with available touch screen option (Not in hazardous area)
<i>i</i> RVision®	- Built-in camera interface for 2-D vision applications Optional: multiplexer for multiple 2-D cameras and 3-D vision
Built-in I/O	- Up to 28 digital inputs / 24 digital outputs 24VDC (external 24VDC power supply is required for digital outputs)
Safety Features	- Dual Check Safety (DCS) circuit
Memory Card	- PCMCIA type 2 interface: ATA flash disk (SanDisk compatible)
R-30iA Mate Controller Options:	
I/O sub-systems	- Model A I/O (remote mounted modular rack- 5 or 10 slots) - Model B I/O (distributed DIN rail mounted) - FANUC I/O link
Remote I/O sub-systems	- DeviceNet (single channel slave) - Profibus DP slave/master - CC-Link (slave) - Ethernet I/O (EGD and EIP Adapter/Scanner)
Integrated PMC	- Ladder logic control for peripheral devices - Including ladder monitor with hot edit on <i>i</i> Pendant

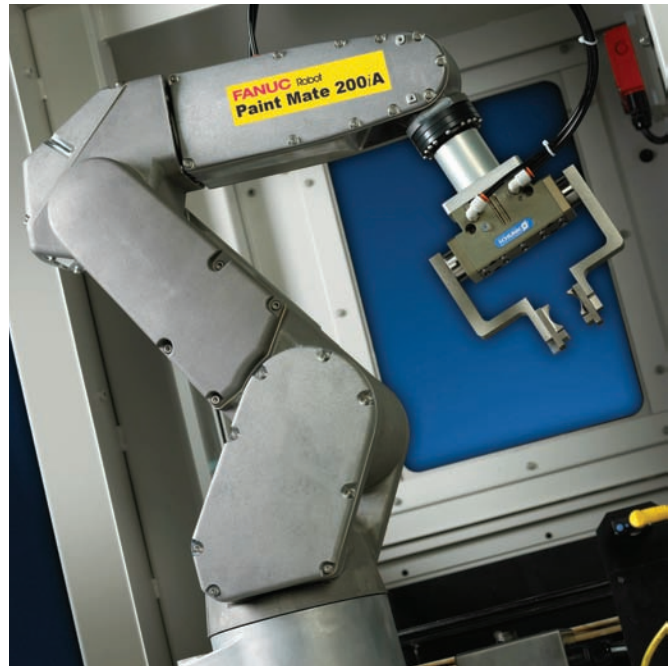
Isometric



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



Paint Mate - Maximum performance at minimal cost. Affordable robotic automation for small parts coating.



Class 1 Division 1 hazardous approval ratings enables the Paint Mate robot to be used for handling applications in explosive and extreme environments



FANUC Robotics offers a complete line of painting robots and turnkey system solutions for all your coatings needs.

Intelligent Robot Solutions



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