

M-900iA™ Series

Basic Description

FANUC Robotics' M-900iA series robot is engineered for precision, high-speed/high-payload operation, user-friendly setup and maximum reliability supported by our extensive service and parts network. The M-900iA series is a six-axis, modular construction, electric servo-driven family of robots designed for a variety of manufacturing and systems processes.

M-900iA Series, the Solution for:

- Material handling
- Machine load/unload
- Heavy duty spot welding
- Large sheet or panel handling
- Glass handling
- Casting operations
- Material removal

Benefits

- Rugged wrist design performs reliably even in the harshest manufacturing environments.
- Small robot footprint and reduced controller size conserve floor space.
- Slim arm and wrist assemblies minimize interference with system peripherals and allow operation in confined spaces.
- "Best in class" wrist moments and inertia meet a variety of heavy handling challenges.
- Many process attachment points make integration easier.
- Stationary outer arm simplifies hose and cable dressout, prolongs service life.
- Proven, reliable FANUC servo drives provide highest uptime and productivity.
- Invert mount installation is possible on the M-900iA/350 & M-900iA/260L where space is a concern.
- Longer maintenance intervals equate to lower operating costs.
- Robust mechanical design reduces down time, increases mean time between failure (MTBF) and minimizes spare part requirements.
- High performance motion yields fast cycle times and high throughput.



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Features

Mechanical:

- Multiple controller type and mounting capabilities.
- 6 axes of motion.
- Slim profile design.
- RV reducers for all axes.
- Process/application cables routed through the arm.
- No motors at wrist.
- Standard J1 adjustable hard stop.
- IP67 rated wrist/forearm.

Control:

- 35% average faster TPP and KAREL® execution speed over previous generation.
- Quick change amplifier <5 min.
- Fast boot time <30 sec.
- Two Ethernet ports standard.
- USB interface on panel and PCMCIA slot internal.
- Easy connections to a variety of I/O, including a number of distributed I/O networks.
- iPendant™, a color, Internet-ready teach pendant for even easier programming and custom cell user interface design.
- Built-in support for machine vision applications for error proofing and robot guidance, without the need for a PC.

Software:

- Process specific software packages for various applications.
- Web-based software tools for remote connectivity, diagnostics and production monitoring.

- iPendant, a color, Internet-ready teach pendant for even easier programming and custom cell user interface design.

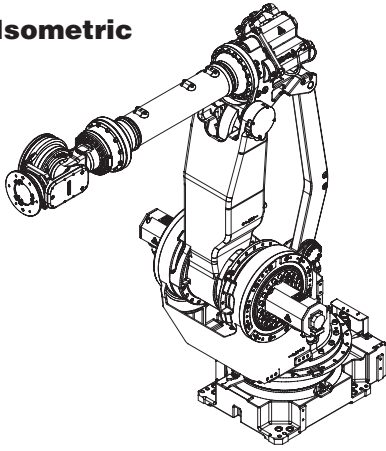
Options

- FoundryPRO® protection package and two-part epoxy paint for foundry and harsh environment.
- Standard baseplate for quick robot installation.
- Auxiliary axes packages for integration of peripheral servo-controlled devices.
- Adjustable hard stops for J1, J2 and J3.
- Various robot connection cable lengths for flexible cabinet placement and optional track rated cables.
- iPendant with touch screen for custom HMI applications.
- Monochrome pendant available.
- Integrated spot welding utilities.
- Electrically-insulated faceplate.
- FANUC's iRVision™ (Integrated Robot Vision) system delivers high performance 2-D and 3-D machine vision capabilities with FANUC reliability. Additional option for Error Proofing can provide integrated vision based capabilities to check for product completeness before product is packaged or further operations are performed.

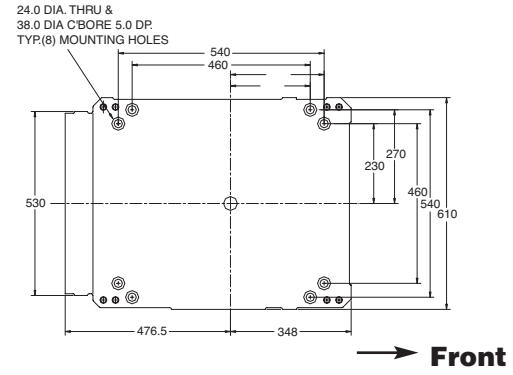
Note: FoundryPRO is a registered trademark of FANUC LTD.

M-900iA/350 & M-900iA/260L Dimensions

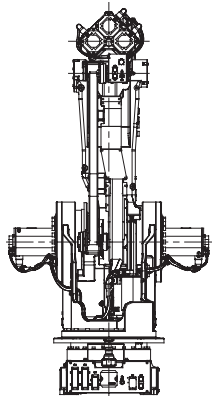
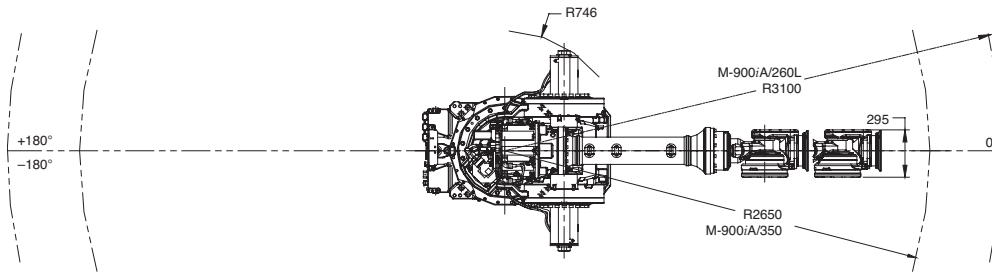
Isometric



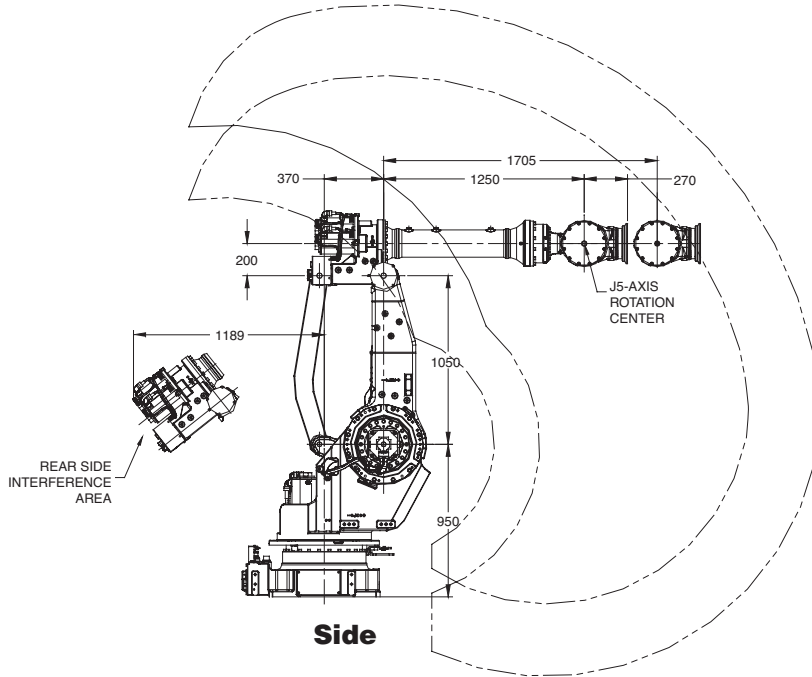
Footprint



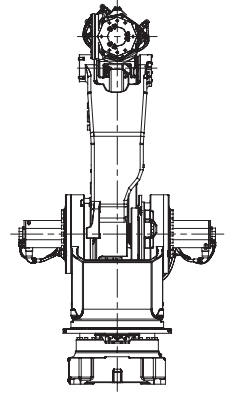
Top



Back

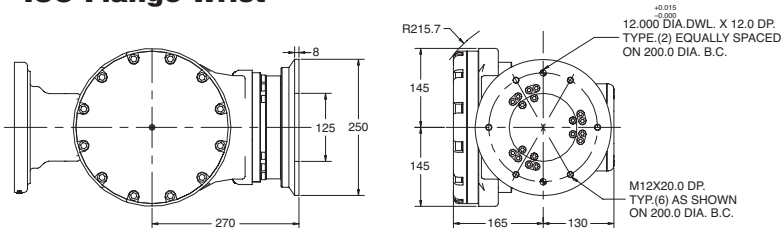


Side



Front

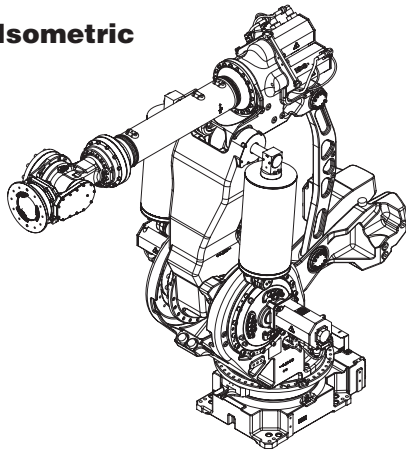
ISO Flange Wrist



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

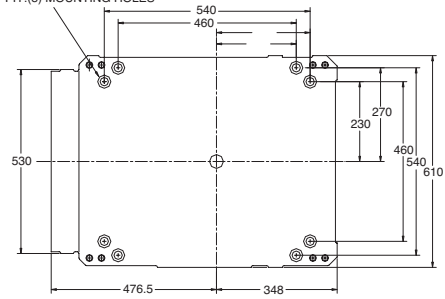
M-900iA/600 and 700kg Option Dimensions

Isometric



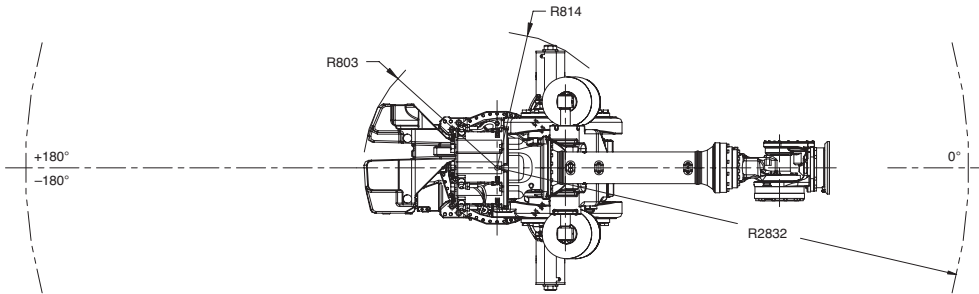
Footprint

24.0 DIA. THRU &
38.0 DIA CBORE 5.0 DP.
TYP.(8) MOUNTING HOLES

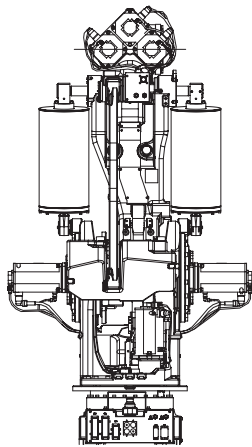


→ **Front**

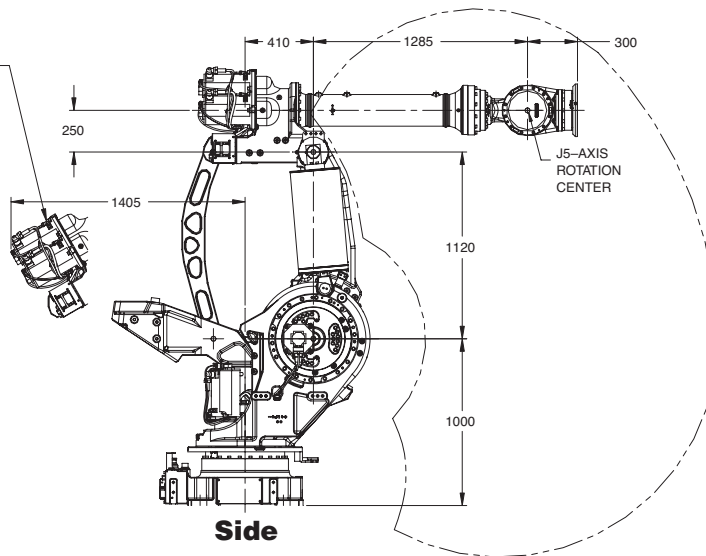
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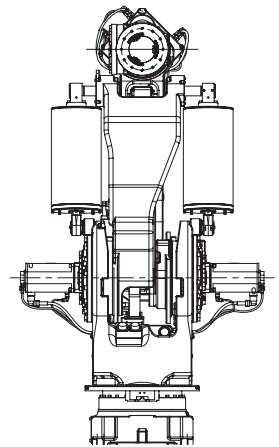
REAR SIDE
INTERFERENCE
AREA



Back

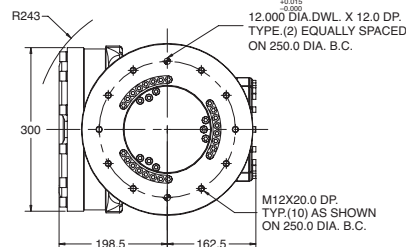
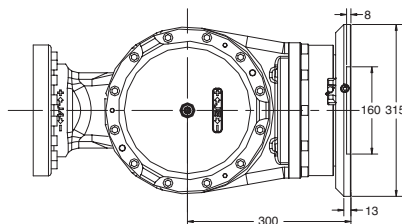


Side



Front

ISO Flange Wrist



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

M-900iA Series Specifications

Items	/350	/260L	/600	
Axes	6	6	6	
Payload - Wrist (kg)	350	260	600 (std) /700 (option)	
- J3 Arm (kg)	25	25	25	
- J2 Base (kg)	550	550	550	
Reach (mm)	2650	3100	2832	
Repeatability (mm)	±0.3	±0.3	±0.4	
Interference radius (mm)	746	746	814	
Motion range (degrees)	J1	360	360	
	J2	150	150	
	J3	223	211	
	J4	720	720	
	J5	250	250	
	J6	720	720	
Motion speed (degrees/s)	J1	100	100	
	J2	95	105	
	J3	95	95	
	J4	105	120	
	J5	105	120	
	J6	170	200	
Wrist moment N·m (kgf·m)	J4	1961 (200)	1667 (170)	3383 (345)
	J5	1961 (200)	1667 (170)	3383 (345)
	J6	892 (91)	715 (73)	1726 (176)
Wrist inertia ⁽¹⁾ (kg·m ²)	J4	235/391	188/313	510/1097 (option)
	J5	235/391	188/313	510/1097 (option)
	J6	156/352	117/225	320/444 (option)
Mechanical brakes	All axes	All axes	All axes	
Mechanical weight (kg)	1720	1800	2800	
Mounting method ⁽²⁾	Floor, ceiling angle & wall	Floor, ceiling angle & wall	Floor	
Installation environment:				
Ambient temperature °C	0 to 45			
Humidity	Normally: 75% or less Short term (within a month): 95% or less No condensation (No dew or frost allowed)			
Vibration (m/s ²)	4.9 or less (0.5G or less)			
IP Rating(s)	Wrist & J3 arm IP67, rest IP54 (IP66 optional)			

Notes:

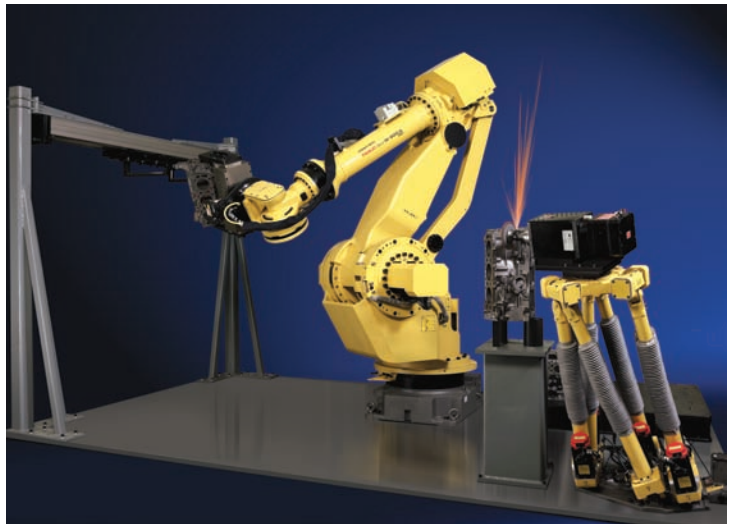
- 1) Allowable load inertia at wrist can be switched by software parameters; acc/dec are slightly longer but all other specifications are unchanged.
- 2) Motion range will be derated for angle and wall mount.



Sand core package handling with M-900iA/600kg.



Cast iron valve body handling with M-900iA/350kg robot.



Engine block handling and deflashing with Intelligent M-900iA/350kg and F-200iB robots.

Intelligent Robot Solutions

FANUC
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