

# M-10iA™ Series

**FANUC**  
Robotics

## Basic Description

The M-10iA is FANUC Robotics' latest-generation, six-axis, high performance industrial robot. This small but mighty robot only weighs 130 kg but provides 10 kg payload with the highest wrist moments and inertia in its class.

Dress-out and routing of cables and airlines have been greatly simplified with a 50 mm hollow wrist and upper arm, helping to reduce system cost and improving reliability. The M-10iA can be floor or wall mounted at any angle, or ceiling mounted. J3 can also flip over allowing the robot to work behind itself creating a very large work envelope.

Along with FANUC's integrated vision package in the controller called *iRvision*®, the M-10iA comes vision ready with a 2D vision cable integrated though the robot arm as a standard option.

The M-10iA has the highest axis speeds and the best repeatability in its class, making for an extremely fast and highly repeatable robot. The M-10iA is setting the industry standard for small robots and is the perfect solution for your application.

## M-10iA Series, the Solution for:

- Machine tending
- Material handling
- Assembly
- Picking and packing
- Material removal
- Testing and sampling
- Dispensing

## Features and Benefits

- 6 degrees of freedom
- ±0.08 mm repeatability
- 10 kg payload at wrist
- Large wrist moments and inertias for real-world EOATs and workpieces



- Supplementary payload mount on J3 casting
- Pneumatic and electrical (8 DI/8 DO) connections for EOAT on J3
- 2D vision cables from J1 to J3 as a standard option
- Compact size, slim wrist, and small footprint permit operation in tight work spaces
- Robot can be floor, angle, wall or ceiling mounted
- High joint speeds maximize throughput
- Absolute encoder positioning eliminates homing at power-up
- Intelligent color graphic teach pendant is network ready
- Built-in Solution Arm, 50 mm hollow wrist and upper arm

## Reliability

- RV reducer, gear and harmonic drivetrains provide rigidity and performance in a compact package
- Sealed bearings and brushless, maintenance-free AC motors provide protection and improve reliability

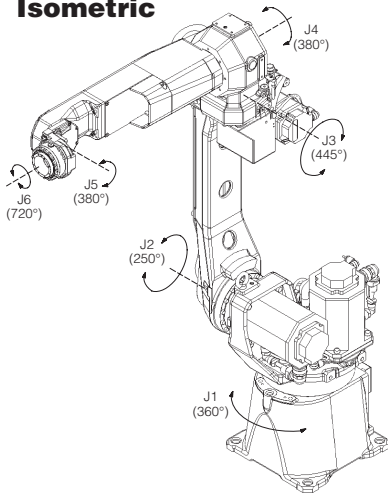
## Robot and Controller Options

- M-10iA/6L variant available for applications that require greater reach
- *iRvision* for guidance and inspection
- Up to 40 axes (robot + auxiliary) on same controller
- Extended communications capabilities: FTP, DeviceNet, Profibus, Genius, FANUC Model A I/O rack, CC-Link, etc.
- Linear or circular conveyor tracking
- Many unique robot and application-driven software options available

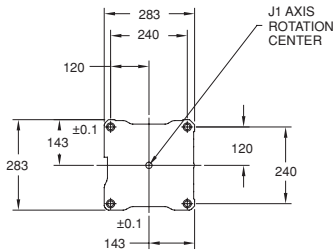
Note: *iRvision*® is a registered trademark of FANUC LTD.

# M-10iA Dimensions

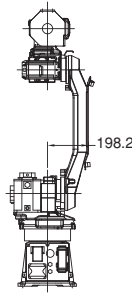
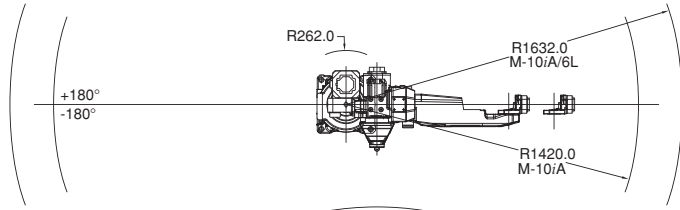
## Isometric



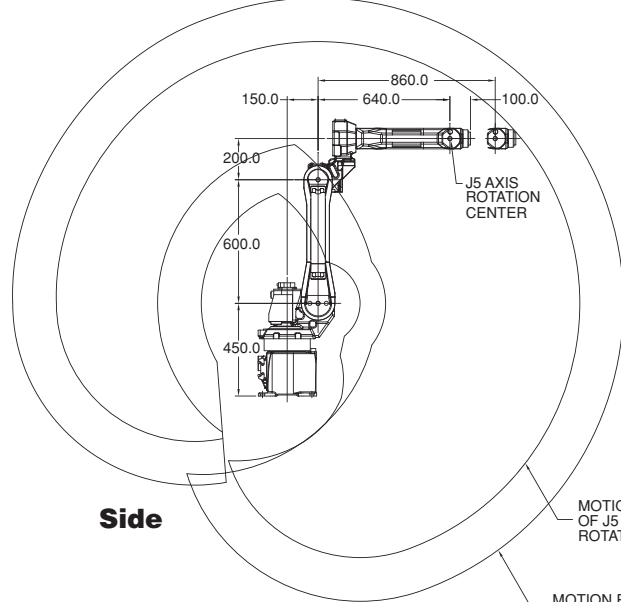
## Footprint



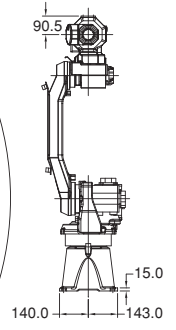
## Top



Back



Side



Front

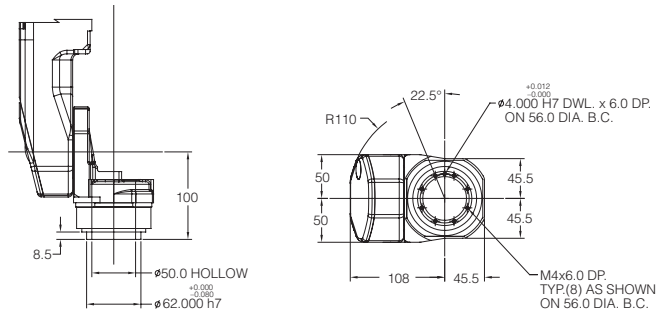
MOTION RANGE OF J5 AXIS ROTATION CENTER (M-10iA)

MOTION RANGE OF J5 AXIS ROTATION CENTER (M-10iA/6L)

# M-10iA Specifications

Items	M-10iA	M-10iA/6L	
<b>Axes</b>	6	6	
<b>Payload (kg)<sup>(1)</sup></b>	10	6	
<b>Payload (kg) on J3 casting</b>	12	12	
<b>Reach (mm)</b>	1420	1632	
<b>Repeatability<sup>(2)</sup> (mm)</b>	±0.08	±0.10	
<b>Interference radius (mm)</b>	262	262	
<b>Motion range (degrees)</b>	J1	340/360	340/360
	J2	250	250
	J3	290 (445) <sup>(3)</sup>	290 (445) <sup>(3)</sup>
	J4	380	380
	J5	380	380
	J6	720	720
<b>Motion speed (degrees/s)</b>	J1	210	210
	J2	190	190
	J3	210	210
	J4	400	400
	J5	400	400
	J6	600	600
<b>Wrist moments N-m (kgf-m)</b>	J4	22 (2.2)	15.7 (1.6)
	J5	22 (2.2)	10.1 (1.0)
	J6	9.8 (1.0)	5.9 (0.6)
<b>Wrist load inertia (kg-m<sup>2</sup>)</b>	J4	0.63	0.63
	J5	0.63	0.38
	J6	0.15	0.061
<b>Mechanical brakes</b>	All axes		
<b>Mechanical weight (kg)</b>	130	135	
<b>Mounting method<sup>(4)</sup></b>	Floor, ceiling, angle, and wall		
<b>Installation environment</b>			
<b>Temperature (°C)</b>	0 to 45		
<b>Humidity</b>	Normally: 75% or less Short term (within a month): 95% or less. No condensation		
<b>Vibration (m/s<sup>2</sup>)</b>	4.9 or less (0.5 G or less)		
<b>IP rating(s)<sup>(5)</sup></b>	IP67 forearm and wrist/IP54 lower body		

## Wrist



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

## Intelligent Robot Solutions



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### Notes:

- (1) Payload on J3 casting is in addition to wrist payload capacity
- (2) Repeatability per JIS8432
- (3) Combined J2 & J3
- (4) J1 and J2 motion range de-rated when M-10iA & M-10iA/6L are angle or wall mounted
- (5) Organic solvents, acids, alkalis and chlorine/gasoline coolants or any chemicals which may harm NBR (nitrile rubber) must not be used