

# M-16iB™ Series

## Basic Description

The M-16iB series is a six-axis, modular construction, electric servo-driven robot designed for a variety of industrial applications. Based on its simple and reliable construction, the M-16iB series provides sophisticated motion control and consistent performance with high productivity. The robot controller and easy-to-use HandlingTool™ application software provide accurate and consistent path performance.

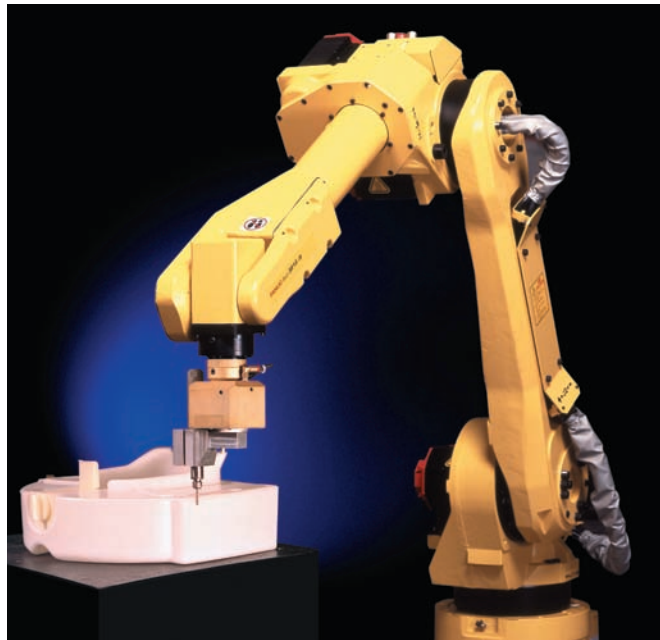
The M-16iB series, the latest generation material handling robot, has a compact design with improved motion range and speed. The compact yet flexible design simplifies installation, maximizes reach capability within confined areas and enables high-density installation of robots and peripherals.

## M-16iB Series, the Solution for:

- Assembly
- Dispensing
- Material handling
- Machine load/unload
- Material removal
- Waterjet cutting
- Laser cutting
- Packing

## Benefits

- Largest work envelope and load capacity in its class allows robot operation in a wide range of high-speed, medium-payload manufacturing processes.
- No robot modification required for upright, inverted, angle and wall mounting.
- Unique hollow RV speed reducers simplify cable routing.
- Small footprint facilitates placement in tight surroundings.
- Low arm mass and rigid design allow high-speed, precise positioning.
- Dedicated pneumatic and electrical connections on J3 axis.



- Material handling style teach pendant with large LCD screen and ergonomic design offers intuitive control over the process.
- Fail-safe brakes on all axes increase safety, functionality and control.

## Features

- *iPendant™*, a color, Internet-ready teach pendant for even easier programming and custom cell user interface design.
- Repeatability of  $\pm 0.08$  mm at full speed and full payload within entire work envelope.
- 20 kg payload capacity.
- “Double-jointed” arm increases work envelope and positioning flexibility.
- Absolute serial encoders eliminate the need for calibration at power-up.

## Reliability Features

- Sealed bearings and drives, and brushless AC motors minimize maintenance.
- Grease fittings on all lubrication points for quick and easy maintenance.
- Uses directly-coupled drives, which are more reliable than belts, pulleys or chains.

- All motors, cables and tooling services are engineered to prevent snagging and damage from chips, sprays and other hazards.
- Dust and water resistant design maximizes durability.
- Quick disconnect robot connecting cables.

## Options

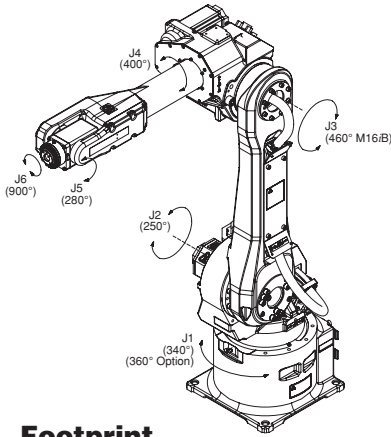
- *iPendant* is also available with touch screen support.
- 360° Axis 1 base rotation.
- FoundryPRO® protection package for harsh environment applications (standard M-16iB wrist is rated IP67 to withstand temporary immersion in liquids).
- Auxiliary axis packages for integration into part positioners.
- Various robot connection cable lengths for flexible cabinet placement and optional track rated cables.
- Monochrome pendant available.
- *iRVision™* (Integrated Robot Vision) system delivers high-performance 2-D and 3-D machine vision capabilities with FANUC reliability.

Note: FoundryPRO is a registered trademark of FANUC LTD.

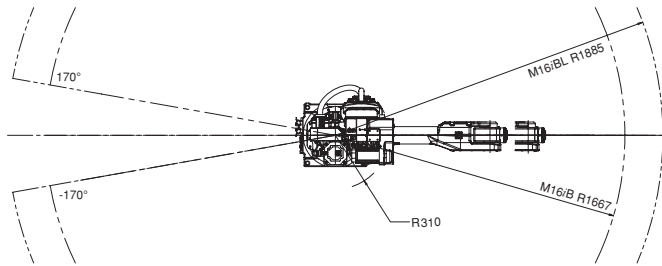
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# M-16iB Series Dimensions

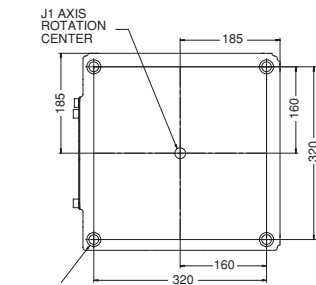
## Isometric



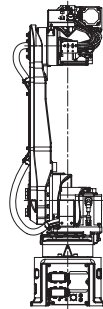
## Top



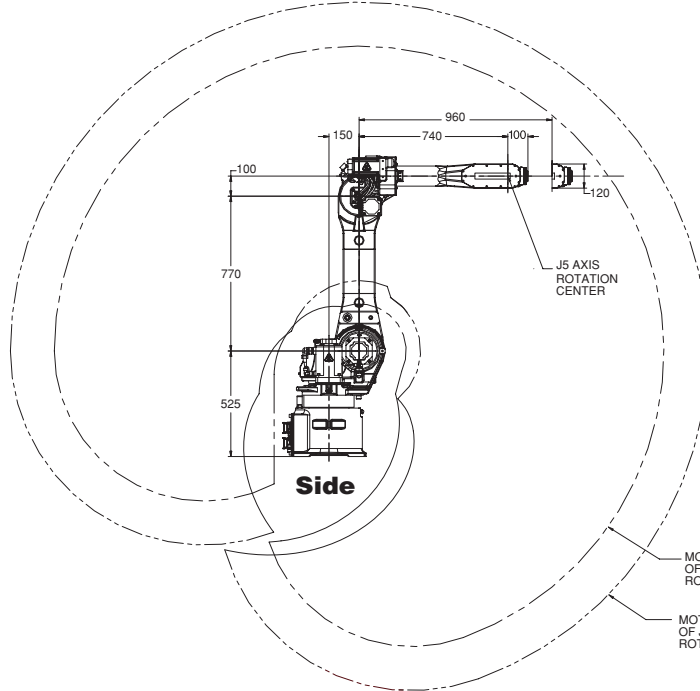
## Footprint



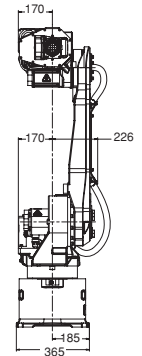
4ø18 THROUGH  
ø26 FACING DEPTH 5



## Back



## Side



## Front

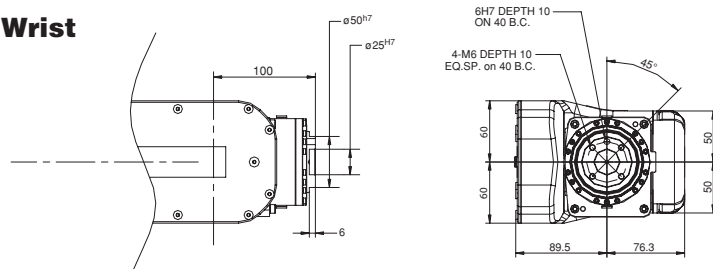
Mounting Hardware: M16X35 (4pcs);  
Strength Class: 12.9; Tightening Torque: 314 Nm

## M-16iB Series Specifications

Items	M-16iB/20	M-16iB/10L
Axes	6	6
Payload (kg)	20	10
Reach (mm)	1667	1885
Repeatability (mm)	±0.08	±0.10
Interference radius (mm)	312	312
Motion range (degrees)	J1	340
	J2	250
	J3	460
	J4	400
	J5	280
	J6	900
Motion speed (degrees/s)	J1	165
	J2	165
	J3	175
	J4	350
	J5	340
	J6	520
Wrist moment N-m (kgf-m)	J4	39 (4)
	J5	39 (4)
	J6	19.6 (2)
Wrist inertia (kg-m <sup>2</sup> )	J4	.88
	J5	.88
	J6	.25
Brakes	All axes	All axes
Mechanical weight (kg)	220	220
Mounting method	Floor, ceiling (angle and wall - see Note 1)	
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 <sup>2</sup> ) (G)	4.9 or less (0.5G or less)	
IP Rating(s)	Body IP54 std. (IP55 optional) Wrist & J3 arm IP67	
Payload at axis 3 (kg)	12	12

Note 1 - J1 and J2 axis motion range will be derated.

## Wrist



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

## Intelligent Robot Solutions

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