

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.

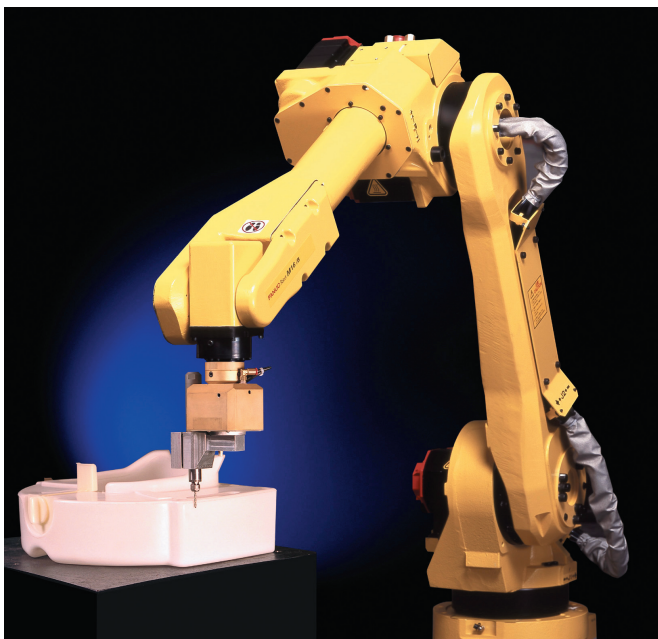
The M-16iB series, the latest generation material handling robot, has a compact design with improved motion range and speed. The compact yet flexible design simplifies installation, maximizes reach capability within confined areas and enables high-density installation of robots and peripherals.

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 (with eight digital inputs and eight digital outputs) connections on J3 axis to simplify user's end-of-arm tooling design, integration and communication.
- 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 +/- 0.08 mm at full speed and full payload within entire work envelope.
- 20 kg payload capacity.
- Axes speeds up to 520 degrees/sec. Best in its class.
- "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.
- In-line wrist design minimizes complexity and eliminates bevel gear adjustments.

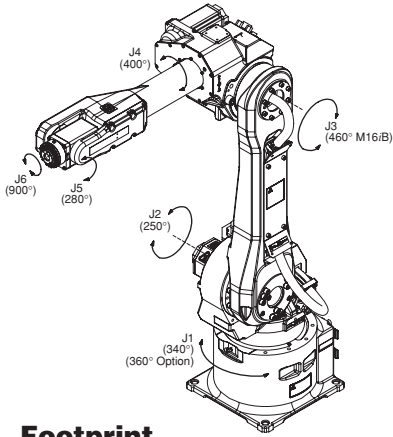
Options

- iPendant is also available with touch screen support.
- 360° Axis 1 base rotation.
- Severe dust and liquid 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.

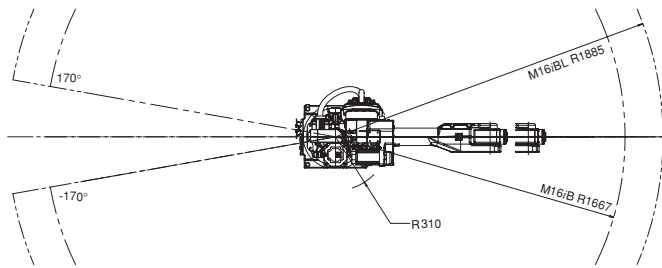
FANUC
Robotics

M-16iB Series Dimensions

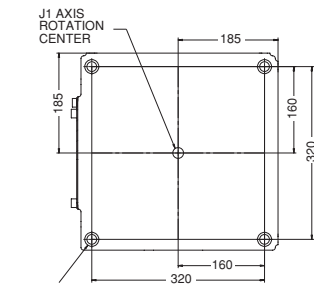
Isometric



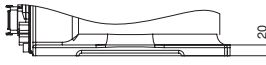
Top



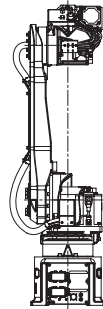
Footprint



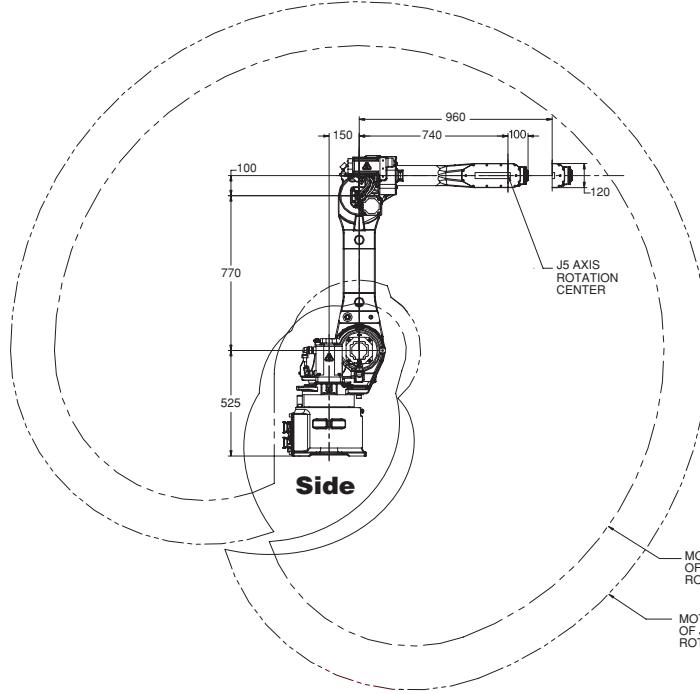
4ø18 THROUGH
ø26 FACING DEPTH 5



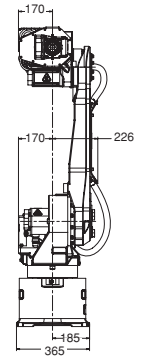
Mounting Hardware: M16X35 (4pcs);
Strength Class: 12.9; Tightening Torque: 314 Nm



Back



Side



Front

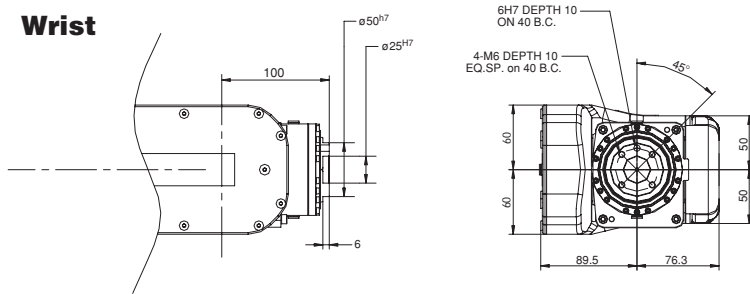
MOTION RANGE OF J5 AXIS ROTATION CENTER M16iB
MOTION RANGE OF J5 AXIS ROTATION CENTER M16iBL

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)	310	310
Motion range (degrees)		
J1	340/360	340/360
J2	250	250
J3	460	455
J4	400	400
J5	280	280
J6	900	900
Motion speed (degrees/s)		
J1	165	165
J2	165	165
J3	175	175
J4	350	350
J5	340	340
J6	520	520
Wrist moment (kgf·m)		
J4	4.0	2.2
J5	4.0	2.2
J6	2.0	1.0
Wrist inertia (kgf·cm·s ²)		
J4	9.0	6.4
J5	9.0	6.4
J6	2.5	1.5
Mechanical brakes	All axes	All axes
Mechanical weight (kg)	220	230
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 ²) (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.



FANUC Robotics America, Inc.
3900 W. Hamlin Road
Rochester Hills, MI 48309-3253
(248) 377-7000
Fax (248) 377-7362

Charlotte, NC
(704) 596-5121

Chicago, IL
(847) 898-6000

Toronto, Canada
(905) 812-2300

Montréal, Canada
(450) 492-9001

For sales or technical information, call:
1-800-47-ROBOT

Cincinnati, OH
(513) 754-2400

Aguaascalientes, Mexico
52 (449) 922-8000

Los Angeles, CA
(949) 595-2700

Sao Paulo, Brazil
(55) (11) 3619-0599

marketing@fanucrobotics.com
www.fanucrobotics.com

Toledo, OH
(419) 866-0788