

M-16*i*B/20 - *i*B/10L

Basic Description

The M-16*i*B 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-16*i*B provides sophisticated motion control and consistent performance with high productivity. The SYSTEM R-J3*i*B Controller and easy-to-use HandlingTool application software provide accurate and consistent path performance.

The M-16*i*B, 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-16*i*B/20-*i*B/10L, the solution for :

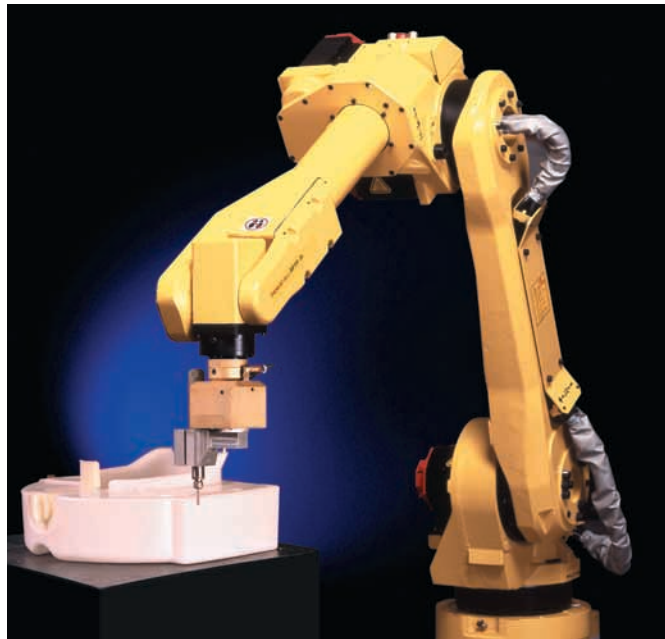
- Assembly
- Dispensing
- Material handling
- Machine load/unload
- Material removal
- Waterjet cutting
- Packing

Features

- 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.

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.

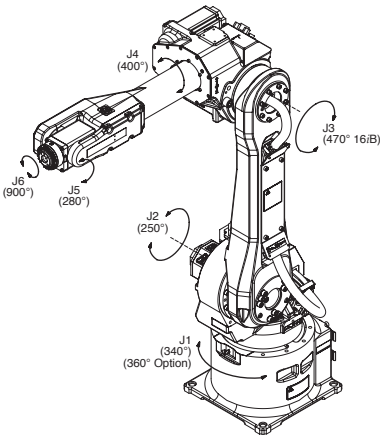
- Dedicated pneumatic and electrical (with eight digital inputs and eight digital outputs) connections on J3 axis to simplify user's end-of-arm tooling design, integration and communication.
- Material handling style teach pendant with large LCD screen and ergonomic design offers intuitive control over the process.
- Fail-safe brakes on all axes increase safety, functionality and control.

Options

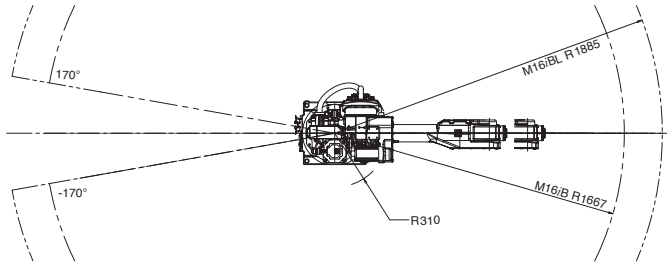
- 360° Axis 1 base rotation.
- Severe dust and liquid protection package for harsh environment applications (standard M-16*i*B wrist is rated IP67 to withstand temporary immersion in liquids).
- *i* Pendant, a color, Internet-ready teach pendant for even easier programming and custom cell user interface (Easy Panel).
- Auxiliary axis packages for integration into part positioners.
- Various robot connection cable lengths for flexible cabinet placement and optional track rated cables.

M-16iB20-iB/10L Dimensions

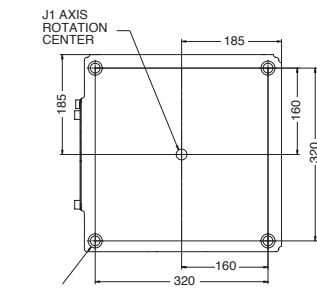
Isometric



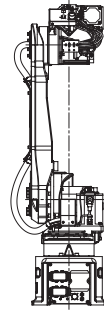
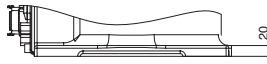
Top



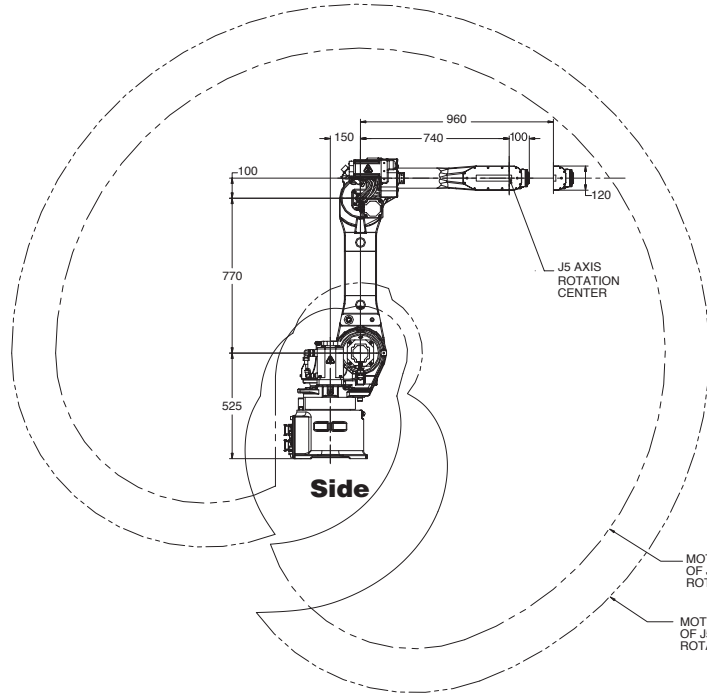
Footprint



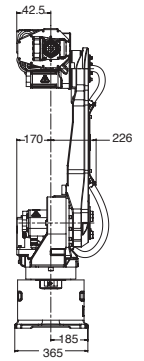
4ø18 THROUGH
ø26 FACING DEPTH 5



Back



Side



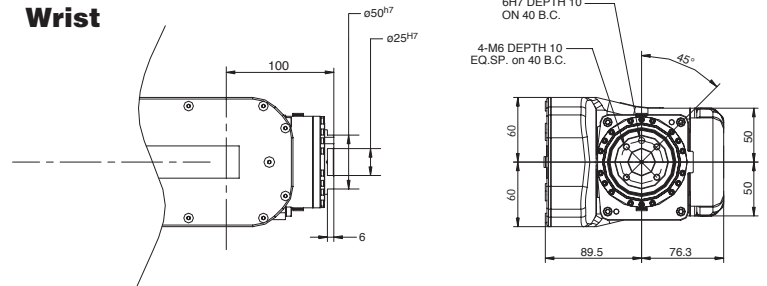
Front

M-16iB/iLB 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/sec.)	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)	215	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		

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

Wrist



Note: Dimensions are shown in millimeters.

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Perpetual Motion

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