

Cleanroom Robots

Perpetual Motion
FANUC
Robotics

Basic Description

The LR Mate 200iB/5C and M-6iB/6C are the latest generation FANUC cleanroom robots. The cleanroom line has been offered since 1984.

The LR Mate 200iB/5C and M-6iB/6C are six-axis, modular construction, AC electric servo-driven robots. They are optimized for operation in sensitive, contamination-controlled environments and occupy minimal floor space.

Designed for superior performance in manufacturing and lab applications, both robots provide high throughput, industry-leading reliability, and sophisticated motion control for gentle part handling. Superior to any 2, 3 and 4 axes robots the LR Mate 200iB/5C and the M-6iB/6C can move along three-dimensional curved paths and approach any position from virtually any direction.

Both models and their predecessors have an installed base in the tens of thousands.

The Solutions for:

- Material handling
- Machine tending
- Assembly
- Clean injection mold extraction
- Dispensing

Industries served

- Semiconductor
- Magnetic media (hard drives, audio/videotapes)
- Optical media (CDs, DVDs)
- Laboratory automation
- Medical devices
- Pharmaceuticals
- Clean plastics

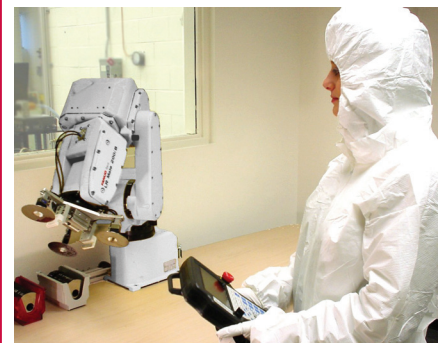


Features and Benefits

- Capable of handling a full FOUP containing 25, 300 mm wafers and an end-effector (M-6iB)
- Lower cost, higher reliability, and greater flexibility than custom-engineered hard automation
- Fail-safe brakes increase safety, functionality, and control
- Six degrees of freedom eliminate the expense, floor space, and contamination issues of a track in many applications
- I/O line terminations at forearm for end-effector, mappers, and other sensors
- Compact footprint and profile for tight minienvironments
- Powerful and expandable robot controller

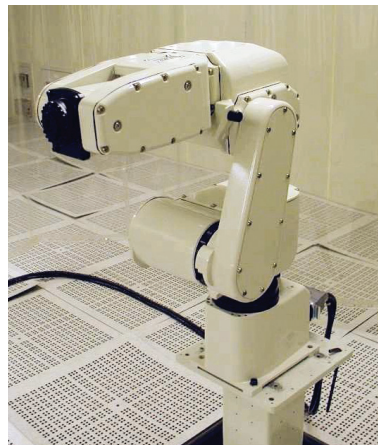
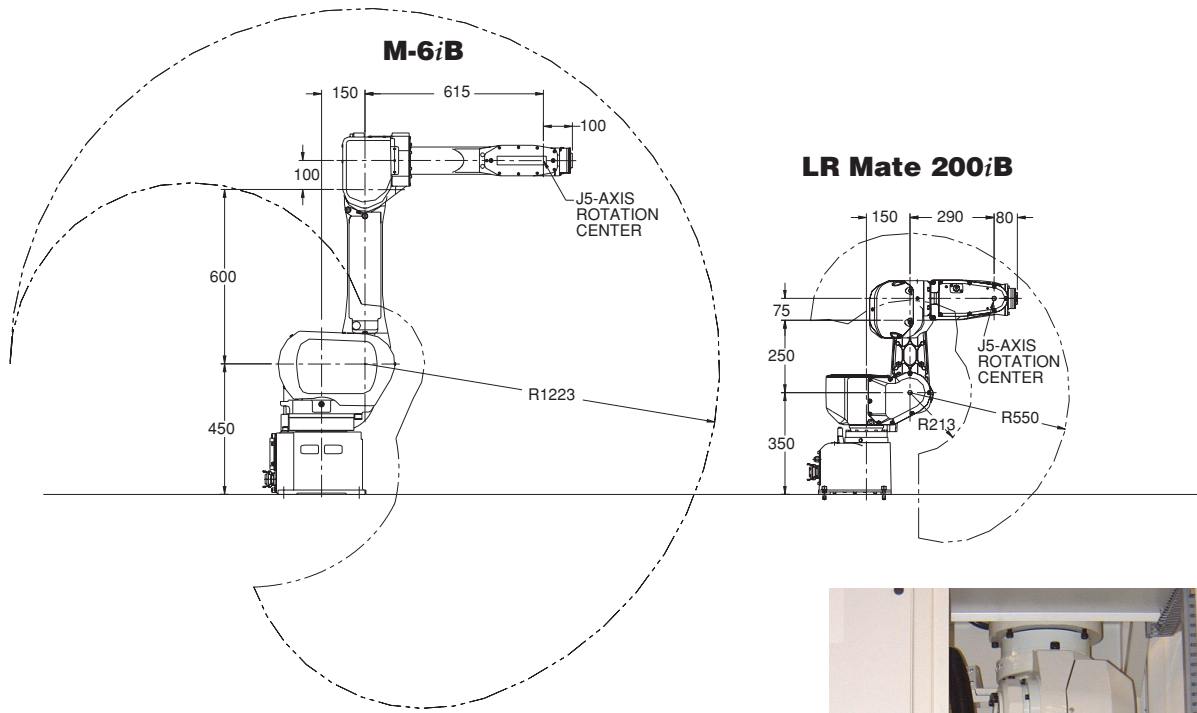
Options

- Color, graphical, internet-ready teach pendant for easy operation and application-specific custom user interface
- Compliant with CE standards
- Robot end-effector and peripherals
- Integral machine vision for robot guidance and inspection
- Robot autoteach and collision prevention software
- Off-line simulation software



Hard disk sorting

Dimensional Comparison:



The LR Mate 200iB is a compact, tabletop-sized robot



M-6iB within FOUF buffer invert-mounted for increased cell layout flexibility

Robot Specifications:

Items	LR Mate 200iB	M-6iB	
Axes	6	6	
Payload (kg)	3 (5 with limits)	6*	
Reach (mm)	700	1.373	
Repeatability (mm)	± 0.04	± 0.08	
Interference radius (mm)	180	324	
Motion range (°)	J1	320	340 (360 optional)
	J2	185	250
	J3	316	315
	J4	380	380
	J5	240	280
	J6	720	720
Motion speed (%/s)	J1	180	150
	J2	180	160
	J3	225	170
	J4	400	400
	J5	330	400
	J6	480	500
Wrist moment (Nm)	J4	725.2	1568
	J5	725.2	980
	J6	521.4	588
Wrist inertia (kgm ²)	J4	0.137	0.63
	J5	0.137	0.22
	J6	0.08	0.06
Mechanical brakes	All joints	All joints	
Mechanical weight (kg)	45	140	
Mounting method	Floor, inverted	Floor, Angle, Inverted	
Installation environment	Mechanical unit of the robot conforms to class 100 (0.5 μm) cleanliness. ISO Class 5		

Note: Dimensions are shown in millimeters.

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*M-6iB can handle a full FOUF containing 25, 300 mm wafers and an end-effector