

Robot for Biomedical Applications MOTOMAN-MH3BM

Application: Handling
Payload: 3 kg

Ideal for Conveying Inside Medical Installations

This is a robot suited to the hygienic environments required for the development of new drugs, clinical testing, and pharmaceutical dispensing work.

Features

Compact and Lightweight, with a Maximum Payload of 3 kg

- Highest payload in its class.
- Largest motion range of S-axis (Turning) in its class: -180° to $+180^\circ$

Designed for Excellent Hygiene Management

- Special coating and surface treatment of the robot enables cleaning with hydrogen peroxide.
- The enclosed structure is sealed to provide ingress protection conforming to IP67 for the wrist axis and to IP65 for main axes.
- The robot conforms to ISO cleanroom class 5, which does not allow dust to be generated or to adhere.

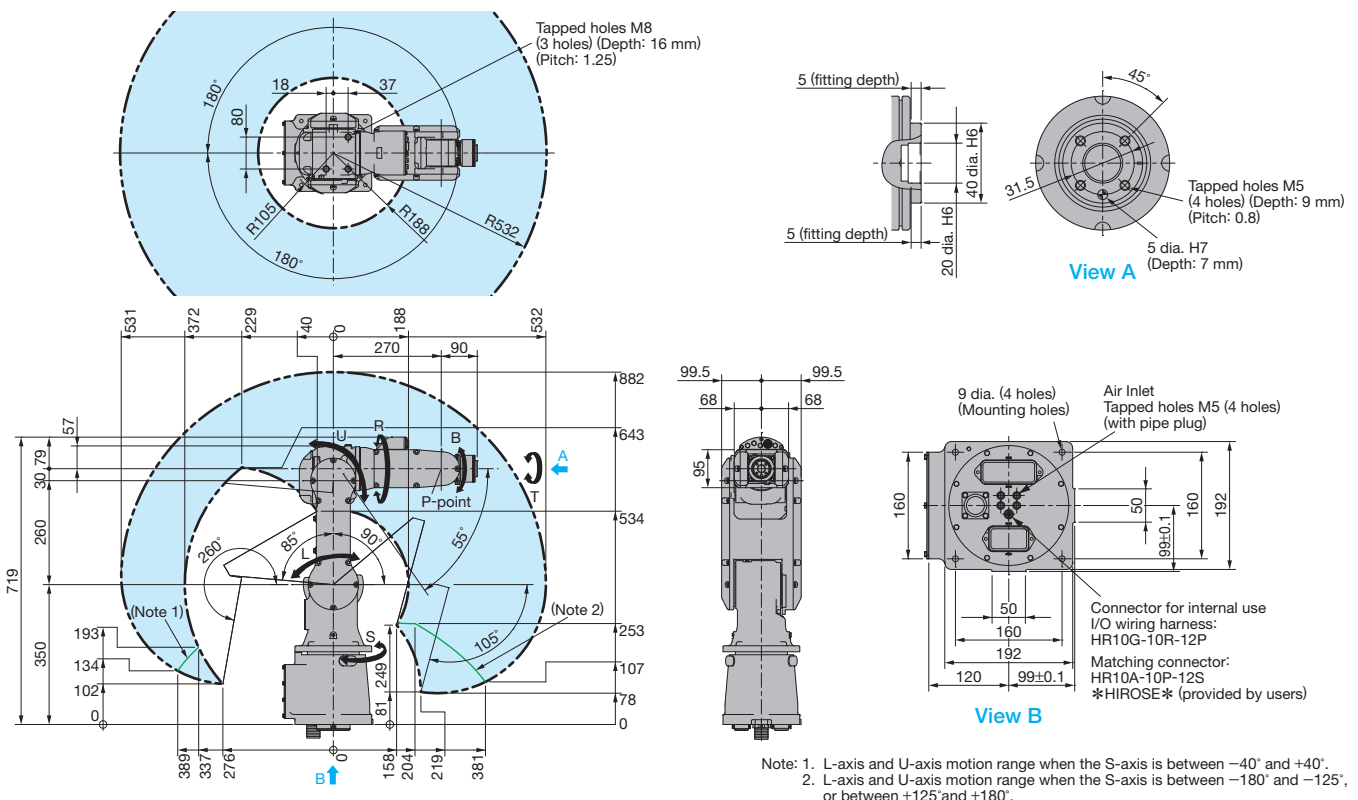
Design Allows Power Cable to Exit from the Bottom

- Can be installed inside equipment providing a sealed environment.



Bottom with power cable exit

■ Dimensions Units : mm : P-point Maximum Envelope



MOTOMAN-MH3BM

■ Manipulator Specifications

Items		Specifications
Model		MOTOMAN-MH3BM
Type		YR-MH003BM-A00
Controlled Axis		6 (Vertically articulated)
Payload		3 kg
Repeatability*1		±0.03 mm
Range of Motion	S-axis (turning)	-180° - +180°
	L-axis (lower Arm)	-85° - +90°
	U-axis (upper arm)	-105° - +260°
	R-axis (wrist roll)	-170° - +170°
	B-axis (wrist pitch/yaw)	-120° - +120°
	T-axis (wrist twist)	-360° - +360°
Maximum Speed	S-axis (turning)	5.41 rad/s, 310°/s
	L-axis (lower Arm)	2.62 rad/s, 160°/s
	U-axis (upper arm)	3.32 rad/s, 190°/s
	R-axis (wrist roll)	5.24 rad/s, 300°/s
	B-axis (wrist pitch/yaw)	5.24 rad/s, 300°/s
	T-axis (wrist twist)	7.33 rad/s, 420°/s
Allowable Moment	R-axis (wrist roll)	5.39 N·m
	B-axis (wrist pitch/yaw)	5.39 N·m
	T-axis (wrist twist)	2.94 N·m
Allowable Inertia (GD ² /4)	R-axis (wrist roll)	0.10 kg·m ²
	B-axis (wrist pitch/yaw)	0.10 kg·m ²
Mass		27 kg
	Ambient Temperature	During operation: 0 to +40°C, During storage : -10 to +60°C
Ambient Conditions	Relative Humidity	20 to 80% max. (non-condensing)
	Vibration Acceleration	4.9 m/s ² or less
	Mounting	Floor or ceiling
	Others	<ul style="list-style-type: none"> Free from corrosive gasses or liquids, or explosive gasses Free from exposure to water, oil, or dust Free from excessive electrical noise (plasma)
	Power Requirements*2	0.5 kVA

*1 : Conforms to ISO 9283.

*2 : Varies in accordance with applications and motion patterns.

Note: SI units are used for specifications.

■ FS100 Controller Specifications

Items		Specifications
Configuration	Standard:	IP20 (open structure)
	Option :	IP54 (dustproof housing)
Dimensions		470 (W)×420 (D)×200 (H) mm (Does not include protruding parts.)
Mass		20 kg
Cooling System		Direct cooling
Ambient Temperature		During operation: 0°C to +40°C During storage : -10°C to +60°C
Relative Humidity		90% max. (non-condensing)
Power Supply		Three-phase 200/220 VAC (+10% to -15%), 50/60 Hz
Grounding		Grounding resistance: 100 Ω or less
Digital I/Os	Specialized signals:	10 inputs and 1 output
	General signals :	28 inputs and 28 outputs
		Max. I/O (optional) : 1,024 inputs and 1,024 outputs
Positioning System		By serial encoder
Programming Capacity		JOB: 10,000 steps, 1,000 instructions C/O ladder: 1,500 steps
Expansion Slots		MP2000 bus × 5 slots
LAN (Connection to Host)		1 (10BASE-T/100BASE-TX)
Interface		RS-232C: 1ch
Control Method		Software servo control
Drive Units		Six axes for robots two more axes can be added as external axes. (Can be installed in the controller.)
Painting Color		Munsell notation 5Y7/1 (reference value)

■ Programming Pendant Specifications

Items		Specifications
Type		JZRCR-YPP03-1
Dimensions		169 (W)×314.5 (H)×50 (D) mm (Does not include protruding parts.)
Mass		990 g
Material		Reinforced plastics
Operation Device		Select keys, axis keys, numerical/application keys, Mode switch with key (mode: teach, play, and remote), emergency stop button, enable switch, compact flash card interface device (compact flash is optional.), USB port (1 port)
Display		640×480 pixels color LCD, touch panel (Alphanumeric characters, Chinese characters, Japanese letters, Others)
IEC Protection Class		IP65
Cable Length		Standard: 8 m, Max. : 20 m (optional)
Key Sheet		General-purpose key sheet only

Note: 1. A dummy connector is required if no programming pendant is connected. Sold separately.

2. The pendant (YPP01-1) for a DX100 controller cannot be connected to an FS100 because of specification differences.

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LITERATURE NO. CHEP C940351 01A

Published in Japan January 2013 13-1
13-1-33