

New Robot Optimized for Handling (Multi-Purpose) MOTOMAN-MH50II-20

20 kg Payload, 6-axis Vertically Articulated

Robot Controller DX200

***New robot with long arm and extensive functions!
Compatible with the new DX200 controller***

Expanded applications with new cable

A tube for fieldbus cable is included in the standard specifications.

New functions & design

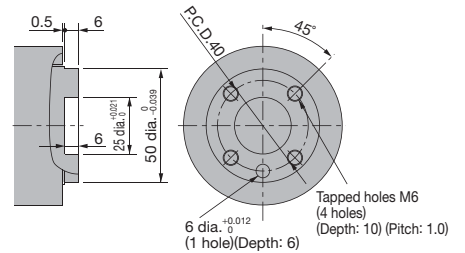
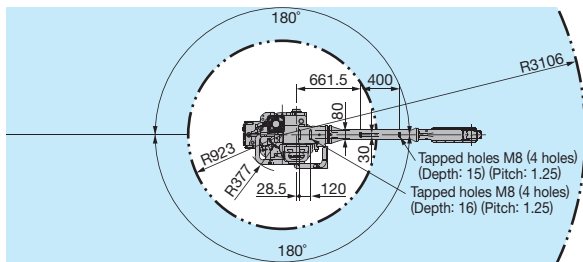
- Preventive maintenance function for speed reducer, preventive maintenance function for hardware, JOB line comment-out function, JOB line edit-protect function, JOB folder function, etc.
- Space-saving controller design

Enhanced safety function (optional)

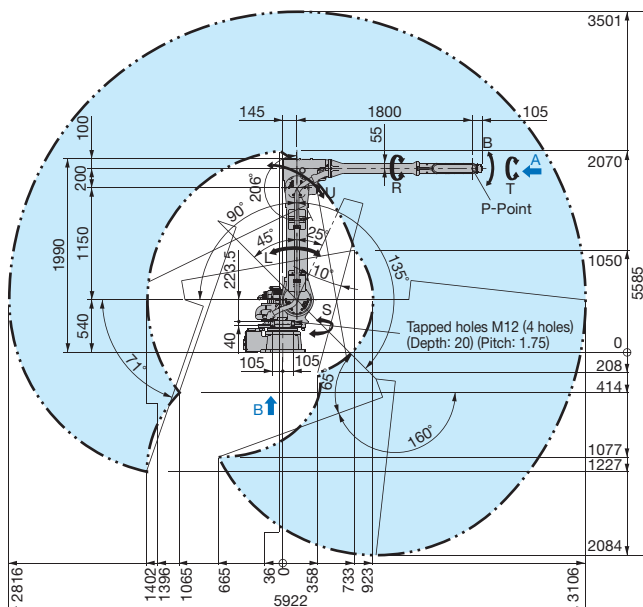
- Monitors robot and tool positions to limit movements
- Monitors positions with the functional safety module



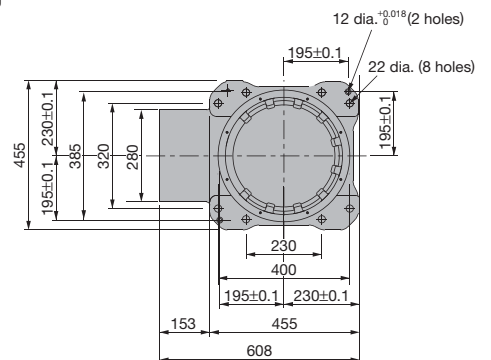
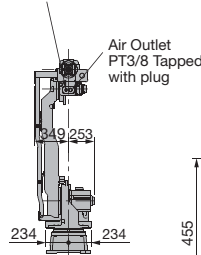
■ Dimensions Units: mm : P-point Maximum Envelope



View A



Connector for internal user
I/O wiring harness:
JL05-2A24-28SC (with cap)
Matching connector:
JL05-6A24-28P
(provided by users)



View B

MOTOMAN-MH50II-20

■ Manipulator Specifications

Items	Specifications	
Model	MOTOMAN-MH50II-20	
Type	YR-MH00050-J10	
Controlled Axis	6 (Vertically articulated)	
Payload	20 kg	
Repeatability*1	±0.15 mm	
Range of Motion	S-axis (turning)	-180° - +180°
	L-axis (lower arm)	-90° - +135°
	U-axis (upper arm)	-160° - +251°
	R-axis (wrist roll)	-190° - +190°
	B-axis (wrist pitch/yaw)	-50° - +230°
	T-axis (wrist twist)	-360° - +360°
Maximum Speed	S-axis (turning)	3.14 rad/s, 180°/s
	L-axis (lower arm)	3.11 rad/s, 178°/s
	U-axis (upper arm)	3.11 rad/s, 178°/s
	R-axis (wrist roll)	6.98 rad/s, 400°/s
	B-axis (wrist pitch/yaw)	6.98 rad/s, 400°/s
	T-axis (wrist twist)	10.47 rad/s, 600°/s
Allowable Moment	R-axis (wrist roll)	39.2 N·m
	B-axis (wrist pitch/yaw)	39.2 N·m
	T-axis (wrist twist)	19.6 N·m
Allowable Inertia (GD ² /4)	R-axis (wrist roll)	1.05 kg·m ²
	B-axis (wrist pitch/yaw)	1.05 kg·m ²
	T-axis (wrist twist)	0.75 kg·m ²
Approx. Mass	495 kg	
Ambient Conditions	Temperature	0°C to +45°C
	Humidity	20 to 80%RH (non-condensing)
	Vibration	4.9 m/s ² or less
	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	3.5 kVA	

*1 : Conforms to ISO 9283.

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

■ DX200 Controller Specifications

Items	Specifications
Configuration	Dust proof
Dimensions	600 (W)×520 (D)×730 (H) mm (Possible to control three external axes)
Mass	100 kg max.
Cooling System	Indirect cooling
Ambient Temperature	During operation : 0°C to +45°C During storage : -10°C to +60°C
Relative Humidity	90% max. (non-condensing)
Power Supply	Three-phase 200/220 VAC (+10%, -15%), 50/60 Hz (±2%)
Grounding	Grounding resistance : 100Ω or less
Digital I/Os	Specialized signals : 23 inputs and 5 outputs General signals : 40 inputs and 40 outputs Max. I/O (optional) : 4096 inputs and 4096 outputs
Positioning System	By serial encoder
Programming Capacity	JOB : 200,000 steps, 10,000 instructions CIO ladder : 20,000 steps
Expansion Slots	PCI : 2 slots
LAN (Connection to Host)	1 (10BASE-T/100BASE-TX)
Interface	RS-232C : 1ch
Control Method	Software servo control
Drive Units	SERVOPACK for AC servomotors (can control up to 9 axes)
Painting Color	Front panel : Light gray (Munsell notation N7.7 or equivalent) Body except front panel : Dark gray (Munsell notation N3 or equivalent)

■ Programming Pendant Specifications

Items	Specifications
Dimensions	169 (W)×314.5 (H)×50 (D) mm
Mass	0.998 kg
Material	Reinforced plastics
Operation Device	Select keys, axis keys, numerical/application keys, mode selector switch with keys (mode : teach, play, and remote), emergency stop button, enable switch, compact flash card interface device (compact flash is optional.)
Display	5.7-inch color LCD, touch panel 640×480 pixels (Alphanumeric characters, Chinese characters, Japanese letters, Others)
IEC Protection Class	IP65
Cable Length	Standard : 8 m, Max. : 36 m (with optional extension cable)

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YASKAWA ELECTRIC CORPORATION

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Specifications are subject to change without notice for ongoing product modifications and improvements.

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