

YASKAWA

Multi-Purpose Robot MOTOMAN-MH and UP Series



*Multi-
purpose*

Certified for
ISO9001 and
ISO14001



JAB
QMS Accreditation
R009



QUALITY SYSTEM
JQA-0813



ENVIRONMENTAL SYSTEM
JQA-EM0202

Yaskawa builds optimum facilities with a complete lineup and the new DX200 robot controller.



Save Space Energy

Structures, performance, and functions designed for optimum application help you downsize production facilities and save energy.

Hardware

Manipulator

Best Performance in its class

High speed and high precision have been achieved by using high-speed, low-inertia AC servomotors and state-of-the-art control technology. A slimmer robot form has also been developed, while wrist allowable inertia has been increased.

Applicable in Severe Environments

The waterproof and dustproof structure (IP67 class level)*1 at the wrist part enables the robot to operate in environments subject to water drops and dust.

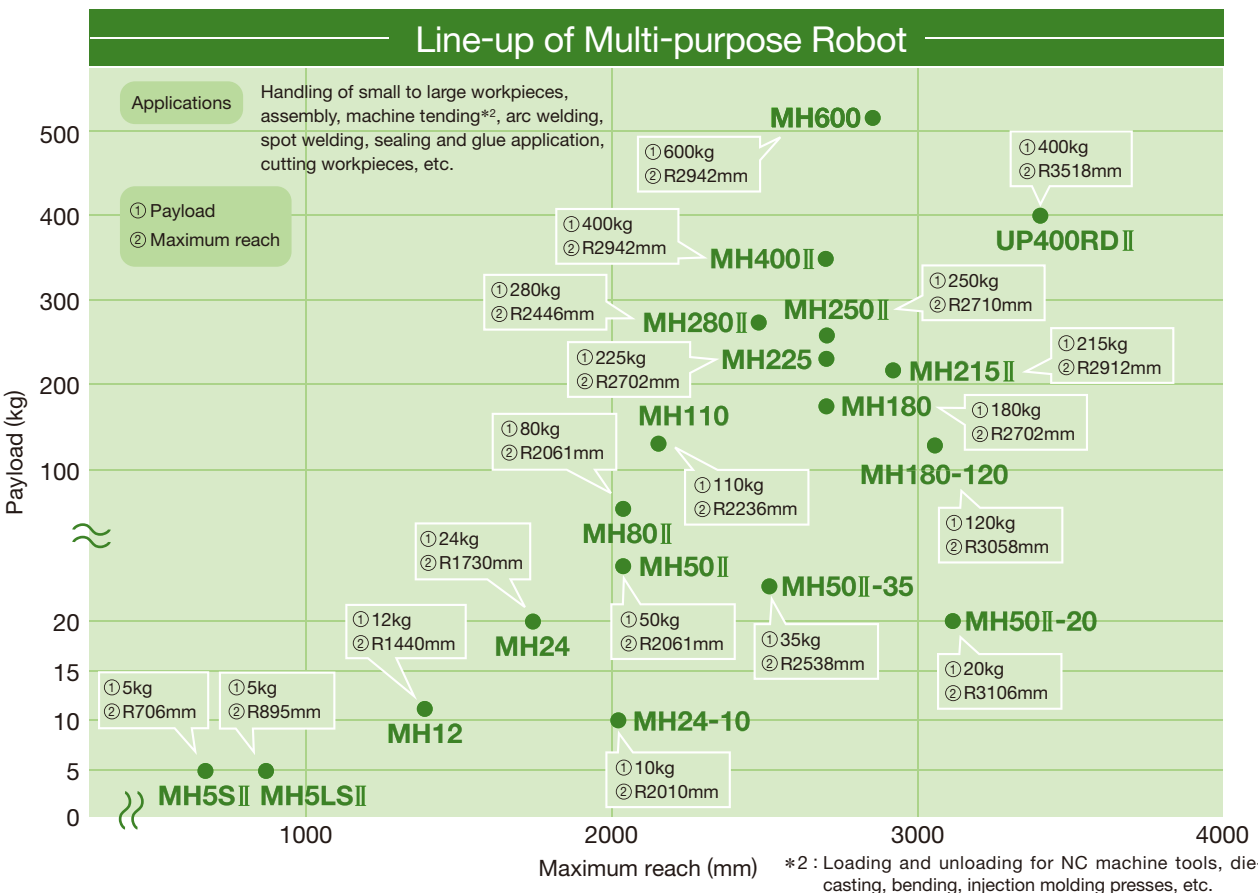
*1 : MH5SII and MH5LSII are available as options.

Robot Controller DX200



Installation space for the control panel is reduced by 50%.

The DX200 is a low-floor robot controller developed with Yaskawa's expertise acquired through the development of products for various applications. The amplifier for three external axes and other options that previously required attachment tools can now be housed inside a standard cabinet, reducing the required space for installation by up to 50%. The safety functions have been strengthened by improving the safety performance of the speed limiting function and tool switching monitoring function.



Short processing

Increased freedom in operation or compact and slim design have made the new robots more optimized for specific applications. High-density installation has contributed customers production line to saving space. The facility which enables integrated process, rapid production and saving space is called "short processing".

New robot solutions

- Slimmer design enables closer mounting.
- Smaller Controller saves space.
- Multiple Robot Controller prevents robots from collisions.
- Installation space reduced by safety function (restricting the range of Robot operation).

Short process

- Shorter production lines.
- Reduced number of processes.

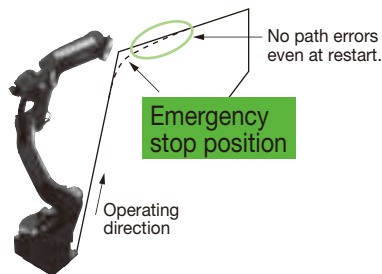
Customer advantages

- Highly efficient production.
- Better quality.
- Saving energy.

Software

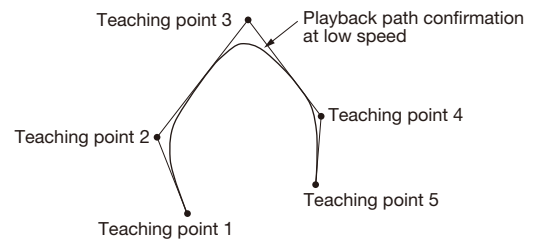
No Deviation from Track at Emergency Stop

The Robot stops on the taught path at emergency stop and will not deviate from the path when restarting, preventing interference of the Robot with nearby obstacles.



Playback Path Confirmation

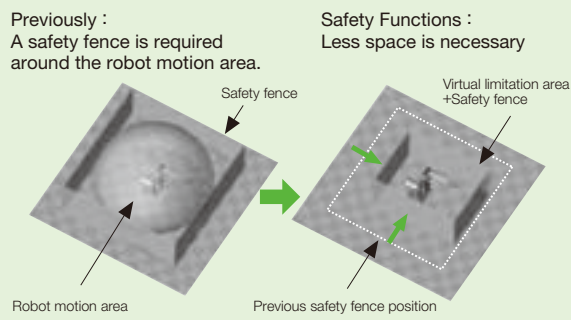
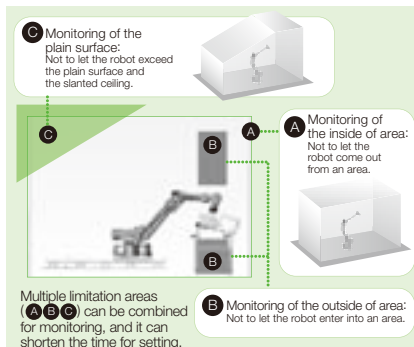
The playback path mode during a test operation can be confirmed by a low speed test operation. This has made the teaching operation with the optimum path in minimal time possible while verifying the existence of interference with workpieces or jigs.



Minimized Area for Safety Fence Installation

Optional

Movements of the robot can be limited within an optimal range for the attached tool by monitoring positions of the robot and tool with the functional safety module equipped with two CPUs. With this function, the safety fence can be installed for an area that is smaller than the motion range of the robot, which reduces the required installation space for production equipment.

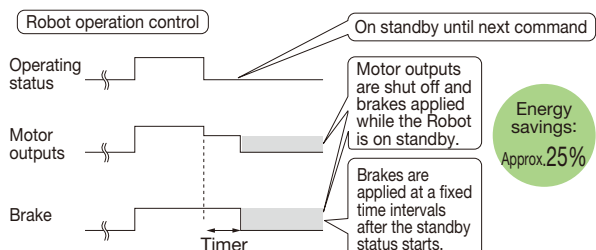


Saving Energy

- The servos are turned OFF automatically when the Robot is stopped for a long period of time. Reduced power consumption helps lower running costs.

<Conditions>

Twenty-four-hour operation in which the Robot is operating for 16 hours and on standby for 8 hours



Energy savings:
Approx. 25%

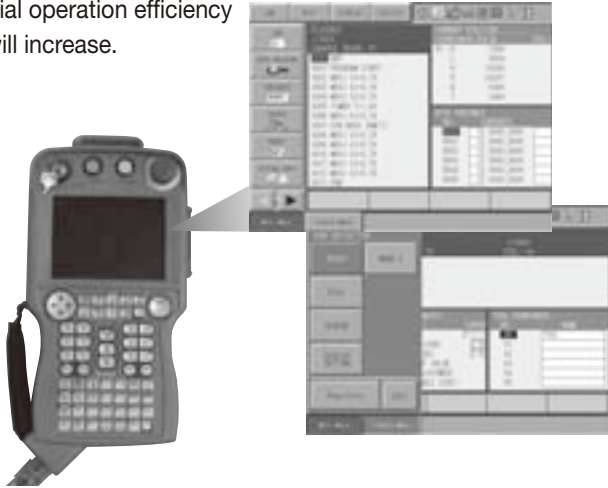


Easy Operation Simulation

Operability of teaching and simulation have been improved to reduce time required for system startup.

Multi-window Display Function

Program operation can be checked while monitoring I/O or variables on the programming pendant so that teaching and trial operation efficiency will increase.



MotoSimEG-VRC Simulator

Optional

The Simulator has evolved from merely simulating Robot operation to a Virtual Controller that reproduces the functions, operations, and displays of the actual Robot. Easy simulation is possible by anyone with an understanding of Robot operation.

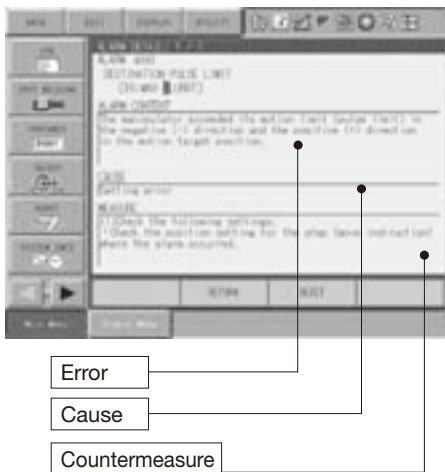


Quick Maintenance Troubleshooting

MOTOMAN continually strives to improve monitoring, troubleshooting, and structures to reduce maintenance and recovery time from failures.

Troubleshooting

When an alarm occurs, the detail, cause, and countermeasure of the error are displayed on the Programming Pendant to provide measures for troubleshooting.



Reduced Replacement Time for Parts

We have reduced the time required to replace Controller parts to shorten recovery time when troubles do occur. (Required time for replacement: from 10 to 8 minutes: reduced by 20%)

The encoder can be replaced with standard tools since it employs a unit style and thus the required time for replacement is reduced.

An optional zeroing function can be used to accurately and quickly reset the home position after replacing the motor or encoder.

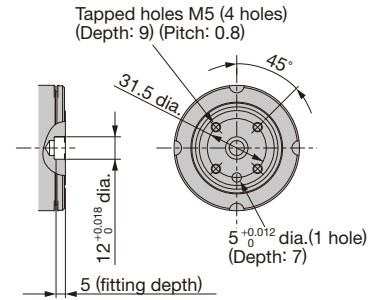
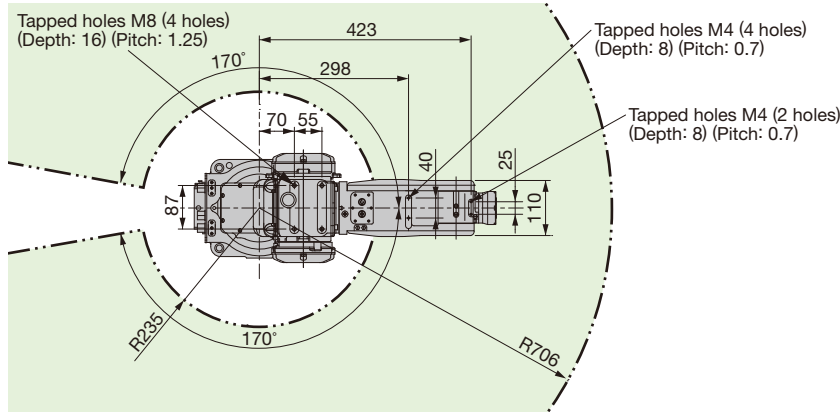




MOTOMAN-MH5S II

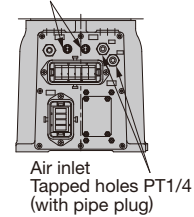
5 kg payload, R706 mm maximum reach

Dimensions Units : mm : P-point Maximum Envelope

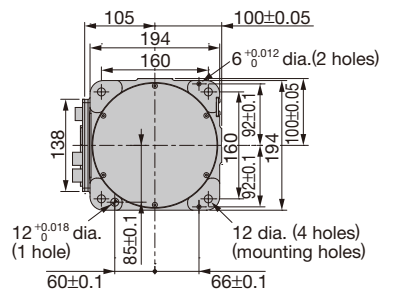
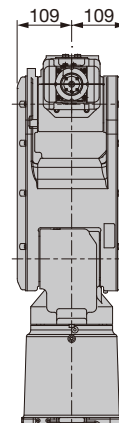
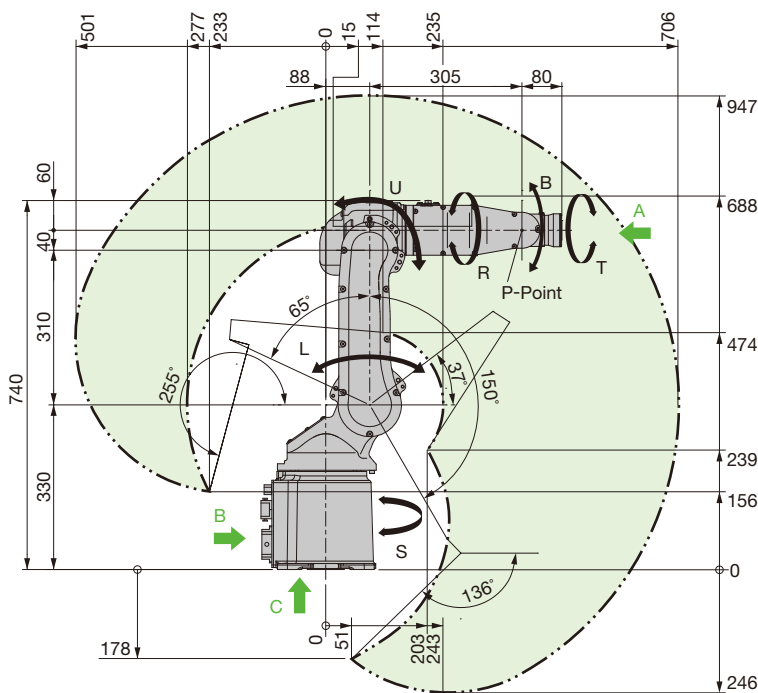


View A

Connector for internal user
I/O wiring harness:
HR10A-10R-10P (73)
Matching connector:
HR10A-10P-10S*HIROSE*
(provided by users)



View B



View C

Manipulator Specifications

Model	MOTOMAN-MH5S II*3	
Type	YR-MH0005S-J00	
Controlled Axis	6 (Vertically articulated)	
Payload	5 kg	
Repeatability*1	±0.02 mm	
Range of Motion	S-axis (turning)	-170° - +170°
	L-axis (lower arm)	-65° - +150°
	U-axis (upper arm)	-136° - +255°
	R-axis (wrist roll)	-190° - +190°
	B-axis (wrist pitch/yaw)	-135° - +135°
	T-axis (wrist twist)	-360° - +360°
Maximum Speed	S-axis (turning)	6.56 rad/s, 376°/s
	L-axis (lower arm)	6.11 rad/s, 350°/s
	U-axis (upper arm)	6.98 rad/s, 400°/s
	R-axis (wrist roll)	7.85 rad/s, 450°/s
	B-axis (wrist pitch/yaw)	7.85 rad/s, 450°/s
	T-axis (wrist twist)	12.57 rad/s, 720°/s

Allowable Moment	R-axis (wrist roll)	12 N-m
	B-axis (wrist pitch/yaw)	12 N-m
	T-axis (wrist twist)	7 N-m
Allowable Inertia (GD ² /4)	R-axis (wrist roll)	0.30 kg-m ²
	B-axis (wrist pitch/yaw)	0.30 kg-m ²
	T-axis (wrist twist)	0.1 kg-m ²
Approx. Mass		27 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 gas or liquid, or explosive gas or liquid Free from exposure to water, oil, or dust Free from excessive electrical noise (plasma)
Power Requirements*2		1.0 kVA

*1 : Conforms to ISO 9283.
*2 : Varies in accordance with applications and motion patterns.
*3 : Also compatible with FS100 controller.
For details, refer to the KAEP C940440 06 catalog.

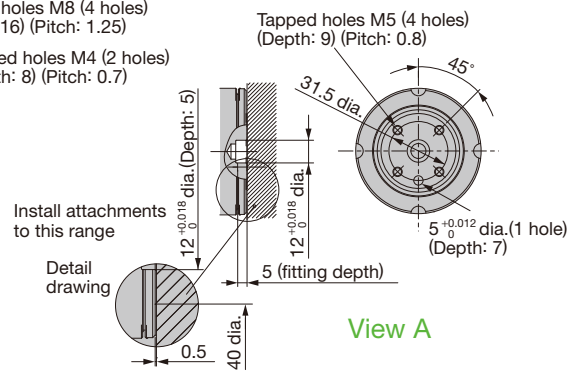
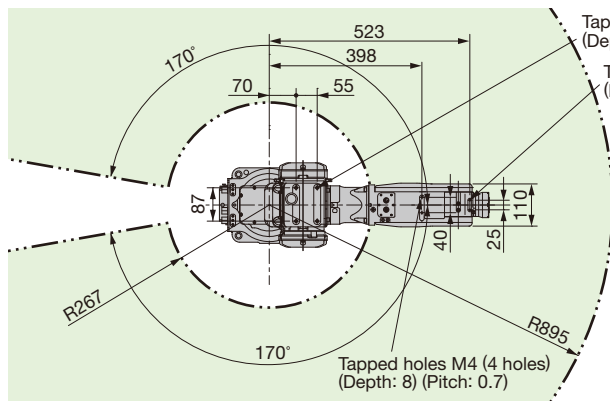
Note : SI units are used for specifications.



MOTOMAN-MH5LS II

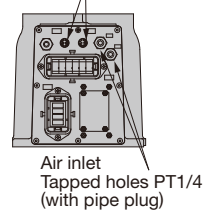
5 kg payload, R895 mm maximum reach

■ Dimensions Units : mm [] : P-point Maximum Envelope

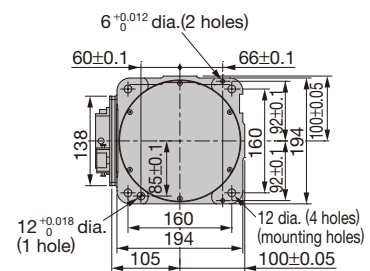
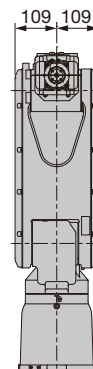
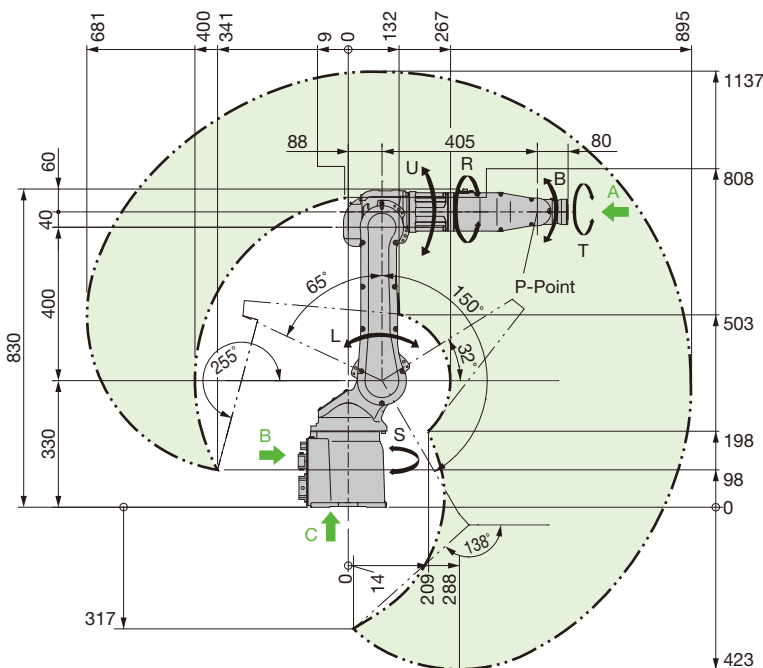


View A

Connector for internal user I/O wiring harness:
HR10A-10R-10P (73)
Matching connector:
HR10A-10P-10S*HIROSE*
(provided by users)



View B



View C

■ Manipulator Specifications

Model	MOTOMAN-MH5LSII*3	
Type	YR-MH005LS-J00	
Controlled Axis	6 (Vertically articulated)	
Payload	5 kg	
Repeatability*1	±0.03 mm	
Range of Motion	S-axis (turning)	-170° - +170°
	L-axis (lower arm)	-65° - +150°
	U-axis (upper arm)	-138° - +255°
	R-axis (wrist roll)	-190° - +190°
	B-axis (wrist pitch/yaw)	-135° - +135°
	T-axis (wrist twist)	-360° - +360°
Maximum Speed	S-axis (turning)	4.71 rad/s, 270°/s
	L-axis (lower arm)	4.89 rad/s, 280°/s
	U-axis (upper arm)	5.24 rad/s, 300°/s
	R-axis (wrist roll)	7.85 rad/s, 450°/s
	B-axis (wrist pitch/yaw)	7.85 rad/s, 450°/s
	T-axis (wrist twist)	12.57 rad/s, 720°/s

Allowable Moment	R-axis (wrist roll)	12 N-m
	B-axis (wrist pitch/yaw)	12 N-m
	T-axis (wrist twist)	7 N-m
Allowable Inertia (GD ² /4)	R-axis (wrist roll)	0.30 kg-m ²
	B-axis (wrist pitch/yaw)	0.30 kg-m ²
	T-axis (wrist twist)	0.1 kg-m ²
Approx. Mass		29 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 gas or liquid, or explosive gas or liquid Free from exposure to water, oil, or dust Free from excessive electrical noise (plasma)
Power Requirements*2		1.0 kVA

*1 : Conforms to ISO 9283.
*2 : Varies in accordance with applications and motion patterns.
*3 : Also compatible with FS100 controller.
For details, refer to the KAEP C940440 06 catalog.

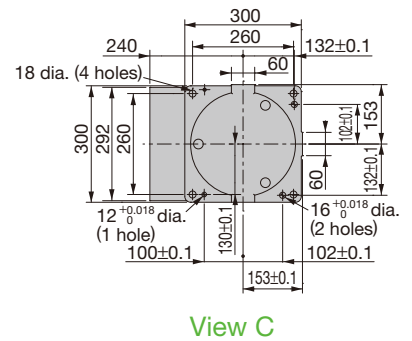
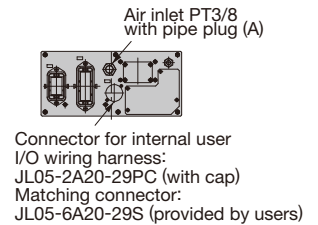
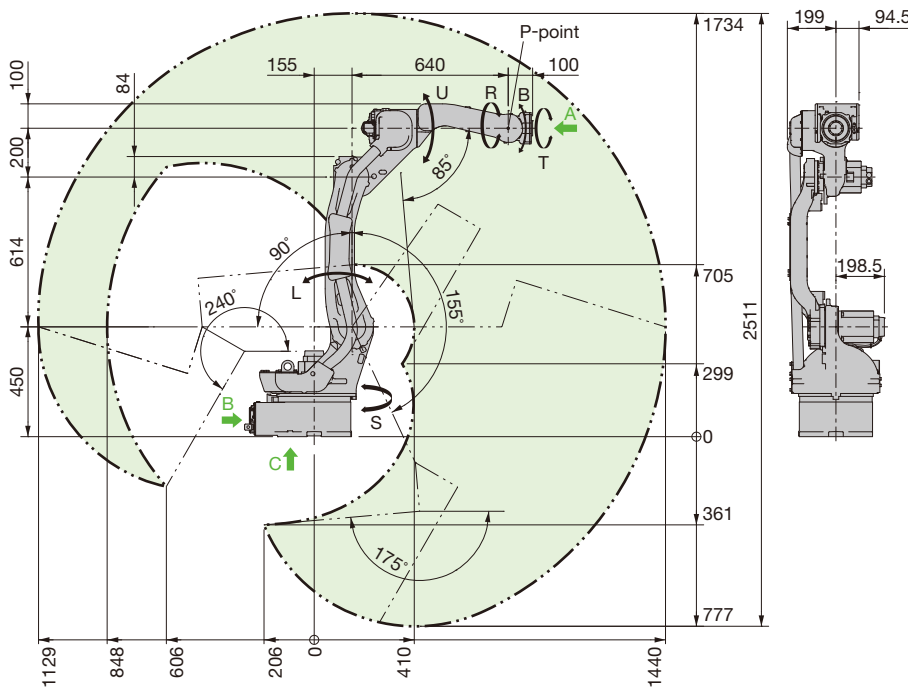
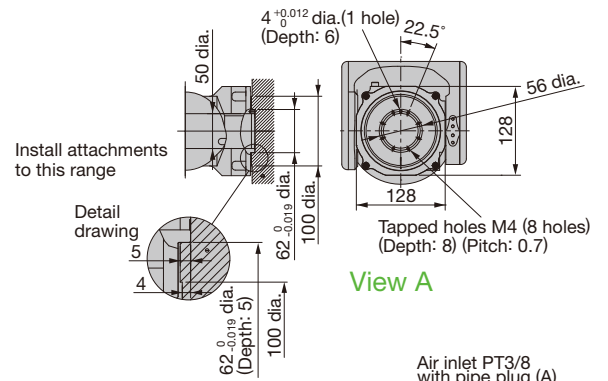
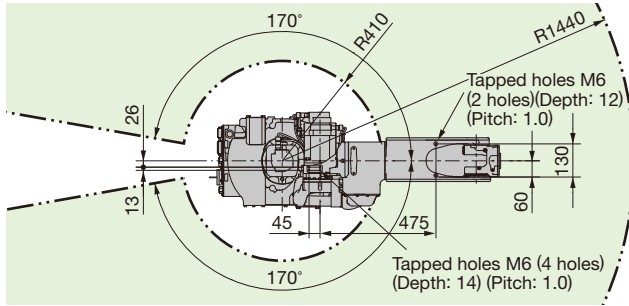
Note : SI units are used for specifications.



MOTOMAN-MH12

12 kg payload, R1440 mm maximum reach

■ Dimensions Units : mm [---] : P-point Maximum Envelope



■ Manipulator Specifications

Model	MOTOMAN-MH12*3	
Type	YR-MA1440/MH12-A00	
Controlled Axis	6 (Vertically articulated)	
Payload	12 kg	
Repeatability*1	±0.08 mm	
Range of Motion	S-axis (turning)	-170° - +170°
	L-axis (lower arm)	-90° - +155°
	U-axis (upper arm)	-175° - +240°
	R-axis (wrist roll)	-180° - +180°
	B-axis (wrist pitch/yaw)	-135° - +135°
	T-axis (wrist twist)	-360° - +360°
Maximum Speed	S-axis (turning)	3.84 rad/s, 220°/s
	L-axis (lower arm)	3.49 rad/s, 200°/s
	U-axis (upper arm)	3.84 rad/s, 220°/s
	R-axis (wrist roll)	7.16 rad/s, 410°/s
	B-axis (wrist pitch/yaw)	7.16 rad/s, 410°/s
	T-axis (wrist twist)	10.60 rad/s, 610°/s

Allowable Moment	R-axis (wrist roll)	22 N-m
	B-axis (wrist pitch/yaw)	22 N-m
	T-axis (wrist twist)	9.8 N-m
Allowable Inertia (GD ² /4)	R-axis (wrist roll)	0.65 kg-m ²
	B-axis (wrist pitch/yaw)	0.65 kg-m ²
	T-axis (wrist twist)	0.17 kg-m ²
Approx. Mass		130 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 gas or liquid, or explosive gas or liquid Free from exposure to water, oil, or dust Free from excessive electrical noise (plasma)
Power Requirements*2		1.5 kVA

*1 : Conforms to ISO 9283.
*2 : Varies in accordance with applications and motion patterns.
*3 : Also compatible with FS100 controller.
For details, refer to the KAEP C940440 06 catalog.

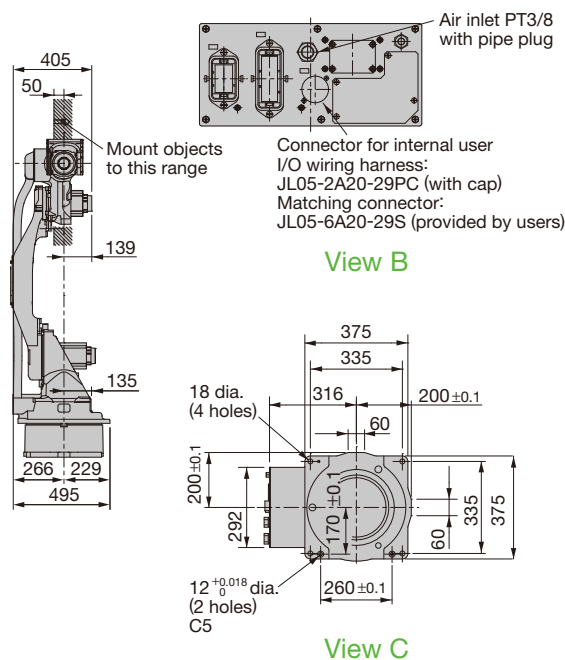
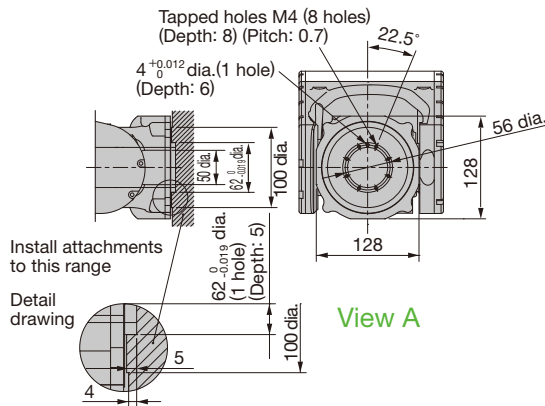
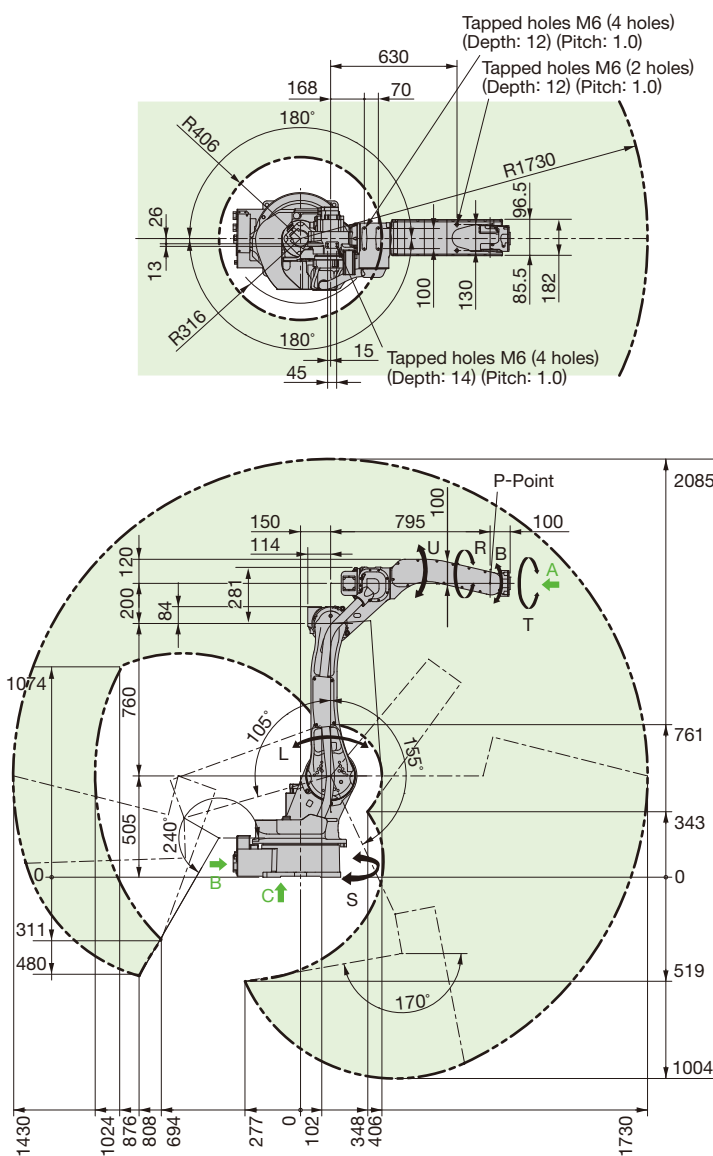
Note : SI units are used for specifications.



MOTOMAN-MH24

24 kg payload, R1730 mm maximum reach

■ Dimensions Units : mm [Dashed Box]: P-point Maximum Envelope

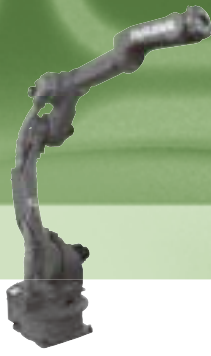


■ Manipulator Specifications

Model	MOTOMAN-MH24	
Type	YR-MH00024-A00	
Controlled Axis	6 (Vertically articulated)	
Payload	24 kg	
Repeatability*1	±0.06 mm	
Range of Motion	S-axis (turning)	-180° - +180°
	L-axis (lower arm)	-105° - +155°
	U-axis (upper arm)	-170° - +240°
	R-axis (wrist roll)	-200° - +200°
	B-axis (wrist pitch/yaw)	-150° - +150°
	T-axis (wrist twist)	-455° - +455°
Maximum Speed	S-axis (turning)	3.44 rad/s, 197°/s
	L-axis (lower arm)	3.32 rad/s, 190°/s
	U-axis (upper arm)	3.67 rad/s, 210°/s
	R-axis (wrist roll)	7.16 rad/s, 410°/s
	B-axis (wrist pitch/yaw)	7.16 rad/s, 410°/s
	T-axis (wrist twist)	10.82 rad/s, 620°/s

Allowable Moment	R-axis (wrist roll)	50.0 N-m
	B-axis (wrist pitch/yaw)	50.0 N-m
	T-axis (wrist twist)	30.4 N-m
Allowable Inertia (GD ² /4)	R-axis (wrist roll)	2.1 kg-m ²
	B-axis (wrist pitch/yaw)	2.1 kg-m ²
	T-axis (wrist twist)	1.1 kg-m ²
Approx. Mass		268 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 gas or liquid, or explosive gas or liquid Free from exposure to water, oil, or dust Free from excessive electrical noise (plasma)
	Power Requirements*2	

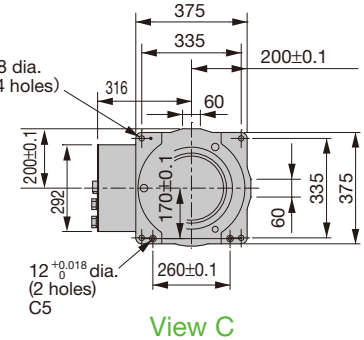
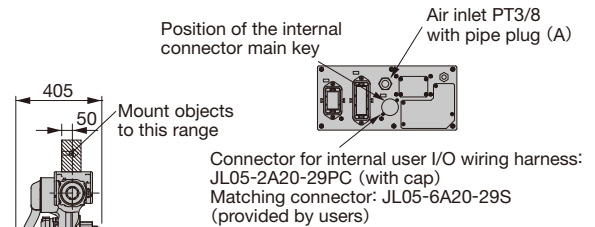
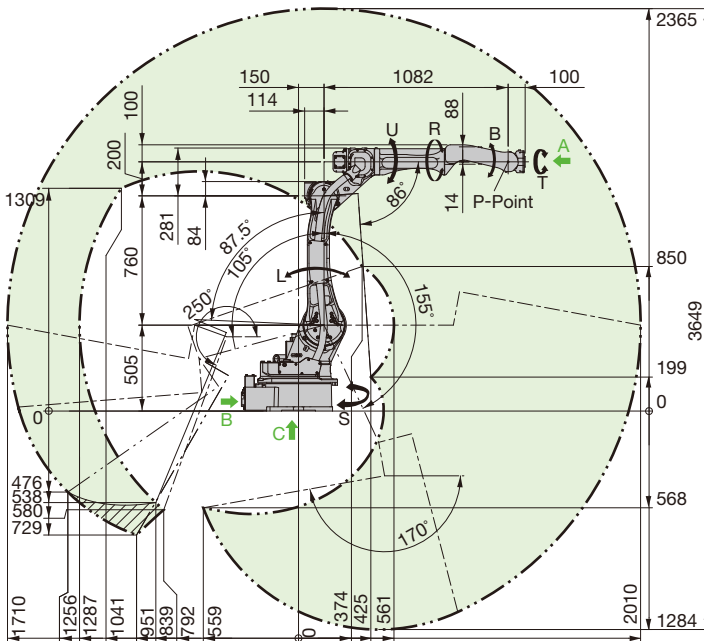
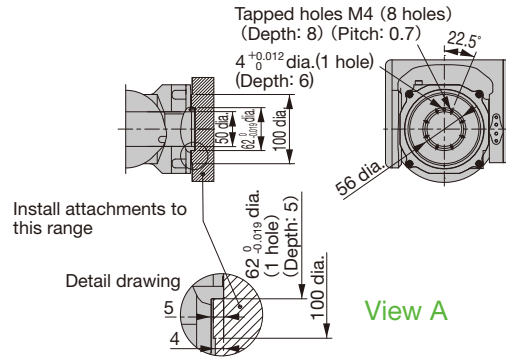
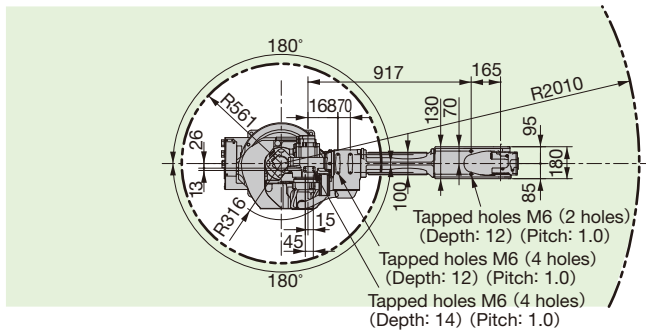
*1 : Conforms to ISO 9283.
 *2 : Varies in accordance with applications and motion patterns.
 Note : SI units are used for specifications.



MOTOMAN-MH24-10

10 kg payload, R2010mm maximum reach

■ Dimensions Units : mm [---] : P-point Maximum Envelope



Manipulator Specifications

Model	MOTOMAN-MH24-10	
Type	YR-MH00024-A10	
Controlled Axis	6 (Vertically articulated)	
Payload	10 kg	
Repeatability*1	±0.08 mm	
Range of Motion	S-axis (turning)	-180° - +180°
	L-axis (lower arm)	-105° - +155°
	U-axis (upper arm)	-170° - +250°
	R-axis (wrist roll)	-200° - +200°
	B-axis (wrist pitch/yaw)	-135° - +135°
	T-axis (wrist twist)	-455° - +455°
Maximum Speed	S-axis (turning)	3.44 rad/s, 197°/s
	L-axis (lower arm)	3.32 rad/s, 190°/s
	U-axis (upper arm)	3.67 rad/s, 210°/s
	R-axis (wrist roll)	7.16 rad/s, 410°/s
	B-axis (wrist pitch/yaw)	7.16 rad/s, 410°/s
	T-axis (wrist twist)	10.60 rad/s, 610°/s

Allowable Moment	R-axis (wrist roll)	22 N-m
	B-axis (wrist pitch/yaw)	22 N-m
	T-axis (wrist twist)	9.8 N-m
Allowable Inertia (GD ² /4)	R-axis (wrist roll)	0.65 kg-m ²
	B-axis (wrist pitch/yaw)	0.65 kg-m ²
	T-axis (wrist twist)	0.17 kg-m ²
Approx. Mass		280 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 gas or liquid, or explosive gas or liquid Free from exposure to water, oil, or dust Free from excessive electrical noise (plasma)
Power Requirements*2		2.0 kVA

*1 : Conforms to ISO 9283.

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

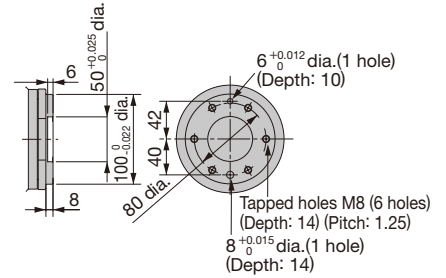
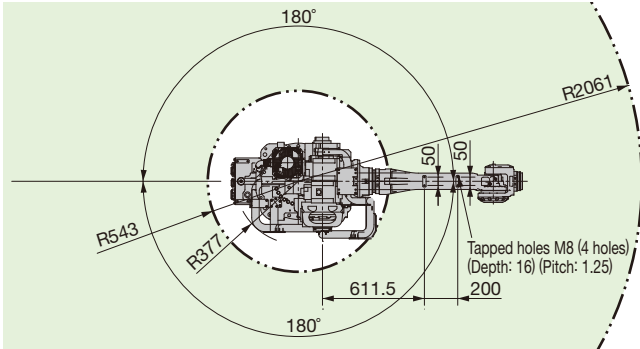
Note : SI units are used for specifications.



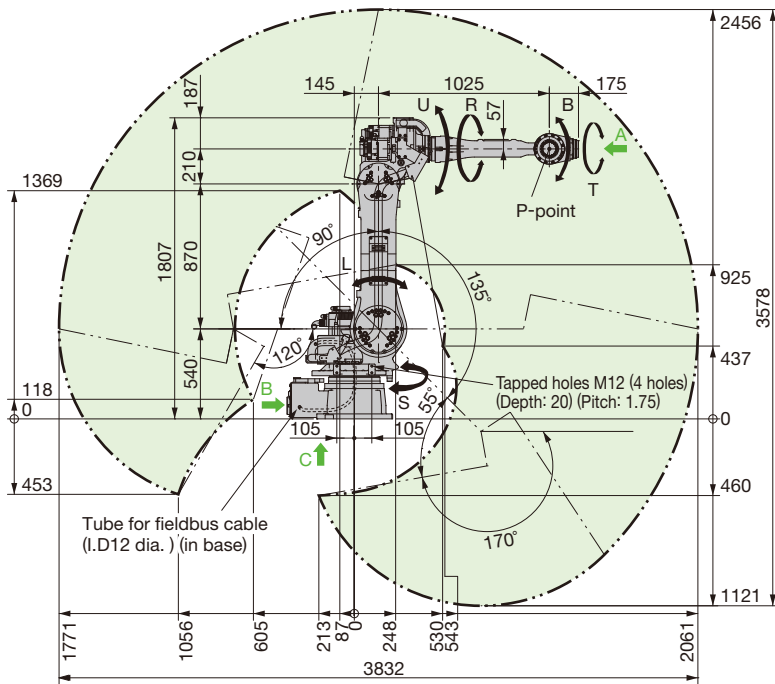
MOTOMAN-MH50 II

50 kg payload, R2061mm maximum reach

■ Dimensions Units : mm : P-point Maximum Envelope

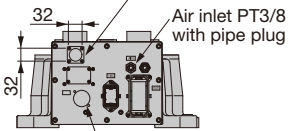
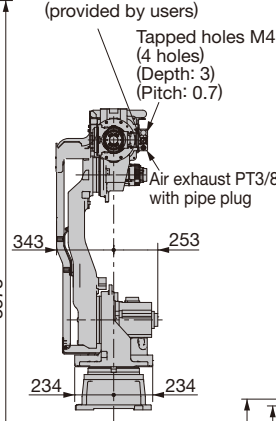


View A



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

Cover for fieldbus cable
(I.D12 dia.) (in base)



View B

View C

■ Manipulator Specifications

Model	MOTOMAN-MH50 II	
Type	YR-MH00050-J00	
Controlled Axis	6 (Vertically articulated)	
Payload	50 kg	
Repeatability*1	±0.07 mm	
Range of Motion	S-axis (turning)	-180° - +180°
	L-axis (lower arm)	-90° - +135°
	U-axis (upper arm)	-170° - +251°
	R-axis (wrist roll)	-360° - +360°
	B-axis (wrist pitch/yaw)	-125° - +125°
Maximum Speed	T-axis (wrist twist)	-360° - +360°
	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)	4.36 rad/s, 250°/s
	B-axis (wrist pitch/yaw)	4.36 rad/s, 250°/s
	T-axis (wrist twist)	6.28 rad/s, 360°/s

Allowable Moment	R-axis (wrist roll)	216 N-m
	B-axis (wrist pitch/yaw)	216 N-m
	T-axis (wrist twist)	147 N-m
Allowable Inertia (GD ² /4)	R-axis (wrist roll)	28 kg-m ²
	B-axis (wrist pitch/yaw)	28 kg-m ²
	T-axis (wrist twist)	11 kg-m ²
Approx. Mass		550 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 gas or liquid, or explosive gas or liquid Free from exposure to water, oil, or dust Free from excessive electrical noise (plasma)
Power Requirements*2		4.0 kVA

*1 : Conforms to ISO 9283.

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

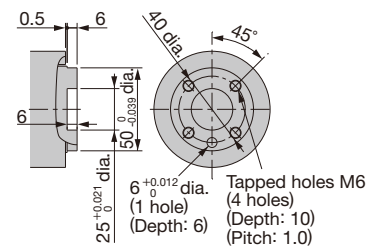
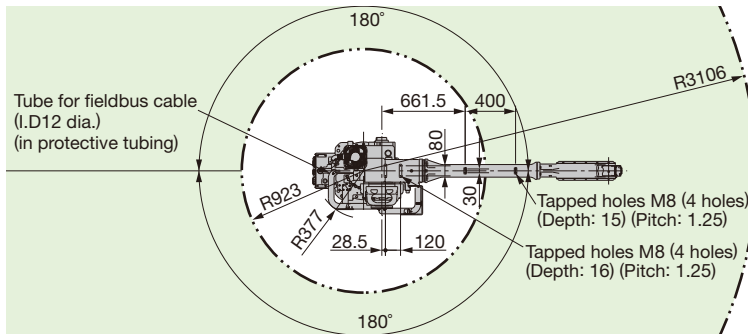
Note : SI units are used for specifications.



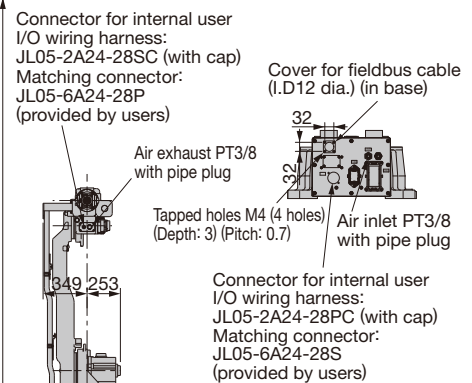
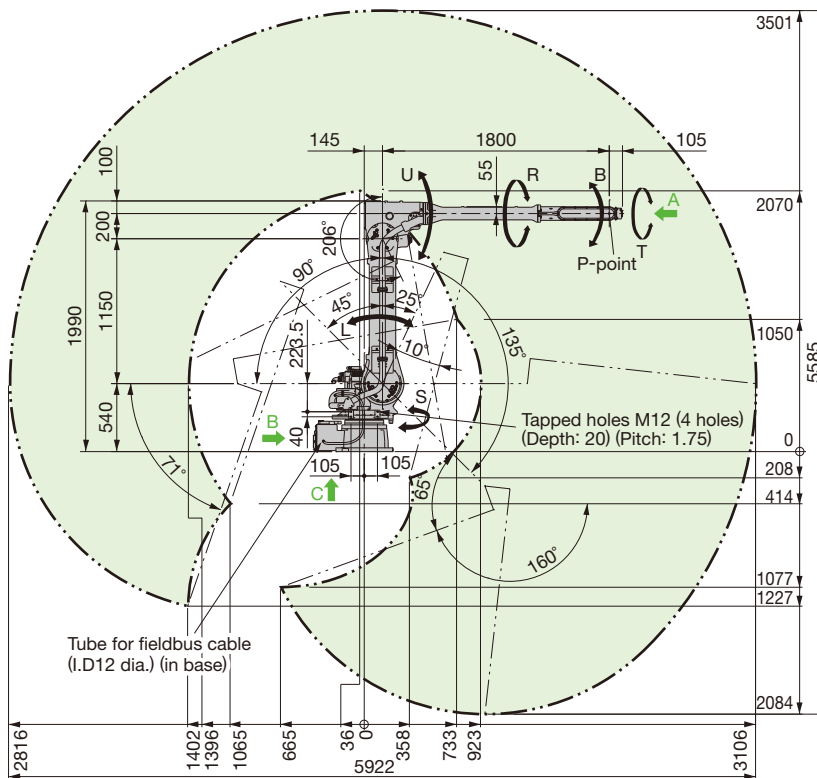
MOTOMAN-MH50II-20

20 kg payload, R3106mm maximum reach

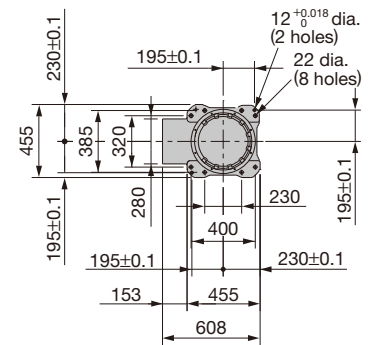
■ Dimensions Units : mm [---]: P-point Maximum Envelope



View A



View B



View C

■ Manipulator 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 gas or liquid, or explosive gas or liquid 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.

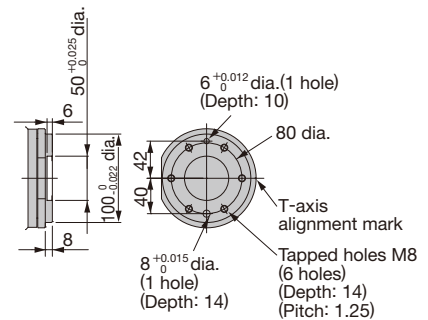
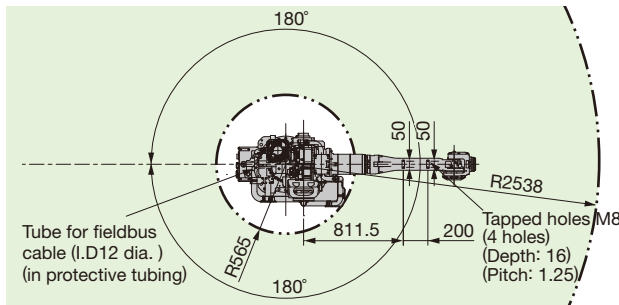
*2 : Varies in accordance with applications and motion patterns.

Note : SI units are used for specifications.

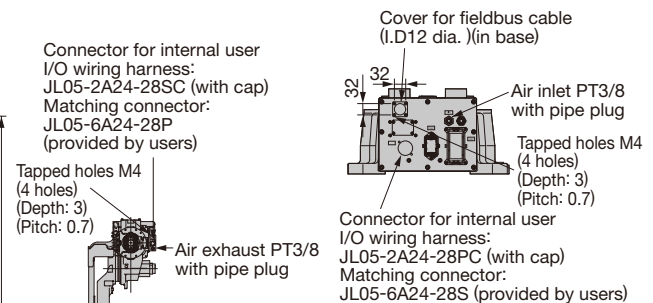
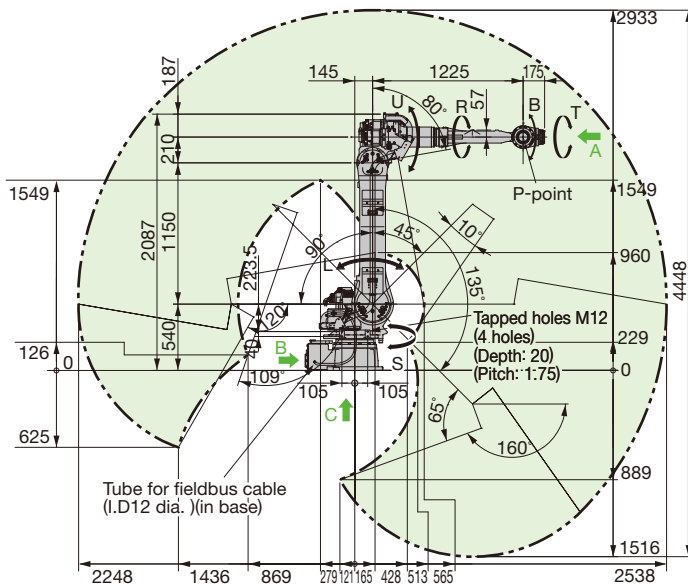
MOTOMAN-MH50II-35

35 kg payload, R2538mm maximum reach

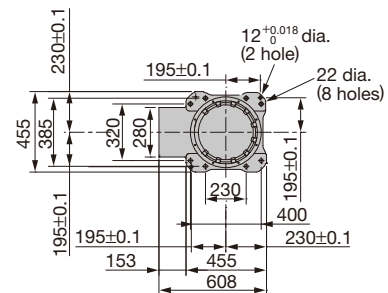
■ **Dimensions** Units : mm  : P-point Maximum Envelope



View A



View B



View C

■ Manipulator Specifications

Model	MOTOMAN-MH50II-35	
Type	YR-MH00050-J20	
Controlled Axis	6 (Vertically articulated)	
Payload	35 kg	
Repeatability*1	±0.07 mm	
Range of Motion	S - axis (turning)	-180° - +180° (-30° - +30° when mounted on the wall)
	L - axis (lower arm)	-90° - +135°
	U - axis (upper arm)	-160° - +251°
	R - axis (wrist roll)	-360° - +360°
	B - axis (wrist pitch/yaw)	-125° - +125°
	T - axis (wrist twist)	-360° - +360°
Maximum Speed	S - axis (turning)	3.14 rad/s, 180°/s
	L - axis (lower arm)	2.44 rad/s, 140°/s
	U - axis (upper arm)	3.11 rad/s, 178°/s
	R - axis (wrist roll)	4.36 rad/s, 250°/s
	B - axis (wrist pitch/yaw)	4.36 rad/s, 250°/s
	T - axis (wrist twist)	6.28 rad/s, 360°/s

Allowable Moment	R - axis (wrist roll)	147 N-m
	B - axis (wrist pitch/yaw)	147 N-m
	T - axis (wrist twist)	78 N-m
Allowable Inertia (GD ² /4)	R - axis (wrist roll)	10 kg-m ²
	B - axis (wrist pitch/yaw)	10 kg-m ²
	T - axis (wrist twist)	4 kg-m ²
Approx. Mass		570 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 gas or liquid, or explosive gas or liquid Free from exposure to water, oil, or dust Free from excessive electrical noise (plasma)
	Power Requirements*2	

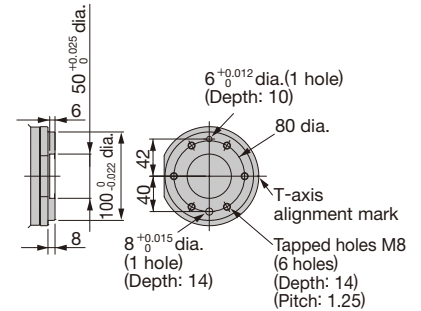
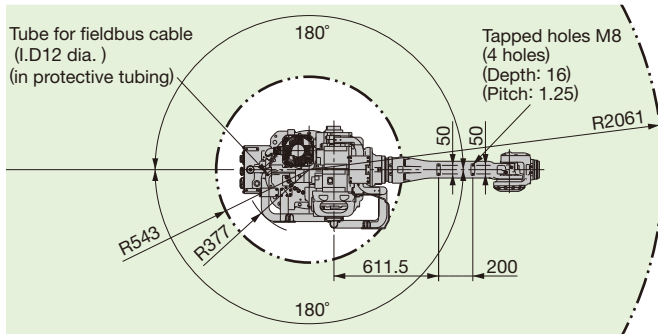
*1 : Conforms to ISO 9283.
*2 : Varies in accordance with applications and motion patterns.
Note : SI units are used for specifications.



MOTOMAN-MH80 II

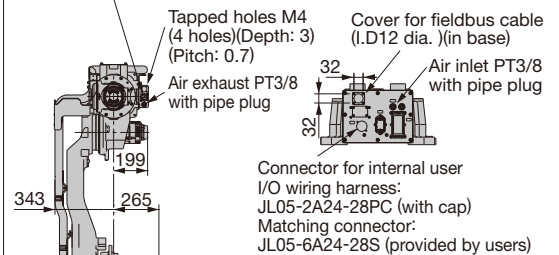
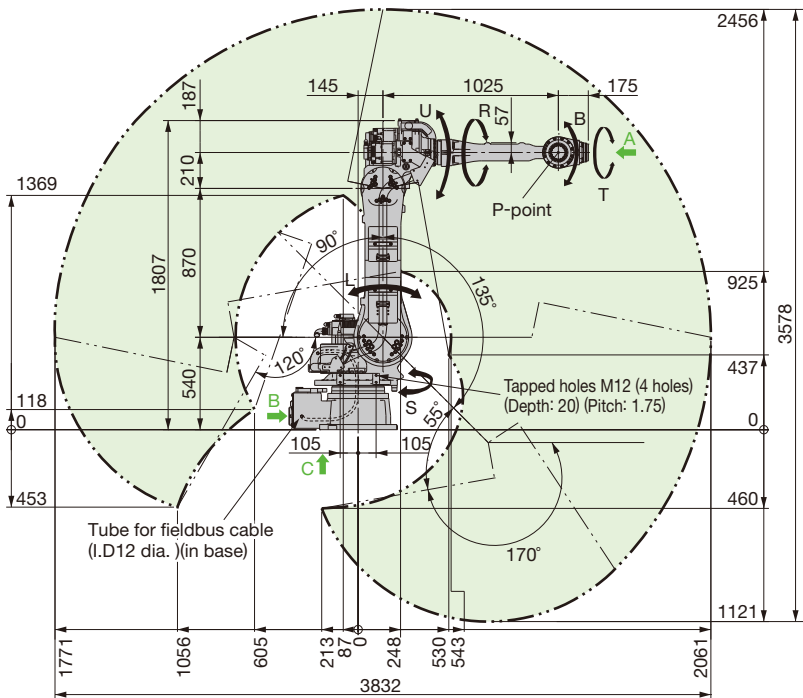
80 kg payload, R2061mm maximum reach

■ Dimensions Units : mm [---] : P-point Maximum Envelope

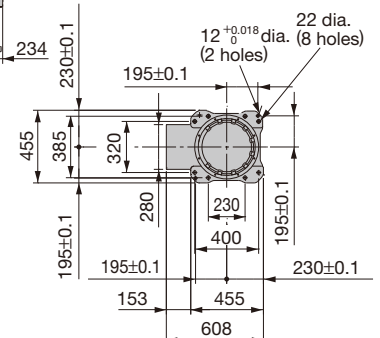


Connector for internal user
I/O wiring harness:
JL05-2A24-28SC (with cap)
Matching connector:
JL05-6A24-28P
(provided by users)

View A



View B



View C

■ Manipulator Specifications

Model	MOTOMAN-MH80 II	
Type	YR-MH00080-J00	
Controlled Axis	6 (Vertically articulated)	
Payload	80 kg	
Repeatability*1	±0.07 mm	
Range of Motion	S-axis (turning)	-180° - +180°
	L-axis (lower arm)	-90° - +135°
	U-axis (upper arm)	-170° - +251°
	R-axis (wrist roll)	-360° - +360°
	B-axis (wrist pitch/yaw)	-125° - +125°
Maximum Speed	T-axis (wrist twist)	-360° - +360°
	S-axis (turning)	2.97 rad/s, 170°/s
	L-axis (lower arm)	2.44 rad/s, 140°/s
	U-axis (upper arm)	2.79 rad/s, 160°/s
	R-axis (wrist roll)	4.01 rad/s, 230°/s
	B-axis (wrist pitch/yaw)	4.01 rad/s, 230°/s
	T-axis (wrist twist)	6.11 rad/s, 350°/s

Allowable Moment	R-axis (wrist roll)	392 N-m
	B-axis (wrist pitch/yaw)	392 N-m
	T-axis (wrist twist)	196 N-m
Allowable Inertia (GD ² /4)	R-axis (wrist roll)	28 kg-m ²
	B-axis (wrist pitch/yaw)	28 kg-m ²
	T-axis (wrist twist)	11 kg-m ²
Approx. Mass		555 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 gas or liquid, or explosive gas or liquid Free from exposure to water, oil, or dust Free from excessive electrical noise (plasma)
Power Requirements*2		4.5 kVA

*1 : Conforms to ISO 9283.

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

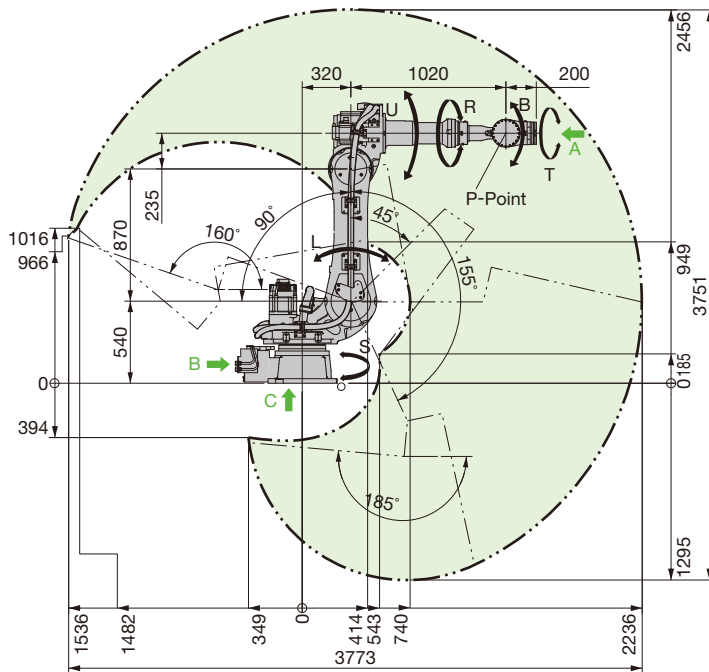
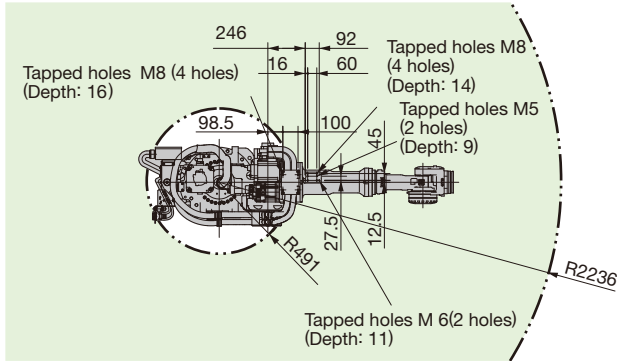
Note : SI units are used for specifications.



MOTOMAN-MH110

110 kg payload, R2236 mm maximum reach

■ Dimensions Units : mm [] : P-point Maximum Envelope

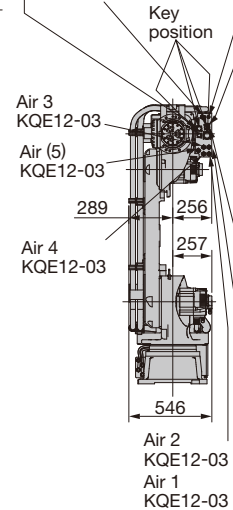


Connector for internal user I/O wiring harness (casing side):
JL05-2A24-28SC (with cap)
Matching connector:
JL05-6A24-28P (provided by users)

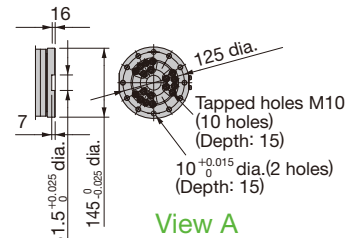
Connector for DeviceNet:
8R5L30
Matching connector:
8A5006-32DN (provided by users)

Connector for the external axis (power cable):
JL05-2A20-29SC(with cap)
Matching connector:
JL05-6A20-29P (provided by users)

Connector for +24V:
1R4030
Matching connector:
CM03-J4P (provided by users)



For the external axis (power cable):
JL05-2A18-1SC-F0 (with cap)
Matching connector:
JL05-6A18-1P (provided by users)

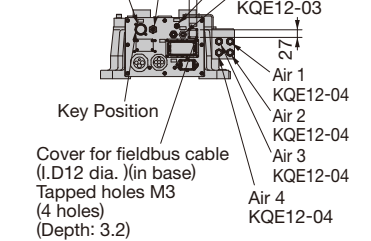


View A

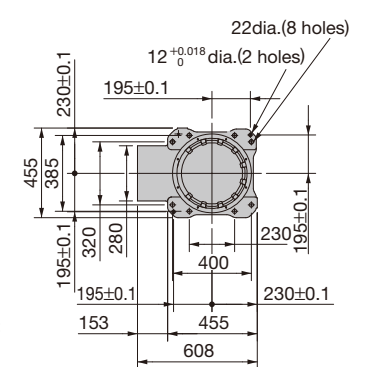
Internal user wiring connector:
JL05-2A24-28PC (with cap)
Matching connector:
JL05-6A24-28S (provided by users)

Connector for +24V:
CM03A-R4P-S-1
Matching connector:
CM03-P4S (provided by users)

Connector for DeviceNet:
CM02-8DR5P-CF
Matching connector:
CM02A-8DP5S-D (provided by users)



View B



View C

■ Manipulator Specifications

Model	MOTOMAN-MH110	
Type	YR-MS100/MH110-A00	
Controlled Axis	6 (Vertically articulated)	
Payload	110 kg	
Repeatability*1	±0.07 mm	
Range of Motion	S-axis (turning)	-180° - +180°
	L-axis (lower arm)	-90° - +155°
	U-axis (upper arm)	-185° - +160°
	R-axis (wrist roll)	-360° - +360°
	B-axis (wrist pitch/yaw)	-125° - +125°
	T-axis (wrist twist)	-360° - +360°
Maximum Speed	S-axis (turning)	2.45 rad/s, 140°/s
	L-axis (lower arm)	1.92 rad/s, 110°/s
	U-axis (upper arm)	2.27 rad/s, 130°/s
	R-axis (wrist roll)	3.05 rad/s, 175°/s
	B-axis (wrist pitch/yaw)	3.05 rad/s, 175°/s
	T-axis (wrist twist)	4.44 rad/s, 255°/s

Allowable Moment	R-axis (wrist roll)	721 N-m
	B-axis (wrist pitch/yaw)	721 N-m
	T-axis (wrist twist)	294 N-m
Allowable Inertia (GD ² /4)	R-axis (wrist roll)	60 kg-m ²
	B-axis (wrist pitch/yaw)	60 kg-m ²
	T-axis (wrist twist)	33.7 kg-m ²
Approx. Mass	625 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 gas or liquid, or explosive gas or liquid Free from exposure to water, oil, or dust Free from excessive electrical noise (plasma)
Power Requirements*2	5.0 kVA	

*1 : Conforms to ISO 9283.

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

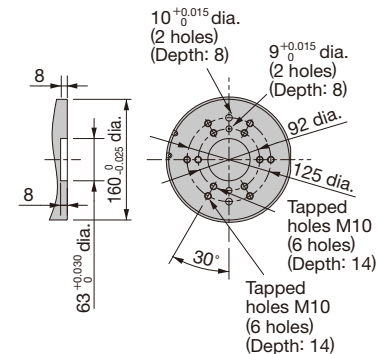
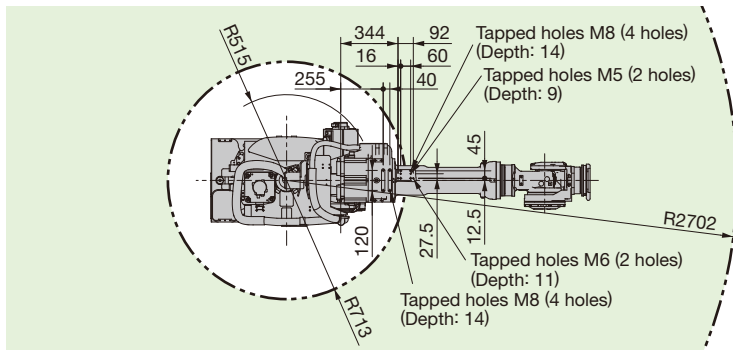
Note : SI units are used for specifications.



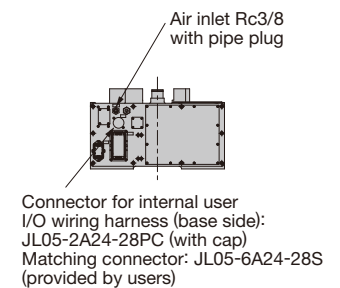
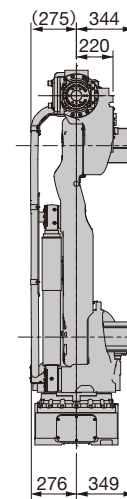
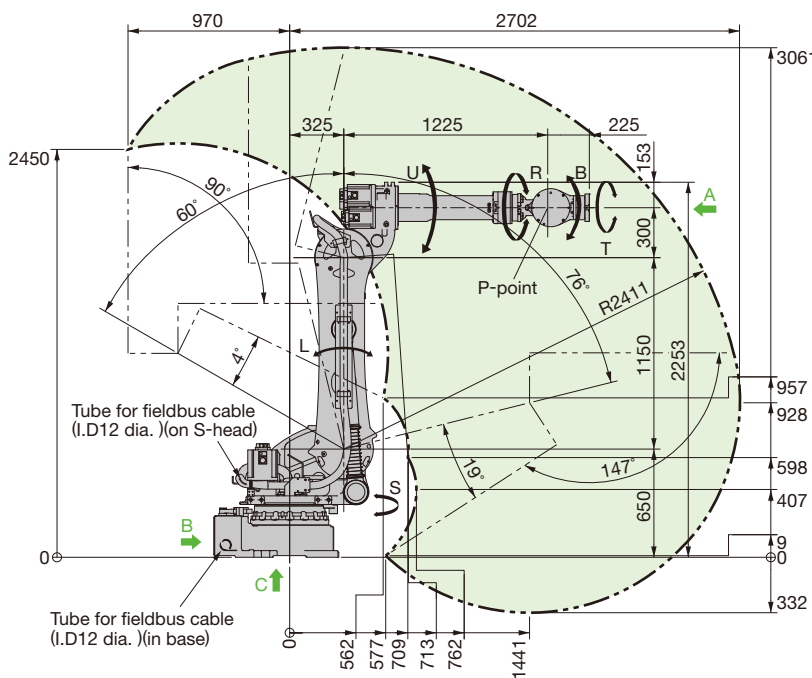
MOTOMAN-MH180

180 kg payload, R2702 mm maximum reach

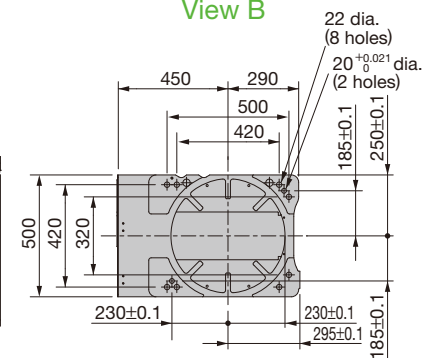
■ Dimensions Units : mm [---] : P-point Maximum Envelope



View A



View B



View C

■ Manipulator Specifications

Model	MOTOMAN-MH180	
Type	YR-MS165/MH180-A00	
Controlled Axis	6 (Vertically articulated)	
Payload	180 kg	
Repeatability*1	±0.2 mm	
Range of Motion	S-axis (turning)	-180° - +180°
	L-axis (lower arm)	-60° - +76°
	U-axis (upper arm)	-147° - +90°
	R-axis (wrist roll)	-360° - +360°
	B-axis (wrist pitch/yaw)	-130° - +130°
	T-axis (wrist twist)	-360° - +360°
Maximum Speed	S-axis (turning)	2.18 rad/s, 125°/s
	L-axis (lower arm)	2.01 rad/s, 115°/s
	U-axis (upper arm)	2.18 rad/s, 125°/s
	R-axis (wrist roll)	3.18 rad/s, 182°/s
	B-axis (wrist pitch/yaw)	3.05 rad/s, 175°/s
	T-axis (wrist twist)	4.63 rad/s, 265°/s

Allowable Moment	R-axis (wrist roll)	1000 N-m
	B-axis (wrist pitch/yaw)	1000 N-m
	T-axis (wrist twist)	618 N-m
Allowable Inertia (GD ² /4)	R-axis (wrist roll)	90 kg-m ²
	B-axis (wrist pitch/yaw)	90 kg-m ²
	T-axis (wrist twist)	46.3 kg-m ²
Approx. Mass		970 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 gas or liquid, or explosive gas or liquid Free from exposure to water, oil, or dust Free from excessive electrical noise (plasma)
Power Requirements*2		5.0 kVA

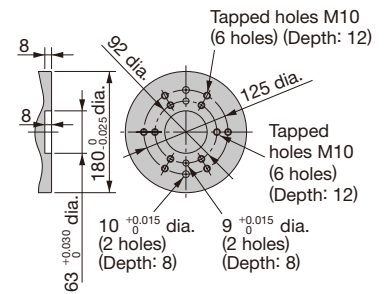
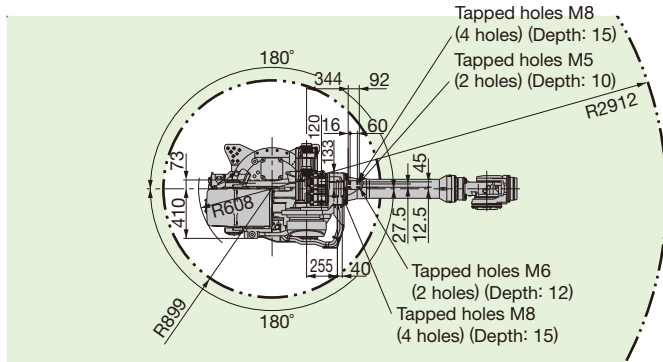
*1 : Conforms to ISO 9283.
 *2 : Varies in accordance with applications and motion patterns.
 Note : SI units are used for specifications.



MOTOMAN-MH215II

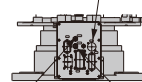
215 kg payload, R2912 mm maximum reach

■ Dimensions Units : mm : P-point Maximum Envelope



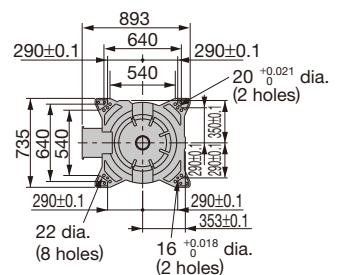
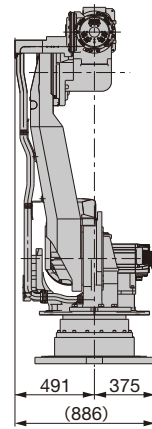
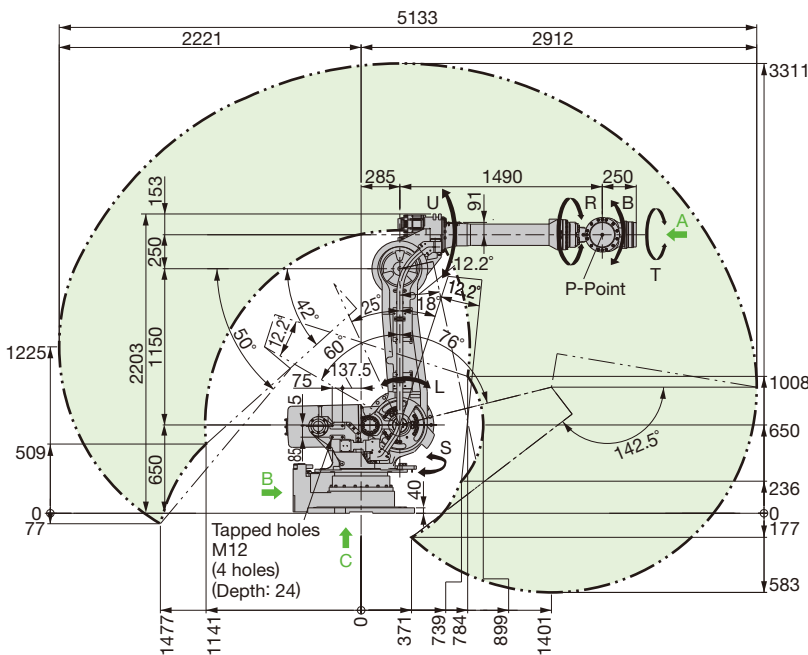
View A

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



Air inlet Rc3/8 with pipe plug (A) Air inlet Rc3/8 with pipe plug (B)

View B



View C

■ Manipulator Specifications

Model	MOTOMAN-MH215II	
Type	YR-MH00215-J00	
Controlled Axis	6 (Vertically articulated)	
Payload	215 kg	
Repeatability*1	±0.2 mm	
Range of Motion	S-axis (turning)	-180° - +180°
	L-axis (lower arm)	-60° - +76°
	U-axis (upper arm)	-142.5° - +230°
	R-axis (wrist roll)	-360° - +360°
	B-axis (wrist pitch/yaw)	-125° - +125°
	T-axis (wrist twist)	-360° - +360°
Maximum Speed	S-axis (turning)	1.75 rad/s, 100°/s
	L-axis (lower arm)	1.57 rad/s, 90°/s
	U-axis (upper arm)	1.69 rad/s, 97°/s
	R-axis (wrist roll)	2.09 rad/s, 120°/s
	B-axis (wrist pitch/yaw)	2.09 rad/s, 120°/s
	T-axis (wrist twist)	3.32 rad/s, 190°/s

Allowable Moment	R-axis (wrist roll)	1176 N-m
	B-axis (wrist pitch/yaw)	1176 N-m
	T-axis (wrist twist)	710 N-m
Allowable Inertia (GD ² /4)	R-axis (wrist roll)	317 kg-m ²
	B-axis (wrist pitch/yaw)	317 kg-m ²
	T-axis (wrist twist)	200 kg-m ²
Approx. Mass		1140 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 gas or liquid, or explosive gas or liquid Free from exposure to water, oil, or dust Free from excessive electrical noise (plasma)
Power Requirements*2		5.0 kVA

*1 : Conforms to ISO 9283.

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

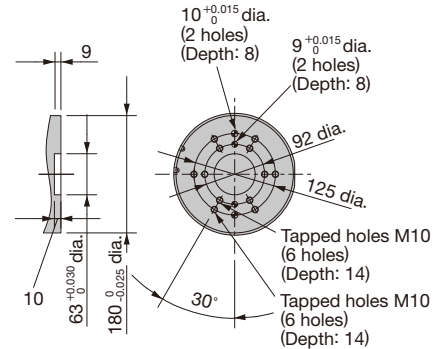
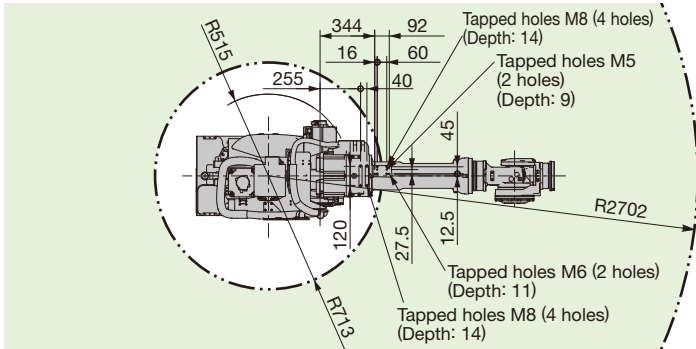
Note : SI units are used for specifications.



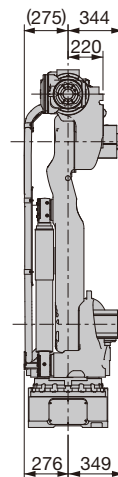
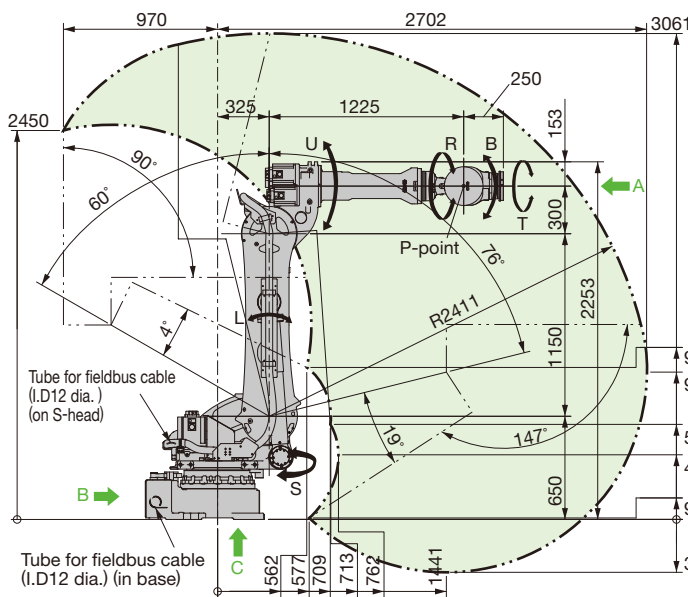
MOTOMAN-MH225

225 kg payload, R2702 mm maximum reach

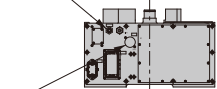
■ Dimensions Units : mm [---]: P-point Maximum Envelope



View A

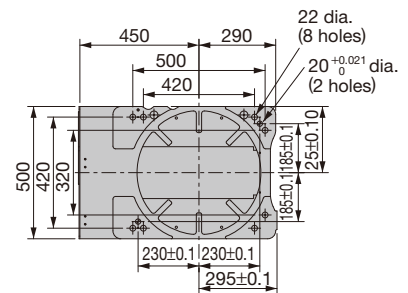


Air inlet Rc3/8 with pipe plug



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

View B



View C

■ Manipulator Specifications

Model	MOTOMAN-MH225	
Type	YR-MS210/MH225-A00	
Controlled Axis	6 (Vertically articulated)	
Payload	225 kg	
Repeatability*1	±0.2 mm	
Range of Motion	S-axis (turning)	-180° - +180°
	L-axis (lower arm)	-60° - +76°
	U-axis (upper arm)	-147° - +90°
	R-axis (wrist roll)	-360° - +360°
	B-axis (wrist pitch/yaw)	-125° - +125°
Maximum Speed	T-axis (wrist twist)	-360° - +360°
	S-axis (turning)	2.09 rad/s, 120°/s
	L-axis (lower arm)	1.69 rad/s, 97°/s
	U-axis (upper arm)	2.01 rad/s, 115°/s
Maximum Speed	R-axis (wrist roll)	2.53 rad/s, 145°/s
	B-axis (wrist pitch/yaw)	2.53 rad/s, 145°/s
	T-axis (wrist twist)	3.84 rad/s, 220°/s

Allowable Moment	R-axis (wrist roll)	1372 N-m
	B-axis (wrist pitch/yaw)	1372 N-m
	T-axis (wrist twist)	735 N-m
Allowable Inertia (GD ² /4)	R-axis (wrist roll)	145 kg-m ²
	B-axis (wrist pitch/yaw)	145 kg-m ²
	T-axis (wrist twist)	84 kg-m ²
Approx. Mass		1000 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 gas or liquid, or explosive gas or liquid Free from exposure to water, oil, or dust Free from excessive electrical noise (plasma)
Power Requirements*2		5.0 kVA

*1 : Conforms to ISO 9283.

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

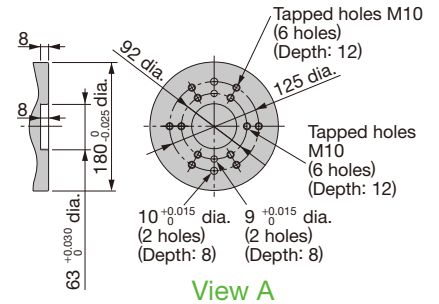
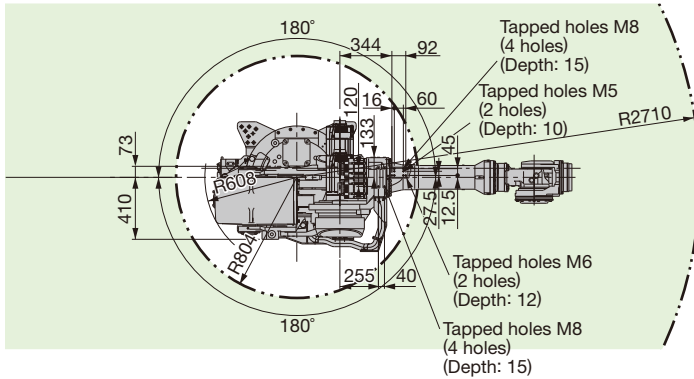
Note : SI units are used for specifications.



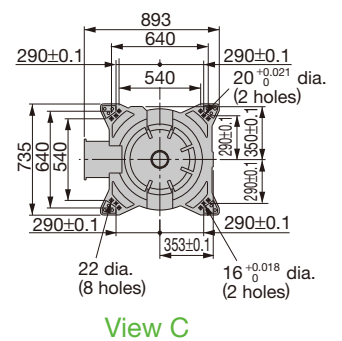
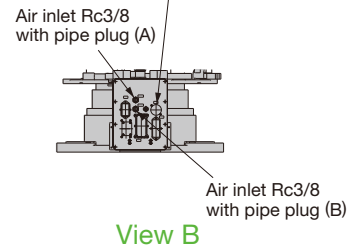
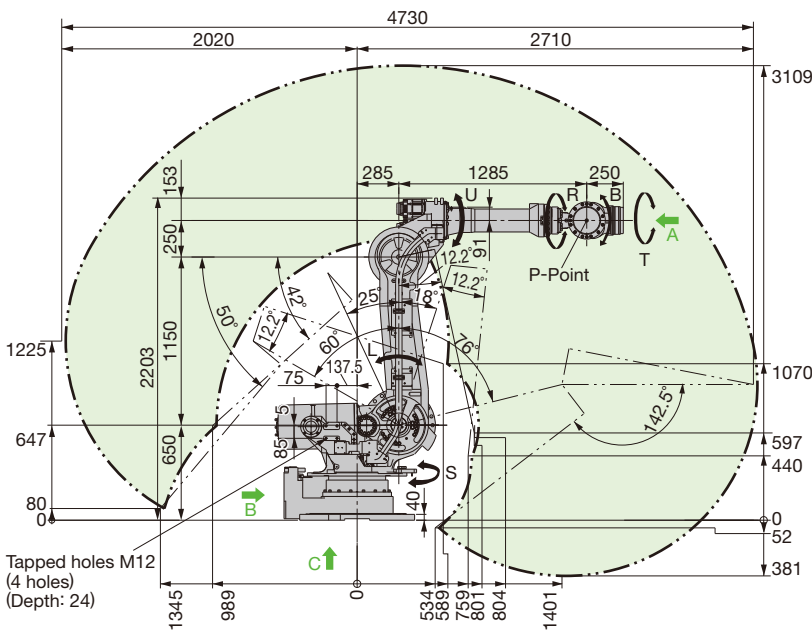
MOTOMAN-MH250II

250 kg payload, R2710 mm maximum reach

Dimensions Units : mm : P-point Maximum Envelope



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



Manipulator Specifications

Model	MOTOMAN-MH250II	
Type	YR-MH00250-J00	
Controlled Axis	6 (Vertically articulated)	
Payload	250 kg	
Repeatability*1	±0.2 mm	
Range of Motion	S-axis (turning)	-180° ~ +180°
	L-axis (lower arm)	-60° ~ +76°
	U-axis (upper arm)	-142.5° ~ +230°
	R-axis (wrist roll)	-360° ~ +360°
	B-axis (wrist pitch/yaw)	-125° ~ +125°
	T-axis (wrist twist)	-360° ~ +360°
Maximum Speed	S-axis (turning)	1.75 rad/s, 100°/s
	L-axis (lower arm)	1.57 rad/s, 90°/s
	U-axis (upper arm)	1.69 rad/s, 97°/s
	R-axis (wrist roll)	2.09 rad/s, 120°/s
	B-axis (wrist pitch/yaw)	2.09 rad/s, 120°/s
	T-axis (wrist twist)	3.32 rad/s, 190°/s

Allowable Moment	R-axis (wrist roll)	1385 N-m
	B-axis (wrist pitch/yaw)	1385 N-m
	T-axis (wrist twist)	735 N-m
Allowable Inertia (GD ² /4)	R-axis (wrist roll)	317 kg-m ²
	B-axis (wrist pitch/yaw)	317 kg-m ²
	T-axis (wrist twist)	200 kg-m ²
Approx. Mass		1130 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 gas or liquid, or explosive gas or liquid Free from exposure to water, oil, or dust Free from excessive electrical noise (plasma)
Power Requirements*2		6.0 kVA

*1 : Conforms to ISO 9283.

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

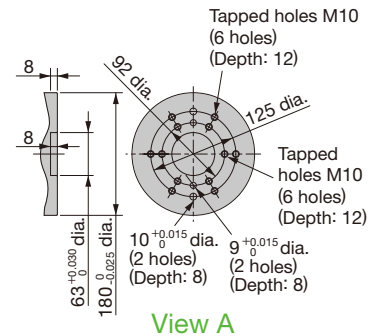
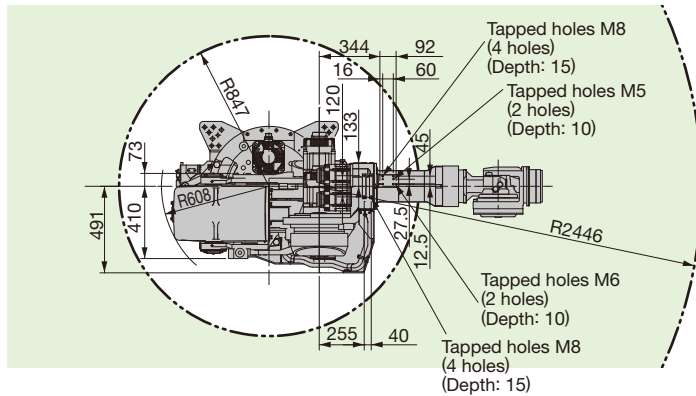
Note : SI units are used for specifications.



MOTOMAN-MH280 II

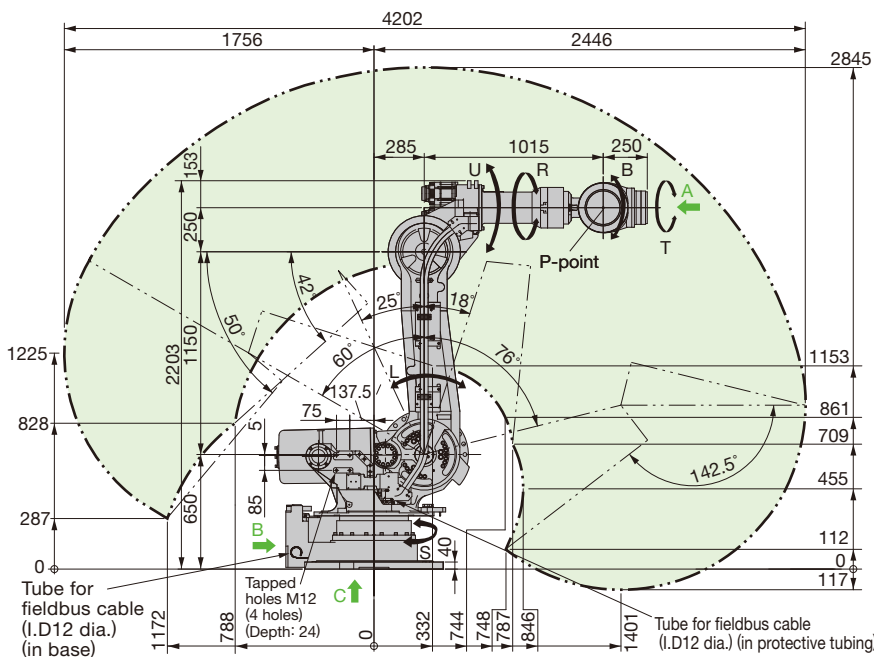
280 kg payload, R2446 mm maximum reach

■ Dimensions Units : mm [---] : P-point Maximum Envelope

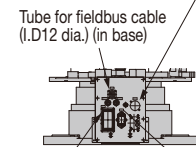


View A

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



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



View B

View C

■ Manipulator Specifications

Model	MOTOMAN-MH280 II	
Type	YR-MH00280-J00	
Controlled Axis	6 (Vertically articulated)	
Payload	280 kg	
Repeatability*1	±0.2 mm	
Range of Motion	S-axis (turning)	-180° - +180°
	L-axis (lower arm)	-60° - +76°
	U-axis (upper arm)	-142.5° - +230°
	R-axis (wrist roll)	-360° - +360°
	B-axis (wrist pitch/yaw)	-125° - +125°
	T-axis (wrist twist)	-360° - +360°
Maximum Speed	S-axis (turning)	1.57 rad/s, 90°/s
	L-axis (lower arm)	1.39 rad/s, 80°/s
	U-axis (upper arm)	1.57 rad/s, 90°/s
	R-axis (wrist roll)	2.01 rad/s, 115°/s
	B-axis (wrist pitch/yaw)	1.92 rad/s, 110°/s
	T-axis (wrist twist)	3.32 rad/s, 190°/s

Allowable Moment	R-axis (wrist roll)	1333 N-m
	B-axis (wrist pitch/yaw)	1333 N-m
	T-axis (wrist twist)	706 N-m
Allowable Inertia (GD ² /4)	R-axis (wrist roll)	142 kg-m ²
	B-axis (wrist pitch/yaw)	142 kg-m ²
	T-axis (wrist twist)	79 kg-m ²
Approx. Mass		1120 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 gas or liquid, or explosive gas or liquid Free from exposure to water, oil, or dust Free from excessive electrical noise (plasma)
Power Requirements*2		5.0 kVA

*1 : Conforms to ISO 9283.

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

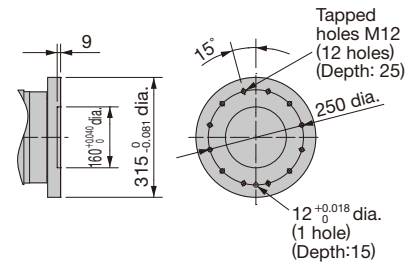
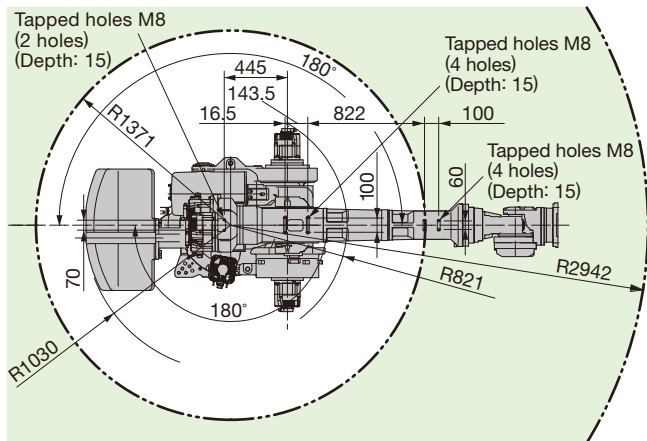
Note : SI units are used for specifications.



MOTOMAN-MH400 II

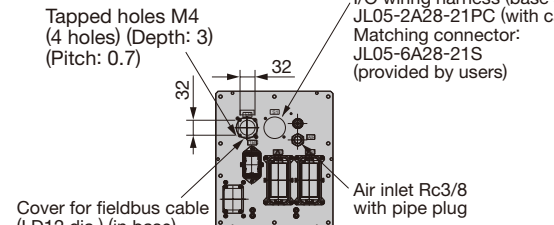
400 kg payload, R2942 mm maximum reach

Dimensions Units : mm : P-point Maximum Envelope

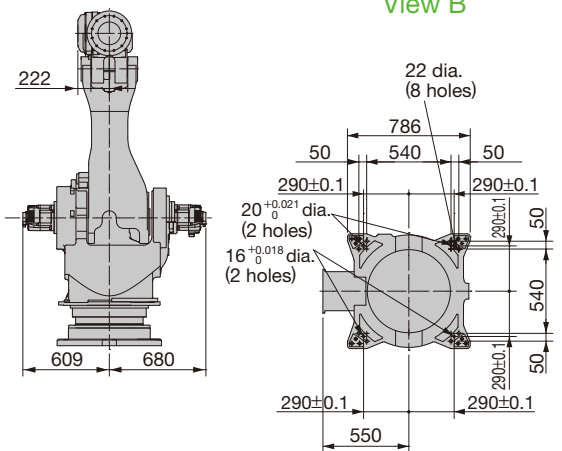
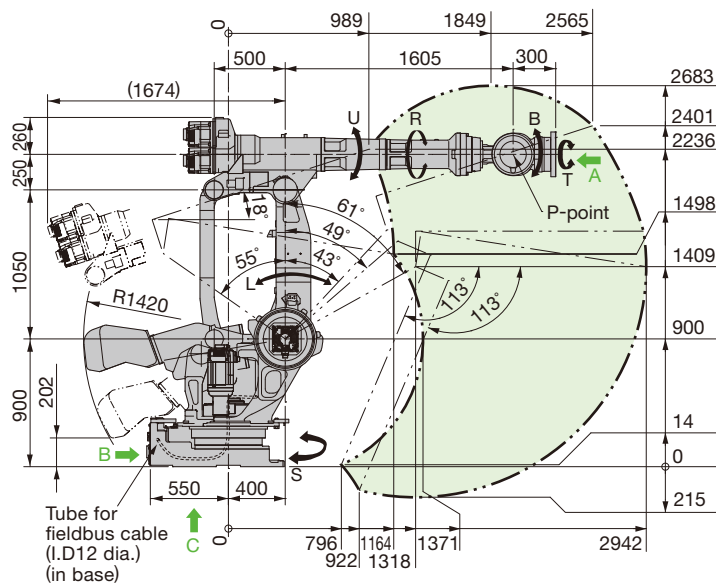


View A

Connector for internal user I/O wiring harness (base side): JL05-2A28-21PC (with cap)
Matching connector: JL05-6A28-21S (provided by users)



View B



View C

Manipulator Specifications

Model	MOTOMAN-MH400II	
Type	YR-MH00400-J00	
Controlled Axis	6 (Vertically articulated)	
Payload	400 kg	
Repeatability*1	±0.3 mm	
Range of Motion	S-axis (turning)	-180° - +180°
	L-axis (lower arm)	-55° - +61°
	U-axis (upper arm)	-113° - +18°
	R-axis (wrist roll)	-360° - +360°
	B-axis (wrist pitch/yaw)	-115° - +115°
	T-axis (wrist twist)	-360° - +360°
Maximum Speed	S-axis (turning)	1.78 rad/s, 102°/s
	L-axis (lower arm)	1.69 rad/s, 97°/s
	U-axis (upper arm)	1.69 rad/s, 97°/s
	R-axis (wrist roll)	1.40 rad/s, 80°/s
	B-axis (wrist pitch/yaw)	1.40 rad/s, 80°/s
	T-axis (wrist twist)	3.00 rad/s, 172°/s

Allowable Moment	R-axis (wrist roll)	2989 N-m
	B-axis (wrist pitch/yaw)	2989 N-m
	T-axis (wrist twist)	1343 N-m
Allowable Inertia (GD ² /4)	R-axis (wrist roll)	500 kg-m ²
	B-axis (wrist pitch/yaw)	500 kg-m ²
	T-axis (wrist twist)	315 kg-m ²
Approx. Mass		2700 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 gas or liquid, or explosive gas or liquid Free from exposure to water, oil, or dust Free from excessive electrical noise (plasma)
Power Requirements*2		7.0 kVA

*1 : Conforms to ISO 9283.

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

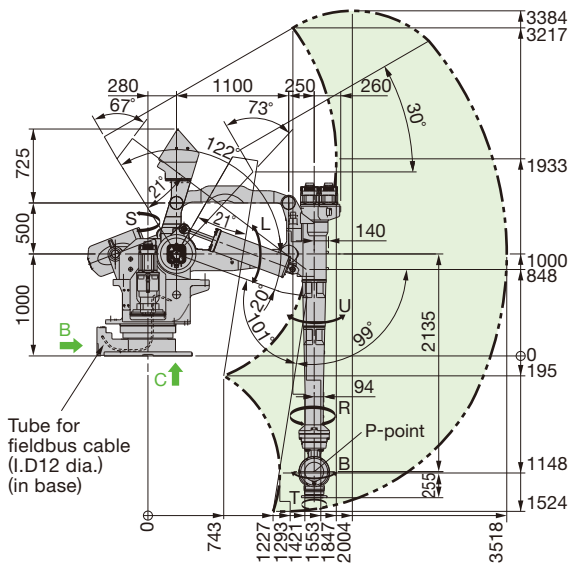
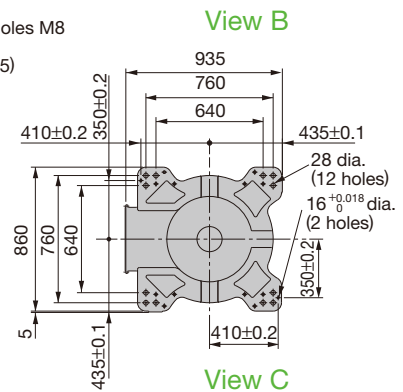
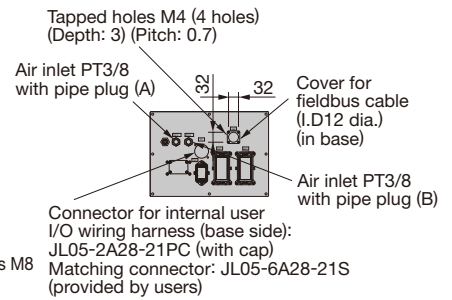
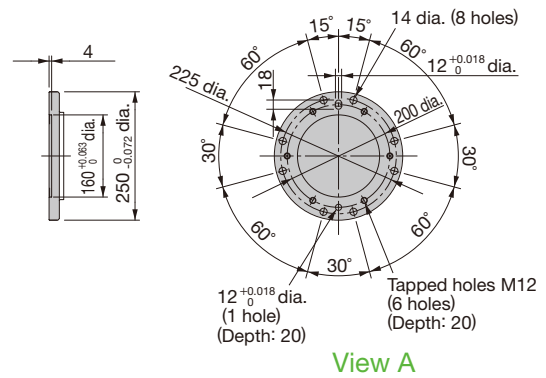
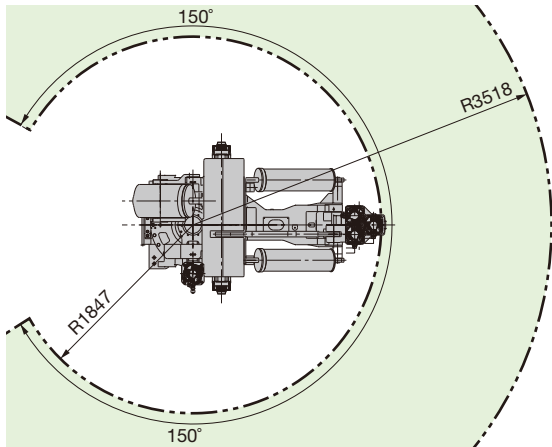
Note : SI units are used for specifications.



MOTOMAN-UP400RD II

400 kg payload, R3518 mm maximum reach

■ Dimensions Units : mm : P-point Maximum Envelope



■ Manipulator Specifications

Model	MOTOMAN-UP400RD II	
Type	YR-UP400RD-J00	
Controlled Axis	6 (Vertically articulated)	
Payload	400 kg	
Repeatability*1	±0.5 mm	
Range of Motion	S -axis (turning)	-150° - +150°
	L -axis (lower arm)	-122° - +20°
	U -axis (upper arm)	-9° - +120°
	R -axis (wrist roll)	-360° - +360°
	B -axis (wrist pitch/yaw)	-120° - +120°
	T -axis (wrist twist)	-360° - +360°
Maximum Speed	S -axis (turning)	1.40 rad/s, 80°/s
	L -axis (lower arm)	1.40 rad/s, 80°/s
	U -axis (upper arm)	1.40 rad/s, 80°/s
	R -axis (wrist roll)	1.40 rad/s, 80°/s
	B -axis (wrist pitch/yaw)	1.40 rad/s, 80°/s
	T -axis (wrist twist)	2.79 rad/s, 160°/s

Allowable Moment	R -axis (wrist roll)	1960 N-m
	B -axis (wrist pitch/yaw)	1960 N-m
	T -axis (wrist twist)	833 N-m
Allowable Inertia (GD ² /4)	R -axis (wrist roll)	150 kg-m ²
	B -axis (wrist pitch/yaw)	150 kg-m ²
	T -axis (wrist twist)	50 kg-m ²
Approx. Mass		3600 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 gas or liquid, or explosive gas or liquid Free from exposure to water, oil, or dust Free from excessive electrical noise (plasma)
Power Requirements*2		8.5 kVA

*1 : Conforms to ISO 9283.

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

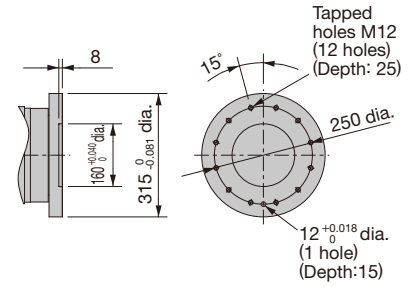
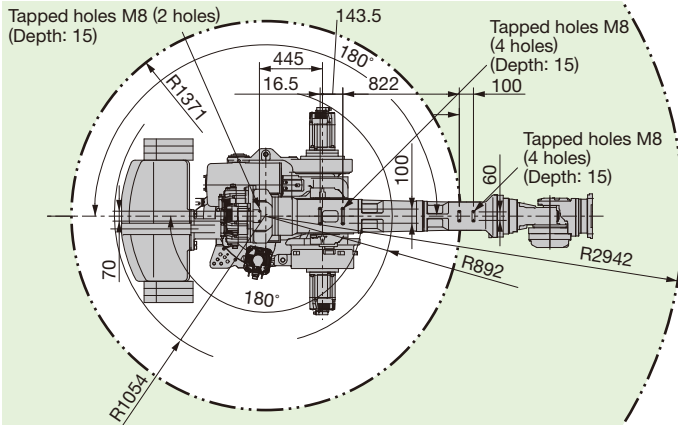
Note : SI units are used for specifications.



MOTOMAN-MH600

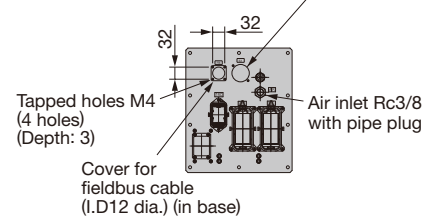
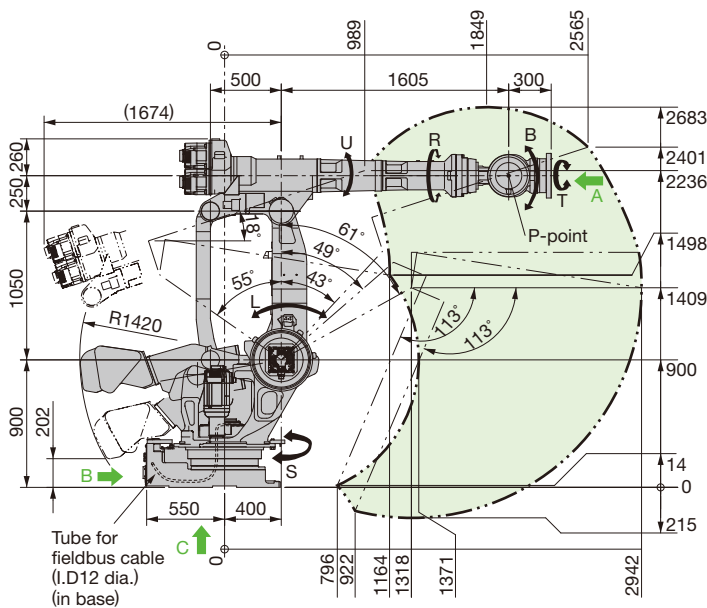
600 kg payload, R2942 mm maximum reach

Dimensions Units : mm : P-point Maximum Envelope

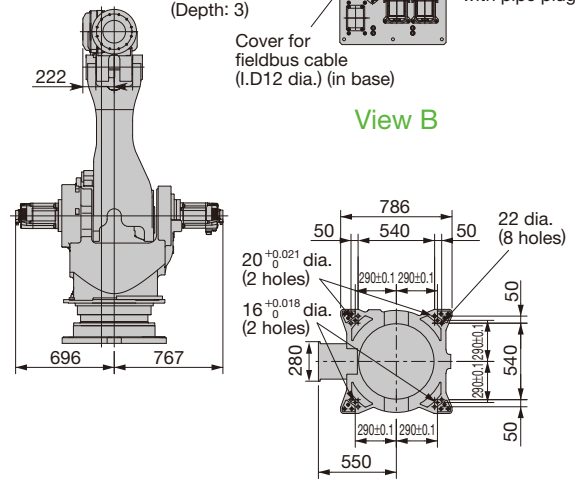


View A

Connector for internal user I/O wiring harness (base side): JL05-2A28-21PC (with cap)
Matching connector: JL05-6A28-21S (provided by users)



View B



View C

Manipulator Specifications

Model	MOTOMAN-MH600	
Type	YR-MH00600-A00	
Controlled Axis	6 (Vertically articulated)	
Payload	600 kg	
Repeatability*1	±0.3 mm	
Range of Motion	S-axis (turning)	-180° - +180°
	L-axis (lower arm)	-55° - +61°
	U-axis (upper arm)	-113° - +18°
	R-axis (wrist roll)	-360° - +360°
	B-axis (wrist pitch/yaw)	-115° - +115°
	T-axis (wrist twist)	-360° - +360°
Maximum Speed	S-axis (turning)	1.43 rad/s, 82°/s
	L-axis (lower arm)	1.43 rad/s, 82°/s
	U-axis (upper arm)	1.43 rad/s, 82°/s
	R-axis (wrist roll)	1.40 rad/s, 80°/s
	B-axis (wrist pitch/yaw)	1.40 rad/s, 80°/s
	T-axis (wrist twist)	2.83 rad/s, 162°/s

Allowable Moment	R-axis (wrist roll)	3430 N-m
	B-axis (wrist pitch/yaw)	3430 N-m
	T-axis (wrist twist)	1764 N-m
Allowable Inertia (GD ² /4)	R-axis (wrist roll)	520 kg-m ²
	B-axis (wrist pitch/yaw)	520 kg-m ²
	T-axis (wrist twist)	350 kg-m ²
Approx. Mass		3050 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 gas or liquid, or explosive gas or liquid Free from exposure to water, oil, or dust Free from excessive electrical noise (plasma)
Power Requirements*2		7.5 kVA

*1 : Conforms to ISO 9283.

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

Note : SI units are used for specifications.

MOTOMAN-MH, UP Series

Robot Controller DX200 Specifications

Items	Specifications
Configuration	Dust proof IP54
Dimensions, Mass	MH5SII, MH5LSII, MH12, MH24, MH24-10, MH50II, MH50II-20, MH50II-35, MH80II, MH110, MH180, MH180-120, MH215II, MH225, MH250II, MH280II: 600 (W)×520 (D)×730 (H) mm* (Possible to control three external axes), 100 kg MH400II, UP400RDII, MH600: 600 (W)×640 (D)×730 (H) mm* (Possible to control three external axes), 110 kg
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 VAC (+10%, -15%), 50/60 Hz (±2%) Three-phase 220 VAC (+10%, -15%), 60 Hz (±2%)
Grounding	Grounding resistance: 100Ω or less
Digital I/Os	Specialized signals: 28 inputs and 7 outputs General signals: 40 inputs and 40 outputs Max. I/O (optional): 4096 inputs and 4096 outputs
Positioning System	Serial communications (absolute 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)

*: Dimensions of the controller only. Does not include any attachments.

Programming Pendant Specifications

Items	Specifications
Dimensions	169 (W)×50 (D)×314.5 (H) mm
Mass	0.990 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), USB port (1 port)
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)

Sales Department

HEAD OFFICE

2-1 Kurosaki-Shiroishi, Yahatanishi-ku, Kitakyushu, Fukuoka 806-0004, Japan
Phone: +81-93-645-7703 Fax: +81-93-645-7802

YASKAWA America, Inc. (Motoman Robotics Division)

100 Automation Way, Miamisburg, OH 45342, U.S.A.
Phone: +1-937-847-6200 Fax: +1-937-847-6277

YASKAWA Europe GmbH (Robotics Division)

Yaskawastrasse 1, 85391, Allershausen, Germany
Phone: +49-8166-90-100 Fax: +49-8166-90-103

YASKAWA Nordic AB

Verkstadsгатan 2, Box 504, SE-385 25 Torsås, Sweden
Phone: +46-480-417-800 Fax: +46-486-414-10

YASKAWA Electric (China) Co., Ltd.

22F, One Corporate Avenue, No.222 Hubin Road, Huangpu District, Shanghai 200021, China
Phone: +86-21-5385-2200 Fax: +86-21-5385-3299

YASKAWA SHOUGANG ROBOT CO., LTD.

No.7 Yongchang North Road, Beijing E&T Development Area China 100176
Phone: +86-10-6788-2858 Fax: +86-10-6788-2878

YASKAWA India Private Ltd. (Robotics Division)

#426, Udyog Vihar Phase-IV, Gurgaon, Haryana, India
Phone: +91-124-475-8500 Fax: +91-124-475-8542

YASKAWA Electric Korea Corporation

35F, Three IFC, 10 Gukjegeumyung-ro, Yeongdeungpo-gu, Seoul, Korea 07326
Phone: +82-2-784-7844 Fax: +82-2-784-8495

YASKAWA Electric Taiwan Corporation

12F, No.207, Sec. 3, Beishin Rd., Shindian District, New Taipei City 23143, Taiwan
Phone: +886-2-8913-1333 Fax: +886-2-8913-1513

YASKAWA Electric (Singapore) PTE Ltd

151 Lorong Chuan, #04-02A New Tech Park, Singapore 556741
Phone: +65-6282-3003 Fax: +65-6289-3003

YASKAWA Electric (Thailand) Co., Ltd.

59, 1st-5th Floor, Flourish Building, Soi Ratchadapisek 18, Ratchadapisek Road, Huaykwang, Bangkok 10310, Thailand
Phone: +66-2-017-0099 Fax: +66-2-017-0199

PT. YASKAWA Electric Indonesia

Secure Building-Gedung B Lantai Dasar & Lantai 1 Jl. Raya Protokol Halim Perdanakusuma, Jakarta 13610, Indonesia
Phone: +62-21-2982-6470 Fax: +62-21-2982-6471

YASKAWA

YASKAWA ELECTRIC CORPORATION

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