

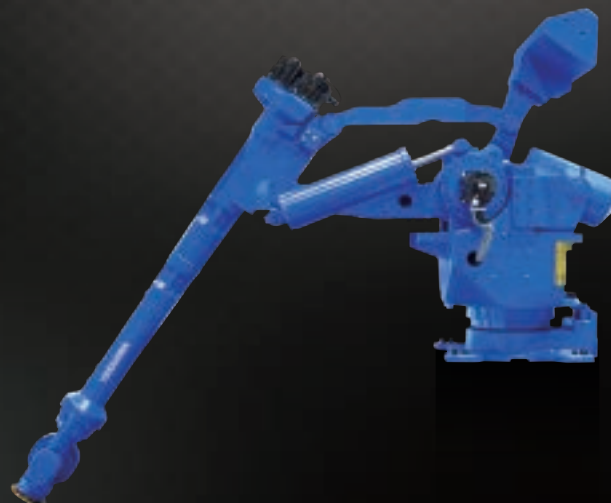
Handling

YASKAWA

MOTOMAN-GP Series

Medium- and Large-size Models (payload from 20 kg to 600 kg)

Compatible with YRC1000 Robot Controller

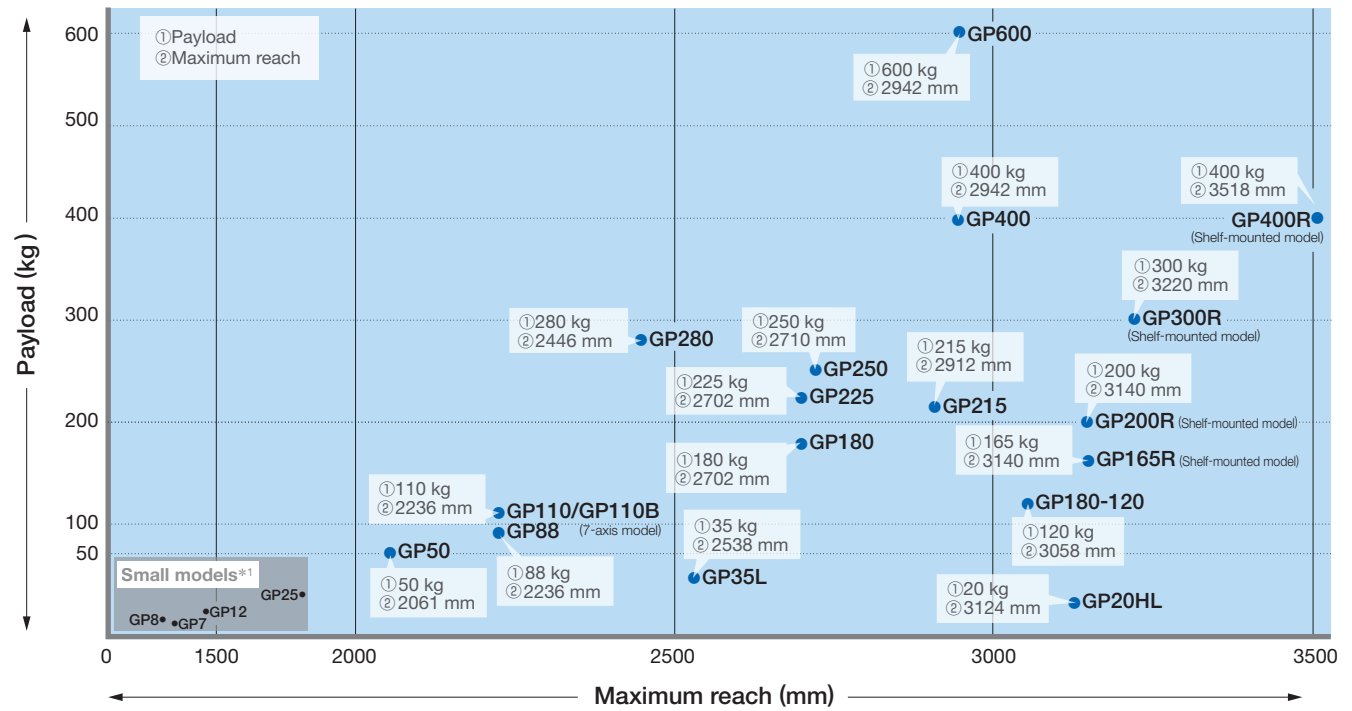


An extensive lineup to smartly solve problems at production sites

MOTOMAN-GP Series

Yaskawa has an extensive lineup of models in the MOTOMAN-GP series to support the diverse needs of customers.

Product Lineup



*1 : Refer to the MOTOMAN-GP Series Small Models (max. payload 25 kg) catalog (CHEP C941111 00) for details.



Improve equipment installation, operation, and maintenance

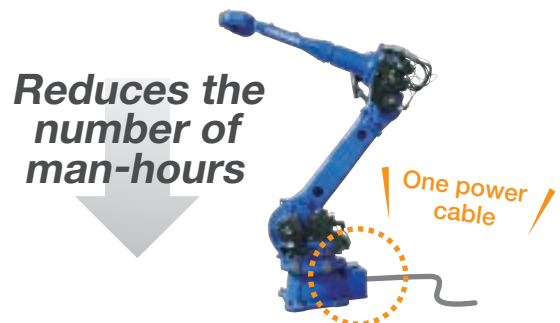
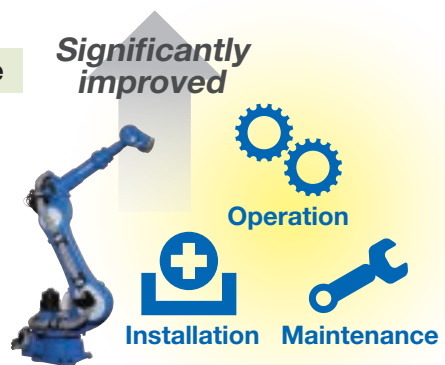
Easy maintenance

- Zero position data can be saved without the need to connect to a battery when replacing wire harness.
- Number of cables and connectors have been reduced for better work efficiency.

Reduced wiring time

- Power cable is reduced to one cable*2, which reduces wiring time.

*2 : Two power cables are required for GP400, GP400R, and GP600.





Optional Software

3D Vision Package

MotoSight3D

Bin picking, which used to be impossible with robots, can be automated with the high-performance 3D vision package.

Range of detectable workpieces have increased

Works exceptionally well with metal workpieces

- Greasy parts with high reflection of light can be handled.
- Parts with curved surface or with complicated structure can be handled. ➔ Optimal for pressed parts for automobile.
- Target parts size (approx.)
10×10 mm (when using RV300) to 1,000×1,000 mm (when using RV1100)

Highly accurate detection capability

Reduces the number of processes

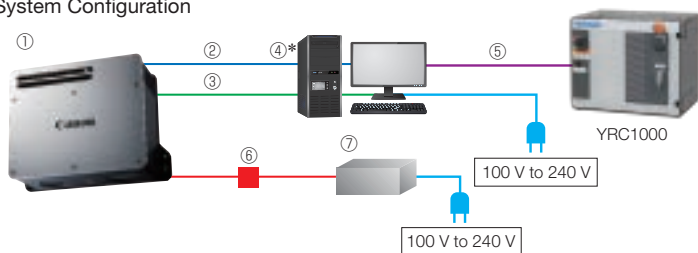
- 3D position posture (6 degree-of-freedom) can be detected with one measurement.
- Temporary placing table or other positioning sensors are not needed.

Very simple setting operation

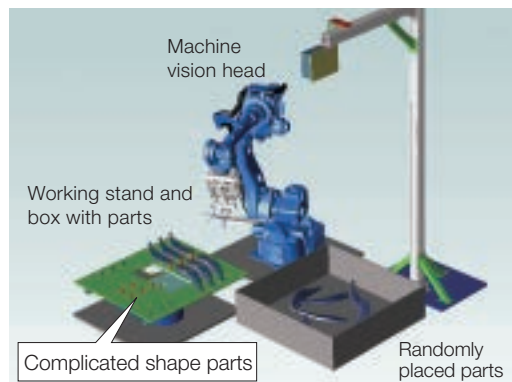
Reduces setup time

- Workpiece can be registered by inputting the CAD data and imaging the piled parts.

■ System Configuration



*: Contact your Yaskawa representative for information on how to select a PC when using a general PC or other PCs.



■ Device Composition Table

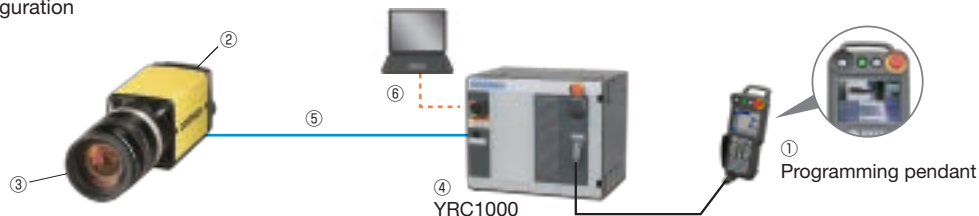
NO.	Name	Specification
①	Machine Vision Head	Select from RV1100/ RV500/RV300
②	Communications Cable (PC - sensor)	Cable length: 16 m (optional: 36 m)
③	Vision Cable (PC - sensor)	Cable length: 16 m (optional: 36 m)
④*	PC (optional)	Industrial PC
⑤	Communications Cable (PC - YRC1000)	Cable length: 10 m
⑥	Power Cable (thin)	Cable length: 5 m
	Power Cable (thick)	Cable length: 10 m
⑦	Power Source Box and Cable	—

2D Vision Package

MotoSight2D

MotoSight2D is a vision package that enables the operation of vision systems using a programming pendant with Yaskawa's own software.

■ System Configuration



■ Device Composition Table

NO.	Name	Specification
①	MotoSight2D (PP application + MotoPlus + macro job)	Settings installed prior to shipping
②	2D Vision Camera (built-in image processing device)	Select a standard, high-spec, or ultra-high-spec model.
③	Lens	Focal distance: 4 / 6 / 8 / 12 / 16 / 25 / 35 / 50 / 75 mm
④	Customization of YRC1000 for MotoSight2D	With attached connector panel and built-in PoE hub, wiring of communications cable (Ethernet)
⑤	Camera Communications Cable	Connect the camera with the controller Cable length: 5 m (flexible/mobile cable) *Total cable length up to 35 m with an optional extension cable.
⑥	Cable for PC Connection	Connect the controller with the PC Cable length: 5 m *Use PC only during maintenance or detailed settings for camera jobs.

GP20HL

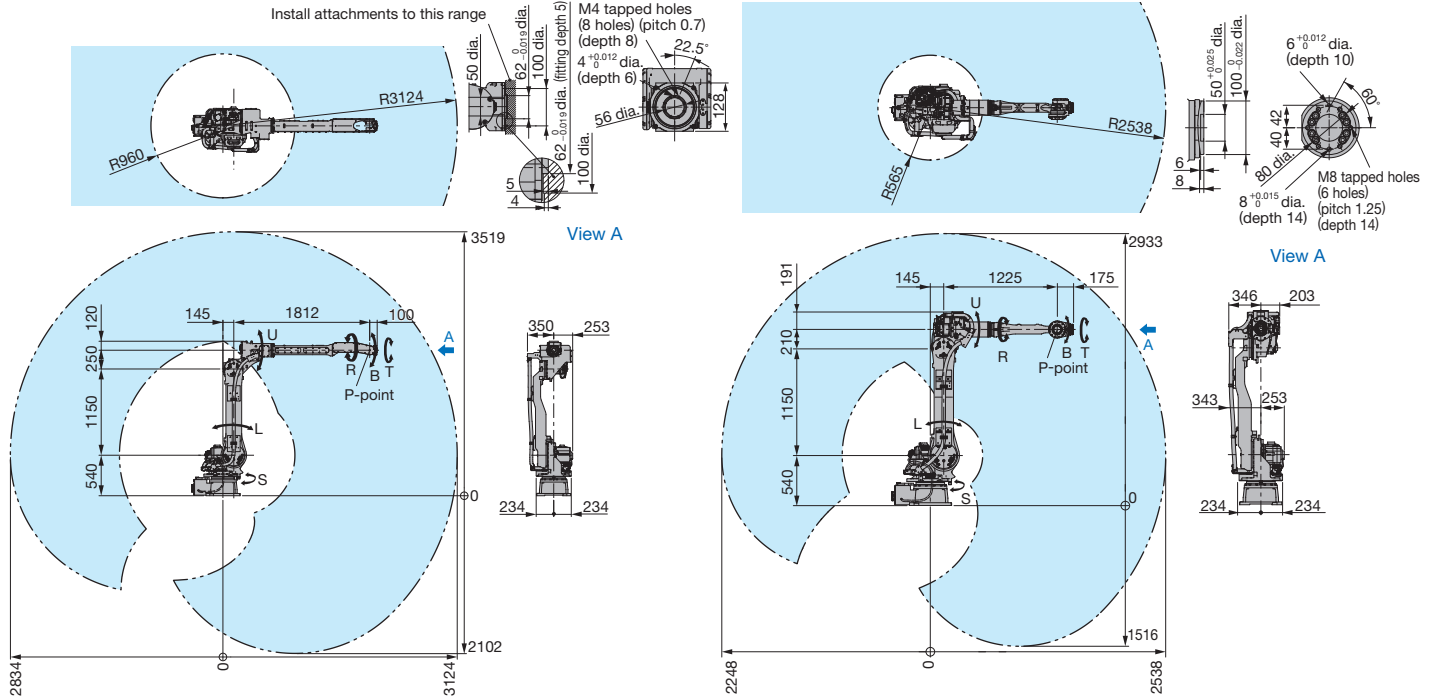


GP35L



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

Note: Refer to individual dimension diagrams for detailed dimensions and specifications of the following models.



Model	MOTOMAN-GP20HL	MOTOMAN-GP35L	
Type	YR-1-06VXHL20-A00	YR-1-06VXL35-A00	
Controlled Axis	6 (vertically articulated)	6 (vertically articulated)	
Payload	Wrist	20 kg	
	U -arm	10 kg	
Maximum Reach	3124 mm	2538 mm	
Repeatability*1	0.07 mm	0.07 mm	
Range of Motion	S-axis (turning)	-180° - +180°	
	L-axis (lower arm)	-90° - +135°	
	U-axis (upper arm)*2	-80° - +206°	
	R-axis (wrist roll)	-200° - +200°	
	B-axis (wrist pitch/yaw)	-150° - +150°	
	T-axis (wrist twist)	-455° - +455°	
Maximum Speed	S-axis (turning)	3.14 rad/s, 180°/s	
	L-axis (lower arm)	3.14 rad/s, 180°/s	
	U-axis (upper arm)	3.14 rad/s, 180°/s	
	R-axis (wrist roll)	6.98 rad/s, 400°/s	
	B-axis (wrist pitch/yaw)	7.50 rad/s, 430°/s	
	T-axis (wrist twist)	11.0 rad/s, 630°/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	560 kg	600 kg	
IEC Protection Class	Body: IP54, Wrist: IP67		
Ambient Conditions	Temperature	0 °C to +45 °C	
	Humidity	20% to 80%RH (non-condensing)	
	Vibration	4.9 m/s ² (0.5 G) or less	
	Altitude	1000 m or less	
Power Requirements*3	4.0 kVA	4.5 kVA	
Mounting*4	Floor, ceiling, wall, tilt		
Optional Specification*5	Drip-proof (Body: IP65, Wrist: IP67)		

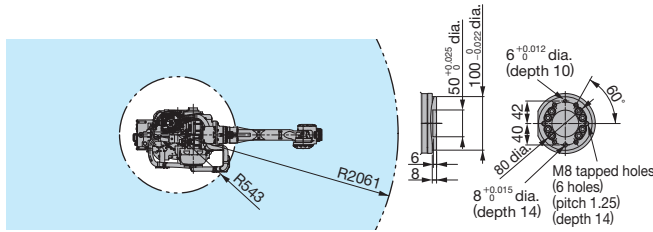
*1: Conforms to ISO 9283.
 *2: The range of motion of the U-axis itself. Not with respect to the ground. (Except for parallel-link type models)
 *3: Varies in accordance with applications and motion patterns.

*4: There are motion limitations on S-axis for wall, tilt mounting type.
 *5: Contact your Yaskawa representative about delivery dates.
 Note: SI units are used for the specifications.

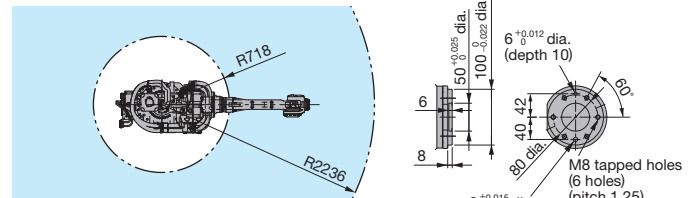
GP50



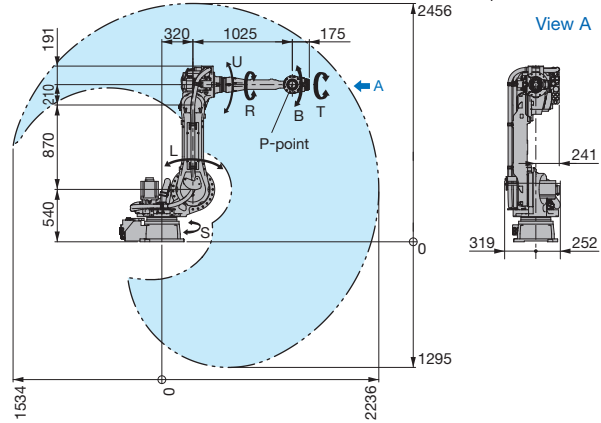
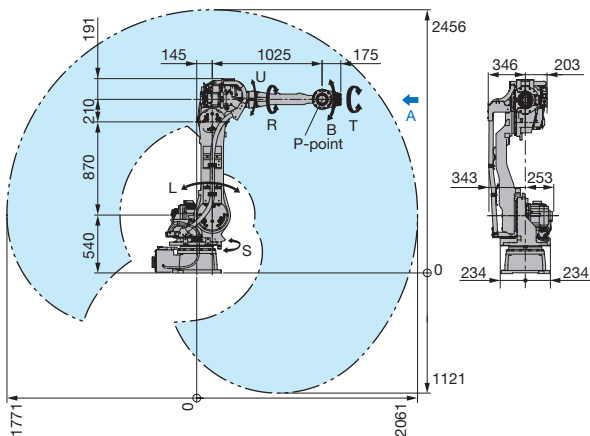
GP88



View A



View A



Model	MOTOMAN-GP50	MOTOMAN-GP88	
Type	YR-1-06VX50-A00	YR-1-06VX88-A00	
Controlled Axis	6 (vertically articulated)	6 (vertically articulated)	
Payload	Wrist	50 kg	
	U -arm	10 kg	
Maximum Reach	2061 mm	2236 mm	
Repeatability*1	0.03 mm	0.03 mm	
Range of Motion	S -axis (turning)	-180° - +180°	
	L -axis (lower arm)	-90° - +135°	
	U -axis (upper arm)*2	-80° - +206°	
	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)	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	570 kg	630 kg	
IEC Protection Class	Body: IP54, Wrist: IP67		
Ambient Conditions	Temperature	0 °C to +45 °C	
	Humidity	20% to 80%RH (non-condensing)	
	Vibration	4.9 m/s ² (0.5 G) or less	
	Altitude	1000 m or less	
Power Requirements*3	4.5 kVA	4.0 kVA	
Mounting*4	Floor, ceiling, wall, tilt		
Optional Specification*5	Drip-proof (Body: IP65, Wrist: IP67)/ Food-grade grease	Drip-proof (Body: IP65, Wrist: IP67)	

*1: Conforms to ISO 9283.

*2: The range of motion of the U-axis itself. Not with respect to the ground. (Except for parallel-link type models)

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

*4: There are motion limitations on S-axis for wall, tilt mounting type.

*5: Contact your Yaskawa representative about delivery dates.

Note: SI units are used for the specifications.

GP110

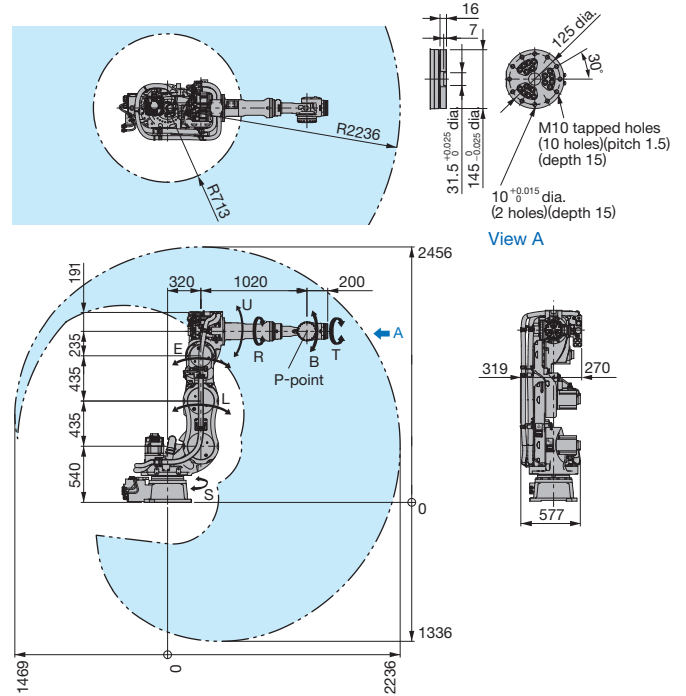
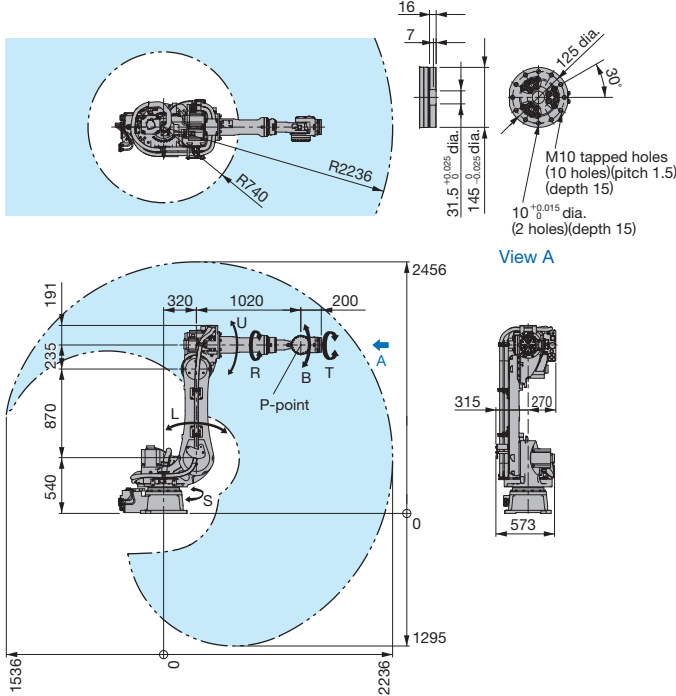


7-axis model
GP110B



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

Note: Refer to individual dimension diagrams for detailed dimensions and specifications of the following models.



Model		MOTOMAN-GP110	MOTOMAN-GP110B
Type		YR-1-06VX110-A00	YR-1-07VXB110-A00
Controlled Axis		6 (vertically articulated)	7 (vertically articulated)
Payload	Wrist	110 kg	110 kg
	U-arm	10 kg	10 kg
Maximum Reach		2236 mm	2236 mm
Repeatability*1		0.03 mm	0.04 mm
Range of Motion	S-axis (turning)	-180° - +180°	-180° - +180°
	L-axis (lower arm)	-90° - +155°	-45° - +155°
	E-axis (middle arm)		-45° - +120°
	U-axis (upper arm)*2	-80° - +90°	-70° - +90°
	R-axis (wrist roll)	-360° - +360°	-360° - +360°
	B-axis (wrist pitch/yaw)	-125° - +125°	-125° - +125°
	T-axis (wrist twist)	-360° - +360°	-360° - +360°
Maximum Speed	S-axis (turning)	2.45 rad/s, 140°/s	2.45 rad/s, 140°/s
	L-axis (lower arm)	1.92 rad/s, 110°/s	1.92 rad/s, 110°/s
	E-axis (middle arm)		1.92 rad/s, 110°/s
	U-axis (upper arm)	2.27 rad/s, 130°/s	2.27 rad/s, 130°/s
	R-axis (wrist roll)	3.05 rad/s, 175°/s	3.05 rad/s, 175°/s
	B-axis (wrist pitch/yaw)	3.05 rad/s, 175°/s	3.05 rad/s, 175°/s
	T-axis (wrist twist)	4.44 rad/s, 255°/s	4.45 rad/s, 255°/s
Allowable Moment	R-axis (wrist roll)	721 N·m	721 N·m
	B-axis (wrist pitch/yaw)	721 N·m	721 N·m
	T-axis (wrist twist)	294 N·m	294 N·m
Allowable Inertia (GD ² /4)	R-axis (wrist roll)	60 kg·m ²	60 kg·m ²
	B-axis (wrist pitch/yaw)	60 kg·m ²	60 kg·m ²
	T-axis (wrist twist)	33.7 kg·m ²	33.7 kg·m ²
Approx. Mass		660 kg	790 kg
IEC Protection Class		Body: IP54, Wrist: IP67	
Ambient Conditions	Temperature	0 °C to +45 °C	
	Humidity	20% to 80%RH (non-condensing)	
	Vibration	4.9 m/s ² (0.5 G) or less	
	Altitude	1000 m or less	
Power Requirements*3		5.0 kVA	
Mounting		Floor	
Optional Specification*4		Drip-proof (Body: IP65, Wrist: IP67)	

*1: Conforms to ISO 9283.

*2: The range of motion of the U-axis itself. Not with respect to the ground. (Except for parallel-link type models)

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

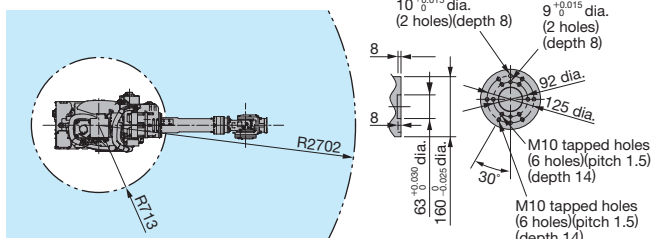
*4: Contact your Yaskawa representative about delivery dates.

Note: SI units are used for the specifications.

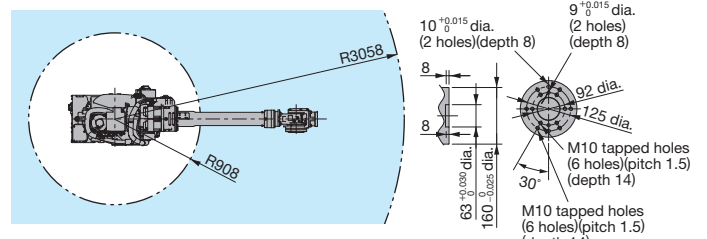
GP180



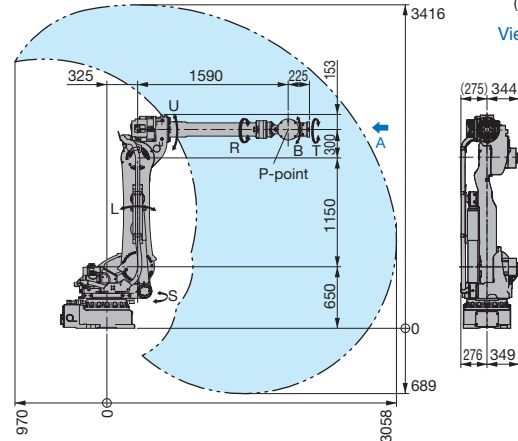
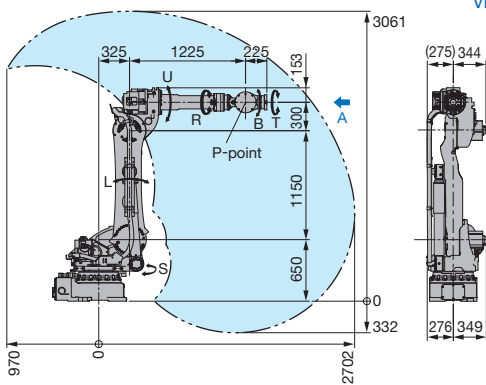
GP180-120



View A



View A



Model		MOTOMAN-GP180	MOTOMAN-GP180-120
Type		YR-1-06VX180-A00	YR-1-06VX180-120-A00
Controlled Axis		6 (vertically articulated)	6 (vertically articulated)
Payload	Wrist	180 kg	120 kg
	U -arm	30 kg	30 kg
Maximum Reach		2702 mm	3058 mm
Repeatability*1		0.05 mm	0.05 mm
Range of Motion	S -axis (turning)	- 180° - +180°	- 180° - +180°
	L -axis (lower arm)	- 60° - + 76°	- 60° - + 76°
	U -axis (upper arm)*2	- 86° - + 90°	- 86° - + 90°
	R -axis (wrist roll)	- 360° - +360°	- 360° - +360°
	B -axis (wrist pitch/yaw)	- 130° - +130°	- 130° - +130°
	T -axis (wrist twist)	- 360° - +360°	- 360° - +360°
Maximum Speed	S -axis (turning)	2.18 rad/s, 125°/s	2.18 rad/s, 125°/s
	L -axis (lower arm)	2.01 rad/s, 115°/s	2.01 rad/s, 115°/s
	U -axis (upper arm)	2.18 rad/s, 125°/s	2.18 rad/s, 125°/s
	R -axis (wrist roll)	3.18 rad/s, 182°/s	3.18 rad/s, 182°/s
	B -axis (wrist pitch/yaw)	3.05 rad/s, 175°/s	3.05 rad/s, 175°/s
	T -axis (wrist twist)	4.63 rad/s, 265°/s	4.63 rad/s, 265°/s
Allowable Moment	R -axis (wrist roll)	1000 N·m	883 N·m
	B -axis (wrist pitch/yaw)	1000 N·m	883 N·m
	T -axis (wrist twist)	618 N·m	520 N·m
Allowable Inertia (GD ² /4)	R -axis (wrist roll)	90 kg·m ²	79 kg·m ²
	B -axis (wrist pitch/yaw)	90 kg·m ²	79 kg·m ²
	T -axis (wrist twist)	46.3 kg·m ²	40 kg·m ²
Approx. Mass		1020 kg	1090 kg
IEC Protection Class		Body: IP54, Wrist: IP67	
Ambient Conditions	Temperature	0 °C to +45 °C	
	Humidity	20% to 80%RH (non-condensing)	
	Vibration	4.9 m/s ² (0.5 G) or less	
	Altitude	1000 m or less	
Power Requirements*3		5.0 kVA	
Mounting		Floor	
Optional Specification*4		Drip-proof (Body: IP65, Wrist: IP67)	

*1: Conforms to ISO 9283.

*2: The range of motion of the U-axis itself. Not with respect to the ground. (Except for parallel-link type models)

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

*4: Contact your Yaskawa representative about delivery dates.

Note: SI units are used for the specifications.

GP215

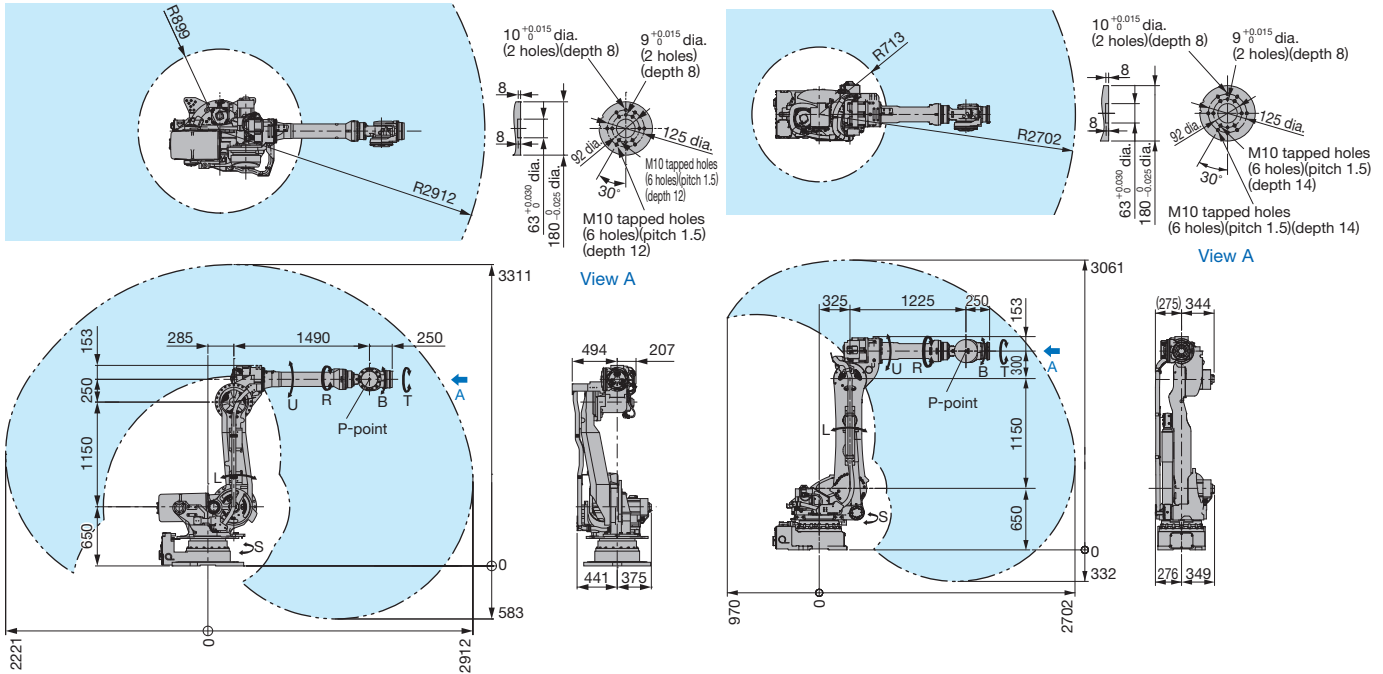


GP225



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

Note: Refer to individual dimension diagrams for detailed dimensions and specifications of the following models.



Model	MOTOMAN-GP215	MOTOMAN-GP225	
Type	YR-1-06VX215-A00	YR-1-06VX225-A00	
Controlled Axis	6 (vertically articulated)	6 (vertically articulated)	
Payload	Wrist	215 kg	
	U -arm	50 kg	
Maximum Reach	2912 mm	2702 mm	
Repeatability*1	0.05 mm	0.05 mm	
Range of Motion	S -axis (turning)	- 180° - +180°	
	L -axis (lower arm)	- 60° - + 76°	
	U -axis (upper arm)*2	- 77.8° - +197°	
	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	1340 kg	1080 kg	
IEC Protection Class	Body: IP54, Wrist: IP67		
Ambient Conditions	Temperature	0 °C to +45 °C	
	Humidity	20% to 80%RH (non-condensing)	
	Vibration	4.9 m/s ² (0.5 G) or less	
	Altitude	1000 m or less	
Power Requirements*3	5.0 kVA		
Mounting	Floor		
Optional Specification*4	Drip-proof (Body: IP65, Wrist: IP67)		

*1: Conforms to ISO 9283.

*2: The range of motion of the U-axis itself. Not with respect to the ground. (Except for parallel-link type models)

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

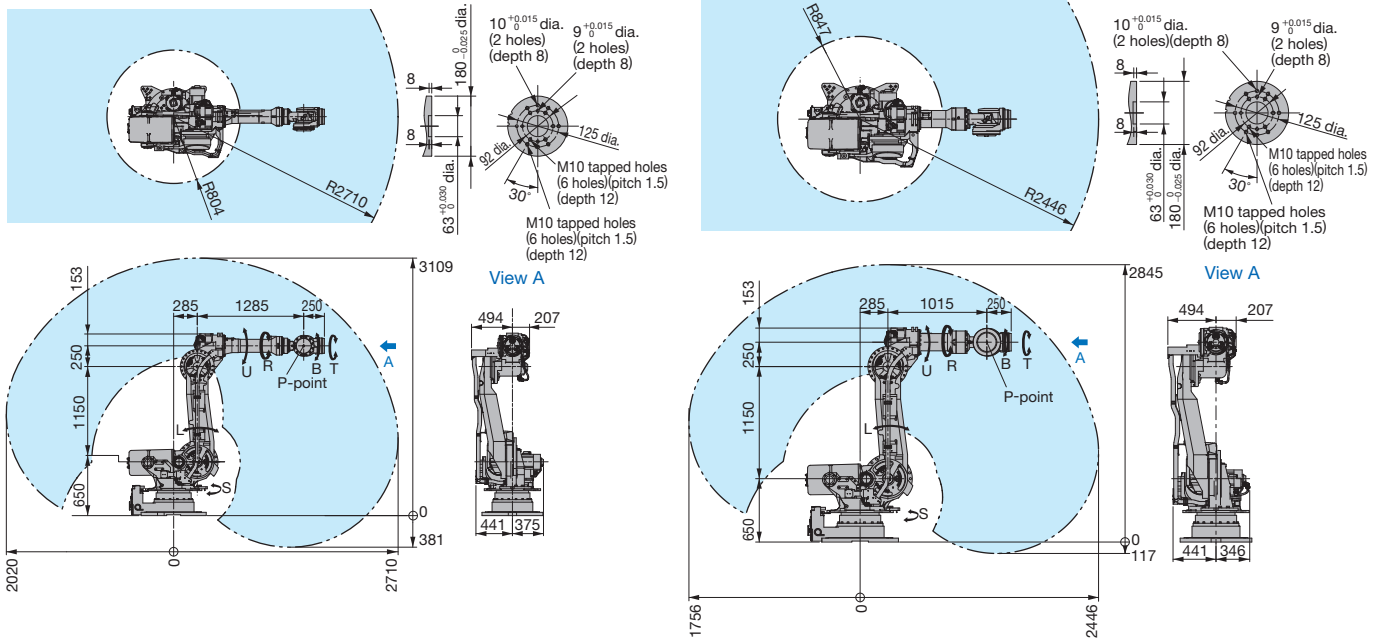
*4: Contact your Yaskawa representative about delivery dates.

Note: SI units are used for the specifications.

GP250



GP280



Model	MOTOMAN-GP250	MOTOMAN-GP280	
Type	YR-1-06VX250-A00	YR-1-06VX280-A00	
Controlled Axis	6 (vertically articulated)	6 (vertically articulated)	
Payload	Wrist	250 kg	
	U -arm	50 kg	
Maximum Reach	2710 mm	2446 mm	
Repeatability*1	0.05 mm	0.05 mm	
Range of Motion	S -axis (turning)	- 180° - +180°	
	L -axis (lower arm)	- 60° - + 76°	
	U -axis (upper arm)*2	- 77.8° - +197°	
	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	1345 kg	1300 kg	
IEC Protection Class	Body: IP54, Wrist: IP67		
Ambient Conditions	Temperature	0 °C to +45 °C	
	Humidity	20% to 80%RH (non-condensing)	
	Vibration	4.9 m/s ² (0.5 G) or less	
	Altitude	1000 m or less	
Power Requirements*3	5.0 kVA		
Mounting	Floor		
Optional Specification*4	Drip-proof (Body: IP65, Wrist: IP67)		

*1: Conforms to ISO 9283.

*2: The range of motion of the U-axis itself. Not with respect to the ground. (Except for parallel-link type models)

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

*4: Contact your Yaskawa representative about delivery dates.

Note: SI units are used for the specifications.

GP400

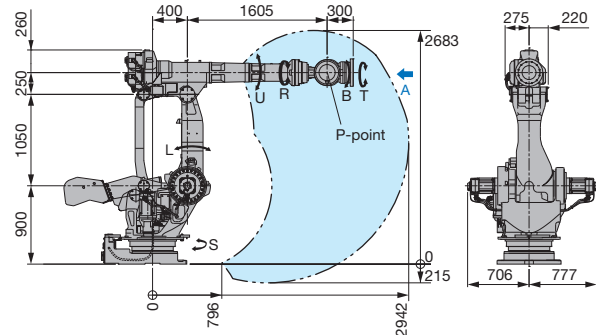
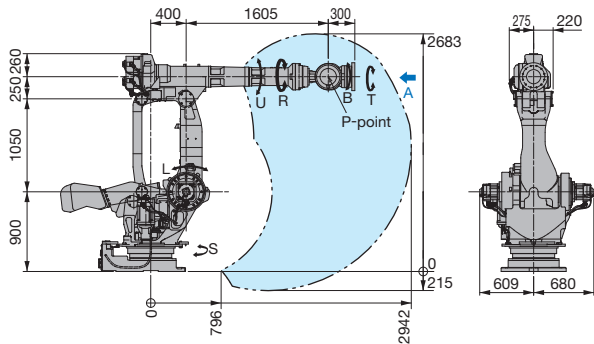
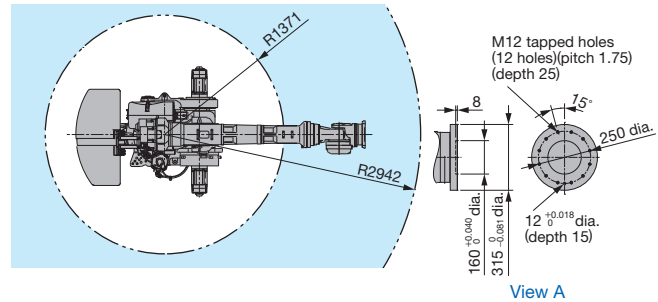
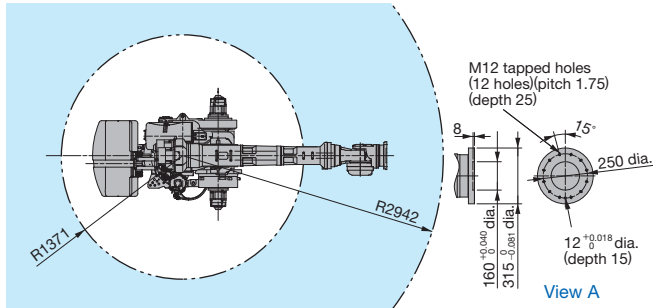


GP600



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

Note: Refer to individual dimension diagrams for detailed dimensions and specifications of the following models.



Model	MOTOMAN-GP400	MOTOMAN-GP600	
Type	YR-1-06VX400-A00	YR-1-06VX600-A00	
Controlled Axis	6 (vertically articulated)	6 (vertically articulated)	
Payload	Wrist	400 kg	
	U-arm	50 kg	
Maximum Reach	2942 mm	2942 mm	
Repeatability*1	0.1 mm	0.1 mm	
Range of Motion	S-axis (turning)	-180° - +180°	
	L-axis (lower arm)	-55° - +61°	
	U-axis (upper arm)*2	-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	2840 kg	3035 kg	
IEC Protection Class	Body: IP30, Wrist: IP67		
Ambient Conditions	Temperature	0 °C to +45 °C	
	Humidity	20% to 80%RH (non-condensing)	
	Vibration	4.9 m/s ² (0.5 G) or less	
	Altitude	1000 m or less	
Power Requirements*3	7.0 kVA		
Mounting	Floor		
Optional Specification*4	Drip-proof (Body: IP54, Wrist: IP67)		

*1: Conforms to ISO 9283.

*2: The range of motion of the U-axis itself. Not with respect to the ground. (Except for parallel-link type models)

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

*4: Contact your Yaskawa representative about delivery dates.

Note: SI units are used for the specifications.

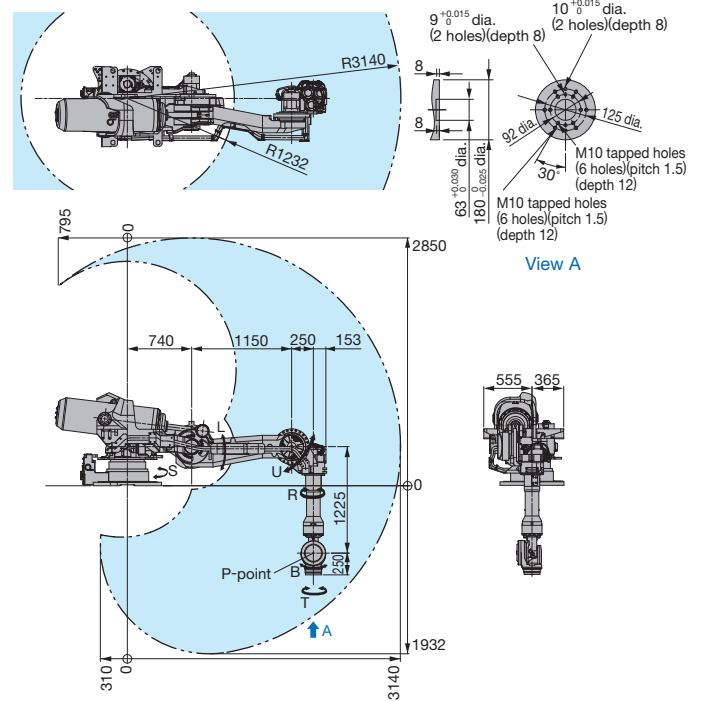
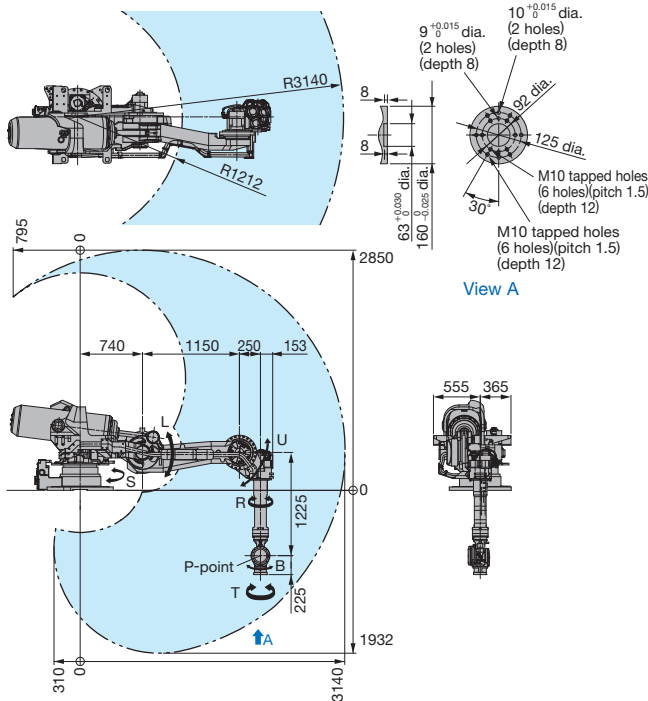
Shelf-mounted model

GP165R



Shelf-mounted model

GP200R



Model	MOTOMAN-GP165R	MOTOMAN-GP200R	
Type	YR-1-06VR165-A00	YR-1-06VR200-A00	
Controlled Axis	6 (vertically articulated)	6 (vertically articulated)	
Payload	Wrist	165 kg	
	U -arm	30 kg	
Maximum Reach	3140 mm	3140 mm	
Repeatability*1	0.05 mm	0.05 mm	
Range of Motion	S -axis (turning)	- 180° - +180°	
	L -axis (lower arm)	- 130° - + 80°	
	U -axis (upper arm)*2	- 79.4° - + 78°	
	R -axis (wrist roll)	- 360° - +360°	
	B -axis (wrist pitch/yaw)	- 130° - +130°	
	T -axis (wrist twist)	- 360° - +360°	
Maximum Speed	S -axis (turning)	1.83 rad/s, 105°/s	
	L -axis (lower arm)	1.83 rad/s, 105°/s	
	U -axis (upper arm)	1.83 rad/s, 105°/s	
	R -axis (wrist roll)	3.05 rad/s, 175°/s	
	B -axis (wrist pitch/yaw)	2.62 rad/s, 150°/s	
	T -axis (wrist twist)	4.19 rad/s, 240°/s	
Allowable Moment	R -axis (wrist roll)	921 N·m	
	B -axis (wrist pitch/yaw)	921 N·m	
	T -axis (wrist twist)	490 N·m	
Allowable Inertia (GD ² /4)	R -axis (wrist roll)	85 kg·m ²	
	B -axis (wrist pitch/yaw)	85 kg·m ²	
	T -axis (wrist twist)	45 kg·m ²	
Approx. Mass	1760 kg	1830 kg	
IEC Protection Class	Body: IP54, Wrist: IP67		
Ambient Conditions	Temperature	0 °C to +45 °C	
	Humidity	20% to 80%RH (non-condensing)	
	Vibration	4.9 m/s ² (0.5 G) or less	
	Altitude	1000 m or less	
Power Requirements*3	5.0 kVA		
Mounting	Shelf		
Optional Specification*4	Drip-proof (Body: IP65, Wrist: IP67)		

*1: Conforms to ISO 9283.

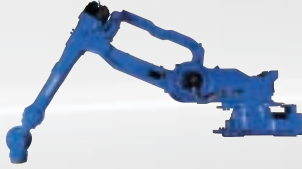
*2: The range of motion of the U-axis itself. Not with respect to the ground. (Except for parallel-link type models)

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

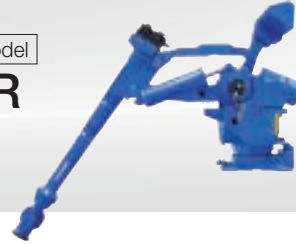
*4: Contact your Yaskawa representative about delivery dates.

Note: SI units are used for the specifications.

Shelf-mounted model
GP300R

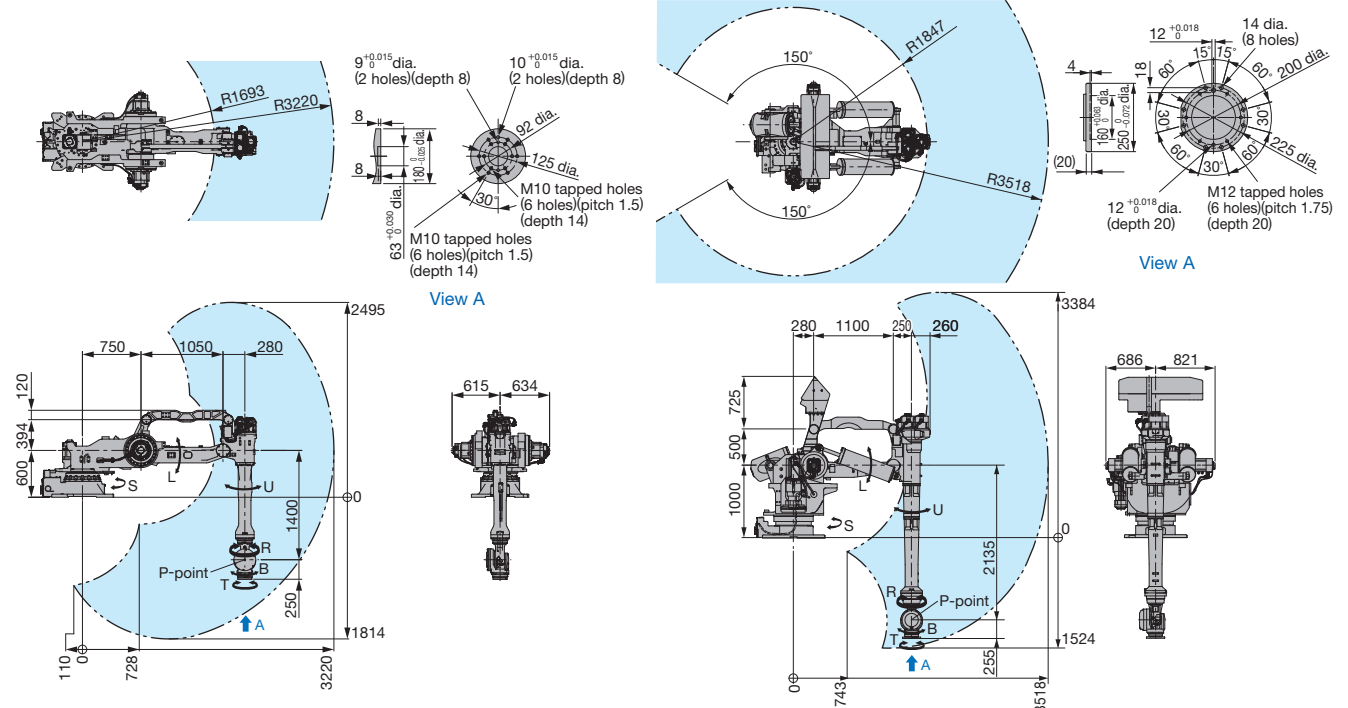


Shelf-mounted model
GP400R



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

Note: Refer to individual dimension diagrams for detailed dimensions and specifications of the following models.



Model		MOTOMAN-GP300R	MOTOMAN-GP400R
Type		YR-1-06VR300-A00	YR-1-06VR400-A00
Controlled Axis		6 (vertically articulated)	6 (vertically articulated)
Payload	Wrist	300 kg	400 kg
	U-arm	30 kg	10 kg
Maximum Reach		3220 mm	3518 mm
Repeatability*1		0.05 mm	0.1 mm
Range of Motion	S-axis (turning)	-180° - +180°	-150° - +150°
	L-axis (lower arm)	-140° - +70°	-122° - +20°
	U-axis (upper arm)*2	-70° - +115°	-9° - +120°
	R-axis (wrist roll)	-360° - +360°	-360° - +360°
	B-axis (wrist pitch/yaw)	-125° - +125°	-120° - +120°
	T-axis (wrist twist)	-360° - +360°	-360° - +360°
Maximum Speed	S-axis (turning)	1.92 rad/s, 110°/s	1.40 rad/s, 80°/s
	L-axis (lower arm)	1.66 rad/s, 95°/s	1.40 rad/s, 80°/s
	U-axis (upper arm)	1.66 rad/s, 95°/s	1.40 rad/s, 80°/s
	R-axis (wrist roll)	2.09 rad/s, 120°/s	1.40 rad/s, 80°/s
	B-axis (wrist pitch/yaw)	2.09 rad/s, 120°/s	1.40 rad/s, 80°/s
	T-axis (wrist twist)	3.32 rad/s, 190°/s	2.79 rad/s, 160°/s
Allowable Moment	R-axis (wrist roll)	1962 N·m	1960 N·m
	B-axis (wrist pitch/yaw)	1962 N·m	1960 N·m
	T-axis (wrist twist)	834 N·m	833 N·m
Allowable Inertia (GD ² /4)	R-axis (wrist roll)	320 kg·m ²	150 kg·m ²
	B-axis (wrist pitch/yaw)	320 kg·m ²	150 kg·m ²
	T-axis (wrist twist)	200 kg·m ²	50 kg·m ²
Approx. Mass		1530 kg	3560 kg
IEC Protection Class		Body: IP54, Wrist: IP67	Body: IP30, Wrist: IP67
Ambient Conditions	Temperature	0 °C to +45 °C	
	Humidity	20% to 80%RH (non-condensing)	
	Vibration	4.9 m/s ² (0.5 G) or less	
	Altitude	1000 m or less	
Power Requirements*3		5.0 kVA	7.0 kVA
Mounting		Shelf	
Optional Specification*4		Drip-proof (Body: IP65, Wrist: IP67)	Drip-proof (Body: IP54, Wrist: IP67)

*1: Conforms to ISO 9283.
*2: The range of motion of the U-axis itself. Not with respect to the ground. (Except for parallel-link type models)

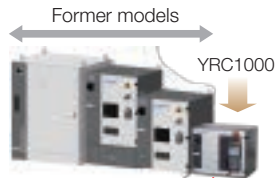
*3: Varies in accordance with applications and motion patterns.
*4: Contact your Yaskawa representative about delivery dates.
Note: SI units are used for the specifications.

YRC1000 Robot Controller



POINT **Smallest size in the world reduces installation space**

This 125 L compact size controller does not require a transformer and has built-in external axis amplifiers for three axes*.



Realized this size by building in three external axes* and eliminating the need for a transformer.

POINT **Global standardization (Universal size)**

- Common size for use in Japan and overseas.
- Overseas models do not require a transformer to adapt to the required power supply voltage.

POINT **New motion control (high precision and high speed)**

- Cycle time improved by max. 10% (compared with the former model) due to optimized acceleration/deceleration control (depends on conditions).
- Significantly reduces error in path accuracy caused by differences in motion speed (improved by 80% compared with the former model).

POINT **Lighter programming pendant with better operability**

- Weighs only 730 g, the lightest programming pendant in its class, with improved cable installation.
- Can confirm robot positions and postures on the 3D robot model display.
- Touch screen allows intuitive operation to easily move the cursor and scroll.

Save energy with the power regeneration function

Energy generated during motor deceleration (regenerative power) is returned to the power supply. This reduces electric power consumption by a maximum of 30% compared with the former model (depends on applications and motion patterns).

■ YRC1000 Robot Controller Specifications

Items	Specifications
Configuration	Dust proof structure IP54 (area of backside duct fan: IP2X)
Dimensions	598 (W)×427 (D)×490 (H) mm, 125 L
Approx. Mass	85 kg max. (External axis amplifiers for up to three axes can be built in.)*
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)
Altitude	2000 m (with temperature derating) Derating condition of over 1000 m: max. ambient temperature decreases 1% per 100 m.
Power Supply	Japan: three-phase 200 VAC to 240 VAC (+10% to -15%), 50/60 Hz (±2%) Asia and Europe: three-phase 380 VAC to 440 VAC (+10% to -15%), 50/60 Hz (±2%) (neutral grounding) North America: three-phase 380 VAC to 480 VAC (+10% to -15%), 50/60 Hz (±2%) (neutral grounding)
Grounding	Grounding resistance: 100 Ω or less for 200-V class, 10 Ω or less for 400-V class
Digital I/Os	Specialized signals: 19 inputs and 6 outputs General signals: 40 inputs and 40 outputs (32 transistor outputs, 8 relay outputs)
Positioning System	Serial communications (absolute encoder)
Programming Capacity	JOB: 200,000 steps, 10,000 instructions CIO ladder: 20,000 steps max.
Expansion Slots	PCI express: 2 slots
LAN (Connection to Host)	2 (10BASE-T/100BASE-TX)
Interface	RS-232C: 1ch
Control Method	Software servo control
Drive Units	SERVOPACK for AC servomotors

■ Programming Pendant Specifications

Items	Specifications
Dimensions	152 (W)×49.5 (D)×300 (H) mm
Approx. Mass	0.730 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 (USB 2.0, 1 port)
Display	5.7-inch TFT color LCD, touch panel VGA 640 × 480 pixels (alphanumeric characters, Chinese characters, Japanese letters, and others)
IEC Protection Class	IP54
Cable Length	Standard: 8 m, max.: 36 m (with optional extension cable)

*: External axis amplifiers for two axes can be built in for GP110B.

Note: The controller features and specifications on this page are for the manipulators described in this catalog.

MOTOMAN-GP Series

Medium- and Large-size Models (payload from 20 kg to 600 kg)

YASKAWA ELECTRIC CORPORATION

2-1 Kurosakishiroishi, Yahatanishi-ku, Kitakyushu, 806-0004, Japan
Phone: +81-93-645-7703 Fax: +81-93-645-7802
www.yaskawa.co.jp

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
www.motoman.com

YASKAWA EUROPE GmbH (ROBOTICS DIVISION)

Yaskawastrasse 1, 85391, Allershausen, Germany
Phone: +49-8166-90-100 Fax: +49-8166-90-103
www.yaskawa.eu.com

YASKAWA NORDIC AB

Verkstadsgatan 2, Box 504, SE-385 25 Torsas, Sweden
Phone: +46-480-417-800 Fax: +46-486-414-10
www.yaskawa.se

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
www.yaskawa.com.cn

YASKAWA SHOUGANG ROBOT CO., LTD.

No.7 Yongchang North Road, Beijing E&T Development Area, Beijing 100076, China
Phone: +86-10-6788-2858 Fax: +86-10-6788-2878
www.ysr-motoman.cn

YASKAWA ELECTRIC KOREA CORPORATION

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

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
www.yaskawa.com.tw

YASKAWA ASIA PACIFIC PTE. LTD.

30A Kallang Place, #06-01, 339213, Singapore
Phone: +65-6282-3003 Fax: +65-6289-3003
www.yaskawa.com.sg

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
www.yaskawa.co.th

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
www.yaskawa.co.id

YASKAWA INDIA PRIVATE LIMITED (ROBOTICS DIVISION)

#426, Udyog Vihar Phase-IV, Gurugram, Haryana 122016, India
Phone: +91-124-475-8500 Fax: +91-124-475-8542
www.yaskawaindia.in



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