
 BOTTOM-MOUNTED
 CABLE CONNECTIONS


FS100 CONTROLLER



UPPER ARM CONNECTORS

TOP REASONS TO BUY

- Full 6-axis capability provides high flexibility
- Compact body features internally routed electrical and pneumatic lines
- Floor, wall or ceiling mounting
- Supports MotoPlus™ and MotomanSync™
- Open architecture programming environment



MH3BM

SPECIMEN PROCESSING • BIOMEDICAL • CLEAN ROOM ASSEMBLY

Payload: 3 kg

The MH3BM is a robot designed for compact, lighter payload applications such as clean room assembly, drug development, clinical testing and pharmaceutical dispensing. The FS100 is a powerful controller with unmatched open software architecture.

Ideal for Clean Room and Biomedical Applications

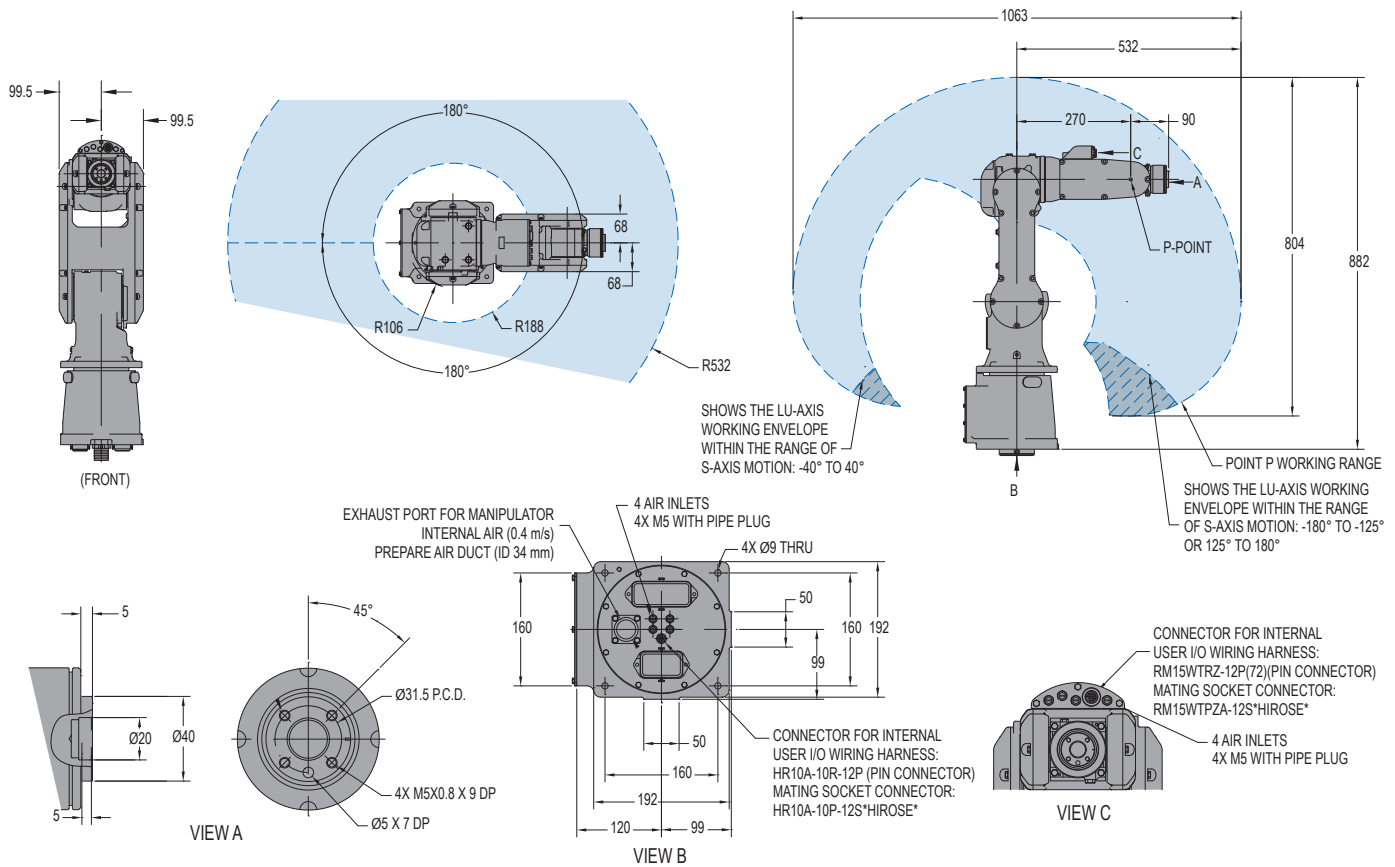
- Special coating, surface treatment and stainless steel fasteners allow cleaning with hydrogen peroxide.
- IP65 body and IP67 wrist provide ingress protection.
- ISO class 5, Federal Class 100 (209E) clean room rated.
- Cable and pneumatic connections on the bottom of the mounting surface provide additional protection.
- Compact, high-speed robot requires minimal installation space; base width of only 200 mm allows it to be mounted in confined spaces.
- 3 kg payload; 804 mm vertical reach; 532 mm horizontal reach.
- Compact design and built-in collision avoidance features with multiple robot control allow two robots to be used together to optimize productivity.
- Internally routed cables and hoses maximize system reliability.

FS100 Controller

- Small, compact controller.
- 470 mm wide, 200 mm high, 420 mm deep.
- Designed for packaging and small parts handling robots with payloads of 20 kg and under.
- Compatible with integrated MotoSight™ 2D vision (optional).
- Improved communication speeds and functionality.
- High-speed I/O response and high-resolution timers.
- Open architecture enables software customization in widely accepted environments such as C, C++, C# and .NET.
- Uses same programming pendant hardware as DX100 controller, providing a consistent programming interface with current products.

MH3BM ROBOT

All dimensions are metric (mm) and for reference only. Please request detail drawings for all design/engineering requirements.



MH3BM SPECIFICATIONS

Structure	Vertical jointed-arm type
Mounting	Floor, Wall, Ceiling
Controlled Axes	6
Payload	3 kg (6.6 lbs.)
Vertical Reach	804 mm (31.7")
Horizontal Reach	532 mm (20.9")
Repeatability	±0.03 mm (±0.001)
Maximum Motion Range	S-Axis (Turning/Sweep) ±180° S-Axis (Wall Mount) ±25° L-Axis (Lower Arm) +90°/-85° U-Axis (Upper Arm) +260°/-105° R-Axis (Wrist Roll) ±170° B-Axis (Bend/Pitch/Yaw) ±120° T-Axis (Wrist Twist) ±360°
Maximum Speed	S-Axis 310°/s L-Axis 150°/s U-Axis 190°/s R-Axis 300°/s B-Axis 300°/s T-Axis 420°/s
Approximate Mass	27 kg (59.5 lbs.)
Brakes	All axes
Power Rating	0.5 kVA
Allowable Moment	R-Axis 5.39 N·m B-Axis 5.39 N·m T-Axis 2.94 N·m
Allowable Moment of Inertia	R-Axis 0.1 kg·m ² B-Axis 0.1 kg·m ² T-Axis 0.03 kg·m ²
Internal User I/O cable	10 conductors
Internal User Air Line	5 mm (4 places)
Protection Class	Standard IP65 manipulator; IP67 wrist XP Version* (option) N/A

* XP Version: Yaskawa Motoman's eXtra Protection package.

FS100 CONTROLLER SPECIFICATIONS**

Dimensions (mm)	470 (w) x 200 (h) x 420 (d) (18.5" x 7.9" x 16.5")
Approximate Mass	20 kg (44.1 lbs)
Cooling System	Direct cooling
Ambient Temperature	During operation: 0° to 40° C (32° to 104° F) During transit and storage: -10° to 60° C (14° to 140° F)
Relative Humidity	90% max. non-condensing
Primary Power Requirements	Single-phase or 3-phase power, 200/230 VAC at 50/60 Hz (MPP3, MPK2, MH6F, HP20F require 3-phase)
External Transformer (optional)	For 480/575 VAC installations
Digital I/O	NPN-Standard PNP-Optional Standard I/O: 16 inputs/16 outputs Max. I/O (optional): 168 inputs and 168 outputs
Position Feedback	Absolute encoder
Program Memory	JOB: 10,000 steps, 1,000 instructions CIO Ladder: 1,500 steps
Pendant Dim. (mm)	169 (w) x 314.5 (h) x 50 (d) (6.7" x 12.4" x 2")
Pendant Weight	.998 kg (2.2 lbs)
Interface	One Compact Flash slot; One USB port (1.1)
Pendant Playback Buttons	Teach/Play/Remote Keyswitch selector Servo On, Start, Hold, and Emergency Stop Buttons
Programming Language	INFORM III, menu-driven programming, MotoPlus SDK (C language) – optional
Maintenance Functions	Displays troubleshooting for alarms
Number of Robots/Axes	Up to 2 robots, 16 axes (requires 2 controllers)
Multi Tasking	Up to 6 concurrent jobs, 1 system job
Fieldbus	All common networks supported
Ethernet	10 Base T/100 Base TX
Safety	Dual-channel Emergency Stop Pushbuttons, 3-position Enable Switch, Manual Brake Release

** See FS100 Controller data sheet (DS-509) for complete specifications

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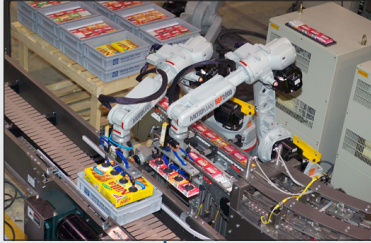
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MOTOMAN ROBOTICS

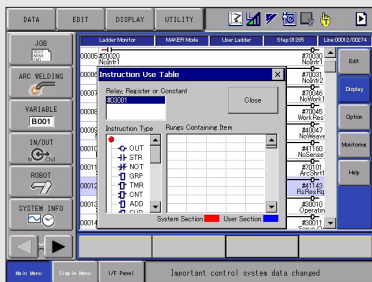
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PACKING OPERATIONS



PENDANT LADDER EDITOR



MOTOSIM EG-VRC (OPTION)

TOP REASONS TO BUY

- Highest speed in its class
- Exceptional repeatability for the most demanding applications
- Powerful DX100 controller provides fast Ethernet communication and can deliver significant cost savings by eliminating costly PLCs or HMIs for cell control
- Labor savings justifies capital investment
- Multiple robot control (up to eight robots/72 axes) simplifies programming



MH6-SERIES

MH6 MH6S MH6-10

ASSEMBLY • DISPENSING • MACHINE TENDING
MATERIAL HANDLING • PACKAGING • WELDING

Payload:
6 kg (MH6 and MH6S)
10 kg (MH6-10)

Mounting Option: Shelf (MH6R)

Compact, Powerful and Economical

- High-speed six-axis MH6 robots require minimal installation space.
- MH6 and MH6-10: 1,422 mm (56") horizontal reach, 2,486 mm (97.9") vertical reach. MH6S (shorter-arm version): 997 mm (39.3") horizontal reach, 1,597 mm (62.9") vertical reach. All models have ± 0.08 mm (0.003") repeatability.
- Widest work envelope in its class with small interference radius; allows robot to be placed close to workpieces/equipment.
- Powerful design with high moment of inertia ratings provides higher carrying capacity.
- The MH6 and MH6S feature a 6 kg (13.2 lb) payload capacity. Higher speeds on all axes provide maximum throughput.
- For similar applications requiring heavier payload requirements the MH6-10 offers a 10 kg capacity.
- Superior performance in assembly, dispensing, material handling, machine tending, packaging and welding.
- Yields extraordinary production results while requiring minimal capital investment.

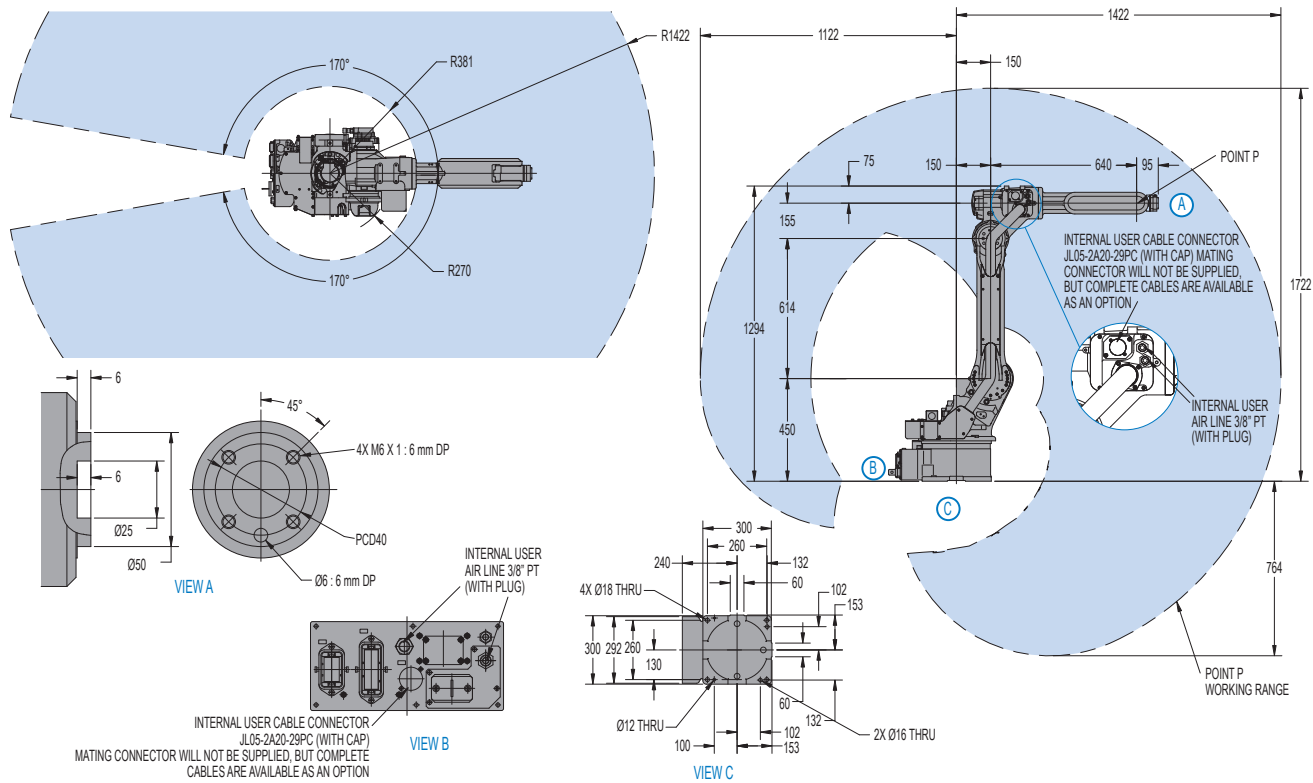
- All models can be floor-, wall-, or ceiling-mounted. Brakes on all axes.
- Compact design and built-in collision avoidance features with multiple robot control allow up to eight robots to be used together to maximize productivity while reducing overall floorspace requirements.

DX100 Controller

- Patented multiple robot control supports up to 8 robots/72 axes.
- Windows® CE programming pendant with color touch screen and USB interface.
- Faster processing speeds for smoother interpolation. Quicker I/O response. Accelerated Ethernet communication.
- Extensive I/O suite includes integral PLC and touch screen HMI, 2,048 I/O and graphical ladder editor.
- Supports all major fieldbus networks, including EtherNet/IP, DeviceNet, Profibus-DP and many others.
- Compliant to ANSI/RIA R15.06-1999 and other relevant ISO and CSA safety standards. Optional Category 3 functional safety unit.

MH6/MH6S/MH6-10 ROBOTS

MH6/MH6-10 robot shown.
All dimensions are metric (mm) and for reference only. Please request detail drawings for all design/engineering requirements.



ROBOT SPECIFICATIONS

	MH6	MH6S	MH6-10
Mounting	Floor, Wall, Ceiling	Floor, Wall, Ceiling	Floor, Wall, Ceiling
Structure	Articulated	Articulated	Articulated
Controlled Axes	6	6	6
Payload	6 kg (13.2 lbs)	6 kg (13.2 lbs)	10 kg (22.1 lbs)
Vertical Reach	2,486 mm (97.9")	1,597 mm (62.9")	2,486 mm (97.9")
Horizontal Reach	1,422 mm (56")	997 mm (39.3")	1,422 mm (56")
Repeatability	±0.08 mm (±0.003")	±0.08 mm (±0.003")	±0.08 mm (±0.003")
Maximum Motion Range	S-Axis (Turning/Sweep) ±170° L-Axis (Lower Arm) +155 / -90° U-Axis (Upper Arm) +250 / -175° R-Axis (Wrist Roll) ±180° B-Axis (Bend/Pitch/Yaw) +225 / -45° T-Axis (Wrist Twist) ±360°	S-Axis ±170° L-Axis +133 / -80° U-Axis +165 / -130° R-Axis ±180° B-Axis +225 / -45° T-Axis ±360°	S-Axis ±170° L-Axis +155 / -90° U-Axis +250 / -175° R-Axis ±180° B-Axis +225 / -45° T-Axis ±360°
Maximum Speed	S-Axis 200°/s L-Axis 200°/s U-Axis 220°/s R-Axis 410°/s B-Axis 410°/s T-Axis 610°/s	S-Axis 200°/s L-Axis 200°/s U-Axis 220°/s R-Axis 410°/s B-Axis 410°/s T-Axis 610°/s	S-Axis 140°/s L-Axis 130°/s U-Axis 135°/s R-Axis 270°/s B-Axis 270°/s T-Axis 400°/s
Approximate Mass	130 kg (286.7 lb)	120 kg (264.6 lb)	130 kg (286.7 lb)
Power Rating	1.5 kVA	1.5 kVA	1.5 kVA
Allowable Moment	R-Axis 11.8 N · m B-Axis 9.8 N · m T-Axis 5.9 N · m	R-Axis 11.8 N · m B-Axis 9.8 N · m T-Axis 5.9 N · m	R-Axis 12.2 N · m B-Axis 14.2 N · m T-Axis 7.3 N · m
Allowable Moment of Inertia	R-Axis 0.27 kg · m ² B-Axis 0.27 kg · m ² T-Axis 0.06 kg · m ²	R-Axis 0.27 kg · m ² B-Axis 0.27 kg · m ² T-Axis 0.06 kg · m ²	R-Axis 0.24 kg · m ² B-Axis 0.21 kg · m ² T-Axis 0.06 kg · m ²
Internal User Electrical Cable	16 conductors + ground	16 conductors + ground	16 conductors + ground
Internal User Air Hose	(2) 3/8" PT connection	(1) 3/8" PT connection	(2) 3/8" PT connection
Protection Class	Standard Not rated XP Version* (option) IP65 manipulator; IP67 wrist	Standard Not rated XP Version* (option) IP65 manipulator; IP67 wrist	Standard Not rated XP Version* (option) IP65 manipulator; IP67 wrist

* XP Version: Yaskawa Motoman's eXtra Protection package

DX100 CONTROLLER SPECIFICATIONS**

Dimensions (mm)	800 (w) x 1,000 (h) x 650 (d) (31.5" x 39.4" x 25.6")
Approximate Mass	250 kg max. (551.3 lbs)
Cooling System	Indirect cooling
Ambient Temperature	During operation: 0° to 45° C (32° to 113° F) During transit and storage: -10° to 60° C (14° to 140° F)
Relative Humidity	90% max. non-condensing
Primary Power Requirements	3-phase, 240/480/575 VAC at 50/60 Hz
Digital I/O	Standard I/O: 40 inputs/40 outputs consisting of 16 system inputs/16 system outputs, 24 user inputs/24 user outputs 32 Transistor Outputs: 8 Relay Outputs Max. I/O (optional): 2,048 inputs and 2,048 outputs
Position Feedback	By absolute encoder
Program Memory	JOB: 200,000 steps, 10,000 instructions CIO Ladder Standard: 15,000 steps Expanded: 20,000 steps
Pendant Dim. (mm)	169 (w) x 314.5 (h) x 50 (d) (6.7" x 12.4" x 2")
Pendant Weight	.998 kg (2.2 lbs)
Interface	One Compact Flash slot; One USB port (1.1)
Pendant Playback Buttons	Teach/Play/Remote Keyswitch selector Servo On, Start, Hold, and Emergency Stop Buttons
Programming Language	INFORM III, menu-driven programming
Maintenance Functions	Displays troubleshooting for alarms, predicts reducer wear
Number of Robots/Axes	Up to 8 robots, 72 axes
Multi Tasking	Up to 16 concurrent jobs, 4 system jobs
Fieldbus	DeviceNet Master/Slave, AB RIO, Profibus, Interbus-S, M-Net, CC Link, EtherNet IP/Slave
Ethernet	10 Base T/100 Base TX
Safety	Dual-channel Emergency Stop Pushbuttons, 3-position Enable Switch, Manual Brake Release Meets ANSI/RIA R15.06-1999, ANSI/RIA/ISO 10218-1-2007 and CSA Z434-03

** See DX100 Controller data sheet (DS-399) for complete specifications

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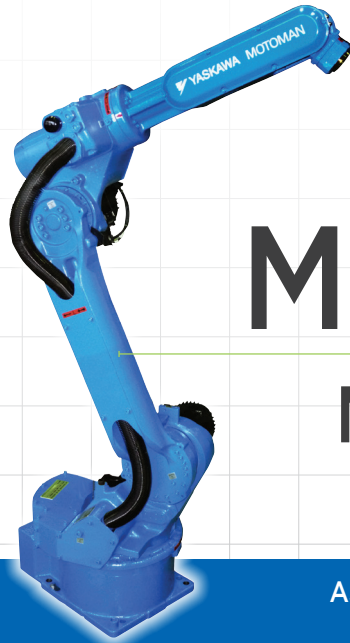
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MH6F-Series

MH6F | MH6F-10

ASSEMBLY | DISPENSING | MACHINE TENDING
MATERIAL HANDLING | PACKAGING

KEY BENEFITS

Compact and powerful design
Highest speed in its class
Yields extraordinary production results while requiring minimal capital investment
Applicable to various industry environments
Open architecture enables programming and control through a wide variety of platforms
Compact FS100 controller can be mounted under conveyors or in space-saving locations

SPECIFICATIONS

6 kg payload (MH6F)
10 kg payload (MH6F-10)
1,422 mm horizontal reach
2,486 mm vertical reach
±0.08 mm repeatability

CONTROLLERS

DX200 FS100 MLX200

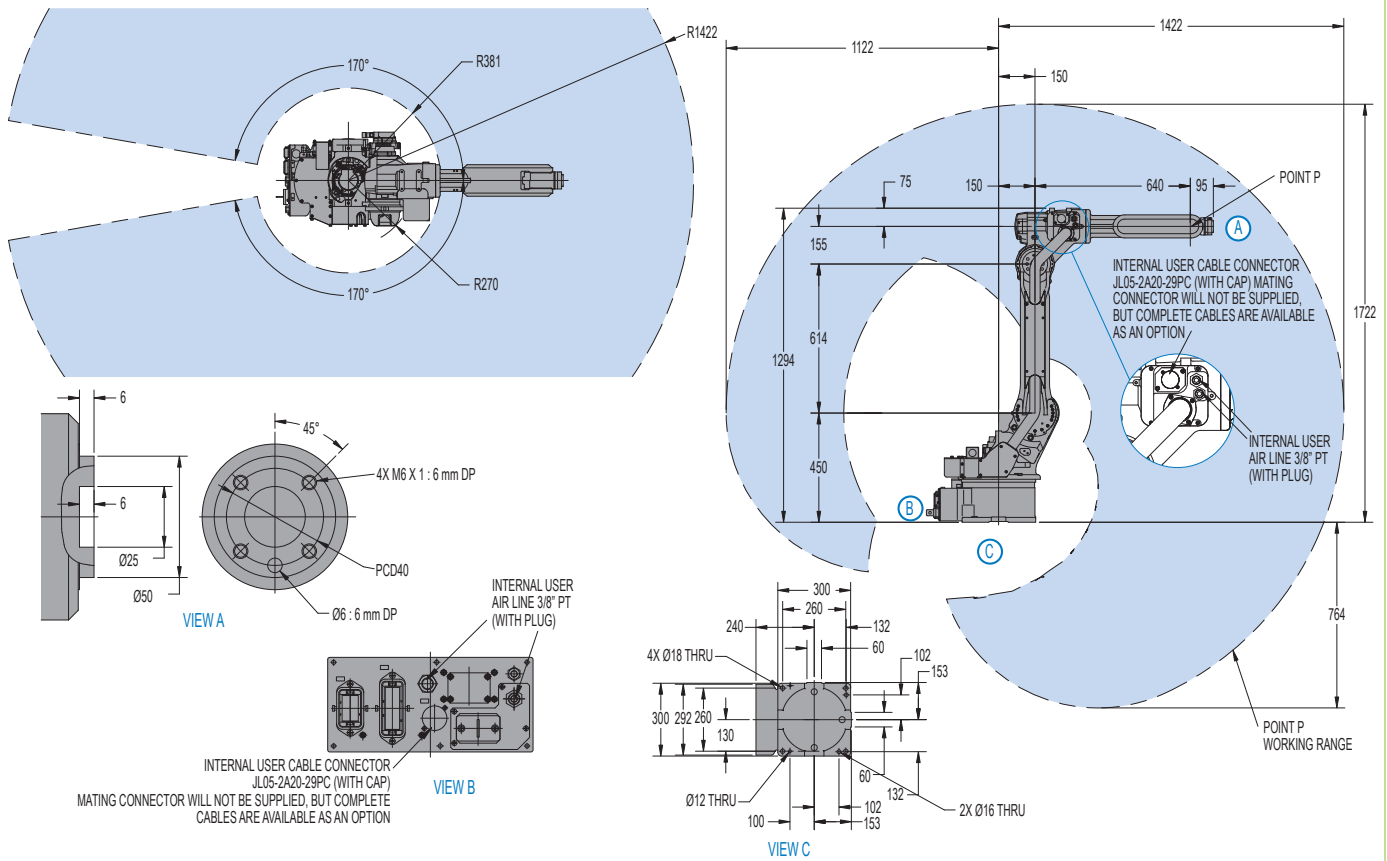
COMPACT, POWERFUL AND ECONOMICAL

- High-speed six-axis MH6F robots require minimal installation space.
- Both robots feature 1,422 mm horizontal reach, 2,486 mm vertical reach and ±0.08 mm repeatability.
- Widest work envelope in its class with small interference radius; allows robots to be placed close to workpieces/equipment.
- Powerful design with high moment of inertia ratings provides higher carrying capacity.
- The MH6F features a 6 kg payload capacity. Higher speeds on all axes provide maximum throughput.
- For similar applications requiring heavier payload requirements the MH6F-10 offers a 10 kg capacity.
- Superior performance in assembly, dispensing, material handling, machine tending and packaging.
- Both robots can be floor-, wall-, or ceiling-mounted. Brakes on all axes.

FS100 CONTROLLER

- Small, compact controller.
- 470 mm wide, 200 mm high, 420 mm deep.
- Designed for packaging and small parts handling robots with payloads of 20 kg and under.
- Compatible with integrated MotoSight 2D vision (optional).
- Improved communication speeds and functionality.
- High-speed I/O response and high-resolution timers.
- Open architecture enables software customization in widely accepted environments such as C, C++, C# and .NET.
- Uses similar programming pendant hardware as DX200 controller, providing a consistent programming interface.
- Built-in collision avoidance with multiple robots.

MH6F | MH6F-10 ROBOTS



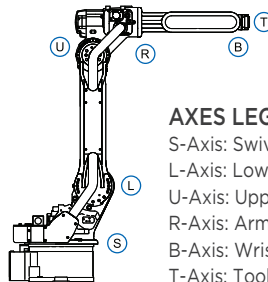
All dimensions are metric (mm) and for reference only.
Request detailed drawings for all design/engineering requirements.

SPECIFICATIONS: MH6F | MH6F 10

Axes	Maximum motion range [°]		Maximum speed [°/sec.]		Allowable moment [N•m]		Allowable moment of inertia [kg•m ²]		Controlled axes	MH6F	MH6F-10
	MH6F	MH6F-10	MH6F	MH6F-10	MH6F	MH6F-10	MH6F	MH6F-10			
S	±170	±170	220	140	-	-	-	-	6	6	6
L	+155/-90	+155/-90	200	130	-	-	-	-	6	10	10
U	+250/-175	+250/-175	220	135	-	-	-	-	±0.08	±0.08	±0.08
R	±180	±180	410	270	11.8	12.2	0.27	0.24	1,422	1,422	1,422
B	+225/-45	+225/-45	410	270	9.8	14.2	0.27	0.21	2,486	2,486	2,486
T	±360	±360	610	400	5.9	7.3	0.06	0.06	130	130	130
									Power supply, average [kVA]	1.5	1.5
									Internal I/O cable [conductors w/ ground]	17	17
									Internal air line [connections]	(2) 3/8"	(2) 3/8"

OPTIONS

- Extended length manipulator cables
- Robot risers and base plates
- Wide variety of fieldbus cards
- Vision systems
- Robot base and upper arm I/O cables



AXES LEGEND

- S-Axis: Swivel Base
- L-Axis: Lower Arm
- U-Axis: Upper Arm
- R-Axis: Arm Roll
- B-Axis: Wrist Bend
- T-Axis: Tool Flange

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MH24

ASSEMBLY | DISPENSING | MACHINE TENDING
MATERIAL HANDLING | PACKAGING

KEY BENEFITS

Thru-hole wrist design maximizes equipment uptime

Powerful wrist allows use with heavier and larger tools and parts

High speed increases production capability

Unique design maximizes reach and access while avoiding interferences

SPECIFICATIONS

24 kg payload

1,730 mm horizontal reach

3,089 mm vertical reach

±0.06 mm repeatability

CONTROLLERS



DX200



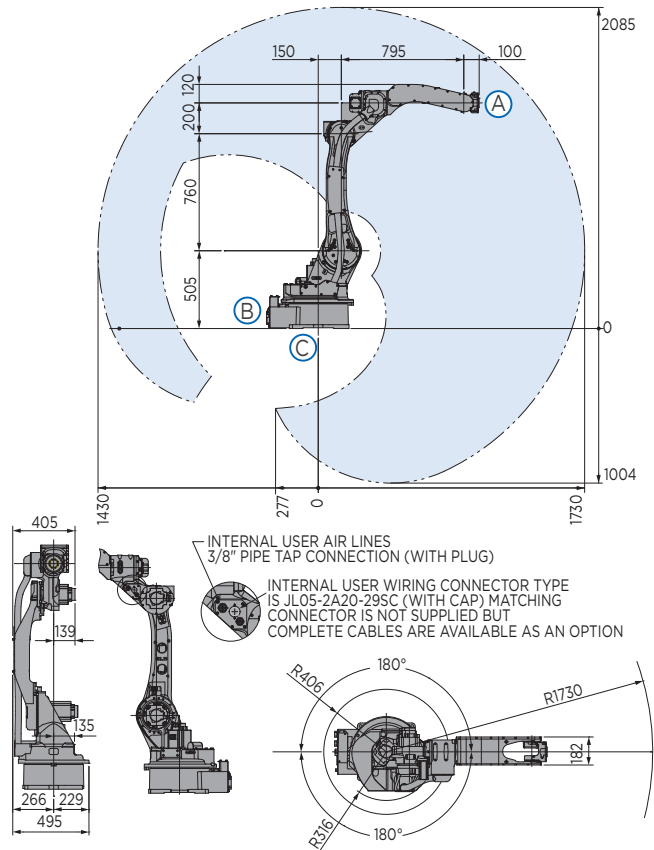
MLX200



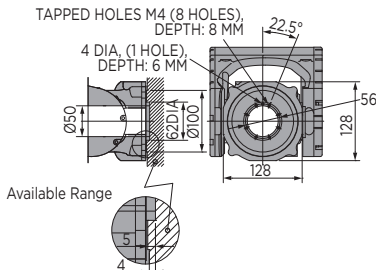
MLX300*

- Powerful high-speed six axis robot is ideal for many applications and processes.
- Increased 24 kg payload, as well as increased moment and inertia ratings over previous models, allow larger and heavier loads to be carried by the robot.
- Improved horizontal (1,730 mm) and vertical (3,089 mm) reach allows wider range of applications. The large work envelope extends behind the robot, allowing space for robot tool storage or maintenance.
- New hollow upper arm provides optimal cable protection and longer life while simplifying programming. A 50 mm clearance through axes 4-6 encloses the cable and protects it from wear, interference or snagging.
- Exceptionally fast axis speeds and acceleration reduces cycle times and increases production output. Fastest robot in its class due to cutting-edge Sigma-5 motors and ARM motion.
- Patented double yoke upper arm design provides additional strength if the robot is crashed. Much stronger than other six axis integrated cable designs.
- Symmetric wrist profile provides consistent motion and clearances regardless of robot approach.
- Mounting is available on the back side of the upper arm reducing interference with machines or other items in the workcell.
- The MH24 can be floor-, wall- or ceiling-mounted. Brakes are included on all axes.
- The MH24 has an IP67-rated wrist and an IP54-rated body.
- Ideally suited for use in high-density workcells with multiple robots working in close proximity.

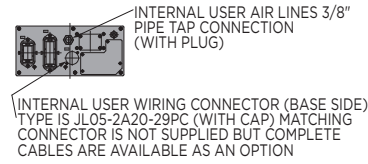
MH24 ROBOT



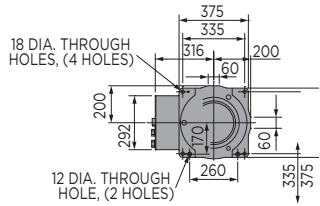
VIEW A



VIEW B



VIEW C



All dimensions are metric (mm) and for reference only.
Request detailed drawings for all design/engineering requirements.

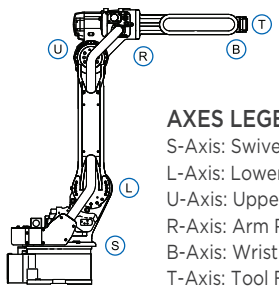
SPECIFICATIONS

Axes	Maximum motion range [°]	Maximum speed [°/sec.]	Allowable moment [N•m]	Allowable moment of inertia [kg•m ²]	Controlled axes	
S	±180	197	-	-	6	
L	+155/-105	190	-	-	Maximum payload [kg]	24
U	+240/-170	210	-	-	Repeatability [mm]	±0.06
R	±200	410	50	2.1	Horizontal reach [mm]	1,730
B	±150	410	50	2.1	Vertical reach [mm]	3,089
T	±455	620	30.4	1.1	Weight [kg]	268
					Power requirements DX200 / MLX300	3-phase; 240/480/575 VAC at 50/60 Hz
					MLX200	3-phase; 200/230 VAC at 50/60 Hz
					Power rating [kVA]	2.0
					Internal I/O cable [conductors w/ ground]	17
					Internal air line [connections]	(1) 3/8"

* The MLX300 software option is not available for use with arc or spot welding, coating, dispensing, cutting or other "path control" applications. MLX300 fieldbus cards, I/O cards and vision equipment must be purchased separately from the supplier. All peripherals are programmed using a PLC.

OPTIONS

- Extended length manipulator cables
- Robot risers and base plates
- Wide variety of fieldbus cards
- MotoSight™ 2D and 3D vision systems
- Robot base and upper arm I/O cables



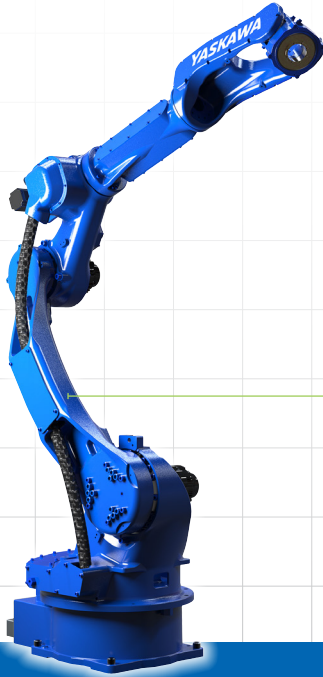
AXES LEGEND
 S-Axis: Swivel Base
 L-Axis: Lower Arm
 U-Axis: Upper Arm
 R-Axis: Arm Roll
 B-Axis: Wrist Bend
 T-Axis: Tool Flange

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MH24-10

ASSEMBLY | DISPENSING
MACHINE TENDING | MATERIAL HANDLING

KEY BENEFITS

Extended 2,010 mm reach
10 kg payload
Large 50 mm thru-hole for process utilities
Contoured arm design
Thru-hole wrist design maximizes equipment uptime

SPECIFICATIONS

10 kg payload
2,010 mm horizontal reach
3,649 mm vertical reach
±0.08 mm repeatability
Floor, wall or ceiling mounted

CONTROLLERS



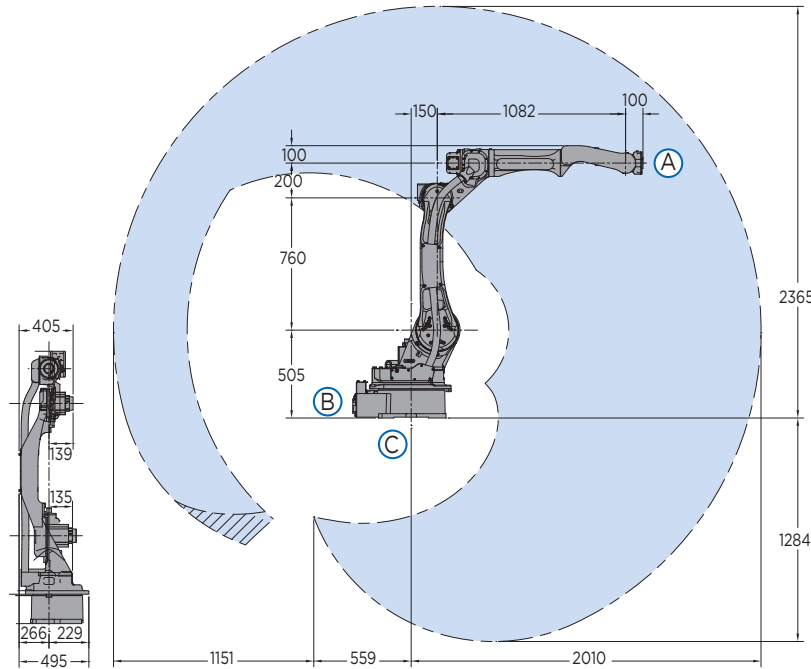
DX200



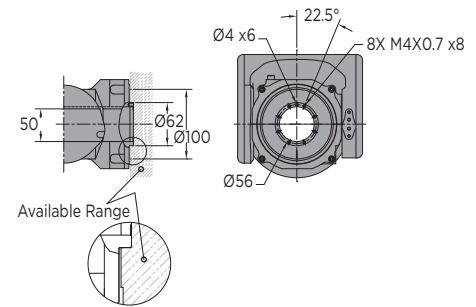
MLX300*

- Slim, extended reach MH24-10 robot increases productivity and achieves high performance.
- Powerful high-speed six-axis robot is ideal for a variety of applications.
- Hollow upper arm provides optimal cable protection and long life while simplifying programming. A 50 mm clearance through axes 4-6 encloses the cable and protects it from wear, interference or snagging.
- Contoured arm design reduces interference with jigs and large parts.
- Exceptionally fast axis speeds and acceleration reduces cycle times and increases production output.
- Symmetric wrist profile provides consistent motion and clearances regardless of robot approach.
- Mounting is available on the back side of the upper arm reducing interference with machines or other items in the workcell.
- Ideally suited for use in high-density workcells with multiple robots working in close proximity.
- Extended reach is ideal for agriculture/construction machinery or automotive frames.
- Slim arm allows easy access to parts in tight spots and avoids potential interference with fixtures.
- Also available with increased 24 kg payload capacity in slightly shorter reach (1,730 mm) configuration (MH24).

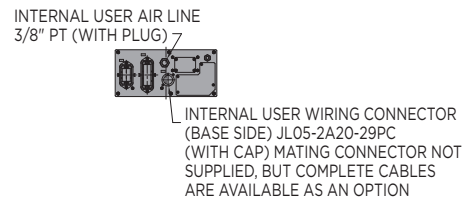
MH24-10 ROBOT



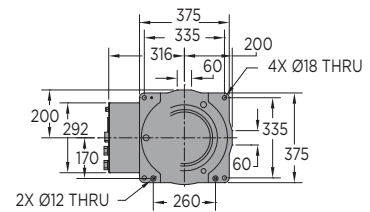
VIEW A



VIEW B



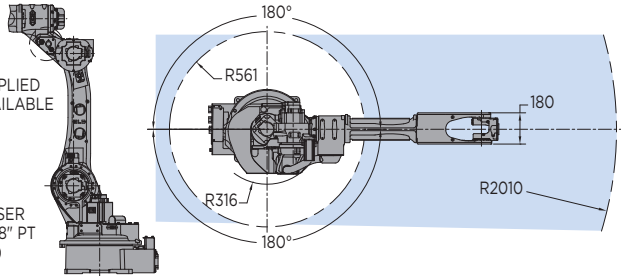
VIEW C



INTERNAL USER WIRING CONNECTOR TYPE IS JL05-2A20-29SC (WITH CAP) MATING CONNECTOR IS NOT SUPPLIED BUT COMPLETE CABLES ARE AVAILABLE AS AN OPTION



INTERNAL USER AIR LINES 3/8" PT (WITH PLUG)



All dimensions are metric (mm) and for reference only. Request detailed drawings for all design/engineering requirements.

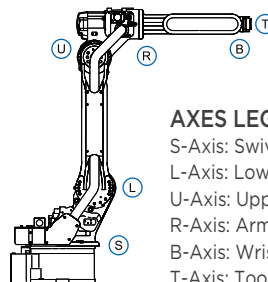
SPECIFICATIONS

Axes	Maximum motion range [°]	Maximum speed [°/sec.]	Allowable moment [N•m]	Allowable moment of inertia [kg•m ²]	Controlled axes	6
S	±180*	197	-	-	Maximum payload [kg]	10
L	+155/-105	190	-	-	Repeatability [mm]	±0.08
U	+250/-170	210	-	-	Horizontal reach [mm]	2,010
R	±200	410	22	0.65	Vertical reach [mm]	3,649
B	±135	410	22	0.65	Weight [kg]	280
T	±455	620	9.8	0.17	Power requirements	3-phase; 240/480/575 VAC at 50/60 Hz
					Power rating [kVA]	2.0
					Internal I/O cable [conductors w/ ground]	17
					Internal air line [connections]	(1) 3/8"

* Wall-mounted MH24-10 S-axis maximum motion range is ±30°

OPTIONS

- Extended length manipulator cables
- Robot risers and base plates
- Wide variety of fieldbus cards
- MotoSight 2D and 3D vision systems



AXES LEGEND

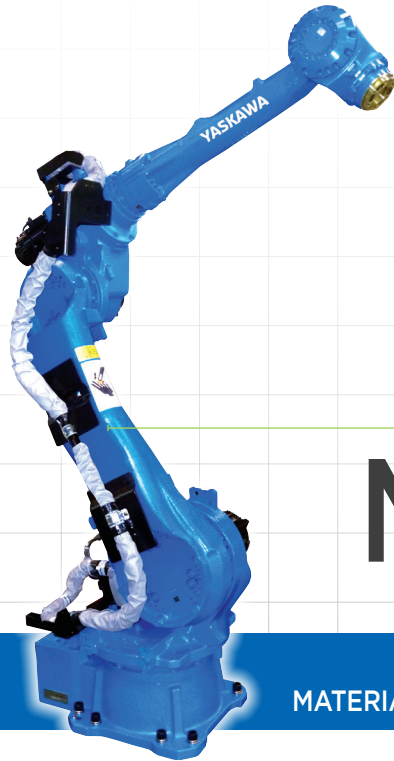
- S-Axis: Swivel Base
- L-Axis: Lower Arm
- U-Axis: Upper Arm
- R-Axis: Arm Roll
- B-Axis: Wrist Bend
- T-Axis: Tool Flange

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YASKAWA



MH50 II MH50 II-35

COATING | DISPENSING | MACHINE TENDING
MATERIAL CUTTING | MATERIAL HANDLING | PRESS TENDING

KEY BENEFITS

Variety of payloads and reaches allow MH-series robot models to be used for a variety of projects.

High speeds and mounting flexibility allows use in a variety of applications.

High wrist ratings provide higher handling capacity.

SPECIFICATIONS

MH50 II:
50 kg payload
2,061 mm horizontal reach
3,578 mm vertical reach

MH50 II-35:
35 kg payload
2,538 mm horizontal reach
4,448 mm vertical reach
±0.07 mm repeatability

CONTROLLERS



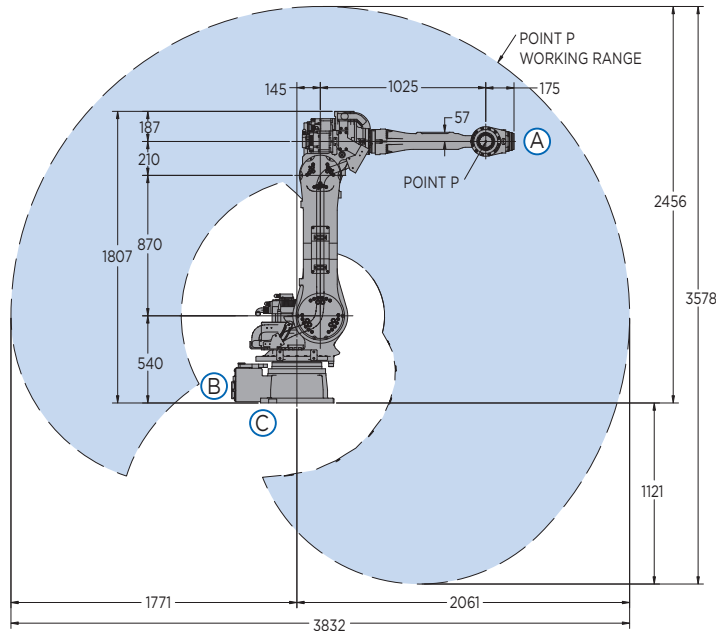
DX200



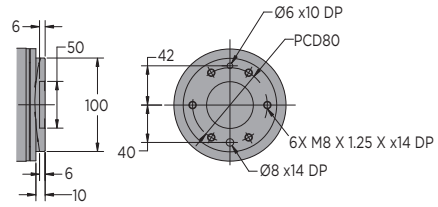
MLX300*

- Powerful, high-speed robots with long/extended reaches offer superior performance in coating, dispensing, material cutting and handling applications.
- Wide work envelopes with small interference zones, allow robots to be placed close to workpieces/equipment which reduces required floorspace.
- Highly reliable, six-axis robots feature high-rigidity speed reducers and high-speed motion which reduce cycle times.
- High payload moment and inertia ratings allow these robots to handle larger and heavier payloads.
- Cables and air lines are routed through robot base to upper arm to increase cable life, enhance safety and reduce teaching time.
- Cable installation tube in robot base facilitates fieldbus routing to the upper arm and/or gripper.
- MH50 II-20 also available featuring 20 kg payload; 3,106 mm horizontal reach; 5,585 mm vertical reach and ±0.15 mm repeatability.
- The MH50 II and MH50 II-35 robots can be floor-, wall- or ceiling-mounted. Brakes on all axes.
- Mounting for peripheral equipment is provided in multiple locations to make integration easier.
- Both models have an IP67-rated wrist and an IP54-rated body.

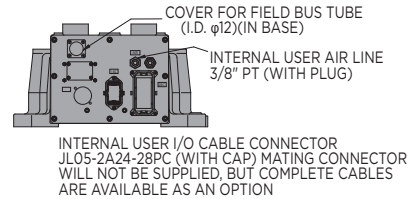
MH50 II | MH50 II-35 ROBOTS



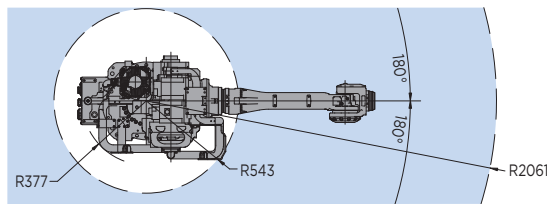
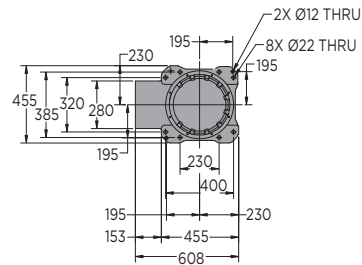
VIEW A



VIEW B



VIEW C



MH50 II robot shown.
All dimensions are metric (mm) and for reference only.
Request detailed drawings for all design/engineering requirements.

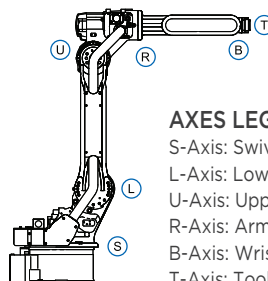
SPECIFICATIONS: MH50 II | MH50 II-35

Axes	Maximum motion range [°]		Maximum speed [°/sec.]		Allowable moment [N•m]		Allowable moment of inertia [kg•m ²]		MH50 II	MH50 II-35
	MH50 II	MH50 II-35	MH50 II	MH50 II-35	MH50 II	MH50 II-35	MH50 II	MH50 II-35		
S	±180	±180	180	180	-	-	-	-	6	6
L	+135/-90	+135/-90	178	140	-	-	-	-	50	35
U	+251/-170	+251/-160	178	178	-	-	-	-	±0.07	±0.07
R	±360	±360	250	250	216	147	28	10	2,061	2,538
B	±125	±125	250	250	216	147	28	10	3,578	4,448
T	±360	±360	360	360	147	78	11	4	550	570
									3-phase; 240/480/575 VAC at 50/60 Hz	3-phase; 240/480/575 VAC at 50/60 Hz
									4.0	4.0
									24	24
									(1) 3/8"	(1) 3/8"

* The MLX300 software option is not available for use with arc or spot welding, coating, dispensing, cutting or other "path control" applications.
MLX300 fieldbus cards, I/O cards and vision equipment must be purchased separately from the supplier. All peripherals are programmed using a PLC.

OPTIONS

- Extended length manipulator cables
- Robot risers and base plates
- External axis kits
- Wide variety of fieldbus cards
- Vision systems
- Robot base and upper arm I/O cables



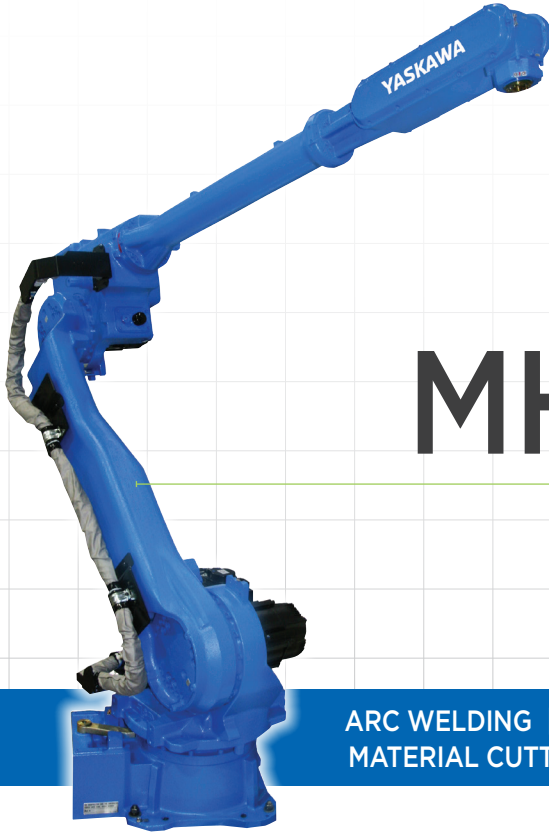
AXES LEGEND
S-Axis: Swivel Base
L-Axis: Lower Arm
U-Axis: Upper Arm
R-Axis: Arm Roll
B-Axis: Wrist Bend
T-Axis: Tool Flange

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YASKAWA



MH50 II-20

ARC WELDING | COATING | DISPENSING | MACHINE TENDING
MATERIAL CUTTING | MATERIAL HANDLING | PRESS TENDING

KEY BENEFITS

Specifically designed for processing large parts
High speed increases production
Unique design maximizes reach and access while avoiding interferences
Applicable for use in a variety of applications

SPECIFICATIONS

20 kg payload
3,106 mm horizontal reach
5,585 mm vertical reach
±0.15 mm repeatability

CONTROLLERS



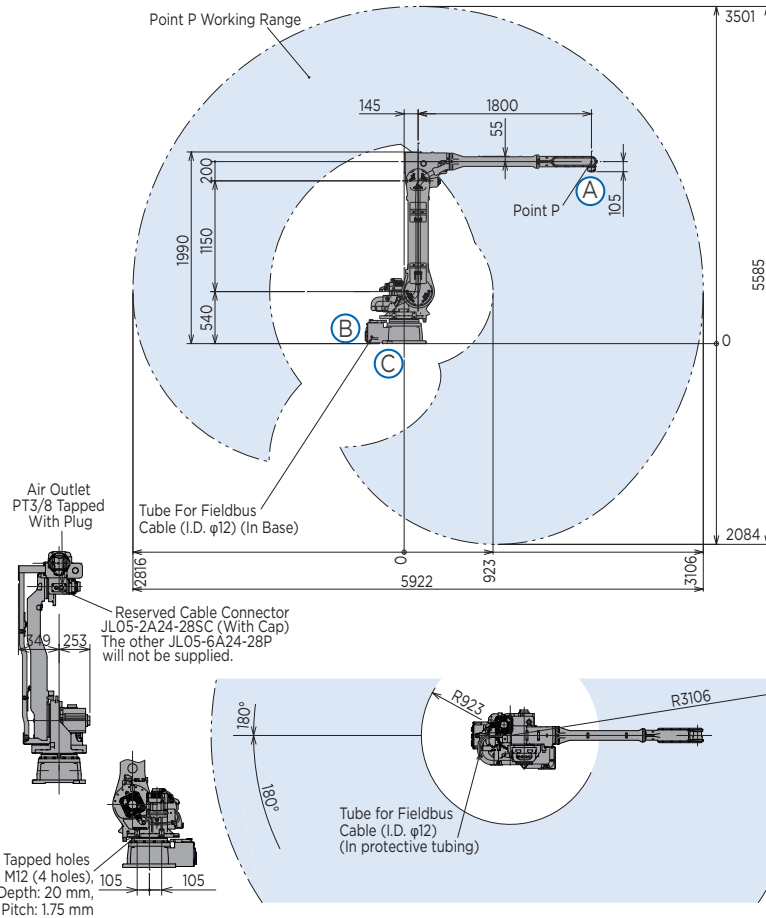
DX200



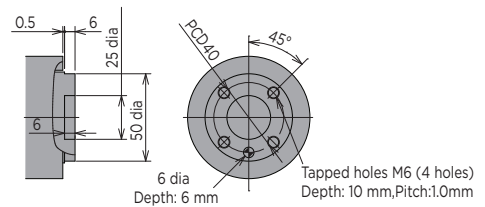
MLX300*

- Powerful, high-speed robot with long/extended reach offers superior performance in arc welding, coating, dispensing, material cutting and handling applications.
- Wide work envelope with small interference zone allows robot to be placed close to workpieces and equipment which reduces required floorspace.
- Highly reliable, six-axis robot features high-rigidity speed reducers and high-speed motion which reduce cycle times.
- High payload, moment and inertia ratings allow this robot to handle vision, laser tracking or other sensors for seam tracking applications.
- Cables and air lines are routed through robot base to upper arm to increase cable life, enhance safety and reduce teaching time.
- Cable installation tube in robot base facilitates fieldbus routing to the upper arm and/or gripper.
- MH50 II-35 is also available featuring 35 kg payload, 2,538 mm horizontal reach, 4,448 mm vertical reach and ±0.07 mm repeatability.
- The MH50 II series robots can be floor-, wall- or ceiling-mounted. Brakes on all axes.
- Mounting for peripheral equipment is provided in multiple locations to make integration easier.
- The MH50 II-20 robot features an IP67-rated wrist and an IP54-rated body.

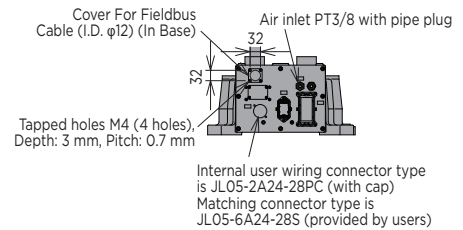
MH50 II-20 ROBOT



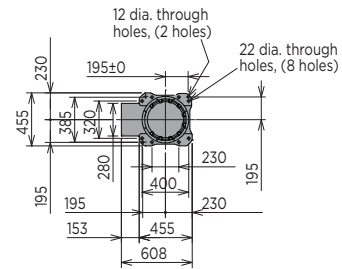
VIEW A



VIEW B



VIEW C



All dimensions are metric (mm) and for reference only.
Request detailed drawings for all design/engineering requirements.

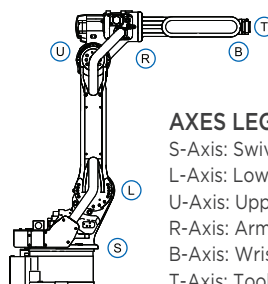
SPECIFICATIONS: MH50 II-20

Axes	Maximum motion range [°]	Maximum speed [°/sec.]	Allowable moment [N•m]	Allowable moment of inertia [kg•m ²]	Controlled axes	6
S	±180	180	-	-	Maximum payload [kg]	20
L	+135/-90	178	-	-	Repeatability [mm]	±0.15
U	+251/-160	178	-	-	Horizontal reach [mm]	3,106
R	±190	400	39.2	1.05	Vertical reach [mm]	5,585
B	+230/-50	400	39.2	1.05	Weight [kg]	495
T	±360	600	19.6	0.75	Power requirements	3-phase; 240/480/575 VAC at 50/60 Hz
					Power rating [kVA]	3.5
					Internal I/O cable [conductors w/ ground]	24
					Internal air line [connections]	(1) 3/8"

* The MLX300 software option is not available for use with arc or spot welding, coating, dispensing, cutting or other "path control" applications. MLX300 fieldbus cards, I/O cards and vision equipment must be purchased separately from the supplier. All peripherals are programmed using a PLC.

OPTIONS

- Extended length manipulator cables
- Robot risers and base plates
- External axis kits
- Wide variety of fieldbus cards
- Vision systems
- Robot base and upper arm I/O cables



AXES LEGEND

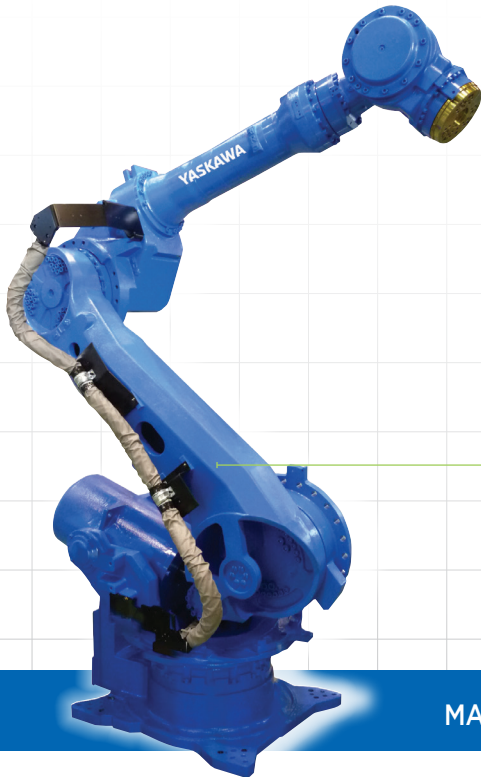
- S-Axis: Swivel Base
- L-Axis: Lower Arm
- U-Axis: Upper Arm
- R-Axis: Arm Roll
- B-Axis: Wrist Bend
- T-Axis: Tool Flange

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YASKAWA



MH215 II MH250 II

MACHINE TENDING | PART TRANSFER | PRESS TENDING

KEY BENEFITS

Optimized robot design with fast axial speeds and acceleration reduces cycle times and increases production output

Slim wrist profile for high density spacing and for reaching into confined spaces

Ideal for use in a wide variety of applications

SPECIFICATIONS

MH215 II:
215 kg payload
2,912 mm horizontal reach
3,894 mm vertical reach

MH250 II:
250 kg payload
2,710 mm horizontal reach
3,490 mm vertical reach

±0.2 mm repeatability

CONTROLLERS



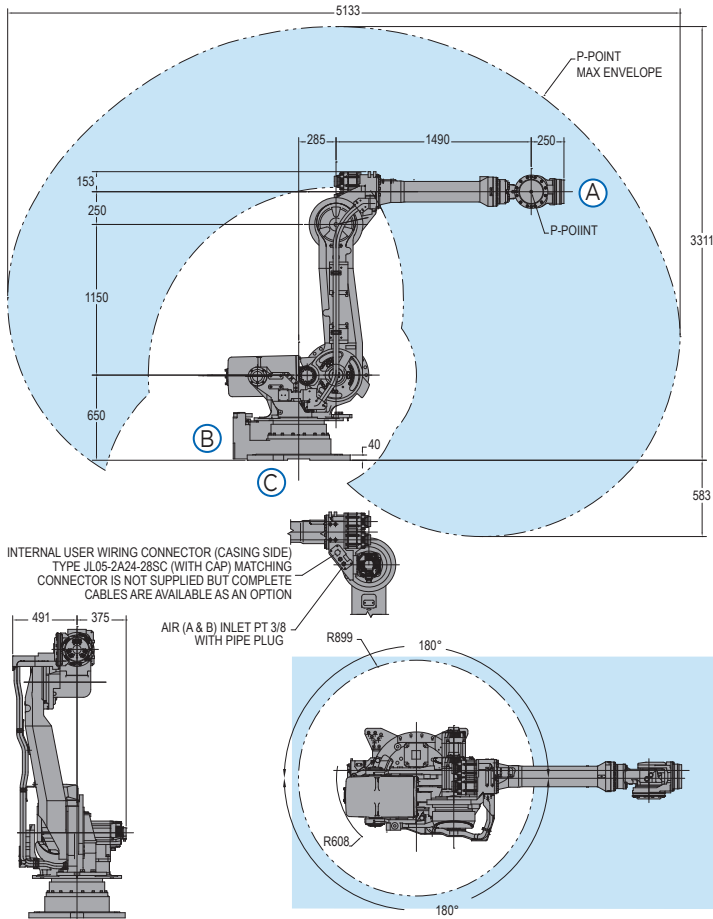
DX200



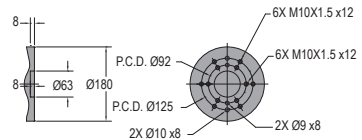
MLX300*

- Powerful six-axis handling robots feature high-rigidity speed reducers and high-speed motion which reduce cycle times.
- Payload capacity and moment and inertia ratings allow the robot to easily handle large parts and heavy payloads.
- Streamlined upper arm design features a slim wrist profile. This allows easy reach into confined spaces, improving application flexibility.
- Robots can be mounted close to machines and fixtures, making best use of valuable floorspace.
- Large work envelope extends behind robot, allowing space for robot tool storage or maintenance.
- Ideal for “jigless” applications where robot positions part for processing by other robots or two robots handle a single part.
- Up to 70% less power consumption during motion and 25% savings during idle periods compared to previous models.
- Cables and air lines are routed through robot base to upper arm to increase cable life, enhance safety and reduce teaching time.
- Cable installation tube in the base of the robot facilitates fieldbus routing to the robot upper arm and/or gripper.
- An IP67-rated wrist and an IP54 body are standard with the MH215 II and MH250 II robots.
- The MH215 II is available with an XP (eXtra Protection) package that increases the body protection rating to IP65.

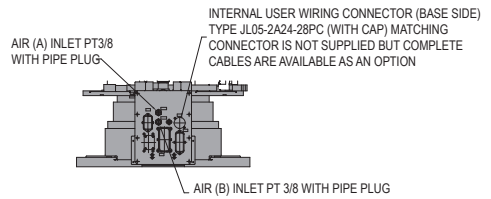
MH215 II | MH250 II ROBOTS



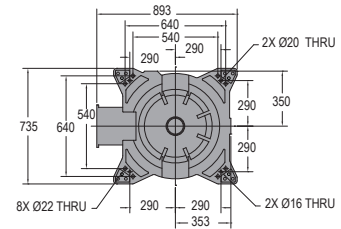
VIEW A



VIEW B



VIEW C



MH215 II is shown. All dimensions are metric (mm) and for reference only. Request detailed drawings for all design/engineering requirements.

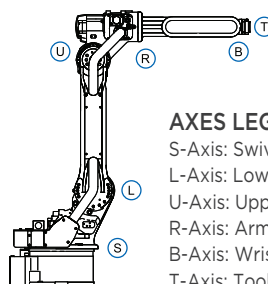
SPECIFICATIONS: MH215 II | MH250 II

Axes	Maximum motion range [°]		Maximum speed [°/sec.]		Allowable moment [N·m]		Allowable moment of inertia [kg·m ²]		Controlled axes	MH215 II	MH250 II
	MH215 II	MH250 II	MH215 II	MH250 II	MH215 II	MH250 II	MH215 II	MH250 II			
S	±180	±180	100	100	-	-	-	-	6	6	6
L	+76/-60	+76/-60	90	90	-	-	-	-	Maximum payload [kg]	215	250
U	+230/-142.5	+230/-142.5	97	97	-	-	-	-	Repeatability [mm]	±0.2	±0.2
R	±360	±360	120	120	1,176	1,386	317	317	Horizontal reach [mm]	2,912	2,710
B	±125	±125	120	120	1,176	1,386	317	317	Vertical reach [mm]	3,894	3,490
T	±360	±360	190	190	710	735	200	200	Weight [kg]	1,140	1,130
									Power requirements	3-phase; 240/480/575 VAC at 50/60 Hz	3-phase; 240/480/575 VAC at 50/60 Hz
									Power rating [kVA]	5.0	6.0
									Internal I/O cable [conductors w/ ground]	24	24
									Internal air line [connections]	(2) 3/8"	(2) 3/8"

* The MLX300 software option is not available for use with arc or spot welding, coating, dispensing, cutting or other "path control" applications. MLX300 fieldbus cards, I/O cards and vision equipment must be purchased separately from the supplier. All peripherals are programmed using a PLC.

OPTIONS

- Extended length manipulator cables
- Robot risers and base plates
- External axis kits
- Wide variety of fieldbus cards
- Vision systems
- Robot base and upper arm I/O cables



AXES LEGEND

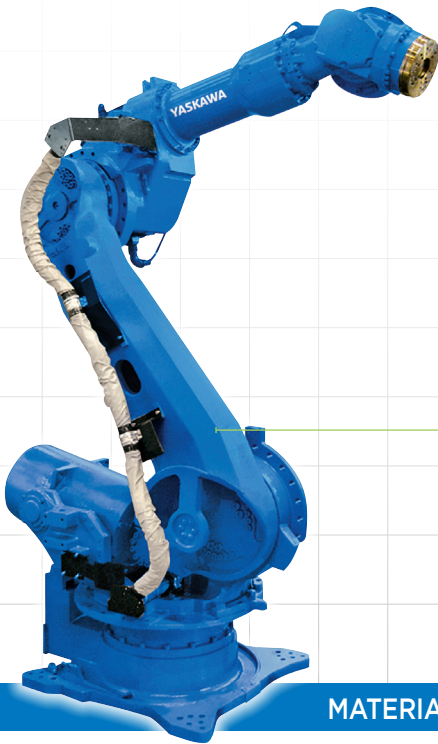
- S-Axis: Swivel Base
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- R-Axis: Arm Roll
- B-Axis: Wrist Bend
- T-Axis: Tool Flange

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YASKAWA



MH280 II

MATERIAL HANDLING | MACHINE TENDING | PRESS TENDING

KEY BENEFITS

Small mounting surface and minimum interference radius save valuable floorspace

Optimized robot design with increased speed reduces cycle time

Increased payload, moment and inertia ratings allow use for wide variety of applications

Slim wrist profile for high density spacing and for reaching into confined spaces

SPECIFICATIONS

280 kg payload

2,446 mm horizontal reach

2,962 mm vertical reach

±0.2 mm repeatability

Floor mounted

CONTROLLERS



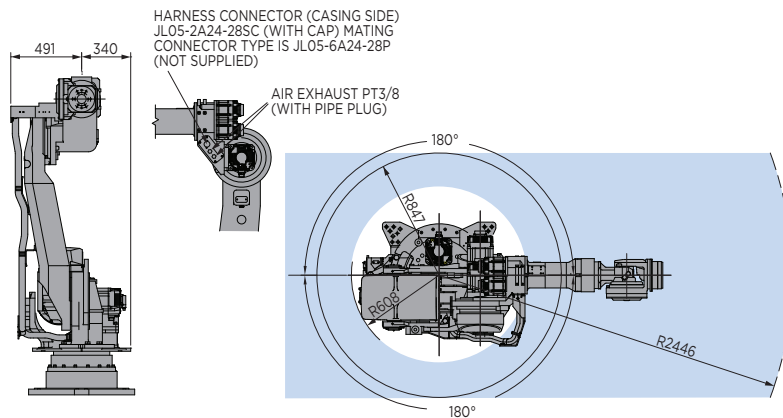
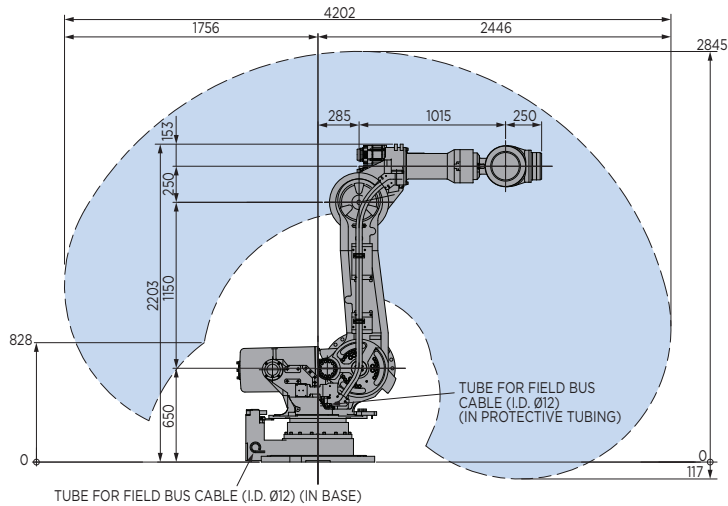
DX200



MLX300*

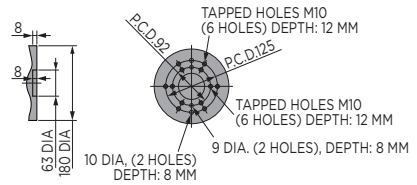
- The powerful, heavy-payload MH280 II is ideal for one of the most common robotics applications today – machine tending.
- From boring to milling to grinding, the MH280 II can help improve product quality by removing inconsistencies of a manual process and deliver cost-saving benefits to metal, polymer, ceramic and composite manufacturers.
- Ideal for “jigless” applications where robot positions parts for processing by other robots, or two robots handle a single part.
- The high-speed, six-axis MH280 II robot is designed to provide superior performance, reliability and flexibility.
- High-rigidity speed reducers and high-speed motion reduce cycle times.
- Streamlined upper arm design allows easier reach into confined spaces, improving application flexibility.
- Large work envelope extends behind body (due to no counterbalance), providing a wider range of motion which can increase the number of operations in a single cell and accommodating a wide range of big, heavy parts.
- Up to 70% less power consumption during motion and 25% savings during idle periods compared to previous models.
- Cables and air lines for end effector are routed through robot base to upper arm to increase cable life, enhance safety and reduce teaching time.

MH280 II ROBOTS

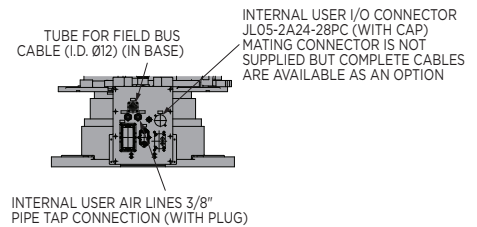


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Request detailed drawings for all design/engineering requirements.

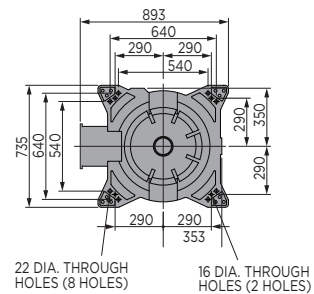
VIEW A



VIEW B



VIEW C



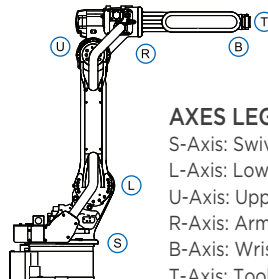
SPECIFICATIONS: MH280 II

Axes	Maximum motion range [°]	Maximum speed [°/sec.]	Allowable moment [N•m]	Allowable moment of inertia [kg•m ²]	Controlled axes	6
S	±180	90	-	-	Maximum payload [kg]	280
L	+76/-60	80	-	-	Repeatability [mm]	±0.2
U	+230/-142.5	90	-	-	Horizontal reach [mm]	2,446
R	±360	115	1,333	142	Vertical reach [mm]	2,962
B	±125	110	1,333	142	Weight [kg]	1,120
T	±360	190	706	79	Power requirements	3-phase; 240/480/575 VAC at 50/60 Hz
					Power rating [kVA]	5.0
					Internal I/O cable [conductors w/ ground]	24
					Internal air line [connections]	(2) 3/8"

* The MLX300 software option is not available for use with arc or spot welding, coating, dispensing, cutting or other "path control" applications.
MLX300 fieldbus cards, I/O cards and vision equipment must be purchased separately from the supplier. All peripherals are programmed using a PLC.

OPTIONS

- Extended length manipulator cables
- Robot risers and base plates
- External axis kits
- Wide variety of fieldbus cards
- Vision systems
- Robot base and upper arm I/O cables



AXES LEGEND

- S-Axis: Swivel Base
- L-Axis: Lower Arm
- U-Axis: Upper Arm
- R-Axis: Arm Roll
- B-Axis: Wrist Bend
- T-Axis: Tool Flange

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YASKAWA

MH900

LARGE REACH, HEAVY PAYLOAD CAPACITY

KEY BENEFITS

Heavy-duty, high-performance robot for high payload handling tasks

Wide work envelope, and high moment and inertia ratings

Enhanced safety with control reliable software for guarding (FSU)

Powerful DX200 controller offers proven ease of programming

SPECIFICATIONS

900 kg payload

4,683 mm horizontal reach

6,209 mm vertical reach

±0.5 mm repeatability

APPLICATION

Material Handling

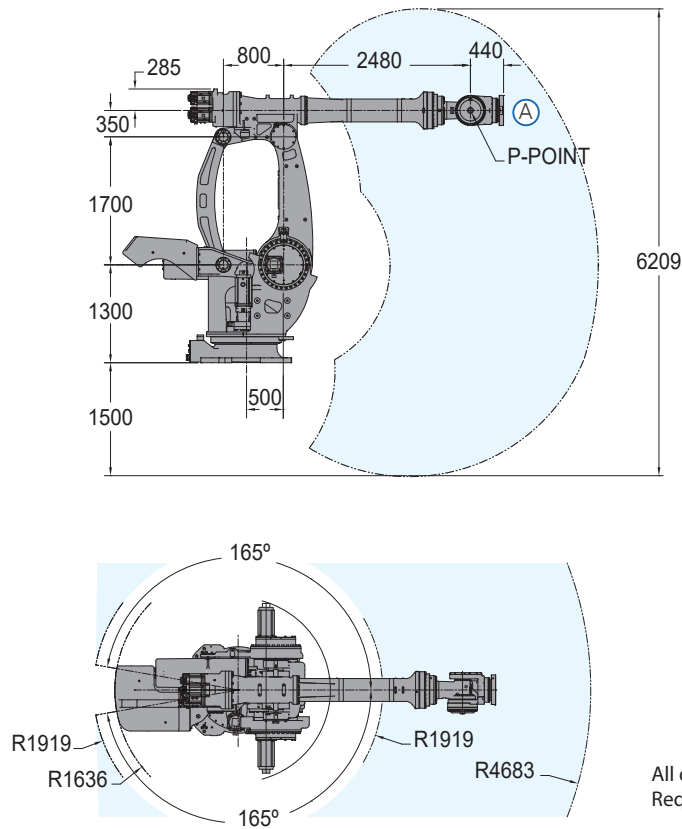
CONTROLLER

DX200

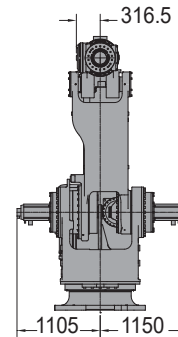
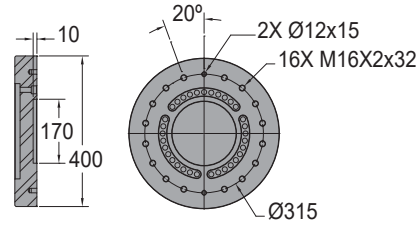


- Heavy-duty robot design provides superior performance in machine tending and part transfer applications. Particularly suited for handling castings and large weldments.
- Large work envelope, and high moment and inertia ratings accommodate handling of a wide range of large, heavy parts.
- Ideal for car frames, sheet metal, agricultural equipment, pallet-loads of bricks and other hefty materials.
- Suitable for “jigless” applications where robot positions part for processing by other robots or two robots handle a single part.
- Full six-axis capability with parallel-link construction for strength, rigidity and stabilization of high moment/inertia loads. Heavy-duty bearings provide smooth arm rotation.
- Used for loading and unloading of parts, these robots can help eliminate inconsistencies and improve reliability.
- Efficient use of available power during motion conserves energy.
- Cables and air lines are routed through robot base to upper arm to increase cable life, enhance safety and reduce teaching time.
- Cable installation tube in the base and major axes of the robot facilitates fieldbus routing to the robot upper arm and/or gripper.
- The MH900 has an IP67-rated wrist and an IP30 body standard.
- Powered by Yaskawa’s DX200 controller that is compliant to ANSI/RIA R15.06-2012 and other relevant ISO and CSA standards.

MH900 ROBOT



VIEW A



All dimensions are metric (mm) and for reference only.
Request detailed drawings for all design/engineering requirements.

SPECIFICATIONS

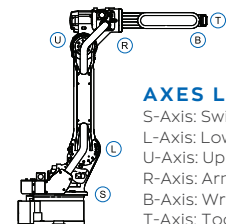
Axes	Maximum motion range	Maximum speed	Allowable moment	Allowable moment of inertia
	degrees	°/sec	N·m	kg·m ²
S	±165	45	-	-
L	+100/-60	30	-	-
U	+35/-130	30	-	-
R	±360	36	14,700	3,000
B	±120	37	14,700	3,000
T	±360	70	4,900	2,200

Mounting Options: Floor
* MLX300 fieldbus cards, I/O cards and vision equipment must be purchased separately from the supplier. All peripherals are programmed using a PLC.

Item	Unit	MH900
Controlled axes		6
Maximum payload	kg	900
Repeatability	mm	±0.5
Horizontal reach	mm	4,683
Vertical reach	mm	6,209
Weight	kg	10,000
Internal user I/O cable		23 conductors
Internal user air line		(1) 3/8" connection
Power requirements		3-phase; 208 VAC at 50/60 Hz
Power rating	kVA	35

OPTIONS

- Extended length manipulator cables
- Robot risers
- Wide variety of fieldbus cards
- PLC integration via MLX300 software option*
- Robot base and upper arm I/O cables
- Endless T-axis rotation



AXES LEGEND

S-Axis: Swivel Base
L-Axis: Lower Arm
U-Axis: Upper Arm
R-Axis: Arm Roll
B-Axis: Wrist Bend
T-Axis: Tool Flange

YASKAWA

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MHJF

ASSEMBLY | DISPENSING | EDUCATION | HANDLING
PACKAGING | POLISHING | MACHINE TENDING

KEY BENEFITS

Compact and powerful design
Applicable to various industry environments
Highly reliable
Unlimited application possibilities

SPECIFICATIONS

2 kg payload
545 mm horizontal reach
909 mm vertical reach
±0.03 mm repeatability

CONTROLLERS

DX200 FS100 MLX200

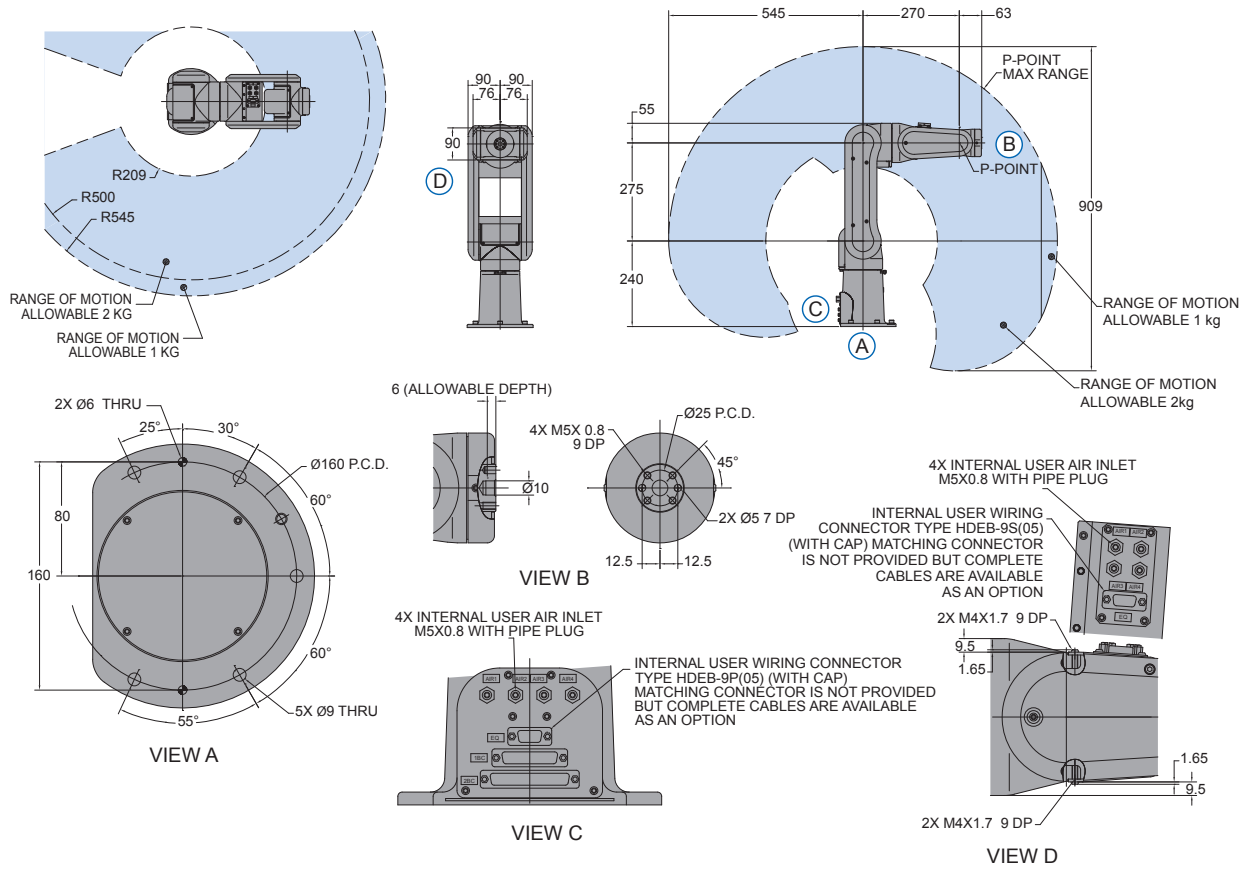
COMPACT, POWERFUL AND ECONOMICAL

- MHJF has 545 mm reach at 1 kg payload, reach reduced to 500 mm at 2 kg payload, ±0.03 mm repeatability.
- Improved moment ratings provide increased carrying capacity.
- Small footprint and minimal interference radius (92.5 mm) maximizes floorspace utilization.
- Floor - and ceiling-mounted options. Brakes on L- and U-axes.
- Compact design and built-in collision avoidance features with multiple robot control allow up to two robots to be used together to optimize productivity.
- Internally routed cables and hoses maximize system reliability.
- Lightweight design (15 kg) minimizes power requirements while performance is maximized.

FS100 CONTROLLER

- Small, compact controller.
- 470 mm wide, 200 mm high, 420 mm deep.
- Designed for packaging and small parts handling robots with payloads of 20 kg and under.
- Compatible with integrated MotoSight 2D vision (optional).
- Improved communication speeds and functionality.
- High-speed I/O response and high-resolution timers.
- Open architecture enables software customization in widely accepted environments such as C, C++, C# and .NET.
- Uses similar programming pendant hardware as DX200 controller, providing a consistent programming interface.

MHJF ROBOT



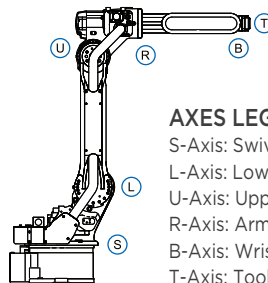
All dimensions are metric (mm) and for reference only.
Request detailed drawings for all design/engineering requirements.

SPECIFICATIONS: MHJF

Axes	Maximum motion range [°]	Maximum speed [°/sec.]	Allowable moment [N•m]	Allowable moment of inertia [kg•m ²]	Controlled axes	6
S	±160	160	-	-	Maximum payload [kg]	1 (rated) 2 (max)
L	-90/+110	130	-	-	Repeatability [mm]	±0.03
U	-290/+105	200	-	-	Horizontal reach [mm]	545
R	±180	300	3.33	0.058	Vertical reach [mm]	909
B	±130	400	3.33	0.058	Weight [kg]	15
T	±360	500	0.98	0.005	Internal I/O cable [conductors w/ ground]	8
					Internal air line [connections]	(4) M5

OPTIONS

- Extended length manipulator cables
- Robot risers and base plates
- Wide variety of fieldbus cards
- Vision systems
- Robot base and upper arm I/O cables



AXES LEGEND

- S-Axis: Swivel Base
- L-Axis: Lower Arm
- U-Axis: Upper Arm
- R-Axis: Arm Roll
- B-Axis: Wrist Bend
- T-Axis: Tool Flange

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