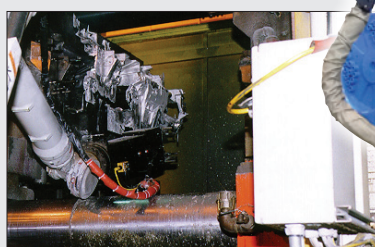
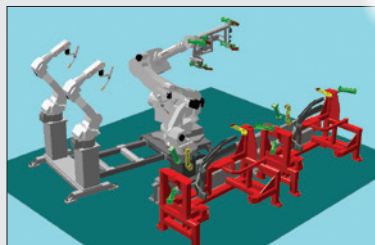


MATERIAL HANDLING



DIE CAST MACHINE TENDING



JIGLESS PART PROCESSING



# MH165 • MH215 MH250

MATERIAL HANDLING • MACHINE TENDING • PART TRANSFER • PRESS TENDING

## Payloads:

165 kg (MH165)

215 kg (MH215)

250 kg (MH250)

## TOP REASONS TO BUY

- Full six-axis capability provides high flexibility
- Ideal for heavy part handling and “jigless” processing
- IP67 wrist rating
- Outstanding reliability

## Powerful, Fast and Flexible

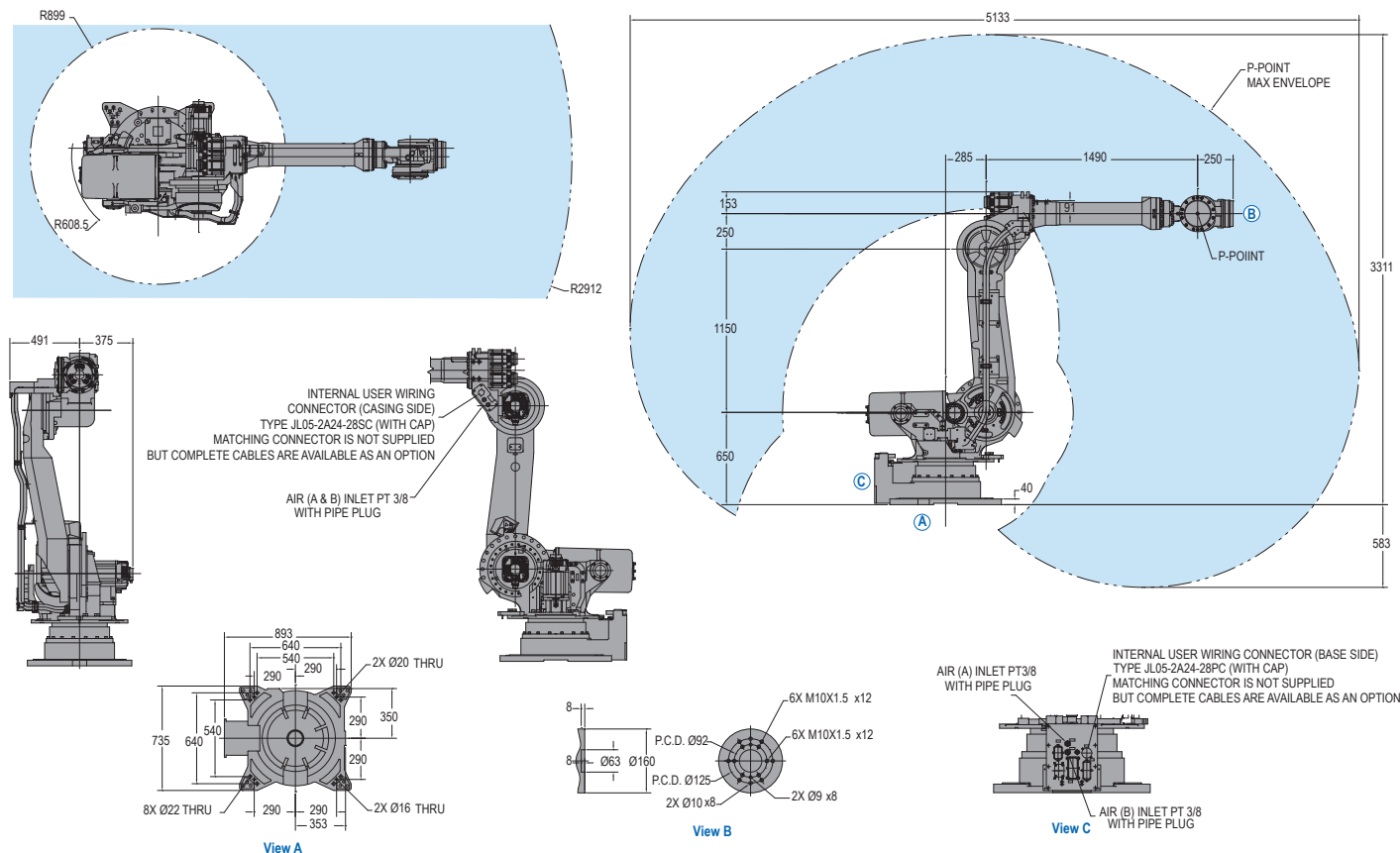
- Versatile, high-speed robots offer minimal footprint and superior performance in heavy payload handling applications.
- Large work envelope extends behind robot, allowing space for robot tool storage or maintenance.
- Ideal for “jigless” applications where robot positions part for processing by other robots or two robots handle a single part.
- Fast axial speeds and acceleration reduce cycle times and increase production output.
- Payload and reach variations provide application flexibility.

## 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.

# MH165/MH215/MH250 ROBOTS

MH215 shown. All dimensions are metric (mm) and for reference only. Please request detail drawings for all design/engineering requirements.



## ROBOT SPECIFICATIONS

	MH165	MH215	MH250
<b>Structure</b>	Articulated	Articulated	Articulated
<b>Controlled Axes</b>	6	6	6
<b>Payload</b>	165 kg (363.8 lb)	215 kg (474.1 lb)	250 kg (551.25 lb)
<b>Vertical Reach</b>	3,372 mm (132.8")	3,894 mm (153.3")	3,490 mm (137.4")
<b>Horizontal Reach</b>	2,651 mm (104.4")	2,912 mm (114.6")	2,710 mm (106.7")
<b>Repeatability</b>	±0.2 mm (±0.008")	±0.2 mm (±0.008")	±0.2 mm (±0.008")
<b>Maximum Motion Range</b>	S-Axis (Turning) ±180° L-Axis (Lower Arm) +76°/-60° U-Axis (Upper Arm) +230°/-142.5° R-Axis (Upper Arm Twist) ±360° B-Axis (Pitch/Yaw) ±130° T-Axis (Twist) ±360°	±180° +76°/-60° +230°/-142.5° ±360° ±125° ±360°	±180° +76°/-60° +230°/-142.5° ±360° ±125° ±360°
<b>Maximum Speed</b>	S-Axis 110°/s L-Axis 110°/s U-Axis 110°/s R-Axis 175°/s B-Axis 150°/s T-Axis 240°/s	100°/s 90°/s 97°/s 120°/s 120°/s 190°/s	100°/s 90°/s 97°/s 120°/s 120°/s 190°/s
<b>Approximate Mass</b>	1,100kg (2,425.5 lb)	1,140 kg (2,513.7 lb)	1,130 kg (2,491.7 lb)
<b>Power Consumption</b>	5 kVA	6 kVA	6 kVA
<b>Allowable Moment</b>	R-Axis 921 N · m B-Axis 921 N · m T-Axis 490 N · m	1,176 N · m 1,176 N · m 710 N · m	1,344 N · m 1,344 N · m 735 N · m
<b>Allowable Moment of Inertia</b>	R-Axis 85 kg · m <sup>2</sup> B-Axis 85 kg · m <sup>2</sup> T-Axis 45 kg · m <sup>2</sup>	317 kg · m <sup>2</sup> 317 kg · m <sup>2</sup> 200 kg · m <sup>2</sup>	317 kg · m <sup>2</sup> 317 kg · m <sup>2</sup> 200 kg · m <sup>2</sup>
<b>Internal User I/O Cable</b>	23 conductors + ground	23 conductors + ground	23 conductors + ground
<b>Internal User Air Line</b>	2 - 3/8" pipe tap connection	2 - 3/8" pipe tap connection	2 - 3/8" pipe tap connection

## DX100 CONTROLLER SPECIFICATIONS\*\*

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

MOTOMAN ROBOTICS

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