YASKAWA

MATERIAL HANDLING

DIECAST MACHINE TENDING

MACHINE TENDING

MH165-100

MATERIAL HANDLING • MACHINE TENDING • PRESS TENDING
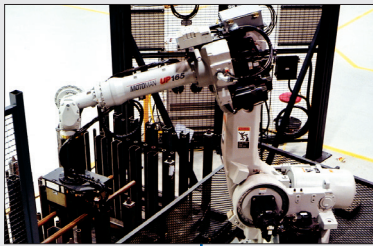
Payload: 100 kg

TOP REASONS TO BUY

- Versatile, high-performance robot for heavy-payload machine or press tending and other handling tasks.

- Powerful DX100 controller provides fast Ethernet communication and can deliver significant cost savings by eliminating costly PLCs or HMIs for cell control.

- Windows® CE programming pendant with full-color touch screen and USB interface

Fast, Flexible and Powerful

- High-speed six-axis MH165-100 robot sets the standard for versatility in the large robot market.

- Provides superior performance in machine and press tending, and other heavy-payload material handling applications.

- 100 kg payload; 4,091 mm vertical reach; 3,010 mm horizontal reach; ±0.2 mm repeatability.

- Fast axial speeds and acceleration reduce cycle times and increase production output.

- Large work envelope and high moment and inertia ratings.

- Compact, slim design allows robots to reduce cycle time and reach into confined spaces, improving system productivity.

- MH165-100 model is floor-mounted.

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.

- Interface panel function allows the programming pendant to be configured as a system HMI.

MH165-100 ROBOT

All dimensions are metric (mm) and for reference only. Please request detail drawings for all design/engineering requirements.
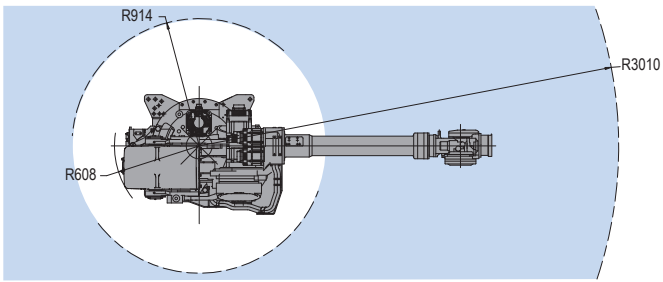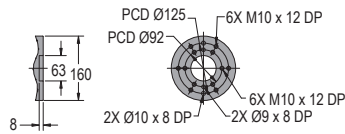
INTERNAL USER I/O CONNECTION
JL05-2A24-28PC(WITH CAP)
MATING CONNECTOR IS NOT SUPPLIED
BUT COMPLETE CABLES ARE AVAILABLE AS AN OPTION

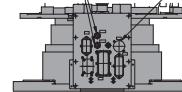INTERNAL USER AIR LINES 3/8" PIPE TAP CONNECTION (WITH PLUG)
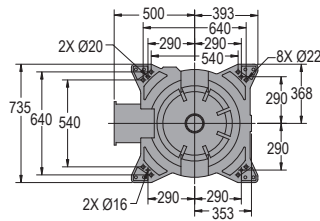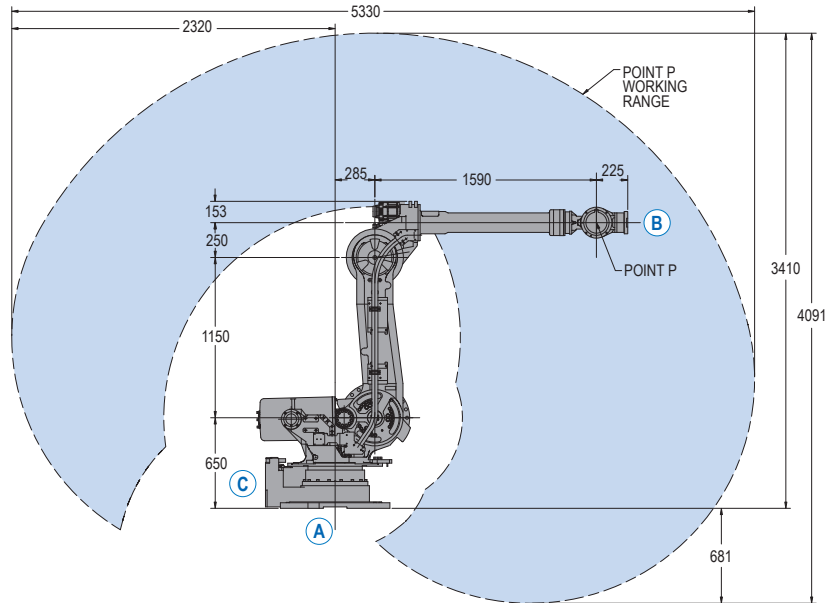
VIEW A

VIEW B

INTERNAL USER AIR LINES 3/8" PIPE TAP CONNECTION (WITH PLUG)

INTERNAL USER I/O CONNECTION
JL05-2A24-28PC(WITH CAP)
MATING CONNECTOR IS NOT SUPPLIED
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VIEW C

POINT P WORKING RANGE

POINT P

MH165-100 SPECIFICATIONS

Structure		Vertical jointed-arm type
Controlled Axes		6
Payload		100 kg (220.5 lbs)
Vertical Reach		4,091 mm (161.1")
Horizontal Reach		3,010 mm (118.5")
Repeatability		±0.2 mm (0.008")
Maximum Motion Range	S-Axis (Turning/Sweep)	±180°
	L-Axis (Lower Arm)	+76°/-60°
	U-Axis (Upper Arm)	+230°/-142.5°
	R-Axis (Wrist Roll)	±360°
	B-Axis (Bend/Pitch/Yaw)	±130°
	T-Axis (Wrist Twist)	±360°
Maximum Speed	S-Axis	110°/s
	L-Axis	110°/s
	U-Axis	110°/s
	R-Axis	175°/s
	B-Axis	150°/s
	T-Axis	240°/s
Approximate Mass		1,120 kg (2,469.6 lbs)
Brakes		All axes
Power Consumption		5 kVA
Allowable Moment	R-Axis	833 N • m
	B-Axis	833 N • m
	T-Axis	490 N • m
Allowable Moment of Inertia	R-Axis	75 kg • m²
	B-Axis	75 kg • m²
	T-Axis	25 kg • m²
Internal User I/O Cable		23 conductors + ground
Internal User Air Line		2 – 3/8" PT connections

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 NPN-Standard PNP-Optional	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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