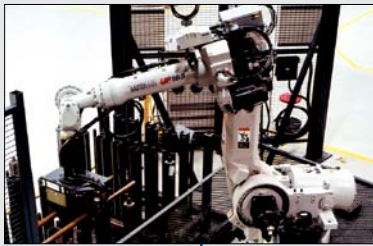


MATERIAL HANDLING



DIECAST MACHINE TENDING



MACHINE TENDING

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



ES165D-100

MATERIAL HANDLING • MACHINE TENDING • PRESS TENDING

Payload: 100 kg

Fast, Flexible and Powerful

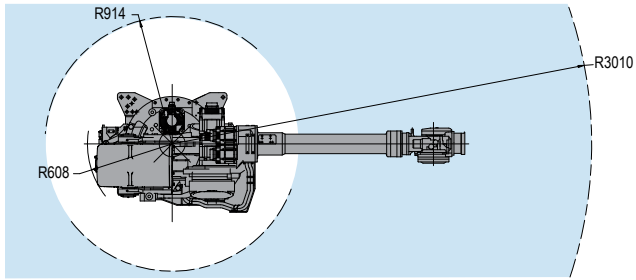
- High-speed six-axis ES165D-100 robot sets standard for versatility in large robot market.
- Provides superior performance in machine and press tending, and other heavy-payload material handling applications.
- 100 kg (220.5 lb) payload; 4,091 mm (161.1") vertical reach; 3,010 mm (118.5") horizontal reach; ± 0.2 mm (± 0.008 ") 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.
- ES165D-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.

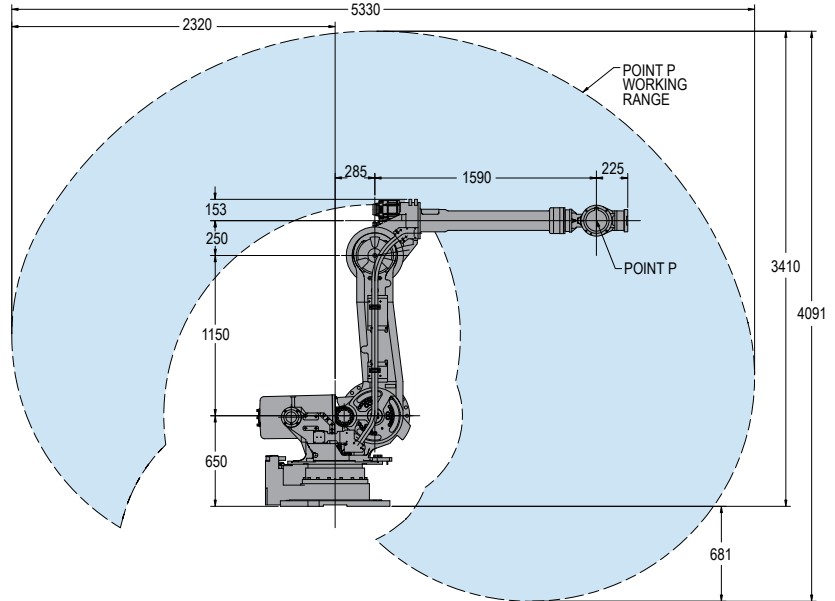
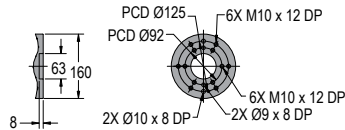
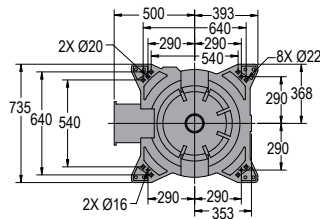
ES165D-100 ROBOT

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)



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 BUT COMPLETE CABLES ARE AVAILABLE AS AN OPTION

ES165D-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) L-Axis (Lower Arm) U-Axis (Upper Arm) R-Axis (Wrist Roll) B-Axis (Bend/Pitch/Yaw) T-Axis (Wrist Twist)	±180° +76°/-60° +230°/-142.5° ±360° ±130° ±360°
Maximum Speed	S-Axis L-Axis U-Axis R-Axis B-Axis T-Axis	110°/s 110°/s 110°/s 175°/s 150°/s 240°/s
Approximate Mass	1,120 kg (2,469.6 lbs)	
Brakes	All axes	
Power Consumption	5 kVA	
Allowable Moment	R-Axis B-Axis T-Axis	833 N · m 833 N · m 490 N · m
Allowable Moment of Inertia	R-Axis B-Axis T-Axis	75 kg · m ² 75 kg · m ² 25 kg · m ²
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	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

www.motoman.com

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YASKAWA

MOTOMAN ROBOTICS

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