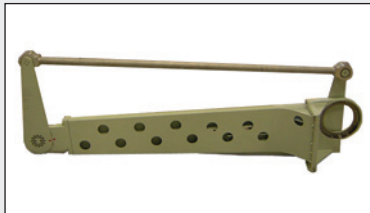


PROCESS-SPECIFIC DESIGN



DX100 PROGRAMMING PENDANT



OPTIONAL PARALLEL LINK TOOL

## TOP REASONS TO BUY

- Application-specific Expert Press Handling robots provide maximum performance and durability
- 34 conductor internal I/O cable provides maximum conductors in a high durability design
- Patented multiple robot control (up to 8 robots/72 axes) simplifies programming
- Energy saving design, reduces power consumption up to 25%
- Small lightweight programming pendant
- Shelf-mounted robots provide the floor space that is frequently needed for die change out



# EP4000D EPH4000D

PRESS TENDING

**Payload: 200 kg**

The six-axis, Motoman® EP4000D “Expert Press” robot and longer life EPH4000D “Expert Press Handling” robot have high vibration ratings and are designed for press room use.

## Fast, Streamlined and Powerful

- EP4000D and EPH4000D robots feature a 200 kg payload, a 3,505 mm horizontal reach and 2,629 mm vertical reach.
- These robots can achieve 12 strokes per minute with a press pitch of 6.5 m. Extended reach allows these robots to service presses with press pitches of up to 9 m. Slender design of the robots allow work in tight spaces and service multiple presses.
- The EP4000D features cast iron castings, while the EPH4000D has aluminum castings in many places to reduce inertia of the moving robot arm. The EPH model also includes fans on more axes to dissipate heat generated in high duty cycle press tending applications.
- The optional Parallel Link Tool (PLT) extends the robot’s reach by 1,650 mm with the robot wrist parallel to the floor. The parallel link tool reduces potential interference between the robot arm and the die. In addition, the PLT allows the dies to be loaded into the presses in the

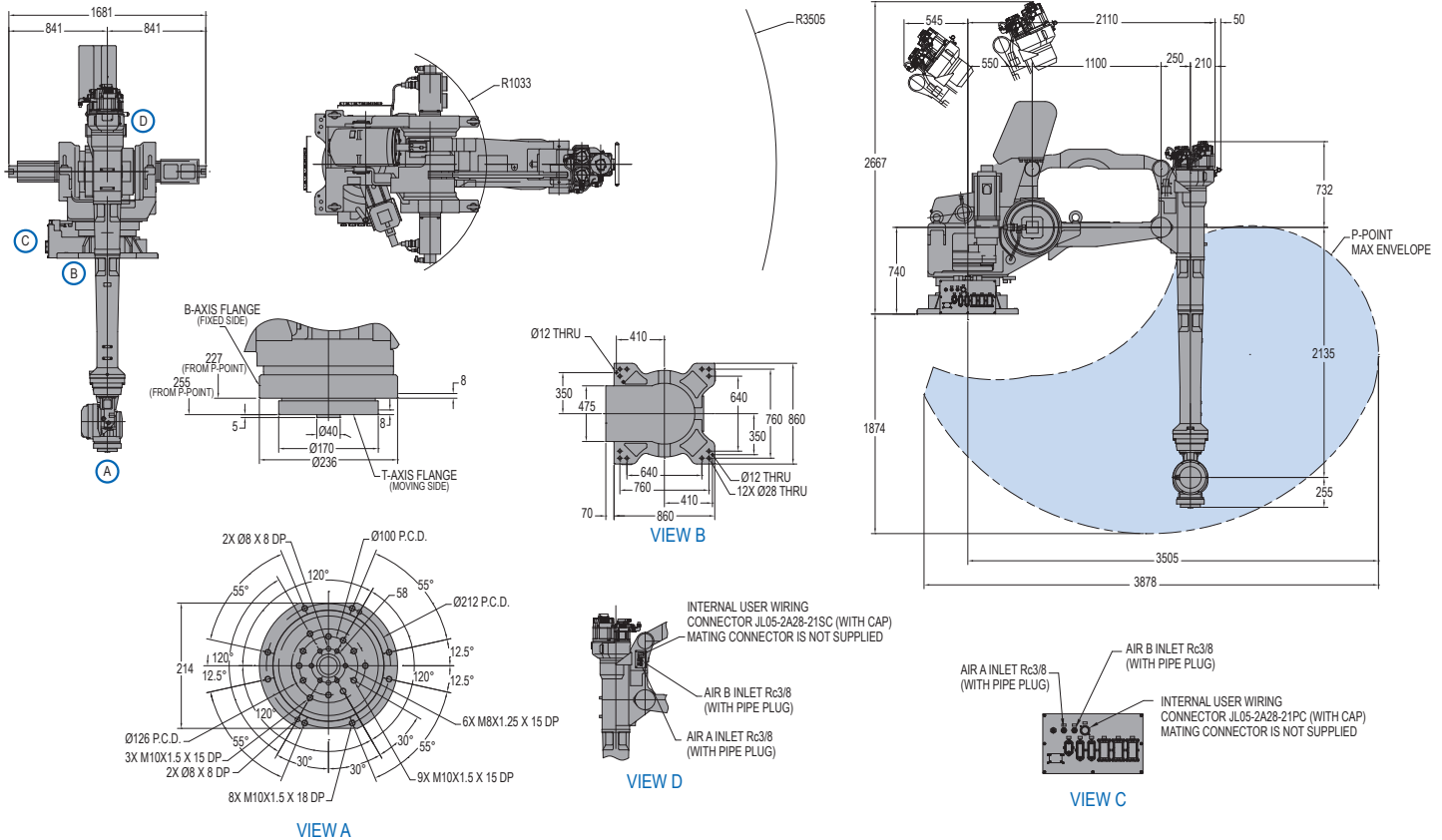
same orientation as for manual operation. Without the PLT, press line installations require that every other die be rotated 180 degrees because of the robot’s S-axis rotation.

## DX100 Controller

- Patented multiple robot control supports up to 8 robots/72 axes.
- Windows® CE programming pendant with color touch screen and USB interface.
- The DX100 controller provides 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.

# EP4000D/EPH4000D ROBOT

EP4000D shown. EPH4000D is very similar, but reference the engineering drawing for complete information. All dimensions are metric (mm) and for reference only.



## ROBOT SPECIFICATIONS

		EP4000D Standard Press Robot	EPH4000D Longer Operating Life
<b>Structure</b>		Vertical jointed-arm type	Vertical jointed-arm type
<b>Controlled Axes</b>		6	6
<b>Payload</b>		200 kg (441 lbs.)	200 kg (441 lbs.)
<b>Vertical Reach</b>		2,614 mm (103")	2,629 mm (103.5")
<b>Horizontal Reach</b>		3,505 mm (138")	3,505 mm (138")
<b>Repeatability</b>		±0.5 mm (0.02")	±0.5 mm (0.02")
<b>Maximum Motion Range</b>	S-Axis (Turning/Sweep)	±150°	±150°
	L-Axis (Lower Arm)	+25°/-122°	+25°/-122°
	U-Axis (Upper Arm)	+53°/-70°	+53°/-70°
	R-Axis (Wrist Roll)	±360°	±360°
	B-Axis (Bend/Pitch/Yaw)	±120°	±120°
	T-Axis (Wrist Twist)	±360°	±360°
<b>Maximum Speed</b>	S-Axis	90°/s	90°/s
	L-Axis	90°/s	90°/s
	U-Axis	90°/s	90°/s
	R-Axis	80°/s	80°/s
	B-Axis	80°/s	80°/s
	T-Axis	160°/s	160°/s
<b>Approximate Mass</b>		3,100 kg (6,835.5 lbs.)	3,050 kg (6,725.3 lbs.)
<b>Brakes</b>		All axes	All axes
<b>Power Consumption</b>		22 kVA	22 kVA
<b>Allowable Moment</b>	R-Axis	1,274 N·m	1,274 N·m
	B-Axis	2,156 N·m	2,156 N·m
	T-Axis	0 N·m	0 N·m
<b>Allowable Moment of Inertia</b>	R-Axis	84.5 kg·m <sup>2</sup>	84.5 kg·m <sup>2</sup>
	B-Axis	330 kg·m <sup>2</sup>	330 kg·m <sup>2</sup>
	T-Axis*	80 kg·m <sup>2</sup>	80 kg·m <sup>2</sup>
<b>I/O Lines</b>		34 wires (0.5 mm <sup>2</sup> )	34 wires (0.5 mm <sup>2</sup> )
<b>Air Lines</b>		2 - 3/8" air lines	2 - 3/8" air lines

\*Rating with T-Axis parallel to the floor

## DX100 CONTROLLER SPECIFICATIONS\*\*

<b>Dimensions (mm)</b>	1,200 (w) x 1,000 (h) x 650 (d) 47.2" 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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