

# EPX1250

## Versatile Coating Robot

### Key Benefits

Large global install base backed by Yaskawa's experience and reliability

Easy-to-use touch screen teach pendant

MotoSim® EG simulation software (optional)

### Specifications

5 kg wrist payload

1,256 mm horizontal reach

1,852 mm vertical reach

±0.15 mm repeatability

### Applications

Coating

Dispensing

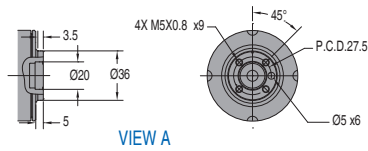


- High-speed, compact six-axis EPX1250 robot is ideal for automotive parts and other industrial coating applications.
- Offers superior performance and creates smooth, consistent finish with outstanding efficiency for painting and dispensing applications.
- Broadest motion range in its class. Proven effective in painting multiple small parts simultaneously, as well as items such as instrument panels and headlamp assemblies.
- Factory Mutual (FM) approved for Class 1, Div. 1 use in hazardous environments.
- Versatile design can be floor, wall or ceiling mounted for layout flexibility.
- 5 kg payload capacity allows use of air spray gun, electrostatic spray gun or compact bell. Provides the ability for higher efficiency and quality of surface coating.
- MotoFeeder part positioner and integral air panels (optional.)

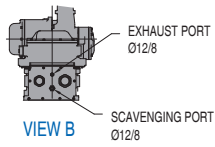
### NX100-FM Controller

- Compact controller design reduces installation space.
- Coordinates operation of robot and painting devices, including spray gun.
- Supports standard networks (such as EtherNet/IP, DeviceNet, ControlNet, Profibus-DP and Interbus-S), enabling connection to paint equipment controllers and production line controllers.
- Supports gun control instructions such as spray start/stop and painting conditions.
- All painting position parameters can be filed and saved.
- Intrinsically safe pendant (optional).

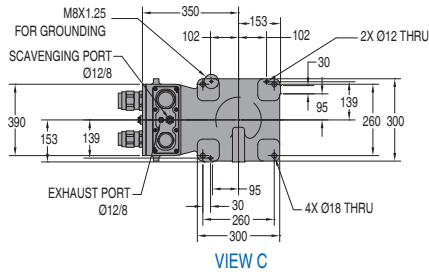
# EPX1250 Robot



VIEW A

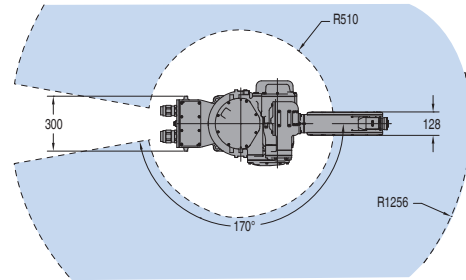
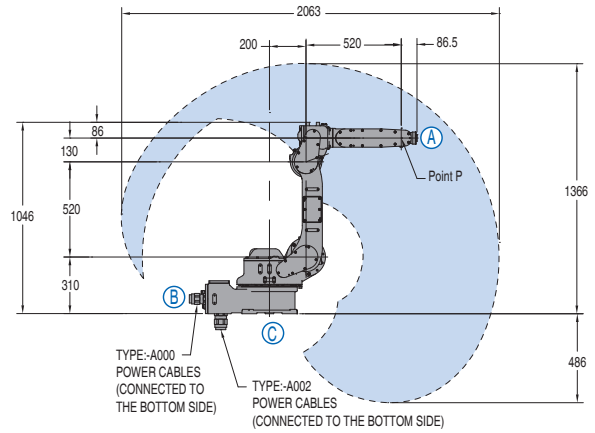
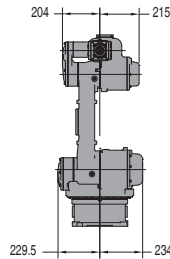


VIEW B



VIEW C

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



## EPX1250 SPECIFICATIONS

<b>Structure</b>	Vertical jointed-arm type	
<b>Controlled Axes</b>	6	
<b>Payload</b>	5 kg	
<b>Vertical Reach</b>	1,852 mm	
<b>Horizontal Reach</b>	1,256 mm	
<b>Repeatability</b>	±0.15 mm	
<b>Maximum Motion Range</b>	S-Axis (Turning/Sweep) L-Axis (Lower Arm) U-Axis (Upper Arm) (relative angle of lower arm) R-Axis (Wrist Roll) B-Axis (Bend/Pitch/Yaw) T-Axis (Wrist Twist)	±170° (wall mounted: ±60°) +120°/-65° +205°/-165° ±190° ±145° ±360°
<b>Maximum Speed</b>	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)	185°/s 185°/s 185°/s 360°/s 410°/s 500°/s
<b>Approximate Mass</b>	110 kg	
<b>Brakes</b>	All axes	
<b>Power Consumption</b>	1.5 kVA	
<b>Allowable Moment</b>	R-Axis B-Axis T-Axis	8.0 N • m 8.0 N • m 3.0 N • m
<b>Allowable Moment of Inertia</b>	R-Axis B-Axis T-Axis	0.20kg • m <sup>2</sup> 0.20 kg • m <sup>2</sup> 0.07 kg • m <sup>2</sup>
<b>Mounting</b>	Floor, Wall, Ceiling	

## INTRINSICALLY SAFE PENDANT SPECIFICATIONS (OPTIONAL)

<b>Dimensions</b>	235 (w) x 203 (h) x 78 (d)
<b>Mass</b>	1.25 kg
<b>Material</b>	Reinforced plastics
<b>Operation Device</b>	Select keys, axes keys, numerical/application keys, emergency stop button, enable switch
<b>Display</b>	5.7-inch monochrome LCD, backlight white LED, touch panel 320 x 240 pixels (Alphanumeric characters, Chinese characters, Japanese letters, others)
<b>IEC Protection Class</b>	IP54
<b>Cable Length</b>	Standard: 8 m, Optional 20 m; Max: 50 m (with optional extension cable)

## NX100-FM CONTROLLER SPECIFICATIONS (WITH STANDARD PENDANT)

<b>Structure</b>	Free-standing, enclosed type
<b>Dimensions (mm)</b>	500 (w) x 1400 (h) x 550 (d)
<b>Approximate Mass</b>	120 kg
<b>Cooling System</b>	Indirect cooling
<b>Ambient Temperature</b>	During operation: 0° C to 40° C During transit and storage: -10° C to +45° C
<b>Relative Humidity</b>	90% max. non-condensing
<b>Primary Power Requirements</b>	3-phase, 240/480/575 VAC at 50/60 Hz
<b>Grounding</b>	Grounding resistance: ≤100 ohms Separate ground required
<b>Digital I/O</b>	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 Enabled to 1,024 inputs/1,024 outputs
<b>Position Feedback</b>	By absolute encoder
<b>Drive Units</b>	Servo packs for AC servo motors
<b>Accel/Decel</b>	Software servo control
<b>Program Memory</b>	60,000 steps; 10,000 ladder instructions
<b>Concurrent I/O Ladder</b>	10,000 instructions
<b>Fieldbus Options</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>E-Stop</b>	Controlled stop
<b>Safety</b>	Dual-channel Emergency Stop Pushbuttons, 3-position Enable Switch, Manual Brake Release Meets ANSI/RIA R15.06-1999 and Canadian safety standards
<b>Pendant Dim. (mm)</b>	169 (w) x 314.5 (h) x 50 (d)
<b>Pendant Playback Buttons</b>	Teach, Play, Remote, Servo On, Start, Hold, Emergency Stop, Edit Lock (Play Mode enabled on controller)

## Yaskawa America, Inc. | Motoman Robotics Division

100 Automation Way  
Miami, OH 45342  
Tel: 937.847.6200 | motoman.com

Motoman is a registered trademark. All other marks are the trademarks and registered trademarks of Yaskawa America, Inc.  
Technical specifications subject to change without notice. DS-697 ©2017 Yaskawa America, Inc. JUNE 2017

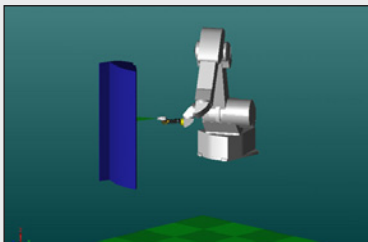
# YASKAWA



HOLLOW WRIST WITH  
BELL APPLICATOR (EXAMPLE)



EXPLOSION PROOF  
TEACH PENDANT (OPTIONAL)



MOTOSIM® EG OFF-LINE  
PROGRAMMING

## TOP REASONS TO BUY

- Motoman Robotics is a global leader with a large paint robot install base
- High wrist/upper arm payload capacity for mounting paint application equipment
- Easy-to-use touch screen teach pendant
- MotoSim® EG simulation software (optional)



# EPX2800

COATING • DISPENSING

**Payload: 20 kg**

## Versatile Coating Robot

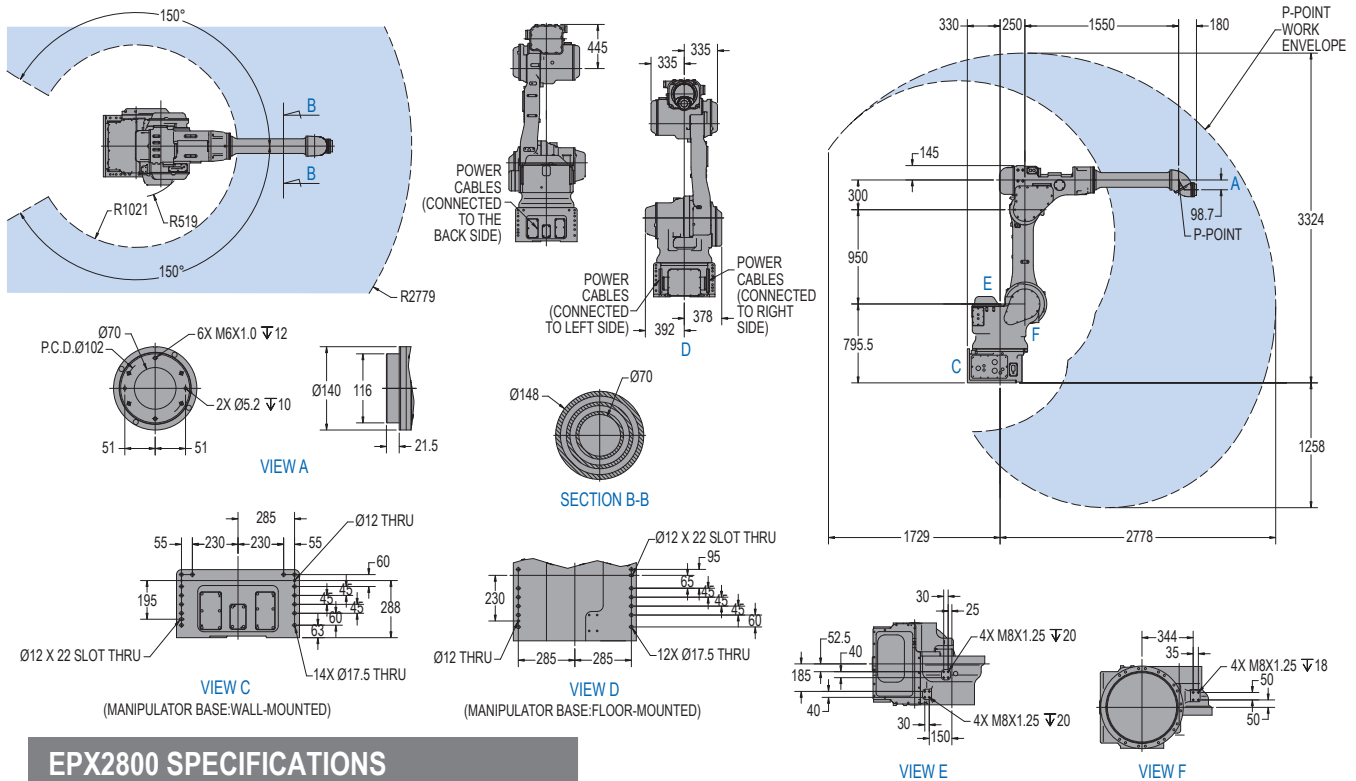
- High-speed, versatile six-axis EPX2800 robot is ideal for automotive and other industrial coating applications.
- Offers superior performance and creates smooth, consistent finish with outstanding efficiency for painting and dispensing applications.
- Hollow wrist design is ideal for painting contoured parts such as interior/exterior surfaces; well-suited for mounting spray equipment applicators. Inside diameter is 70 mm (2.75"). Interference between the hose and parts/fixtures is avoided; ensures optimum cycle time and robot reach/access.
- Factory Mutual (FM) approved for Class 1, Div. 1 use in hazardous environments.
- 20 kg (44.1 lb) payload; 2,779 mm (109.4") horizontal reach; 4,582 mm (180.4") vertical reach; ±0.5 mm (±0.02") repeatability.
- Highly flexible, compact design.

## Advanced NX100-FM Controller

- Includes application-specific software for paint applications.
- Coordinates operation of robot and painting devices, including spray gun.
- Supports gun control instructions such as spray start/stop and painting conditions.
- All painting position parameters can be filed and saved.
- Supports standard networks (such as DeviceNet, ControlNet, Profibus-DP and Interbus-S), enabling connection to paint equipment controllers and production line controllers.

# EPX2800 ROBOT

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



## EPX2800 SPECIFICATIONS

<b>Structure</b>	Vertical jointed-arm type	
<b>Controlled Axes</b>	6	
<b>Payload</b>	20 kg (44.1 lbs.)	
<b>Vertical Reach</b>	4,582 mm (180.4")	
<b>Horizontal Reach</b>	2,779 mm (109.4")	
<b>Repeatability</b>	±0.5 mm (0.02")	
<b>Maximum Motion Range</b>	S-Axis (Turning/Sweep) L-Axis (Lower Arm) U-Axis (Upper Arm) <i>(relative angle of lower arm)</i> R-Axis (Wrist Roll) B-Axis (Bend/Pitch/Yaw) T-Axis (Wrist Twist)	±150° +120°/-45° +90°/-85° ±360° ±360° ±360°
<b>Maximum Speed</b>	2.0 m/s	
<b>Approximate Mass</b>	650 kg (1,433.3 lbs.)	
<b>Brakes</b>	All axes	
<b>Power Consumption</b>	5 kVA	
<b>Allowable Moment</b>	R-Axis B-Axis T-Axis	77.4 N · m 49.9 N · m 19.6 N · m
<b>Allowable Moment of Inertia</b>	R-Axis B-Axis T-Axis	2.45 kg · m <sup>2</sup> 1.20 kg · m <sup>2</sup> 0.20 kg · m <sup>2</sup>
<b>Mounting</b>	Floor	

## OPTIONAL PENDANT SPECIFICATIONS

<b>Dimensions</b>	235 (w) x 203 (h) x 78 (d) (9.25" x 8" x 3.1")
<b>Mass</b>	1.25 kg (2.8 lb)
<b>Material</b>	Reinforced plastics
<b>Operation Device</b>	Select keys, axes keys, numerical/application keys, emergency stop button, enable switch
<b>Display</b>	5.7-inch monochrome LCD, backlit white LED, touch panel 320 x 240 pixels (Alphanumeric characters, Chinese characters, Japanese letters, Others)
<b>IEC Protection Class</b>	IP54
<b>Cable Length</b>	Standard: 8 m, Optional 20 m Max: 50 m (with optional extension cable)

## NX100-FM CONTROLLER SPECIFICATIONS (WITH STANDARD PENDANT)

<b>Structure</b>	Free-standing, enclosed type
<b>Dimensions (mm)</b>	500 (w) x 1400 (h) x 550 (d) (19.7" x 55.1" x 21.7")
<b>Approximate Mass</b>	120 kg (264.6 lb)
<b>Cooling System</b>	Indirect cooling
<b>Ambient Temperature</b>	During operation: 0° C (32° F) to 40° C (104° F) During transit and storage: -10° C (14° F) to +45° C (113° 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>Grounding</b>	Grounding resistance: ≤100 ohms Separate ground required
<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 Enabled to 1,024 inputs/1,024 outputs
<b>Position Feedback</b>	By absolute encoder
<b>Drive Units</b>	Servo packs for AC servo motors
<b>Accel/Decel</b>	Software servo control
<b>Program Memory</b>	60,000 steps 10,000 ladder instructions
<b>Pendant Dim. (mm)</b>	169 (w) x 314.5 (h) x 50 (d) (6.6" x 12.4" x 2")
<b>Pendant Playback Buttons</b>	Teach, Play, Remote, Servo On, Start, Hold, Emergency Stop, Edit Lock (Play Mode Enabled on Controller)
<b>Concurrent I/O Ladder</b>	10,000 Instructions
<b>Multi Tasking</b>	Up to 8 concurrent jobs
<b>Fieldbus Options</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>E-Stop</b>	Controlled stop
<b>Safety</b>	Dual-channel Emergency Stop Pushbuttons, 3-position Enable Switch, Manual Brake Release Meets ANSI/RIA R15.06-1999 and Canadian safety standards
<b>Scavenging Control</b>	Equipped with scavenging control unit for internal pressure explosion-proof manipulator

www.motoman.com

MOTOMAN ROBOTICS  
100 AUTOMATION WAY, MIAMISBURG, OHIO 45342  
TEL: 937.847.6200 ■ FAX: 937.847.6277

**YASKAWA**  
MOTOMAN ROBOTICS

TECHNICAL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE  
DS-462-C ©2012 YASKAWA AMERICA, INC. FEBRUARY 2012

MOTOMAN IS A REGISTERED TRADEMARK  
ALL OTHER MARKS ARE THE TRADEMARKS AND  
REGISTERED TRADEMARKS OF YASKAWA AMERICA, INC.