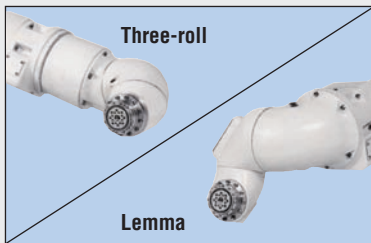




AUTOMOTIVE PARTS



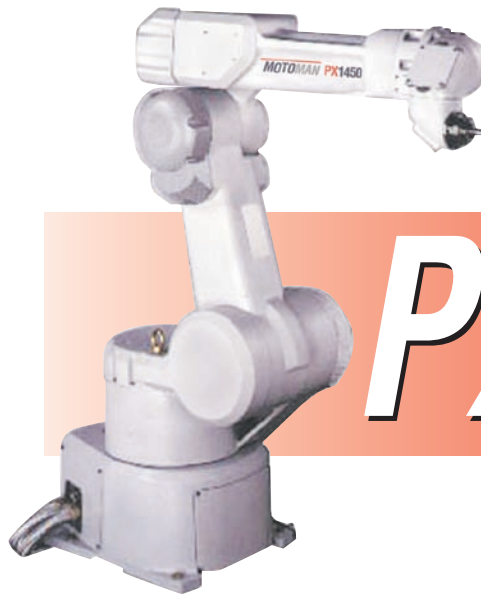
WRIST OPTIONS



MOTOSIM® OFF-LINE PROGRAMMING

## FEATURES & OPTIONS

- 1,457 mm reach
- Floor-, wall- or ceiling-mount options
- Three-roll or Lemma style wrist available
- FM rating: Class 1, Div. 1 (explosion-proof)
- Advanced application-specific coating software
- MotoSim® simulation software (optional)
- MotoMax® III warranty (standard)



*Motoman's versatile PX1450 robot provides smooth, consistent performance in coating applications*

• COATING • DISPENSING

# PX1450

**Payload: 10 kg**

### Versatile Coating Robot

The high-speed PX1450 robot is available with either a three-roll or Lemma-style wrist, providing versatility and a smooth, superior performance in standard industrial and automotive coating applications.

The three-roll wrist design is ideal for painting contoured parts such as car bodies and interior/exterior surfaces. The Lemma wrist is well-suited for painting horizontal and vertical planes.

The PX1450 robot is Factory Mutual (FM) approved for Class 1, Div. 1 use in hazardous environments. It features a 10 kg (22.1-lb) payload capacity, a 1,457 mm (57.4") reach, and a  $\pm 0.5$  mm ( $\pm 0.02$ ") repeatability. The compact design of the highly flexible, six-axis PX1450 robot makes it easy to mount on the floor, wall or ceiling.

### Advanced XRC 2001-FM Controller

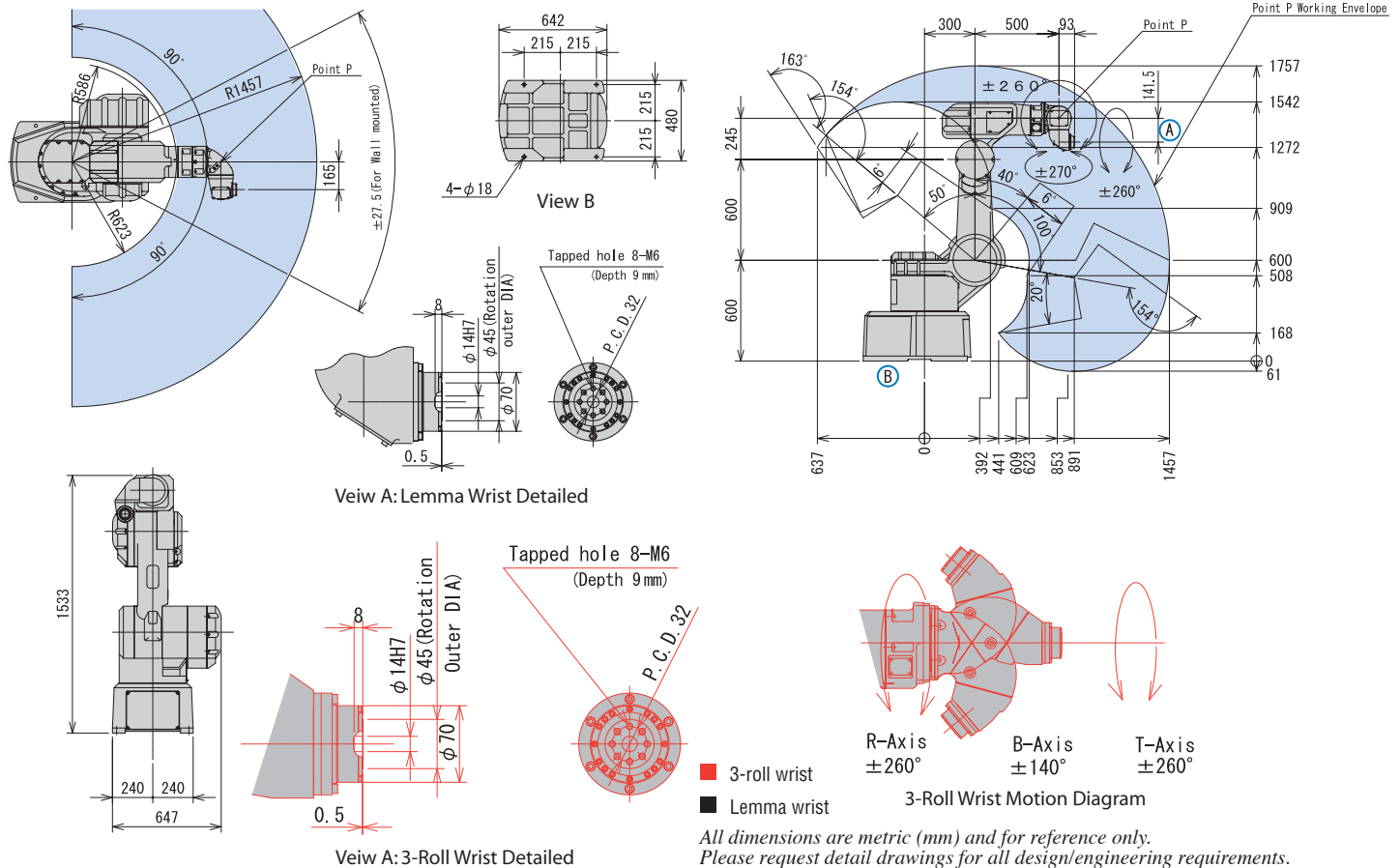
The advanced XRC 2001-FM controller features fast processing, easy-to-use INFORM II programming language, and includes application-specific software for coating.

Two types of programming pendants are available — the standard model for use in non-explosive painting environments and as an option, an intrinsically-safe version for use in hazardous conditions.

The XRC 2001-FM coordinates operation of the robot and coating application devices, including the spray gun trigger, to increase productivity by reducing overspray and paint waste. It supports application control instructions such as spray coating conditions, including fluid delivery, fan air and atomizing air.

The XRC 2001-FM supports standard networks (such as DeviceNet, ControlNet, Profibus-DP, and Interbus-S), enabling connection to a PLC, HMI operator interface, and/or coating applicator air panels.

# PX1450 Robot



## PX1450 SPECIFICATIONS\*

|                             |                         |                                                         |
|-----------------------------|-------------------------|---------------------------------------------------------|
| Structure                   |                         | Vertical jointed-arm type                               |
| Controlled Axes             |                         | 6                                                       |
| Payload                     |                         | 10 kg (22.1 lbs.)                                       |
| Vertical Reach              |                         | 1,818 mm (71.6")                                        |
| Horizontal Reach            |                         | 1,457 mm (57.4")                                        |
| Repeatability               |                         | ±0.5 mm (0.02")                                         |
| Maximum Motion Range        | S-Axis (Turning/sweep)  | ±90°                                                    |
|                             | L-Axis (Lower Arm)      | +100°/-50°                                              |
|                             | U-Axis (Upper Arm)      | +6°/+163°                                               |
|                             | R-Axis (Wrist Roll)     | ±260°                                                   |
|                             | B-Axis (Bend/Pitch/Yaw) | 3-Roll: ±140°<br>Lemma: ±270°                           |
|                             | T-Axis (Wrist Twist)    | ±260°                                                   |
| Maximum Speed               |                         | 2.0 m/s                                                 |
| Approximate Mass            |                         | 3-Roll: 345 kg (760.7 lbs.)<br>Lemma: 360 kg (794 lbs.) |
| Brakes                      |                         | All axes                                                |
| Power Consumption           |                         | 5 kVA                                                   |
| Allowable Moment            | R-Axis                  | 3-Roll: 34.1 N • m<br>Lemma: 30.4 N • m                 |
|                             | B-Axis                  | 3-Roll: 34.1 N • m<br>Lemma: 19.6 N • m                 |
|                             | T-Axis                  | 9.8 N • m                                               |
|                             |                         |                                                         |
| Allowable Moment of Inertia | R-Axis                  | 3-Roll: 1.21 kg • m²<br>Lemma: 0.97 kg • m²             |
|                             | B-Axis                  | 3-Roll: 1.21 kg • m²<br>Lemma: 0.40 kg • m²             |
|                             | T-Axis                  | 0.10 kg • m²                                            |
| Mounting                    |                         | Floor, wall, ceiling                                    |

\*Specifications are for both 3-roll wrist and Lemma wrist unless otherwise noted

## XRC 2001-FM CONTROLLER SPECIFICATIONS

|                                   |                                                                                                                                                                              |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Structure</b>                  | Free-standing, enclosed type                                                                                                                                                 |
| <b>Dimensions (mm)</b>            | 800 (w) x 1,300 (h) x 600 (d) (31.5" x 51.2" x 23.6")<br>(Scavenging unit (175 mm width) and protruding portion not included)                                                |
| <b>Approximate Mass</b>           | 100 kg (220.5 lbs)                                                                                                                                                           |
| <b>Cooling System</b>             | Indirect cooling                                                                                                                                                             |
| <b>Ambient Temperature</b>        | During operation: 0° C (32° F) to 45° C (113° F)<br>During transmit and storage: -10° (14° F) C to +60° C (140° F)<br>0° C (32° F) to 40° C (113° F) for programming pendant |
| <b>Relative Humidity</b>          | 90% max. non-condensing (85% or less for pendant)                                                                                                                            |
| <b>Primary Power Requirements</b> | 3-phase, 200/220 VAC (+10% to -15%) at 50/60 Hz                                                                                                                              |
| <b>Grounding</b>                  | Grounding resistance: $\leq 100$ ohms<br>Separate ground required<br>$\leq 10$ ohms required for intrinsically-safe pendant                                                  |
| <b>Digital I/O</b>                | Specialized signals (hardware): 11 inputs/2 outputs<br>General signals (standard max): 40 inputs/40 outputs<br>Expandable to 256 inputs/256 outputs                          |
| <b>Position Feedback</b>          | By absolute encoder                                                                                                                                                          |
| <b>Drive Units</b>                | Servo packs for AC servomotors                                                                                                                                               |
| <b>Accel/Decel</b>                | Software servo control                                                                                                                                                       |
| <b>Program Memory</b>             | 5,000 steps and 3,000 instructions                                                                                                                                           |
| <b>Pendant Dim. (mm)</b>          | 200 (w) x 325 (h) x 77 (d) (7.9" x 12.8" x 3.0")                                                                                                                             |
| <b>Pendant Buttons Provided</b>   | Teach Play, Remote, Servo On, Start, Hold, Emergency Stop, Edit Lock                                                                                                         |
| <b>Safety</b>                     | Emergency Stop Pushbuttons, 3-position Deadman, Brake Release Switches<br>Meets ANSI/RIA R15.06-1999 standard<br>Factory Mutual approved, Class 1, Division 1                |
| <b>Scavenging Control</b>         | Equipped with scavenging control unit for internal pressure explosion-proof manipulators                                                                                     |