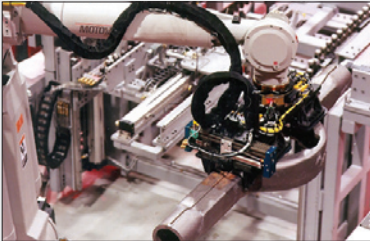
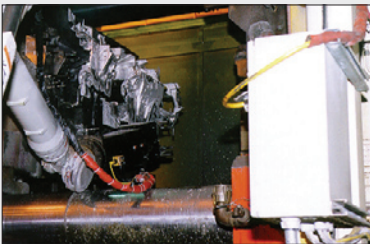


MOTOMAN

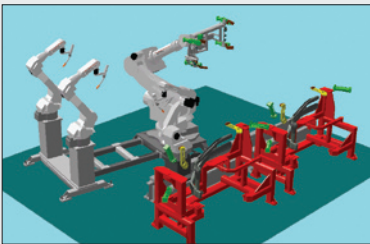
a YASKAWA company



MATERIAL HANDLING



DIECAST MACHINE TENDING



JIGLESS PART PROCESSING



Motoman's HP600 robot delivers unmatched flexible automation capability

MATERIAL HANDLING • MACHINE TENDING • INVESTMENT CASTING

HP600

Payload: 600 kg

FEATURES & OPTIONS

- Ideal for heavy part handling and "jigless" processing
- ± 0.5 mm (± 0.02 ") repeatability
- High reliability – 62,000 hours MTBF
- Industry-leading multiple robot control or up to four robots from a single pendant
- IP67 wrist rating
- MotoMax® III warranty (standard)
- MotoSim® EG simulation software (optional)

Powerful, Flexible and Reliable

The high-performance, heavy payload HP600 robot is a powerful addition to Motoman's extensive product line. Its hefty 600 kg (1,323 lb.) payload, 2,761 mm (108.7") vertical reach and 2,542 mm (100.0") horizontal reach provide versatility with extremely heavy loads.

The HP600 features parallel-link construction for strength, rigidity and stabilization of high moment/inertia loads. Heavy-duty bearings provide smooth arm rotation.

Motoman's patented multiple robot control allows the HP600 robot to position large parts for processing by other robots, or use two robots to handle a single part. This "jigless" processing is the ultimate form of flexible automation.

Advanced NX100 Controller

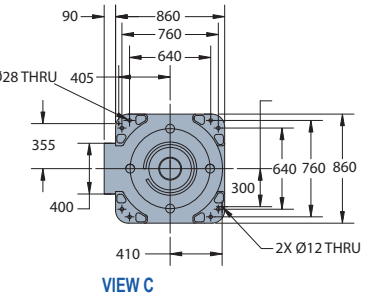
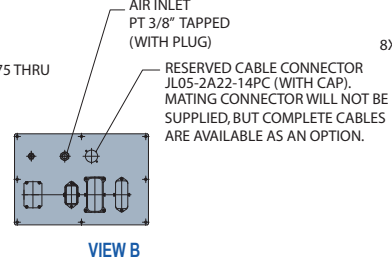
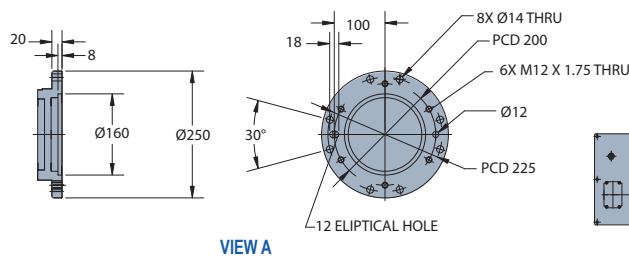
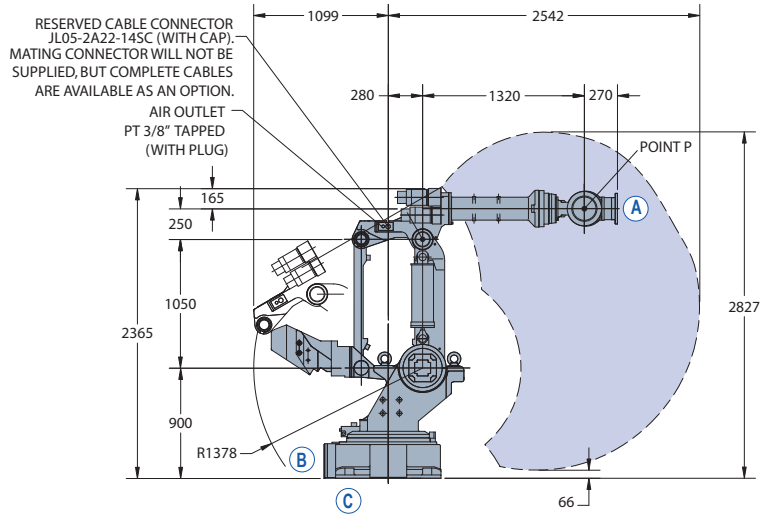
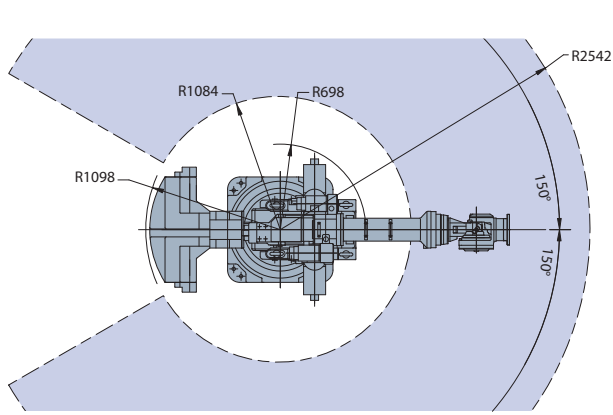
The NX100 high-performance controller features a Windows® CE programming pendant, fast processing, easy-to-use INFORM III programming language, and robust PC architecture.

The NX100 offers unmatched multiple robot control capability (up to four robots) to minimize cost of integration and eliminate risk of robot collisions. The NX100 includes four security levels of password protection (user, editor, maintenance and supervisor) for up to 100 individual users. Password use restricts access to the production programs and the controller logs any changes.

The programming pendant features a color touch-screen display that can be configured as a custom HMI with buttons and status indicators.

Dual-channel safety features include enhanced E-Stop functionality, integrated speed monitoring, manual brake release switch, and compliance with both ANSI/RIA R15.06-1999 and Canadian safety standards.

The NX100 offers unmatched connectivity through standard Ethernet and other network options: DeviceNet, ControlNet, Profibus-DP and EtherNet/IP.



HP600 SPECIFICATIONS

Structure	Vertical jointed-arm type
Controlled Axes	6
Payload	600 kg (1,323 lbs.)
Vertical Reach	2,761 mm (108.7")
Horizontal Reach	2,542 mm (100.1")
Repeatability	±0.5 mm (0.02")
Maximum Motion Range	S-Axis (Turning/sweep) ±150° L-Axis (Lower Arm) +61°/-55° U-Axis (Upper Arm) +30°/-113° R-Axis (Wrist Roll) ±360° B-Axis (Bend/Pitch/Yaw) ±125° T-Axis (Wrist Twist) ±360°
Maximum Speed	S-Axis 60°/s L-Axis 70°/s U-Axis 70°/s R-Axis 80°/s B-Axis 80°/s T-Axis 160°/s
Approximate Mass	2,400 kg (5,292 lbs.)
Brakes	All axes
Power Consumption	13 kVA
Allowable Moment	R-Axis 2,450 N · m B-Axis 2,450 N · m T-Axis 823 N · m
Allowable Moment of Inertia	R-Axis 200 kg · m ² B-Axis 200 kg · m ² T-Axis 90 kg · m ²
Ambient Condition	Temperature 0° to 45°C Humidity 20 to 80% non condensing Vibration Less than 4.9 m/s ² (0.5G)
Internal User I/O Cable	17 conductors +ground
Internal User Air Line	PT 3/8" connector

NX100 CONTROLLER SPECIFICATIONS*

Structure	Free-standing, enclosed type
Dimensions (mm)	650 (w) x 1,200 (h) x 650 (d) (25.6" x 47.2" x 25.6")
Approximate Mass	150-250 kg (330.8-551.3 lbs.)
Cooling System	Indirect cooling
Ambient Temperature	During operation: 0° C (32° F) to 45° C (113° F) During transmit and storage: -10° C (14° F) to +60° C (140° F)
Relative Humidity	90% max. non-condensing
Primary Power Requirements	3-phase, 240/480/575 VAC at 50/60 Hz
Grounding	Grounding resistance: ≤100 ohms Separate ground required
Digital I/O	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
Position Feedback	By absolute encoder
Drive Units	Servo packs for AC servo motors
Accel/Decel	Software servo control
Program Memory	60,000 steps 10,000 ladder instructions
Pendant Dim. (mm)	199 (w) x 338 (h) x 60 (d) (7.8" x 13.3" x 2.4")
Pendant Playback Buttons	Teach, Play, Remote, Servo On, Start, Hold, Emergency Stop, Edit Lock (Play Mode Enabled on Controller)
Concurrent I/O Ladder	10,000 Instructions
Multi Tasking	Up to 8 concurrent jobs
Fieldbus	DeviceNet Master/Slave, AB RIO, Profibus, Interbus-S, M-Net, CC Link, EtherNet IP/Slave
Ethernet	10 Base T/100 Base TX
E-Stop	Controlled stop
Safety	Dual-channel Emergency Stop Pushbuttons, 3-position Enable Switch, Manual Brake Release Meets ANSI/RIA R15.06-1999 and Canadian safety standards

*See NX100 Controller data sheet (DS-232) for complete specifications