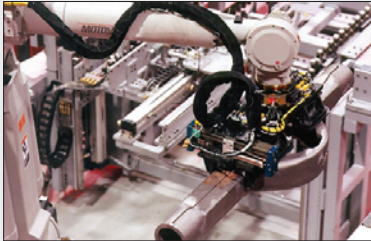
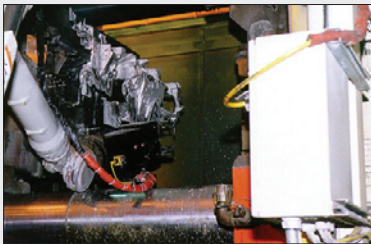


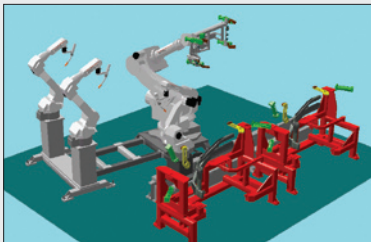
**MOTOMAN**  
a YASKAWA company



MATERIAL HANDLING



DIECAST MACHINE TENDING



JIGLESS PART PROCESSING



*Motoman's heavy-duty HP350 robot provides a powerful solution for your automation needs*

MATERIAL HANDLING • MACHINE TENDING  
SPOT WELDING • INVESTMENT CASTING

# HP350

**Payload: 350 kg**

## FEATURES & OPTIONS

- Full 6-axis capability provides high flexibility
- Ideal for heavy part handling and “jigless” processing
- Outstanding reliability – 62,000 hours MTBF
- ±0.5 mm (±0.02”) repeatability
- IP67 wrist rating
- MotoMax® III warranty (standard)
- Simulation software (optional)

### **Powerful, Flexible and Reliable**

The heavy payload, high-performance HP350 robot is a powerful addition to Motoman's extensive product line. Its hefty 350 kg (771.8 lb) payload, 2,761 mm (108.7”) vertical reach and 2,542 mm (100.1”) horizontal reach provide versatility with heavy loads.

The HP350 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 HP350 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.

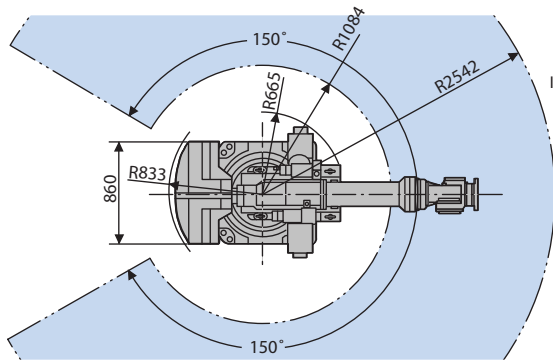
The NX100 offers unmatched multiple robot control capability (up to four robots) to minimize cost of integration and eliminate risk of robot collisions.

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.

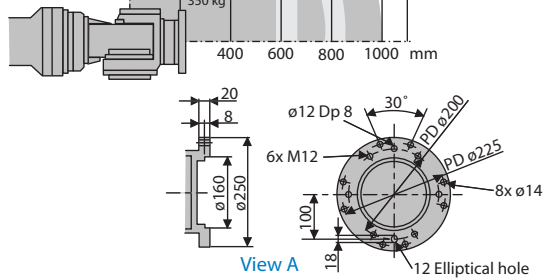
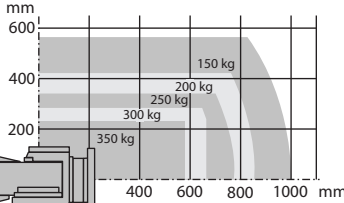
The programming pendant features a color touch-screen display that can be configured as a custom HMI with buttons and status indicators.

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

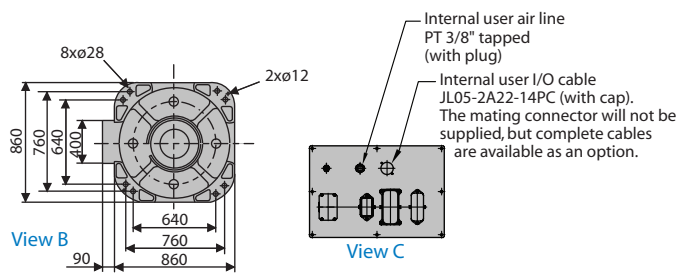
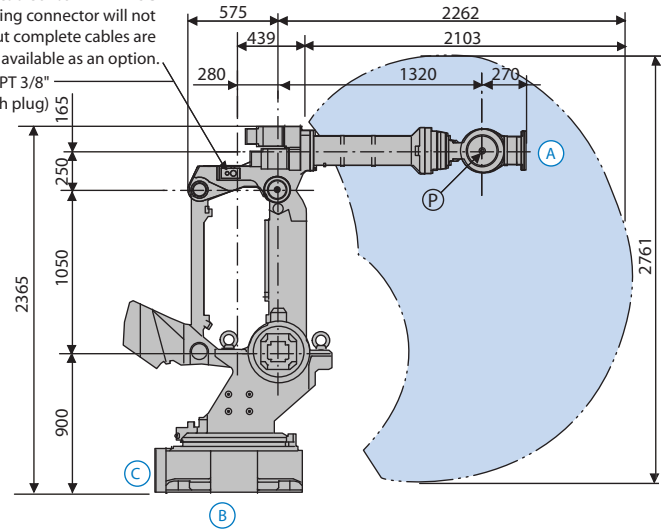
The NX100 offers unmatched connectivity through standard Ethernet and other network options: DeviceNet, ControlNet, Profibus-DP and EtherNet/IP.



Arm Moment Rating



Internal user I/O cable JL05-2A22-14SC (with cap). Mating connector will not be supplied, but complete cables are available as an option.  
Internal user air line PT 3/8" tapped (with plug)



Internal user air line PT 3/8" tapped (with plug)  
Internal user I/O cable JL05-2A22-14PC (with cap). The mating connector will not be supplied, but complete cables are available as an option.

## HP350 SPECIFICATIONS

<b>Structure</b>	Vertical jointed-arm type	
<b>Controlled Axes</b>	6	
<b>Payload</b>	350 kg (771.8 lbs.)	
<b>Vertical Reach</b>	2,761 mm (108.7")	
<b>Horizontal Reach</b>	2,542 mm (100.1")	
<b>Repeatability</b>	±0.5 mm (0.02")	
<b>Maximum Motion Range</b>	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°
<b>Maximum Speed</b>	S-Axis	95°/s
	L-Axis	95°/s
	U-Axis	95°/s
<b>Approximate Mass</b>	R-Axis	100°/s
	B-Axis	100°/s
	T-Axis	160°/s
	All axes	
<b>Brakes</b>	All axes	
<b>Power Consumption</b>	10 kVA	
<b>Allowable Moment</b>	R-Axis	1,960 N • m
	B-Axis	1,960 N • m
	T-Axis	823 N • m
<b>Allowable Moment of Inertia</b>	R-Axis	150 kg • m <sup>2</sup>
	B-Axis	150 kg • m <sup>2</sup>
	T-Axis	90 kg • m <sup>2</sup>
<b>Ambient Condition</b>	Temperature	0° to 45°C
	Humidity	20 to 80% non condensing
	Vibration	Less than 4.9 m/s <sup>2</sup> (0.5G)
<b>Internal User I/O Cable</b>	18 conductors +ground	
<b>Internal User Air Line</b>	PT 3/8" connector	

## NX100 CONTROLLER SPECIFICATIONS\*

<b>Structure</b>	Free-standing, enclosed type
<b>Dimensions (mm)</b>	650 (w) x 1,200 (h) x 650 (d) (25.6" x 47.2" x 25.6")
<b>Approximate Mass</b>	150-250 kg (330.8-551.3 lbs.)
<b>Cooling System</b>	Indirect cooling
<b>Ambient Temperature</b>	During operation: 0° C (32° F) to 45° C (113° F) During transmit and storage: -10° C (14° F) to +60° C (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>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 PNP-Optional 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>	199 (w) x 338 (h) x 60 (d) (7.8" x 13.3" x 2.4")
<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</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

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