



MULTIPLE ROBOT CONTROL



MATERIAL REMOVAL



PACKAGING

## FEATURES & OPTIONS

- Multiple robot control (up to four robots) simplifies programming and eliminates cable interference
- Widest working envelope in its class: 1,717 mm (67.6") reach
- Industry-leading  $\pm 0.06$  mm ( $\pm 0.002$ ") repeatability
- Floor-, wall-, and ceiling-mounting options
- Advanced Sigma ( $\Sigma$ ) motors provide powerful, slim design
- MotoSim® simulation software (optional)



*Motoman's HP20 robot provides a powerful solution to meet your automation needs*

CUTTING • DISPENSING • HANDLING  
MACHINE TENDING • PACKAGING • MATERIAL REMOVAL

# HP20

**Payload: 20 kg**

### **Versatile, High-Speed Robot**

This dynamic, high-speed robot is compact and requires minimal installation space. It offers superior performance in handling, machine tending, packaging, cutting, and dispensing applications.

The HP20 features a 1,717 mm (67.6") reach and offers the widest work envelope in its class. The slim base, waist, and arm allow the robot to be placed close to workpiece holding fixtures to improve part accessibility.

The compact design and built-in collision avoidance features with multiple robot control allow up to four robots to be used together to maximize productivity while reducing overall floorspace requirements.

### **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.

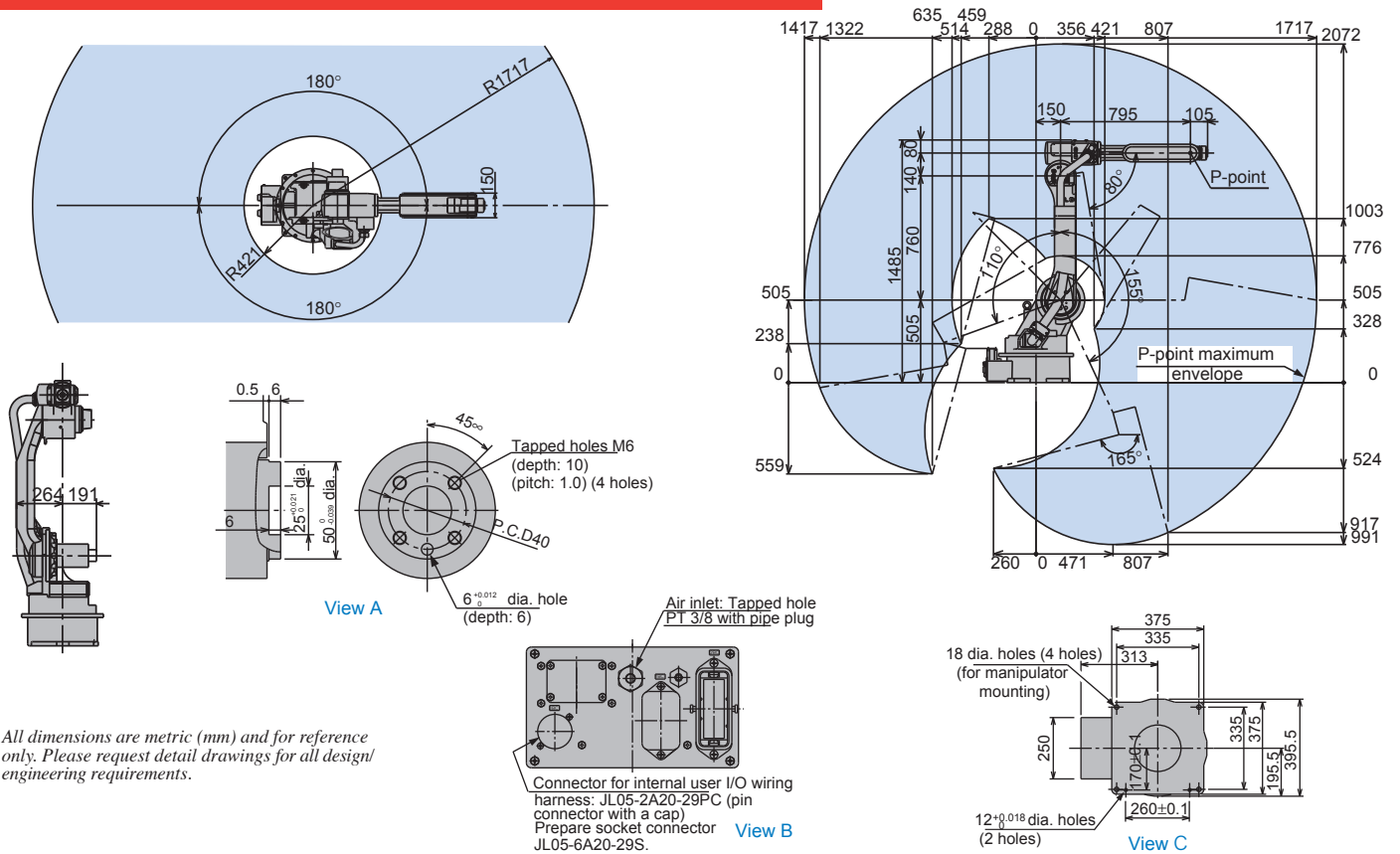
The NX100 offers up to 100 user passwords available in several levels including: user, editor, maintenance, and supervisor. The password restricts and logs the changes made to production programs.

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.

# HP20 Robot



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

## HP20 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>	3,063 mm (120.6")	
<b>Horizontal Reach</b>	1,717 mm (67.6")	
<b>Repeatability</b>	±0.06 mm (0.002")	
<b>Maximum Motion Range</b>	S-Axis (Turning/Sweep)	±180°
	L-Axis (Lower Arm)	+155°/-110°
	U-Axis (Upper Arm)	+255°/-165°
	R-Axis (Wrist Roll)	±200°
	B-Axis (Bend/Pitch/Yaw)	±140°
	T-Axis (Wrist Twist)	±360°
<b>Maximum Speed</b>	S-Axis	170°/s
	L-Axis	170°/s
	U-Axis	175°/s
	R-Axis	355°/s
	B-Axis	345°/s
	T-Axis	525°/s
<b>Approximate Mass</b>	280 kg (617.4 lbs.)	
<b>Brakes</b>	All axes	
<b>Power Consumption</b>	2.8 kVA	
<b>Allowable Moment</b>	R-Axis	31.4 N • m
	B-Axis	31.4 N • m
	T-Axis	15.7 N • m
<b>Allowable Moment of Inertia</b>	R-Axis	0.7 kg • m <sup>2</sup>
	B-Axis	0.7 kg • m <sup>2</sup>
	T-Axis	0.2 kg • m <sup>2</sup>

## 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>	250 kg (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 signals: 40 inputs/40 outputs consisting of 16 system inputs/16 system outputs, 24 user inputs/24 user outputs Maximum signals: 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 and 10,000 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</b>	10,000 lines
<b>Multi Tasking</b>	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>	Emergency Stop Pushbuttons, 3-position Enable Switch, Brake Release Switches Meets ANSI/RIA R15.06-1999 and Canadian safety standards

**MOTOMAN**  
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