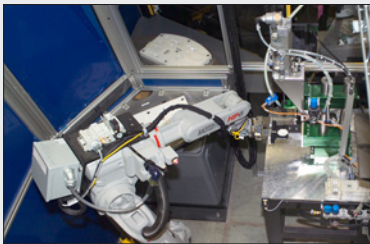


MOTOMAN
a YASKAWA company



MULTIPLE ROBOT CONTROL



MATERIAL HANDLING



PACKAGING

FEATURES & OPTIONS

- Multiple robot control (up to four robots) simplifies programming
- Widest working envelope in its class: 1,717 mm (67.6") reach
- Industry-leading ± 0.06 mm (± 0.002 ") repeatability
- Floor-, wall-, and ceiling-mounting options
- IP67 rated wrist (standard)
- IP65 rated body (optional)
- MotoMax® III warranty (standard)
- MotoSim® EG 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.

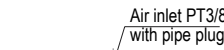
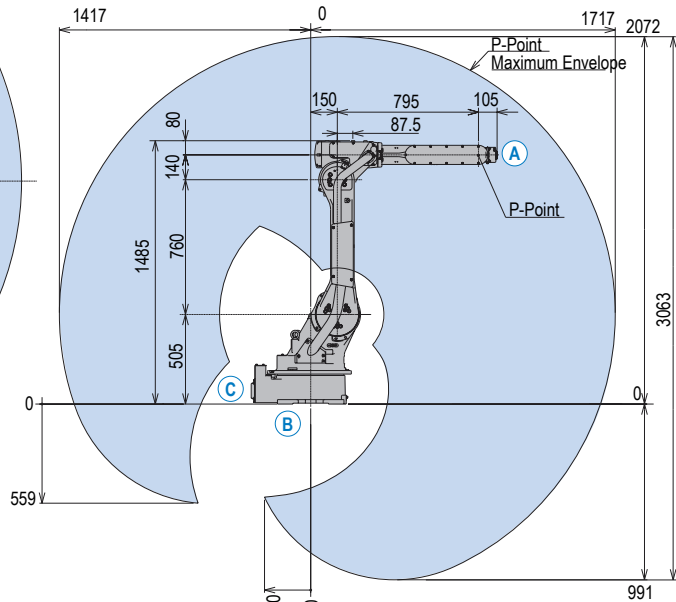
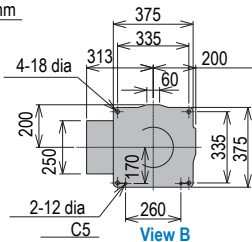
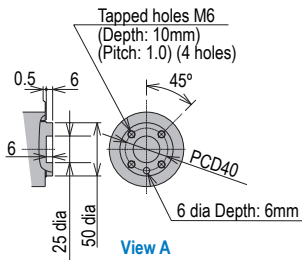
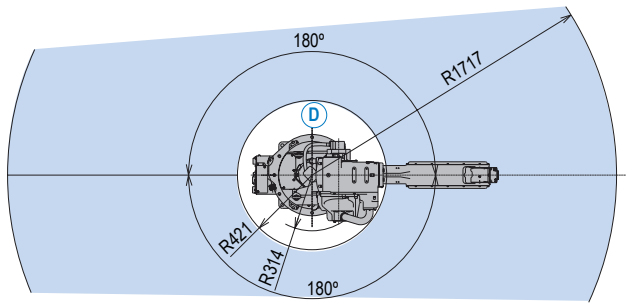
The NX100 offers unmatched multiple robot control capability (up to four robots) to minimize cost of integration and eliminate risk of robot collisions.

The NX100 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.

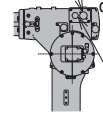
The NX100 offers unmatched connectivity through standard Ethernet and other network options: DeviceNet, ControlNet, Profibus-DP and EtherNet/IP.



Internal user wiring connector type is JL05-2A20-29PC (with cap). Mating connector will not be supplied but complete cables can be purchased.

View C

Connector for the internal wiring is JL05-2A20-29SC (with cap). Mating connector will not be supplied, but complete cables can be purchased.



View D

HP20 SPECIFICATIONS

Structure	Vertical jointed-arm type
Controlled Axes	6
Payload	20 kg (44.1 lbs.)
Vertical Reach	3,063 mm (120.6")
Horizontal Reach	1,717 mm (67.6")
Repeatability	±0.06 mm (0.002")
Maximum Motion Range	S-Axis (Turning/Sweep) ±180° S-Axis (Wall Mount) ±30° L-Axis (Lower Arm) +155°/-110° U-Axis (Upper Arm) +255°/-165° R-Axis (Wrist Roll) ±200° B-Axis (Bend/Pitch/Yaw) +230°/-50° T-Axis (Wrist Twist) ±360°
Maximum Speed	S-Axis 170°/s L-Axis 170°/s U-Axis 175°/s R-Axis 355°/s B-Axis 345°/s T-Axis 525°/s
Approximate Mass	280 kg (617.4 lbs.)
Brakes	All axes
Power Consumption	2.8 kVA
Allowable Moment	R-Axis 39.2 N · m B-Axis 39.2 N · m T-Axis 19.8 N · m
Allowable Moment of Inertia	R-Axis 0.9 kg · m ² B-Axis 0.9 kg · m ² T-Axis 0.25 kg · m ²

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