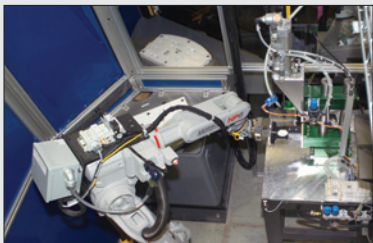




FAMILIAR PROGRAMMING INTERFACE



ASSEMBLY



FS100 CONTROLLER

TOP REASONS TO BUY

- Highest speed in its class
- Yields extraordinary production results while requiring minimal capital investment
- Offers superior performance in packaging, material handling, machine tending and assembly applications
- Open architecture enables programming and control through a wide variety of platforms
- Controlled by the small FS100 controller that can be mounted under conveyors or in other space-saving locations



MH6F-SERIES

MH6F MH6F-10

ASSEMBLY • DISPENSING • MACHINE TENDING
MATERIAL HANDLING • PACKAGING

Payload:
6 kg (MH6F); 10 kg (MH6F-10)

The high-speed, six-axis MH6F-series robots are designed for assembly, dispensing, machine tending, material handling and packaging applications. The FS100 is a small powerful controller with unmatched open software architecture.

Compact, Powerful and Economical

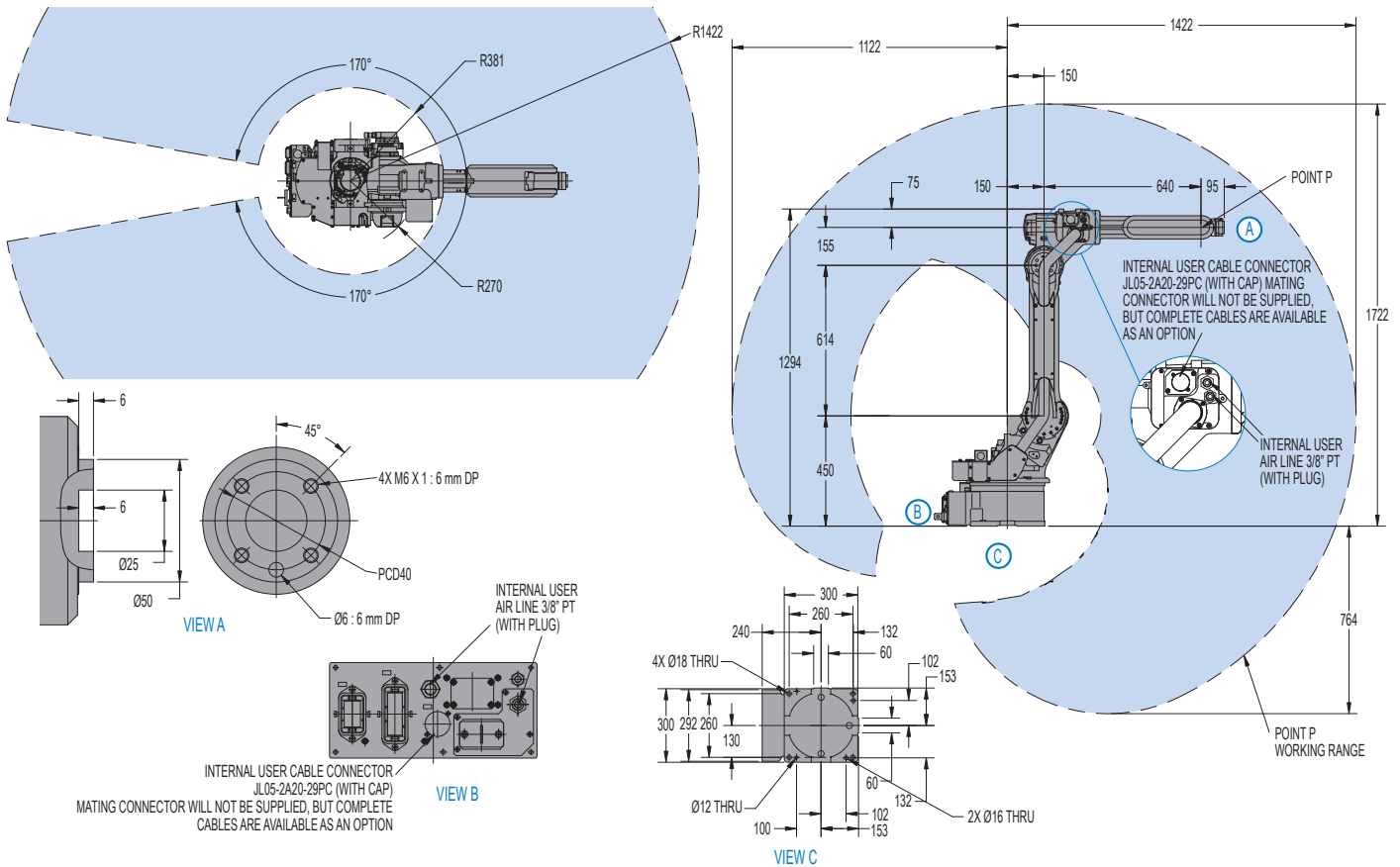
- High-speed six-axis MH6F robots require minimal installation space.
- Both robots feature 1,422 mm horizontal reach, 2,486 mm vertical reach and ± 0.08 mm repeatability.
- Widest work envelope in its class with small interference radius; allows robots to be placed close to workpieces/equipment.
- Powerful design with high moment of inertia ratings provides higher carrying capacity.
- The MH6F features a 6 kg payload capacity. Higher speeds on all axes provide maximum throughput.
- For similar applications requiring heavier payload requirements the MH6F-10 offers a 10 kg capacity.
- Superior performance in assembly, dispensing, material handling, machine tending and packaging.
- Both robots can be floor-, wall-, or ceiling-mounted. Brakes on all axes.

FS100 Controller

- Small, compact controller.
- 470 mm wide, 200 mm high, 420 mm deep.
- Designed for packaging and small parts handling robots with payloads of 20 kg and under.
- Compatible with integrated MotoSight™ 2D vision (optional).
- High-speed I/O response and millisecond resolution timers.
- Open architecture enables software customization in widely accepted environments such as C, C++ and C#.Net.
- Uses same programming pendant hardware as DX100 controller, providing a consistent programming interface with current products.
- Built-in collision avoidance with multiple robots.

MH6F/MH6F-10 ROBOTS

MH6F robot shown.
All dimensions are metric (mm) and for reference only. Please request detail drawings for all design/engineering requirements.



ROBOT SPECIFICATIONS

Robot	MH6F	MH6F-10
Structure	Articulated	Articulated
Controlled Axes	6	6
Payload	6 kg (13.2 lbs)	10 kg (22.1 lbs)
Vertical Reach	2,486 mm (97.9")	2,486 mm (97.9")
Horizontal Reach	1,422 mm (56")	1,422 mm (56")
Repeatability	±0.08 mm (±0.003")	±0.08 mm (±0.003")
Maximum Motion Range	S-Axis (Turning) ±170° L-Axis (Lower Arm) +155°/-90° U-Axis (Upper Arm) +250°/-175° R-Axis (Upper Arm Twist) ±180° B-Axis (Pitch/Yaw) +225°/-45° T-Axis (Twist) ±360°	S-Axis (Turning) ±170° L-Axis (Lower Arm) +155°/-90° U-Axis (Upper Arm) +250°/-175° R-Axis (Upper Arm Twist) ±180° B-Axis (Pitch/Yaw) +225°/-45° T-Axis (Twist) ±360°
Maximum Speed	S-Axis 220°/s L-Axis 200°/s U-Axis 220°/s R-Axis 410°/s B-Axis 410°/s T-Axis 610°/s	S-Axis 140°/s L-Axis 130°/s U-Axis 135°/s R-Axis 270°/s B-Axis 270°/s T-Axis 400°/s
Approximate Mass	130 kg (286.7 lbs)	130 kg (286.7 lbs)
Power Consumption	1.5 kVA	1.5 kVA
Allowable Moment	R-Axis 11.8 N·m B-Axis 9.8 N·m T-Axis 5.9 N·m	R-Axis 12.2 N·m B-Axis 14.2 N·m T-Axis 7.3 N·m
Allowable Moment of Inertia	R-Axis 0.27 kg·m ² B-Axis 0.27 kg·m ² T-Axis 0.06 kg·m ²	R-Axis 0.24 kg·m ² B-Axis 0.21 kg·m ² T-Axis 0.06 kg·m ²
Internal User Electrical Cable	16 conductors + ground	16 conductors + ground
Internal User Air Hose	(2) 3/8" PT connections	(2) 3/8" PT connections
Protection Class	Standard XP Version* (option)	none IP65 manipulator; IP67 wrist

* XP Verison: Yaskawa Motoman's eXtra Protection package

FS100 CONTROLLER SPECIFICATIONS**

Dimensions (mm)	470 (w) x 200 (h) x 420 (d) (18.5" x 7.9" x 16.5")
Approximate Mass	20 kg (44.1 lbs)
Cooling System	Direct cooling
Ambient Temperature	During operation: 0° to 40° C (32° to 104° F) During transit and storage: -10° to 60° C (14° to 140° F)
Relative Humidity	90% max. non-condensing
Primary Power Requirements	Single-phase or 3-phase power, 200/230 VAC at 50/60 Hz (MPP3, MPK2, MH6F, HP20F require 3-phase)
External Transformer (optional)	For 480/575 VAC installations
Digital I/O	NPN-Standard PNP-Optional
Position Feedback	Absolute encoder
Program Memory	JOB: 10,000 steps, 1,000 instructions CIO Ladder: 1,500 steps
Pendant Dim. (mm)	169 (w) x 314.5 (h) x 50 (d) (6.7" x 12.4" x 2")
Pendant Weight	.998 kg (2.2 lbs)
Interface	One Compact Flash slot; One USB port (1.1)
Pendant Playback Buttons	Teach/Play/Remote Keystitch selector Servo On, Start, Hold, and Emergency Stop Buttons
Programming Language	INFORM III, menu-driven programming, MotoPlus SDK (C language) – optional
Maintenance Functions	Displays troubleshooting for alarms
Number of Robots/Axes	Up to 2 robots, maximum 16 axes (requires 2 controllers)
Multi Tasking	Up to 6 concurrent jobs, 1 system job
Fieldbus	All common networks supported
Ethernet	10 Base T/100 Base TX
Safety	Dual-channel Emergency Stop Pushbuttons, 3-position Enable Switch, Manual Brake Release

Note: Use DX100 controller for welding applications.

** See FS100 Controller data sheet (DS-509) for complete specifications

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