

ASSEMBLY



FS100 CONTROLLER



UPPER ARM CONNECTORS



MH3F

ASSEMBLY • HANDLING • MACHINE TENDING

Payload: 3 kg

The MH3F is a powerful robot designed for more compact, lighter payload applications such as parts assembly, material handling and packaging. The FS100 is a powerful controller with unmatched open software architecture.

TOP REASONS TO BUY

- Full 6-axis capability provides high flexibility
- Super compact body features internally routed electrical and pneumatic lines
- Floor, wall or ceiling mounted
- Supports MotoPlus™ and MotomanSync™
- Open architecture programming environment

Small, Powerful and Affordable

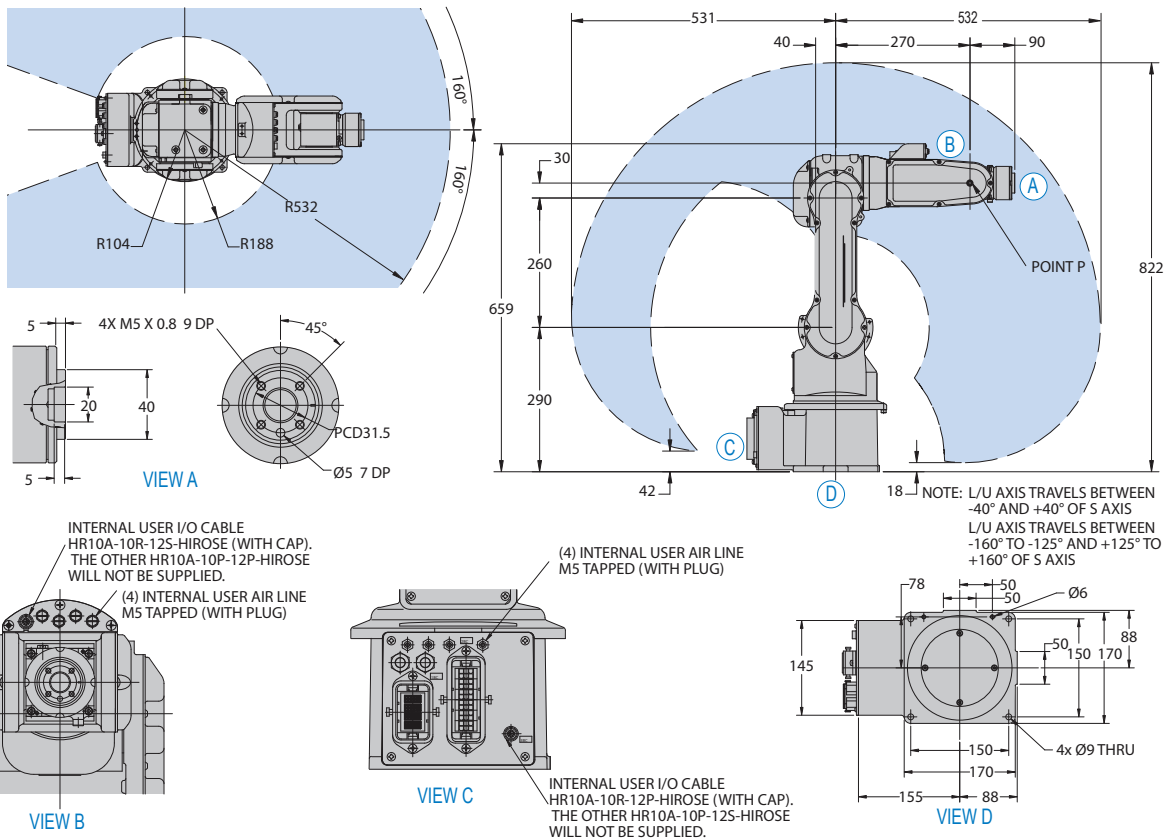
- Offers superior performance in small part handling and assembly. Ideal for lab automation, inspection/testing, education and research applications.
- Compact, high-speed robot requires minimal installation space; base width of only 200 mm allows it to be mounted in confined spaces.
- 3 kg payload; 804 mm vertical reach; 532 mm horizontal reach.
- Compact design and built-in collision avoidance features with multiple robot control allow up to two robots to be used together to optimize productivity.
- Internally routed cables and hoses maximize system reliability.

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).
- Improved communication speeds and functionality.
- High-speed I/O response and high-resolution timers.
- Open architecture enables software customization in widely accepted environments such as C, C++, C# and .NET.
- Uses same programming pendant hardware as DX100 controller, providing a consistent programming interface with current products.

MH3F ROBOT

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



MH3F SPECIFICATIONS

Structure	Vertical jointed-arm type	
Mounting	Floor, Wall, Ceiling	
Controlled Axes	6	
Payload	3 kg (6.6 lbs.)	
Vertical Reach	804 mm (31.7")	
Horizontal Reach	532 mm (20.9")	
Repeatability	±0.03 mm (±0.001)	
Maximum Motion Range	S-Axis (Turning/Sweep)	±160°
	S-Axis (Wall Mount)	±25°
	L-Axis (Lower Arm)	+90°/-85°
	U-Axis (Upper Arm)	+260°/-105°
	R-Axis (Wrist Roll)	±170°
	B-Axis (Bend/Pitch/Yaw)	±120°
	T-Axis (Wrist Twist)	±360°
Maximum Speed	S-Axis	200°/s
	L-Axis	150°/s
	U-Axis	190°/s
	R-Axis	300°/s
	B-Axis	300°/s
	T-Axis	420°/s
Approximate Mass	27 kg (59.5 lbs.)	
Brakes	All axes	
Power Rating	0.5 kVA	
Allowable Moment	R-Axis	5.39 N · m
	B-Axis	5.39 N · m
	T-Axis	2.94 N · m
Allowable Moment of Inertia	R-Axis	0.1 kg · m ²
	B-Axis	0.1 kg · m ²
	T-Axis	0.03 kg · m ²
Internal User I/O cable	10 conductors	
Internal User Air Line	5 mm (4 places)	
Protection Class	Standard	Not rated
	XP Version* (option)	Use MH3BM robot

* XP Version: 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	Standard I/O: 16 inputs/16 outputs PNP-Optional Max. I/O (optional): 168 inputs and 168 outputs
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 Keyswitch 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, 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 arc welding applications.

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

www.motoman.com

YASKAWA

MOTOMAN ROBOTICS

YASKAWA AMERICA, INC. ■ MOTOMAN ROBOTICS DIVISION
100 AUTOMATION WAY, MIAMISBURG, OHIO 45342
TEL: 937.847.6200 ■ FAX: 937.847.6277

TECHNICAL SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE
DS-522-C ©2014 YASKAWA AMERICA, INC. MARCH 2014

MOTOMAN IS A REGISTERED TRADEMARK
ALL OTHER MARKS ARE THE TRADEMARKS AND
REGISTERED TRADEMARKS OF YASKAWA AMERICA, INC.