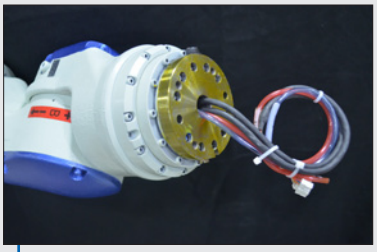
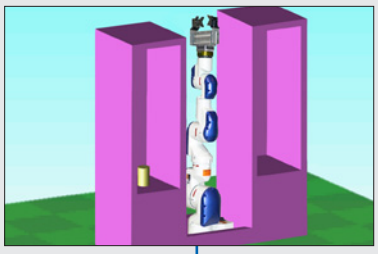
YASKAWA
MOTOMAN ROBOTICS

SOLUTIONS IN MOTION®



THRU-ARM CABLE AND HOSE ROUTING

FS100 CONTROLLER



SMALL FOOTPRINT

TOP REASONS TO BUY

- Slim, 7-axis design optimizes space; provides “human-like” flexibility and range of motion, even in tight spaces
- Mounts virtually anywhere in any orientation
- Can be used in environments that are hazardous to humans
- Labor savings justifies capital investment

SIA10F

ASSEMBLY • INJECTION MOLDING • INSPECTION
MACHINE TENDING • PACKAGING • PART TRANSFER

Payload: 10 kg

The SIA10F is a 7-axis robot with incredible dexterity, freedom of movement and compact footprint. Designed with patented servo actuators, all cables are routed through the arm providing a clean, slim robot capable of reaching into extremely confined spaces.

Compact, Lean and Powerful Arm

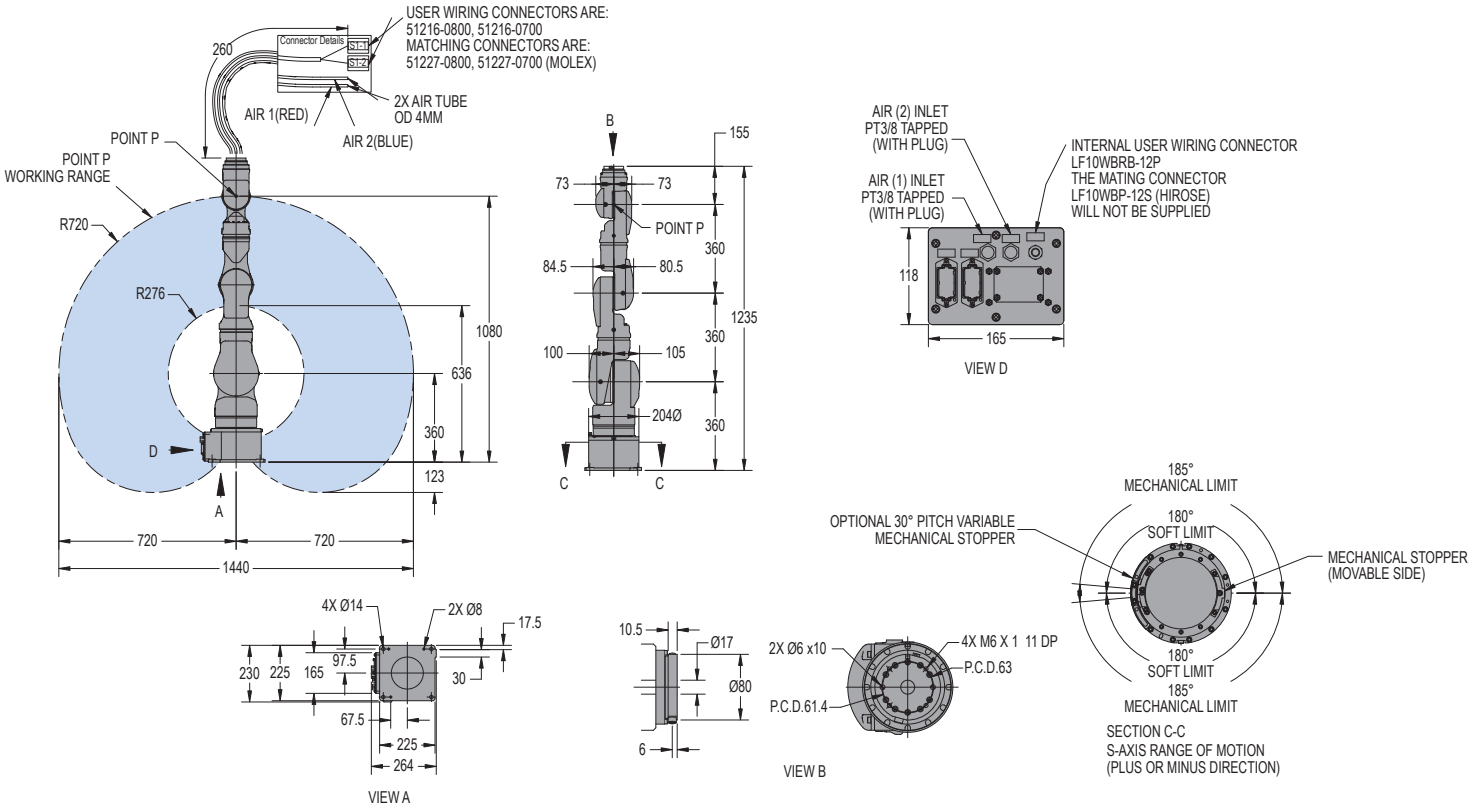
- Superior dexterity enables robot to reorient elbow(s) without affecting hand position or causing self-interference.
- Agile, versatile robot opens up a wide range of industrial applications to robots: ideal for assembly, injection molding, inspection, machine tending and a host of other operations.
- 10 kg payload; 1,203 mm vertical reach; 720 mm horizontal reach; ±0.1 mm repeatability.
- Slim, compact and powerful – robot can straighten vertically to take up only one square foot of floorspace and is only 264 mm wide at widest point.
- Short axis lengths and extreme motion flexibility allow slim manipulator to be positioned out of normal working area (i.e. floor-, ceiling-, wall-, incline- or machine-mounted) without limiting motion range of any axis.
- Mounting SIA10F robot between two machine tools provides open access to machines for fixture maintenance, adjustment or testing.
- Operator has clear access to machine operator station for entering offsets, maintenance or other operations.

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.

SIA10F ROBOT

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



SIA10F SPECIFICATIONS

Structure		Articulated
Mounting		Floor, Wall or Ceiling
Controlled Axes		7
Payload		10 kg (22.1 lbs)
Vertical Reach		1,203 mm (47.4")
Horizontal Reach		720 mm (28.3")
Repeatability		±0.1 mm (±0.004")
Maximum Motion Range	S-Axis (Turning/Sweep) L-Axis (Lower Arm) E-Axis (Elbow) U-Axis (Upper Arm) R-Axis B-Axis (Bend/Pitch/Yaw) T-Axis (Wrist Twist)	±180° ±110° ±170° ±135° ±180° ±110° ±180°
Maximum Speed	S-Axis L-Axis E-Axis U-Axis R-Axis B-Axis T-Axis	170°/s 170°/s 170°/s 170°/s 200°/s 200°/s 400°/s
Approximate Mass		60 kg (132.3 lb)
Brakes		All axes
Power Rating		1.5 kVA
Allowable Moment	R-Axis B-Axis T-Axis	31.4 N • m 31.4 N • m 19.6 N • m
Allowable Moment of Inertia	R-Axis B-Axis T-Axis	1 kg • m^2 1 kg • m^2 0.4 kg • m^2
Protection Class	Standard XP Version* (option)	Not rated IP50 base; IP64 body; IP67 wrist**

* XP Version: Yaskawa Motoman's eXtra Protection package
** Through-hole wrist must be sealed

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	Standard I/O: 16 inputs/16 outputs 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

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