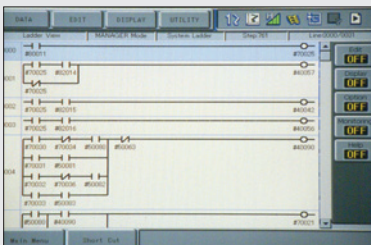


MACHINE TENDING



THRU-ARM CABLE AND HOSE ROUTING



LADDER EDITOR

TOP REASONS TO BUY

- Dexterity to perform complex tasks; dual 7-axis arms work together or independently
- Slim design optimizes space; provides “human-like” flexibility and range of motion, even in tight spaces
- Simplified tooling reduces cost
- Can be used in environments that are hazardous to humans
- Labor savings justifies capital investment



SDA5D

ASSEMBLY • PACKAGING • HANDLING • MACHINE TENDING • PART TRANSFER

Payload: 5 kg/arm

Slim, Dual-Arm Robot with “Human-Like” Flexibility

- Powerful actuator-based design provides “human-like” flexibility and fast acceleration.
- Superior dexterity and best-in-class wrist characteristics make slim, dual-arm robot ideally suited for assembly, part transfer, machine tending, packaging and other handling tasks that formerly could only be done by people.
- Highly flexible; 15 axes of motion (7 axes per arm, plus a single axis for base rotation).
- Internally routed cables and hoses (6 - air, 12 - electric) reduce interference and maintenance, and also make programming easier.
- 5 kg (11 lb) payload per arm; 845 mm (33.3") horizontal reach per arm; 1,118 mm (44") vertical reach per arm; ± 0.06 mm (± 0.003 ") repeatability.
- Both robot arms can work together on one task to double the payload or handle heavy, unwieldy objects. Two manipulators can perform simultaneous independent operations.

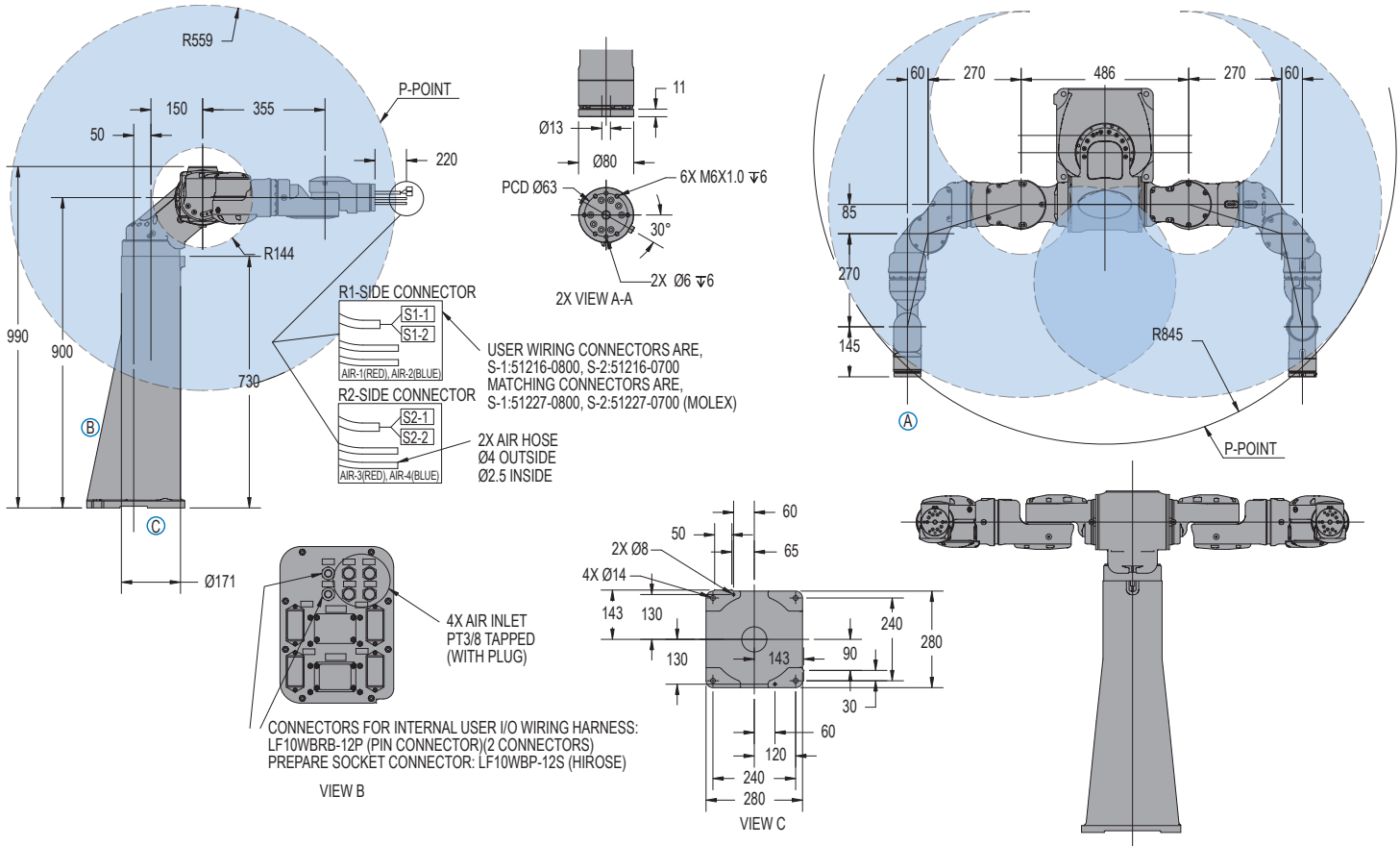
- Ability to hold part with one arm while performing operations on it with other arm. Can transfer a part from one arm to the other with no need to set part down.

DX100 Controller

- Patented multiple robot control supports up to 8 robots/72 axes.
- Windows® CE programming pendant with color touch screen and USB interface.
- Faster processing speeds for smoother interpolation. Quicker I/O response. Accelerated Ethernet communication.
- Extensive I/O suite includes integral PLC and touch screen HMI, 2,048 I/O and graphical ladder editor.
- Supports all major fieldbus networks, including EtherNet/IP, DeviceNet, Profibus-DP and many others.
- Compliant to ANSI/RIA R15.06-1999 and other relevant ISO and CSA safety standards. Optional Category 3 functional safety unit.

SDA5D ROBOT

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



SDA5D SPECIFICATIONS

Structure	Articulated	
Mounting	Floor	
Controlled Axes	15 (7 axes per arm plus base rotation)	
Payload	5 kg (11 lbs)/arm	
Horizontal Reach per Arm	845 mm (33.3")	
Horizontal Reach (P-point to P-point)	1,690 mm (66.5")	
Vertical Reach	1,118 mm (44")	
Repeatability	±0.06 mm (±0.003")	
Maximum Motion Range	Rotation-Axis (Waist)	±170°
	S-Axis (Lifting)	+90° / -270°
	L-Axis (Lower Arm)	±110°
	E-Axis (Elbow)	±170°
	U-Axis (Upper Arm)	+115° / -90°
	R-Axis (Upper Arm Twist)	±180°
	B-Axis (Wrist Pitch/Yaw)	±110°
Maximum Speed	Rotation-Axis	200°/s
	S-Axis	200°/s
	L-Axis	200°/s
	E-Axis	200°/s
	U-Axis	200°/s
	R-Axis	200°/s
	B-Axis	230°/s
T-Axis	350°/s	
Approximate Mass	110 kg (242.6 lbs)	
Power Consumption	1.4 kVA	
Allowable Moment	R-Axis	14.7 N · m
	B-Axis	14.7 N · m
	T-Axis	7.35 N · m
Allowable Moment of Inertia	R-Axis	0.45 kg · m ²
	B-Axis	0.45 kg · m ²
	T-Axis	0.11 kg · m ²

DX100 CONTROLLER SPECIFICATIONS**

Dimensions (mm)	1,200 (w) x 1,000 (h) x 650 (d) 47.2" x 39.4" x 25.6"
Approximate Mass	250 kg max. (551.3 lbs)
Cooling System	Indirect cooling
Ambient Temperature	During operation: 0° to 45° C (32° to 113° F) During transit and storage: -10° to 60° C (14° to 140° F)
Relative Humidity	90% max. non-condensing
Primary Power Requirements	3-phase, 240/480/575 VAC at 50/60 Hz
Digital I/O	Standard I/O: 40 inputs/40 outputs consisting of 16 system inputs/16 system outputs, 24 user inputs/24 user outputs 32 Transistor Outputs; 8 Relay Outputs Max. I/O (optional): 2,048 inputs and 2,048 outputs
Position Feedback	By absolute encoder
Program Memory	JOB: 200,000 steps, 10,000 instructions CIO Ladder Standard: 15,000 steps Expanded: 20,000 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
Maintenance Functions	Displays troubleshooting for alarms, predicts reducer wear
Number of Robots/Axes	Up to 8 robots, 72 axes
Multi Tasking	Up to 16 concurrent jobs, 4 system jobs
Fieldbus	DeviceNet Master/Slave, AB RIO, Profibus, Interbus-S, M-Net, CC Link, EtherNet IP/Slave
Ethernet	10 Base T/100 Base TX
Safety	Dual-channel Emergency Stop Pushbuttons, 3-position Enable Switch, Manual Brake Release Meets ANSI/RIA R15.06-1999, ANSI/RIA/ISO 10218-1-2007 and CSA Z434-03

**See DX100 Controller data sheet (DS-399) for complete specifications

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YASKAWA

MOTOMAN ROBOTICS

MOTOMAN ROBOTICS
 805 LIBERTY LANE, WEST CARROLLTON, OHIO 45449
 TEL: 937.847.6200 ■ FAX: 937.847.6277

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