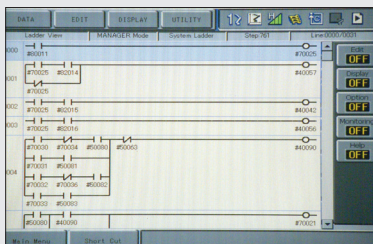


MACHINE TENDING



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



SDA20D

ASSEMBLY • HANDLING • MACHINE TENDING
PACKAGING • PART TRANSFER • PRESS TENDING

Payload: 20 kg/arm

The SDA20D is a dual-arm, 15-axis robot designed for complex assembly and material handling applications. Both arms can work together dramatically simplifying end-of-arm tooling. Designed with patented servo actuators, all cables are routed through the arms.

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.
- 20 kg payload per arm; 910 mm horizontal reach per arm; 1,820 mm vertical reach per arm; ± 0.1 mm repeatability.
- Both robot arms can work together on one task to double the payload or handle heavy, unwieldy objects. Two arms can perform simultaneous independent operations.

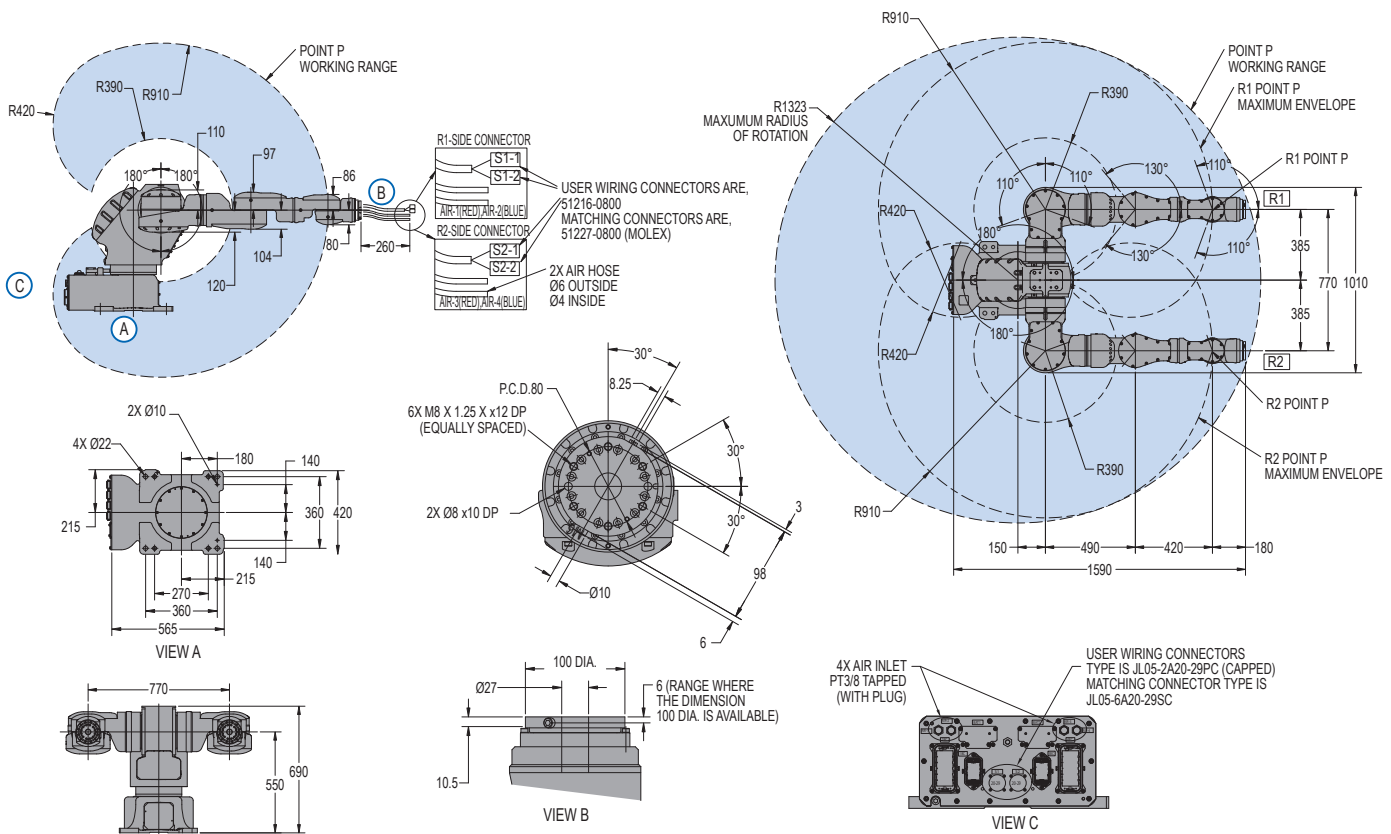
- Ability to hold part with one arm while performing additional operations with other arm and to transfer a part from one arm to the other with no need to set part down.

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.

SDA20D ROBOT

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



SDA20D SPECIFICATIONS

Structure		Articulated
Mounting		Floor *
Controlled Axes		15 (7 axes per arm plus base rotation)
Payload		20 kg (44.1 lbs)/arm
Horizontal Reach per Arm		910 mm (35.8")
Horizontal Reach (P-point to P-point)		2,590 mm (102")
Vertical Reach		1,820 mm (71.7")
Repeatability		±0.1 mm (±0.004")
Maximum Motion Range	Rotation-Axis (Waist)	±180°
	S-Axis (Lifting)	±180°
	L-Axis (Lower Arm)	±110°
	E-Axis (Elbow)	±170°
	U-Axis (Upper Arm)	±130°
	R-Axis (Upper Arm Twist)	±180°
	B-Axis (Wrist Pitch/Yaw)	±110°
Maximum Speed	T-Axis (Wrist Twist)	±180°
	Rotation-Axis (Waist)	125°/s
	S-Axis (Lifting)	130°/s
	L-Axis (Lower Arm)	130°/s
	E-Axis (Elbow)	170°/s
	U-Axis (Upper Arm)	170°/s
	R-Axis (Upper Arm Twist)	200°/s
Approximate Mass	B-Axis (Wrist Pitch/Yaw)	200°/s
	T-Axis (Wrist Twist)	400°/s
Power Rating		380 kg (837.9 lbs)
Allowable Moment	R-Axis	58.8 N • m
	B-Axis	58.8 N • m
	T-Axis	29.4 N • m
Allowable Moment of Inertia	R-Axis	4 kg • m ²
	B-Axis	4 kg • m ²
	T-Axis	2 kg • m ²

* Ceiling mounting available with successful application review

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 NPN-Standard PNP-Optional 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 Keypress 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

www.motoman.com

YASKAWA

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-414-G ©2018 YASKAWA AMERICA, INC. JANUARY 2018

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