

MOTOMAN ROBOTICS



LOW-PROFILE ARM



MINI X-GUN (50 KG)



MINI C-GUN (50 KG)

TOP REASONS TO BUY

- Ideal for flexible, high-density layouts that reduce cycle times, takt time
- Provides flexible reach and enlarged motion range
- Integrated spot harness facilitates programming, reduces maintenance
- Compact servo guns provide clamping force and current capacity of larger guns



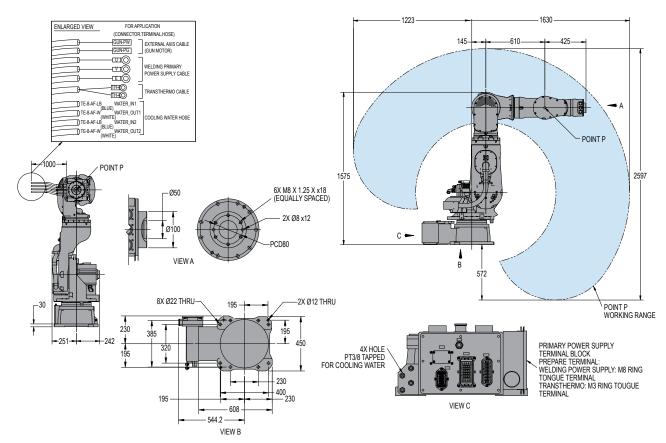
7-Axis "Versatile Spot" Welding Robot

- Unique slim design optimizes automotive applications using DC spot guns with compact servo actuators.
- Can be placed in close proximity to workpieces and other robots to create flexible, high-density layouts, eliminating multiple stations and resulting in shorter production lines and smaller spot welding workcells.
- Seven degrees of freedom provides ability to reorient manipulator axes without changing gun position in space. Multi-jointed arm can fold down into a very low profile.
- Compact only 493 mm (19.4") wide (including the spot harness); 1,630 mm (64.2") reach; ±0.1 mm (0.004") repeatability.
- Base axes move 30% faster than heavypayload robots, resulting in shorter takt times and higher throughput.
- Yaskawa's compact actuators and higher-frequency DC welding led to new lightweight spot guns.
- Guns are available in X- or C-type configurations with 600-kg clamping force and 15.000-Amp capacity.

- Due to lighter gun, robot uses less power, even at its faster speeds. When combined with improved efficiency of smaller DC guns, VS50 robot offers 50% power savings compared to traditional larger robots and guns.
- Innovative design with integrated spot harness prevents interference and reduces programming time.

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 15.06-1999 and other relevant ISO and CSA safety standards. Optional Category 3 functional safety unit.



Structure		Vertical articulated type
Controlled Axes		7
Payload Payload		50 kg (110.3 lbs)
Vertical Reach		2,597 mm (102.2")
Horizontal Reach		
		1,630 mm (64.2")
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 (Wrist Roll) B-Axis (Bend/Pitch/Yaw) T-Axis (Wrist Twist)	±180° +125°/-60° ±170° +215°/-35° ±170° ±125° ±180°
Maximum Speed	S-Axis L-Axis E-Axis U-Axis R-Axis B-Axis T-Axis	170°/s 130°/s 130°/s 130°/s 130°/s 130°/s 200°/s
Approximate Mass		640 kg (1,411.2 lbs)
Brakes		All axes
Power Consumption		8.7 kVA
Allowable Moment	R-Axis B-Axis T-Axis	377 N • m 377 N • m 147 N • m
Allowable Moment of Inertia	R-Axis B-Axis T-Axis	29.6 kg • m ² 29.6 kg • m ² 12.5 kg • m ²

DATUU CONTR	OLLER SPECIFICATIONS**	
Dimensions (mm)	800 (w) x 1,000 (h) x 650 (d) (31.5" 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 NPN-Standard PNP-Optional	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	

 $^{^{\}star\star}\text{See}$ DX100 Controller data sheet (DS-399) for complete specifications

