

SP80

HIGH-SPEED, LOW-PROFILE DESIGN

KEY BENEFITS

Single robot-to-controller cable connection enables fast setup

High-speed robot motion reduces air-cut time for spot gun

Flexible wrist motion range simplifies programming of complicated parts

Reduced profile design enables high-density installation

SPECIFICATIONS

80 kg payload with spot harness

88 kg payload without spot harness

2,236 mm horizontal reach

3,751 mm vertical reach

0.03 mm repeatability

APPLICATION

Spot Welding

CONTROLLER

YRC1000

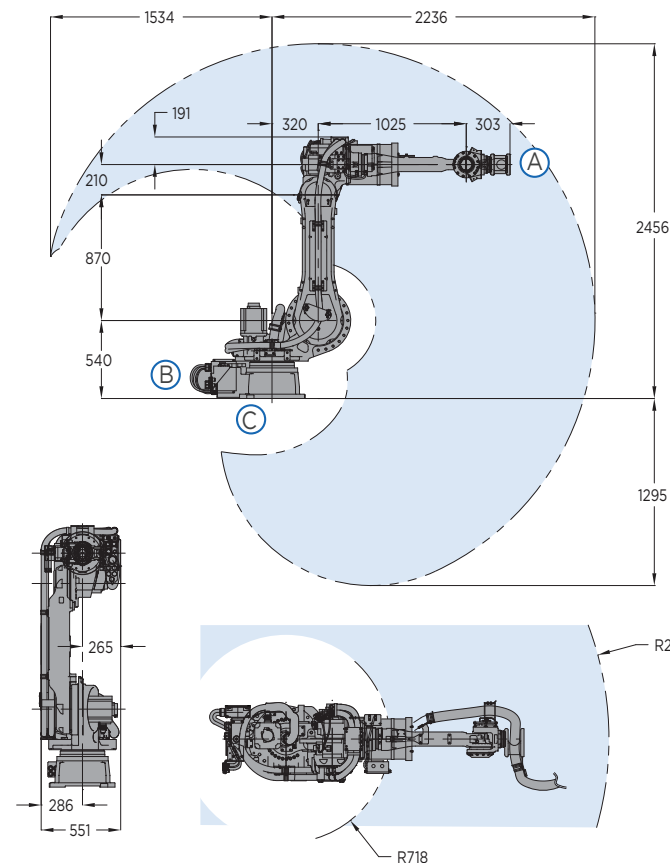


Spot harness not shown

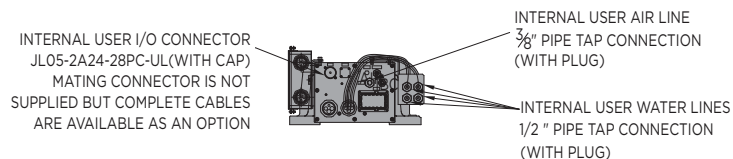
- Flexible six-axis robot features exceptionally fast axis speeds and acceleration to reduce air-cut time and increase production output.
- Wide wrist motion range eliminates interference and improves application flexibility.
- Slim profile design allows reaching into confined spaces and close proximity placement of robots for high-density workcells.
- Integrated spot harness improves wrist flexibility and reduces downtime.
- Servo gun and DC timer technology optimized for productivity and quality.
- Spot monitoring and waveform graphing helps check and troubleshoot welding conditions.
- Controller connectivity provides simple wiring to spot timers.
- Robot pendant application for programming Medar® and Nadex® brand timers.
- Single power and control cable reduces wiring time and increases work efficiency.
- Spot harness connections
 - Connections from base to upper arm
 - DeviceNet signal and power
 - Connections from base to wrist (gun)
 - Servo motor and encoder
 - Air hose (2) 6.5 mm ID, (1) 8 mm ID
 - Water hose (4) 8 mm ID
 - Weld power (2) 22 mm², (1) 14 mm²
 - Transformer thermostat (3) 0.75 mm²
 - User I/O (9) twisted pair + (1) 0.3 mm²
- Modular robot harness design for improved diagnostics and maintenance.
- Home position data can be saved without battery connection for easy maintenance.
- The SP80 has an IP67-rated wrist and an IP54 body standard.
- The SP80 can be floor-, wall-, tilt- or ceiling-mounted. Brakes are included on all axes.
- Compact YRC controller utilizes the lightweight standard teach pendant with intuitive programming.

SP80 ROBOT

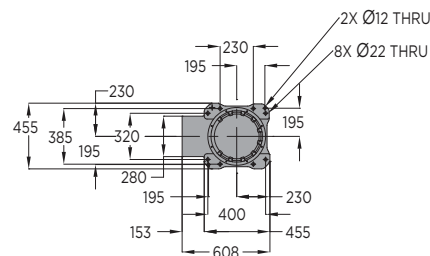
VIEW A



VIEW B



VIEW C



All dimensions are metric (mm) and for reference only.
Request detailed drawings for all design/engineering requirements.

SPECIFICATIONS

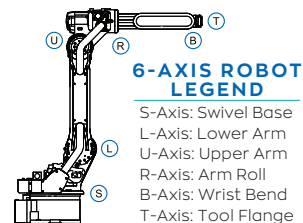
Axes	Maximum motion range	Maximum speed	Allowable moment	Allowable moment of inertia
	degrees	°/sec	N·m	kg·m ²
S	±180	170	-	-
L	+155/-90	140	-	-
U	+90/-80	160	-	-
R	±205*	230	389	28
B	±120*	230	389	28
T	±180*	350	201	10.3

* Motion range limited by spot harness
Mounting Options: Floor, Wall, Tilt, Ceiling

Item	Unit	SP80
Controlled axes		6
Maximum payload	kg	80
Repeatability	mm	0.03
Horizontal reach	mm	2,236
Vertical reach	mm	3,751
Weight	kg	655
Internal user I/O cable		24 conductors w/ ground
Internal user air line		(1) 3/8" connection
Power requirements		380-480 VAC
Power rating	kVA	4

OPTIONS

- Robot risers and base plates
- Extended length manipulator cables
- Wide variety of fieldbus cards
- External axes
- Functional Safety Unit (FSU)
- MotoSight™ 2D and 3D vision



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