

SP150R

HIGH-SPEED, SHELF-MOUNTED ROBOT

KEY BENEFITS

Shelf mounting provides additional custom layout possibilities

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

Built-in spot welding functions and condition guide simplifies setup and reteach

Flexible wrist motion range simplifies programming of complicated parts

SPECIFICATIONS

150 kg payload with spot harness

165 kg payload without spot harness

3,140 mm horizontal reach

4,782 mm vertical reach

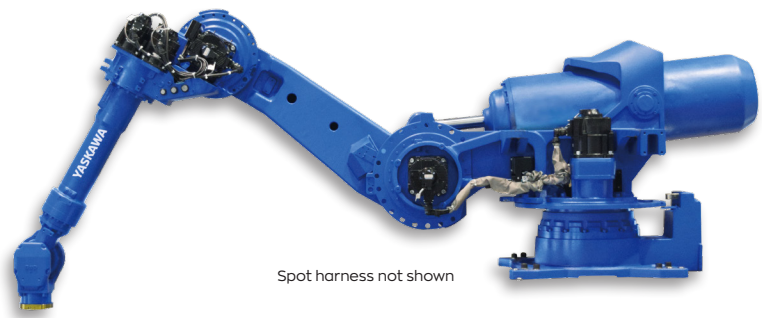
0.05 mm repeatability

APPLICATION

Spot Welding

CONTROLLER

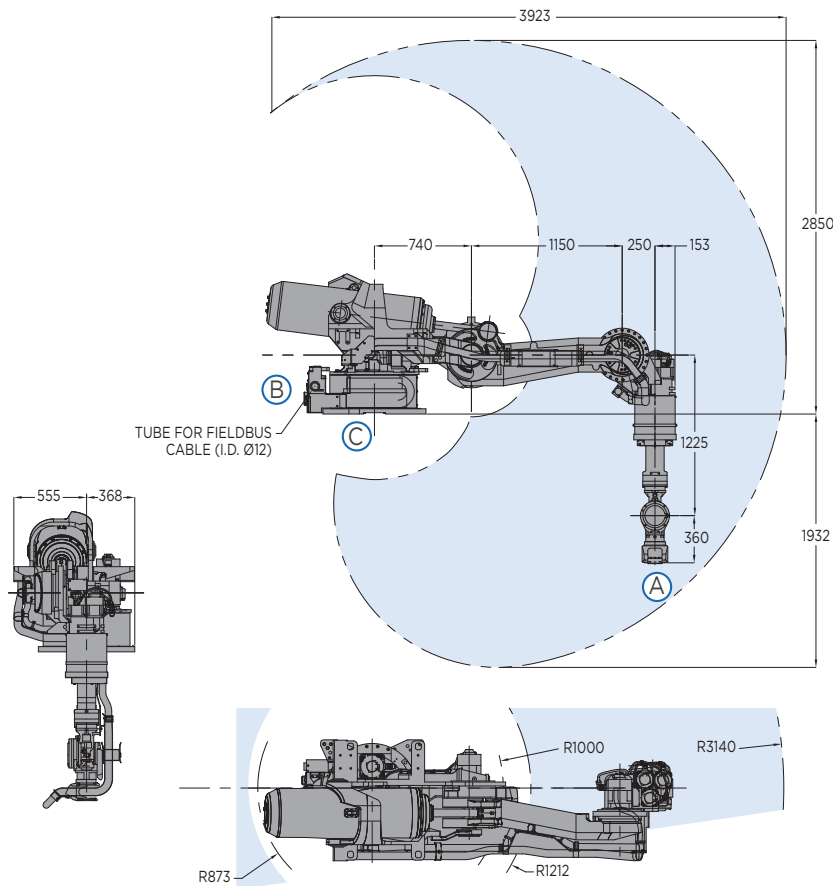
YRC1000



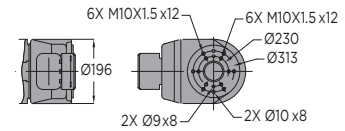
Spot harness not shown

- Powerful six-axis robot features exceptionally fast axis speeds and acceleration to reduce air-cut time and increase production output for spot welding applications.
- Shelf-mounting saves floorspace, expands work envelope and improves access to parts.
- Wide wrist motion range eliminates interference and improves application flexibility.
- High moment and inertia ratings accommodate a wide range of spot guns and other end of arm tooling.
- 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.
- Cables and air lines are routed through robot base to upper arm to increase cable life and reduce teaching interference.
- Single power and control cable reduces wiring time and increases work efficiency compared to dual cable systems.
- 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 SP150R has an IP67-rated wrist and an IP54 body standard.
- Compact YRC controller utilizes the lightweight teach pendant with intuitive programming.

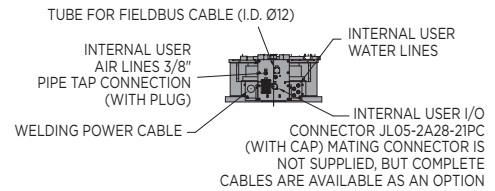
SP150R ROBOT



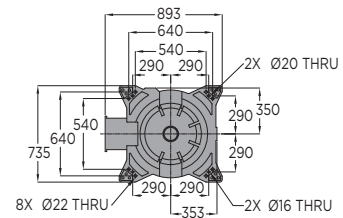
VIEW A



VIEW B



VIEW C



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

SPECIFICATIONS

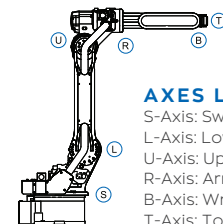
Axes	Maximum motion range	Maximum speed	Allowable moment	Allowable moment of inertia
	degrees	°/sec	N·m	kg·m ²
S	±180	105	-	-
L	+80/-130	105	-	-
U	+78/-79.4	105	-	-
R	±205*	175	868	83
B	±120*	150	868	83
T	±180*	240	490	45

* Motion range limited by spot harness
Mounting Options: Shelf

Item	Unit	SP150R
Controlled axes		6
Maximum payload	kg	150
Repeatability	mm	0.05
Horizontal reach	mm	3,140
Vertical reach	mm	4,782
Weight	kg	1,820
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	5

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



AXES LEGEND

S-Axis: Swivel Base
L-Axis: Lower Arm
U-Axis: Upper Arm
R-Axis: Arm Roll
B-Axis: Wrist Bend
T-Axis: Tool Flange

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