

SP110H

HIGH-SPEED, HOLLOW-ARM DESIGN

KEY BENEFITS

Hollow-arm design offers improved cable routing and reduced wear

Harness is sized for spot guns used on aluminum parts

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

SPECIFICATIONS

110 kg payload

2,044 mm horizontal reach

3,367 mm vertical reach

0.05 mm repeatability

APPLICATION

Spot Welding

Material Handling

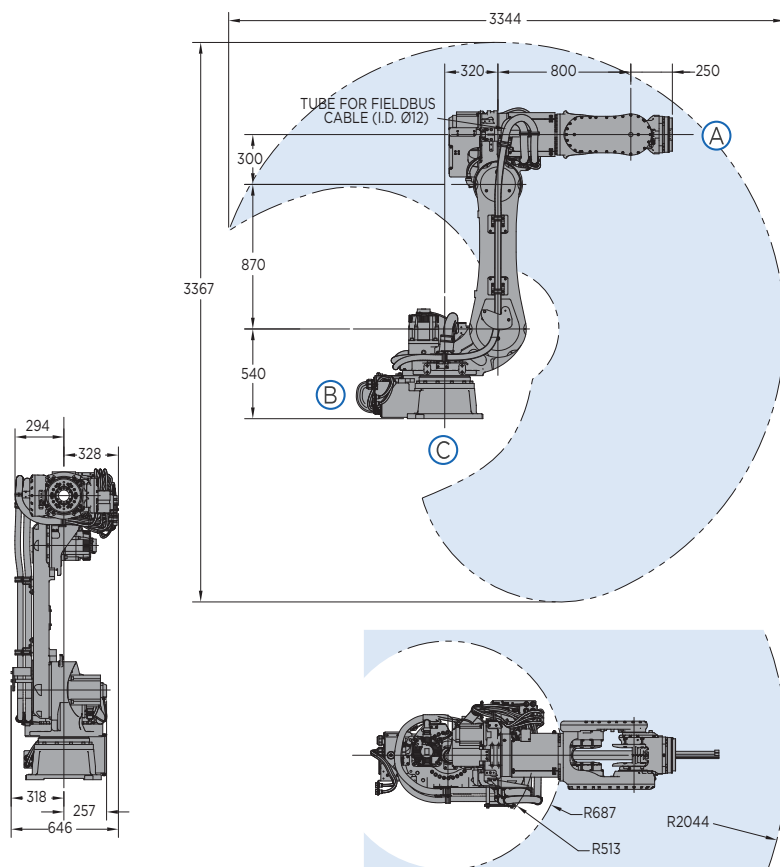
CONTROLLER

YRC1000

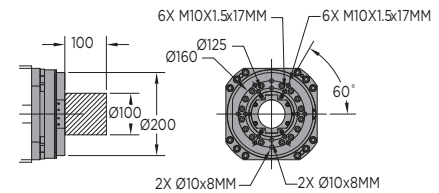


- Powerful, six-axis robot features exceptionally fast axis speeds and acceleration to reduce air-cut time and increase production output.
- Hollow upper arm reduces interference while simplifying programming.
- Wide wrist motion range improves spot gun positioning and application flexibility.
- Slim design allows for reaching into confined parts as well as close proximity placement of robots for high-density workcells.
- Integrated spot harness in hollow arm provides optimal cable protection 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.
- Cable installation tube facilitates fieldbus routing through the S-axis.
- 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 (1) 8.5 mm ID, (1) 8 mm ID
 - Water hose (4) 8 mm ID
 - Weld power (2) 35 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 SP110H has an IP65-rated wrist and an IP54 body standard.
- Available without harness for material handling applications
- Compact YRC controller utilizes the lightweight standard teach pendant with intuitive programming.

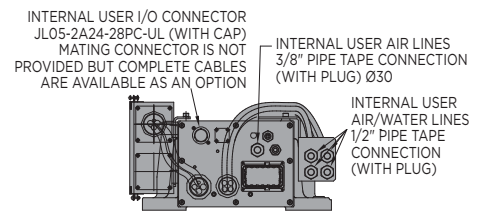
SP110H ROBOT



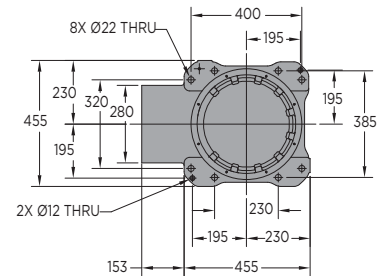
VIEW A



VIEW B



VIEW C



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

SPECIFICATIONS

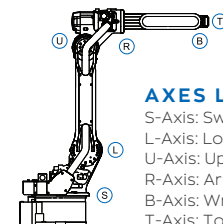
Axes	Maximum motion range	Maximum speed	Allowable moment	Allowable moment of inertia
	degrees	°/sec	N·m	kg·m ²
S	±180	140	-	-
L	+155/-90	115	-	-
U	+90/-86	161	-	-
R	±210	225	721	85
B	±130	200	721	85
T	±210	315	315	45

Mounting Options: Floor

Item	Unit	SP110H
Controlled axes		6
Maximum payload	kg	110
Repeatability	mm	0.05
Horizontal reach	mm	2,044
Vertical reach	mm	3,367
Weight	kg	730
Internal user I/O cable		17 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

YASKAWA

YASKAWA AMERICA, INC. 100 Automation Way | Miamisburg, OH 45342

937.847.6200 | motoman.com

Technical specifications subject to change without notice. | Motoman is a registered trademark.
All other marks are the trademarks and registered trademarks of their respective owner.

DS-857 ©2021 Yaskawa America, Inc. JANUARY 2021