

AR3120

EXTRA-LONG, THRU-ARM DESIGN

KEY BENEFITS

Longest reach, standard arc welding robot available

Increased payload, axis speeds and wrist inertia improve throughput and quality

Streamlined arm design reduces interference

Expanded wrist range improves application flexibility

Single robot-to-controller cable connection enables fast setup

SPECIFICATIONS

20 kg payload

3,124 mm horizontal reach

5,622 mm vertical reach

0.07 mm repeatability

APPLICATION

Arc Welding

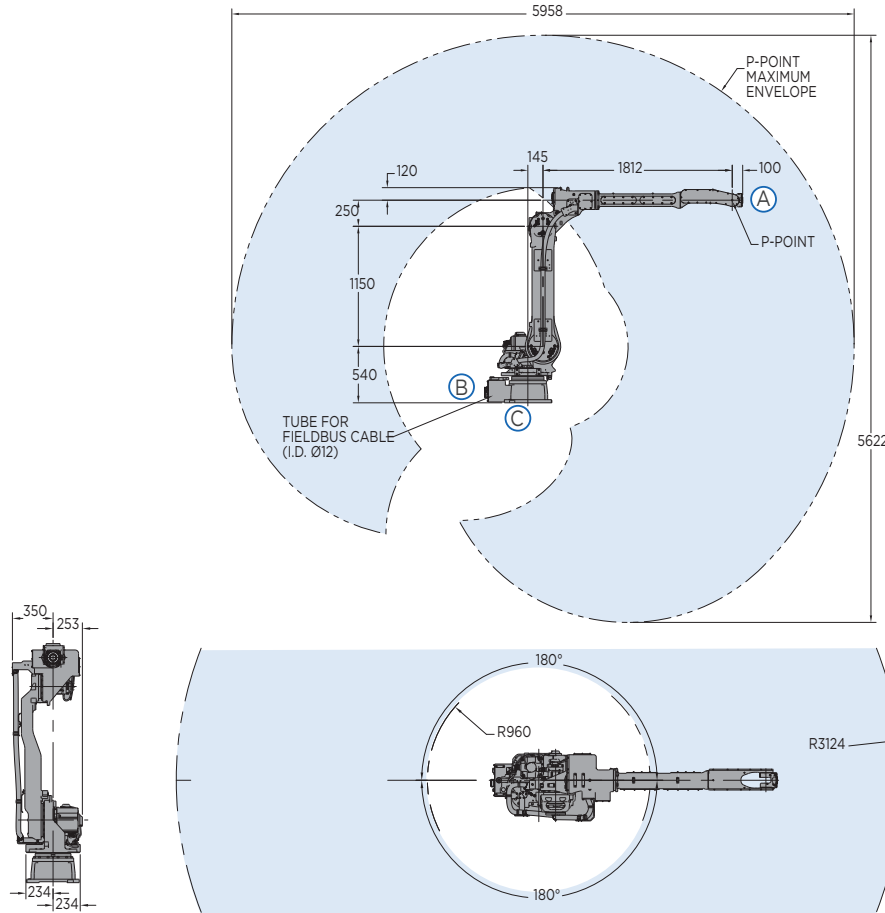
CONTROLLER

YRC1000

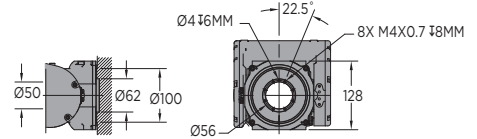


- Extended reach six-axis AR3120 welding robot achieves unrivaled welding performance.
- Ideal for agriculture/construction machinery or automotive frames.
- 20 kg payload supports a wide variety of motorized torches and sensors.
- Slim profile design allows close proximity placement of robots for high-density workcells.
- Symmetric wrist profile, with ample range, provides equal torch access to both sides of part.
- High allowable moment and inertia ratings provide wrist rigidity and consistent weld quality.
- 50 mm thru-hole for torch cabling, hoses and sensor wires reduces cable interference and wear.
- Minimal protrusion from the U-axis and internal S-axis routing prolong cable life and maximize part access.
- Optimized feeder mounting area on arm reduces equipment interference.
- Modular robot harness design for improved diagnostics and maintenance.
- Single pendant provides control of up to eight robots and multiple positioners.
- Precise coordinated motion with other Yaskawa robots and servo positioners.
- Variety of advanced, exclusive programming functions maximize weld quality and speed.
- Floor-mounted model is standard. Wall-, tilt- or ceiling-mounted versions are available.
- Compact YRC controller utilizes a lightweight teach pendant with intuitive programming.

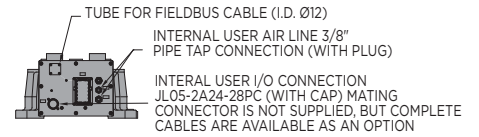
AR3120 ROBOT



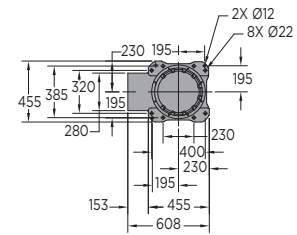
VIEW A



VIEW B



VIEW C



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

SPECIFICATIONS

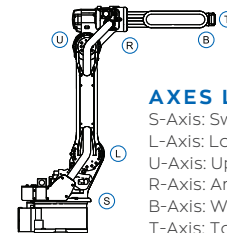
| Axes | Maximum motion range | Maximum speed | Allowable moment | Allowable moment of inertia |
|------|----------------------|---------------|------------------|-----------------------------|
| | degrees | %/sec | N·m | kg·m ² |
| S | ±180 | 180 | - | - |
| L | +135/-90 | 180 | - | - |
| U | +206/-80 | 180 | - | - |
| R | ±200 | 400 | 39.2 | 1.05 |
| B | +150 | 430 | 39.2 | 1.05 |
| T | ±210 | 630 | 19.6 | 0.75 |

Mounting Options: Floor, Wall, Tilt or Ceiling

| Item | Unit | AR3120 |
|-------------------------|------|-------------------------|
| Controlled axes | | 6 |
| Maximum payload | kg | 20 |
| Repeatability | mm | 0.07 |
| Horizontal reach | mm | 3,124 |
| Vertical reach | mm | 5,622 |
| Weight | kg | 560 |
| Internal user I/O cable | | 24 conductors w/ ground |
| Internal user air line | | (2) 3/8" connection |
| Power requirements | | 380-480 VAC |
| Power rating | kVA | 4 |

OPTIONS

- Extended length manipulator cables
- Robot risers
- Wide variety of fieldbus cards
- Vision systems
- Variety of weld packages
- Seam tracking and seam finding packages
- Functional Safety Unit (FSU)
- External axes
- MotoSim® offline programming



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

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