

Articulated robots YA
 Linear conveyor modules LCM
 Single-axis robots CX
 Motor-less single axis actuator RoboUnity
 Compact single-axis robots TRANSEVO
 Single-axis robots FLIP-X
 Linear motor single-axis robots PHASER
 Cartesian robots XY-X
 SCARA robots YK-X
 Pick & place robots YP-X
 CLEAN CONTROLLER INFORMATION

YA-R3F

6-axis



- Maximum payload 3 kg
- Longest Reach R532 mm

Note. The YA series does not comply with the EU RoHS directive.

Ordering method

| | | | | | | |
|---------------|-------------------------------------|-------------------|-------------------------------------|--|---|--|
| YA-R3F | 4L | YAC100 | N | | | |
| Model | Power cable length 4L: 4m | Controller | Safety standard N: Normal | Language setting JE: Japanese/English JC: Japanese/Chinese EJ: English/Japanese EC: English/Chinese | Option I/O N, P: Standard I/O 28/28 N1, P1: 56/56 points N2, P2: 84/84 points N3, P3: 112/112 points N4, P4: 140/140 points | Network option No entry: None CC: CC-Link DM: DeviceNet master DS: DeviceNet slave PB: PROFIBUS EP: EtherNet/IP™ PM: Profinet master PT: Profinet slave ES: EtherCAT slave |

Note. The YA-R3F, a compact manipulator with a motor of 80 W or less mounted on all axes, requires minimal space (baseplate: 240 mm × 170 mm). No fence is required for robot's working area. The robot can be used in applications such as automated guided vehicles (AGVs), testing equipment, and educational tools.

Note. Standard models include four air hoses (diameter: 4 mm), and an internal user I/O wiring harness (0.2 mm² × 10) running through the U-arm. This structure simplifies wiring and tubing for easier system construction.

Note. Floor-mounted, wall-mounted, and ceiling-mounted types are available. Please contact us separately regarding wall-mounted or ceiling-mounted installations.

Note. This unit can also be used in combination with a travel axis or other external axis. Please contact us.

Specifications

| | | |
|------------------------|---------------------------------|----------------------------------|
| Controlled Axis | 6 | |
| Payload | 3 kg | |
| Repeatability | +/-0.03 mm | |
| Range of Motion | S-axis (turning) | -160° to +160° ^{Note 1} |
| | L-axis (lower Arm) | -85° to +90° |
| | U-axis (upper arm) | -105° to +260° |
| | R-axis (wrist roll) | -170° to +170° |
| | B-axis (wrist pitch/yaw) | -120° to +120° |
| | T-axis (wrist twist) | -360° to +360° |
| Maximum Speed | S-axis (turning) | 3.49 rad/s, 200°/s |
| | L-axis (lower Arm) | 2.62 rad/s, 150°/s |
| | U-axis (upper arm) | 3.32 rad/s, 190°/s |
| | R-axis (wrist roll) | 5.24 rad/s, 300°/s |
| | T-axis (wrist twist) | 7.33 rad/s, 420°/s |

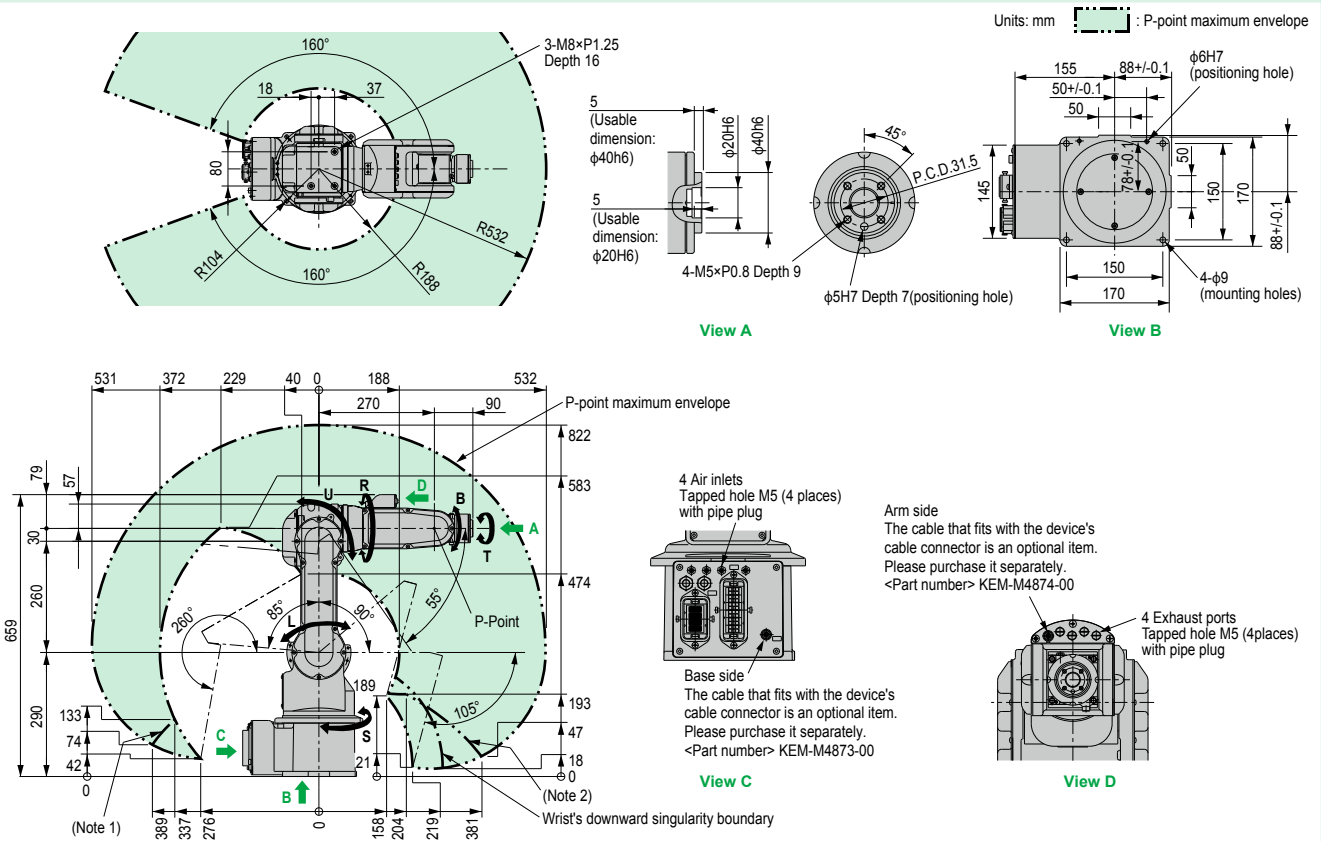
| | | |
|---|---------------------------------|--|
| Allowable Moment | R-axis (wrist roll) | 5.39 N·m |
| | B-axis (wrist pitch/yaw) | 5.39 N·m |
| | T-axis (wrist twist) | 2.94 N·m |
| Allowable Inertia (GD²/4) | R-axis (wrist roll) | 0.1 kg·m ² |
| | B-axis (wrist pitch/yaw) | 0.1 kg·m ² |
| | T-axis (wrist twist) | 0.03 kg·m ² |
| Mass | | 27 kg |
| Ambient Conditions | Temperature | 0 to +40°C |
| | Humidity | 20 to 80%RH (non-condensing) |
| | Vibration | 4.9 m/s ² or less |
| | Others | <ul style="list-style-type: none"> Free from corrosive gasses or liquids, or explosive gasses Free from exposure to water, oil, or dust Free from excessive electrical noise (plasma) |
| Power Requirements ^{Note 2} | | 0.5 kVA |

Note 1. For wall-mounted installation, the S-axis operating range is +/-25°.

Note 2. Varies in accordance with applications and motion patterns.

Note. SI units are used for specifications.

YA-R3F



Note 1. Motion range of point P when the S-axis is between -40° to +40°.

Note 2. Motion range of point P when the S-axis is between -125° to -160° or +125° to +160°.