Better Products for a Better Future

At Epson, we know that striving for the future requires a strong commitment to the environment. That is why we strive to create innovation products that are reliable, recyclable, and energy efficient. Better products that use fewer resources help ensure a better future for us all.

Product specifications and appearance are subject to change without notice.


DeviceNet and Ethernet/IP are registered trademarks of the Open DeviceNet Vendor Association, Inc.

PROFIBUS is a registered trademark of PROFIBUS International.

LabVIEW is a trademark of National Instruments Corporation.

SEIKO EPSON CORPORATION
Factory Automation Systems Dept.

5018 Fujimi, Fujimi-machi, Suwa-gun, Nagano-ken, 399-0295 JAPAN

TEL: 81-266-61-1804 FAX: 81-266-61-1846
http://www.epson.jp/e/products/robots/

Please inquire at http://www.epson.jp/e/products/robots/
Epson has been a leader in industrial robot technology for over 30 years. Our robotic systems reflect decades of experience in high-precision micro-component assembly, and are globally recognized for their speed, accuracy, and ease of use. Now, we've taken productivity to the next level with Smart Motion Control Technology—a powerful new advance for even greater precision and efficiency. Whatever manufacturing challenges you face, Epson industrial robots stand ready to meet your needs with the gold standard in precision automation.
Epson offers SCARA robot systems to meet virtually every assembly and industrial process automation need. Whatever your reach and payload requirements, there’s an Epson SCARA system that can satisfy them.

**SCARA robots**

Epson’s proven line of SCARA robots now ensures even higher manufacturing quality and productivity with exclusive Smart Motion Control technology for precise control of speed, path, and effector position.

### G Series
**Top-class speed and repeatability**
Epson G Series robots stand at the top of their class* in speed, precision, and low residual vibration. Available to meet virtually any application need, they include models that can be configured for multitasking, cleanroom, antistatic, or washdown process use.

### A new dimension in SCARA performance
The RS Series ceiling-mount design and rotating arm enable maximum productivity in minimum space. Innovative arm design eliminates work area dead space, ensuring greater freedom of movement and significantly faster cycle times.

### LS Series
**Outstanding cost-performance and reliability**
With their small footprint and big feature set, LS Series robots are the cost-effective solution for all kinds of pick-and-place and assembly tasks. Ideal as replacements for older Cartesian units, they feature dedicated controllers for unrivaled operating ease.

### C Series, S Series
**Unrivaled speed and performance in the tightest quarters**
Epson C Series and S Series 6-axis robots are designed and developed to offer speed and motion efficiency that give productivity a big boost.

High-rigidity arms and ultra-precise path control let you take full advantage of 6-axis effector movement.

High repeatability at all load levels is ensured by high-rigidity arm design and advanced inertial control technology that optimizes acceleration and deceleration to ensure consistent handling with heavy loads.

### 6-axis robots
Epson’s proven line of 6-axis robots now ensures even higher manufacturing quality and productivity with exclusive Smart Motion Control technology for precise control of speed, path, and effector position.

- **Angled/interior assembly and packaging applications**
- **Multidimensional sealant application processes**
- **Enhanced production layout flexibility in limited space**

### System options
- **Robot controller options**
- **Software options**
- **End effector options**
- **System option quick-reference table**

### Quick-reference table

<table>
<thead>
<tr>
<th>SCARA robots</th>
<th>6-axis robots</th>
<th>Robot controllers</th>
<th>System options</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>G series</strong></td>
<td><strong>LS series</strong></td>
<td><strong>C series</strong></td>
<td><strong>S series</strong></td>
</tr>
<tr>
<td>G1</td>
<td>G3</td>
<td>G6</td>
<td>G10/G20</td>
</tr>
<tr>
<td>P5-6</td>
<td>P7-10</td>
<td>P11-14</td>
<td>P15-18</td>
</tr>
<tr>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
</tr>
<tr>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
</tr>
<tr>
<td>WC</td>
<td>WC</td>
<td>WC</td>
<td>WC</td>
</tr>
<tr>
<td>5 Kg</td>
<td>6 Kg</td>
<td>10 Kg</td>
<td>20 Kg</td>
</tr>
<tr>
<td><strong>LS3/LS6</strong></td>
<td><strong>RS3/RS4</strong></td>
<td><strong>C3</strong></td>
<td><strong>S5</strong></td>
</tr>
<tr>
<td>P19-22</td>
<td>P23-26</td>
<td>P27-28</td>
<td>P29-30</td>
</tr>
<tr>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
</tr>
<tr>
<td>T</td>
<td>T</td>
<td>T</td>
<td>T</td>
</tr>
<tr>
<td>WC</td>
<td>WC</td>
<td>WC</td>
<td>WC</td>
</tr>
<tr>
<td>6 Kg</td>
<td>4 Kg</td>
<td>3 Kg</td>
<td>5 Kg</td>
</tr>
<tr>
<td><strong>C series</strong></td>
<td><strong>S series</strong></td>
<td><strong>RC620</strong></td>
<td><strong>RC180</strong></td>
</tr>
<tr>
<td>C3</td>
<td>S5</td>
<td>RC620</td>
<td>RC180</td>
</tr>
<tr>
<td>P31-32</td>
<td>P33-38</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*as of April 2012
Compact, high-rigidity body for precision assembly and press-fit applications
- At only 8kg, our lightest G series robot
- Available with 175mm or 225mm arm
- Triple-axis model for heavier payloads

**G1 specifications**

<table>
<thead>
<tr>
<th>Arm length</th>
<th>175 mm</th>
<th>225 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Payload</td>
<td>Rated 0.5 kg / Max 1 kg (4-axis), 1.5 kg (3-axis)</td>
<td></td>
</tr>
<tr>
<td>Standard cycle time</td>
<td>0.28 sec</td>
<td>0.30 sec</td>
</tr>
<tr>
<td>Repeatability</td>
<td>Joint #1, #2 ±0.005 mm</td>
<td>Joint #4 ±0.01 mm</td>
</tr>
</tbody>
</table>

**Specifications**

<table>
<thead>
<tr>
<th>Item</th>
<th>4-axis</th>
<th>3-axis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joint #1, #2 Rated</td>
<td>2630 mm/s</td>
<td>2630 mm/s</td>
</tr>
<tr>
<td>Joint #1, #2 Maximum</td>
<td>±0.01°</td>
<td>±0.01°</td>
</tr>
<tr>
<td>Joint #1 Rated</td>
<td>3000 mm/s</td>
<td>3000 mm/s</td>
</tr>
<tr>
<td>Joint #1 Maximum</td>
<td>±360 deg</td>
<td>±360 deg</td>
</tr>
<tr>
<td>Joint #2 Rated</td>
<td>3000 mm/s</td>
<td>3000 mm/s</td>
</tr>
<tr>
<td>Joint #2 Maximum</td>
<td>±135 deg</td>
<td>±135 deg</td>
</tr>
<tr>
<td>Joint #3 Rated</td>
<td>3000 mm/s</td>
<td>3000 mm/s</td>
</tr>
<tr>
<td>Joint #3 Maximum</td>
<td>±135 deg</td>
<td>±135 deg</td>
</tr>
<tr>
<td>Joint #4 Rated</td>
<td>3000 mm/s</td>
<td>3000 mm/s</td>
</tr>
<tr>
<td>Joint #4 Maximum</td>
<td>±135 deg</td>
<td>±135 deg</td>
</tr>
</tbody>
</table>

**Motion Range (Table Top Mounting)**

<table>
<thead>
<tr>
<th>Model</th>
<th>4-axis</th>
<th>3-axis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated</td>
<td>2630 mm/s</td>
<td>2630 mm/s</td>
</tr>
<tr>
<td>Rated</td>
<td>±0.01°</td>
<td>±0.01°</td>
</tr>
<tr>
<td>Rated</td>
<td>3000 mm/s</td>
<td>3000 mm/s</td>
</tr>
<tr>
<td>Rated</td>
<td>±360 deg</td>
<td>±360 deg</td>
</tr>
<tr>
<td>Rated</td>
<td>3000 mm/s</td>
<td>3000 mm/s</td>
</tr>
<tr>
<td>Rated</td>
<td>±135 deg</td>
<td>±135 deg</td>
</tr>
<tr>
<td>Rated</td>
<td>3000 mm/s</td>
<td>3000 mm/s</td>
</tr>
<tr>
<td>Rated</td>
<td>±135 deg</td>
<td>±135 deg</td>
</tr>
</tbody>
</table>

*When payload center of gravity is aligned with Joint #4; if not aligned with Joint #4, set parameters using INERTIA command.*

**Outer Dimensions (Table Top Mounting)**

- Standard-model
- Cleanroom-model

**Installation environment**
- Installed pneumatic tube for customer use
- Installed wire for customer use
- Home

**Applicable Controller**

- G1-171S
- G1-221S
- G1-171C
- G1-221C
**G series SCARA robot**

**G3**

**Compact, with high speed and low vibration for one-rank-up performance**
- Handles small, heavy payloads up to 3kg
- Available with straight or curved arm
- Small footprint, yet has long reach

**G3 specifications**

<table>
<thead>
<tr>
<th>Arm length</th>
<th>250 mm</th>
<th>300 mm</th>
<th>250 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Payload</td>
<td>Rated 1 kg / Max 3 kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard cycle time</td>
<td>0.41 sec</td>
<td>0.43 sec</td>
<td>0.41 sec</td>
</tr>
<tr>
<td>Repeatability</td>
<td>Joint #1, #2</td>
<td>±0.008 mm</td>
<td>±0.01 mm</td>
</tr>
<tr>
<td>Joint #4 allowable moment of inertia</td>
<td>±0.008 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard cycle time</td>
<td>0.41 sec</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Payload</td>
<td>Rated 1 kg / Max 3 kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arm length</td>
<td>Straight arm Curved arm</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Specifications**

<table>
<thead>
<tr>
<th>G3-251*</th>
<th>G3-301**</th>
<th>G3-351**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. motion range</td>
<td>250 mm</td>
<td>300 mm</td>
</tr>
<tr>
<td>Repeatability</td>
<td>±0.005°</td>
<td>±0.005°</td>
</tr>
<tr>
<td>Max. operating speed</td>
<td>3550 mm/s</td>
<td>3950 mm/s</td>
</tr>
<tr>
<td>Motor power consumption</td>
<td>100 W</td>
<td>150 W</td>
</tr>
<tr>
<td>Joint #4</td>
<td>Ø16 h7 shaft diameter</td>
<td></td>
</tr>
<tr>
<td>Torque</td>
<td>Rated 1 kg / Max 3 kg</td>
<td></td>
</tr>
<tr>
<td>Arm length</td>
<td>150 mm</td>
<td></td>
</tr>
<tr>
<td>Rated 1 kg / Max 3 kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. Ø11 through hole</td>
<td>120 mm</td>
<td></td>
</tr>
<tr>
<td>Rated 1 kg / Max 3 kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Space</td>
<td>125 deg</td>
<td></td>
</tr>
<tr>
<td>Rated 1 kg / Max 3 kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Through hole</td>
<td>Ø6 H7 ( )</td>
<td></td>
</tr>
<tr>
<td>Rated 1 kg / Max 3 kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reference through hole</td>
<td>Ø30 mechanical stop diameter</td>
<td></td>
</tr>
<tr>
<td>Rated 1 kg / Max 3 kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conical hole Ø3, 90° (Calibration point position of Joints #3 and #4)</td>
<td>Ø30 mechanical stop diameter</td>
<td></td>
</tr>
<tr>
<td>Rated 1 kg / Max 3 kg</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*1 mm flat cut

*3: When payload center of gravity is aligned with Joint #4; if not aligned with Joint #4, set parameters using INERTIA command.

*2: Cycle time based on round-trip arch motion (300mm horizontal, 25mm vertical) with 2kg payload (path coordinates optimized for maximum speed).

*1: Can be mounted on wall or ceiling.

*4: Complies with ISO Class 3 (ISO14644-1) and older Class 10 (less than 10^5 particles per 28,317cm³:1cft) cleanroom standards.
G series SCARA robot

G6

High speed and precision for small component assembly

- Handles payloads up to 6kg
- Available with 450mm, 550mm, or 650mm arm

**G6 specifications**

<table>
<thead>
<tr>
<th>Specification</th>
<th>G6-45**</th>
<th>G6-55***</th>
<th>G6-65***</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arm length</td>
<td>450 mm</td>
<td>550 mm</td>
<td>650 mm</td>
</tr>
<tr>
<td>Payload</td>
<td>2 kg</td>
<td>3 kg</td>
<td>5 kg</td>
</tr>
<tr>
<td>Standard cycle time</td>
<td>0.29 sec</td>
<td>0.30 sec</td>
<td>0.30 sec</td>
</tr>
<tr>
<td>Repeatability</td>
<td>±0.025 mm</td>
<td>±0.03 mm</td>
<td>±0.03 mm</td>
</tr>
</tbody>
</table>

**Specifications**

- **Max. operating speed**
  - Joint#1, #2: 230 deg/s
  - Joint#3: 7170 mm/s
  - Joint#4: 2400 deg/s

- **Max. machine usage**
  - G6-45: 2 kg, 1100 mm/s
  - G6-55: 3 kg, 2350 mm/s
  - G6-65: 5 kg, 7800 mm/s

- **Repeatability**
  - Joint#1, #2: ±0.03 mm
  - Joint#3: ±0.015 mm
  - Joint#4: ±0.005°

- **Joint #1, #2**
  - Maximum 400 W
  - Motor power consumption
  - Maximum 3516 mm/s

- **Joint #3**
  - Maximum 27 kg
  - Motor power consumption
  - Maximum 1100 mm/s

- **Joint #4**
  - Maximum 7900 mm/s
  - Motor power consumption
  - Maximum 1450 mm/s

**Motion Range (Table Top Mounting)**

- **Motion range**
  - Maximum 230 deg/s
  - Maximum 7170 mm/s
  - Maximum 2400 deg/s

- **Joint #1 angle to hit mechanical stop (degree)**
  - 15°

- **Joint #1 (degree)**
  - Minimum -270°
  - Maximum 147.5°

- **Mechanical stop area**
  - Ø40 mechanical stop diameter

- **Reference through hole**
  - Ø20 h7 shaft diameter
  - Ø20 mm flat cut

- **Detail of “A”**
  - Ø20 h7 shaft diameter
  - Ø20 mm flat cut

- **Motion range of Joint #1 (degree)**
  - Minimum -240°
  - Maximum 147.5°

- **Mechanical stop area**
  - Ø40 mechanical stop diameter
  - Ø40 mm flat cut

- **Reference through hole**
  - Ø20 h7 shaft diameter
  - Ø20 mm flat cut

- **Detail of “A”**
  - Ø20 h7 shaft diameter
  - Ø20 mm flat cut

- **Motion range**
  - Maximum 230 deg/s
  - Maximum 7170 mm/s
  - Maximum 2400 deg/s

- **Joint #1 angle to hit mechanical stop (degree)**
  - 15°

- **Joint #1 (degree)**
  - Minimum -270°
  - Maximum 147.5°

- **Mechanical stop area**
  - Ø40 mechanical stop diameter
  - Ø40 mm flat cut

- **Reference through hole**
  - Ø20 h7 shaft diameter
  - Ø20 mm flat cut

- **Detail of “A”**
  - Ø20 h7 shaft diameter
  - Ø20 mm flat cut
Conical hole 1mm flat cut

Standard-model Cleanroom-model

Outer Dimensions (Ceiling Mounting) (Unit: mm)

Motion Range (Ceiling Mounting)

Motion Range (Wall Mounting)

Model | Wall Mounting | G6-45° | G6-55° + SR | G6-55° | G6-65°
---|---|---|---|---|---

Model | Wall Mounting | G6-45° | G6-55° + SR | G6-55° | G6-65°
---|---|---|---|---|---
G series SCARA robot

G10
For high-speed, multi-effector assembly, kitting, and packing applications
■ Ideal for mid-range payloads up to 10kg

G20
For fast, efficient, high-payload handling and batch-packing applications
■ Handles heavy payloads up to 20kg

G10/G20

■ G10 specifications
Arm length
650 mm 850 mm 1000 mm
Payload
G10 Rated 5 kg / Max 10 kg
G20 Rated 10 kg / Max 20 kg
Standard cycle time
0.34 sec 0.37 sec 0.42 sec
Repeatability
Joint #1, #2 ±0.025 mm
Joint #6 ±0.025 mm

Specifications

<table>
<thead>
<tr>
<th>G10</th>
<th>G10/20-85**</th>
<th>G10/20-85***</th>
<th>G20-AP***</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. operating speed</td>
<td>7200 rpm</td>
<td>6000 rpm</td>
<td>4000 rpm</td>
</tr>
<tr>
<td>Weight</td>
<td>40 kg</td>
<td>51 kg</td>
<td>64 kg</td>
</tr>
<tr>
<td>Max. mechanical range</td>
<td>±360 deg</td>
<td>±360 deg</td>
<td>±360 deg</td>
</tr>
<tr>
<td>Repeatability</td>
<td>±2.5 deg</td>
<td>±0.1 mm</td>
<td>±0.2 mm</td>
</tr>
<tr>
<td>Standard cycle time</td>
<td>0.30 sec</td>
<td>0.37 sec</td>
<td>0.42 sec</td>
</tr>
<tr>
<td>Joint #1, #2</td>
<td>1100 mm/s</td>
<td>2350 mm/s</td>
<td>2000 mm/s</td>
</tr>
</tbody>
</table>

■ Motion Range (Table Top Mounting)

<table>
<thead>
<tr>
<th>Model</th>
<th>G10/20-85***</th>
<th>G10/20-85**</th>
<th>G20-AP***</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tilt</td>
<td>±360 deg</td>
<td>±360 deg</td>
<td>±360 deg</td>
</tr>
<tr>
<td>Roll</td>
<td>±90 deg</td>
<td>±90 deg</td>
<td>±90 deg</td>
</tr>
<tr>
<td>Yaw</td>
<td>±152.5 deg</td>
<td>±152.5 deg</td>
<td>±152.5 deg</td>
</tr>
</tbody>
</table>

■ Outer Dimensions (Table Top Mounting)

Standard-model

- Reference through hole (View from the bottom of the base)
- Ø10 eyebolt (for Cables)

Cleanroom-model

- Reference through hole (View from the bottom of the base)
- Ø10 eyebolt (for Cables)

Specifications:

- CE compliant, ANSI/RIA15.06-1999
- Home-return-less
- ±0.005 deg
- ±0.01 mm
- 45° at shipment
- Ø39.5 mechanical stop diameter
- Ø8.5 eyebolt
- Ø4, Ø90°(100) for Cables

Dimensions:

- Model G10/20-85**
  - Outer Dimensions
  - Ø20 h7 shaft diameter
  - Ø39.5 mechanical stop diameter
  - Max.Ø18 through hole

- Model G20-AP***
  - Ø24 h7 shaft diameter
  - Ø35 h8 mechanical stop diameter
  - Max.Ø16 through hole

- Model G10-65**
  - Ø28 h7 shaft diameter
  - Ø35.5 h8 mechanical stop diameter
  - Max.Ø16 through hole

- Model G10-85**
  - Ø30 h7 shaft diameter
  - Ø37 h8 mechanical stop diameter
  - Max.Ø16 through hole

- Model G20-A0***
  - Ø32 h7 shaft diameter
  - Ø38 h8 mechanical stop diameter
  - Max.Ø16 through hole

- Model G10-85***
  - Ø34 h7 shaft diameter
  - Ø40 h8 mechanical stop diameter
  - Max.Ø16 through hole
Standard-model

Cleanroom-model

Motion Range (Ceiling Mounting)

Motion Range (Wall Mounting)
LS series SCARA robot

LS3

Simplicity, reliability, and performance for easy process automation

- Small footprint with a big working area
- 400mm arm length

**LS3 specifications**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arm length</td>
<td>400 mm</td>
</tr>
<tr>
<td>Payload</td>
<td>Rated 1 kg / Max 3 kg</td>
</tr>
<tr>
<td>Standard cycle time</td>
<td>0.45 sec</td>
</tr>
<tr>
<td>Repeatability</td>
<td>Joint #1, #2 ±0.01°</td>
</tr>
<tr>
<td></td>
<td>Joint #4 ±0.01 mm</td>
</tr>
</tbody>
</table>

**Specifications**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>LS3-401*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motion Range</td>
<td>400 mm</td>
</tr>
<tr>
<td>Max. operating speed</td>
<td>6000 mm/s</td>
</tr>
<tr>
<td>Weight (cables not included)</td>
<td>1100 mm/s</td>
</tr>
<tr>
<td>Repeatability</td>
<td>Joint #4 ±0.01°</td>
</tr>
<tr>
<td>Max. motion range</td>
<td>±132 deg</td>
</tr>
<tr>
<td>Payload</td>
<td>Rated 1 kg / Max 3 kg</td>
</tr>
<tr>
<td>Standard cycle time</td>
<td>0.45 sec</td>
</tr>
<tr>
<td>Joint #4 allowable moment of inertia</td>
<td>±141 deg</td>
</tr>
<tr>
<td>Motor power consumption</td>
<td>200 W</td>
</tr>
</tbody>
</table>

**Outer Dimensions (Table Top Mounting)**

Standard-model

- Standard-model Cleanroom-model
- Outer Dimensions
- Table Top Mounting

Cleanroom-model

- Standard / Cleanroom

**Motion Range (Table Top Mounting)**

- LS3-401*
LS series SCARA robot

LS6

Simplicity, reliability, and performance with added reach and payload capacity

- Ideal for multi-effector, multi-workpiece handling of payloads up to 6kg
- 600mm arm length

**LS6 specifications**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Standard-model</th>
<th>Cleanroom-model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arm length</td>
<td>600 mm</td>
<td>700 mm</td>
</tr>
<tr>
<td>Payload</td>
<td>Rated 2 kg / Max 6 kg</td>
<td>Rated 2 kg / Max 6 kg</td>
</tr>
<tr>
<td>Standard cycle time</td>
<td>0.42 sec</td>
<td>0.44 sec</td>
</tr>
</tbody>
</table>

**Repeatability**

- Joint #1, #2: ±0.02 mm
- Joint #4: ±0.01°

**Specifications**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Standard-model</th>
<th>Cleanroom-model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arm length</td>
<td>600 mm</td>
<td>700 mm</td>
</tr>
<tr>
<td>Payload</td>
<td>Rated 2 kg / Max 6 kg</td>
<td>Rated 2 kg / Max 6 kg</td>
</tr>
<tr>
<td>Standard cycle time</td>
<td>0.42 sec</td>
<td>0.44 sec</td>
</tr>
<tr>
<td>Repeatability</td>
<td>Joint #1, #2: ±0.02 mm</td>
<td>Joint #4: ±0.01°</td>
</tr>
<tr>
<td>Repeatability</td>
<td>Joint #4: ±0.01°</td>
<td></td>
</tr>
</tbody>
</table>

**Motion Range (Table Top Mounting)**

- Ideal for multi-effector, multi-workpiece handling of payloads up to 6kg
- 600mm arm length

**Outer Dimensions (Table Top Mounting)**

- Standard-model
- Cleanroom-model

- Includes the stroke margin by mechanical stop.
- Space for Cables

**Ideal for multi-effector, multi-workpiece handling of payloads up to 6kg**

**600mm arm length**

**Simplicity, reliability, and performance with added reach and payload capacity**
# RS3 specifications

<table>
<thead>
<tr>
<th>Arm length</th>
<th>350 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Payload</td>
<td>Rated: 1 kg / Max: 3 kg</td>
</tr>
<tr>
<td>Standard cycle time</td>
<td>0.34 sec</td>
</tr>
<tr>
<td>Repeatability</td>
<td>Joint #1, #2 ±0.01 mm</td>
</tr>
<tr>
<td></td>
<td>Joint #4 ±0.01°</td>
</tr>
</tbody>
</table>

## Specifications

<table>
<thead>
<tr>
<th>Arm length</th>
<th>350 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Payload</td>
<td>Rated: 1 kg / Max: 3 kg</td>
</tr>
<tr>
<td>Standard cycle time</td>
<td>0.34 sec</td>
</tr>
<tr>
<td>Repeatability</td>
<td>Joint #1, #2 ±0.01 mm</td>
</tr>
<tr>
<td></td>
<td>Joint #4 ±0.01°</td>
</tr>
</tbody>
</table>

## Motion Range (Ceiling Mounting)

### Model

<table>
<thead>
<tr>
<th>Model</th>
<th>RS3-351*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arm #1 length</td>
<td>175 mm</td>
</tr>
<tr>
<td>Arm #2 length</td>
<td>175 mm</td>
</tr>
<tr>
<td>Joint #1 motion range</td>
<td>±225 deg</td>
</tr>
<tr>
<td>Joint #2 motion range</td>
<td>±225 deg</td>
</tr>
<tr>
<td>Joint #3 motion range</td>
<td>±225 deg</td>
</tr>
<tr>
<td>Joint #4 motion range</td>
<td>±225 deg</td>
</tr>
</tbody>
</table>

*Specifications are based on model type. Other specifications are optional for maximum speed.

**When installed on a vertical wall, the upper limit of the arm length is limited to 300 mm.

---

**A unique rotating arm mechanism for unparalleled freedom of movement**

- **Outstanding productivity in limited space**
- **Ceiling mount and rotating arm enable workpiece to be accessed from any direction**

---

**RS3 series SCARA robot**

---

**Smart**

---

**6-axis robots**

---

**Robot options**

---

**System options**

---

**6-axis robots**
### RS4 Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>RS4-551*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arm length</td>
<td>550 mm</td>
</tr>
<tr>
<td>Payload</td>
<td>Rated 1 kg / Max 4 kg</td>
</tr>
<tr>
<td>Standard cycle time</td>
<td>0.38 sec</td>
</tr>
<tr>
<td>Repeatability</td>
<td>Joint #1, #2: all ±0.01 mm, Joint #4: ±0.01°</td>
</tr>
</tbody>
</table>

### Specifications

- **Arm length**: 550 mm
- **Payload**: Rated 1 kg / Max 4 kg
- **Standard cycle time**: 0.38 sec
- **Repeatability**: Joint #1, #2: all ±0.01 mm, Joint #4: ±0.01°

### Motion Range (Ceiling Mounting)

#### Model

<table>
<thead>
<tr>
<th>Model</th>
<th>RS4-551*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arm #1 Length(mm)</td>
<td>275</td>
</tr>
<tr>
<td>Arm #2 Length(mm)</td>
<td>275</td>
</tr>
<tr>
<td>Joint #1 Motion range(degree)</td>
<td>±225</td>
</tr>
<tr>
<td>Joint #2 Motion range(degree)</td>
<td>±225</td>
</tr>
</tbody>
</table>

#### Notes

- *When payload center of gravity is aligned with Joint #4 (Joint #4 is aligned with Joint #4, set parameters using INERTIA command).
- *2 Uses Class 2 ISO 14644-1 (Cleanroom model) Class 18 (less than 100,000 particles per 28,317 cm³: 1 cubic foot) or lower standards.

### Outer Dimensions (Ceiling Mounting)

#### Standard-model

- **Model**: RS4-551*
- **Arm #1 Length(mm)**: 550
- **Arm #2 Length(mm)**: 740
- **Joint #1 Motion range(degree)**: ±0.01
- **Joint #2 Motion range(degree)**: ±0.015
- **Joint #4 Motion range(degree)**: ±225

#### Cleanroom-model

- **Model**: RS4-551*
- **Arm #1 Length(mm)**: 550
- **Arm #2 Length(mm)**: 740
- **Joint #1 Motion range(degree)**: ±0.01
- **Joint #2 Motion range(degree)**: ±0.015
- **Joint #4 Motion range(degree)**: ±225

### Details

- **RS series SCARA robot RS4**
- **A unique rotating arm mechanism for unparalleled freedom of movement**
- **Outstanding productivity in limited space**
- **Ceiling mount and rotating arm enable workpiece to be accessed from any direction**
2827

The leading edge in 6-axis robots for high-precision, small-component assembly

- Large working area; robot occupies only 1/44 of workcell
- Low clearance requirements for more flexible workcell layout
- Smooth action; able to access workpiece from virtually any angle

### C3 specifications

<table>
<thead>
<tr>
<th></th>
<th>Payload</th>
<th>Rated 1 kg / Max 3 kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard cycle time</td>
<td>0.37 sec</td>
<td></td>
</tr>
<tr>
<td>Repeatability</td>
<td>±0.02 mm</td>
<td></td>
</tr>
</tbody>
</table>

### Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>C3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mounting type</td>
<td>Table Top</td>
</tr>
<tr>
<td>Max. horizontal movement</td>
<td>665 mm</td>
</tr>
<tr>
<td>Max. vertical movement</td>
<td>450°/s</td>
</tr>
<tr>
<td>Max. rotation movement</td>
<td>553°/s</td>
</tr>
<tr>
<td>Max. operating speed</td>
<td>720°/s</td>
</tr>
<tr>
<td>Max. payload</td>
<td>1 kg</td>
</tr>
<tr>
<td>Max. moment of inertia</td>
<td>0.15 kgm²</td>
</tr>
<tr>
<td>Motor power consumption</td>
<td>400 W</td>
</tr>
</tbody>
</table>

### Outer Dimensions

![Outer Dimensions Diagram](image)

### Motion Range

![Motion Range Diagram](image)
### 6-axis robot

**S5**

S5 specifications

- **Payload**: Rated 2 kg / Max 5 kg
- **Standard cycle time**:
  - 0.44 sec (S5-A701)
  - 0.49 sec (S5-A901)
- **Repeatability**:
  - ±0.02 mm (S5-A701)
  - ±0.02 mm (S5-A901)

### Specifications

<table>
<thead>
<tr>
<th>Joint #</th>
<th>Maximum</th>
<th>±150 deg</th>
<th>±190 deg</th>
<th>±360 deg</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>5 kg</td>
<td>5 kg</td>
<td>5 kg</td>
<td></td>
</tr>
<tr>
<td>#2</td>
<td>5 kg(7 kg with arm downward positioning)</td>
<td>5 kg</td>
<td>5 kg</td>
<td></td>
</tr>
<tr>
<td>#3</td>
<td>50 W</td>
<td>200 W</td>
<td>50 W</td>
<td></td>
</tr>
<tr>
<td>#4</td>
<td>400 W</td>
<td>400 W</td>
<td>400 W</td>
<td></td>
</tr>
<tr>
<td>#5</td>
<td>50 W</td>
<td>50 W</td>
<td>50 W</td>
<td></td>
</tr>
<tr>
<td>#6</td>
<td>50 W</td>
<td>50 W</td>
<td>50 W</td>
<td></td>
</tr>
</tbody>
</table>

### Motion Range

- **Joint #1**
  - Top View: 0°
  - Lateral View: 0°
  - Front View: 0°

### Outer Dimensions

<table>
<thead>
<tr>
<th>Model</th>
<th>A701</th>
<th>A901</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Top View</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lateral View</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Front View</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note**: Values are based on model A701 with Set 1 (magenta), 50W motor for Set 2. Data varies with the optional parts and axes selected for maximum speed.

*When model A901 is aligned with Joint #4, it is aligned with a PMT01 set, assuming using ACorda controller.*

*Example with SISO Class 1 (SISO01M-A) and Class 3 (SISO03M-A) for maximum performance.*

*Contact is made with a 45° contact of J4/J5/J6.*

*Protective type of cover plug of SCR type.*
**Robot controllers**

**RC620/RC180/RC90**

- **PC workcell controller**
  - Controller with built-in PC
  - Multi-effector control
  - General device control
  - High-speed conveyor tracking

**RC180/RC90**

- **RC180 compact controller**
  - RC90 controller dedicates LS series controller
  - Full PLC functionality
  - No need to set IP address when connecting via Ethernet or USB
  - Fits easily inside most control panel boxes (SCARA controller: approx. 1.0 l volume; 6-axis controller approx. 1.1 l volume)

**System capabilities**

- Multi-effector control
- Open architecture
- GUI development
- TPI (teaching pendant)
- Image processing (monochrome)
- PLC
- Fieldbus I/O
- USB 2.0 or Ethernet
- CP motion: Programmable at user-defined acceleration/deceleration speeds
- PTP motion: Programmable in the range of 1 to 100%; auto-control

**Shared features**

- All controllers feature a USB interface for easy backup of control programs and error logs

**Specifications**

<table>
<thead>
<tr>
<th>Model</th>
<th>RC620</th>
<th>RC180</th>
<th>RC90</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Controller type</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Windows®</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fieldbus I/O</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slave</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DeviceNet</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PROFIBUS-DP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC-Link</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EtherNet/IP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Communication interface</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>External control</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Robot manipulator</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control software</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Language and Robot Programming</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPSON RC+ 5.0 (a multi-tasking robot language)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Controllable axes</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCARA robots 6-axis robots</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Controlling axis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CP motion: 1 unit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PTP motion: 1 unit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>External control</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Safety features</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emergency stop switch</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low power mode</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relay welding detection</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AC power low-voltage detection</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safety door emergency stop</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overheat detection</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fan error detection</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Encoder cable disconnection error detection</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Irregular torque detection</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Specifications</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>RC620</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>RC180</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>RC90</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Outer Dimensions</strong> (Unit: mm)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Power specifications</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Caution</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.5 kg</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.5 kg</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13.0 kg</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Robot controller options

A wide range of controller options can be employed to further expand the variety of process tasks that you can automate.

Vision Guide
Advanced machine vision systems with user-friendly software for easy program development
- Built-in image processing engine assists vision-to-robot calibration, making it much easier to align the robot's coordinate system with the camera's field of view.
- Simple setup—only a camera and controller are needed.
- Advanced pattern matching and geometric search tools enable easy solution program development without writing a single line of code.

Teach Pendant TP1
Versatile control with just a few keystrokes
- IP65-rated enclosure is sealed against oil and dust for reliable operation in adverse conditions.
- Shock-resistant construction helps protect unit from impact damage.
- Universal design ensures ease of use for both right-handed and left-handed operators.
- Connects directly to operator unit or controller interface card (interface is built-in on RC180/RC620 controllers). Menus can be displayed in English, German, French, or Japanese.

Teaching Pendant TP2
Easy-to-use pendant for teaching
- Universal design ensures ease of use for both right-handed and left-handed operators.
- Connects directly to operator unit or controller interface card.

Conveyor tracking
Precision tracking for high-productivity pick-and-place operation
- Vision system with Vision Guide software detects workpiece for pick-and-place handling. Multi-conveyor, multi-effector setups are supported.
- Can automate manual kitting/packaging tasks and help maintain productivity regardless of continuous/intermittent conveyor operation. Can also be used for workpiece assembly.
- Simple start/stop program execution

PG motion system
Control peripheral robots for fully integrated process automation
- EPSON RC+ software and pulse generator (PG) cards enable control of multiple third-party drives and motors.
- PG robots and standard EPSON RC+ system robots can be operated simultaneously, and controlled using the same commands.
- PG cards can be used to control X/Y tables, sliders, turrets, and a wide range of other production/inspection line peripherals.
- Each PG card has 4 channels, and can support from 1 to 4 robots. Up to 4 cards can be mounted.

DVD drive
The convenience of a built-in DVD multi-drive
- The RC620 controller is equipped with a DVD drive* for easy program installation and data recording.

CPU choice
Your choice of standard or high-speed CPU
- The RC620 is available in standard (Celeron® M, 1GB) and high-speed (Intel® Core™ Duo, 2GB) configurations.*
  - High-speed configuration recommended for Visual Basic program development.

Option unit
Interface cards expand your system options
- Each option unit holds 2 interface cards; up to 2 option units can be mounted (4 interface cards total).

RAID support for enhanced backup data integrity
- RAID support for high-integrity data backup.
- Requires RC620 controller with high speed CPU.

Memory expansion
Give your controller a memory boost
- Standard CPU memory can be increased from 512MB to 1GB; high-speed CPU memory can be increased from 1GB to 2GB.

Easy connectivity and touchscreen control
- Controller and error status display.
- Oil- and dust-resistant construction
- Simple start/stop program execution.

Fieldbus I/O (slave)
High-speed peripheral connectivity
- Support for DeviceNet®, PROFINET®, CC-Link®, and PROFIBUS® networked peripherals (1024-point I/O).

Fieldbus I/O (master)
Bidirectional high-speed peripheral connectivity
- Support for DeviceNet®, PROFINET®, and Ethernet/IP® networked peripherals (1024-point I/O).

I/O cable kit
Cables and connectors for easy connectivity with no soldering required
- A wide range of I/O cables and connectors are available.

Compatible controllers
- RC620
- RC90
- RC180
- RC180/RC620
- RC90/RC620
- RC620 controller with high-speed CPU
- RAID support for high-integrity data backup
- Requires RC620 controller with high speed CPU
- RAIDX option
- RC90 controller includes 2 interface cards as a factory default option
- Each option unit holds 2 interface cards; up to 2 option units can be mounted (4 interface cards total).
- RAID option
- RAID support for enhanced backup data integrity
- Requires RC620 controller with high speed CPU
- Memory expansion
- Give your controller a memory boost
- Standard CPU memory can be increased from 512MB to 1GB; high-speed CPU memory can be increased from 1GB to 2GB.
- Easy connectivity and touchscreen control
- Controller and error status display.
- Oil- and dust-resistant construction
- Simple start/stop program execution.

Compatible controllers
- RC620
- RC90
- RC180
- RC180/RC620
- RC90/RC620
- RC620 controller with high-speed CPU
- RAID support for high-integrity data backup
- Requires RC620 controller with high speed CPU
- RAIDX option
- RC90 controller includes 2 interface cards as a factory default option
- Each option unit holds 2 interface cards; up to 2 option units can be mounted (4 interface cards total).
- RAID option
- RAID support for enhanced backup data integrity
- Requires RC620 controller with high speed CPU
- Memory expansion
- Give your controller a memory boost
- Standard CPU memory can be increased from 512MB to 1GB; high-speed CPU memory can be increased from 1GB to 2GB.
- Easy connectivity and touchscreen control
- Controller and error status display.
- Oil- and dust-resistant construction
- Simple start/stop program execution.
Epson’s long experience in factory automation enables us to offer a wide array of easy-to-use software programs to help you achieve maximum productivity with minimum programming overhead.

**Software options**

**Robots can be controlled using Visual Basic®, Visual C®, LabVIEW™, and other third-party programming languages.**

**Robot status and variable values can be captured.**

**Third-party Visual Basic interface and database design tools can also be used for program development.**

The following EPSON RC+ windows and dialogs can be called from within a Visual Basic application:

- Robot Manager
- I/O Monitor
- Task Manager
- Maintenance Dialog

Epson’s long experience in factory automation enables us to offer a wide array of easy-to-use software programs to help you achieve maximum productivity with minimum programming overhead.

**Program and execute robot applications in a familiar Windows® OS environment**

- Robots can be controlled using Visual Basic®, Visual C®, LabVIEW™, and other third-party programming languages.
- Robot status and variable values can be captured.
- Third-party Visual Basic interface and database design tools can also be used for program development.
- The following EPSON RC+ windows and dialogs can be called from within a Visual Basic application:
  - Robot Manager
  - I/O Monitor
  - Task Manager
  - Maintenance Dialog

- **Basic application:**
  - Robot Manager
  - I/O Monitor
  - Task Manager
  - Maintenance Dialog

**Easily create custom interfaces for your control programs**

- Quickly and easily create control program custom interfaces that can take the place of dedicated PLCs and display devices.
- Full-featured toolset is easy to understand and use.
- Enables simple GUI creation without using Visual Studio or other third-party software tools.
- Makes it easy to build a graphical user interface, even if you’ve never built one before.

**Restrict user access to programming functions for greater safety and security**

- Password-based protection levels can be set to restrict access to some parts of the EPSON RC+ system.
- Helps prevent accidental or unauthorized alteration of control programs when multiple operators need to have access to basic controls.

**Force-sensing**

Integrated force-sensing technology for real-time force control

- Allows you to easily integrate force-sensing capability into your control programs.
- Force/torque values can be set for just one axis, or all six.
- Trigger values can be set to stop robot motion when a specific force level is reached.
- Up to two sensors can be mounted; data from sensors can be shared by multiple programs.

*ATI Industrial Automation, Inc. force/torque components must be purchased separately.

**OCR**

Optical character recognition of text on parts and labels

- For use with optional Vision Guide software.
- Enables you to specify the font, font size, and number of characters of text that you want to read from an image.
- A font creation function lets you create SEMI fonts and user-defined fonts from imaged characters or ASCII conversion files.
Epson robot end effector options provide the enhanced functionality and configuration flexibility you need for full-process automation.

**External wiring units**

- Enables easy, on-site connection of external wiring by users.
- Ideal for connecting Vision Guide system camera cables or other wiring.

**Tool adapters**

- Enhances handling/processing versatility and simplifies effector changes.

**Brake release units**

- Enables brake release so robot arm can be moved by hand when power is switched off.

**Power and signal cables**

- Standard 3m cables, or optional 5m and 10m cables for greater freedom in controller and robot placement.

**Camera mounting bracket**

- Securely mount machine vision system camera to robot arm.

**RC620DU drive unit**

- A multi-effector drive unit to increase the number of robots that can be controlled with a single RC620 controller.
EPSON RC+ program development software

SPEL+ language support

Epson industrial robots use an easy-to-learn programming language that makes it simple to set up complex, multitask workflows.

Example program

```spele
Function main
   Motor On: Motor power on
   Power High: Power mode high
   Speed 100: Speed 100%
   Accel 100, 100: Acceleration 100%
   Jump P1 : Move the effector to point 1
   Jump P0 : Move the effector to point 0
   If Sw(o) = On Then:
      Accel 100, 100: Acceleration 100%
      Power High: Power mode high
      Motor On: Motor power on
      EndIf
   End
EndFunction
```

Easy alignment with palletized parts

If parts are arranged in a square layout, spaced at regular intervals, the PALLET command can be used to quickly and precisely position the end effector.

Multitasking function

With Epson’s programming language, even complex multitask processes can be automated with ease. Up to 32 individual tasks can be seamlessly executed and controlled by a single program. $12$-channel input/output expandability, Vision Guide machine vision, and pulse generator control of peripheral equipment can all be utilized to achieve full process automation.

High-speed, high-precision, 3D continuous path control

All Epson robot systems offer the fast, precise, three-dimensional continuous path (CP) control needed for high-productivity coating and sealant application processes. Advanced linear interpolation, arch interpolation, and free curve motion enable precise effector control, and simple PASS commands can be used to evade obstacles within the workcell space. Programmed paths can reference either a tool-centered control point or an external control point.

High-repeatability with varying payloads and effector orientation

Once the operator has set workpiece and effector weight, weight range, and effector orientation, acceleration is automatically adjusted to reduce residual vibration and ensure high repeatability.

Positioning completion time control for maximum efficiency

A time limit can be set for the completion of effector positioning to enable the next instruction to be executed even if the target point has not been reached. This allows you to maximize your yield by prioritizing takt (cycle) time over precision, or vice versa, according to the nature of the work to be done.

3D jump with variable arch for ultra-precise short-distance movement

EPSON SCARA and ProSix robots all support JUMP command movements in three-dimensional space, and the arch described by the approaching and departing effector can be set to suit the work environment. Deceleration/acceleration of the approaching or departing head can be regulated without interrupting operation, ensuring smooth, precise, short-distance motion that helps improve cycle time and product quality stability.

Parallel processing for higher speed and efficiency

Parallel processing enables you to control peripheral devices while the robot arm is in motion. Commands can be sent via RS-232C or any other supported I/O interface to ensure synchronized control of multi-device processes for maximum throughput efficiency.

Operating speed and acceleration/deceleration settings

Operating speed and acceleration/deceleration of the arm can be set in 100 steps.

- PTP motion
  - Maximum point-to-point speed is set as a percentage relative to the maximum acceleration speed. Ascent and descent speeds can also be set.
- CP motion
  - For continuous path motion, maximum effector speed ranges up to 1120mm/s, and maximum acceleration/deceleration speed ranges up to 5000mm/s.

Teaching Methods

- Remote Teaching
  - Points are taught using the jog keys on the teaching unit to move the effector to the target. This method is especially useful for operations that require very high precision because the jog keys allow adjustment in units as small as the resolution of each axis.
- Direct Teaching
  - Points are taught by disengaging the motor of each axis and moving the effector to the target by hand. (Direct teaching is not supported by ProSix 6-axis robots.)
- MDI Teaching
  - Points are taught by inputting predetermined coordinate values without moving the arm.

Simulator

3D imaging of robot operation makes it easy to optimize workcell layout and parameters on a PC

Workcell layout analysis

3D imaging of robot operation makes it easy to determine workcell space requirements. Allows import of CAD data for pallets and hands. Still images and movies of simulated operation can be easily added to presentation materials.

Interference checking

Interfering objects are shown in red for easy identification in advance of your PC.

Productivity forecasting

Takt time can be confirmed in advance by running actual operating programs in the simulator.

Debugging function

Peripheral equipment data input/output can be debugged in the simulator’s virtual environment. After debugging, operating programs are fully ready for real-world deployment.
With Epson industrial robots, you get the highest standards of safety and reliability and the support of a global sales and service network.

At Epson, we continue to draw on the strengths of our global network to provide customers with the tools they need to automate manufacturing processes and achieve higher productivity. By creating the world’s most trusted and reliable industrial robots, we pledge to deliver the true customer value that is the hallmark of every Epson product.

- Top-quality service and support worldwide

Our global network of sales and service centers is firmly dedicated to maintaining a consistently high level of product and service quality in every region. For products under warranty, we offer on-site assistance to deal with any malfunctions or problems*1, and through our authorized sales and service representatives we offer warranty coverage for machines that are later moved to other locations*2, assuring top-quality support wherever you are.

*1 Standard warranty limitations apply.
*2 Contact local sales and service representatives for details.