Product Overview

IAI ROBOT LINEUP
Industrial Automation Robots

Newest addition to series

Available now!

- Mini Rod Type
- Mini Table Type
- High Rigidity Slider Type
- Radial Cylinder Type
- High Rigidity Radial Cylinder type
- Waterproof Specification

Solenoid Gripper & Long stroke Gripper

Available now!

Rotary Chuck
Hollow Rotary
Long stroke Gripper
Solenoid Gripper

Hollow Rotary & Rotary Chuck

Coming soon!

Hollow Rotary
Rotary Chuck

www.IntelligentActuator.com
Advancing into a NEW ERA switching Air to ELECYLINDER
Designed to move between two points just like Air Cylinder
Speed / Acceleration / Deceleration can be set in just 5 minutes.

ELECYLINDER SERIES

RCP6(S) STEPPER MOTOR SERIES MOTOR STRAIGHT TYPE

- Built-in Controller Type (RCP6S) is available

- Simple model selection & operation
- Start and end points can be set at any value.
- A (Acceleration), V (Velocity), D (Deceleration), A.V.D. can be adjusted individually.
- Low cost & long service life.

Next Generation ROBO Cylinder® RCP6 & RCS4
From an abundant lineup of 210 total models, Equipped with high-resolution battery-less absolute encoder as standard

RCP6(S) STEPPER MOTOR SERIES SIDE-MOUNTED MOTOR TYPE

- Built-in Controller Type (RCP6S) is available

Improved positioning repeatability: ±10µm (Standard Type), ±5µm (High-Precision specification).
Cleanroom and Dust/Splash-Proof specification series available.

RCS4 AC SERVO MOTOR SERIES MOTOR STRAIGHT TYPE /SIDE-MOUNTED MOTOR TYPE

Servo Press Compatible ROBO Cylinder®
with Load Cell
The high-precision position control enables easy adjustment of the push force and the position control, compact and low-thrust rod type actuator that can even be used for simple pressing typically difficult for hydraulic equipment. 8 types from a range of 20N-50,000N are available.

Wrist Unit
IAI’s unique design makes the parts light and compact.
Low cost compared to 6-axis articulated robots.
Orthogonal axes and interpolation commands are possible.

Loading repeatability is ±0.5%. Supports traceability.
Setting is easy by using a dedicated software.
Newly developed 3kW motor driver achieved Max. Thrust of 5t and Max. Speed of 220mm/sec.
ROBO Cylinder®

These affordable, highly precise and highly rigid actuators have 1/5th the running cost of a pneumatic system.

ROBO Cylinder® is high-performance electric actuator equipped with a ball screw, linear guide, and servo motor. These next-generation actuators have multi-point positioning capability as well as the ability to change speed and acceleration, unlike anything seen with air cylinders.

- Battery-less absolute encoder as standard equipment.
- By using a PowerCON, it has 1.5 times higher speeds and double the payload compared to traditional models.

- A high push force is achieved utilizing the characteristics of stepper motors.
- An abundance of sizes and variations is available to meet a wide range of applications.

- Equipped with a servo motor, these actuators support high loads and long strokes.
- When an XSEL controller is used, you can combine three or more axes.
- Compatible with DeviceNet, CC-Link, and other field networks.

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**RCP5 SERIES**
- Radial Load OK
- Slider Type
- Rod Type [Radial Cylinder]
- Side-mounted Motor Type
- Belt Type

**RCP4 SERIES**
- Radial Load OK
- Slider Type
- Rod Type [Radial Cylinder]
- Side-mounted Motor Type
- Stopper Cylinder RCP4-ST

**RCP3 SERIES**
- Table Type
- Slider Type
- Rod Type
- Belt Type

**RCP2 SERIES STEPPER MOTOR TYPE WITH HIGH PERFORMANCE**
- Table Type
- Slider Type
- Rod Type
- Belt Type

**RCP4/RCP2/RCD GRIPPER**
- Rod Type
- High Thrust Type
- Short Body Type with Guide
- Vertical Type
- Ultra-compact Type

**RCP6-GRT THIN GRIPPER**
- Flat Type
- Small type
- GRT-7A
- GRT-7B
- Equipped with a Battery-less Absolute Encoder.
- Flat Shape with height of 39mm
- High Rigidity.

**RCA2 SERIES**
- Table Type
- Slider Type

**RCA SERIES 24V SERVO MOTOR TYPE**
- Rod Type
- Side-mounted Motor Rod Type

**ERC3 SERIES CONTROLLER INTEGRATED TYPE**
- Slider Type
- Simple Dust-proof Type
- Rod Type

**RCS3 SERIES**
- Aluminum-base Type
- Steel-base Type
- High-speed Slider Type RCS3-CT8C
- High-speed Table Type RCS3-CTZ8C

**RCS2 SERIES 100V/200V SERVO MOTOR TYPE**
- Slider Type
- Side-mounted Motor Slider Type
- Slim Rod Type
- Ultra-high-thrust Rod Type
- Rod Type with Guide
- Large Diameter Hollow Rotary Type
# Mini ROBO Cylinder®

Next-generation electric actuators, the solution for space constrained applications

<table>
<thead>
<tr>
<th>RCP3 MINI SLIDER TYPE</th>
<th>RCP3 MINI ROD TYPE</th>
<th>RCA2 MINI SLIDER TYPE</th>
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<tbody>
<tr>
<td>Motor Coupled Type</td>
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<td>Motor Coupled Type</td>
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<tr>
<td>Side-mounted Motor Type</td>
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</tbody>
</table>

- Replacement is simple with the coupled type motor.
- You can choose from the straight type (motor coupled type) and the side-mounted motor type.

<table>
<thead>
<tr>
<th>RCA2/RCS2 MINI ROD TYPE</th>
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</thead>
<tbody>
<tr>
<td>Short Nut-mounting Type</td>
<td>Short Tapped-hole Mounting Type</td>
<td>Short Slide Unit Type with Double Guides</td>
</tr>
<tr>
<td>Short Free Mounting Type with Single Guide</td>
<td>Short Free Mounting Type with Double Guides</td>
<td>Motor Coupled Type</td>
</tr>
<tr>
<td>Short Free Mounting Type with Double Guides</td>
<td></td>
<td>Side-mounted Motor Type</td>
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</tbody>
</table>

- You can choose between the slim motor coupled type and the short free mounting type, that has significantly reduced in length.
- You can choose between built-in guide type which allows for increased rigidity and straightness, or the external guide type which has significantly been reduced in size.

<table>
<thead>
<tr>
<th>RCA2/RCS2 MINI TABLE TYPE</th>
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</thead>
<tbody>
<tr>
<td>Short Compact Type</td>
<td>Short Flat Type</td>
</tr>
<tr>
<td>Short Wide Type</td>
<td>Motor Coupled Type</td>
</tr>
<tr>
<td>Short Flat Type</td>
<td>Side-mounted Motor Type</td>
</tr>
</tbody>
</table>

- The built-in guide allows the actuator to hold overhung loads.
- You can choose between the compact short type and the motor coupled type with longer stroke.

<table>
<thead>
<tr>
<th>RCD MINI CYLINDER</th>
<th>RCL MINI LINEAR SERVO TYPE</th>
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<tr>
<td>Ultra-compact Type</td>
<td>Micro Slider Slim Type</td>
</tr>
<tr>
<td></td>
<td>Micro Slider Long Stroke Type</td>
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<tr>
<td></td>
<td>Micro Cylinder Slim Type</td>
</tr>
</tbody>
</table>

- The smallest in the industry with a cross-section size of 12mm.
- The built-in encoder allows position control.

- By using linear motors, these actuators operate at a g-force (in speeds and acceleration force) of up to 2G.
- The slider and rod types are available. The slider-type has six different kinds based on size and stroke.
- The multi-slider type, which has two independently-working sliders installed on one axis, is available.
**Single-axis Robots**

Intelligent actuators with high-speed and high-transfer capabilities

- **Standard Type:** ISB
- **High-precision Type:** ISPB
- **High-rigidity Type (Steel-base):** SSPA
- **Simple Dust-proof Type:** ISDB/ISPDB
- **High-rigidity Belt-drive Type:** IF
- **Slim Belt-drive Type:** FS

- ISB/ISDB Series equipped with Battery-less Absolute Encoder as standard.
- ISB/ISDB Series equipped with 3x lead ball screw type is available.
- Many variations are available to meet diverse applications.
- The guide is integrated with the base for the linear actuators.

**Cleanroom Types**

Dedicated cleanroom types conforming to cleanliness class 10

- **Stepper Motor RCP6 (S) CR**
- **AC Servo Motor RCS4CR-SA**
- **AC Servo Motor RCS4CR-WSA**
- **Stepper Motor RCP5CR**
- **Stepper Motor RCP4CR**
- **Servo Motor RCACR**
- **Servo Motor RCS2CR/RCS3CR**
- **High-performance Type ISDBCR/ISPDBCR**
- **Anti-static Type ISDBC-R-ESD**
- **Gripper Type RCP2CR-GR**
- **Rotary Type RCP2CR-RT**

- SCARA Robot IXP-□C
- SCARA Robot IX-NNC
- Ultra-compact SCARA Robot IX-NNC
- Direct Drive Motor DDACR

- A well sealed structure allows it to achieve a cleanliness class 10.
- A wide variety of products are available, from ROBO Cylinder® all the way to single-axis actuators and SCARA robots.

**Splash-proof/Dust-proof Types**

These actuators offer protection conforming to IP54~IP67, and are a desirable solution when operated in adverse environments.

- **Stepper Motor Water proof/Dust proof Type EC-R6□W/RT□W**
- **Stepper Motor Radial Cylinder Type RCP6□W-RA**
- **Stepper Motor Radial Cylinder Type RCP6□W-RRA**
- **Stepper Motor Radial Cylinder Type RCP6□W-WRA**
- **Stepper Motor Slider Type RCP4W-RA**
- **Stepper Motor Slider Type RCP4W-SA**
- **Stepper Motor Slider Type RCP2W-RA**
- **Stepper Motor Rod Type RCP2W-RA**
- **Stepper Motor Rod Type RCP2W-WA**
- **Servo Motor Rod Type RCS2W-RA**
- **Gripper Type RCP2W-GR**
- **Rotary Type RCP2W-RT**
- **Slider Type ISWA/ISPWA**
- **SCARA Robot IXP-□W**
- **SCARA Robot IX-NNW**
- **Direct Drive Motor DDW**

- These actuators handle environments with extreme dust or water splashes.
- Many variations are available to meet diverse applications.
LSA Series Linear Servo Actuators
A full lineup of linear servo actuators to meet your needs
Maximum payload of up to 120kg and maximum strokes of up to 4m

- High-speed and high-precision are kept even at long strokes.
- Supports high accelerations of up to 3G and maximum speeds up to 2.5m/s.
- Multi-slider type and synchronized operation are also available.

IXA Series SCARA® Robots
Introducing the new SCARA Robot IXA!

- Fastest cycle times:
  - Standard cycle time: 0.26s (High speed type)
- Achieves a low price.
- Low vibration, accurate positioning
- Equipped with battery-less absolute encoder as standard.
- Mechanical structure / features.
- Standard type / High-speed type are available.

IXP Series PowerCON SCARA® Robots
All models come standard with battery-less absolute encoders

- All models come standard with battery-less absolute encoders.
- The encoder resolution has increased to 10 times that of the existing IXP.
- The cost of IXP is around half of the traditional models.
- Lighter than conventional models.
- The regular cycle time is about 60% shorter than conventional Cartesian robots.
- Added 3-axis specification, 4-axis with gripper specification.
- Equipped with optimal speed and acceleration/deceleration settings.

IX Series SCARA Robots
The IX SCARA robots feature high performance and functionality

- The compact size of the robot allows you to reduce the size of your production equipment.
- The rated payload of 0.2kg can be increased up to a maximum of 1kg.
- High-speed performance with a cycle time of 0.35sec.
TTA Series Tabletop Robots
Improved tabletop robots for cell productions, R&D applications, and more

Gate Type

- Every model equipped with battery-less absolute encoder as standard.
- AC Servo Motor specification added to the series.
- Max. payload: X-axis: 30kg  Z-axis: 15kg (AC servo motor), Max. speed: XY-axis: 1200mm/s  Z-axis: 40mm/s (AC servo motor)
- Improved positioning repeatability: ±0.005mm (AC servo motor) / ±0.01mm(Stepper motor spec)
- The SEL Program Generator eliminates the tedious work of program creation.

Cantilever Type

- Maximum payload: X-axis: 40kg  Z-axis: 15kg (AC servo motor), Max. speed: XY-axis: 1200mm/s  Z-axis: 40mm/s (AC servo motor)
- Improved positioning repeatability: ±0.005mm (AC servo motor) / ±0.01mm(Stepper motor spec)
- The SEL Program Generator eliminates the tedious work of program creation.

CT4 High-speed Cartesian Robots
High-speed cartesian robot that shortens assembly / inspection cycle times by operating at high speed, ensuring high rigidity, and demonstrating excellent straight moving performance.

- Maximum speed 2.5m/s, maximum acceleration/deceleration 3.2G.
- Acceleration is significantly improved (conventionally 0.3 ~ 1.0G) and standard cycle time is reduced by 32% compared to conventional cartesian robots.
- Rotational axis specification and pick & rotate specification are added to the series.

DDW, DDA Direct Drive Motors
High speed/payload/precision, easy control, and compact:
A direct drive motor that achieved high cost-performance.

- Positioning repeatability ±0.00103 degree (±3.7s), Index accuracy ± 0.00833 deg (±30s) with SCON-CB & High resolution type (DDA)
- Maximum speed of 1,800°/s and acceleration/deceleration of 6.0G can make faster positioning time possible (DDA)

Cartesian Robots
Pre-configured cartesian robots that reduce installation and setup times

ICS(P)B2/ICS(P)A2 2-AXIS CONFIGURATION

- Y-axis Base Mount XYB
- Y-axis Slider Mount XYS
- Z-axis Upright Mount XZ
- Z-axis Slider Mount YZS

ICSB3/ICSPB3 3-AXIS CONFIGURATION

- Y-axis Base Mount XYB+ZB
- Y-axis Slider Mount XYS+ZS
- Z-axis Upright Mount XZ+YS
- Z-axis Base Mount XYG+ZB

ICS(P)A4 4-AXIS CONFIGURATION

- Y-axis Side Base Mount XYB+ZRB
- Y-axis Multi-Slider YXMB
- X-axis Multi-Slider ZYMB+ZB
- X-axis Multi-Slider ZMYB+ZS

ICSPA6 6-AXIS CONFIGURATION

- Y-axis Base Mount Type XYB
- Z-axis Base Mount Type ZYB
- X-axis Side Base Mount Type XMYB+ZB
- Y-axis Side Base Mount Type XYB+ZR

IK series 2-4 AXIIS CONFIGURATION

- Y-axis Base Mount Type XYB
- Z-axis Base Mount Type ZYB
- Z-axis Side Base Mount Type ZMYB+ZR (Vertical/Rotation) Type XYB + ZR unit

- Many variations are available to support 2 to 6-axis configurations.
- The multi-slider types (ICSPA4/ICSP6) let you reduce space and cycle time.
- Also available are models with rotational axis(es) additions.
- Any models can be customized to meet your specific needs.
- High resolution Battery-less Absolute Encoder is available.
Controllers
A wide variety of operational patterns to fit your specific needs

**Controllers**

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<td>EtherCAT</td>
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**Power Supply**
Low-cost DC24V power supply ideal for powering actuators

- **PS-24**
  - Safely accelerate an output actuator at a maximum momentary current of 17A.
  - Up to five units can be operated parallel to one another.
  - The load factor detection function lets you monitor the load condition of the unit.

**Teaching Pendants**
Programming points have never been easier
Compatible with Safety Category

- **Touch Panel Teaching Pendant for Controllers**
  - TB-02

- **Touch Panel Teaching Pendant with wireless data setting function for EC**
  - TB-03

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The information contained in this product brochure may change without prior notice due to product improvements.

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