Product Overview

IAI ROBOT LINEUP
Industrial Automation Robots

www.IntelligentActuator.com
Next Generation ROBO Cylinder® RCP6

From an abundant lineup of 92 total models, you can find one that is most suitable for your needs.

RCP6(S) SERIES MOTOR STRAIGHT TYPE *Built-in Controller Type (RCP6S) is available

- Slider Type RCP6-SA
- Wide Slider Type RCP6-WSA
- Rod Type RCP6-RA
- Wide Radial Cylinder Type RCP6-WRA
- Table Type RCP6-TA
- Radial Cylinder type RCP6-RRA

RCP6(S) SERIES SIDE-MOUNTED MOTOR TYPE *Built-in Controller Type (RCP6S) is available

- Slider Type RCP6-SA
- Wide Slider Type RCP6-WSA
- Rod Type RCP6-RA
- Wide Radial Cylinder Type RCP6-WRA
- Table Type RCP6-TA
- Radial Cylinder type RCP6-RRA

Servo Press Compatible ROBO Cylinder® with Load Cell

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

- Loading repeatability is ±0.5%.
- Variety of product groups: 8 models in the lineup.
- 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.

- Equipped with high-resolution battery-less absolute encoder as standard.
- Improved positioning repeatability: ±10µm (Standard Type), ±5µm (High-Precision specification).
- PowerCON compatible.
- Built-in Controller (RCP6S) can be selected for every type.
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.

Shaped similar to a rod-type air cylinder, these actuators accept various mounting brackets that are used on air cylinders.
- Three motor installation methods are available to choose from.
- An optional home check sensor can be set.

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.
**Mini ROBO Cylinder®**

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

**RCP3 MINI SLIDER TYPE**
- Motor Coupled Type
- Side-mounted Motor Type

**RCP3 MINI ROD TYPE**
- Motor Coupled Type
- Side-mounted Motor Type

**RCA2 MINI SLIDER TYPE**
- Motor Coupled Type
- Side-mounted Motor Type

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

**RCA2/RCS2 MINI ROD TYPE**
- Short Nut-mounting Type
- Short Tapped-hole Mounting Type
- Short Free Mounting Type with Single Guide
- Short Free Mounting Type with Double Guides
- Short Slide Unit Type with Double Guides
- Motor Coupled Type
- Side-mounted Motor Type

- 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.

**RCA2/RCS2 MINI TABLE TYPE**
- Short Compact Type
- Short Wide Type
- Short Flat Type
- Motor Coupled Type
- Side-mounted Motor Type

- 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.

**RCD MINI CYLINDER**
- Ultra-compact Type

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

**RCL MINI LINEAR SERVO TYPE**
- Micro Slider Slim Type
- Micro Slider Long Stroke Type
- Micro Cylinder Slim Type

- 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

![Image of single-axis robots](image1.jpg)

**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

**Cleanroom Types**
Dedicated cleanroom types conforming to cleanliness class 10

![Image of cleanroom types](image2.jpg)

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

**Splash-proof/Dust-proof Types**
These actuators offer protection conforming to IP54–IP67, and are a desirable solution when operated in adverse environments.

![Image of splash-proof/dust-proof types](image3.jpg)

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

**Key Features**
- 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.
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.

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

- Achieves high speeds, payload and precision.
- Easy programming makes these actuators much more user-friendly.
- It supports a wide variety of arm lengths, ranging from 250mm to 800mm.

ULTRA-COMPACT SCARA ARM LENGTH 120/150/180mm
- 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.

SUPER-LARGE SCARA ROBOT ARM LENGTH 1,000/1,200mm
- Achieves high-speed, payload and precision.
- Each arm length type can carry up to 50kg.
- All high-speed performance with a standard cycle time of 0.66sec.
TTA Series Tabletop Robots
Improved tabletop robots for cell productions, R&D applications, and more

No Battery, No Maintenance, No Homing, and No Price Increase.

- 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.

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.

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

Please contact IAI for more variations.

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 degree (±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)
- Standard or Cleanroom (Hollow bore: Ø52mm), Standard with Brake (Hollow bore: Ø35mm) specifications, Slim or High-torque types in lineup. Flange option, DDW Splash-proof/Dust-proof type are available.

- Many variations are available to support 2 to 6-axis configurations.
- The multi-slider types (ICSPA4/ICSPA6) 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.
Controllers
A wide variety of operational patterns to fit your specific needs

### POSITION CONTROLLER

- **P-SEP** For RCP2/RCP3
- **A-SEP** For RCA/RCA2/RCL
- **D-SEP** For RCD

#### 3-position controllers.
- Use the same signals as air-cylinder solenoid valves.
- Standard and dust-proof specifications are available.
- The dust-proof specification has a protective structure conforming to IP53, allowing it to be installed outside the control panel.

- **P-CON-CB** (Power CON)
- **A-CON-CB**
- **D-CON-CB**
- **S-CON-CB**
- **S-CON-cal**

- PowerCON archives 150% more output compared to the traditional models. It supports RCP5 with a battery-less absolute encoder.
- Up to 512 positions can be set.
- DeviceNet, CC-Link and other field networks can be supported.
- SCON-CB comes with vibration control function.
- SCON-LC comes with PLC function.

#### PROGRAM CONTROLLER

- **P-SEL** For RCP2/RCP3
- **A-SEL** For RCA/RCA2/RCL
- **S-SEL** For RCS2/RCS3/Single-axis/Linear Servo
- **X-SEL** For RCP6/RCP5/4/3/2/PowerCON SCARA

- PSEL/ASEL/SSEL controllers support interpolated operation and are used to set 1 or 2 axes.
- XSEL controllers can operate up to 8 axes.
- All controllers support DeviceNet, CC-Link and other field networks.

#### 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 Position Controllers and Program Controllers**
- **TB-02**

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