IAI Product Lineup

29th revised Edition

Electric Actuators & Small Robots for Smart Industrial Automation
Next Generation RoboCylinder RCP6

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

**RCP6(S) SERIES STRAIGHT MOTOR TYPE**

- 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.
- Few maintenance parts
- Stable velocity, Cycle time can be reduced.
- Long service life.

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

- 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.
- Cleanroom and Dust/Splash-Proof specification series available.

Servo Press Compatible RoboCylinder 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 - 50000N are available.

- Loading repeatability is ±0.5%. Supports traceability.
- Variety of product groups: 8 models in the lineup.
- Setting is easy by using a dedicated software.
- Newly developed 3kW motor driver achieved max. Thrust of 5t and max. Speed of 220mm/sec.
- With Battery-less Absolute Encoder as Standard.
- High Payload Rod Types without Load Cell also available: max. Payload of 1/0.6t (horizontal/vertical).

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.
RoboCylinder

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

RoboCylinder 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.

- 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 Profinet, DeviceNet, CC-Link, and other field networks.

- 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 pulse 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 ProfiBus, DeviceNet, CC-Link, and other field networks.
**Mini RoboCylinder**

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

- 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**

- 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 MINI TABLE 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 MICRO CYLINDER**

- The smallest in the industry with a cross-section size of 12mm.
- The built-in encoder allows position control.
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/ISDBCR
- High-rigidity Belt-drive Type: IF
- Slim Belt-drive Type: FS

Cleanroom Types
Dedicated cleanroom types conforming to ISO cleanliness class 2.5 *

- Pulse Motor: RCP6(S)CR
- Anti-static Type: ISDBCRR-ESD
- Gripper Type: RCP2CR-GR
- Rotary Type: RCP2CR-RT
- SCARA Robot: IXP-\(\_\)C
- SCARA Robot: IXP-\(\_\)W
- SCARA Robot: IXP-\(\_\)NC
- Direct Drive Motor: DDACR

- ISB/ISDB Series equipped with Battery-less Absolute Encoder as standard.
- ISB/ISDB High-speed Type 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.

- Pulse Motor Rod / Radial Cylinder Type: RCP5W-RA6/7/8/10
- Pulse Motor Rod Type: RCP4W-SA5/6/7
- Pulse Motor Slider Type: RCP2W-SA16C
- Pulse Motor Rod Type: RCP2W-RA4C/RA6C
- Pulse Motor: RCP5W-RA10C
- Servo Motor Rod Type: RCS2W-RA4
- Direct Drive Motor: DDW

- These actuators handle environments with extreme dust or water splashes.
- Many variations are available to meet diverse applications.

* ISO Standard 14644-1:2015 (according to class 4 of previous ISO Standard 14644-1:1999)
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.

POWERCON SCARA ROBOT

- 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.

ULTRA-COMPACT SCARA

- 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

- 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 (Pulse motor spec)
- The SEL Program Generator eliminates the tedious work of program creation.
**DDA Direct Drive Motors**
High speed/payload/precision, easy control, and compact: A direct drive motor that achieved high cost-performance.

- Many variations are available to support 2 to 6-axis configurations.
- High resolution Battery-less Absolute Encoder is available.
- The multi-slider types (ICSPA4/ICSPA6) let you reduce space and cycle time.
- Any models can be customized to meet your specific needs.

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

- Many variations are available to support 2 to 6-axis configurations.
- The multi-slider types (ICSPA4/ICSPA6) let you reduce space and cycle time.

**Cartesian RoboCylinder**
Multi-axis RoboCylinder RCP2/RCP6/RCS2 kits at a reasonable price

- IK-P series: RCP2 combinations based on 24 VDC pulse motor.
- IK-S series: RCS2 combinations based on 230 VAC servo motor.
- IK-P6 series: RCP6 combinations based on 24 VDC pulse motor with battery-less absolute encoder and high-output driver specification (PowerCon).
### Controllers
A wide variety of operational patterns to fit your specific needs

#### POSITION CONTROLLER

- **P sep**
  - For RCP2/RCP3
- **ASEP**
  - For RCA/RCA2
- **DSEP**
  - For RCD

- **Pcon-cb** (PowerCon)
  - For RCP6/5/4/3/2
- **Acon-cb**
  - For RCA/RCA2
- **Dcon-cb**
  - For RCD
- **Scon-cb**
  - For RCS2/RCS3/
- **Scal**
  - Single-axis

- **Pcon-cb** (PowerCon)
  - For RCP6/5/4/3/2
- **Acon-cb**
  - For RCA/RCA2
- **Dcon-cb**
  - For RCD
- **Scon-cb**
  - For RCS2/RCS3/
- **Scal**
  - Single-axis

#### PROGRAM CONTROLLER

- **P sel**
  - For RCP2/RCP3
- **ASEL**
  - For RCA/RCA2
- **S sel**
  - For RCS2/RCS3/
- **X sel**
  - Single-axis
- **M sel**
  - For RCP6/RCPS/4/3/2/

- **P sel**
  - For RCP2/RCP3
- **ASEL**
  - For RCA/RCA2
- **S sel**
  - For RCS2/RCS3/
- **X sel**
  - Single-axis
- **M sel**
  - For RCP6/RCPS/4/3/2/

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

- **Touch Panel Teaching Pendant**
  - for Position Controllers and Program Controllers
  - **TB-02**
- **Touch Panel Data Setter**
  - for EleCylinder also with Wireless Function
  - **TB-03** Coming Soon

---

**IAI Industrieroboter GmbH**
Ober der Röth 4 • D-65824 Schwalbach / Frankfurt
Phone: +49-6196-8895-0 • Fax: +49-6196-8895-24
E-Mail: info@IAI-GmbH.de • Internet: http://www.eu.IAI-GmbH.de

**IAI America Inc.**
2690 W. 237th Street, Torrance, CA 90505, U.S.A
Phone: +1-310-891-0815 Fax: +1-310-891-0815

**IAI CORPORATION**
577-1 Obane, Shimizu-Ku, Shizuoka 424-0103, Japan
Phone: +81-543-64-5105 Fax: +81-543-64-5192

IAI, the IAI-logo, EleCylinder™, the EleCylinder™-logo, RoboCylinder™, the RoboCylinder™-logo, IntelligentActuator™ and the IntelligentActuator™-logo are trademarks or product names of IAI Corporation or of the subsidiaries in USA or Germany