IAI
Quality and Innovation

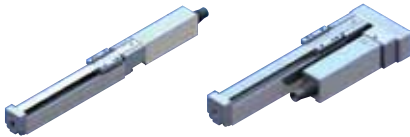# Product Overview

Industrial Automation Robots

www.IntelligentActuator.com

Mini ROBO Cylinder

Next-generation electric actuators, the solution for space constrained applications
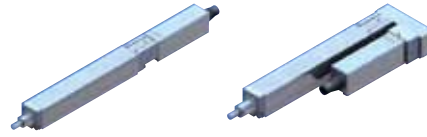
RCP3 MINI SLIDER TYPE

150mm
300mm/s
1 kg
±0.05mm

Motor Coupled Type   Side-Mounted Motor Type

- The coupled motor makes replacement easy.
- The straight type (motor coupled type) and the side-mounted motor type are also available.

RCP3 MINI ROD TYPE

150mm
300mm/s
1 kg
±0.05mm

Motor Coupled Type   Side-Mounted Motor Type

RCA2 MINI ROD TYPE

75mm   300mm/s   6 kg   ±0.02/±0.05mm

Short Nut-Mounting Type

Short Tapped-Hole Mounting Type

Short Slide Unit Type with Single Guide

Short Free Mounting Type with Double Guides

Short Slide Unit Type with Double Guides

- The unitized motor type has significantly reduced in length.
- If an application requires extra rigidity and linearity, you can choose from single and double built-in guides.
  The non-guide types allow external guide(s) to be attached, which help significantly reduce the actuator size.

RCA2 MINI TABLE TYPE

Short Compact Type   Short Wide Type   Short Flat Type

30mm   6 kg
270mm/s   ±0.02/±0.05mm

RCP3/RCA2 MINI TABLE TYPE

100mm
300mm/s
3 kg
±0.02mm

Motor Coupled Type   Motor Coupled Type with Side-Mounted Motor

- The built-in guide allows the actuator to receive overhung loads.
- Actuators with long strokes are also available.

RCL MINI LINEAR SERVO

288mm
1600mm/s
3.2 kg
±0.1mm
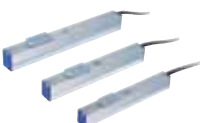
Micro Slider Slim Type

Micro Slider Long Stroke Type

Micro Cylinder

- With the use of linear motors, these actuators can operate at high speeds and high acceleration/deceleration with G-forces up to 2G.
- Slider and rod types are available. The slider type is classified into six sub-types according to size and stroke.
- The multi-slider type has two sliders installed on one axis, where both sliders can be operated separately.

ROBO Cylinder®

The affordable high-precision electric actuators reduce your running costs to 1/5 of a pneumatic system

ROBO Cylinders are high-performance electric actuators with a ball screw, linear guide and AC servo motor or DC servo/stepper motor. These next-generation actuators offer multi-point positioning capability and speed/acceleration change function unseen with air cylinders.

ERC2 SERIES CONTROLLER INTEGRATED TYPE

Motor Coupled Slider Type   Motor Coupled Rod Type

- The ERC2 Series have built-in controllers which simplify set up and use.
- High-precision, performance and rigidity all in an affordable package.

RCP2 SERIES PULSE MOTOR TYPE

Slider Type   Slider Belt Type   Rod Type   Rod Type with Guide

High Thrust Type   Rotary Type   Large Diameter Hollow Rotary Type   Gripper Type

Small Gripper   High Grip Force Type   Three Finger Gripper

RCP3 SERIES

Table Type   Slider Type

Short Body Type   Short Body Type with Guide

- High push force is achieved with the use of stepper motors.
- Many different sizes and variations are available to meet a wide range of applications.

RCA SERIES 24V SERVO MOTOR TYPE

Motor Coupled Rod Type   Side-Mounted Motor Rod Type   Guided Rod Type   Slider Type   Side-Mounted Motor Type
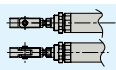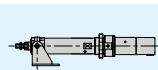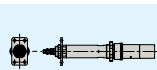
RCA2 SERIES

Table Type   Slider Type

- 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.
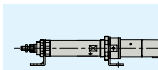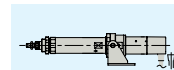- An optional home check sensor can be set.

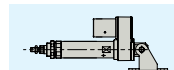[Knuckle joint]   [Front trunnion]   [Flange]   [Foot]   [Rear trunnion]   [Clevis]

RCS2 SERIES 100V/200V SERVO MOTOR TYPE

Slider Type   Side-Mounted Motor Slider Type   Slim Rod Type

Short Rod Type   Ultra High Thrust Rod Type   Guided Rod Type

RCP3 SERIES

Aluminum-Base Type   Steel-Base Type

- 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.
- Connectable to DeviceNet, ProfiBus, ModBus and CC-Link.
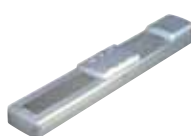
Single Axis Robot

Intelligent actuators with high-speed, high-transfer capabilities

Standard Type: **ISB**
High-Precision Type: **ISPB**

High-Rigidity Type
(Steel-Base)
SSPA

Simple Dust-proof Type
ISDA/ISPDA

High-Rigidity
Belt-Drive Type
IF

Slim Type / Belt-Drive Type
FS

Rotary Type
RS

Vertical/Rotation
Integral Type: **ZR**

Nut Rotating Type
NS

- Many variations are available to meet diverse applications.
- The guide is integrated with the base.
- Speeds of up to 2400mm/s and 150kg payload.
- Strokes go as long as 3000mm with the NS series actuators.

Cleanroom Type

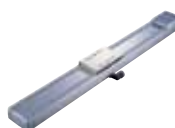Dedicated cleanroom types conforming to cleanliness class 10
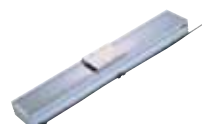
24V Pulse Motor
RCP2CR

24V Servo Motor
RCACR

200V Servo Motor
RCS2CR/RCS3CR

Standard Type
ISDACR

High-Precision Type
ISPDACR

Anti-Static Type
ISDACR-ESD

Small Gripper
RCP2CR-GR

SCARA Robot
IX-NNC

Ultra-Compact
SCARA Robot
IX-NNC

- The highly sealed structure achieves operation in conformance with cleanliness class 10.
- Wide variations are available, including ROBO Cylinders and single-axis/SCARA robots.

Splash-proof/Dust-proof Type

Protection conforming to IP54–IP67, these actuators are the solution when the environment is less than desirable

Slider Type
RCP2W-SA16C

Slider Type
ISWA/ISPWA

Pulse Motor Rod Type
RCP2W-RA4C/RA6C

High-Thrust Rod Type
RCP2W-RA10C

24V Servo Motor
Rod Type
RCAW-RA3/RA4

200V Servo Motor
Rod Type
RCS2W-RA4

Small Gripper (Dust-proof)
RCP2W-GR

SCARA Robot
IX-NNW

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

# TT Table Top Type

2-axis Gate Type

3-axis Gate Type

2-axis Cantilever Type

3-axis Cantilever Type

■ These all-in-one actuators are ideal for cell production and R&D applications. The 200mm x 200mm and 400mm x 400mm type are available as standard products.
■ The TT is equipped with a rigid base, servo control motor and an encoder to prevent mis-stepping.
■ All models come with a built-in XSEL controller which is popular for its ability to achieve high tracing precision and constant speed operation.
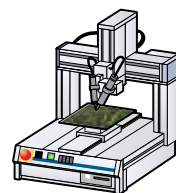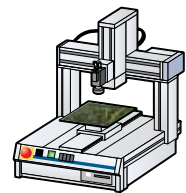
Driving Screws
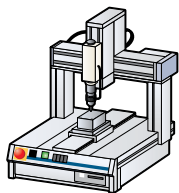
Coating
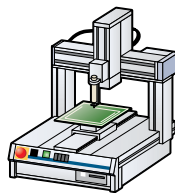
Soldering

Circuit Board Inspection

Cartesian Robots

Get your ROI quickly with pre-configured cartesian robots that reduce installation and setup times

ICSA2/ICSPA2 2-AXIS COMBINATION

Y-axis Base Fixed Type
XYB

Y-axis Slider Fixed Type
XYS

Z-axis Base Fixed Type
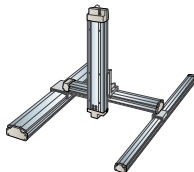**XZ**

Z-axis Slider Fixed Type
YZ

Gantry Type
XYG

ICSA3/ICSP3 3-AXIS COMBINATION

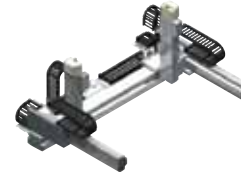**ICSPA6** 6-AXIS COMBINATION

XYB+Z axis Type

XYG+Z axis Type

X-axis Nut Rotation Type
X-axis Linear Servo Type

X-axis Nut Rotation, Multi-Slider Type
X-axis Linear Servo, Multi-Slider Type

**IK** SERIES MULTI-AXIS ROBO CYLINDER KITS

ZR UNIT

■ Many variations are available to support 2 to 6 axis configurations.
■ The multi-slider types (ICSPA4/ICSPA6) let you reduce space and cycle time.
■ We can also design specifications with rotational axis(es).
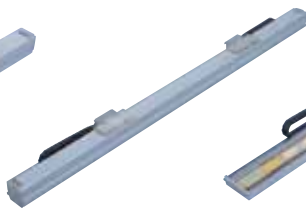■ Customize the optimum model that suits your specific needs.
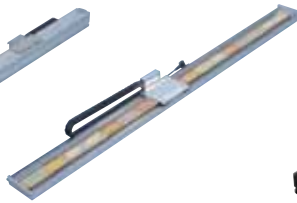
LSA Series Linear Servo Actuator

A full lineup of linear servo actuators to meet your need
Max load capacities of up to 120kg and max strokes of up to 4m
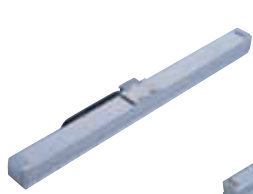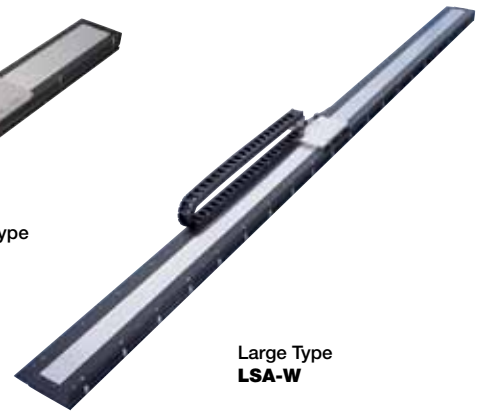
Shaft Type
LSA-S

Compact Type
LSA-H

Flat Type
LSA-L

Medium Type
LSA-N

Large Type
LSA-W

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

IX Series SCARA Robots

The IX SCARA robots feature high performance and functionality

IX
INTELLIGENT ACTUATOR

SCARA ROBOT ARM LENGTH 250/350/500/600/700/800 MM

Standard Compact
Type

Standard Medium
Type

Standard Large
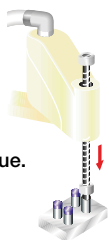Type

High-Speed
Type

Wall Type

Ceiling Type

- Achieves high speeds and repeatability.
- Easy programming makes these actuators much more user-friendly.
- Many variations are available to support arm lengths of 250 to 800mm.

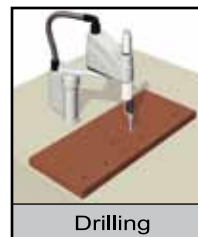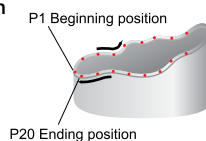## ULTRA-COMPACT SCARA ARM LENGTH 120/150/180 MM

- The compact size of the robot allows you to reduce the size of your production facility.
- The rated loading capacity is 0.2 kg, and can be increased to 1 kg.
- High-speed performance with a cycle time of 0.35 sec.
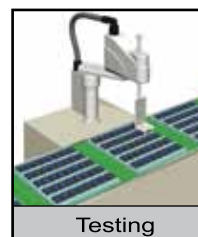
Drilling

Testing

Palletizing

Z-axis Push Function
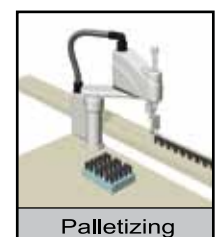Enables you to easily apply compression force and torque.

3D Path Capability
Faster CPU speed and rigid robot construction, along with 3D arc motion & path control, allow for easy, accurate path tracing.
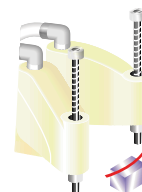
P1 Beginning position

P20 Ending position

Interference Check Zones
A maximum of 10 user-defined check zones can be set inside the robot's operation range.

Controller

Wide operation patterns for your specific needs

3-POSITION CONTROLLER

P MEC   **A MEC**

RCP2/RCP3   RCA/RCA2/RCL

- Power supply, accelera-tion/speed change function included.
- Operation as easy as any air-cylinder system's.

P SEP   **A SEP**

RCP2/RCP3   RCA/RCA2/RCL

- 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.

POSITION CONTROLLER

P CON   **A CON**   **S CON**   **S CON-CA**

RCP2/RCP3
Position Controller

RCA/RCA2/RCL
Position Controller

RCS2/RCS3
- Cartesian - Linear Servo
Position Controller

- PCON/ACON controllers are available in: Positioner/Solenoid valve/Pulse-train input/ Serial communication types.
- SCON controllers are an all-in-one controller that conforms to all control methods.
- Up to 512 positions can be set.
- DeviceNet, CC-Link and other field networks can be supported.
- SCON-CA comes with force control and vibration control functions.

ROBO NET

RCP2/RCP3/RCA/RCA2/RCL
Network Controller

Simple Absolute   Expansion Unit

- The simple absolute unit is an encoder backup that connects to a PCON/ACON controller to eliminate the need for home return.
- ROBONET minimizes wires and operates on DeviceNet, CC-Link or other networks.
- Link and operate up to 16 axes.

PROGRAM CONTROLLER

P SEL   **A SEL**   **S SEL**   **X-SEL**

RCP2/RCP3
Program Controller
1-2 axis

RCA/RCA2/RCL
Program Controller
1-2 axis

1-2 axis   1-6 axis

RCS2/RCS3
- Cartesian - Linear Servo
Program Controller

- PSEL/ASEL/SSEL controllers support interpolated operation and are used to set one or two axes.
- XSEL controllers can operate up to 6 axes.
- All controllers support DeviceNet, CC-Link and other field networks.

Power supply

Low-cost 24VDC power supply ideal for powering actuators

PS-24

- Accelerate an actuator with maximum momentary current output of 17A.
- Up to 5 units can be operated in parallel.
- The load factor detection function lets you monitor the load condition of the unit.

Teaching Pendant

Programming points have never been easier
(ANSI type offering enhanced safety is available)

PCON/ACON/SCON/
ROBONET/PSEP/ASEP/PMEC/AMEC
CON-PT-M-ENG

PCON/ACON/SCON/
ROBONET
CON-T-ENG

PCON/ACON/SCON/
ROBONET
RCM-E-ENG (Simple Teaching Pendant)

IAI

Quality and Innovation