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AUTOMATION SOLUTIONS

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2025
Digest Catalog

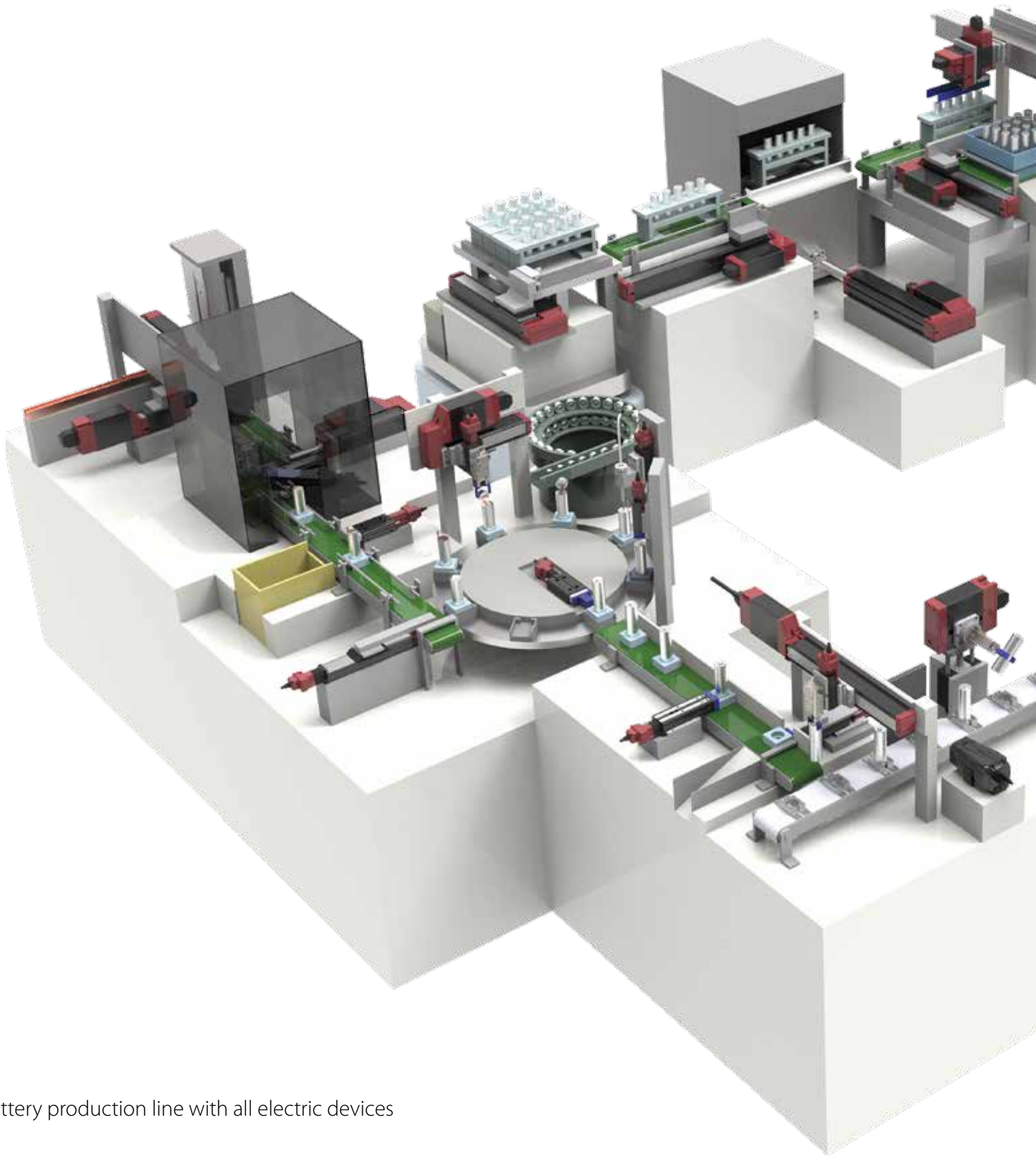


**IAI Industrial Robots
Digest Catalog**

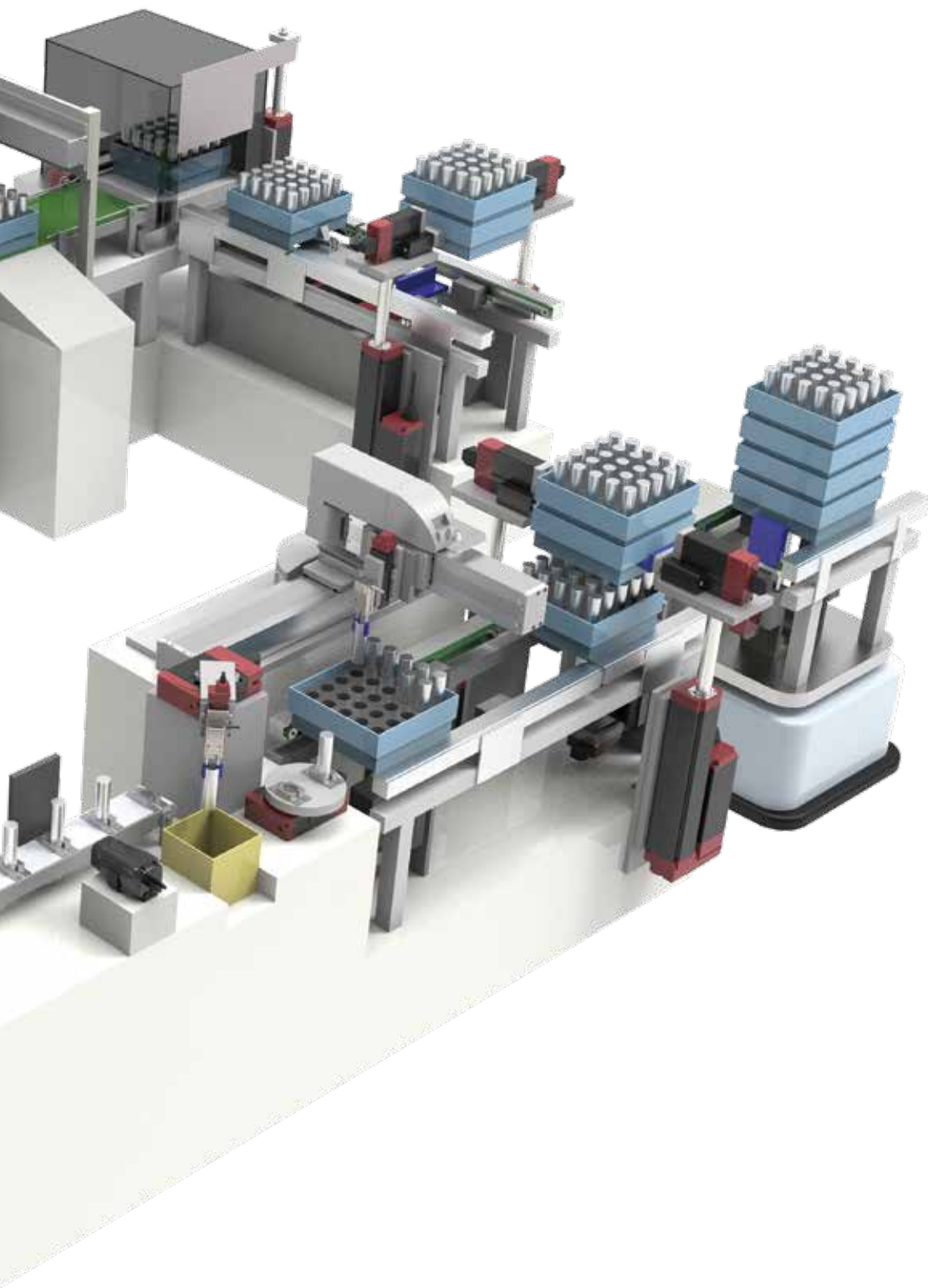
IAI
Quality and Innovation

INDEX

As a leading manufacturer of electric actuators/compact industrial robots, IAI always anticipates market needs and brings a variety of products to market each year. A wide variety of variations are available to provide the best system for your site.



Battery production line with all electric devices



About Us **3**

Lineup
System
configuration **9**

ELECYLINDER **15**

Multi-point
Positioning **23**

Multi-axis
Products **29**

Cleanroom
Dust-Proof
Splash-Proof **33**

Controller **37**

Other
Products **41**

Application **45**



Leading manufacturer of compact industrial robots
World's No.1 share of single axis/Cartesian robots

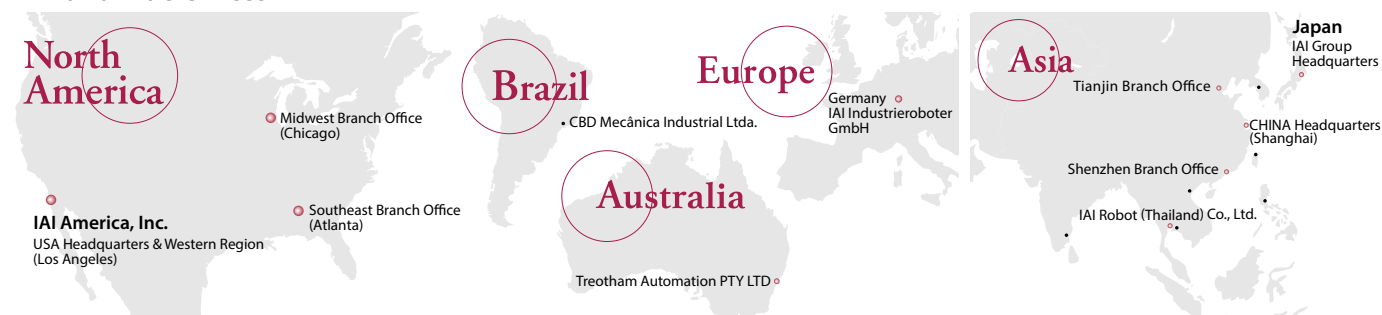
IAI Group Headquarters (Japan)

Company Name: IAI Corporation
 Establishment date: April 3, 1976
 Representative: President & CEO Toru Ishida
 Business Description: Development, design, manufacturing and sales of compact industrial robots
 Development of new agricultural technology (Eco-Farm Department)
 Number of employees: 1,447 as of April 2025



A new plant was put into operation in 2024 to double production capacity. The headquarters has also been relocated to Ihara-cho accordingly.

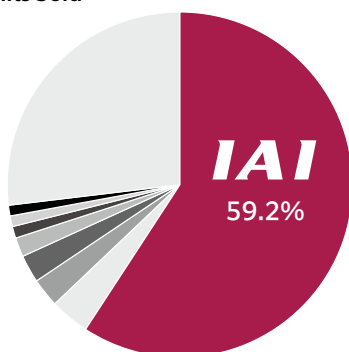
Worldwide Offices



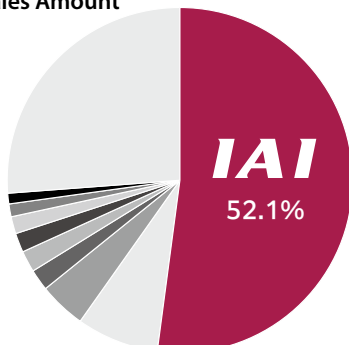
Single Axis/Cartesian Robots Share in Japan

Japan 2022 Results (Fuji Economic Survey)

Units Sold



Sales Amount



Societal Contribution

Mini Robo



Mini Robo is a soccer robot developed by IAI. It was born out of the desire for children to experience the joy of making things. Tournaments are also held on a regular basis.

IAI Stadium



IAI supports the local Shizuoka professional soccer team, the Shimizu S-Pulse, as a sponsor. In 2013, we acquired the naming rights for Nihondaira Stadium, the home stadium of Shimizu S-Pulse.

What IAI can do for you

Product lineup

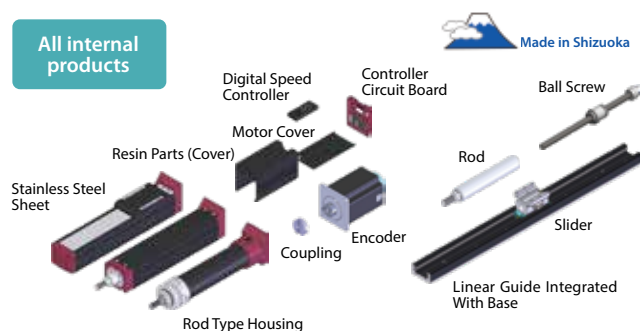
We offer the No. 1 product lineup in the electric actuator industry and a wide variety of variations. (For details, see p. 9)
Usable for a variety of applications and conditions of use.



Short Delivery

Major components are manufactured in-house, achieving stable delivery times.

(Ex.) ELECYLINDER®



Long Service Life

No sealing material is used in sliding parts, resulting in a long service life.

(Ex.) ELECYLINDER®

Operational conditions

Operating Day Per Year	Operating Hours	Movement Stroke	Payload	Operation Cycle
240 days	16 hours per day	300 mm	Horizontal: 12 kg	8 seconds per reciprocating motion

Life

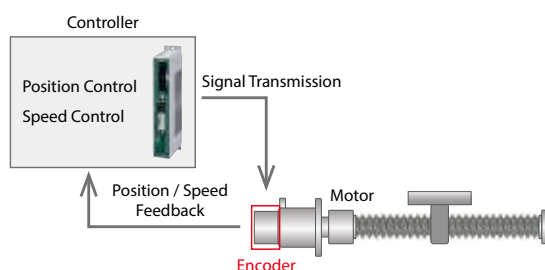
Product Specifications	Life	Operation Life	Lifespan Factors	Remarks
ELECYLINDER® EC-R7	15 years	~16,000 km	End of bearing life	Max. speed: 155 mm/s Acceleration/deceleration: 0.5 G

Quality Improvement / Cycle Time Reduction

Maximizing the advantages of electric power contributes to improved productivity.

Feedback Control

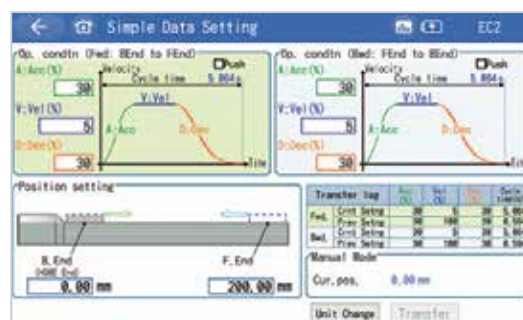
All motors, including stepper motors, are equipped with encoders. The unit continues to operate according to the command value by feedback control.



▼ Feedback control
Position: 1,000 times/second
Speed: up to 20,000 times/second

AVD Control

In addition to speed, acceleration and deceleration can be set respectively. Able to increase speed while reducing impact at the start and stop of movement.



Operating conditions abbreviation: AVD

Acceleration
Velocity
Deceleration

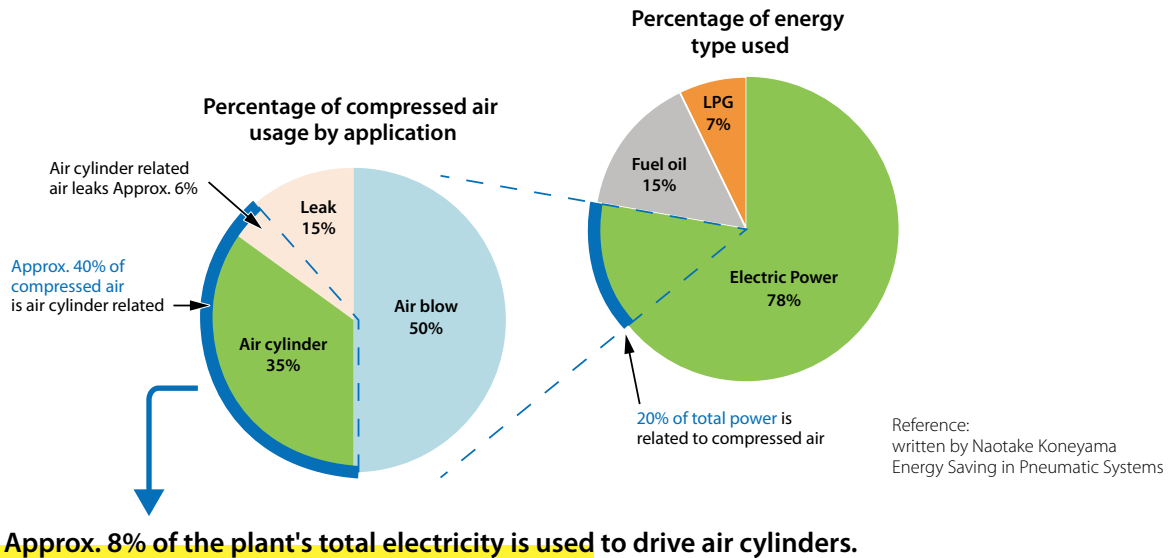
AVD

Toward Carbon Neutrality

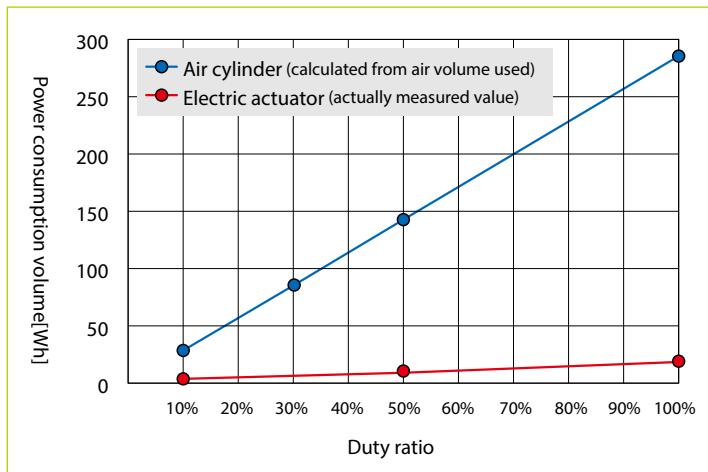
Energy Saving

Since compressed air is not used, power can be utilized efficiently.

Percentage of energy used by the plant



Comparison of power consumption of air cylinders and electric actuators



- Air cylinder (Ø25)
Air piping inner diameter Ø4mm x 2m, stroke 300mm, 0.4MPa, 300mm/s
- Electric actuator (EC-S6H)
Horizontal, stroke 300mm, 1G, 300mm/s, 12kg transfer

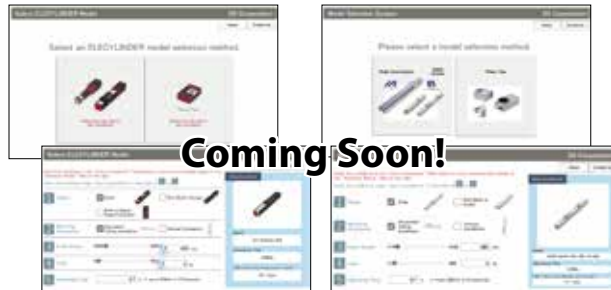
As duty ratio (operating rate) increases, electric actuators consume less power.

The IAI Website

Please take advantage of the useful tools on our website

Model Selection Software

The optimal model can be selected from approximately 1 million items in one attempt.



Coming Soon!



Once it's available, we will put the information here.
intelligentactuator.com/new-configurator

Catalog PDFs

Please refer to the catalogs for dimensional drawings and specification details.

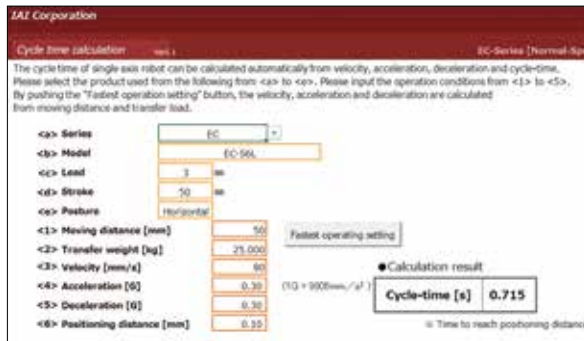


We recommend the Digital Catalog, which has an extensive search function.

Please contact your sales representative or nearest sales office. We also accept requests for information through our website.

Cycle time calculation software

The cycle time can be checked in advance by the desired actuator and operating conditions of the application.



Video Lineup

Over 300 videos are available on the IAI YouTube channel. Please refer to the videos for applications and solutions.



Services

We provide support from application sizing, to actuator maintenance, as well as training and seminars

Special specifications supported (customization service for standard products)

We will make proposals and modify the standard product according to your request.

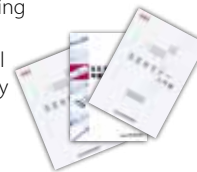


+



Training and maintenance seminars, both on-site and in our offices are available

We actively conduct training for hands-on experiences with our softwares, as well as maintenance and safety seminars.



Troubleshooting and repair services

A dedicated maintenance and repair contact will respond in a timely manner to any issues that may arise.

Product lineup list

2-point / 3-point Positioning (ELECYLINDER) *A new "3 position mode specification" option is now available. Reference page ►P15

Type	Slider	Radial Cylinder	Rod	Table	Gripper	Rotary	Stopper	Cleanroom	Dust-proof/splash-proof
Exterior									
Body width	20 ~ 188 mm	20 ~ 108 mm	13 ~ 148 mm	26 ~ 88 mm	25 ~ 138 mm	45 ~ 185 mm	42/93/112/148 mm	35 ~ 120 mm	63 / 73 mm
Stroke	25 ~ 2800 mm	25 ~ 1000 mm	10 ~ 300 mm	10 ~ 150 mm	2 ~ 130 mm (one side)	330 deg.	10 ~ 50 mm	50 ~ 2000 mm	50 ~ 800 mm
Max. payload	Horizontal 400 kg Vertical 120 kg	Horizontal 300 kg Vertical 150 kg	Horizontal 80kg Vertical 19 kg	Horizontal 20 kg Vertical 7 kg	10 ~ 1641 N (Max. grip force on both sides)	0.6 ~ 25.2 N (Max. torque)	100 kg (Max. workpiece mass)	Horizontal 90 kg Vertical 55 kg	Horizontal 80 kg Vertical 19 kg
Max. speed	2000 mm/s	860 mm/s	860 mm/s	800 mm/s	225 mm/s	600 deg./s	350 mm/s	1350 mm/s	860 mm/s

Multi-point positioning / Special application

Reference Page ►P23

Type	Slider	Linear Servo	Rod	Radial Cylinder	Table	Pulse / Servo Press	Gripper	Rotary	Special Applications
Exterior									
Body width	22 ~ 198 mm	60 ~ 210 mm	12 ~ 200 mm	40 ~ 160 mm	32 ~ 95 mm	40 ~ 200 mm	22 ~ 123 mm	45 ~ 233 mm	-
Stroke	25 ~ 3200 mm	40 ~ 4155 mm	10 ~ 500 mm	50 ~ 800 mm	25 ~ 390 mm	50 ~ 520 mm	2 ~ 130 mm (one side)	330 deg. 360 deg. (Multi-rotation)	-
Max. payload	Horizontal 400 kg Vertical 80 kg	Horizontal 120 kg	Horizontal 1000 kg Vertical 600kg	Horizontal 300 kg Vertical 150 kg	Horizontal 30 kg Vertical 24 kg	~ 50000 N (Max. push force)	10 ~ 880 N (Max. grip force on both sides)	0.24 ~ 75 N (Max. torque)	-
Max. speed	3000 mm/s	2500 mm/s	1200 mm/s	1500 mm/s	1300 mm/s	240 mm/s	643 mm/s	1800 mm/s	-

Multi-axis products

Reference Page ►P29

Type	Cartesian Robot	Tabletop Robot	Cartesian 6-Axis Robot	SCARA Robot
Exterior				
Number of Axes	2 ~ 6 axes	2 ~ 4 axes	6-axis	3 ~ 4 axes
Base axis movable range	50 ~ 4155 mm	200 ~ 500 mm	50 ~ 1100 mm	180 ~ 1200 mm
Max. payload	90 kg	30 kg	2 kg	50 kg
Max. speed	2500 mm/s (Base axis max. speed)	1200 mm/s (Base axis max. speed)	700 mm/s (Max. composite speed)	9215 mm/s (Max. composite speed)

Products with special specifications

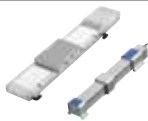


In addition to standard products, we also offer various products with special specifications. If you do not find the product you need, contact our sales representative.

The most requested special specifications, such as non-standard stroke/grease, air purge joint attachment, stainless steel grease nipple, etc., are listed in the leaflet on the left.

Cleanroom / Dust-proof and splash-proof

Reference Page **P33**

Type	Slider	Rod	Radial cylinder	Gripper	Rotary	SCARA Robot
Exterior						
Body width	40 ~ 198 mm	28 ~ 85 mm	45 ~ 160 mm	42 ~ 80 mm	45 ~ 195 mm	3 ~ 4 axes (axes qty.)
Stroke	25 ~ 2500 mm	25 ~ 300 mm	50 ~ 800 mm	4 ~ 7 mm (one side)	330 deg. 360 deg. (Multi-rotation)	300 ~ 1200 mm (Arm length)
Max. payload	Horizontal 150 kg Vertical 60 kg	Horizontal 100 kg Vertical 70 kg	Horizontal 240 kg Vertical 120 kg	6.4 ~ 102 N (Max. grip force on both sides)	0.24 ~ 75 N (Max. torque)	47 kg
Max. speed	2000 mm/s	630 mm/s	630 mm/s	600 mm/s	1800 mm/s	8098 mm/s (Max. composite speed)

Controller

Reference Page **P37**

Type	RCON	RSEL	REC	PCON-CB/CGB	ACON-CB/CGB	DCON-CB/CGB	SCON2	MSEL	XSEL2	XSEL-RA/SA	XSEL-RAX/SAX (For SCARA)
Exterior											
Max. number of connectable axes	~ 16 axes	~ 8 axes (16 axes for EC)	~ 16 axes	1-axis	1-axis	1-axis	1-axis	~ 4 axes	~ 8 axes	~ 8 axes	~ 8 axes
Compatible Motor	  	  	  								
Interpolation operation	×	✓	×	×	×	×	×	✓	✓	✓	✓
IAI Exclusive Program (SEL Language)	Not required	Required	Not required	Not required	Not required	Not required	Not required	Required	Required	Required	Required
Supported control method	I/O (input-output)	✓	×	✓	✓	✓	✓	✓	✓	✓	✓
	Pulse-train	×	×	✓	✓	✓	✓	×	×	×	×
	Field Network	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Other (24VDC power supply / teaching, etc.)

Reference Page **P41**

Type	24VDC power supply	Teaching software for PC		Teaching pendant			Wired Teaching Controller	Wireless Teaching Controller	Brake Release Box
	PSA-24(L)	IA-OS	IA-101	TB-02	TB-03	ADTB	TBD-1	TBD-1WL	BKR-01
Exterior									
Overview	IAI exclusive power supply. Up to 5 units can be connected in parallel.	Compatible with EC, REC, and controllers with □CON in the model name.	Compatible with TTA and controllers having □SEL in the model name.	Compatible with all models listed in the General Catalog. Safety category compliant.	Compatible with all models listed in the General Catalog. Wireless communication with ELECYLINDER is possible.	Teaching pendant with power supply unit. Test run and data setting are possible even before electrical wiring work is done.	Connectable to all ELECYLINDER.	Wireless communication with ELECYLINDER is possible.	Actuator brake release without wiring to the controller during equipment start-up.

In the case of 2-point positioning (ELECYLINDER),
system configuration necessary for operation is as follows.

Configuration example

ELECYLINDER

Model selection software coming soon.



The optimal model can be selected from approximately 1 million items in one attempt.

24VDC power

Power supply for driving ELECYLINDER.

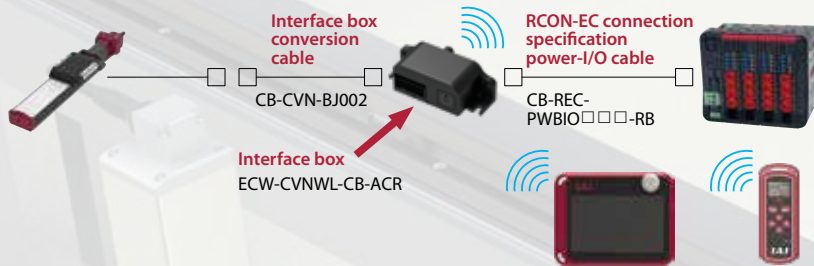
Power supply selection requires capacity calculation.

The power calculator software makes calculation easy.

[Options] » P41 » P43

In the case of ELECYLINDER^{*1} with actuator cable.

When connecting the REC/EC connecting unit and performing wireless teaching^{*2}, order an interface box, conversion cable, and power-I/O cable separately.



*1 S□D/S□W/R□W/RR□W are excluded.

*2 Simultaneous use of specifications RCON-EC connection specification (ACR) and Wireless axis operation specification (WL2) is available as a special order.

*Only applies to models that require an interface box.

*For details, please contact IAI.

Cable

Able to select up to 10m.
Specify the cable length within the ELECYLINDER model number.

[Included with ELECYLINDER]

Teaching tools

Three methods are available.

1 IA-OS (PC teaching software)

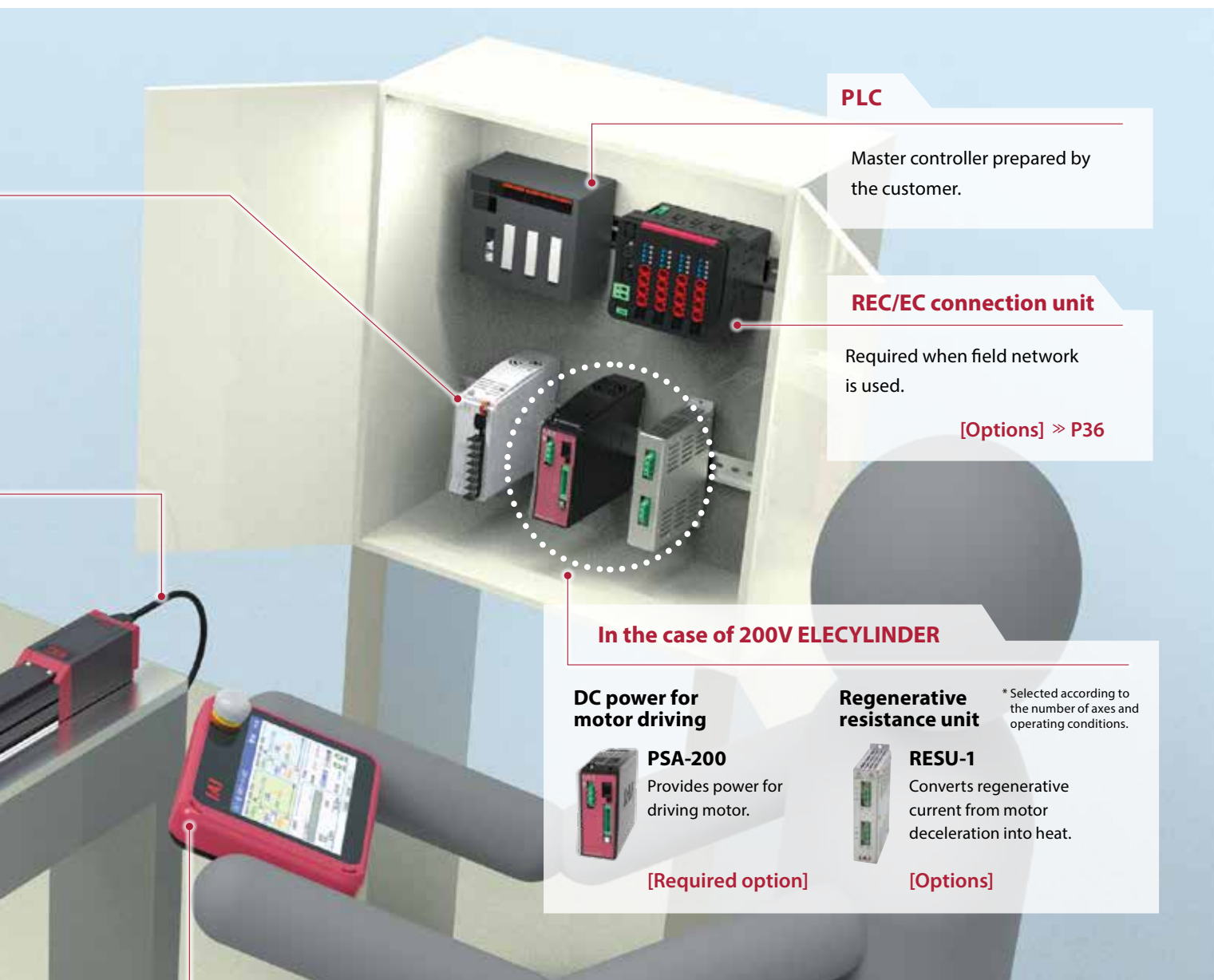


This is start up supporting software for position input, trial operation, monitoring function, etc.

*Please purchase through your distributor and a download link will be sent to your valid email address.

[Options] » P43

* Since the ELECYLINDER has a built-in controller, a separate controller is not needed.



2 Teaching pendant

Wireless/Wired supported



▲TB-03

The same settings and operations as the PC software is possible wirelessly.



▲TB-03E

With a power unit, data setup and test runs are possible even before wiring is completed.

[Options] » P42

3 Digital teaching controllers

* Parameter editing is impossible

Wireless teaching controller

Wireless only



▲TBD-1WL

Easy setting like a remote controller

Wired teaching controller

Wired only



▲TBD-1

Can be connected to all ELECYLINDER models.

[Options] » P41

For the multi-positioning/multi-axis products/cleanroom/dust and splash-proof type,
the required system configurations are as follows.

Configuration example

Actuator

Model selection software coming soon.



The optimal model
can be selected from
approximately 1 million
items in one attempt.

PLC

Master controller prepared by the customer.

I/O cable and connector

Communication cable between controller
and PLC. Specify cable length within the
controller model number.

For the field network specification, only a
connector is included.

[Supplied with the controller]

24VDC power

Power supply for driving 24V actuators.
Power supply selection requires capacity
calculation.
The power calculator software makes
calculation easy.

[Options] » P41 » P43

Motor-encoder cable

Cable between actuator and controller.
Specify the cable length within the
actuator model number.

[Included in the actuator]

* Since the table top robot (TTA) has a built-in controller and power, a separate controller is not required.

In the case of 200V actuators

Regenerative resistance unit

* To be selected according to the number of axes and operating conditions.



RESU-1/RESU-2

Converts regenerative current from motor deceleration into heat.

[Options]

Controller

Required unit for driving actuators.

» P37

Teaching tools

Two methods are available.

1 PC teaching software

IA-OS



Software for controllers having ☐ CON in the model name.

[Options] » P43

IA-101



Software for controllers having ☐ SEL in the model name. This is useful when creating programs or performing simulations.

[Options] » P44

2 Touch panel teaching pendant



Convenient for error checking and adjustments at the palm of your hand.

[Options] » P42

* Please purchase through your distributor and a download link will be sent to your valid email address.

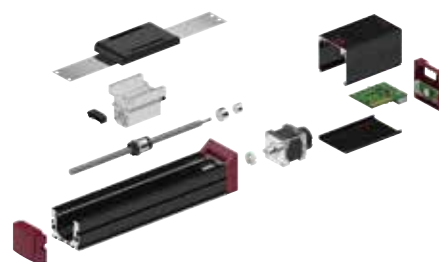


What is ELECYLINDER?

Like solenoid valves, ELECYLINDER can be operated with only an ON/OFF signal, making them easy to operate even for first-time users of electric actuators.

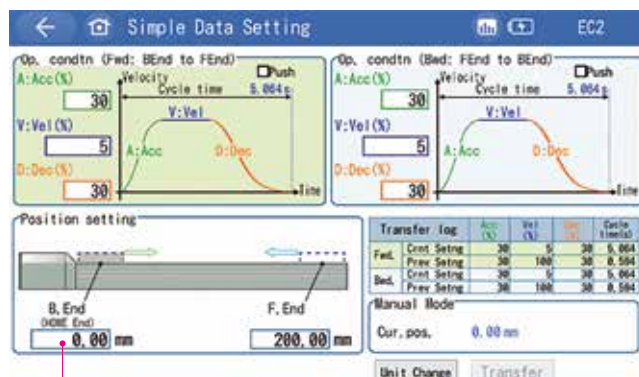
- Electric actuator based on the concept of "simple"
- Built-in controller
- Programless

ALL IN ONE



Simple operation

Enter numerical values for position, speed, acceleration, deceleration, and push force.



The current position can also be captured.

Can operate from a remote location!

Wireless communication possible

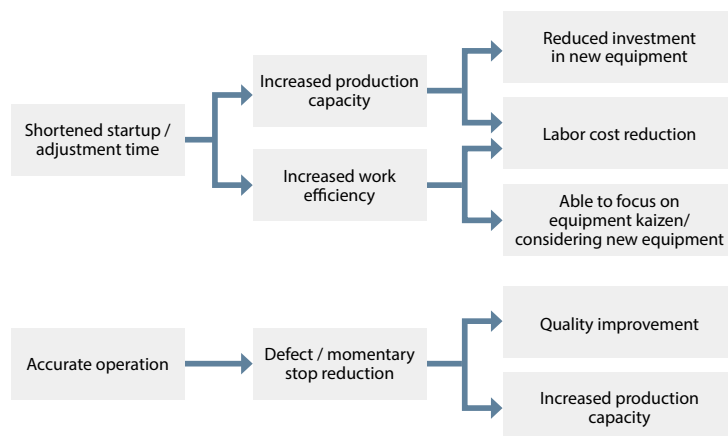


Is your plant going digital?

Set numerically → Can be set up accurately by anyone.

Controlled numerically → At changeover, simply enter the previously confirmed values. Easy teaching even with a large number of adjustment axes.

Confirm cycle time → Cycle time can be confirmed on the settings tool screen.



Reliable adjustments can be made without relying on intuition or experience. High quality manufacturing is possible because there is no misalignment or speed reduction.

Company A and Company B on a certain day

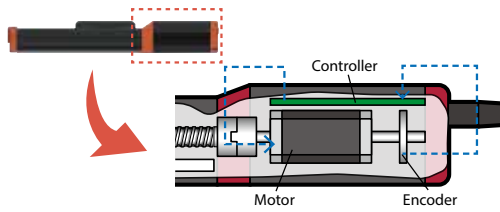
Company A Uses air cylinder

Company B Uses ELECYLINDER



High Performance

Once set, it will continue to operate at the same value.



▼ Feedback Control

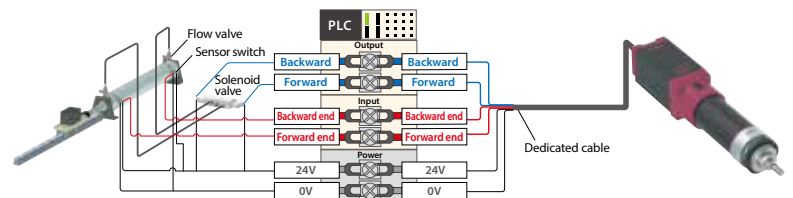
Position: 1,000 cycles/sec.
Speed: ~20,000 cycles/sec.

▼ Set-values Unit

Position: 0.01 mm
Speed: 0.01 mm/s

Reduced wiring

Can be operated with the same wiring and PLC ladder program as the air cylinder.



Can be operated by the same ON/OFF signals as a solenoid valve.

Energy saving

Reduces power consumption and contributes to energy savings.

Air cylinder



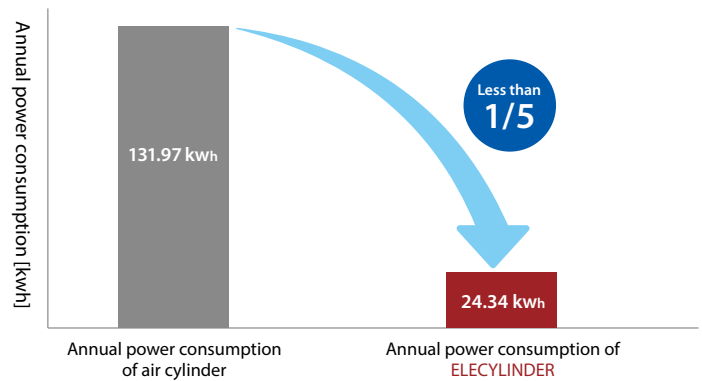
Stroke 300 mm
Speed Approx. 300 mm/s
Load mass 30 kg
Bore system Ø40
Moving distance 300 mm
One-way travel time Approx. 1.2 sec.
Stop time 17 sec.
Mounting posture Horizontal

Electric (ELECYLINDER)



Stroke 300 mm
Speed 300 mm/s
Load mass 30 kg
Acceleration/deceleration 0.3 G
Moving distance 300 mm
One-way travel time 1.2 sec.
Stop time 17 sec.
Mounting posture Horizontal

▼ Comparison of annual power consumption



* The comparison is for annual power consumption based on operation of 250 days/year and 10 hours/day for electric actuator and air cylinder.

* Factory air pressure: 0.6Mpa, Regulator output pressure: 0.4 Mpa

* Air cylinders are calculated based on air consumption.

* Air cylinder is calculated from actual value of air power meter (by Tokyo Meter)

* Compressor efficiency: 69 % (based on values in our factory)

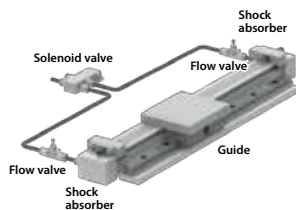
Low price

Designed to offer cost performance comparable to air cylinders.

▼ Rodless type

By integrating functions that normally require external components—such as speed controllers and solenoid valves—ELECYLINDER helps reduce overall system cost. It is designed to minimize total ownership cost throughout the equipment's lifetime.

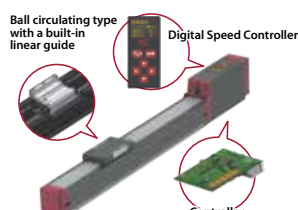
Air cylinder



- ✓ Air cylinder body (with guide)
- ✓ Flow valve
- ✓ Shock absorber
- ✓ Solenoid valve

Rodless air cylinder Ø25
Stroke 300 mm

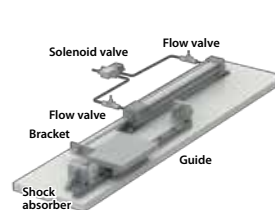
ELECYLINDER



- ✓ ELECYLINDER
- built-in {
 - Linear guide
 - Motor Encoder
 - Ball screw
 - Controller

ELECYLINDER
DS7 with digital speed controller
Stroke 300 mm

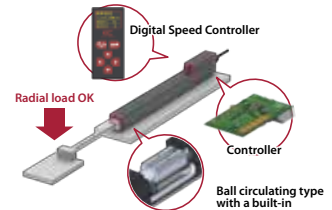
Air cylinder



- ✓ Air cylinder body
- ✓ Guide
- ✓ Flow valve
- ✓ Shock absorber
- ✓ Solenoid valve

Rod type air cylinder Ø25
Stroke 300 mm

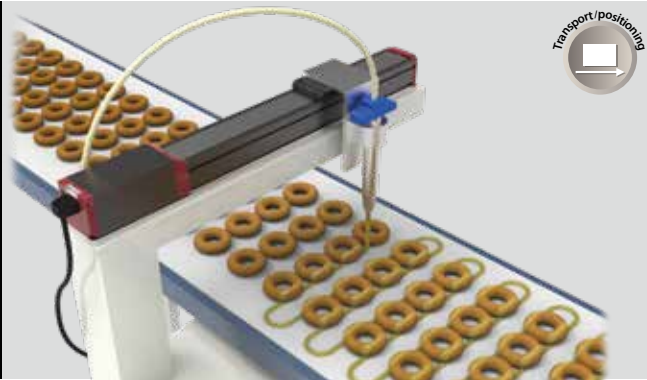
ELECYLINDER



- ✓ ELECYLINDER
- built-in {
 - Linear guide
 - Motor Encoder
 - Ball screw
 - Controller

ELECYLINDER
DRR6 with digital speed controller
Stroke 300 mm

ELECYLINDER



*A new "3 position mode specification" option is now available.

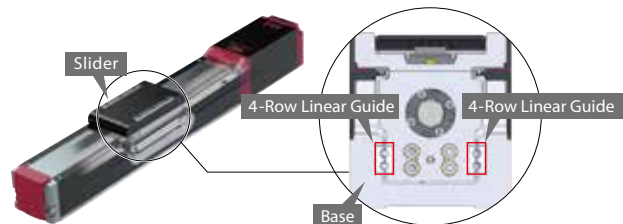
Features

The standard actuator shape is used to mount and operate a workpiece on a slider on the top surface of the body.

IAI products feature a ball circulating type with a built-in linear guide integrated with base, which is resistant to moments in the rolling direction.

Extensive lineup: From palm size to large size capable of carrying up to 400 kg horizontally.

Stable positioning: No worry about rattling of the guide section because the guide is press-fitted into the base. Stability as a positioning device due to low guide variation[©].



(Ex.) High rigidity type

Lineup



● Ultra-compact, palm-sized type

Body width	35 mm
Stroke	50 ~ 200 mm
Max. payload	Horizontal 2 kg / Vertical 0.7 kg
Max. speed	200 mm/s



● 6 total sizes

Body width	20 ~ 85 mm
Stroke	25 ~ 1500 mm
Max. payload	Horizontal 80 kg / Vertical 55 kg
Max. speed	1200 mm/s



● High rigidity 4-column Gothic arc linear guide type

Body width	63 / 75 / 85 mm
Stroke	50 ~ 2000 mm
Max. payload	Horizontal 110 kg / Vertical 55 kg
Max. speed	1440 mm/s



● Wide body, high rigidity type

Body width	100 / 120 mm
Stroke	50 ~ 800 mm
Max. payload	Horizontal 62 kg / Vertical 13.5 kg
Max. speed	1000 mm/s



● Belt-driven long actuator

Body width	63 ~ 89 mm
Stroke	300 ~ 2600 mm
Max. payload	Horizontal 25 kg
Max. speed	2000 mm/s

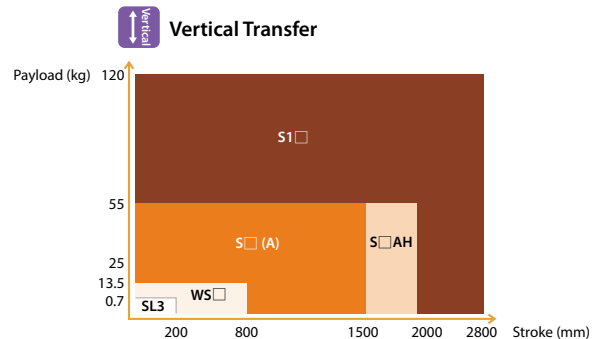
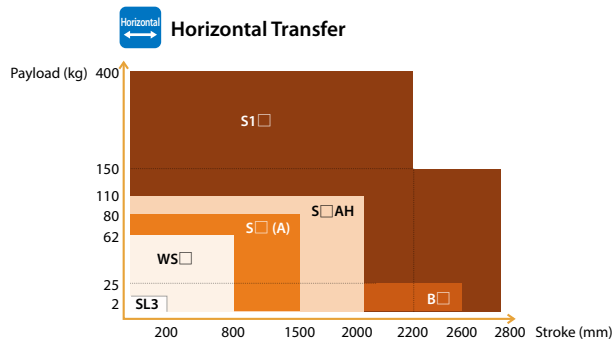


● Large actuator with high thrust

Body width	100 ~ 188 mm
Stroke	100 ~ 2800 mm
Max. payload	Horizontal 400 kg / Vertical 120 kg
Max. speed	2000 mm/s

Specifications overview

Correlation diagram of stroke and payload



ELECYLINDER



*A new "3 position mode specification" option is now available.

Features

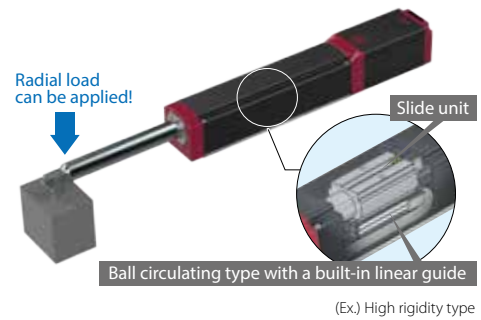
A ball circulating type with a built-in linear guide similar to the slider type is built into the rod type body. Radial and unbalanced loads can be directly received by the cylinder body.

Linearity:

Integrated structure with built-in linear guide suppresses tip runout.

High thrust:

Max. payload Horizontal 300 kg / Vertical 150 kg, max. pushing force up to 6000 N.



Lineup

Standard Type EC-RR□



● 7 total sizes

Body width	20 ~ 108 mm
Stroke	25 ~ 800 mm
Max. payload	Horizontal 300 kg / Vertical 150 kg
Max. speed	860 mm/s

High rigidity Type EC-RR□AH

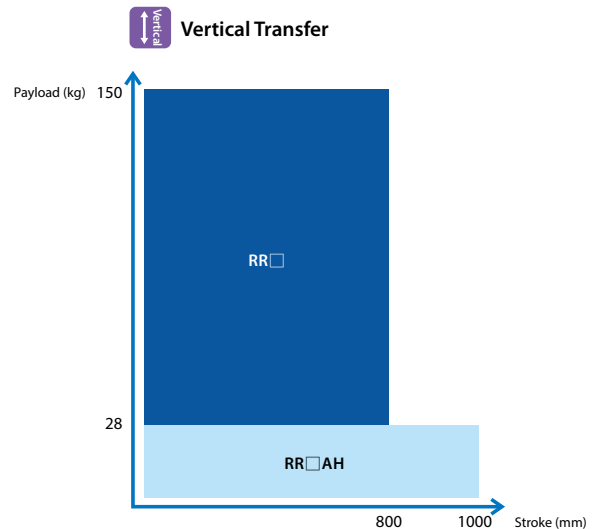
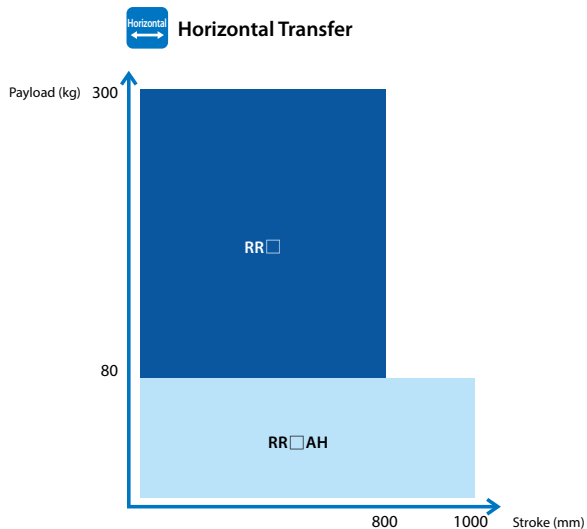


● High rigidity 4-column Gothic arc linear guide type

Body width	63 / 75 mm
Stroke	50 ~ 1000 mm
Max. payload	Horizontal 80 kg / Vertical 28 kg
Max. speed	860 mm/s

Specifications overview

Correlation diagram of stroke and payload



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*A new "3 position mode specification" option is now available.

Features

[Rod type]

An inexpensive actuator in which the rod operates in the same way as a rod type air cylinder.

Extensive lineup

Ultra-compact type, guide type, ball bushing type for lifter applications, etc., can be selected according to the application.

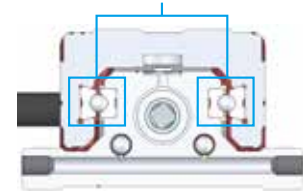
[Table type]

The table on the top of the body operates. With a built-in ball circulating type with a built-in linear guide in the table section, it can handle load moments in any direction.

Compact

Guide, motor, encoder, and controller built-in to a palm-sized body

Ball circulating type with a built-in linear guide



(Example) Sectional view of ultra-small type

Lineup

Rod type

Wire Type	Ultra-compact Type	Standard Type	Mini Type	Double guide Type
EC-WER1	EC-GDB3	EC-R6/R7	EC-RP□/GS4/GD□	EC-SRGC9/SRG9 SRG11/15
● Wire-driven type	● Ultra-compact, palm-sized type	● Cylindrical rod type	● Short overall length type	● Ball bushing type
Body width 13 mm	Body width 42 mm	Body width 63 / 73 mm	Body width 28 ~ 112 mm	Body width 93 / 112 / 148 mm
Stroke 10 / 20 mm	Stroke 10 ~ 50 mm	Stroke 50 ~ 300 mm	Stroke 30 ~ 150 mm	Stroke 50 ~ 300 mm
Max. payload Horizontal 0.75 kg / Vertical 0.25 kg	Max. payload Horizontal 2 kg / Vertical 0.8 kg	Max. payload Horizontal 80 kg / Vertical 19 kg	Max. payload Horizontal 35 kg / Vertical 6.5 kg	Max. payload Horizontal 60 kg / Vertical 125 kg
Max. speed Set value 100 mm/s Actual speed 91 mm/s	Max. speed 200 mm/s	Max. speed 860 mm/s	Max. speed 800 mm/s	Max. speed 800 mm/s

Rod type

Slim Type
EC-CRP□/CGD□
● Slim type with hollow motor
Body width 36 ~ 110 mm
Stroke 30 / 50 mm
Max. payload Horizontal 16 kg / Vertical 7 kg
Max. speed 200 mm/s

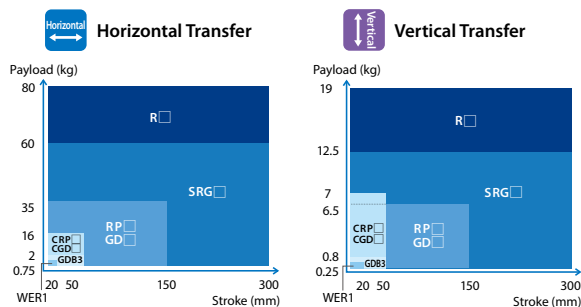
Table type

Ultra-compact Type	Mini Type	Slim Type
EC-T3	EC-TC□/TW□	EC-CTC3/CTC5
● Ultra-compact, palm-sized type	● Short overall length type	● Slim type with hollow motor
Body width 32 mm	Body width 26 ~ 88 mm	Body width 36 / 52 mm
Stroke 10 ~ 50 mm	Stroke 30 ~ 150 mm	Stroke 30 / 50 mm
Max. payload Horizontal 2 kg / Vertical 0.8 kg	Max. payload Horizontal 20 kg / Vertical 6.5 kg	Max. payload Horizontal 8 kg / Vertical 7 kg
Max. speed 200 mm/s	Max. speed 800 mm/s	Max. speed 200 mm/s

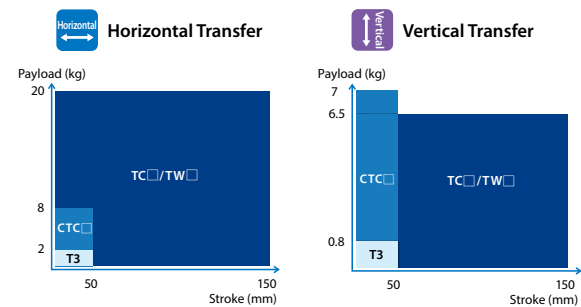
Specifications overview

Correlation diagram of stroke and payload

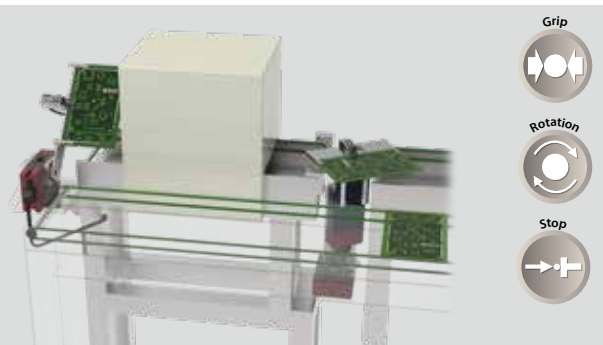
[Rod type]



[Table type]



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*A new "3 position mode specification" option is now available.

Features

[Gripper]

Gripping force can be adjusted in 1% increments.

Easy setup

Simply input the clamping force, standby position, and clamping start point numerically.



[Rotary]

Rotary actuator with built-in controller and reduced height.

Built-in controller

Allowing smooth stopping even at high speeds.

[Stopper]

Ideal for stopping workpieces on conveyors without an air source.

Sliding bushing

construction, sliding bushings allow for radial loads.



Lineup

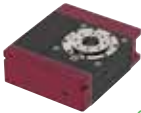
Gripper

Wire Type	EC-WEGR2	Gripper Type	EC-GRB(P)□	Gripper Type	EC-GRC6/GRC7	Gripper Type	EC-GRST□
	 24v Stepper motor Compact		 24v Stepper motor Low price Compact		 24v Stepper motor Low price Compact	 24v Stepper motor Low price Long Rule High thrust	
● Wire-driven type	● Vertical type	● Flat type	● Long stroke				
Body width	25 mm	Body width	81 ~ 130 mm	Body width	60 / 70 mm	Body width	35 ~ 73 mm
Stroke (one side)	2 mm	Stroke (one side)	10 ~ 20 mm	Stroke (one side)	10 ~ 40 mm	Stroke (one side)	25 ~ 130 mm
Max. grip force (both sides)	10 N	Max. grip force (both sides)	28 ~ 360 N	Max. grip force (both sides)	36 ~ 350 N	Max. grip force (both sides)	125 ~ 1641 N

Gripper

Gripper Type	EC-GRTR14□
	
● 3-finger	24v Stepper motor Low price 
Body width	Ø138 mm
Stroke (one finger)	15 mm
Max. grip force (3 fingers)	950 N

Rotary

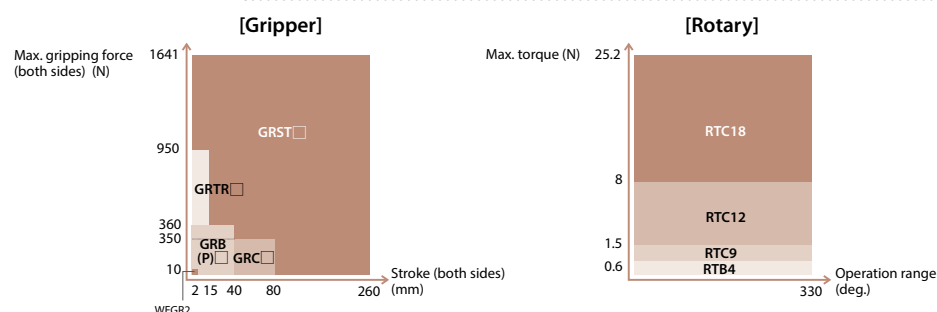
Rotary Type	EC-RTB4	Rotary Type	EC-RTC□
			
● Vertical type	  	● Flat type	 
Body width	45 mm	Body width	90 ~ 185 mm
Operation range	0 ~ 330 deg.	Operation range	0 ~ 330 deg.
Max. torque	0.6 N	Max. torque	1.5 ~ 25.2 N
Allowable inertia moment	~ 0.011 kg·m ²	Allowable inertia moment	~ 0.49 kg·m ²

Stopper

Stopper Type	EC-GDS3
	
24V Stepper motor Low price  Compact 	
● Palm-sized, ultra small type	
Body width	42 mm
Stroke	10 ~ 30 mm
Max. workpiece mass	8 kg

Specifications overview

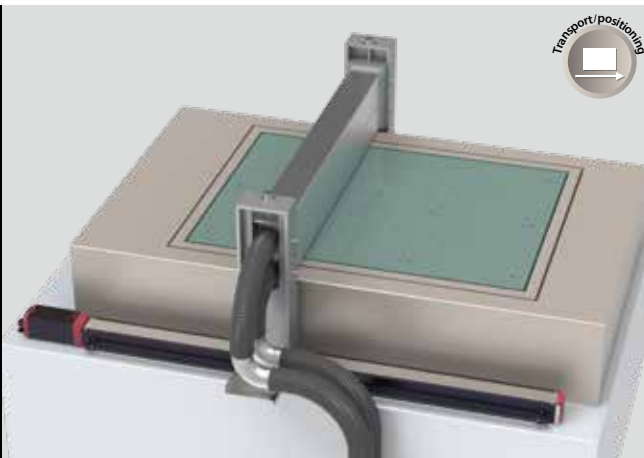
Correlation chart between stroke and max. grip force/operation range and max. torque

Stopper
EC-ST9/STC9
ST11/15

● Can be selected from three sizes

Body width	93 / 112 / 148 mm
Stroke	30 ~ 50 mm
Max. workpiece mass	100 kg

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*A new "3 position mode specification" option is now available.

Features

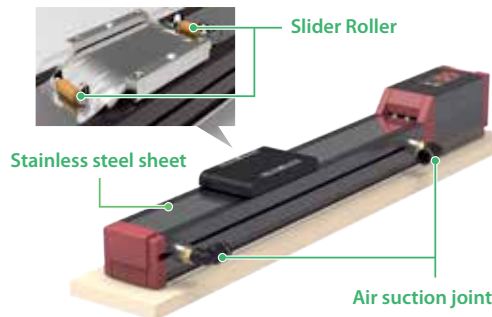
The system is ISO class 2.5/3 compliant, making it ideal for operation in clean environments. (ISO 14644-1)

Extensive lineup:

From compact type to Horizontal 80 kg high payload type.

Unlimited installation orientation:

Sealed construction allows for Vertical or Horizontal installation.



What is ISO Class 2.5...?

Refers to an environment with less than 316 pieces of debris 0.1 μm or larger in 1 m^3 .

Low-dust structure

- Stainless steel sheet on top surface
- Air suction inside the body
- Roller structure of slider section
- Low dust grease (Ball screw/guide section)

Lineup

Standard Type EC-S□(A)CR



- 5 total sizes
- ISO Class 3 (ISO 14644-1 Std.)

Body width	35 ~ 85 mm
Stroke	50 ~ 1500 mm
Max. payload	Horizontal 80 kg / Vertical 55 kg
Max. speed	1200 mm/s

High rigidity Type EC-S□AHCR



- High rigidity 4-row Gothic arc linear guide type
- ISO Class 2.5 (ISO 14644-1 Std.)

Body width	63 / 78 / 85 mm
Stroke	50 ~ 2000 mm
Max. payload	Horizontal 90 kg / Vertical 55 kg
Max. speed	1350 mm/s

Wide Type EC-WS□CR

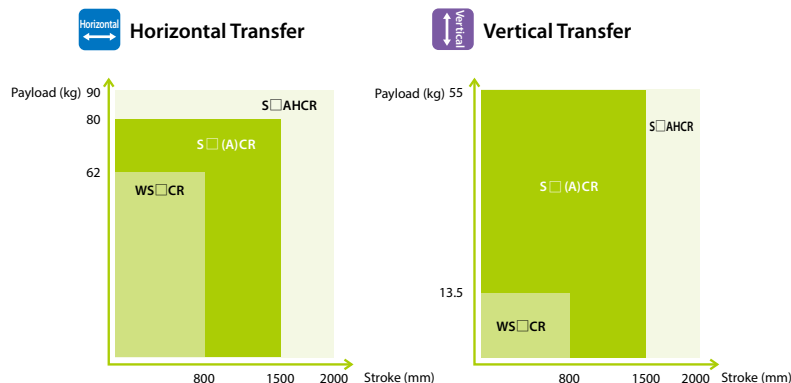


- Wide body, high rigidity type
- ISO Class 3 (ISO 14644-1 Std.)

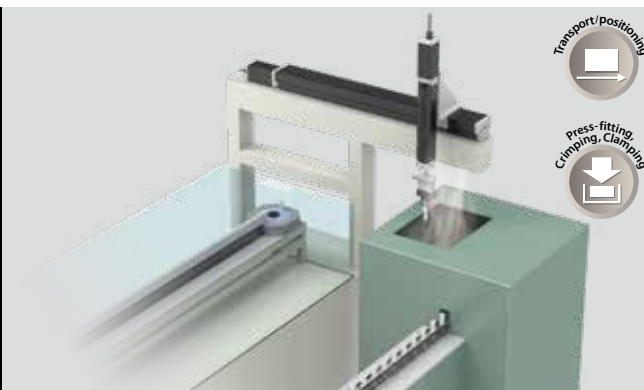
Body width	100 / 120 mm
Stroke	50 ~ 800 mm
Max. payload	Horizontal 62 kg / Vertical 13.5 kg
Max. speed	900 mm/s

Specifications overview

Correlation diagram of stroke and payload



ELECYLINDER



*A new "3 position mode specification" option is now available.

Features

IP40~67 rating allows use in water and dusty environments. It is used in processing machines, food processing machines, washing machines, etc.

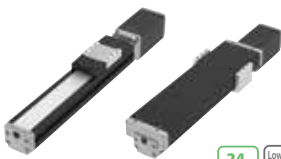
Grease options: Optional grease for food machinery can be selected.

Integrated guide: Slider type/radial cylinders have a built-in ball circulating type with a built-in linear guide as in the standard environment version, so that moment loads in the rolling direction can be accommodated.

Ingress Protection Display	Dust-resistant specification		Dust/splash-proof specification		Dust/splash-proof specification	Dust/splash-proof specification
IP ☐ ☐						
1st Display Number Protection against human body and solid foreign objects	S□D		S□W		GRBP□W	R□W RR□W
2nd Display Number Protection from water ingress	WS Option					
Ingress Protection	IP40		IP43		IP44 *	
1st Display Number Description	No tools, wires, or other solid objects exceeding 1.0 mm in diameter or thickness can penetrate.		Thickness 1.0 mm		Dust that will affect operation will not enter the interior.	
2nd Display Number Description	Unprotected		Rainproof No harmful effects from water drop falling within 60° from the vertical.		Splashproof Not adversely affected by splashing water from any direction.	
					Waterproof Water does not enter the interior even when submerged under water under defined conditions.	

* S□W: IP44 when wiper seal mounted specification (WS) option is adopted.

Lineup

Standard
Type Slider type
EC-S□D/S□W

● IP40~44

Body width	63 / 73 mm
Stroke	50 ~ 800 mm
Max. payload	Horizontal 51 kg / Vertical 19 kg
Max. speed	860 mm/s

Standard
Type Rod type
EC-R□W

● IP67

Body width	63 / 73 mm
Stroke	50 ~ 300 mm
Max. payload	Horizontal 80 kg / Vertical 19 kg
Max. speed	860 mm/s

Standard
Type Radial Cylinder®
EC-RR□W

● IP67

Body width	63 / 73 mm
Stroke	65 ~ 315 mm
Max. payload	Horizontal 80 kg / Vertical 19 kg
Max. speed	860 mm/s

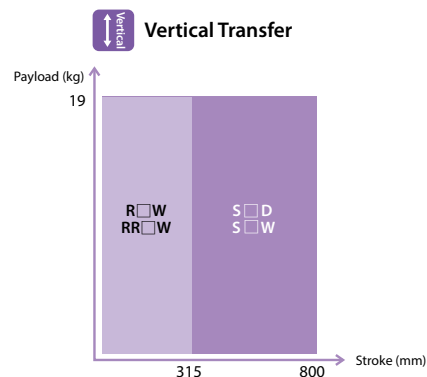
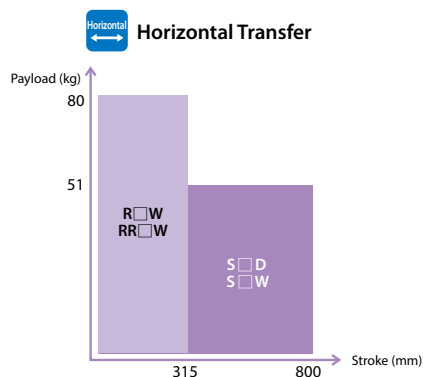
Standard
Type Gripper
EC-GRBP□W

● IP54 equivalent

Body width	89 ~ 137 mm
Stroke (one side)	10 ~ 20 mm
Max. grip force (both sides)	36 ~ 258 N

Specifications Overview

Correlation diagram of stroke and payload



ROBO Cylinder Single-axis robot



Features

The standard actuator shape is used to mount and operate a workpiece on a slider on the top surface of the body.
IAI products feature a ball circulating type with a built-in linear guide integrated with base, which is resistant to moments in the rolling direction.

Extensive lineup

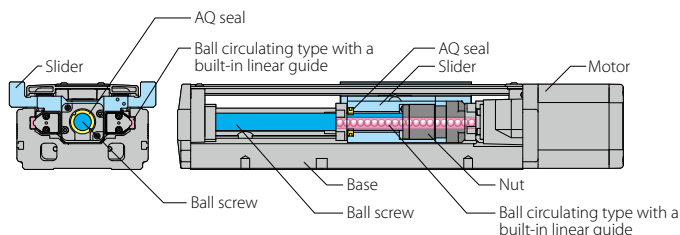
A wide range of types can be selected to suit the application, from compact types, long-strokes, low-cost belt-driven types, and multi-slider types.

Stable positioning

Guide is press-fitted into the base, so there is no risk of rattling of the guide section.

High precision

Positioning repeatability up to 3μm
Ideal for equipment requiring high running accuracy and high precision positioning when combined.



(Ex.) Single Axis Robot

Lineup

ROBO Cylinder RCP6 Series

RCP6-SA□/ HSA□/WSA□



- 8 total sizes
- Motor side-mounted type is also selectable

Body width	40 ~ 160 mm
Stroke	50 ~ 1500 mm
Max. payload	Horizontal 100 kg / Vertical 55 kg
Max. speed	1440 mm/s

ROBO Cylinder RCP5 Series

RCP5-BA□



- Belt-driven type
- Motor with top/bottom mounting can be selected

Body width	40 ~ 70 mm
Stroke	300 ~ 2600 mm
Max. payload	Horizontal 16 kg
Max. speed	1600 mm/s

ROBO Cylinder RCP3 Series

RCP3-SA2□



- Compact type with a body width of 22mm and up

Body width	22 / 28 mm
Stroke	25 ~ 150 mm
Max. payload	Horizontal 1 kg
Max. speed	300 mm/s

ROBO Cylinder RCS4 Series

RCS4-SA□/ HSA□/WSA□



- 8 total sizes
- Motor side-mounted type is also selectable

Body width	40 ~ 160 mm
Stroke	50 ~ 1100 mm
Max. payload	Horizontal 120 kg / Vertical 50 kg
Max. speed	2200 mm/s

Single Axis Robot
ISB
Series



- High precision type
(Positioning repeatability: $\pm 3\mu\text{m}$) also selectable

Body width	90 ~ 198 mm
Stroke	100 ~ 3000 mm
Max. payload	Horizontal 400 kg / Vertical 80 kg
Max. speed	2500 mm/s

Single Axis Robot
ISDB
Series



- Simple dust-proof type with stainless steel sheet

Body width	90 ~ 150 mm
Stroke	100 ~ 1600 mm
Max. payload	Horizontal 120 kg / Vertical 40 kg
Max. speed	2200 mm/s

Single Axis Robot
NSA
Series



- Rotating nut type
- Multi-sliders can also be selected

Body width	125 ~ 198 mm
Stroke	300 ~ 3000 mm
Max. payload	Horizontal 120 kg
Max. speed	2500 mm/s

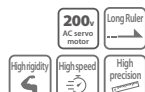
Single Axis Robot
IFA
Series



- Belt-driven type
- Motor with top/bottom mounting can be selected

Body width	105 / 134 mm
Stroke	200 ~ 3200 mm
Max. payload	Horizontal 40 kg
Max. speed	3000 mm/s

Single Axis Robot
LSA
Series



- Linear servo type
- Multi-sliders can also be selected

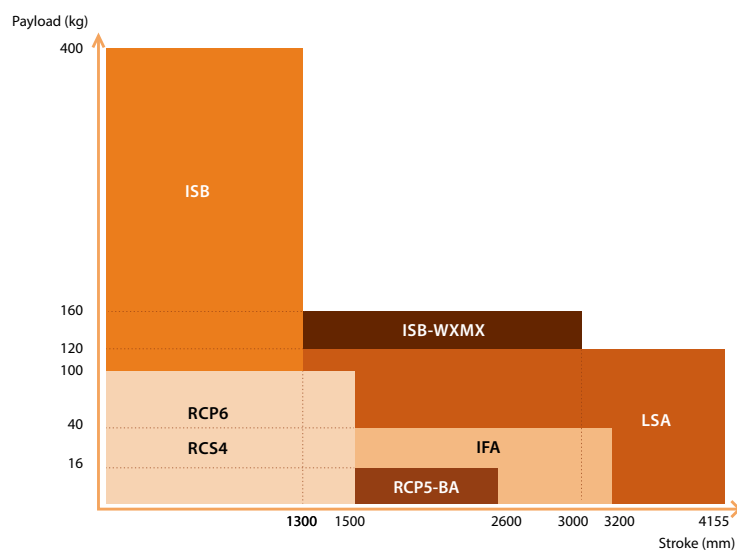
Body width	60 ~ 210 mm
Stroke	40 ~ 4155 mm
Max. payload	Horizontal 120 kg
Max. speed	2500 mm/s

Specifications overview

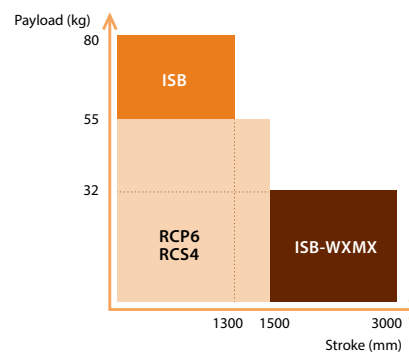
Correlation diagram of stroke and payload



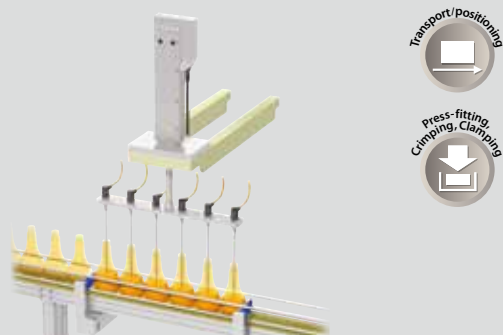
Horizontal Transfer



Vertical Transfer



ROBO Cylinder



Features

[Rod type]

This is an inexpensive actuator in which the rod operates in the same way as a rod type air cylinder.

Extensive lineup

Selectable from pen size to maximum pressing force of 2t to suit the application.

[Radial Cylinder]

A ball circulating type with a built-in linear guide is built into the rod type body. Radial and unbalanced loads can be directly received by the cylinder body.

Linearity

Integrated structure with built-in linear guide suppresses tip runout.

Lineup

ROBO Cylinder RCP6 Series RCP6-RA□ / RRA□ / WRA□



- 8 total sizes
 - Motor side-mounted type is also selectable
- | | |
|--------------|------------------------------------|
| Body width | 40 ~ 160 mm |
| Stroke | 50 ~ 800 mm |
| Max. payload | Horizontal 100 kg / Vertical 70 kg |
| Max. speed | 1120 mm/s |



ROBO Cylinder RCP5 Series RCP5-RA10□



- High thrust type
 - Motor side-mounted type is also selectable
- | | |
|--------------|-------------------------------------|
| Body width | 108 mm |
| Stroke | 50 ~ 800 mm |
| Max. payload | Horizontal 300 kg / Vertical 150 kg |
| Max. speed | 250 mm/s |



ROBO Cylinder RCP3 Series RCP3-RA2□



- Compact and mini type
- | | |
|--------------|-----------------------------------|
| Body width | 22 / 28 mm |
| Stroke | 25 ~ 150 mm |
| Max. payload | Horizontal 8 kg / Vertical 2.5 kg |
| Max. speed | 300 mm/s |



ROBO Cylinder RCP2 Series RCP2-SR□4R



- Overall length shortening type
 - Guide type is also available
- | | |
|--------------|-----------------------------------|
| Body width | 44 / 45 mm |
| Stroke | 20 ~ 200 mm |
| Max. payload | Horizontal 35 kg / Vertical 15 kg |
| Max. speed | 250 mm/s |



ROBO Cylinder RCD Series RCD



- Ultra-compact type with a cross section size of □12 mm
- | | |
|--------------|-------------------------------------|
| Body width | 12 mm |
| Stroke | 10 ~ 30 mm |
| Max. payload | Horizontal 0.7 kg / Vertical 0.3 kg |
| Max. speed | 300 mm/s |



ROBO Cylinder RCS4 Series RCS4-RA□ / RRA□ / WRA□



- 8 total sizes
 - Motor side-mounted type is also selectable
- | | |
|--------------|------------------------------------|
| Body width | 40 ~ 160 mm |
| Stroke | 50 ~ 800 mm |
| Max. payload | Horizontal 100 kg / Vertical 72 kg |
| Max. speed | 1500 mm/s |



ROBO Cylinder RCA2 Series RCA2



- Overall length shortening type
 - Guide type is also available
- | | |
|--------------|-----------------------------------|
| Body width | 28 ~ 72 mm |
| Stroke | 30 ~ 75 mm |
| Max. payload | Horizontal 6 kg / Vertical 1.5 kg |
| Max. speed | 300 mm/s |



ROBO Cylinder RCS3 Series RCS3-RA15R/20R



- Max. 2t push force
- | | |
|--------------|--------------------------------------|
| Body width | 150 / 200 mm |
| Stroke | 100 ~ 500 mm |
| Max. payload | Horizontal 1000 kg / Vertical 600 kg |
| Max. speed | 400 mm/s |



ROBO Cylinder RCS2 Series RCS2



- Overall length shortening type
 - Guide type is also available
- | | |
|--------------|-------------------------------------|
| Body width | 46 ~ 94 mm |
| Stroke | 50 ~ 300 mm |
| Max. payload | Horizontal 55 kg / Vertical 22.5 kg |
| Max. speed | 800 mm/s |



ROBO Cylinder RCS2 Series RCS2-RA13R

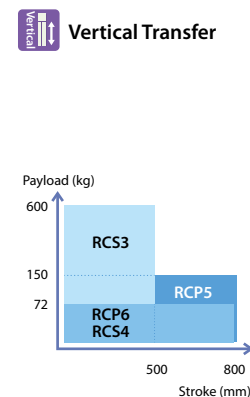
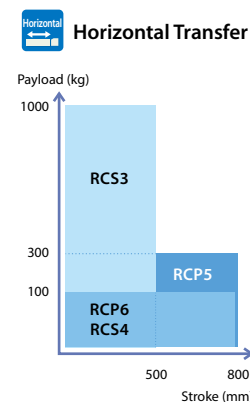


- Max. approx. 2t push force
- | | |
|--------------|-------------------------------------|
| Body width | 130 mm |
| Stroke | 50 ~ 200 mm |
| Max. payload | Horizontal 500 kg / Vertical 300 kg |
| Max. speed | 125 mm/s |



Specifications overview

Correlation diagram of stroke and payload



ROBO Cylinder

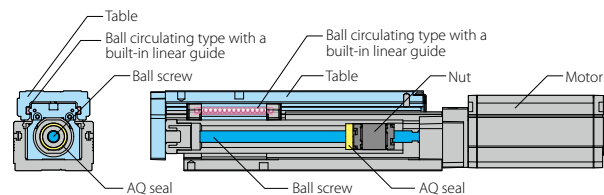


Features

The table on the top of the body operates. With a built-in ball circulating type with a built-in linear guide in the table section, it can handle load moments in any direction. Used for clamping workpieces from the left and right sides, for workpiece widening mechanisms and for orthogonal combination axes such as the Vertical axis.

Extensive lineup

Selectable according to application from high load moment type to compact size with nut rotation



Lineup

ROBO Cylinder
RCP6
Series RCP6-TA□

- 3 total sizes
- Motor side-mounted type is also selectable

Body width	40 ~ 70 mm
Stroke	25 ~ 390 mm
Max. payload	Horizontal 30 kg / Vertical 24 kg
Max. speed	1120 mm/s

ROBO Cylinder
RCA2
Series RCA2-T□

- Overall length shortening type

Body width	32 ~ 71 mm
Stroke	30 / 50 mm
Max. payload	Horizontal 6 kg / Vertical 1.5 kg
Max. speed	300 mm/s

ROBO Cylinder
RCS4
Series RCS4-TA□

- 3 total sizes
- Motor side-mounted type is also selectable

Body width	40 ~ 70 mm
Stroke	25 ~ 390 mm
Max. payload	Horizontal 30 kg / Vertical 24 kg
Max. speed	1300 mm/s

ROBO Cylinder
RCS2
Series RCS2-T□

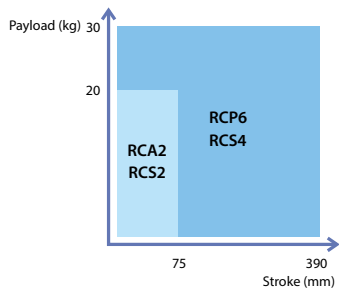
- Overall length shortening type

Body width	48 ~ 95 mm
Stroke	50 / 75 mm
Max. payload	Horizontal 20 kg / Vertical 6 kg
Max. speed	380 mm/s

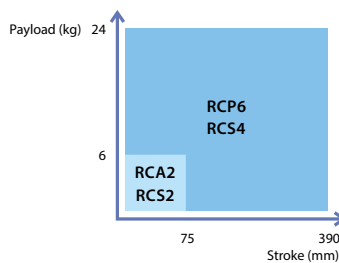
Specifications overview

Correlation diagram of stroke and payload

Horizontal Transfer



Vertical Transfer



ROBO Cylinder



Features

[Pulse press]

Actuator that enables force control by combining a stepper motor and load cell.

Low price / Simple

Equipped with a stepper motor, the price is less than half of the servo press specifications and can be easily set up with a teaching tool.

Can be pushed and pulled
Load direction push and pull
functionality with unlimited
push/pull time.



[Servo press]

Actuator that combines a servo motor with a load cell to provide high precision force control.

High precision

A wide variety of press motions difficult
to achieve with hydraulic pressure.



[Special applications model]

Can be used for various applications, such as a stopper to stop a
conveyor workpiece, vacuum pump without air or a model that can
realize two types of motions with a single actuator.

Lineup

ROBO Cylinder RCP6 Series Pulse Press RCP6-RR□R

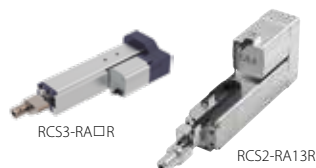


● 3 total sizes



Body width	40 ~ 73 mm
Stroke	110 ~ 320 mm
Max. push / Tensile strength	2000 N
Max. payload	Horizontal 10 kg Vertical 10 kg
Loading repeatability	±1.0% F.S.

ROBO Cylinder RCS3/2 Series Servo Press RCS3/RCS2-RA□R



● 8 total sizes



Body width	40 ~ 200 mm
Stroke	50 ~ 520 mm
Max. push / Tensile strength	50000 N
Rated thrust	126 ~ 25902 N
Loading repeatability	±0.5% F.S.

RP Series ROBO Pump® RP-VPM

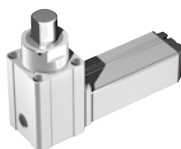


● Vacuum pump without air



Generating flow rate	1.8 L/min or more
Vacuum level	-50 kPa or less
Payload guideline (with 20mm vacuum pad)	Horizontal 0.4 kg Vertical 0.2 kg

ROBO Cylinder RCP4 Series Stopper cylinder RCP4-ST□



● Stopper cylinder for stopping
workpieces on the conveyor



Body width	42 / 60 mm
Stroke	20 / 30 mm
Max. workpiece mass	150 kg
Max. workpiece impact speed (m/min)	40 mm/s

ZR Series Vertical/rotation integrated ZR



● Unit type with vertical and
rotational axis in one

Stroke	Z-axis: ~ 200 mm R-axis: ±360 deg.
Max. payload	6 kg

WU Series Wrist Unit WU



● Wrist unit with oscillating and
rotational axis in one

Operation range	B-axis: ~ ±105 deg. T-axis: ±360 deg.
Max. payload	2 kg

RCP6 Series Rotary Chuck RCP6-RTCK□



● Rotation and grip in one unit

Rotational operation range	0 ~ 360 deg.
Grip stroke	2 mm
Max. grip force (both sides)	20 N

ROBO Cylinder
Single-axis
robot

Features

[Gripper]

Since a large number of gripping points and gripping forces can be set, there is no need to adjust the setup.

Supports workpiece identification

Zone signal function outputs a signal when the machine moves to an arbitrary position, enabling workpiece identification and pass/fail judgment.

[Rotary]

330 degree and multi-turn specifications are selectable. Infinite rotation in one direction is also supported.

Extensive lineup

Compact to large, vertical, flat, etc., the most suitable model for your equipment can be selected.

Lineup

Gripper

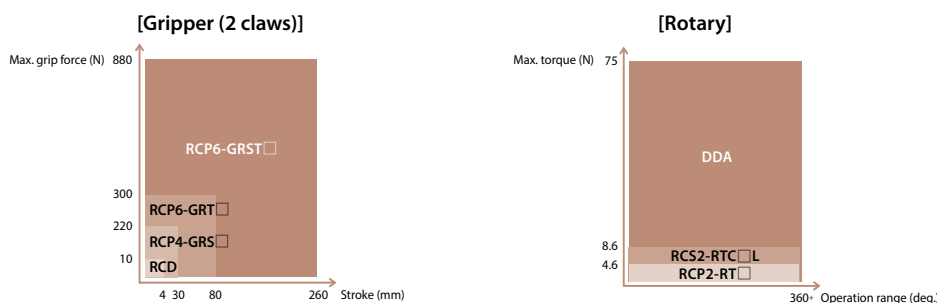
Solenoid gripper Series GRS/GRM  - Low price - Compact ● Solenoid-driven compact gripper <table> <tr><td>Body width</td><td>26 / 32 mm</td></tr> <tr><td>Stroke (one side)</td><td>2 mm</td></tr> <tr><td>Max. grip force (both sides)</td><td>20 N</td></tr> </table>	Body width	26 / 32 mm	Stroke (one side)	2 mm	Max. grip force (both sides)	20 N	ROBO Cylinder RCD Series RCD  24V Brushless DC motor type - Low price - Compact ● Ultra-compact, palm-sized type gripper <table> <tr><td>Body width</td><td>22 mm</td></tr> <tr><td>Stroke (one side)</td><td>2 mm</td></tr> <tr><td>Max. grip force (both sides)</td><td>10 N</td></tr> </table>	Body width	22 mm	Stroke (one side)	2 mm	Max. grip force (both sides)	10 N
Body width	26 / 32 mm												
Stroke (one side)	2 mm												
Max. grip force (both sides)	20 N												
Body width	22 mm												
Stroke (one side)	2 mm												
Max. grip force (both sides)	10 N												
ROBO Cylinder RCP6 Series RCP6-GRT7□  24V Stepper motor ● Flat shape type with height of 39mm <table> <tr><td>Body width</td><td>91 / 123 mm</td></tr> <tr><td>Stroke (one side)</td><td>15 ~ 40 mm</td></tr> <tr><td>Max. grip force (both sides)</td><td>300 N</td></tr> </table>	Body width	91 / 123 mm	Stroke (one side)	15 ~ 40 mm	Max. grip force (both sides)	300 N	ROBO Cylinder RCP6 Series RCP6-GRST□  24V Stepper motor - Long Ruler ● Long Stroke Gripper ● Motor side-mounted type is also selectable <table> <tr><td>Body width</td><td>58 / 70 mm</td></tr> <tr><td>Stroke (one side)</td><td>90 ~ 130 mm</td></tr> <tr><td>Max. grip force (both sides)</td><td>880 N</td></tr> </table>	Body width	58 / 70 mm	Stroke (one side)	90 ~ 130 mm	Max. grip force (both sides)	880 N
Body width	91 / 123 mm												
Stroke (one side)	15 ~ 40 mm												
Max. grip force (both sides)	300 N												
Body width	58 / 70 mm												
Stroke (one side)	90 ~ 130 mm												
Max. grip force (both sides)	880 N												
ROBO Cylinder RCP4 Series RCP4-GR□  24V Stepper motor ● 6 total models <table> <tr><td>Body width</td><td>34 ~ 60mm</td></tr> <tr><td>Stroke (one side)</td><td>7 ~ 15 mm 90 deg.</td></tr> <tr><td>Max. grip force (both sides)</td><td>220 N 90 N</td></tr> </table>	Body width	34 ~ 60mm	Stroke (one side)	7 ~ 15 mm 90 deg.	Max. grip force (both sides)	220 N 90 N	ROBO Cylinder RCP2 Series RCP2-GR3□  24V Stepper motor ● 3-claw type is also available <table> <tr><td>Body width</td><td>62 / 80mm</td></tr> <tr><td>Stroke (one side)</td><td>5 / 7 mm 19 deg.</td></tr> <tr><td>Max. grip force (both sides)</td><td>102 N 51 N</td></tr> </table>	Body width	62 / 80mm	Stroke (one side)	5 / 7 mm 19 deg.	Max. grip force (both sides)	102 N 51 N
Body width	34 ~ 60mm												
Stroke (one side)	7 ~ 15 mm 90 deg.												
Max. grip force (both sides)	220 N 90 N												
Body width	62 / 80mm												
Stroke (one side)	5 / 7 mm 19 deg.												
Max. grip force (both sides)	102 N 51 N												

Rotary

ROBO Cylinder RCP2 Series RCP2-RT□  24V Stepper motor - Low price ● 6 total models <table> <tr><td>Body width</td><td>45 ~ 114 mm</td></tr> <tr><td>Operation range</td><td>330 / 360 deg. (multi-rotation)</td></tr> <tr><td>Max. torque</td><td>4.6 N</td></tr> <tr><td>Allowable inertia moment</td><td>~ 0.03 kg·m²</td></tr> </table>	Body width	45 ~ 114 mm	Operation range	330 / 360 deg. (multi-rotation)	Max. torque	4.6 N	Allowable inertia moment	~ 0.03 kg·m ²	ROBO Cylinder RCS2 Series RCS2-RTC□ L  200V AC servo motor - High thrust ● Hollow type <table> <tr><td>Body width</td><td>135 ~ 233 mm</td></tr> <tr><td>Operation range</td><td>330 / 360 deg. (multi-rotation)</td></tr> <tr><td>Max. torque</td><td>8.6 N</td></tr> <tr><td>Allowable inertia moment</td><td>~ 0.17 kg·m²</td></tr> </table>	Body width	135 ~ 233 mm	Operation range	330 / 360 deg. (multi-rotation)	Max. torque	8.6 N	Allowable inertia moment	~ 0.17 kg·m ²
Body width	45 ~ 114 mm																
Operation range	330 / 360 deg. (multi-rotation)																
Max. torque	4.6 N																
Allowable inertia moment	~ 0.03 kg·m ²																
Body width	135 ~ 233 mm																
Operation range	330 / 360 deg. (multi-rotation)																
Max. torque	8.6 N																
Allowable inertia moment	~ 0.17 kg·m ²																
Single Axis Robot DDA Series DDA  200V AC servo motor - High thrust - High precision ● Large diameter direct drive motor <table> <tr><td>Body width</td><td>180 mm</td></tr> <tr><td>Operation range</td><td>360 deg. (multi-rotation)</td></tr> <tr><td>Max. torque</td><td>~ 75 N</td></tr> <tr><td>Allowable inertia moment</td><td>~ 1.8 kg·m²</td></tr> </table>	Body width	180 mm	Operation range	360 deg. (multi-rotation)	Max. torque	~ 75 N	Allowable inertia moment	~ 1.8 kg·m ²	ROBO Cylinder RCP6 Series RCP6-RTFML  24V Stepper motor ● Ø49 Large caliber hollow shaft <table> <tr><td>Operation range</td><td>±180 deg.</td></tr> <tr><td>Max. torque</td><td>5.2 N</td></tr> <tr><td>Allowable inertia moment</td><td>~ 0.08 kg·m²</td></tr> </table>	Operation range	±180 deg.	Max. torque	5.2 N	Allowable inertia moment	~ 0.08 kg·m ²		
Body width	180 mm																
Operation range	360 deg. (multi-rotation)																
Max. torque	~ 75 N																
Allowable inertia moment	~ 1.8 kg·m ²																
Operation range	±180 deg.																
Max. torque	5.2 N																
Allowable inertia moment	~ 0.08 kg·m ²																

Specifications overview

Correlation chart between stroke and max. grip force/operation range and max. torque



**Cartesian
Robot**



Features

Choose from IK series with low-cost RCP6 or ICSB series which combines high rigidity, high precision, and high speed operation of the ISB. (2~6 axes)
A wide range of combination patterns are available for various applications.
Battery-less absolute encoder is standard, eliminating the need for a home return motion when starting up the machine.

Lineup

IK2 IK2
Series

24V Stepper motor Low price

Max. stroke X-axis: 1100 Y-axis: 500 mm
Max. payload 17 kg
Max. speed X-axis: 650 Y-axis: 800 mm/s

IK2 IK2
Series

24V Stepper motor Low price

Max. stroke Y-axis: 1100 Z-axis: 300 mm
Max. payload 8 kg
Max. speed Y-axis: 800 Z-axis: 800 mm/s

IK3 IK3
Series

24V Stepper motor Low price

Max. stroke X-axis: 1100 Y-axis: 500
Z-axis: 300 mm
Max. payload 6 kg
Max. speed X-axis: 300 Y-axis: 640
Z-axis: 800 mm/s

IK4 IK4
Series

24V Stepper motor Low price

Max. stroke X-axis: 1100 Y-axis: 400
Z-axis: 150 R-axis: ± 360 mm
Max. payload 5 kg
Max. speed X-axis: 300 Y-axis: 280
Z-axis: 400 R-axis: 1000 mm/s

ICSB2 ICS(P)B2-B
Series

200V AC servo motor High thrust Long Ruler High precision

Max. stroke X-axis: 3000 Y-axis: 700 mm
Max. payload 90 kg
Max. speed X-axis: 2500
Y-axis: 2400 mm/s

ICSB2 ICS(P)B2-G
Series

200V AC servo motor High thrust Long Ruler High precision

Max. stroke X-axis: 2500 Y-axis: 1200 mm
Max. payload 60 kg
Max. speed X-axis: 1200
Y-axis: 1200 mm/s

ICSB2 ICS(P)B2-Z
Series

200V AC servo motor Long Ruler High precision

Max. stroke X-axis: 2500 Z-axis: 500 mm
Max. payload 20 kg
Max. speed X-axis: 2400
Z-axis: 1200 mm/s

ICSB2 ICS(P)B2-Y
Series

200V AC servo motor High thrust High precision

Max. stroke Y-axis: 1300 Z-axis: 500 mm
Max. payload 40 kg
Max. speed Y-axis: 2400
Z-axis: 1200 mm/s

ICSB3 ICS(P)B3-B
Series

200V AC servo motor Long Ruler High precision

Max. stroke X-axis: 3000 Y-axis: 700
Z-axis: 500 mm
Max. payload 36.4 kg
Max. speed X-axis: 2500 Y-axis: 2400
Z-axis: 1200 mm/s

ICSB3 ICS(P)B3-G
Series

200V AC servo motor Long Ruler High precision

Max. stroke X-axis: 2500 Y-axis: 1200
Z-axis: 600 mm
Max. payload 34.3 kg
Max. speed X-axis: 1200 Y-axis: 1200
Z-axis: 1200 mm/s

ICSB3 ICS(P)B3-Z3
Series

200V AC servo motor High precision

Max. stroke X-axis: 1270 Y-axis: 500
Z-axis: 500 mm
Max. payload 16.5 kg
Max. speed X-axis: 1200 Y-axis: 1200
Z-axis: 600 mm/s

ICSB4 ICS(P)B4-B HZR
Series

200V AC servo motor

Max. stroke X-axis: 1300 Y-axis: 700
Z-axis: 200 R-axis: ± 360 mm
Max. payload 5 kg
Max. speed X-axis: 1200 Y-axis: 1200
Z-axis: 1256 R-axis: 2200 mm/s

ICSB4 ICS(P)B4-B N1
Series

200V AC servo motor High thrust Long Ruler High precision

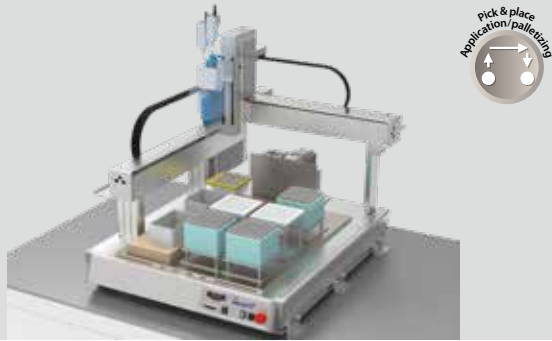
Max. stroke X-axis: 2700 Y-axis: 700 mm
Max. payload 45 kg
Max. speed X-axis: 2400 Y-axis: 1200 mm/s

ICSB6 ICS(P)B6-B N1
Series

200V AC servo motor Long Ruler High precision

Max. stroke X-axis: 2700 Y-axis: 700
Z-axis: 500 mm
Max. payload 20 kg
Max. speed X-axis: 2400 Y-axis: 1200
Z-axis: 1200 mm/s

**Tabletop
Robot**



Features

Tabletop all-in-one Cartesian Coordinate Robot with built-in controller and power supply, capable of interpolated control of up to 4 axes.
Two patterns are available: workpiece moving type and workpiece fixed type.

Simple program

Automatic generation of soldering, coating, and screw tightening programs is possible by using the "SEL Program Generator" in the PC software (see p. 44 for details)

Switch Option

Up to four additional switches can be added to the full panel for configurable usage.
No PLC is required, reducing wiring and lowering costs.

**Workpiece gantry type
TTA-A Series**

Type where workpieces are loaded on the X Axis and moved around.
The workpiece itself moves.



**Workpiece mount type
TTA-C Series**

Type where workpieces are loaded on the X Axis and moved around.
The workpiece itself does not move.



Lineup

TTA TTA-A2
Series



Max. stroke	X-axis: 500 Y-axis: 500 mm
Max. payload	X-axis: 30 Y-axis: 20 kg
Max. speed	X-axis: 1200 Y-axis: 1200 mm/s

TTA TTA-A3
Series



Max. stroke	X-axis: 500 Y-axis: 500 Z-axis: 150mm
Max. payload	X-axis: 30 Z-axis: 15 kg
Max. speed	X-axis: 1200 Y-axis: 1200 Z-axis: 400 mm/s

TTA TTA-A4
Series



Max. stroke	X-axis: 500 Y-axis: 500 Z-axis: 150 mm
Max. payload	X-axis: 30 ZR-axis: 15 kg
Max. speed	X-axis: 1200 Y-axis: 1200 Z-axis: 400 mm/s

TTA TTA-C2
Series



Max. stroke	X-axis: 500 Y-axis: 450 mm
Max. payload	20 kg
Max. speed	X-axis: 1000 Y-axis: 800 mm/s

TTA TTA-C3
Series



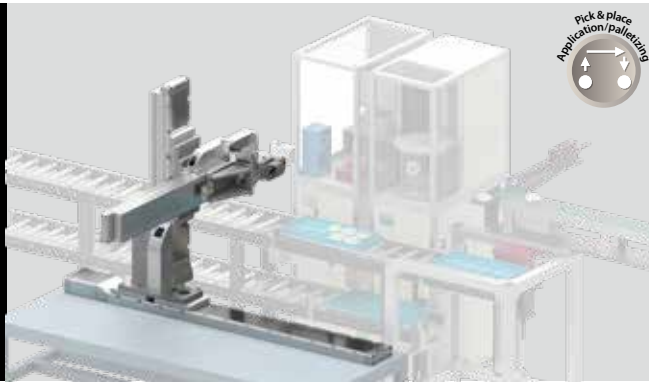
Max. stroke	X-axis: 500 Y-axis: 450 Z-axis: 150 mm
Max. payload	15 kg
Max. speed	X-axis: 1000 Y-axis: 1000 Z-axis: 400 mm/s

TTA TTA-C4
Series



Max. stroke	X-axis: 500 Y-axis: 450 Z-axis: 150 mm
Max. payload	15 kg
Max. speed	X-axis: 1000 Y-axis: 1000 Z-axis: 400 mm/s

Cartesian 6-Axis Robot



Features

This 6-DOF robot combines 3 orthogonal axes and 3 rotational axes. High degree of freedom of movement including rotation and swivel is possible. The orthogonal 6-axis robot can perform movements that could only be handled with Vertical multi-joints at a lower cost.

Simulation

Using the "Simulator for CRS" in the PC software, operation check, programming, and cycle time check can be performed in advance even without the robot itself.

Optimal size

XYZ Axis allows selection of stroke per axis.

ROBO Cylinder
Orthogonal configuration
(X,Y, Z Axis)

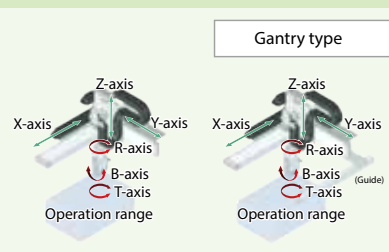
+

Hollow rotary
RCP6-RTFML
(R-axis)

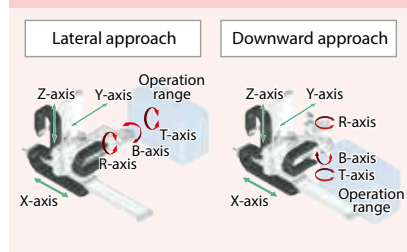
+

Wrist Unit
WU-S/M
(B,T axis)

Can be pivoted and rotated
with respect to the horizontal plane (XY plane)

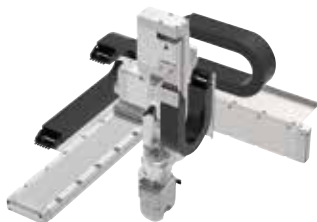


Can be pivoted and rotated
with respect to a wall surface (YZ plane)



Lineup

CRS Series CRS-XB□

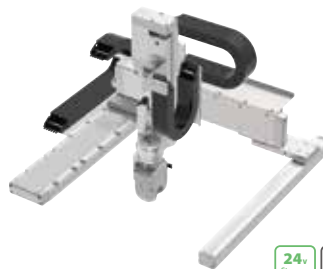


24V
Stepper
motor

200V
AC servo
motor

Max. stroke	X-axis: 1100 Y-axis: 300 Z-axis: 200 mm
Max. payload	2 kg
Standard cycle time	1.66 secs.

CRS Series CRS-XG□



24V
Stepper
motor

200V
AC servo
motor

Max. stroke	X-axis: 1100 Y-axis: 600 Z-axis: 200 mm
Max. payload	2 kg
Standard cycle time	1.66 secs.

CRS Series CRS-XZCY



24V
Stepper
motor

Max. stroke	X-axis: 800 Y-axis: 300 Z-axis: 200 mm
Max. payload	1 kg
Standard cycle time	2.55 secs.

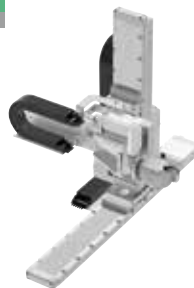
CRS Series CRS-XZCZ



24V
Stepper
motor

Max. stroke	X-axis: 800 Y-axis: 300 Z-axis: 200 mm
Max. payload	1 kg
Standard cycle time	2.55 secs.

CRS Series CRS-XZ□Y

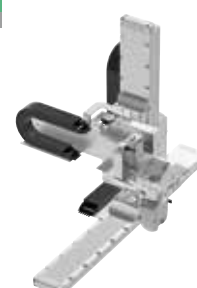


24V
Stepper
motor

200V
AC servo
motor

Max. stroke	X-axis: 800 Y-axis: 300 Z-axis: 500 mm
Max. payload	1 kg
Standard cycle time	1.69 secs.

CRS Series CRS-XZ□Z



24V
Stepper
motor

200V
AC servo
motor

Max. stroke	X-axis: 800 Y-axis: 300 Z-axis: 500 mm
Max. payload	1 kg
Standard cycle time	1.69 secs.

SCARA Robot



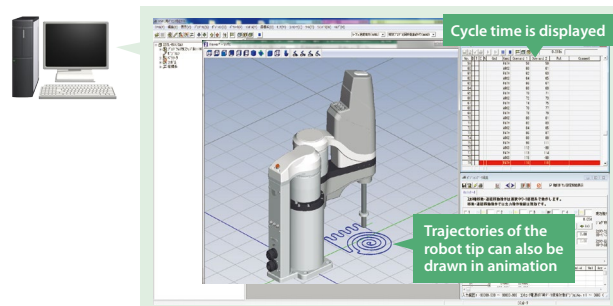
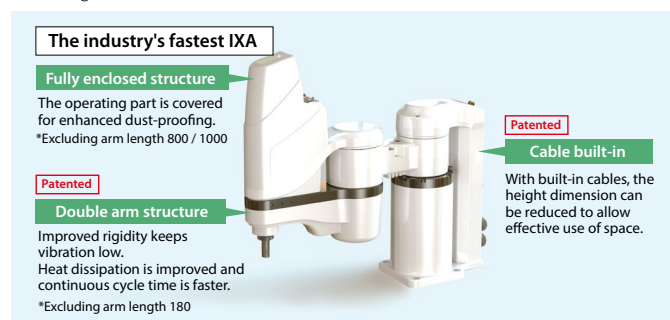
Features

Choose from the low-cost IXP series equipped with a stepper motor and the industry's fastest, high rigidity (double arm construction) IXA series.

The IXA series has an interior cable, allowing it to be used in applications with height restrictions.

IXA simulation

Using the "Simulator for IXA" in the PC software, operation check, programming, and cycle time check can be performed in advance even without the robot itself.



Lineup

IXP Series



● Rotational axis / gripper type also available

Arm length	180~650mm
Vertical Axis Stroke	80~200mm
Max. payload	6kg
Standard cycle time	0.57 secs.~

IXA Series

Standard type IXA-□NNN



● 6 total models

Arm length	180~1000mm
Vertical Axis Stroke	50~400mm
Max. payload	21kg
Standard cycle time	0.26 secs.~

IXA Series

High-speed type IXA-□NSN



● 5 total models

Arm length	180~1000mm
Vertical Axis Stroke	150~400mm
Max. payload	24kg
Standard cycle time	0.26 secs.~

IXA Series

High payload type IXA-□NHN



● Longest IAI SCARA robot

Arm length	1000/1200mm
Vertical Axis Stroke	400mm
Max. payload	50kg
Standard cycle time	0.56 secs.~

ROBO Cylinder
Single-axis
robot

Features

[Cleanroom]

The stainless steel sheet on the top surface, air suction inside the body, and low-dust construction with low-dust grease ensure compliance with ISO Class 2.5 or equivalent. (ISO 14644-1)

[Dust-proof/splash-proof]

The IP65 rating ensures that even dusty environments or equipment directly exposed to water will not be affected.

Lineup

Cleanroom

ROBO Cylinder
RCP6CR
SeriesRCP6CR-SA□C/
WSA□C

- 8 total sizes
- ISO Class 2.5 or equivalent (ISO 14644-1 Std.)

Body width	40 ~ 160 mm
Stroke	50 ~ 1100 mm
Max. payload	Horizontal 100 kg / Vertical 55 kg
Max. speed	1440 mm/s

ROBO Cylinder
RCP6CR
SeriesRCP6CR-HSA□C/
HSA□XC

- 2 total sizes
- ISO Class 2.5 or equivalent (ISO 14644-1 Std.)

Body width	63 ~ 75 mm
Stroke	50 ~ 1500 mm
Max. payload	Horizontal 55 kg / Vertical 25 kg
Max. speed	1280 mm/s

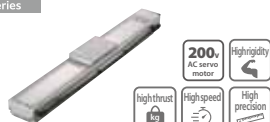
ROBO Cylinder
RCS4CR
SeriesRCS4CR-SA□C/
WSA□C

- 8 total sizes
- ISO Class 2.5 or equivalent (ISO 14644-1 Std.)

Body width	40 ~ 160 mm
Stroke	50 ~ 1100 mm
Max. payload	Horizontal 100 kg / Vertical 50 kg
Max. speed	1500 mm/s

Single Axis Robot
ISDBCR
Series

IS(P)DBCR

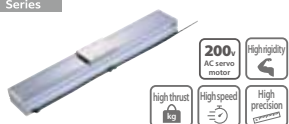


- Anti-static type is also available
- ISO Class 2.5 or equivalent (ISO 14644-1 Std.)

Body width	90 ~ 150 mm
Stroke	100 ~ 2500 mm
Max. payload	Horizontal 120 kg / Vertical 40 kg
Max. speed	1800 mm/s

Single Axis Robot
ISDACR
Series

IS(P)DACR-W



- High thrust type
- ISO Class 2.5 or equivalent (ISO 14644-1 Std.)

Body width	198 mm
Stroke	100 ~ 2500 mm
Max. payload	Horizontal 120 kg / Vertical 60 kg
Max. speed	2000 mm/s

Dust-proof/splash-proof

ROBO Cylinder
RCP4W
Series

RCP4W-SA□C



- 3 Total Types
- IP65

Body width	57 ~ 79 mm
Stroke	100 ~ 700 mm
Max. payload	20 kg
Max. speed	530 mm/s

Single Axis Robot
ISWA
Series

IS(P)WA



- High rigidity type
- IP65

Body width	94 ~ 155 mm
Stroke	100 ~ 1200 mm
Max. payload	70 kg
Max. speed	1000 mm/s

ROBO Cylinder



Features

[Cleanroom]

The air suction inside the body meets ISO Class 3.5 or equivalent. (ISO 14644-1)

[Dust-proof/splash-proof]

IP52/65 rating by sealing the joint with a gasket and seal.

Lineup

Cleanroom

ROBO Cylinder
RCA2CR
Series

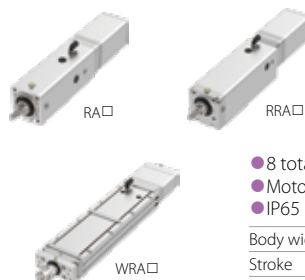
- Overall shortened length type
- Guide type is also available
- ISO Class 100 (0.1μm, Fed.Std.209D)

Body width	28 ~ 35 mm
Stroke	25 ~ 50 mm
Max. payload	Horizontal 6 kg / Vertical 1.5 kg
Max. speed	300 mm/s

ROBO Cylinder
RCS2CR
Series

- Overall shortened length type
- Guide type is also available
- ISO Class 100 (0.1μm, Fed.Std.209D)

Body width	46 / 48 mm
Stroke	50 / 75 mm
Max. payload	Horizontal 20 kg / Vertical 6 kg
Max. speed	380 mm/s

ROBO Cylinder
RCP6W
Series RCP6W-RA□/RRA□/WRA□

- 8 total sizes
- Motor side-mounted type is also selectable
- IP65

Body width	40 ~ 160 mm
Stroke	50 ~ 800 mm
Max. payload	Horizontal 100 kg / Vertical 70 kg
Max. speed	630 mm/s

ROBO Cylinder
RCA2W
Series

- Overall shortened length type
- Guide type is also available
- IP52

Body width	28 ~ 35 mm
Stroke	25 ~ 50 mm
Max. payload	Horizontal 6 kg / Vertical 1.5 kg
Max. speed	300 mm/s

Dust-proof/splash-proof

ROBO Cylinder
RCP5W-RA10C
Series

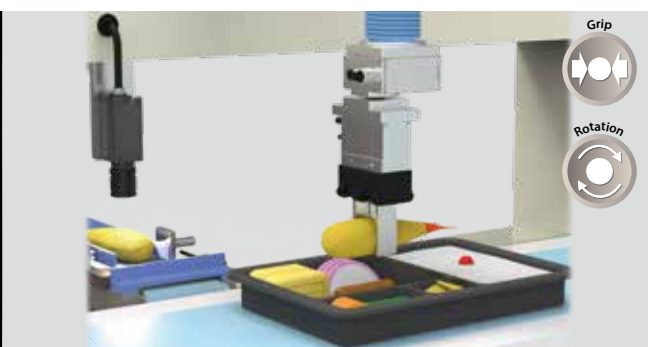
- High thrust type
- IP65

Body width	108 mm
Stroke	50 ~ 800 mm
Max. payload	Horizontal 240 kg / Vertical 120 kg
Max. speed	200 mm/s

ROBO Cylinder
RCS2W
Series

- Overall shortened length type
- Guide type is also available
- IP52

Body width	46 / 48 mm
Stroke	50 / 75 mm
Max. payload	Horizontal 20 kg / Vertical 6 kg
Max. speed	380 mm/s

ROBO Cylinder
Single-axis
robot

Features

[Cleanroom]

The air suction inside the body meets ISO Class 2.5 or equivalent.
(ISO 14644-1)

[Dust-proof/splash-proof]

The gripper is equipped with a rubber cover for simple dustproofing,
and the rotary is dustproof and drip-proof due to the sealed structure of
the body frame.

Lineup

Cleanroom

ROBO Cylinder
RCP2CR
Series RCP2CR-GR□

- Slide, Lever, 3 Claw Type
- 6 total models
- ISO Class 2.5 or equivalent (ISO 14644-1 Std.)

Body width	42 ~ 80 mm
Stroke (one side)	4 ~ 7 mm / 90 deg.
Max. grip force (both sides)	102 N

Dust-proof/splash-proof

ROBO Cylinder
RCP2W
Series RCP2W-GR□

- Slide, Lever, 3 Claw Type
- 6 total models
- IP50

Body width	42 ~ 80 mm
Stroke (one side)	4 ~ 7 mm / 90 deg.
Max. grip force (both sides)	102 N

ROBO Cylinder
RCP2CR
Series RCP2CR-RT□

RCP2CR-RTB□ RCP2CR-RTC□



- 6 total models
- ISO Class 10 (0.1μm, Fed.Std.209D)

Body width	45 ~ 114 mm
Operation range	330 / 360 deg. (multi-rotation)
Max. torque	~ 4.6 N
Allowable inertia moment	~ 0.03 kg·m²

Single Axis Robot
DDACR
Series DDACR

- Large diameter direct drive motor
- ISO Class 2.5 or equivalent (ISO 14644-1 Std.)

Body width	180 mm
Operation range	360 deg. (multi-rotation)
Max. torque	~ 75 N
Allowable inertia moment	~ 1.8 kg·m²

ROBO Cylinder
RCP2W
Series RCP2W-RT□

RCP2W-RTB□ RCP2W-RTC□



- 6 total models
- IP54

Body width	45 ~ 114 mm
Operation range	330 / 360 deg. (multi-rotation)
Max. torque	~ 4.6 N
Allowable inertia moment	~ 0.03 kg·m²

Single Axis Robot
DDW
Series DDW

- Large diameter direct drive motor
- IP66M

Body width	195 mm
Operation range	360 deg. (multi-rotation)
Max. torque	~ 67 N
Allowable inertia moment	~ 1.6 kg·m²

SCARA
Robot

Features

Choose from the low-cost IXP series equipped with a stepper motor and the industry's fastest, high rigidity (double arm construction) IXA series. The IXA series has an interior cable, allowing it to be used in applications with height restrictions.

[Cleanroom]

ISO Class 3 or 3.5 compliant, these products are used in assembly and transport equipment in clean environments. (ISO 14644-1)

[Dust-proof/splash-proof]

While complying with IP65, the specifications are equivalent to those of standard environmental specifications.

The industry's fastest IXA (dust-proof splash-proof specification)**Aluminum cover adopted**

No water ingress due to cover deformation even when subjected to direct jets. There is no swelling caused by coolant.

Double arm structure

Improved rigidity keeps vibration low. Heat dissipation is improved and continuous cycle time is faster.

*Excluding arm length 300

Cable built-in

With built-in cables, the height dimension can be reduced to allow effective use of space.

Lineup

Cleanroom

IXP IXP-□□
Series

- ISO Class 3.5 or equivalent (ISO 14644-1 Std.)

Arm length	350 ~ 650 mm
Vertical Axis Stroke	150 / 200 mm
Max. payload	6 kg
Standard cycle time	0.74 secs.~

Dust-proof/splash-proof

IXP IXP-□W□
Series

- IP65 (Excluding bellows)

Arm length	350 ~ 650 mm
Vertical Axis Stroke	150 / 200 mm
Max. payload	6 kg
Standard cycle time	0.74 secs.~

IXA High-speed type
Series IXA-4NSC

- ISO Class 3 (ISO 14644-1 Std.)

Arm length	300 ~ 600 mm
Vertical Axis Stroke	150 ~ 330 mm
Max. payload	10 kg
Standard cycle time	0.27 secs.~

IXA High-speed type
Series IXA-4NSW

- IP65 (Excluding bellows)

Arm length	300 ~ 1000 mm
Vertical Axis Stroke	150 ~ 400 mm
Max. payload	21 kg
Standard cycle time	0.30 secs.~

IXA High payload type
Series IXA-4NHW

- IP65 (Excluding bellows)

Arm length	1200 mm
Vertical Axis Stroke	400 mm
Max. payload	47 kg
Standard cycle time	0.61 secs.~

Controller



Lineup

Single-axis controller

When only 1 axis is controlled by 1 controller

Supported control system ▶ I/O (Input/output) Pulse-train Field network Serial communication (Modbus)

PCON Series



- Equipped with PowerCON (high-output driver), which draws out the maximum capability of the stepper motor
- Equipped with a collision detection function

Max. dimensions (mm): W 35 × D 78.1 × H 190



ACON Series



- Equipped with an off-board tuning function to set the optimum gain to match the transport load

Max. dimensions (mm): W 35 × D 78.1 × H 185



DCON Series



- RCD Controller

Max. dimensions (mm):
W 35 × D 78.1 × H 185



SCON2 Series



- Convenient functions such as reading actuator information, drive recorder function, safety function, etc.
- Pulse output is available

Dimensions (mm): W 40 × D 143 × H 160



SCON Series



- 200VAC servo motor
All models equipped with the system can be connected
- Pulse output is available

Max. dimensions (mm): W 92.7 × D 174 × H 300



Multi-axis controller

When controlling multiple axes with 1 controller

Supported control system ▶ SEL language (IAI exclusive program) *Excluding RCON
I/O (Input/output) Field network

RCON Series



Recommended product!

- Unit connection type
- Different motor types can be controlled by 1 unit
- Up to 16 axes can be connected (some restrictions apply)
- ELECYLINDER can also be connected

Dimensions (mm): D 98.8 × H 115



RSEL Series



Recommended product!

- Unit connection type
- Control of different motor types is possible
- Up to 8 axes can be connected (some restrictions apply)
- ELECYLINDER can also be connected

Dimensions (mm): D 98.8 × H 115



MSEL Series



- Built-in power supply type (100~230 VAC±10%)
- SCARA Robot IXP, Wrist Unit WU can be controlled

Dimensions (mm): W 130 × D 125 × H 195



XSEL Series



- SCARA Robot IXA can be controlled
- Capable of 2-axis synchronous control
- Control of up to 40 axes is possible in the extended motion

Max. dimensions (mm): W 372 × D 125.3 × H 195



XSEL2 Series



- Interference check is possible on 3D CAD data
- Equipped with software PLC
- ELECYLINDERs can be connected

Max. dimensions (mm): W 302 × D 125.3 × H 195



General functions

► Positioner type with “□CON” in the model name

General functions

Function	Description
Multi-point positioning	0.01mm (deg.) * Set by unit
Speed control	Speed can be set for each position
Acceleration/deceleration control	Acceleration/deceleration can be set for each position
Push	Push start point and current (%), Set push width
Pitch feed	Arbitrary values for equally spaced movement
Jog motion	Operable only while input is ON
Zone output	0.01mm (deg.) * Set by unit
Pausing	Stop at any position by putting up a pause signal Command cancellation is also possible by combining a reset signal
Speed changes while moving	Speed can be changed without pausing by updating only the speed while moving

*0.001 for some models

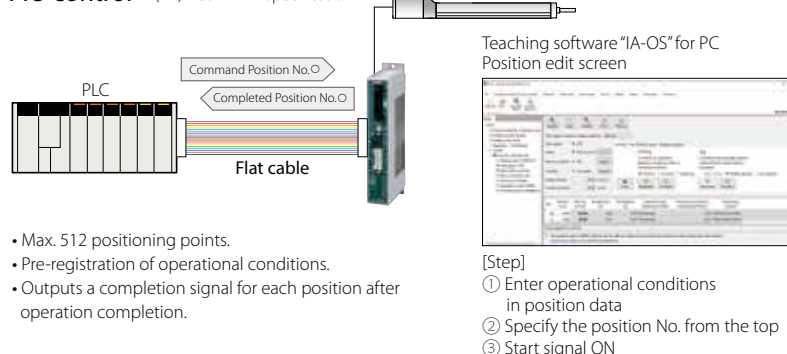
Other functions

Function	Description
Overload warning	Set load level with parameters Warning and alarm outputs available
Collision detection *1	Set current value and judgment time If a collision is detected, Servo OFF immediately
Vibration control *2	Set vibration frequency with parameters Vibration suppression support available
Power conservation	Automatic servo OFF and auto-current down settings for power saving

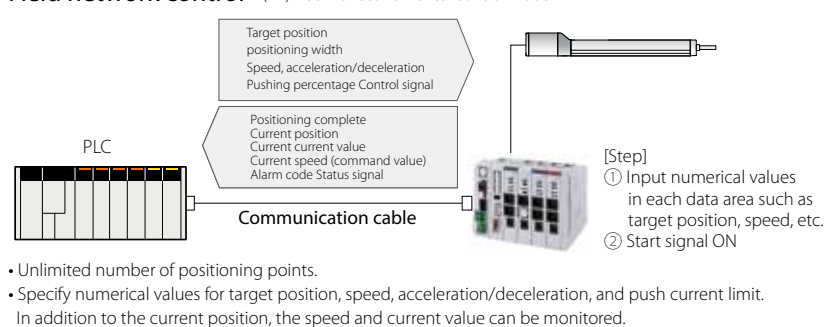
*1 Stepper motor specification only

*2 AC servo motor specification only

PIO control (Ex.) PCON NPN specification



Field network control (Ex.) RCON direct numerical control mode

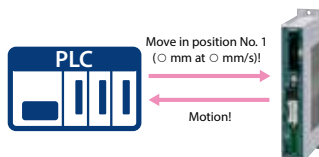


Compatible models

Position-specified move using I/O signals

RCON PCON ACON DCON SCON2
SCON RSEL MSEL X-SEL2 X-SEL

Select the PIO specification.
(MSEL equipped as standard)

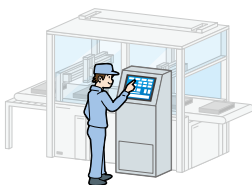


"Move!" to a pre-registered point and send instructions.

Direct numerical control from PLC, etc.

RCON PCON ACON DCON SCON2
SCON RSEL MSEL X-SEL2 X-SEL

Select the field network specification.



The position and speed of the device can be freely controlled from a touch panel attached to the device.

Interpolation control (Application, palletizing, etc.)

RSEL MSEL X-SEL2 X-SEL

Programming in IAI's proprietary language (SEL language) is required.
In the case of RSEL, the SEL program can be easily created with a support tool.

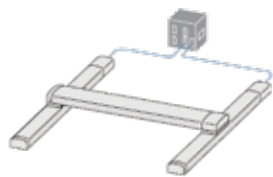


Free movement is possible, including diagonal movement and circular arcs.

Synchronous control

MSEL (+RCP6) X-SEL2 X-SEL

Select an actuator with a limit switch for the connecting actuator.

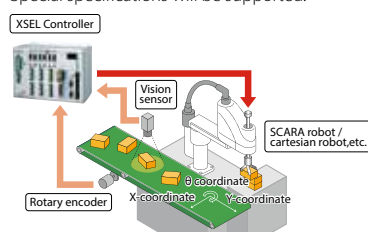


The 2 axes operate at exactly the same timing.

Conveyor tracking

X-SEL2 X-SEL

Special specifications will be supported.

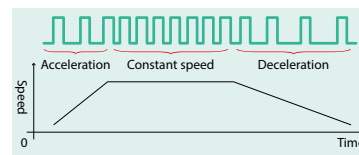


The robot transfers the workpiece in accordance with the conveyor's movement.

Pulse-train control

PCON ACON DCON SCON2 SCON

Select the pulse-train specification.



Position and speed are indicated by the number and speed of pulses.

► Program type with “□SEL” in the model name and tabletop robot

In addition to the functions of the positioner type, the program type has the following functions.

General functions (Plus added features)

Function	Description
Interpolation control	Linear / circular motion with multiple axes interpolating each other
Synchronous control	Two axes operate simultaneously with automatic compensation
Autostart program	Automatic startup of the set program in READY state after controller power-on

Other functions (Plus added features)

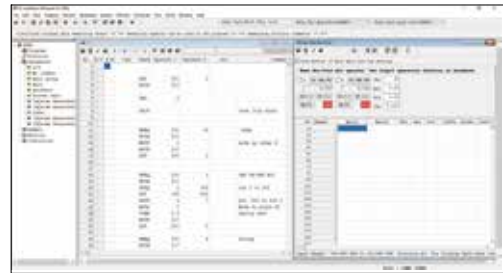
Function	Description
Simple interference check zone *1	If the tool tip encroaches into arbitrary 3D space, an error output prevents interference
IXA Compliance Control	Function that softly controls the robot in accordance with external forces and assists in fitting of workpieces, etc.
Multi-slider over-approach detection *2	Ability to detect multi-slider over-approach by setting a minimum distance with parameters

*1 SCARA / Cartesian 6-axis

*2 NSA / LSA / LSAS

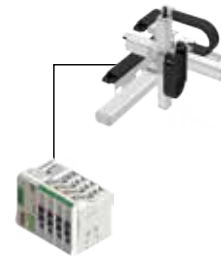
Controlled by IAI's exclusive program (SEL language) and position data.

PC Teaching software: IA-101



Stand-alone

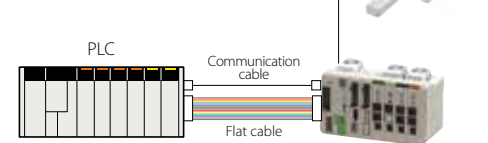
(When a host unit such as PLC is not used)



Auto-start program allows device configuration without a PLC.

Control using PLC

Can support both I/O control and field network control.



Field network enables:

- Editing position data from PLC
- Direct numerical specification from PLC
- Output of coordinates to PLC

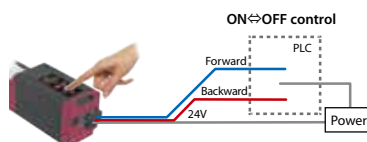
Numerical data can be easily exchanged by programming using variables.

Air cylinder replacement



EC PCON ACON DCON SCON2 SCON

Select the PIO specification. Solenoid valve mode is available.



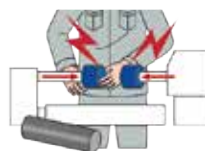
Can be operated with the same wiring and programming as the air cylinder.

Torque limited while moving



RCON PCON ACON DCON SCON2 SCON RSEL MSEL X-SEL2 X-SEL

Motor current value can be limited. (For PCON, ACON, DCON, and SCON, only pulse-train specifications are supported.)



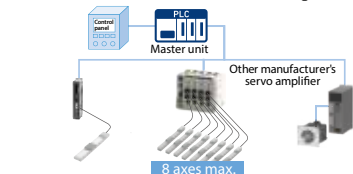
The actuator can be stopped when a person or object interferes during movement.

Motion control



RCON PCON ACON DCON SCON2 SCON

Select motion specifications. The system is equipped with a mechanism to match the timing.



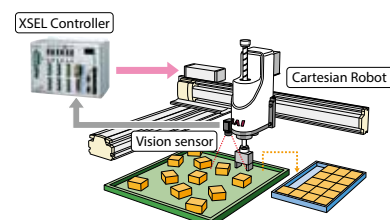
Simultaneous operation and interpolation control are possible by combining IAI products with motors from other manufacturers.

Vision system



TTA MSEL X-SEL2 X-SEL RSEL

Connection via Ethernet or RS-232C.



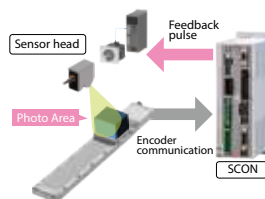
Robot can be moved to the position read by the camera. Please consult your sales representative for details.

Feedback pulse output



SCON2 SCON

Select the PIO specification. Special specifications are available for field network specifications in SCON.



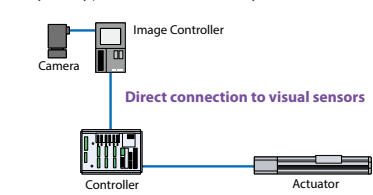
It is possible to feed back to external devices whether the actuator has moved as commanded.

Serial communication direct control



RCON PCON ACON DCON SCON2 SCON RSEL MSEL X-SEL2 X-SEL

Any I/O type can be used for any model.



The same protocol can be used to connect to software and hardware from other vendors.

24VDC power supply

Power supply internal data external output

Contents listed at right can be monitored by connecting with RCON/RSEL.

Output voltage
Output current
Load factor
Total energized time
Internal temperature
Fan speed low warning



*Image

Calculator software provides an easy calculation for required number of 24V power units. >> P43



PSA-24

- IAI exclusive power supply
- Up to 5 units can be connected in parallel

Power supply voltage: 100 VAC ~ 230 VAC±10%
Continuous rated output: ~13.8A (330W)
Max. dimensions (mm): W 54 × D 142.8 × H 131



Brake release box

Shortened start up time

Brake release of the actuator is possible without waiting for electric wiring work.



BKR-01

- Actuator brake release without wiring to the controller during equipment start-up

Dimensions (mm): W 76 × D 35 × H 135



Digital speed controller (ELECYLINDER exclusive)

Just pick a number and input it.
Intuitive digital speed controller

The ELECYLINDER can be operated simply by selecting values.

By using a digital speed controller, you can set it on the spot and check it immediately.



Wired teaching controller built-in type

Digital Speed Controller
For external / wireless communication

▼ Setting screen

SimplSet	
Level	Velocity
FORWARD	10
BACKWARD	8

Simple setting
(10 levels)

AVD Set.			
%	A	V	D
F	30	70	20
B	80	100	50

AVD Settings
(1~100%)

Cycle time	
	Time(s)
FORWARD	0.7
BACKWARD	1.2

Cycle time display

▼ Digital speed controller enables

- Basic setting (position, acceleration, speed, deceleration)
- Reading current positions
- Jog motion
- Motor power ON/OFF
- Error display
- Setting push force motion
- Brake release
- Cycle time checking
- Alarm reset

TBD-1 Wired teaching controller

ELECYLINDER Exclusive Wired Teaching Controller

- By connecting the included cable to the SIO connector, all ELECYLINDERS can be operated regardless of model or installation conditions

Dimensions (mm): W 31.6 × D 10.3 × H 95



TBD-1WL Wireless teaching controller

ELECYLINDER Exclusive Wireless Teaching Controller

- Wireless communication allows easy connection to ELECYLINDER installed in hard-to-reach locations
- Maximum number of simultaneously detected axes: 16

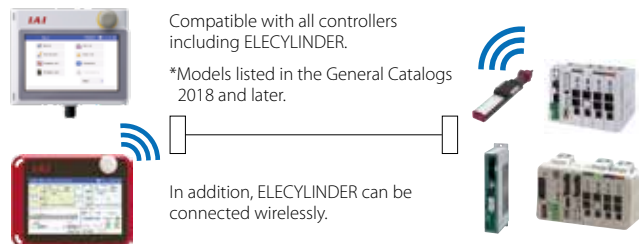
Dimensions (mm): W 45 × D 30 × H 113



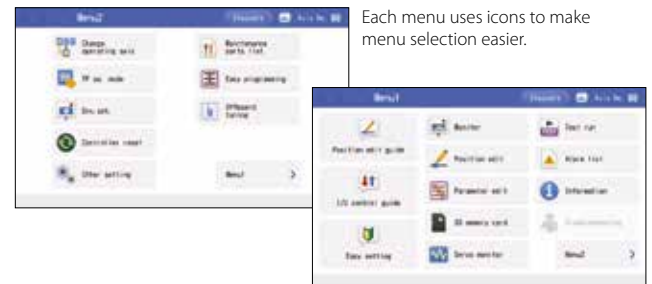
<Note>Parameter editing is not possible. To change parameters, use either PC teaching software or teaching pendant.

Teaching pendant

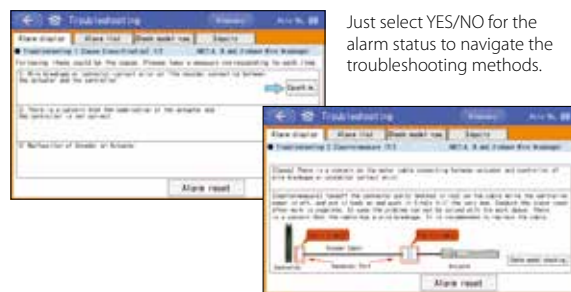
All types of controller settings can be made with 1 unit



Simple, graphical support functions



Enhanced troubleshooting functions



Full range of monitoring functions



TB-02

- Available for safety category B~4 (TP adapter, dummy plug required separately)
- Low price

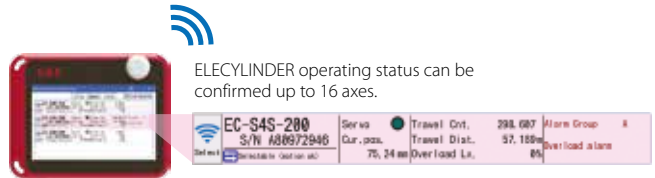
Dimensions (mm): W 190 × D 25/55 × H 155



TB-03

- Wireless connection to ELECYLINDER allows for external positioning, operation settings, and commissioning without the need for a cable connection

Dimensions (mm): W 200 × D 34 × H 155



ADTB

- Teaching pendant with power supply unit
- Brake release, trial operation, and data setting are all possible prior to wiring since the teaching pendant has its own power supply unit
- *Compatible with 24V ELECYLINDER/RCP series

Operation is possible with 100VAC/200VAC power only.



Teaching software for PC

There are 2 types of software for setting positions and parameters. (Windows only)

IA-OS For position controller ... Compatible with controllers having □CON in the model name.

▼ Main stored software

- IA-OS
- PC software for RC (for old controllers)
- Calculator software
- Functional safety unit configuration tool (for SCON2)

▼ Compatible controllers

EC, RCON, REC, PCON, ACON, DCON, SCON2, SCON, etc.



*Please purchase through your distributor and a download link will be sent to your valid email address.

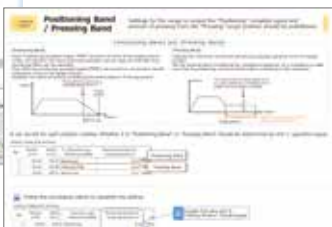
IA-OS

This software is used to set the position and parameters of the position controller. In addition to test runs, servo monitoring and troubleshooting are also available. The extensive help/guide functions allow for smooth start-up and setup without referring to separate manuals.

▼ Trial operation / position editing



If you have any questions about the functions, you can check the illustrated help screen.



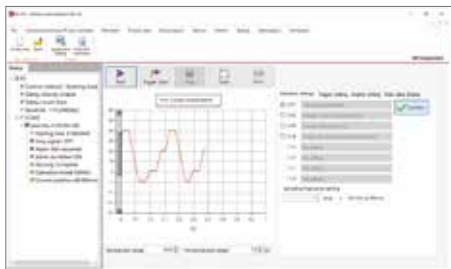
▼ Troubleshooting



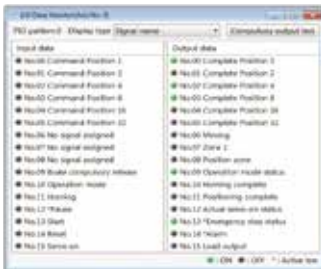
You can quickly solve problems on your own.



▼ Servo monitor



▼ Data monitoring



Easy checking of input/output status. Forced I/O output is also possible.



Calculator software

The calculator software is included to the IA-OS software package.

The optimum 24V power supply capacity can be determined for actuator operation.

It is also possible to calculate power consumption, number of required regenerative resistor units, and cycle time.

Flow guide



Motion setting



Calculation results



Not only electricity consumption, but also electricity costs and CO₂ emissions can be checked.

IA-101 For program controller ... Compatible with tabletop robots and controllers having □SEL in the model name.

▼ Main stored software

- IA-101 (Including older versions)
- Simulator for IXA/CRS

▼ Compatible controllers

TTA, RSEL, MSEL, XSEL, XSEL2, etc.



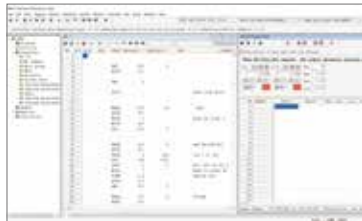
*Please purchase through your distributor and a download link will be sent to your valid email address.

IA-101

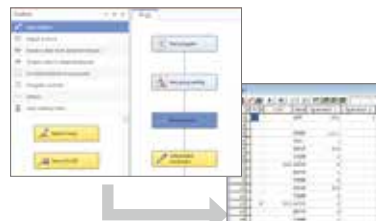
Software for setting program controller positions, parameters, and programs.

In addition to trial operations, input/output signal checking, servo monitoring and troubleshooting are also possible.

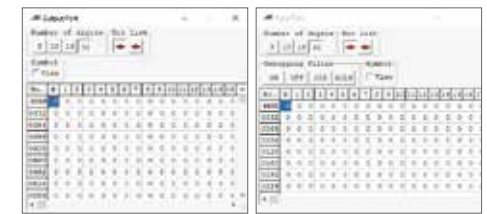
▼ Program / Position editing



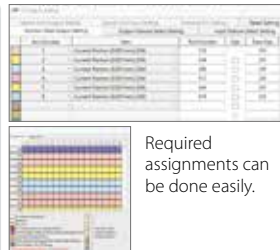
▼ SEL Program support tool (for RSEL)



▼ Input/output monitor



▼ Assignment setting



Required assignments can be done easily.

▼ Troubleshooting



You can quickly solve errors at the time of programming, too.

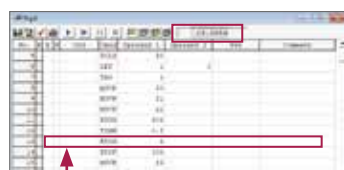
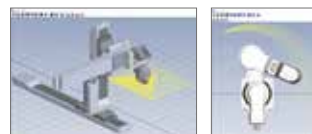
Simulator for IXA/CRS

Motion checks can be performed on SCARA (IXA) and Cartesian 6-axis robots (CRS). Since checking is possible on the desk, designing can be done without the robot.

▼ What the simulation software can do

- ① Program operation can be checked.
- ② Cycle time can be confirmed.
- ④ Operation trajectory can be checked.

The motion trajectory can be observed from various directions: top, bottom, front, back, right side, left side, and isometric view.



- ③ Input/output signals from external sources can be simulated.



- ⑤ Simple interference check zone can be set

Interference between the robot and peripheral devices can be checked.

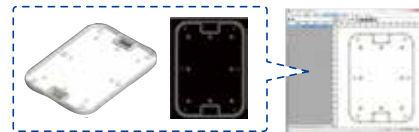


SEL Program generator

Software to easily perform soldering, coating, and screw tightening operations using a Tabletop Robot (TTA).

▼ Basic operation in only 2 steps

- ① Read the target workpiece into the DXF software



- ② Generate program and position data



Created automatically



Confirm the Actual Operation
You can visually confirm the amount of deviation by overlaying the plotted data and the actual movement path.

ELECYLINDER (2-point positioning)



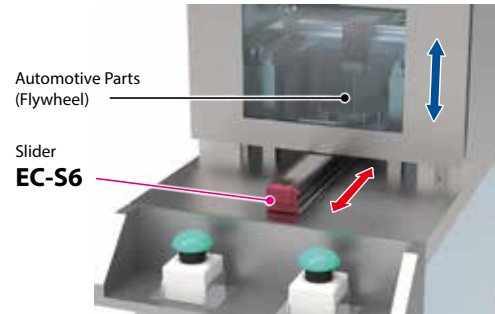
Door opening/closing mechanism for processing machines



In addition to speed, acceleration and deceleration can be set respectively, enabling shockless opening and closing while increasing speed.



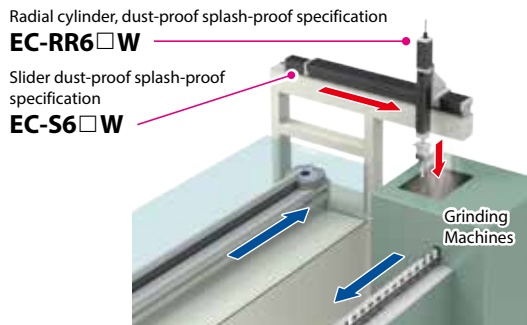
Laser marking equipment



Positions can be set in increments of 0.01 mm, and feedback control of 1,000 times per second ensures repeatable and accurate engraving.



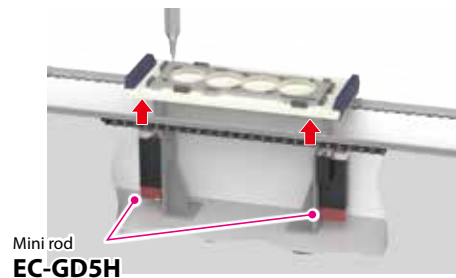
Ceramic product grinding process



Since S6□W is IP43/44 (IP54 equivalent with WS option) and RR6□W is IP67 rated, they can be used in machining processes where dust is generated.



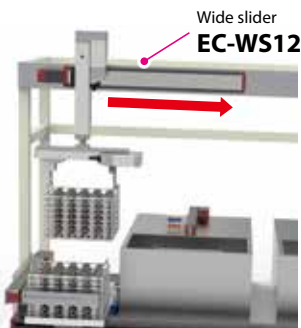
Sealant application equipment



Compact slender type with built-in controller and shortened overall length. Wireless teaching is possible by using the teaching tool TB-03 or Wireless Teaching Controller.



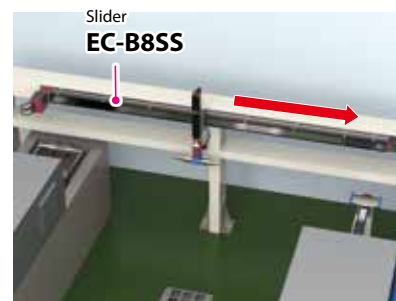
Workpiece transfer device for washing machines



The wide slider type has high moment rigidity and can handle large overhangs. In addition, vibration during movement can be prevented by individual settings of acceleration, speed, and deceleration.



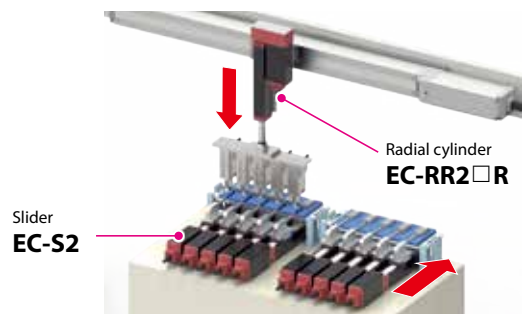
In-process transfer of motor shafts



The belt-driven type is ideal for long-distance interprocess transfer because there is no speed reduction due to strokes. Battery-less absolute encoder eliminates the need for home return when power is turned on.



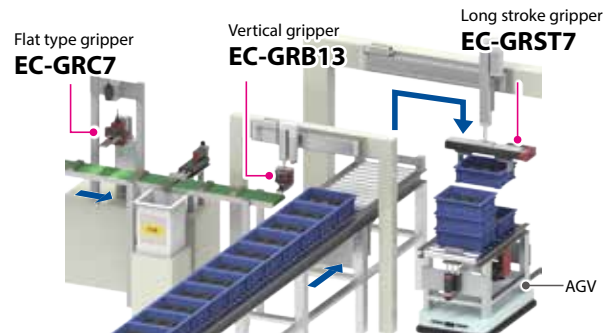
Transfer and press-fitting of plastic gears into motors



The 20mm compact base width allows for use in locations where installation space is limited. Since pressing settings are quantified, every part can be accurately press-fitted with the same torque.



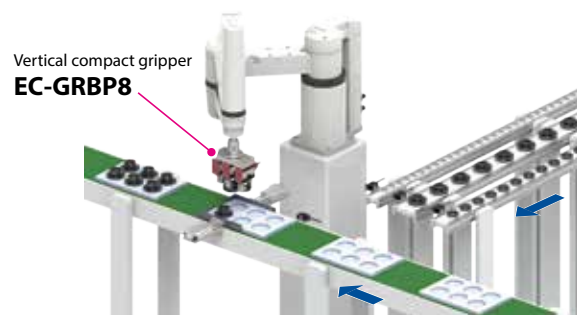
Inspection and pallet-transfer of diecast parts



Several variations are available: flat type with height of 30/35 mm, vertical type convenient for combined axes, maximum gripping force of 1641 N (both sides), and long stroke type with maximum stroke of 130 mm (one side).



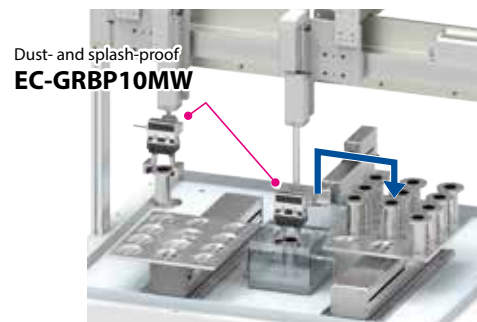
Bearing assembly process



Thanks to its compact body, multiple axes can be combined and used. Despite its compact body, high precision gripping is possible because of the built-in driver and controller like other ELECYLINDERS.



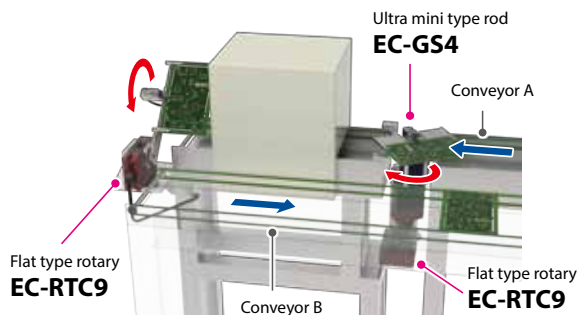
Cleaning equipment for metal parts



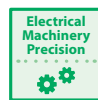
IP54 equivalent construction allows for operation in the environment where it is exposed to water splash. The rubber cover material can be selected according to the environment. (chloroprene rubber or silicone rubber)



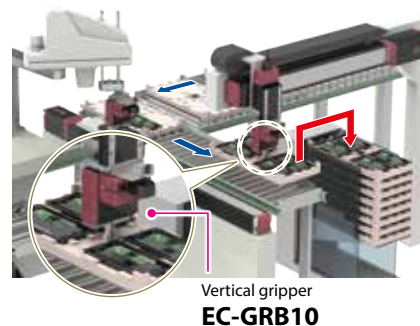
Substrate reversal



Since the rotary type can also adjust acceleration and deceleration, speed can be increased while reducing the impact at the time of reversal.



Transfer of electronic parts



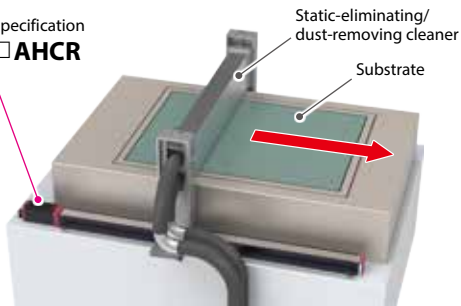
Gripping force, standby position and gripping start position can easily be set numerically. Wireless teaching is possible by TB-03 teaching tool or wireless teaching controller.

ELECYLINDER (2-point positioning)



Static-eliminating/dust-removing air type substrate cleaner

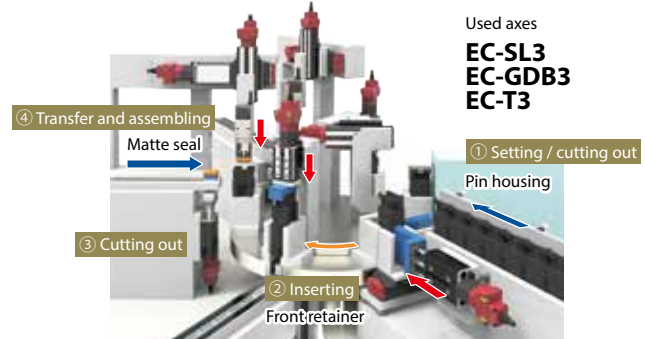
Slider clean specification
EC-S7X□AHCR



Cleanroom specification is compliant with ISO class 2.5 or 3.
Suitable for transfer in the clean environment.



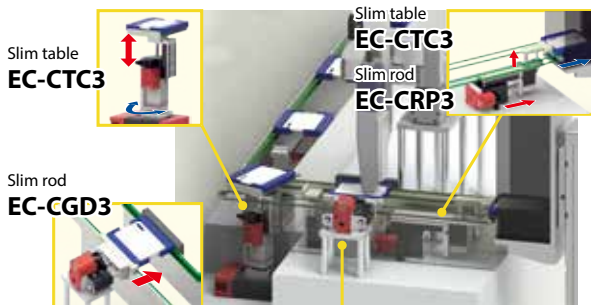
Index table connector assembling equipment



Palm-sized electric actuator.
Up to 16 axes can be connected by using the REC controller.



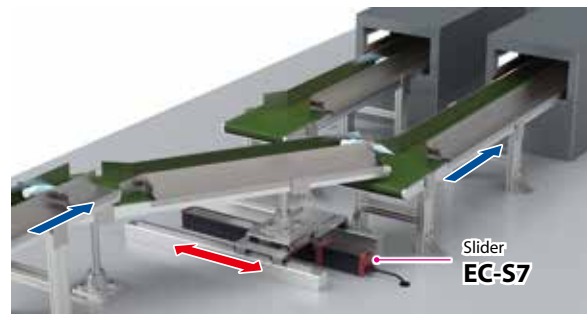
Printing process for cover parts



The slim body's overall length is 59.5 mm and up, allowing for use in locations where installation space is limited.



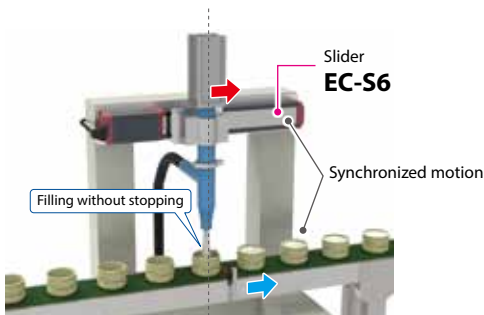
Sorting equipment for cosmetic goods on the conveyor



Since there is no degradation of speed due to aging, the system can perform sorting according to the setting for a long period of time.



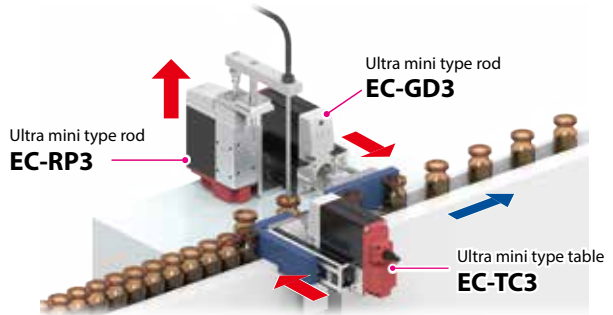
Hand cream filling equipment



The speed can be set in 0.01 mm/s increments, allowing the conveyor speed and motion to follow. This reduces the time required for conveyor stoppage.



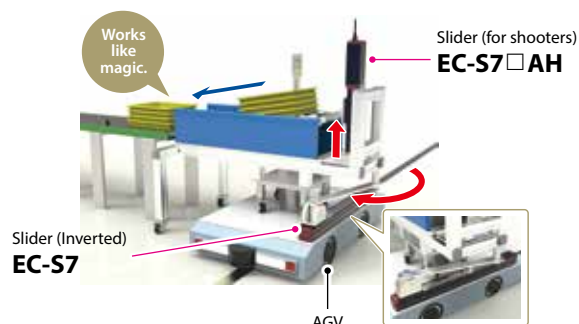
Filling line for vials



The compact base width of approximately 30 mm allows for compact equipment design. Since the same operation is performed every time, choco-tei (temporary stoppages) due to timing deviations can be reduced.



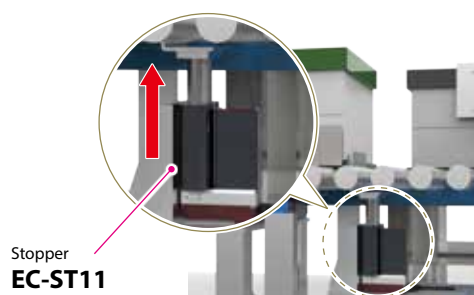
Equipment for inverting pallets loaded on AGVs



The built-in controller and 24V power supply make it ideal for installation in AGVs.



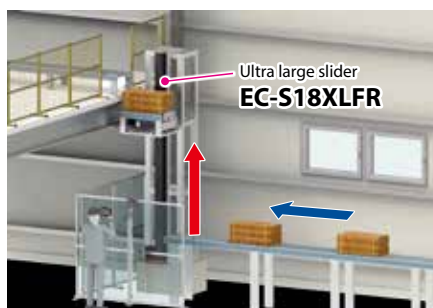
Stopper for foldable container line



Sliding bushing construction is resistant to radial impact loads, making it ideal for stopper applications. The 24V power supply allows it to be used in any location.



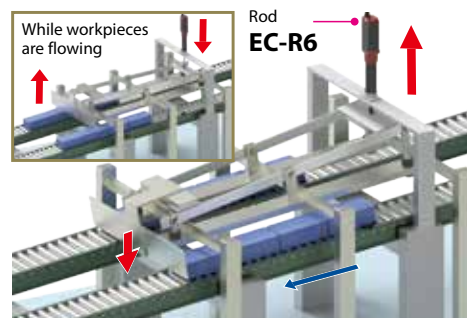
Timber lift and transfer device



The ultra large slider type for timber transfer. Best suited for lifting applications because long stroke movements are possible even when mounted vertically.



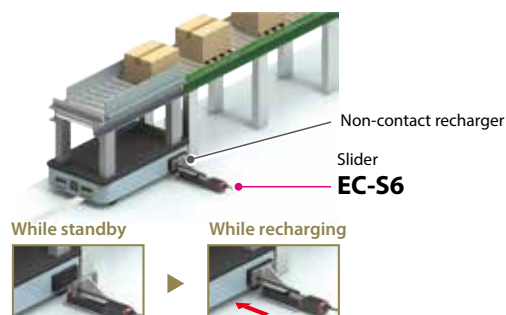
Workpiece stopper of a chuter



Since there is no degradation of speed due to aging, speed re-adjustments and manual relocation of workpieces are not needed.



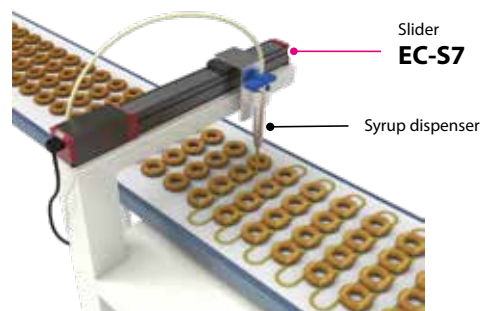
Positioning equipment for AGV recharger



The position can be set in 0.01 mm increments, allowing the recharger to be aligned precisely. This prevents component damage due to contact with the AGV.



Equipment for dispensing syrup on donuts

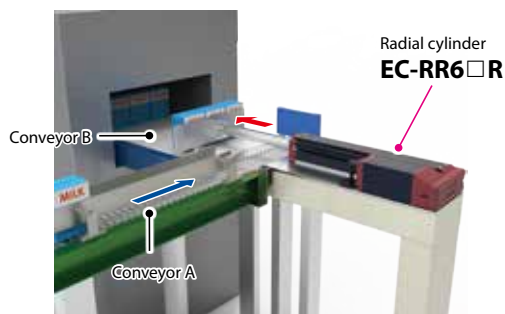


The speed feedback of 20,000 times per second ensures that the moving speed is stable and evenly syrupy.

ELECYLINDER (2-point positioning)



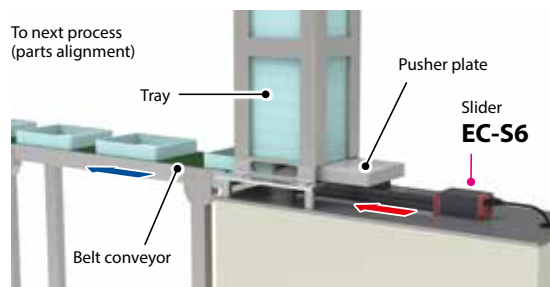
Milk carton transfer equipment



In addition to speed, acceleration and deceleration can be set respectively, thus preventing milk cartons from being knocked over or rolled in.



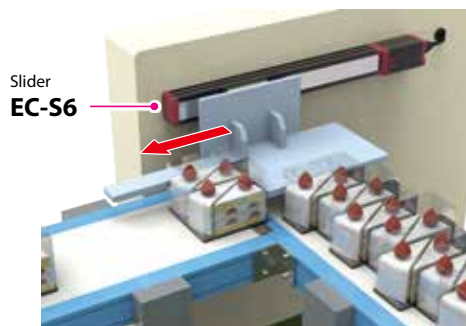
Tray unstacking equipment



Since speed feedback is performed 20,000 times per second, the same timing can be used for each tray.



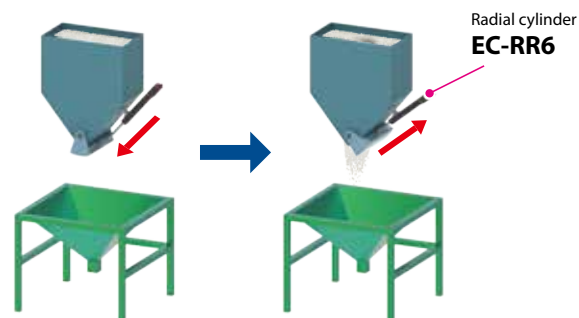
Shortcake transfer equipment



Smooth start/stop by adjusting acceleration and deceleration allows cakes to be transferred to the conveyor without collapsing.



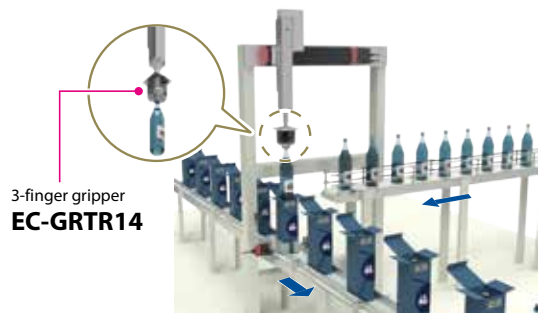
Automated weighing equipment for rice



Since the speed does not change with the season or time of day, it opens and closes at the same timing every time. No more rice than the specified amount flows in, eliminating the need for re-weighing.



Packing process for Japanese rice wine bottles



The 3-finger is suitable for gripping cylindrical workpieces such as bottles. Due to the built-in controller, settings for gripping force and gripping start position can be performed precisely.



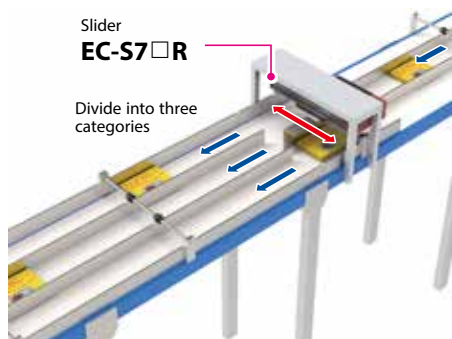
Commercial Dishwasher door open/close



Driven by 24V power supply, no wiring work is required in the kitchen. The built-in controller helps save space.



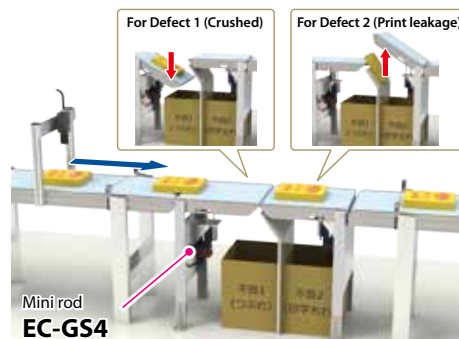
Equipment for sorting curry packs to the next process line



Speed feedback of 20,000 times per second ensures stable speed and eliminates misclassification.



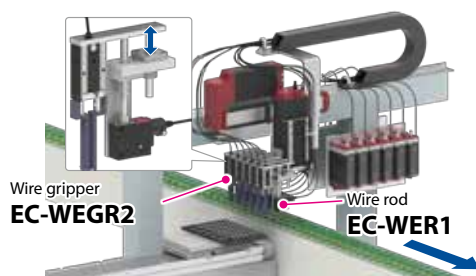
Damaged instant soup package sorting equipment



Compact slender type with built-in controller and shortened overall length. Wireless teaching is possible by using the teaching tool TB-03 or Wireless Teaching Controller.



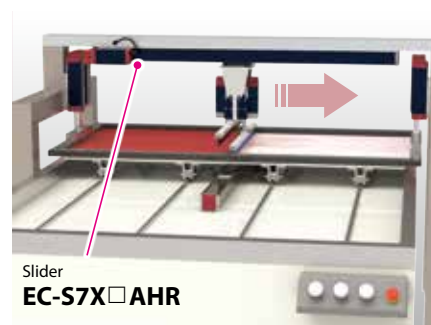
Assembling process of clock circuit boards



Application of pick and place for parts (quartz) using wire cylinders. It's compact and light weight allow multiple axes to be installed together at the tip of the robot.



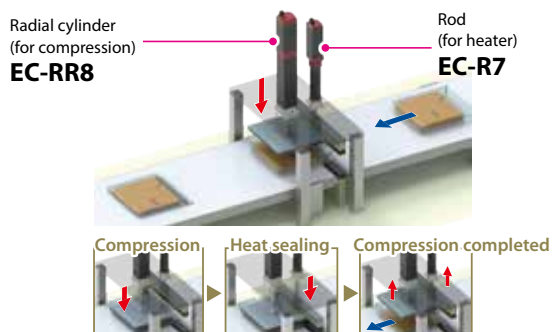
Silk screen printing machine



If the installation space in the longitudinal direction is limited, we recommend the motor side-mounted type.



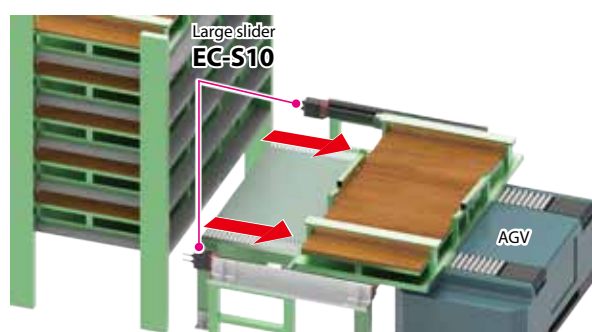
Bagging of clothes



Feedback control enables the same operation every time. Since the operation is stable, automation is possible while maintaining high quality.



Transfer equipment for stands

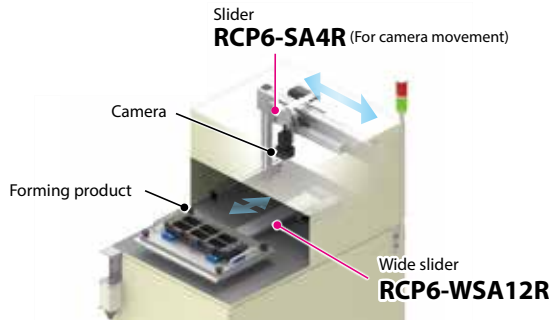


Simultaneous motion is possible by applying motion commands to two axes simultaneously. Feedback control reduces choco-tei (temporary stoppages) and re-adjustment due to time lag between the two axes.

Multi-point positioning / Multi-axis products / Cleanroom, dust-proof, splash-proof



Insert missing parts inspection equipment for resin cases



The inspection camera is brought to a smooth standstill by adjusting acceleration and deceleration. This can significantly reduce standby time due to camera vibration.



Tensile testing of wire harnesses

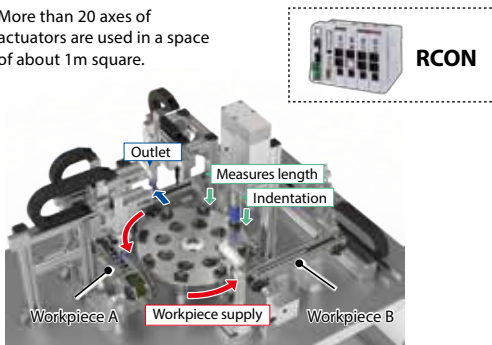


Pulse presses can handle loads in the tensile direction and have no limit on tensile time. High precision judgments are possible at a low cost.



Automatic assembly machine with indexing system (press fitting of bushings)

More than 20 axes of actuators are used in a space of about 1m square.

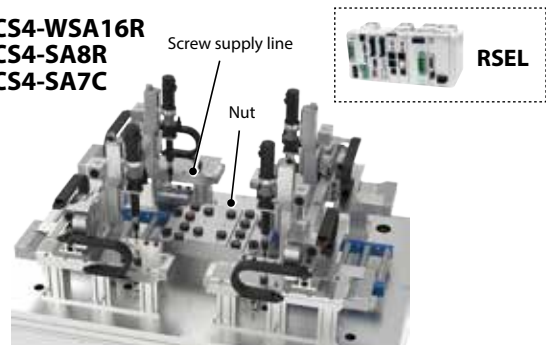


R-unit controllers can be used with a mix of 24V/200V motors. A single unit can connect up to 16 axes, reducing price and installation space.



Orthogonal 3-axis nutrunner screw tightening equipment

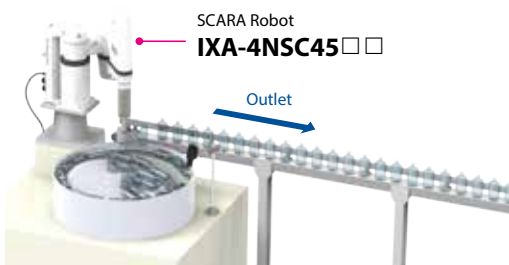
X Axis: RCS4-WSA16R
Y Axis: RCS4-SA8R
Z Axis: RCS4-SA7C



IAI's slider type incorporates a ball circulating type with a built-in linear guide, making it suitable for applications with large rotational reaction forces and moment loads.



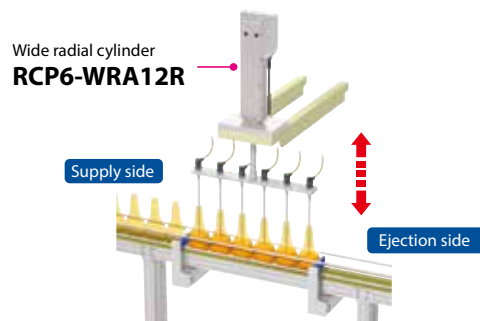
Pick and place medical bottles



The IXA cleanroom specification is ISO Class 3 compliant, making it ideal for operation in clean environments. Preliminary verification on a PC is possible by using simulation software.



Shampoo bottle filling equipment



The speed can be changed during movement, allowing the nozzle tip to move in accordance with the rate of rise of the liquid surface. By adjusting acceleration and deceleration, shampoo foaming can be prevented.



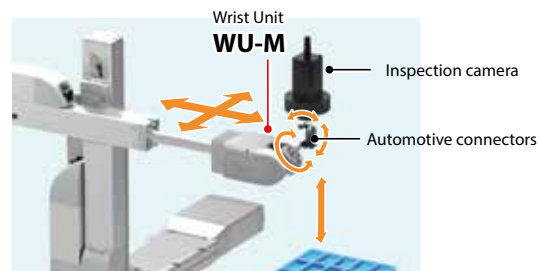
Fast pick and place of radiators and tips



IXA, the fastest in the industry, also supports push-motion operation. When fitting part A to part B, the position error can be compensated (compliance control).



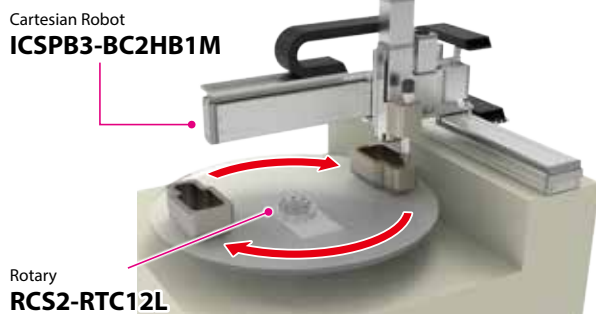
Automotive connector inspection equipment



Diagonal approaches and tip swiveling, possible until now only with vertically articulated robots, can now be performed at a low cost. The wrist unit is capable of interpolating motion with the orthogonal axes.



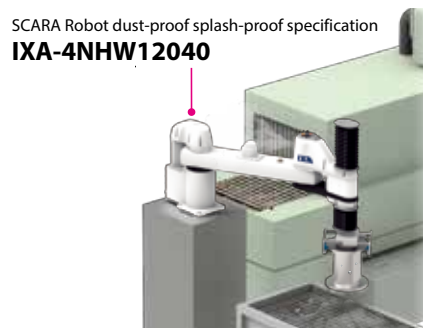
Part sealant application equipment



Multiple target positions can be moved to the final landing point without stopping (pass operation). Since there is no need to pause, coating time can be shortened.



Workpiece supply/unloading process to washing machine



The IXA's dust-proof and splash-proof specifications are IP65 compliant, so it is not affected by water vapor. The IXA-4NHW12040 can handle a max. payload of 47 kg.



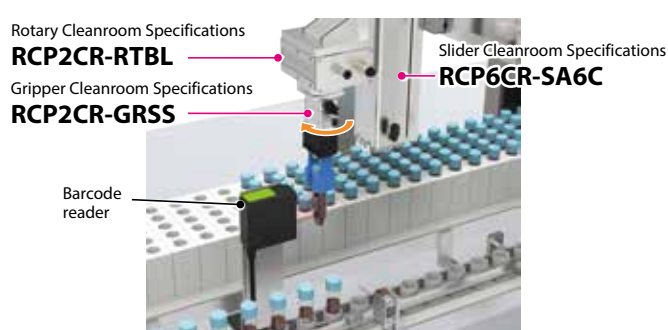
Pick and place vials



By combining Cartesian axes and wrist units, the cost can be reduced compared to Vertical articulated robots. In addition, the size of the safety fence can be reduced.



Barcode reading of specimen samples

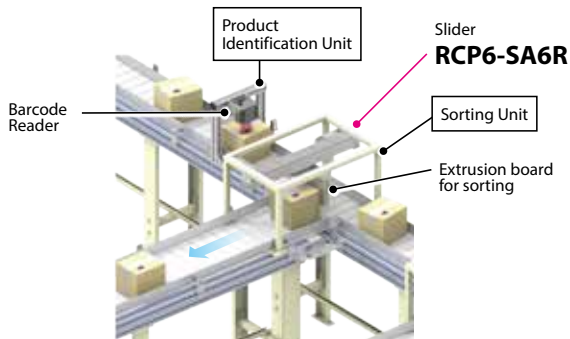


The system is ISO class 2.5 equivalent, making it ideal for operation in clean environments. The wide lineup of products allows for a combination of axes with cleanroom specifications.

Multi-point positioning / Multi-axis products / Cleanroom, dust-proof, splash-proof



Automatic sorting equipment for corrugated cardboard

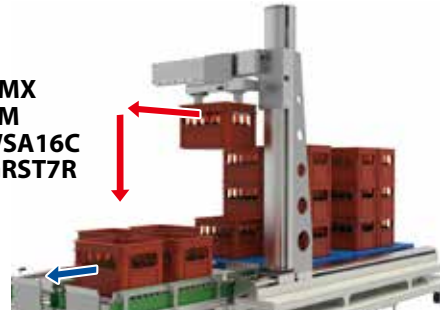


Since the speed can be changed during the movement, the cycle time can be shortened by using low speed in the range where the extruder plate for sorting contacts the corrugated board, and then using high speed for subsequent extrusion movements.



Beer bottle case transfer equipment

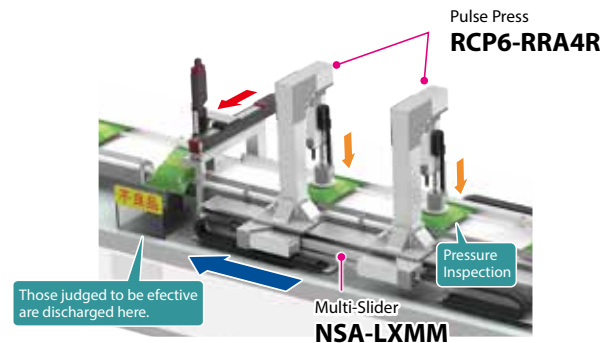
Single Axis Robot
X Axis: **ISB-WXMX**
Z Axis: **ISB-WXM**
Y Axis: **RCS4-WSA16C**
G Axis: **RCP6-GRST7R**



ISB-WXM has a high payload capacity of horizontal 400 kg and vertical 80 kg. Even heavy loads can be handled with a uniaxial configuration robot.



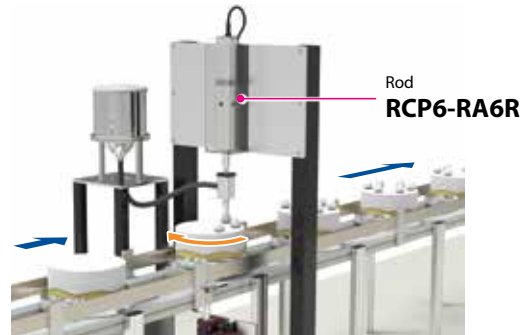
Packaging Bag Leak Test Machine



NSA's multi-slider system has two sliders that each move in tandem with the conveyor, eliminating the need to stop the conveyor for each inspection.



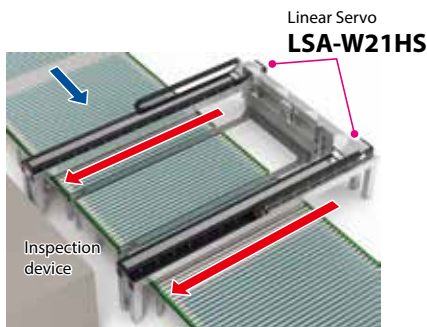
Cake decorating equipment



The speed can be changed while moving, so that the cream can be dispensed slowly at first and faster at the end. Multi-point positioning allows for the handling of cakes of various shapes.



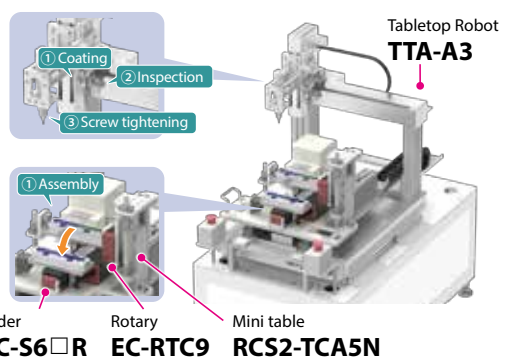
Glass circuit board loader/unloader



Large glass circuit boards are transported by 2-axis synchronous control. Stroke is 4155 mm. There is no speed reduction even with long strokes.



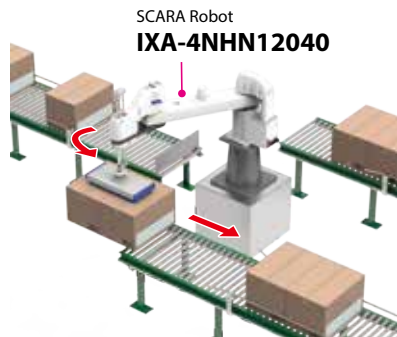
Compact LED light assembly machine



Four processes (assembly, coating, screw tightening, and inspection) are integrated into a single tabletop robot. The number of workpiece sets can be reduced and cycle time can be shortened.



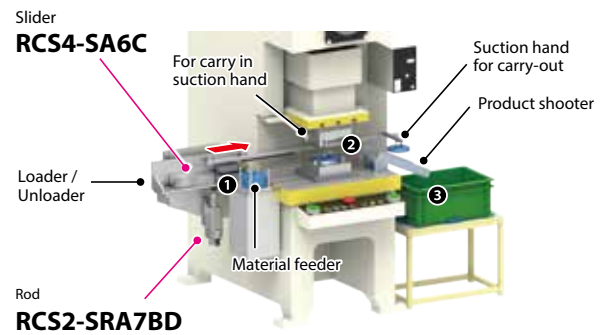
Interconveyor transfer equipment



Large SCARA robot with arm length of 1200 mm and maximum payload of 50 kg. Collision detection and interference check functions by the controller prevent damage due to collisions.



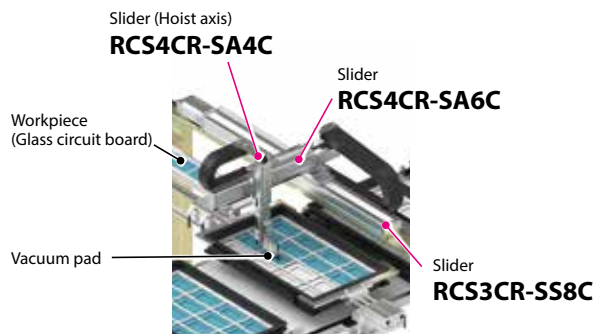
Loader/Unloader for Press Machine



By adjusting the deceleration, the shock when X Axis stops can be reduced, preventing the workpiece from falling.



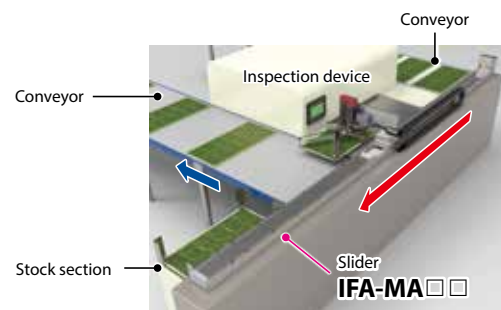
Glass circuit board transfer equipment



The system is ISO class 2.5 equivalent, making it ideal for operation in clean environments. Arching the motion allows palletizing with the shortest path (arch motion).



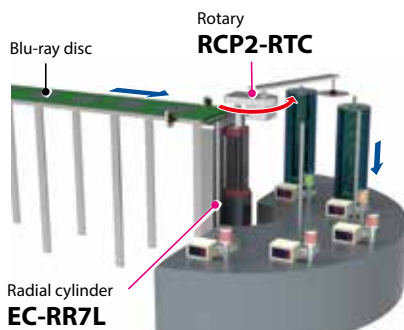
Circuit board inspection inter-process transfer equipment



The belt-driven type is ideal for long-distance interprocess transfer because there is no speed reduction due to strokes. Stroke up to 3200 mm, max. speed up to 3000 mm/s.



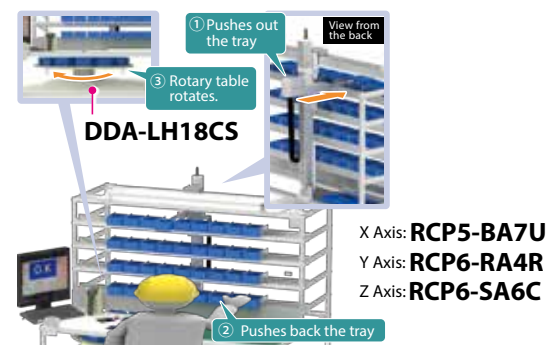
Blu-ray disc process feed



Rotary multi-point positioning increases the number of stock sections and eliminates setup changeover. Feedback control ensures reliable feeding to the stock section.



Electric parts rack



Since the system does not use a sensor, but uses the actuator's position information to confirm take-out, the cost can be reduced compared to conventional error-proofing systems.

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