

ELECYLINDER®

INTRODUCTION CATALOG



2020



www.intelligentactuator.com

Please see main ELECYLINDER catalog for full options.

Built-in controller

ELECYLINDER®

Full lineup

EC

ELECYLINDER



Built-in ball circulation linear guide

Slider type

Standard

Long stroke
Belt drive

Built-in 4-row guide
High rigidity



Rod

Standard



Table

Mini type

[TC4/TW4]

Stroke: 30, 50mm

Maximum payload: horizontal 8kg / vertical 2.5kg

Dust-proof and splash-proof

IP67

Built-in ball circulation linear guide

Radial cylinder®

Built-in 4-row guide
High rigidity



Rotary

[RTC9/RTC12]

Maximum swing angle: 330 degrees

Maximum speed: 600 degrees / s

Standard



Stopper cylinder

[ST15]

Maximum workpiece collision speed: 40m / min [Work mass: 9kg]

16m / min [Work mass: 50kg]

Maximum work load: 50kg

Built-in ball circulation linear guide

Radial cylinder®



compatible with
the digital speed controller



[S3/S4/S6/S7]
Stroke: 50~500mm
Maximum payload: horizontal 51kg/vertical 19kg



Motor side-mounted
[S3□R/S4□R/S6□R/S7□R]
Stroke: 50~500mm
Maximum payload: horizontal 51kg/vertical 19kg



[B6/B7]
Stroke: 300~2600mm
Maximum payload: horizontal 20kg



[S6□AH/S7□AH]
Stroke: 50~800mm
Maximum payload: horizontal 51kg/vertical 25kg



Motor side-mounted
[S6□AHR/S7□AHR]
Stroke: 50~800mm
Maximum payload: horizontal 51kg/vertical 25kg



[R6/R7]
Stroke: 50~300mm
Maximum payload: horizontal 80kg/vertical 19kg



Mini type
[RP4/GS4/GD4]
Stroke: 30, 50mm
Maximum payload: horizontal 8kg/vertical 2.5kg



[RR3/RR4/RR6/RR7]
Stroke: 50~315mm
Maximum payload: horizontal 80kg/vertical 19kg



Motor side-mounted
[RR3□R/RR4□R/RR6□R/RR7□R]
Stroke: 50~315mm
Maximum payload: horizontal 80kg/vertical 19kg



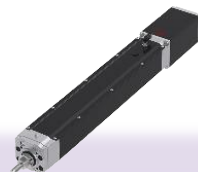
[RR6□AH/RR7□AH]
Stroke: 50~500mm
Maximum payload: horizontal 80kg/vertical 28kg



Motor side-mounted
[RR6□AHR/RR7□AHR]
Stroke: 50~500mm
Maximum payload: horizontal 80kg/vertical 28kg



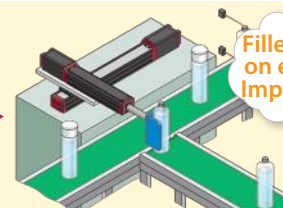
[R6□W/R7□W]
Stroke: 50~300mm
Maximum payload: horizontal 80kg/vertical 19kg



[RR6□W/RR7□W]
Stroke: 65~315mm
Maximum payload: horizontal 80kg/vertical 19kg



Application
examples are



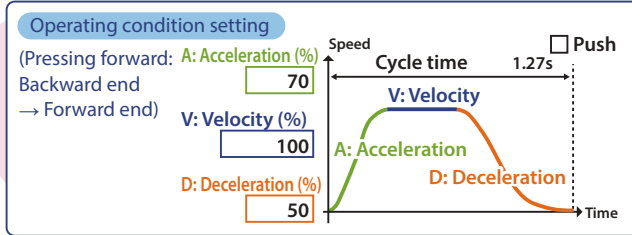
Filled with tips
on equipment
improvement!!

SIMPLE SETTING

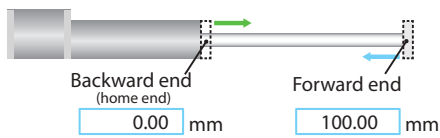
- We emphasized usability of positioning between **two points**.

Only the start point and end point need to be set. Setup is very simple.

"Touch Panel Teaching Pendant TB-03"



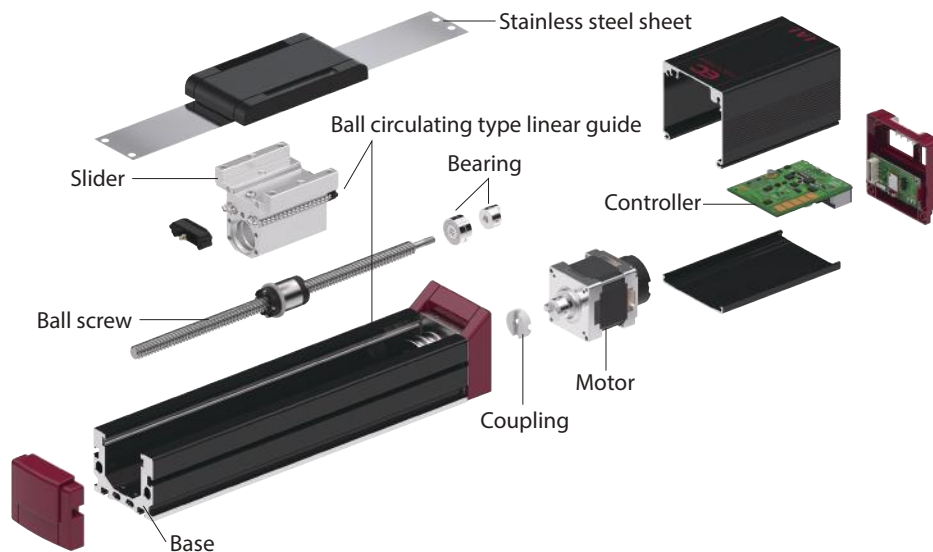
Target position setting



Slider type

COST REDUCTION

- All-in-one



Radial Cylinder



Rod type



PEACE OF MIND

The life of the ELECYLINDER is

● 5 times an air cylinder.

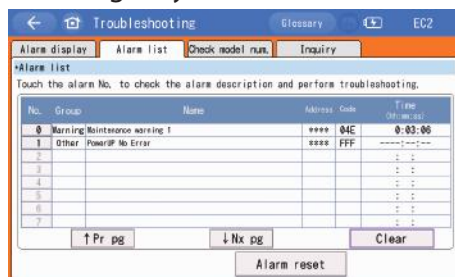
The continued use of air cylinders causes the gaskets to deteriorate, resulting in failure due to air leakage.

The ELECYLINDER on the other hand, does not use gaskets and instead is a ball circulating type with a built-in linear guide and ball screw, providing a **long service life**.

Product specifications	Life	Service life	Lifespan factors	Remarks
Air cylinder (rod type) φ32 	3 years	5 million times * Lifespan estimated by cylinder manufacturer	Gasket/ seal degradation	-
ELECYLINDER® (rod type) EC-R7 	15 years	Approx. 16000km	End of bearing life	Max. speed: 155mm/s Acceleration/ deceleration: 0.5G

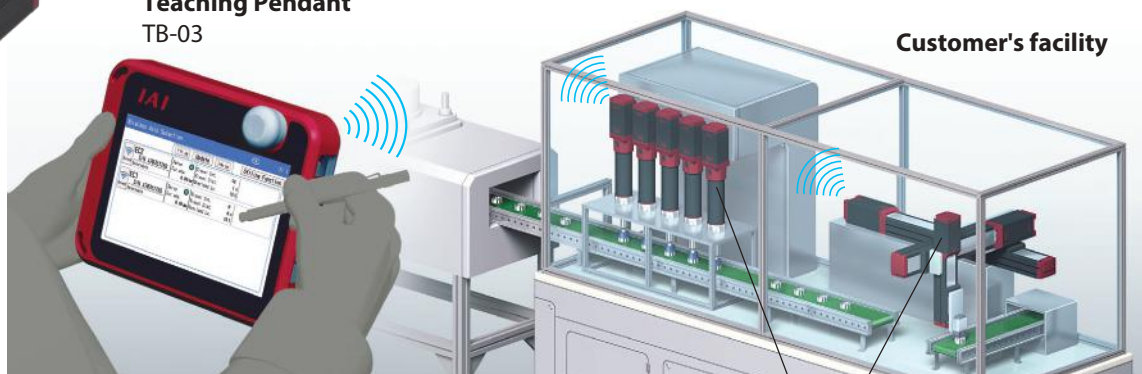
● Easily repairable in the event of a breakdown.

The teaching pendant provides interactive and easy-to-understand troubleshooting and maintenance methods. It provides peace of mind in case of emergency.



The touch panel teaching pendant "TB-03" also supports **wireless operation**.

Touch Panel
Teaching Pendant
TB-03



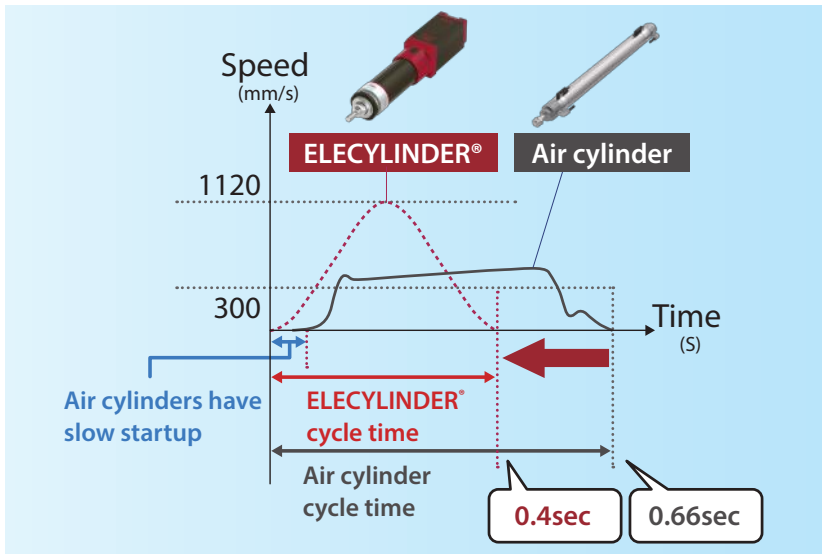
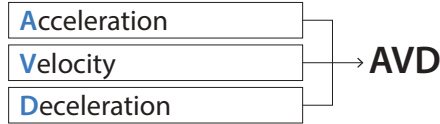
ELECYLINDER®

GOOD PROFITABILITY

● Cycle time can be **reduced**.

Air cylinders cannot operate at high velocity due to the impact at stroke ends which occurs when excess velocity is applied. The ELECYLINDER allows the AVD* to be set individually, so it can be started and stopped quickly and smoothly. This enables reduced cycle time.

* Operating conditions abbreviation: AVD

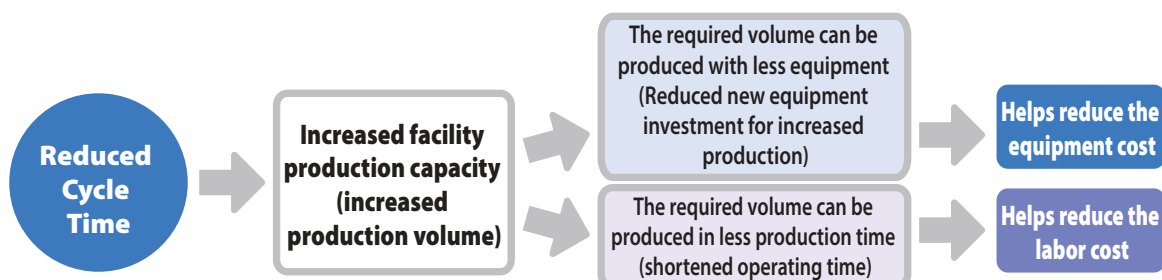


-Operating conditions-

ELECYLINDER®	Air cylinder
· EC-S6SAH	· Inner diameter: $\phi 25\text{mm}$
· Stroke: 200mm	· Stroke: 200mm
· Payload: 1kg	· Payload: 1kg
· Acceleration/deceleration: 1G	· Supply pressure: 0.4 MPa
	· Speed controller opening: 30%

● Improves productivity and **reduces labor costs**.

By shortening the cycle time, the production capacity of the equipment is increased, thereby reducing the equipment cost and labor cost.

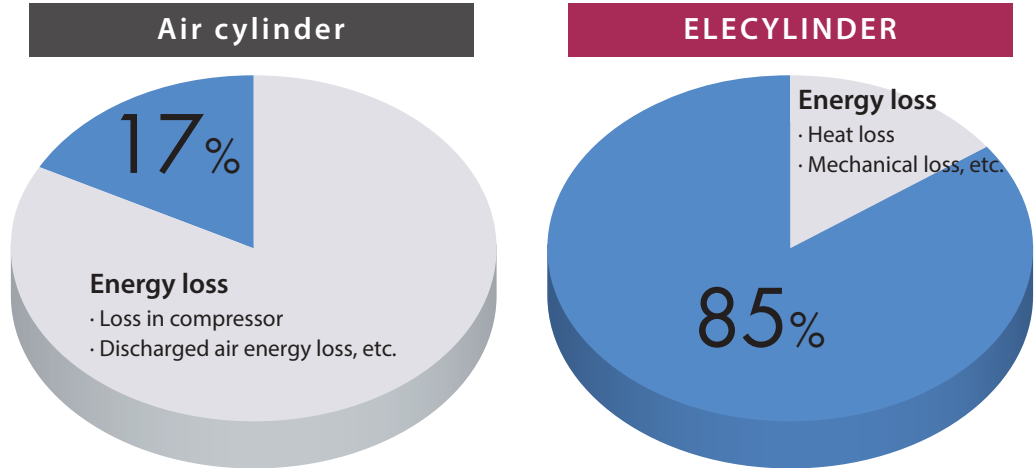


ENERGY SAVING

● 20% ELECTRICAL CONSUMPTION

Energy efficiency comparison

The energy efficiency of air cylinders is about 20% that of ELECYLINDER (electric).



That's why...

Electricity bill is reduced to **20%** * Depends on operating conditions.

Example of introduction) Annual electricity cost / CO₂ emissions on a production line using 300 cylinders

	Electricity bill/ year (Electric power unit price: 15 JPY/kWh)	CO ₂ emission/ year (Emission coefficient: 0.000472t-CO ₂)
Air cylinder	1,755,000 JPY	55.2t-CO ₂
	<small>Power consumption: 390 kWh/year x 15 JPY/year x 300 pcs</small>	<small>Power consumption: 390 kWh/year x 0.000472 x 300 pcs</small>
ELECYLINDER	348,750 JPY	11.0t-CO ₂
	<small>Power consumption: 77.5 kWh/year x 15 JPY/year x 300 pcs</small>	<small>Power consumption: 77.5 kWh/year x 0.000472 x 300 pcs</small>
Annual reduction	1,406,250 JPY/year	44.2t-CO ₂

*Exchange Rate:1(USD)=100(Japanese Yen)

What is a digital speed controller?

No need to connect a PC or teaching pendant!

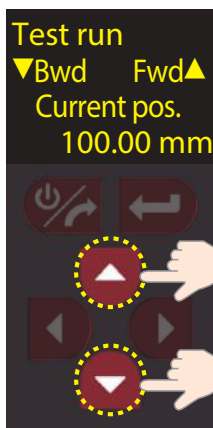
Operation settings and test runs can be done from a panel on **the ELECYLINDER body!**



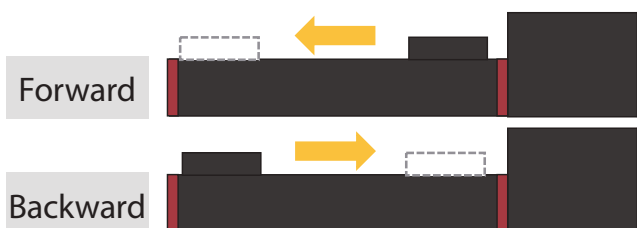
Digital speed controller



Test run

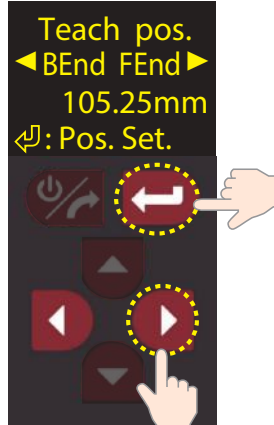
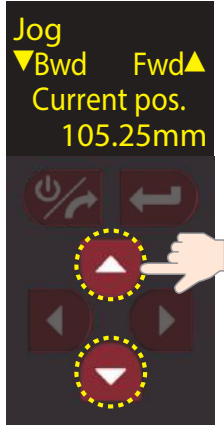


Use the up and down buttons to move the actuator forward or backward.



Setting of Forward End and Backward End

- 1 Set the position by numerical input or by a jogging operation.
(Example) **[Jog operation]**
Jog the actuator using the up and down buttons.
- 2 To register the position set from step 1 as the Forward End point, press the right button then press the set button. .



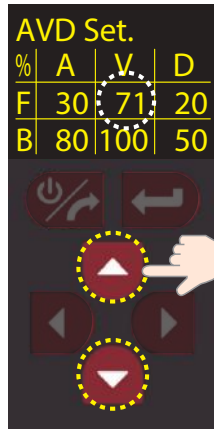
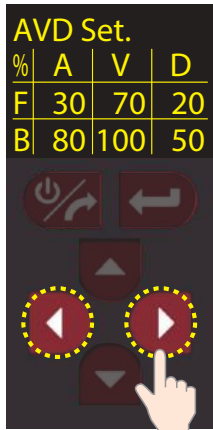
Forward End Backward End



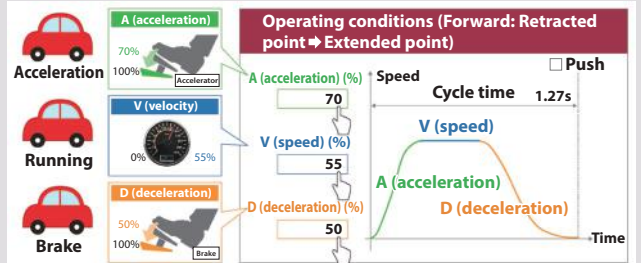
AVD settings

Set A: acceleration, V: speed, D: deceleration in %.

- 1 Select the item to be modified using the left and right buttons.
- 2 Use the up and down buttons to change the value.



What is AVD? If comparing it to driving a car,



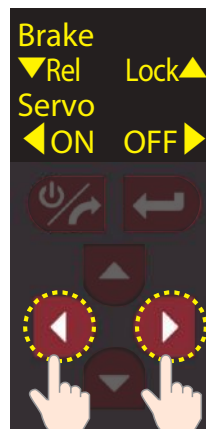
Brake release/ Servo power on/OFF



Brake lock

Brake release

Servo power ON



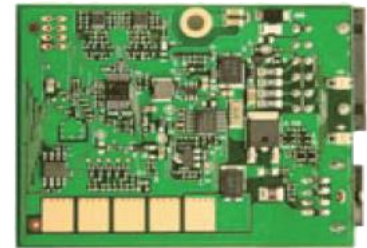
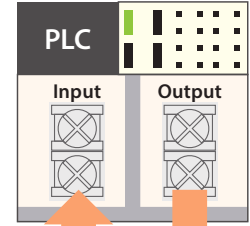
Servo power OFF

Easy to operate

ELECYLINDER Built-in Controller

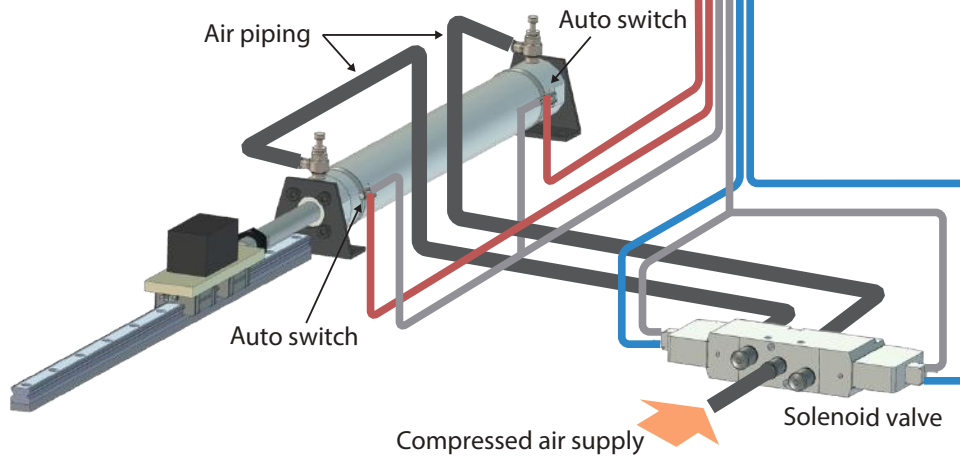
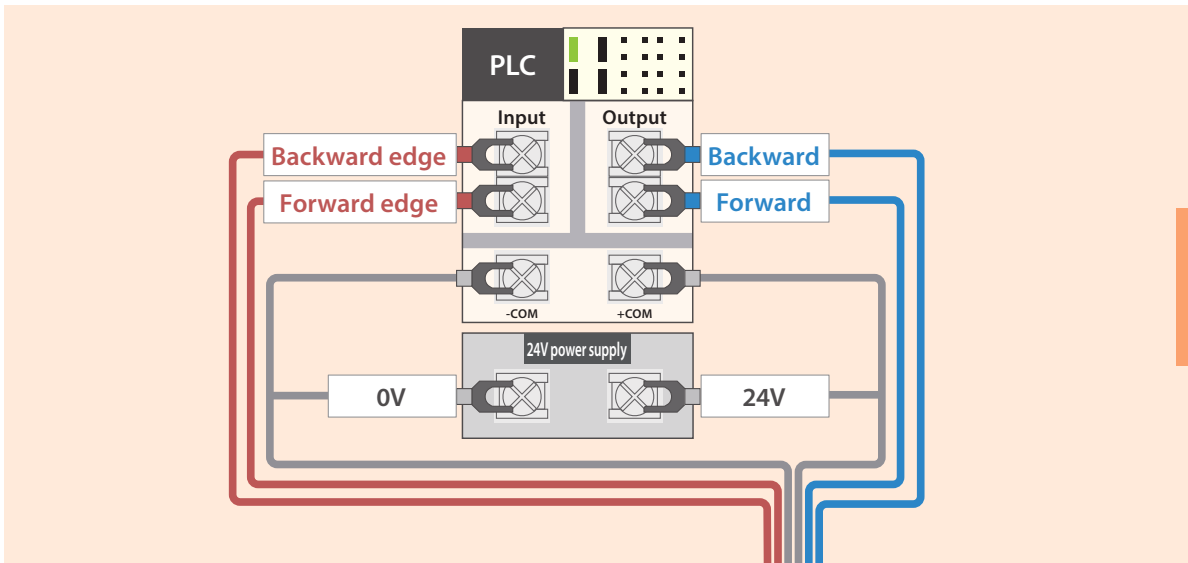


ELECYLINDER



Built-in Controller

Air cylinder wiring diagram



Controller control method

Operates with the same control signals as a double solenoid air cylinder with auto switches.

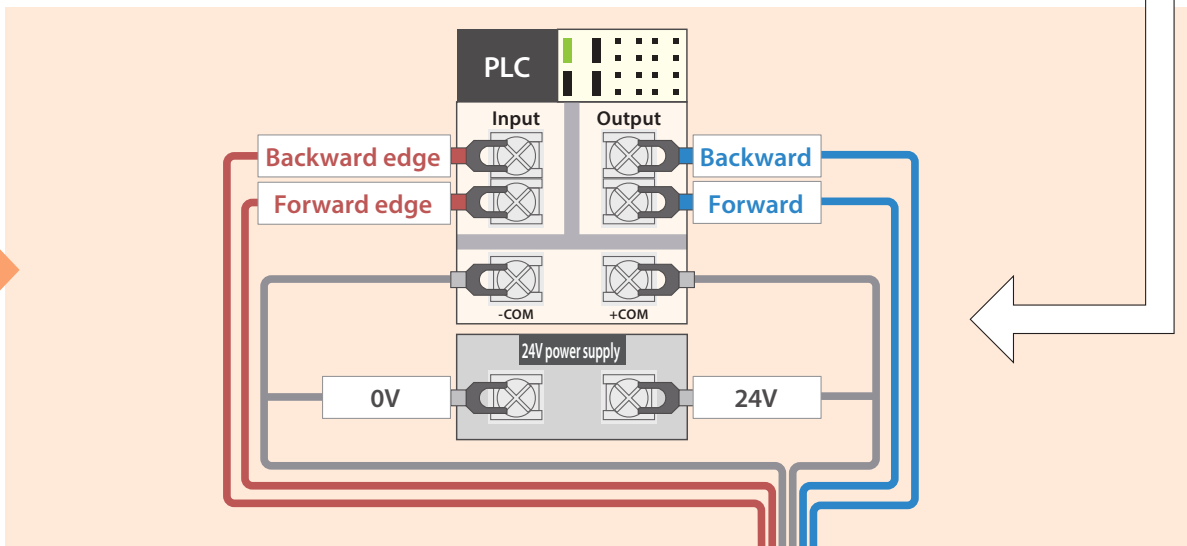


It can be operated using

- the same wiring
- the same PLC ladder program as the air cylinder.

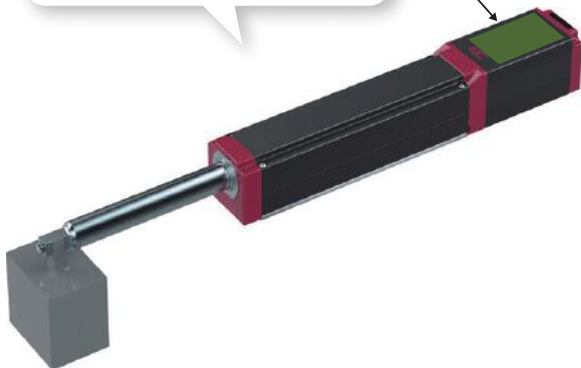


ELECYLINDER Wiring Diagram



No air piping makes cylinder simple and neat.

Built-in Controller



Field Network control is also selectable.



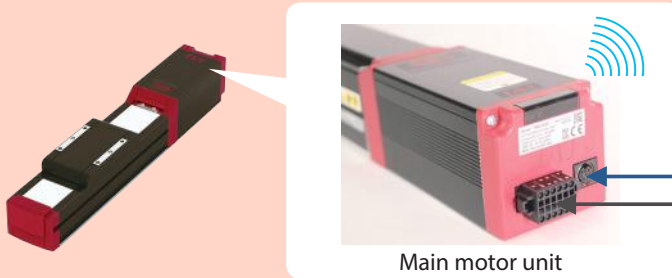
Gateway unit
"REC"
for ELECYLINDER

- CC-Link
- CC-Link IE Field
- DeviceNet
- EtherNet/IP
- EtherCAT
- PROFIBUS
- PROFINET

ELECYLINDER external connections (host PLC, power supply, teaching tool)

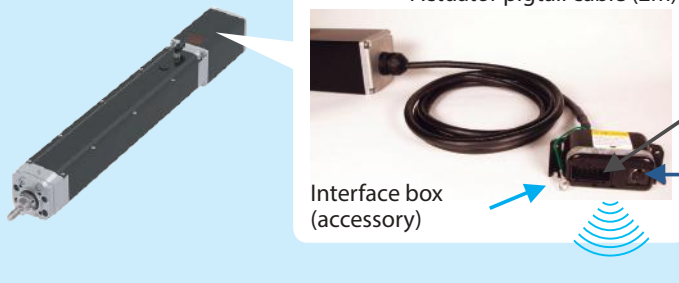
1 Requires I/O power connections and either a connection via 2 or 3

Standard/Digital speed controller



Main motor unit

Waterproof type



Actuator pigtail cable (2m)

Interface box (accessory)

1 Power supply and I/O connection **Required**



Option

Connect to Teaching Tools



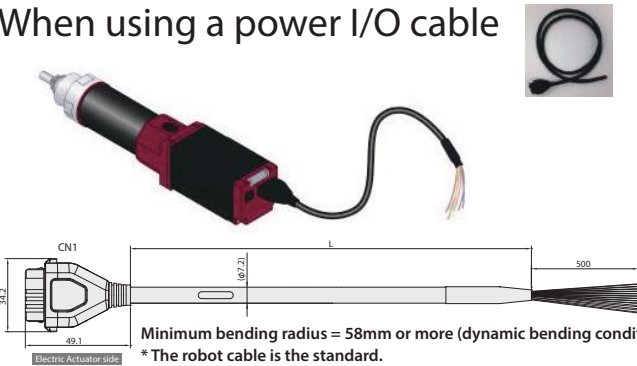
2 Wired connection

3 Wireless connection (teach pendant only)

1 Power supply and I/O connection **Required**

The I/O power connector is used to connect the power supply and I / O signal lines to the host PLC. Select whether to use a power I/O cable or a terminal block to connect to the PLC.

When using a power I/O cable



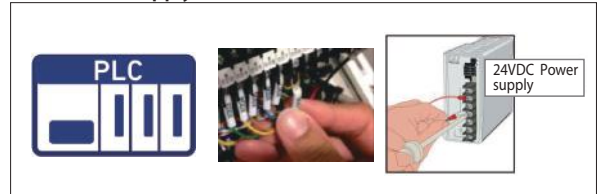
Color	Signal	Pin No.
Black(AWG18)	0V	A1
Red(AWG18)	24V	B1
Light Blue(AWG22)	(Reserved) (Note 1)	A2
Orange(AWG26)	IN0	B3
Yellow(AWG26)	IN1	B4
Green(AWG26)	IN2	B5
Pink(AWG26)	(Reserved)	B6
Blue(AWG26)	OUT0	A3
Purple(AWG26)	OUT1	A4
Gray(AWG26)	OUT2	A5
White(AWG26)	(Reserved)	A6
Brown(AWG26)	BKRLS	B2

(Note 1) When the TMD2 option (split motor and controller power) is selected, this is 24V (controller), and B1 is 24V (motor).

When using the terminal block connector



PLC/Power supply

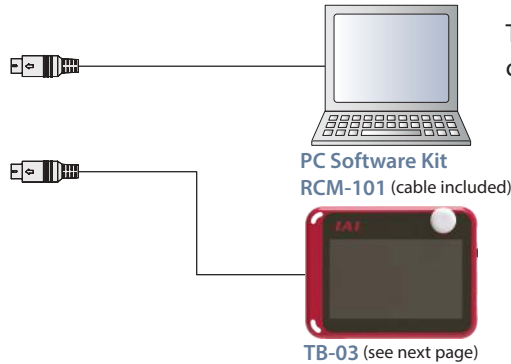


Connecting to Teaching Tools

2 Wired connection



Teaching port



TB-03 or PC-only teaching software can be connected to the teaching port.

PC Software Kit (Windows only)

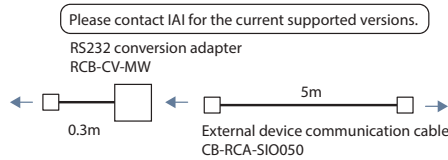
- Features** Startup support software with position input, test operation, monitor functions, etc. Enhanced functionality required for making adjustments contributes to decreasing startup time.

- Model** **RCM-101-MW** (with external device communication cable + RS232 conversion unit)

Configuration



PC Software (CD)

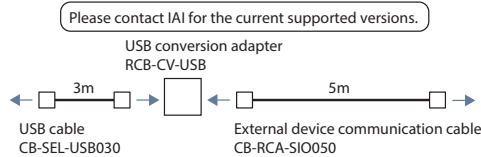


- Model** **RCM-101-USB** (with external device communication cable + USB conversion adapter + USB cable)

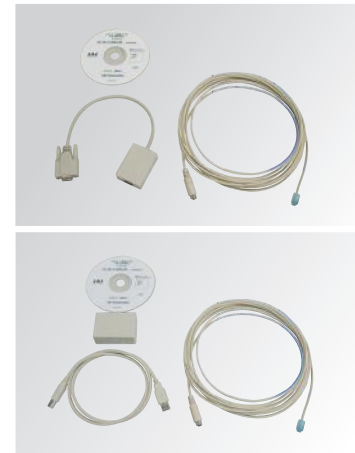
Configuration



PC Software (CD)



Supported Windows OS: 7/8/10



3 Wireless connection



TB-03 (see next page)

If you select "-WL" or "-WL2" in the ELECYLINDER model option list, you can wirelessly connect to TB-03.

Controller basic specifications

Specifications		Details
Number of controlled axes		One axis
Power supply voltage		24 VDC \pm 10%
Power capacity	Standard Waterproof High rigidity	When the power saving setting is disabled: Rated 3.5A, Maximum 4.2A. When the power saving setting is enabled Maximum 2.2A The S3/RR3 can only be used with power saving mode. Maximum current: 2.2A
	Mini type	Up to 2.0A can only be used in power saving mode
Brake release power supply		24 VDC \pm 10%, 200mA (only for external brake release)
Inrush current	Standard Waterproof High rigidity	8.3A (with inrush current limit circuit)
	Mini type	2A
Ambient operating temperature		0~40°C
Ambient operating humidity		85% RH or less (no condensation or freezing)
Operating environment		Avoid corrosive gas and excessive dust

Common for position controller/programmable controller



Features

1. Set the operating conditions through wireless connection.

Position adjustment, operating condition setting and actuator operation can be performed from outside the device without connecting to the ELECYLINDER body with a cable.

* The stop switch is enabled only for "wired connection". It becomes disabled in "wireless connection". Please keep it in mind.



ELECYLINDER that can be operated wirelessly has different wireless functions depending on what is described in the ELECYLINDER model option column. "-WL" = edit only, "-WL2" = edit + action

2. The status of up to 16 axes can be monitored, allowing the axis where the alarm occurred to be quickly found.

Receives wireless data that ELECYLINDER constantly transmits for monitoring the operation status of up to 16 axes. This makes it possible to immediately check which axis has an error when using multiple axes.

Status monitor screen

Select	EC2 S/N A70761788 Selectable	Servo Cur. pos. 0.00 mm	Travel Cnt. Travel Dist. Overload Lv.	52 1 m 12 %	Alarm Group Warnin Maintenance warning 1
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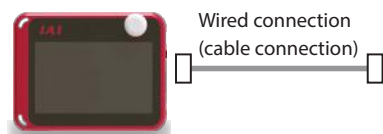
● Error status monitor
Displayed when an alarm or warning has occurred.
Corresponds to troubleshooting.

Troubleshooting screen

3. Compatible with ELECYLINDER / Position Controller / Program Controller

Can be connected to all controllers* with dedicated cables. Can perform the same functions and operations as the conventional teaching pendant TB-02.

* All controllers listed in the general catalog in 2018 or later



The ELECYLINDER can use wired or wireless connection depending on the model selection.

Model

One TB-03 teaching pendant can support all controllers*, but the cables for connecting to each controller must be selected according to the connected controller. In addition, the AC adapter for charging the main body must be selected according to your environment.

Model number **TB-03** - Cable - AC adapter

* All controllers listed in the general catalog in 2018 or later

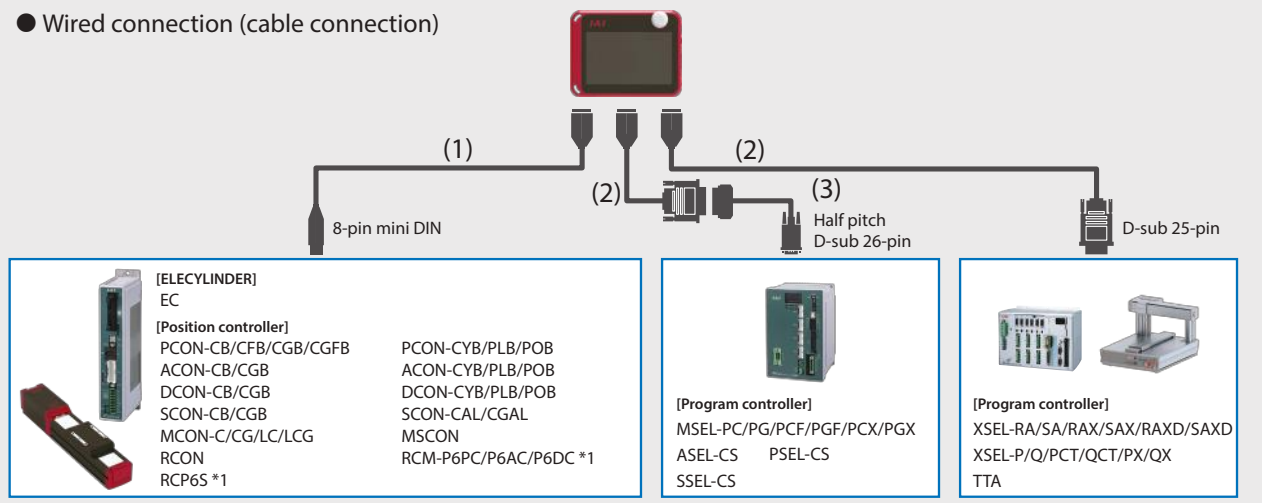
● Body + cable + AC adapter set model

Connection controller	Model number		Cable	
	Body + cable	AC adapter	ELECYLINDER / For position controller	For program controller
ELECYLINDER Position controller	TB-03-C	(No symbol) /C/E/K	(1) CB-TB3-C050	-
		N *2		
Program controller	TB-03-S	(No symbol) /C/E/K	-	(2) CB-TB3-S050
		N *2		(3) CB-SEL-SJS002
ELECYLINDER Position controller Program controller	TB-03-SC	(No symbol) /C/E/K	(1) CB-TB3-C050	(2) CB-TB3-S050
		N *2		(3) CB-SEL-SJS002 (conversion cable)
	TB-03-SCN *1	(No symbol) /C/E/K	-	-
		N *2		

*1 No cable

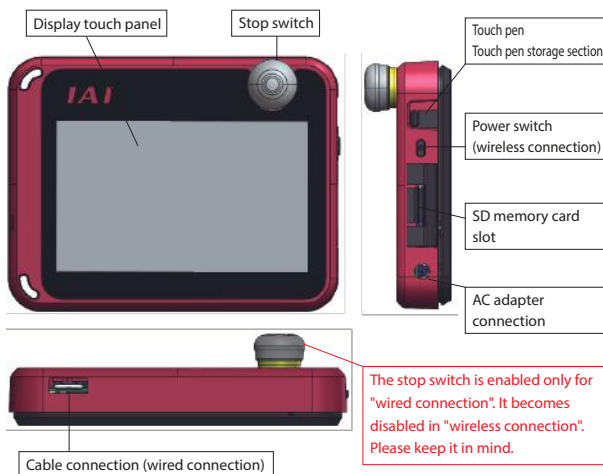
*2 No AC adapter

● Wired connection (cable connection)



*1 A gateway unit or PLC connection unit is required to operate the RCP6S and RCM-P6.

Name of each part

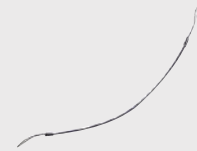


Options

● Strap: STR-1



● Spiral code: SIC-1



● Grip belt: GRP-2



■ Maintenance parts

Battery unit: AB-7



Notes on axis operation through wireless connection

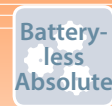
This device (V2.30 or later) can operate the ELECYLINDER (optional model: WL2) through wireless connection. In such a case, confirm the safety as described below before using.

- When connected wirelessly, **the stop switch of this device will not work**. Prepare a device/circuit to perform emergency stop if necessary.

Slider


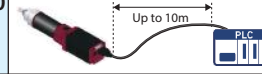

Max. payload	51kg
Max. stroke	500mm
Max. speed	860mm/s

Ball screw drive



Purchased model

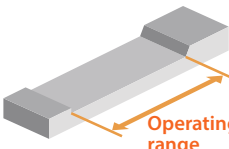
For models (1) ~ (3), select from the following "Maximum speed / payload table by stroke".

	EC	(1)	(2)	(3)	(4)	(5)
	Series	Type	Lead	Stroke	(4) Power / I/O cable length	(5) Options
		S3 S4 S6 S7 DS3 DS4 DS6 DS7	S H M L	50 to 500mm (per 50mm)	1 to 10 Specify the cable length in 1m increments 	B Brake WA Battery-less Absolute Encoder specification WL Wireless connection specification WL2 Wireless axis operation specification
					0 No cable With power / I/O connector 	

* Please see main ELECYLINDER catalog for full options.

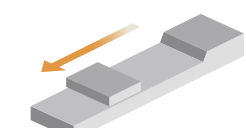
Maximum speed / payload table by stroke

Stroke



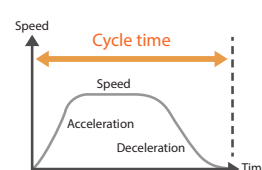
* The length of the band indicates the selectable stroke.
Example) S3H can be selected from 50 to 300mm

Max. speed (operating speed)



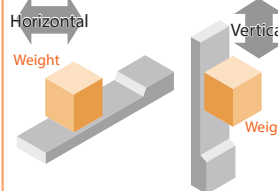
* The maximum speed varies depending on the stroke.
Example) When S3H has a stroke of 250mm, the maximum speed will be 210mm/s
* <> represents vertical operation.

Cycle time



* This is the one-way travel time when the longest stroke is operated at the horizontal mount, maximum speed and maximum acceleration/deceleration.

Payload



* The payload varies depending on the installation position.

Series	(1) Type	(2) Lead		Stroke (mm) and max. speed (mm/s)												Payload (kg)									
		Model number	mm	(3) Stroke												Horizontal	Vertical								
				25	50	100	150	200	250	300	350	400	450	500	550										
EC-	S3 / DS3	H-	6		420				300				210					150	2.107 sec	3.5	1.5				
		M-	4		280				200				140					100	3.099 sec	6	2.5				
		L-	2		140				100				70					50	6.072 sec	9	3.5				
	S4 / DS4	S-	16		800								760					540	0.71 sec	7	1.5				
		H-	10		700								470					320	1.065 sec	12	2.5				
		M-	5		350								240					160	1.999 sec	15	5				
	S6 / DS6	L-	2.5		175 <150>								120					85	3.621 sec	18	6.5				
		S-	20		800													727	566	0.865 sec	15	1			
		H-	12		700													521	392	305	1.437 sec	26	2.5		
		M-	6		450													371	265	199	155	2.68 sec	32	6	
	S7 / DS7	L-	3		225													188	134	100	78	5.205 sec	40	12.5	
		S-	24		860															774	619	506	1.139 sec	37	3
H-		16		700															631	492	395	323	1.676 sec	46	8
M-		8		420															322	251	200	164	3.149 sec	51	16
	L-	4		210 <175>															163	126	101	83	6.103 sec	51	19

EC-DS3

EC-DS4

EC-DS6

EC-DS7

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

2D CAD

3D CAD

Recommended options

Battery-less Absolute

Model: **WA**

Keeps location information without battery.

As it is equipped with a mechanical position detection mechanism, there is no need for the battery-powered backup of the position information.

Battery not required

Home return not required



Model: **WL/WL2**

"Easy setting" & "Trial run" using wireless connection.

The touch panel teaching pendant TB-03 can be used to eliminate the need for cable connection to the actuator. The alarm information can be confirmed immediately when trouble occurs.

See **P.14** for details

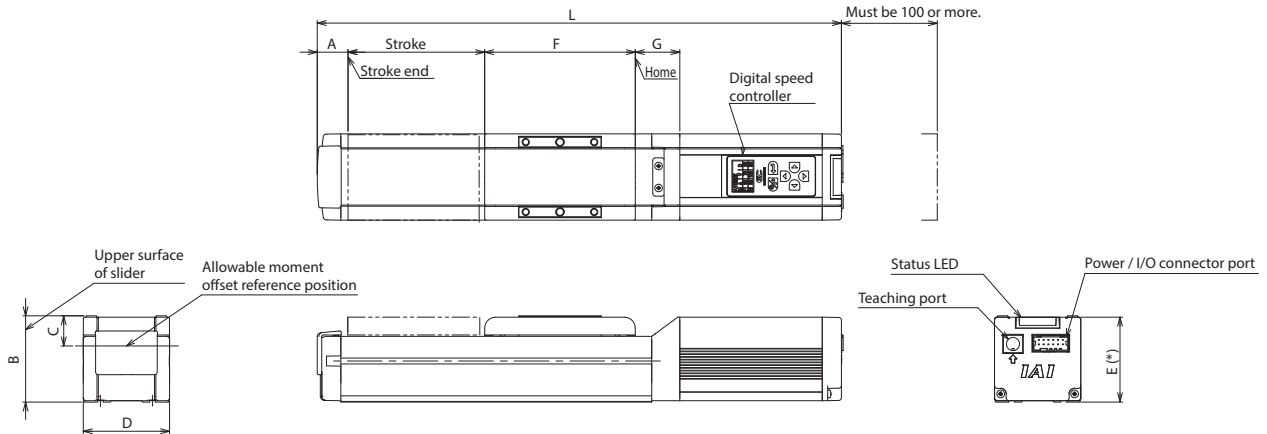
Shortened adjustment time

Cable not required

Dimensions

Refer to the homepage for dimensions related to installation.

(*) For ELECYLINDER with digital speed controller, the E dimension is +10mm.



		Stroke	50	100	150	200	250	300	350	400	450	500	
S3□	L	Incremental	Without brake	268	318	368	418	468	518				
			With brake	293	343	393	443	493	543				
		Battery-less Absolute	Without brake	293	343	393	443	493	543				
			With brake	313	363	413	463	513	563				
		A				14.5							
		B				45							
		C				16							
		D				35							
	E (*)				66								
	F				64								
	G				14.5								
S4□	L	Incremental	Without brake	301	351	401	451	501	551				
			With brake	331	381	431	481	531	581				
		Battery-less Absolute	Without brake	316	366	416	466	516	566				
			With brake	346	396	446	496	546	596				
		A				18							
		B				56							
		C				18							
		D				44							
	E (*)				63								
	F				82								
	G				16								
S6□	L	Without brake	333	383	433	483	533	583	633	683			
		With brake	373	423	473	523	573	623	673	723			
		A				22.5							
		B				63							
		C				22							
		D				63							
		E (*)				62							
		F				110							
	G				32.5								
S7□	L	Without brake	394	444	494	544	594	644	694	744	794	844	
		With brake	444	494	544	594	644	694	744	794	844	894	
		A					23						
		B					73						
		C					22						
		D					73						
		E (*)					72						
		F					126						
	G					38							

High Rigidity Slider

Max. payload	51kg
Max. stroke	800mm
Max. speed	1440mm/s

Built-in 4-row guide ball screw drive

Recommended options

Battery-less Absolute



● **Purchased model** For models (1) ~ (3), select from the following "Maximum speed / payload table by stroke".

Digital speed controller

EC -
(1)
(2)
AH-
(3)
(4)
(5)

Series

S6
S7
DS6
DS7

Type

S
H
M
L

Lead

S
H
M
L

Stroke

50 to 800mm (per 50mm)

(4) Power / I/O cable length

1 to 10	Specify the cable length in 1m increments
0	No cable With power / I/O connector

(5) Options

B	Brake
WA	Battery-less Absolute Encoder specification
WL	Wireless connection specification
WL2	Wireless axis operation specification

* Please see main ELECYLINDER catalog for full options.

● Maximum speed / payload table by stroke

Stroke

Operating range

* The length of the band indicates the selectable stroke.
Example) S6SAH can be selected from 50 to 800mm

Max. speed (operating speed)

* The maximum speed varies depending on the stroke.
Example) When S6SAH has a stroke of 550mm, the maximum speed will be 1090mm/s
* <> represents vertical operation.

Cycle time

* This is the one-way travel time when the longest stroke is operated at the horizontal mount, maximum speed and maximum acceleration/deceleration.

Payload

* The payload varies depending on the installation position.

Series	(1) Type	(2) Lead		Stroke (mm) and max. speed (mm/s)																	Payload (kg)				
		Model number	mm	(3) Stroke																	Horizontal	Vertical			
				25	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800					
EC-	S6□AH DS6□AH	S-	20	1440 <1280>												1280	1090	940	815	715	630	560	1.585 sec	15	1
		H-	12	900						845	705	585	515	445	390	345	315	2.666 sec	26	2.5					
		M-	6	450				415	350	295	255	220	190	170	140	5.809 sec	32	6							
		L-	3	225		205	170	145	125	110	95	85	70	11.501 sec	40	16									
	S7□AH DS7□AH	S-	24	1230										1080	950	840	750	1.245 sec	37	3					
		H-	16	980 <840>					955 <840>	820	715	625	555	495	1.765 sec	46	8								
		M-	8	420				405	350	310	275	245	3.381 sec	51	16										
		L-	4	210 <175>		195 <175>	175	150	135	120	6.757 sec	51	25												



CAD drawings can be downloaded from our website.
www.intelligentactuator.com



Recommended options



Model: **WA**

Keeps location information without battery.
As it is equipped with a mechanical position detection mechanism, there is no need for the battery-powered backup of the position information.

- Battery not required
- Home return not required



Model: **WL/WL2**

"Easy setting" & "Trial run" using wireless connection.

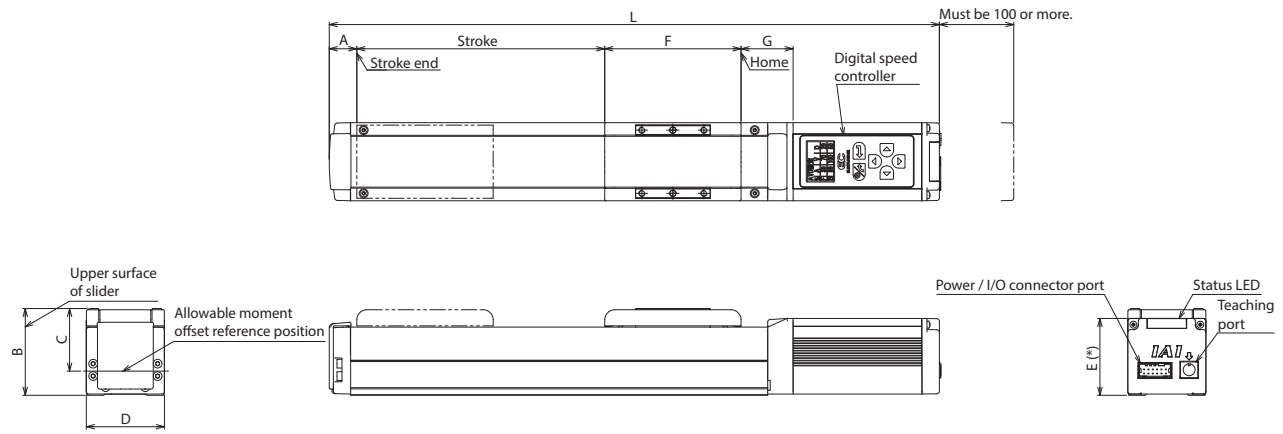
The touch panel teaching pendant TB-03 can be used to eliminate the need for cable connection to the actuator. The alarm information can be confirmed immediately when trouble occurs.

See P.14 for details

- Shortened adjustment time
- Cable not required

Dimensions

Refer to the homepage for dimensions related to installation.
(*) For ELECYLINDER with digital speed controller, the E dimension is +10mm.



	Stroke	Stroke																
		50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	
S6□AH	L	Without brake	342.5	392.5	442.5	492.5	542.5	592.5	642.5	692.5	742.5	792.5	842.5	892.5	942.5	992.5	1042.5	1092.5
		With brake	382.5	432.5	482.5	532.5	582.5	632.5	682.5	732.5	782.5	832.5	882.5	932.5	982.5	1032.5	1082.5	1132.5
	A									22.5								
	B									70								
	C									50.5								
	D									63								
	E (*)									62								
	F									110								
G									42									
S7□AH	L	Without brake	407.5	457.5	507.5	557.5	607.5	657.5	707.5	757.5	807.5	857.5	907.5	957.5	1007.5	1057.5	1107.5	1157.5
		With brake	457.5	507.5	557.5	607.5	657.5	707.5	757.5	807.5	857.5	907.5	957.5	1007.5	1057.5	1107.5	1157.5	1207.5
	A									22.5								
	B									80								
	C									58								
	D									75								
	E (*)									76								
	F									126								
G									52									

Slider

Max. payload	20kg
Max. stroke	2600mm
Max. speed	1600mm/s

Belt Driven

Recommended options

Battery-less Absolute



Purchased model

For models (1) ~ (3), select from the following "Maximum speed / payload table by stroke".

EC	-	(1)	-	(2)	-	(3)	-	(4)	-	(5)
Series	-	Type	-	Lead	-	Stroke	-	(4) Power / I/O cable length	-	(5) Options
	-	B6 B7	-	S	-	300 to 2600mm (per 100mm)	-	1 to 10 Specify the cable length in 1m increments 0 No cable With power / I/O connector	-	B Brake WA Battery-less Absolute Encoder specification WL Wireless connection specification WL2 Wireless axis operation specification

* Please see main ELECYLINDER catalog for full options.

Maximum speed / payload table by stroke

Stroke

* The length of the band indicates the selectable stroke.
Example) B6S can be selected from 300 to 2600mm

Max. speed (operating speed)

* The maximum speed varies depending on the stroke.
Example) When B6S has a stroke of 800mm, the maximum speed will be 1440mm/s
* <> represents vertical operation.

Cycle time

* This is the one-way travel time when the longest stroke is operated at the horizontal mount, maximum speed and maximum acceleration/deceleration.

Payload

* The payload varies depending on the installation position.

Series	(1) Type	(2) Lead		Stroke (mm) and max. speed (mm/s)																							Payload (kg)				
		Model number	mm	(3) Stroke																							Horizontal	Vertical			
EC-	B6	S-	48 or equivalent	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	2600	2.55 sec	11	-
	B7	S-	48 or equivalent	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	2600	2.455 sec	20	-

EC-B6

EC-B7

CAD drawings can be downloaded from our website.
www.intelligentactuator.com



Recommended options

Battery-less Absolute

Model: **WA**

Keeps location information without battery.

As it is equipped with a mechanical position detection mechanism, there is no need for the battery-powered backup of the position information.

Battery not required

Home return not required



Model: **WL/WL2**

"Easy setting" & "Trial run" using wireless connection.

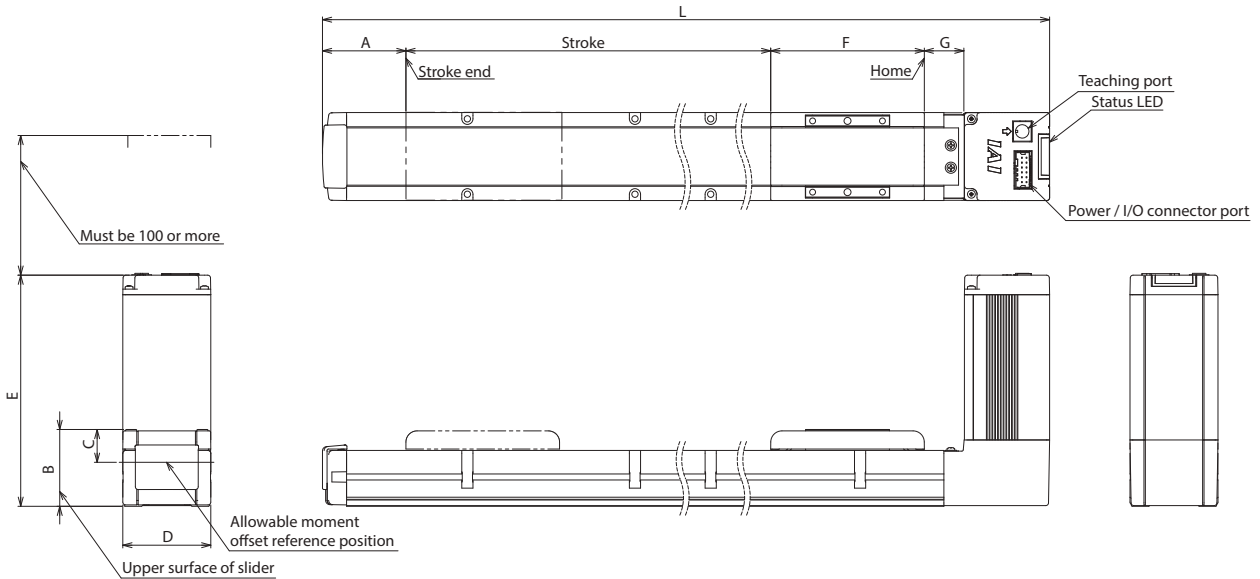
The touch panel teaching pendant TB-03 can be used to eliminate the need for cable connection to the actuator. The alarm information can be confirmed immediately when trouble occurs.

See **P.14** for details

Shortened adjustment time

Cable not required

Dimensions Refer to the homepage for dimensions related to installation.



	Stroke	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	2600	
B6	L	559.5	659.5	759.5	859.5	959.5	1059.5	1159.5	1259.5	1359.5	1459.5	1559.5	1659.5	1759.5	1859.5	1959.5	2059.5	2159.5	2259.5	2359.5	2459.5	2559.5	2659.5	2759.5	2859.5	
	A												59.8													
	B												55													
	C												23.5													
	D												63													
	E	Without brake												165.5												
		With brake												205.5												
		F												110												
	G												28.7													
B7	L	587.5	687.5	787.5	887.5	987.5	1087.5	1187.5	1287.5	1387.5	1487.5	1587.5	1687.5	1787.5	1887.5	1987.5	2087.5	2187.5	2287.5	2387.5	2487.5	2587.5	2687.5	2787.5	2887.5	
	A												60.8													
	B												55													
	C												23.5													
	D												73													
	E	Without brake												204.5												
		With brake												254.5												
		F												126												
	G												29.7													

Slider <motor side-mounted>

Max. payload	51kg
Max. stroke	300mm
Max. speed	860mm/s

Ball screw drive

Recommended options

Battery-less Absolute



● **Purchased model** For models (1) ~ (3), select from the following "Maximum speed / payload table by stroke".

EC - (1) (2) R- (3) - (4) - (5) Series - Type Lead Stroke (4) Power / I/O cable length (5) Options S3 S S3H 50 to 500mm (per 50mm) 1 to 10 Specify the cable length in 1m increments B Brake S4 S4H 210 to 210mm 0 No cable WA Battery-less Absolute Encoder specification S6 S6M 210 to 210mm With power / I/O connector WL Wireless connection specification S7 S7L 210 to 210mm WL2 Wireless axis operation specification DS3 DS3H 210 to 210mm DS4 DS4H 210 to 210mm DS6 DS6H 210 to 210mm DS7 DS7H 210 to 210mm	Digital speed controller 	Up to 10m 	* Please see main ELECYLINDER catalog for full options.
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● Maximum speed / payload table by stroke

Stroke

* The length of the band indicates the selectable stroke.
Example) S3H can be selected from 50 to 300mm

Max. speed (operating speed)

* The maximum speed varies depending on the stroke.
Example) When S3H has a stroke of 250mm, the maximum speed will be 210mm/s
* <> represents vertical operation.

Cycle time

* This is the one-way travel time when the longest stroke is operated at the horizontal mount, maximum speed and maximum acceleration/deceleration.

Payload

* The payload varies depending on the installation position.

Series	(1) Type	(2) Lead		Stroke (mm) and max. speed (mm/s)											Payload (kg)				
		Model number	mm	(3) Stroke											Horizontal	Vertical			
				25	50	100	150	200	250	300	350	400	450	500					
EC-	S3 / DS3	H-	6			360		300		210		150		2.107 sec		3.5	1.5		
		M-	4			240		200		140		100		3.099 sec		6	2.5		
		L-	2			120		100		70		50		6.072 sec		9	3.5		
	S4 / DS4	S-	16			800				760		540		0.71 sec		7	1.5		
		H-	10			700	<600>			470		320		1.065 sec		12	2.5		
		M-	5			350				240		160		1.985 sec		15	5		
		L-	2.5			175	<150>			120		85		3.621 sec		18	6.5		
	S6 / DS6	S-	20					800				727	566	0.865 sec		15	1		
		H-	12					700				521	392	1.487 sec		26	2.5		
		M-	6					450	<400>			371	265	199	155	2.68 sec		32	6
		L-	3					225				188	134	100	78	5.205 sec		40	12.5
	S7 / DS7	S-	24					860				774	619	506	1.139 sec		37	3	
		H-	16					700				631	492	395	323	1.676 sec		46	8
		M-	8					420	<350>			322	251	200	164	3.149 sec		51	16
		L-	4					190	<175>			163	126	101	83	1.676 sec		51	19



CAD drawings can be downloaded from our website.
www.intelligentactuator.com

2D CAD

3D CAD

Recommended options

Battery-less Absolute

Model: **WA**

Keeps location information without battery.

As it is equipped with a mechanical position detection mechanism, there is no need for the battery-powered backup of the position information.

Battery not required

Home return not required



Model: **WL/WL2**

"Easy setting" & "Trial run" using wireless connection.

The touch panel teaching pendant TB-03 can be used to eliminate the need for cable connection to the actuator. The alarm information can be confirmed immediately when trouble occurs.

See P.14 for details

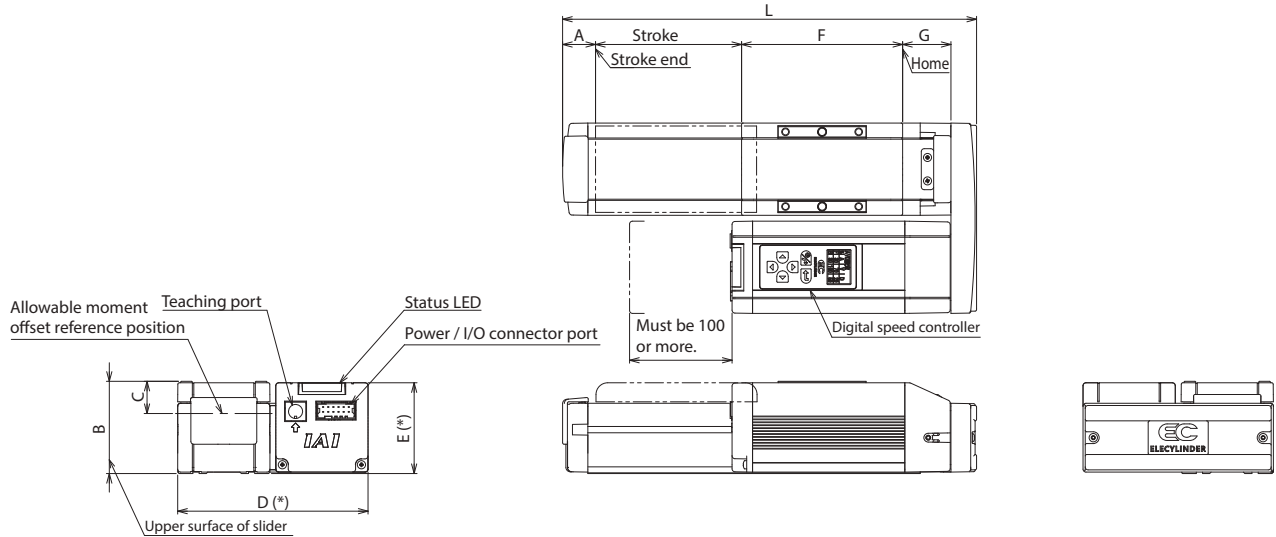
Shortened adjustment time

Cable not required

Dimensions

Refer to the homepage for dimensions related to installation.

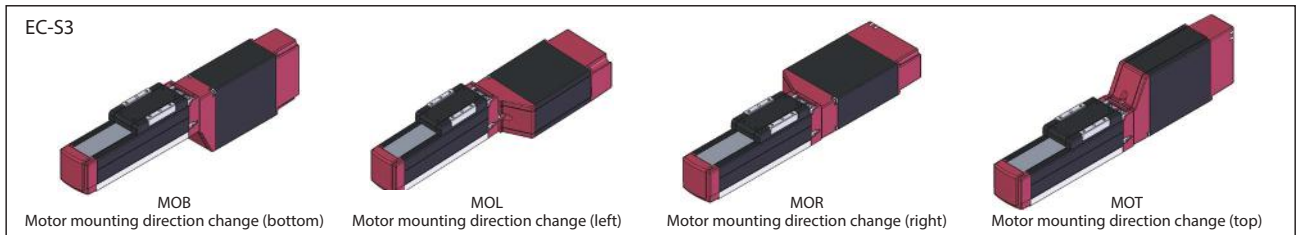
(*) For ELECYLINDER with digital speed controller, the D dimension is +10mm for DS3□R/DS4□R, and E dimension is +10mm for DS6□R/DS7□R.



	Stroke	50	100	150	200	250	300
S3□R	L	170	220	270	320	370	420
	A			14.5			
	B			45			
	C			16			
	D(*)			109.5			
	E			35			
	F			64			
S4□R	L	188	238	288	338	388	438
	A			18			
	B			56			
	C			18			
	D(*)			117			
	E			43			
	F			82			

	Stroke	50	100	150	200	250	300	350	400	450	500
S6□R	L	233	283	333	383	433	483	533	583		
	A					22.5					
	B					63					
	C					22					
	D					130					
	E(*)					62					
	F					110					
S7□R	L	265.5	315.5	365.5	415.5	465.5	515.5	565.5	615.5	665.5	715.5
	A					23					
	B					73					
	C					22					
	D					151					
	E(*)					72					
	F					126					

For more mounting options, please see page 16.



High Rigidity Slider <motor side-mounted>

Max. payload	51kg
Max. stroke	800mm
Max. speed	1120mm/s

Built-in 4-row guide ball screw drive

Recommended options

Battery-less Absolute



● **Purchased model** For models (1) ~ (3), select from the following "Maximum speed / payload table by stroke".

EC	-	(1)	(2)	AHR-	(3)	-	(4)	-	(5)
Series	-	Type	Lead	-	Stroke	-	(4) Power / I/O cable length	-	(5) Options
	-	S6	S	-	50 to 800mm (per 50mm)	-	1 to 10 Specify the cable length in 1m increments 	-	B Brake WA Battery-less Absolute Encoder specification WL Wireless connection specification WL2 Wireless axis operation specification
	-	S7	H	-		0		-	
	-	DS6	M	-	-		-		
	-	DS7	L	-	-	-			

* Please see main ELECYLINDER catalog for full options.

● Maximum speed / payload table by stroke

Stroke

* The length of the band indicates the selectable stroke.
Example) S6SAHR can be selected from 50 to 800mm

Max. speed (operating speed)

* The maximum speed varies depending on the stroke.
Example) When S6SAHR has a stroke of 550mm, the maximum speed will be 1090mm/s
* <> represents vertical operation.

Cycle time

* This is the one-way travel time when the longest stroke is operated at the horizontal mount, maximum speed and maximum acceleration/deceleration.

Payload

* The payload varies depending on the installation position.

Series	(1) Type	(2) Lead		Stroke (mm) and max. speed (mm/s)																	Payload (kg)		
		Model number	mm	(3) Stroke																	Horizontal	Vertical	
				25	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800			
EC-	S6 / DS6	S-	20	1120																	1.585 sec	15	1
		H-	12	900 <800>																	2.666 sec	26	2.5
		M-	6	450 <400>																	5.83 sec	32	6
		L-	3	225																	11.511 sec	40	16
	S7 / DS7	S-	24	1080 <860>																	1.245 sec	37	3
		H-	16	840 <700>																	1.765 sec	46	8
		M-	8	420 <350>																	3.381 sec	51	16
		L-	4	190 <175>																	6.757 sec	51	25

EC-DS6□AHR



EC-DS7□AHR



CAD drawings can be downloaded from our website.
www.intelligentactuator.com

2D CAD

3D CAD

Recommended options

Battery-less Absolute

Model: WA

Keeps location information without battery.

As it is equipped with a mechanical position detection mechanism, there is no need for the battery-powered backup of the position information.

Battery not required

Home return not required



Model: WL/WL2

"Easy setting" & "Trial run" using wireless connection.

The touch panel teaching pendant TB-03 can be used to eliminate the need for cable connection to the actuator. The alarm information can be confirmed immediately when trouble occurs.

See P.14 for details

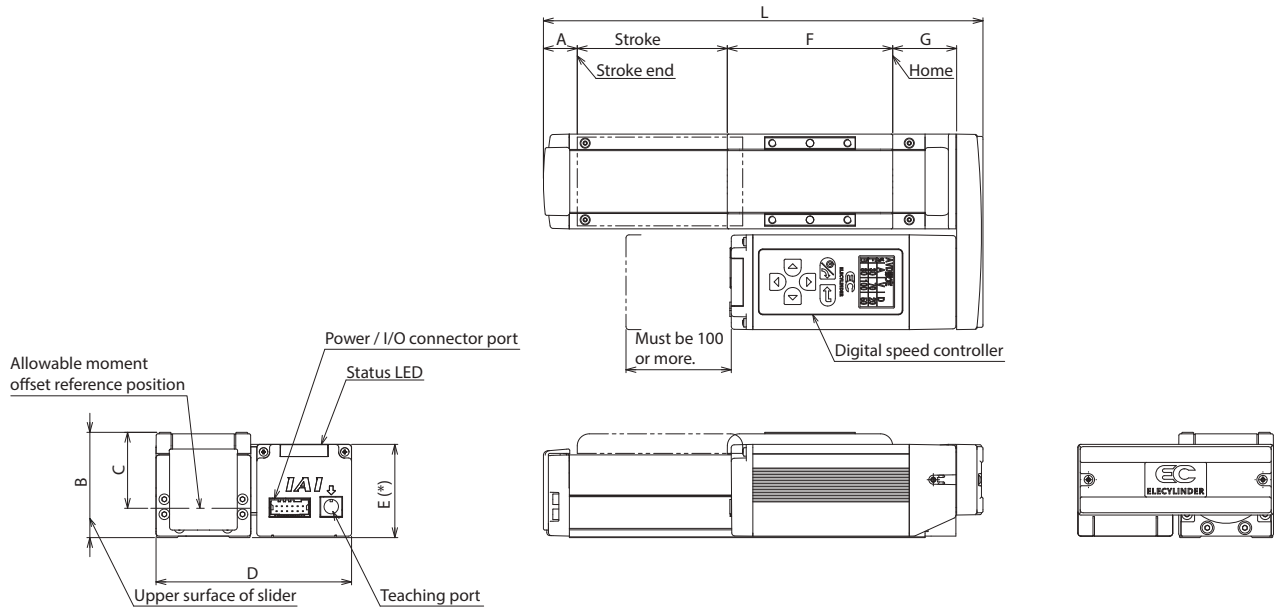
Shortened adjustment time

Cable not required

Dimensions

Refer to the homepage for dimensions related to installation.

(*) For ELECYLINDER with digital speed controller, the E dimension is +10mm.



	Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
S6□AHR	L	242.5	292.5	342.5	392.5	442.5	492.5	542.5	592.5	642.5	692.5	742.5	792.5	842.5	892.5	942.5	992.5
	A									22.5							
	B									70							
	C									50.5							
	D									130							
	E (*)									62							
	F									110							
G									42.5								
S7□AHR	L	274	324	374	424	474	524	574	624	674	724	774	824	874	924	974	1024
	A									22.5							
	B									80							
	C									58							
	D									152							
	E (*)									76							
	F									126							
G									52.5								

Rod


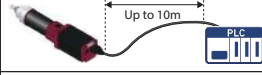

Max. payload	80kg
Max. stroke	300mm
Max. speed	860mm/s

Ball screw drive



Purchased model

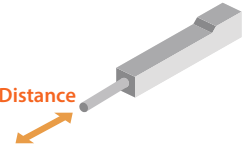
For models (1) ~ (3), select from the following "Maximum speed / payload table by stroke".

EC	(1)	(2)	(3)	(4)	(5)			
Series	Type	Lead	Stroke	(4) Power / I/O cable length	(5) Options			
	R6	S	50 to 300mm (per 50mm)	1 to 10 Specify the cable length in 1m increments 	B Brake			
	R7	H			0 No cable With power / I/O connector 	WA Battery-less Absolute Encoder specification		
	DR6	M		<table border="1"> <tr> <td>WL</td> <td>Wireless connection specification</td> </tr> <tr> <td>WL2</td> <td>Wireless axis operation specification</td> </tr> </table>		WL	Wireless connection specification	WL2
	WL	Wireless connection specification						
WL2	Wireless axis operation specification							
DR7	L							

* Please see main ELECYLINDER catalog for full options.

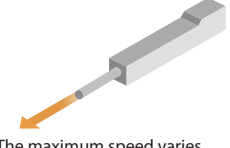
Maximum speed / payload table by stroke

Stroke



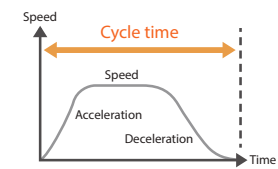
* The length of the band indicates the selectable stroke.
Example) R6S can be selected from 50 to 300mm

Max. speed (operating speed)



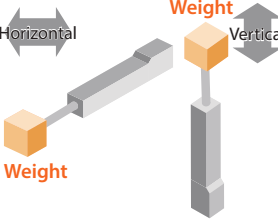
* The maximum speed varies depending on the stroke.
Example) When R6S has a stroke of 150mm, the maximum speed will be 800mm/s
* <> represents vertical operation.

Cycle time



* This is the one-way travel time when the longest stroke is operated at the horizontal mount, maximum speed and maximum acceleration/deceleration.

Payload



* The payload varies depending on the installation position.

Series	(1) Type	(2) Lead		Stroke (mm) and max. speed (mm/s)							Payload (kg)		
		Model number	mm	(3) Stroke							Horizontal	Vertical	
				25	50	100	150	200	250	300			
EC-	R6 / DR6	S-	20	800							0.635 sec	6	1.5
		H-	12	700					547	0.75 sec	25	4	
		M-	6	450			376	268	1.239 sec	40	10		
		L-	3	225		186	133	2.35 sec	60	12.5			
	R7 / DR7	S-	24	860 <640>							0.585 sec	20	3
		H-	16	700 <560>							0.693 sec	50	8
		M-	8	350					0.999 sec	60	18		
		L-	4	175				1.844 sec	80	19			



CAD drawings can be downloaded from our website.
www.intelligentactuator.com



Recommended options

Battery-less Absolute

Model: **WA**

Keeps location information without battery.

As it is equipped with a mechanical position detection mechanism, there is no need for the battery-powered backup of the position information.

Battery not required

Home return not required



Model: **WL/WL2**

"Easy setting" & "Trial run" using wireless connection.

The touch panel teaching pendant TB-03 can be used to eliminate the need for cable connection to the actuator. The alarm information can be confirmed immediately when trouble occurs.

See **P.14** for details

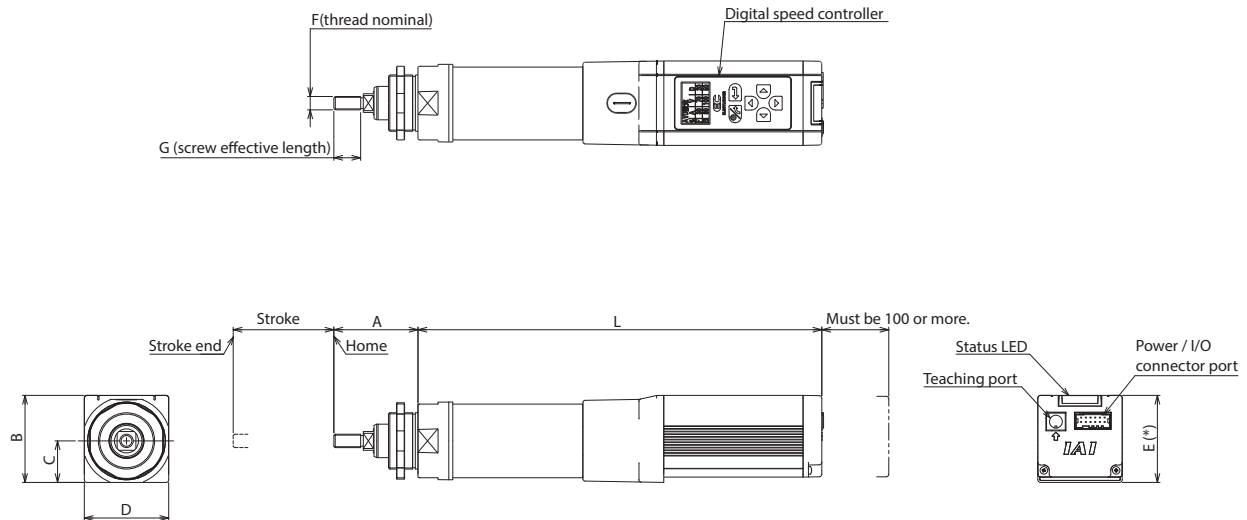
Shortened adjustment time

Cable not required

Dimensions

Refer to the homepage for dimensions related to installation.

(*) For ELECYLINDER with digital speed controller, the E dimension is +10mm.



		Stroke	50	100	150	200	250	300
R6□	L	Without brake	301.5	351.5	401.5	451.5	501.5	551.5
		With brake	341.5	391.5	441.5	491.5	541.5	591.5
		A	62.8					
		B	65					
		C	31					
		D	63					
		E (*)	65					
		F	M10×1.25					
R7□	L	Without brake	354	404	454	504	554	604
		With brake	404	454	504	554	604	654
		A	76.4					
		B	74.5					
		C	34.5					
		D	73					
		E (*)	74.5					
		F	M14×1.5					
	G	27.5						

Radial Cylinder

Max. payload	80kg
Max. stroke	315mm
Max. speed	860mm/s

Built-in 2-row guide ball screw drive


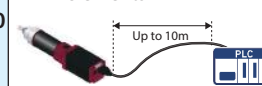

Recommended options

Battery-less Absolute



Purchased model

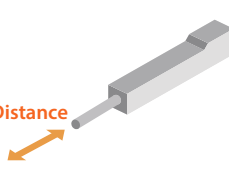
For models (1) ~ (3), select from the following "Maximum speed / payload table by stroke".

EC	(1)	(2)	(3)	(4)	(5)
Series	Type	Lead	Stroke	(4) Power / I/O cable length	(5) Options
	RR3 RR4 RR6 RR7	S H M L	50 to 300mm 65 to 315mm (per 50mm)	1 to 10 Specify the cable length in 1m increments 	B Brake WA Battery-less Absolute Encoder specification WL Wireless connection specification WL2 Wireless axis operation specification
	DRR3 DRR4 DRR6 DRR7			0 No cable With power / I/O connector 	

* Please see main ELECYLINDER catalog for full options.

Maximum speed / payload table by stroke

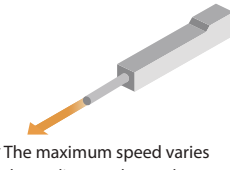
Stroke



Distance

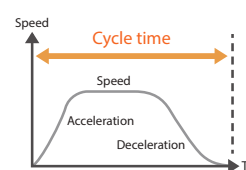
* The length of the band indicates the selectable stroke.
Example) RR3H can be selected from 50 to 300mm

Max. speed (operating speed)



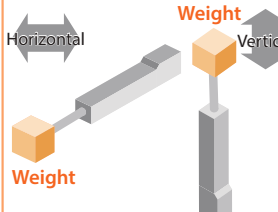
* The maximum speed varies depending on the stroke.
Example) When RR3H has a stroke of 250mm, the maximum speed will be 210mm/s
* <> represents vertical operation.

Cycle time



* This is the one-way travel time when the longest stroke is operated at the horizontal mount, maximum speed and maximum acceleration/deceleration.

Payload



Horizontal Weight Vertical

* The payload varies depending on the installation position.

Series	(1) Type	(2) Lead		Stroke (mm) and max. speed (mm/s)							Payload (kg)	
		Model number	mm	(3) Stroke							Horizontal	Vertical
				25	50	100	150	200	250	300		
EC-	RR3 / DRR3	H-	6	420	300	210	150	2.107 sec	9	1.5		
		M-	4	280	200	140	100	3.099 sec	14	2.5		
		L-	2	140	100	70	50	6.072 sec	18	3.5		
	RR4 / DRR4	S-	16	800	600	440	0.825 sec	7	1.5			
		H-	10	700	570	390	290	1.158 sec	16	2.5		
		M-	5	350	280	190	140	2.247 sec	25	5		
		L-	2.5	175 <150>	135	90	70	4.369 sec	35	6.5		
				25	65	115	165	215	265	315		
	RR6 / DRR6	S-	20	800	0.642 sec	6	1.5					
		H-	12	700	660	480	0.804 sec	25	4			
		M-	6	450	325	235	1.455 sec	40	10			
		L-	3	225	160	115	2.829 sec	60	12.5			
RR7 / DRR7	S-	24	860 <640>	0.604 sec	20	3						
	H-	16	700 <560>	0.72 sec	50	8						
	M-	8	350	1.041 sec	60	18						
	L-	4	175	1.929 sec	80	19						



CAD drawings can be downloaded from our website.
www.intelligentactuator.com



Recommended options



Model: **WA**

Keeps location information without battery.

As it is equipped with a mechanical position detection mechanism, there is no need for the battery-powered backup of the position information.

Battery not required

Home return not required



Model: **WL/WL2**

"Easy setting" & "Trial run" using wireless connection.

The touch panel teaching pendant TB-03 can be used to eliminate the need for cable connection to the actuator. The alarm information can be confirmed immediately when trouble occurs.

See **P.14** for details

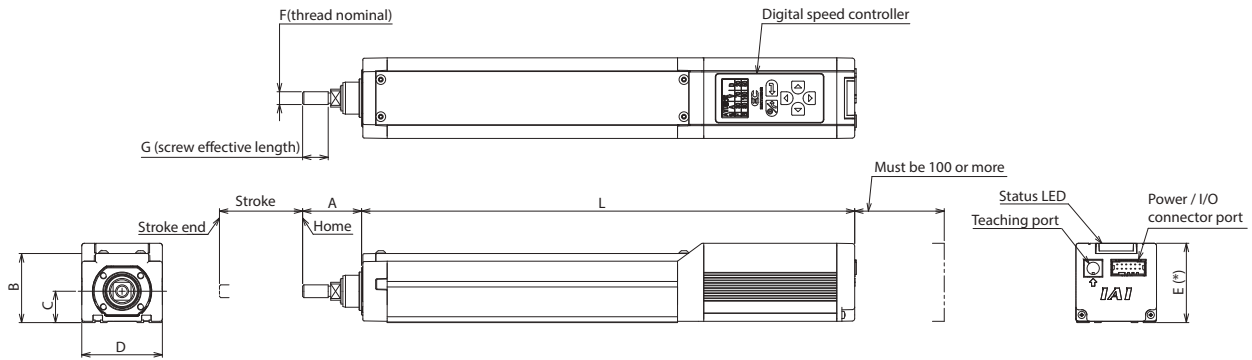
Shortened adjustment time

Cable not required

Dimensions

Refer to the homepage for dimensions related to installation.

(*) For ELECYLINDER with digital speed controller, the E dimension is +10mm.



		Stroke		50	100	150	200	250	300
RR3□	L	Incremental	Without brake	265	315	365	415	465	515
			With brake	290	340	390	440	490	540
		Battery-less Absolute	Without brake	290	340	390	440	490	540
			With brake	310	360	410	460	510	560
	A			29.5					
	B			38.5					
	C			18					
	D			35					
	E (*)			66					
	F			M8×1.25					
G			12						
RR4□	L	Incremental	Without brake	299	349	399	449	499	549
			With brake	329	379	429	479	529	579
		Battery-less Absolute	Without brake	314	364	414	464	514	564
			With brake	344	394	444	494	544	594
	A			46					
	B			50					
	C			22					
	D			44					
	E (*)			63					
	F			M10×1.25					
G			20						
RR6□	L	Stroke		65	115	165	215	265	315
		Without brake		335.5	385.5	435.5	485.5	535.5	585.5
	With brake		375.5	425.5	475.5	525.5	575.5	625.5	
	A			46					
	B			54					
	C			24.5					
	D			63					
	E (*)			62					
	F			M10×1.25					
	G			20					
RR7□	L	Stroke		404	454	504	554	604	654
		Without brake		404	454	504	554	604	654
	With brake		454	504	554	604	654	704	
	A			63.5					
	B			64					
	C			32					
	D			73					
	E (*)			72					
	F			M14×1.5					
	G			27.5					

High Rigidity Radial Cylinder

Max. payload	80kg
Max. stroke	500mm
Max. speed	860mm/s

Built-in 4-row guide ball screw drive

Recommended options

Battery-less Absolute



● **Purchased model** For models (1) ~ (3), select from the following "Maximum speed / payload table by stroke".

EC - (1) (2) AH- (3) - (4) - (5)

Series - Type Lead - Stroke - (4) Power / I/O cable length - (5) Options

(1) Type

RR6
RR7
DRR6
DRR7

(2) Lead

S
H
M
L

(3) Stroke

50 to 500mm (per 50mm)

(4) Power / I/O cable length

1 to 10	Specify the cable length in 1m increments
0	No cable With power / I/O connector

(5) Options

B	Brake
WA	Battery-less Absolute Encoder specification
WL	Wireless connection specification
WL2	Wireless axis operation specification

* Please see main ELECYLINDER catalog for full options.

● Maximum speed / payload table by stroke

Stroke

Distance

* The length of the band indicates the selectable stroke.
Example) RR6S can be selected from 50 to 400mm

Max. speed (operating speed)

* <> represents vertical operation.

Cycle time

* This is the one-way travel time when the longest stroke is operated at the horizontal mount, maximum speed and maximum acceleration/deceleration.

Payload

* The payload varies depending on the installation position.

Series	(1) Type	(2) Lead		Stroke (mm) and max. speed (mm/s)											Payload (kg)		
		Model number	mm	(3) Stroke											Horizontal	Vertical	
				25	50	100	150	200	250	300	350	400	450	500			
EC-	RR6 / DRR6	S-	20	800											0.748 sec	6	1.5
		H-	12	700											0.799 sec	25	4
		M-	6	450											1.065 sec	40	10
		L-	3	225											3.31 sec	60	20
	RR7 / DRR7	S-	24	860 <640>											0.835 sec	20	3
		H-	16	700 <560>											1.05 sec	50	8
		M-	8	350											1.57 sec	60	18
		L-	4	175											2.987 sec	80	28

EC-DRR6□AH

EC-DRR7□AH

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

2D CAD

3D CAD

Recommended options

Battery-less Absolute

Model: **WA**

Keeps location information without battery.

As it is equipped with a mechanical position detection mechanism, there is no need for the battery-powered backup of the position information.

Battery not required

Home return not required



Model: **WL/WL2**

"Easy setting" & "Trial run" using wireless connection.

The touch panel teaching pendant TB-03 can be used to eliminate the need for cable connection to the actuator. The alarm information can be confirmed immediately when trouble occurs.

See **P.14** for details

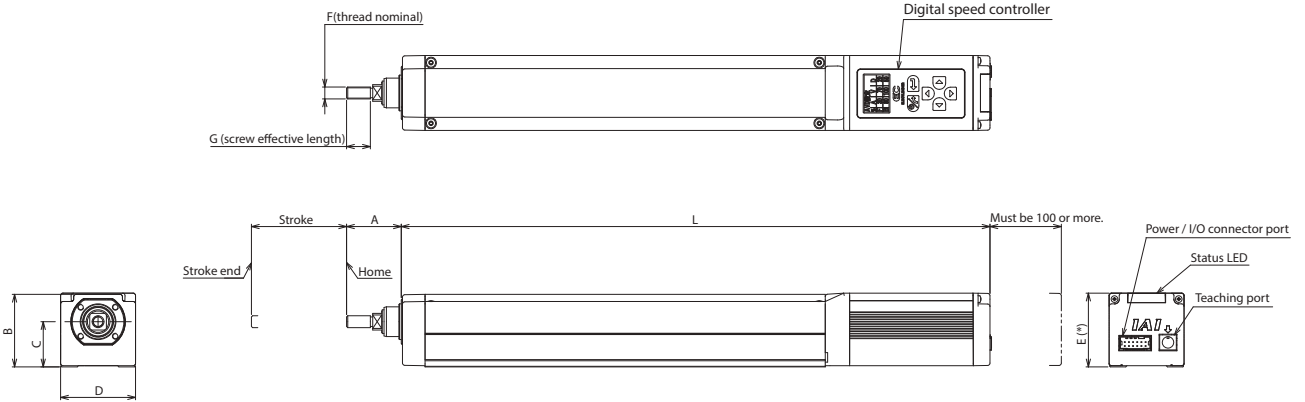
Shortened adjustment time

Cable not required

Dimensions

Refer to the homepage for dimensions related to installation.

(*) For ELECYLINDER with digital speed controller, the E dimension is +10mm.



		Stroke	50	100	150	200	250	300	350	400	450	500
RR6□AH	L	Without brake	345	395	445	495	545	595	645	695		
		With brake	385	435	485	535	585	635	685	735		
		A					46					
		B					61					
		C					38					
		D					63					
		E (*)					62					
		F					M10×1.25					
	G					20						
RR7□AH	L	Without brake	417.5	467.5	517.5	567.5	617.5	667.5	717.5	767.5	817.5	867.5
		With brake	467.5	517.5	567.5	617.5	667.5	717.5	767.5	817.5	867.5	917.5
		A					58					
		B					71					
		C					45					
		D					75					
		E (*)					76					
		F					M14×1.5					
	G					27.5						

Radial Cylinder <motor side-mounted>

Max. payload	80kg
Max. stroke	315mm
Max. speed	860mm/s

Built-in 2-row guide ball screw drive

Recommended options

Battery-less Absolute



Purchased model

For models (1) ~ (3), select from the following "Maximum speed / payload table by stroke".

EC	(1)	(2)	R-	(3)	(4)	(5)
Series	Type	Lead		Stroke	(4) Power / I/O cable length	(5) Options
	RR3 RR4 RR6 RR7	S H M L		50 to 300mm 65 to 315mm (per 50mm)	1 to 10 Specify the cable length in 1m increments 	B Brake
	DRR3 DRR4 DRR6 DRR7					0 No cable With power / I/O connector

* Please see main ELECYLINDER catalog for full options.

Maximum speed / payload table by stroke

Stroke

* The length of the band indicates the selectable stroke.
Example) RR3H can be selected from 50 to 300mm

Max. speed (operating speed)

* The maximum speed varies depending on the stroke.
Example) When RR3H has a stroke of 250mm, the maximum speed will be 210mm/s
* <> represents vertical operation.

Cycle time

* This is the one-way travel time when the longest stroke is operated at the horizontal mount, maximum speed and maximum acceleration/deceleration.

Payload

* The payload varies depending on the installation position.

Series	(1) Type	(2) Lead		Stroke (mm) and max. speed (mm/s)							Payload (kg)				
		Model number	mm	(3) Stroke							Horizontal	Vertical			
				25	50	100	150	200	250	300					
EC-	RR3 / DRR3	H-	6			360			300	210	150	2.107 sec	9	1.5	
		M-	4			240			200	140	100	3.049 sec	14	2.5	
		L-	2			120			100	70	50	6.072 sec	18	3.5	
	RR4 / DRR4	S-	16				800				600	440	0.825 sec	7	1.5
		H-	10				600			570	390	290	1.158 sec	16	2.5
		M-	5				350			280	190	140	2.247 sec	25	5
		L-	2.5				175 <150>			135	90	70	4.369 sec	35	6.5
					25	65	115	165	215	265	315				
	RR6 / DRR6	S-	20						800				0.642 sec	6	1.5
		H-	12						700		660	480	0.804 sec	25	4
		M-	6						450		325	235	1.455 sec	40	10
		L-	3						225		160	115	2.829 sec	60	12.5
RR7 / DRR7	S-	24						860 <640>				0.604 sec	20	3	
	H-	16						700 <560>				0.72 sec	50	8	
	M-	8						320 <280>				1.165 sec	60	18	
	L-	4						160 <140>				2.093 sec	80	19	

EC-DRR3□R

EC-DRR4□R

EC-DRR6□R

EC-DRR7□R

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

2D CAD

3D CAD

Recommended options

Battery-less Absolute

Model: WA

Keeps location information without battery.

As it is equipped with a mechanical position detection mechanism, there is no need for the battery-powered backup of the position information.

Battery not required

Home return not required



Model: WL/WL2

"Easy setting" & "Trial run" using wireless connection.

The touch panel teaching pendant TB-03 can be used to eliminate the need for cable connection to the actuator. The alarm information can be confirmed immediately when trouble occurs.

See P.14 for details

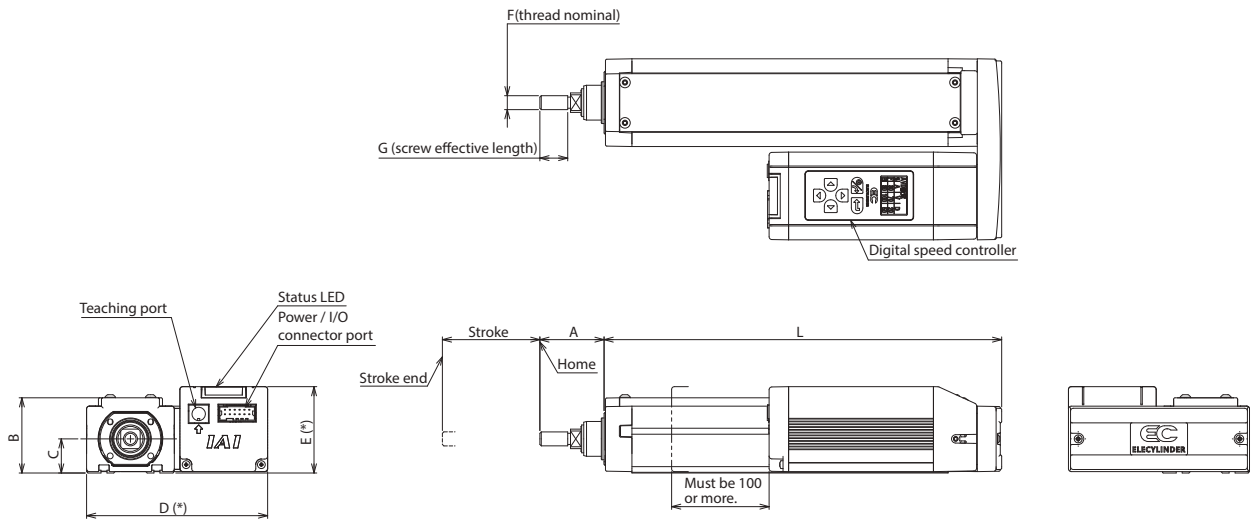
Shortened adjustment time

Cable not required

Dimensions

Refer to the homepage for dimensions related to installation.

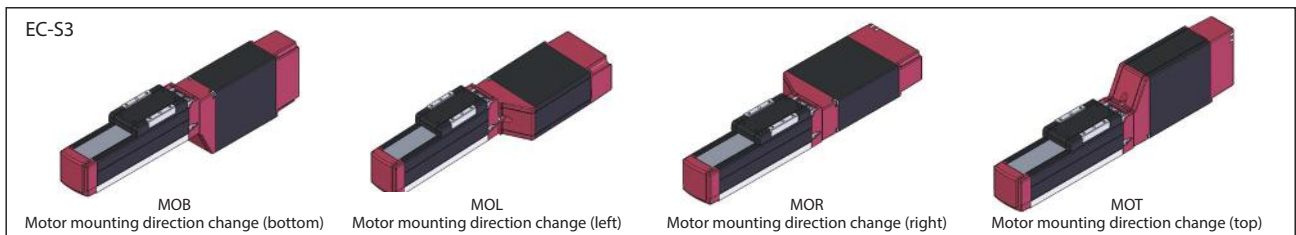
(*) For ELECYLINDER with digital speed controller, the D dimension is +10mm for DRR3□R/DRR4□R, and E dimension is +10mm for DRR6□R/DRR7□R.



	Stroke	50	100	150	200	250	300
RR3□R	L	167	217	267	317	367	417
	A			29.5			
	B			38.5			
	C			18			
	D(*)			109.5			
	E			35			
	F			M8×1.25			
RR4□R	L	186	236	286	336	386	436
	A			46			
	B			50			
	C			22			
	D(*)			117			
	E			43			
	F			M10×1.25			
G			20				

	Stroke	65	115	165	215	265	315
RR6□R	L	235.5	285.5	335.5	385.5	435.5	485.5
	A			46			
	B			54			
	C			24.5			
	D			130			
	E(*)			62			
	F			M10×1.25			
RR7□R	L	275.5	325.5	375.5	425.5	475.5	525.5
	A			63.5			
	B			64			
	C			32			
	D			151			
	E(*)			72			
	F			M14×1.5			
G			27.5				

For more mounting options, please see page 28.



High Rigidity Radial Cylinder <motor side-mounted>

Max. payload	80kg
Max. stroke	500mm
Max. speed	860mm/s


Built-in 4-row guide ball screw drive

Recommended options

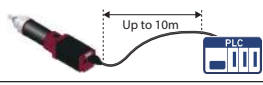
Battery-less Absolute



● Purchased model For models (1) ~ (3), select from the following "Maximum speed / payload table by stroke".



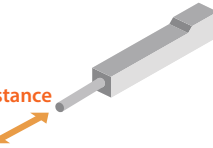
Digital speed controller

EC	-	(1)	(2)	AHR-	(3)	-	(4)	-	(5)								
Series	-	Type	Lead	-	Stroke	-	(4) Power / I/O cable length	-	(5) Options								
		RR6 RR7 DRR6 DRR7	S H M L		50 to 500mm (per 50mm)		<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 2px;">1 to 10</div> <div style="margin: 0 10px;">Specify the cable length in 1m increments</div>  </div>		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">B</td> <td>Brake</td> </tr> <tr> <td style="text-align: center;">WA</td> <td>Battery-less Absolute Encoder specification</td> </tr> <tr> <td style="text-align: center;">WL</td> <td>Wireless connection specification</td> </tr> <tr> <td style="text-align: center;">WL2</td> <td>Wireless axis operation specification</td> </tr> </table>	B	Brake	WA	Battery-less Absolute Encoder specification	WL	Wireless connection specification	WL2	Wireless axis operation specification
B	Brake																
WA	Battery-less Absolute Encoder specification																
WL	Wireless connection specification																
WL2	Wireless axis operation specification																

* Please see main ELECYLINDER catalog for full options.

● Maximum speed / payload table by stroke

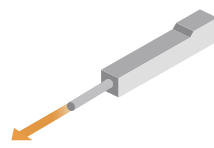
Stroke



Distance

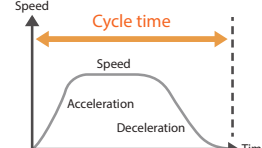
* The length of the band indicates the selectable stroke.
Example) RR6S can be selected from 50 to 400mm

Max. speed (operating speed)



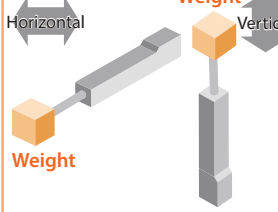
* <> represents vertical operation.

Cycle time



* This is the one-way travel time when the longest stroke is operated at the horizontal mount, maximum speed and maximum acceleration/deceleration.

Payload



Horizontal Weight Vertical Weight

* The payload varies depending on the installation position.

Series	(1) Type	(2) Lead		Stroke (mm) and max. speed (mm/s)												Payload (kg)		
		Model number	mm	(3) Stroke												Horizontal	Vertical	
				25	50	100	150	200	250	300	350	400	450	500				
EC-	RR6 / DRR6	S-	20	800												0.748 sec	6	1.5
		H-	12	700												0.799 sec	25	4
		M-	6	450												1.065 sec	40	10
		L-	3	225												1.925 sec	60	20
	RR7 / DRR7	S-	24	860 <640>												0.71 sec	20	3
		H-	16	640 <560>												0.871 sec	50	8
		M-	8	320 <280>												1.431 sec	60	18
		L-	4	150 <140>												2.786 sec	80	28

EC-DRR6□AHR

EC-DRR7□AHR

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

2D
CAD

3D
CAD

Recommended options

Battery-less Absolute

Model: WA

Keeps location information without battery.

As it is equipped with a mechanical position detection mechanism, there is no need for the battery-powered backup of the position information.

Battery not required

Home return not required



Model: WL/WL2

"Easy setting" & "Trial run" using wireless connection.

The touch panel teaching pendant TB-03 can be used to eliminate the need for cable connection to the actuator. The alarm information can be confirmed immediately when trouble occurs.

See P.14 for details

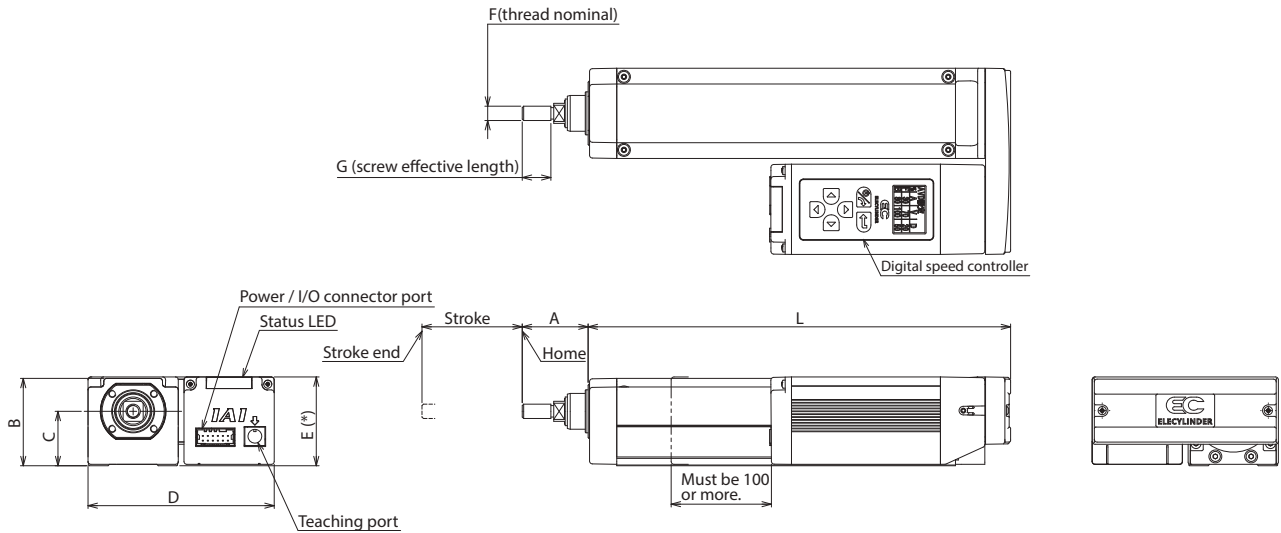
Shortened adjustment time

Cable not required

Dimensions

Refer to the homepage for dimensions related to installation.

(*) For ELECYLINDER with digital speed controller, the E dimension is +10mm.



	Stroke	50	100	150	200	250	300	350	400	450	500
RR6□AHR	L	245	295	345	395	445	495	545	595		
	A					46					
	B					61					
	C					38					
	D					130					
	E (*)					62					
	F					M10×1.25					
RR7□AHR	L	284	334	384	434	484	534	584	634	684	734
	A					58					
	B					71					
	C					45					
	D					152					
	E (*)					76					
	F					M14×1.5					
G					27.5						

Mini type rod

Max. payload	8kg
Max. stroke	50mm
Max. speed	300mm/s

Ball screw drive

Recommended options

Battery-less Absolute



Purchased model

For models (1) ~ (3), select from the following "Maximum speed / payload table by stroke".

EC	-	(1)	-	(2)	-	(3)	-	(4)	-	(5)
Series	-	Type RP4	-	Lead H M L	-	Stroke 30mm 50mm	-	(4) Power / I/O cable length	-	(5) Options
								1 to 10		B Brake
								Specify the cable length in 1m increments		WA Battery-less Absolute Encoder specification
										WL Wireless connection specification
								0 No cable With power / I/O connector		WL2 Wireless axis operation specification

* Please see main ELECYLINDER catalog for full options.

Maximum speed / payload table by stroke

Stroke

Distance

* The length of the band indicates the selectable stroke.

Max. speed (operating speed)

Cycle time

* This is the one-way travel time when the longest stroke is operated at the horizontal mount, maximum speed and maximum acceleration/deceleration.

Payload

Horizontal Weight Vertical

* The payload varies depending on the installation position.

Series	(1) Type	(2) Lead		Stroke (mm) and max. speed (mm/s)					Payload (kg)		
		Model number	mm	(3) Stroke					Horizontal	Vertical	
				25	30	50					
EC-	RP4	H-	6	300					0.311 sec	2.5	1
		M-	4	200					0.371 sec	4	1.5
		L-	2	100					0.599 sec	8	2.5

EC-RP4



CAD drawings can be downloaded from our website.
www.intelligentactuator.com

2D CAD

3D CAD

Recommended options

Battery-less Absolute

Model: **WA**

Keeps location information without battery.

As it is equipped with a mechanical position detection mechanism, there is no need for the battery-powered backup of the position information.

Battery not required

Home return not required



Model: **WL/WL2**

"Easy setting" & "Trial run" using wireless connection.

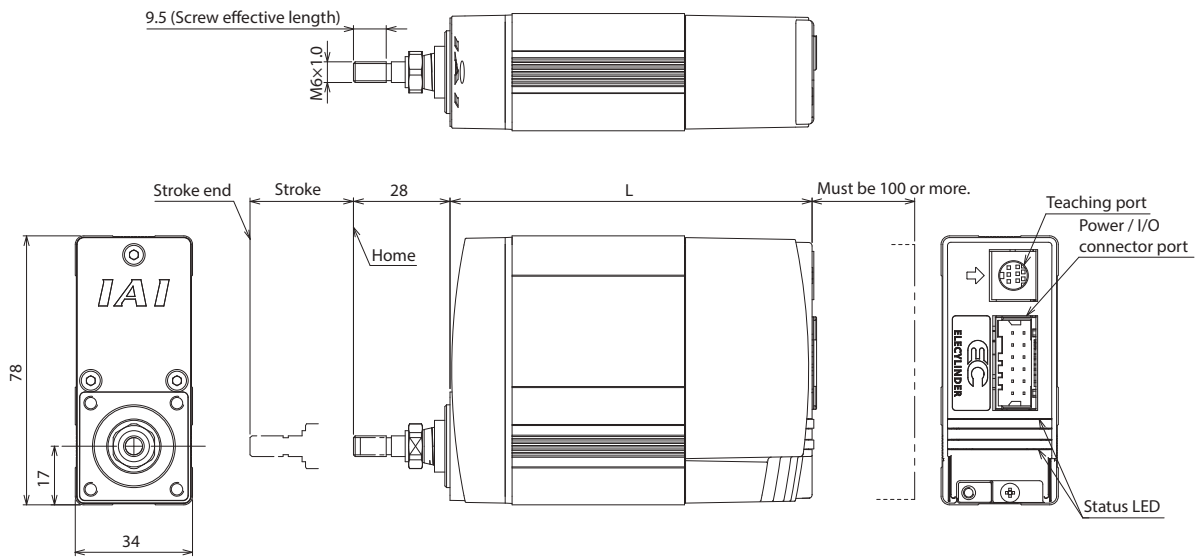
The touch panel teaching pendant TB-03 can be used to eliminate the need for cable connection to the actuator. The alarm information can be confirmed immediately when trouble occurs.

See P.14 for details

Shortened adjustment time

Cable not required

Dimensions Refer to the homepage for dimensions related to installation.



Encoder Type	Incremental		Battery-less Absolute		
	Stroke	30	50	30	50
L	Without brake	105	125	125	125
	With brake	135	135	155	155

Mini type rod <with single guide>

Max. payload	8kg
Max. stroke	50mm
Max. speed	300mm/s

Ball screw drive

Recommended options

Battery-less Absolute



Purchased model

For models (1) ~ (3), select from the following "Maximum speed / payload table by stroke".

EC	(1)	(2)	(3)	(4)	(5)
Series	Type	Lead	Stroke	(4) Power / I/O cable length	(5) Options
	GS4	H M L	30mm 50mm	<p>1 to 10</p> <p>Specify the cable length in 1m increments</p>	<p>B Brake</p> <p>WA Battery-less Absolute Encoder specification</p> <p>WL Wireless connection specification</p> <p>WL2 Wireless axis operation specification</p>
				<p>0</p> <p>No cable</p> <p>With power / I/O connector</p>	

* Please see main ELECYLINDER catalog for full options.

Maximum speed / payload table by stroke

Stroke

Distance

* The length of the band indicates the selectable stroke.

Max. speed (operating speed)

Cycle time

* This is the one-way travel time when the longest stroke is operated at the horizontal mount, maximum speed and maximum acceleration/deceleration.

Payload

Horizontal Weight Vertical

Weight

* The payload varies depending on the installation position.

Series	(1) Type	(2) Lead		Stroke (mm) and max. speed (mm/s)					Payload (kg)	
		Model number	mm	(3) Stroke					Horizontal	Vertical
				25	30	50				
EC-	GS4	H-	6	300			0.311 sec		2.5	1
		M-	4	200			0.371 sec		4	1.5
		L-	2	100			0.599 sec		8	2.5

EC-GS4



CAD drawings can be downloaded from our website.
www.intelligentactuator.com



Recommended options

Battery-less Absolute

Model: **WA**

Keeps location information without battery.

As it is equipped with a mechanical position detection mechanism, there is no need for the battery-powered backup of the position information.

Battery not required

Home return not required



Model: **WL/WL2**

"Easy setting" & "Trial run" using wireless connection.

The touch panel teaching pendant TB-03 can be used to eliminate the need for cable connection to the actuator. The alarm information can be confirmed immediately when trouble occurs.

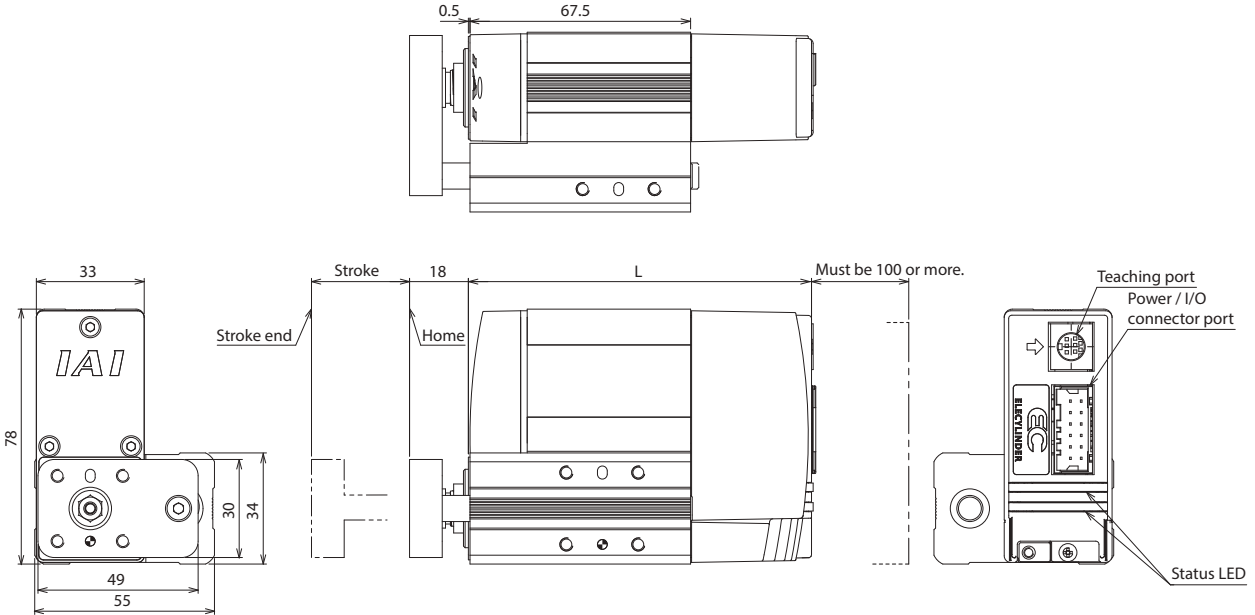
See **P.14** for details

Shortened adjustment time

Cable not required

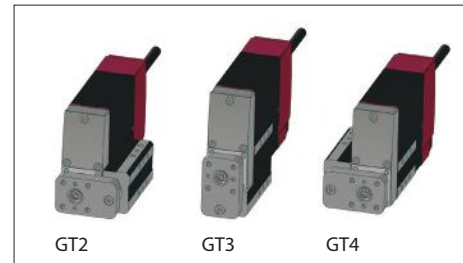
Dimensions Refer to the homepage for dimensions related to installation.

(Note) The figure below shows the guide right mounting specification (GT2).



	Encoder Type	Incremental		Battery-less Absolute	
		30	50	30	50
L	Without brake	105	125	125	125
	With brake	135	135	155	155

Guide mounting direction (optional)



Mini type rod <with double guide>

Max. payload	8kg
Max. stroke	50mm
Max. speed	300mm/s

Ball screw drive



Purchased model

For models (1) ~ (3), select from the following "Maximum speed / payload table by stroke".

EC	-	(1)	-	(2)	-	(3)	-	(4)	-	(5)
Series	-	Type	-	Lead	-	Stroke	-	(4) Power / I/O cable length	-	(5) Options
	-	GD4	-	H M L	-	30mm 50mm	-	<p>1 to 10</p> <p>Specify the cable length in 1m increments</p> <p>Up to 10m</p>	-	<p>B Brake</p> <p>WA Battery-less Absolute Encoder specification</p> <p>WL Wireless connection specification</p> <p>WL2 Wireless axis operation specification</p>
	-		-		-		-	<p>0</p> <p>No cable</p> <p>With power / I/O connector</p>	-	

* Please see main ELECYLINDER catalog for full options.

Maximum speed / payload table by stroke

Stroke

Distance

* The length of the band indicates the selectable stroke.

Max. speed (operating speed)

Cycle time

Speed

Time

Acceleration

Speed

Deceleration

Cycle time

* This is the one-way travel time when the longest stroke is operated at the horizontal mount, maximum speed and maximum acceleration/deceleration.

Payload

Horizontal

Vertical

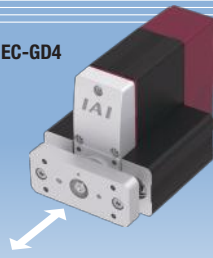
Weight

Weight

* The payload varies depending on the installation position.

Series	(1) Type	(2) Lead		Stroke (mm) and max. speed (mm/s)					(3) Stroke		Payload (kg)		
		Model number	mm						Horizontal	Vertical			
				25	30	50							
EC-	GD4	H-	6	300					0.311 sec	2.5	1		
		M-	4	200					0.371 sec	4	1.5		
		L-	2	100					0.599 sec	8	2.5		

EC-GD4



CAD drawings can be downloaded from our website.
www.intelligentactuator.com



Recommended options

Battery-less Absolute

Model: **WA**

Keeps location information without battery.

As it is equipped with a mechanical position detection mechanism, there is no need for the battery-powered backup of the position information.

Battery not required

Home return not required



Model: **WL/WL2**

"Easy setting" & "Trial run" using wireless connection.

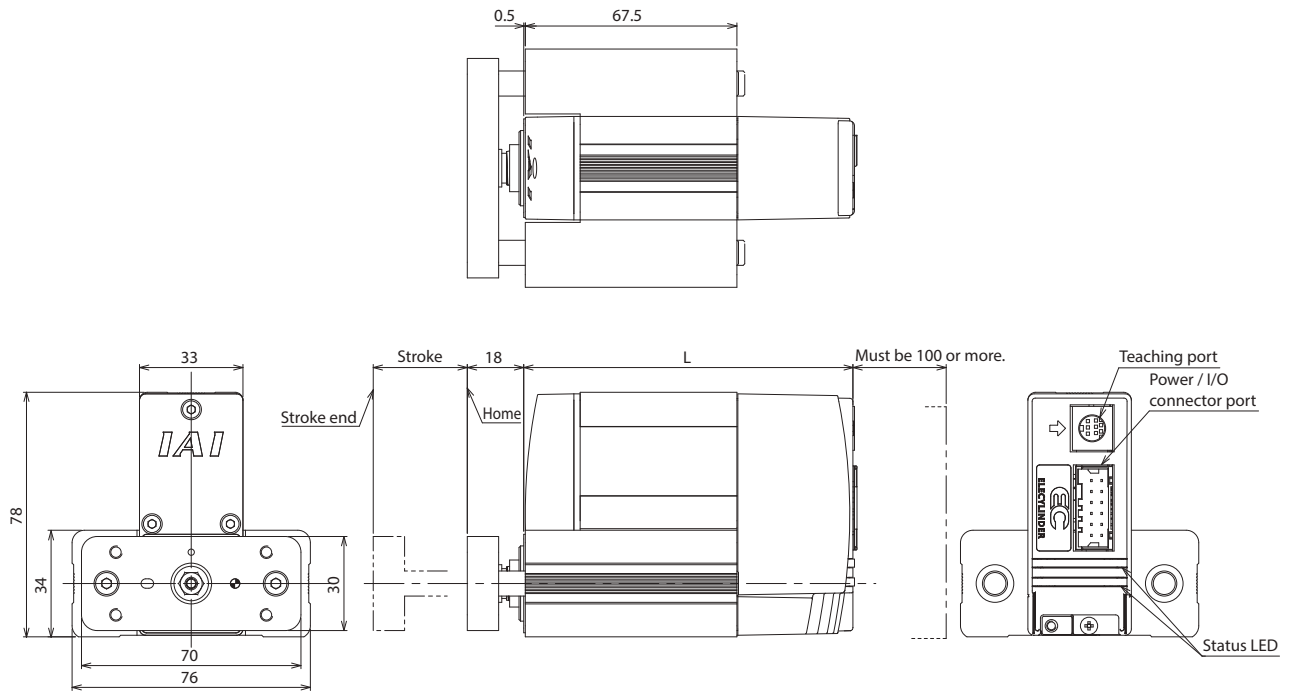
The touch panel teaching pendant TB-03 can be used to eliminate the need for cable connection to the actuator. The alarm information can be confirmed immediately when trouble occurs.

See **P.14** for details

Shortened adjustment time

Cable not required

● Dimensions Refer to the homepage for dimensions related to installation.



Encoder Type	Incremental		Battery-less Absolute		
	30	50	30	50	
L	Without brake	105	125	105	125
	With brake	135	135	155	155

[IP67] Dust-proof / Splash-proof Rod

Max. payload	80kg
Max. stroke	300mm
Max. speed	860mm/s

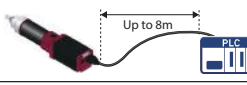

Ball screw drive

Recommended options

Battery-less Absolute

Wireless connection

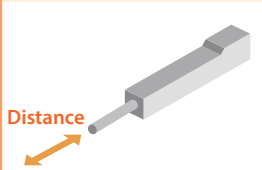
● Purchased model For models (1) ~ (3), select from the following "Maximum speed / payload table by stroke".

EC	-	(1)	(2)	W-	(3)	-	(4)	-	(5)
Series	-	Type	Lead	-	Stroke	-	(4) Power / I/O cable length	-	(5) Options
	-	R6 R7	S H M L	-	50 to 300mm (per 50mm)	-	1 to 8 Specify the cable length in 1m increments 	-	B Brake WA Battery-less Absolute Encoder specification WL Wireless connection specification WL2 Wireless axis operation specification
							0 No cable With power / I/O connector 		

* Please see main ELECYLINDER catalog for full options.

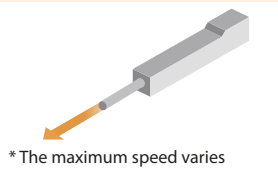
● Maximum speed / payload table by stroke

Stroke



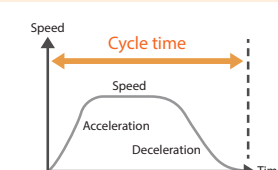
* The length of the band indicates the selectable stroke.
Example) R6S can be selected from 50 to 300mm

Max. speed (operating speed)



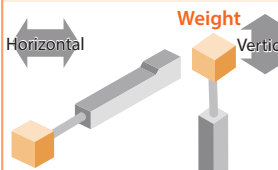
* The maximum speed varies depending on the stroke.
Example) When R6S has a stroke of 250mm, the maximum speed will be 800mm/s
* <> represents vertical operation.

Cycle time



* This is the one-way travel time when the longest stroke is operated at the horizontal mount, maximum speed and maximum acceleration/deceleration.

Payload



* The payload varies depending on the installation position.

Series	(1) Type	(2) Lead		Stroke (mm) and max. speed (mm/s)							Payload (kg)		
		Model number	mm	(3) Stroke							Horizontal	Vertical	
				25	50	100	150	200	250	300			
EC-	R6	S-	20	800							0.635 sec	6	1.5
		H-	12	700					547		0.75 sec	25	4
		M-	6	450			376		268		1.239 sec	40	10
		L-	3	225		186		133			2.35 sec	60	12.5
	R7	S-	24	860 <640>							0.585 sec	20	3
		H-	16	700 <560>							0.639 sec	50	8
		M-	8	350							0.999 sec	60	18
		L-	4	175							1.844 sec	80	19

EC-R6□W

EC-R7□W

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

2D CAD

3D CAD

Recommended options

Battery-less Absolute

Model: **WA**

Keeps location information without battery.

As it is equipped with a mechanical position detection mechanism, there is no need for the battery-powered backup of the position information.

Battery not required

Home return not required



Model: **WL/WL2**

"Easy setting" & "Trial run" using wireless connection.

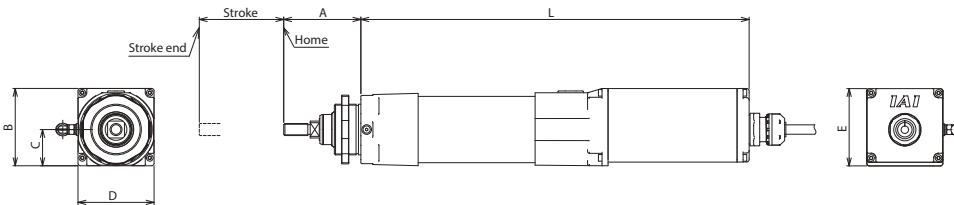
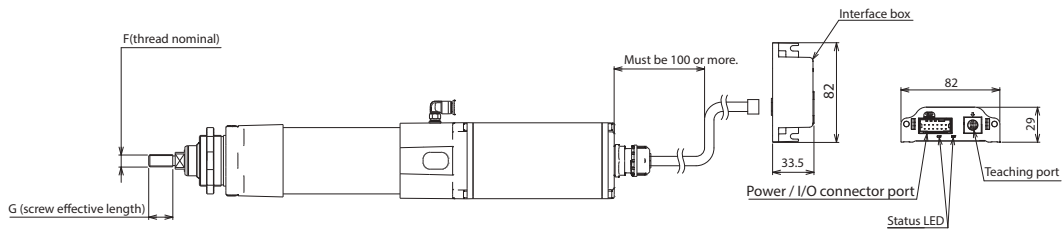
The touch panel teaching pendant TB-03 can be used to eliminate the need for cable connection to the actuator. The alarm information can be confirmed immediately when trouble occurs.

See **P.14** for details

Shortened adjustment time

Cable not required

Dimensions Refer to the homepage for dimensions related to installation.



		Stroke	50	100	150	200	250	300
R6□W	L	Without brake	322	372	422	472	522	572
		With brake	362	412	462	512	562	612
	A		64					
	B		64					
	C		30					
	D		63					
	E		64					
	F		M10×1.25					
G		20						
R7□W	L	Without brake	361.5	411.5	461.5	511.5	561.5	611.5
		With brake	411.5	461.5	511.5	561.5	611.5	661.5
	A		79.5					
	B		73					
	C		35					
	D		73					
	E		73					
	F		M14×1.5					
G		27.5						

[IP67] Dust-proof / Splash-proof Radial Cylinder

Max. payload	80kg
Max. stroke	315mm
Max. speed	860mm/s

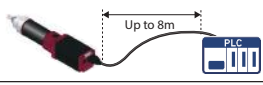

Built-in 2-row guide ball screw drive

Recommended options

Battery-less Absolute

Wireless connection

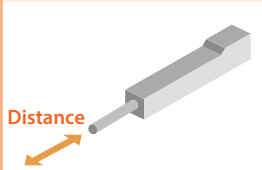
● **Purchased model** For models (1) ~ (3), select from the following "Maximum speed / payload table by stroke".

EC	-	(1)	(2)	W-	(3)	-	(4)	-	(5)
Series	-	Type	Lead	-	Stroke	-	(4) Power / I/O cable length	-	(5) Options
	-	RR6 RR7	S H M L	-	65 to 315mm (per 50mm)	-	1 to 8 Specify the cable length in 1m increments  0 No cable With power / I/O connector 	-	B Brake WA Battery-less Absolute Encoder specification WL Wireless connection specification WL2 Wireless axis operation specification

* Please see main ELECYLINDER catalog for full options.

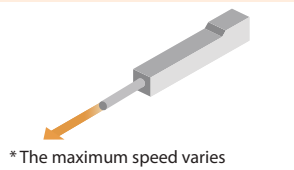
● Maximum speed / payload table by stroke

Stroke



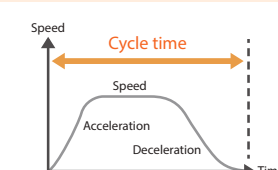
* The length of the band indicates the selectable stroke.
Example) RR6S can be selected from 65 to 315mm

Max. speed (operating speed)



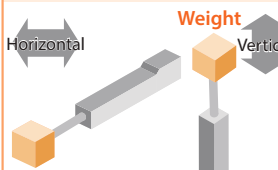
* The maximum speed varies depending on the stroke.
Example) When RR6S has a stroke of 115mm, the maximum speed will be 800mm/s
* <> represents vertical operation.

Cycle time



* This is the one-way travel time when the longest stroke is operated at the horizontal mount, maximum speed and maximum acceleration/deceleration.

Payload



* The payload varies depending on the installation position.

Series	(1) Type	(2) Lead		Stroke (mm) and max. speed (mm/s)							Payload (kg)		
		Model number	mm	(3) Stroke							Horizontal	Vertical	
				25	65	115	165	215	265	315			
EC-	RR6	S-	20	800							0.642 sec	6	1.5
		H-	12	700			660		480		0.804 sec	25	4
		M-	6	450				325		235	1.455 sec	40	10
		L-	3	225				160		115	2.829 sec	60	12.5
	RR7	S-	24	860 <640>							0.604 sec	20	3
		H-	16	700 <560>							0.72 sec	50	8
		M-	8	350							1.041 sec	60	18
		L-	4	175							1.929 sec	80	19

EC-RR6□W

EC-RR7□W

CAD drawings can be downloaded from our website.
www.intelligentactuator.com

2D CAD

3D CAD

Recommended options

Battery-less Absolute

Model: **WA**

Keeps location information without battery.

As it is equipped with a mechanical position detection mechanism, there is no need for the battery-powered backup of the position information.

Battery not required

Home return not required



Model: **WL/WL2**

"Easy setting" & "Trial run" using wireless connection.

The touch panel teaching pendant TB-03 can be used to eliminate the need for cable connection to the actuator. The alarm information can be confirmed immediately when trouble occurs.

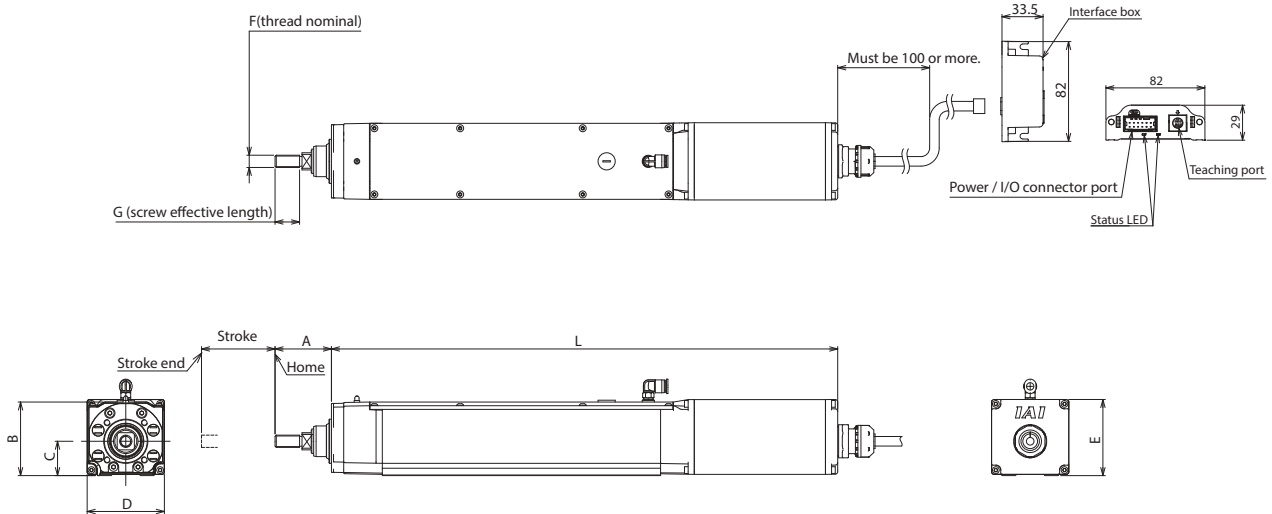
See P.14 for details

Shortened adjustment time

Cable not required

Dimensions

Refer to the homepage for dimensions related to installation.



		Stroke	65	115	165	215	265	315
RR6□W	L	Without brake	363	413	463	513	563	613
		With brake	403	453	503	553	603	653
		A				46		
		B				60		
		C				28		
		D				63		
		E				62		
		F				M10×1.25		
	G				20			
RR7□W	L	Without brake	411.5	461.5	511.5	561.5	611.5	661.5
		With brake	461.5	511.5	561.5	611.5	661.5	711.5
		A				58		
		B				71.5		
		C				36		
		D				73		
		E				74		
		F				M14×1.5		
	G				27.5			

Table

Max. payload	8kg
Max. stroke	50mm
Max. speed	300mm/s

Ball screw drive

Recommended options

Battery-less Absolute



Purchased model

For models (1) ~ (3), select from the following "Maximum speed / payload table by stroke".

EC	(1)	(2)	(3)	(4)	(5)
Series	Type	Lead	Stroke	(4) Power / I/O cable length	(5) Options
	TC4 TW4	H M L	30mm 50mm	<p>1 to 10</p> <p>Specify the cable length in 1m increments</p>	<p>B Brake</p> <p>WA Battery-less Absolute Encoder specification</p> <p>WL Wireless connection specification</p> <p>WL2 Wireless axis operation specification</p>
				<p>0</p> <p>No cable With power / I/O connector</p>	

* Please see main ELECYLINDER catalog for full options.

Maximum speed / payload table by stroke

Stroke

* The length of the band indicates the selectable stroke.

Max. speed (operating speed)

Cycle time

* This is the one-way travel time when the longest stroke is operated at the horizontal mount, maximum speed and maximum acceleration/deceleration.

Payload

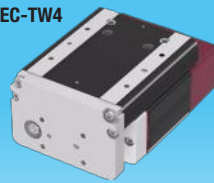
* The payload varies depending on the installation position.

Series	(1) Type	(2) Lead		Stroke (mm) and max. speed (mm/s)						(3) Stroke		Payload (kg)	
		Model number	mm							Horizontal	Vertical		
				25	30	50							
EC-	TC4	H-	6			300				0.311 sec	2.5	1	
		M-	4			200				0.371 sec	4	1.5	
		L-	2			100				0.599 sec	8	2.5	
	TW4	H-	6				300				0.311 sec	2.5	1
		M-	4				200				0.371 sec	4	1.5
		L-	2				100				0.599 sec	8	2.5

EC-TC4



EC-TW4



CAD drawings can be downloaded from our website.
www.intelligentactuator.com

2D CAD

3D CAD

Recommended options

Battery-less Absolute

Model: WA

Keeps location information without battery.

As it is equipped with a mechanical position detection mechanism, there is no need for the battery-powered backup of the position information.

Battery not required

Home return not required



Model: WL/WL2

"Easy setting" & "Trial run" using wireless connection.

The touch panel teaching pendant TB-03 can be used to eliminate the need for cable connection to the actuator. The alarm information can be confirmed immediately when trouble occurs.

See P.14 for details

Shortened adjustment time

Cable not required

Dimensions Refer to the homepage for dimensions related to installation.

EC-TC4

(Note) The figure below shows the table left mounting specification (GT4).

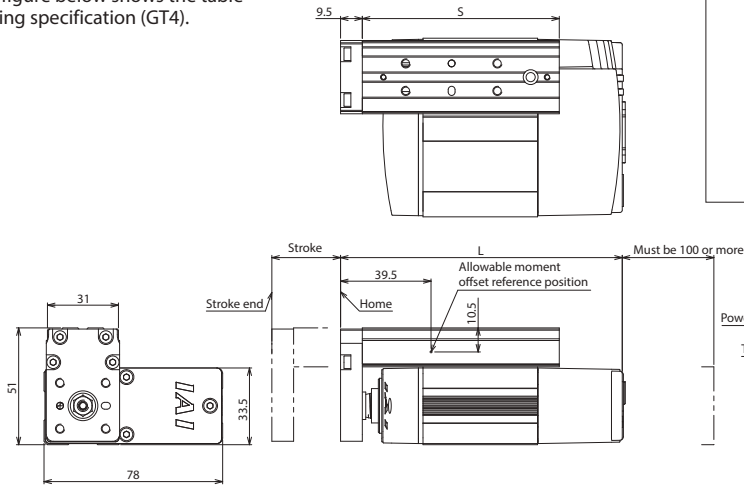
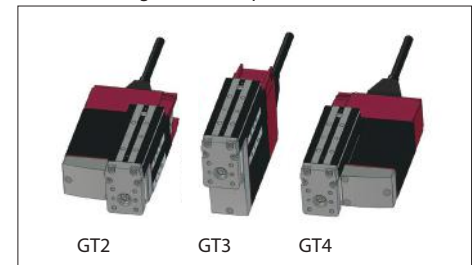
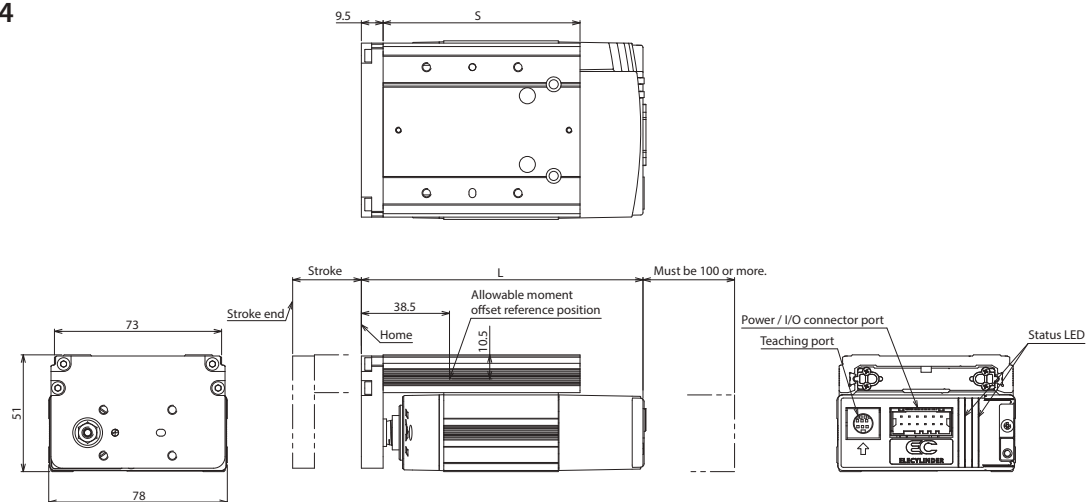


Table mounting direction (optional)



EC-TW4



Encoder Type		Incremental		Battery-less Absolute	
Stroke		30	50	30	50
L	Without brake	123	143	143	143
	With brake	153	153	173	173
S		86	106	86	106

Rotary

Oscillation angle	330 degrees
Max. speed	600 degrees/s

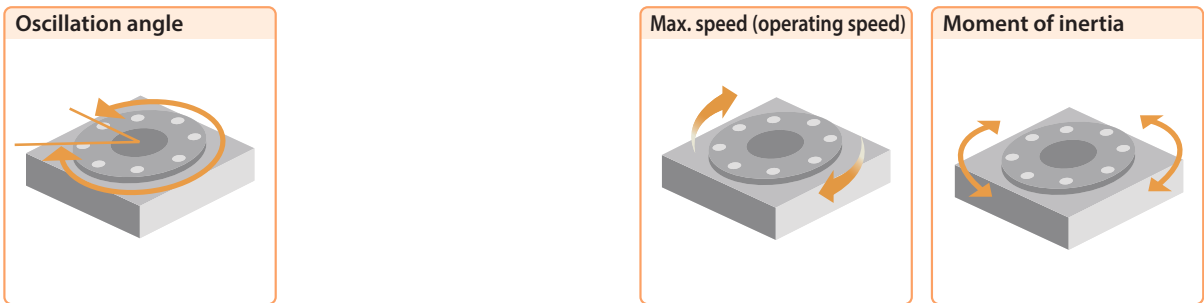


● Purchased model For models (1) and (3), select from the following "Oscillation angle and max. speed".

EC	-	(1)	M-	(3)	-	(4)	-	(5)
Series	-	Type	-	Oscillation angle	-	(4) Power / I/O cable length	-	(5) Options
	-	RTC9 RTC12	-	330: 330°	-	1 to 10 Specify the cable length in 1m increments 	-	B Brake WA Battery-less Absolute Encoder specification WL Wireless connection specification WL2 Wireless axis operation specification
						0 No cable With power / I/O connector 		

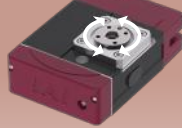
* Please see main ELECYLINDER catalog for full options.

● Oscillation angle and Max. speed / Max. torque

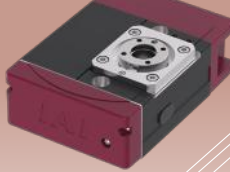


Series	(1) Type	Oscillation angle (°) and maximum speed (°/S)		Max. torque (N·m)	Allowable inertia moment (kg·m ²)
		330	600		
EC-	RTC9M	600		1.5	0.02
	RTC12M	600		8.0	0.13

EC-RTC9



EC-RTC12



CAD drawings can be downloaded from our website.
www.intelligentactuator.com



Recommended options

Battery-less Absolute

Model: **WA**

Keeps location information without battery.

As it is equipped with a mechanical position detection mechanism, there is no need for the battery-powered backup of the position information.

Battery not required

Home return not required



Model: **WL/WL2**

"Easy setting" & "Trial run" using wireless connection.

The touch panel teaching pendant TB-03 can be used to eliminate the need for cable connection to the actuator. The alarm information can be confirmed immediately when trouble occurs.

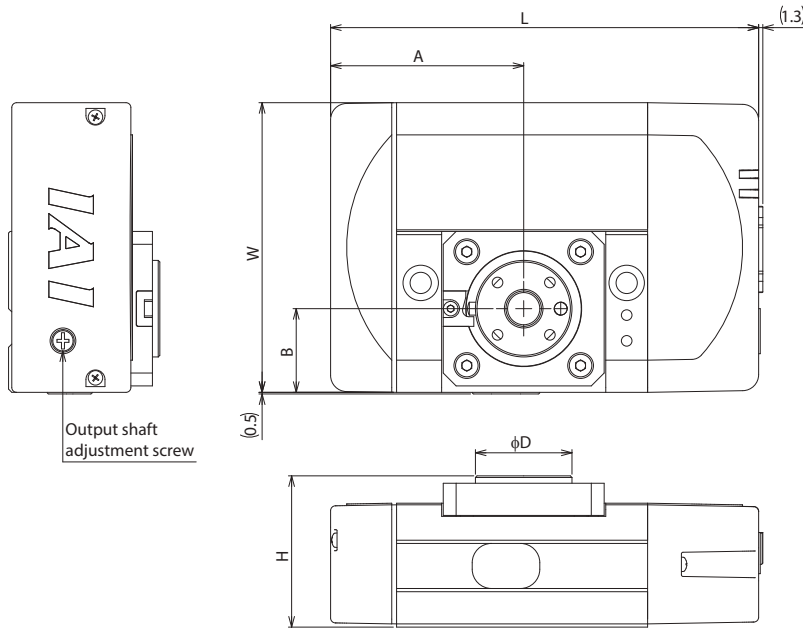
See P.14 for details

Shortened adjustment time

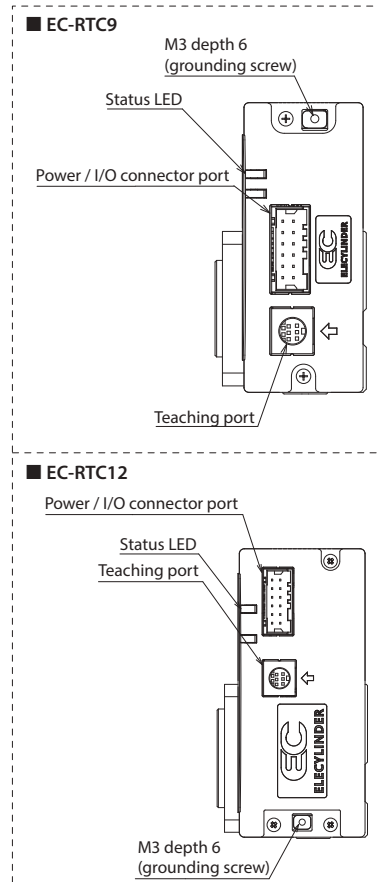
Cable not required

Dimensions

Refer to the homepage for dimensions related to installation.



Type	RTC9	RTC12
L	Without brake	133
	With brake	155
W	90	117
H	47	61
phi D	30	40
A	60	73
B	26	32

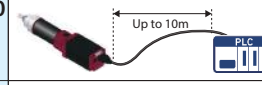



Stopper Cylinder

Max. payload	15kg
Max. stroke	50mm
Max. speed	200mm/s



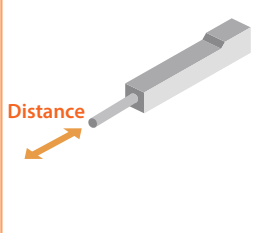
● Purchased model For models (1) ~ (3), select from the following "Maximum speed / payload table by stroke".

EC	-	(1)	-	(2)	-	(3)	-	(4)	-	(5)
Series	-	Type	-	Lead	-	Stroke	-	(4) Power / I/O cable length	-	(5) Options
		ST15		L		50mm		1 to 10 Specify the cable length in 1m increments 		B Brake WA Battery-less Absolute Encoder specification WL Wireless connection specification WL2 Wireless axis operation specification
								0 No cable With power / I/O connector 		

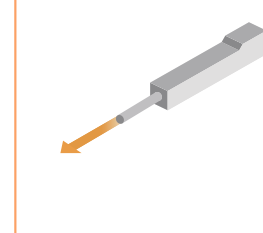
* Please see main ELECYLINDER catalog for full options.

● Maximum speed / payload table by stroke

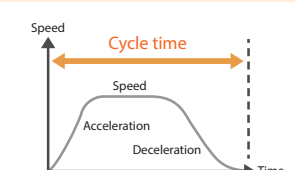
Stroke



Max. speed (operating speed)

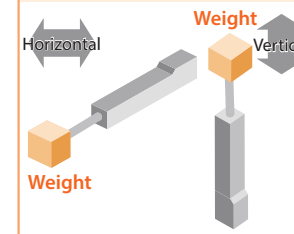


Cycle time



* This is the one-way travel time when the longest stroke is operated at the horizontal mount, maximum speed and maximum acceleration/deceleration.

Payload



* The payload varies depending on the installation position.

Series	(1) Type	(2) Lead		Stroke (mm) and max. speed (mm/s)			Payload (kg)		
		Model number	mm	(3) Stroke			Horizontal	Vertical	
			25	50					
EC-	ST15	L	3	200			0.371 sec	15	12.5

EC-ST15



CAD drawings can be downloaded from our website.
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2D CAD

3D CAD

Recommended options

Battery-less Absolute

Model: **WA**

Keeps location information without battery.

As it is equipped with a mechanical position detection mechanism, there is no need for the battery-powered backup of the position information.

Battery not required

Home return not required



Model: **WL/WL2**

"Easy setting" & "Trial run" using wireless connection.

The touch panel teaching pendant TB-03 can be used to eliminate the need for cable connection to the actuator. The alarm information can be confirmed immediately when trouble occurs.

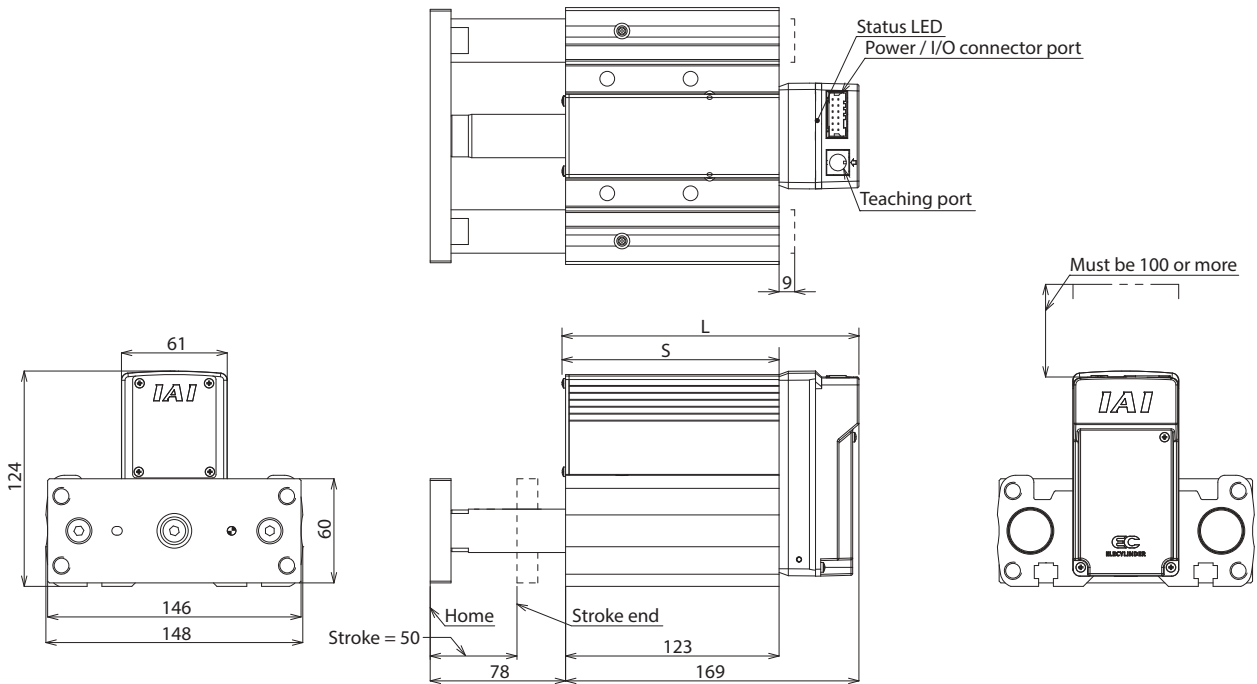
See P.14 for details

Shortened adjustment time

Cable not required

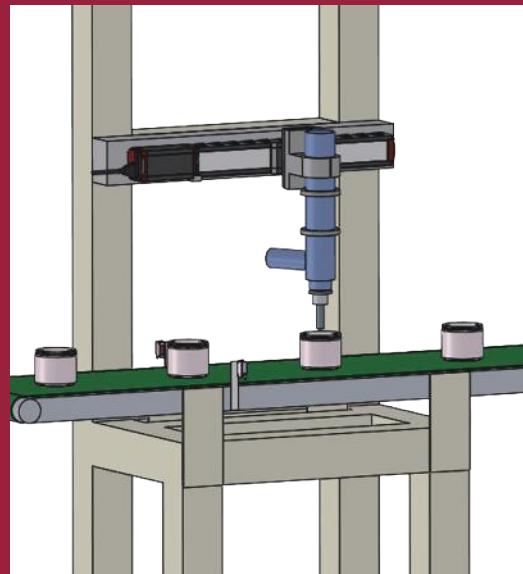
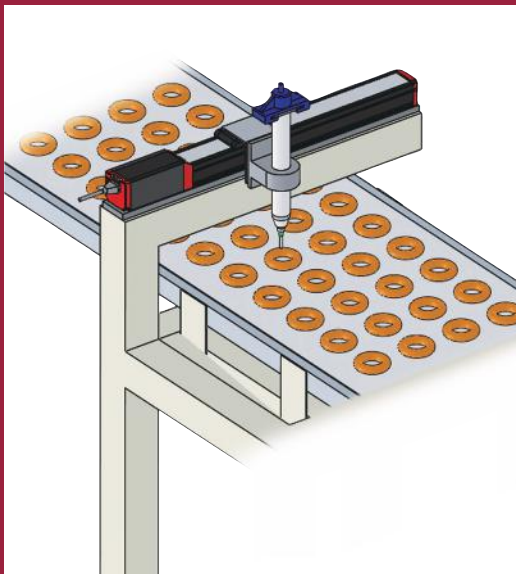
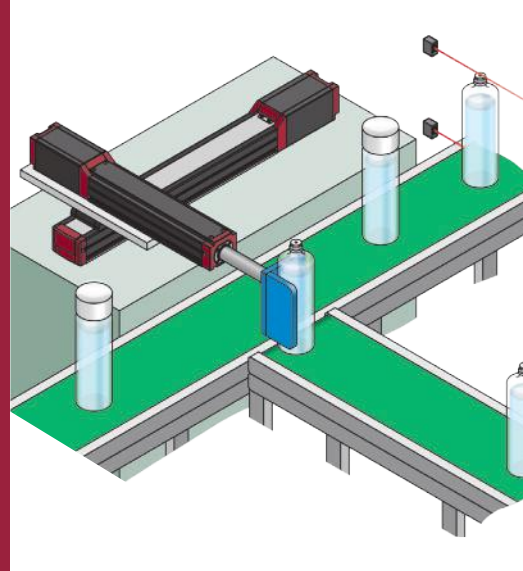
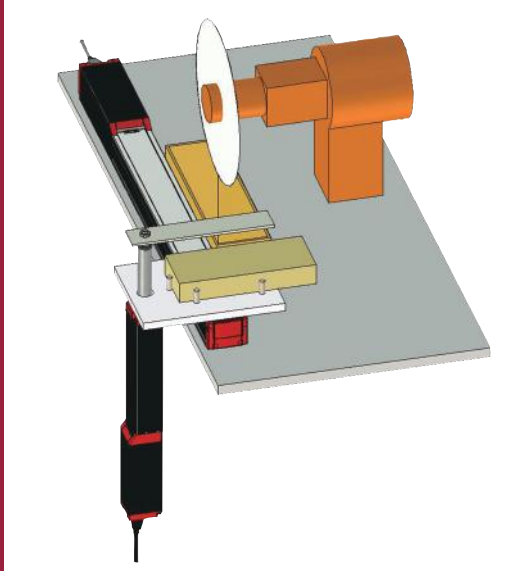
Dimensions

Refer to the homepage for dimensions related to installation.



	Encoder Type	Incremental	Battery-less Absolute
L	Without brake	169	169
	With brake	169	176
S	Without brake	123	123
	With brake	123	130

Application Examples



Case Study

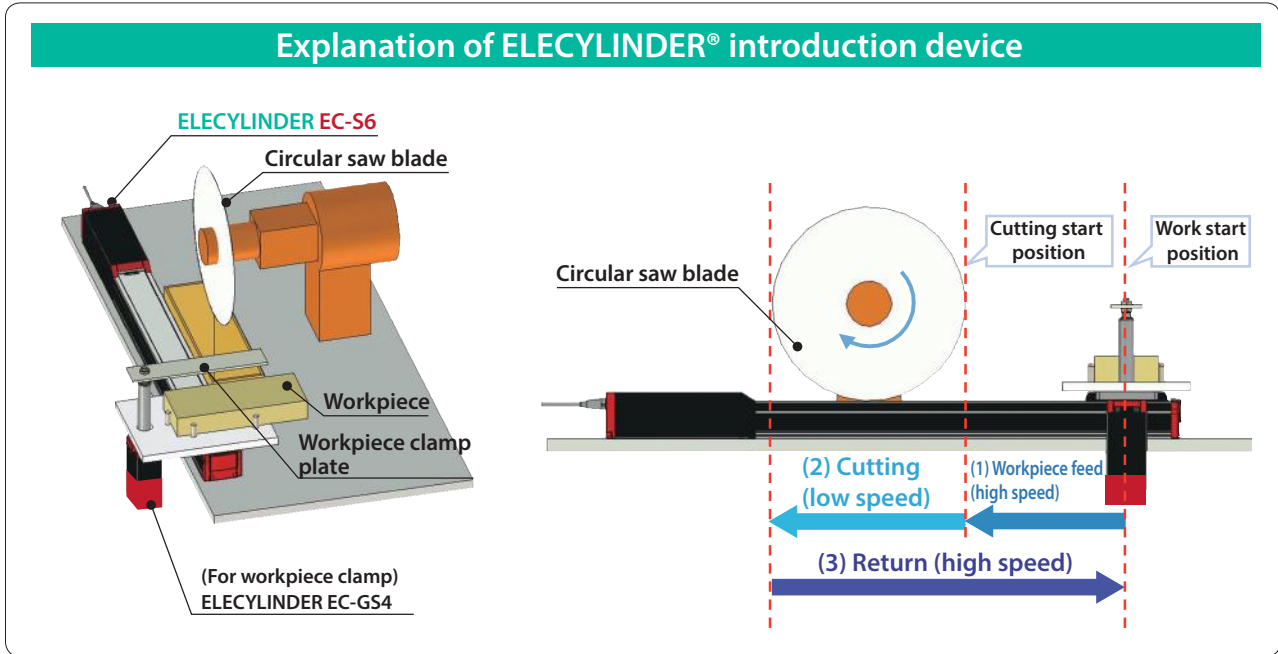
Application	Introduction Effects	Page
1. Urethane cutting device	Reduces labor costs by \$6,000 annually	52
2. Defective product removal device for cosmetic bottles	Reduces labor costs by \$4,500 annually	53
3. Printing device for cardboard boxes	Reduces labor costs by \$1,500 annually	54
4. Hand cream filling device	Reduces labor costs by \$10,500 annually	55
5. Lamp shade coating	Reduces defective product disposal cost by \$7,200 annually	56
6. Shortcake transfer device	Reduces labor costs by \$7,800 annually	57
7. Device for pouring syrup on donuts	Reduces labor costs by \$4,200 annually	58
8. Small bottle conveyor device	Reduces overtime costs by \$7,200 annually	59
9. Mechanism for opening and closing the door of cleaning machines	Improves workability and shortens operation time	60

*Exchange Rate:1(USD)=100(Japanese Yen)

1 Urethane cutting device

Reduces labor costs by \$6,000 annually

Application Cut the cushion urethane inside the suitcase to the specified dimensions.



Conventional Problems with air cylinders

- Since it is difficult to change the speed of the air cylinder during operation, it was necessary to operate the air cylinder at a low speed from the start of work to cutting. For this reason, the cycle time could not be reduced.

Effect of introducing ELECYLINDER®

- (1) Workpiece feeding can be performed at high speed, (2) cutting at low speed (push-motion operation), and (3) return at high speed, allowing the cycle time to be reduced by 3 seconds.
- In addition, as the cutting speed (slow speed) is stable, the cut surface could be finished in a flatter and smoother section as compared with devices using air cylinders.

	Air cylinder
Device cycle time	21 sec
Annual labor cost	\$42,000

	ELECYLINDER®
Device cycle time	18 sec
Annual labor cost	\$36,000

Labor costs are reduced by **\$6,000** per year thanks to the shortened cycle time.

■ Operating conditions

■ Air cylinder
 [Work time]
 (Cutting machine) 13 sec + (workpiece replacement time) 8 sec = 21 sec per piece
 (Required production volume) 1,600 pcs x 21 sec = 9 hours 20 minutes per day
 [Labor cost]
 9 hours 20 minutes x (labor cost per hour) \$18 = \$168 per day
 \$168 x (number of operating days per year) 250 days = \$42,000 per year

■ ELECYLINDER
 [Work time]
 (Cutting machine) 10 sec + (workpiece replacement time) 8 sec = 18 sec per piece
 (Required production volume) 1,600 pcs x 18 sec = 8 hours per day
 [Labor cost]
 8 hours x (labor cost per hour) \$18 = \$144 per day
 \$144 x (number of operating days per year) 250 days = \$36,000 per year

*Exchange Rate:1(USD)=100(Japanese Yen)

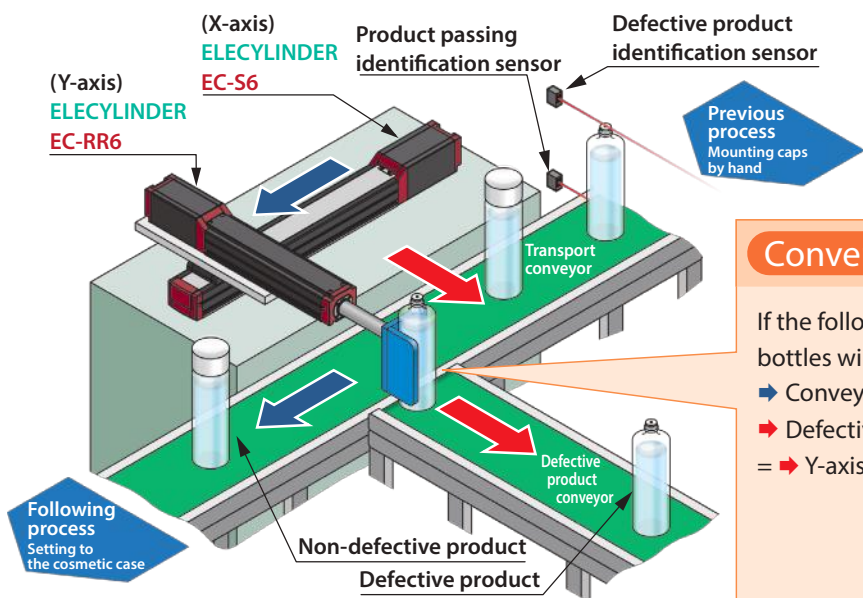
2 Defective product removal device for cosmetic bottles

Reduces labor costs by \$4,500 annually

Application

Confirms the presence of caps on the cosmetic bottles being transferred on the conveyor with the defective product identification sensor, and temporarily dispense the bottles without caps to the defective product conveyor.

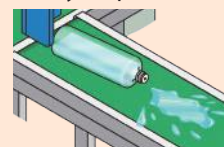
Explanation of ELECYLINDER® introduction device



Conventional Trouble

If the following speeds are not met, the bottles will fall over.

- ➡ Conveyor speed = ➡ X-axis speed
- ➡ Defective product conveyor speed = ➡ Y-axis speed



Conventional Problems with air cylinders

- At the start of operation, 30 minutes are required to adjust the speed of the conveyor and the air cylinder.
- Due to speed fluctuations, the bottles sometimes fall over at the time of dispensing, requiring 15 minutes for cleaning and speed adjustment. (This happens approximately twice a day, resulting in the time loss of about 30 minutes)

Effect of introducing ELECYLINDER®

- The speed can be set numerically for the ELECYLINDER®. There is no need for adjustment time as it can be easily adjusted to the conveyor speed.
- As the speed is stable, the bottles do not fall over, eliminating the cleaning and readjustment time.

	Air cylinder
Working hours per day	8 hours
Annual labor cost	\$36,000

	ELECYLINDER®
Working hours per day	7 hours
Annual labor cost	\$31,500

No cleaning or adjustment is required, reducing labor costs by **\$4,500** per year.

Operating conditions

■ Air cylinder

[Working hours per day] 8 hours (production time for required quantity)
 [Annual labor cost] 8 hours x (labor cost per hour) \$18
 x (number of operating days per year) 250 days = \$36,000

■ ELECYLINDER

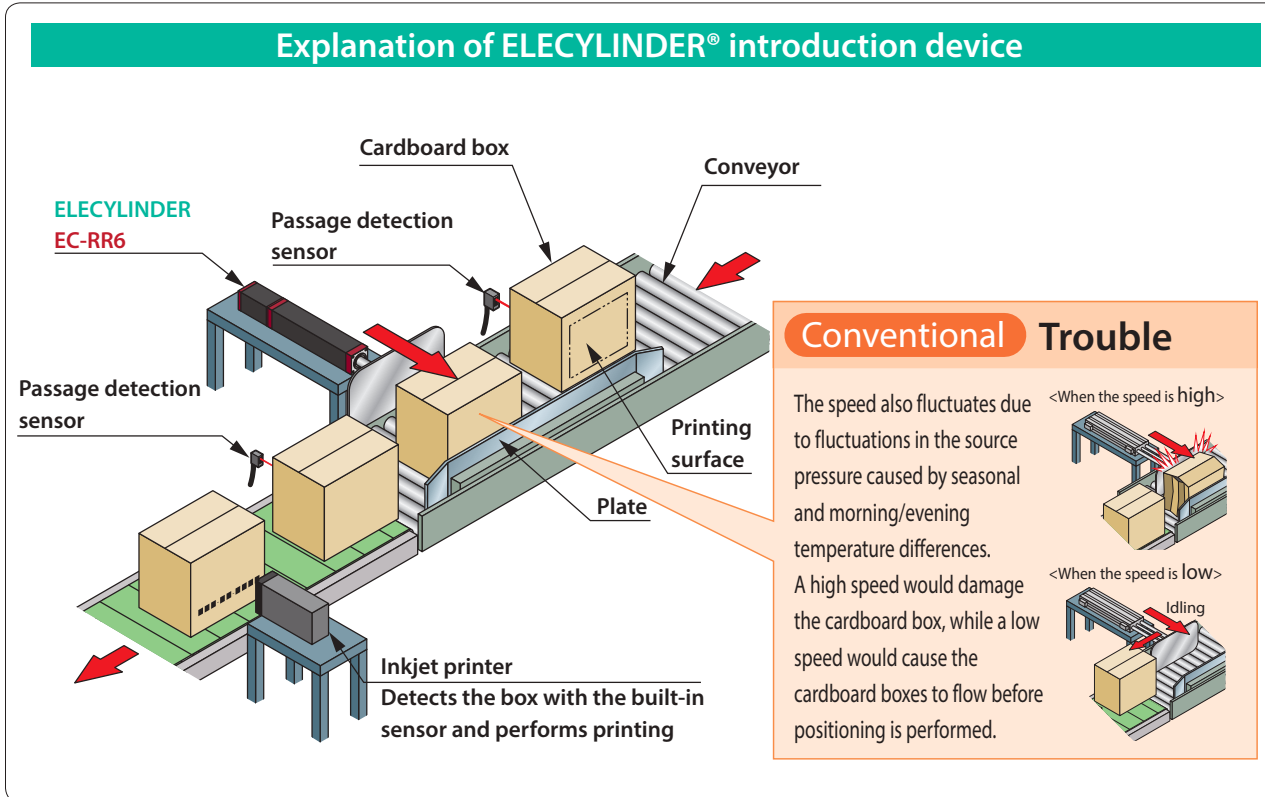
[Working hours per day] 7 hours (production time for required quantity)
 [Annual labor cost] 7 hours x (labor cost per hour) \$18
 x (number of operating days per year) 250 days = \$31,500

*Exchange Rate:1(USD)=100(Japanese Yen)

3 Printing device for cardboard boxes

Reduces labor costs by \$1,500 annually

Application It presses the cardboard box being transferred on the conveyor against the plate to perform positioning, and printing is done with an inkjet printer in the next step.



Conventional Problems with air cylinders

- Since the speed of the air cylinder was not stable, it was necessary to readjust the speed control and auto switch position for an average of 30 minutes a day.

Effect of introducing ELECYLINDER®

- Since the speed of the ELECYLINDER® does not change even when the temperature changes, once the desired acceleration (A), speed (V) and deceleration (D) are set, no further adjustment is required.

	Air cylinder
Startup adjustment time	30 min/day
Adjustment time labor cost	\$1,500/year

	ELECYLINDER®
Startup adjustment time	0 min/day
Adjustment time labor cost	\$0/year

The daily adjustment is eliminated, reducing the labor costs by **\$1,500**.

■ Operating conditions

■ Air cylinder
 [Adjustment time labor cost]
 0.5 hours x (labor cost per hour) \$12 = \$6/day
 \$6 x (number of operating days per year) 250 days = \$1,500/year

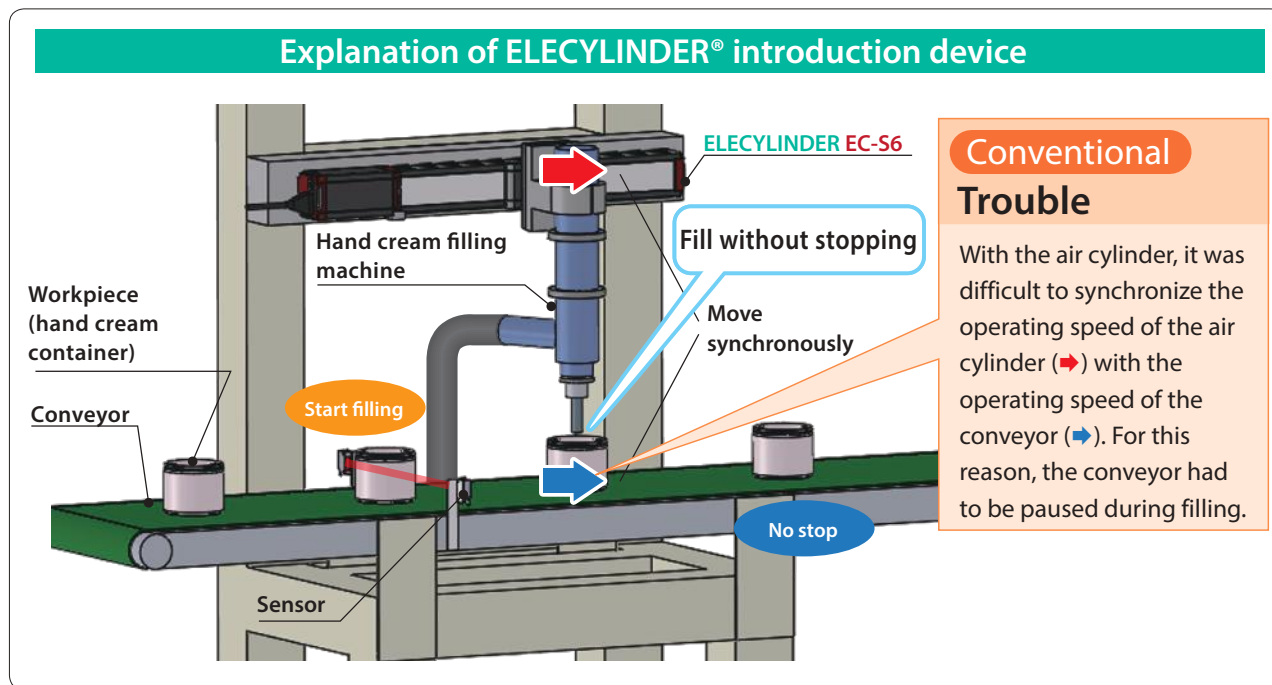
■ ELECYLINDER
 [Adjustment time labor cost]
 0 hours x (labor cost per hour) \$12 = \$0/day
 \$0 x (number of operating days per year) 250 days = \$0/year

*Exchange Rate:1(USD)=100(Japanese Yen)

4 Hand cream filling device

Reduces labor costs by \$10,560 annually

Application Fills the containers being transferred on the conveyor with hand cream.



Conventional Problems with air cylinders

- The cycle time per product took 6 seconds for the sensor to detect the container, the conveyor to be stopped and the container to be filled with cream.

Effect of introducing ELECYLINDER®

- The operation speed (→) of the ELECYLINDER® can be set to the same speed as the conveyor speed (→). This made it possible to fill the container with cream without stopping the conveyor. As a result, the cycle time per product was reduced to 4 seconds.

	Air cylinder
Working hours per day	11 hours
Annual labor cost	\$31,680

	ELECYLINDER®
Working hours per day	7 hours 20 minutes
Annual labor cost	\$21,120

The need to temporarily stop the conveyor is eliminated, reducing labor costs by about **\$10,560** a year.

■ Operating conditions

■ Air cylinder
 [Working hours per day]
 6 sec x (required production volume) 6,600 pcs = 11 hours
 [Annual labor cost]
 11 hours x (labor cost per hour) \$12
 x (number of operating days per year) 240 days = \$31,680

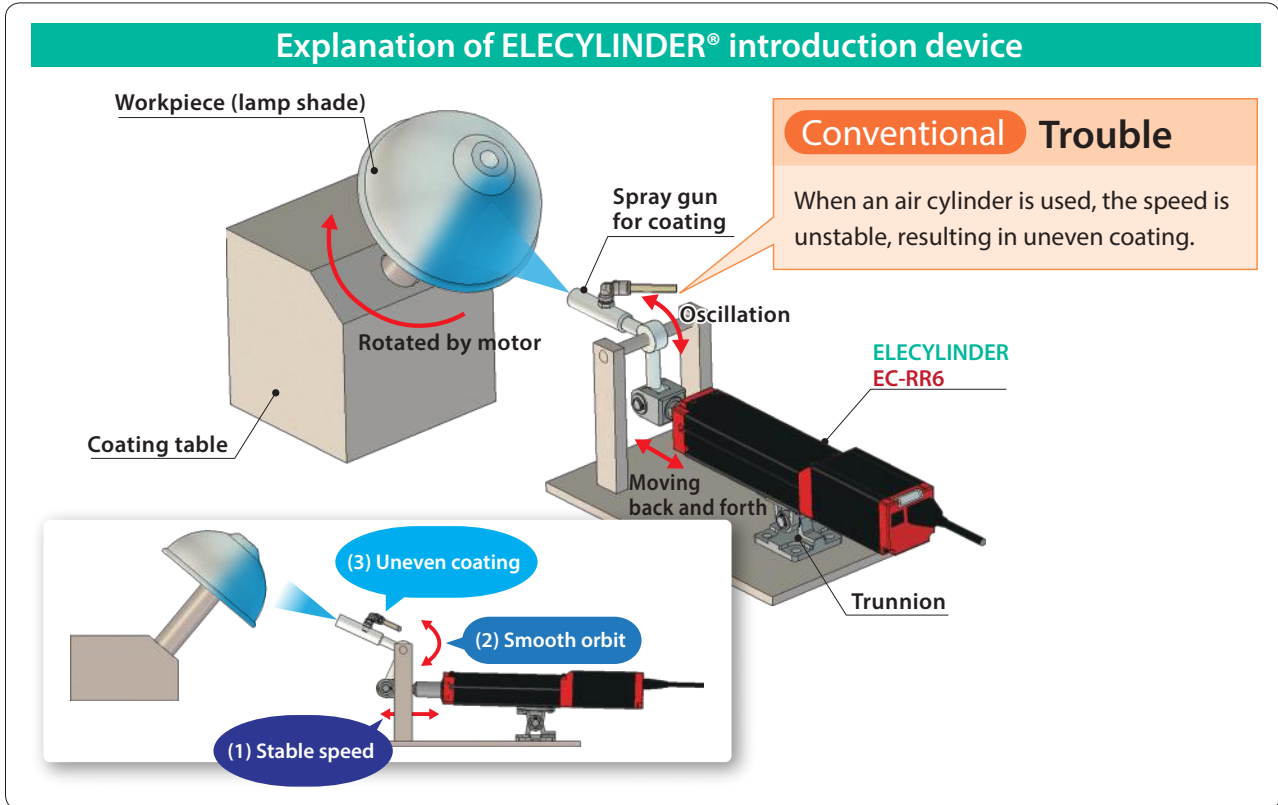
■ ELECYLINDER
 [Working hours per day]
 4 sec x (required production volume) 6,600 pcs = 7 hours 20 minutes
 [Annual labor cost]
 7 hours 20 minutes x (labor cost per hour) \$12 x (number of operating days per year) 240 days = \$21,120

*Exchange Rate:1(USD)=100(Japanese Yen)

5 Lamp shade coating device

Reduces defective product disposal cost by \$7,200 annually

Application While the workpiece set on the coating table is rotated with the motor, the spray gun for coating is oscillated to perform the coating.



Conventional Problems with air cylinders

- Air cylinders had unstable speed which resulted in uneven coating, resulting in six defective products per day, all of which had to be discarded.
- Furthermore, during setup change, it took time to adjust the speed with the speed controller for each product type.

Effect of introducing ELECYLINDER®

- Since the ELECYLINDER® has a stable speed, uneven coating has been eliminated and the number of defective products has been reduced to zero.
- Furthermore, since the spray gun speed can be changed numerically, it became possible to perform setup change in a short time.

	Air cylinder
Number of defective products	6 pcs/day
Annual defective product disposal cost	\$7,200/year

	ELECYLINDER®
Number of defective products	0 pcs/day
Annual defective product disposal cost	\$0

Improves the quality and reduces defective product disposal cost by **\$7,200** annually.

■ Operating conditions

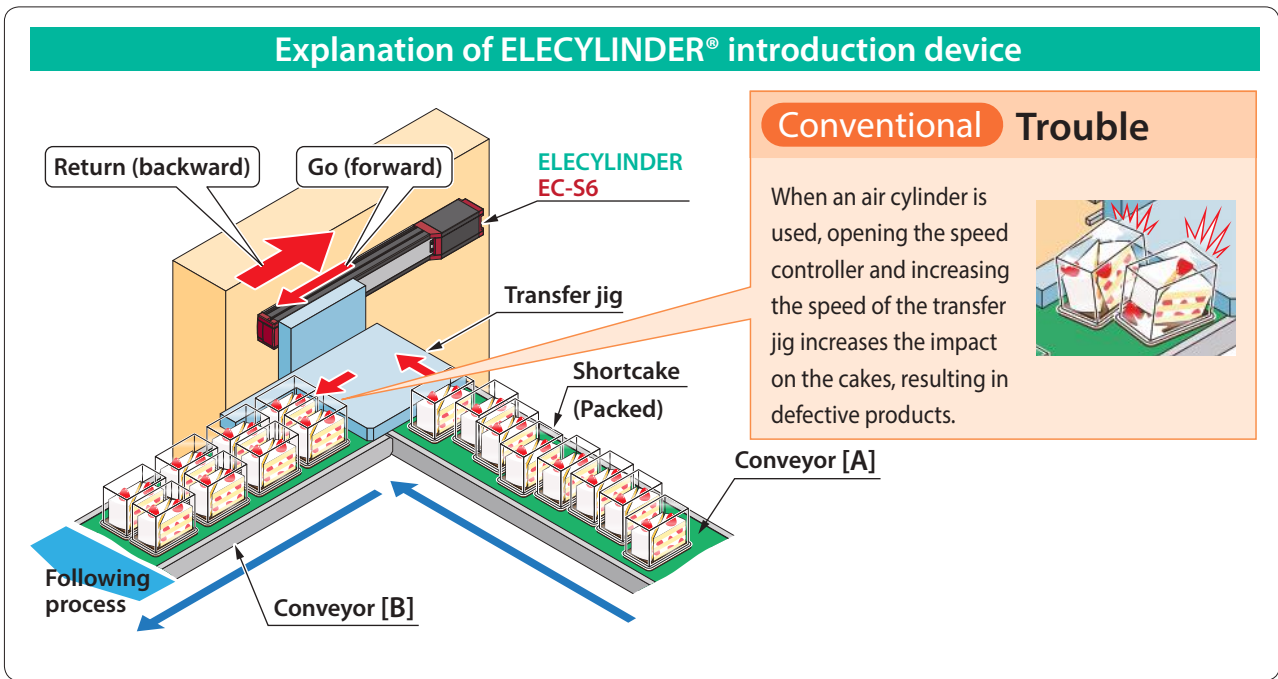
[Device production conditions] Required production volume per day: 300 pcs Production cost per piece: \$5 Number of operating days per year: 240 days
 [Annual defective product disposal cost] "Air cylinder" device 6 pcs x \$5 x 240 days = \$7,200
 "ELECYLINDER" device \$0

*Exchange Rate:1(USD)=100(Japanese Yen)

6 Shortcake transfer device

Reduces labor costs by \$7,800 annually

Application A device that transfers shortcakes (two by two) from conveyor [A] to the conveyor [B] in the next process.



Conventional Problems with air cylinders

- So as to prevent defective products from being generated, the speed could not be increased, requiring 2.4 seconds for the cycle time.

Effect of introducing ELECYLINDER®

- The acceleration (A), speed (V) and deceleration (D) of the ELECYLINDER® can be set individually using numerical values, allowing gentle acceleration while maintaining the maximum speed. As a result, the cycle time was reduced to 1.8 seconds.

	Air cylinder
Device cycle time	2.4 sec / 2 pcs
Working hours per day	10 hours
Annual labor cost	\$31,250

	ELECYLINDER®
Device cycle time	1.8 sec / 2 pcs
Working hours per day	7 hours 30 minutes
Annual labor cost	\$2,3437.5

Reduces labor costs by approximately **\$7,800** per year thanks to the shortened cycle time.

■ Operating conditions

■ Air cylinder
 [Working hours per day]
 30,000 pcs / 2 pcs x 2.4 sec = 10 hours
 [Annual labor cost]
 10 hours x (labor cost per hour) \$12.5
 x (number of operating days per year) 250 days = \$31,250

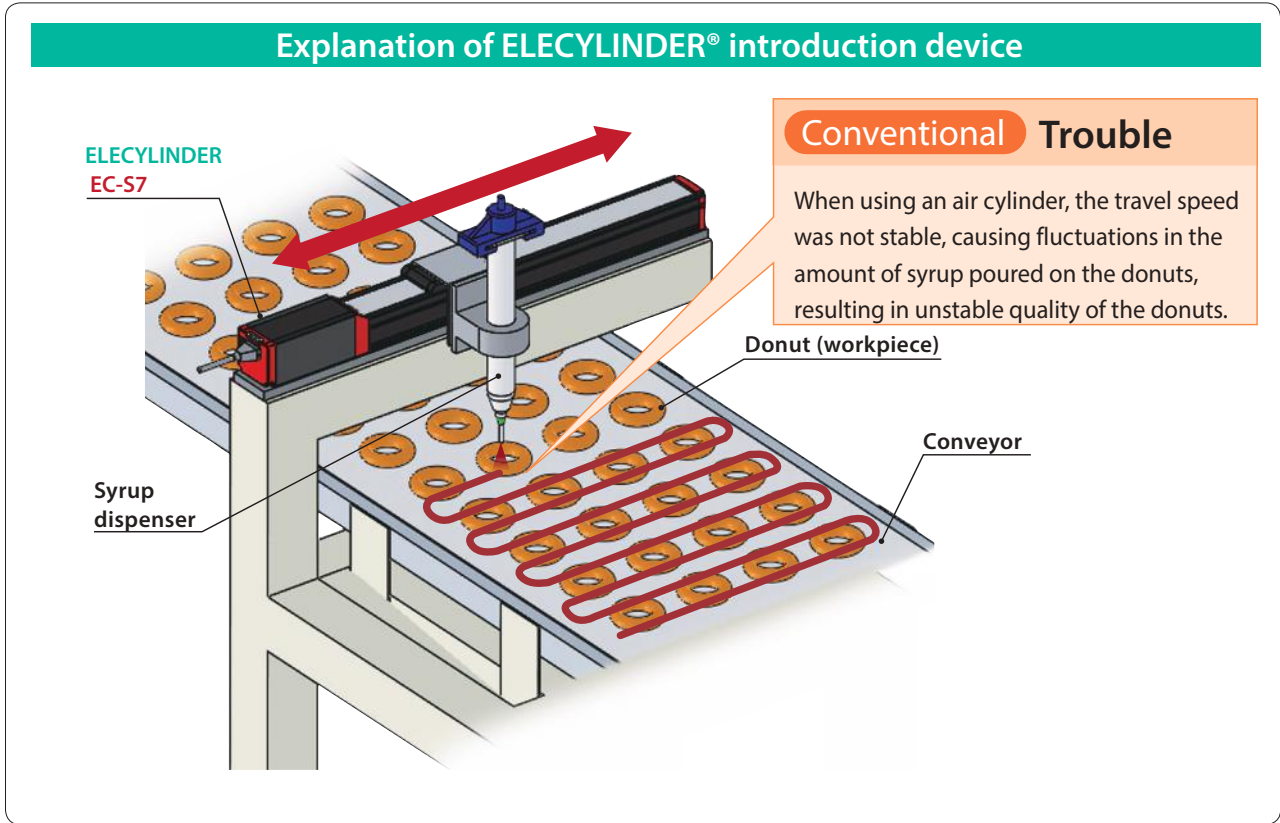
■ ELECYLINDER
 [Working hours per day]
 30,000 pcs / 2 pcs x 1.8 seconds = 7 hours 30 minutes
 [Annual labor cost]
 7.5 hours x (labor cost per hour) \$12.5
 x (number of operating days per year) 250 days = \$23,437.5

*Exchange Rate:1(USD)=100(Japanese Yen)

7 Device for pouring syrup on donuts

Reduces labor costs by \$4,200 annually

Application A device that reciprocates the dispenser and pours syrup on the donuts flowing on the conveyor.



Conventional Problems with air cylinders

- Due to the fluctuations in the amount of syrup poured on the donuts, the workers had to take a total of one hour every day to rework on donuts with too little syrup.

Effect of introducing ELECYLINDER®

- Since the ELECYLINDER® always operates at the set speed, the amount of syrup applied to the donut has become uniform, eliminating the need for reworking.

	Air cylinder
Rework time	1 hours per day
Alteration labor cost	\$4,200/year

	ELECYLINDER®
Rework time	0 hours per day
Alteration labor cost	\$0

Reduces labor costs for the time required for rework by **\$4,200** per year.

■ Operating conditions

[Device production conditions] Labor cost per hour: \$12 Number of operating days per year: 350 days
 [Labor cost for rework] "Air cylinder" device 1 hour x \$12 x 350 days = \$4,200
 "ELECYLINDER" device \$0

*Exchange Rate:1(USD)=100(Japanese Yen)

8 Small bottle conveyor device

Reduces overtime costs by \$7,200 annually

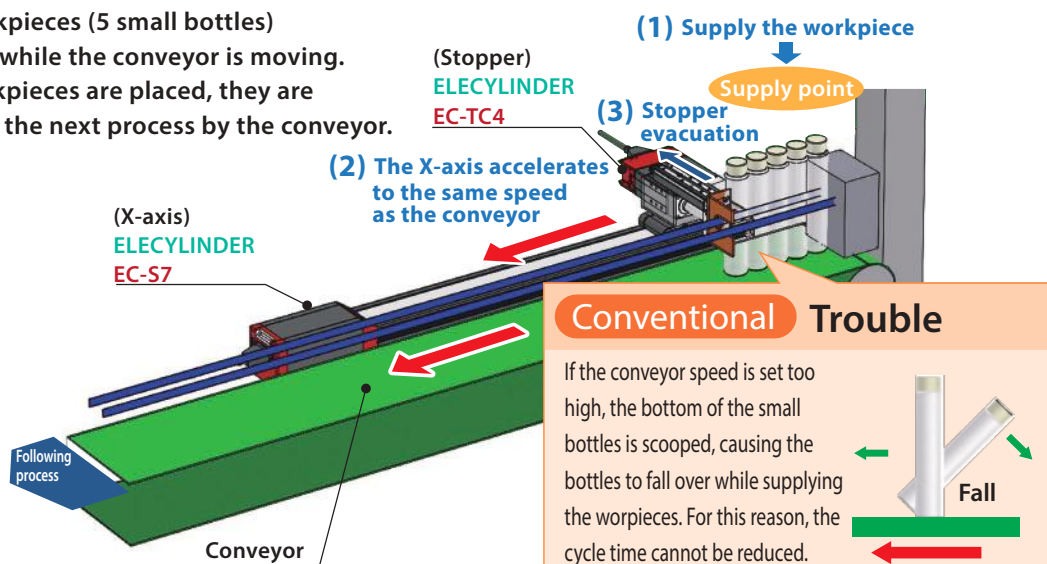
Application

A device that transports small bottles (five by five) to the next process. The daily production volume per line is 18,000 bottles.

Explanation of ELECYLINDER® introduction device

Place the workpieces (5 small bottles)

Supply point while the conveyor is moving. Once the workpieces are placed, they are transferred to the next process by the conveyor.



Conventional Problems with air cylinders

- Conventionally, the conveyor speed was reduced to 50mm/s to prevent the small bottles from falling over when supplying the workpieces. The cycle time of the device was 10 seconds.

Effect of introducing ELECYLINDER®

- A new mechanism was established, in which after "(1) the workpieces are supplied", once "(2) the X-axis has accelerated to the same speed as the conveyor", "(3) the stopper is retracted". As a result, it became possible to increase the conveyor speed to 200mm/s, reducing the cycle time to 8 seconds.

	Air cylinder
Device cycle time	10 sec / 5 pcs
Overtime hours per day	2 hours
Annual overtime cost	\$7,200

	ELECYLINDER®
Device cycle time	8 sec / 5 pcs
Overtime hours per day	0 hours
Annual overtime cost	\$0

Reduces labor costs by **\$7,200** annually thanks to the reduced overtime.

Operating conditions

■ Air cylinder

[Working hours per day]
 $10 \text{ sec} \times 3,600 \text{ cycles (18,000 pcs / 5 pcs)} = 36,000 \text{ sec}$
 $= 10 \text{ hours} \rightarrow 2 \text{ overtime hours}$
 [Annual overtime cost]
 $2 \text{ hours} \times (\text{overtime cost per hour}) \15
 $\times (\text{number of operating days per year}) 240 \text{ days} = \$7,200$

■ ELECYLINDER

[Working hours per day]
 $8 \text{ sec} \times 3,600 \text{ cycles (18,000 pcs / 5 pcs)} = 28,800 \text{ sec}$
 $= 8 \text{ hours} \rightarrow 0 \text{ overtime hours}$
 [Annual overtime cost]
 $0 \text{ hours} \times (\text{overtime cost per hour}) \15
 $\times (\text{number of operating days per year}) 240 \text{ days} = \0

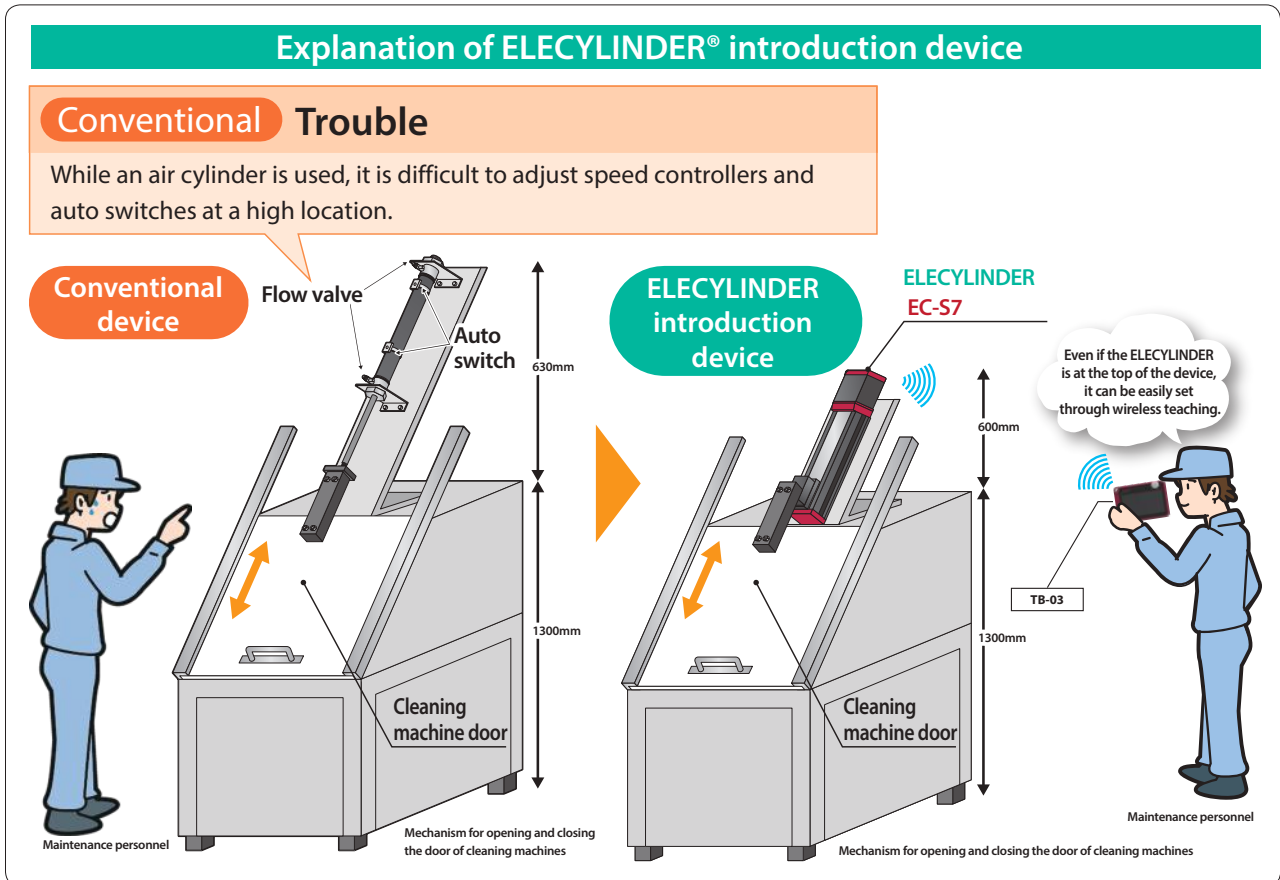
*Exchange Rate:1(USD)=100(Japanese Yen)

9 Mechanism for opening and closing the door of cleaning machines

Improves workability and shortens operation time

Application

The ELECYLINDER is adopted for the mechanism that slides the door of the washing machine up and down.



Conventional Problems with air cylinders

- Since the air cylinder was installed at a high location, it was difficult to adjust the speed controller and auto switch.

Effect of introducing ELECYLINDER®

- The ELECYLINDER® can be wirelessly connected to a data setting machine. This made it easy to set the actuator even at a high location.
- Furthermore, opening/closing time was shortened from 5 seconds to 3 seconds by suppressing the acceleration/deceleration at start/stop and increasing the speed in the middle.

	Air cylinder
Door opening/closing time	5 sec

	ELECYLINDER®
	3 sec

Wireless teaching eliminates work in high places.

Furthermore, cycle time is reduced by **2 seconds (40%)**.

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Midwest Branch Office
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Southeast Branch Office
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