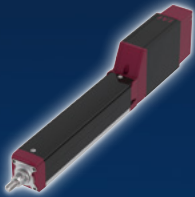


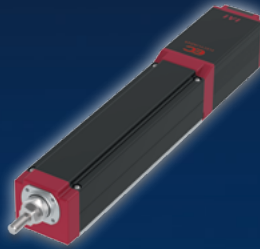
**Newest Additions to the Series**



**Small type (Radial Cylinder)**  
EC-RR3  
EC-RR4



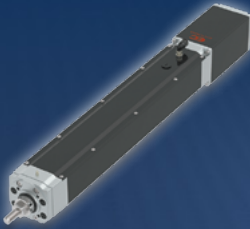
**Small type**  
EC-S3  
EC-S4



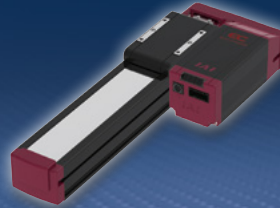
**High rigidity (Radial Cylinder)**  
EC-RR6□AH  
EC-RR7□AH



**High rigidity (Slider type)**  
EC-S6□AH  
EC-S7□AH



**Splash-proof type (Radial Cylinder)**  
EC-RR6□W  
EC-RR7□W



**Side-mounted motor**  
EC-S6□R  
EC-S7□R



**Side-mounted motor**  
EC-S6□AHR EC-RR6□R  
EC-S7□AHR EC-RR7□R  
EC-RR6□AHR  
EC-RR7□AHR



Simple & Wireless Operation

# EC Product List

## Environmental Resistance

### <Features>

- The rod operates in the same way as a rod type air cylinder.
- Waterproof type with ingress protection rating of IP67.
- The Radial Cylinder type is equipped with a ball circulating type built-in linear guide.

### <Applications>

- Suitable for use in environments with flying dust or exposure to water.
- Usable in places where food-related equipment is washed.

**NEW** Splash-proof  
(Radial cylinder)

EC-RR6□W  
EC-RR7□W



IP67

Radial Cylinder

Splash-proof  
(Rod type)

EC-R6□W  
EC-R7□W



IP67

## High Rigidity

**NEW** Small type  
(Radial cylinder)

EC-RR3  
EC-RR4



Radial Cylinder

**NEW** Side-mounted motor

EC-S6□AHR  
EC-S7□AHR

High Rigidity



Radial Cylinder

High Rigidity

EC-RR6□R  
EC-RR7□R

Radial Cylinder

EC-RR6□AHR  
EC-RR7□AHR

Radial Cylinder

**NEW** High rigidity  
(Slider type)

EC-S6□AH  
EC-S7□AH



High Rigidity

**NEW** High rigidity  
(Radial cylinder)

EC-RR6□AH  
EC-RR7□AH



Radial Cylinder

Radial Cylinder

EC-RR6  
EC-RR7



Radial Cylinder

### <Features>

- A ball circulating type linear guide is built in.
- The high rigidity slider and high rigidity Radial Cylinder types have a built-in 4-row linear guide. The highly rigid structure supports loads distributed over 4 rows of steel balls.

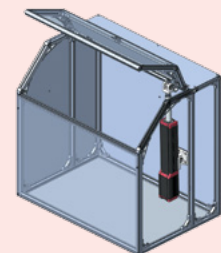
### <Applications>

Radial Cylinder Suitable for swinging operations such as clamping and opening/closing doors.

High rigidity slider type Suitable for applications where a large reaction force is applied, such as tightening screws and drilling holes.

### <Application Example>

Door open/close

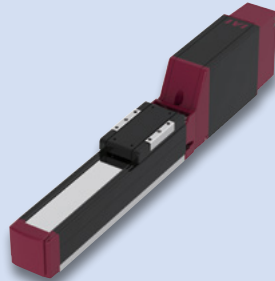


Standard

**NEW**

Small type

EC-S3  
EC-S4



**NEW**

Side-mounted motor

EC-S6□R  
EC-S7□R



Slider type

EC-S6  
EC-S7



Rod type

EC-R6  
EC-R7



<Features>

- For the slider type, the slider on the top of the body operates in the same way as a slider type air cylinder.
- For the rod type, the rod operates in the same way as a rod type air cylinder.

<Applications>

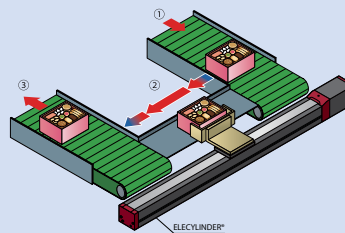
Slider type     Suitable for transporting workpieces.

Rod type         Suitable for pushing and lifting.

<Application Examples>

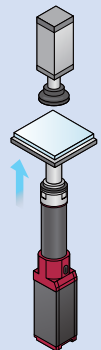
Slider type

Transferring between conveyors



Rod type

Pushes up the set workpiece



Compact

<Features>

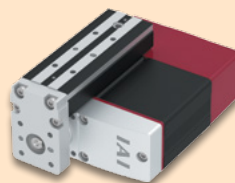
- For the slider type, the table on the top of the body operates.
- For the mini guided rod type, the rod operates.
- The use of a nut rotation mechanism reduces the size.

<Applications>

Suitable for conveying and pushing workpieces in narrow spaces.

Mini Table type

EC-TC4  
EC-TW4



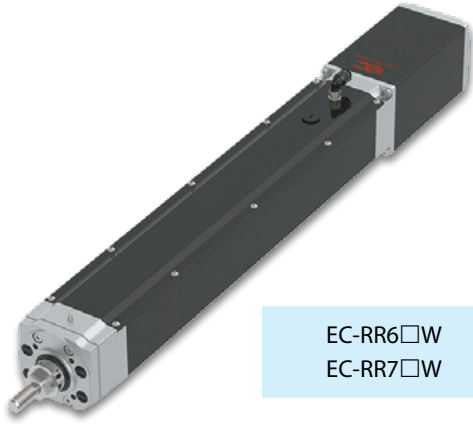
Mini Guided rod type

EC-GS4  
EC-GD



Immersed in water? No problem!

# Splash-proof type Radial Cylinder



EC-RR6□W  
EC-RR7□W

## 1. The ingress protection rating is IP67.

The Splash-proof structure prevents the ingress of water even when immersed, making it suitable for equipment such as food-related machines and washing machines which are exposed to violent splashes of water. It can also be used in an environment where oil mist is present around processing machines.

### Ingress protection Indication

IP □ □

**The first number**  
Protection against ingress from solid objects, including fingers.

**The second number**  
Protection against water.  
\*Please consult with us when liquid other than water is used.

### Description of protection rating

IP67	Solid objects	: Completely protected from ingress by dust or solid particles.
	Water	: No ingress by water, even when immersed.

## 2. Fluororubber seal option is added as an option.

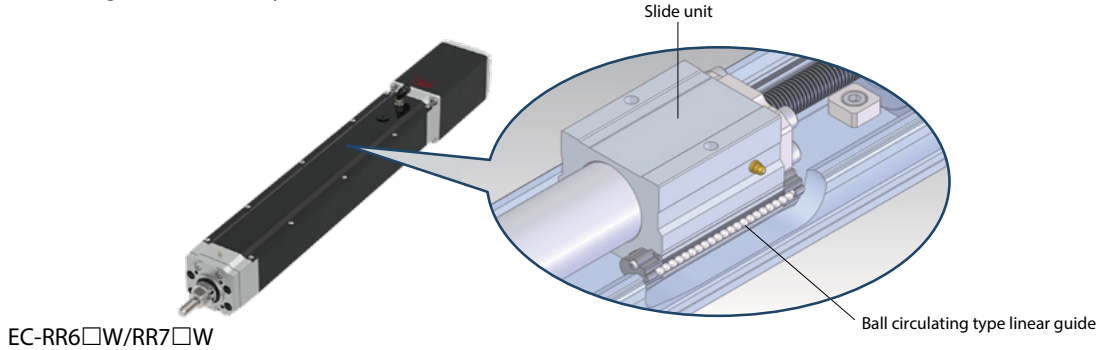
A fluororubber seal, which has excellent resistance against cutting oil and cleaning fluid, is added as an option to be used for O-rings and gaskets. (Option code: SLF)  
The Radial Cylinder can be used near machine tools where oil mist scatters.

<Application Example>  
Processing machine door open/close



## 3. Equipped with a guide.

A ball circulating type built-in linear guide is equipped in the rod. The guide part is protected by the water-proof construction, eliminating troubles of the guide caused by the environment.



EC-RR6□W/RR7□W

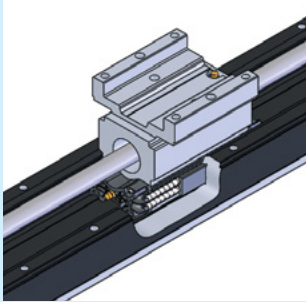
Increased rigidity thanks to the 4-row guide

# High Rigidity ELECYLINDER®

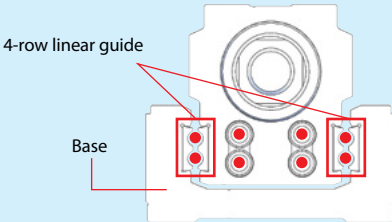
**4-row linear guide construction (sectional view)**

**Because of high rigidity**

- \* Increased dynamic allowable moment
- \* Increased load on overhang length
- \* Increased transferrable weight



**The 4-row steel balls disperse loads**

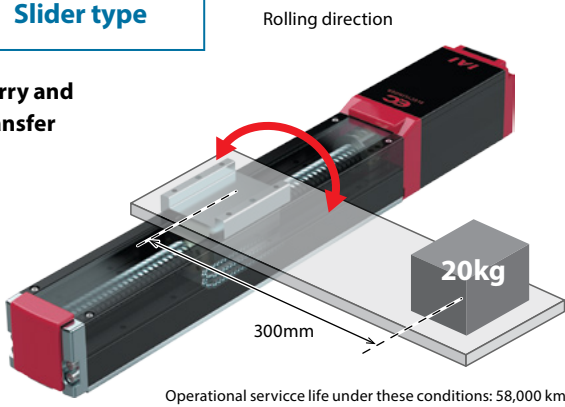


4-row linear guide  
Base

## 1. Dynamic allowable moment is 3.5 times greater than that of the conventional products.

**Slider type**

Carry and transfer



EC-S6□AH ▶ P47  
EC-S7□AH ▶ P49

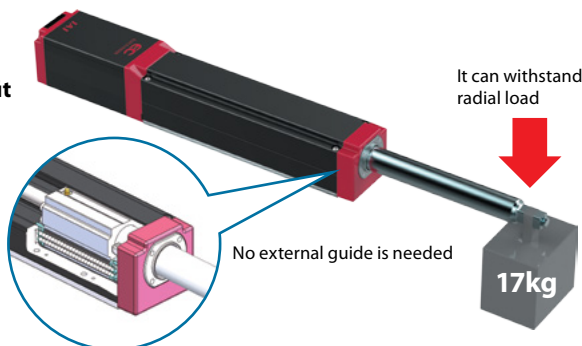
**Specifications**

	S6□AH	S7□AH
Maximum stroke	800mm	800mm
Maximum payload (horizontal)	40kg	51kg
Dynamic allowable moment (rolling direction)	Mc 55N·m	Mc 134N·m

## 2. Dynamic allowable radial load at the rod tip is 2.8 times greater than that of the conventional products.

**Rod type (Radial Cylinder)**

Push  
Pull  
Press-fit



EC-RR6□AH ▶ P71  
EC-RR7□AH ▶ P73

**Specifications**

Longest stroke	400mm	500mm
Dynamic allowable radial load at the rod tip *	130N	170N

\* Assuming a basic rated service life of 5,000km.  
(Note) Please confirm the conditions specified on P107 before use.

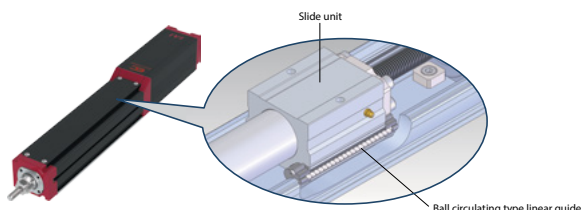


Radial load can be applied without an external guide!

## Radial Cylinder®

### 1. Includes a built-in guide.

The radial cylinder is equipped with a built-in ball circulating type linear guide in the rod body. No external guide is required, as both radial loads and eccentric loads can be applied.



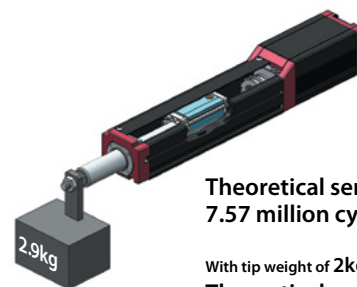
#### (1) There is no tip runout.

Since it has a built-in linear guide and the rod is supported by the guide, there is no runout to the tip.

#### (2) It can be used in narrow spaces.

Since there is no need for an external guide, it can be used even in narrow spaces to save overall space.

The theoretical operation life of the 315mm stroke Radial Cylinder, with a load of 2.9kg applied to the rod tip, is 4,770km. When the load on rod tip is halved, the theoretical service life increases 8-fold.



Theoretical service life: 4,770km  
7.57 million cycles (when moving 315mm)

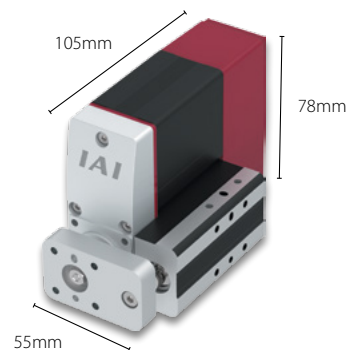
With tip weight of 2kg...  
Theoretical service life: 14,547km  
23.09 million cycles (when moving 315mm)

## Palm size

## Mini ELECYLINDER®

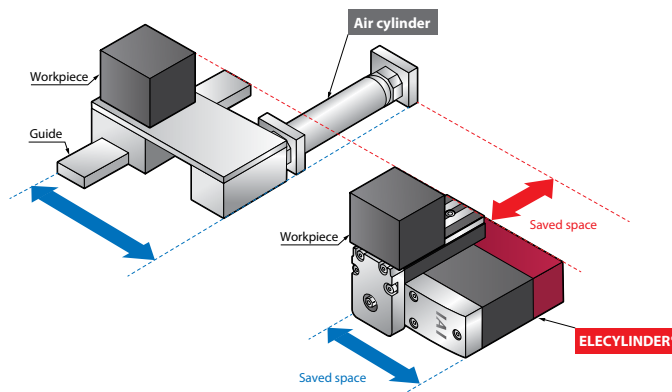
### 1. It can be used in narrow spaces.

- (1) The use of a nut rotation mechanism reduces the size.
- (2) Even with a built-in controller, the size is a compact 55mm × 105mm × 78mm.



### 2. As it has a guide, no external guide is required.

- (1) The guide design process can be eliminated.
- (2) It helps save space.



Body widths 35mm and 44mm are now available!

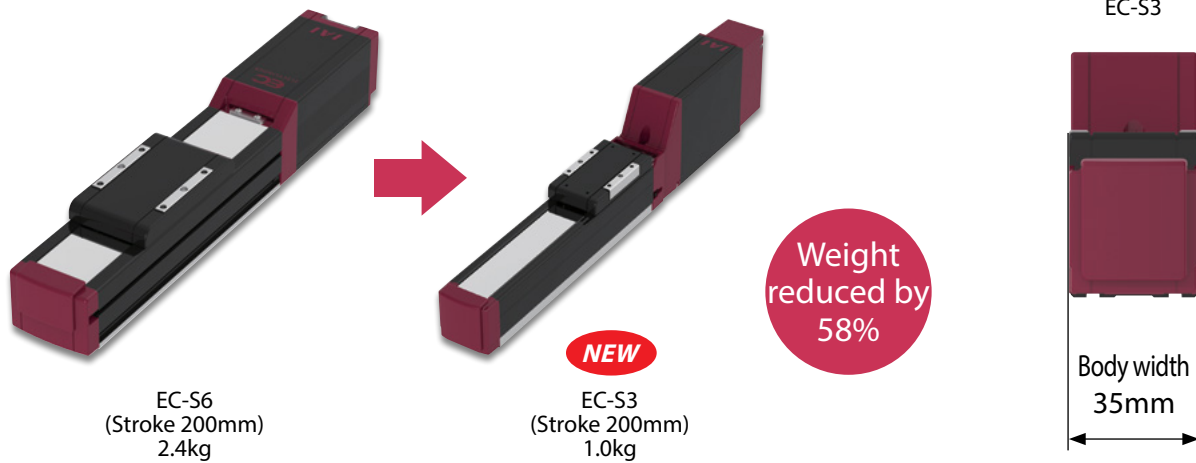
# Compact slider Compact Radial Cylinder



## 1. Compact and lightweight

The body width is only 35mm wide thanks to the built-in controller.

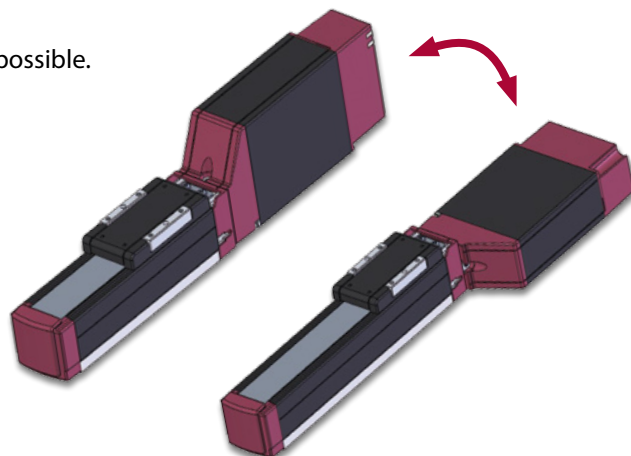
The main unit weight is reduced by 58%, compared to our conventional model with the same stroke.



## 2. Mounting direction of the motor and controller unit is selectable.

The direction of the motor and controller unit can be selected according to the application (See P105).

Retrofit changes of the mounting direction are also possible.



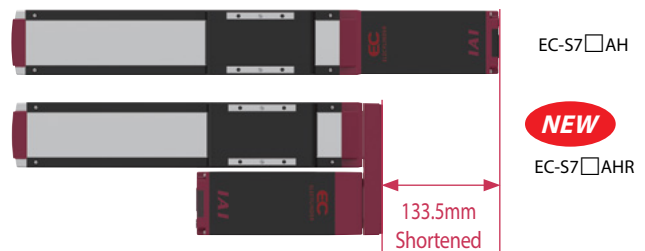
Motor side-mounted type is added as standard!

## Motor side-mounted specification



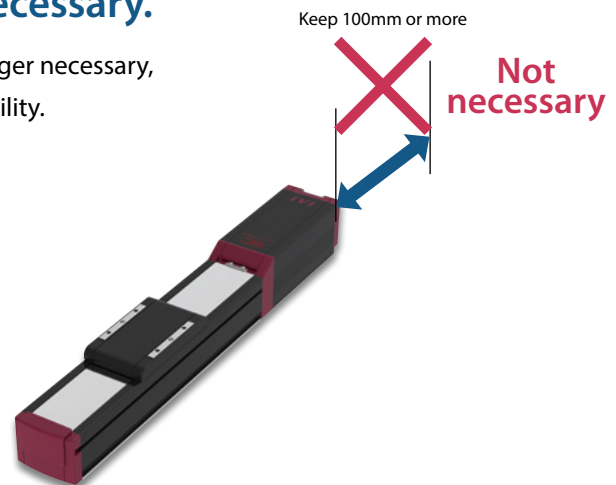
### 1. The overall length has been shortened.

The overall length has been shortened by up to 133.5mm, allowing a smaller installation space in the longitudinal direction.



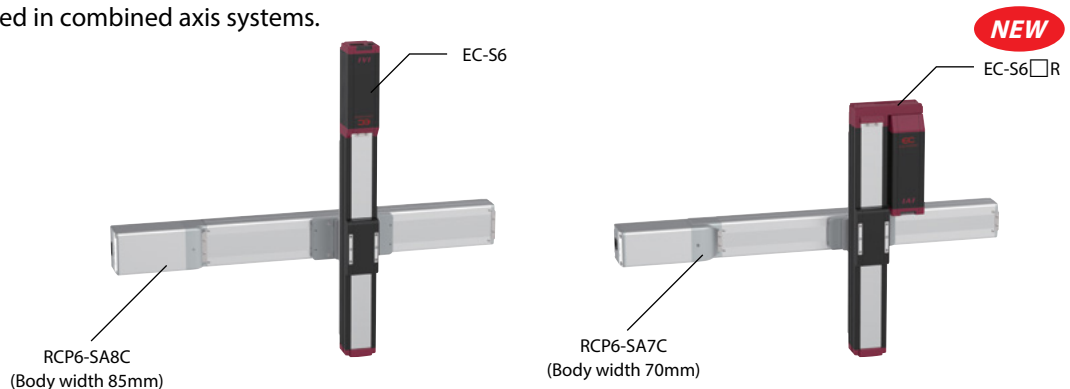
### 2. No extra space for maintenance is necessary.

A maintenance space required for the straight type is no longer necessary, providing wider options for equipment layout within the facility.



### 3. Compact combination possible

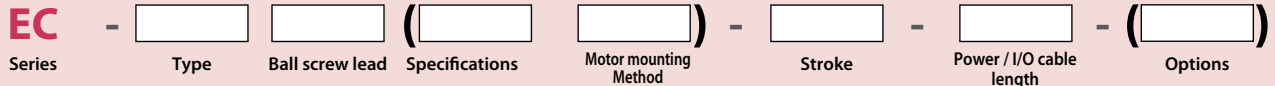
The shorter overall length results in a shorter overhang length, which allows more compact axes to be used in combined axis systems.





# Model Specification Items

## ELECYLINDER®



<b>S3</b>	Slider width 35mm
<b>S4</b>	Slider width 44mm
<b>S6</b>	Slider 63mm width
<b>S7</b>	Slider 73mm width (75mm for high rigidity type)
<b>R6</b>	Rod 63mm width
<b>R7</b>	Rod 73mm width
<b>RR3</b>	Radial Cylinder width 35mm
<b>RR4</b>	Radial Cylinder width 44mm
<b>RR6</b>	Radial cylinder 63mm width
<b>RR7</b>	Radial cylinder 73mm width (High rigid type is 75mm)
<b>RP4</b>	Rod type side-mounted motor specification 34mm width
<b>GS4</b>	Rod type side-mounted motor specification 55mm width (with single guide)
<b>GD4</b>	Rod type side-mounted motor specification 76mm width (with double guide)
<b>TC4</b>	Mini table type (table part) 31mm width
<b>TW4</b>	Mini table type (table part) 73mm width

<b>0</b>	0m
?	?
<b>10</b>	10m

Cable length  
0: Power I/O connector supplied  
1 to 10: Power I/O cable supplied

<b>30</b>	30mm
?	?
<b>800</b>	800mm

<b>Left blank</b>	Slider type, rod type, radial cylinder type, mini table type
<b>AH</b>	High rigidity slider type High rigidity radial cylinder type
<b>W</b>	Waterproof specification

<b>Blank</b>	Motor in-line specification
<b>R</b>	Side-mounted motor specification

<b>Left blank</b>	Incremental encoder specification, NPN specification, no option
<b>ACS</b>	Actuator pigtail cable length: 5m
<b>B</b>	Brake
<b>FFA</b>	Tip adapter (flange)
<b>FL</b>	Flange (front)
<b>FT</b>	Foot bracket (bolting from top)
<b>GT2</b>	GS4 guide right mount / TC4 table right mount
<b>GT3</b>	GS4 guide bottom mount / TC4 table bottom mount
<b>GT4</b>	GS4 guide left mount / TC4 table left mount
<b>ML</b>	Side-mounted motor to the left
<b>MR</b>	Side-mounted motor to the right
<b>MOB</b>	Motor mounting direction change (bottom)
<b>MOL</b>	Motor mounting direction change (left)
<b>MOR</b>	Motor mounting direction change (right)
<b>MOT</b>	Motor mounting direction change (top)
<b>NFA</b>	Tip adapter (internal thread)
<b>NJ</b>	Knuckle joint
<b>NJPB</b>	Knuckle joint + oscillation receiving bracket
<b>NM</b>	Non-motor end specification
<b>PN</b>	PNP specification
<b>QR</b>	Clevis bracket
<b>QRPB</b>	Clevis bracket + oscillation receiving bracket
<b>TMD2</b>	Split motor and controller power supply specification
<b>WA</b>	Battery-less Absolute Encoder specification
<b>WL</b>	Wireless communication specification
<b>WL2</b>	Wireless axis-operation specifications









<S3/RR3>		<S4/RR4>		<S6/R6/RR6>		<S7/R7/RR7>		<RP4/GS4/GD4/TC4/TW4>	
<b>L</b>	Lead 2mm	<b>L</b>	Lead 2.5mm	<b>L</b>	Lead 3mm	<b>L</b>	Lead 4mm	<b>L</b>	Lead 2mm
<b>M</b>	Lead 4mm	<b>M</b>	Lead 5mm	<b>M</b>	Lead 6mm	<b>M</b>	Lead 8mm	<b>M</b>	Lead 4mm
<b>H</b>	Lead 6mm	<b>H</b>	Lead 10mm	<b>H</b>	Lead 12mm	<b>H</b>	Lead 16mm	<b>H</b>	Lead 6mm
		<b>S</b>	Lead 16mm	<b>S</b>	Lead 20mm	<b>S</b>	Lead 24mm		

\* The range of selectable options varies according to the actuator type. For details, please refer to the pages showing each type.

# Product List

## Slider Type









\* Speed limitation applies to push motion. See the manual or contact IAI.

Spec	Type	External view	Body width (mm)	Lead (mm)	Positioning repeatability (mm)	Stroke (mm)	Max. speed (mm/s)	Max. push force (N)*	Max. payload (kg)	
									Horizontal	Vertical
Coupled Motor	S3		 35mm	6	±0.05	50 to 300 (per 50st)	420	45	3.5	1.5
				4			280	68	6	2.5
				2			140	136	9	3.5
	S4		 44mm	16	±0.05	50 to 300 (per 50st)	800	41	7	1.5
				10			700	66	12	2.5
				5			350	132	15	5
				2.5			175 <150>	263	18	6.5
	S6		 63mm	20	±0.05	50 to 400 (per 50st)	800	67	15	1
				12			700	112	26	2.5
				6			450	224	32	6
				3			225	449	40	12.5
	S7		 73mm	24	±0.05	50 to 500 (per 50st)	860	139	37	3
16				700			209	46	8	
8				420			418	51	16	
4				210 <175>			836	51	19	
Motor side-mounted specification	S6□R		 63mm	20	±0.05	50 to 400 (per 50st)	800	67	15	1
				12			700	112	26	2.5
				6			450 <400>	224	32	6
				3			225	449	40	12.5
	S7□R		 73mm	24	±0.05	50 to 500 (per 50st)	860	139	37	3
				16			700	209	46	8
				8			420 <350>	418	51	16
				4			190 <175>	836	51	19

Figures in <> represent vertical operations.

## High Rigidity Slider Type


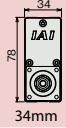

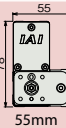

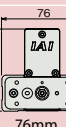




\* Speed limitation applies to push motion. See the manual or contact IAI.

Spec	Type	External view	Body width (mm)	Lead (mm)	Positioning repeatability (mm)	Stroke (mm)	Max. speed (mm/s)	Max. push force (N)*	Max. payload (kg)	
									Horizontal	Vertical
Coupled Motor	S6□AH		 63mm	20	±0.05	50 to 800 (per 50st)	1440 <1280>	67	15	1
				12			900	112	26	2.5
				6			450	224	32	6
				3			225	449	40	16
	S7□AH		 75mm	24	±0.05	50 to 800 (per 50st)	1230	139	37	3
				16			980 <840>	209	46	8
				8			420	418	51	16
				4			210 <175>	836	51	25
Motor side-mounted specification	S6□AHR		 63mm	20	±0.05	50 to 800 (per 50st)	1120	67	15	1
				12			900 <800>	112	26	2.5
				6			450 <400>	224	32	6
				3			225	449	40	16
	S7□AHR		 75mm	24	±0.05	50 to 800 (per 50st)	1080 <860>	139	37	3
				16			840 <700>	209	46	8
				8			420 <350>	418	51	16
				4			190 <175>	836	51	25

# Product List

## Mini Rod Type / Rod Type

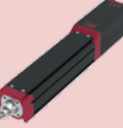
\* Speed limitation applies to push motion. See the manual or contact IAI.

Spec	Type	External view	Body width (mm)	Lead (mm)	Positioning repeatability (mm)	Stroke (mm)	Max. speed (mm/s)	Max. push force (N)*	Max. payload (kg)	
									Horizontal	Vertical
Motor side-mounted specification	RP4			6	±0.05	30, 50	300	30	2.5	1
				4			200	45	4	1.5
				2			100	90	8	2.5
	GS4			6	±0.05	30, 50	300	30	2.5	1
				4			200	45	4	1.5
				2			100	90	8	2.5
	GD4			6	±0.05	30, 50	300	30	2.5	1
				4			200	45	4	1.5
				2			100	90	8	2.5
Coupled Motor	R6			20	±0.05	50 to 300 (per 50st)	800	67	6	1.5
				12			700	112	25	4
				6			450	224	40	10
				3			225	449	60	12.5
	R7			24	±0.05	50 to 300 (per 50st)	860 (640)	182	20	3
				16			700 (560)	273	50	8
				8			350	547	60	18
				4			175	1094	80	19
				4			175	1094	80	19

Figures in <> represent vertical operations.

## Radial Cylinder


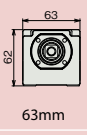

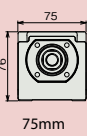

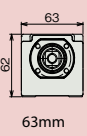

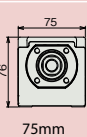
\* Speed limitation applies to push motion. See the manual or contact IAI.

Spec	Type	External view	Body width (mm)	Lead (mm)	Positioning repeatability (mm)	Stroke (mm)	Max. speed (mm/s)	Max. push force (N)*	Max. payload (kg)	
									Horizontal	Vertical
Coupled Motor	RR3			6	±0.05	50 to 300 (per 50st)	420	45	9	1.5
				4			280	68	14	2.5
				2			140	136	18	3.5
	RR4			16	±0.05	50 to 300 (per 50st)	800	41	7	1.5
				10			700	66	16	2.5
				5			350	132	25	5
				2.5			175 <150>	263	35	6.5
	RR6			20	±0.05	65 to 315 (per 50st)	800	67	6	1.5
				12			700	112	25	4
				6			450	224	40	10
				3			225	449	60	12.5
	RR7			24	±0.05	65 to 315 (per 50st)	860 <640>	182	20	3
				16			700 <560>	273	50	8
8				350			547	60	18	
4				175			1094	80	19	
4				175			1094	80	19	
Motor side-mounted specification	RR6□R			20	±0.05	65 to 315 (per 50st)	800	67	6	1.5
				12			700	112	25	4
				6			450	224	40	10
				3			225	449	60	12.5
	RR7□R			24	±0.05	65 to 315 (per 50st)	860 <640>	182	20	3
				16			700 <560>	273	50	8
				8			320 <280>	547	60	18
				4			160 <140>	1094	80	19

Figures in <> represent vertical operations.

### High Rigidity Radial Cylinder


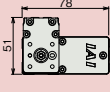
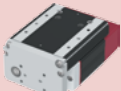
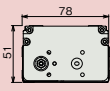
\* Speed limitation applies to push motion. See the manual or contact IAI.

Spec	Type	External view	Body width (mm)	Lead (mm)	Positioning repeatability (mm)	Stroke (mm)	Max. speed (mm/s)	Max. push force (N)*	Max. payload (kg)	
									Horizontal	Vertical
Coupled motor	RR6□AH			20	±0.05	50 to 400 (per 50st)	800	67	6	1.5
				12			700	112	25	4
				6			450	224	40	10
				3			225	449	60	20
	RR7□AH			24	±0.05	50 to 500 (per 50st)	860 <640>	182	20	3
				16			700 <560>	273	50	8
				8			350	547	60	18
				4			175	1094	80	28
Motor side-mounted specification	RR6□AHR			20	±0.05	50 to 400 (per 50st)	800	67	6	1.5
				12			700	112	25	4
				6			450	224	40	10
				3			225	449	60	20
	RR7□AHR			24	±0.05	50 to 500 (per 50st)	860 <640>	182	20	3
				16			640 <560>	273	50	8
				8			320 <280>	547	60	18
				4			150 <140>	1094	80	28

Figures in < > represent vertical operations

### Mini Table type


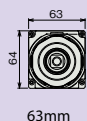

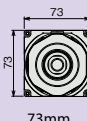

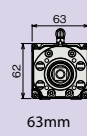

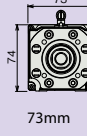
\* Speed limitation applies to push motion. See the manual or contact IAI.

Spec	Type	External view	Body width (mm)	Lead (mm)	Positioning repeatability (mm)	Stroke (mm)	Max. speed (mm/s)	Max. push force (N)*	Max. payload (kg)	
									Horizontal	Vertical
Motor side-mounted specification	TC4			6	±0.05	30, 50	300	30	2.5	1
				4			200	45	4	1.5
				2			100	90	8	2.5
	TW4			6	±0.05	30, 50	300	30	2.5	1
				4			200	45	4	1.5
				2			100	90	8	2.5

Figures in < > represent vertical operations

### Splash-proof type

\* Speed limitation applies to push motion. See the manual or contact IAI.

Spec	Type	External view	Body width (mm)	Lead (mm)	Positioning repeatability (mm)	Stroke (mm)	Max. speed (mm/s)	Max. push force (N)*	Max. payload (kg)	
									Horizontal	Vertical
Coupled motor	R6□W			20	±0.05	50 to 300 (per 50st)	800	67	6	1.5
				12			700	112	25	4
				6			450	224	40	10
				3			225	449	60	12.5
	R7□W			24	±0.05	50 to 300 (per 50st)	860 <640>	182	20	3
				16			700 <560>	273	50	8
				8			350	547	60	18
				4			175	1094	80	19
Coupled motor	RR6□W			20	±0.05	65 to 315 (per 50st)	800	67	6	1.5
				12			700	112	25	4
				6			450	224	40	10
				3			225	449	60	12.5
	RR7□W			24	±0.05	65 to 315 (per 50st)	860 <640>	182	20	3
				16			700 <560>	273	50	8
				8			350	547	60	18
				4			175	1094	80	19

Figures in < > represent vertical operations

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