



Simple-to-use Cylinder with Built-in Controller **ECEleCylinder**



Simple & Wireless Operation





www.iai-automation.com

www.elecylinder.de



EleCylinder operation is extremely simple.

Easily repairable in the event of a breakdown.

Simple model selection

Select the ideal model easily with model selection software.

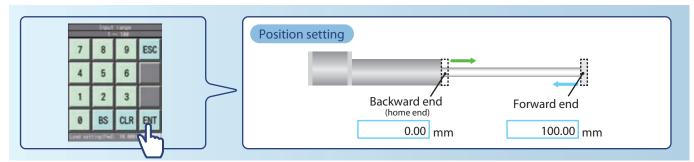
www.elecylinder.de -> quick select

Simple programming-free operation

Operation is possible with data entry. No need to perform complicated programming. Operation is possible with ON/OFF signal, just like solenoid valves.

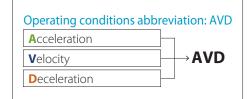
Start and end points can be set to any position

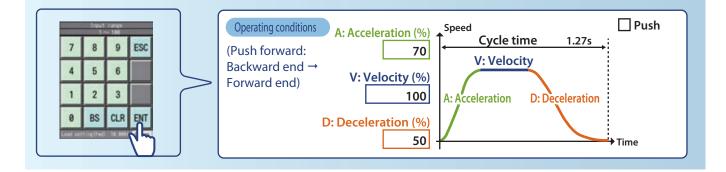
Enter stop position.



AVD values are easily set

Enter the operating conditions.



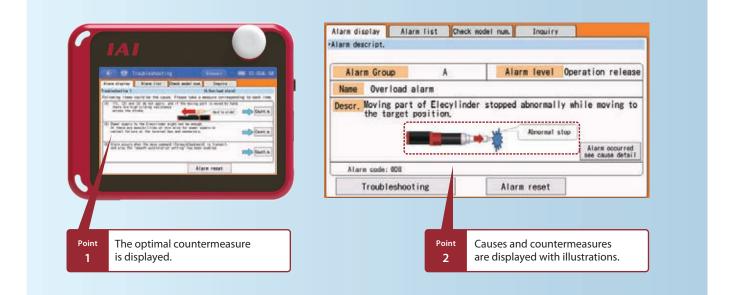




Easily repairable in the event of a breakdown

Troubleshooting can be performed using the teaching pendant. Device stoppage causes and countermeasures are displayed.

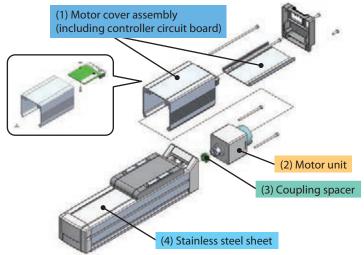
In nearly all cases, just replace the motor or controller circuit board yourself and the unit will recover.



Few maintenance parts

Since the ball screw and guide hardly ever break down, the only maintenance parts are

- (1) Motor cover assembly (including controller circuit board)
- (2) Motor unit



- * Rear cover is not included in the motor cover assembly.
- * Bolts are not included in the motor cover assembly and motor unit.

Wireless ELECYLINDER BIBCylinder is connected wirelessly and easy to use by anyone.

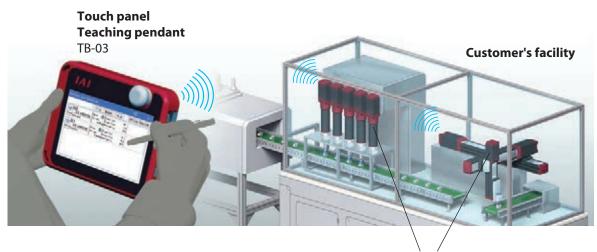
No troublesome cable connection is necessary

The **EleCylinder** main unit (controller) and the touch panel teaching pendant TB-03 can be connected wirelessly, eliminating troublesome cable connections.



Easy adjustments are possible by watching the parts closer

Wireless operations from the TB-03 enable the operator to watch the part to be adjusted closer to it, allowing easier position adjustments, operating condition inputs and trial operations. It make customer's adjustment works more efficient.



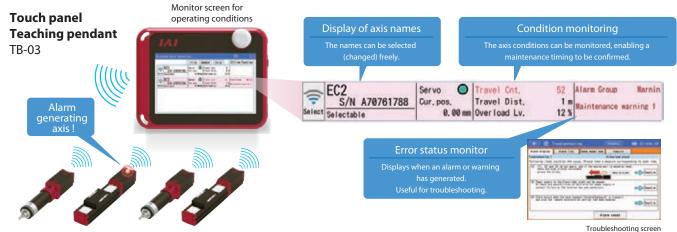
EleCylinder



Reduced trouble recovery time and easier daily inspection

The TB-03 receives data wirelessly from the **EleCylinder** continuously and displays operating conditions up to 16 axes on its screen for monitoring at a glance.

The **EleCylinder** showing "Maintenance needed / Alarm ringing" can be identified easily from the list on the screen.



EleCylinder (connectable up to 16 axes)

Easy to operate by anyone

The **ELECYLINDER®** can be operated by simply pushing the forward and backward buttons.

No expertise is needed. Backward end Forward end Simple screen for operation (Home position side) **Touch panel** Manual Mode **Teaching pendant** TB-03 OJog OInching ⊙Test run 00 54.67 mm Cur.pos. B. End F. End For wireless operations of the EleCylinder, there are safety cautions. (Note)

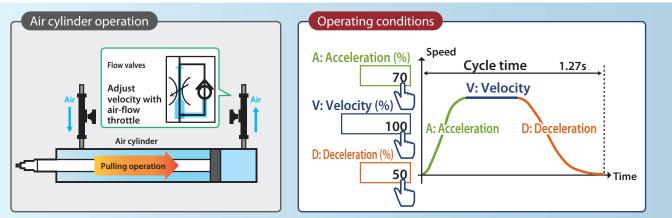
Please make sure to refer to P118.

High
PerformanceEasy operationELECYLINDEREasy operation

AVD can be adjusted individually

Air cylinders use flow valves to control its speed by adjusting the air flow rate of a speed controller. It is impossible to control speed, acceleration and deceleration accurately.

The **EleCylinder** can control them accurately by entering AVD individually in percentages. You can enter these values in percentages or actual numeric values {within system limitations}



Operating conditions abbreviation: AVD

AVD

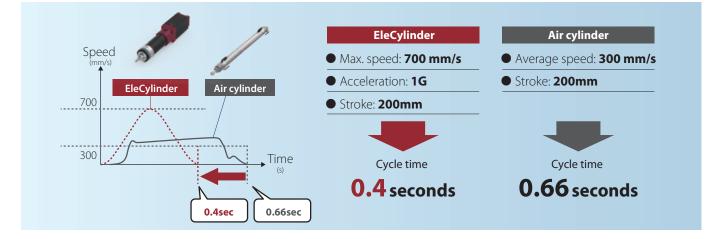
Acceleration

Deceleration

Velocity

Shorter Cycle Times

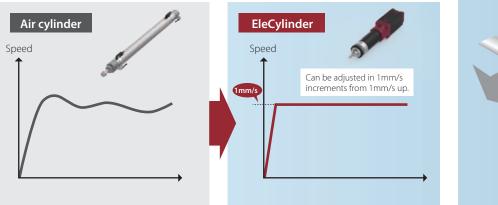
Air cylinders cannot operate at high velocity due to the impact at stroke ends which occurs when excess velocity is applied. The **EleCylinder** can start and stop smoothly at high velocity, reducing cycle time.





Stable velocity

Has excellent velocity stability even in the low velocity range. Maintains consistent quality without film slack, even in low-velocity film or sheet pulling operations.



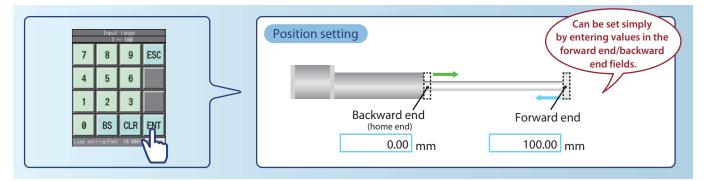


[Usage example] Sheet pulling process

Fine tuning

To set **EleCylinder** 's start/end points, only two desired values are entered.

Air cylinders require position adjustments for mechanical end, auto switch and shock absorber, as well as checking and tuning of each component's positioning.

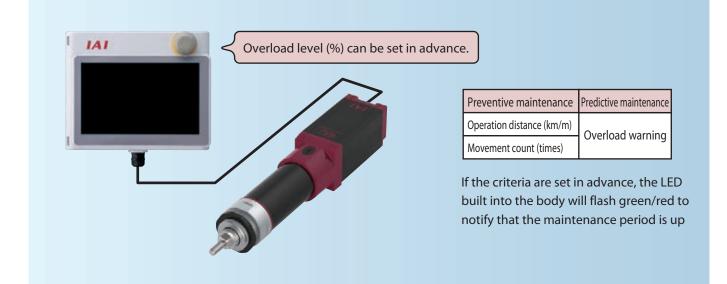




Battery-less Absolute Encoder and predictive maintenance function eliminate **time-consuming maintenance** work.

Overload warning and maintenance period notifications

The predictive maintenance function issues an overload warning when the applied load exceeds that of normal operation. It also issues maintenance period reminders.



Battery-less Absolute Encoder can be selected

No battery means no maintenance required. Since home return operation is not required at startup or after emergency stop or malfunction, operation time and production costs can be reduced.



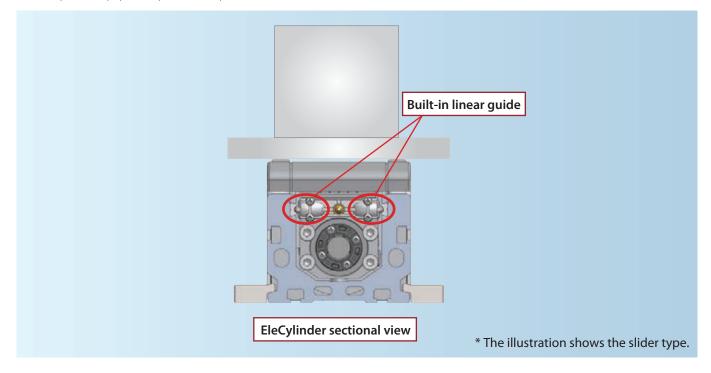


Built-in position memory system



With built-in guide

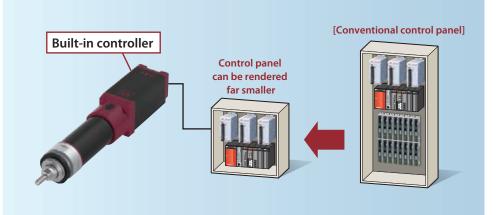
The slider and radial cylinder types have built-in guides, so no external guide installation is needed. This keeps the equipment profile compact.



With built-in controller

Built-in controller means no need to allocate controller space inside the control panel.

This keeps the control panel size compact.



ProfitableIn fact, more EleCylinder operationCmeans more profit!

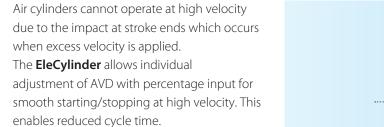
Improves productivity and reduces labor costs

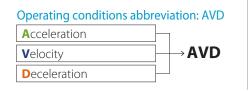
Reduced cycle time

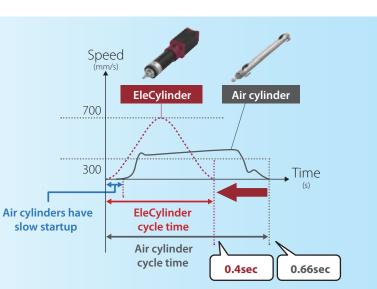
ELECYLINDER

Increased facility production capacity (increased production volume) The required volume can be produced with less equipment (reduced new equipment investment for increased production) The required volume can be produced in less production time (shortened operating time)

Reduced equipment costs Reduced labor costs



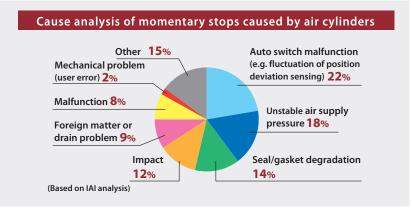




Reduces momentary stops on the production line and improves equipment operating rates

Depending on the state of equipment, various air cylinder issues can trigger momentary stops on the production line.

The **EleCylinder** can eliminate air cylinderrelated momentary stops.





Long service life

Instead of an impact mechanism, the **EleCylinder** incorporates a ball screw and ball circulating type built-in linear guide to achieve a long service life. Based on calculation using the conditions below, the lifespan of the **EleCylinder** is five times longer than that of air cylinders.

Operational conditions										
Operating days per year	Operating hours	Movement stroke	Payload	Operation cycle						
240 days	16 hours per day	300mm	Horizontal: 12kg	8 seconds per reciprocating motion						
Lifespan										

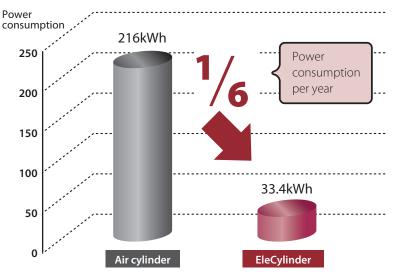
Product spe	cifications	Life	Service life	Lifespan factors	Remarks	
Air cylinder (rod type) ø32	rod type)		5 million times * Lifespan estimated by cylinder manufacturer	Gasket/ seal degradation	_	The EleCylinde lifespan is 5 times
EleCylinder (rod type) EC-R7	31	15 years	Approx. 16000km	End of bearing life	Max. speed: 155 mm/s Acceleration/deceleration: 0.5G	longer than tha of air cylinder

Reduces electricity bills

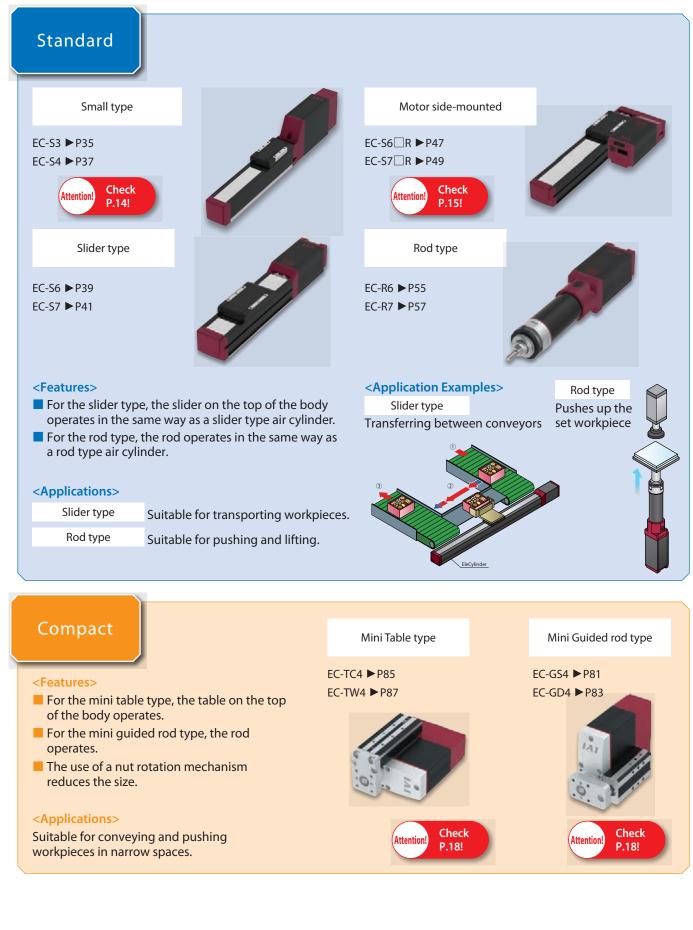
The difference in the rate of power consumption for the **EleCylinder** and air cylinders depends on the operational frequency. The higher the operational frequency, the more effective the energy-saving becomes.

Based on tests conducted by IAI, the **EleCylinder**'s power consumption, under the following conditions is 1/6 that of air cylinders.

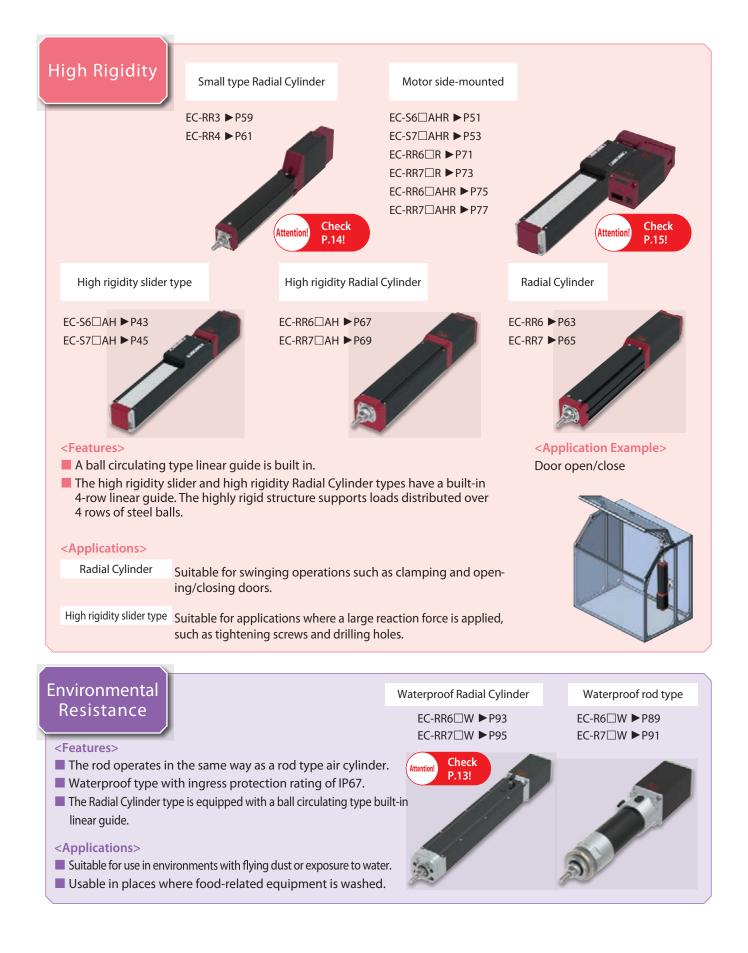
<operational conditions<="" th=""><th>></th></operational>	>								
• EleCylinder: EC-R7	• Acceleration: 0.3G								
● Air cylinder: ø32	● Load: 30kg								
• Stroke: 300mm	 Installation orientation: Horizontal 								
• Speed: 280 mm/s	• Operational hours: 16 hours per day								
• Operation cycle: 30 secor	nds per reciprocating motion								
• Operating days per year: 2	• Operating days per year: 240 days								



EC Models & Features







Features of Waterproof Radial Cylinder & Compact Slider Type / Radial Cylinder

Immersed in water? No problem!

Waterproof type **Radial Cylinder**

Ingress protection Indication

1. The ingress protection rating is IP67.

EC-RR6□W ►P93 EC-RR7□W ► P95

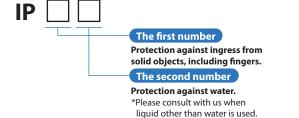
Solid objects : Completely protected from ingress by dust or solid particles.

: No ingression by water, even when immersed

The waterproof 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, with an option. (Option code: G5)* * It cannot be used underwater.

IP67

Description of protection rating



Water

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

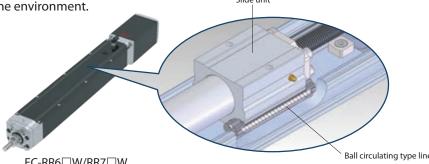
<Application Example> Processing machine door open/close

3. Equipped with a built-in guide.

near machine tools where oil mist scatters.

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

Slide unit



Body widths 35mm and 44mm are now available!

Compact slider type Compact Radial Cylinder



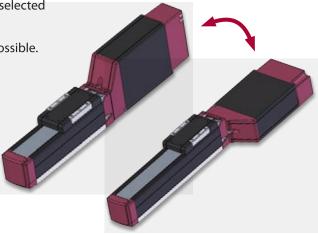
1. Compact and lightweight

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 P101). Retrofit changes of the mounting direction are also possible.



 Features of Side-mounted
 & High Rigidity Slider Type / Radial Cylinder

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.



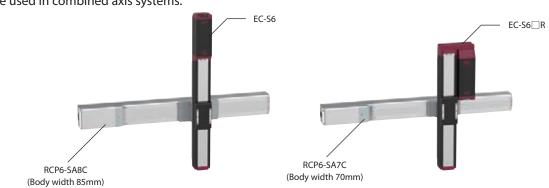
2. No extra space for maintenance is necessary.

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



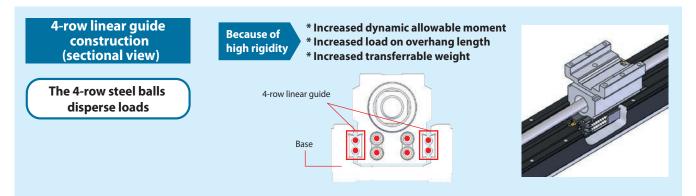
3. Compact combination possible

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

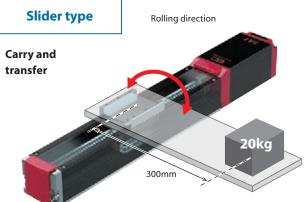


Increased rigidity thanks to the 4-row guide

High Rigidity EleCylinder



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



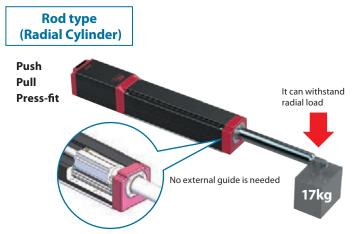
Operational servicce life under these conditions: 58000 km

$\begin{array}{c} \mathsf{EC-S6} \square \mathsf{AH} \blacktriangleright \mathsf{P43} \\ \mathsf{EC-S7} \square \mathsf{AH} \blacktriangleright \mathsf{P45} \end{array}$

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.



EC-RR6 \Box AH ► P67 EC-RR7 \Box AH ► P69

Specifications

	RR6□AH	RR7□AH
Longest stroke	400mm	500mm
Dynamic allowable radial load at the rod tip *	130N	170N

* Assuming a basic rated service life of 5000km.

(Note) Please confirm the conditions specified on P106 before use.

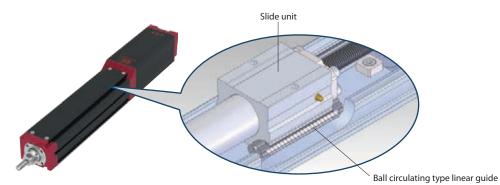
Radial load can be applied without an external guide!

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.

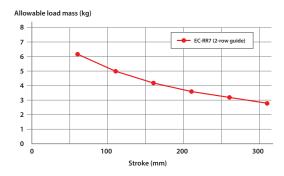
Since it has a built-in linear guide and the rod is supported by the guide, there is no runout to the tip.



(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 4770km. When the load on rod tip is halved, the theoretical service life increases 8-fold.





Theoretical service life: 4770km 7.57 million cycles (when moving 315mm)

With tip weight of 2kg... Theoretical service life: 14547km 23.09 million cycles (when moving 315mm) Palm size

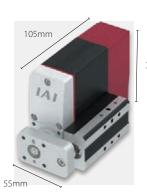
Mini EleCylinder



Mini Guided rod type

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 \times 105mm \times 78mm.

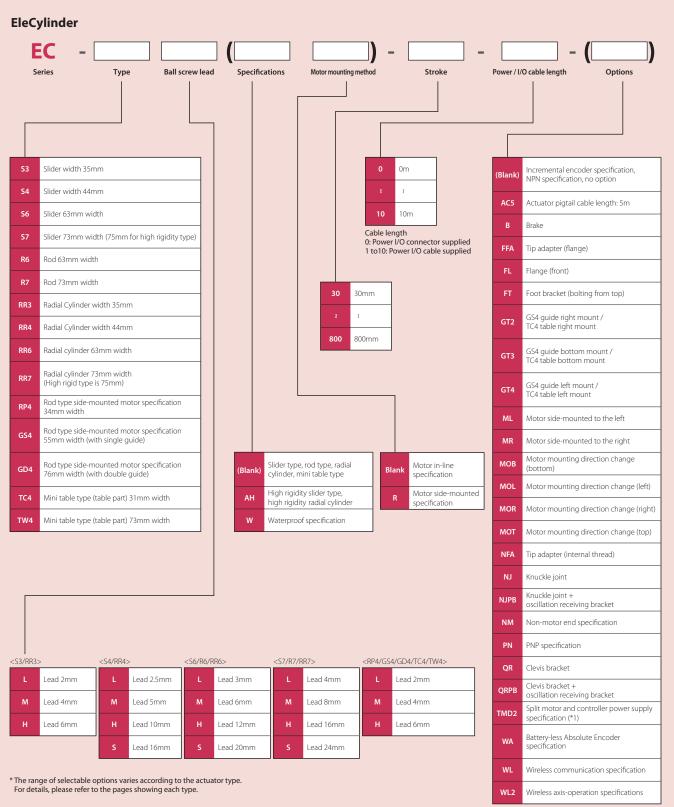


78mm

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

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

Model Specification Items



(*1) If the cable length is 0m, this option is not supported.

Product Lineup

Slider Type

Slider Typ	Je					* S _I	peed limitation	applies to pu			or contact IAI.						
Motor	Туре	External view	Body width	Lead	Positioning repeatability	Stroke	Max. speed	Max. push	Max. pay	load (kg)	Reference						
Motor	Type	External view	(mm)	(mm)	(mm)	(mm)	(mm/s)	force (N)*	Horizontal	Vertical	page						
			* ³⁵ *	6			420	45	3.5	1.5	\frown						
	S3	S	8	4	±0.05	±0.05 50 to 300 (per 50st)	280	68	6	2.5	Р35						
		V	35mm	2			140	136	9	3.5							
			44	16			800	41	7	1.5							
	S4			10	10.05	50 to 300	700	66	12	2.5							
	54			5	±0.05	(per 50st)	350	132	15	5	Р37						
Straight			44mm	2.5			175 <150>	263	18	6.5							
Motor		-	63	20			800	67	15	1							
				12	±0.05	50 to 400	700	112	26	2.5	(-20)						
	S6	-		6		(per 50st)	450	224	32	6	Р39						
			63mm	3			225	449	40	12.5							
		1	1			73	24			860	139	37	3				
	S7			i P	16	10.05	50 to 500	700	209	46	8	241					
	57			8	±0.05	(per 50st)	420	418	51	16	P41						
		-	73mm	4			210 <175>	836	51	19							
			63	20			800	67	15	1							
				12	±0.05	50 to 400	700	112	26	2.5	P47						
	S6⊡R			б	10.05	(per 50st)	450 <400>	224	32	6	P47						
Side- mounted		-	63mm	3			225	449	40	12.5							
Motor			73	24			860	139	37	3							
	57 P			16	±0.05	50 to 500	700	209	46	8	P49						
	S7DR		8	10.05	(per 50st)	420 <350>	418	51	16	P49							
						V			73mm	4			190 <175>	836	51	19	

High Rigidity Slider Type

Figures in < > represent vertical operations.

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

Motor	Туре	External view	Body width	Lead	Positioning repeatability	Stroke	Max. speed	Max. push	Max. pay	load (kg)	Reference		
WOOD	туре	External view	(mm)	(mm)	(mm)	(mm)	(mm/s)	force (N)*	Horizontal	Vertical	page		
			<u>⊨ 63</u>	20			1440 <1280>	67	15	1			
	S6 AH	1		12	±0.05	50 to 800	900	112	26	2.5	P43		
	30 AH			6	10.05	(per 50st)	450	224	32	6	P4J		
Straight			63mm	3			225	449	40	16			
Motor	Motor				75	24			1230	139	37	3	
			t ir - fi	16	±0.05	50 to 800 (per 50st)	980 <840>	209	46	8	P45		
	37 🗆 A Π		8	8			420	418	51	16			
			75mm	4			210 <175>	836	51	25			
			63 m	20			1120	67	15	1			
	S6 AHR			12	±0.05	50 to 800 (per 50st)	900 <800>	112	26	2.5	P51		
				6			450 <400>	224	32	6			
Side- mounted			63mm	3			225	449	40	16			
Motor			75	24			1080 <860>	139	37	3			
S	S7 AHP			16	+0.05	50 to 800	840 <700>	209	46	8	P53		
	J, CAIR	57 AHR	S 75mm	8	±0.05	(per 50st)	420 <350>	418	51	16	-55		
				4			190 <175>	836	51	25			

Figures in < > represent vertical operations.

Product Lineup

Rod Type / Mini Rod Type

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

Motor	Type	External view	Body width	Lead	Positioning repeatability	Stroke	Max. speed	Max. push	Max. pay	load (kg)	Reference							
Motor	туре	External view	(mm)	(mm)	(mm)	(mm)	(mm/s)	force (N)*	Horizontal	Vertical	page							
				6			300	30	2.5	1	\frown							
	RP4		×	4	±0.05	30, 50	200	45	4	1.5	(P 79)							
		,0 ²	34mm	2			100	90	8	2.5	\smile							
Side-				6			300	30	2.5	1	\frown							
mounted Motor	GS4			4	±0.05	30, 50	200	45	4	1.5	(P81)							
		St. St.	55mm	2			100	90	8	2.5	\smile							
	GD4			6			300	30	2.5	1	\frown							
			[≈] (©⊙© • ©)	4	±0.05	30, 50	200	45	4	1.5	(P83)							
			76mm	2			100	90	8	2.5	\smile							
		A	63 H	20			800	67	6	1.5								
	R6			12	±0.05	50 to 300	700	112	25	4	P55							
	NO			6	10.05	(per 50st)	450	224	40	10	222							
Straight		SV	63mm	3			225	449	60	12.5	\sim							
Motor			73	24			860 (640)	182	20	3								
	D7			16	+0.05	50 to 300	700 (560)	273	50	8	P57							
	R7	73mm		8	±0.05	(per 50st)	350	547	60	18	164							
			ST.	A.	D *	N 1	A.	2	21	D.	73mm		4			175	1094	80

Radial Cylinder

Figures in < > represent vertical operations.

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

							peed limitation	applies to pu	sh motion. Se	e the manual	or contact IAI.										
Motor	Туре	External view	Body width	Lead	Positioning repeatability	Stroke	Max. speed	Max. push	Max. pay	load (kg)	Reference										
motor	Type	External view	(mm)	(mm)	(mm)	(mm)	(mm/s)	force (N)*	Horizontal	Vertical	page										
			35	6			420	45	9	1.5	\frown										
	RR3		*	4	±0.05	50 to 300 (per 50st)	280	68	14	2.5	(p59)										
			35mm	2			140	136	18	3.5	\smile										
			<u>r 44</u>	16			800	41	7	1.5											
	RR4	7		10	±0.05	50 to 300	700	66	16	2.5	P61										
	nn+	-		5	20.05	(per 50st)	350	132	25	5											
Straight			44mm	2.5			175 <150>	263	35	6.5											
Motor				-	-	-	-	-		63	20			800	67	6	1.5				
	RR6	3		12	±0.05	65 to 315 (per 50st)	700	112	25	4	P63										
				б	±0.05		450	224	40	10	POS										
			63mm	3			225	449	60	12.5											
				24	±0.05		860 <640>	182	20	3											
	RR7			16		65 to 315 (per 50st)	700 <560>	273	50	8	P65										
	NI17			8			350	547	60	18											
			73mm	4			175	1094	80	19											
													63	20			800	67	6	1.5	
	RR6 R	15		12	±0.05	65 to 315	700	112	25	4	P71										
				6	10.05	(per 50st)	450	224	40	10											
Side- mounted			63mm	3			225	449	60	12.5											
Motor			r ≪ 73 × 1	24			860 <640>	182	20	3											
				16		65 to 315	700 <560>	273	50	8	P73										
	RR7_R		8	±0.05	(per 50st)	320 <280>	547	60	18	P75											
		ST I	73mm	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.

Motor	Type	External view	Body width	Lead	Positioning repeatability	Stroke	Max. speed	Max. push	Max. pay	load (kg)	Reference		
WOLOF	туре	External view	(mm)	(mm)	(mm)	(mm)	(mm/s)	force (N)*	Horizontal	Vertical	page		
			63	20			800	67	6	1.5			
	RR6⊡AH			12	10.05	50 to 400	700	112	25	4	-67		
	ккошап			6	±0.05	(per 50st)	450	224	40	10	Р67		
Straight			63mm	3			225	449	60	20	Ŭ		
Motor			75	24			860 <640>	182	20	3			
	RR7□AH				. In	16	10.05	50 to 500	700 <560>	273	50	8	~~~
				8	±0.05	(per 50st)	350	547	60	18	Р69		
			75mm	4			175	1094	80	28	Ŭ		
		10	⊯ 63 ≽	20			800	67	6	1.5			
	RR6□AHR				12	±0.05	50 to 400	700	112	25	4	-75	
	ккошанк			6	±0.05	(per 50st)	450	224	40	10	Р75		
Side- mounted			63mm	3			225	449	60	20	Ŭ		
Motor			75	24			860 <640>	182	20	3			
	RR7□AHR		. In	16	±0.05	50 to 500	640 <560>	273	50	8			
				8	±0.05	(per 50st)	320 <280>	547	60	18	P77		
	a contraction of the second se	75mm	4			150 <140>	1094	80	28				
									Figures in <	> represent ve	rtical operations		

Mini Table Type

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

							J		applies to pu	5111100001.50	c the manual	or contact int.			
	Motor	Type	External view	Body width	Lead	Positioning repeatability	Stroke	Max. speed	Max. push	Max. pay	load (kg)	Reference			
	WOLDI	Type	External view	(mm)	(mm)	(mm) (mm)	(mm)	(mm/s)	force (N)*	Horizontal	Vertical	page			
			110	78	6			300	30	2.5	1	\frown			
	Side- mounted Motor	TC4		78mm	4	±0.05	30, 50	200	45	4	1.5	(P85)			
			1994 Er		2			100	90	8	2.5				
						1	78	6			300	30	2.5	1	\frown
		TW4		5 0 , 0	4	±0.05	30, 50	200	45	4	1.5	(P87)			
			and the second s	78mm	2			100	90	8	2.5	\smile			

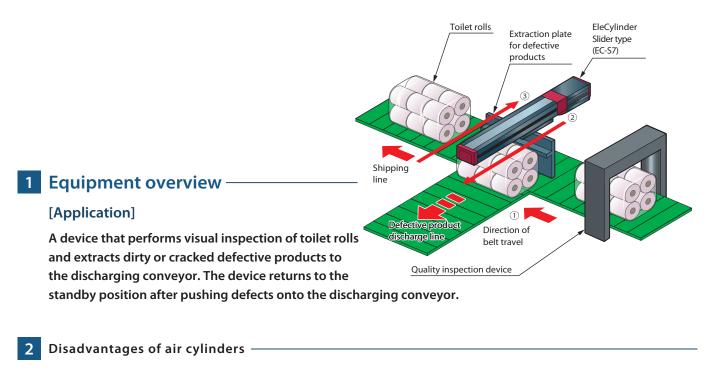
Waterproof Specification

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

	-	External view	Body width	Lead	Positioning	Stroke	Max. speed	Max. push	Max. pay	load (kg)	Reference	
Motor	Type	External view	(mm)	(mm)	repeatability (mm)	(mm)	(mm/s)	force (N)*	Horizontal	Vertical	page	
			63	20			800	67	6	1.5		
	R6□W		1	12	±0.05	50 to 300	700	112	25	4	P89	
	NO_W	ali		6	±0.05	(per 50st)	450	224	40	10	P09	
Straight			63mm	3			225	449	60	12.5		
Motor		R7⊡W	73	24			860 <640>	182	20	3		
				16	±0.05	50 to 300 (per 50st)	700 <560>	273	50	8	P91	
				8	10.05		350	547	60	18		
			73mm	4			175	1094	80	19		
			63	20	±0.05	65 to 315	800	67	6	1.5		
	RR6□W	7		12			700	112	25	4	-02	
					6	±0.05	(per 50st)	450	224	40	10	Р93
Straight		Sec.	63mm	3			225	449	60	12.5		
Motor			73	24			860 <640>	182	20	3		
1			14	16	±0.05	65 to 315	700 <560>	273	50	8	P95	
	RR7□W		8	±0.05	(per 50st)	350	547	60	18	Cer		
		100 M	73mm	4			175	1094	80	19		

Figures in < > represent vertical operations

Application Examples



Disadvantage 1 Velocity could not be set high enough due to the risk of workpieces being flung off the conveyor at high velocity.

Disadvantage 2 Shipping line conveyor was operated at low speed to match the discharging speed.

3 Improvement with EleCylinder implementation

• Smooth acceleration and deceleration even at high velocity means no more workpiece overshoot.

Speed of discharge: Air cylinders 4.2 s \Rightarrow EleCylinder 3.0 s

• Speed of shipping line conveyor was increased.

Shipping line conveyor speed: Air cylinders 4.2m/min \Rightarrow EleCylinder 6m/min

4 Cost reductions achieved with improvement -

Production volume per hour increased by 40% (Conventional) 1500 units → (Improved) 2100 units = Productivity improved by 600 units/hour.

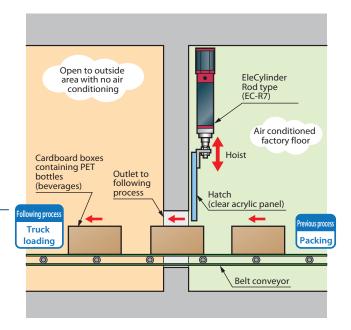
Production volume per day: 15000 (Originally) 10 hours \rightarrow (Improvement) 7.1 hours = Reduction of 2.9 hours per day.

Labor costs: €18 per hour per operator with 230 working days per year 2.9 hours x €18 x 230 days = €12000

Cost reduction of €12000 per year has been achieved.

*Research conducted at IAI Japan. Exchange rate: 100 Yen = 1 €, Euro amounts rounded to the nearest 100 €





1 Equipment overview

[Application]

A device for opening and closing the hatch located at the process where cardboard boxes are conveyed to the shipping platform.

There are five conveyor lines in this factory, using five hatches in total.

2 Disadvantages of air cylinders

Disadvantage 1 Impact at the upper and lower ends damaged the acrylic panels of the hatches, which required annual replacement.

Disadvantage 2

Due to production line HVAC and cycle time issues, the open/close time could not be reduced.

3 Improvement with EleCylinder implementation

Adjustment of velocity achieved fast and smooth open/close motion and eliminated impact damage to the hatches.

4 Cost reductions achieved with improvement

Hatch panel replacement was no longer required, reducing costs as follows.

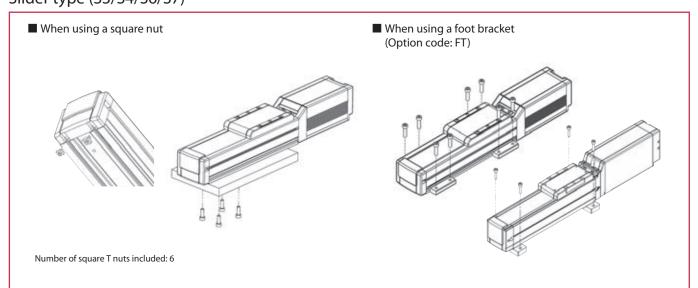
Hatch panel cost: €300 per piece Replacement operation cost: €36 per replacement

Total for five production lines: $(\in 300 + \in 36) \times 5 = \in 1680$

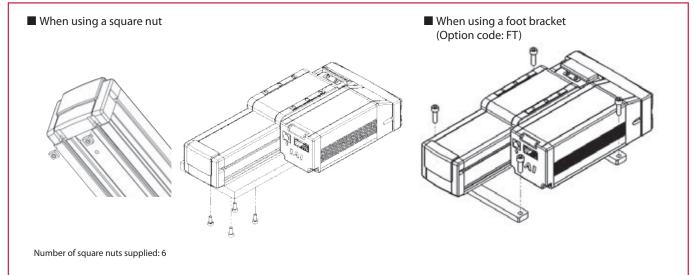
Cost reduction of €1680 per year has been achieved.

*Research conducted at IAI Japan. Exchange rate: 100 Yen = 1 €, Euro amounts rounded to the nearest 100 €

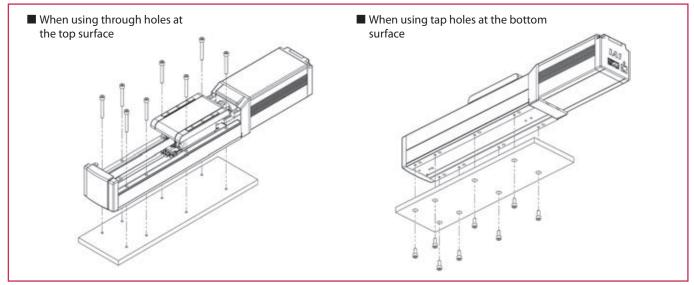
Mounting method Slider type (\$3/\$4/\$6/\$7)



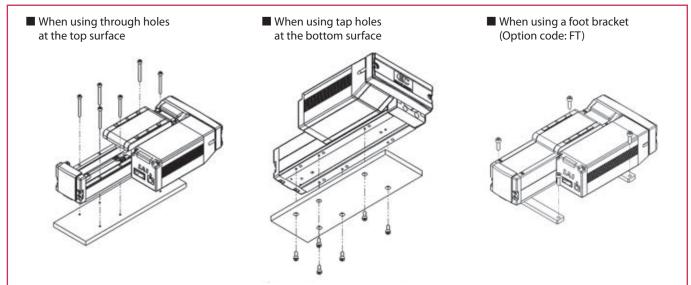
Slider type motor side-mounted specification (S6 \Box R/S7 \Box R)



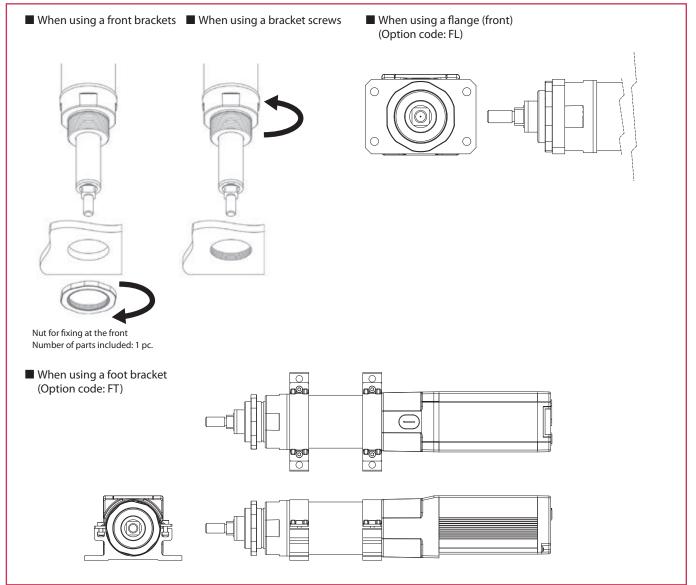
High rigidity slider type (S6 AH/S7 AH)



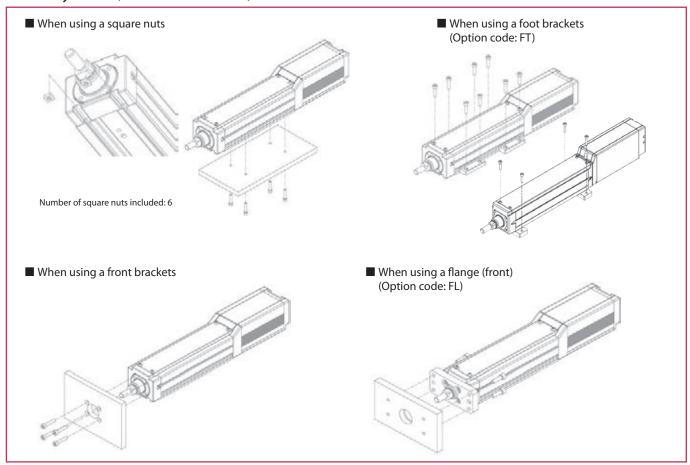
High rigid slider type motor side-mounted specification (S6 AHR/S7 AHR)



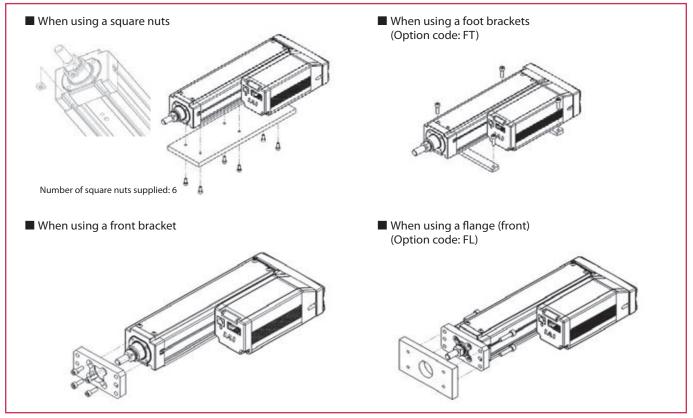
Rod type (R6/R7/R6 W/R7 W)



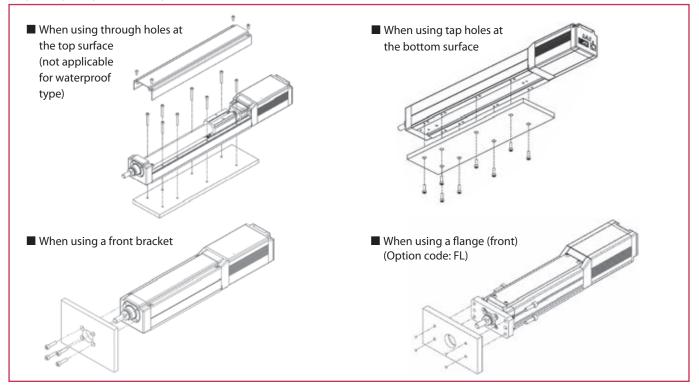
Mounting method Radial Cylinder (RR3/RR4/RR6/RR7)



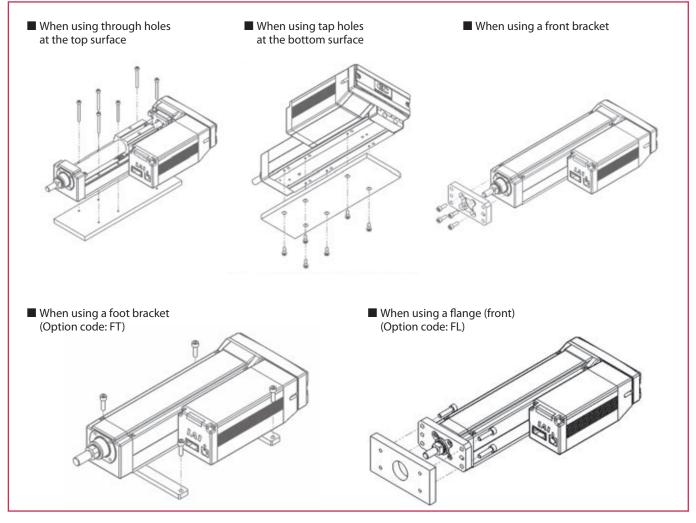
Radial Cylinder motor side-mounted specification (RR6 R/RR7 R)



High Rigidity Radial Cylinder (RR6 AH/RR7 AH/RR6 W/RR7 W)

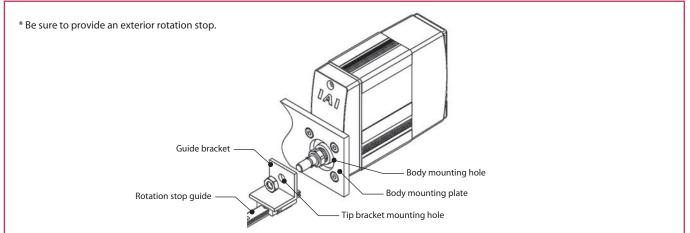


High Rigidity Radial Cylinder motor side-mounted specification (RR6 AHR/RR7 AHR)

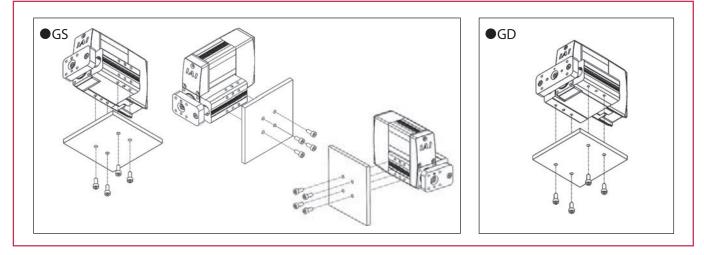


Mounting method

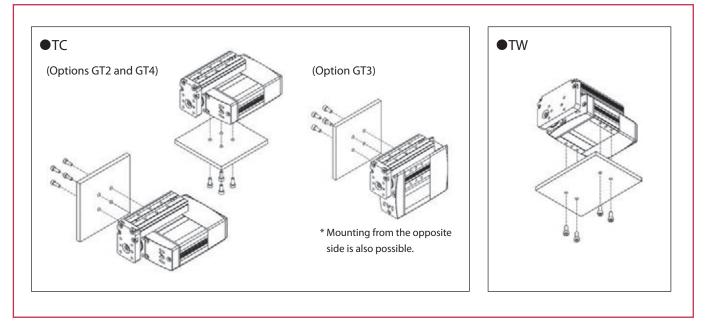
Mini Rod type (RP)



Mini Rod type (GS/GD)



Mini Table type (TC/TW)



Precautions for Installation

Overall

• For vertical mounting, it is recommended to have the motor installed on top. While installing the motor on the bottom will not cause problems during normal operation, after a long period of time the grease can separate, flow into the motor unit, and cause problems on rare occasions.

Slider, High Rigidity Slider, Radial Cylinder, High rigidity Radial Cylinder, Rod (GS4/GD4), Table

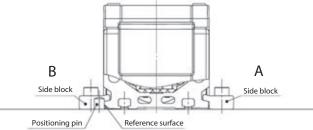
• Keep the body installation surface and workpiece mounting surface flatness at 0.05mm/m or lower. Uneven flatness will increase the slider's sliding resistance and may cause malfunction.

Slider, High Rigidity Slider

 While installation in side and ceiling mount orientations are possible, this may cause slack or misalignment in the stainless steel sheet. Continued use in these orientations can cause the stainless steel sheet to break. Please inspect it daily and adjust the sheet if any slack or misalignment is found.

Slider, Radial Cylinder

- Since the actuator cannot be accurately positioned in the width direction when fixing with side blocks (foot bracket: FT), use positioning pins, etc.
 - To mount:
 - (1) Press the reference surface of the actuator against the positioning pin, etc.
 - (2) Maintaining the pressure, fix side block A on the opposite side.
 - (3) Finally, fix side block B on the positioning pin side.
 - * Note that there may be cases where sufficient fastening force cannot be obtained when mounting with methods other than the procedure above.



Radial Cylinder, High rigidity Radial Cylinder

- It is recommended that when radial load and moment are applied, all of the bottom surface of the base be fixed. When fixing the front bracket, the product body will be deflected or warped due to radial load and moment, causing vibration, shorter service life and troubles.
- For the minimum stroke of the side-mounted specification, when both the brake option and the flange (front) option are selected, the fixing bolts may not go into place because there is no space between the flange mounting surface and the motor.

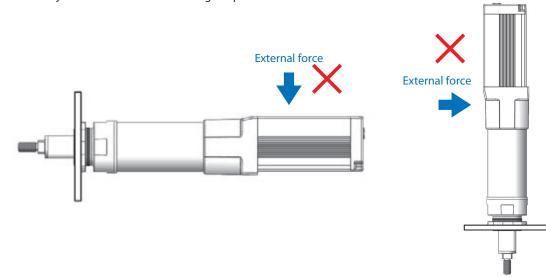
High rigidity slider type side-mounted motor specification, High rigid Radial Cylinder side-mounted motor specification

• For the side-mounted motor specification, the motor side cover cannot be removed when the stroke is 200mm or less. When using the through bolt holes at the top surface, either the front bracket or motor unit assy should be removed. If neither one is removed, please mount it from the top surface by using the foot bracket (option code: FT).

Precautions for Installation

Rod, Radial Cylinder, High rigidity Radial Cylinder

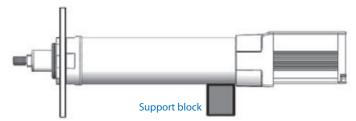
• Do not attempt to apply any external force to the body during front bracket mounting or flange (front) mounting. External force may cause malfunctions or damage to parts.



• When using front bracket mounting, flange (front) mounting, etc., if the device is mounted horizontally, fixed at a single point and has a stroke of 150mm or more, prepare a support block as shown in the figure below even if there is no external force applied on the body.

Even when the stroke is under 150mm stroke, a support block is strongly recommended in order to avoid vibration generated due to the operation conditions or installation environment, which may lead to abnormal operation or damage to parts.

For the support block, we recommend either using the optional foot bracket or keeping the support block (aluminum alloy, etc.) close against the block. The installation position should be on the frame motor side.

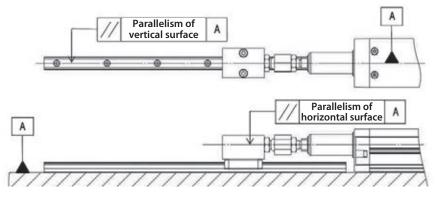


[Notes for using external guide with rod type]

Parallelism of actuator and external guide

When using an external guide, parallel misalignment (in the horizontal and vertical planes) between the actuator and the external guide could result in malfunction, premature wear, or damage to the actuator. When mounting a guide, align the center of the actuator parallel to the guide. Following the installation,

make sure that the sliding resistance is constant over the entire stroke.

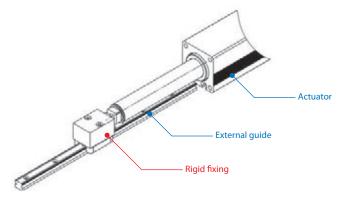


• External guide fixing method

Even when parallelism of the guide and the actuator has been adjusted, incorrect fixing risks premature damage to the actuator. See below:

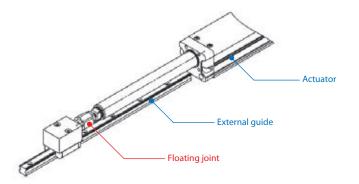
Rod type

The rod type actuator cannot accept a rotational force on the rod. "Rigid fixing" of an external guide is recommended, to restrict rotation of the rod. A "floating joint" which does not restrict rotation of the rod will create force on the rotation stop during operation. This could result in premature wear on the rotation stop. (Floating joints with rotation direction restrictions are acceptable.)



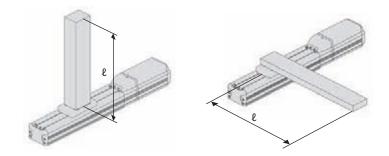
Radial Cylinder, High rigidity Radial Cylinder

"Floating joint" is recommended for the external guide fixing method. The floating joint absorbs the misalignment between the built-in guide and external guide, making adjustment easier. With"rigid fixing," it is difficult to adjust the parallelism between the built-in guide and external guide: even a minute deviation in parallelism applies load to the guide, which may cause premature damage.



Overhang Load Length (l)

When a workpiece or a bracket is mounted at an offset distance from the actuator slider, the overhang load length indicates the recommended offset at which the actuator can operate smoothly. Be sure to keep the overhang load length within the recommended value, as exceeding the recommended value may cause malfunction due to vibration, etc. For details on the numerical values, refer to the applicable page for each model.



Operational Life

Operational life of a linear guide represents the total distance that can be traveled, without flaking, by 90% of a group of products that are operated separately under the same conditions. The operational life calculation method is as follows.

Operational life calculation method

Operational life of a linear guide can be calculated with the following formula using the allowable dynamic moment that is determined for each model.

$$L = \left(\frac{C_{M}}{M}\right)^{3} \cdot URL$$

L: Operational Life (km), C_M: Allowable Dynamic Moment (N·m), M: Acting moment (N·m), URL: Standard rated life (km)

For applications where the operational life may be decreased from vibrations and installation conditions, the operational life is calculated with the following formula.

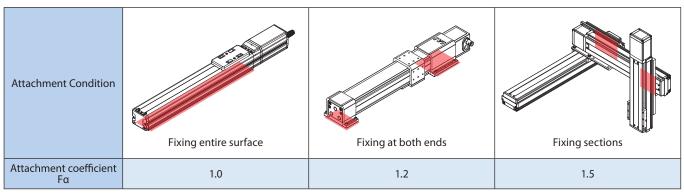
$$L = -\left(\frac{-C_{M}}{-M} \cdot \frac{-f_{WS}}{-f_{W}} \cdot \frac{-1}{-f_{a}}\right)^{3} \cdot URI$$

L: Service Life (km), CM: Allowable Dynamic Moment (N·m), M: Acting moment (N·m), fws: Standard load coefficient, fw: Load coefficient, fa: Attachment coefficient, URL: Standard rated life

The load coefficient f_w is a coefficient for taking into account the decrease in life from operating conditions. The standard load coefficient f_{ws} is a standard value of the load coefficient that is determined for each model. This coefficient is generally 1.2, but in the case that it is not 1.2, it is indicated in the specification of that model. The attachment coefficient f_{α} is a coefficient for taking into account the decrease in life from the attachment condition of the actuator.

Operating Condition	Load coefficient fw	Acceleration/Deceleration Guideline		
Little vibration/impact, slow operation	1.0-1.5	(Less than 1.0G)		
Moderate vibration/impact, sudden braking/acceleration	1.5-2.0	1.0G-2.0G		
Large vibration/impact with sudden acceleration/deceleration	2.0-3.0	(Greater than 2.0G)		

Load Coefficient

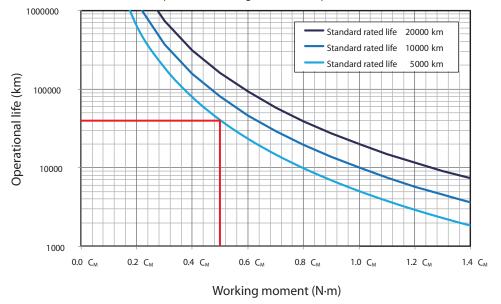


Attachment Coefficient

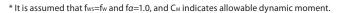
* As a general rule, please use every tapped hole on the mounting surface.

* Even when mounting the entire surface, please use the attachment coefficients of 1.2 or 1.5 depending on the length of the bolt for fixing.

The formula shows that the service life depends on the acting moment. With a light load, the service life will be longer than the standard rated life. For example, when a moment of $0.5C_{M}$ (half of the allowable dynamic moment) acts on a model with a standard rated life of 5000 km, the diagram below shows that the service life becomes 40000 km, which is 8 times the standard rated life.

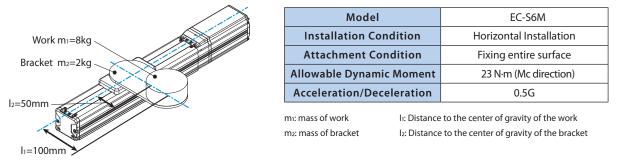


Relationship between working moment and operational life



Example calculation of service life

An example service life will be calculated using the operation conditions below.



Since moment acting in the Mc direction of the actuator is the dominant one, calculation will be made using the moment acting in the Mc direction. Moment acting in the Mc direction is calculated as follows.

$$M = \left(m_1 \times 9.8 \times \frac{I_1}{1000} \right) + \left(m_2 \times 9.8 \times \frac{I_2}{1000} \right) = \left(8 \times 9.8 \times \frac{100}{1000} \right) + \left(2 \times 9.8 \times \frac{50}{1000} \right) = 8.82 \text{ N/m}$$

The load coefficient will be 1.25 since acceleration/deceleration is 0.5G. The attachment coefficient will be 1.0 since the attachment condition is fixing the entire surface. For this model, the allowable dynamic moment in the Mc direction is 23 N·m, the standard rated life is 5000km, and the standard load coefficient is 1.2, so the service life is calculated as follows.

$$L = \left(\frac{C_{M}}{M} \cdot \frac{f_{WS}}{f_{W}} \cdot \frac{1}{f_{a}}\right)^{3} \cdot URL = \left(\frac{23 \text{ N} \cdot \text{m}}{8.82 \text{ N} \cdot \text{m}} \times \frac{1.2}{1.25} \times \frac{1}{1}\right)^{3} \times 5000 \text{ km} = 78444 \text{ km}$$

This shows that the service life for the above operation conditions is 78444 km.

EC-S3				Slider Type	Motor Unit Coupled Straight Motor Body width 35 mm 24v Pulse motor
Model Specification Items					
EC – S3			_		
Series — Type	Lead —	Stroke		Cable Length	- Options
	H 6mm 50 M 4mm	50mm ≀	0	With terminal block type connector	Refer to the Options table below.
	L 2mm 300	300mm (per 50mm)	1 ≀	1m ≀	
			10	10m]
Kerrer RoHS	SI		e o I N Selection Notes	 depending on the acceleration Speed/Acceleration' for more (2) When performing a push-mot between push force and curre to P110 for cautions. (3) Special attention needs to be p for details. (4) Reference value of the overhan Mc directions. Please refer to ti (5) The center of gravity of the att overhang distance. Even where 	tion operation, please refer to the "Correlation int limit value." Push force is only a guide. Please refer paid to the mounting orientation. Please refer to P30 ng load length is under 100mm in the Ma, Mb and he illustration on P32 for the overhang load length. ached object should be less than 1/2 of the n the overhang distance and load moment are within ating conditions should be moderated if some

Options		
Name	Option code	Reference page
Brake	В	See P.97
Foot bracket	FT	See P.99
Motor mounting direction change (bottom) (Note 1)	MOB	See P.101
Motor mounting direction change (left) (Note 1)	MOL	See P.101
Motor mounting direction change (right) (Note 1)	MOR	See P.101
Motor mounting direction change (top) (Note 1)	MOT	See P.101
Non-motor end specification	NM	See P.104
PNP specification	PN	See P.104
Split motor and controller power supply specification	TMD2	See P.105
Battery-less absolute encoder	WA	See P.105
Wireless communication specification	WL	See P.105
Wireless axis-operation specification	WL2	See P.105

Stroke and maximum speed 50-150 (per 50mm) 300 (mm) Lead (mm) 200 (mm) 250 (mm) б 420 300 210 150 280 200 140 100 4 2 140 100 70 50 (Unit is mm/s)

Main specifications

Cable length					
Cable code	Cable length				
0	No cable (with connector)				
1~3	1 ~ 3m				
4~5 4~5m					
6~10 6~10m					
(Note) Bobot cables					

(Note) The above photo shows motor mounting direction top (MOT).

(Note 1) Please make sure to enter a code in the option column of the model spec item.

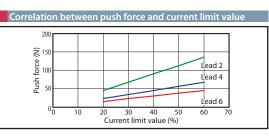
		Description				
Lead		Ball screw lead (mm)	6	4	2	
	Payload	Max. payload (kg)	3.5	6	9	
	a 14	Max. speed (mm/s)	420	280	140	
Horizontal	Speed/ Acceleration/	Min. speed (mm/s)	8	5	3	
	Deceleration/	Rated acceleration/deceleration (G)	0.3	0.3	0.3	
	Deceleration	Max. acceleration/deceleration (G)	0.5	0.3	0.3	
	Payload	Max. payload (kg)	1.5	2.5	3.5	
	Speed/ Acceleration/ Deceleration	Max. speed (mm/s)	420	280	140	
Vertical		Min. speed (mm/s)	8	5	3	
		Rated acceleration/deceleration (G)	0.3	0.3	0.3	
		Max. acceleration/deceleration (G)	0.3	0.3	0.3	
Push force		Max. thrust force when pushing (N)*	45	68	136	
Push force		Max. speed when pushing (mm/s)	20	20	20	
Brake		Brake specification	Non-excitation actuating solenoid brake			
		Brake holding force (kgf)	1.5	2.5	3.5	
Stroke		Min. stroke (mm)	50	50	50	
		Max. stroke (mm)	300	300	300	
		Stroke pitch (mm)	50	50	50	

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

ltem	Description
Driving system	Ball screw ø6mm, Rolling C10
Positioning repeatability	±0.05mm
Lost motion	-
Base	Dedicated aluminum extruded material (A6063SS-T5 or equivalent) Black alumite treatment
Linear guide	Linear motion infinite circulating type
	Ma: 9N ⋅ m
Static allowable moment	Mb: 13N · m
	Mc: 15N ⋅ m
	Ma: 3N · m
Dynamic allowable moment (Note 2)	Mb: 5N · m
	Mc: 6N · m
Ambient operation temperature/ humidity	0 to 40°C, RH 85% or less (Non-condensing)
Degree of protection	IP20
Vibration & shock resistance	4.9m/s ² 100Hz or less
Overseas standards	CE Marking, RoHS (Restriction of Hazardous Substances)
Motor type	Pulse motor
Encoder type	Incremental / battery-less absolute
Number of encoder pulses	800 pulse /rev.

(Note 2) Based on the standard rated operation life of 5000 km. Operation life varies depending on operating and mounting conditions. Confirm the operation life on P33.

Table of Payload by Speed and Acceleration/Deceleration The unit for payload is kg.									
Lead 6 Lead 4				Lead 2					
Orientation	Horizontal Vertical Orientation Horizontal Vertical				Orientation	Horizontal	Vertical		
Speed	Ace	celerat	ion (G)	Speed	Speed Acceleration (G)		Speed	Speed Acceleration (G)	
(mm/s)	0.3	0.5	0.3	(mm/s)	0.3	0.3	(mm/s)	0.3	0.3
0	3.5	3	1.5	0	6	2.5	0	9	3.5
120	3.5	3	1.5	80	6	2.5	40	9	3.5
210	3.5	3	1.5	140	6	2.5	70	9	3.5
255	3.5	3	1.5	170	6	2.5	85	9	3.5
315	3.5	3	1.5	210	6	2.5	105	9	3.5
360	3.5	3	1.5	240	5.5	2.5	120	9	3
420	3	2.5	1	280	4.5	2	140	8	2.5



Direction of slider type moment



Mb (Yawing)

Ĩ



Dimensions by Stroke

Dimensio	ns by Stroke														Mass by	Stroke						
Stroke			100	150	200	250	300	Stroke	50	100	150	200	250	300	St	roke	50	100	150	200	250	300
Incremental	without brake	268	318	368	418	468	518	A	143	193	243	293	343	393	Weight (kg)	without brake	0.7	0.8	0.9	1.0	1.1	1.2
Incrementar	with brake	293	343	393	443	493	543	В	114	164	214	264	314	364	Weight (kg)	with brake	0.8	0.9	1.0	1.1	1.2	1.3
L Battery-less	without brake	293	343	393	443	493	543	J	50	100	150	200	250	300								
absolute	with brake	313	363	413	463	513	563															

. . .

Motor mounting direction change (left): MOL

. . .

Dimensions (Note) When the slider is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches CAD drawings can be downloaded from our website. 2D CAD 3D CAD the M.E. (Note) The drawing below represents motor mounting direction top (MOT). www.elecylinder.de ST: Stroke M.E.: Mechanical end S.E.: Stroke end Grease nipple for Keep 100mm or more ball screws/guide 125 (Without brake) 150 (Battery-less absolute, without brake) 150 (With brake) 170 (Battery-less absolute, with brake) Ø8.9 Opening diameter (6) (1.3) 3.5 2.5 3.4 Fitting Detailed drawing Q 14.5 64 13.5 M.E. M.E. Grease port S.E. Home position 2 33 Allowable (35) moment offset reference positio 25 35 5.5 Sectional view Y-Y Side T slot detail (21) 29 (Reamed hole tolerance ±0.02) 35 Beware of interference with object attached to the slider 45 (Slider top surface) 0 4-M3 depth 6 Status LED 2-ø3 H7 Reamed, depth 5 45 6 ∎œ́c Υ eference surface 17 (Dimension B range) (22) Base mounting surface 25.5 34 М3 Power I/O 35 connector Ø ₽ Υ 12 5.5 2.4 Teaching port 19.2 Oblong hole depth 4 ø3 H7 Reamed depth 4 (from base mounting st Supplied square nut ng surface) (from base mounting surface Ζ (6 pcs. supplied) A Ð Reference surface 3.3 . 5.8 Detailed drawing P Sectional view Z-Z 15.5 Base oblong hole detail (Details of T slot (dimension B) Change of motor mounting direction (optional) Beware of interference with object attached to the slider \downarrow Screw for fixing motor unit 30.5) Status LED Power I/O Status LED (At the slider home position: 45) Power I/O connector Screw for fixing motor unit (3.5) Teaching port ПП (21) 99 45 25.5 (Slider top surface) ۲ 1 6 97 19.2 Teaching port 45 (Slider top surface) 2 Ξ 11.5 25.5 Ξ Motor mounting direction change (top): MOT 65.5 Motor mounting direction change (right): MOR leaching port 35 (10) (Slider top surface 15.8 30.5 Υ Power I/O conn 1 Screw for fixing motor unit Teaching port ۲ (3.5) 45 24 (Slider top surface) Π (30) ŝ ØF: 3 ŝ 1 Screw for fixing motor unit nr Base mounting surface Status LED Status LED Power I/O connector 11.5

Motor mounting direction change (bottom): MOB

Applicable controller

(Note) The EC series is equipped with a built-in controller. Please refer to P111 for details.

65.5

Mod	C – el Specifica EC – eries –	S4 tion Items S4	Lead S 16mm H 10mm M 5mm L 2.5mm		50 2 300	oke S0mm 1 (per S0mm)		Cable Length With terminal block type connector	Motor Unit Coupled Straight Motor —		Pulse motor
Horizontal Side	Ceiling		~	-	9		Selection Notes	 The actuator specifications dis depending on the acceleration Speed/Acceleration' for more. When performing a push-mot between push force and curre to P110 for cautions. Special attention needs to be p for details. Reference value of the overhar Mc directions. Please refer to th The center of gravity of the att overhang distance. Even when the allowable range, the opera abnormal vibration or noise is 	and speed. Please refer to tetails. ion operation, please refer it limit value." Push force is said to the mounting orien og load length is under 100 e illustration on P32 for th sched object should be les the overhang distance an ting conditions should be	"Table of Pa to the "Corre only a guide ntation. Pleas Omm in the M so overhang I so than 1/2 of d load mom	yload by elation e. Please refer e refer to P30 Ma, Mb and load length. f the ent are within
					(Note) The abo photo sh motor m		Γ	Options			
					direction	n				Option	Reference
					top (MO)T).		Name		code	page
Stroke	e and maxin	num speed						Brake		В	See P.97
			250	200				Foot bracket	d	FT	See P.99
Lead (mm)	Energy- saving	50-200 (per 50mm)	(mm)	300 (mm)				Motor mounting direction change		MOB	See P.101
(1111)	disabled	(per 50mm) 800	760	(mm) 540	L			Motor mounting direction change		MOL MOR	See P.101 See P.101
16	enabled	800 <560>	760 <560>	540				Motor mounting direction change		MOR	See P.101 See P.101
	disabled	700	470	320	Cable le	ength		Motor mounting direction change Non-motor end specification	je (top) (Note T)	NM	See P.101 See P.104
10	enabled	525	470	320	Cable code	Cable lend	ath	PNP specification		PN	See P.104 See P.104
<u> </u>	disabled	350	240	160		No cable (with co		Split motor and controller pow	er supply specification	TMD2	See P.104 See P.105
5	enabled	260	240	160	1~3	1 ~ 3m		Battery-less absolute encoder	a supply specification	WA	See P.105
	disabled	175 <150>	120	85	4~5	4 ~ 5m		Wireless communication specif	ication	WL	See P.105
2.5	enabled	135	120	85	6~10	4 ~ 311 6 ~ 10m		Wireless axis-operation specific		WL2	See P.105
	Shabica		120	00	0.0	0.101		(Note 1) Please make sure to enter a			5001.105

disabled enabled Figures in < > represent vertical operations.

Main specifications Description ltem Ball screw lead (mm) Max. payload (kg) (energy-saving disabled) Max. payload (kg) (energy-saving enabled) 2.5 18 14 Lead 16 5 12 10 15 12 7 Payload 4 Max. speed (mm/s) 800 700 350 175 Horizontal Speed/ Acceleration/ Deceleration Min. speed (mm/s) Rated acceleration/deceleration (G) 40 30 0.3 4 0.3 0.3 0.3 Max. acceleration/deceleration (G) Max. payload (kg) (energy-saving disabled) 1 1 0.5 0.3 1.5 2.5 5 6.5 Payload Max. payload (kg) (energy-saving enabled) 4.5 6.5 2 Max. speed (mm/s) Min. speed (mm/s) 700 30 800 350 150 Vertical Speed/ Acceleration/ Deceleration 40 4 Rated acceleration/deceleration (G) 0.3 0.3 0.3 0.3 Max. acceleration/deceleration (G) Max. thrust force when pushing (N)* 0.5 0.5 0.5 0.3 132 41 66 263 Push force Max. speed when pushing (mm/s) 40 30 20 20 Non-excitation actuating Brake specification Brake solenoid brake Brake holding force (kgf) 1.5 2.5 5 6.5 Min. stroke (mm) 50 50 50 50 Stroke Max. stroke (mm) 300 300 300 300 50 50 50 50 Stroke pitch (mm) * Speed limitation applies to push motion. See the manual or contact IAI.

(Unit is mm/s)

(Note) Robot cables.

Item	Description					
Driving system	Ball screw ø8mm, Rolling C10					
Positioning repeatability	±0.05mm					
Lost motion	-					
Base	Dedicated aluminum extruded material (A6063SS-T5 or equivalent) Black alumite treatment					
Linear guide	Linear motion infinite circulating type					
	Ma: 13N·m					
Static allowable moment	Mb: 18N · m					
	Mc: 25N · m					
	Ma: 5N · m					
Dynamic allowable moment (Note 2)	Mb: 7N · m					
(Note 2)	Mc: 9N · m					
Ambient operation temperature/humidity	0 to 40°C, RH 85% or less (Non-condensing)					
Degree of protection	IP20					
Vibration & shock resistance	4.9m/s ² 100Hz or less					
Overseas standards	CE Marking, RoHS (Restriction of Hazardous Substances)					
Motor type	Pulse motor					
Encoder type	Incremental / battery-less absolute					
Number of encoder pulses	800 pulse /rev.					

(Note 1) Please make sure to enter a code in the option column of the model spec item

Table of Payload by Speed and Acceleration/Deceleration

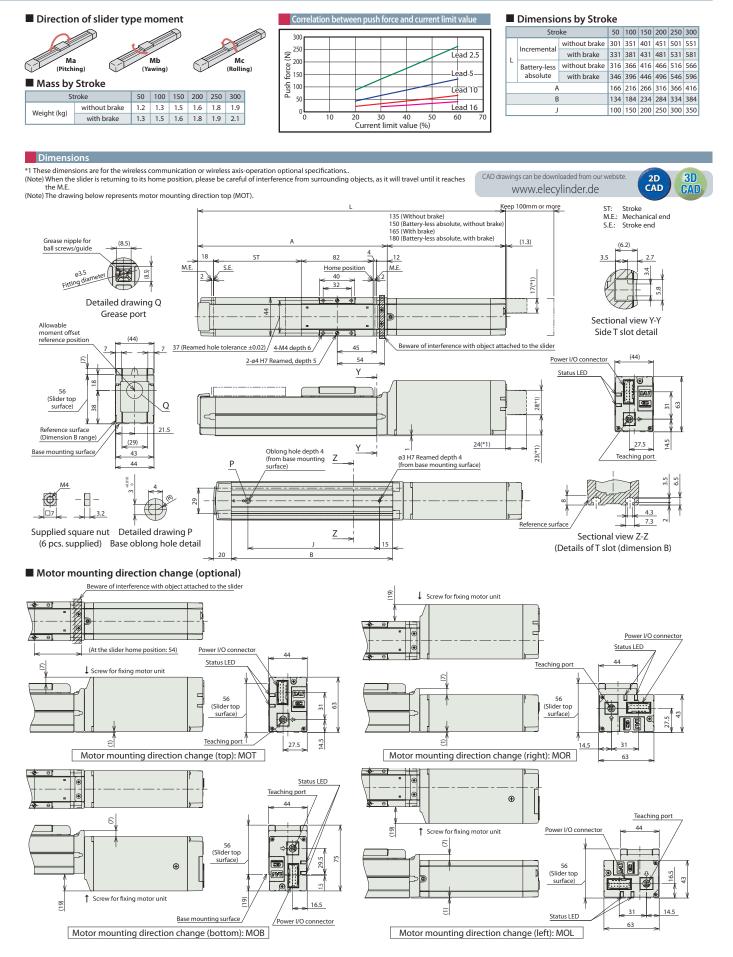
Energy-saving disabled

Energy-saving disabled																					
	The unit for payload is kg. Operations in the blank locations are not possible																				
Lead 16 Lead 10										Lead	5				Lead	2.5					
Orientation	ation Horizontal Vertical			rtical	Orientation	Horizontal			Vertical		Orientation	Horizontal Vertical		tical	Posture	Horizontal	Vertical				
Speed	eed Acceleration (G)				Speed		Aco	celera	ation	(G)		Speed	Acc	elerat	ion (G)	Speed	Accelerat	ion (G)		
(mm/s)	0.3	0.5	0.7	1	0.3	0.5	(mm/s)	0.3	0.5	0.7	1	0.3	0.5	(mm/s)	0.3	0.5	0.3	0.5	(mm/s)	0.3	0.3
0	7	6	6	5	1.5	1.25	0	12	11	10	10	2.5	2	0	15	14	5	4.5	0	18	6.5
140	7	6	6	5	1.5	1.25	175	12	11	10	10	2.5	2	85	15	14	5	4.5	40	18	6.5
280	7	6	6	5	1.5	1.25	350	12	11	10	9	2.5	2	130	15	14	5	4.5	85	18	6.5
420	7	6	6	5	1.5	1.25	435	12	11	9	8	2.5	2	215	15	14	5	4.5	105	18	6.5
560	7	6	5.5	5	1.5	1.25	525	11	9	7	6	2	2	260	15	14	5	4.5	135	18	6.5
700	6	5	4.5	4	1.5	1.25	600	10	7	5	4.5	2	1.5	300	15	14	4.5	4	150	18	6
800		4	3.5	3		1	700		4	2.5	2.5		1	350	13	12	4	3.5	175	18	

Energy-saving enabled

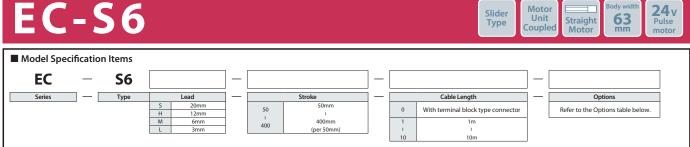
En	The unit for payload is kg. Operations in the blank locations are not possible													
Lead				Lead		-	perat	Lead		K IOCAI	Lead 2.5			
Orientation	Horiz	ontal	Vertical	Orientation	Horiz	zontal	Vertical	Orientation	Horizontal	Vertical	Orientation	Horizontal	Vertical	
Speed	Acc	celerat	ion (G)	Speed	Acceleration (G)		Speed	Acceleration (G)		Speed	Accelerat	ion (G)		
(mm/s)	0.3	0.7	0.3	(mm/s)	0.3	0.7	0.3	(mm/s)	0.3	0.3	(mm/s)	0.3	0.3	
0	4	3.5	1	0	10	8	2	0	12	4.5	0	14	6.5	
140	4	3.5	1	175	10	8	2	85	12	4.5	40	14	6.5	
280	4	3.5	1	350	9	6	2	130	12	4	85	14	6.5	
420	4	3.5	1	435	7	5	1.5	215	10	4	105	14	6.5	
560	4	3	1	525	5	2.5	1	260	9	2.5	135	14	5	
700	3	2												
800		1												





Applicable controller

<u>EC-S6</u>



C E RoHS Horizontal Vertica \neg Side Ceiling



Cable lengt

1 ~ 3m

4 ~ 5m

6~10m

No cable (with cor

- OIN, electio Notes
- (1) The actuator specifications display the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to "Table of Payload by Speed/Acceleration" for more details.
 - When performing a push-motion operation, please refer to the "Correlation between push force and current limit value." Push force is only a guide. Please refer to P110 for cautions.
 - (3) Depending on the ambient operating temperature, duty control is necessary. Please refer to P110 for details.
 (4) Special attention needs to be paid to the mounting orientation. Please refer to P30
 - for details.
 - tor details.
 (5) Reference value of the overhang load length is under 220mm in the Ma, Mb and Mc directions. Please refer to the illustration on P32 for the overhang load length.

Reference page

See P.97

See P.99

See P.104

See P.104

See P.105

See P.105

See P.105

See P.105

	Туре	Option code
	Brake	В
	Foot bracket	FT
	Non-motor end specification	NM
th	PNP specification	PN
nnector)	Split motor and controller power supply specification	TMD2
	Battery-less Absolute Encoder specification	WA
	Wireless communication specification	WL
	Wireless axis-operation specification	WL2

Options

	010	
(Note)	Robot cables	

Cable Length

Cable code

0 1~3

4~5

6 - 10

Main specifications

		Description					
Lead		Ball screw lead (mm)	20	12	6	3	
	Devile e d	Max. payload (kg) (energy-saving disabled)	15	26	32	40	
	Payload	Max. payload (kg) (energy-saving enabled)	8	14	20	25	
Horizontal	Concerd (Max. speed (mm/s)	800	700	450	225	
HOHZOHILdi	Speed/ acceleration/	Min. speed (mm/s)	25	15	8	4	
	deceleration/	Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3	
	deceleration	Max. accleration/deceleration (G)	1	1	1	1	
		Max. payload (kg) (energy-saving disabled)	1	2.5	6	12.5	
	Payload	Max. payload (kg) (energy-saving enabled)	0.75	2	5	10	
Vertical	c 1/	Max. speed (mm/s)	800	700	450	225	
	Speed/ acceleration/	Min. speed (mm/s)	25	15	8	4	
	deceleration/	Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3	
	deceleration	Max. accleration/deceleration (G)	0.5	0.5	0.5	0.5	
Push force		Pushing max. thrust force (N)*	67	112	224	449	
Pushiorce		Pushing max. speed (mm/s)	20	20	20	20	
Brake		Brake holding specification	Non-excitation actuating solenoid brake				
		Brake holding force (kgf)	1	2.5	6	12.5	
		Min. stroke (mm)	50	50	50	50	
Stroke		Max. stroke (mm)	400	400	400	400	
		Stroke pitch (mm)	50	50	50	50	
		* Speed limitation applies to push mot	ion. See	the man	ual or co	ontact IA	

Item	Description					
Driving system	Ball screw ø10mm, Rolling C10					
Positioning repeatability	±0.05mm					
Lost motion	-					
Base	Dedicated aluminum extruded material (A6063SS-T5 Equivalent) Black alumite treatment					
Linear guide	Linear motion infinite circulating type					
	Ma: 48N·m					
Static allowable moment	Mb: 69N • m					
	Mc: 97N ⋅ m					
Dynamic allowable	Ma: 11N·m					
Dynamic allowable moment (Note 1)	Mb: 16N·m					
moment (Note 1)	Mc: 23N · m					
Ambient operation temperature/humidity	0~40°C, 85%RH or less (Non-condensing)					
Degree of protection	IP20					
Vibration & shock resistance	4.9m/s ² 100Hz or less					
Overseas standards	CE marking, RoHS (Restriction of Hazardous Substances)					
Motor type	Pulse motor					
Encoder type	Incremental / battery-less absolute					
Number of encoder pulses	800 pulse/rev					

(Note 1) Based on the standard rated operation life of 5000 km. Operation life varies according to operating and mounting conditions. Confirm the operation life on P33.

Table of Payload by Speed/Acceleration

Setting for energy-saving disabled Unit for payload is kg. Operations on the blank locations are not possible.

Lead 20							L
Orientation		Horizo	ntal	Ver	Vertical		
Speed							
(mm/s)	0.3	0.5	0.7	1	0.3	0.5	
0	15	10	8	7	1	1	
160	15	10	8	7	1	1	
320	12	10	8	6	1	1	
480	12	9	8	6	1	1	
640	12	8	6	5	1	1	
800	10	6.5	4.5	3	1	1	

Lead 12										
Orientation		Horiz	ontal		Vertical					
Speed	Acceleration (G)									
(mm/s)	0.3	0.5	0.7	1	0.3	0.5				
0	26	18	16	14	2.5	2.5				
80	26	18	16	14	2.5	2.5				
200	26	18	16	14	2.5	2.5				
320	26	18	14	12	2.5	2.5				
440	26	18	12	10	2.5	2.5				
560	20	12	8	7	2.5	2.5				
700	15	9	5	4	2	1				

Lead 6										
Orientation		Horiz	Vertical							
Speed	Acceleration (G)									
(mm/s)	0.3	0.5	0.7	1	0.3	0.5				
0	32	26	24	20	6	6				
40	32	26	24	20	6	6				
100	32	26	24	20	6	6				
160	32	26	24	20	6	6				
220	32	26	24	20	6	6				
280	32	26	24	15	6	5.5				
340	32	20	18	12	5	4.5				
400	22	12	11	8	3.5	3.5				
450	15	8	6	4	2	2				

Orientation		Horiz	ontal		Ver	tical
Speed		,	Accele	ratio	n (G)	
(mm/s)	0.3	0.5	0.7	1	0.3	0.5
0	40	35	35	35	12.5	12.5
50	40	35	35	35	12.5	12.5
80	40	35	35	30	12.5	12.5
110	40	35	35	30	12.5	12.5
140	40	35	35	28	12.5	12.5
170	40	32	32	24	12.5	12
200	35	28	23	20	10	9
225	28	20	16	12	6	



Setting for energy-saving enabled

Lead 20

Orientation	Horiz	Vertical	
Speed	A	cceleratio	n (G)
(mm/s)	0.3	0.7	0.3
0	8	5	0.75
160	8	5	0.75
320	8	5	0.75
480	8	4	0.75
640	6	3	0.75
800	4	1.5	0.75

Lead 12			
Orientation	Horiz	ontal	Vertical
Speed	Ac	celeration	n (G)
(mm/s)	0.3	0.7	0.3
0	14	10	2
80	14	10	2
200	14	10	2
320	14	10	2
440	11	7	1.5
560	7	2.5	1
680	4	1	0.5

Lead

16			
Orientation	Horiz	ontal	Vertical
Speed	Ac	celeration	n (G)
(mm/s)	0.3	0.7	0.3
0	20	14	5
40	20	14	5
100	20	14	5
160	20	14	5
220	16	14	4
280	13	7	2.5
340	10	1	1

C lii

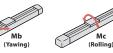
Lead 3

.edu 5						
Orientation	Horizontal		Vertical			
Speed	Ac	Acceleration (G)				
(mm/s)	0.3	0.7	0.3			
0	25	22	10			
20	25	22	10			
50	25	22	10			
80	25	22	10			
110	20	14	8			
140	15	11	5			
170	11	9	2			

Direction of slider type moment

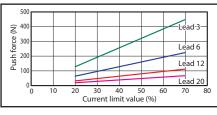


Dimensions



Stroke and maximum speed							
Lead (mm)	Energy- saving mode	50-200 (mm) (per 50mm)	250 (mm)	300 (mm)	350 (mm)	400 (mm)	
20	Disabled		800		727	566	
20	Enabled	800			727	566	
12	Disabled	700		521	392	305	
12	Enabled	680		521	392	305	
6	Disabled	450	371	265	199	155	
6 Enabled		340	265	199	155		
3	Disabled	225	188	134	100	78	
د	Enabled	170		134	100	78	
					(Unit	is mm/s)	

orrelation	between	push	force	and	current	
mit value						



CAD drawings can be downloaded from our website. 3D CAD 2D CAD (Note) When the slider is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the M.E. www.elecylinder.de Must be 100 or more 118 (W/o brake) 158 (With brake) <u>(1.3)</u> ST: Stroke M.E.: Mechanical end S.E.: Stroke end 12 110 20. S٦ 3 (12.5) M.E. S.E. Grease fitting for ball screw/guid 59 (9.5) • Q interior 2-ø5 H7 reamed, depth 5 Power / I/O connector Greasing port Status LED 27.5 4-M5 depth 10 51 (Reamed hole tolerance ± 0.02) Ξ Teaching port Allowable moment offset reference position (59) to the second se DAD 11.5 42 63 Q (63) ø4 H7 reamed, depth 5 Reference surface (from base mounting surface) 31 (Dimension B range) 4.3 (38) Base mounting surface <u>z</u> ____ 3.2 17.5 4.3 20.5 Reference surface Detailed view of P _]``[__7.3 Supplied square nut (6 pieces supplied) Details of base oblong hole Cross section of Z-Z Details of T-slot (Dimension B range)

Dimensions by stroke

	Stroke	50	100	150	200	250	300	350	400
	W/o Brake	333	383	433	483	533	583	633	683
Ľ	With Brake	373	423	473	523	573	623	673	723
	A	215	265	315	365	415	465	515	565
	В	177	227	277	327	377	427	477	527
	J	100	150	200	250	300	350	400	450

Mass by stroke									
Strok	e	50	100	150	200	250	300	350	400
Mainht (ka)	W/o Brake	1.8	2.0	2.2	2.4	2.6	2.8	3.0	3.2
weight (kg)	With Brake	2.0	2.2	2.4	2.6	2.8	3.0	3.2	3.4
	· · ·	Stroke Weight (kg) W/o Brake	Stroke 50 Weight (kg) W/o Brake 1.8	Stroke 50 100 Weight (kg) W/o Brake 1.8 2.0	Stroke 50 100 150 Weight (kg) W/o Brake 1.8 2.0 2.2	Stroke 50 100 150 200 Weight (kg) W/o Brake 1.8 2.0 2.2 2.4	Stroke 50 100 150 200 250 Weight (kg) W/o Brake 1.8 2.0 2.2 2.4 2.6	Stroke 50 100 150 200 250 300 Weight (kg) W/o Brake 1.8 2.0 2.2 2.4 2.6 2.8	Stroke 50 100 150 200 250 300 350 Weight (kg) W/o Brake 1.8 2.0 2.2 2.4 2.6 2.8 3.0

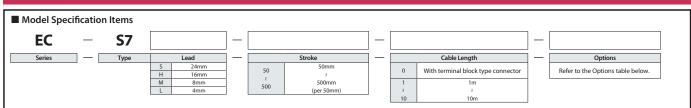
Applicable controller

EC-S7

Body widt

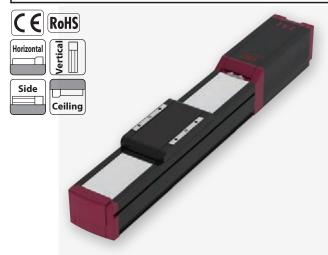
73

24v Pulse motor



electio

Notes



(1) The actuator specifications display the payload's maximum value, but it will vary
depending on the acceleration and speed. Please refer to "Table of Payload by
Speed/Acceleration" for more details.

- (2) When performing a push-motion operation, please refer to the "Correlation between push force and current limit value." Push force is only a guide. Please refer to P110 for details. OIN,
 - (3) Depending on the ambient operating temperature, duty control is necessary. Please refer to P110 for details.
 - (4) Special attention needs to be paid to the mounting orientation. Please refer to P30 for details.
 - (5) Reference value of the overhang load length is under 280mm in the Ma, Mb and Mc directions. Please refer to the illustration on P32 for the overhang load length.

Options		
Туре	Option code	Reference page
Brake	В	See P.97
Foot bracket	FT	See P.99
Non-motor end specification	NM	See P.104
PNP specification	PN	See P.104
Split motor and controller power supply specification	TMD2	See P.105
Battery-less Absolute Encoder specification	WA	See P.105
Wireless communication specification	WL	See P.105
Wireless axis-operation specification	WL2	See P.105

Cable Length	
Cable code	Cable length
0	No cable (with connector)
1~3	1 ~ 3m
4~5	4 ~ 5m
6~10	6 ~ 10m

(Note) Robot cables.

Main specifications

	Item		Descr	iption	
	Ball screw lead (mm)	24	16	8	4
Davidaard	Max. payload (kg) (energy-saving disabled)	37	46	51	51
Payloau	Max. payload (kg) (energy-saving enabled)	18	35	40	40
Speed/	Max. speed (mm/s)	860	700	420	210
	Min. speed (mm/s)	30	20	10	5
	Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
uecelelation	Max. accleration/deceleration (G)	1	1	1	1
	Max. payload (kg) (energy-saving disabled)	3	8	16	19
Payload	Max. payload (kg) (energy-saving enabled)	2	5	10	15
Vertical Speed/	Max. speed (mm/s)	860	700	420	175
	Min. speed (mm/s)	30	20	10	5
	Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
deceleration	Max. accleration/deceleration (G)	0.5	0.5	0.5	0.5
	Pushing max. thrust force (N)*		209	418	836
	Pushing max. speed (mm/s)		20	20	20
	Brake holding specification	Non-excitation actuation solenoid brake			
	Brake holding force (kgf)	3	8	16	19
	Min. stroke (mm)	50	50	50	50
	Max. stroke (mm)	500	500	500	500
	Stroke pitch (mm)	50	50	50	50
		Ball screw lead (mm) Payload Max. payload (kg) (energy-saving disabled) Max. payload (kg) (energy-saving enabled) Max. speed (mm/s) scceleration/ Max. speed (mm/s) Rated acceleration/deceleration (G) Max. payload (kg) (energy-saving disabled) Payload Max. speed (mm/s) Rated acceleration/deceleration (G) Max. payload (kg) (energy-saving disabled) Speed/ acceleration/ Max. payload (kg) (energy-saving disabled) Max. payload (kg) (energy-saving enabled) Max. payload (kg) (energy-saving enabled) Max. payload (kg) (energy-saving disabled) Max. speed (mm/s) Rated acceleration/deceleration (G) Max. sceleration/deceleration (G) Pushing max. speed (mm/s) Rated acceleration/deceleration (G) Pushing max. speed (mm/s) Brake holding specification Brake holding specification Brake holding force (kgf) Min. stroke (mm) Max.stroke (mm)	Ball screw lead (mm) 24 Payload Max. payload (kg) (energy-saving disabled) 37 Max. payload (kg) (energy-saving enabled) 18 Speed/ acceleration/ deceleration Max. speed (mm/s) 860 Min. speed (mm/s) 30 Rated acceleration/deceleration (G) 0.3 Max. appload (kg) (energy-saving disabled) 3 Payload Max. cacleration/deceleration (G) 1 Max. payload (kg) (energy-saving disabled) 3 Max. payload (kg) (energy-saving disabled) 3 Max. payload (kg) (energy-saving enabled) 2 Max. speed (mm/s) 860 Min. speed (mm/s) 30 Rated acceleration/deceleration (G) 0.3 Max. accleration/deceleration (G) 0.5 Pushing max. speed (mm/s) 20 Brake holding specification Non- Brake holding specification Non- Brake holding force (kgf) 3 Min. stroke (mm) 500	Ball screw lead (mm) 24 16 Payload Max. payload (kg) (energy-saving disabled) 37 46 Max. payload (kg) (energy-saving enabled) 18 35 Speed/ acceleration/ deceleration/ deceleration Max. speed (mm/s) 30 20 Max. aspeed (mm/s) 30 20 30.3 0.3 Max. accleration/deceleration (G) 0.3 0.3 0.3 Max. accleration/deceleration (G) 1 1 1 Payload Max. payload (kg) (energy-saving disabled) 3 8 Max. payload (kg) (energy-saving disabled) 3 8 700 Max. payload (kg) (energy-saving enabled) 2 5 Speed/ acceleration/ dece	Ball screw lead (mm) 24 16 8 Payload Max. payload (kg) (energy-saving disabled) 37 46 51 Max. payload (kg) (energy-saving disabled) 37 46 51 Max. payload (kg) (energy-saving enabled) 18 35 40 Speed/ acceleration/ deceleration Max. speed (mm/s) 30 20 10 Rated acceleration/deceleration (G) 0.3 0.3 0.3 0.3 Payload Max. payload (kg) (energy-saving disabled) 3 8 16 Max. payload (kg) (energy-saving enabled) 2 5 10 Speed/ acceleration/ deceleration/ deceleration/ deceleration/deceleration (G) 0.3 0.3 0.3 Max. speed (mm/s) 30 20 10 10 Rated acceleration/deceleration (G) 0.5 0.5 5

ltem	Description		
Driving system	Ball screw ø12mm, Rolling C10		
Positioning repeatability	±0.05mm		
Lost motion	-		
Base	Dedicated aluminum extruded material (A6063SS-T5 Equivalent) Black alumite treatment		
Linear guide	Linear motion infinite circulating type		
	Ma: 79N · m		
Static allowable moment	Mb: 114N • m		
	Mc: 157N · m		
Dumonia allaurable	Ma: 17N·m		
Dynamic allowable moment (Note 1)	Mb: 25N • m		
moment (Note 1)	Mc: 34N ⋅ m		
Ambient operation temperature/humidity	0~40°C, 85%RH or less (Non-condensing)		
Degree of protection	IP20		
Vibration & shock resistance	4.9m/s ² 100Hz or less		
Overseas standards	CE marking, RoHS (Restriction of Hazardous Substances)		
Motor type	Pulse motor		
Encoder type	Incremental / battery-less absolute		
Number of encoder pulses	800 pulse/rev		

(Note 1) Based on the standard rated operation life of 5000 km. Operation life varies according to operating and mounting conditions. Confirm the operation life on P33.

Table of Payload by Speed/Acceleration

Setting for energy-saving disabled Unit for payload is kg. Operations on the blank locations are not possible.

Lead 24						
Orientation		Horizo	Ver	tical		
Speed		Ac	celerat	ion	(G)	
(mm/s)	0.3	0.5	0.7	1	0.3	0.5
0	37	22	16	14	3	3
200	37	22	16	14	3	3
420	34	20	16	14	3	3
640	20	15	10	9	3	3
860	12	10	7	4	3	2.5

Lead 16						
Orientation		Horiz	Ver	tical		
Speed		Acceleration (G)				
(mm/s)	0.3	0.5	0.7	1	0.3	0.5
0	46	35	28	27	8	8
140	46	35	28	27	8	8
280	46	35	25	24	8	8
420	34	25	15	10	5	4.5
560	20	15	10	6	4	3
700	15	10	5	3	3	2

Lead 8						
Posture		Horiz		Vertical		
Speed		A	ccelera	tion (G)	
(mm/s)	0.3	0.5	0.7	1	0.3	0.5
0	51	45	40	40	16	16
70	51	45	40	40	16	16
140	51	40	38	35	16	16
210	51	35	30	24	10	9.5
280	40	28	20	15	8	7
350	30	9	4		5	4
420	7				2	

Lead 4						
Orientation		Horizontal				tical
Speed		1	Accele	ratior	n (G)	
(mm/s)	0.3	0.5	0.7	1	0.3	0.5
0	51	45	40	40	19	19
35	51	45	40	40	19	19
70	51	45	40	40	19	19
105	51	45	40	35	19	19
140	45	35	30	25	14	12
175	30	18			9	7.5
210	6					



Setting for energy-saving enabled Unit for

l ead	24
Leau	24

Lead 24						
Orientation	Horizontal Vertie		Vertical			
Speed	Acceleration (G)					
(mm/s)	0.3	0.7	0.3			
0	18	10	2			
200	18	10	2			
420	18	10	2			
640	10	2	1			

Init for payload	is kg.							
ead 16								
Orientation	Horiz	ontal	Vertical					
Speed	Acceleration (G)							
(mm/s)	0.3	0.7	0.3					
0	35	20	5					
140	35	20	5					
280	25	12	3					
420	15	6	1.5					
560	7	0.5	0.5					

Lea

id 8							
Orientation	Horizontal Vertical						
Speed	Acceleration (G)						
(mm/s)	0.3	0.7	0.3				
0	40	25	10				
70	40	25	10				
140	40	25	7				
210	25	14	4				
280	10	1	1.5				

Lead 4

Orientation	Horiz	Vertical			
Speed (mm/s)	Acceleration (G)				
(mm/s)	0.3	0.7	0.3		
0	40	30	15		
35	40	30	15		
70	40	30	15		
105	40	30	8		
140	15	6	2		

Direction of slider type moment

6

5

0.5

0.5

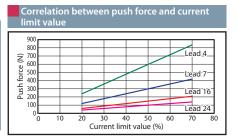


800

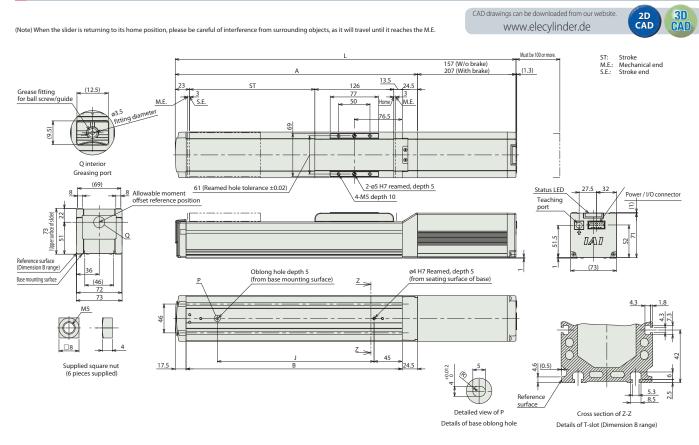


Mc (Rolling)

Lead (mm)	Energy- saving mode	50-300 (mm) (per 50mm)	350 (mm)	400 (mm)	450 (mm)	500 (mm)
24	Disabled	860		774	619	506
24	Enabled	800		774	619	506
16	Disabled	700	631	492	395	323
10	Enabled	560	492	395	323	
8	Disabled	420	322	251	200	164
0	Enabled	280	280		200	164
4	Disabled	210<175>	163	126	101	83
4	Enabled	140		126	101	83



Dimensions



Dimensions by stroke

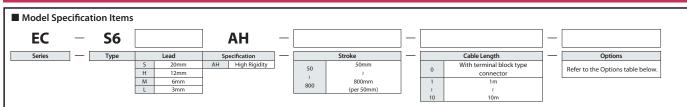
	Stroke	50	100	150	200	250	300	350	400	450	500
	W/o Brake	394	444	494	544	594	644	694	744	794	844
L	With Brake	444	494	544	594	644	694	744	794	844	894
	A	237	287	337	387	437	487	537	587	637	687
	В	195	245	295	345	395	445	495	545	595	645
J		100	150	200	250	300	350	400	450	500	550

Mass by stroke											
Strok	Stroke		100	150	200	250	300	350	400	450	500
	W/o Brake	3.4	3.6	3.9	4.2	4.4	4.7	5.0	5.2	5.5	5.8
Weight (kg)	With Brake	3.8	4.1	4.4	4.6	4.9	5.2	5.4	5.7	6.0	6.2

Applicable controller

EC-S6 AH





OIN

electio

Korizontal



(1) The actuator specifications display the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to "Table of Payload by Speed/ Acceleration" for more details.

24v Pulse motor

odv wig

63 mm

Straight

Motor

- When performing a push-motion operation, please refer to the "Correlation between push force and current limit value." Push force is only a guide. Please refer to P110 for details.
 Depending on the ambient operating temperature, duty control is necessary. Please refer to P110 for details.
- (4) Special attention needs to be paid to the mounting orientation. Please refer to P30 for details.
- (5) Reference value of the overhang load length is under 300mm in the Ma, Mb and Mc directions. Please refer to the illustration on P32 for the overhang load length.
 (6) The center of gravity of the attached object should be less than 1/2 of the overhand distance.
- (b) Inecenter or gravity of the attached objects should be less than 1/2 of the overhand distance. Even when the overhang distance and load moment are within the allowable range, the operating conditions should be moderated if some abnormal vibration or noise is observed.

Cable Length	
Cable code	Cable length
0	No cable (with connector)
1 ~ 3	1 ~ 3m
4~5	4 ~ 5m
6~10	6 ~ 10m
(Note) Robot cables.	

Options		
Name	Option code	Reference page
Brake	В	See P.97
Non-motor end specification	NM	See P.104
PNP specification	PN	See P.104
Split motor and controller power supply specification	TMD2	See P.105
Battery-less Absolute Encoder specification	WA	See P.105
Wireless communication specification	WL	See P.105
Wireless axis-operation specification	WL2	See P.105

		ltem	Description				
Lead		Ball screw lead (mm)	20	12	6	3	
	Payload	Max. payload (kg) (energy-saving disabled)	15	26	32	40	
	Payloau	Max. payload (kg) (energy-saving enabled)	8	14	20	25	
Horizontal	Speed/	Max. speed (mm/s)	1440	900	450	225	
	acceleration/	Min. speed (mm/s)	25	15	8	4	
	deceleration/	Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3	
	deceleration	Max. accleration/deceleration (G)	1	1	1	1	
		Max. payload (kg) (energy-saving disabled)	1	2.5	6	16	
	Payload	Max. payload (kg) (energy-saving enabled)	0.75	2	5	10	
Vertical	Speed/ acceleration/ deceleration	Max. speed (mm/s)	1280	900	450	225	
		Min. speed (mm/s)	25	15	8	4	
		Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3	
	deceleration	Max. accleration/deceleration (G)	0.5	0.5	0.5	0.5	
Push force		Pushing max. thrust force (N)*	67	112	224	449	
Pushiorce		Pushing max. speed (mm/s)	20	20	20	20	
Brake		Brake holding specification	Non-excitation actuating solenoid brake				
		Brake holding force (kgf)	1	2.5	6	16	
		Min. stroke (mm)	50	50	50	50	
Stroke		Max. stroke (mm)	800	800	800	800	
		Stroke pitch (mm)	50	50	50	50	

Item	Description							
Driving system	Ball screw ø10mm, Rolling C10							
Positioning repeatability	±0.05mm							
Lost motion	-							
Base	Dedicated aluminum extruded material (A6063SS-T6 Equivalent) Black alumite treatment							
Linear guide	Linear motion infinite circulating type							
	Ma: 48N · m							
Static allowable moment	Mb: 69N•m							
	Mc: 103N•m							
Dura ani a alla cuabla	Ma: 33N•m							
Dynamic allowable moment (Note 1)	Mb: 40N·m							
moment (Note 1)	Mc: 55N · m							
Ambient operation temperature/humidity	0~40°C, 85%RH or less (Non-condensing)							
Degree of protection	IP20							
Vibration & shock resistance	4.9m/s ² 100Hz or less							
Overseas standards	CE marking, RoHS (Restriction of Hazardous Substances)							
Motor type	Pulse motor							
Encoder type	Incremental / battery-less absolute							
Number of encoder pulses	800 pulse/rev							
(Nate 1) Beend an the stead of a	ated operation life of E000 km. Operation life varies according to operating							

(Note 1) Based on the standard rated operation life of 5000 km. Operation life varies according to operating and mounting conditions. Confirm the operation life on P33.

Lead 3

Table of Payload by Speed/Acceleration

Setting for energy-saving disabled Unit for payload is kg. Operations on the blank locations are not possible.

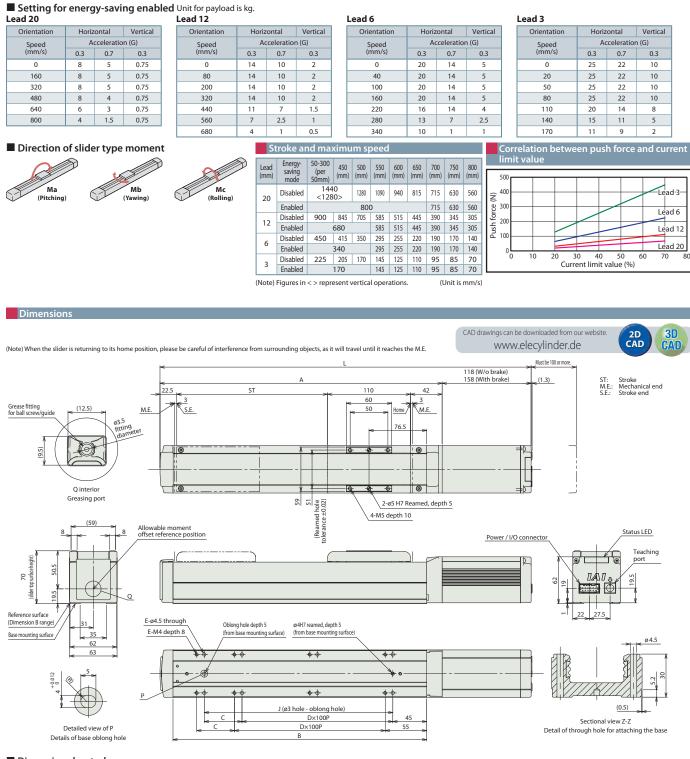
Lead 20	-				-						
Orientation		Horiz	ontal		Vertical						
Speed		A	ccelera	ation (G)						
(mm/s)	0.3	0.5	0.7	1	0.3	0.5					
0	15	10	8	7	1	1					
160	15	10	8	7	1	1					
320	12	10	8	6	1	1					
480	12	9	8	6	1	1					
640	12	8	6	5	1	1					
800	10	6.5	4.5	3	1	1					
960	8	5	3.5	1.5	1	1					
1120	5	3	2	1	0.5	0.5					
1280		1	1	0.5		0.5					
1440		1	0.5								

Leau 12												
Orientation		Horiz	ontal		Vertical							
Speed		A	ccelera	ition (G)							
(mm/s)	0.3	0.5	0.7	1	0.3	0.5						
0	26	18	16	14	2.5	2.5						
80	26	18	16	14	2.5	2.5						
200	26	18	16	14	2.5	2.5						
320	26	18	14	12	2.5	2.5						
440	26	18	12	10	2.5	2.5						
560	20	12	8	7	2.5	2.5						
700	15	9	5	4	2	1						
800	9	5	2	1	1.5	1						
900	5	3	1	1	0.5	0.5						

Lead 6											
Orientation		Horiz		Vertical							
Speed	Acceleration (G)										
(mm/s)	0.3	0.5	0.7	1	0.3	0.5					
0	32	26	24	20	6	6					
40	32	26	24	20	6	6					
100	32	26	24	20	6	6					
160	32	26	24	20	6	6					
220	32	26	24	20	6	6					
280	32	26	24	15	6	5.5					
340	32	20	18	12	5	4.5					
400	22	12	11	8	3.5	3.5					
450	15	8	6	4	2	2					

Orientation		Horiz	Vertical							
Speed	Acceleration (G)									
(mm/s)	0.3	0.5	0.7	1	0.3	0.5				
0	40	35	35	35	16	16				
50	40	35	35	35	16	16				
80	40	35	35	30	16	16				
110	40	35	35	30	16	16				
140	40	35	35	28	15	15				
170	40	32	32	24	12.5	12				
200	35	28	23	20	10	9				
225	28	20	16	12	6					





Dimensions by stroke

	Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
	W/o 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	224.5	274.5	324.5	374.5	424.5	474.5	524.5	574.5	624.5	674.5	724.5	774.5	824.5	874.5	924.5	974.5
	В	186.5	236.5	286.5	336.5	386.5	436.5	486.5	536.5	586.5	636.5	686.5	736.5	786.5	836.5	886.5	936.5
	C	0	50	0	50	0	50	0	50	0	50	0	50	0	50	0	50
	D	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8
	E	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20
	J	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850
	Mass by stroke																
	viass by stroke																

100 150 250 550 Stroke 50 200 300 350 400 450 500 600 650 700 750 800 Weight (kg) W/o Brake 2 2.2 2.4 2.6 2.9 3.1 3.3 3.5 3.8 4 4.2 4.4 4.7 4.9 5.1 5.3 With Brake 2.3 2.5 2.7 3.2 4.1 5.2 5.6 2.9 3.4 3.6 3.8 4.3 4.5 4.7 5 5.4

Applicable controller

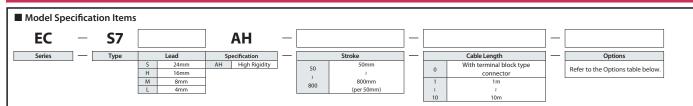
EC-S7 AH



Body widt

75 mm

24v Pulse motor



OIN,

Options

PNP specification

Non-motor end specification

Brake

Name

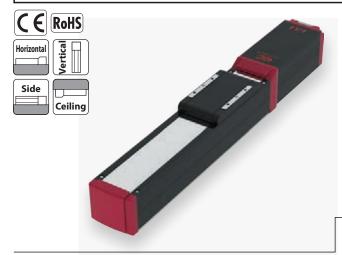
Split motor and controller power supply specification

Battery-less Absolute Encoder specification

Wireless communication specification

Wireless axis-operation specification

electio Notes



(1) The actuator specifications display the payload's maximum value, but when energy-
saving is activated, the specifications will change. Please refer to "Table of Payload by
Speed/Acceleration" for more details.
(2) When performing a push-motion operation, please refer to the "Correlation between
push force and current limit value" Push force is only a quide. Please refer to P110 for

- push force and current limit value." Push force is only a guide. Please refer to P110 for details.
 (3) Depending on the ambient operating temperature, duty control is necessary. Please refer to P110 for details.
 (4) Special attention needs to be paid to the mounting orientation. Please refer to P30 for details.
 (5) Reference value of the overhang load length is under 300mm in the Ma, Mb and Mc directions. Please refer to the illustration on P32 for the overhang load length.
 (6) The center of gravity of the attached object should be less than 1/2 of the overhand distance. Even when the overhang distance and load moment are within the allowable range, the operating conditions should be moderated if some abnormal vibration or noise is observed.

Option code

В

NM

PN

TMD2

WA

WL

WL2

Reference page

See P.97 See P.104

See P.104

See P.105

See P105

See P.105

See P.105

Cable Length	
Cable code	

Cable code	Cable length
0	No cable (with connector)
1~3	1 ~ 3m
4 ~ 5	4 ~ 5m
6~10	6 ~ 10m

(Note) Robot cables.

Main specifications

			Descr	iption		
Lead		Ball screw lead (mm)	24	16	8	4
Horizontal	Payload	Max. payload (kg) (energy-saving disabled)	37	46	51	51
	Payloau	Max. payload (kg) (energy-saving enabled)	18	35	40	40
	Canad /	Max. speed (mm/s)	1230	980	420	210
HOHZOHIJA	Speed/ acceleration/	Min. speed (mm/s)	30	20	10	5
	deceleration	Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
	Geceleration	Max. acceleration/deceleration (G)	1	1	1	1
		Max. payload (kg) (energy-saving disabled)	3	8	16	25
	Payload	Max. payload (kg) (energy-saving enabled)	2	5	10	15
Vertical	Speed/ acceleration/ deceleration	Max. speed (mm/s)	1230	840	420	175
		Min. speed (mm/s)	30	20	10	5
		Bated acceleration/deceleration (G)		0.3	0.3	0.3
	deceleration	Max. acceleration/deceleration (G)	0.5	0.5	0.5	0.5
Push force		Pushing max. thrust force (N)*	139	209	418	836
Pushiorce		Pushing max. speed (mm/s)			20	20
Brake		Brake holding specification	Non-excitation actuating solenoid brake			
		Brake holding force (kgf)	3	8	16	25
		Min. stroke (mm)	50	50	50	50
Stroke		Max. stroke (mm)	800	800	800	800
		Stroke pitch (mm)	50	50	50	50

Item	Description				
Driving system	Ball screw ø12mm, Rolling C10				
Positioning repeatability	±0.05mm				
Lost motion	-				
Base	Dedicated aluminum extruded material (A6063SS-T6 Equivalent)				
	Black alumite treatment				
Linear guide	Linear motion infinite circulating type				
	Ma: 115N • m				
Static allowable moment	Mb: 115N • m				
	Mc: 229N • m				
Durana in allaurah la	Ma: 75N•m				
Dynamic allowable moment (Note 1)	Mb: 90N • m				
moment (Note 1)	Mc: 134N • m				
Ambient operation temperature/humidity	0~40°C, 85%RH or less (Non-condensing)				
Degree of protection	IP20				
Vibration & shock resistance	4.9m/s ² 100Hz or less				
Overseas standards	CE marking, RoHS (Restriction of Hazardous Substances)				
Motor type	Pulse motor				
Encoder type	Incremental / battery-less absolute				
Number of encoder pulses	800 pulse/rev				

(Note 1) Based on the standard rated operation life of 5000 km. Operation life varies according to operating and mounting conditions. Confirm the operation life on P33.

Table of Payload by Speed/Acceleration

Setting for energy-saving disabled Unit for payload is kg. Operations on the blank locations are not possible.

Lead 24									
	Horiz	ontal		Vertical					
	A	ccelera	ation (G)					
0.3	0.5	0.7	1	0.3	0.5				
37	22	16	14	3	3				
37	22	16	14	3	3				
34	20	16	14	3	3				
20	15	10	9	3	3				
12	10	7	4	3	2.5				
8	4.5	3	1.5	1	0.5				
3	1.5	1	0.5	0.5					
	37 37 34 20 12 8	A 0.3 0.5 37 22 37 22 34 20 20 15 12 10 8 4.5	0.3 0.5 0.7 37 22 16 37 22 16 34 20 16 20 15 10 12 10 7 8 4.5 3	Acceleration (f) 0.3 0.5 0.7 1 37 22 16 14 37 22 16 14 37 22 16 14 37 22 16 14 34 20 16 14 20 15 100 9 12 10 7 4 8 4.5 3 1.5	Column 2 Column 2				

Lead 16										
Orientation		Horiz	Vertical							
Speed		A	ccelera	ition (G)					
(mm/s)	0.3	0.5	0.7	1	0.3	0.5				
0	46	35	28	27	8	8				
140	46	35	28	27	8	8				
280	46	35	25	24	8	8				
420	34	25	15	10	5	4.5				
560	20	15	10	6	4	3				
700	15	10	5	3	3	2				
840	7	4	2		0.5					
980	4									

Lead 8										
Orientation		Horiz	ontal		Vertical					
Speed		A	ccelera	ition (G)					
(mm/s)	0.3	0.5	0.7	1	0.3	0.5				
0	51	45	40	40	16	16				
70	51	45	40	40	16	16				
140	51	40	38	35	16	16				
210	51	35	30	24	10	9.5				
280	40	28	20	15	8	7				
350	30	9	4		5	4				
420	7				2					

Lead 4						
Orientation		Horiz	ontal		Ver	tical
Speed		A	ccelera	tion (G)	
(mm/s)	0.3	0.5	0.7	1	0.3	0.5
0	51	45	40	40	25	25
35	51	45	40	40	25	25
70	51	45	40	40	25	25
105	51	45	40	35	20	19
140	45	35	30	25	14	12
175	30	18			9	7.5
210	6					



Setting for energy-saving enabled Unit for payload is kg.

Lead	24

	Lead 24									
	Orientation	Horiz	Vertical							
	Speed (mm/s)	Acceleration (G)								
	(mm/s)	0.3	0.7	0.3						
	0	18	10	2						
	200	18	10	2						
	420	18	10	2						
	640	10	2	1						

Orientation Horizontal Vertical Acceleration (G) Speed (mm/s) 0.3 0.7 0.3 35 20 5 35 20 5 25 12 3 15 6 1.5

0.5

0.5

7

Orientation Speed (mm/s) 0.3 0 40

70

140

210

280

Horizontal

40

40

25

10

Acceleration (G)

0.7

25

25

25

14

1

Vertical

0.3

10

10

7

4

1.5

Lead 8

.

	Lead 4									
	Orientation	Horiz	Vertical							
	Speed	Acceleration (G)								
	(mm/s)	0.3	0.7	0.3						
	0	40	30	15						
	35	40	30	15						
	70	40	30	15						
	105	40	30	8						
	140	15	6	2						

5 Direction of slider type moment

69

0.5

0.5



800



Lead 16

0

140

280

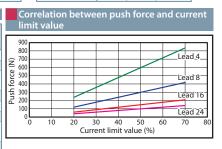
420

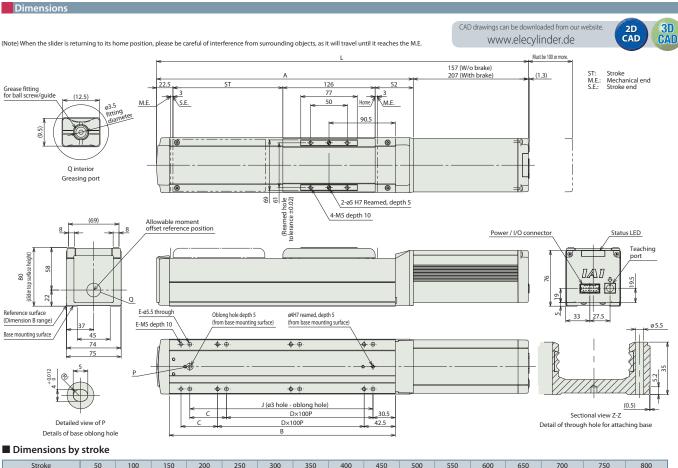
560

Mc

(Rolling)

Stroke and maximum speed									
Lead (mm)	Energy- saving mode	50-500 (per 50mm)	550 (mm)	600 (mm)	650 (mm)	700 (mm)	750 (mm)	800 (mm)	
24	Disabled	12	230		1080	950	840	750	
24	Enabled			800				750	
16	Disabled	980 <840>	955 <840>	820	715	625	555	495	
	Enabled		56	0			555	495	
8	Disabled	420	350	310	275	245			
0	Enabled	280					275	245	
4	Disabled	210 <175>		195 <175>	175	150	135	120	
	Enabled		140					120	
(Note) Figures in < > represent vertical operations. (Unit is mm/s)									



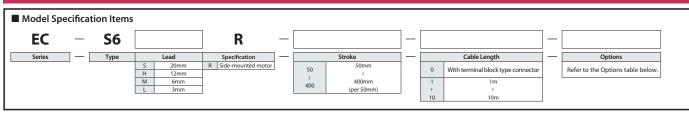


l	Stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	/00	/50	800
ſ	W/o Brake	407.5	457.5	507.5	557.5	607.5	657.5	707.5	757.5	807.5	857.5	907.5	957.5	1007.5	1057.5	1107.5	1157.5
	With Brake	457.5	507.5	557.5	607.5	657.5	707.5	757.5	807.5	857.5	907.5	957.5	1007.5	1057.5	1107.5	1157.5	1207.5
	A	250.5	300.5	350.5	400.5	450.5	500.5	550.5	600.5	650.5	700.5	750.5	800.5	850.5	900.5	950.5	1000.5
	В	208.5	258.5	308.5	358.5	408.5	458.5	508.5	558.5	608.5	658.5	708.5	758.5	808.5	858.5	908.5	958.5
ſ	C	50	0	50	0	50	0	50	0	50	0	50	0	50	0	50	0
	D	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9
	E	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20
	J	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900
I	Mass by stroke																
- 1	Stroke		50	100	150	200	250	200	250	400	450	500	550	600	650 70	750	800

100 150 250 300 550 700 750 800 7.9 57 6.3 7.3 Weight (kg) W/o Brake 39 41 44 47 49 52 55 6 65 6.8 7.1 7.6 With Brake 4.4 4.6 4.9 5.2 5.4 5.7 6 6.2 6.5 6.8 7 7.3 7.6 7.8 8.1 8.4

Applicable controller

EC-S6 CR



CE RoHS





Options

PNP specification

Brake Foot bracket Name

Split motor and controller power supply specification Battery-less absolute encoder

(Note 1) Make sure to enter a code in the option column of the model spec item.

Motor side-mounted to the left (Note 1)

Motor side-mounted to the right (Note 1) Non-motor end specification

Wireless communication specification Wireless axis-operation specification

The actuator specifications display the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to "Table of Payload by Speed/Acceleration" for more details.
 When performing a push-motion operation, please refer to the "Correlation between push

- The periodic periodic periodic periodic periodic periodic periodic contraction between periodic pe
- (4) Special attention needs to be paid to the mounting orientation. Please refer to P30 for details.
 (5) Reference value of the overhang load length is under 220mm in the Ma, Mb and Mc directions. Please refer to the illustration on P32 for the overhang load length.
 (6) The center of gravity of the attached object should be less than 1/2 of the overhang distance.
- Even when the overhang distance and load moment are within the allowable range, the operating conditions should be moderated if some abnormal vibration or noise is observed.

Option code B

FT

ML

MR

NM

PN

TMD2

WA

wi

WL2

Reference page See P.97 See P.99 See P.101 See P.101 See P.104

See P.104

See P.105

See P.105

See P.105 See P.105

Cable length price	list (standard price)
Cable code	Cable length
0	No cable (with connect
1~3	1 ~ 3m

0	No cable (with connector)
1~3	1 ~ 3m
4~5	4 ~ 5m
6~10	6~10m
(Note) Robot cables.	

		ltem		Descr	iption	
Lead	20	12	6	3		
	Payload	Max. payload (kg) (energy-saving disabled)	15	26	32	40
	Payloau	Max. payload (kg) (energy-saving enabled)		14	20	25
Horizontal	Canad (Max. speed (mm/s)	800	700	450	225
HOHZOHILAI	Speed/ acceleration/	Min. speed (mm/s)	25	15	8	4
	deceleration	Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
	deceleration	Max. acceleration/deceleration (G)		1	1	1
		Max. payload (kg) (energy-saving disabled)		2.5	6	12.5
	Payload	Max. payload (kg) (energy-saving enabled)	0.75	2	5	10
Vertical	Speed/ acceleration/ deceleration	Max. speed (mm/s)	800	700	400	225
		Min. speed (mm/s)	25	15	8	4
		Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
	deceleration	Max. acceleration/deceleration (G)	0.5	0.5	0.5	0.5
Push force		Max. thrust force when pushing (N)*	67	112	224	449
Pushiorce		Max. speed when pushing (mm/s)	20	20	20	20
Brake		Brake specification		excitati solenoi		
		Brake holding force (kgf)	1	2.5	6	12.5
		Min. stroke (mm)	50	50	50	50
Stroke		Max. stroke (mm)	400	400	400	400
		Stroke pitch (mm)	50	50	50	50

Item	Description					
Driving system	Ball screw ø10mm, Rolling C10					
Positioning repeatability	±0.05mm					
Lost motion	-					
Base	Dedicated aluminum extruded material(A6063SS-T5 or equivalent)					
buse	Black alumite treatment					
Linear guide	Linear motion infinite circulating type					
	Ma: 48N · m					
Static allowable moment	Mb: 69N • m					
	Mc: 97N·m					
Dynamic allowable	Ma: 11N·m					
moment (Note 2)	Mb: 16N•m					
moment (Note 2)	Mc: 23N·m					
Ambient operation temperature/humidity	0~40°C, RH 85% or less (Non-condensing)					
Degree of protection	IP20					
Vibration & shock resistance	4.9m/s ² 100Hz or less					
Overseas standards	CE Marking, RoHS (Restriction of Hazardous Substances)					
Motor type	Pulse motor					
Encoder type	Incremental / battery-less absolute					
Number of encoder pulses	800 pulse/rev					

(Note 2) Based on the standard rated operation life of 5000 km. Operation life varies depending on operating and mounting conditions. Confirm the operation life on P33.

E heal

Table of Payload by Speed and Acceleration

Energy-saving disabled The unit for payload is kg. Operations in the blank locations are not possible.

Lead 20												
Orientation		Horiz	ontal	al Vertical								
Speed		A	ccelera	ation (G)							
(mm/s)	0.3	0.5	0.7	1	0.3	0.5						
0	15	10	8	7	1	1						
160	15	10	8	7	1	1						
320	12	10	8	6	1	1						
480	12	9	8	6	1	1						
640	12	6.5	6	5	1	1						
800	9	5	4	3	1	1						

Lead 12											
Orientation		Horiz	ontal		Ver	tical					
Speed		Ad	celera	tion (G)						
(mm/s)	0.3	0.5	0.7	1	0.3	0.5					
0	26	18	16	14	2.5	2.5					
80	26	18	16	14	2.5	2.5					
200	26	18	16	14	2.5	2.5					
320	26	18	14	12	2.5	2.5					
440	26	18	12	9	2.5	2.5					
560	26	12	7	5	2.5	2.5					
700	18	5	3	4	1.5	1					

(Note) The above photo shows motor side-mounted to the left (ML).

Lead 6											
Orientation		Horiz	Ver	tical							
Speed		Acceleration (G)									
(mm/s)	0.3	0.5	0.7	1	0.3	0.5					
0	32	26	24	20	6	6					
40	32	26	24	20	6	6					
100	32	26	24	20	6	6					
160	32	26	24	20	6	6					
220	32	26	24	20	6	6					
280	32	26	18	15	6	5.5					
340	25	14	12	9	4	3.5					
400	15	8	8	5	2.5	2					
450	10	5									

Orientation		Horiz	Vertical						
Speed	Acceleration (G)								
(mm/s)	0.3	0.5	0.7	1	0.3	0.5			
0	40	35	35	35	12.5	12.5			
50	40	35	35	35	12.5	12.5			
80	40	35	35	30	12.5	12.5			
110	40	35	35	30	12.5	12.5			
140	40	35	35	28	12.5	12.5			
170	40	32	32	24	9	8			
200	35	20	15	12	6	4			
225	18	10			3				



30 40 50 Current limit value (%)

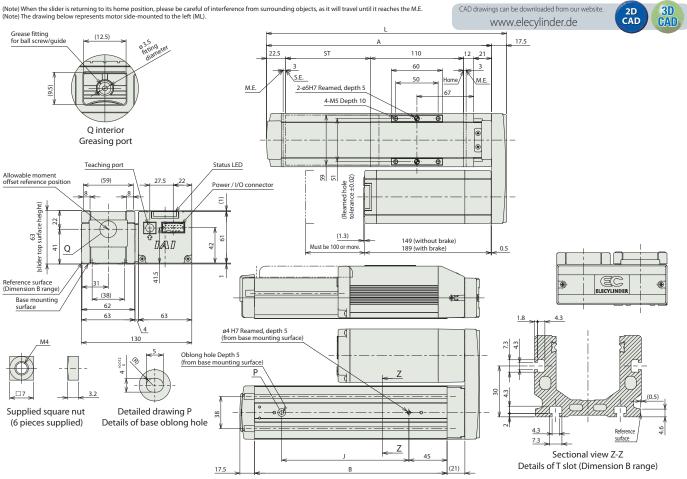
 Energy-saving enabled The unit for payload is kg. Operations in the blank locations are not possible. Lead 3 Lead 20 Lead 12 Lead 6 Orientation Horizontal Vertical Orientation Horizontal Vertical Orientation Horizontal Vertical Orientation Horizontal Vertical Acceleration (G) Acceleration (G) Acceleration (G) Acceleration (G) Speed (mm/s) Speed (mm/s) Speed (mm/s) Speed (mm/s) 0.3 0.7 0.3 0.3 0.7 0.3 0.3 0.7 0.3 0.3 0.7 0.3 0.75 0.75 0.75 0.75 0.75 1.5 1.5 0.5 2.5 2.5 Correlation between push force and current limit value Direction of slider type moment Stroke and maximum speed Energy-Lead 50-200 saving mode (per 50mm) (mm) (mm) (mm) (mm) (mm) Ma (Pitching Mb (Yawing) Mc (Rolling) Disabled Lead-3 \mathbb{C} ŝ Enabled force Disabled Lead 6 Enabled 680 <560> Push 1 Disabled 450 < 400> Lead 12 б Enabled Lead 20 Disabled 0 L 0

(Note) Figures in < > represent vertical operations.

(Unit is mm/s)

Enabled

Dimensions



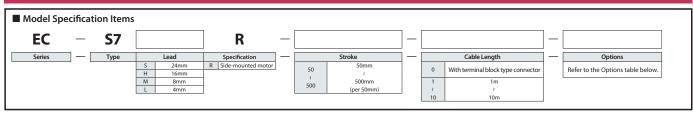
Dimensions by stroke

	Stroke	50	100	150	200	250	300	350	400				
	L	233	283	333	383	433	483	533	583				
	A	215.5	265.5	315.5	365.5	415.5	165.5	515.5	565.5				
	В	177	227	277	327	377	427	477	527				
	J 100		150	200	250	300	350	400	450				
Mass by stroke													
	Stroke	50	100	150	200	250	300	350	400				
	without brake	2.2	2.4	2.6	2.8	3	3.2	3.4	3.6				
Weight	without brake	2.2	2.4	210		-			5.0				

Applicable controller

$EC-S7 \square R$

24v Pulse motor



C E RoHS



selection Notes

motor side-mounted to the left (ML).

(1) The actuator specifications display the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to "Table of Payload by Speed/Acceleration" for more details.

more details. (2) When performing a push-motion operation, please refer to the "Correlation between push force and current limit value" Push force is only a guide. Please refer to P110 for cautions. (3) Depending on the ambient operating temperature, duty control is necessary. Please refer to P110 for cautions. (4) Special attention needs to be paid to the mounting orientation. Please refer to P30 for detail.

- (a) Spectra attention needs to be paid to the mounting orientation. Please refer to PSO101 details.
 (5) Reference value of the overhang load length is under 280mm in the Ma, Mb and Mc directions. Please refer to the illustration on P32 for the overhang load length.
 (6) The center of gravity of the attached object should be less than 1/2 of the overhang distance. Even when the overhang distance and load moment are within the allowable range, the operating conditions should be moderated if some abnormal vibration or noise is observed.

Options		
Name	Option code	Reference page
Brake	В	See P.97
Foot bracket	FT	See P.99
Motor side-mounted to the left (Note 1)	ML	See P.101
Motor side-mounted to the right (Note 1)	MR	See P.101
Non-motor end specification	NM	See P.104
PNP specification	PN	See P.104
Split motor and controller power supply specification	TMD2	See P.105
Battery-less absolute encoder	WA	See P.105
Wireless communication specification	WL	See P.105
Wireless axis-operation specification	WL2	See P.105

(Note 1) Please make sure to enter a code in the option column of the model spec item.

Cable length Cable code Cable length 0 1 ~ 3 No cable (with connector) 1 ~ 3m 4 ~ 5m 4~5 6~10 6 ~ 10m

(Note) Robot cables

Main specifications

		ltem		Descr	iption	
Lead		Ball screw lead (mm)	24	16	8	4
	Davidaard	Max. payload (kg) (energy-saving disabled)	37	46	51	51
	Payloau	Max. payload (kg) (energy-saving enabled)	18	35	40	40
	Connerd/	Max. speed (mm/s)	860	700	420	190
HOHZOHIJA		Min. speed (mm/s)	30	20	10	5
Lead Ball screw le Max. payloa Max. payloa Max. payloa Max. payloa Max. payloa Max. speed/ acceleration/ deceleration/ deceleration/ deceleration/ deceleration/ deceleration/ deceleration/ deceleration/ Max. payloa Vertical Speed/ Aax. payloa Max. payloa Max. payloa Payload Max. speed/ Max. payloa Push force Max. speed/ Max. speed/ Acceleration/ deceleration Push force Max. speed/ Max. speed/ Max. speed/ Max. speed/ Brake specif Brake Brake specif Brake Brake specif		Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
	Max. acceleration/deceleration (G)	1	1	1	1	
		Max. payload (kg) (energy-saving disabled)	3	8	16	19
	Payload	Max. payload (kg) (energy-saving enabled)	2	5	10	15
Vertical	acceleration/	Max. speed (mm/s)	860	700	350	175
		Min. speed (mm/s)	30	20	10	5
		Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
	deceleration	Max. acceleration/deceleration (G)	0.5	0.5	0.5	0.5
Durals famos		Max. thrust force when pushing (N)*	139	209	418	836
Push force		Max. speed when pushing (mm/s)	20	20	20	20
Brake		Brake specification	Non-excitation actuatin solenoid brake			
		Brake holding force (kgf)	3	8	16	19
		Min. stroke (mm)	50	50	50	50
Stroke		Max. stroke (mm)	500	500	500	500
		Stroke pitch (mm)	50	50	50	50

Item	Description					
Driving system	Ball screw ø12mm, Rolling C10					
Positioning repeatability	±0.05mm					
Lost motion	-					
Base	Dedicated aluminum extruded material(A6063SS-T5 or equivalent) Black alumite treatment					
Linear guide	Linear motion infinite circulating type					
	Ma: 79N·m					
Static allowable moment	Mb: 114N • m					
	Mc: 157N • m					
Dupamicalloutable	Ma: 17N•m					
Dynamic allowable moment (Note 2)	Mb: 25N • m					
moment (Note 2)	Mc: 34N • m					
Ambient operation temperature/humidity	0~40°C, RH 85% or less (Non-condensing)					
Degree of protection	IP20					
Vibration & shock resistance	4.9m/s ² 100Hz or less					
Overseas standards	CE Marking, RoHS (Restriction of Hazardous Substances)					
Motor type	Pulse motor					
Encoder type	Incremental / battery-less absolute					
Number of encoder pulses	800 pulse/rev					

sed on the standard rated and mounting conditions. Confirm the operation life on P33.

Table of Payload by Speed and Acceleration

Energy-saving disabled The unit for pa ns are not possible. Lead 24 Le

Orientation		Horiz	Ver	tical		
Speed (mm/s)		A	ccelera	ation (G)	
	0.3	0.5	0.7	1	0.3	0.5
0	37	22	16	14	3	3
200	37	22	16	14	3	3
420	34	20	16	14	3	3
640	18	13	9	7.5	3	3
860	9	6	4	3	1.5	1
860	9	6	4	3	1.5	1

ayload is kg. Operations in the blank location Lead 16										
Orientation		Horizontal Vertical								
Speed		Ad	celera	ition (G)					
(mm/s)	0.3	0.5	0.7	1	0.3	0.5				
0	46	35	28	27	8	8				
140	46	35	28	27	8	8				
280	46	35	25	24	8	8				
420	34	25	15	10	5	4.5				
560	20	14	8	6	3	2.5				
700	10	5	3	1	1.5	1				

Lead 8									
Orientation		Horiz	ontal		Ver	tical			
Speed		A	ccelera	ition (G)				
(mm/s)	0.3	0.5	0.7	1	0.3	0.5			
0	51	45	40	40	16	16			
70	51	45	40	40	16	16			
140	51	40	38	35	16	16			
210	51	35	30	24	10	9.5			
280	36	20	15	15	8	7			
350	20	5	4		3	2			
420	2								

Lead 4	Lead 4											
Orientation		Horizontal Vertical										
Speed		A	ccelera	tion (G)							
(mm/s)	0.3	0.5	0.7	1	0.3	0.5						
0	51	45	40	40	19	19						
35	51	45	40	40	19	19						
70	51	45	40	40	19	19						
105	51	45	40	35	19	19						
140	45	35	30	25	12.5	12						
175	30	16			5	4						
190	5											



Energy-saving enabled The unit for payload ns are not possible. Lead Lea

Mc (Rolling)

0

Lead 24									
Orientation	Horiz	Vertica							
Speed (mm/s)	Ac	celeration	ו (G)						
(mm/s)	0.3	0.7	0.3						
0	18	10	2						
200	18	10	2						
420	18	10	2						
640	10	2	1						
800	1								

is kg. Operations in the blank locatio 16										
ientation	Horiz	ontal	Vertical							
Speed	Ac	celeration	n (G)							
(mm/s)	0.3	0.7	0.3							
0	35	20	5							
140	35	20	5							
280	25	12	3							
420	15	6	1.5							
500	7.5	1.5	0.5							
560	2									

ad 8						
Orientation	Horiz	ontal	Vertical			
Speed (mm/s)	Acceleration (G)					
(mm/s)	0.3	0.7	0.3			
0	40	25	10			
70	40	25	10			
140	40	25	7			
210	25	14	4			
280	5		0.5			

ŝ

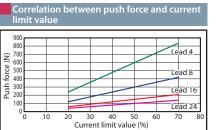
Lead 4									
Orientation	Horiz	ontal	Vertical						
Speed	Ac	celeration	n (G)						
(mm/s)	0.3	0.7	0.3						
0	40	30	15						
35	40	30	15						
70	40	30	15						
105	40	30	8						
120	15	6	2						

Direction of slider type moment





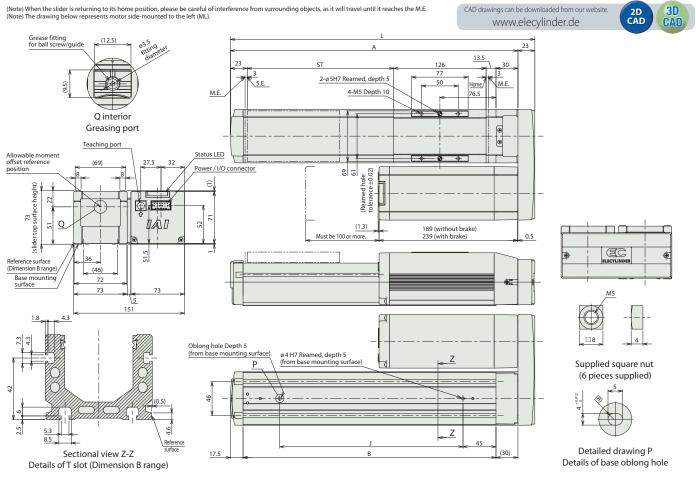
Str	Stroke and maximum speed										
Lead (mm)	Energy- saving mode	50-300 (per 50mm)	350 (mm)	400 (mm)	450 (mm)	500 (mm)					
	Disabled	860		774	619	506					
24	Enabled	800 <6	40>	774 <640>	619	506					
16	Disabled	700	631	492	395	323					
10	Enabled	560 <5	<00>	492	395	323					
8	Disabled	420 <350>	322	251	200	164					
°	Enabled	280		251	200	164					
4	Disabled	190 <175>	163	126	101	83					
4	Enabled		10		101	83					



(Note) Figures in < > represent vertical operations.

83 (Unit is mm/s)

Dimensions



Dimensions by stroke

	Stroke	50	100	150	200	250	300	350	400	450	500
	L	265.5	315.5	365.5	415.5	465.5	515.5	565.5	615.5	665.5	715.5
	А	242.5	292.5	342.5	392.5	442.5	492.5	542.5	592.5	642.5	692.5
	В	195	245	295	345	395	445	495	545	595	645
	J	100	150	200	250	300	350	400	450	500	550
Mass by stroke											
	Stroke	50	100	150	200	250	300	350	400	450	500
Weight	without brake	4.2	4.4	4.7	4.9	5.2	5.4	5.7	5.9	6.2	6.4
(kg)	with brake	4.7	4.9	5.2	5.4	5.7	5.9	6.2	6.4	6.7	6.9

Applicable controller

E Seri										
		S6 AH Type Lead Specificat 5 20mm R Side-mount H 12mm M 6mm L 3mm	tion	- [] - [50 ≀ 800		50mm	Cable Length - terminal block type connector 1m 2 10m	Option Refer to the Option	
CE	RoHS									
Side	Ceiling			7	1		 Coll N Selection Notes (a) Depending on the acceleration force and current 0 (3) Depending on the 110 for cautions (b) Special attention (c) Special attention (c) Beference value directions. Please (d) The center of gran Even when the or 	cifications display the payload on and speed. Please refer to " g a push-motion operation, plk limit value." Push force is only e ambient operating tempera s. needs to be paid to the moun of the overhang load lengt se refer to the illustration on vity of the attached object sho verhang distance and load mo ions should be moderated if so	Table of Payload by Spe ease refer to the "Correla a guide. Please refer to iture, duty control is nec ating orientation. Please h is under 300mm in tt P32 for the overhang puld be less than 1/2 of t ment are within the allk	ed/Acceleration" for ation between push P110 for cautions. essary. Please refer to refer to P30 for dett he Ma, Mb and Mc load length. the overhang distan waable range, the
		(Note) The abov motor sit	de-moun				Options			
		the left (l	ML).				Na	ame	Option code	Reference page
Cablo	longth	the left (ML).				Na Brake Foot bracket Motor side-mounted to th Motor side-mounted to th	ne left (Note 1) ne right (Note 1)	B FT ML MR	See P.97 See P.99 See P.101 See P.101
	e length able code	Cable length					Na Brake Foot bracket Motor side-mounted to th Motor side-mounted to th Non-motor end specificat PNP specification	ne left (Note 1) ne right (Note 1) ion	B FT ML MR NM PN	See P.97 See P.99 See P.101 See P.101 See P.104 See P.104
Ca	able code 0 1 ~ 3	Cable length No cable (with connect 1 ~ 3m		_			Na Brake Foot bracket Motor side-mounted to th Motor side-mounted to th Non-motor end specificat PNP specification Split motor and controller Battery-less absolute enco	ne left (Note 1) ne right (Note 1) ion power supply specification der	B FT ML MR NM PN on TMD2 WA	See P.97 See P.99 See P.101 See P.104 See P.104 See P.105 See P.105
Ca	able code 0 1 ~ 3 4 ~ 5 6 ~ 10	Cable length No cable (with connect					Na Brake Foot bracket Motor side-mounted to th Motor side-mounted to th Non-motor end specificati PNP specification Split motor and controller Battery-less absolute encc Wireless communication s Wireless axis-operation sp	ne left (Note 1) ne right (Note 1) ion r power supply specificati oder specification vecification	B FT ML MR PN on TMD2 WA WL WL2	See P.97 See P.99 See P.101 See P.101 See P.104 See P.105 See P.105 See P.105
Ca ote) Robo	able code 0 1 ~ 3 4 ~ 5 6 ~ 10 bt cables.	Cable length No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 10m					Na Brake Foot bracket Motor side-mounted to th Motor side-mounted to th Non-motor end specificat PNP specification Split motor and controller Battery-less absolute enco Wireless communication s	ne left (Note 1) ne right (Note 1) ion r power supply specificati oder specification vecification	B FT ML MR PN on TMD2 WA WL WL2	See P.97 See P.99 See P.101 See P.101 See P.104 See P.105 See P.105 See P.105
Ca ote) Robo	able code 0 1 ~ 3 4 ~ 5 6 ~ 10	Cable length No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 10m		Deser	intion		Na Brake Foot bracket Motor side-mounted to th Non-motor end specification Split motor and controller Battery-less absolute enco Wireless communication sp Wireless axis-operation sp (Note 1) Please make sure to en	ne left (Note 1) ne right (Note 1) ion r power supply specificati oder specification vecification	B FT ML MR PN on TMD2 WA WL WL2 mn of the model spec i	See P.97 See P.99 See P.101 See P.104 See P.104 See P.105 See P.105 See P.105
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Ca te) Robo Main s ad	able code 0 1~3 4 4~5 6 6~10 ot cables. specification: Payload	Cable length No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 10m S Item Ball screw lead (mm)	or)	12	. 6		Na Brake Foot bracket Motor side-mounted to th Motor side-mounted to th Non-motor end specification Split motor and controller Battery-less absolute encody Wireless communication sp (Note 1) Please make sure to encody Item Driving system Positioning repeatability Lost motion	he left (Note 1) he right (Note 1) ion power supply specification specification her a code in the option colu Ball screw ø10mm, Rollin ±0.05mm	B FT ML MR NM PN on TMD2 WA WL WL2 mn of the model spec i Description g C10	See P.97 See P.99 See P.101 See P.104 See P.104 See P.105 See P.105 See P.105 See P.105 See P.105 tem.
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Ca ote) Robo Main s ead	ble code 0 1~3 4~5 6~10 trables. specification: Payload I Speed/ acceleration/ deceleration Payload Speed/ Speed/ Speed/	Cable length No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 10m 8all screw lead (mm) Max. payload (kg) (energy-saving disabled) Max. speed (mm/s) Min. speed (mm/s) Rated acceleration/deceleration (G) Max. cceleration/deceleration (G) Max. payload (kg) (energy-saving disabled) Max. speed (mm/s) Max. acceleration/deceleration (G) Max. payload (kg) (energy-saving enabled) Max. speed (mm/s)	20 15 8 1120 25 0.3 1 1 0.75 1120	12 26 14 900 15 0.3 1 2.5	6 32 20 450 8 0.3 1 6	40 25 225 4 0.3 1 16	Na Brake Foot bracket Motor side-mounted to th Motor side-mounted to th Non-motor end specification Split motor and controller Battery-less absolute enco Wireless communication split Wireless communication split Note 1) Please make sure to en Item Driving system Positioning repeatability Lost motion Base Linear guide Static allowable moment	he left (Note 1) he right (Note 1) ion Power supply specification becification ter a code in the option colur Ball screw ø10mm, Rollin ±0.05mm - Dedicated aluminum ext Black alumite treatment Linear motion infinite cirro Ma: 48N · m Mb: 69N · m Ma: 33N · m Mb: 40N · m	B FT ML MR NM PN on TMD2 WA WL WL2 mn of the model spec i Description g C10	See P.97 See P.99 See P.101 See P.104 See P.104 See P.105 See P.105 See P.105 See P.105 See P.105 tem.
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Ca Dote) Robo Main : erad ertical	ble code 0 1~3 4~5 6~10 tr cables. specification: acceleration/ deceleration/ deceleration/ deceleration/	Cable length No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 10m S Item Ball screw lead (mm) Max. payload (kg) (energy-saving disabled) Max. payload (kg) (energy-saving enabled) Max. speed (mm/s) Rated acceleration/deceleration (G) Max. acceleration/deceleration (G) Max. apayload (kg) (energy-saving disabled) Max. payload (kg) (energy-saving disabled) Max. speed (mm/s) Rated acceleration/deceleration (G) Max. acceleration/deceleration (G) Max. acceleration/deceleration (G) Max. acceleration/deceleration (G) Max. acceleration/deceleration (G) Max. thrust force when pushing (N)* Max. thrust force when pushing (N)* Max. speed when pushing (mm/s) Brake specification Brake holding force (kgf)	or) 20 15 8 1120 25 0.3 1 1 0.75 1120 25 0.3 0.5 67 20 Non 1	12 26 14 900 15 0.3 1 2.5 2 800 15 0.3 0.5 112 20 excitati solenoi 2.5	6 32 20 450 8 0.3 1 6 5 400 8 0.3 0.5 224 20 0 0 actua d brake 6	40 25 225 4 0.3 1 16 10 225 4 0.3 0.5 449 20 atting 16	Nate Brake Foot bracket Motor side-mounted to th Motor side-mounted to th Non-motor end specification Split motor and controller Battery-less absolute encody Wireless communication sp (Note 1) Please make sure to end Driving system Positioning repeatability Lost motion Base Linear guide Static allowable moment Dynamic allowable moment (Note 2) Ambient operation temperature/humidity Degree of protection Vibration & shock resistance Overseas standards Motor type Encoder type	he left (Note 1) he right (Note 1) ion power supply specification pecification ter a code in the option colur ball screw ø10mm, Rollin ±0.05mm - Dedicated aluminum extt Black alumite treatment Linear motion infinite cirre Ma: 48N·m Mb: 69N·m Mc: 103N·m Ma: 33N·m Mb: 40N·m Mc: 50N·m 0~40°C, RH 85% or less (N IP20 4.9m/s ² 100Hz or less CE Marking, RoHS (Restric Pulse motor Incremental / battery-less	B FT MR NM PN on TMD2 WA WL WL2 mn of the model spec i Description g C10 ruded material (A606 culating type	See P.97 See P.99 See P.101 See P.104 See P.104 See P.105 See P.105 See P.105 See P.105 See P.105 See P.105 See P.105
Ca ote) Robo	ble code 0 1~3 4~5 6~10 tr cables. specification: acceleration/ deceleration/ deceleration/ deceleration/	Cable length No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 10m Ball screw lead (mm) Max. payload (kg) (energy-saving disabled) Max. payload (kg) (energy-saving enabled) Max. speed (mm/s) Min. speed (mm/s) Rated acceleration/deceleration (G) Max. payload (kg) (energy-saving disabled) Max. speed (mm/s) Rated acceleration/deceleration (G) Max. speed (mm/s) Min. speed (mm/s) Rated acceleration/deceleration (G) Max. speed (mm/s) Max. speed (mm/s) Bated acceleration/deceleration (G) Max. speed (mm/s) Brated acceleration/deceleration (G) Max. speed (mm/s) Brated acceleration/deceleration (G) Max. speed when pushing (N)* Max. speed when pushing (M)/s) Brake specification	20 15 8 1120 25 0.3 1 1 0.75 1120 25 0.3 0.5 67 20 Non-	12 26 14 900 15 0.3 1 2.5 2 800 15 0.3 0.5 112 20 excitati solenoi	6 32 20 450 8 0.3 1 6 5 400 8 0.3 0.5 224 20 on actua d brake	40 25 225 4 0.3 1 16 10 225 4 0.3 0.5 449 20 20 atting	Nate Brake Foot bracket Motor side-mounted to th Motor side-mounted to th Non-motor end specification Split motor and controller Battery-less absolute encode Wireless communication sp (Note 1) Please make sure to end Driving system Positioning repeatability Lost motion Base Linear guide Static allowable moment Dynamic allowable moment (Note 2) Ambient operation temperature/humidity Degree of protection Vibration & shock resistance Overseas standards Motor type Encoder type Number of encoder pulses	e left (Note 1) he right (Note 1) ion power supply specification pecification ter a code in the option colur ball screw ø10mm, Rollin ±0.05mm - Dedicated aluminum extt Black alumite treatment Linear motion infinite cirre Ma: 48N · m Mb: 69N · m Mc: 103N · m Ma: 33N · m Mb: 40N · m Mc: 50N · m 0~40°C, RH 85% or less (N IP20 4.9m/s ² 100Hz or less CE Marking, RoHS (Restric Pulse motor Incremental / battery-less 800 pulse/rev	B FT ML MR NM PN on TMD2 WA WL2 mo of the model spec i Description g C10 ruded material (A606 culating type Non-condensing) ction of Hazardous Stress absolute	See P.97 See P.99 See P.101 See P.104 See P.104 See P.105 See P.105 See P.105 See P.105 See P.105 tem.
Ca ote) Robo Main : ead orizontal ertical ush force rake	ble code 0 1~3 4~5 6~10 tr cables. specification: acceleration/ deceleration/ deceleration/ deceleration/	Cable length No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 10m S Item Ball screw lead (mm) Max, payload (kg) (energy-saving disabled) Max, payload (kg) (energy-saving enabled) Max, speed (mm/s) Rated acceleration/deceleration (G) Max, acceleration/deceleration (G) Max, acceleration/deceleration (G) Max, acceleration/deceleration (G) Max, apayload (kg) (energy-saving enabled) Max, speed (mm/s) Rated acceleration/deceleration (G) Max, acceleration/deceleration (G) Max, acceleration/deceleration (G) Max, acceleration/deceleration (G) Max, acceleration/deceleration (G) Max, acceleration/deceleration (G) Max, thrust force when pushing (N)* Max, speed when pushing (mm/s) Brake specification Brake holding force (kgf) Min, stroke (mm)	20 15 8 1120 25 0.3 1 1 0.75 1120 25 0.3 0.5 67 20 Non- 1 50 800 50	12 26 14 900 15 1 2.5 2 800 15 0.3 0.5 112 20 excitati solenoi 2.5 50 800 50	6 32 20 450 8 0.3 1 6 5 400 8 0.3 0.5 224 20 on actud d brake 6 50 800 50	40 25 225 4 0.3 1 16 10 225 4 0.3 0.5 449 20 atting 16 50 800 50	Na Brake Foot bracket Motor side-mounted to th Motor side-mounted to th Non-motor end specificat PNP specification Split motor and controller Battery-less absolute encody Wireless communication sp (Note 1) Please make sure to end Driving system Positioning repeatability Lost motion Base Linear guide Static allowable moment Dynamic allowable moment (Note 2) Ambient operation temperature/humidity Degree of protection Vibration & shock resistance Overseas standards Motor type Encoder type Number of encoder pulses (Note 2) Based on the standard not standard on the st	e left (Note 1) he right (Note 1) ion power supply specification pecification ter a code in the option colur ball screw ø10mm, Rollin ±0.05mm - Dedicated aluminum extt Black alumite treatment Linear motion infinite cirre Ma: 48N · m Mb: 69N · m Mc: 103N · m Ma: 33N · m Mb: 40N · m Mc: 50N · m 0~40°C, RH 85% or less (N IP20 4.9m/s ² 100Hz or less CE Marking, RoHS (Restric Pulse motor Incremental / battery-less 800 pulse/rev	B FT ML MR NM PN on TMD2 WA WL2 mn of the model spec i Description g C10 ruded material (A606 culating type culating type	See P.97 See P.101 See P.101 See P.104 See P.104 See P.105 See P.105 See P.105 See P.105 See P.105 Tem.

Lead 12										
Orientation		Horiz	ontal		Ver	tical				
Speed		Acceleration (G)								
(mm/s)	0.3	0.5	0.7	1	0.3	0.5				
0	26	18	16	14	2.5	2.5				
80	26	18	16	14	2.5	2.5				
200	26	18	16	14	2.5	2.5				
320	26	18	14	12	2.5	2.5				
440	26	18	12	9	2.5	2.5				
560	17.5	12	7	5	2.5	2.5				
700	10	5	3.5	2	1	0.5				
800	6	3	1		0.5					
900	3									

Lead 6										
Orientation		Horizontal Vertical								
Speed	Acceleration (G)									
(mm/s)	0.3	0.5	0.7	1	0.3	0.5				
0	32	26	24	20	6	6				
40	32	26	24	20	6	6				
100	32	26	24	20	6	6				
160	32	26	24	20	6	6				
220	32	26	24	20	6	6				
280	32	26	18	15	6	5.5				
340	25	14	12	9	4	3.5				
400	15	8	8	5	2	2				
450	10	5								

Orientation		Horizontal Vertical						
Speed	Acceleration (G)							
(mm/s)	0.3	0.5	0.7	1	0.3	0.5		
0	40	35	35	35	16	16		
50	40	35	35	35	16	16		
80	40	35	35	30	16	16		
110	40	35	35	30	16	16		
140	40	35	35	28	15	15		
170	40	32	25	20	9	8		
200	28	20	15	8	6	4		
225	18	5			2			



Energy-saving enabled The unit for payload is kg. Operations in the blank locations are not possible. Lead 12 Lead 6 Orier

Sp (mi

Mc

(Rolling)

Lead 20							
Orientation	Horiz	ontal	Vertical				
Speed	A	Acceleration (G)					
(mm/s)	0.3	0.7	0.3				
0	8	5	0.75				
160	8	5	0.75				
320	8	5	0.75				
480	8	4	0.75				
640	6	3	0.75				
800	4	15	0.5				

13 kg. Oper 12		I THE DIA					
entation	Horiz	ontal	Vertical				
Speed	Acceleration (G)						
mm/s)	0.3	0.7	0.3				
0	14	10	2				
80	14	10	2				
200	14	10	2				
320	14	10	2				
440	11	7	1.5				
560	7	2.5	1				
680	2						

Acceleration (G) Speed (mm/s) 0.3 0.7 0 20 14 40 20 14 20 14 100 160 20 14 16 13 220 14 7 280

340

Horizontal

8

1

Vertical

0.3

5

4

2.5

1

Orientatio

Lead 3							
Orientation	Horiz	ontal	Vertical				
Speed	Ac	celeration	n (G)				
(mm/s)	0.3	0.7	0.3				
0	25	22	10				
20	25	22	10				
50	25	22	10				
80	25	22	10				
110	20	14	8				
140	15	11	5				
170	11	5	2				

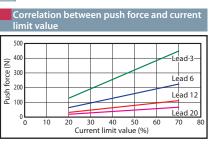
Direction of slider type moment

(Pitching)	

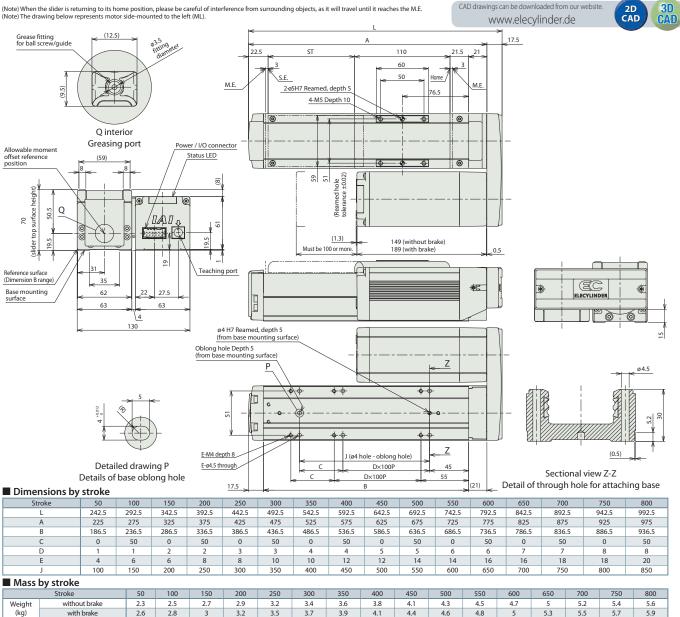
Dimensions



St	Stroke and maximum speed									
Lead (mm)	Energy- saving mode	50-400 450 500 (per 50mm) (mm)			550 (mm)	600 (mm)	650 (mm)	700 (mm)	750 (mm)	800 (mm)
20	Disabled		1120	1090	940	815	715	630	560	
20	Enabled					715	630	560		
12	Disabled	900 <800>	845 <800>	705	585	515	445	390	345	315
12	Enabled	<	680 <560>		585 <560>	515	445	390	345	315
6	Disabled	450 <400>	415 <400>	350	295	255	220	190	170	140
	Enabled		340		295	255	220	190	170	140
3	Disabled	225	205	170	145	125	110	95	85	70
	Enabled		170		145	125	110	95	85	-70
(Note)	Figures in	< > repre	esent ve	ertical o	peratio	ons.		(L	Init is I	mm/s)



CAD drawings can be downloaded from our website.



Applicable controller

	lecymuci									
	C							h Clider Motor	Body	vidth
E	C - 2	S7□AH		K			Hig Rigio	n Slider Lipit	Side-mounted Motor	5 Z4V Pulse
Mod	el Specificati	on Items								
	•		_	Г						
E	C –	S7 AH	R	-				-		
Seri	es —	Type Lead Specificat	tion	1 — [Strok	(e —	Cable Length —	Options	
		S 24mm AHR Motor side	-mounted	ן נ	50		50mm 0 With	terminal block type connector	Refer to the Options	able below.
		M 8mm			≀ 800		800mm 1	1m		
		L 4mm		L	000	(per 50mm) ≀ 10	د 10m		
~ 	RoHS									
	KUIIJ									
orizontal	ertical		-					ecifications display the payload's		
	ert						depending on Acceleration" fo	the acceleration and speed. Please or more details.	e refer to "lable of l	ayload by Speed
							(2) When performin	ig a push-motion operation, please i		
Side				1				t limit value." Push force is only a gui the ambient operating temperatu		
	Ceiling	and the second					Selection (4) Special attention	r cautions. on needs to be paid to the mount	ing orientation Ple	ase refer to P30 fr
	Cening						Notes details.		-	
								of the overhang load length is under e illustration on P32 for the overhang		and Mc directions
			/				(6) The center of gr	avity of the attached object should I	be less than 1/2 of th	
								overhang distance and load momer tions should be moderated if some		
		motor sic the left (M					Options	ame	Option code	Reference pag
							Brake	ante	B	See P.97
							Foot bracket		FT	See P.99
						_	Motor side-mounted to th		ML	See P.101
Cable	length						Motor side-mounted to the Non-motor end specificat		MR NM	See P.101 See P.104
Ca	ble code	Cable length					PNP specification		PN	See P.104
	0	No cable (with connect	or)				· · · · · · · · · · · · · · · · · · ·	power supply specification	TMD2	See P.105
	1~3	1 ~ 3m				_	Battery-less absolute enco	der	WA	See P.105
	4~5	4 ~ 5m				_	Wireless communication s	•	WL	See P.105
	6~10	6 ~ 10m					Wireless axis-operation sp		WL2	See P.105
ote) Robot	cadles.						(Note 1) Please make sure to en	ter a code in the option column of	the model spec iter	n.
Main s	specification	S								
		Item		Descr	ription		Item		escription	
ad		Ball screw lead (mm)	24	16	8	4	Driving system	Ball screw ø12mm, Rolling C1	0	
	Payload	Max. payload (kg) (energy-saving disabled)	37	46	51	51	Positioning repeatability	±0.05mm		
		Max. payload (kg) (energy-saving enabled) Max. speed (mm/s)	18 1080	35 840	40 420	40 190	Lost motion	- Dedicated aluminum extrude	d material(A60620	S-T5 or countrals
orizontal		Min. speed (mm/s) Min. speed (mm/s)	30	20	420	5	Base	Black alumite treatment	a material(A00033	5-15 of equivale
	acceleration/	Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3	Linear guide	Linear motion infinite circulat	ing type	
	deceleration	Max. acceleration/deceleration (G)	1	1	1	1		Ma: 115N•m		
		Max. payload (kg) (energy-saving disabled)	3	8	16	25	Static allowable moment	Mb: 115N • m		
	Payload	Max. payload (kg) (energy-saving enabled)	2	5	10	15		Mc: 229N ⋅ m Ma: 75N ⋅ m		
ertical		Max. speed (mm/s)	860	700	350	175	Dynamic allowable	Mb: 90N · m		
	Speed/	Min. speed (mm/s)	30	20	10	5	moment (Note 2)	Mc: 134N·m		
	acceleration/ deceleration	Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3	Ambient operation	0~40°C, RH 85% or less (Non-	condensing)	
	acceleration	Max. acceleration/deceleration (G)	0.5	0.5	0.5	0.5	temperature/humidity		condensing/	
ush force		Max. thrust force when pushing (N)*	139	209	418	836	Degree of protection Vibration & shock resistance	IP20 4.9m/s ² 100Hz or less		
		Max. speed when pushing (mm/s)	20 Non-	20 excitati	20	20 ating	Overseas standards	CE Marking, RoHS (Restriction	of Hazardous Sub	stances)
ake		Brake specification	NOT		id brake		Motor type	Pulse motor		
		Brake holding force (kgf)	3	8	16	25	Encoder type	Incremental / battery-less abs	olute	
				50	50	50				
troke		Min. stroke (mm)	50				Number of encoder pulses	800 pulse/rev		
troke		Min. stroke (mm) Max. stroke (mm) Stroke pitch (mm)	800 50	800 50	800 50	800 50	· · · · · · · · · · · · · · · · · · ·	800 pulse/rev rated operation life of 5000 km. Ope		pending on operat

 Max. stroke (mm)
 800
 800
 800
 800

 Stroke pitch (mm)
 50
 50
 50
 50

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

Table of Payload by Speed and Acceleration

Energy-saving disabled The unit for payload is kg. Operations in the blank locations are not possible.

Lead 24									
Orientation		Horizontal Vertical							
Speed	Acceleration (G)								
(mm/s)	0.3	0.5	0.7	1	0.3	0.5			
0	37	22	16	14	3	3			
200	37	22	16	14	3	3			
420	34	20	16	11	3	3			
640	15	10	8	6.5	3	2			
860	9	6	4	3	1.5	1			
1080	3	2							
1230	3	1.5	1	0.5	0.5				

Lead 16														
Orientation	Horizontal				Horizontal Vertical								Vertical	
Speed	Acceleration (G)													
(mm/s)	0.3	0.5	0.7	1	0.3	0.5								
0	46	35	28	27	8	8								
140	46	35	28	27	8	8								
280	46	35	25	24	8	8								
420	30	25	15	10	5	4.5								
560	15	12	7	5	3	2.5								
700	10	5	3	1	1.5	1								
840	3													
980	4													

Lead 8						
Orientation		Horiz	Vertical			
Speed		A	ccelera	ition (G)	
(mm/s)	0.3	0.5	0.7	1	0.3	0.5
0	51	45	40	40	16	16
70	51	45	40	40	16	16
140	51	40	38	35	16	16
210	51	35	30	24	9	8
280	35	20	15	12.5	6	5
350	20	5	4		3	2
420	2					

(Note 2) Based on the standard rated operation life of 5000 km. Operation life varies depending on operating and mounting conditions. Confirm the operation life on P33.

Lead 4						
Orientation		Horiz	ontal		Vert	tical
Speed		A	ccelera	tion (G)	
(mm/s)	0.3	0.5	0.7	1	0.3	0.5
0	51	45	40	40	25	25
35	51	45	40	40	25	25
70	51	45	40	40	25	25
105	51	45	40	35	20	19
140	45	35	30	25	12.5	10
175	20	15			4	3
190	5					



Vertical

0.3

15

15 15

8

2

3D CAD

2D CAD

www.elecylinder.de

23

0.5

÷.

7

\$

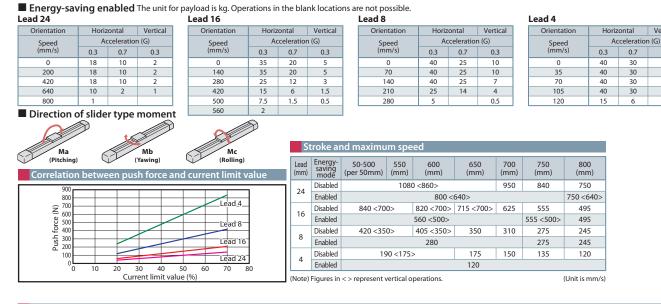
• Ζ

30.5

42.5

25

27.5 Home M.E.



ST

2-ø5H7 Reamed, depth 5

4-M5 Depth 10

(1.3)

Must be 100 or more.

Dimensions

Allowable moment offset reference position

top surface height) Q

slider

8

Reference surface (Dimension B range)

Base mounting surface

Grease fitting for ball screw/guide

(9.5)

(12.5)

∎Ø

Q interior Greasing port

(69)

65

L 74 03.5 fitting

D/AD

6

32 27.5

4 152

Detailed drawing P

Details of base oblong hole

Status LED

9.5

Teaching port

Oblong hole Depth 5 (from base mounting surface)

P

17.5

(Note) When the slider is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the M.E. (Note) The drawing below represents motor side-mounted to the left (ML). CAD drawings can be downloaded from our websi

M.E.

. 3

S.E.

ø4 H7 Reamed, depth 5 (from base mounting surface)

⊕.⊕

E-ø5.5 through E-M5 depth 10

h 0 0 h

ര Power / I/O connector 69 61 | hole e ±0.02) P 4 (Reamed F tolerance :

.

J (ø4 hole - oblong hole)

D×100P D×100P

R

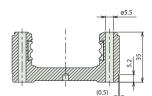
126

77

50

189 (without brake) 239 (with brake)





Sectional view Z-Z Detail of through hole for attaching base

Dimensions by stroke

Strok	æ	50	100	150	200	250	300	350	400	450	500	550	600	650	700		750	800
L		274	324	374	424	474	524	574	624	674	724	774	824	874	924		974	1024
A		251	301	351	401	451	501	551	601	651	701	751	801	851	901		951	1001
В		208.5	258.5	308.5	358.5	408.5	458.5	508.5	558.5	608.5	658.5	708.5	758.5	808.5	858.	5	908.5	958.5
C		50	0	50	0	50	0	50	0	50	0	50	0	50	0		50	0
D		1	2	2	3	3	4	4	5	5	6	6	7	7	8		8	9
E		6	6	8	8	10	10	12	12	14	14	16	16	18	18		20	20
J		150	200	250	300	350	400	450	500	550	600	650	700	750	800		850	900
Mass by	/ stroke																	
	Stroke		50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
Weight	withou	ıt brake	4.5	4.7	5	5.3	5.5	5.8	6.1	6.3	6.6	6.9	7.1	7.4	7.7	7.9	8.2	8.5
(kg)	with I	brake	5.0	5.2	5.5	5.8	6.0	6.3	6.6	6.8	7.1	7.4	7.6	7.9	8.2	8.4	8.7	9.0

Applicable controller

EC	-	R 6)					Rog Typ	ີ່ເ	lotor Jnit upled	Straight Motor	Body width	24v Pulse motor
Model Speci EC	ficatio	on Items R6	Lead] —		Stroke		Cable Length		- [Oţ	otions	
			S 20mm H 12mm M 6mm L 3mm		50 ≀ 300	50mm ≀ 300mm (per 50mm)	0 1 ≀ 10	With terminal block type cor 1m 2 10m	nnector		Refer to the Op	otions table be	elow.
Horizontal				70			 c S	he actuator specifications lepending on the accelera peed/Acceleration" for m e value of the horizontal	ation and ore detail	speed. F s.	lease refer t	o "Table of I	Payload by

eleo No



	depending on the acceleration and speed. Please refer to "Table of Payload by Speed/Acceleration" for more details.
ction tes	 The value of the horizontal payload assumes that there is an external guide. Please be aware that the anti-rotation stopper can be damaged when an external force is applied to the rod from any direction other than the moving direction. When performing a push-motion operation, pleasae refer to the "Correlation graph between push force and current limit value." Push force is only a Reference value. Please refer to P110 for details.
	(4) Limit on duty may be needed depending on the ambient operation temperature. Please refer to P110 for details.
	(5) Special attention needs to be paid to the mounting orientation. Please refer to

P30 for details.

Options		
Туре	Option code	Reference page
Brake	В	See P.97
Flange (front)	FL	See P.98
Foot bracket	FT	See P.99
Tip adapter (Internal thread)	NFA	See P.102
Non-motor end specification	NM	See P.104
PNP specification	PN	See P.104
Split motor and controller power supply specification	TMD2	See P.105
Battery-less Absolute Encoder specification	WA	See P.105
Wireless communication specification	WL	See P.105
Wireless axis-operation specification	WL2	See P.105

Cable Length	
Cable code	Cable length
0	No cable (with connector)
1~3	1 ~ 3m
4~5	4 ~ 5m
6~10	6 ~ 10m

(Note) Robot cables.

Side

-

 \Box

Main specifications

		ltem		Descr	iption	
Lead		Ball screw lead (mm)	20	12	6	3
	Devide and	Max. payload (kg) (energy-saving disabled)	6	25	40	60
	Payload	Max. payload (kg) (energy-saving enabled)	6	25	40	40
Horizontal	Speed/	Max. speed (mm/s)	800	700	450	225
	acceleration/	Min. speed (mm/s)	25	15	8	4
	deceleration	Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
	deceleration	Max. accleration/deceleration (G)	1	1	1	1
		Max. payload (kg) (energy-saving disabled)	1.5	4	10	12.5
	Payload Max. payload (kg) (energy-saving enabled)		1	4	10	12.5
Vertical	Speed/ acceleration/	Max. speed (mm/s)	800	700	450	225
		Min. speed (mm/s)	25	15	8	4
	deceleration	Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
	deceleration	Max. accleration/deceleration (G)	0.5	0.5	0.5	0.5
Push force		Pushing max. thrust force (N)*	67	112	224	449
Pushiorce		Pushing max. speed (mm/s)	20	20	20	20
Brake		Brake holding specification			on actu d brake	
		Brake holding force (kgf)	1.5	4	10	12.5
		Min. stroke (mm)	50	50	50	50
Stroke		Max. stroke (mm)	300	300	300	300
		Stroke pitch (mm)	50	50	50	50

ltem	Description
Driving system	Ball screw ø10mm, Rolling C10
Positioning repeatability	±0.05mm
Lost motion	-
Rod	ø25mm Material: Aluminum Hard alumite treatment
Rod non-rotation accuracy (Note 1)	±1.5 degree
Allowable load and torque on the rod tip.	0.5N·m
Ambient operation temperature/humidity	0~40°C, 85%RH or less (Non-condensing)
Degree of protection	IP20
Vibration & shock resistance	4.9m/s ² 100Hz or less
Overseas standards	CE marking, RoHS (Restriction of Hazardous Substances)
Motor type	Pulse motor
Encoder type	Incremental / battery-less absolute
Number of encoder pulses	800 pulse/rev

(Note 1) The rod tip displacement angle (initial reference value) when allowable static torque is applied on rod tip when most of the rod is in the body.

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

Table of Payload by Speed/Acceleration

Setting for energy-saving disabled Unit for payload is kg. Operations on the blank locations are not possible.

Lead 20								Lead 1
Orientation		Horizo	ntal		Ver	tical		Orientat
Speed		Ac	celerat	ion	(G)			Speed
(mm/s)	0.3	0.5	0.7	1	0.3	0.5		(mm/s
0	6	6	5	5	1.5	1.5		0
160	6	6	5	5	1.5	1.5		100
320	6	6	5	3	1.5	1.5		200
480	6	6	5	3	1.5	1.5		400
640	6	4	3	2	1.5	1.5		500
800	4	3			1	1		700

ead 12												
Drientation		Horiz	ontal		Ver	tical						
Speed		Acceleration (G)										
(mm/s)	0.3	0.5	0.7	1	0.3	0.5						
0	25	18	16	12	4	4						
100	25	18	16	12	4	4						
200	25	18	16	10	4	4						
400	20	14	10	6	4	4						
500	15	8	6	4	3.5	3						
700	6	2			2	1						

Lead 6										
Orientation		Horiz	ontal		Ver	tical				
Speed	Acceleration (G)									
(mm/s)	0.3	0.5	0.7	1	0.3	0.5				
0	40	35	30	25	10	10				
50	40	35	30	25	10	10				
100	40	35	30	25	10	10				
200	40	30	25	20	10	10				
250	40	27.5	22.5	18	9	8				
350	30	14	12	10	5	5				
400	18	10	6	5	3	3				
450	8	3			2	1				

Orientation		Horizontal Ve				rtical	
Speed		1	Accele	ratio	n (G)		
(mm/s)	0.3	0.5	0.7	1	0.3	0.5	
0	60	50	45	40	12.5	12.5	
50	60	50	45	40	12.5	12.5	
100	60	50	45	40	12.5	12.5	
125	60	50	40	30	10	10	
175	40	35	25	20	6	5	
200	35	30	20	14	5	4.5	
225	16	16	10	6	5	4	



5

Setting for energy-saving enabled Unit for payload is kg.

Lead 20

Leau 20					
Orientation	Horiz	Vertical			
Speed	Acceleration (G)				
(mm/s)	0.3	0.7	0.3		
0	6	5	1		
160	6	5	1		
320	6	5	1		
480	4	3	1		
640	3	1	0.5		

ead 12							
Orientation	Horiz	Vertical					
Speed	Ac	Acceleration (G)					
(mm/s)	0.3	0.7	0.3				
0	25	10	4				
100	25	10	4				
200	25	10	4				
300	20	8	3				
400	10	5	2				
500	5	2	1				

Lead 6				
Orientation	ion Horizontal			
Speed	Acceleratio			
(mm/s)	0.3	0.7		
0	40	20		
50	40	20		
100	40	20		

40

35

10

20

18

6

150

200

250

Vertical

0.3 10

10 10

8

5

3

ı (G)

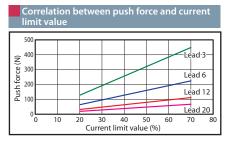
Lead 3					
Orientation	Horiz	Vertical			
Speed	Acceleration (G)				
(mm/s)	0.3	0.7	0.3		
0	40	25	12.5		
25	40	25	12.5		
50	40	25	12.5		
75	40	25	12		
100	40	25	9		

40 25

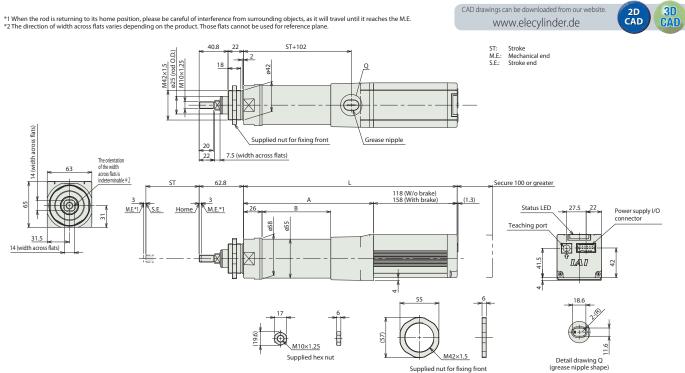
125

Stroke and maximum speed					
Lead (mm)	Energy-saving mode	50-200 (per 50mm)	250 (mm)	300 (mm)	
20	Disabled		800		
20	Enabled				
12	Disabled	700	547		
12	Enabled	500			
6	Disabled	450	376	268	
0	Enabled	250			
3	Disabled	255	186	133	
3	Enabled		125		

(Unit is mm/s)







Dimensions by stroke

Stroke		50	100	150	200	250	300						
L	L	W/o Brake	301.5	351.5	401.5	451.5	501.5	551.5					
		L	L	L	L	L	L	L	With Brake	341.5	391.5	441.5	491.5
	A		183.5	233.5	283.5	333.5	383.5	433.5					
	В		97	147	197	247	297	347					

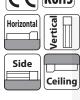
Mass by stroke

Stroke		50	100	150	200	250	300
Weight (kg)	W/o Brake	1.6	1.8	2	2.2	2.4	2.6
weight (kg)	With Brake	1.8	2	2.2	2.4	2.6	2.8

Applicable controller

EC-R7 Motor Unit Body widt 24v Pulse motor Rod Type **73** Straight Motor Model Specification Items EC _ **R7** Series Туре Lead Stroke Cable Length Options 50mm 24mm 50 0 With terminal block type connector Refer to the Options table below. 16mm Н M 8mm 300mm 1m ≀ 300 (per 50mm) L 10 10m C E RoHS

OIN





(1) The actuator specifications display the payload's maximum value, but it will vary
depending on the acceleration and speed. Please refer to "Table of Payload by
Speed/Acceleration" for more details.

- (2) The value of the horizontal payload assumes that there is an external guide. Please be aware that the anti-rotation stopper can be damaged when an external force is applied to the rod from any direction other than the moving direction. (3) When performing a push-motion operation, please refer to the "Correlation between push force and current limit value." Push force is only a guide. Please refer to P110 for details.
- (4) Depending on the ambient operating temperature, duty control is necessary. Please refer to P110 for details.
- (5) Special attention needs to be paid to the mounting orientation. Please refer to P30 for details.

Options				
Туре	Option code	Reference page		
Brake	В	See P.97		
Flange (front)	FL	See P.98		
Foot bracket	FT	See P.99		
Tip adapter (Internal thread)	NFA	See P.102		
Non-motor end specification	NM	See P.104		
PNP specification	PN	See P.104		
Split motor and controller power supply specification	TMD2	See P.105		
Battery-less Absolute Encoder specification	WA	See P.105		
Wireless communication specification	WL	See P.105		
Wireless axis-operation specification	WL2	See P.105		

Cable length

Cable code	Cable length
0	No cable (with connector)
1~3	1 ~ 3m
4~5	4 ~ 5m
6~10	6 ~ 10m

(Note) Robot cables.

Main specifications

		Item		Descr	iption	
Lead		Ball screw lead (mm) 24 16			8	4
	Payload	Max. payload (kg) (energy-saving disabled)	20	50	60	80
	Fayloau	Max. payload (kg) (energy-saving enabled)		40	50	55
Horizontal	6 IV	Max. speed (mm/s)		700	350	175
HOHZOHIdi	Speed/ acceleration/	Min. speed (mm/s)	30	20	10	5
	deceleration/	Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
	deceleration	Max. accleration/deceleration (G)	1	1	1	1
		Max. payload (kg) (energy-saving disabled)	3	8	18	19
Vertical Paylo Speer accel decel	Payload	Max. payload (kg) (energy-saving enabled)		5	17.5	19
	Speed/ acceleration/	Max. speed (mm/s)	640	560	350	175
		Min. speed (mm/s)	30	20	10	5
	deceleration	Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
	deceleration	Max. accleration/deceleration (G)	0.5	0.5	0.5	0.5
Duch force		Pushing max. thrust force (N)*	182	273	547	1094
Pushiorce		Pushing max. speed (mm/s)	20	20	20	20
Brake		Brake holding specification		Non-excitation actuating solenoid brake		
		Brake holding force (kgf)	3	8	18	19
		Min. stroke (mm)	50	50	50	50
Stroke		Max. stroke (mm)	300	300	300	300
		Stroke pitch (mm)	50	50	50	50

Item	Description
Driving system	Ball screw ø12mm, Rolling C10
Positioning repeatability	±0.05mm
Lost motion	-
Rod	ø30mm Material: Aluminum Hard alumite treatment
Rod non-rotation accuracy (Note 1)	±1.5 degree
Allowable load and torque on the rod tip.	0.5N · m
Ambient operation temperature/humidity	0~40°C, 85%RH or less (Non-condensing)
Degree of protection	IP20
Vibration & shock resistance	4.9m/s ² 100Hz or less
Overseas standards	CE marking, RoHS (Restriction of Hazardous Substances)
Motor type	Pulse motor
Encoder type	Incremental / battery-less absolute
Number of encoder pulses	800 pulse/rev

(Note 1) The rod tip displacement angle (initial Reference value) when allowable static torque is applied on rod tip when most of the rod is in the body.

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

Table of Payload by Speed and Acceleration

Setting for energy-saving disabled Unit for payload is kg. Operations on the blank locations are not possible.

Lead 24						
Orientation		Horiz		Ver	tical	
Speed		Ac	celerati	on (G)	
(mm/s)	0.3	0.5	0.7	1	0.3	0.5
0	20	18	15	12	3	3
200	20	18	15	12	3	3
400	20	14	12	8	3	3
420	17	12	10	6	3	3
600	14	6	5	4	3	2
640	5	3	2	1.5	2	1
800	5	1	1			
860	2	0.5				

Orientation		Horiz	ontal		Ver	tical
Speed		A	ccelera	tion (G)	
(mm/s)	0.3	0.5	0.7	1	0.3	0.5
0	50	40	35	30	8	8
140	50	40	35	30	8	8
280	50	35	25	20	7	7
420	25	18	14	10	4.5	4
560	10	5	3	2	2	1
700	2					

Lead 8							
Orientation		Horizo	ntal		Ver	tical	
Speed		Acceleration (G)					
(mm/s)	0.3	0.5	0.7	1	0.3	0.5	
0	60	50	45	40	18	18	
70	60	50	45	40	18	18	
140	60	50	45	40	16	12	
210	60	40	31	26	10	9	
280	34	20	15	11	5	4	
350	12	4	1		2	1	

	Horiz	ontal		Vertical	
Acceleration (G)					
0.3	0.5	0.7	1	0.3	0.5
80	70	65	60	19	19
80	70	65	60	19	19
80	70	65	60	19	19
80	60	50	40	18	18
50	30	20	15	12	10
15				2	
	80 80 80 80 50	0.3 0.5 80 70 80 70 80 70 80 60 50 30	0.3 0.5 0.7 80 70 65 80 70 65 80 70 65 80 60 50 50 30 20	Acceleration Acceleration<	Vacuation 0.3 0.5 0.7 1 0.3 80 70 65 60 19 80 70 65 60 19 80 70 65 60 19 80 60 50 40 18 50 30 20 15 12



Setting for energy-saving enabled Unit for payload is kg. Operations on the blank locations are not possible

Lea

Lead 24

Orientation	Horiz	Horizontal				
Speed	Ac	celeration	n (G)			
(mm/s)	0.3	0.7	0.3			
0	18	9.5	3			
200	18	9.5	3			
400	11	6	1.5			
420	10	5				
600	1					

ad 16							
Orientation	Horiz	Vertical					
Speed	Ac	Acceleration (G)					
(mm/s)	0.3	0.7	0.3				
0	40	25	5				
140	40	25	5				
280	18	12	2				
420	1.5	1					

Lead 8						
Orientation	Horiz	Vertical				
Speed	Acceleration (G)					
(mm/s)	0.3	0.7	0.3			
0	50	30	17.5			
70	50	30	17.5			
140	50	30	7			
210	14	7	2			

Lead 4							
Orientation	Horiz	ontal	Vertical				
Speed	A	cceleratio	n (G)				
(mm/s)	0.3	0.7	0.3				
0	55	50	19				
35	55	50	19				
70	55	50	13				
105	30	15	2				

Stroke and maximum speed						
Lead (mm)	Energy-saving mode	50-300 (per 50mm)				
24	Disabled	860<640>				
24	Enabled	600<400>				
16	Disabled	700<560>				
10	Enabled	420<280>				
8	Disabled	350				
0	Enabled	210				
4	Disabled	175				
4	Enabled	105				

Correlation between push force and current limit value 1200 1000 Lead 4 Push force (N) 800 600 _Lead 8_ 400 Lead 16 200 Lead 24 0L 0 10 20 30 40 50 Current limit value (%) 60 70 80

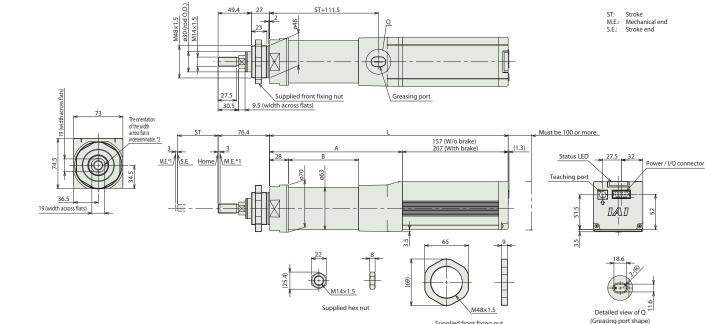
(Note) Figures in < > represent vertical operation. (Unit is mm/s)



*1 When the rod is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the M.E. *2 The direction of width across flats varies depending on the product. Those flats cannot be used for reference plane.

CAD drawings can be downloaded from our website. www.elecylinder.de





Supplied front fixing nut

(Greasing port shape)

Dimensions by stroke

	Stroke	50	100	150	200	250	300
	W/o Brake	354	404	454	504	554	604
L	With Brake	404	454	504	554	604	654
	Α	197	247	297	347	397	447
	В	104	154	204	254	304	354

Mass by stroke

	Stroke	50	100	150	200	250	300
Mainha (lun)	W/o Brake	3.3	3.5	3.7	3.9	4.1	4.3
Weight (kg)	With Brake	3.5	3.7	3.9	4.1	4.3	4.5

Applicable controller

EC-RR3

24v Pulse

Reference page

ference pa See P.97 See P.97 See P.98 See P.99 See P.101 See P.101 See P.101 See P.101

See P.102 See P.104 See P.104 See P.105

See P.105 See P.105 See P.105

3.5

3.5

3.5

3.5

3

2.5

3.5

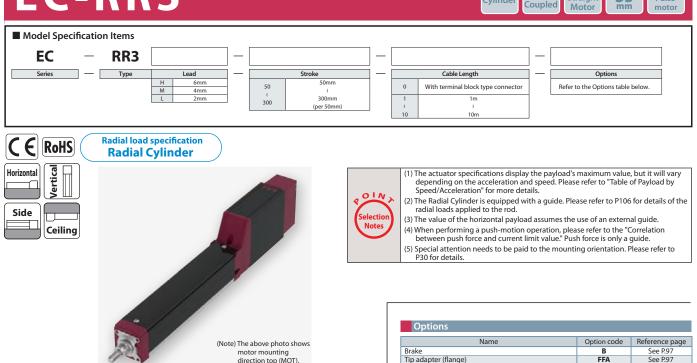
Option code

FFA

FT MOB MOL MOR мот

NFA NM PN TMD2

WA WA WL2



Stroke and maximum speed								
Lead (mm)	50-150 (per 50mm)	200 (mm)	250 (mm)	300 (mm)				
6	420	300	210	150				
4	280	200	140	100				
2	140	100	70	50				

Cable length						
Cable code	Cable length					
0	No cable (with connector)					
1~3	1 ~ 3m					
4~5	4 ~ 5m					
6~10	6~10m					
(Note) Robot cables.						

(Note) The above photo shows

motor mounting direction top (MOT).

(Unit is mm/s)

Main s	pecification	S						
Item Description								
Lead		Ball screw lead (mm)	6	4	2			
	Payload	Max. payload (kg)	9	14	18			
	Speed/	Max. speed (mm/s)	420	280	140			
Horizontal	acceleration/	Min. speed (mm/s)	8	5	3			
	deceleration	Rated acceleration/deceleration (G)	0.3	0.3	0.3			
	deceleration	Max. acceleration/deceleration (G)	0.5	0.3	0.3			
	Payload	Max. payload (kg)	1.5	2.5	3.5			
	Speed/ acceleration/ deceleration	Max. speed (mm/s)	420	280	140			
Vertical		Min. speed (mm/s)	8	5	3			
		Rated acceleration/deceleration (G)	0.3	0.3	0.3			
		Max. acceleration/deceleration (G)	0.3	0.3	0.3			
Push force		Max. thrust force when pushing (N)*	45	68	136			
Push force		Max. speed when pushing (mm/s)	20	20	20			
Brake		Brake specification		i-excitat ting sol brake				
		Brake holding force (kgf)	1.5	2.5	3.5			
		Min. stroke (mm)	50	50	50			
Stroke		Max. stroke (mm)	300	300	300			
		Stroke pitch (mm)	50	50	50			

Item	Description
Driving system	Ball screw ø6mm, Rolling C10
Positioning repeatability	±0.05mm
Lost motion	-
Linear guide	Linear motion infinite circulating type
Rod	ø16mm, Material: aluminum, Hard alumite treatment
Rod no-rotation precision	0 degree
(Note 2)	odegiee
Ambient operation	0 to 40°C, RH 85% or less (Non-condensing)
temperature/humidity	0 to 40 C, RIT 83% of less (Nor-condensing)
Degree of protection	IP20
Vibration & shock resistance	4.9m/s ² , 100Hz or less
Overseas standards	CE Marking, RoHS (Restriction of Hazardous Substances)
Motor type	Pulse motor
Encoder type	Incremental / battery-less absolute
Number of encoder pulses	800 pulse /rev.

(Note 1) Please make sure to enter a code in the option column of the model spec item.

(Note 2) The rod tip displacement angle when no load is applied.

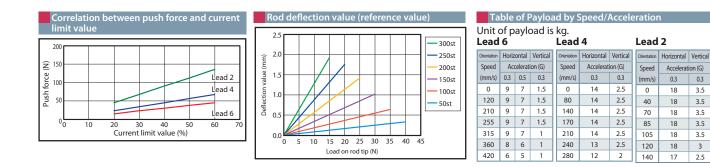
Speed limitation applies to push motion. See the manual or contact IAI.

Brake Tip adapter (flange)

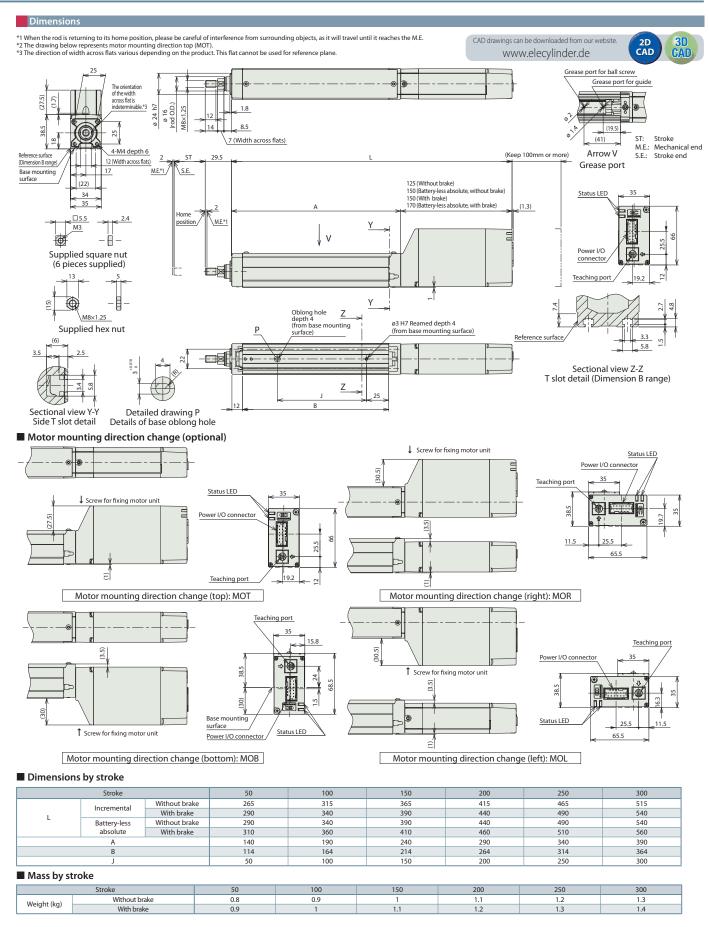
The adapter (Targe) Frange (front) Foot bracket (front) Motor mounting direction change (bottom) (Note 1) Motor mounting direction change (right) (Note 1) Motor mounting direction change (right) (Note 1) Motor mounting direction change (top) (Note 1) The adapter (franch cerwa)

Tip adapter (female screw) Non-motor end specification PNP specification Split motor and controller power supply specification

Battery-less absolute encoder Wireless communication specification Wireless axis-operation specification



EC EleCylinder



Applicable controller

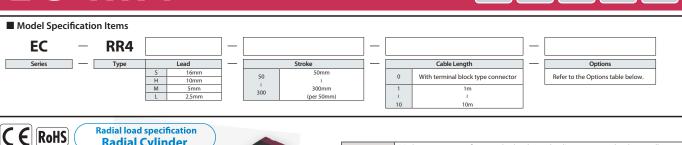
Vertica

Ceiling

Horizontal

Side

EC-RR4



Radial Cylinder

.



Cable length

No cable (with connector) 1~3m

4 ~ 5m

6~10m

(Note) The above photo shows

motor mounting direction

Cable length Cable code

0

1~3 4~5

6~10

(Note) Robot cables

(Unit is mm/s)

top (MOT).

(1) The actuator specifications display the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to "Table of Payload by Speed/Acceleration" for more details.

- (2) The Radial Cylinder is equipped with a guide. Please refer to P106 for details of the radial loads applied to the rod.
- (3) The value of the horizontal payload assumes the use of an external guide.
- (4) When performing a push-motion operation, please refer to the "Correlation between push force and current limit value." Push force is only a guide.

(5) Special attention needs to be paid to the mounting orientation. Please refer to P30 for details.

Strok	e and max	imum speed			
500		· · · · · ·			
Lead	Energy-	50-150	200	250	300
(mm)	saving	(per 50mm) (mm)		(mm)	(mm)
16	disabled	800	600	440	
10	enabled			440	
10	disabled	700	570	390	290
10	enabled	525	525		
5	disabled	350	280	190	140
5	enabled	260	190	140	
2.5	disabled	175 <150>	135	90	70
2.5	enabled	135		90	70

Figures in < > represent vertical operations.

Main specifications

		ltem		Descr	iption					
Lead		Ball screw lead (mm)	16	10	5	2.5				
	Daulaad	Max. payload (kg) (energy-saving disabled)	7	16	25	35				
	Payload	Max. payload (kg) (energy-saving enabled)	5	10	22	35				
Horizontal	Speed/	Max. speed (mm/s)	800	700	350	175				
Horizontai	acceleration/	Min. speed (mm/s)	40	30	7	4				
		Rated acceleration/deceleration (G)	0.3	0.3	0.3	2.5 35 35 4 0.3 6.5 6.5 150 4 0.3 0.3 263 20 kenoid brake 6.5 50				
	deceleration	Max. acceleration/deceleration (G)	1	1	0.5	0.3				
	Payload	Max. payload (kg) (energy-saving disabled)	1.5	2.5	5	6.5				
	Fayloau	Max. payload (kg) (energy-saving enabled)	1	2	4.5	6.5				
Vertical	Speed/	Max. speed (mm/s)	800	700	350	150				
vertical	acceleration/	Min. speed (mm/s)	40	30	7	4				
	deceleration	Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3				
	deceleration	Max. acceleration/deceleration (G)	0.5	0.5	0.5	0.3				
Push force		Max. thrust force when pushing (N)*	41	66	132	263				
Fusitionce		Max. speed when pushing (mm/s)	40	30	20	20				
Brake		Brake specification	Non-excit	Non-excitation actuating solenoid bra						
DIAKE		Brake holding force (kgf)	1.5	2.5	5	6.5				
		Min. stroke (mm)	50	50	50	50				
Stroke		Max. stroke (mm)	300	300	300	300				
		Stroke pitch (mm)	50	50	50	50				

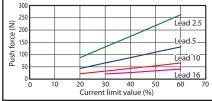
	Options								
		Name	Option code	Reference page					
	Brake		В	See P.97					
	Tip adapter	(flange)	FFA	See P.97					
	Flange (fron		FL	See P.98					
	Foot bracket		FT	See P.99					
		ing direction change (bottom) (Note 1)	MOB	See P.101					
		ting direction change (left) (Note 1)	MOL	See P.101					
		ting direction change (right) (Note 1)	MOR	See P.101					
		ting direction change (top) (Note 1)	мот	See P.101					
		(female screw)	NFA	See P.102					
gth		end specification	NM	See P.104					
onnector)	PNP specific		PN	See P.104					
		d controller power supply specification	TMD2	See P.105					
		absolute encoder	WA	See P.105					
		nmunication specification	WL	See P.105					
า		-operation specification make sure to enter a code in the optior	WL2	See P.105					
11.	em	Description							
Driving syster		Ball screw ø8mm, Rolling C10							
Positioning re		+0.05mm							
Lost motion	epeatability	±0.05mm							
		- Line and a stimulation of a standard standard standard standard standard standard standard standard standard st							
Linear guide Rod		Linear motion infinite circulating ty		4					
	precision (Note 2)	ø20mm, Material: aluminum, Hard alumite treatment 0 degree							
Ambient ope		0 degree							
temperature/		0 to 40°C, RH 85% or less (Non-condensing)							
Degree of pro	otection	IP20							
Vibration & sh	nock resistance	4.9m/s ² , 100Hz or less							
Overseas star	ndards	CE Marking, RoHS (Restriction of Hazardous Substances)							
Motor type		Pulse motor							
Encoder type	1	Incremental / battery-less absolute							
		000 1 /							

Number of encoder pulses 800 pulse /rev. (Note 2) The rod tip displacement angle when no load is applied.

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

Options

Correlation between push force and current limit value



Rod deflection value (reference value)

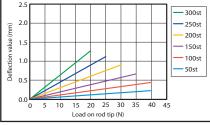
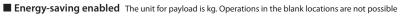


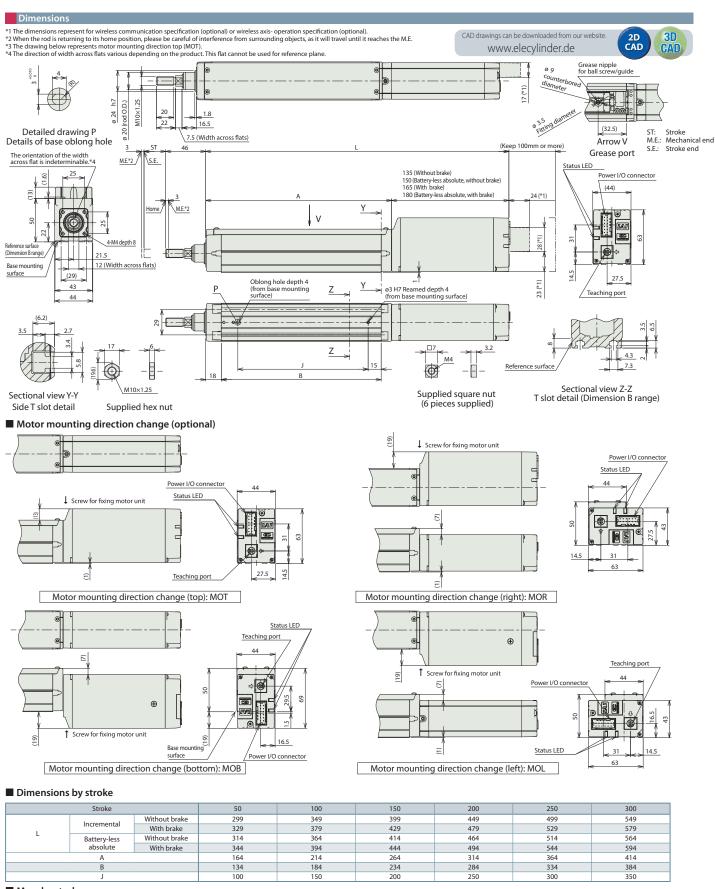
Table of Payload by Speed and Acceleration/Deceleration

Energy-saving disabled The unit for payload is kg. Operations in the blank locations are not possible

				,																	
Lead 1	6						Lead 1	0						Lead 5	5				Lead 2	.5	
Orientation		Horiz	onta	I	Ve	rtical	Orientation		Horiz	onta	1	Vert	ical	Orientation	Horiz	ontal	Ver	tical	Orientation	Horizontal	Vertical
Speed		1	Accel	eratio	on (G)		Speed		Ac	celera	ation	(G)		Speed	Aco	celerat	ion (0	G)	Speed	Accelerat	ion (G)
(mm/s)	0.3	0.5	0.7	1	0.3	0.5	(mm/s)	0.3	0.5	0.7	1	0.3	0.5	(mm/s)	0.3	0.5	0.3	0.5	(mm/s)	0.3	0.3
0	7	6	5	3.5	1.5	1.25	0	16	15	13	11	2.5	2	0	25	22	5	4.5	0	35	6.5
140	7	6	5	3.5	1.5	1.25	175	16	15	13	11	2.5	2	85	25	22	5	4.5	40	35	6.5
280	7	6	4.5	3.5	1.5	1.25	350	16	11	11	7.5	2.5	2	130	25	22	5	4.5	85	35	6.5
420	7	6	3.5	2.5	1.5	1.25	435	15	9	8	6.5	2.5	2	215	25	22	5	4.5	105	35	6.5
560	6.5	5.5	3.5	2.5	1.5	1.25	525	11	7	5.5	4.5	2.5	2	260	25	22	5	4.5	135	32	6
700	5.5	3.5	2.5	1.5	1	1	600	7	4.5	3.5	2.5	2	2	300	22	18	5	4	150	30	6
800		1	1	1		1	700		2.5	1.5			1	350	18	11	3	3	175	28	
	Lead 1 Orientation Speed (mm/s) 0 140 280 420 560 700	Orientation Orientation Speed (mm/s) 0.33 0 7 7 140 7 280 7 420 7 560 6.5 700 5.5 5 5	Orientation Horiz Speed // (mmv/s) 0.3 0.5 0 7 6 140 7 6 280 7 6 420 7 6 560 6.5 5.5 700 5.5 3.5	Orientation Horizonta Speed	Orientation Horizontal Speed Acceleration (mm/s) 0.3 0.5 0.7 1 0 7 6 5 3.5 140 7 6 5 3.5 280 7 6 4.5 3.5 560 6.5 5.5 3.5 2.5 700 5.5 3.5 2.5 1.5	Horizontal Vec Speed Acceleration (G) (mm/s) 0.3 0.5 0.7 1 0.3 0 7 6 5 3.5 1.5 140 7 6 5 3.5 1.5 280 7 6 4.5 3.5 1.5 420 7 6 3.5 2.5 1.5 560 6.5 5.5 3.5 2.5 1.5 700 5.5 3.5 2.5 1.5	Vertical Orientation Horizontal Vertical Speed	Jead 16 Vertical Orientation Orientation Speed Orienation Orienation Orienation	Lead 16 Lead 10 Orientation Speed Orientation Speed Corientation Speed	Lead 16 Lead 10 Orientation Vertical Orientation Generation (G) Generation (G) Generation (G) Contentation Horiz Speed Acceleration (G) (mm/s) 0.3 0.5 (mm/s) 0.3 0.5 0 7 6 5 3.5 1.5 1.25 0 16 15 140 7 6 3.5 1.5 1.25 350 16 11 420 7 6 3.5 2.5 1.5 1.25 350 16 11 560 6.5 5.3 2.5 1.5 1.25 435 19 9 560 6.5 3.5 2.5 1.5 1 600 7 4.5	Lead 16 Lead 10 Orientation Horizontal Vertical Speed Horizontal Speed Acceleration (G) Orientation Horizontal Speed Acceleration (mm/s) 0.3 0.5 0.7 1 0.3 0.5 (mm/s) 0.3 0.5 0 16 15 13 140 7 6 5 3.5 1.5 1.25 175 16 15 13 280 7 6 4.5 3.5 1.5 1.25 350 16 11 11 420 7 6 3.5 2.5 1.5 1.25 350 16 11 11 420 7 6 3.5 2.5 1.5 1.25 525 11 7 5.5 700 5.5 3.5 2.5 1.5 1 1 600 7 4.5 3.5	Vertical Forizontal Vertical Speed Acceleration Horizontal Speed Acceleration Grientation Horizontal Image: Speed Acceleration Grientation Image: Speed Acceleration Image: Speed Image: Speed	Lead 16 Lead 10 Orientation Horizontal Vertical Orientation Horizontal Vertical Speed	Lead 16 Lead 10 Orientation Horizontal Vertical Speed Horizontal Vertical Speed - - - Speed -	Lead 16 Lead 10 Lead 10 Lead 5 0/entation Horizontal Vertical Speed Horizontal Vertical Speed (mm/s) 0.3 0.5 0.7 1 0.3 0.5 0.7 1 0.3 0.5 0.7 1 0.3 0.5 0.7 1 0.3 0.5 0.7 1 0.3 0.5 0.7 1 0.3 0.5 0.7 1 0.3 0.5 0.7 1 0.3 0.5 0.7 1 0.3 0.5 0.7 1 0.3 0.5 0.7 1 0.3 0.5 0.7 1 0.3 0.5 0.5 0.5 0.5 0.5 1.5 1.25 1.5 1.3 11 2.5 2.5 2	Defentation Horizontal Vertical Speed Horizontal Vertical Speed Acceleration Orientation Horizontal Vertical Speed Acceleration Orientation Horizontal Vertical Speed Acceleration Orientation Horizontal Vertical Speed Acceleration Orientation Horizontal Speed Acceleration Orientation Orientation Horizontal Vertical Orientation Horizontal Vertical Speed Acceleration Orientation Acceleration Orientation Orientation Orientation Integer Acceleration	Lead 16 Lead 10 Lead 10 Lead 5 0/entation Horizontal Vertical Speed Horizontal Vertical Speed Acceleration (G) 0.3 0.5 0.7 1 0.3 0.5 0.7 1 0.3 0.5 0.7 1 0.3 0.5 0.7 1 0.3 0.5 0.7 1 0.3 0.5 0.7 1 0.3 0.5 0.7 1 0.3 0.5 0.7 1 0.3 0.5 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.5 2.5 2.5 2.2 2.2 2.2 2.2 2.2 2.2	Lead 16 Lead 10 Lead 10 Lead 5 0/entation Horizontal Vertical Speed Horizontal Vertical Speed Normalian Normalian Horizontal Vertical Speed Normalian Normalian <td< td=""><td>Definitiation Horizontal Vertical Orientation Horizontal Vertical Orientation Horizontal Vertical Speed Acceleration (G) (G) Orientation Interview Speed Acceleration (G) (G) Orientation Interview Orientation Interview Speed Acceleration (G) (G) O O O O S S S S S S S S S S S S S S S S S</td><td>Lead 16 Lead 10 Lead 5 Lead 2 Orientation Horizontal Vertical Speed Vertical Orientation Horizontal Vertical Speed Normalian Vertical Speed Vertical Speed Normalian Normalian Speed Normalian Normalian Speed Normalian Normalian Speed Normalian Speed Normal</td><td>Defentation Horizontal Vertical Speed Acceleration Horizontal Vertical Speed Acceleration Governation Horizontal Vertical Governation Horizontal Speed Acceleration Governation Horizontal Vertical Governation Governation Governation Governation Governation <th< td=""></th<></td></td<>	Definitiation Horizontal Vertical Orientation Horizontal Vertical Orientation Horizontal Vertical Speed Acceleration (G) (G) Orientation Interview Speed Acceleration (G) (G) Orientation Interview Orientation Interview Speed Acceleration (G) (G) O O O O S S S S S S S S S S S S S S S S S	Lead 16 Lead 10 Lead 5 Lead 2 Orientation Horizontal Vertical Speed Vertical Orientation Horizontal Vertical Speed Normalian Vertical Speed Vertical Speed Normalian Normalian Speed Normalian Normalian Speed Normalian Normalian Speed Normalian Speed Normal	Defentation Horizontal Vertical Speed Acceleration Horizontal Vertical Speed Acceleration Governation Horizontal Vertical Governation Horizontal Speed Acceleration Governation Horizontal Vertical Governation Governation Governation Governation Governation <th< td=""></th<>



Lead	16		Lead	110		Lea	nd 5		Lead 2.5				
Orientatio	n Horiz	zontal	Vertical	Orientation	Horiz	ontal	Vertical	Orientation	Horizontal	Vertical	Orientation	Horizontal	Vertical
Speed	Speed Accelerat		ion (G)	Speed	Accelera		ion (G)	Speed	Accelerat	ion (G)	Speed	Accelerat	ion (G)
(mm/s) 0.3	0.7	0.3	(mm/s)	0.3	0.7	0.3	(mm/s)	0.3	0.3	(mm/s)	0.3	0.3
0	5	3	1	0	10	6.5	2	0	22	4.5	0	35	6.5
140	5	3	1	175	10	6.5	2	85	22	4.5	40	35	6.5
280	5	3	1	350	9	6.5	2	130	22	4.5	85	35	6.5
420	4	3	1	435	5	2.5	1.5	215	18	3	105	30	6
560	3	1.5	1	525	1		1	260	12	2	135	25	3.5



Mass by stroke

Weight (kg)

Applicable controller

Stroke

(Note) The EC series is equipped with a built-in controller. Please refer to P111 for details

Without brake

With brake

50

1.3

1.5

100

1.5

17

150

1.7

1.9

200

1.9

2.1

250

2.1

2.2

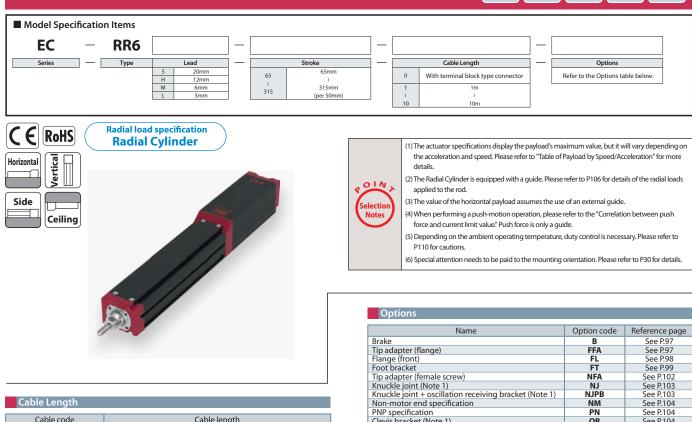
300

2.3

2.4

EC EleCylinder

EC-RR6



Cable Length	
Cable code	Cable length
0	No cable (with connector)
1~3	1 ~ 3m
4~5	4 ~ 5m
6~10	6 ~ 10m

(Note) Robot cables

Main specifications

	Item Description							
Lead		Ball screw lead (mm)	20	12	6	3		
	Devile e d	Max. payload (kg) (energy-saving disabled)	6	25	40	60		
	Payload	Max. payload (kg) (energy-saving enabled)	6	25	40	40		
Horizontal	Canad (Max. speed (mm/s)	800	700	450	225		
Horizontai	Speed/ acceleration/	Min. speed (mm/s)	25	15	8	4		
	deceleration	Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3		
	deceleration	Max. acceleration/deceleration (G)	1	1	1	1		
		Max. payload (kg) (energy-saving disabled)	1.5	4	10	12.5		
	Payload	Max. payload (kg) (energy-saving enabled)		4	10	12.5		
Vertical	Speed/ acceleration/ deceleration	Max. speed (mm/s)	800	700	450	225		
		Min. speed (mm/s)	25	15	8	4		
		Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3		
		Max. acceleration/deceleration (G)	0.5	0.5	0.5	0.5		
Push force		Max. thrust force when pushing (N)*	67	112	224	449		
Push force		Max. speed when pushing (mm/s)	20	20	20	20		
Brake		Brake specification		excitati solenoi				
		Brake holding force (kgf)	1.5	4	10	12.5		
		Min. stroke (mm)	65	65	65	65		
Stroke		Max. stroke (mm)	315	315	315	315		
		Stroke pitch (mm)	50	50	50	50		

Item	Description
Driving system	Ball screw ø10mm, Rolling C10
Positioning repeatability	±0.05mm
Lost motion	-
Linear guide	Linear motion infinite circulating type
Rod	ø25mm Material: Aluminum Hard alumite treatment
Rod no-rotation precision	0 degree
(Note 2)	olegiee
Ambient operation	0~40°C, 85%RH or less (Non-condensing)
temperature/humidity	0~40 C, 85%RH OF less (NOII-COndensing)
Degree of protection	IP20
Vibration & shock resistance	4.9m/s ² 100Hz or less
Overseas standards	CE Marking, RoHS (Restriction of Hazardous Substances)
Motor type	Pulse motor
Encoder type	Incremental / battery-less absolute
Number of encoder pulses	800 pulse/rev

(Note 1) Please purchase a clevis bracket (QR or QRPB) and a knuckle joint (NJ or NJPB) together as a set. Mounting is to be done by customer.

(Note 2) The rod tip displacement angle when no load is applied.

PNP specification Clevis bracket (Note 1) Clevis bracket - oscillation receiving bracket (Note 1) Split motor and controller power supply specification Battery-less absolute encoder Wireless communication specification Wireless axis-operation specification Wireless axis-operation specification

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

Table of Payload by Speed/Acceleration

Setting for energy-saving disabled Unit for payload is kg. Operations on the blank locations are not possible.

Lead 20

Orientation		Horizontal				tical
Speed		A	ccelera	ition (G)	
(mm/s)	0.3	0.5	0.7	1	0.3	0.5
0	6	6	5	5	1.5	1.5
160	6	6	5	5	1.5	1.5
320	6	6	5	3	1.5	1.5
480	6	6	5	3	1.5	1.5
640	6	4	3	2	1.5	1.5
800	4	3			1	1

Lead 12							
Orientation		Horizo	ntal		Ver	rtical	
Speed		Ac	celerat	ion	(G)		
(mm/s)	0.3	0.5	0.7	1	0.3	0.5	
0	25	18	16	12	4	4	
100	25	18	16	12	4	4	
200	25	18	16	10	4	4	
400	20	14	10	6	4	4	
500	15	8	6	4	3.5	3	
700	6	6 2 .				1	

Lead 6						
Orientation		Horizontal				tical
Speed		Ac	celerati	on (G)	
(mm/s)	0.3	0.5	0.7	1	0.3	0.5
0	40	35	30	25	10	10
50	40	35	30	25	10	10
100	40	35	30	25	10	10
200	40	30	25	20	10	10
250	40	27.5	22.5	18	9	8
350	30	14	12	10	5	5
400	18	10	6	5	3	3
450	8	3			2	1

A bea I

Orientation		Horiz	ontal		Ver	tical
Speed		/	Accele	ratior	ו (G)	
(mm/s)	0.3	0.5	0.7	1	0.3	0.5
0	60	50	45	40	12.5	12.5
50	60	50	45	40	12.5	12.5
100	60	50	45	40	12.5	12.5
125	60	50	40	30	10	10
175	40	35	25	20	6	5
200	35	30	20	14	5	4.5
225	16	16	10	6	5	4

See P.103 See P.104 See P.104 See P.104 See P.105 See P.105 See P.105 See P.105 See P.105

NM PN

QR QRPB TMD2 WA WL WL2



Vertical

0.3

20

20

Horizontal

0.3

40

40

50 60 70 80

90

2D CAD

5

4.3

3D CAD

Acceleration (G)

0.7

25

25

Setting for energy-saving enabled Unit for payload is kg.

Load	20

Orientation	Horizontal		Vertical
Speed	Ac	celeration	n (G)
(mm/s)	0.3	0.7	0.3
0	6	5	1
160	6	5	1
320	6	5	1
480	4	3	1
640	3	1	0.5

				500
Strok	e and maxim	num speed		
Lead (mm)	Energy-saving mode	65-215 (per 50mm)	265 (mm)	315 (mm)
20	Disabled 800			
20	Enabled			
12	Disabled	700	660	480
12	Enabled	500		480
6	Disabled	450	325	235
0	Enabled	250		235
3	Disabled	225	160	115
3	Enabled	125		115

Horiz	Vertical	
Ac	n (G)	
0.3	0.7	0.3
25	10	4
25	10	4
25	10	4
20	8	3
10	5	2
5	2	1

250 10 Correlation between push force and current limit value

Lead 6

Orientation

Speed (mm/s)

0

50

100

150

200

Horizontal

0.3

40

40

40

40

35

Acceleration (G)

0.7

20

20

20

20

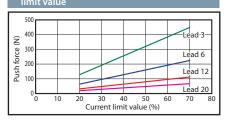
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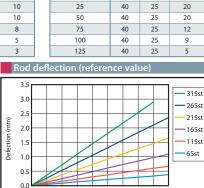
6

Vertical

0.3

10





40

Tip load (N)

30

(Unit is mm/s)

Lead 12

Orientatio

Speed (mm/s)

0

200

300

400

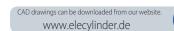
100

Dimensions

□7

M4

*1 When the rod is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the M.E. *2 The direction of width across flats varies depending on the product. Those flats cannot be used for reference plane.



10 20

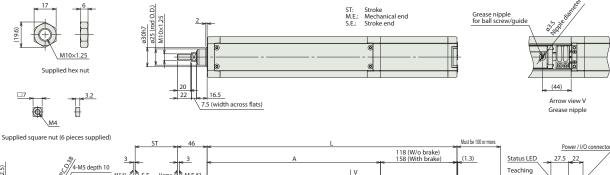
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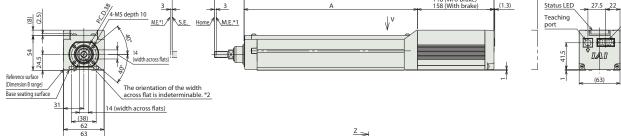
Lead 3

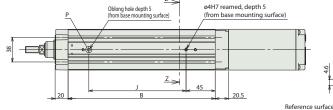
Orientation

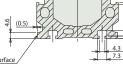
Speed (mm/s)

0









3.0

Sectional view 7-7 T slot detail (Dimension B range)

Dimensions by stroke

Detail drawing P

Base long hole detail

	Stroke	65	115	165	215	265	315
	W/o Brake	335.5	385.5	435.5	485.5	535.5	585.5
L	With Brake	375.5	425.5	475.5	525.5	575.5	625.5
	A	217.5	267.5	317.5	367.5	417.5	467.5
	В	177	227	277	327	377	427
	J	100	150	200	250	300	350
Mass by st	Mass by stroke						
	Stroke	65	115	165	215	265	315
	Without brake	1.7	2.0	2.2	2.5	2.7	3.0

2.4

2.7

2.2

Mass (kg)

Applicable controller

(Note) The EC series is equipped with a built-in controller. Please refer to P111 for details

1.9

With brake

3.2

EC-RR7

24v

Pulse



Cable code	Cable length
0	No cable (with connector)
1~3	1 ~ 3m
4~5	4 ~ 5m
6~10	6 ~ 10m

(Note) Robot cables.

Main specifications

		ltem		Descr	iption	
Lead		Ball screw lead (mm)	24	16	8	4
Payload		Max. payload (kg) (energy-saving disabled)		50	60	80
	Payloau	Max. payload (kg) (energy-saving enabled)	18	40	50	55
Horizontal	Horizontal Speed/	Max. speed (mm/s)	860	700	350	175
acceleration/	Min. speed (mm/s)	30	20	10	5	
	deceleration	Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
	deceleration	Max. accleration/deceleration (G)	1	1	1	1
		Max. payload (kg) (energy-saving disabled)	3	8	18	19
Payload		Max. payload (kg) (energy-saving enabled)		5	17.5	19
Vertical	Speed/	Max. speed (mm/s)	640	560	350	175
		Min. speed (mm/s)	30	20	10	5
	acceleration/ deceleration	Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
	deceleration	Max. accleration/deceleration (G)		0.5	0.5	0.5
Push force		Pushing max. thrust force (N)*	182	273	547	1094
Pushiorce		Pushing max. speed (mm/s)		20	20	20
Brake		Brake holding specification		Non-excitation actuating solenoid brake		
		Brake holding force (kgf)	3	8	18	19
		Min. stroke (mm)	65	65	65	65
Stroke		Max. stroke (mm)	315	315	315	315
		Stroke pitch (mm)	50	50	50	50

L

Item	Description	
Driving system	Ball screw ø12mm, Rolling C10	
Positioning repeatability	±0.05mm	
Lost motion	-	
Linear guide	Linear motion infinite circulating type	
Rod	ø30mm Material: Aluminum Hard alumite treatment	
Rod non-rotation accuracy (Note 2)	0 degree	
Ambient operation temperature/humidity	0~40°C, 85%RH or less (Non-condensing)	
Degree of protection	IP20	
Vibration & shock resistance	4.9m/s ² 100Hz or less	
Overseas standards	CE marking, RoHS (Restriction of Hazardous Substances)	
Motor type	Pulse motor	
Encoder type	Incremental / battery-less absolute	
Number of encoder pulses	800 pulse/rev	

(Note 1) Please purchase a clevis bracket (QR or QRPB) and a knuckle joint (NJ or NJPB) together as a set.

(Note 2) The rod tip displacement angle when no load is applied.

Mounting is to be done by customer

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

Table of Payload by Speed/Acceleration

Setting for energy-saving disabled Unit for payload is kg. Operations on the blank locations are not possible.

Lead 24									
Orientation		Horizontal Vertical							
Speed		Ac	celerati	on (G)				
(mm/s)	0.3	0.5	0.7	1	0.3	0.5			
0	20	18	15	12	3	3			
200	20	18	15	12	3	3			
400	20	14	12	8	3	3			
420	17	12	10	6	3	3			
600	14	6	5	4	3	2			
640	5	3	2	1.5	2	1			
800	5	1	1						
860	2	0.5							

ead 16						
Orientation		Horizontal Vertical				
Speed		Ac	celerat	ion	(G)	
(mm/s)	0.3	0.5	0.7	1	0.3	0.5
0	50	40	35	30	8	8
140	50	40	35	30	8	8
280	50	35	25	20	7	7
420	25	18	14	10	4.5	4
560	10	5	3	2	2	1
700	2					

Lead 8								Le	
Orientation		Horiz	ontal		Ver	tical		С	
Speed		Acceleration (G)							
(mm/s)	0.3	0.5	0.7	1	0.3	0.5			
0	60	50	45	40	18	18			
70	60	50	45	40	18	18			
140	60	50	45	40	16	12			
210	60	40	31	26	10	9			
280	34	20	15	11	5	4			
350	12	4	1		2	1			

Lead 4								
Orientation		Horizontal Vertical						
Speed		A	ccelera	tion (G)			
(mm/s)	0.3	0.5	0.7	1	0.3	0.5		
0	80	70	65	60	19	19		
35	80	70	65	60	19	19		
70	80	70	65	60	19	19		
105	80	60	50	40	18	18		
140	50	30	20	15	12	10		
175	15				2			

WL2

See P.105



perations on the blank locations are not possible Setting for energy-saving enabled Unit for payload is k

Lead 24					Lead 16
Orientation	Horiz	ontal	Vertical		Orientatio
Speed	Acceleration (G)				Speed
(mm/s)	0.3	0.7	0.3		(mm/s)
0	18	9.5	3		0
200	18	9.5	3		140
420	10	5	1.5		280
600	1				420

load	is kg. Op	erations	on the bl	an				
n	Horizontal Vertical							
	Ac	Acceleration (G)						
	0.3	0.7	0.3					
	40	25	5					
	40	25	5					
	18	12	2					
	1.5	1						

Lead 8					
Orientation	Horizontal Vertical				
Speed	Ac	celeration	n (G)		
(mm/s)	0.3	0.7	0.3		
0	50	30	17.5		
70	50	30	17.5		
140	50	30	7		
210	14	7	2		

	Lead 4			
	Orientation	Horiz	ontal	Vertical
	Speed (mm/s)	Ac	celeration	n (G)
		0.3	0.7	0.3
	0	55	50	19
	35	55	50	19
	70	55	50	13
	105	30	15	2

Stroke and maximum speed										
Lead (mm)	Energy-saving mode	65-215 (per 50mm)	265 (mm)	315 (mm)						
24 Disabled 860<640>										
24	Enabled	600)<420>							
16	Disabled	700<560>								
10	Enabled	420<280>								
8	Disabled	350								
0	Enabled	210								
4	Disabled	175								
4	Enabled	105								
Note) Figu	res in < > represer	nt vertical operatio	ns. (U	Jnit is mm/s						

M14×1.5

₽

Supplied hex nut

□8

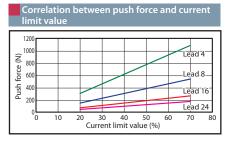
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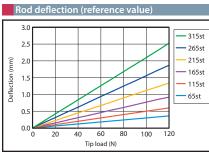
7

Reference surface (Dimension B range)

Ø

M5





Dimensions

*1 When the rod is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the M.E. *2 The direction of width across flats varies depending on the product. Those flats cannot be used for reference plane.

_30.5

23.5

9.5 (width across flats)

rod O.D.)

ø35h7 ø30 (



Reference surface

ST: Stroke M.E.: Mechanical end S.E.: Stroke end

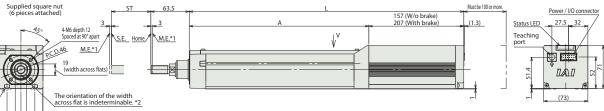
6

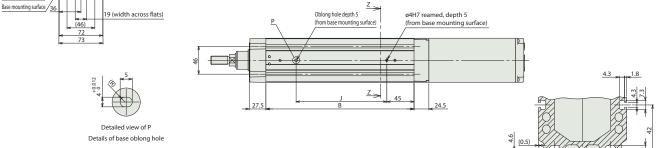




8.5

Cross section of Z-Z Details of T-slot (Dimension B range) 2.5







	Stroke	65	115	165	215	265	315
	W/o Brake	404	454	504	554	604	654
L	With Brake	454	504	554	604	654	704
A		247	297	347	397	447	497
	В	195	245	295	345	395	445
	J	100	150	200	250	300	350
Mass by st	troke						
	Stroke	65	115	165	215	265	315
Mass (kg)	Without brake	3.7	4.1	4.4	4.8	5.2	5.5
Ividss (kg)	With brake	4.3	4.6	5.0	5.3	5.7	6.1

Applicable controller



Cable Length	
Cable code	Cable length
0	No cable (with connector)
1~3	1 ~ 3m
4~5	4 ~ 5m
6~10	6 ~ 10m

Main specifications

(Note) Robot cables.

			Descr	iption		
Lead Ball screw lead (mm)			20	12	6	3
	Payload	Max. payload (kg) (energy-saving disabled)	6	25	40	60
	Payloau	Max. payload (kg) (energy-saving enabled)	6	25	40	40
Horizontal	Canad (Max. speed (mm/s)	800	700	450	225
HOHZOHILdi	Speed/ acceleration/	Min. speed (mm/s)	25	15	8	4
	deceleration/	Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
	deceleration	Max. accleration/deceleration (G)	1	1	1	1
		Max. payload (kg) (energy-saving disabled)	1.5	4	10	20
	Payload	Max. payload (kg) (energy-saving enabled)	1	4	10	20
Vertical	Speed/ acceleration/	Max. speed (mm/s)	800	700	450	225
		Min. speed (mm/s)	25	15	8	4
	deceleration	Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
	deceleration	Max. accleration/deceleration (G)	0.5	0.5	0.5	0.5
Push force		Pushing max. thrust force (N)*	67	112	224	449
Pushiorce		Pushing max. speed (mm/s)	20	20	20	20
Brake		Brake holding specification			on actu d brake	
		Brake holding force (kgf)	1.5	4	10	20
		Min. stroke (mm)	50	50	50	50
Stroke		Max. stroke (mm)	400	400	400	400
		Stroke pitch (mm)	50	50	50	50

ltem	Description
Driving system	Ball screw ø10mm, Rolling C10
Positioning repeatability	±0.05mm
Lost motion	-
Linear guide	Linear motion infinite circulating type
Rod	ø25mm Material: Aluminum Hard alumite treatment
Rod non-rotation accuracy (Note 2)	0 degree
Ambient operation temperature/humidity	0~40°C, 85%RH or less (Non-condensing)
Degree of protection	IP20
Vibration & shock resistance	4.9m/s ² 100Hz or less
Overseas standards	CE marking, RoHS (Restriction of Hazardous Substances)
Motor type	Pulse motor
Encoder type	Incremental / battery-less absolute
Number of encoder pulses	800 pulse/rev

(Note 1) Please purchase a clevis bracket (QR or QRPB) and a knuckle joint (NJ or NJPB) together as a set.

(Note 2) The rod tip displacement angle when no load is applied.

Clevis bracket (Note 1) Clevis bracket (Note 1) Clevis bracket + oscillation receiving bracket (Note 1) Split motor and controller power supply specification Battery-less absolute encoder Wireless communication specification Wireless axis-operation specification

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

Table of Payload by Speed/Acceleration

Setting for energy-saving disabled Unit for payload is kg. Operations on the blank locations are not possible.

Lead 12

Lead 20						
Orientation		Horiz	ontal		Ver	tical
Speed		A	ccelera	ition (G)	
(mm/s)	0.3	0.5	0.7	1	0.3	0.5
0	6	6	5	5	1.5	1.5
160	6	6	5	5	1.5	1.5
320	6	6	5	3	1.5	1.5
480	6	6	5	3	1.5	1.5
640	6	4	3	2	1.5	1.5
800	4	3			1	1

Orientation		Horizo	ntal		Ver	tical
Speed		Ac	celerat	tion	(G)	
(mm/s)	0.3	0.5	0.7	1	0.3	0.5
0	25	18	16	12	4	4
100	25	18	16	12	4	4
200	25	18	16	10	4	4
400	20	14	10	6	4	4
500	15	8	6	4	3.5	3
700	6	2			2	1

ientation		Horiz	ontal		Ver	tical
Speed		Ac	celerati:	on (G)	
mm/s)	0.3	0.5	0.7	1	0.3	0.5
0	40	35	30	25	10	10
50	40	35	30	25	10	10
100	40	35	30	25	10	10
200	40	30	25	20	10	10
250	40	27.5	22.5	18	9	8
350	30	14	12	10	5	5
400	18	10	6	5	3	3
450	8	3			2	1

Lead 6 Or (

Lead 3						
Orientation		Horiz	ontal		Ver	tical
Speed		,	Accele	ratio	n (G)	
(mm/s)	0.3	0.5	0.7	1	0.3	0.5
0	60	50	45	40	20	20
50	60	50	45	40	20	20
100	60	50	45	40	20	20
125	60	50	40	30	10	10
175	40	35	25	20	6	5
200	35	30	20	14	5	4.5
225	16	16	10	6	5	4

WA

WL2

See P.105 See P.105 See P.105 See P.105



Setting for energy-saving enabled Unit for payload is kg.

Lead 20

	Orientation	Horiz	ontal	Vertical
Speed (mm/s)	Ac	celeration	n (G)	
	0.3	0.7	0.3	
	0	6	5	1
	160	6	5	1
	320	6	5	1
	480	4	3	1
	640	3	1	0.5

Lead 12							
Orientation	Horizontal Vertic						
Speed	Ac	celeration	n (G)				
(mm/s)	0.3	0.7	0.3				
0	25	10	4				
100	25	10	4				
200	25	10	4				
300	20	8	3				
400	10	5	2				
500	5	2	1				

ientation	Horiz	Vei			
Speed mm/s)	Acceleration (G)				
mm/s)	0.3	0.7	(
0	40	20			
50	40	20			
100	40	20			
150	40	20			

35

10

18

6

Vertical

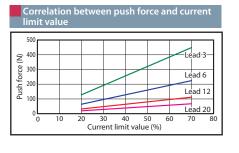
8

5

3

Lead 3			
Orientation	Horiz	ontal	Vertical
Speed	Ac	celeration	n (G)
(mm/s)	0.3	0.7	0.3
0	40	25	20
25	40	25	20
50	40	25	20
75	40	25	12
100	40	25	9
125	40	25	5

Stroke and maximum speed						
Lead (mm)	Energy-saving mode	50-400 (per 50mm)				
20	Disabled	800				
20	Enabled	640				
12	Disabled	700				
	Enabled	500				
6	Disabled	450				
0	Enabled	250				
3	Disabled	225				
3	Enabled	125				
(Unit is mm/s)						

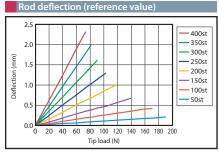


Lead 6

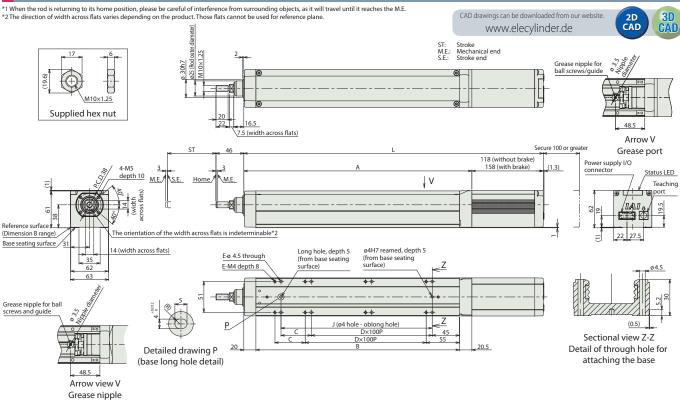
Or

200

250



Dimensions



Dimensions by stroke

	Stroke	50	100	150	200	250	300	350	400
	W/o Brake	345	395	445	495	545	595	645	695
L .	With Brake	385	435	485	535	585	635	685	735
	A	227	277	327	377	427	477	527	577
	В	186.5	236.5	286.5	336.5	386.5	436.5	486.5	536.5
	C	0	50	0	50	0	50	0	50
	D	1	1	2	2	3	3	4	4
	E	4	6	6	8	8	10	10	12
	J	100	150	200	250	300	350	400	450
Mass by stroke									
	Stroke	50	100	150	200	250	300	350	400
Woig	ht (kg) W/o Brake	2	2.2	2.5	2.8	3	3.3	3.6	3.8
weig	With Brake	2.3	2.5	2.8	3.1	3.3	3.6	3.9	4.1

Applicable controller

The EC series is equipped with a controller built-in. Please refer to P111 for details.



Cable Length	
Cable code	Cable length
0	No cable (with connector)
1~3	1 ~ 3m
4~5	4 ~ 5m
6~10	6 ~ 10m

(Note) Robot cables.

Main s	pecification	5				
		ltem		Descr	iption	
Lead		Ball screw lead (mm)	24	16	8	4
	Davidaard	Max. payload (kg) (energy-saving disabled)	20	50	60	80
	Payloau	Max. payload (kg) (energy-saving enabled)	18	40	50	55
Harizontal	Canad (Max. speed (mm/s)	860	700	350	175
Horizontal Pa Accident Vertical Sp accident Pa Sp accident Sp		Min. speed (mm/s)	30	20	10	5
		Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	1				
		Max. payload (kg) (energy-saving disabled)	3	8	18	28
	Payload	Max. payload (kg) (energy-saving enabled)	3	5	17.5	26
Vertical	1 · ·	Max. speed (mm/s)	640	560	350	175
Vertical		Min speed (mm/s)		20	10	5
		Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
	deceleration	Max. accleration/deceleration (G)	0.5	0.5	50 60 40 50 700 350 20 10 0.3 0.3 1 1 8 18 5 17.5 560 350 20 10 0.3 0.3 0.5 0.5 273 547 20 20 excitation actual on actual	0.5
Duch force		Pushing max. thrust force (N)*	182	273	50 50 350 10 0.3 1 18 17.5 350 10 0.3 0.5 547 20 ion actu ion actu io d brake 18 50 500	1094
Pushiorce		Pushing max. speed (mm/s)	20	20	20	20
Brake		Brake holding specification				
		Brake holding force (kgf)	3	8	18	28
		Min. stroke (mm)	50	50	50	50
Stroke		Max. stroke (mm)	500	500	500	500
		Stroke pitch (mm)	50	50	50	50

Item	Description
Driving system	Ball screw ø12mm, Rolling C10
Positioning repeatability	±0.05mm
Lost motion	-
Linear guide	Linear motion infinite circulating type
Rod	ø30mm Material: Aluminum Hard alumite treatment
Rod non-rotation accuracy (Note 2)	0 degree
Ambient operation temperature/humidity	0~40°C, 85%RH or less (Non-condensing)
Degree of protection	IP20
Vibration & shock resistance	4.9m/s ² 100Hz or less
Overseas standards	CE marking, RoHS (Restriction of Hazardous Substances)
Motor type	Pulse motor
Encoder type	Incremental / battery-less absolute
Number of encoder pulses	800 pulse/rev

(Note) Please purchase a clevis bracket (QR or QRPB) and a knuckle joint (NJ or NJPB) together as a set. Mounting is to be done by customer.

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

Clevis bracket (Note 1) Clevis bracket (Note 1) Split motor and controller power supply specification Battery-less absolute encoder Wireless communication specification Wireless axis-operation specification

Table of Payload by Speed/Acceleration

Setting for energy-saving disabled Unit for payload is kg. Operations on the blank locations are not possible.

Lead 24									
Orientation		Horizontal Vertical							
Speed		Ac	celerati	on (G)				
(mm/s)	0.3	0.5	0.7	1	0.3	0.5			
0	20	18	15	12	3	3			
200	20	20 18		12	3	3			
400	20	14	12	8	3	3			
420	17	12	10	6	3	3			
600	14	6	5	4	3	2			
640	5	3	2	1.5	2	1			
800	5	1	1						
860	2	0.5							

Orientation		Horizo	ntal		Ver	rtical	
Speed		Ac	celerat	ion	(G)		
(mm/s)	0.3	0.5	0.7	1	0.3	0.5	
0	50	40	35	30	8	8	
140	50	40	35	30	8	8	
280	50	35	25	20	7	7	
420	25	18	14	10	4.5	4	
560	10	5	3	2	2	1	
700	2						

Lead 8									
Orientation		Horiz	ontal		Vertical				
Speed		A	ccelera	tion (G)				
(mm/s)	0.3	0.5	0.7	1	0.3	0.5			
0	60	50	45	40	18	18			
70	60	50	45	40	18	18			
140	60	50	45	40	16	12			
210	60	40	31	26	10	9			
280	34	20	15	11	5	4			
350	12	4	1		2	1			

Lead 4									
Orientation		Horiz	ontal		Vertical				
Speed (mm/s)		A	ccelera	tion (G)				
	0.3	0.5	0.7	1	0.3	0.5			
0	80	70	65	60	28	28			
35	80	70	65	60	28	28			
70	80	70	65	60	28	28			
105	80	60	50	40	18	18			
140	50	30	20	15	12	10			
175	15				2				

NM PN QR QRPB TMD2

WA WL WL2

See P.105



Setting for energy-saving enabled Unit for payload is kg. Operations on the blank locations are not possible

Orientati

Speec (mm/s

140 280

420

. . . .

Lead 24					Lead 16
Orientation	Horiz	ontal	Vertical		Orientat
Speed	Ac	celeration	n (G)		Spee
(mm/s)	0.3	0.7	0.3	1	(mm/
0	18	9.5	3		0
200	18	9.5	3		140
420	10	5	1.5	1	280
630	1			1	420

yidau	is ky. Op	erations	on the bia
ion	Horiz	Vertical	
ł	Ac	celeration	n (G)
;)	0.3	0.7	0.3
	40	25	5
	40	25	5
	18	12	2
	1.5	1	

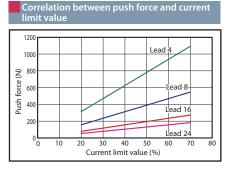
Lead 8			
Orientation	Horiz	ontal	Vertical
Speed	Ac	celeration	n (G)
(mm/s)	0.3	0.7	0.3
0	50	30	17.5
70	50	30	17.5
140	50	30	7
210	14	7	2

Lead 4			
Orientation	Horiz	ontal	Vertical
Speed	Ac	celeration	n (G)
(mm/s)	0.3	0.7	0.3
0	55	50	26
35	55	50	26
70	55	50	13
105	20	15	2

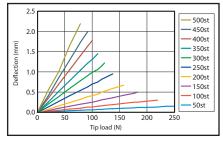
Stroke and maximum speed 50-500 Lead Energy-saving mode (mm (per 50mm

24	Disabled	860<640>					
24	Enabled	630<420>					
16	Disabled	700<560>					
16	Enabled	420<280>					
8	Disabled	350					
0	Enabled	210					
4	Disabled	175					
4	Enabled	105					
(Note) Figures in	Note) Figures in < > represent vertical operations. (Unit is mm/s						

es in < > represent vertical or ions.







Dimensions *1 When the rod is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the M.E. *2 The direction of width across flats varies depending on the product. Those flats cannot be used for reference plane. CAD drawings can be downloaded from our website 2D CAD 3D CAD www.elecylinder.de 30 (Rod outer diameter ST: M.E.: S.E.: Stroke Mechanical end Stroke end 22 8 M14×1.5 Grease nipple for ball screws and guide 35h7 (25.4) -۲ M14×1 Ð Supplied hex nut 30.5 .18 67 9.5 (Width across flats) Arrow V Secure 100 or greater ST 58 157 (without brake) 207 (with brake) Grease port (1.3) 3, _3 Power supply I/O depth 12 M.E.*1 Status LED M.E.*1 connecto S.E. Home ٧ Teaching port ats) DAD |X|19.5 è 🖬 Width Reference surfa 22 33 (Dimension B range) The orientation of the width across flats is indeterminable.*2 Long hole, depth 5 (from base seating ø4H7 reamed, depth 5 (from base seating surface) Base seating surface E-ø5.5 through surface) 19 (Width across flats) E-M5, depth 10 ø5.5 <u>_ Z</u> 45 74 000 Þ R \$-M φ. • -**6**- .

J (ø4 hole-long hole)

D×100P

D×100P

C .

<u> Z</u>

24.5

30.5

42.5

(0.5) Sectional view Z-Z Details of through hole for attaching the base

62 View V

Nipple

Detailed drawing P

Details for base long hole

P

27.

Grease nipple

Dimensions by stroke

Grease nipple

for ball screw guide

	Stroke	50	100	150	200	250	300	350	400	450	500		
	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	260.5	310.5	360.5	410.5	460.5	510.5	560.5	610.5	660.5	710.5		
	В	208.5	258.5	308.5	358.5	408.5	458.5	508.5	558.5	608.5	658.5		
	C	50	0	50	0	50	0	50	0	50	0		
	D	1	2	2	3	3	4	4	5	5	6		
	E	6	6	8	8	10	10	12	12	14	14		
	J	150	200	250	300	350	400	450	500	550	600		
Ma:	Mass by stroke												
	Stroke	50	100	150	200	250	300	350	400	450	500		
Mac	Without brake	4	4.4	4.7	5	5.4	5.7	6	6.4	6.7	7		
IVIAS	With brake	4.5	4.9	5.2	5.5	5.9	6.2	6.5	6.9	7.2	7.5		

Applicable controller

(Note) The EC series is equipped with a controller built-in. Please refer to P111 for details

$EC-RR6\square R$



(Note) Robot cables.

Main specifications

		Descr	iption			
Lead		Ball screw lead (mm)	20	3		
Horizontal	Payload	Max. payload (kg) (energy-saving disabled)		25	40	60
	Payloau	Max. payload (kg) (energy-saving enabled)		25	40	40
	Speed/ acceleration/ deceleration	Max. speed (mm/s)	800	700	450	225
TIONZONIA		Min. speed (mm/s)	25	15	8	4
		Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
dece	deceleration	Max. acceleration/deceleration (G)	1	1	1	1
		Max. payload (kg) (energy-saving disabled)		4	10	12.5
	Payload	Max. payload (kg) (energy-saving enabled)		4	10	12.5
Vertical	Speed/ acceleration/ deceleration	Max. speed (mm/s)		700	450	225
		Min. speed (mm/s)	25	15	8	4
		Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
		Max. acceleration/deceleration (G)	0.5	0.5	0.5	0.5
Push force		Max. thrust force when pushing (N)*		112	224	449
		Max. speed when pushing (mm/s)		20	20	20
Brake		Brake specification Solenoid brake				
		Brake holding force (kgf)		4	10	12.5
Stroke		Min. stroke (mm)	65	65	65	65
		Max. stroke (mm)		315	315	315
		Stroke pitch (mm)	50	50	50	50

(Note 1) When minimum stroke 65 mm is selected, brake and flange option (B/FL) cannot be selected together. (Note 2) Please make sure to enter a code in the option column of the model spec item. (Note 3) Please purchase a clevis bracket (QR or QRPB) and a knuckle joint (NJ or NJPB) together as a set. Mounting is to be done by customer.

Motor

Radial

Body widt

24v

Item	Description				
Driving system	Ball screw ø10mm, Rolling C10				
Positioning repeatability	±0.05mm				
Lost motion	-				
Linear guide	Linear motion infinite circulating type				
Rod	ø25mm Material: Aluminum Hard alumite treatment				
Rod no-rotation precision	0 degree				
(Note 4)	odegree				
Ambient operation	0~40°C, RH 85% or less (Non-condensing)				
temperature/humidity	0-40 C, NH 05 % OF less (Non-condensing)				
Degree of protection	IP20				
Vibration & shock resistance	4.9m/s ² 100Hz or less				
Overseas standards	CE Marking, RoHS (Restriction of Hazardous Substances)				
Motor type	Pulse motor				
Encoder type	Incremental / battery-less absolute				
Number of encoder pulses	800 pulse/rev				

(Note 4) The rod tip displacement angle when no load is applied.

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

Table of Payload by Speed and Acceleration/Deceleration

Energy-saving disabled Unit of payload is kg. Operations on the blank locations are not possible. Lead 12

Lead 20

Orientation		Horiz	Vertical				
Speed (mm/s)	Acceleration (G)						
	0.3	0.5	0.7	1	0.3	0.5	
0	6	6	5	5	1.5	1.5	
160	6	6	5	5	1.5	1.5	
320	6	6	5	3	1.5	1.5	
480	6	6	5	3	1.5	1.5	
640	6	4	3	2	1.5	1.5	
800	4	3			1	1	

Orientation		Horizo	Vertical					
Speed	Acceleration (G)							
(mm/s)	0.3	0.5	0.7	1	0.3	0.5		
0	25	18	16	12	4	4		
100	25	18	16	12	4	4		
200	25	18	16	10	4	4		
400	20	14	10	6	4	4		
500	15	8	6	4	3.5	3		
700	6	2			2	1		

Lead 6								
Orientation		Horiz	Vertical					
Speed (mm/s)	Acceleration (G)							
	0.3	0.5	0.7	1	0.3	0.5		
0	40	35	30	25	10	10		
50	40	35	30	25	10	10		
100	40	35	30	25	10	10		
200	40	30	25	20	10	10		
250	40	27.5	22.5	18	9	8		
350	30	14	12	10	5	5		
400	18	10	6	5	3	3		
450	8	3			2	1		

Lead 3								
Orientation	Horizontal				Vertical			
Speed (mm/s)	Acceleration (G)							
	0.3	0.5	0.7	1	0.3	0.5		
0	60	50	45	40	12.5	12.5		
50	60	50	45	40	12.5	12.5		
100	60	50	45	40	12.5	12.5		
125	60	50	40	30	10	10		
175	40	35	25	20	6	5		
200	35	23	15	10	5	4		
225	16	10			2.5			



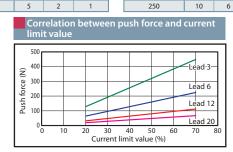
Vertical

Energy-saving enabled Unit of payload is kg.

I and	20
Ledu	20

Orientation	Horiz	Vertical	
Speed	Ac	celeration	n (G)
(mm/s)	0.3	0.7	0.3
0	6	5	1
160	6	5	1
320	6	5	1
480	4	3	1
640	3	1	0.5

				500
Strok	e and maxim	num speed		
Lead (mm)	Energy-saving mode	65-215 (per 50mm)	265 (mm)	315 (mm)
20	Disabled	800		
20	Enabled	640		
12	Disabled	700	660	480
12	Enabled	500		480
6	Disabled	450	325	235
0	Enabled	250		235
3	Disabled	225	160	115
3	Enabled	125		115
			(U	lnit is mm/s)



Lead 6

Orientatio

Speed (mm/s)

0

50

100

150

200

Horizontal

0.3

40

40

40

40

35

Acceleration (G)

0.7

20

20

20

20

18

Vertical

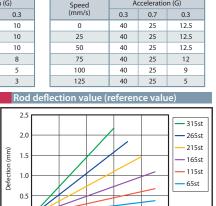
0.0

0

20

CAD drawings can be downloaded from our website

www.elecylinder.de



60

40 Tip load (N) 80

100

2D CAD

3D CAD

Horizontal

Acceleration (G)

Lead 3

Orientation

Dimensions

*1 When the rod is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the M.E. *2 The drawing below represents motor side-mounted to the left (ML). *3 The direction of width across flats various depending on the product. This flat cannot be used for reference plane.

Lead 12

Orientation

Speed (mm/s)

0

100

200

300

400

Horizontal

0.3

25

25

25

20

10

Acceleration (G)

0.7

10

10

10

8

5

Vertical

0.3

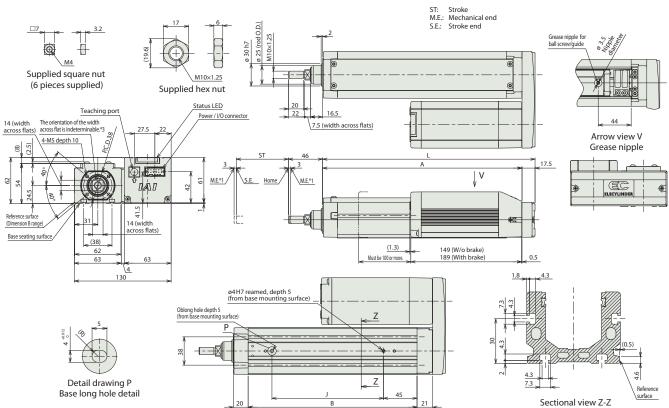
4

4

4

3

2



T slot detail (Dimension B range)

Dimensions by stroke

Stroke	65	115	165	215	265	315
L	235.5	285.5	335.5	385.5	435.5	485.5
A	218	268	318	368	418	468
В	177	227	277	327	377	427
J	100	150	200	250	300	350

Mass by stroke

	Stroke	65	115	165	215	265	315
Weight (kg)	Without brake	2.1	2.4	2.6	2.9	3.1	3.4
weight (kg)	With brake	2.3	2.6	2.8	3.1	3.3	3.6

Applicable controller

EC

Series

CE RoHS

Vertica

П

Cable length

Cable code 0

1~3

4~5

6~10

Main specifications

Payload

Speed/

Payload

Speed/

acceleration/

deceleration

acceleration/

deceleration

(Note) Robot cables.

Lead

Horizontal

Vertical

Push force

Brake

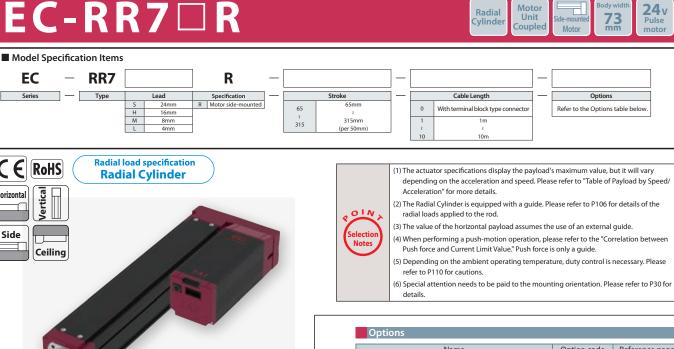
Stroke

Ceiling

Horizontal

Side

$\mathbf{EC} - \mathbf{RR7} \Box \mathbf{R}$



Option code	Reference page
В	See P.97
FFA	See P.97
FL	See P.98
FT	See P.99
ML	See P.101
MR	See P.101
NFA	See P.102
NJ	See P.103
NJPB	See P.103
NM	See P.104
PN	See P.104
QR	See P.104
QRPB	See P.105
TMD2	See P.105
WA	See P.105
WL	See P.105
WL2	See P.105
	FFA FL ML MR NFA NJ NJPB NM QR QRPB TMD2 WA WL

(Note 1) When minimum stroke 65 mm is selected, brake and flange option (B/FL) cannot be selected together. (Note 2) Please make sure to enter a code in the option column of the model spec item. (Note 3) Please purchase a clevis bracket (QR or QRPB) and a knuckle joint (NJ or NJPB) together as a set. Mounting is to be done by customer.

Item	Description			
Driving system	Ball screw ø12mm, Rolling C10			
Positioning repeatability	±0.05mm			
Lost motion	-			
Linear guide	Linear motion infinite circulating type			
Rod	ø30mm Material: Aluminum Hard alumite treatment			
Rod no-rotation precision	0 degree			
(Note 4)	olegiee			
Ambient operation	0~40°C, RH 85% or less (Non-condensing)			
temperature/humidity	0~40 C, RT 85% OF less (NOT-condensing)			
Degree of protection	IP20			
Vibration & shock resistance	4.9m/s ² 100Hz or less			
Overseas standards	CE Marking, RoHS (Restriction of Hazardous Substances)			
Motor type	Pulse motor			
Encoder type	Incremental / battery-less absolute			
Number of encoder pulses	800 pulse/rev			

(Note 4) The rod tip displacement angle when no load is applied.

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

Table of Payload by Speed and Acceleration/Deceleration

ltem

Ball screw lead (mm)

Max. speed (mm/s)

Min. speed (mm/s)

Max. speed (mm/s)

Min. speed (mm/s)

Brake specification

Min. stroke (mm)

Max. stroke (mm)

Stroke pitch (mm)

Brake holding force (kgf)

Max. payload (kg) (energy-saving disabled)

Max. payload (kg) (energy-saving enabled)

Max. payload (kg) (energy-saving disabled)

Max. payload (kg) (energy-saving enabled)

Rated acceleration/deceleration (G)

Max. acceleration/deceleration (G)

Rated acceleration/deceleration (G)

Max. acceleration/deceleration (G)

Max. thrust force when pushing (N)* Max. speed when pushing (mm/s)

Energy-saving disabled Unit of payload is kg. Operations on the blank locations are not possible.

(Note) The above photo shows motor side-mounted to the left (ML).

Cable length

1~3m

4 ~ 5m

6 ~ 10m

Description

160

0.3

1

140

20

50

actuating

700 320

1 1

5 17.5 19

18 19

280

547 1094

20

24 16 8 Δ

20 50 60 80

18 40 50 55

860

30 20 10 5

0.3 0.3 0.3

1

3 8

3

640 560

30 20 10

0.3 0.3 0.3 0.3

05 05 05 05

20 20

3 8 18 19

65 65 65 65

50 50 50

315 315 315 315

182 273

Non-excitation actua solenoid brake

No cable (with connector)

Lead 24							
Orientation		Horiz	ontal		Ver	tical	
Speed		Ac	celerati	on (G)		
(mm/s)	0.3	0.5	0.7	1	0.3	0.5	
0	20	18	15	12	3	3	
200	20	18	15	12	3	3	
400	20	14	12	8	3	3	
420	17	12	10	6	3	3	
600	14	6	5	4	2.5	2	
640	5	3	2	1.5	2	1	
800	5	1	1				
860	2	0.5					

Lead 16						
Orientation		Horizo	ontal		Ver	tical
Speed		Ac	celera	tion (G)	
(mm/s)	0.3	0.5	0.7	1	0.3	0.5
0	50	40	35	30	8	8
140	50	40	35	30	8	8
280	50	35	25	20	7	7
420	25	18	14	10	4.5	4
560	10	5	3	1.5	1	1
700	1					

Lead 8						
Orientation		Horiz	ontal		Ver	tical
Speed		A	ccelera	ition (G)	
(mm/s)	0.3	0.5	0.7	1	0.3	0.5
0	60	50	45	40	18	18
70	60	50	45	40	18	18
140	60	50	45	40	16	12
210	60	40	31	26	10	9
280	25	10	8	6	3	2.5
320	5					

Lead 4						
Orientation		Horiz	ontal		Ver	tical
Speed		A	ccelera	tion (G)	
(mm/s)	0.3	0.5	0.7	1	0.3	0.5
0	80	70	65	60	19	19
35	80	70	65	60	19	19
70	80	70	65	60	19	19
105	80	60	50	40	18	18
140	50	25	15	10	7	5
160	10					



Energy-saving enabled Unit of payload is kg. Operations on the blank locations are not possible.

Lead	24

Lead 24					Lead
Orientation	Horiz	ontal	Vertical		Ori
Speed	Ac	celeration	n (G)	1	
(mm/s)	0.3	0.7	0.3		(
0	18	9.5	3		
200	18	9.5	3		
420	10	5	1.5	1	
630	1				

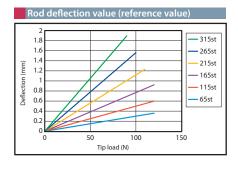
ead 16									
Orientation	Horiz	ontal	Vertical						
Speed	Ac	celeration	n (G)						
(mm/s)	0.3	0.7	0.3						
0	40	25	5						
140	40	25	5						
280	18	12	2						
420	1.5	1							

.ead 8									
Orientation	Horiz	ontal	Vertical						
Speed	Ac	celeration	n (G)						
(mm/s)	0.3	0.7	0.3						
0	50	30	17.5						
70	50	30	17.5						
140	50	30	7						
210	14	7	2						

Lead 4			
Orientation	Horiz	ontal	Vertical
Speed	Ac	celeration	n (G)
(mm/s)	0.3	0.7	0.3
0	55	50	19
35	55	50	19
70	55	50	13
105	30	15	2

Stroke and maximum speed									
Lead (mm)	Energy-saving mode	65-215 (per 50mm)	265 (mm)	315 (mm)					
24	Disabled	860)<640>						
24	Enabled	630)<420>						
16	Disabled	700<560>							
10	Enabled	420	420<280>						
8	Disabled	320)<280>						
8	Enabled		210						
4	Disabled	160)<140>						
4	Enabled		105						
(Note) Figu	res in < > represer	t vertical operatio	nc (1)	ait is mm/s)					

Correlation between push force and current limit value 120 100 Lead 4 force (N) 800 _Lead 8 600 Push 400 Lead 16 200 Lead 24 0 0 10 30 40 50 Current limit value (%) 70 60

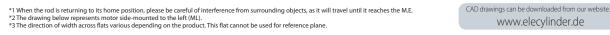


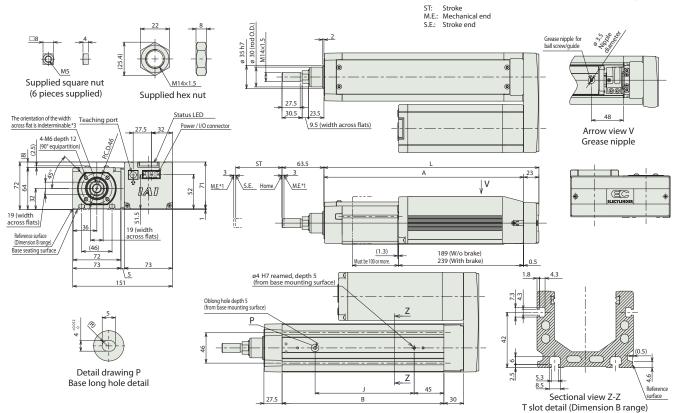
2D CAD

3D CAD

(Unit is mm/s) e) Figures in < > represent vertical operations.

Dimensions





Dimensions by stroke

Stroke	65	115	165	215	265	315
L	275.5	325.5	375.5	425.5	475.5	525.5
A	252.5	302.5	352.5	402.5	452.5	502.5
В	195	245	295	345	395	445
J	100	150	200	250	300	350

Mass by stroke

	Stroke	65	115	165	215	265	315
Weight (kg)	Without brake	4.4	4.8	5.1	5.5	5.8	6.2
weight (kg)	With brake	4.9	5.3	5.6	6.0	6.3	6.7

Applicable controller

Ε	C -	RR6□A			R		High Rigidi		Side-mounted 6	3 24v Pulse motor
Mod	el Specificati	on Items								
E (<u> </u>	RR6 AH			50 ₹ 400		roke 0 Wit 30mm 0 Wit 400mm 1 2 (per 50mm) 10	Cable Length	- Optic Refer to the Optic	
	RoHS	Radial load specification								
Side	Ceiling	Radial Cylinder					Selection Notes (2) The Radial Cyline radial loads appl (3) The value of the (4) When performin push force and c (5) Depending on th refer to P110 for	der is equipped with a guide. Ple ied to the rod. horizontal payload assumes the g a push-motion operation, ple urrent limit value." Push force is ne ambient operating temperat cautions. needs to be paid to the mount	ease refer to P106 fe e use of an external ase refer to the "Co only a guide. ure, duty control is ting orientation. Ple Option code B	or details of the guide. rrelation between necessary. Please ease refer to P30 for Reference page See P.97
		the left (ML).					Flange (front) (Note 1) Foot bracket	a laft (Nata 2)	FFA FL FT	See P.97 See P.98 See P.99
		the left (ML).					Flange (front) (Note 1) Foot bracket Motor side-mounted to the Motor side-mounted to the Tip adapter (female screw) Knuckle joint (Note 3)	e right (Note 2)	FL FT ML MR NFA NJ	See P.98 See P.99 See P.101 See P.101 See P.102 See P.103
Cable	length	the left (ML).					Flange (front) (Note 1) Foot bracket Motor side-mounted to the Motor side-mounted to the Tip adapter (female screw)	e right (Note 2) receiving bracket (Note 3)	FL FT ML MR NFA	See P.98 See P.99 See P.101 See P.101 See P.102
	length ble code	the left (ML).					Flange (front) (Note 1) Foot bracket Motor side-mounted to the Motor side-mounted to the Tip adapter (female screw) Knuckle joint (Note 3) Knuckle joint + oscillation Non-motor end specificatio PNP specification	e right (Note 2) receiving bracket (Note 3)	FL FT ML NFA NJ NJPB NM PN	See P.98 See P.99 See P.101 See P.102 See P.103 See P.103 See P.104 See P.104
			:or)		_		Flange (front) (Note 1) Foot bracket Motor side-mounted to the Tip adapter (female screw) Knuckle joint (Note 3) Knuckle joint + oscillation n Non-motor end specificatio PNP specification Clevis bracket (Note 3) Clevis bracket + oscillation	e right (Note 2) receiving bracket (Note 3) on receiving bracket (Note 3)	FL FT ML MR NFA NJ NJPB NM PN QR QRPB	See P.98 See P.99 See P.101 See P.102 See P.103 See P.103 See P.104 See P.104 See P.104 See P.104
Ca	ble code	Cable length No cable (with connect 1 ~ 3m	:or)				Flange (front) (Note 1) Foot bracket Motor side-mounted to the Motor side-mounted to the Tip adapter (female screw) Knuckle joint (Note 3) Knuckle joint (Note 3) Knuckle joint + oscillation Non-motor end specificatio PNP specification Clevis bracket (Note 3) Clevis bracket + oscillation Split motor and controller J	e right (Note 2) receiving bracket (Note 3) on receiving bracket (Note 3) power supply specification	FL FT ML NFA NJ NJPB NM PN QR QR QRPB TMD2	See P.98 See P.99 See P.101 See P.102 See P.103 See P.103 See P.104 See P.104 See P.104 See P.104 See P.105
Ca	ble code 0 1 ~ 3 4 ~ 5	Cable length No cable (with connect 1 ~ 3m 4 ~ 5m	:or)	_			Flange (front) (Note 1) Foot bracket Motor side-mounted to the Tip adapter (female screw) Knuckle joint (Note 3) Knuckle joint + oscillation n Non-motor end specificatio PNP specification Clevis bracket (Note 3) Clevis bracket + oscillation	e right (Note 2) receiving bracket (Note 3) on receiving bracket (Note 3) power supply specification der	FL FT ML MR NFA NJ NJPB NM PN QR QRPB	See P.98 See P.99 See P.101 See P.102 See P.103 See P.103 See P.104 See P.104 See P.104
Ca	ble code 0 1 ~ 3 4 ~ 5 6 ~ 10	Cable length No cable (with connect 1 ~ 3m	:or)				Flange (front) (Note 1) Foot bracket Motor side-mounted to the Motor side-mounted to the Tip adapter (female screw) Knuckle joint (Note 3) Knuckle joint + oscillation n Non-motor end specificatio PNP specification Clevis bracket + oscillation Split motor and controller Battery-less absolute encoo Wireless communication sp Wireless axis-operation spec (Note 1) When minimum stroke 5 (Note 2) Please make sure to em	e right (Note 2) receiving bracket (Note 3) on receiving bracket (Note 3) power supply specification der pecification ecification 0 mm is selected, brake and flang ter a code in the option column	FL FT ML MR NFA NJ PN PN QR PN QRPB TMD2 WA WL WL2 e option (8/FL) canno of the model spec.	See P.98 See P.99 See P.101 See P.101 See P.102 See P.103 See P.103 See P.104 See P.104 See P.104 See P.105 See P.105 See P.105 See P.105 See P.105
Ca Note) Robot	ble code 0 1 ~ 3 4 ~ 5 6 ~ 10	Cable length No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 10m	:or)				Flange (front) (Note 1) Foot bracket Motor side-mounted to the Motor side-mounted to the Tip adapter (female screw) Knuckle joint (Note 3) Knuckle joint + oscillation Non-motor end specificatio PNP specification Clevis bracket (Note 3) Clevis bracket + oscillation Split motor and controller Battery-less absolute encoo Wireless communication sp Wireless axis-operation spec (Note 1) When minimum stroke 5	e right (Note 2) receiving bracket (Note 3) on receiving bracket (Note 3) power supply specification der pecification ecification 0 mm is selected, brake and flang ter a code in the option column	FL FT ML MR NFA NJ PN PN QR PN QRPB TMD2 WA WL WL2 e option (8/FL) canno of the model spec.	See P.98 See P.99 See P.101 See P.101 See P.102 See P.103 See P.103 See P.104 See P.104 See P.104 See P.105 See P.105 See P.105 See P.105 See P.105
Ca Note) Robot Main s	ble code 0 1 ~ 3 4 ~ 5 6 ~ 10 t cables.	Cable length No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 10m S			iption		Flange (front) (Note 1) Foot bracket Motor side-mounted to the Tip adapter (female screw) Knuckle joint (Note 3) Knuckle joint (Note 3) Knuckle joint + oscillation 1 Non-motor end specificatio PNP specification Clevis bracket (Note 3) Clevis bracket + oscillation Split motor and controller Battery-less absolute encod Wireless communication sp Wireless axis-operation spec (Note 1) When minimum stroke 5 (Note 2) Please make sure to ent (Note 3) Please purchase a clevi Mounting is to be done	e right (Note 2) receiving bracket (Note 3) on receiving bracket (Note 3) power supply specification der secification 0 mm is selected, brake and flang ter a code in the option column s bracket (QR or QRPB) and a kn by customer.	FL FT ML MR NFA NJ NJPB NM PN QR QR QRPB TMD2 WA WL WL2 e option (6/FL) canno of the model spec uckle joint (NJ or N	See P.98 See P.99 See P.101 See P.101 See P.102 See P.103 See P.104 See P.104 See P.104 See P.104 See P.105 See P.105 See P.105 See P.105 See P.105
Ca lote) Robot Main s	ble code 0 1 ~ 3 4 ~ 5 6 ~ 10 t cables.	Cable length No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 10m S Item Ball screw lead (mm)	20	12	6	3	Flange (front) (Note 1) Foot bracket Motor side-mounted to the Tip adapter (female screw) Knuckle joint (Note 3) Knuckle joint + oscillation n Non-motor end specificatio PNP specification Clevis bracket + oscillation Split motor and controller Battery-less absolute encoo Wireless communication sp Wireless axis-operation spec (Note 1) When minimum stroke 5 (Note 2) Please make sure to en (Note 3) Please purchase a clevi Mounting is to be done	e right (Note 2) receiving bracket (Note 3) on receiving bracket (Note 3) power supply specification der secification 0 mm is selected, brake and flang ter a code in the option column s bracket (QR or QRPB) and a kn by customer.	FL FT ML MR NFA NJ NJPB NM PN QR QR QRPB TMD2 WA WL WL2 e option (6/FL) canno of the model spec uckle joint (NJ or N	See P.98 See P.99 See P.101 See P.101 See P.102 See P.103 See P.103 See P.104 See P.104 See P.104 See P.105 See P.105 See P.105 See P.105 See P.105
Ca lote) Robot Main s	ble code 0 1 ~ 3 4 ~ 5 6 ~ 10 t cables.	Cable length No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 10m S Item Ball screw lead (mm) Max. payload (kg) (energy-saving disabled)	20 6	12 25	6 40	60	Flange (front) (Note 1) Foot bracket Motor side-mounted to the Motor side-mounted to the Tip adapter (female screw) Knuckle joint (Note 3) Knuckle joint + oscillation n Non-motor end specificatio PNP specification Clevis bracket (Note 3) Clevis bracket + oscillation Split motor and controller Battery-less absolute encor Wireless communication sp Wireless axis-operation sp (Note 1) When minimum stroke 5 (Note 2) Please make sure to em (Note 3) Please purchase a clevi Mounting is to be done	e right (Note 2) receiving bracket (Note 3) on receiving bracket (Note 3) power supply specification der secification 0 mm is selected, brake and flang ter a code in the option column s bracket (QR or QRPB) and a kn by customer.	FL FT ML MR NFA NJ NJPB NM PN QR QR QRPB TMD2 WA WL WL2 e option (6/FL) canno of the model spec uckle joint (NJ or N	See P.98 See P.99 See P.101 See P.101 See P.102 See P.103 See P.103 See P.104 See P.104 See P.104 See P.105 See P.105 See P.105 See P.105 See P.105
Ca lote) Robol Main s .ead	ble code 0 1 ~ 3 4 ~ 5 6 ~ 10 t cables. specification Payload	Cable length No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 10m S Item Ball screw lead (mm)	20	12	6		Flange (front) (Note 1) Foot bracket Motor side-mounted to the Tip adapter (female screw) Knuckle joint (Note 3) Knuckle joint + oscillation n Non-motor end specificatio PNP specification Clevis bracket + oscillation Split motor and controller Battery-less absolute encoo Wireless communication sp Wireless axis-operation spec (Note 1) When minimum stroke 5 (Note 2) Please make sure to en (Note 3) Please purchase a clevi Mounting is to be done	e right (Note 2) receiving bracket (Note 3) on receiving bracket (Note 3) power supply specification der secification 0 mm is selected, brake and flang ter a code in the option column s bracket (QR or QRPB) and a kn by customer.	FL FT ML MR NFA NJ NJPB NM PN QR QRPB TMD2 WA WL WL2 e option (8/FL) cann of the model spec uckle joint (NJ or N Description 10	See P.98 See P.99 See P.101 See P.101 See P.102 See P.103 See P.103 See P.104 See P.104 See P.104 See P.105 See P.105 See P.105 See P.105 See P.105
Ca lote) Robol Main s .ead	ble code 0 1 ~ 3 4 ~ 5 6 ~ 10 t cables. specification Payload Speed/	Cable length No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 10m S Item Ball screw lead (mm) Max, payload (kg) (energy-saving disabled) Max, payload (kg) (energy-saving enabled) Max, speed (mm/s)	20 6 6 800 25	12 25 25 700 15	6 40 40 450 8	60 40 225 4	Flange (front) (Note 1) Foot bracket Motor side-mounted to the Motor side-mounted to the Tip adapter (female screw) Knuckle joint (Note 3) Knuckle joint + oscillation n Non-motor end specificatio PNP specification Clevis bracket + oscillation Split motor and controller Battery-less absolute encod Wireless communication sp Wireless axis-operation spec (Note 1) When minimum stroke 5 (Note 2) Please make sure to en (Note 3) Please purchase a clevis Mounting is to be done Item Driving system Positioning repeatability Lost motion Linear guide Rod	e right (Note 2) receiving bracket (Note 3) on receiving bracket (Note 3) power supply specification der cordication control selected, brake and flang ter a code in the option column b bracket (QR or QRPB) and a kn by customer. Ball screw ø10mm, Rolling C ±0.05mm -	FL FT ML MR NFA NJ NJPB NM PN QR QR QRPB TMD2 WA WL WL2 e option (B/FL) cann- of the model spec- uckle joint (NJ or N Description 10	See P.98 See P.99 See P.101 See P.101 See P.102 See P.103 See P.103 See P.104 See P.104 See P.104 See P.105 See P.105 See P.105 See P.105 See P.105 See P.105 See P.105 See P.105
Ca ote) Robol Main s ead	ble code 0 1 ~ 3 4 ~ 5 6 ~ 10 t cables. specification Payload	Cable length No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 10m 8 Item Ball screw lead (mm) Max. payload (kg) (energy-saving disabled) Max. speed (mm/s) Min. speed (mm/s) Rated acceleration/deceleration (G)	20 6 6 800 25 0.3	12 25 25 700 15 0.3	6 40 40 450 8 0.3	60 40 225 4 0.3	Flange (front) (Note 1) Foot bracket Motor side-mounted to the Motor side-mounted to the Tip adapter (female screw) Knuckle joint (Note 3) Knuckle joint + oscillation n Non-motor end specificatio PNP specification Clevis bracket (Note 3) Clevis bracket + oscillation Split motor and controller Battery-less absolute encor Wireless communication sp Wireless axis-operation specification (Note 1) When minimum stroke 5 (Note 2) Please make sure to em (Note 3) Please purchase a clevi Mounting is to be done Item Driving system Positioning repeatability Lost motion Linear guide Rod Rod no-rotation precision	e right (Note 2) receiving bracket (Note 3) on receiving bracket (Note 3) power supply specification der coffication comm is selected, brake and flang ter a code in the option column b bracket (QR or QRPB) and a kn b y customer. E Ball screw ø10mm, Rolling C ±0.05mm - Linear motion infinite circula	FL FT ML MR NFA NJ NJPB NM PN QR QR QRPB TMD2 WA WL WL2 e option (B/FL) cann- of the model spec- uckle joint (NJ or N Description 10	See P.98 See P.99 See P.101 See P.101 See P.102 See P.103 See P.103 See P.104 See P.104 See P.104 See P.105 See P.105 See P.105 See P.105 See P.105 See P.105 See P.105 See P.105
Ca ote) Robol Main s ead	ble code 0 1 ~ 3 4 ~ 5 6 ~ 10 t cables. specification Payload Speed/ acceleration/	Cable length No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 10m s Item Ball screw lead (mm) Max, payload (kg) (energy-saving enabled) Max, speed (mm/s) Min. speed (mm/s) Min. speed (mm/s) Mate acceleration/deceleration (G)	20 6 6 800 25 0.3 1	12 25 25 700 15 0.3 1	6 40 40 450 8 0.3 1	60 40 225 4 0.3 1	Flange (front) (Note 1) Foot bracket Motor side-mounted to the Motor side-mounted to the Tip adapter (female screw) Knuckle joint (Note 3) Knuckle joint (Note 3) Knuckle joint (Note 3) Clevis bracket (Note 3) Clevis bracket (Note 3) Clevis bracket (Socialitation Split motor and controller 1 Battery-less absolute encod Wireless axis-operation spe (Note 1) When minimum stroke 5 (Note 2) Please make sure to ent (Note 3) Please purchase a clevi Mounting is to be done Item Driving system Positioning repeatability Lost motion Linear guide Rod Rod no-rotation precision (Note 4)	e right (Note 2) receiving bracket (Note 3) on receiving bracket (Note 3) power supply specification der occification ecification the option column s bracket (QR or QRPB) and a kn by customer.	FL FT ML MR NFA NJ PN QR QRPB TMD2 WA WL WL2 e option (8/FL) cann of the model spec uckle joint (NJ or N Description 10	See P.98 See P.99 See P.101 See P.101 See P.102 See P.103 See P.103 See P.104 See P.104 See P.104 See P.105 See P.105 See P.105 See P.105 See P.105 See P.105 See P.105 See P.105
Ca ote) Robol Main s ead	ble code 0 1 ~ 3 4 ~ 5 6 ~ 10 t cables. specification Payload Speed/ acceleration/	Cable length No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 10m S Item Ball screw lead (mm) Max. payload (kg) (energy-saving enabled) Max. payload (kg) (energy-saving enabled) Max. speed (mm/s) Min. speed (mm/s) Rated acceleration/deceleration (G) Max. acceleration/deceleration (G) Max. payload (kg) (energy-saving disabled)	20 6 6 800 25 0.3 1 1.5	12 25 25 700 15 0.3 1 4	6 40 40 450 8 0.3 1 10	60 40 225 4 0.3 1 20	Flange (front) (Note 1) Foot bracket Motor side-mounted to the Motor side-mounted to the Tip adapter (female screw) Knuckle joint (Note 3) Knuckle joint + oscillation n Non-motor end specificatio PNP specification Clevis bracket (Note 3) Clevis bracket + oscillation Split motor and controller Battery-less absolute encor Wireless communication sp Wireless axis-operation specification (Note 1) When minimum stroke 5 (Note 2) Please make sure to em (Note 3) Please purchase a clevi Mounting is to be done Item Driving system Positioning repeatability Lost motion Linear guide Rod Rod no-rotation precision	e right (Note 2) receiving bracket (Note 3) on receiving bracket (Note 3) power supply specification der secification comm is selected, brake and flang ter a code in the option column b bracket (QR or QRPB) and a kn b by customer. Ball screw ø10mm, Rolling C ±0.05mm - Linear motion infinite circula ø25mm Material: Aluminum	FL FT ML MR NFA NJ PN QR QRPB TMD2 WA WL WL2 e option (8/FL) cann of the model spec uckle joint (NJ or N Description 10	See P.98 See P.99 See P.101 See P.101 See P.102 See P.103 See P.103 See P.104 See P.104 See P.104 See P.105 See P.105 See P.105 See P.105 See P.105 See P.105 See P.105 See P.105
Ca lote) Robol Main : .ead forizontal	ble code 0 1 ~ 3 4 ~ 5 6 ~ 10 t cables. Specification Payload Speed/ acceleration/ deceleration	Cable length No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 10m 8all screw lead (mm) Max. payload (kg) (energy-saving enabled) Max. speed (mm/s) Min. speed (mm/s) Rated acceleration/deceleration (G) Max. cceleration/deceleration (G) Max. acceleration/deceleration (G) Max. payload (kg) (energy-saving enabled) Max. payload (kg) (energy-saving disabled) Max. payload (kg) (energy-saving disabled) Max. payload (kg) (energy-saving enabled)	20 6 6 800 25 0.3 1 1.5 1	12 25 25 700 15 0.3 1 4 4	6 40 40 450 8 0.3 1 10 10	60 40 225 4 0.3 1 20 20	Flange (front) (Note 1) Foot bracket Motor side-mounted to the Motor side-mounted to the Tip adapter (female screw) Knuckle joint (Note 3) Knuckle joint (Note 3) Knuckle joint (Note 3) Clevis bracket (Note 3) Clevis bracket (Note 3) Clevis bracket + oscillation Split motor and controller Battery-less absolute encor Wireless communication sp Wireless axis-operation sp (Note 1) When minimum stroke 5 (Note 2) Please make sure to en (Note 3) Please purchase a clevi Mounting is to be done Item Driving system Positioning repeatability Lost motion Linear guide Rod Rod no-rotation precision (Note 4) Ambient operation temperature/humidity Degree of protection	e right (Note 2) receiving bracket (Note 3) on receiving bracket (Note 3) power supply specification der becification ccification 0 mm is selected, brake and flang ter a code in the option column s bracket (QR or QRPB) and a kn by customer.	FL FT ML MR NFA NJ PN QR QRPB TMD2 WA WL WL2 e option (8/FL) cann of the model spec uckle joint (NJ or N Description 10	See P.98 See P.99 See P.101 See P.101 See P.102 See P.103 See P.104 See P.104 See P.104 See P.104 See P.105 See P.105 See P.105 See P.105 See P.105 See P.105 See P.105 See P.105 See P.105
Ca lote) Robol Main s Lead	ble code 0 1 ~ 3 4 ~ 5 6 ~ 10 t cables. Specification Payload Speed/ acceleration/ deceleration	Cable length No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 10m s Item Ball screw lead (mm) Max, payload (kg) (energy-saving enabled) Max, speed (mm/s) Min. speed (mm/s) Rated acceleration/deceleration (G) Max, payload (kg) (energy-saving enabled) Max, apaload (kg) (energy-saving enabled) Max, apaload (kg) (energy-saving enabled) Max, speed (mm/s)	20 6 6 800 25 0.3 1 1.5 1 800	12 25 700 15 0.3 1 4 4 700	6 40 40 450 8 0.3 1 10 10 450	60 40 225 4 0.3 1 20 20 225	Flange (front) (Note 1) Foot bracket Motor side-mounted to the Motor side-mounted to the Tip adapter (female screw) Knuckle joint (Note 3) Knuckle joint (Note 3) Knuckle joint (Note 3) Clevis bracket (Note 3) Clevis bracket (Note 3) Clevis bracket (Note 3) Clevis bracket (Socialitation Split motor and controller 1 Battery-less absolute encod Wireless axis-operation spe (Note 1) When minimum stroke 5 (Note 2) Please make sure to ent (Note 3) Please purchase a clevi Mounting is to be done Item Driving system Positioning repeatability Lost motion Linear guide Rod Rod no-rotation precision (Note 4) Ambient operation temperature/humidity Degree of protection	e right (Note 2) receiving bracket (Note 3) on receiving bracket (Note 3) power supply specification der control of the option column of the option column bracket (QR or QRPB) and a kn by customer. Ball screw ø10mm, Rolling C ±0.05mm - Linear motion infinite circula ø25mm Material: Aluminum 0 degree 0~40°C, RH 85% or less (Non IP20 4.9m/s² 100Hz or less	FL FT ML MR NFA NJ NJPB NM PN QR QRPB TMD2 WA WL WL2 e option (8/FL) cann of the model spec cuckle joint (NJ or N Description 10 Cescription 10 Cescription 10 Cescription 10 Cescription	See P.98 See P.99 See P.101 See P.101 See P.102 See P.103 See P.104 See P.104 See P.104 See P.104 See P.105 See P.104 See P.105 See P.10
Ca lote) Robol Main : .ead forizontal	ble code 0 1 ~ 3 4 ~ 5 6 ~ 10 t cables. specification Payload Speed/ acceleration/ deceleration Payload Speed/ acceleration/	Cable length No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 10m	20 6 800 25 0.3 1 1.5 1 800 25	12 25 700 15 0.3 1 4 4 700 15	6 40 40 450 8 0.3 1 10 10 450 8	60 40 225 4 0.3 1 20 20 20 225 4	Flange (front) (Note 1) Foot bracket Motor side-mounted to the Motor side-mounted to the Tip adapter (female screw) Knuckle joint (Note 3) Knuckle joint + oscillation 1 Non-motor end specificatio PNP specification Clevis bracket + oscillation Split motor and controller Battery-less absolute encod Wireless communication sp Wireless absolute encod Wireless communication sp (Note 1) When minimum stroke 5 (Note 2) Please make sure to eni Note 1) Please purchase a clevi Mounting is to be done Item Driving system Positioning repeatability Lost motion Linear guide Rod Rod no-rotation precision (Note 4) Ambient operation temperature/humidity Degree of protection Vibration & shock resistance Overseas standards	e right (Note 2) receiving bracket (Note 3) on receiving bracket (Note 3) power supply specification der becification ccification 0 mm is selected, brake and flang ter a code in the option column s bracket (QR or QRPB) and a kn by customer.	FL FT ML MR NFA NJ NJPB NM PN QR QRPB TMD2 WA WL WL2 e option (8/FL) cann of the model spec cuckle joint (NJ or N Description 10 Cescription 10 Cescription 10 Cescription 10 Cescription	See P.98 See P.99 See P.101 See P.101 See P.102 See P.103 See P.104 See P.104 See P.104 See P.104 See P.105 See P.104 See P.105 See P.10
Ca lote) Robol Main s Lead	ble code 0 1 ~ 3 4 ~ 5 6 ~ 10 t cables. specification Payload Speed/ acceleration/ deceleration Payload Speed/	Cable length No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 10m s Item Ball screw lead (mm) Max, payload (kg) (energy-saving enabled) Max, speed (mm/s) Min. speed (mm/s) Rated acceleration/deceleration (G) Max, payload (kg) (energy-saving enabled) Max, apaload (kg) (energy-saving enabled) Max, apaload (kg) (energy-saving enabled) Max, speed (mm/s)	20 6 6 800 25 0.3 1 1.5 1 800 25 0.3	12 25 700 15 0.3 1 4 4 700	6 40 40 450 8 0.3 1 10 10 450	60 40 225 4 0.3 1 20 20 225	Flange (front) (Note 1) Foot bracket Motor side-mounted to the Motor side-mounted to the Tip adapter (female screw) Knuckle joint (Note 3) Knuckle joint (Note 3) Knuckle joint (Note 3) Clevis bracket (Note 3) Clevis bracket (Note 3) Clevis bracket (Note 3) Clevis bracket (Socialitation Split motor and controller 1 Battery-less absolute encod Wireless axis-operation spe (Note 1) When minimum stroke 5 (Note 2) Please make sure to ent (Note 3) Please purchase a clevi Mounting is to be done Item Driving system Positioning repeatability Lost motion Linear guide Rod Rod no-rotation precision (Note 4) Ambient operation temperature/humidity Degree of protection	e right (Note 2) receiving bracket (Note 3) pon receiving bracket (Note 3) power supply specification der pecification 0 mm is selected, brake and flang ter a code in the option column s bracket (QR or QRPB) and a kn by customer. Ball screw ø10mm, Rolling C ±0.05mm - Linear motion infinite circula ø25mm Material: Aluminum 0 degree 0~40°C, RH 85% or less (Non- IP20 4.9m/s ² 100Hz or less CE Marking, RoHS (Restrictio	FL FT ML MR NFA NJ NJPB NM PN QR QRPB TMD2 WA WL2 e option (B/FL) canno of the model spec uckle joint (NJ or N Description 10 ting type Hard alumite treat -condensing)	See P.98 See P.99 See P.101 See P.101 See P.102 See P.103 See P.104 See P.104 See P.104 See P.104 See P.105 See P.104 See P.105 See P.10
Ca Note) Robol Main s ead Horizontal	ble code 0 1 ~ 3 4 ~ 5 6 ~ 10 t cables. Payload Speed/ acceleration/ deceleration/ deceleration/	Cable length No cable (with connect I ~ 3m A ~ 5m Cable (with connect Cable length No cable (with connect A ~ 5m A ~ 5m Cable length A ~ 5m Cable length Cable le	20 6 800 25 0.3 1 1.5 1 800 25	12 25 700 15 0.3 1 4 4 700 15 0.3	6 40 450 8 0.3 1 10 10 450 8 0.3	60 40 225 4 0.3 1 20 20 225 4 0.3	Flange (front) (Note 1) Foot bracket Motor side-mounted to the Motor side-mounted to the Tip adapter (female screw) Knuckle joint (Note 3) Knuckle joint (Note 3) Clevis bracket + oscillation 1 Split motor and controller Battery-less absolute encor Wireless communication sp Wireless axis-operation spec (Note 1) When minimum stroke 5 (Note 2) Please make sure to enl (Note 1) Please purchase a clevi Mounting is to be done Item Driving system Positioning repeatability Lost motion Linear guide Rod Rod no-rotation precision (Note 4) Ambient operation temperature/humidity Degree of protection Vibration & shock resistance Overseas standards Motor type	e right (Note 2) receiving bracket (Note 3) power supply specification der secification secification construction (Second Second	FL FT ML MR NFA NJ NJPB NM PN QR QRPB TMD2 WA WL2 e option (B/FL) canno of the model spec uckle joint (NJ or N Description 10 ting type Hard alumite treat -condensing)	See P.98 See P.99 See P.101 See P.101 See P.102 See P.103 See P.104 See P.104 See P.104 See P.104 See P.105 See P.104 See P.105 See P.10
Ca lote) Robol Main s .ead Horizontal	ble code 0 1 ~ 3 4 ~ 5 6 ~ 10 t cables. Payload Speed/ acceleration/ deceleration/ deceleration/	Cable length No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 10m 8all screw lead (mm) Max. payload (kg) (energy-saving enabled) Max. speed (mm/s) Min. speed (mm/s) Max. payload (kg) (energy-saving enabled) Max. speed (mm/s) Min. speed (mm/s) Max. speed (mm/s) Min. speed (mm/s) Max. acceleration/deceleration (G)	20 6 6 800 25 0.3 1 1.5 1 800 25 0.3 0.5 67 20	12 25 700 15 0.3 1 4 4 700 15 0.3 0.5 112 20	6 40 450 8 0.3 1 10 10 450 8 0.3 0.5 224 20	60 40 225 4 0.3 1 20 20 225 4 0.3 0.5 449 20	Flange (front) (Note 1) Foot bracket Motor side-mounted to the Motor side-mounted to the Tip adapter (female screw) Knuckle joint (Note 3) Knuckle joint (Note 3) Knuckle joint + oscillation 1 Non-motor end specificatio PNP specification Clevis bracket + oscillation Split motor and controller 1 Battery-less absolute encor Wireless communication sp Wireless axis-operation specification (Note 1) When minimum stroke 5 (Note 2) Please make sure to em (Note 3) Please purchase a clevi Mounting is to be done Item Driving system Positioning repeatability Lost motion Linear guide Rod Rod no-rotation precision (Note 4) Ambient operation temperature/humidity Degree of protection Vibration & shock resistance Overseas standards Motor type Encoder type	e right (Note 2) receiving bracket (Note 3) on receiving bracket (Note 3) power supply specification der becification cification 0 mm is selected, brake and flang ter a code in the option column s bracket (QR or QRPB) and a kn by customer. E Ball screw ø10mm, Rolling C ±0.05mm - Linear motion infinite circula ø25mm Material: Aluminum 0 degree 0~40°C, RH 85% or less (Non IP20 4.9m/s ² 100Hz or less CE Marking, RoHS (Restrictio Pulse motor Incremental / battery-less ab 800 pulse/rev	FL FT ML MR NFA NJ NJPB NM PN QR QRPB TMD2 WA WL2 e option (B/FL) canno of the model spec uckle joint (NJ or N Description 10 ting type Hard alumite treat -condensing)	See P.98 See P.99 See P.101 See P.101 See P.102 See P.103 See P.103 See P.104 See P.104 See P.104 See P.105 See P.10
Ca Note) Robol Main s Lead Horizontal Vertical	ble code 0 1 ~ 3 4 ~ 5 6 ~ 10 t cables. Payload Speed/ acceleration/ deceleration/ deceleration/	Cable length No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 10m Ball screw lead (mm) Max, payload (kg) (energy-saving disabled) Max, payload (kg) (energy-saving enabled) Max, speed (mm/s) Rated acceleration/deceleration (G) Max, cayload (kg) (energy-saving enabled) Max, payload (kg) (energy-saving enabled) Max, payload (kg) (energy-saving enabled) Max, speed (mm/s) Max Max Max Max	20 6 6 800 25 0.3 1 1.5 1 800 25 0.3 0.5 67 20 Non-	12 25 700 15 0.3 1 4 4 700 15 0.3 0.5 112 20 excitati	6 40 450 8 0.3 1 10 10 450 8 0.3 0.5 224	60 40 225 4 0.3 1 20 20 225 4 0.3 0.5 449 20 ating	Flange (front) (Note 1) Foot bracket Motor side-mounted to the Motor side-mounted to the Tip adapter (female screw) Knuckle joint (Note 3) Knuckle joint (Note 3) Knuckle joint + oscillation Non-motor end specificatio PNP specification Clevis bracket + oscillation Split motor and controller Battery-less absolute encor Wireless communication sp Wireless axis-operation sp Wireless axis-operation sp Wireless axis-operation sp Wireless axis-operation sp Wireless axis-operation sp Wireless axis-operation sp Note 1) When minimum stroke 5 (Note 2) Please make sure to en (Note 3) Please purchase a clevi Mounting is to be done Item Driving system Positioning repeatability Lost motion Linear guide Rod Rod no-rotation precision (Note 4) Ambient operation temperature/humidity Degree of protection Vibration & shock resistance Overseas standards Motor type Encoder type Number of encoder pulses	e right (Note 2) receiving bracket (Note 3) on receiving bracket (Note 3) power supply specification der becification cification 0 mm is selected, brake and flang ter a code in the option column s bracket (QR or QRPB) and a kn by customer. E Ball screw ø10mm, Rolling C ±0.05mm - Linear motion infinite circula ø25mm Material: Aluminum 0 degree 0~40°C, RH 85% or less (Non IP20 4.9m/s ² 100Hz or less CE Marking, RoHS (Restrictio Pulse motor Incremental / battery-less ab 800 pulse/rev	FL FT ML MR NFA NJ NJPB NM PN QR QRPB TMD2 WA WL2 e option (B/FL) canno of the model spec uckle joint (NJ or N Description 10 ting type Hard alumite treat -condensing)	See P.98 See P.99 See P.101 See P.101 See P.102 See P.103 See P.104 See P.104 See P.104 See P.104 See P.105 See P.104 See P.105 See P.10
Ca Note) Robol Main s Lead Horizontal Vertical	ble code 0 1 ~ 3 4 ~ 5 6 ~ 10 t cables. Payload Speed/ acceleration/ deceleration/ deceleration/	Cable length No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 10m No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 10m Item Ball screw lead (mm) Max. payload (kg) (energy-saving disabled) Max. payload (kg) (energy-saving enabled) Max. speed (mm/s) Min. speed (mm/s) Rated acceleration/deceleration (G) Max. payload (kg) (energy-saving disabled) Max. payload (kg) (energy-saving disabled) Max. payload (kg) (energy-saving disabled) Max. speed (mm/s) Min. speed (mm/s) Min. speed (mm/s) Min. speed (mm/s) Rated acceleration/deceleration (G) Max. thrust force when pushing (N)* Max. speed when pushing (mm/s) Brake specification Brake holding force (kgf)	20 6 800 25 0.3 1 1.5 1 800 25 0.3 0.5 67 20 Non- 1.5	12 25 700 15 0.3 1 4 4 700 15 0.3 0.5 112 20 eexcitati solenoi 4	6 40 450 8 0.3 1 10 10 450 8 0.3 0.5 224 20 0 n actu d brake 10	60 40 225 4 0.3 1 20 20 225 4 0.3 0.5 449 20 ating 20	Flange (front) (Note 1) Foot bracket Motor side-mounted to the Motor side-mounted to the Tip adapter (female screw) Knuckle joint (Note 3) Knuckle joint (Note 3) Knuckle joint + oscillation Non-motor end specificatio PNP specification Clevis bracket + oscillation Split motor and controller Battery-less absolute encor Wireless communication sp Wireless axis-operation sp Wireless axis-operation sp Wireless axis-operation sp Wireless axis-operation sp Wireless axis-operation sp Wireless axis-operation sp Note 1) When minimum stroke 5 (Note 2) Please make sure to en (Note 3) Please purchase a clevi Mounting is to be done Item Driving system Positioning repeatability Lost motion Linear guide Rod Rod no-rotation precision (Note 4) Ambient operation temperature/humidity Degree of protection Vibration & shock resistance Overseas standards Motor type Encoder type Number of encoder pulses	e right (Note 2) receiving bracket (Note 3) on receiving bracket (Note 3) power supply specification der becification cification 0 mm is selected, brake and flang ter a code in the option column s bracket (QR or QRPB) and a kn by customer. E Ball screw ø10mm, Rolling C ±0.05mm - Linear motion infinite circula ø25mm Material: Aluminum 0 degree 0~40°C, RH 85% or less (Non IP20 4.9m/s ² 100Hz or less CE Marking, RoHS (Restrictio Pulse motor Incremental / battery-less ab 800 pulse/rev	FL FT ML MR NFA NJ NJPB NM PN QR QRPB TMD2 WA WL2 e option (B/FL) canno of the model spec uckle joint (NJ or N Description 10 ting type Hard alumite treat -condensing)	See P.98 See P.99 See P.101 See P.101 See P.102 See P.103 See P.103 See P.104 See P.104 See P.104 See P.105 See P.10
Ca Note) Robot	ble code 0 1 ~ 3 4 ~ 5 6 ~ 10 t cables. Payload Speed/ acceleration/ deceleration/ deceleration/	Cable length No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 10m Ball screw lead (mm) Max, payload (kg) (energy-saving disabled) Max, payload (kg) (energy-saving enabled) Max, speed (mm/s) Min, speed (mm/s) Rated acceleration/deceleration (G) Max, payload (kg) (energy-saving enabled) Max, speed (mm/s) Rated acceleration/deceleration (G) Max, speed (mm/s) Bated acceleration/deceleration (G) Max, speed when pushing (N)* Max, speed when pushing (mm/s) Brake specification	20 6 6 800 25 0.3 1 1.5 1 800 25 0.3 0.5 67 20 Non-	12 25 700 15 0.3 1 4 4 700 15 0.3 0.5 112 20 excitati solenoi	6 40 40 450 8 0.3 1 10 10 450 8 0.3 0.5 224 20 on actu d brake	60 40 225 4 0.3 1 20 20 225 4 0.3 0.5 449 20 ating	Flange (front) (Note 1) Foot bracket Motor side-mounted to the Motor side-mounted to the Tip adapter (female screw) Knuckle joint (Note 3) Knuckle joint (Note 3) Knuckle joint + oscillation Non-motor end specificatio PNP specification Clevis bracket + oscillation Split motor and controller Battery-less absolute encor Wireless communication sp Wireless axis-operation sp Wireless axis-operation sp Wireless axis-operation sp Wireless axis-operation sp Wireless axis-operation sp Wireless axis-operation sp Note 1) When minimum stroke 5 (Note 2) Please make sure to en (Note 3) Please purchase a clevi Mounting is to be done Item Driving system Positioning repeatability Lost motion Linear guide Rod Rod no-rotation precision (Note 4) Ambient operation temperature/humidity Degree of protection Vibration & shock resistance Overseas standards Motor type Encoder type Number of encoder pulses	e right (Note 2) receiving bracket (Note 3) on receiving bracket (Note 3) power supply specification der becification cification 0 mm is selected, brake and flang ter a code in the option column s bracket (QR or QRPB) and a kn by customer. E Ball screw ø10mm, Rolling C ±0.05mm - Linear motion infinite circula ø25mm Material: Aluminum 0 degree 0~40°C, RH 85% or less (Non IP20 4.9m/s ² 100Hz or less CE Marking, RoHS (Restrictio Pulse motor Incremental / battery-less ab 800 pulse/rev	FL FT ML MR NFA NJ NJPB NM PN QR QRPB TMD2 WA WL2 e option (B/FL) canno of the model spec uckle joint (NJ or N Description 10 ting type Hard alumite treat -condensing)	See P.98 See P.99 See P.101 See P.101 See P.102 See P.103 See P.103 See P.104 See P.104 See P.104 See P.105 See P.10

Table of Payload by Speed and Acceleration/Deceleration

Energy-saving disabled Unit of payload is kg. Operations on the blank locations are not possible. Lead 20 Lead 12 Lead 6

Orientation		Horiz	Vertical			
Speed		A	ccelera	ition (G)	
(mm/s)	0.3	0.5	0.7	1	0.3	0.5
0	6	6	5	5	1.5	1.5
160	6	6	5	5	1.5	1.5
320	6	6	5	3	1.5	1.5
480	6	6	5	3	1.5	1.5
640	6	4	3	2	1.5	1.5
800	4	3			1	1

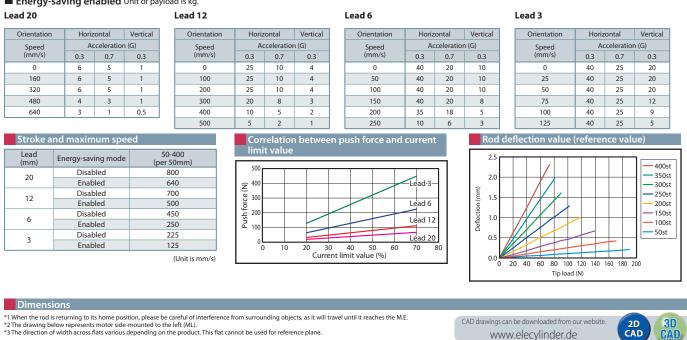
Orientation		Horizo	Vertical			
Speed		Ac	celerat	ion	(G)	
(mm/s)	0.3	0.5	0.7	1	0.3	0.5
0	25	18	16	12	4	4
100	25	18	16	12	4	4
200	25	18	16	10	4	4
400	20	14	10	6	4	4
500	15	8	6	4	3.5	3
700	6	2			2	1

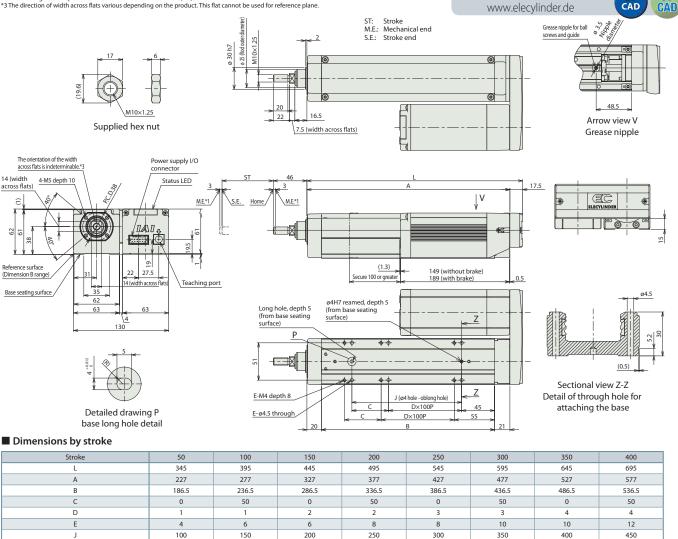
Orientation		Horiz	Vertical			
Speed		Ac	celerati	on (G)	
(mm/s)	0.3	0.5	0.7	1	0.3	0.5
0	40	35	30	25	10	10
50	40	35	30	25	10	10
100	40	35	30	25	10	10
200	40	30	25	20	10	10
250	40	27.5	22.5	18	9	8
350	30	14	12	10	5	4.5
400	18	10	6	2	3	2.5
450	8	3			1	0.5

Lead 3									
Orientation	Horizontal Vertical								
Speed		/	Accele	ratio	n (G)				
(mm/s)	0.3	0.5	0.7	1	0.3	0.5			
0	60	50	45	40	20	20			
50	60	50	45	40	20	20			
100	60	50	45	40	20	20			
125	60	50	40	30	10	10			
175	40	35	25	20	6	5			
200	35	23	15	5	5	4			
225	16				2				

EC EleCylinder

Energy-saving enabled Unit of payload is kg.





Mass by stroke

, .									
	Stroke	50	100	150	200	250	300	350	400
Woight (kg)	Without brake	2	2.2	2.5	2.8	3	3.3	3.6	3.8
Weight (kg)	With brake	2.3	2.5	2.8	3.1	3.3	3.6	3.9	4.1

Applicable controller

		$\mathbf{R}\mathbf{R}7\Box\mathbf{A}$						dity Cylinder Coupled		Pulse motor
Mode EC		RR7 AH			50 ₹ 500		roke 50mm 1 (per 50mm) 10	Cable Length	- Optio	
Rotis Radial load specification Radial Cylinder Hvizontal Image: Cylinder Side Image: Cylinder Side Image: Cylinder Image: Cylinder Image: Cylinder Side Image: Cylinder Image: Cylinder Image: Cylinder Side Image: Cylinder Image: Cylinder Image: Cylinder Image: Cylinder Image: Cylinder Side Image: Cylinder Image: Cylinder Imag										
Cable	length						Tip adapter (female screw Knuckle joint (Note 3)	v) n receiving bracket (Note 3)	NFA NJ NJPB NM PN	See P.102 See P.103 See P.103 See P.103 See P.104 See P.104
	ble code 0 1 ~ 3 4 ~ 5	Cable length No cable (with connect 1 ~ 3m 4 ~ 5m	or)				Clevis bracket (Note 3) Clevis bracket + oscillatic Split motor and controlle Battery-less absolute enc Wireless communication	specification	QR QRPB TMD2 WA WL	See P.105 See P.105 See P.105 See P.105
	0 1 ~ 3 4 ~ 5 6 ~ 10	No cable (with connect 1 ~ 3m	cor)				Clevis bracket (Note 3) Clevis bracket + oscillatic Split motor and controlle Battery-less absolute enc Wireless communication Wireless axis-operation s (Note 1) When minimum strok (Note 2) Please make sure to o	r power supply specification oder specification pecification e 50 mm is selected, brake and flang enter a code in the option columr vis bracket (QR or QRPB) and a kr	QRPB TMD2 WA WL WL2 ge option (B/FL) cann o of the model spec	See P.105 See P.105 See P.105 See P.105 See P.105 ot be selected toge item.
(ote) Robot	0 1 ~ 3 4 ~ 5 6 ~ 10	No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 10m	or)				Clevis bracket (Note 3) Clevis bracket + oscillatic Split motor and controlle Battery-less absolute end Wireless communication Wireless axis-operation s (Note 1) When minimum strok (Note 2) Please purchase a de	r power supply specification oder specification pecification e 50 mm is selected, brake and flang enter a code in the option columr vis bracket (QR or QRPB) and a kr	QRPB TMD2 WA WL WL2 ge option (B/FL) cann o of the model spec	See P.105 See P.105 See P.105 See P.105 See P.105 ot be selected toge item.
(ite) Robot Main s	0 1 ~ 3 4 ~ 5 5 ~ 10 : cables.	No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 10m			ription	4	Clevis bracket (Note 3) Clevis bracket + oscillatic Split motor and controlle Battery-less absolute enc Wireless communication Wireless axis-operation s (Note 1) When minimum strok (Note 2) Please purchase a cle Mounting is to be do	r power supply specification oder specification pecification e 50 mm is selected, brake and flang enter a code in the option column rvis bracket (QR or QRPB) and a kr ne by customer.	QRPB TMD2 WA WL ge option (8/FL) cann n of the model spec nuckle joint (NJ or N	See P.105 See P.105 See P.105 See P.105 See P.105 ot be selected toge item.
Main s	0 1 ~ 3 4 ~ 5 5 ~ 10 : cables.	No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 10m S Item Ball screw lead (mm) Max, payload (kg) (energy-saving disabled) Max, payload (kg) (energy-saving enabled) Max, speed (mm/s) Max, speed (mm/s) Rated acceleration/deceleration (G)	24 20 18 860 30 0.3	16 50 40 700 20 0.3	8 60 50 350 10 0.3	4 80 55 175 5 0.3	Clevis bracket (Note 3) Clevis bracket + oscillatic Split motor and controlle Battery-less absolute enc Wireless communication Wireless axis-operation s (Note 1) When minimum strok (Note 2) Please make sure to (Note 3) Please purchase a cle Mounting is to be do Item Driving system Positioning repeatability Lost motion Linear guide Rod Rod no-rotation precision	rr power supply specification oder specification eson is selected, brake and flang enter a code in the option column rvis bracket (QR or QRPB) and a kr ne by customer.	QRPB TMD2 WA WL ge option (B/FL) cann n of the model spec nuckle joint (NJ or N Description 10	See P.105 See P.105 See P.105 See P.105 See P.105 to be selected tog item. JPB) together as a
(ote) Robot	0 1 ~ 3 4 ~ 5 5 ~ 10 cables. specification Payload Speed/ acceleration/	No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 10m S Item Ball screw lead (mm) Max. payload (kg) (energy-saving disabled) Max. payload (kg) (energy-saving enabled) Max. speed (mm/s) Min. speed (mm/s)	24 20 18 860 30	16 50 40 700 20	8 60 50 350 10	80 55 175 5	Clevis bracket (Note 3) Clevis bracket + oscillatic Split motor and controlle Battery-less absolute enc Wireless communication Wireless axis-operation s (Note 1) When minimum strok (Note 2) Please make sure to 4 (Note 3) Please purchase a cle Mounting is to be do Item Driving system Positioning repeatability Lost motion Linear guide Rod	rr power supply specification oder specification e 50 mm is selected, brake and flam enter a code in the option column vis bracket (QR or QRPB) and a kr ne by customer. Ball screw ø12mm, Rolling C ±0.05mm - Linear motion infinite circula ø30mm Material: Aluminum	QRPB TMD2 WA WL ge option (B/FL) cann o of the model spec nuckle joint (NJ or N Description 10 Description 10	See P.105 See P.105 See P.105 See P.105 See P.105 to be selected toge item. JPB) together as a
Main s Main s ead	0 1 ~ 3 4 ~ 5 5 ~ 10 cables. specification Payload Speed/ acceleration/ deceleration	No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 10m S Item Ball screw lead (mm) Max. payload (kg) (energy-saving disabled) Max. payload (kg) (energy-saving enabled) Max. speed (mm/s) Min. speed (mm/s) Rated acceleration/deceleration (G) Max. acceleration/deceleration (G) Max. payload (kg) (energy-saving disabled)	24 20 18 860 30 0.3 1 3	16 50 40 700 20 0.3 1 8	8 60 50 350 10 0.3 1 18	80 55 175 5 0.3 1 19	Clevis bracket (Note 3) Clevis bracket + oscillatic Split motor and controlle Battery-less absolute enc Wireless communication Wireless axis-operation s (Note 1) When minimum strok (Note 2) Please make sure to 4 (Note 3) Please purchase a cle Mounting is to be do Item Driving system Positioning repeatability Lost motion Linear guide Rod Rod no-rotation precision (Note 4) Ambient operation temperature/humidity	rr power supply specification oder specification pecification 5 0 mm is selected, brake and flam neter a code in the option columr vis bracket (QR or QRPB) and a kr ne by customer. Ball screw ø12mm, Rolling C ±0.05mm - Linear motion infinite circula ø30mm Material: Aluminum 0 degree 0~40°C, 85%RH or less (Non-	QRPB TMD2 WA WL ge option (B/FL) cann n of the model spec nuckle joint (NJ or N Description 10 ating type n Hard alumite treat -condensing)	See P.105 See P.105 See P.105 See P.105 ot be selected toge item. JPB) together as a
Main s Main s ead	0 1 ~ 3 4 ~ 5 6 ~ 10 cables. specification Payload Speed/ acceleration/ deceleration Payload Speed/ acceleration/	No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 10m S Item Ball screw lead (mm) Max, payload (kg) (energy-saving disabled) Max, payload (kg) (energy-saving enabled) Max, speed (mm/s) Rated acceleration/deceleration (G) Max, acceleration/deceleration (G) Max, acceleration/deceleration (G) Max, apayload (kg) (energy-saving enabled) Max, speed (mm/s) Max, speed (mm/s) Max, speed (mm/s) Max, speed (mm/s) Rated acceleration/deceleration (G) Rated acceleration/deceleration (G)	24 20 18 860 30 0.3 1 3 3 640 30 0.3 0.5 182 20	16 50 40 20 0.3 1 8 5 5 60 20 0.3 0.5 273 20	8 60 50 350 10 0.3 1 18 17.5 350 10 0.3 0.5 547 20	80 55 175 5 0.3 1 19 19 175 5 0.3 0.5 1094 20	Clevis bracket (Note 3) Clevis bracket + oscillatic Split motor and controlle Battery-less absolute enc Wireless communication Wireless axis-operation s (Note 1) When minimum strok (Note 2) Please make sure to (Note 3) Please purchase a cle Mounting is to be do Item Driving system Positioning repeatability Lost motion Linear guide Rod Rod no-rotation precision (Note 4) Ambient operation temperature/humidity Degree of protection Vibration & shock resistanc Overseas standards Motor type Encoder type Number of encoder pulses	rr power supply specification oder specification pecification 5 0 mm is selected, brake and flam neter a code in the option columr vis bracket (QR or QRPB) and a kr bracket (QR or QRPB)	QRPB TMD2 WA WL ge option (B/FL) cann n of the model spec nuckle joint (NJ or N Description 10 ating type n Hard alumite treat -condensing)	See P.105 See P.105 See P.105 See P.105 ot be selected toge item. JPB) together as a
Main s	0 1 ~ 3 4 ~ 5 6 ~ 10 cables. specification Payload Speed/ acceleration/ deceleration Payload Speed/ acceleration/	No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 10m Ball screw lead (mm) Max. payload (kg) (energy-saving disabled) Max. payload (kg) (energy-saving enabled) Max. speed (mm/s) Rated acceleration/deceleration (G) Max. payload (kg) (energy-saving enabled) Max. payload (kg) (energy-saving disabled) Max. payload (kg) (energy-saving enabled) Max. payload (kg) (energy	24 20 18 860 30 0.3 1 3 3 640 30 0.3 0.5 182 20 Non-	16 50 40 700 20 0.3 1 8 5 5 60 20 0.3 0.5 273 20 excitati	8 60 50 350 10 0.3 1 18 17.5 350 10 0.3 0.5 547	80 55 175 5 0.3 1 19 19 175 5 0.3 0.5 1094 20 ating	Clevis bracket (Note 3) Clevis bracket + oscillatic Split motor and controlle Battery-less absolute enc Wireless communication Wireless axis-operation s (Note 1) When minimum strok (Note 2) Please make sure to (Note 3) Please purchase a cle Mounting is to be do Item Driving system Positioning repeatability Lost motion Linear guide Rod Rod no-rotation precision (Note 4) Ambient operation temperature/humidity Degree of protection Vibration & shock resistanc Overseas standards Motor type Encoder type Number of encoder pulses	rr power supply specification oder specification pecification 5 0 mm is selected, brake and flam inter a code in the option columr vis bracket (QR or QRPB) and a kr bracket (QR or QRPB)	QRPB TMD2 WA WL ge option (B/FL) cann n of the model spec nuckle joint (NJ or N Description 10 ating type n Hard alumite treat -condensing)	See P.105 See P.105 See P.105 See P.105 ot be selected toge item. JPB) together as a

Orientation	Horizontal Vertical							On
Speed		Ac	celerati	on (G)			S
(mm/s)	0.3	0.5	0.7	1	0.3	0.5		(r
0	20	18	15	12	3	3		
200	20	18	15	12	3	3		
400	20	14	12	8	3	3		
420	17	12	10	6	3	3		
600	14	6	5	4	2.5	2		
640	5	3	2	1.5	2	1		
800	5	1	1					
860	2							

Orientation		Horizo	Vertical					
Speed	Acceleration (G)							
(mm/s)	0.3	0.5	0.7	1	0.3	0.5		
0	50	40	35	30	8	8		
140	50	40	35	30	8	8		
280	50	35	25	20	7	7		
420	25	18	10	10	4	3		
560	7	5	2	1	0.5	0.5		
640	2.5							

Lead 8						
Orientation		Horiz	ontal		Ver	tical
Speed		A	ccelera	ition (G)	
(mm/s)	0.3	0.5	0.7	1	0.3	0.5
0	60	50	45	40	18	18
70	60	50	45	40	18	18
140	60	50	45	40	16	12
210	60	40	31	26	10	9
280	25	10	8	6	3	2.5
320	5					

Lead 4										
Orientation		Horiz	ontal		Vertical					
Speed	Acceleration (G)									
(mm/s)	0.3	0.5	0.7	1	0.3	0.5				
0	80	70	65	60	28	28				
35	80	70	65	60	28	28				
70	80	70	65	60	28	28				
105	80	60	50	40	18	18				
140	40	15	10	5	5	3				
150	20									



3D CAD

1

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ŭ 2

Energy-saving enabled Unit of payload is kg. Operations on the blank locations are not possible.

Lead 24

Dimensions

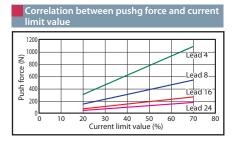
Lead 24				Lead 1
Orientation	Horiz	ontal	Vertical	Orier
Speed	Ac	Sp (m		
(mm/s)	0.3	0.7	0.3	(m
0	18	9.5	3	
200	18	9.5	3	1
420	10	5	1.5	2
630	1			4

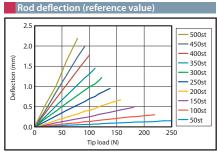
ad 16							
Orientation	Horiz	ontal	Vertical				
Speed	Acceleration (G)						
(mm/s)	0.3	0.7	0.3				
0	40	25	5				
140	40	25	5				
280	18	12	2				
420	1.5	1					

Lead 8								
Orientation	Horiz	Vertical						
Speed	Acceleration (G)							
(mm/s)	0.3	0.7	0.3					
0	50	30	17.5					
70	50	30	17.5					
140	50	30	7					
210	14	7	1					

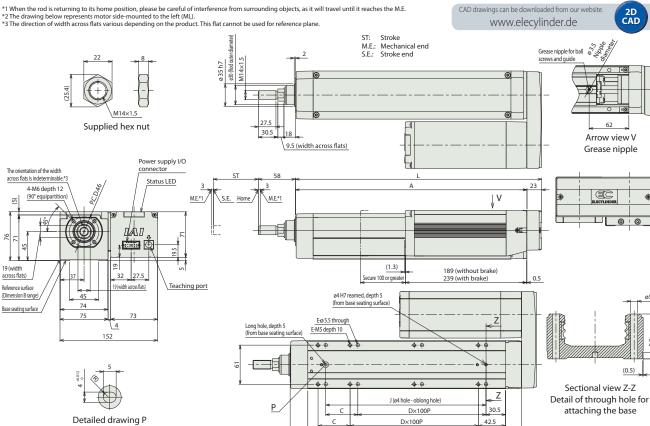
Lead 4								
Orientation	Horiz	Horizontal						
Speed	Ad	Acceleration (G)						
(mm/s)	0.3	0.7	0.3					
0	55	50	26					
35	55	50	26					
70	55	50	13					
105	30	15	2					

Stroke and maximum speed									
Lead (mm)	Energy-saving	50-500 (per 50mm)							
24	Disabled	860<640>							
24	Enabled	630<420>							
16	Disabled	640<560>							
10	Enabled	420<280>							
8	Disabled	320<280>							
0	Enabled	210							
4	Disabled	150<140>							
4	Enabled	105							





(Note) Figures in < > represent vertical operations. (Unit is mm/s)



Detailed drawing P base long hole detail

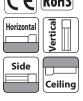
Dimensions by stroke

	•										
	Stroke	50	100	150	200	250	300	350	400	450	500
	L	284	334	384	434	484	534	584	634	684	734
	А	261	311	361	411	461	511	561	611	661	711
	В	208.5	258.5	308.5	358.5	408.5	458.5	508.5	558.5	608.5	658.5
	C	50	0	50	0	50	0	50	0	50	0
	D	1	2	2	3	3	4	4	5	5	6
	E	6	6	8	8	10	10	12	12	14	14
	J	150	200	250	300	350	400	450	500	550	600
Mas	s by stroke										
	Stroke	50	100	150	200	250	300	350	400	450	500
Weight	Without brake	4.6	5	5.3	5.6	6	6.3	6.6	7	7.3	7.6
(kg)	With brake	5.1	5.5	5.8	6.1	6.5	6.8	7.1	7.5	7.8	8.1

В

Applicable controller

EC-RP4 Motor Unit Body Width **34** mm 24v Pulse motor Rod Type Mini Coupled Model Specification Items EC _ RP4 _ Cable Length Series Туре Lead Stroke Options _ H M 6mm 4mm 30mm 0 With terminal block type connector Refer to the Options table below. 2mm 1m ≀ 10 10m CE RoHS





	(1) Please use a rotation stop apparatus such as a guide at the tip of the feed screw because it has no rotation stop. (If there is no rotation stop, the feed screw rotates and cannot move back and forth). Do not use floating joints or anything similar when connecting the rotation stop apparatus and the rod. Please refer to P29 + P32 for mounting method and conditions.
Selection	(2) The actuator specifications display the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to "Table of Payload by Speed/ Acceleration" for more details.
Notes	(3) The value of the horizontal payload assumes the use of an external guide. Please do not apply any external force other than the rod thrust direction.
	(4) When performing a push-motion operation, please refer to the "Correlation between push force and current limit value." Push force is only a guide. Please refer to P110 for cautions.
	(5) Special attention needs to be paid to the mounting orientation. Please refer to P30 for details.

Cable Length	
Cable code	Cable length
0	No cable (with connector)
1~3	1 ~ 3m
4~5	4 ~ 5m
6~10	6 ~ 10m

Lead 2

Orientation

Speed (mm/s)

0

100

Options

Name	Option code	Reference page
Brake	В	See P.97
PNP specification	PN	See P.104
Split motor and controller power supply specification	TMD2	See P.105
Battery-less Absolute Encoder specification	WA	See P.105
Wireless communication specification	WL	See P.105
Non-motor end specification	WL2	See P.105

(Note) Robot cables.

Main specifications

		ltem		Description	
Lead		Ball screw lead (mm)	6	4	2
Horizontal	Payload	Max. payload (kg)	2.5	4	8
	Concerned /	Max. speed (mm/s)	300	200	100
	Speed/ acceleration/	Min. speed (mm/s)	7.5	5	2.5
	deceleration/	Rated acceleration/deceleration (G)	0.3	0.3	0.3
	deceleration	Max. accleration/deceleration (G)	0.5	0.5	0.3
Payload		Max. payload (kg)	1	1.5	2.5
	Speed/ acceleration/ deceleration	Max. speed (mm/s)	300	200	100
Vertical		Min. speed (mm/s)	7.5	5	2.5
		Rated acceleration/deceleration (G)	0.3	0.3	0.3
		Max. accleration/deceleration (G)	0.5	0.5	0.3
Push force		Pushing max. thrust force (N)*	30	45	90
Push force		Pushing max. speed (mm/s)	20	20	20
Brake		Brake holding specification Non-excitation act solenoid brak			
		Brake holding force (kgf)	1	1.5	2.5
		Min. stroke (mm)	30	30	30
Stroke		Max. stroke (mm)	50	50	50
		Stroke pitch (mm)	20	20	20

ltem	Description
Driving system	Ball screw ø6mm, Rolling C10
Positioning repeatability	±0.05mm
Lost motion	-
Rod non-rotation accuracy	-
Operational service life	5000km or 50 million reciprocating motions
Ambient operation	0~40°C, 85%RH or less (Non-condensing)
temperature/humidity	0~40 C, 85%RH of less (Non-condensing)
Degree of protection	IP20
Vibration & shock resistance	4.9m/s ² 100Hz or less
Overseas standards	CE marking, RoHS (Restriction of Hazardous Substances)
Motor type	Pulse motor
Encoder type	Incremental / battery-less absolute
Number of encoder pulses	800 pulse/rev

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

Horizontal Vertical

Acceleration (G)

0.3

2.5

2.5

0.3

8

8

Table of Payload by Speed/Acceleration

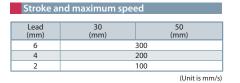
Unit for payload is kg.

1	Lead 6						Lead 4				
	Orientation	Horiz	ontal	Ver	tical		Orientation	Horiz	ontal	Ver	tical
	Speed	Acceleration (G)			Acceleration (G) Speed			Accelera	ation (G)		
	(mm/s)	0.3	0.5	0.3	0.5		(mm/s)	0.3	0.5	0.3	0.5
	0	2.5	2.5	1	1		0	4	4	1.5	1.5
	300	2.5	2.5	1	1		200	4	4	1.5	1.5

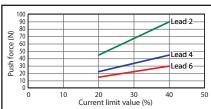
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CAD drawings can be downloaded from our website.

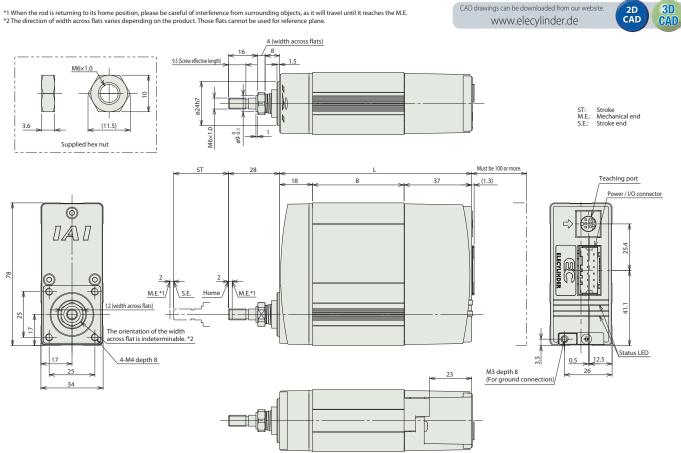


Correlation between push force and current limit value



Dimensions

*1 When the rod is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the M.E. *2 The direction of width across flats varies depending on the product. Those flats cannot be used for reference plane.



Dimensions by stroke

	Encoder type	Incren	nental	Battery-less absolute		
Stroke		30	50	30	50	
	W/o Brake	105	125	125	125	
^L	With Brake	135	135	155	155	
В	W/o Brake	50	70	70	70	
D	With Brake	80	80	100	100	

Mass by stroke

Encoder type		Increr	nental	Battery-le	absolute
Stroke		30	50	30	50
Weight (kg)	W/o Brake	0.5	0.6	0.6	0.6
weight (kg)	With Brake	0.7	0.7	0.7	0.7

Applicable controller

		oupled Motor mm motor
Model Specification Items		
EC – GS4 – – –		-
Series — Type Lead — Stroke —	Cable Length	- Options
H 6mm 30 30mm 0 M 4mm 50 50mm 0	,	Refer to the Options table below.
L 2mm 1	1 1m	
1	2 2	
10	10 10m	

Korizontal

Ceiling



Cable length No cable (with connector)

1 ~ 3m

4 ~ 5m

6 ~ 10m

	(1) The actuator specifications display the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to "Table of Payload by Speed/ Acceleration" for more details.
QOIN X	(2) The value for horizontal payload assumes the use of an external guide so that radial and moment loads are not applied on the rod. If a guide is not installed, please refer to the "Correlation between Radial Load and Operation Life" (P106).
Selection Notes	(3) When performing a push-motion operation, please refer to the "Correlation between push force and current limit value." Push force is only a guide. Please refer to P110 for cautions.

cautions. (4) Please make sure to select an option code from the option price list below for the

guide mounting direction. (5) Special attention needs to be paid to the mounting orientation. Please refer to P30 for details.

Options		
Name	Option code	Reference page
Brake	В	See P.97
Guide right mount	GT2	See P.101
Guide bottom mount	GT3	See P.101
Guide left mount	GT4	See P.101
PNP specification	PN	See P.104
Split motor and controller power supply specification	TMD2	See P.105
Battery-less Absolute Encoder specification	WA	See P.105
Wireless communication specification	WL	See P.105
Wireless axis-operation specification	WL2	See P.105

6 ~ 10 (Note) Robot cables.

Main specifications

Cable Length Cable code

0 1 ~ 3

4~5

		Item	Description			
Lead		Ball screw lead (mm)	6	4	2	
Horizontal	Payload	Max. payload (kg)	2.5	4	8	
		Max. speed (mm/s)	300	200	100	
	Speed/ acceleration/	Min. speed (mm/s)	7.5	5	2.5	
	deceleration/	Rated acceleration/deceleration (G)	0.3	0.3	0.3	
	deceleration	Max. accleration/deceleration (G)	0.5	0.5	0.3	
	Payload	Max. payload (kg)	1	1.5	2.5	
	Speed/ acceleration/ deceleration	Max. speed (mm/s)	300	200	100	
Vertical		Min. speed (mm/s)	7.5	5	2.5	
		Rated acceleration/deceleration (G)	0.3	0.3	0.3	
		Max. accleration/deceleration (G)	0.5	0.5	0.3	
Push force		Pushing max. thrust force (N)*	30	45	90	
Push force		Pushing max. speed (mm/s)	20	20	20	
Brake		Brake holding specification No		Non-excitation actuating solenoid brake		
		Brake holding force (kgf)	1	1.5	2.5	
		Min. stroke (mm)	30	30	30	
Stroke		Max. stroke (mm)	50	50	50	
		Stroke pitch (mm)	20	20	20	

ltem	Description
Driving system	Ball screw ø6mm, Rolling C10
Positioning repeatability	±0.05mm
Lost motion	-
Rod non-rotation accuracy	-
Operational service life	5000km or 50 million reciprocating motions
Ambient operation	0~40°C, 85%RH or less (Non-condensing)
temperature/humidity	0~40 C, 85%RH of less (Non-condensing)
Degree of protection	IP20
Vibration & shock resistance	4.9m/s ² 100Hz or less
Overseas standards	CE marking, RoHS (Restriction of Hazardous Substances)
Motor type	Pulse motor
Encoder type	Incremental / battery-less absolute
Number of encoder pulses	800 pulse/rev

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

Horizontal Vertical

Acceleration (G)

0.3

2.5

2.5

0.3

8

8

Lead 2

Orientation

Speed (mm/s)

0

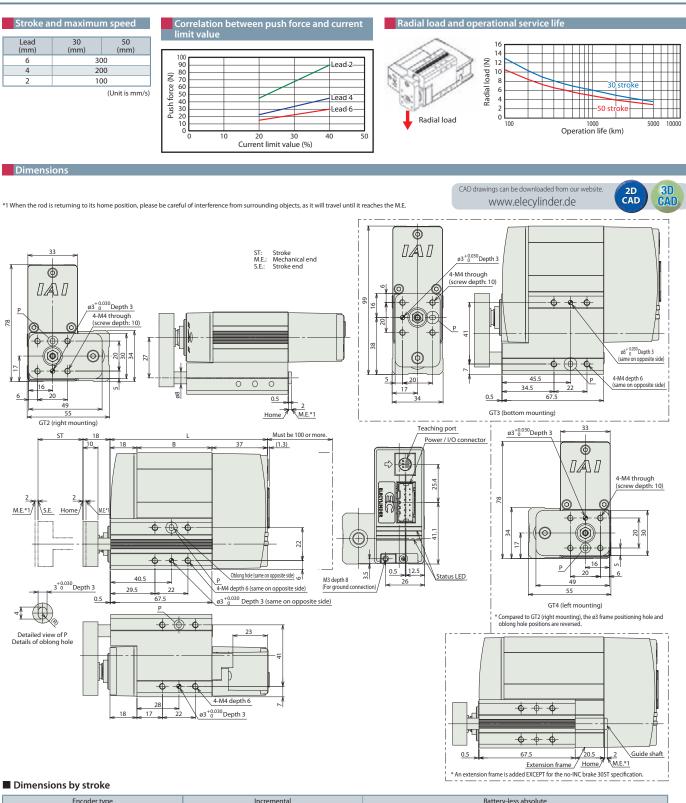
100

Table of Payload by Speed/Acceleration

Unit for payload is kg.

	onne ror payroa	a									
Lead 6							Lead 4				
	Orientation Horizontal Vertical			Orientation	Horiz	Horizontal Vertical					
	Speed (mm/s)	Acceleration (G)					Speed	Acceleration (G)			
		0.3	0.5	0.3	0.5		(mm/s)	0.3	0.5	0.3	0.5
	0	2.5	2.5	1	1		0	4	4	1.5	1.5
	300	2.5	2.5	1	1		200	4	4	1.5	1.5





	Encoder type Stroke		Increm	nental	Battery-less absolute		
			30	50	30	50	
		W/o Brake	105	125	125	125	
	L	With Brake	135	135	155	155	
	D	W/o Brake	50	70	70	70	
	В	With Brake	80	80	100	100	

Mass by stroke

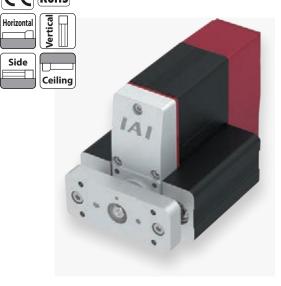
	Encoder type	Incren	nental	Battery-less absolute		
	Stroke	30	50	30	50	
Mainht (ka)	W/o Brake	0.7	0.7	0.7	0.7	
Weight (kg)	With Brake	0.8	0.8	0.9	0.9	

Applicable controller

EC	- (GC)4					Mi	ni Rod Type	Double Guide	Motor Unit Couple	Cide menuted	Body Width	24v Pulse motor
Model Spec	ificatio	on Items												
EC	_	GD4] —] –] – [
Series] — [Туре	Lead	i —		Stroke	-		Cable Length	1	ī — ī	Op	otions	
			H 6mm M 4mm	1	30 50	30mm 50mm	-	0	With terminal block	type connector		Refer to the Op	tions table belo	w.
			L 2mm		30	5011111		1	1m	1	- '			
								≀ 10	≀ 10n					
								10	101					
C E RoHS														

OINA electio

details.



Cable Length	
Cable code	Cable length
0	No cable (with connector)
1~3	1 ~ 3m
4~5	4 ~ 5m
6~10	6 ~ 10m

(Note) Robot cables.

Main specifications

			Description	า	
Lead		Ball screw lead (mm)	6	4	2
	Payload	Max. payload (kg)	2.5	4	8
	Concerned /	Max. speed (mm/s)	300	200	100
Horizontal	Speed/ acceleration/	Min. speed (mm/s)	7.5	5	2.5
	deceleration	Rated acceleration/deceleration (G)	0.3	0.3	0.3
	deceleration	Max. accleration/deceleration (G)	0.5	0.5	0.3
	Payload	Max. payload (kg)	1	1.5	2.5
	Speed/ acceleration/ deceleration	Max. speed (mm/s)	300	200	100
Vertical		Min. speed (mm/s)	7.5	5	2.5
		Rated acceleration/deceleration (G)	0.3	0.3	0.3
		Max. accleration/deceleration (G)	0.5	0.5	0.3
Push force		Pushing max. thrust force (N)*	30	45	90
Push force		Pushing max. speed (mm/s)	20	20	20
Brake Stroke		Brake holding specification		citation ac	
		Brake holding force (kgf)	1	1.5	2.5
		Min. stroke (mm)	30	30	30
		Max. stroke (mm)	50	50	50
		Stroke pitch (mm)	20	20	20

Options		
Name	Option code	Reference page
Brake	В	See P.97
PNP specification	PN	See P.104
Split motor and controller power supply specification	TMD2	See P.105
Battery-less Absolute Encoder specification	WA	See P.105
Wireless communication specification	WL	See P.105
Wireless axis-operation specification	WL2	See P.105

The actuator specifications display the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to "Table of Payload by Speed/ Acceleration" for more details.

Acceleration" for more details.
(2) The value for horizontal payload assumes the use of an external guide so that radial and moment loads are not applied on the rod. If a guide is not installed, please refer to the "Correlation between Radial Load and Operation Life" (P106).
(3) When performing a push-motion operation, please refer to the "Correlation between push force and current limit value." Push force is only a guide. Please refer to P110 for cautions.
(4) Special attention needs to be paid to the mounting orientation. Please refer to P30 for details.

Item	Description
Driving system	Ball screw ø6mm, Rolling C10
Positioning repeatability	±0.05mm
Lost motion	-
Rod non-rotation accuracy	-
Operational service life	5000km or 50 million reciprocating motions
Ambient operation	0~40°C, 85%RH or less (Non-condensing)
temperature/humidity	0~40 C, 85%RH OF less (NOII-COndensing)
Degree of protection	IP20
Vibration & shock resistance	4.9m/s ² 100Hz or less
Overseas standards	CE marking, RoHS (Restriction of Hazardous Substances)
Motor type	Pulse motor
Encoder type	Incremental / battery-less absolute
Number of encoder pulses	800 pulse/rev

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

Table of Payload by Speed/Acceleration

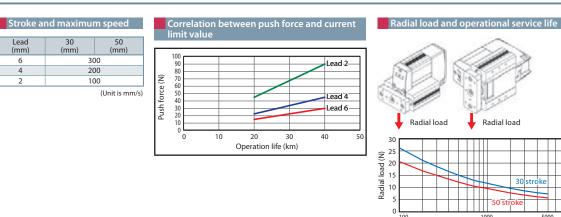
Unit for payload is I	kg.
Lead 6	

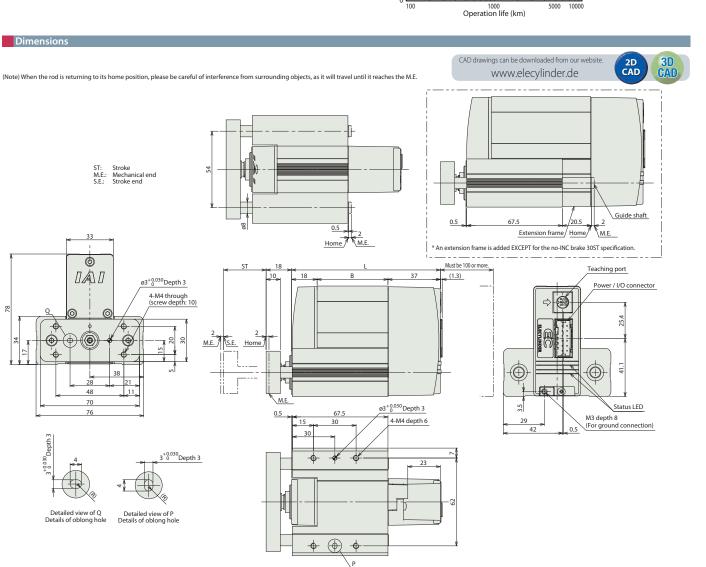
	officior payload is kg.								
ļ	Lead 6				Lead 4				
	Orientation	Horiz	Horizontal Vertical			Orientation	Horiz	ont	
	Speed		Accelera	ation (G)			Speed		Acc
	(mm/s)	0.3	0.5	0.3	0.5		(mm/s)	0.3	0
	0	2.5	2.5	1	1		0	4	
	300	2.5	2.5	1	1		200	4	

Le tal Vertical celeration (G) 0.5 0.3 0.5 4 1.5 1.5 4 4 1.5 1.5

ead 2									
Orientation	Horizontal	Vertical							
Speed (mm/s)	Acceleration (G)								
(mm/s)	0.3	0.3							
0	8	2.5							
100	8	2.5							

5000 10000





100

Dimensions by stroke

€

.030 Depth 3

Encoder Stroke		Increr	nental	Battery-less absolute		
		30	50	30	50	
	Without brake	105	125	125	125	
L	With brake	135	135	155	155	
В	Without brake	50	70	70	70	
	With brake	80	80	100	100	

Mass by stroke

Encoder Stroke		Incren	nental	Battery-less absolute		
		30	50	30	50	
March (La)	Without brake	0.9	0.9	0.9	0.9	
Weight (kg)	With brake	1.0	1.0	1.0	1.1	

Applicable controller

EC-TC4 dv Widtl 24v Pulse motor Motor Table **78** Mini Unit Туре Model Specification Items EC _ TC4 Series Туре Lead Stroke Cable Length Options н 6mm 30mm 0 With terminal block type connector Refer to the Options table below. Μ 4mm 1m 10 10m

Korizontal



(1) The actuator specifications display the payload's maximum value, but it will vary depending on the acceleration and speed. Please refer to "Table of Payload by Speed/
Acceleration" for more details.

- (2) When performing a push-motion operation, please refer to the "Correlation between push force and current limit value." Push force is only a guide. Please refer to P110 for cautions.
- (3) Please make sure to select an option code from the option price list below for the table mounting direction.
- (4) Reference value of the overhang load length is under 100mm in the table top surface of the Ma direction, under 50mm in the table fron direction and under 120mm in the Mb and Mc directions.

(5) Special attention needs to be paid to the mounting orientation. Please refer to P30 for details.

he above photo	shows a left	side-mount :	specification (GT4).

Cable Length					
Cable code	Cable length				
0	No cable (with connector)				
1~3	1 ~ 3m				
4~5	4 ~ 5m				
6~10	6 ~ 10m				
(1) · · · · · · · · · · · · · · · · · · ·					

T

(Note) Robot cables

Main specifications

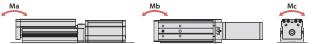
		ltem	[Description	า	
Lead		Ball screw lead (mm)	6	4	2	
	Payload	Max. payload (kg)	2.5	4	8	
	Current/	Max. speed (mm/s)	300	200	100	
Horizontal	Speed/ acceleration/	Min. speed (mm/s)	7.5	5	2.5	
	deceleration	Rated acceleration/deceleration (G)	0.3	0.3	0.3	
	deceleration	Max. accleration/deceleration (G)	0.5	0.5	0.3	
	Payload	Max. payload (kg)	1	1.5	2.5	
	Concerned /	Max. speed (mm/s)	300	200	100	
Vertical	Speed/ acceleration/	Min. speed (mm/s)	7.5	5	2.5	
	deceleration	Rated acceleration/deceleration (G)	0.3	0.3	0.3	
	deceleration	Max. accleration/deceleration (G)	0.5	0.5	0.3	
Push force		Pushing max. thrust force (N)*	30	45	90	
Pushiorce		Pushing max. speed (mm/s)	20	20	20	
Brake Stroke		Brake holding specification Non-excitation solenoid		citation ac lenoid bra		
		Brake holding force (kgf)	1	1.5	2.5	
		Min. stroke (mm)	30	30	30	
		Max. stroke (mm)	50	50	50	
		Stroke pitch (mm)	20	20	20	

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

Item Description Driving system Ball screw ø6mm, Rolling C10 Positioning repeatability ±0.05mm Lost motion Ma: 5N∙m Static allowable moment Mb: 5N · m Mc:9N ⋅ m Ma: 3N ⋅ m Dynamic allowable Mb: 3N • m moment (Note 1) Mc: 6N ⋅ m Operational service life 5000km or 50 million reciprocating motions Ambient operation 0~40°C, 85%RH or less (Non-condensing) . temperature/humidity Degree of protection Vibration & shock resistance 4.9m/s² 100Hz or less CE marking, RoHS (Restriction of Hazardous Substances) Overseas standards Motor type Pulse motor Encoder type Incremental / battery-less absolute Number of encoder pulses 800 pulse/rev

(Note 1) Based on the standard rated operation life of 5000 km. Operation life varies according to operating and mounting conditions. Confirm the operation life on P33.

Direction of moment for the Table type



85	EC-TC4	

Name	Option code	Reference page
Brake	В	See P.97
Table right mount	GT2	See P.101
Table bottom mount	GT3	See P.101
Table left mount	GT4	See P.101
Non-motor end specification	NM	See P.104
PNP specification	PN	See P.104
Split motor and controller power supply specification	TMD2	See P.105
Battery-less Absolute Encoder specification	WA	See P.105
Wireless communication specification	WL	See P.105
Wireless axis-operation specification	WL2	See P.105

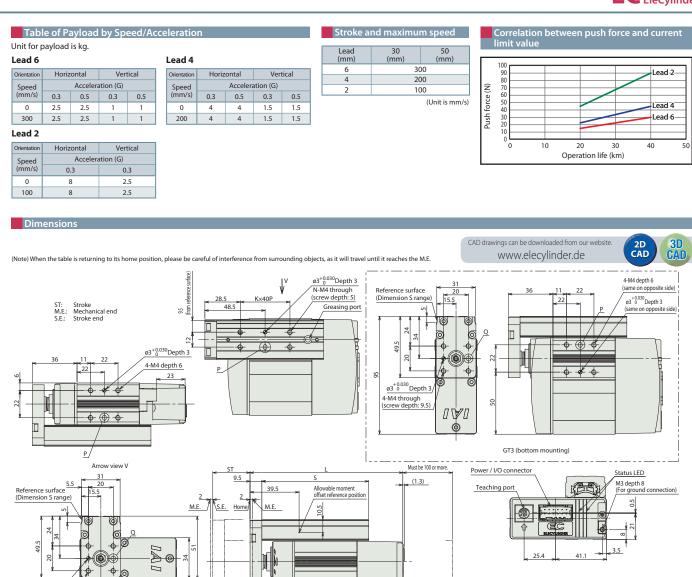


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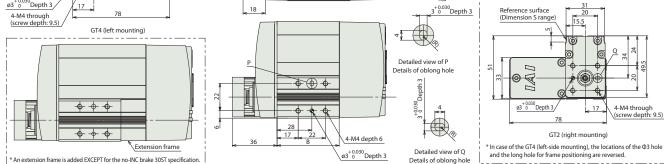
electio

Notes





ø3^{+0.030}Depth 3 17



Dimensions by stroke

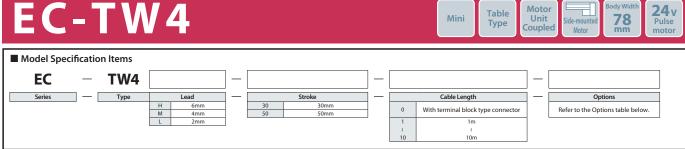
	Encoder type	Incremental		Battery-less absolute	
	Stroke	30	50	30	50
	Without brake	123	143	143	143
1	With brake	153	153	173	173
в	Without brake	50	70	70	70
D	With brake	80	80	100	100
	S	86	106	86	106
	К	1	2	1	2
	Ν	4	6	4	6

Mass by stroke

Encoder type		Increm	nental	Battery-less absolute	
Stroke		30	50	30	50
Mainht (ka)	Without brake	0.6	0.7	0.7	0.7
Weight (kg)	With brake	0.8	0.8	0.8	0.8

Applicable controller

EC-TW4



CE RoHS Horizontal Vertica Side \Box Ceiling



(1) The actuator specifications display the payload's maximum value, but it will vary
depending on the acceleration and speed. Please refer to "Table of Payload by Speed/
Acceleration" for more details.

Motor

Unit Coupled

dv Widt **78**

(2) When performing a push-motion operation, please refer to the "Correlation between push force and current limit value." Push force is only a guide. Please refer to P110 for cautions.

(3) Reference value of the overhang load length is under 100mm in the Ma direction of the table top direction, under 50mm in the table front direction and under 120mm in the Mb and Mc directions.

(4) Special attention needs to be paid to the mounting orientation. Please refer to P30 for details.

Cable Length					
Cable code	Cable length				
0	No cable (with connector)				
1~3	1 ~ 3m				
4~5	4 ~ 5m				
6~10	6 ~ 10m				
(Note) Robot cables.					

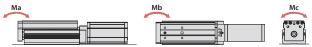
Main specifications

		Item	[Descriptior	า
Lead		Ball screw lead (mm)	6	4	2
	Payload	Max. payload (kg)	2.5	4	8
	Concerned /	Max. speed (mm/s)	300	200	100
Horizontal	Speed/ acceleration/	Min. speed (mm/s)	7.5	5	2.5
	deceleration	Rated acceleration/deceleration (G)	0.3	0.3	0.3
	deceleration	Max. accleration/deceleration (G)	0.5	0.5	0.3
	Payload	Max. payload (kg)	1	1.5	2.5
	Speed/ acceleration/ deceleration	Max. speed (mm/s)	300	200	100
Vertical		Min. speed (mm/s)	7.5	5	2.5
		Rated acceleration/deceleration (G)	0.3	0.3	0.3
		Max. accleration/deceleration (G)	0.5	0.5	0.3
Push force		Pushing max. thrust force (N)*	30	45	90
Pushiorce		Pushing max. speed (mm/s)	20	20	20
Brake		Brake holding specification	Non-excitation actuating solenoid brake		
		Brake holding force (kgf)	1	1.5	2.5
		Min. stroke (mm)	30	30	30
Stroke		Max. stroke (mm)	50	50	50
		Stroke pitch (mm)	20	20	20

Overseas standards CE marking, RoHS (Restriction of Hazardous Substances) Motor type Pulse motor Encoder type Incremental / battery-less absolute

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

Direction of moment for the Table type



Options		
Name	Option code	Reference page
Brake	В	See P.97
Non-motor end specification	NM	See P.104
PNP specification	PN	See P.104
Split motor and controller power supply specification	TMD2	See P.105
Battery-less Absolute Encoder specification	WA	See P.105
Wireless communication specification	WL	See P.105
Wireless axis-operation specification	WL2	See P.105

Options

Item	Description
Driving system	Ball screw ø6mm, Rolling C10
Positioning repeatability	±0.05mm
Lost motion	-
	Ma: 8N · m
Static allowable moment	Mb: 8N · m
	Mc: 26N·m
D	Ma: 5N · m
Dynamic allowable moment (Note 1)	Mb: 5N · m
moment (Note 1)	Mc: 17N · m
Operational service life	5000km or 50 million reciprocating motions
Ambient operation	0.40°C 05°(Diller less (Ners services)
temperature/humidity	0~40°C, 85%RH or less (Non-condensing)
Degree of protection	-
Vibration & shock resistance	4.9m/s ² 100Hz or less
Oversees standards	CE marking BoHE (Destriction of Hazardous Substances)

Number of encoder pulses 800 pulse/rev

(Note 1) Based on the standard rated operation life of 5000 km. Operation life varies according to operating and mounting conditions. Confirm the operation life on P33.



Lead-2-

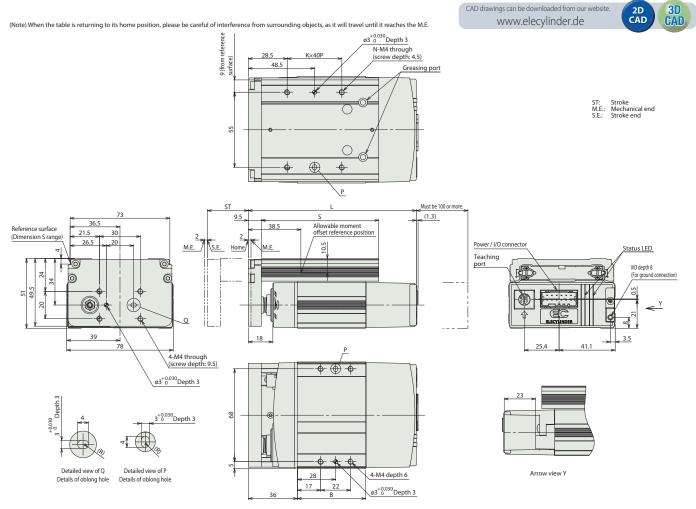
Lead 4

Lead 6

50

40

Correlation between push force and current limit value Table of Payload by Speed/Acceleration Stroke and maximum speed Unit for payload is kg. 30 (mm) 50 (mm) Lead (mm) Lead 6 Lead 4 100 90 80 70 60 50 40 6 300 Orientation Horizontal Vertical Orientation Horizontal Vertical 200 4 Acceleration (G) Acceleration (G) Speed (mm/s) Speed (mm/s) 100 Push force (N) 2 0.3 0.5 0.3 0.5 0.3 0.5 0.3 0.5 (Unit is mm/s) 0 2.5 2.5 1 1 0 4 4 1.5 1.5 30 20 10 0 300 2.5 2.5 1 200 4 4 1.5 1.5 1 Lead 2 10 20 30 С Orientation Horizontal Vertical Operation life (km) Speed (mm/s) Acceleration (G) 0.3 0.3 0 8 2.5 100 8 2.5 Dimensions



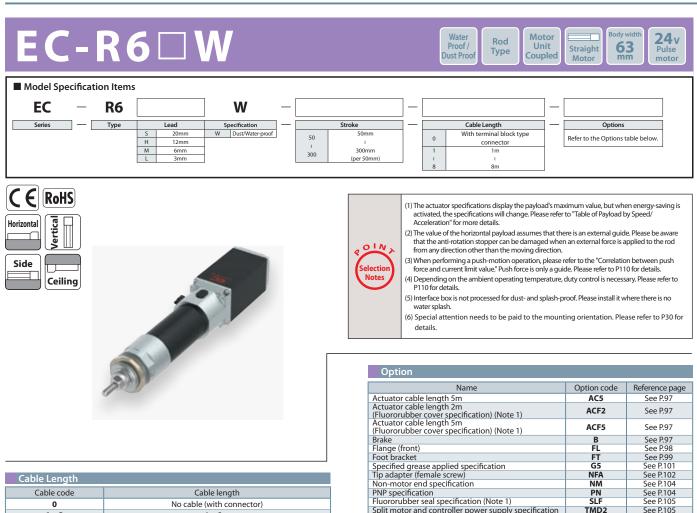
Dimensions by stroke

Encoder type		Increr	nental	Battery-less absolute		
	Stroke	30	50	30	50	
	Without brake	123	143	143	143	
L	With brake	153	153	173	173	
В	Without brake	50	70	70	70	
В	With brake	80	80	100	100	
	S	86	106	86	106	
	К	1	2	1	2	
	Ν	4	6	4	6	

Mass by stroke

Encoder type		Incren	nental	Battery-less absolute		
Stroke		30	50	30	50	
Weight (kg)	Without brake	0.8	0.9	0.8	0.9	
	With brake	0.9	1.0	1.0	1.0	

Applicable controller



Cable Length	
Cable code	Cable length
0	No cable (with connector)
1~3	1 ~ 3m
4~5	4 ~ 5m
6~8	6 ~ 8m

(Note) Please select the actuator cable and power-I/O cable so that their total length is 10m or less. (Note) Robot cable.

Main specifications

		Item		Descr	iption	
Lead		Ball screw lead (mm)	20	12	6	3
	Payload	Max. payload (kg) (energy-saving disabled)	6	25	40	60
	Payloau	Max. payload (kg) (energy-saving enabled)	6	25	40	40
Horizontal	Speed/	Max. speed (mm/s)	800	700	450	225
HOHZOHIJA	acceleration/	Min. speed (mm/s)	25	15	8	4
	deceleration	Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
	deceleration	Max. accleration/deceleration (G)	1	1	1	1
		Max. payload (kg) (energy-saving disabled)	1.5	4	10	12.5
	Payload	Max. payload (kg) (energy-saving enabled)		4	10	12.5
Vertical	Speed/ acceleration/ deceleration	Max. speed (mm/s)		700	450	225
		Min. speed (mm/s)	25	15	8	4
		Rated acceleration/deceleration (G)		0.3	0.3	0.3
		Max. accleration/deceleration (G)		0.5	0.5	0.5
Push force		Pushing max. thrust force (N)*	67	112	224	449
Push force		Pushing max. speed (mm/s)		20	20	20
Brake		Brake holding specification		Non-excitation actuating solenoid brake		
brune		Brake holding force (kgf)	1.5	4	10	12.5
		Min. stroke (mm)	50	50	50	50
Stroke		Max. stroke (mm)	300	300	300	300
		Stroke pitch (mm)	50	50	50	50

	ltem	Description		
Driving system		Ball screw ø10mm, Rolling C10		
Positionir	ng repeatability	±0.05mm		
Lost moti	on	-		
	Rod	ø25mm, material: aluminum, white alumite treated		
Main	Frame	Material: aluminum, black alumite treatment		
material	Dust seal	Rubber (NBR)		
	Actuator cable	Polyvinyl chloride (PVC)		
Rod non-rotation accuracy (Note 2)		±1.5 degree		
Allowable load and torque on the rod tip.		0.5N∙m		
	operation ure/humidity	0~40°C, 85%RH or less (Non-condensing)		
Degree o	fprotection	IP67		
Vibration	& shock resistance	4.9m/s ² 100Hz or less		
Overseas	standards	CE marking, RoHS (Restriction of Hazardous Substances)		
Motor typ	be	Pulse motor		
Encoder t	ype	Incremental / battery-less absolute		
Number of	of encoder pulses	800 pulse/rev		
	e rod tip displacemen I tip when most of the	t angle (initial reference value) when allowable static torque is applied on e rod is in the body.		

(Note 1) When selecting the change of the actuator cable length (fluororubber cover specification) (ACF2/ACF5), a fluororubber seal specification (SLF) is also supplied. Therefore, either one is selectable.

Split motor and controller power supply specification Battery-less absolute encoder specification

Wireless communication specification Wireless axis-operation specification

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

Table of Payload by Speed/Acceleration

Setting for energy-saving disabled Unit for payload is kg. Operations on the blank locations are not possible.

Lead 20								
Orientation		Horizontal				Vertical		
Speed		Ac	(G)					
(mm/s)	0.3	0.5	0.7	1	0.3	0.5		
0	6	6	5	5	1.5	1.5		
160	6	6	5	5	1.5	1.5		
320	6	6	5	3	1.5	1.5		
480	6	6	5	3	1.5	1.5		
640	6	4	3	2	1.5	1.5		
800	4	3			1	1		

Lead 12								
Orientation		Horiz	ontal		Vertical			
Speed		A	ccelera	tion (G)			
(mm/s)	0.3	0.5	0.7	1	0.3	0.5		
0	25	18	16	12	4	4		
100	25	18	16	12	4	4		
200	25	18	16	10	4	4		
400	20	14	10	6	4	4		
500	15	8	6	4	3.5	3		
700	6	2	2	1				

Lead 6											
Orientation	Horizontal Vertical										
Speed		Ac	celerati:	on (G)						
(mm/s)	0.3	0.5	0.7	1	0.3	0.5					
0	40	35	30	25	10	10					
50	40	35	30	25	10	10					
100	40	35	30	25	10	10					
200	40	30	25	20	10	10					
250	40	27.5	22.5	18	9	8					
350	30	14	12	10	5	5					
400	18	10	6	5	3	3					
450	8	3			2	1					

Orientation	Horizontal Vertical								
Speed		A	ccelera	ition (G)				
(mm/s)	0.3	0.5	0.7	1	0.3	0.5			
0	60	50	45	40	12.5	12.5			
50	60	50	45	40	12.5	12.5			
100	60	50	45	40	12.5	12.5			
125	60	50	40	30	10	10			
175	40	35	25	20	6	5			
200	35	30	20	14	5	4.5			
225	16	16	10	6	5	4			

NM PN SLF

TMD2 WA

WI WL2 See P.105 See P.105

See P.105 See P.105



Setting for energy-saving enabled Unit for payload is kg. Lea

Lead 20	
---------	--

Dimensions

14 (width across flats)

4

31.5

14 (width across flats)

(82)

Orientation	Horiz	Horizontal						
Speed (mm/s)	Ac	Acceleration (G)						
(mm/s)	0.3	0.7	0.3					
0	6	5	1					
160	6	5	1					
320	6	5	1					
480	4	3	1					
640	3	1	0.5					

ad 12										
Orientation	Horiz	ontal	Vertical							
Speed	Ac	celeration	n (G)							
(mm/s)	0.3	0.7	0.3							
0	25	10	4							
100	25	10	4							
200	25	10	4							
300	20	8	3							
400	10	5	2							
500	5	2	1							

ļ	Lead 6	
	Orientation	

Speed (mm/s)

0

50

100

150

200

250

Horizontal

0.3

40

40

40

40

35

10

Acceleration (G)

0.7

20

20

20

20

18

6

Vertical

0.3

10

10

10

8

5

3

E heal

2D CAD

(2000)*1 Must be 100 or more

Actuator cable

(29.5)

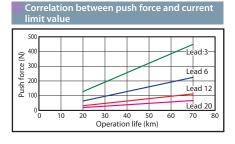
117 (W/o brake)

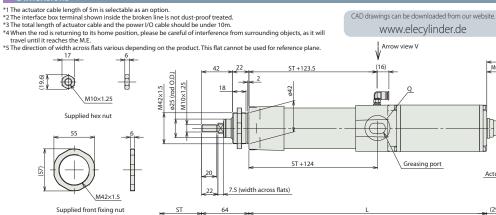
157 (With brake)

3D CAD

Lead 3			
Orientation	Horiz	Vertical	
Speed	Ac	celeration	n (G)
(mm/s)	0.3	0.7	0.3
0	40	25	12.5
25	40	25	12.5
50	40	25	12.5
75	40	25	12
100	40	25	9
125	40	25	5

Stroke and maximum speed										
Lead (mm)	Energy-saving mode	50-200 (per 50mm)	250 (mm)	300 (mm)						
20	Disabled	800								
20	Enabled	640								
12	Disabled	700 547								
12	Enabled									
6	Disabled	450	376	268						
0	Enabled		250							
3	Disabled	255	186	133						
3	Enabled		125							
(Unit is mm/s)										





64

Г

C)

Arrow view V

47.5

В

ø60 ø55

M.E.*4

3

Supplied front fixing nut

(032)

Fitting rotation range

S.E. Home

3

M.E.*4/

able. *5 The angle of the greasing po

The orientation of the width across flat is indeterminal

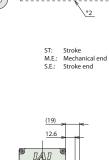
S

18.6

673

Detailed view of Q (Greasing port shape)

9.0



Interface box

82)

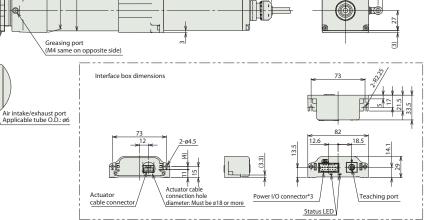
(33.5)

- - -

Γſ

(9.2)

(12) 1PZ



Dimensions by stroke

	Stroke	50	100	150	200	250	300
	Without brake	322	372	422	472	522	572
L .	With brake	362	412	462	512	562	612
	Α	205	255	305	355	405	455
	В	97	147	197	247	297	347

Mass by stroke

•							
	Stroke	50	100	150	200	250	300
Weight (kg)	Without brake	1.8	2.0	2.2	2.4	2.6	2.8
weight (kg)	With brake	2.1	2.3	2.5	2.7	2.9	3.1

Applicable controller

E	C-	$\mathbf{R7} \square \mathbf{W}$						Wate Proof Dust Pr	f/ Rod Unit	Straight Motor	3 Z4V Pulse
Mode	el Specificati	on Items									
EC		R7 W		_[]_[
Serie			ion	ا I		Stro	ko		Cable Length —	Options	
Jene		S 24mm W Dust/W	/ater-proof	5	50	500	50mm	0	With terminal block type	Refer to the Options	
		H 16mm M 8mm			≀ 300		≀ 300mm	1	connector 1m		
		L 4mm		L		(per 50mm)	≀ 8	≀ 8m		
CE	RoHS								ecifications display the payload's		
orizontal								depending on t Acceleration" fo	he acceleration and speed. Pleas or more details.	e refer to "Table of F	Payload by Speed
	Vertica	-						(2) The value of the h	norizontal payload assumes that the		
				i i			201NX	rotation stop can other than the m	be damaged when an external forco	e is applied to the roo	d from any direction
Side]		and the second se					Selection	(3) When performing	g a push-motion operation, please r		
	Ceiling						Notes		limit value." Push force is only a guid e ambient operating temperature, o		
			1					P110 for details.			
								(5) Interface box is no splash.	ot processed for dust- and splash-pr	roof. Install it where th	nere is no water
									n needs to be paid to the mount	ing orientation. Ple	ase refer to P30 fo
								details.			
							Out				
		500					Opti		ame		
		2011				1		IN 2			
	19						Actuato			Option code	
	9						Actuator	r cable length 5m r cable length 2m		AC5	See P.97
	9						Actuator (Fluoror Actuator	r cable length 5m r cable length 2m ubber cover speci r cable length 5m	fication) (Note 1)	AC5 ACF2	See P.97 See P.97
	0						Actuator (Fluoror Actuator (Fluoror	r cable length 5m r cable length 2m ubber cover speci	fication) (Note 1)	AC5 ACF2 ACF5	See P.97 See P.97 See P.97
	9						Actuator (Fluoror (Fluoror Brake Flange (f	r cable length 5m r cable length 2m ubber cover speci r cable length 5m ubber cover speci front)	fication) (Note 1)	AC5 ACF2 ACF5 B FL	See P.97 See P.97 See P.97 See P.97 See P.97 See P.98
	9						Actuator (Fluoror Actuator (Fluoror Brake Flange (f	r cable length 5m r cable length 2m ubber cover speci r cable length 5m ubber cover speci front) cket	fication) (Note 1) fication) (Note 1)	AC5 ACF2 ACF5 B	See P.97 See P.97 See P.97 See P.97 See P.98 See P.99
Cable	Length				_		Actuator (Fluoror Actuator (Fluoror Brake Flange (I Foot bra Specifier Tip adap	r cable length 5m r cable length 2m ubber cover speci r cable length 5m ubber cover speci front) cket d grease applied s ster (female screw	fication) (Note 1) fication) (Note 1) pecification	AC5 ACF2 ACF5 B FL FT G5 NFA	See P.97 See P.97 See P.97 See P.97 See P.97 See P.99 See P.101 See P.102
	Length	Cable length					Actuator (Fluoron Actuator (Fluoron Brake Flange (Foot bra Specified Tip adap Non-mo	r cable length 5m r cable length 2m ubber cover speci r cable length 5m ubber cover speci front) icket d grease applied s	fication) (Note 1) fication) (Note 1) pecification	AC5 ACF2 ACF5 B FL FT G5	See P.97 See P.97 See P.97 See P.97 See P.97 See P.98 See P.99 See P.101
		Cable length No cable (with connec	tor)				Actuator (Fluoror Brake Flange (f Foot bra Specified Tip adap Non-mo PNP spe Fluoror	r cable length 5m r cable length 2m ubber cover speci r cable length 5m ubber cover speci front) cket d grease applied s trer (female screw tor end specificat cification ibber seal specific	fication) (Note 1) fication) (Note 1) pecification) ion ation (Note 1)	AC5 ACF2 ACF5 B FL FT G5 NFA NM PN SLF	See P.97 See P.97 See P.97 See P.97 See P.98 See P.101 See P.102 See P.104 See P.104 See P.104
Cab	ole code 0 1 ~ 3	No cable (with connect 1 ~ 3m	ctor)				Actuator (Fluorori Brake Flange (1 Foot bra Specifier Tip adap Non-mo PNP spe Fluororu Split mo	r cable length 5m r cable length 2m ubber cover speci r cable length 5m ubber cover speci front) cket d grease applied s trer (female screw tor end specificat cification ibber seal specific	fication) (Note 1) fication) (Note 1) pecification) ion ation (Note 1) power supply specification	AC5 ACF2 ACF5 B FL G5 NFA NM PN	See P.97 See P.97 See P.97 See P.97 See P.98 See P.99 See P.101 See P.102 See P.104
Cab 1	0 0 1 ~ 3 4 ~ 5	No cable (with connect 1 ~ 3m 4 ~ 5m	tor)				Actuation (Fluororr Actuation (Fluororr Brake Flange (t Foot bra Specifier Tip adag Non-mo PNP spe Fluororru Split mo Battery-I Wireless	r cable length 5m r cable length 2m ubber cover speci r cable length 5m ubber cover speci front) cket d grease applied s oter (female screw tor end specificati cification bber seal specific tor and controller ess absolute encoc communication s	fication) (Note 1) fication) (Note 1) specification) ion ation (Note 1) power supply specification ler specification specification	AC5 ACF2 ACF5 B FL FT G5 NFA NM PN SLF TMD2 WA WL	See P.97 See P.97 See P.97 See P.97 See P.98 See P.99 See P.101 See P.102 See P.104 See P.105 See P.105 See P.105 See P.105 See P.105
Cab	ole code 0 1 ~ 3 4 ~ 5 6 ~ 8	No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 8m		Om or les	55.		Actuation (Fluororr Actuation (Fluororr Brake Flange (I Foot bra Specifiee Tip adag Non-mo PNP spe Fluororru Split mo Battery-I Wireless Wireless	r cable length 5m r cable length 2m ubber cover speci r cable length 5m ubber cover speci front) cket d grease applied s ter (female screw tor end specificat cification ibber seal specificat cor and controller ess absolute encoc communication s axis-operation sp	fication) (Note 1) fication) (Note 1) pecification) ion ation (Note 1) power supply specification ler specification specification cecification	AC5 ACF2 B FL G5 NFA NM PN SLF TMD2 WA WL WL2	See P.97 See P.97 See P.97 See P.97 See P.99 See P.101 See P.104 See P.104 See P.104 See P.104 See P.105 See P.105 See P.105 See P.105 See P.105
Cab A A ote) Please o ote) Robot o	ble code 0 1 ~ 3 4 ~ 5 6 ~ 8 select the actuate cable.	No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 8m or cable and power-I/O cable so that their total ler		0m or les	55.		Actuation (Fluororr Actuation (Fluororr Brake Flange (I Foot bra Specifiee Tip adag Non-mo PNP spe Fluororru Split mo Battery-I Wireless Wireless	r cable length 5m r cable length 2m ubber cover speci r cable length 5m ubber cover speci front) cket d grease applied s ter (female screw tor end specificat cification ibber seal specificat cor and controller ess absolute encoc communication s axis-operation sp	fication) (Note 1) fication) (Note 1) specification) ion ation (Note 1) power supply specification ler specification specification	AC5 ACF2 B FL G5 NFA NM PN SLF TMD2 WA WL WL2	See P.97 See P.97 See P.97 See P.97 See P.99 See P.101 See P.104 See P.104 See P.104 See P.104 See P.105 See P.105 See P.105 See P.105 See P.105
Cab A A ote) Please o ote) Robot o	ole code 0 1 ~ 3 4 ~ 5 6 ~ 8 select the actuato	No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 8m or cable and power-I/O cable so that their total ler					Actuation (Fluororr Actuation (Fluororr Brake Flange (I Foot bra Specifiee Tip adag Non-mo PNP spe Fluororru Split mo Battery-I Wireless Wireless	r cable length 5m r cable length 2m ubber cover speci r cable length 5m ubber cover speci r cable length 5m ubber cover speci front) cket d grease applied s ter (female screw tor end specific tor and controller ses absolute encoc communication s axis-operation sp axis-operation sp an selecting the change ioronubber seal specific	fication) (Note 1) fication) (Note 1) pecification) ion ation (Note 1) power supply specification ler specification specification specification co fthe actuator cable length (fluoror ation (SLF) is also supplied. Therefore,	AC5 ACF2 ACF5 B FL G5 NFA NM PN SLF TMD2 WA WL WL2 ubber cover specificati either one is selectabl	See P.97 See P.97 See P.97 See P.97 See P.99 See P.101 See P.104 See P.104 See P.104 See P.104 See P.105 See P.105 See P.105 See P.105 See P.105
Cab Cab Cab Cab Cab Cab Cab Cab Cab Cab	ble code 0 1 ~ 3 4 ~ 5 6 ~ 8 select the actuate cable.	No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 8m or cable and power-I/O cable so that their total ler			iption 8		Actuation (Fluororr Actuation (Fluororr Brake Flange (I Foot bra Specifiee Tip adag Non-mo PNP spe Fluororru Split mo Battery-I Wireless Wireless	r cable length 5m r cable length 2m ubber cover speci r cable length 5m ubber cover speci front) cket d grease applied s ter (female screw tor end specificat cification ubber seal specificat cification ubber seal specificat communication sp axis-operation sp an selecting the change lororubber seal specific ltem	fication) (Note 1) fication) (Note 1) pecification) ion ation (Note 1) power supply specification ler specification specification specification co fthe actuator cable length (fluoror ation (SLF) is also supplied. Therefore,	AC5 ACF2 ACF5 B FL G5 NFA NM PN SLF TMD2 WA WL WL2 ubber cover specificati either one is selectabl	See P.97 See P.97 See P.97 See P.97 See P.99 See P.101 See P.104 See P.104 See P.104 See P.104 See P.105 See P.105 See P.105 See P.105 See P.105
Cab Cab Cab Cab Cab Cab Cab Cab Cab Cab	ble code 0 1 ~ 3 4 ~ 5 6 ~ 8 select the actuate cable. pecifications	No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 8m or cable and power-I/O cable so that their total ler s Item Ball screw lead (mm) Max. payload (kg) (energy-saving disabled)	ngth is 1 24 20	Descr 16 50	iption 8 60	80	Actuation (Fluororr Actuation (Fluororr Brake Flange (f Foot bra Specifier Tip adag Non-mo PNP spe Fluororr Split mo Battery-I Wireless (Note 1) Whe a flu	r cable length 5m r cable length 2m v cable length 2m ubber cover speci r cable length 5m ubber cover speci r cable length 5m v cket d grease applied s ter (female screw tor end specificat cification ibber seal specific tor and controller ess absolute encoc communication s axis-operation sp n selecting the change iororubber seal specific ltem stem	fication) (Note 1) fication) (Note 1) pecification) ion ation (Note 1) power supply specification ler specification specification cecification cecification ecoffication ecoffication ecoffication ecoffication ecoffication ecoffication ecoffication ecoffication ecoffication ecoffication ecoffication ecoffication Ec	AC5 ACF2 ACF5 B FL G5 NFA NM PN SLF TMD2 WA WL WL2 ubber cover specificati either one is selectabl	See P.97 See P.97 See P.97 See P.97 See P.99 See P.101 See P.104 See P.104 See P.104 See P.104 See P.105 See P.105 See P.105 See P.105 See P.105
Cab Cab Cab Cab Cab Cab Cab Cab Cab Cab	ble code 0 1 ~ 3 4 ~ 5 6 ~ 8 select the actuate cable.	No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 8m or cable and power-I/O cable so that their total ler ball screw lead (mm) Max. payload (kg) (energy-saving disabled) Max. payload (kg) (energy-saving enabled)	24 20 18	Descr 16 50 40	iption 8 60 50	80 55	Actuation (Fluororr Actuation (Fluororr Brake Flange (Foot bra Specified Tip adag Non-mo PNP spe Fluororr Split mo Battery-I Wireless Wireless Wireless	r cable length 5m r cable length 2m v cable length 2m ubber cover speci r cable length 5m ubber cover speci r cable length 5m v cover speci r cable length 5m v cover speci front) cket d grease applied s vter (female screw tor end specificat cification ubber seal specific tor and controller ess absolute encoc communication s axis-operation s axis-operation s as eslecting the change orroubber seal specific ltem ystem g repeatability on	fication) (Note 1) fication) (Note 1) pecification) ion ation (Note 1) power supply specification fer specification specification ce of the actuator cable length (fluoror ation (SLF) is also supplied. Therefore, D Ball screw ø12mm, Rolling C1 ±0.05mm -	AC5 ACF2 ACF5 B FL G5 NFA NM PN SLF TMD2 WL WL WL2 ubber cover specificati either one is selectable escription 0	See P.97 See P.97 See P.97 See P.97 See P.99 See P.101 See P.102 See P.104 See P.104 See P.104 See P.105 See P.105
Cab Cab Cab Cab Cab Cab Cab Cab	ble code 0 1 ~ 3 4 ~ 5 6 ~ 8 select the actuate cable. Payload Speed/	No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 8m or cable and power-I/O cable so that their total ler ball screw lead (mm) Max. payload (kg) (energy-saving disabled) Max. payload (kg) (energy-saving enabled) Max. speed (mm/s)	24 20 18 860	Descr 16 50 40 700	iption 8 60 50 350	80 55 175	Actuation (Fluororr Actuation (Fluororr Brake Flange (f Foot bra Specified Tip adag Non-mo PNP spe Fluororu Split mo Battery-l Wireless Wireless (Not 1) Whe a fluo Driving sy Positionin Lost moti	r cable length 5m r cable length 2m ubber cover speci r cable length 5m ubber cover speci front) cket d grease applied s ter (female screw tor end specificat cification ibber seal specificat cification ibber seal specificat communication sp axis-operation sp an selecting the change pororubber seal specific ltem stem ng repeatability on Rod	fication) (Note 1) fication) (Note 1) pecification) ion ation (Note 1) power supply specification ler specification specification ecification ecification ecification ecification ecification ball screw ø12mm, Rolling C1 ±0.05mm - ø30mm, material: aluminum,	AC5 ACF2 ACF5 B FL G5 NFA NM PN SLF TMD2 WA WL WL2 ubber cover specificati either one is selectabl escription 0	See P.97 See P.97 See P.97 See P.97 See P.99 See P.101 See P.102 See P.104 See P.104 See P.104 See P.105 See P.105
Cab Cab ote) Please ote) Robot of Main sp ead	ble code 0 1 ~ 3 4 ~ 5 6 ~ 8 select the actuate cable. pecifications Payload Speed/ acceleration/	No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 8m or cable and power-I/O cable so that their total ler ball screw lead (mm) Max. payload (kg) (energy-saving disabled) Max. payload (kg) (energy-saving enabled)	24 20 18	Descr 16 50 40	iption 8 60 50	80 55	Actuation (Fluororr Actuation (Fluororr Brake Flange (f Foot bra Specifier Tip adag Non-mo PNP spe Fluororr Split mo Battery-I Wireless (Note 1) Whe a flu	r cable length 5m r cable length 2m v cable length 2m ubber cover speci r cable length 5m ubber cover speci r cable length 5m v cover speci r cable length 5m v cover speci front) cket d grease applied s vter (female screw tor end specificat cification ubber seal specific tor and controller ess absolute encoc communication s axis-operation s axis-operation s as eslecting the change orroubber seal specific ltem ystem g repeatability on	fication) (Note 1) fication) (Note 1) pecification) ion ation (Note 1) power supply specification fer specification specification ce of the actuator cable length (fluoror ation (SLF) is also supplied. Therefore, D Ball screw ø12mm, Rolling C1 ±0.05mm -	AC5 ACF2 ACF5 B FL G5 NFA NM PN SLF TMD2 WA WL WL2 ubber cover specificati either one is selectabl escription 0	See P.97 See P.97 See P.97 See P.97 See P.99 See P.101 See P.102 See P.104 See P.104 See P.104 See P.105 See P.105
Cab Cab ote) Please ote) Robot of Main sp ead	ble code 0 1 ~ 3 4 ~ 5 6 ~ 8 select the actuate cable. Payload Speed/	No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 8m or cable and power-I/O cable so that their total ler ball screw lead (mm) Max. payload (kg) (energy-saving disabled) Max. payload (kg) (energy-saving enabled) Max. payload (kg) (energy-saving enabled) Max. speed (mm/s) Min. speed (mm/s) Rated acceleration/deceleration (G) Max. accleration/deceleration (G)	24 20 18 860 30 0.3 1	Descr 16 50 40 700 20 0.3 1	iption 8 60 50 350 10 0.3 1	80 55 175 5 0.3 1	Actuation (Fluororr Actuation (Fluororr Brake Flange (f Foot bra Specified Tip adap Non-mo PNP spe Fluororru Split mo Battery-l Wireless Wireless (Note 1) Whr a flu Driving sy Positionin Lost moti Main material	r cable length 5m r cable length 2m r cable length 2m ubber cover speci r cable length 5m ubber cover speci r cable length 5m ubber cover speci r cable length 5m r cover specificat cification ibber seal specific tor and controller ess absolute encoc communication s axis-operation sp ororubber seal specific ltem ystem g repeatability on Rod Frame Dust seal Actuator cable	fication) (Note 1) fication) (Note 1) pecification) ation (Note 1) power supply specification ler specification pecification e of the actuator cable length (fluoron ation (SLF) is also supplied. Therefore, D Ball screw ø12mm, Rolling C1 ±0.05mm - ø30mm, material: aluminum, black alu	AC5 ACF2 ACF5 B FL G5 NFA NM PN SLF TMD2 WA WL WL2 ubber cover specificati either one is selectabl escription 0	See P.97 See P.97 See P.97 See P.97 See P.99 See P.101 See P.102 See P.104 See P.104 See P.104 See P.105 See P.105
Cab Cab ote) Please ote) Robot of Main sp ead	ble code 0 1 ~ 3 4 ~ 5 6 ~ 8 select the actuate cable. pecifications Payload Speed/ acceleration/ deceleration	No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 8m or cable and power-I/O cable so that their total ler ball screw lead (mm) Max. payload (kg) (energy-saving disabled) Max. payload (kg) (energy-saving enabled) Max. speed (mm/s) Min. speed (mm/s) Rated acceleration/deceleration (G) Max. caleration/deceleration (G) Max. payload (kg) (energy-saving disabled)	24 20 18 860 30 0.3 1 3	Descr 16 50 40 700 20 0.3 1 8	iption 8 60 50 350 10 0.3 1 18	80 55 175 5 0.3 1 19	Actuation (Fluororr Actuation (Fluororr Brake Flange (C Footback Specified Tip adag Non-mo PNP spe Fluororr Split mo Battery-l Wireless Wireless Wireless Wireless Wireless Driving sy Positionin Lost moti Main material Rod non-	r cable length 5m r cable length 2m v cable length 2m ubber cover speci r cable length 5m ubber cover speci r cable length 5m ubber cover speci front) cket d grease applied s tor end specificat cification ibber seal specific tor and controller ess absolute encoc communication s axis-operation sp ne selecting the change ororubber seal specific ltem grepeatability on Rod Frame Dust seal	fication) (Note 1) fication) (Note 1) pecification) ation (Note 1) power supply specification ler specification ecification ecification ecification for the actuator cable length (fluoror ation (SLF) is also supplied. Therefore, D Ball screw ø12mm, Rolling C1 ±0.05mm - ø30mm, material: aluminum, Material: aluminum, black alu Rubber (NBR)	AC5 ACF2 ACF5 B FL G5 NFA NM PN SLF TMD2 WA WL WL2 ubber cover specificati either one is selectabl escription 0	See P.97 See P.97 See P.97 See P.97 See P.99 See P.101 See P.102 See P.104 See P.104 See P.104 See P.105 See P.105
Cab Cab ote) Please ote) Robot of Main sp ead	ble code 0 1 ~ 3 4 ~ 5 6 ~ 8 select the actuate cable. pecifications Payload Speed/ acceleration/	No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 8m or cable and power-I/O cable so that their total ler ball screw lead (mm) Max. payload (kg) (energy-saving disabled) Max. payload (kg) (energy-saving enabled) Max. payload (kg) (energy-saving enabled) Max. speed (mm/s) Min. speed (mm/s) Rated acceleration/deceleration (G) Max. accleration/deceleration (G)	24 20 18 860 30 0.3 1	Descr 16 50 40 700 20 0.3 1	iption 8 60 50 350 10 0.3 1	80 55 175 5 0.3 1	Actuation (Fluororr Actuation (Fluororr Brake Flange (Foot bra Specified Tip adag Non-mo PNP spe Fluororr Split mo Battery-I Wireless Wireless Wireless Wireless Wireless Wireless Driving sy Positionir Lost moti Main material Rod non- (Note 2)	r cable length 5m r cable length 2m r cable length 2m ubber cover speci r cable length 5m ubber cover speci r cable length 5m ubber cover speci r cable length 5m r cover specificat cification ibber seal specific tor and controller ess absolute encoc communication s axis-operation sp ororubber seal specific ltem ystem g repeatability on Rod Frame Dust seal Actuator cable	fication) (Note 1) fication) (Note 1) pecification) ion ation (Note 1) power supply specification ler specification specification e of the actuator cable length (fluoror ation (SLF) is also supplied. Therefore, Ball screw ø12mm, Rolling C1 ±0.05mm - ø30mm, material: aluminum, Material: aluminum, black alu Rubber (NBR) Polyvinyl chloride (PVC) ±1.5 degree	AC5 ACF2 ACF5 B FL G5 NFA NM PN SLF TMD2 WA WL WL2 ubber cover specificati either one is selectabl escription 0	See P.97 See P.97 See P.97 See P.97 See P.99 See P.101 See P.102 See P.104 See P.104 See P.104 See P.105 See P.105
Cab	ble code 0 1 ~ 3 4 ~ 5 6 ~ 8 select the actuate cable. pecifications Payload Speed/ acceleration/ deceleration	No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 8m or cable and power-I/O cable so that their total ler ball screw lead (mm) Max. payload (kg) (energy-saving disabled) Max. payload (kg) (energy-saving enabled) Max. speed (mm/s) Min. speed (mm/s) Rated acceleration/deceleration (G) Max. caleration/deceleration (G) Max. payload (kg) (energy-saving enabled) Max. payload (kg) (energy-saving enabled) Max. payload (kg) (energy-saving enabled) Max. speed (mm/s)	24 20 18 860 30 0.3 1 3 3 640	Descr 16 50 40 700 20 0.3 1 8 5 5 560	iption 8 60 350 10 0.3 1 18 17.5 350	80 55 175 5 0.3 1 19 19 175	Actuation (Fluororr Actuation (Fluororr Brake Flange (f Foot bra Specified Tip adag Non-mo PNP spe Fluororru Split mo Battery-l Wireless Wireless Wireless Wireless (Note 1) White a fluororru Split mo Battery-l Wireless (Note 1) White Split mo Battery-l Main Main Rod non- (Note 2) Allowable on the ro	r cable length 5m r cable length 2m r cable length 2m ubber cover speci r cable length 5m ubber cover speci front) cket d grease applied s ter (female screw tor end specificat cification ibber seal specificat cification ibber seal specificat communication s axis-operation sp an selecting the change or or ubber seal specific leng per spectra specificat interm sterm ng repeatability on Rod Frame Dust seal Actuator cable rotation accuracy le load and torque d tip.	fication) (Note 1) fication) (Note 1) pecification) ion ation (Note 1) power supply specification ler specification ecificatio	AC5 ACF2 ACF5 B FL G5 NFA NM PN SLF TMD2 WA WL WL2 ubber cover specificati either one is selectabl escription 0	See P.97 See P.97 See P.97 See P.97 See P.99 See P.101 See P.102 See P.104 See P.104 See P.104 See P.105 See P.105
Cab	ble code 0 1 ~ 3 4 ~ 5 6 ~ 8 select the actuate cable. pecifications Payload Speed/ acceleration/ deceleration Payload Speed/ acceleration/	No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 8m or cable and power-I/O cable so that their total ler ball screw lead (mm) Max. payload (kg) (energy-saving disabled) Max. payload (kg) (energy-saving enabled) Max. speed (mm/s) Min. speed (mm/s) Max. aceleration/deceleration (G) Max. acyleration/deceleration (G) Max. acyleration/deceleration (G) Max. acyleration/deceleration (G) Max. acyleration/deceleration (G) Max. acyleration/deceleration (G) Max. speed (mm/s) Min. speed (mm/s) Min. speed (mm/s)	24 20 18 860 30 0.3 1 3 3 640 30	Descr 16 50 40 700 20 0.3 1 8 5 5 560 20	iption 8 60 350 10 0.3 1 18 17.5 350 10	80 55 175 5 0.3 1 19 19 19 175 5	Actuation (Fluororr Actuation (Fluororr Brake Flange () Foot bra Specified Tip adag Non-mo PNP spe Fluororr Split mo Battery-I Wireless Wireless Wireless Wireless Unote 1) Whe a fluo Driving sy Positionin Lost moti Main material Rod non- (Note 2) Allowable on the ro Ambient	r cable length 5m r cable length 2m ubber cover speci r cable length 5m ubber cover speci r cable length 5m ubber cover speci front) cket d grease applied s tor end specificat cification lober seal specificat cification lober seal specificat communication sp enselecting the change ioronubber seal specific satis-operation sp enselecting the change ioronubber seal specific ltem ystem g repeatability on Rod Frame Dust seal Actuator cable rotation accuracy e load and torque d tip.	fication) (Note 1) fication) (Note 1) pecification) ion ation (Note 1) power supply specification ler specification specification e of the actuator cable length (fluoror ation (SLF) is also supplied. Therefore, Ball screw ø12mm, Rolling C1 ±0.05mm - ø30mm, material: aluminum, Material: aluminum, black alu Rubber (NBR) Polyvinyl chloride (PVC) ±1.5 degree	AC5 ACF2 ACF5 B FL G5 NFA NFA NM PN SLF TMD2 WA WL WL2 ubber cover specificati either one is selectabl escription 0 white alumite treatment	See P.97 See P.97 See P.97 See P.97 See P.99 See P.101 See P.102 See P.104 See P.104 See P.104 See P.105 See P.105
Cab	ble code 0 1 ~ 3 4 ~ 5 6 ~ 8 select the actuate cable. pecifications Payload Speed/ acceleration/ deceleration Payload Speed/ Speed/ Speed/	No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 8m or cable and power-I/O cable so that their total ler ball screw lead (mm) Max. payload (kg) (energy-saving disabled) Max. payload (kg) (energy-saving enabled) Max. speed (mm/s) Min. speed (mm/s) Rated acceleration/deceleration (G) Max. caleration/deceleration (G) Max. payload (kg) (energy-saving enabled) Max. payload (kg) (energy-saving enabled) Max. payload (kg) (energy-saving enabled) Max. speed (mm/s)	24 20 18 860 30 0.3 1 3 3 640	Descr 16 50 40 700 20 0.3 1 8 5 5 560	iption 8 60 350 10 0.3 1 18 17.5 350	80 55 175 5 0.3 1 19 19 175	Actuation (Fluororr Actuation (Fluororr Brake Flange (f Foot bra Specified Tip adag Non-mo PNP spe Fluororru Split mo Battery-I Wireless (Note 1) Whe a flu Driving sy Positionin Lost motion Main material Rod non- (Note 2) Allowable on the ro Ambient temperat Degree o	r cable length 5m r cable length 2m v cable length 2m ubber cover speci r cable length 5m ubber cover speci r cable length 5m ubber cover speci r cable length 5m v cover speci front) cket d grease applied s ter (female screw tor end specificat cification ibber seal specific tor and controller ess absolute encoc communication s axis-operation sp ns electing the change ororubber seal specific litem system ng repeatability on Rod Frame Dust seal Actuator cable rotation accuracy e load and torque d tip. operation ure/humidity f protection	fication) (Note 1) fication) (Note 1) pecification ion ation (Note 1) power supply specification ler specification ecification ecification ecification of the actuator cable length (fluoror ation (SLF) is also supplied. Therefore, D Ball screw ø12mm, Rolling C1 ±0.05mm - ø30mm, material: aluminum, Material: aluminum, black alu Rubber (NBR) Polyvinyl chloride (PVC) ±1.5 degree 0.5N·m 0~40°C, 85%RH or less (Non-of IP67	AC5 ACF2 ACF5 B FL G5 NFA NFA NM PN SLF TMD2 WA WL WL2 ubber cover specificati either one is selectabl escription 0 white alumite treatment	See P.97 See P.97 See P.97 See P.97 See P.99 See P.101 See P.102 See P.104 See P.104 See P.104 See P.105 See P.105
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Cab Cab Cab Cab Cab Cab Cab Cab	ble code 0 1 ~ 3 4 ~ 5 6 ~ 8 select the actuate cable. pecifications Payload Speed/ acceleration/ deceleration Payload Speed/ acceleration/	No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 8m or cable and power-I/O cable so that their total ler ball screw lead (mm) Max. payload (kg) (energy-saving disabled) Max. payload (kg) (energy-saving enabled) Max. payload (kg) (energy-saving enabled) Max. speed (mm/s) Min. speed (mm/s) Rated acceleration/deceleration (G) Max. payload (kg) (energy-saving enabled) Max. payload (kg) (energy-saving enabled) Max. payload (kg) (energy-saving enabled) Max. speed (mm/s) Min. speed (mm/s) Rated acceleration/deceleration (G) Pushing max. thrust force (N)* Pushing max. speed (mm/s)	24 20 18 860 0.3 1 3 3 640 30 0.3 1 3 3 640 30 0.5 182 20	Descr 16 50 40 700 20 0.3 1 8 5 560 20 0.3 0.5 273 20	iption 8 60 350 10 0.3 1 18 17.5 350 10 0.3 0.5 547 20	80 55 175 5 0.3 1 19 19 175 5 0.3 0.5 1094 20	Actuation (Fluororr Actuation (Fluororr Brake Flange () Foot bra Specified Tip adag Non-mo PNP spe Fluororr Split mo Battery-H Wireless Wireless Wireless Wireless Wireless Unote 1) Whe a fluo Driving sy Positionin Lost moti Main material Rod non- (Note 2) Allowable on the on Ambient temperat Degree o Vibration Overseas	r cable length 5m r cable length 2m v cable length 7m ubber cover speci r cable length 5m ubber cover speci r cable length 5m v cover speci r cable length 5m v cover speci d grease applied s ter (female screw tor end specificat cification bber seal specificat cification bber seal specificat communication s axis-operation sp en selecting the change ioronubber seal specific ter g repeatability on Rod Frame Dust seal Actuator cable rotation accuracy e load and torque d tip. operation wre/humidity f protection & shock resistance standards	fication) (Note 1) fication) (Note 1) pecification ation (Note 1) power supply specification fer specification pecification e of the actuator cable length (fluoror ation (SLF) is also supplied. Therefore, D Ball screw ø12mm, Rolling C1 ±0.05mm - ø30mm, material: aluminum, black alu Rubber (NBR) Polyvinyl chloride (PVC) ±1.5 degree 0.5N · m 0~40°C, 85%RH or less (Non-or IP67 4.9m/s ² 100Hz or less CE marking, RoHS (Restriction	AC5 ACF2 ACF5 B FL G5 NFA NM PN SLF TMD2 WA WL WL2 ubber cover specificati either one is selectabl escription 0 white alumite treatment	See P.97 See P.97 See P.97 See P.97 See P.99 See P.101 See P.104 See P.104 See P.105 See P.105 S
Cab Cab Cab Cab Cab Cab Cab Cab	ble code 0 1 ~ 3 4 ~ 5 6 ~ 8 select the actuate cable. pecifications Payload Speed/ acceleration/ deceleration Payload Speed/ acceleration/	No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 8m or cable and power-I/O cable so that their total ler ball screw lead (mm) Max. payload (kg) (energy-saving disabled) Max. payload (kg) (energy-saving enabled) Max. speed (mm/s) Min. speed (mm/s) Rated acceleration/deceleration (G) Max. payload (kg) (energy-saving enabled) Max. payload (kg) (energy-saving disabled) Max. payload (kg) (energy-saving enabled) Max. speed (mm/s) Min. speed (mm/s) Min. speed (mm/s) Min. speed (mm/s) Min. speed (mm/s) Max. accleration/deceleration (G) Max. accleration/deceleration (G) Pushing max. thrust force (N)*	24 20 18 860 0.3 1 3 3 640 30 0.3 1 3 3 640 30 0.5 182 20	Descr 16 50 40 700 20 0.3 1 8 5 560 20 0.3 0.5 273 20 excitati	iption 8 60 50 350 10 0.3 1 18 17.5 350 10 0.3 0.5 547	80 55 175 5 0.3 1 19 19 175 5 0.3 0.5 1094 20 ating	Actuation (Fluororr Actuation (Fluororr Brake Flange (F Foot Foot Specified Tip adag Non-mo PNP spe Fluororr Split mo Battery-I Wireless W	r cable length 5m r cable length 2m v cable length 2m ubber cover speci r cable length 5m ubber cover speci r cable length 5m ubber cover speci d grease applied s ther (female screw tor end specificat cification ubber seal specific tor and controller ess absolute encoc communication s axis-operation sp en selecting the change onorubber seal specific term ystem ng repeatability on Rod Frame Dust seal Actuator cable rotation accuracy a load and torque d tip. operation ure/humidity f protection & shock resistance standards be	fication) (Note 1) fication) (Note 1) pecification) ion ation (Note 1) power supply specification ler specification specification e of the actuator cable length (fluoror ation (SLF) is also supplied. Therefore, D Ball screw Ø12mm, Rolling C1 ±0.05mm - ø30mm, material: aluminum, Material: aluminum, black alu Rubber (NBR) Polyvinyl chloride (PVC) ±1.5 degree 0.5N·m 0~40°C, 85%RH or less (Non-or IP67 4.9m/s ² 100Hz or less	AC5 ACF2 ACF5 B FL G5 NFA NFA SLF TMD2 WA WL WL2 ubber cover specificati either one is selectabl escription 0 white alumite treat mite treatment	See P.97 See P.97 See P.97 See P.97 See P.99 See P.101 See P.102 See P.104 See P.105 See P.105 S
Cab A ote) Please to ote) Robot o	ble code 0 1 ~ 3 4 ~ 5 6 ~ 8 select the actuate cable. pecifications Payload Speed/ acceleration/ deceleration Payload Speed/ acceleration/	No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 8m or cable and power-I/O cable so that their total ler ball screw lead (mm) Max. payload (kg) (energy-saving disabled) Max. payload (kg) (energy-saving enabled) Max. payload (kg) (energy-saving enabled) Max. speed (mm/s) Rated acceleration/deceleration (G) Max. payload (kg) (energy-saving enabled) Max. payload (kg) (energy-saving enabled) Max. payload (kg) (energy-saving enabled) Max. payload (kg) (energy-saving enabled) Max. speed (mm/s) Min. speed (mm/s) Min. speed (mm/s) Rated acceleration/deceleration (G) Max. accleration/deceleration (G) Max. accleration/deceleration (G) Brake holding specification Brake holding specification	24 20 18 860 30 0.3 1 3 3 640 30 30 0.5 182 20 Non 3	Descr 16 50 40 700 20 0.3 1 8 5 560 20 0.3 0.5 273 20 excitati 20 8	iption 8 60 50 350 10 0.3 1 18 17.5 350 10 0.3 0.5 547 20 on actual d brake 18	80 55 175 5 0.3 1 19 19 175 5 0.3 0.5 1094 20 ating 19	Actuation (Fluororr Actuation (Fluororr Brake Flange (Foot bra Specified Tip adag Non-mo PNP spe Fluororr Split mo Battery-I Wireless (Note 1) Whe a flu Driving sy Positionin Lost moti Main material Rod non- (Note 2) Allowable on the roo Ambient temperat Degree o Vibration Overseas Motor typ Encoder t	r cable length 5m r cable length 2m v cable length 2m ubber cover speci r cable length 5m ubber cover speci r cable length 5m ubber cover speci d grease applied s ther (female screw tor end specificat cification ubber seal specific tor and controller ess absolute encoc communication s axis-operation sp en selecting the change onorubber seal specific term ystem ng repeatability on Rod Frame Dust seal Actuator cable rotation accuracy a load and torque d tip. operation ure/humidity f protection & shock resistance standards be	fication) (Note 1) fication) (Note 1) pecification ion ation (Note 1) power supply specification ler specification ecification	AC5 ACF2 ACF5 B FL G5 NFA NFA SLF TMD2 WA WL WL2 ubber cover specificati either one is selectabl escription 0 white alumite treat mite treatment	See P.97 See P.97 See P.99 See P.101 See P.104 See P.104 See P.104 See P.105 See P.105
Cab Cab Cab Cab Cab Cab Cab Cab	ble code 0 1 ~ 3 4 ~ 5 6 ~ 8 select the actuate cable. pecifications Payload Speed/ acceleration/ deceleration Payload Speed/ acceleration/	No cable (with connect 1 ~ 3m 4 ~ 5m 6 ~ 8m or cable and power-I/O cable so that their total ler ball screw lead (mm) Max. payload (kg) (energy-saving disabled) Max. payload (kg) (energy-saving enabled) Max. payload (kg) (energy-saving enabled) Max. speed (mm/s) Min. speed (mm/s) Rated acceleration/deceleration (G) Max. payload (kg) (energy-saving enabled) Max. payload (kg) (energy-saving enabled) Max. payload (kg) (energy-saving enabled) Max. payload (kg) (energy-saving enabled) Max. speed (mm/s) Min. speed (mm/s) Rated acceleration/deceleration (G) Pushing max. thrust force (N)* Pushing max. speed (mm/s) Brake holding specification	24 20 18 860 30 0.3 1 3 3 640 0.3 0.5 182 20 Non	Descr 16 50 40 700 20 0.3 1 8 5 5 5 60 20 0.3 0.5 273 20 0.5	iption 8 60 50 350 10 0.3 1 18 17.5 350 10 0.3 0.5 547 20 0 actu	80 55 175 5 0.3 1 19 19 175 5 0.3 0.5 1094 20 ating	Actuation (Fluororr Actuation (Fluororr Brake Flange () Foot bra Specified Tip adag Non-mo PNP spe Fluororru Spit mo Battery-I Wireless Wi	r cable length 5m r cable length 2m r cable length 2m ubber cover speci r cable length 5m ubber cover speci front) cket d grease applied s ter (female screw tor end specificat cification ubber seal specificat cification ubber seal specificat communication s axis-operation sp an selecting the change or or ubber seal specific tor and controller ess absolute encoco communication s axis-operation sp an selecting the change or or ubber seal specific term pare peatability on Rod Frame Dust seal Actuator cable rotation accuracy le load and torque d tip. operation ure/humidity f protection & shock resistance standards pe pof encoder pulses	fication) (Note 1) fication) (Note 1) pecification ation (Note 1) power supply specification fer specification pecification e of the actuator cable length (fluoror ation (SLF) is also supplied. Therefore, ball screw ø12mm, Rolling C1 ±0.05mm - ø30mm, material: aluminum, black alu Rubber (NBR) Polyvinyl chloride (PVC) ±1.5 degree 0.5N · m 0~40°C, 85%RH or less (Non-c IP67 4.9m/s ² 100Hz or less CE marking, RoHS (Restriction Pulse motor Incremental / battery-less abs 800 pulse/rev	AC5 ACF2 ACF5 B FL G5 NFA NM PN SLF TMD2 WA WL WL2 ubber cover specificati either one is selectable escription 0 white alumite treat mite treatment	See P.97 See P.97 See P.97 See P.97 See P.99 See P.101 See P.104 See P.104 See P.105 See P.105 S

Table of Payload by Speed/Acceleration

Setting for energy-saving disabled Unit for payload is kg. Operations on the blank locations are not possible.

Lead 24

Orientation		Horizo	Vertical								
Speed		Acceleration (G)									
(mm/s)	0.3	0.5	0.7	1	0.3	0.5					
0	20	18	15	12	3	3					
200	20	18	15	12	3	3					
400	20	14	12	8	3	3					
420	17	12	10	6	3	3					
600	14	6	5	4	3	2					
640	5	3	2	1.5	2	1					
800	5	1	1								
860	2	0.5									

Lead 16							
Orientation		Horiz	ontal		Vertical		
Speed		A	celera	tion (G)		
(mm/s)	0.3	0.5	0.7	1	0.3	0.5	
0	50	40	35	30	8	8	
140	50	40	35	30	8	8	
280	50	35	25	20	7	7	
420	25	18	14	10	4.5	4	
560	10	5	3	2	2	1	
700	2						
		5	3	2	2	1	

Lead 8							
Orientation		Horiz	ontal		Ver	tical	
Speed		Acceleration (G)					
(mm/s)	0.3	0.5	0.7	1	0.3	0.5	
0	60	50	45	40	18	18	
70	60	50	45	40	18	18	
140	60	50	45	40	16	12	
210	60	40	31	26	10	9	
280	34	20	15	11	5	4	
350	12	4	1		2	1	

Lead 4							
Orientation		Horiz	ontal		Vertical		
Speed		A	ccelera	tion (G)		
(mm/s)	0.3	0.5	0.7	1	0.3	0.5	
0	80	70	65	60	19	19	
35	80	70	65	60	19	19	
70	80	70	65	60	19	19	
105	80	60	50	40	18	18	
140	50	30	20	15	12	10	
175	15				2		



3D CAD

2D CAD

Setting for energy-saving enabled Unit for payload is kg. Operations on the blank locations are not possible.

Lead Orie

Lead 24

Leau 24						
Orientation	Horiz	ontal	Vertical			
Speed (mm/s)	Ac	Acceleration (G)				
	0.3	0.7	0.3			
0	18	9.5	3			
200	18	9.5	3			
400	11	6	1.5			
420	10	5				
600	1					

n payload is kgi operations on the blai						
16						
entation	Horiz	ontal	Vertical			
peed	Ac	celeration	n (G)			
nm/s)	0.3	0.7	0.3			
0	40	25	5			
140	40	25	5			
280	18	12	2			
420	1.5	1				

Lead 8						
Orientation	Horiz	ontal	Vertical			
Speed	Acceleration (G)					
(mm/s)	0.3	0.7	0.3			
0	50	30	17.5			
70	50	30	17.5			
140	50	30	7			
210	14	7	2			

Lead 4							
Orientation	Horiz	ontal	Vertical				
Speed	Ac	Acceleration (G)					
(mm/s)	0.3	0.7	0.3				
0	55	50	19				
35	55	50	19				
70	55	50	13				
105	20	15	2				

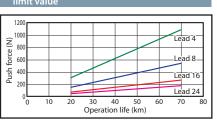
CAD drawings can be downloaded from our website.

www.elecylinder.de

Stroke and maximum speed

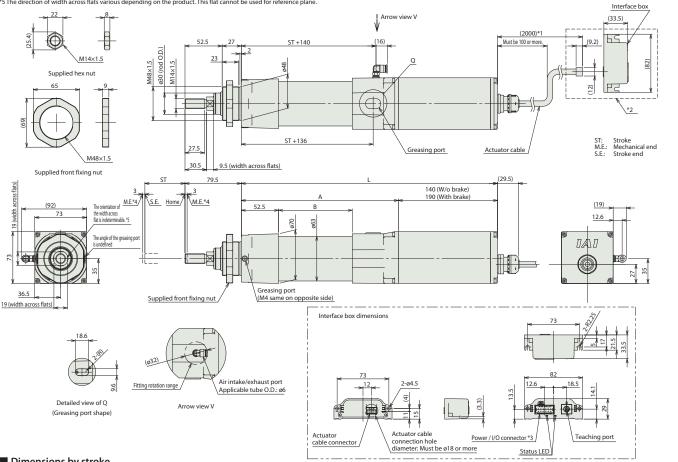
Lead	Energy-saving mode	50-300
(mm)		(per 50mm)
24	Disabled	860<640>
24	Enabled	630<420>
16	Disabled	700<560>
10	Enabled	420<280>
8	Disabled	350
0	Enabled	210
4	Disabled	175
4	Enabled	105
		(Unit is mm/s)

Correlation between push force and current limit value



Dimensions

*1 The actuator cable length of 5m is selectable as an option.
*2 The interface box terminal shown inside the broken line is not dust-proof treated.
*3 The total length of actuator cable and the power I/O cable should be under 10m.
*4 When the rod is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the M.E.
*5 The direction of width across flats various depending on the product. This flat cannot be used for reference plane.



Dimensions by stroke

	Stroke	50	100	150	200	250	300
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	221.5	271.5	321.5	371.5	421.5	471.5
	В	104	154	204	254	304	354

Mass by stroke

Stroke		50	100	150	200	250	300
Weight (kg)	Without brake	3.6	3.8	4.0	4.2	4.4	4.6
	With brake	4.2	4.4	4.6	4.8	5.0	5.2

Applicable controller

C-RR6 W



Cable Length	
Cable code	Cable length
0	No cable (with connector)
1~3	1 ~ 3m
4~5	4 ~ 5m
6~8	6 ~ 8m

(Note) Please select the actuator cable and power-I/O cable so that their total length is 10m or less. (Note) Robot cable.

Main specifications

			Descr	iption		
Lead Ball s		Ball screw lead (mm)	20	12	6	3
	Payload	Max. payload (kg) (energy-saving disabled)	6	25	40	60
	Fayloau	Max. payload (kg) (energy-saving enabled)	6	25	40	40
Horizontal	Speed/	Max. speed (mm/s)	800	700	450	225
HONZONIA	Acceleration/	Min. speed (mm/s)	25	15	8	4
	Deceleration	Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
	Deceleration	Max. acceleration/deceleration (G)	1	1	1	1
		Max. payload (kg) (energy-saving disabled)	1.5	4	10	12.5
	Payload	Max. payload (kg) (energy-saving enabled)		4	10	12.5
Vertical	Speed/ Acceleration/ Deceleration	Max. speed (mm/s)	800	700	450	225
		Min. speed (mm/s)	25	15	8	4
		Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
		Max. acceleration/deceleration (G)	0.5	0.5	0.5	0.5
Push force		Max. thrust force when pushing (N)*	67	112	224	449
Pushiorce		Max. speed when pushing (mm/s)	20	20	20	20
Brake		Brake specification	Non-excitation actuating solenoid brake			
		Brake holding force (kgf)	1.5	4	10	12.5
		Min. stroke (mm)	65	65	65	65
Stroke		Max. stroke (mm)	315	315	315	315
		Stroke pitch (mm)	50	50	50	50

See P.105 See P.105 See P.105 See P.105 See P.105 (Note 1) When selecting the change of the actuator cable length (fluororubber cover specification) (ACF2/ACF5), a fluororubber seal specification (SLF) is also supplied. Therefore, either one is selectable.

PN SLF

TMD2 WA

WL2

Body width

Motor

Radial

24v

	Item	Description			
Driving sy	/stem	Ball screw ø10mm, Rolling C10			
Positionir	ng repeatability	±0.05mm			
Lost moti	on	-			
Linear gu	ide	Linear motion infinite circulating type			
	Rod	ø25mm, material: aluminum hard-alumite treated			
Main	Frame	Material: aluminum, black alumite treated			
material	Dust seal	Rubber (NBR)			
	Actuator cable	Polyvinyl chloride (PVC)			
Rod rotational accuracy (Note 2)		0 degree			
	operation ure/humidity	0 to 40°C, RH 85% or less (Non-condensing)			
Degree o	f protection	IP67			
Vibration	& shock resistance	4.9m/s ² 100Hz or less			
Overseas	standards	CE marking, RoHS			
Motor type		Pulse motor			
Encoder type		Incremental / battery-less absolute			
Number of encoder pulses		800 pulse/rev.			
Note 2) Displacement angle in the rod rotational direction when no load is applied.					

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

Split motor and controller power supply specification Battery-less absolute encoder specification Wireless communication specification

Wireless axis-operation specification

Table of Payload by Speed/Acceleration

Energy-saving disabled Unit for payload is kg. Operations are not possible in the blank cells.

Lead 12

Lead 20

Orientation		Horizo	Vertical						
Speed		Acceleration (G)							
(mm/s)	0.3	0.5	0.7	1	0.3	0.5			
0	6	6	5	5	1.5	1.5			
160	6	6	5	5	1.5	1.5			
320	6	6	5	3	1.5	1.5			
480	6	6	5	3	1.5	1.5			
640	6	4	3	2	1.5	1.5			
800	4	3			1	1			

Orientation Ho		Horiz	ontal	Vertical					
Speed	Acceleration (G)								
(mm/s)	0.3	0.5	0.7	1	0.3	0.5			
0	25	18	16	12	4	4			
100	25	18	16	12	4	4			
200	25	18	16	10	4	4			
400	20	14	10	6	4	4			
500	15	8	6	4	3.5	3			
700	6	2			2	1			

eau u								
Orientation		Horizontal Vert						
Speed	Acceleration (G)							
(mm/s)	0.3	0.5	0.7	1	0.3	0.5		
0	40	35	30	25	10	10		
50	40	35	30	25	10	10		
100	40	35	30	25	10	10		
200	40	30	25	20	10	10		
250	40	27.5	22.5	18	9	8		
350	30	14	12	10	5	5		
400	18	10	6	5	3	3		
450	8	3			2	1		

Lead 6

Orientation		Horiz	ontal		Vert	tical
Speed		A	ccelera	tion (G)	
(mm/s)	0.3	0.5	0.7	1	0.3	0.5
0	60	50	45	40	12.5	12.5
50	60	50	45	40	12.5	12.5
100	60	50	45	40	12.5	12.5
125	60	50	40	30	10	10
175	40	35	25	20	6	5
200	35	30	20	14	5	4.5
225	16	16	10	6	5	4



3D CAD

2D CAD

ST: Stroke M.E.: Mechanical end S.E.: Stroke end

Energy-saving enabled Unit for payload is kg.

Lead 20

Orientation	Horiz	Horizontal				
Speed	Ac	celeration	n (G)			
(mm/s)	0.3	0.7	0.3			
0	6	5	1			
160	6	5	1			
320	6	5	1			
480	4	3	1			
640	3	1	0.5			

26	ad is kg.						
I	Lead 12						
	Orientation	Horiz	ontal	Vertical			
	Speed	Ac	celeration	n (G)			
	(mm/s)	0.3	0.7	0.3			
	0	25	10	4			
	100	25	10	4			
	200	25	10	4			
	300	20	8	3			
	400	10	5	2			
	500	5	2	1			

Lead 6 Orientation

Speed (mm/s)

0

50

100

150

200

250

Horizontal

0.3

40

40

40

40

35

10

Acceleration (G)

0.7

20

20

20

20

18

6

Vertical

0.3

10

10

10

8

5

3

Standard

Flu

ubber seal opti

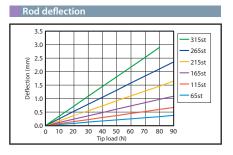
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	Lead 3						
	Orientation	Horiz	ontal	Vertical			
	Speed (mm/s)	Ac	celeration	n (G)			
		0.3	0.7	0.3			
	0	40	25	12.5			
	50	40	25	12.5			
	75	40	25	12			
	100	40	25	9			
	125	40	25	5			

Stroke and Max. Speed

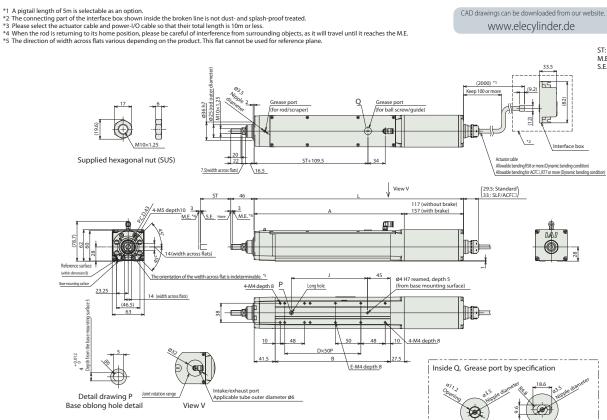
Lead (mm)	Energy- saving	65-215 (every 50mm)	265 (mm)	315 (mm)		
20	Disabled	800				
20	Enabled	640				
12	Disabled	700	660	480		
12	Enabled	500	480			
6	Disabled	450	325	235		
0	Enabled	250		235		
3	Disabled	225	160	115		
	Enabled	125		115		

Correlation between push force and current limit value 500 €⁴⁰⁰ Lead-3 Dush force (N 200 100 Lead 6 Lead 12 100 Lead 20 0 **k** 0 10 20 30 40 50 Operation life (km) 70 80



Dimensions

(Unit is mm/s)



Dimensions by stroke

	Stroke	6	5	115	165	215	265	315
	Without brake	36	i3	413	463	513	563	613
L L	With brake	40)3	453	503	553	603	653
	A	24	16	296	346	396	446	496
	В	17	7	227	277	327	377	427
	D	2	2	3	4	5	6	7
	E		l I	6	8	10	12	14
	J		00	150	200	250	300	350
Weight by Stroke								
	Stroke			115	165	215	265	315
Wo	ight (kg) Without brake		2.4	2.7	3.1	3.4	3.7	4.1
we	With brake		2.7	3	3.3	3.7	4	4.3

Applicable controller

$EC-RR7 \square W$ Water Proof / Dust Proof Body width Motor Radial Unit **73** Straight Motor Cylinde Coupled Model Specification Items EC RR7 W _ Series Туре Lead cificatio Stroke Cable length Options — [S 24mm Dust/Water-proof 65mm With terminal block type 65 0 Refer to the Options table below. connector 1m н 16mm М 8mm 315mm 315 /ery 50mi 8m **Radial load specification** CE RoHS (1) The actuator specifications display the payload's maximum value, but when energy-saving **Radial Cylinder** is activated, the specifications will change. Please refer to "Table of Payload by Speed/ Acceleration" for more details. Vertical Horizontal (2) The radial cylinder is equipped with a guide. Refer to P106 for details of the radial load applied to $\overline{}$ the rod. (3) The horizontal payload assumes the use of an external guide electio (4) When performing a push-motion operation, please refer to the "Correlation diagram between Side П pushing force and current limit value." push force is only a guide. -Ceiling (5) Depending on the ambient operating temperature, duty control is necessary. Please refer to P110 for cautions (6) The interface box is not treated for dust- and splash-proof. Please use it where there is no splash of water (7) Special attention needs to be paid to the mounting orientation. Please refer to P30 for details.

Option

Actuator cable length 5m	AC5	See P.97
Actuator cable length 2m (Fluororubber cover specification) (Note 1)	ACF2	See P.97
Actuator cable length 5m (Fluororubber cover specification) (Note 1)	ACF5	See P.97
Brake	В	See P.97
Tip adaptor (flange)	FFA	See P.97
Flange (front)	FL	See P.98
Foot bracket	FT	See P.99
Specified grease applied specification	G5	See P.101
Tip adapter (female screw)	NFA	See P.102
Non-motor end specification	NM	See P.104
PNP specification	PN	See P.104
Fluororubber seal specification (Note 1)	SLF	See P.105
Split motor and controller power supply specification	TMD2	See P.105
Battery-less absolute encoder specification	WA	See P.105
Wireless communication specification	WL	See P.105
Wireless axis-operation specification	WL2	See P.105
) () () () () () () () () () () () () ()

Name

24v

Pulse motor

Option code Reference page

(Note 1) When selecting the change of the actuator cable length (fluororubber cover specification) (ACF2/ACF5), a fluororubber seal specification (SLF) is also supplied. Therefore, either one is selectable.

Cable Length	
Cable code	Cable length
0	No cable (with connector)
1~3	1 ~ 3m
4~5	4 ~ 5m
6~8	6 ~ 8m

(Note) Please select the actuator cable and power-I/O cable so that their total length is 10m or less. (Note) Robot cable.

Main specifications

			Descr	iption		
Lead	24	16	8	4		
	Payload	Max. payload (kg) (energy-saving disabled)	20	50	60	80
	Payload	Max. payload (kg) (energy-saving enabled)	18	40	50	55
Horizontal	Canad (Max. speed (mm/s)	860	700	350	175
Horizontai	Speed/ Acceleration/	Min. speed (mm/s)	30	20	10	5
	Deceleration/	Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
	Deceleration	Max. acceleration/deceleration (G)	1	1	1	1
		Max. payload (kg) (energy-saving disabled)	3	8	18	19
	Payload	Max. payload (kg) (energy-saving enabled)		5	17.5	19
Vertical	Speed/ Acceleration/ Deceleration	Max. speed (mm/s)	640	560	350	175
		Min. speed (mm/s)	30	20	10	5
		Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
		Max. acceleration/deceleration (G)	0.5	0.5	0.5	0.5
Push force		Max. thrust force when pushing (N)*	182	273	547	1094
Push force		Max. speed when pushing (mm/s)	20	20	20	20
Brake		Brake specification	Non-excitation actuating solenoid brake			
		Brake holding force (kgf)	3	8	18	19
		Min. stroke (mm)	65	65	65	65
Stroke		Max. stroke (mm)	315	315	315	315
		Stroke pitch (mm)	50	50	50	50

Description Item Driving system Ball screw ø12mm, Rolling C10 Positioning repeatability ±0.05mm Lost motion Linear motion infinite circulating type Linear guide ø30mm, material: aluminum hard-alumite treated Rod Main Frame Material: aluminum, black alumite treated material Dust seal Rubber (NBR) Polyvinyl chloride (PVC) Actuator cable Rod rotational accuracy 0 dearee (Note 2) Ambient operation 0 to 40°C, RH 85% or less (Non-condensing) temperature/humidity Degree of protection IP67 Vibration & shock resistance 4.9m/s² 100Hz or less Overseas standards CE marking, RoHS

Motor type Pulse motor Encoder type Incremental / battery-less absolute Number of encoder pulses 800 pulse/rev.

(Note 2) Displacement angle in the rod rotational direction when no load is applied.

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

Table of Payload by Speed/Acceleration

Energy-saving disabled Unit for payload is kg.Operations are not possible in the blank cells.

		5							
Lead 24									
Orientation		Horizo	ntal		Ver	tical			
Speed		Ac	celerat	ion	(G)				
(mm/s)	0.3	0.5	0.7	1	0.3	0.5			
0	20	18	15	12	3	3			
200	20	18	15	12	3	3			
400	20	14	12	8	3	3			
420	17	12	10	6	3	3			
600	14	6	5	4	3	2			
640	5	3	2	1.5	2	1			
800	5	1	1						
860	2	0.5							

Lead 16									
Orientation		Horiz	ontal		Ver	tical			
Speed		A	celera	tion (G)				
(mm/s)	0.3	0.5	0.7	1	0.3	0.5			
0	50	40	35	30	8	8			
140	50	40	35	30	8	8			
280	50	35	25	20	7	7			
420	25	18	14	10	4.5	4			
560	10	5	3	2	2	1			
700	2								

Lead 8								Lead 4					
Orientation		Horizontal Vertical						Horizontal Vertical				Orientation	
Speed		Ac	celerati	on (G)			Speed					
(mm/s)	0.3	0.5	0.7	1	0.3	0.5		(mm/s)	C				
0	60	50	45	40	18	18		0	8				
70	60	50	45	40	18	18		35	8				
140	60	50	45	40	16	12		70	8				
210	60	40	31	26	10	9		105	8				
280	34	20	15	11	5	4		140	5				
350	12	4	1		2	1		175	1				

Orientation		Horiz	ontal		Ver	tical
Speed		A	ccelera	tion (G)	
(mm/s)	0.3	0.5	0.7	1	0.3	0.5
0	80	70	65	60	19	19
35	80	70	65	60	19	19
70	80	70	65	60	19	19
105	80	60	50	40	18	18
140	50	30	20	15	12	10
175	15				2	



3D CAD

2D CAD

Energy-saving Enabled Unit for payload is kg. Operations on the blank locations are not possible.

Lead С

Lead	24
Leau	24

Lead 24									
Orientation	Horiz	Vertical							
Speed (mm/s)	Acceleration (G)								
(mm/s)	0.3	0.7	0.3						
0	18	9.5	3						
200	18	9.5	3						
420	10	5	1.5						
600	1								

s kg. operatio	0113 011 0	ic blank	location				
d 16							
Drientation	Horiz	ontal	Vertical				
Speed	Acceleration (G)						
(mm/s)	0.3	0.7	0.3				
0	40	25	5				
140	40	25	5				
280	18	12	2				
420	15	1					

Orientation	Horiz	Vertical				
Speed (mm/s)	Acceleration (G)					
(mm/s)	0.3	0.7	0.3			
0	50	30	17.5			
70	50	30	17.5			
140	50	30	7			
210	14	7	2			

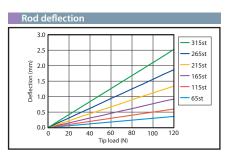
	Lead 4								
	Orientation	Horiz	Vertical						
	Speed (mm/s)	Ac	celeration	n (G)					
		0.3	0.7	0.3					
	0	55	50	19					
	35	55	50	19					
	70	55	50	13					
	105	30	15	2					

Stroke and maximum speed							
Lead (mm)	Energy-saving mode	65-315 (every 50mm)					
24	Disabled	860<640>					
24	Enabled	630<420>					
16	Disabled	700<560>					
10	Enabled	420<280>					
8	Disabled	350					
8	Enabled	210					
4	Disabled	175					
4	Enabled	105					

(Unit is mm/s)



Lead 8

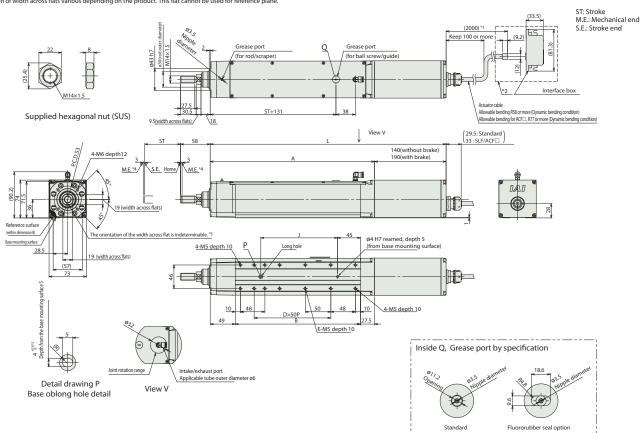


CAD drawings can be downloaded from our website

www.elecylinder.de

Dimensions

- *1 A pigtail length of 5m is selectable as an option.
 *2 The connecting part of the interface box shown inside the broken line is not dust- and splash-proof treated.
 *3 Please select the actuator cable and power-I/O cable so that their total length is 10m or less.
 *4 When the rod is returning to its home position, please be careful of interference from surrounding objects, as it will travel until it reaches the M.E.
 *5 The direction of width across flats various depending on the product. This flat cannot be used for reference plane.

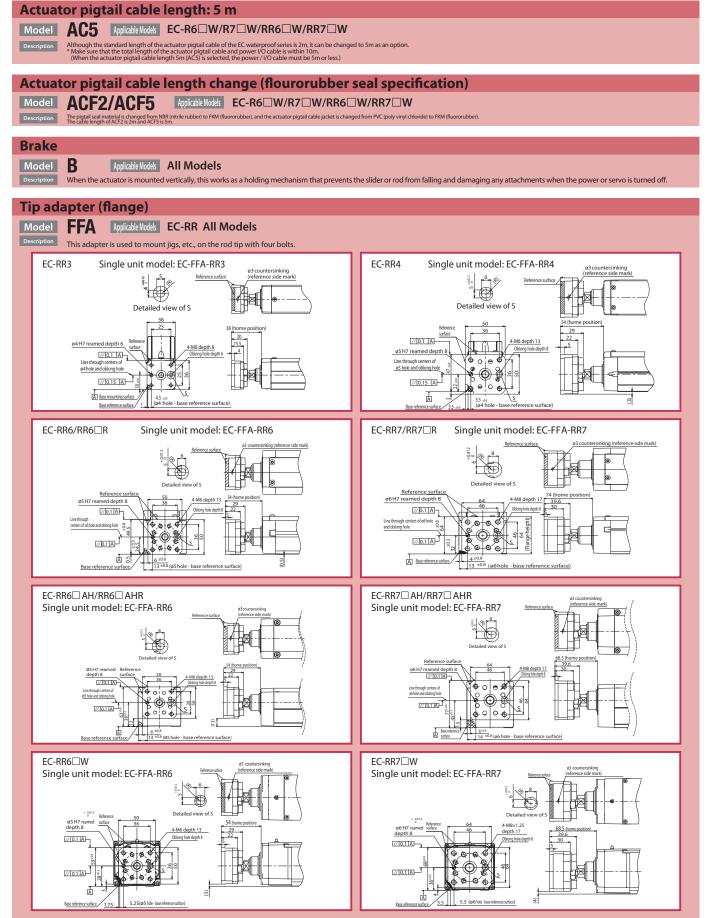


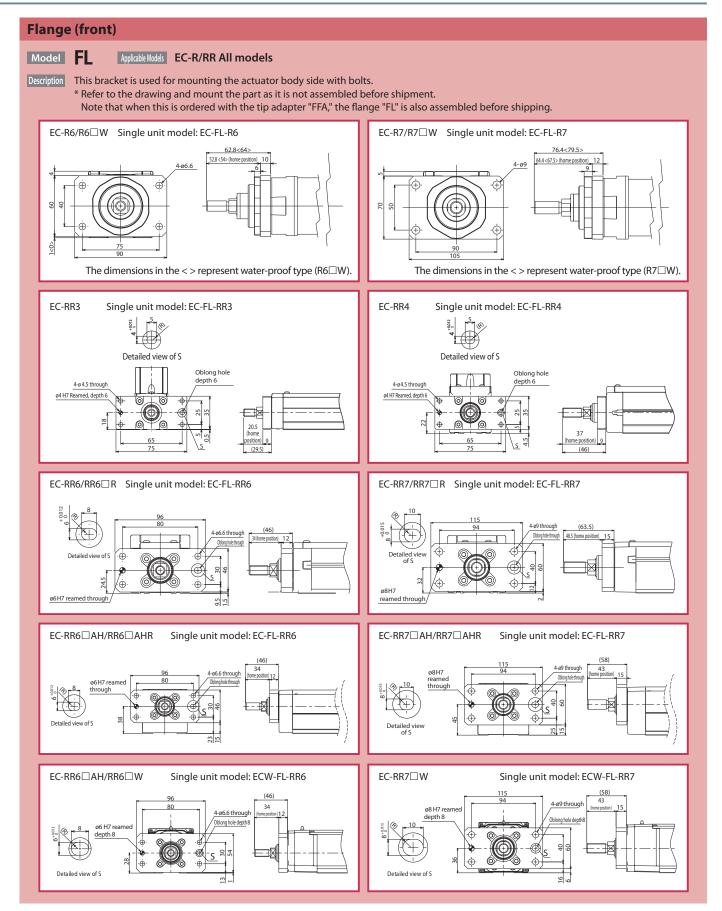
Dimensions by stroke

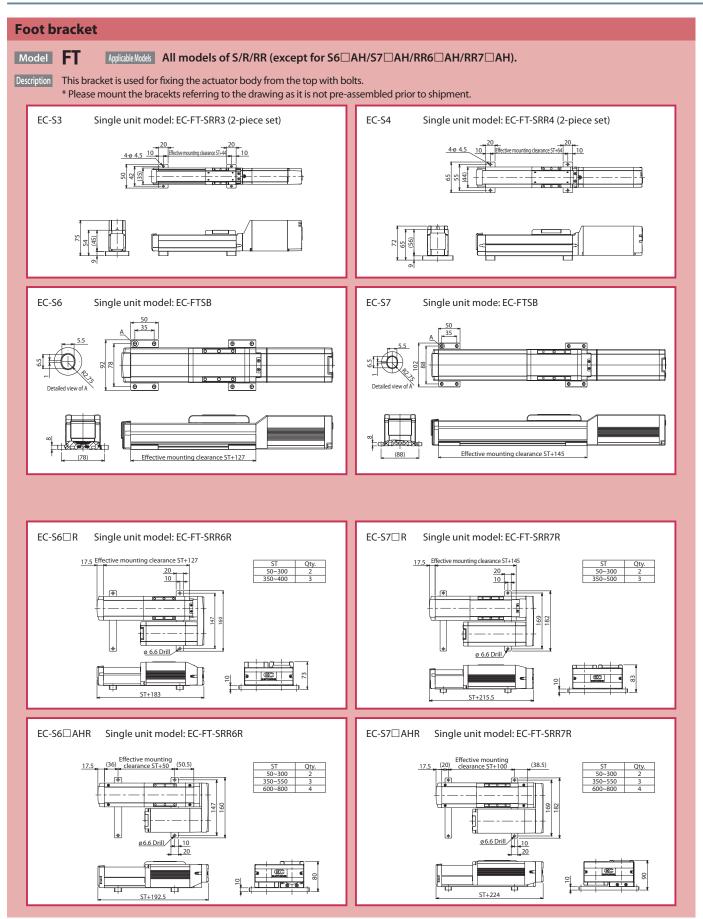
	Stroke	65		115	165	215	265	315	
	Without brake	411.5		461.5	511.5	561.5	611.5	661.5	
L L	With brake	461.5		511.5	561.5	611.5	661.5	711.5	
	A			321.5	371.5	421.5	471.5	521.5	
	В	195		245	295	345	395	445	
	D	2		3	4	5	6	7	
	E	4		6	8	10	12	14	
	J			150	200	250	300	350	
Weight by Stroke									
	Stroke			115	165	215	265	315	
Wai	ight (kg) Without brake		4.7	5.1	6.6	6.1	6.5	7	
wei	With brake		5.3	5.7	6.2	6.6	7.1	7.5	

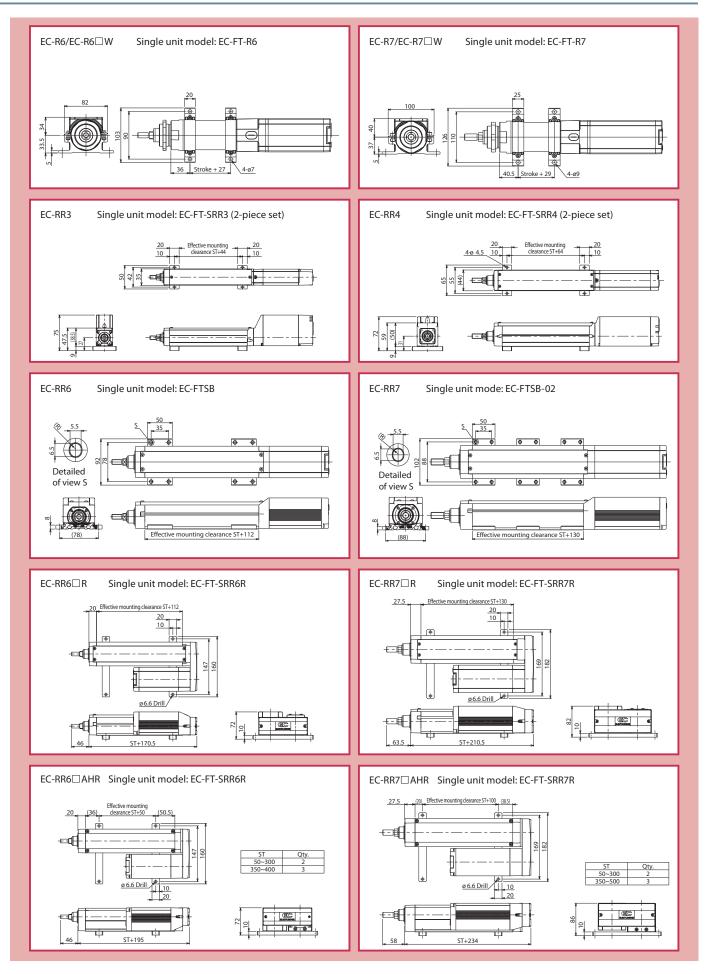
Applicable controller

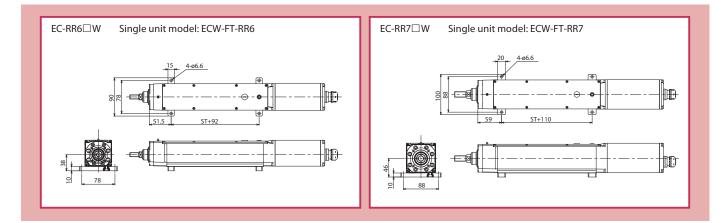
Options for the **EleCylinder** series











Food machinery grade grease

Model G5

Applicable Models EC-R6 W/R7 W/RR6 W/RR7 W

Description The grease put on the ballscrew, linear guide, and rod, is changed to food grade grease (White Alcom).

Guide mounting direction / Table mounting direction

Model GT2 / GT3 / GT4 Applicable Models EC-GS4/TC4

Description Select the guide shaft position of EC-GS4 and the table position of EC-TC4.



Motor side-mounted direction

Model ML / MR Applicable Models Motor side-mounted specification

This allows you to specify the direction of the side-mounted motor type. As viewed from the motor-side of the actuator, side-mounting to left is ML and right is MR.

Motor mounting direction change

Model MOB / MOL / MOR / MOT Applicable Models EC-S3/S4/RR3/RR4

Description The

Description

The motor mounting direction can be selected from 4 directions of bottom side / left side / right side / top side. Please be sure to specify one of these options in the model number.

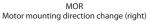




MOL

Motor mounting direction change (left)



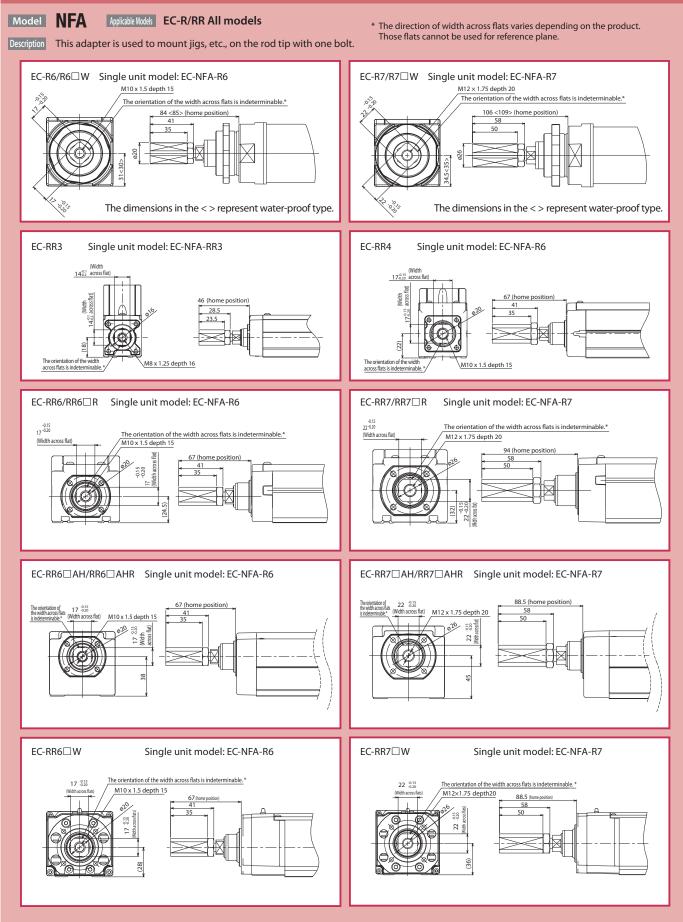




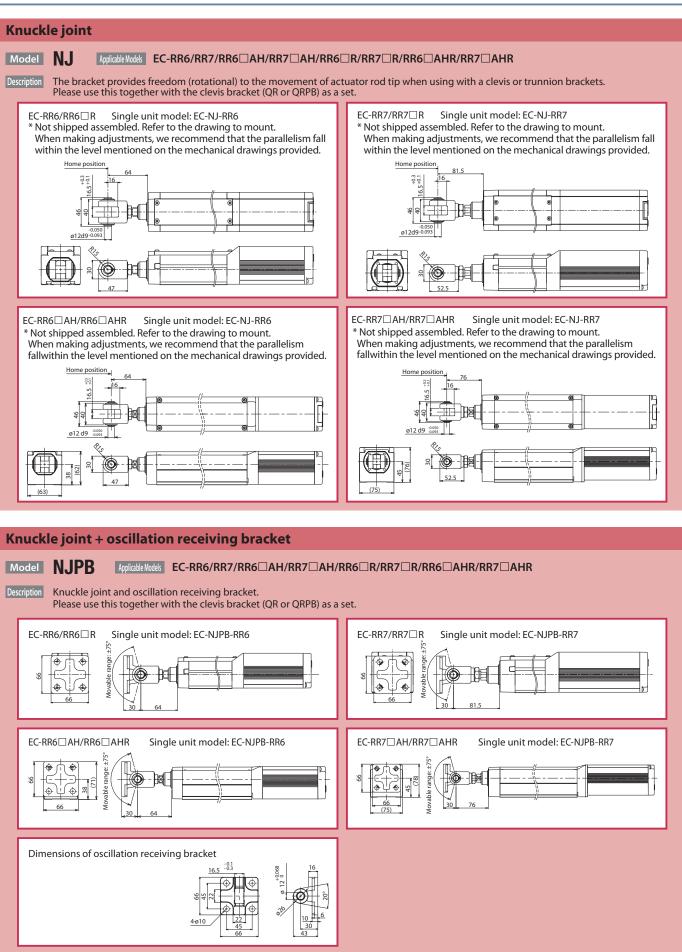
Motor mounting direction change (top)



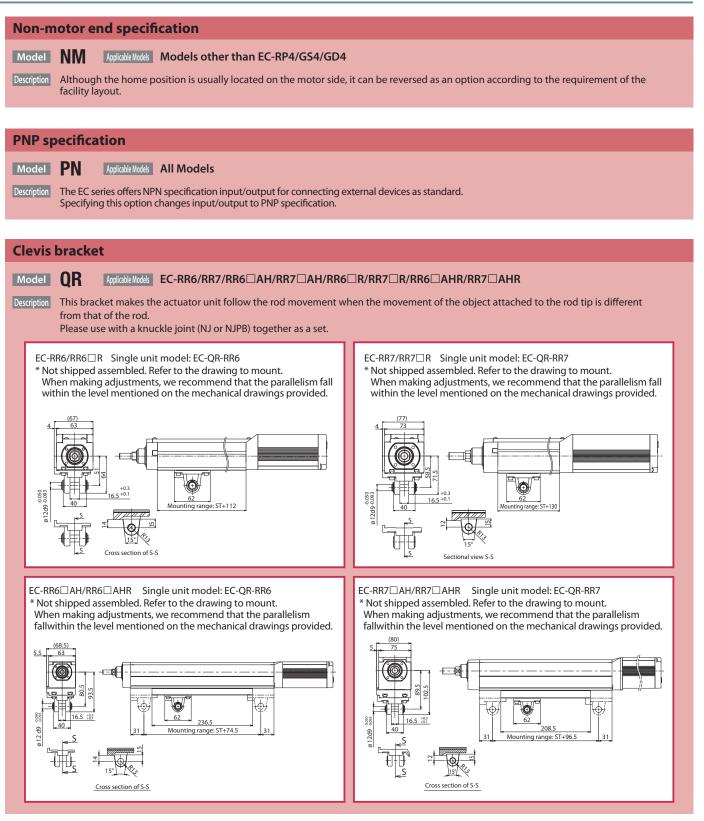
Tip adapter (Internal thread)

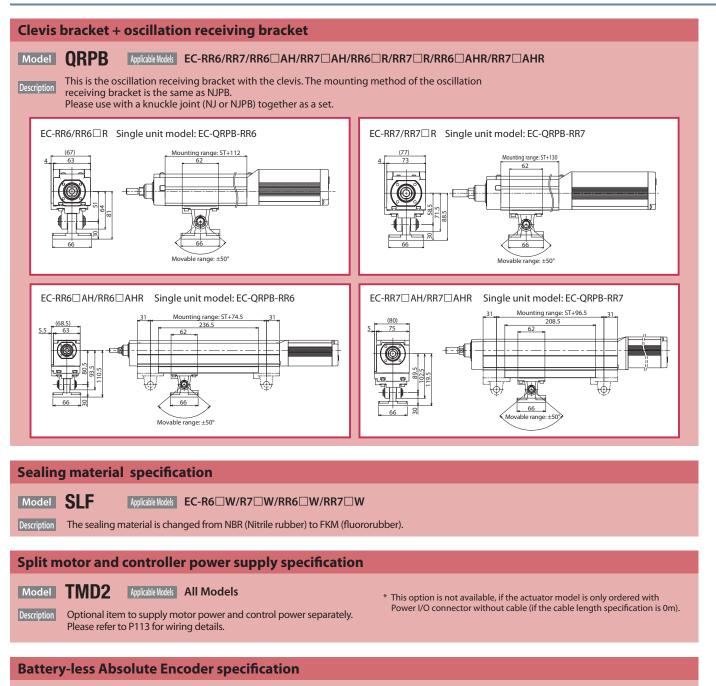












Model WA Applicable Models All Models

Description The EC series offers incremental encoder specification as standard. Specifying this option installs a built-in battery-less absolute encoder.

Wireless communication specification

Model WL Applicable Models All Models

Description Optional item is for wireless communications. By specifying this option, wireless communications with the teaching pendant TB-03 become available. Please refer to P114 for wiring details.

Wireless axis-operation specifications

Model WL2 Applicable Models All Models

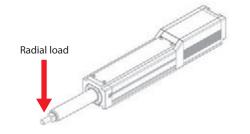
Description By specifying WL2, all the wireless operations of WL (adjusting the starting point, the end point, and the AVD) are available, and test operation of axis movements (moving to forward/backward ends, jogging, and inching) are also possible. However, using this function for automated operations is not possible. Please refer to P118 for cautions on axis operations using wireless connection. Alterations from WL to WL2, or vice versa cannot be made by customer. Please contact IAI.



Radial load acting on the rod

Because the radial cylinder has a linear guide built into the body, radial and moment loads can be applied to the rod. The allowable radial and moment loads must meet the following three conditions.

1. The radial load acting on the rod must not exceed the allowable value.

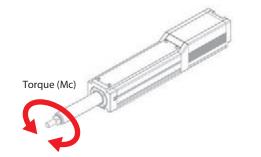


Туре	Rod tip static allowable radial load	Rod tip dynamic allowable radial load (*1)		
RR3/RR4	40N	20N		
RR6/RR6 R/RR6 W	90N	45N		
RR7/RR7 R/RR7 W	120N	60N		

			Dynamic allowable radial load on rod tip (*1)					
	Туре	Type Static allowable radial Ioad on rod tip Stroke (mm)						
			50~250	300	350	400	450	500
	RR6 AH/RR6 AHR	190N	130N	40N	35N	25N	-	_
	RR7 AH/RR7 AHR	250N	170N	50N	45N	40N	35N	30N

(*1) In case of the standard rated service life of 5000km.

2. The torque (Mc) acting on the rod must not exceed the allowable value.



Туре	Rod tip static allowable torque	Rod tip dynamic allowable torque (*2)
RR3/RR4	3.5N⋅m	3.5N∙m
RR6 /RR6 R/RR6 W	5.5N·m	5.5N⋅m
RR7 /RR7 R/RR7 W	10.5N·m	10.5N·m
RR6 AH/RR6 AHR	9N∙m	5.5N⋅m
RR7□AH/RR7□AHR	17.6N·m	10.5N·m

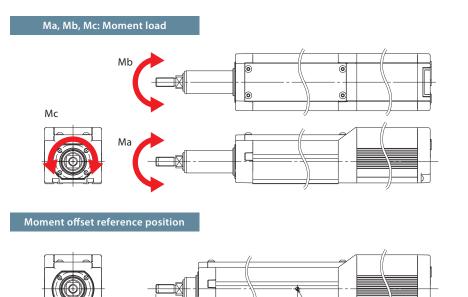
(*2) In case of the standard rated service life of 5000km.

3. The uniform load acting on the rod must not exceed the allowable value. The uniform load is obtained by the following formula.

Uniform load = $Ma \cdot Ka + Mb \cdot Kb + Mc \cdot Kc$

Туре	Static allowable uniform load	Dynamic allowable uniform load (*3)	Load uniform coefficient Ka	Load uniform coefficient Kb	Load uniform coefficient Kc
RR3	1440N	580N	209/m	147/m	131/m
RR4	1720N	660N	181/m	127/m	93/m
RR6/RR6 R/RR6 W	4400N	1050N	124/m	87/m	62/m
RR7/RR7 R/RR7 W	5680N	1260N	98/m	69/m	50/m
RR6 AH/RR6 AHR	6700N	2400N	104/m	87/m	62/m
RR7 AH/RR7 AHR	11400N	3000N	90/m	76/m	50/m

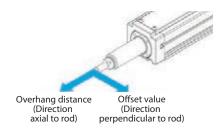
(*3) Value at a standard rated life of 5000km.



Туре	L
RR3	73mm
RR4	102mm
RR6/RR6□R	111mm
RR7/RR7□R	144.5mm
RR6□W	131.3mm
RR7□W	161.5mm
RR6 AH/RR6 AHR	126mm
RR7 AH/RR7 AHR	153.5mm

(Caution) The radial load applied on the rod should not exceed the allowable offset and allowable overhang distance.

ST + I



Туре	Allowable offset value	Allowable overhang distance	
RR3/RR4	100mm	100mm	
RR6/RR6 R/RR6 W	100mm	100mm	
RR7/RR7□R/RR7□W	100mm	100mm	
RR6 AH/RR6 AHR	100mm	100mm	
RR7 AH/RR7 AHR	150mm	150mm	

* Even when the overhang distance and load moment are within the allowable range, the operating conditions should be moderated if some abnormal vibration or noise is observed.

Offset reference position

* The center of gravity of the attached object should be less than the offset value or less than 1/2 of the overhang distance.

EC Dust-/Waterproof Spec. Table of Solution-Resistance by Material

■ EC-R□W/RR□W

	Name	NBR Nitrile rubber	PVC Polyvinyl chloride	FKM Fluorine rubber
	-	Standard	Standard	Optional
Water-solub	le cutting oil	0	0	\bigtriangleup
Non-water-s	oluble cutting oil	\bigtriangleup	0	0
Cleaning flui	id	0	0	0
	Engine oil	0	0	0
	Gear oil	0	0	0
	Torque converter oil	0		0
	Brake oil (glycol based)	\bigtriangleup		_
Lubricating	Brake oil (silicone based))	0		0
oil	Machine oil	0		0
OII	Spindle oil	0		0
	Refrigerator oil (mineral oil)	0		0
	Cup grease	0		0
	Lithium grease	0	0	0
	Silicon grease	0	0	0
	General petroleum	0	0	0
	Low temperature petroleum	0	0	0
	Fatty acid ester based oil	0		0
	Phosphoric ester based oil	_		\bigtriangleup
Hydraulic oil	Water-glycol based oil	0	0	\bigtriangleup
OII	Water-oil emulsion based oil	0	0	\bigtriangleup
	Turbine oil Class 2	0		0
	Silicon based oil	0		0
	Brake oil	Δ		\bigtriangleup
	Hydrochloric acid 10% solution	0	0	0
	Sulfuric acid 30% solution	Δ		\bigtriangleup
	Nitric acid 10% solution	_		Δ
	Sodium hydroxide 40% solution	0		_
Chandian	Benzene	_	_	_
Chemicals	Alcohol	0		0
	Methyl ethyl ketone	_	_	_
	Trichlen	_	_	\bigtriangleup
	Ethylene glycol	0	_	0
	Acetone	_		_
	Gasoline	\bigtriangleup		0
	Distillate/ fuel oil	\bigtriangleup		0
0.1	Heavy oil	0		0
Others	Antifreeze solution (Ethylene glycol based)	0		_
	Water/hot water	0	0	0
	Sea water	0		0

Judgment	Effects by solution to the seal part
0	Usable: only minor effects
	Check before use: may result in significant effects
	Do not use: will result in major effects

*1 Judgment may vary depending on the brand

*2 The table of solution resistance is based on IAI's internal evaluation and general evaluations. Please use the data as a selection guide.

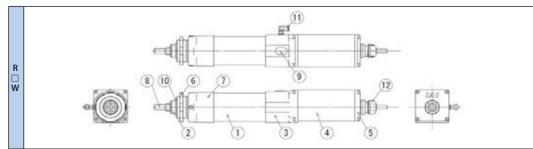
*3 Judgement may vary depending on the environment and operating conditions. Please confirm before use if there is a potential effect.

*4 We carry out resistance tests of customer-specified solutions. Please contact us if you would like a test.

EC Dust-/Waterproof Specification Materials of Exterior Components

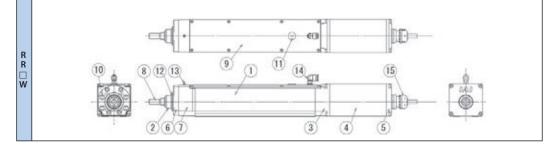
■EC-R6□W/R7□W

		Name		Material	Treatment
	1)Frame			Extruded aluminium	Black alumite
	2 Rod			Drawn aluminium	Hard alumite
	③Rear bracket			Aluminium die cast	
	④Motor cover			Extruded aluminium	Black alumite
	⑤End cover			Aluminium die cast	
-	6 Front fixing nut			Steel	Trivalent chromate
Exterior	⑦Front bracket			Aluminium die cast	
eri.	⑧Tip metal			Stainless steel	
		nlo)	Standard	Rubber (NBR)	
Components	Skubbel cap (for glease flip	pie)	Option	Rubber (FKM)	
E	(ii)Scraper		Standard	Rubber (NBR)	
ğ	(@Scraper		Option	Rubber (FKM)	
ler	(1) Exhaust port		Standard	NBR+resin (PBT/POM) + Brass	Nickel plating
l t s			Option	FKM+resin (PBT/POM) + Brass	Nickel plating
		Pigtail seal	Standard	Rubber (NBR) + PBT resin + Nylon	
	⁽¹²⁾ Actuator pigtail cable	rigtali seai	Option	Rubber (FKM) + PBT resin + PP	
		Cable jacket	Standard	Polyvinyl chloride (PVC)	
		Cable Jacket	Option	Rubber (FKM)	
	Exterior bolts			Stainless steel	
	Sealing parts		Standard	Rubber (NBR)	
	Sealing parts		Option	Rubber (FKM)	



■EC-RR6□W/RR7□W

	1	Name		Material	Treatment
	1 Base			Extruded aluminium	Black alumite
	2Rod			Drawn aluminium	Hard alumite
	③Bearing housing			Aluminium die cast	
	④Motor cover			Extruded aluminium	Black alumite
	⑤End cover			Aluminium die cast	
	6 Scraper case			Aluminium die cast	
	⑦Front bracket			Aluminium die cast	
	®Tip metal			Stainless steel	
Ū				Extruded aluminium	Black alumite
Exterior	10Cap		Standard	Rubber (NBR)	
l io	@Cap		Option	Rubber (FKM)	
	1 Rubber cap (grease port)		Standard	Rubber (NBR)	
Components	(Grease port)		Option	Rubber (FKM)	
ğ	(1) Seranor		Standard	Rubber (NBR)	
) ne	12Scraper		Option	Rubber (FKM)	
nt	¹³ Grease nipple		Standard	Brass (C3604)	
S,	O Grease hipple		Option	Stainless steel	
	⁽⁴⁾ Exhaust & intake port		Standard	NBR + resin (PBT/POM) + Brass	Nickel plating
	HEXTIAUSE & Intake port		Option	FKM + resin (PBT/POM) + Brass	Nickel plating
		Pigtail seal	Standard	Rubber (NBR) + PBT resin + Nylon	
		Pigtali seal	Option	Rubber (FKM)+ PBT resin + PP	
	¹⁵ Actuator pigtail cable	Cable jacket	Standard	Polyvinyl chloride (PVC)	
		Cable Jacket		Rubber (FKM)	
	Exterior bolts			Stainless steel	
	Sopling parts		Standard	Rubber (NBR)	
	Sealing parts		Option	Rubber (FKM)	

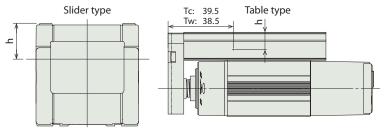




Correlation of push force and current limit value

When performing the push-motion operation with the slider type, and mini table type please limit the push current in order that the reactive moment caused by the push force does not exceed the dynamic allowable moment (Ma, Mb) in the catalog. Please refer to the figures below, which show the working point of the guide moment, for help with calculating the moment. This can be done by considering the offset of the push force application position.

Please note that if excessive force which exceeds the dynamic allowable moment is applied, it may damage the guide and shorten its service life. Please keep this in mind and select a push current that is safely within its limits.



Guide moment effective position

Calculation example

When 200N push operation is performed with EC-S7 at the position shown in the figure at right, the moment applied to the guide is:

 $Ma = (22+50) \times 200 = 14400 \text{ (N-mm)} = 14.4 \text{ (N-m)}.$

The dynamic allowable moment for EC-S7 is Ma = 17.7 (N·m), which means it is OK since 17.7 > 14.4.

Also, should an Mb moment occur due to the push operation, calculate the moment from the overhang and ensure that it is within range of the dynamic allowable moment.

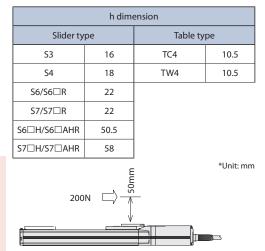
Duty cycle

Duty cycle is the percentage of the actuator's active operation time in each cycle.

EleCylinder types have limits on the duty ratio as shown below. The below graph also applies to usage at the maximum speed and maximum acceleration/deceleration.

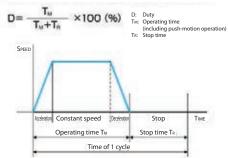
(Note) The duty ratio for S3, S4, RR3, RR4, RP, GS, TC and TW is 100% at the ambient temperature 0 to 40°C.

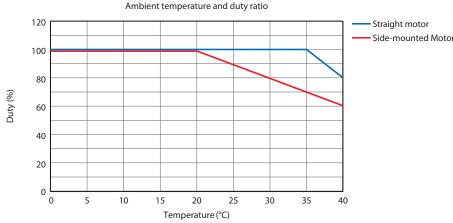


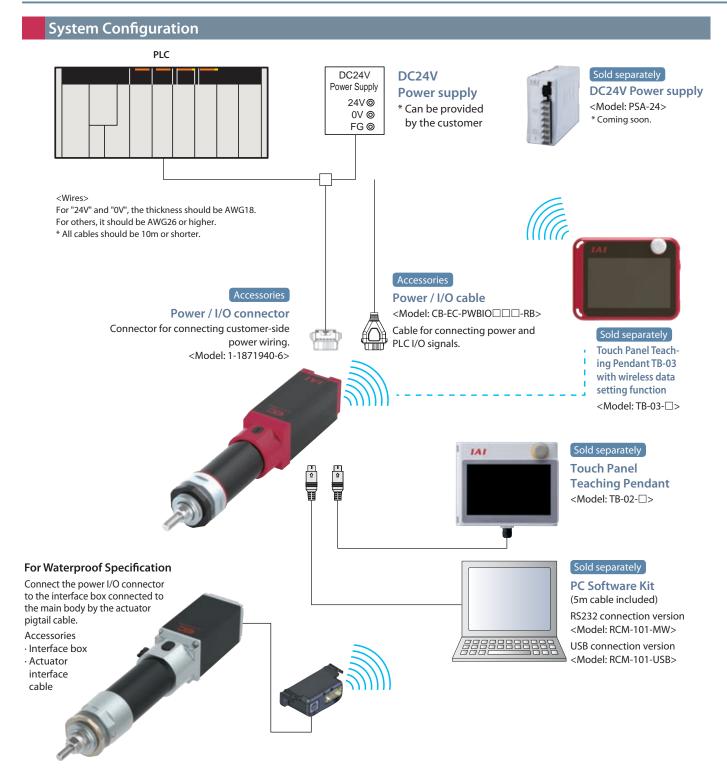


[Duty Cycle]

The duty ratio is the operating rate shown as the actuator's operating time during one cycle in %.







List of Accessories

Product category	Accessories
Without EC power / I/O cable (When cable length "0" is selected for actuator type)	Power / I/O connector (1-1871940-6)
With EC power / I/O cable (When cable length "1" to "10" is selected for actuator type)	Power / I/O cable (CB-EC-PWBIO - RB)
Interfac	ce box



Basic Controller Specifications

	Specification ite	em	Specification content
Number of	controlled axes		1 axis
Power supp	ly voltage		24VDC ±10%
		Standard	With energy-saving setting disabled: Rated 3.5A, max. 4.2A
	•.	Waterproof	With energy-saving setting enabled: Rated 2.2A
Power capa	city	High rigidity	(Energy-saving can only be enabled for the S3/RR3 with the maximum current of 2.2A.)
		Mini type	Max. 2.0A (with energy-saving setting enabled only)
Brake releas	se power supply		24VDC ±10%, 200mA (only for external brake release)
Generated	heat		8W (at 100% duty)
		Standard	
		Waterproof	8.3A (with inrush current limit circuit)
Inrush curre	ent	High rigidity	
		Mini type	10A
Momentary	power failure res	istance	Max 500µs
Motor size			□28, □35, □42, □56
Motor rated	l current		1.2A
Motor cont	rol system		Weak field-magnet vector control
Supported	encoders		Incremental (800pulse/rev), Battery-less absolute encoder (800 pulses/rev)
SIO			RS485 1ch (Modbus protocol compliant)
		Number of input	3 points (forward, backward, alarm clear)
		Input voltage	24VDC ±10%
	Input	Input current	5mA per circuit
	specification	Leakage current	Max 1mA/1 point
DIO		Isolation method	Non-isolated
PIO		No. of output	3 points (forward complete, backward complete, alarm)
	Outrout	Output voltage	24VDC ±10%
	Output	Output current	50mA/1 point
	specification	Residual voltage	2V or less
		Isolation method	Non-isolated
Data setting	g and input metho	ods	PC software kit / Touch panel teaching pendant
Data retent	ion memory		Position and parameters are saved in non-volatile memory. (No limit to rewrite)
	Controllor statu	c display	Servo ON (green light ON) / Alarm (red light ON) / Initializing when power comes ON (orange light ON) / Minor failure alarm
LED	Controller statu:	suispiay	(green/red alternately blinking) / Operation from teaching: Stop from teaching (red light ON) / Servo OFF (light OFF)
display	Minalaga status	aliana la su	Initializing wireless hardware, without wireless connection, or connecting from TP board (light OFF)
	Wireless status	display	Connecting through wireless (green blinking) / Wireless hardware error (red blinking) / Initializing when power comes ON (orange light ON)
Predictive n	naintenance/		When the number of movements or operation distance has exceeded the set value and when the LED (right side) blinks alternately green and red at overload warning
Preventativ	e maintenance		* Only when configured in advance
Ambient op	perating temperat	ure	0 to 40°C
Ambient op	perating humidity		85% RH or less (no condensation or freezing)
Operating a	mbience		Avoid corrosive gas and excessive dust
Insulation r	esistance		DC500V 10MΩ
Electric sho	ck protection me	chanism	Class 1 basic insulation
Cooling me	thod		Natural air cooling

I/O Signal Table

	Pin as	signment for power I/O connec	tor
Pin No.	Connector tag plate name	Signal abbreviation	Description of command
B3	Backward	ST0	Backward command
B4	Forward	ST1	Forward command
B5	Alarm release	RES	Alarm reset
A3	Backward complete	LS0/PE0	Backward complete/Pushing complete
A4	Forward complete	LS1/PE1	Forward complete/Pushing complete
A5	Alarm	*ALM	Alarm detected (contact point b)
B2	Brake release	BKRLS	Forced release of brake (for "with brake" specification)
B1 (Note)	24V	24V	24V input
A1	0V	0V	0V input
A2 (Note)	(24V)	(24V)	24V input

(Note) In the case of dual power supply specificatios (TMD2), B1 is 24V (drive) and A2 is 24V (control).

I/O Specification (Input/Output specifications)

I/	0		Input	O	utput
		Input voltage	DC24V±10%	Load voltage	DC24V±10%
		Input current	5mA/circuit	Max. load current	50mA/point
Specifi	cations	ON/OFF Voltage	ON voltage MIN DC18V OFF voltage MAX DC6V	Residual voltage	2V or less
		Leak current	MAX 1mA/point	Leak current	MAX 0.1mA/point
Insulation	n method	Not isolated	from external circuit	Not isolated fro	om external circuit
I/O	NPN	Internal logisti	Internal Internal Internal Internal	internal circuit	Extended poorre usepb 2 201 Unimed
logic	PNP	External power supply 24V		Internal good supply 20 Internal Group	

I/O Specification Wiring Diagram

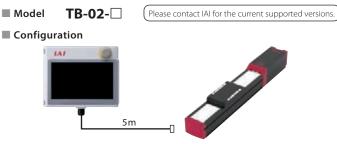
I/	0	Standard Specification	TMD2 Specification (Option)
Pow I/O cor	ver• nnector	0V A1 (Spare) A2 Backward complete A3 Forward complete A4 Alarm output A5 (Spare) A6	The TMD2 specification is a specification in which the motor power and control power are separated. VV A1 24V(Control) A2 Backward complete A3 Forward complete A4 Alarm output A5 (Spare) A6 B1 24V(Drive) B2 Brake release B3 Backward command B4 Forward command B5 Alarm release B6 (Spare)
1/0	NPN	0V 24V 0V A1 B1 24V B2 Brake release Backward command Forward command Alarm release B5 A5 Alarm output	0V 24V 0V A1 B1 24V(Drive) B2 Brake release A2 24V(Control) Backward command Forward command Alarm release B5 A5 Alarm output
logic	PNP	24V OV 24V B1 A1 OV Brake release B2 Backward command B3 A3 Backward complete Forward command B4 A4 Forward complete Alarm release B5 A5 Alarm output	24V 0V 24V(Drive) B1 A1 B2 24V(Control) B2 24V(Control) B2 B3 A3 Backward complete Forward command B4 A4 B5 A5 Alarm output



Options

Touch Panel Teaching Pendant

Features A teaching device equipped with functions such as position teaching, trial operation, and monitoring.



Touch Panel Teaching Pendant with wireless function

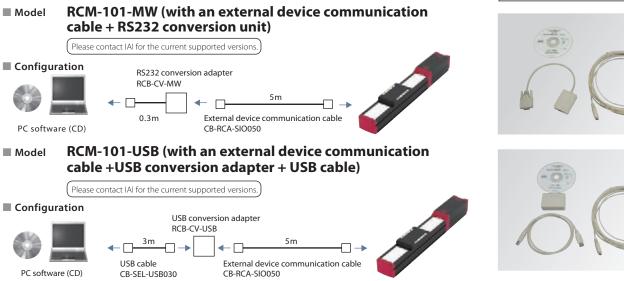
Features Teaching device for wireless connection. Start/End positions and AVD data can be input wirelessly.

Please contact IAI for the current supported versions. Model TB-03-

Specifications & more details -> See from P115

PC software (Windows only)

Features The start-up support software which comes equipped with functions such as position teaching, trial operation, and monitoring. A complete range of functions needed for making adjustments contributes to shortened start-up time.



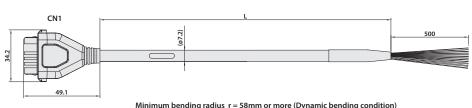
Maintenance Parts

When placing an order for a replacement cable, please use the model name shown below.

Table of compatible cables

Actuator side

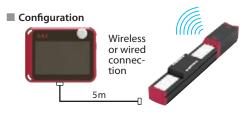
Model name	Power / I/O cable
EC	CB-EC-PWBIO



* Only the robot cable is available for this model. (Standard non robot cable unavailable)

Specifications

Rated voltage	24V DC
Power consumption	3.6W or less (150mA or less)
Ambient operating temperature	0 to 40°C
Ambient operating humidity	20~ 85% RH (Non-condensing)
Environmental resistance	IP20
Mass	470g (TB-02 unit only)





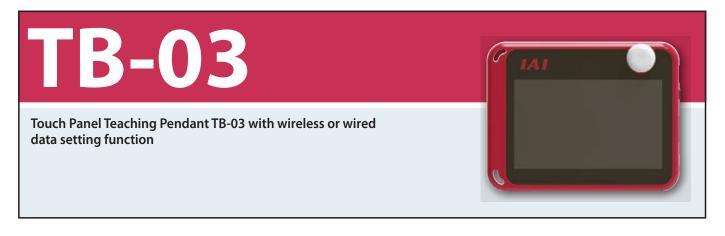
Supported Windows versions: 7/8/10



* Please indicate the cable length (L) in $\Box \Box \Box$, E.g.) 030 = 3m

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





1. Set operating conditions with wireless connection

Position adjustment and operating conditions can be set from outside the equipment, even without a cable connection to the **EleCylinder** body.

* Actuator operation requires cable connection.



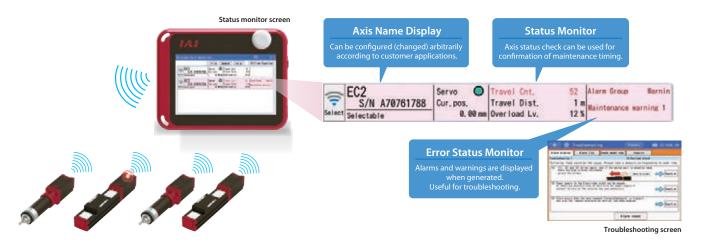
"-WL2" for Edit and Operation

As for EleCylinder that can be operated by wireless, the wireless function differs depending on the description of EleCylinder model type option.

2. Status monitoring makes daily maintenance easier and shortens trouble recovery time

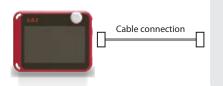
"-WL" for Edit only

TB-03 can monitor the operating status of up to 16 axes while receiving wireless data from the EleCylinder. Error recovery time also can be shortened by troubleshooting with wireless communication.



3. Supports position/program controller

Dedicated cables can connect the TB-03 to all the controllers. The same functions and operation of the previous TB-02 are available.



Controller

For the EleCylinder, wired or wireless specification can be selected from the EleCylinder model selection.



Model Number

One unit is compatible with all the controllers though the right cable should be selected in order to connect with each controller type. In addition, an AC adapter for recharging the main unit should be selected according to the operating environment.

Model

TB-03- [Cable] -AC adapter

Body + cable + AC adapter set model number

Connected controller	Model		Cable	
	Body + cable	AC adapter	For EleCylinder / position controller	For program controller
EleCylinder Position Controller	TB-03-C	E	① CB-TB3-C050	-
		N *2		
Program Controller	TB-03-S	E	-	② CB-TB3-S050 + ③ CB-SEL-SJS002 (conversion cable) *3
		N *2		
EleCylinder Position Controller Program Controller	TB-03-SC	E	① CB-TB3-C050	② CB-TB3-S050 + ③ CB-SEL-SJS002 (conversion cable) *3
		N *2		
	TB-03-SCN *1	E	-	-
		N *2		
*1 No cable *2 No AC adapter *3 Use with the ② cable when connecting to ASEL, PSEL, SSEL, or MS		n connecting to ASEL, PSEL, SSEL, or MSEL		

• Cable single product model number

Connected controller	Model
EleCylinder Position Controller	① CB-TB3-C050
Program Controller	② CB-TB3-S050
	③ CB-SEL-SJS002 (conversion cable) *1
	*1 Use with the ② cable when connecting to ASEL, PSEL, SSEL, or MSEL

• AC adapter single product model number

Connected controller	Model	Specification	Single product model number
EleCylinder Position Controller Program Controller	E	For Europe	UNE318-5928

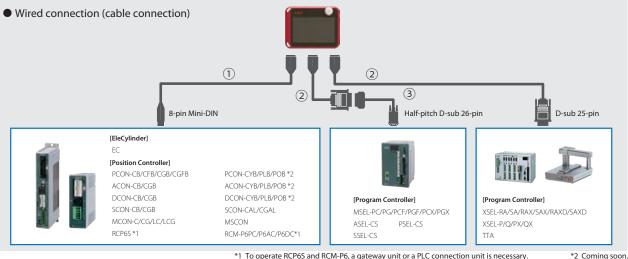
Connection

• Wireless connection (EleCylinder only)



Connectable only for models with "WL" (wireless communication) "WL2" (wireless axis-operation) options in the model number

Caution: Certification issues limit the countries in which wireless communication can be used. Contact our sales personnel for details.



*1 To operate RCP6S and RCM-P6, a gateway unit or a PLC connection unit is necessary.

Body Specifications

Power input	24VDC ±10% [supplied from controller]		
voltage range	5.9VDC (5.7 to 6.3V) [supplied from AC adapter]		
Power consumption	3.6W or less		
Consumption current	150mA (supplied from controller)		
Ambient operating temperature	0 to 40°C (no condensation or freezing)		
Ambient operating humidity	85% RH or less (no condensation or freezing)		
Ambient storage temperature	-20 to 40°C		
Vibration resistance	10 to 57Hz Amplitude 0.075mm		
Ingress protection	IPX0		
Mass	670g (body) + approx. 285g (dedicated cable)		
Liquid crystal	7" TFT color WVGA (800 x 480)		
External memory	SD/SDHC memory card interface mounted (1G to 32G)		
Charging method	Wired connection with dedicated AC adapter/controller		
Language support	Japanese/English/Chinese		

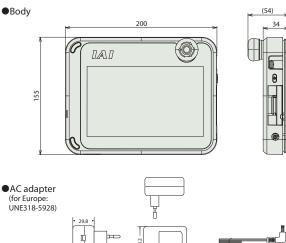
Wireless Function (when connected to EleCylinder only)

Wireless connection	Bluetooth 4.2 Class 2		
Wireless function	Data setting/Monitor function/Axis-operation		
Operation command/stop command	No		
Max. number of connectable axes	16 axes		
Operation	Battery (AB-7) operation		
Wireless operating time	Max. 4 hours (battery driven)		
Battery life	Cycle durability 300 times		

AC Adapter Common Specifications		
Power input voltage range	Single-phase 100 to 240VAC ±10%	
Power supply current	0.4A max.	
Consumption current	2.8A max.	
Output voltage	5.9VDC (5.7 to 6.3V)	
Charging time	Approx. 3 hours	
Cable length	1500 ±100mm	

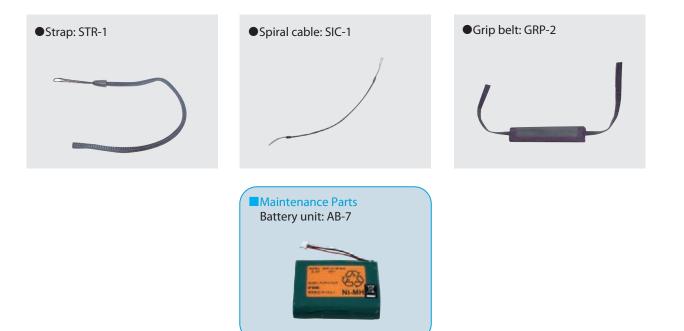
External Dimensions







Options





Cautions on Axis Operations via Wireless Connection

This device (V2.30 or later) can operate the EleCylinder whose option model number is: WL2 via wireless connection. When performing a wireless operation, make sure to check safety according to the following instructions:

• During a wireless operation, **the stop switch on this device does NOT function**. Make sure to prepare a device or circuit for emergency stops.



- Although the operation of EleCylinder via wireless connection allows test operations (moving to forward/backward ends, jogging and inching), **it is not a function to perform an automated operation**. Make sure to build a mechanical system according to the risk of the operating environment.
- Carry out a risk assessment according to the requirements specified by the standard for the machinery built in the system. It is not allowed to perform dangerous operations such that the system must stop automatically when the control signals are not received due to communication interruptions.
- The stop operation by axis operation using wireless cannot be used as the safety function specified in EN ISO 13849-1: 2015. Neither does it conform to the safety categories B and 1 to 4 of the EN ISO 13849-1: 2015

Cautions on Wireless Operations

- This product uses a 2.4GHz electrical wave called the ISM band (wireless frequency 2400 to 2483.5MHz, wireless output +5 dBm).
- Since this spectrum is used by many devices including microwaves and wireless LANs, communications may be interrupted due to radio disturbances.
- The use of this product is permitted only in the countries (regions) specified below: In other countries (regions), it is necessary to obtain an certification according to the regulations in the country (region).

Japan, USA, Canada, EU countries, China, Korea and Thailand

EC EleCylinder Series V10 Slider / Rod / Table Type Catalogue No. 1019-E

The information contained in this catalog is subject to change without notice for the purpose of product improvement





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