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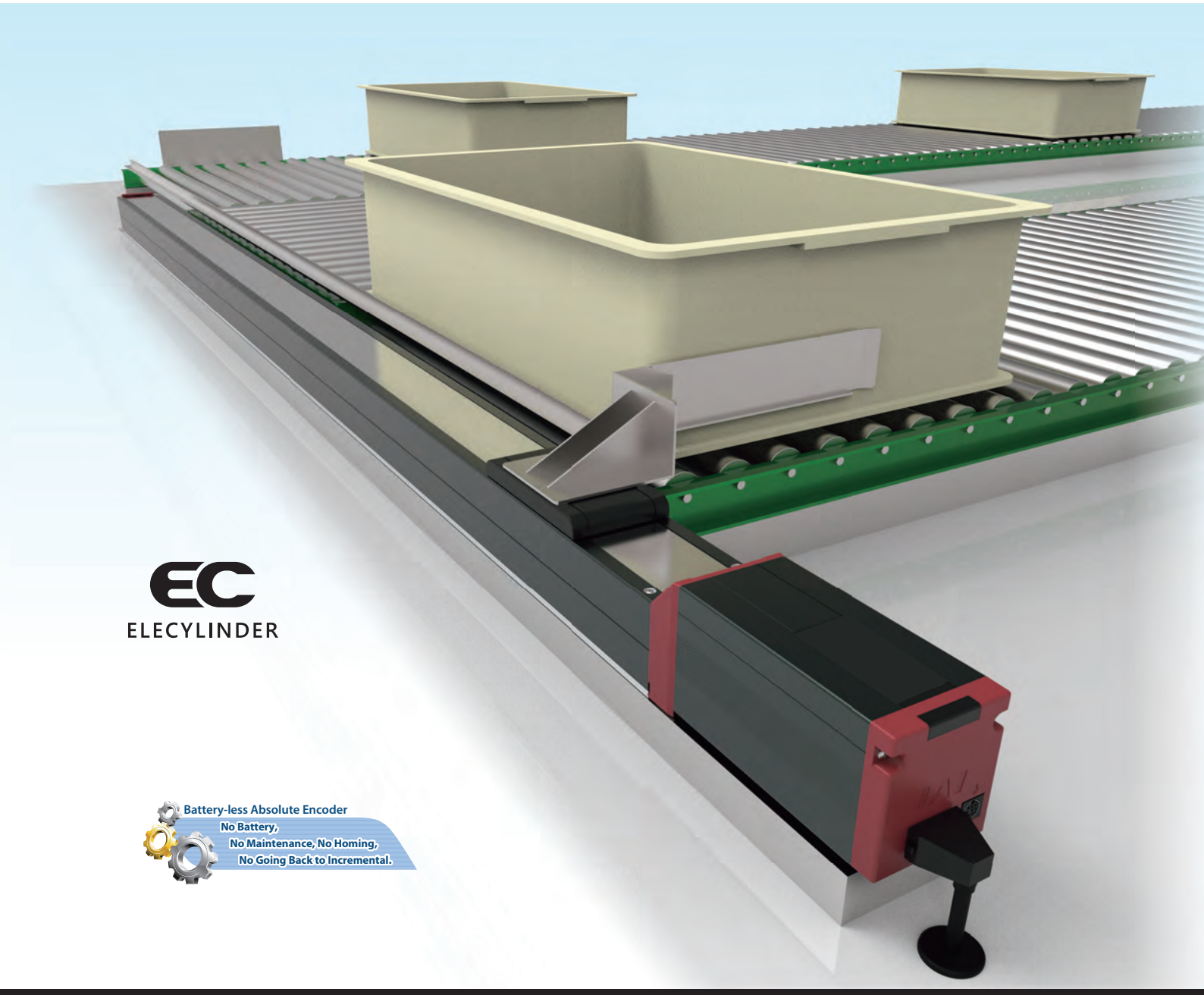
GB

Simple-to-use ELECYLINDER with Built-in Controller
Small / Medium Long Stroke Slider Standard Type

EC S3/4/6/7/8A(R)

Simple-to-use ELECYLINDER with Built-in Controller
Medium Long Stroke High Rigidity Slider Mid-support Type

EC S6/7/8XA(H)(R)



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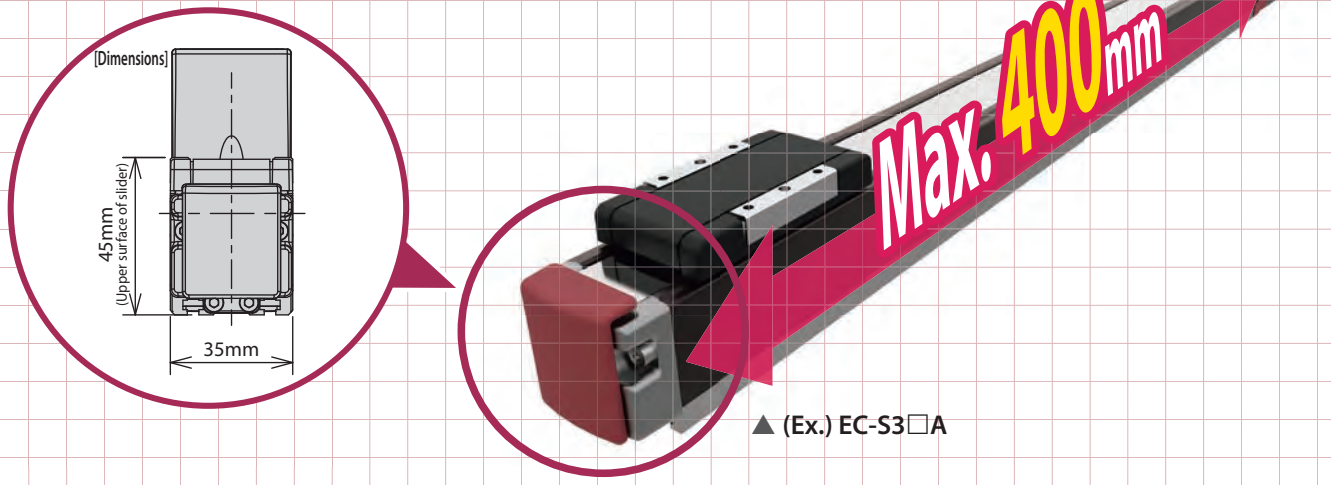
ELECYLINDER

Slider type
Long stroke supported

Feature 1 Compact with long stroke

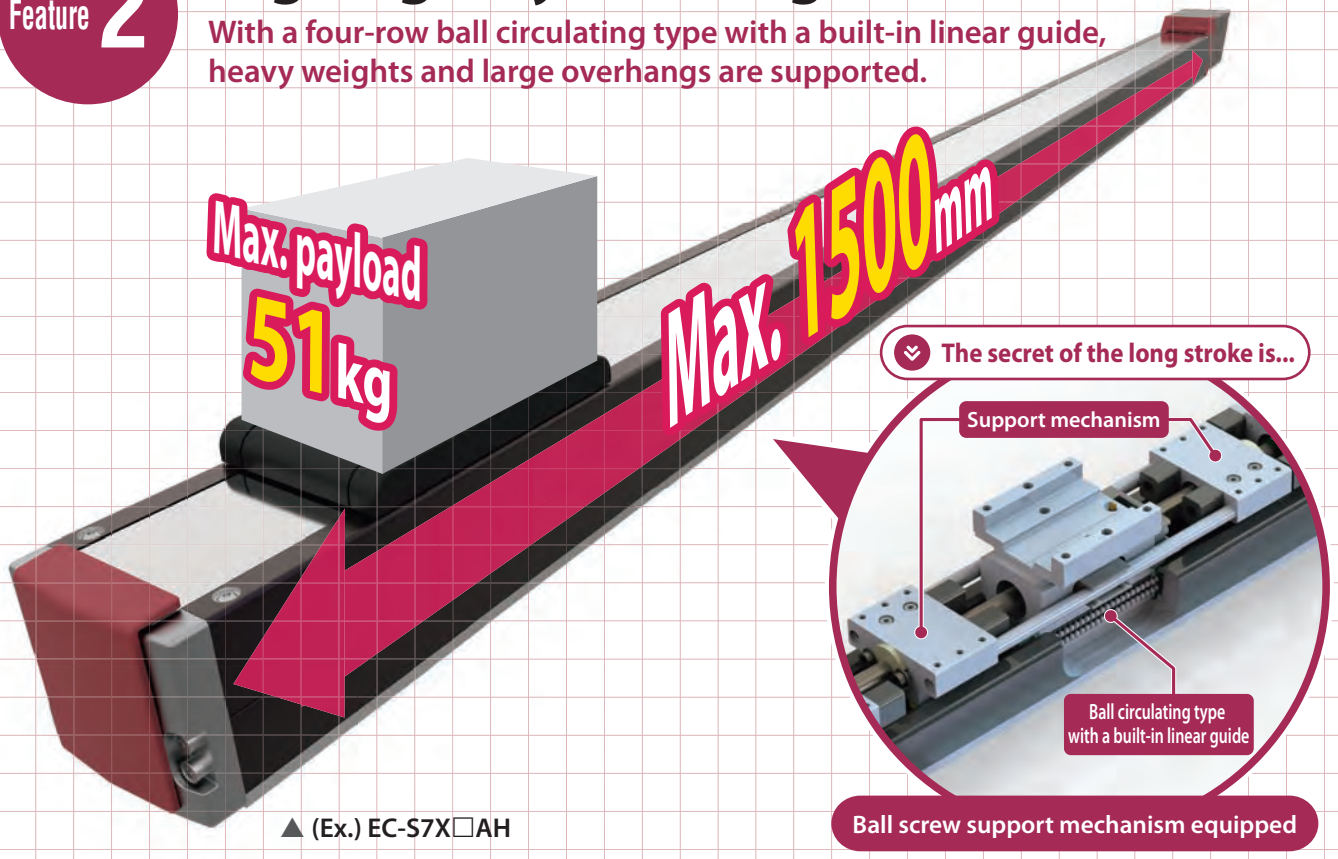
**Longer stroke has been achieved while keeping the housing compact.
Usable even in locations with limited installation space.**



▲ (Ex.) EC-S3□A

Feature 2 High rigidity and long stroke

**With a four-row ball circulating type with a built-in linear guide,
heavy weights and large overhangs are supported.**

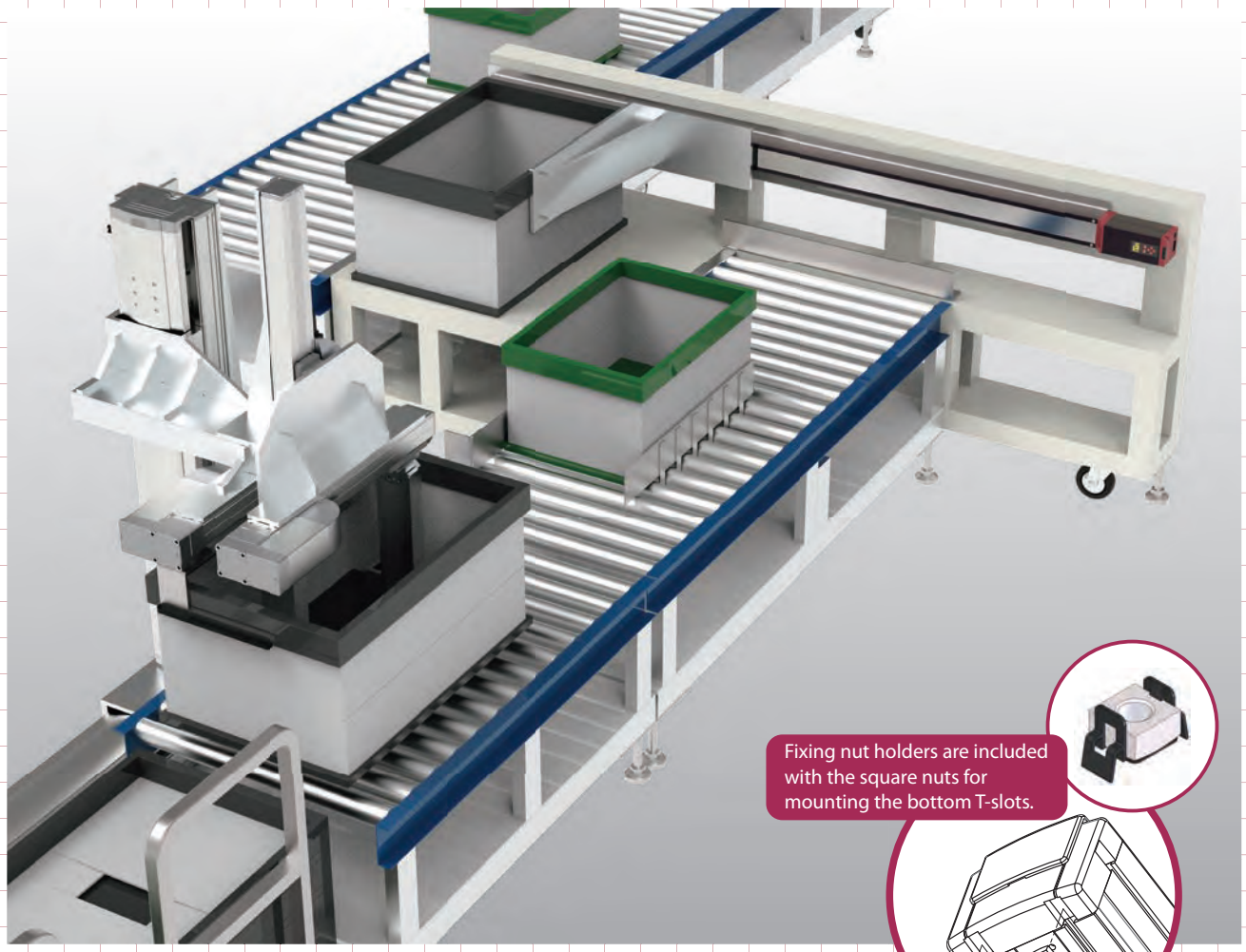


▲ (Ex.) EC-S7X□AH

Feature 3

Unlimited installation orientation

The long-stroke model remains available for vertical, horizontal, and ceiling mounting.



▲ Side mounting example (container assembly/transfer equipment)

Video here

Long stroke slider type EleCylinder product page of IAI America to view the demo video

Model Specification Items

EleCylinder Slider Type

EC – [Type] [Lead] A [Motor fixing method] – [Stroke] – [Power I/O cable length] – [Options]

Series: EC

Type

S3	Slider 35mm width
S4	Slider 44mm width
S6	Slider 63mm width
S7	Slider 73mm width

Lead

<S3□A(R)>

L	Lead 2mm
M	Lead 4mm
H	Lead 6mm

<S4□(R)>

L	Lead 2.5mm
M	Lead 5mm
H	Lead 10mm
S	Lead 16mm

<S6□(R)>

L	Lead 3mm
M	Lead 6mm
H	Lead 12mm
S	Lead 20mm

<S7□(R)>

L	Lead 4mm
M	Lead 8mm
H	Lead 16mm
S	Lead 24mm

Specifications: A

A	Long stroke supported

Motor fixing method

Blank	Straight
R	Side-mounted

Stroke

<S3□(R)>

200	200mm
↕	↕
400	400mm

<S4□(R)>

250	250mm
↕	↕
500	500mm

<S6□(R)>

250	250mm
↕	↕
800	800mm

<S7□(R)>

350	350mm
↕	↕
800	800mm

(every 50mm)

Power I/O cable length

0	Without cable Power I/O connector included (Note)
(S)1	1 m
↕	↕
(S)10	10 m

(every 1m)

(S): 4-way connector cable
(Note): A power I/O connector is not included if RCON-EC connection specification (ACR) is selected

Options

Blank	Incremental encoder specification NPN specification, no options
ACR	RCON-EC connection specification*1
B	With brake
FT	Foot bracket
G1/G5	Designated grease specification*2
ML	Side-mounted motor to the left*3
MR	Side-mounted motor to the right*3
MOB	Motor mounting direction change (bottom)*4
MOL	Motor mounting direction change (left)*4
MOR	Motor mounting direction change (right)*4
MOT	Motor mounting direction change (top)*4
NM	Non-motor end specification
PN	PNP specification*1
SR	Slider part roller specification
TMD2	Split motor and controller power supply specification*1
W	Double slider specification*2*5
WA	Battery-less absolute encoder specification
WL	Wireless communication specification
WL2	Wireless axis operation specification

*1 "PN" and "TMD2" cannot be selected if "ACR" is selected.
*2 "G1/G5" and "W" cannot be used together.
*3 Select either one of the model codes for the side-mounted motor type specification.
*4 Only the S3/S4 motor-straight types can be selected.
*5 Available only for S6/S7 types.

EleCylinder High Rigidity Slider Type

EC – [Type] [Lead] AH [Motor fixing method] – [Stroke] – [Power I/O cable length] – [Options]

Series: EC

Type

S6X	Slider 63mm width (with support mechanism)
S7X	Slider 75mm width (with support mechanism)

Lead

<S6X□AH(R)>

L	Lead 3mm
M	Lead 6mm
H	Lead 12mm
S	Lead 20mm

<S7X□AH(R)>

L	Lead 4mm
M	Lead 8mm
H	Lead 16mm
S	Lead 24mm

Specifications: AH

AH	High rigidity

Motor fixing method

Blank	Straight
R	Side-mounted

Stroke

<S6X□AH(R)>

Lead L

450	450mm
↕	↕
1000	1000mm

Lead M

450	450mm
↕	↕
1400	1400mm

Lead H/S

450	450mm
↕	↕
1500	1500mm

<S7X□AH(R)>

Lead L

550	550mm
↕	↕
1100	1100mm

Lead M/H/S

550	550mm
↕	↕
1500	1500mm

(every 50mm)

Power I/O cable length

0	Without cable Power I/O connector included (Note)
(S)1	1 m
↕	↕
(S)10	10 m

(every 1m)

(S): 4-way connector cable
(Note): A power I/O connector is not included if RCON-EC connection specification (ACR) is selected

Options

Blank	Incremental encoder specification NPN specification, no options
ACR	RCON-EC connection specification*1
B	With brake
G1/G5	Designated grease specification*2
ML	Side-mounted motor to the left*3
MR	Side-mounted motor to the right*3
NM	Non-motor end specification
PN	PNP specification*1
SR	Slider part roller specification
TMD2	Split motor and controller power supply specification*1
WA	Battery-less absolute encoder specification
WL	Wireless communication specification
WL2	Wireless axis operation specification

*1 "PN" and "TMD2" cannot be selected if "ACR" is selected.
*2 "G1" cannot be selected for the side-mounted motor type specification.
*3 Select either one of the model codes for the side-mounted motor type specification.

Specification Tables

■ Motor straight type

Type (*1) (*2)	Lead		Stroke (mm) and max speed (mm/s) *Length of band = Stroke, * Numbers in band = Maximum speed by stroke, Numbers in < > are for vertical specification	Max. payload (kg)		Reference page
	Model	mm		Horizontal	Vertical	
S3□A	H	6	420	3.5	1.5	P7
	M	4	280	6	2.5	
	L	2	140	9	3.5	
S4□A	S	16	800	7	1.5	P11
	H	10	700 600	12	2.5	
	M	5	350 300	15	5	
	L	2.5	175 <150> 150	18	6.5	
S6□A	S	20	800 700 620	15	1	P15
	H	12	700 560 500 430 380 330	26	2.5	
	M	6	450 410 340 290 250 210 180 160	32	6	
	L	3	225 200 170 140 120 105 90 80	40	12.5	
S7□A	S	24	860	37	3	P20
	H	16	700 620 550	46	8	
	M	8	420 410 350 305 275	51	16	
	L	4	210 <175> 190 <175> 170 145 125	51	19	
S6X□AH	S	20	1280 <1120> 1120 970 940 860 790 730 640 610 580 540 470 450 430 400	15	1	P25
	H	12	900 <800> 860 <800> 770 680 620 560 510 460 425 380 360 330 315 285 270 250 235 220	26	2.5	
	M	6	450 430 380 340 310 280 255 230 210 185 175 165 140 135 125 115	32	6	
	L	3	225 210 190 165 145 135 125 115	40	16	
S7X□AH	S	24	1230 <1080> 1160 <1080> 1080 990 920 850 770 735 680 635 565 550	37	3	P28
	H	16	980 <840> 920 <840> 835 760 700 645 590 555 510 470 440 420 375 355	46	8	
	M	8	420 375 345 310 285 255 245 230 215 190 180 170	51	16	
	L	4	195 <175> 175 165 150	51	25	

(*1) For long stroke type S8□A with body width 80mm see P.24-1. (*2) For long stroke mid-support type type S8X□A with body width 80mm see P.30-1.

○ **For 200mm stroke and lower slider types, refer to the EleCylinder catalogue V10.**

Specification Tables

■ Side-mounted motor type

Type (*1) (*2)	Lead Model	Lead mm	Stroke (mm) and max speed (mm/s) *Length of band = Stroke, * Numbers in band = Maximum speed by stroke, Numbers in < > are for vertical specification	Max. payload (kg) Horizontal	Max. payload (kg) Vertical	Reference page
S3□AR	H	6	360	3.5	1.5	P31
	M	4	240	6	2.5	
	L	2	120	9	3.5	
S4□AR	S	16	800	7	1.5	P34
	H	10	700 (600) 600	12	2.5	
	M	5	350 300	15	5	
	L	2.5	175 (150) 150	18	6.5	
S6□AR	S	20	800	15	1	P37
	H	12	700 560 500 430 380 330	26	2.5	
	M	6	450 (400) 410 〈400〉 340 290 250 210 180 160	32	6	
	L	3	225 200 170 140 120 105 90 80	40	12.5	
S7□AR	S	24	860	37	3	P42
	H	16	700 620 550	46	8	
	M	8	350 305 275	51	16	
	L	4	175 170 145 125	51	19	
S6X□AHR	S	20	1120 〈960〉 970 〈960〉 940 860 790 730 640 610 580 540 470 450 430 400	15	1	P47
	H	12	800 〈700〉 770 〈700〉 680 620 560 510 460 425 380 360 330 315 285 270 250 235 220	26	2.5	
	M	6	450 〈400〉 430 〈400〉 380 340 310 280 255 230 210 185 175 165 140 135 125 115	32	6	
	L	3	200 190 165 145 135 125 115	40	16	
S7X□AHR	S	24	1080 〈860〉 990 〈860〉 920 〈860〉 850 770 735 680 635 565 550	37	3	P50
	H	16	700 〈560〉 645 〈560〉 590 〈560〉 555 510 470 440 420 375 355	46	8	
	M	8	350 345 310 285 255 245 230 215 190 180 170	51	16	
	L	4	175 〈140〉 165 〈140〉 150 〈140〉	51	25	

(*1) For long stroke type S8□AR with body width 80mm see P.46-1. (*2) For long stroke mid-support type type S8X□AR with body width 80mm see P.52-1.

○ **For 200mm stroke and lower slider types, refer to the EleCylinder catalogue V10.**

Energy-Saving Setting

For EleCylinder, parameter No. 8 enables selecting enabled/disabled for the energy-saving setting.
When enabled, the power capacity can be reduced by up to 40% compared to when the setting is disabled.
Elsewhere, the maximum speed, acceleration/deceleration, and payload will be lower than with the setting disabled.
When disabled, the maximum speed, acceleration/deceleration, and payload will be higher than with the setting enabled.
Refer to the "Table of Payload by Speed/Acceleration" and "Stroke and Maximum Speed" on each product specification page for more details.
The energy-saving setting is disabled at shipping.

Setting at shipping

Mode	Parameter name/notation	Features
Power mode	Energy-saving setting disabled	High specs
Energy-saving mode	Energy-saving setting enabled	High energy-saving effect

Mounting Orientation

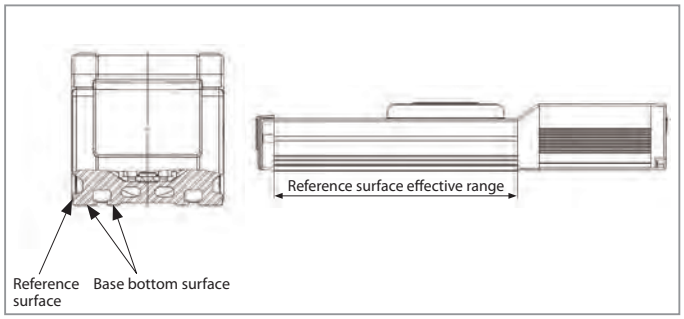
○: Can be mounted

Type		Mounting orientation: Horizontal mounting on flat surface	Vertical mounting	Horizontal mounting to side	Horizontal mounting suspended
Slider	S3□A(R)	○	(*1) ○ (*2) (*3)	○ (*4)	○ (*4)
	S4□A(R)				
	S6□A(R)				
	S7□A(R)				
High rigidity slider	S6X□AH(R)	○	○ (*1) (*2)	○ (*4)	○ (*4)
	S7X□AH(R)				

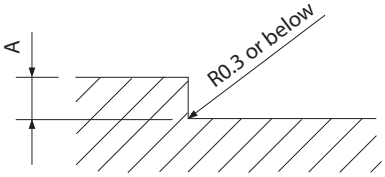
(*1) When mounting vertically, make sure to install the motor on the top.
Installing with the motor on the bottom could cause grease to separate and base oil to leak into the motor, which could cause controller or motor encoder failure.
It is therefore not recommended to install the motor on the bottom side.
(*2) With the motor on top, attach a cap to the teaching port. It could cause failure if foreign matter becomes clogged.
(*3) When selecting the double slider specification (W) option, leads S and H are not supported.
(*4) Installing the product horizontal to side or horizontal suspended may cause slack or misalignment in the stainless steel sheet.
Continuing to use it this way could cause the stainless steel sheet to break. Please inspect it daily and adjust the sheet if any slack or misalignment is found.

Precautions for Installation

- **Keep the body installation surface and workpiece mounting surface flatness within 0.05mm/m. Uneven flatness will increase the sliding resistance of the slider and may cause a malfunction.**
- **The body bottom base seating surface and left side (viewed from the motor opposite side) are the reference surfaces for slider running accuracy. When running accuracy is required, mount with these surfaces as reference.**



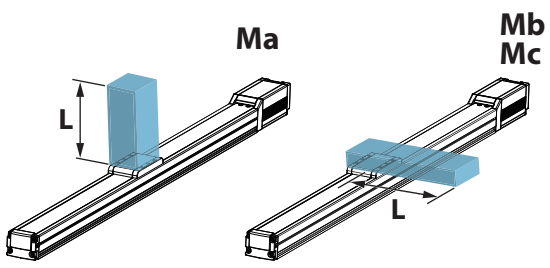
When mounting using the side reference surface, modify the installation surface as in the figure below.



Dimension A (mm)
2 ~ 4

Overhang Load Length

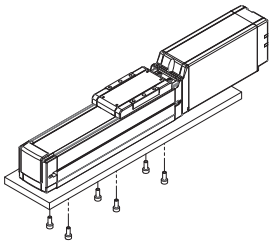
This is the approximate offset at which the actuator can operate smoothly even when the workpiece or bracket is offset from the slider. Vibration or other factors could cause failure if the approximate length is greatly exceeded.
The product should therefore be used within the approximate length.



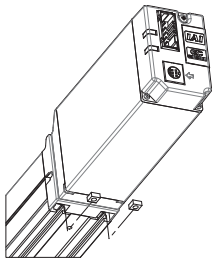
Mounting Methods

Slider types: S3□A / S4□A

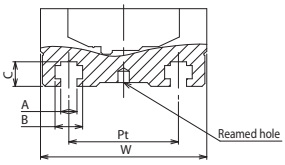
■ When using the base bottom surface T-slots



<Body base bottom surface T-slot dimensions>



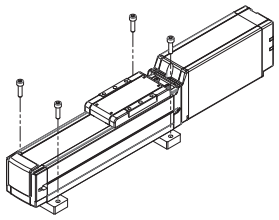
Insert square nut (included) into T-slot



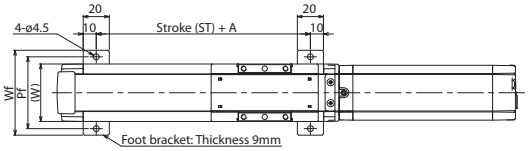
[Accessories]
Square nuts: 6 pcs
Square nut holders: 6 pcs
(for fixing square nuts)

Type	Bolt size	W (mm)	Pt (mm)	A (mm)	B (mm)	C (mm)	Reamed hole
S3□A	M3	35	22	3.3	5.8	4.8	ø3H7 depth 4 (from base seating surface)
S4□A	M4	44	29	4.3	7.3	6.5	ø3H7 depth 4 (from base seating surface)

■ When using foot brackets (option model name: FT)



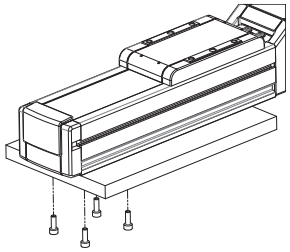
<Foot bracket mounting dimensions>



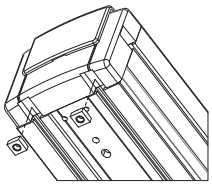
Type	Wf (mm)	Pf (mm)	W (mm)	A (mm)	Added mass (g)
S3□A	50	42	35	44	51
S4□A	65	55	44	64	68

Slider types: S6□A / S7□A

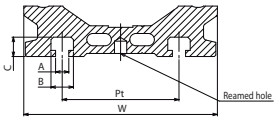
■ When using the base bottom surface T-slots



<Body base bottom surface T-slot dimensions>



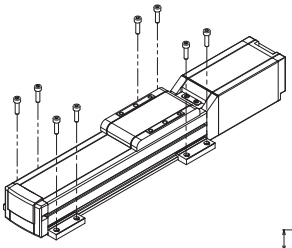
Insert square nut (included) into T-slot



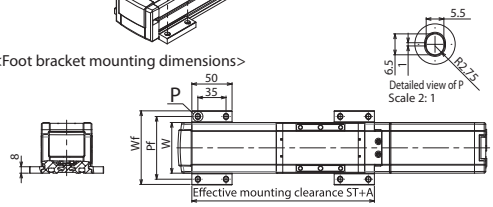
[Accessories]
Square nuts
Stroke (ST) = 250 ~ 500: 6 pcs,
Stroke (ST) = 550 ~ 800: 12 pcs
Square nut holders (for fixing square nuts)
Stroke (ST) = 250 ~ 500: 6 pcs,
Stroke (ST) = 550 ~ 800: 12 pcs

Type	Bolt size	W (mm)	Pt (mm)	A (mm)	B (mm)	C (mm)	Reamed hole
S6□A	M4	63	38	4.3	7.3	6.3	ø4H7 depth 5 (from base seating surface)
S7□A	M5	73	46	5.3	8.5	8.5	ø4H7 depth 5 (from base seating surface)

■ When using foot brackets (option model name: FT)



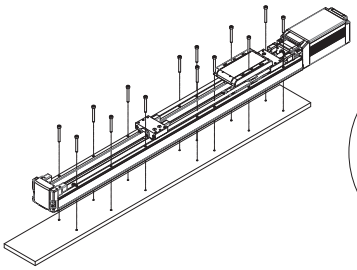
<Foot bracket mounting dimensions>

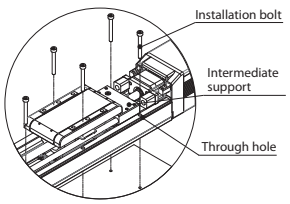


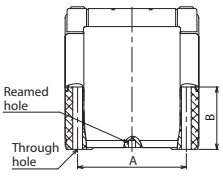
Type	Wf (mm)	Pf (mm)	W (mm)	A (mm)	Added mass (g)
S6□A	92	78	63	127	190
S7□A	102	88	73	145	190

High rigidity slider types: S6X□AH / S7X□AH

■ When using base through holes



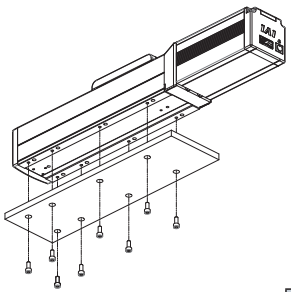


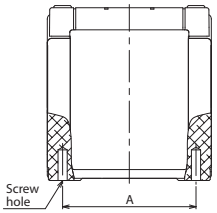


Type	Through hole diameter (mm)	A (mm)	B (mm)	Reamed hole
S6X□AH	ø4.5	51	30	ø4H7 depth 5 (from base seating surface)
S7X□AH	ø5.5	61	35	ø4H7 depth 5 (from base seating surface)

*The side cover and stainless steel sheet must be removed.
*Because the mounting hole position is on the intermediate support bottom, move the slider back and forth to shift the intermediate support and mount with all through holes in use. For the through hole positions, see each product specification page.

■ When using base bottom surface screw holes



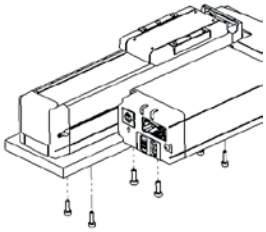


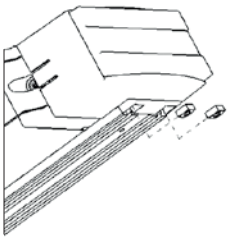
Type	Screw hole	A (mm)
S6X□AH	M4 depth 8	51
S7X□AH	M5 depth 10	61

Mounting Methods

Slider types: S3□AR / S4□AR

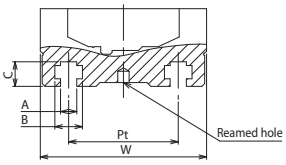
■ When using the base bottom surface T-slots





Insert square nut (included) into T-slot

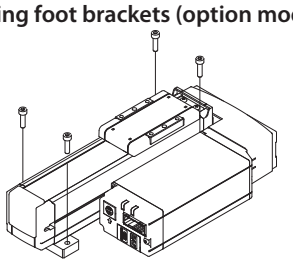
<Body base bottom surface T-slot dimensions>



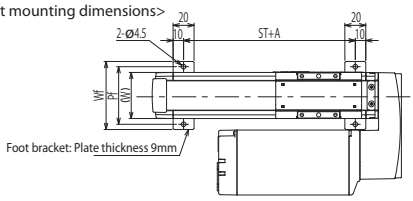
[Accessories]
Square nuts: 6 pcs
Square nut holders: 6 pcs
(for fixing square nuts)

Type	Bolt size	W (mm)	Pt (mm)	A (mm)	B (mm)	C (mm)	Reamed hole
S3□AR	M3	35	22	3.3	5.8	4.8	ø3H7 depth 4 (from base seating surface)
S4□AR	M4	44	29	4.3	7.3	6.5	ø3H7 depth 4 (from base seating surface)

■ When using foot brackets (option model name: FT)



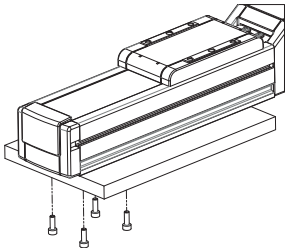
<Foot bracket mounting dimensions>

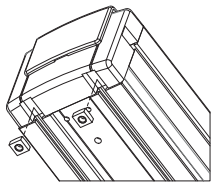


Type	Wf (mm)	Pf (mm)	W (mm)	A (mm)	Added mass (g)
S3□AR	50	42	35	44	51
S4□AR	65	55	44	64	68

Slider types: S6□AR / S7□AR

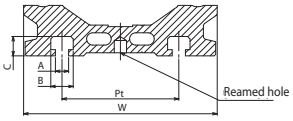
■ When using the base bottom surface T-slots





Insert square nut (included) into T-slot

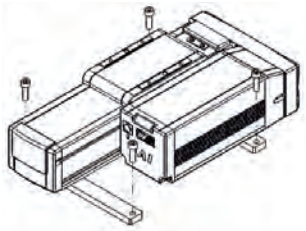
<Body base bottom surface T-slot dimensions>



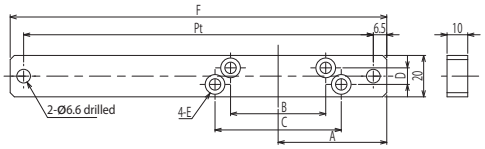
[Accessories]
Square nuts
ST=250 ~ 500: 6 pcs,
ST=550 ~ 800: 12 pcs
Square nut holders (for fixing square nuts)
ST=250 ~ 500: 6 pcs,
ST=550 ~ 800: 12 pcs

Type	Bolt size	W (mm)	Pt (mm)	A (mm)	B (mm)	C (mm)	Reamed hole
S6□AR	M4	63	38	4.3	7.3	6.3	ø4H7 depth 5 (from base seating surface)
S7□AR	M5	73	46	5.3	8.5	8.5	ø4H7 depth 5 (from base seating surface)

■ When using foot brackets (option model name: FT)



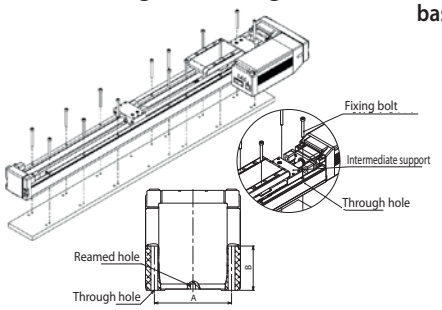
<Foot bracket mounting dimensions>



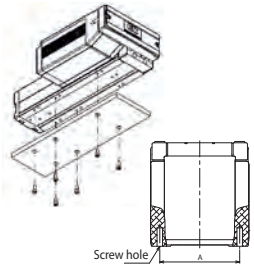
Type	A (mm)	B (mm)	C (mm)	D (mm)	E	F (mm)	Pt (mm)	Added mass (g)
S6□AR	46.5	38	51	9	ø4.5 drilled ø8 counterbored, depth 5.5	160	147	170
S7□AR	52.5	46	61	8	ø5.5 drilled ø10 counterbored, depth 7	182	169	190

High rigidity slider types: S6X□AHR / S7X□AHR

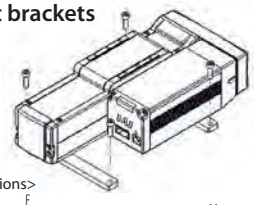
■ When using base through holes



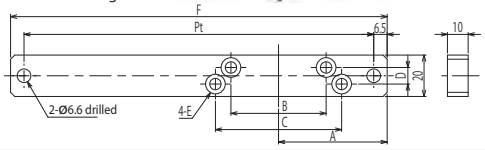
■ When using base bottom surface screw holes



■ When using foot brackets



<Foot bracket mounting dimensions>



Type	Through hole diameter (mm)	A (mm)	B (mm)	Reamed hole
S6X□AHR	ø4.5	51	30	ø4H7 depth 5 (from base seating surface)
S7X□AHR	ø5.5	61	35	ø4H7 depth 5 (from base seating surface)

Type	Screw hole	A (mm)
S6X□AHR	M4 depth 8	51
S7X□AHR	M5 depth 10	61

Type	A (mm)	B (mm)	C (mm)	D (mm)	E	F (mm)	Pt (mm)	Added mass (g)
S6X□AHR	46.5	38	51	9	ø4.5 drilled ø8 counterbored, depth 5.5	160	147	170
S7X□AHR	52.5	46	61	8	ø5.5 drilled ø10 counterbored, depth 7	182	169	190

*The side cover and stainless steel sheet must be removed.
*Because the mounting hole position is on the intermediate support bottom, move the slider back and forth to shift the intermediate support and mount with all through holes in use. For the through hole positions, see each product specification page.

EC-S3□A

Simple Dust-proof | Coupled Motor | Body Width 40 mm | 24v Pulse Motor

■ Model Specification Items

EC - | | | A - | | - | | - | |

Series	Type		Lead		Specifications		Stroke		Power I/O cable length	Options
	S3	Standard	H	6mm	A	Long stroke supported	200 ~ 400	200mm ~ 400mm (every 50mm)	See power I/O cable length table below	See options below
			M	4mm						
			L	2mm						

Horizontal | Vertical | Side | Ceiling

POINT Selection Notes

(1) "Main Specifications" displays the payload's maximum value. Please refer to "Table of Payload by Speed/Acceleration" for details.

(2) If performing push-motion operations, refer to the "Correlation between Push Force and Current Limit" diagram. The push forces listed are only reference values. Please refer to P. 58 for applicable notes.

(3) Pay close attention to the installation orientation. Please refer to P. 5 for details.

(4) Reference value of the overhang load length is under 100mm in the Ma, Mb, and Mc directions. Please refer to the explanation on P. 5 for the overhang load length.

(5) 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.

Power / I/O cable length

■ Standard connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
0	No cable	Terminal block supplied (Note 2)	CB-REC-PWBIO□□□-RB supplied
1 ~ 3	1 ~ 3m	CB-EC-PWBIO□□□-RB supplied	
4 ~ 5	4 ~ 5m		
6 ~ 7	6 ~ 7m		
8 ~ 10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note 2) Only terminal block connector is included. Please refer to P. 66 for details.
(Note) Robot cable is standard.

■ 4-way connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
S1 ~ S3	1 ~ 3m	CB-EC2-PWBIO□□□-RB supplied	CB-REC2-PWBIO□□□-RB supplied
S4 ~ S5	4 ~ 5m		
S6 ~ S7	6 ~ 7m		
S8 ~ S10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note) Robot cable is standard.

Options * Please check the Options reference pages to confirm each option.

Name	Option code	Reference page
RCON-EC connection specification (Note 1)	**ACR**	53
Brake	**B**	53
Foot bracket	**FT**	53
Designated grease specification	**G1/G5**	54
Motor mounting direction change (bottom) (Note 2)	**MOB**	55
Motor mounting direction change (left) (Note 2)	**MOL**	55
Motor mounting direction change (right) (Note 2)	**MOR**	55
Motor mounting direction change (up) (Note 2)	**MOT**	55
Non-motor end specification	**NM**	55
PNP specification	**PN**	55
Slider part roller specification	**SR**	55
Split motor and controller power supply specification	**TMD2**	56
Battery-less absolute encoder specification	**WA**	56
Wireless communication specification	**WL**	56
Wireless axis operation specification	**WL2**	56

(Note 1) If the RCON-EC connection specification (ACR) is selected, the PNP specification (PN) and split motor and controller power supply specification (TMD2) cannot be selected.
(Note 2) Be sure to enter a code in the option column for Model Specification Items.

Main Specifications

Item			Description		
Lead		Ball screw lead (mm)	6	4	2
Horizontal	Payload	Max. payload (kg)	3.5	6	9
	Speed / acceleration/ deceleration	Max. speed (mm/s)	420	280	140
		Min. speed (mm/s)	8	5	3
		Rated acceleration/deceleration (G)	0.3	0.3	0.3
		Max. acceleration/deceleration (G)	0.5	0.3	0.3
Vertical	Payload	Max. payload (kg)	1.5	2.5	3.5
	Speed / acceleration/ deceleration	Max. speed (mm/s)	420	280	140
		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		Max. push force (N)	45	68	136
		Max. push speed (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)	200	200	200
		Max. stroke (mm)	400	400	400
		Stroke pitch (mm)	50	50	50

Item	Description
Drive system	Ball screw ø6mm, rolled C10
Positioning repeatability	±0.05mm
Lost motion	- (notation not available due to 2-point positioning function)
Base	Dedicated aluminum extruded material (A6063SS-T5 equivalent), black alumite treatment
Linear guide	Linear motion infinite circulating type
Allowable static moment	Ma: 9.5N·m
	Mb: 13.5N·m
	Mc: 15.1N·m
Allowable dynamic moment (Note 1)	Ma: 3.8N·m
	Mb: 5.4N·m
	Mc: 6.1N·m
Ambient operating temperature, humidity	0 ~ 40°C, 85%RH or less (no condensation)
Ingress protection	IP20
Vibration & shock resistance	4.9m/s^2
Overseas standards	CE marking, RoHS directive
Motor type	Pulse motor (□28)
Encoder type	Incremental/battery-less absolute
Number of encoder pulses	800 pulse/rev

(Note 1) Based on the standard rated operation life of 5000km. Operation life varies according to operating and mounting conditions. Please refer to service life on P. 33 of the EleCylinder Catalog V10.

■ Slider Type Moment Direction

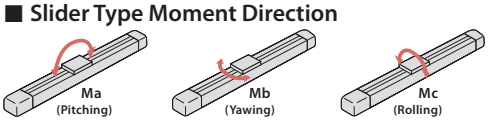


Table of Payload by Speed/Acceleration

The unit for payload is kg.

Lead 6

Orientation	Horizontal		Vertical
Speed	Acceleration (G)		
(mm/s)	0.3	0.5	0.3
0	3.5	3	1.5
120	3.5	3	1.5
210	3.5	3	1.5
255	3.5	3	1.5
315	3.5	3	1.5
360	3.5	3	1.5
420	3	2.5	1

Lead 4

Orientation	Horizontal	Vertical
Speed	Acceleration (G)	
(mm/s)	0.3	0.3
0	6	2.5
80	6	2.5
140	6	2.5
170	6	2.5
210	6	2.5
240	5.5	2.5
280	4.5	2

Lead 2

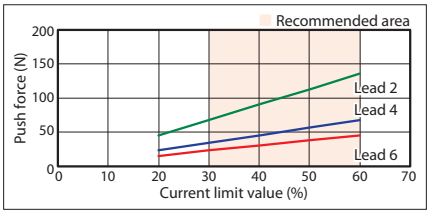
Orientation	Horizontal	Vertical
Speed	Acceleration (G)	
(mm/s)	0.3	0.3
0	9	3.5
40	9	3.5
70	9	3.5
85	9	3.5
105	9	3.5
120	9	3
140	8	2.5

Stroke and Maximum Speed

Lead (mm)	200 ~ 400 (every 50mm)
6	420
4	280
2	140

(Unit: mm/s)

Correlation between Push Force and Current Limit



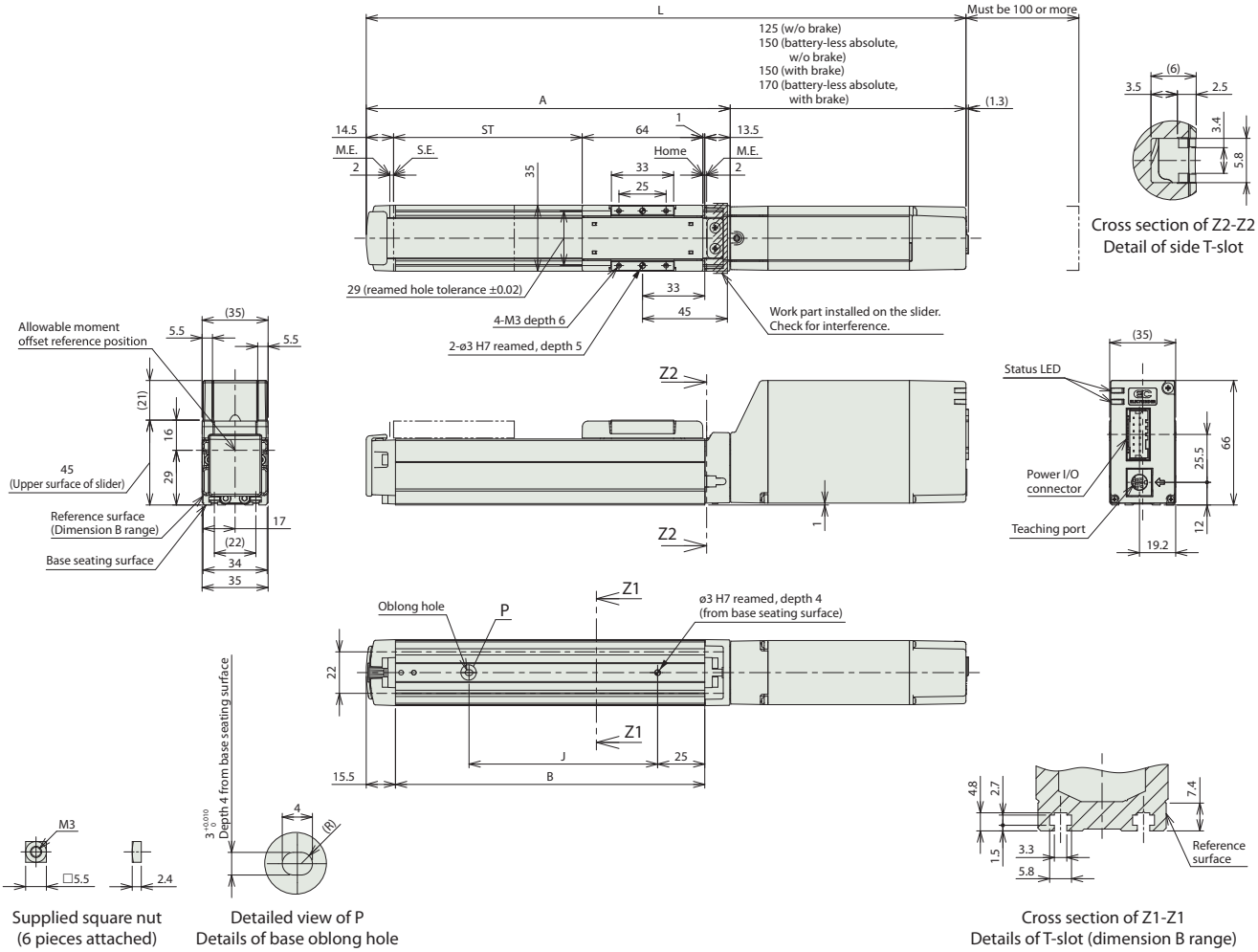
Dimensions

CAD drawings can be downloaded from our website.
www.iai-automation.com

■ EC-S3□A

(Note) Upon home return, the slider will move to the M.E. Be careful of interference with surrounding objects.
(Note) Nut holders (6 pcs) are included with the square nuts.
(Note) The figures below are for motor installed on top (MOT).

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



Supplied square nut
(6 pieces attached)

Detailed view of P
Details of base oblong hole

Cross section of Z1-Z1
Details of T-slot (dimension B range)

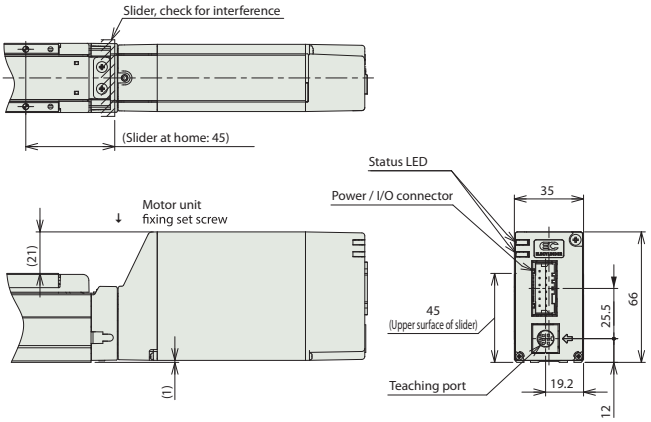
■ Dimensions by Stroke

Stroke			200	250	300	350	400
L	Incremental	Without brake	418	468	518	568	618
		With brake	443	493	543	593	643
	Battery-less absolute	Without brake	443	493	543	593	643
		With brake	463	513	563	613	663
A			293	343	393	443	493
B			264	314	364	414	464
J			200	250	300	350	400

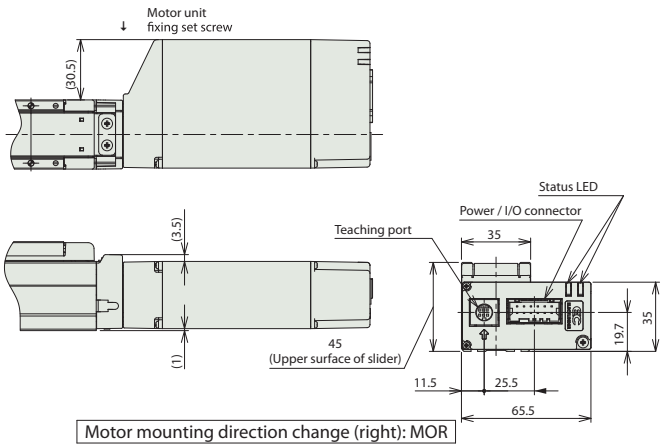
■ Mass by Stroke

Stroke		200	250	300	350	400
Mass (kg)	Without brake	1.0	1.1	1.2	1.3	1.4
	With brake	1.1	1.2	1.3	1.4	1.5

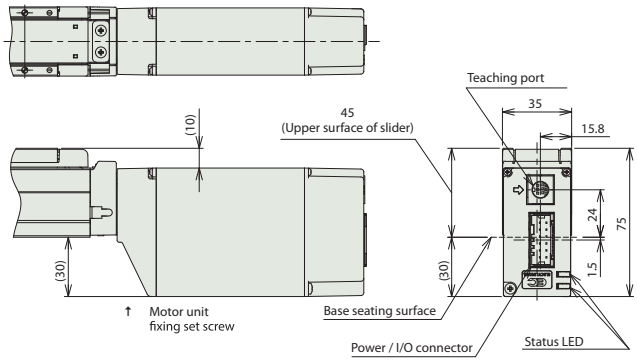
■ Motor mounting direction change (option)



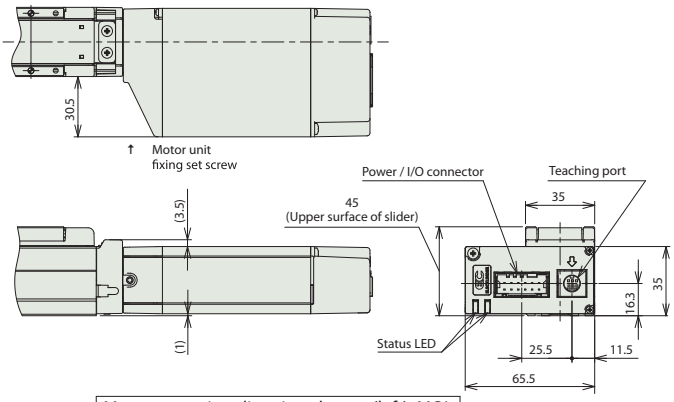
Motor mounting direction change (top): MOT



Motor mounting direction change (right): MOR



Motor mounting direction change (bottom): MOB



Motor mounting direction change (left): MOL

Applicable Controllers

(Note) EC Series products are equipped with a built-in controller. Please refer to P. 65 for details on built-in controllers.

EC-S4□A

Simple Dust-proof | Coupled Motor | Body Width 40 mm | 24v Pulse Motor

■ Model Specification Items

EC - [ ] [ ] A - [ ] - [ ] - [ ]

Series	Type		Lead		Specifications		Stroke		Power I/O cable length	Options
	S4	Standard	S	16mm	A	Long stroke supported	250	250mm	See power I/O cable length table below	See options below
			H	10mm			≀	≀		
			M	5mm			500	500mm (every 50mm)		
			L	2.5mm						

CE RoHS 10

Horizontal | Vertical | Side | Ceiling

POINT Selection Notes

(1) Longer strokes may cause the maximum speed to decrease due to the resonance of the ball screw. Check the stroke maximum speed required in the "Stroke and Maximum Speed" table.

(2) "Main Specifications" displays the payload's maximum value. Please refer to "Table of Payload by Speed/Acceleration" for details.

(3) If performing push-motion operations, refer to the "Correlation between Push Force and Current Limit" diagram. The push forces listed are only reference values. Please refer to P. 58 for applicable notes.

(4) Pay close attention to the installation orientation. Please refer to P. 5 for details.

(5) Reference value of the overhang load length is under 150mm in the Ma, Mb, and Mc directions. Please refer to the explanation on P. 5 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.

Power / I/O cable length

■ Standard connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
0	No cable	Terminal block supplied (Note 2)	CB-REC-PWBIO□□□-RB supplied
1 ~ 3	1 ~ 3m	CB-EC-PWBIO□□□-RB supplied	
4 ~ 5	4 ~ 5m		
6 ~ 7	6 ~ 7m		
8 ~ 10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note 2) Only terminal block connector is included. Please refer to P. 66 for details.
(Note) Robot cable is standard.

■ 4-way connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
S1 ~ S3	1 ~ 3m	CB-EC2-PWBIO□□□-RB supplied	CB-REC2-PWBIO□□□-RB supplied
S4 ~ S5	4 ~ 5m		
S6 ~ S7	6 ~ 7m		
S8 ~ S10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note) Robot cable is standard.

Options * Please check the Options reference pages to confirm each option.

Name	Option code	Reference page
RCON-EC connection specification (Note 1)	**ACR**	53
Brake	**B**	53
Foot bracket	**FT**	53
Designated grease specification	**G1/G5**	54
Motor mounting direction change (bottom) (Note 2)	**MOB**	55
Motor mounting direction change (left) (Note 2)	**MOL**	55
Motor mounting direction change (right) (Note 2)	**MOR**	55
Motor mounting direction change (up) (Note 2)	**MOT**	55
Non-motor end specification	**NM**	55
PNP specification	**PN**	55
Slider part roller specification	**SR**	55
Split motor and controller power supply specification	**TMD2**	56
Battery-less absolute encoder specification	**WA**	56
Wireless communication specification	**WL**	56
Wireless axis operation specification	**WL2**	56

(Note 1) If the RCON-EC connection specification (ACR) is selected, the PNP specification (PN) and split motor and controller power supply specification (TMD2) cannot be selected.
(Note 2) Be sure to enter a code in the option column for Model Specification Items.

Main Specifications

Item			Description			
Lead		Ball screw lead (mm)	16	10	5	2.5
Horizontal	Payload	Max. payload (kg) (energy-saving disabled)	7	12	15	18
		Max. payload (kg) (energy-saving enabled)	4	10	12	14
	Speed / acceleration/ deceleration	Max. speed (mm/s)	800	700	350	175
		Min. speed (mm/s)	40	30	7	4
		Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
		Max. acceleration/deceleration (G)	1	1	0.5	0.3
Vertical	Payload	Max. payload (kg) (energy-saving disabled)	1.5	2.5	5	6.5
		Max. payload (kg) (energy-saving enabled)	1	2	4.5	6.5
	Speed / acceleration/ deceleration	Max. speed (mm/s)	800	700	350	150
		Min. speed (mm/s)	40	30	7	4
		Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
		Max. acceleration/deceleration (G)	0.5	0.5	0.5	0.3
Push		Max. push force (N)	41	66	132	263
		Max. push speed (mm/s)	40	30	20	20
Brake		Brake specification	Non-excitation actuating solenoid brake			
		Brake holding force (kgf)	1.5	2.5	5	6.5
Stroke		Min. stroke (mm)	250	250	250	250
		Max. stroke (mm)	500	500	500	500
		Stroke pitch (mm)	50	50	50	50

Item	Description
Drive system	Ball screw ø8mm, rolled C10
Positioning repeatability	±0.05mm
Lost motion	- (notation not available due to 2-point positioning function)
Base	Dedicated aluminum extruded material (A6063SS-T5 equivalent), black alumite treatment
Linear guide	Linear motion infinite circulating type
Allowable static moment	Ma: 13.0N·m
	Mb: 18.6N·m
	Mc: 25.3N·m
Allowable dynamic moment (Note 1)	Ma: 5.0N·m
	Mb: 7.1N·m
	Mc: 9.7N·m
Ambient operating temperature, humidity	0 ~ 40°C, 85%RH or less (no condensation)
Ingress protection	IP20
Vibration & shock resistance	4.9m/s^2
Overseas standards	CE marking, RoHS directive
Motor type	Pulse motor (□35)
Encoder type	Incremental/battery-less absolute
Number of encoder pulses	800 pulse/rev

(Note 1) Based on the standard rated operation life of 5000km. Operation life varies according to operating and mounting conditions. Please refer to service life on P. 33 of the EleCylinder Catalog V10.

■ Slider Type Moment Direction

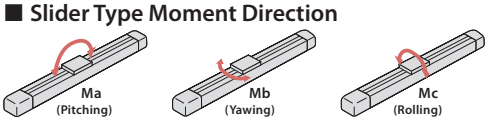


Table of Payload by Speed/Acceleration *The energy-saving setting is disabled at shipping. Please refer to P. 4 for details.

■ Energy-Saving Setting Disabled (power mode) The unit for payload is kg. If blank, operation is not possible.

Lead 16

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	7	6	6	5	1.5	1.25
140	7	6	6	5	1.5	1.25
280	7	6	6	5	1.5	1.25
420	7	6	6	5	1.5	1.25
560	7	6	5.5	5	1.5	1.25
700	6	5	4.5	4	1.5	1.25
800		4	3.5	3		1

Lead 10

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	12	11	10	10	2.5	2
175	12	11	10	10	2.5	2
350	12	11	10	9	2.5	2
435	12	11	9	8	2.5	2
525	11	9	7	6	2	2
600	10	7	5	4.5	2	1.5
700		4	2.5	2.5		1

Lead 5

Orientation	Horizontal		Vertical	
Speed (mm/s)	Acceleration (G)			
	0.3	0.5	0.3	0.5
0	15	14	5	4.5
85	15	14	5	4.5
130	15	14	5	4.5
215	15	14	5	4.5
260	15	14	5	4.5
300	15	14	4.5	4
350	13	12	4	3.5

Lead 2.5

Orientation	Horizontal	Vertical
Speed (mm/s)	Acceleration (G)	
	0.3	0.3
0	18	6.5
40	18	6.5
85	18	6.5
105	18	6.5
135	18	6.5
150	18	6
175	18	

■ Energy-Saving Setting Enabled (energy-saving mode) The unit for payload is kg. If blank, operation is not possible.

Lead 16

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	4	3.5	1
140	4	3.5	1
280	4	3.5	1
420	4	3.5	1
560	4	3	1
700	3	2	
800		1	

Lead 10

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	10	8	2
175	10	8	2
350	9	6	2
435	7	5	1.5
525	5	2.5	1

Lead 5

Orientation	Horizontal	Vertical
Speed (mm/s)	Acceleration (G)	
	0.3	0.3
0	12	4.5
85	12	4.5
130	12	4
215	10	4
260	9	2.5

Lead 2.5

Orientation	Horizontal	Vertical
Speed (mm/s)	Acceleration (G)	
	0.3	0.3
0	14	6.5
40	14	6.5
85	14	6.5
105	14	6.5
135	14	5

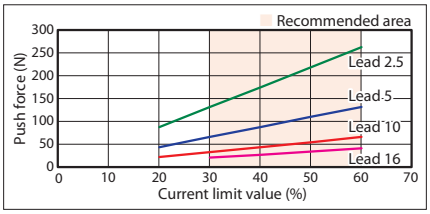
Stroke and Maximum Speed

Lead (mm)	Energy-saving setting	250 ~ 450 (every 50mm)	500 (mm)
16	Disabled	800	
	Enabled	800 <560>	
10	Disabled	700	600
	Enabled	525	
5	Disabled	350	300
	Enabled	260	
2.5	Disabled	175 <150>	150
	Enabled	135	

(Unit: mm/s)

(Note) Values in brackets < > are for vertical use.

Correlation between Push Force and Current Limit



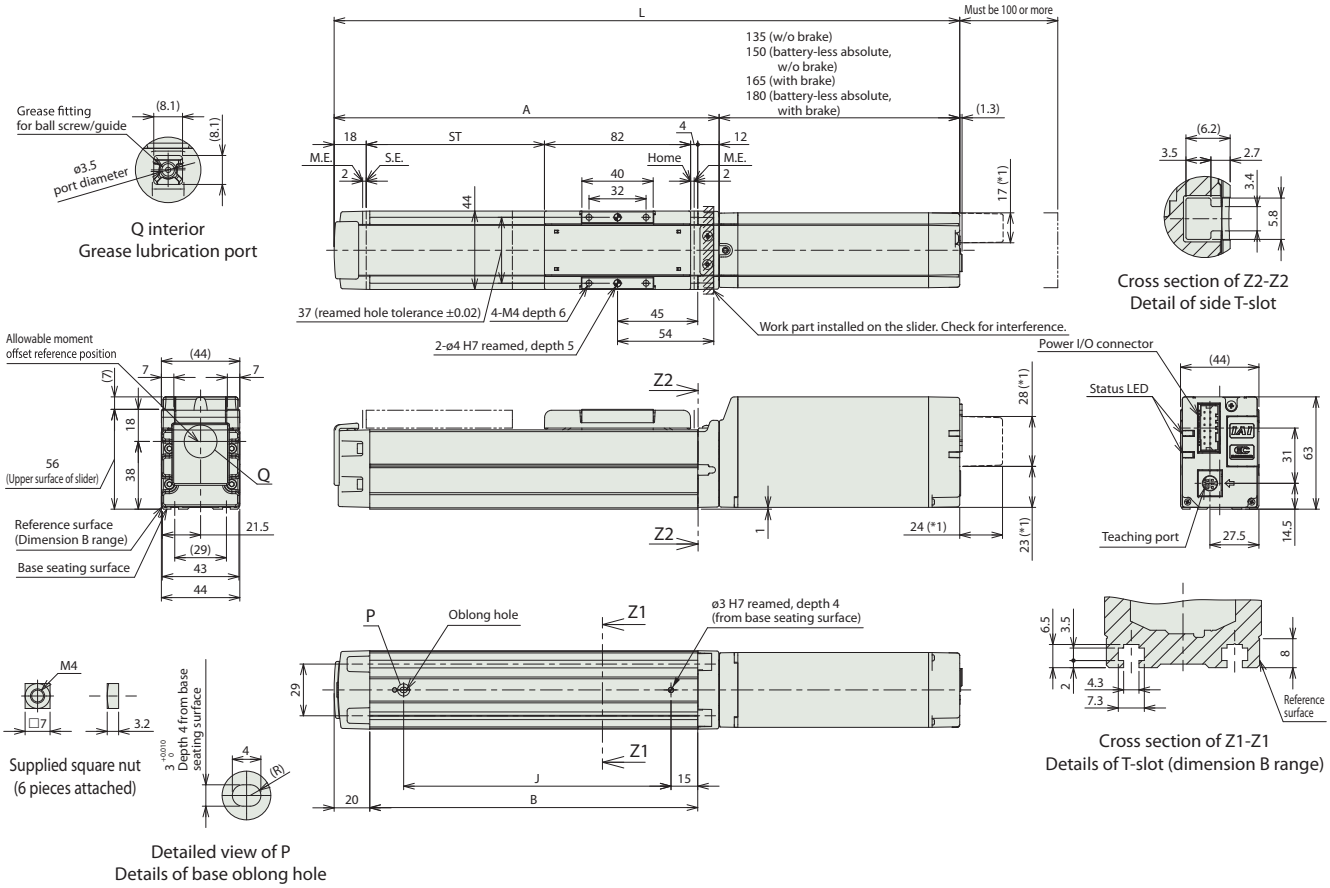
Dimensions

CAD drawings can be downloaded from our website.
www.iai-automation.com

■ EC-S4□A

*1 The dimensions when wireless communication specification (option) or wireless axis operation specification (option) is selected.
(Note) Upon home return, the slider will move to the M.E. Be careful of interference with surrounding objects.
(Note) Nut holders (6 pcs) are included with the square nuts.
(Note) The figures below are for motor installed on top (MOT).

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



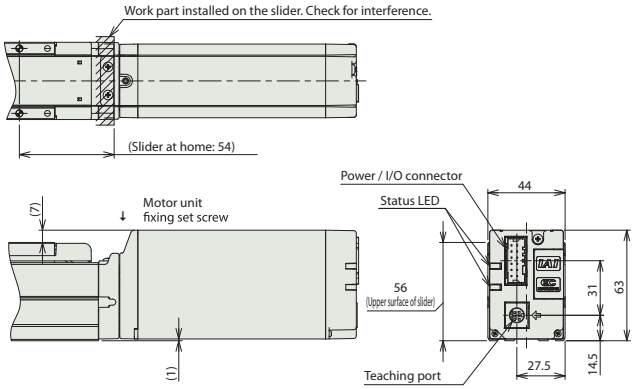
■ Dimensions by Stroke

Stroke			250	300	350	400	450	500
L	Incremental	Without brake	501	551	601	651	701	751
		With brake	531	581	631	681	731	781
	Battery-less absolute	Without brake	516	566	616	666	716	766
		With brake	546	596	646	696	746	796
A			366	416	466	516	566	616
B			334	384	434	484	534	584
J			300	350	400	450	500	550

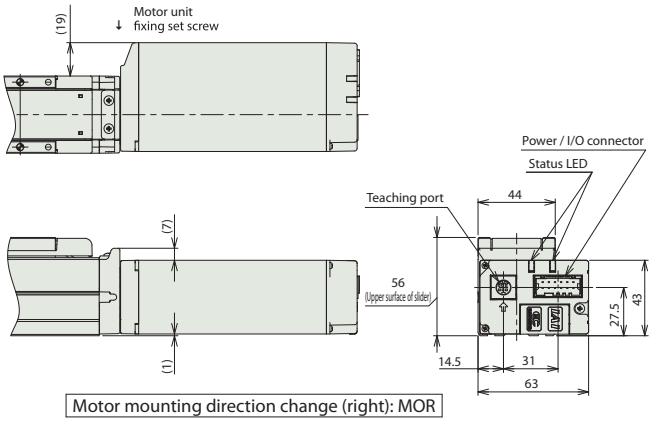
■ Mass by Stroke

Stroke		250	300	350	400	450	500
Mass (kg)	Without brake	1.8	1.9	2.1	2.2	2.4	2.5
	With brake	2.0	2.1	2.2	2.4	2.5	2.7

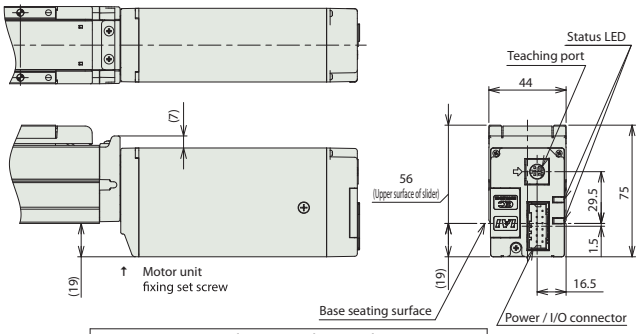
■ Motor mounting direction change (option)



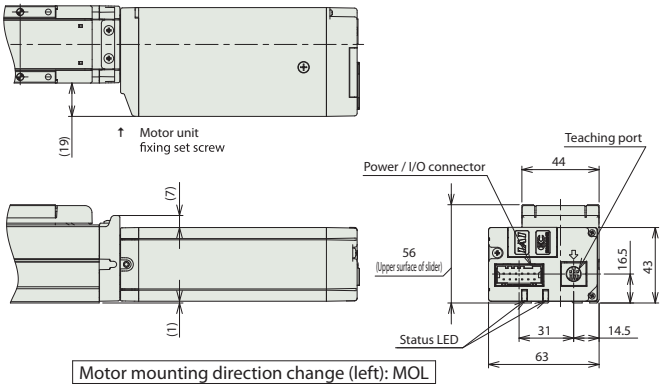
Motor mounting direction change (top): MOT



Motor mounting direction change (right): MOR



Motor mounting direction change (bottom): MOB



Motor mounting direction change (left): MOL

Applicable Controllers

(Note) EC Series products are equipped with a built-in controller. Please refer to P. 65 for details on built-in controllers.

EC-S6□A

Simple Dust-proof | Coupled Motor | Body Width 60 mm | 24v Pulse Motor

■ Model Specification Items

EC - [Series] - [Type] [Lead] A - [Specifications] - [Stroke] - [Power I/O cable length] - [Options]

Series	Type		Lead		Specifications	Stroke	Power I/O cable length	Options
	S6	Standard	S 20mm H 12mm M 6mm L 3mm	A	Long stroke supported	250 ~ 800: 250mm ~ 800mm (every 50mm)	See power I/O cable length table below	See options below

CE RoHS 10

Horizontal | Vertical | Side | Ceiling

POINT Selection Notes

(1) Longer strokes may cause the maximum speed to decrease due to the resonance of the ball screw. Check the stroke maximum speed required in the "Stroke and Maximum Speed" table.
(2) "Main Specifications" displays the payload's maximum value. If the energy-saving setting is enabled, the main specifications will change. Please refer to "Table of Payload by Speed/Acceleration" for details.
(3) If performing push-motion operations, refer to the "Correlation between Push Force and Current Limit" diagram. The push forces listed are only reference values. Please refer to P. 58 for applicable notes.
(4) Depending on the ambient operating temperature, duty ratio control is necessary. Please refer to P. 58 for details.
(5) Pay close attention to the installation orientation. Please refer to P. 5 for details.
(6) Reference value of the overhang load length is 220mm or below in the Ma, Mb, and Mc directions (for double slider specification, 440mm or below). Please refer to the explanation on P. 5 for the overhang load length.
(7) 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.
(8) When selecting the double slider specification, refer to P. 57 for models to be ordered and precautions.

Power / I/O cable length

■ Standard connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
0	No cable	Terminal block supplied (Note 2)	CB-REC-PWBIO□□□-RB supplied
1 ~ 3	1 ~ 3m	CB-EC-PWBIO□□□-RB supplied	
4 ~ 5	4 ~ 5m		
6 ~ 7	6 ~ 7m		
8 ~ 10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note 2) Only terminal block connector is included. Please refer to P. 66 for details.
(Note) Robot cable is standard.

■ 4-way connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
S1 ~ S3	1 ~ 3m	CB-EC2-PWBIO□□□-RB supplied	CB-REC2-PWBIO□□□-RB supplied
S4 ~ S5	4 ~ 5m		
S6 ~ S7	6 ~ 7m		
S8 ~ S10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note) Robot cable is standard.

Options * Please check the Options reference pages to confirm each option.

Name	Option code	Reference page
RCON-EC connection specification (Note 1)	ACR	53
Brake	B	53
Foot bracket	FT	53
Designated grease specification (Note 2)	G1/G5	54
Non-motor end specification	NM	55
PNP specification	PN	55
Slider part roller specification (Note 3)	SR	55
Split motor and controller power supply specification	TMD2	56
Double slider specification (Note 2) (Note 3) (Note 4)	W	56
Battery-less absolute encoder specification	WA	56
Wireless communication specification	WL	56
Wireless axis operation specification	WL2	56

(Note 1) If the RCON-EC connection specification (ACR) is selected, the PNP specification (PN) and split motor and controller power supply specification (TMD2) cannot be selected.
(Note 2) The double slider specification (W) and designated grease specification (G1/G5) cannot be used together.
(Note 3) When using the slider part roller specification (SR) and double slider specification (W) together, the price of the former will be doubled.
(Note 4) Some leads cannot be selected. Please refer to P. 18 for details.

Main Specifications

Item			Description			
Lead		Ball screw lead (mm)	20	12	6	3
Horizontal	Payload	Max. payload (kg) (energy-saving disabled)	15	26	32	40
		Max. payload (kg) (energy-saving enabled)	8	14	20	25
	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)	1	1	1	1
Vertical	Payload	Max. payload (kg) (energy-saving disabled)	1	2.5	6	12.5
		Max. payload (kg) (energy-saving enabled)	0.75	2	5	10
	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		Max. push force (N)	67	112	224	449
		Max. push speed (mm/s)	20	20	20	20
Brake		Brake specification	Non-excitation actuating solenoid brake			
		Brake holding force (kgf)	1	2.5	6	12.5
Stroke		Min. stroke (mm)	250	250	250	250
		Max. stroke (mm)	800	800	800	800
		Stroke pitch (mm)	50	50	50	50

Item	Description
Drive system	Ball screw ø10mm, rolled C10
Positioning repeatability	±0.05mm
Lost motion	- (notation not available due to 2-point positioning function)
Base	Dedicated aluminum extruded material (A6063SS-T5 equivalent), black alumite treatment
Linear guide	Linear motion infinite circulating type
Allowable static moment	Ma: 48.5 N·m
	Mb: 69.3 N·m
	Mc: 97.1 N·m
Allowable dynamic moment (Note 1)	Ma: 11.6 N·m
	Mb: 16.6 N·m
	Mc: 23.3 N·m
Ambient operating temperature, humidity	0 ~ 40°C, 85%RH or less (no condensation)
Ingress protection	IP20
Vibration & shock resistance	4.9m/s^2
Overseas standards	CE marking, RoHS directive
Motor type	Pulse motor (□42)
Encoder type	Incremental/battery-less absolute
Number of encoder pulses	800 pulse/rev

(Note 1) Based on the standard rated operation life of 5000km. Operation life varies according to operating and mounting conditions. Please refer to service life on P. 33 of the EleCylinder Catalog V10.

■ Slider Type Moment Direction

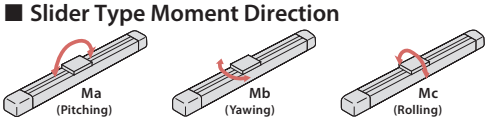


Table of Payload by Speed/Acceleration *The energy-saving setting is disabled at shipping. Please refer to P. 4 for details.

■ Energy-Saving Setting Disabled (power mode) The unit for payload is kg. If blank, operation is not possible.

Lead 20

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	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	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	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	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	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

Lead 3

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	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	

■ Energy-Saving Setting Enabled (energy-saving mode) The unit for payload is kg.

Lead 20

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	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	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	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 6

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	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

Lead 3

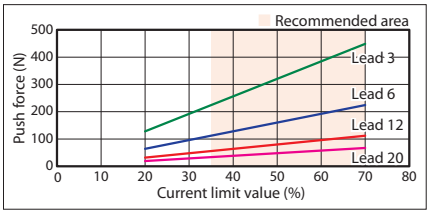
Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	25	22	10
20	25	22	10
50	25	22	10
80	25	22	10
110	20	14	8
140	15	11	5
170	11	9	2

Stroke and Maximum Speed

Lead (mm)	Energy-saving setting	250 ~ 450 (every 50mm)	500 (mm)	550 (mm)	600 (mm)	650 (mm)	700 (mm)	750 (mm)	800 (mm)
20	Disabled	800						700	620
	Enabled	800						700	620
12	Disabled	700			560	500	430	380	330
	Enabled	680			560	500	430	380	330
6	Disabled	450	410	340	290	250	210	180	160
	Enabled	340			290	250	210	180	160
3	Disabled	225	200	170	140	120	105	90	80
	Enabled	170			140	120	105	90	80

(Unit: mm/s)

Correlation between Push Force and Current Limit



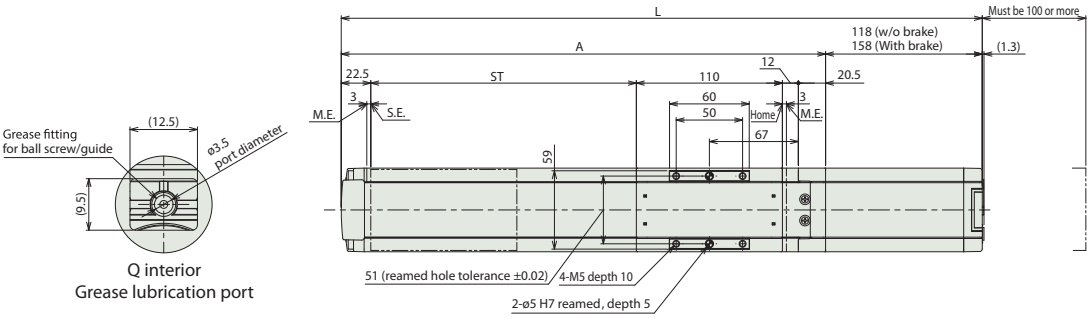
Dimensions

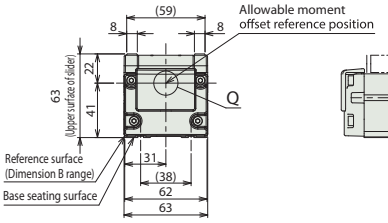
CAD drawings can be downloaded from our website.
www.iai-automation.com

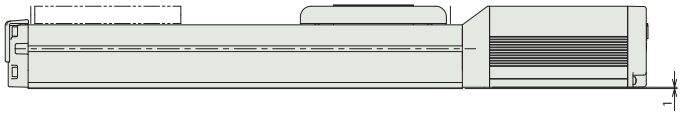
■ EC-S6□A

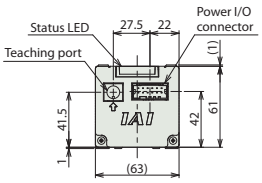
(Note) Upon home return, the slider will move to the M.E. Be careful of interference with surrounding objects.
(Note) Nut holders (stroke = 250 ~ 500: 6 pcs, 550 ~ 800: 12 pcs) are included with the square nuts.

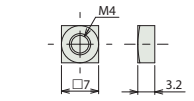
ST: Stroke
M.E: Mechanical end
S.E: Stroke end



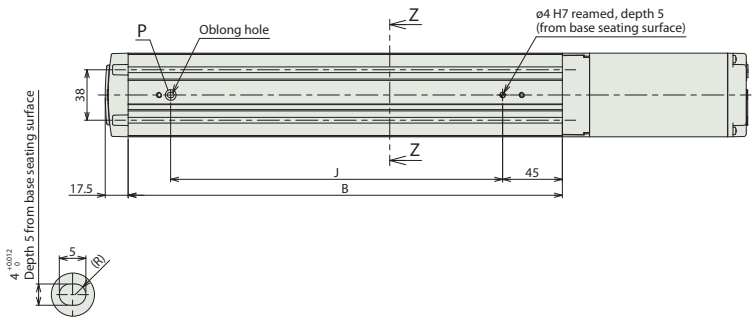




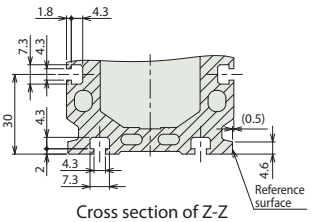




Supplied square nut
(stroke = 250 ~ 500: 6 pcs included)
(stroke = 550 ~ 800: 12 pcs included)



Detailed view of P
Details of base oblong hole



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

■ Dimensions by Stroke

Stroke		250	300	350	400	450	500	550	600	650	700	750	800
L	Without brake	533	583	633	683	733	783	833	883	933	983	1033	1083
	With brake	573	623	673	723	773	823	873	923	973	1023	1073	1123
A		415	465	515	565	615	665	715	765	815	865	915	965
B		377	427	477	527	577	627	677	727	777	827	877	927
J		300	350	400	450	500	550	600	650	700	750	800	850

■ Mass by Stroke

Stroke		250	300	350	400	450	500	550	600	650	700	750	800
Mass (kg)	Without brake	2.7	2.9	3.1	3.3	3.5	3.7	3.9	4.1	4.3	4.5	4.7	4.9
	With brake	2.9	3.1	3.3	3.5	3.7	3.9	4.1	4.3	4.5	4.7	4.9	5.1

Main Specifications (double slider specification)

Item			Description		
Lead		Ball screw lead (mm)	12	6	3
Horizontal	Payload	Max. payload (kg) (energy-saving disabled)	24	30	38
		Max. payload (kg) (energy-saving enabled)	12	18	23
	Speed / acceleration/ deceleration	Max. speed (mm/s)	700	450	225
		Min. speed (mm/s)	15	8	4
		Rated acceleration/deceleration (G)	0.3	0.3	0.3
		Max. acceleration/deceleration (G)	1	1	1
Vertical	Payload	Max. payload (kg) (energy-saving disabled)	-	4	10
		Max. payload (kg) (energy-saving enabled)	-	3	8
	Speed / acceleration/ deceleration	Max. speed (mm/s)	-	340	200
		Min. speed (mm/s)	-	8	4
		Rated acceleration/deceleration (G)	-	0.3	0.3
		Max. acceleration/deceleration (G)	-	0.5	0.5
Push		Max. push force (N)	112	224	449
		Max. push speed (mm/s)	20	20	20
Brake		Brake specification	Non-excitation actuating solenoid brake		
		Brake holding force (kgf)	2.5	6	12.5
Stroke		Min. nominal stroke (mm)	250	250	250
		Min. effective stroke (mm)	100	100	100
		Max. nominal stroke (mm)	800	800	800
		Max. effective stroke (mm)	650	650	650
		Stroke pitch (mm)	50	50	50

(Note) Nominal stroke: Stroke listed in the model name
Effective stroke: Actually operable stroke
(Note) Lead 12 cannot be vertically mounted.

Item	Description
Drive system	Ball screw ø10mm, rolled C10
Positioning repeatability	±0.05mm
Lost motion	- (notation not available due to 2-point positioning function)
Base	Dedicated aluminum extruded material (A6063SS-T5 equivalent), black alumite treatment
Linear guide	Linear motion infinite circulating type
Allowable static moment	Ma: 364 N·m
	Mb: 520 N·m
	Mc: 129 N·m
Allowable dynamic moment (Note 1)	Ma: 106 N·m
	Mb: 152 N·m
	Mc: 37.9 N·m
Ambient operating temperature, humidity	0 ~ 40°C, 85%RH or less (no condensation)
Ingress protection	IP20
Vibration & shock resistance	4.9m/s^2
Overseas standards	CE marking, RoHS directive
Motor type	Pulse motor (□42)
Encoder type	Incremental/battery-less absolute
Number of encoder pulses	800 pulse/rev

(Note 1) Based on the standard rated operation life of 5000km. Operation life varies according to operating and mounting conditions. Please refer to service life on P. 33 of the EleCylinder Catalog V10.

■ Slider Type Moment Direction

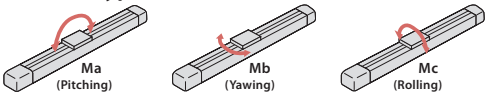


Table of Payload by Speed/Acceleration (double slider specification) *The energy-saving setting is disabled at shipping. Please refer to P. 4 for details.

■ Energy-Saving Setting Disabled (power mode) The unit for payload is kg. If blank, operation is not possible.

Lead 12

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	24	16	14	12		
80	24	16	14	12		
200	24	16	14	12		
320	24	16	10	8		
440	20	12	8	6		
560	12	6	4	2		
700	5	1				

Lead 6

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	30	24	22	18	4	4
40	30	24	22	18	4	4
100	30	24	22	18	4	4
160	30	24	22	18	4	4
220	30	24	20	16	4	4
280	28	22	18	10	3	3
340	20	12	10	6	1	1
400	6	4	1			
450	1					

Lead 3

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	38	33	33	33	10	10
50	38	33	33	33	10	10
80	38	33	33	28	10	10
110	38	33	33	28	10	10
140	38	33	30	26	10	10
170	36	28	26	20	8	8
200	30	22	14	9	3	2
225	15	4	1			

■ Energy-Saving Setting Enabled (energy-saving mode) The unit for payload is kg. If blank, operation is not possible.

Lead 12

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	12	8	
80	12	8	
200	12	8	
320	12	8	
440	9	3	
560	2		

Lead 6

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	18	12	3
40	18	12	3
100	18	12	3
160	18	12	3
220	14	12	2
280	8	4	
340	1		

Lead 3

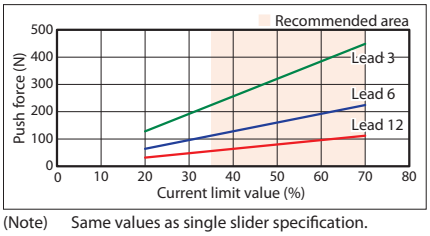
Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	23	20	8
20	23	20	8
50	23	20	8
80	23	20	8
110	18	12	6
140	12	8	3
170	8	4	1

Stroke and Maximum Speed (double slider specification)

Lead (mm)	Nominal stroke	250 ~ 450	500	550	600	650	700	750	800
	Effective stroke	100 ~ 300	350	400	450	500	550	600	650
	Energy-saving setting	(every 50mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
12	Disabled	700			560	500	430	380	330
	Enabled	560				500	430	380	330
6	Disabled	450 <340>	410 <340>	340	290	250	210	180	160
	Enabled	340 <220>			290 <220>	250 <220>	210	180	160
3	Disabled	225 <200>	200	170	140	120	105	90	80
	Enabled	170			140	120	105	90	80

(Note) Values in brackets < > are for vertical use. (Unit: mm/s)
(Note) Nominal stroke: Stroke listed in the model name
Effective stroke: Actually operable stroke

Correlation between Push Force and Current Limit (double slider spec.)



(Note) Same values as single slider specification.

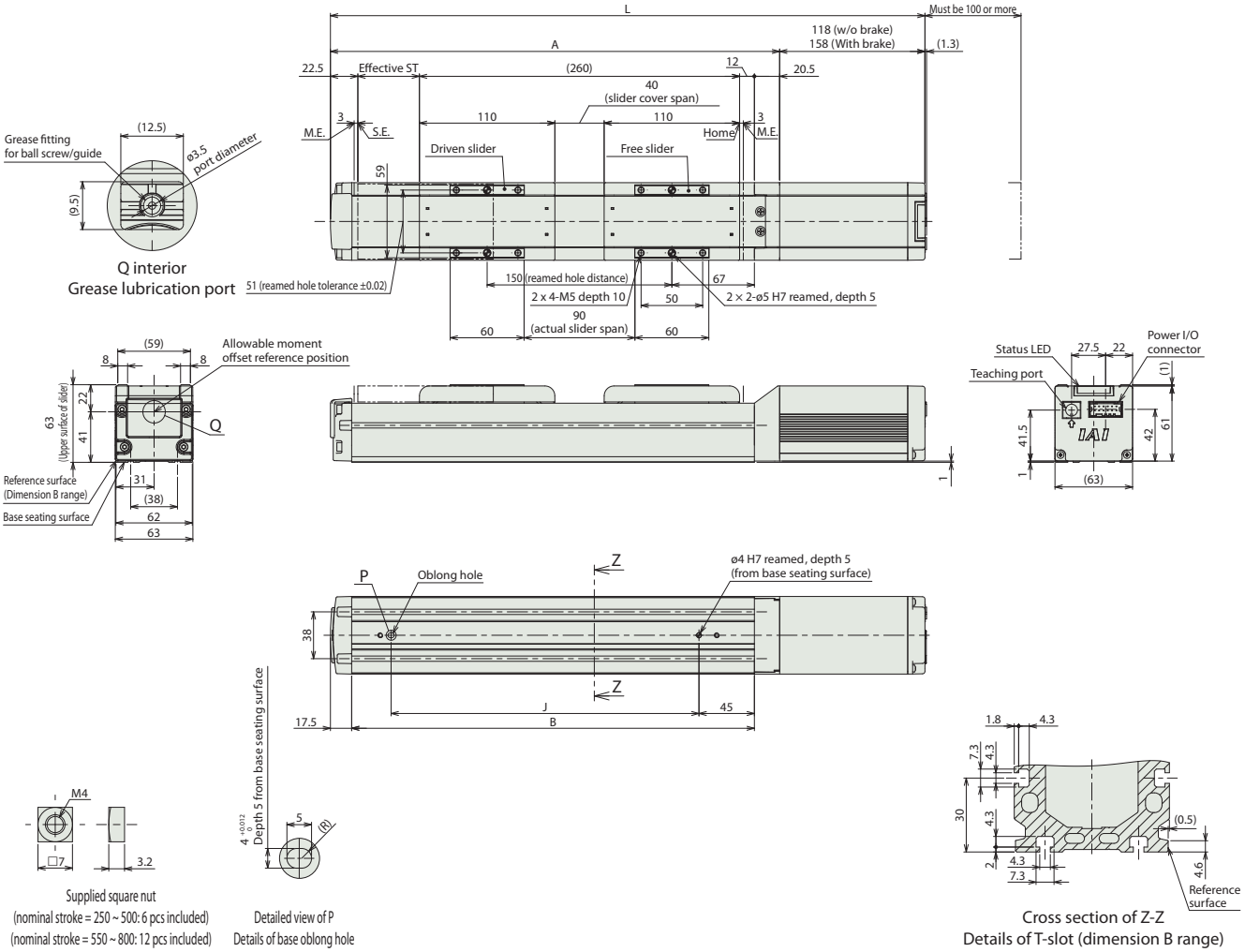
Dimensions for Double Slider Specification

CAD drawings can be downloaded from our website.
www.iai-automation.com

■ EC-S6□A (double slider specification)

(Note) Upon home return, the slider will move to the M.E. Be careful of interference with surrounding objects.
(Note) Nut holders (nominal stroke = 250 ~ 500: 6 pcs, 550 ~ 800: 12 pcs) are included with the square nuts.
(Note) Connect the slider at the slider cover span in the dimensions or the reamed hole distance dimensions.

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



■ Dimensions by Stroke

Nominal stroke		250	300	350	400	450	500	550	600	650	700	750	800
Effective stroke		100	150	200	250	300	350	400	450	500	550	600	650
L	Without brake	533	583	633	683	733	783	833	883	933	983	1033	1083
	With brake	573	623	673	723	773	823	873	923	973	1023	1073	1123
A		415	465	515	565	615	665	715	765	815	865	915	965
B		377	427	477	527	577	627	677	727	777	827	877	927
J		300	350	400	450	500	550	600	650	700	750	800	850

(Note) Nominal stroke: Stroke listed in the model name
Effective stroke: Actually operable stroke

■ Mass by Stroke

Nominal stroke		250	300	350	400	450	500	550	600	650	700	750	800
Effective stroke		100	150	200	250	300	350	400	450	500	550	600	650
Mass (kg)	Without brake	2.97	3.17	3.37	3.57	3.77	3.97	4.17	4.37	4.57	4.77	4.97	5.17
	With brake	3.17	3.37	3.57	3.77	3.97	4.17	4.37	4.57	4.77	4.97	5.17	5.37

(Note) It is the sum of single slider specification's mass and free slider's mass (0.27kg).

Applicable Controllers

(Note) EC Series products are equipped with a built-in controller. Please refer to P. 65 for details on built-in controllers.

EC-S7□A

Simple Dust-proof | Coupled Motor | Body Width 70 mm | 24v Pulse Motor

■ Model Specification Items

EC - | | | - A - | | - | | - | |

Series	Type		Lead		Specifications	Stroke	Power I/O cable length	Options
	S7 Standard	S	24mm	A	Long stroke supported	350 ~ 800 (every 50mm)	See power I/O cable length table below	See options below
		H	16mm					
		M	8mm					
		L	4mm					

CE RoHS 10

Horizontal | Vertical | Side | Ceiling

POINT Selection Notes

(1) Longer strokes may cause the maximum speed to decrease due to the resonance of the ball screw. Check the stroke maximum speed required in the "Stroke and Maximum Speed" table.
(2) "Main Specifications" displays the payload's maximum value. If the energy-saving setting is enabled, the main specifications will change. Please refer to "Table of Payload by Speed/Acceleration" for details.
(3) If performing push-motion operations, refer to the "Correlation between Push Force and Current Limit" diagram. The push forces listed are only reference values. Please refer to P. 58 for applicable notes.
(4) Depending on the ambient operating temperature, duty ratio control is necessary. Please refer to P. 58 for details.
(5) Pay close attention to the installation orientation. Please refer to P. 5 for details.
(6) Reference value of the overhang load length is 280mm or below in the Ma, Mb, and Mc directions (for double slider specification, 560mm or below). Please refer to the explanation on P. 5 for the overhang load length.
(7) 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.
(8) When selecting the double slider specification, refer to P. 57 for models to be ordered and precautions.

Power / I/O cable length

■ Standard connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
0	No cable	Terminal block supplied (Note 2)	CB-REC-PWBIO□□□-RB supplied
1 ~ 3	1 ~ 3m	CB-EC-PWBIO□□□-RB supplied	
4 ~ 5	4 ~ 5m		
6 ~ 7	6 ~ 7m		
8 ~ 10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note 2) Only terminal block connector is included. Please refer to P. 66 for details.
(Note) Robot cable is standard.

■ 4-way connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
S1 ~ S3	1 ~ 3m	CB-EC2-PWBIO□□□-RB supplied	CB-REC2-PWBIO□□□-RB supplied
S4 ~ S5	4 ~ 5m		
S6 ~ S7	6 ~ 7m		
S8 ~ S10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note) Robot cable is standard.

Options * Please check the Options reference pages to confirm each option.

Name	Option code	Reference page
RCON-EC connection specification (Note 1)	ACR	53
Brake	B	53
Foot bracket	FT	53
Designated grease specification (Note 2)	G1/G5	54
Non-motor end specification	NM	55
PNP specification	PN	55
Slider part roller specification (Note 3)	SR	55
Split motor and controller power supply specification	TMD2	56
Double slider specification (Note 2) (Note 3) (Note 4)	W	56
Battery-less absolute encoder specification	WA	56
Wireless communication specification	WL	56
Wireless axis operation specification	WL2	56

(Note 1) If the RCON-EC connection specification (ACR) is selected, the PNP specification (PN) and split motor and controller power supply specification (TMD2) cannot be selected.
(Note 2) The double slider specification (W) and designated grease specification (G1/G5) cannot be used together.
(Note 3) When using the slider part roller specification (SR) and double slider specification (W) together, the price of the former will be doubled.
(Note 4) Some leads cannot be selected. Please refer to P. 23 for details.

Main Specifications

Item			Description			
Lead		Ball screw lead (mm)	24	16	8	4
Horizontal	Payload	Max. payload (kg) (energy-saving disabled)	37	46	51	51
		Max. payload (kg) (energy-saving enabled)	18	35	40	40
	Speed / acceleration/ deceleration	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
		Max. acceleration/deceleration (G)	1	1	1	1
Vertical	Payload	Max. payload (kg) (energy-saving disabled)	3	8	16	19
		Max. payload (kg) (energy-saving enabled)	2	5	10	15
	Speed / acceleration/ deceleration	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
		Max. acceleration/deceleration (G)	0.5	0.5	0.5	0.5
Push		Max. push force (N)	139	209	418	836
		Max. push speed (mm/s)	20	20	20	20
Brake		Brake specification	Non-excitation actuating solenoid brake			
		Brake holding force (kgf)	3	8	16	19
Stroke		Min. stroke (mm)	350	350	350	350
		Max. stroke (mm)	800	800	800	800
		Stroke pitch (mm)	50	50	50	50

Item	Description
Drive system	Ball screw ø12mm, rolled C10
Positioning repeatability	±0.05mm
Lost motion	- (notation not available due to 2-point positioning function)
Base	Dedicated aluminum extruded material (A6063SS-T5 equivalent), black alumite treatment
Linear guide	Linear motion infinite circulating type
Allowable static moment	Ma: 79.7 N·m
	Mb: 114 N·m
	Mc: 157 N·m
Allowable dynamic moment (Note 1)	Ma: 17.7 N·m
	Mb: 25.3 N·m
	Mc: 34.9 N·m
Ambient operating temperature, humidity	0 ~ 40°C, 85%RH or less (no condensation)
Ingress protection	IP20
Vibration & shock resistance	4.9m/s^2
Overseas standards	CE marking, RoHS directive
Motor type	Pulse motor (☐56)
Encoder type	Incremental/battery-less absolute
Number of encoder pulses	800 pulse/rev

(Note 1) Based on the standard rated operation life of 5000km. Operation life varies according to operating and mounting conditions. Please refer to service life on P. 33 of the EleCylinder Catalog V10.

■ Slider Type Moment Direction

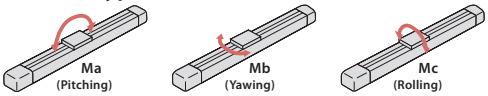


Table of Payload by Speed/Acceleration *The energy-saving setting is disabled at shipping. Please refer to P. 4 for details.

■ Energy-Saving Setting Disabled (power mode) The unit for payload is kg. If blank, operation is not possible.

Lead 24

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (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	20	15	10	9	3	3
860	12	10	7	4	3	2.5

Lead 16

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	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

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	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				Vertical	
Speed (mm/s)	Acceleration (G)					
	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					

■ Energy-Saving Setting Enabled (energy-saving mode) The unit for payload is kg.

Lead 24

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	18	10	2
200	18	10	2
420	18	10	2
640	10	2	1
800	5	0.5	0.5

Lead 16

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	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

Lead 8

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	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	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	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

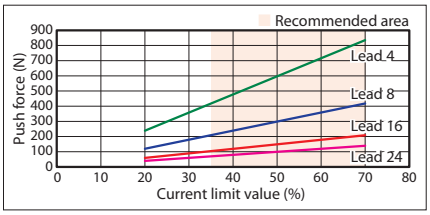
Stroke and Maximum Speed

Lead (mm)	Energy-saving setting	350 ~ 600 (every 50mm)	650 (mm)	700 (mm)	750 (mm)	800 (mm)
24	Disabled	860				
	Enabled	800				
16	Disabled	700			620	550
	Enabled	560				550
8	Disabled	420	410	350	305	275
	Enabled	280				275
4	Disabled	210 <175>	190 <175>	170	145	125
	Enabled	140				125

(Unit: mm/s)

(Note) Values in brackets < > are for vertical use.

Correlation between Push Force and Current Limit



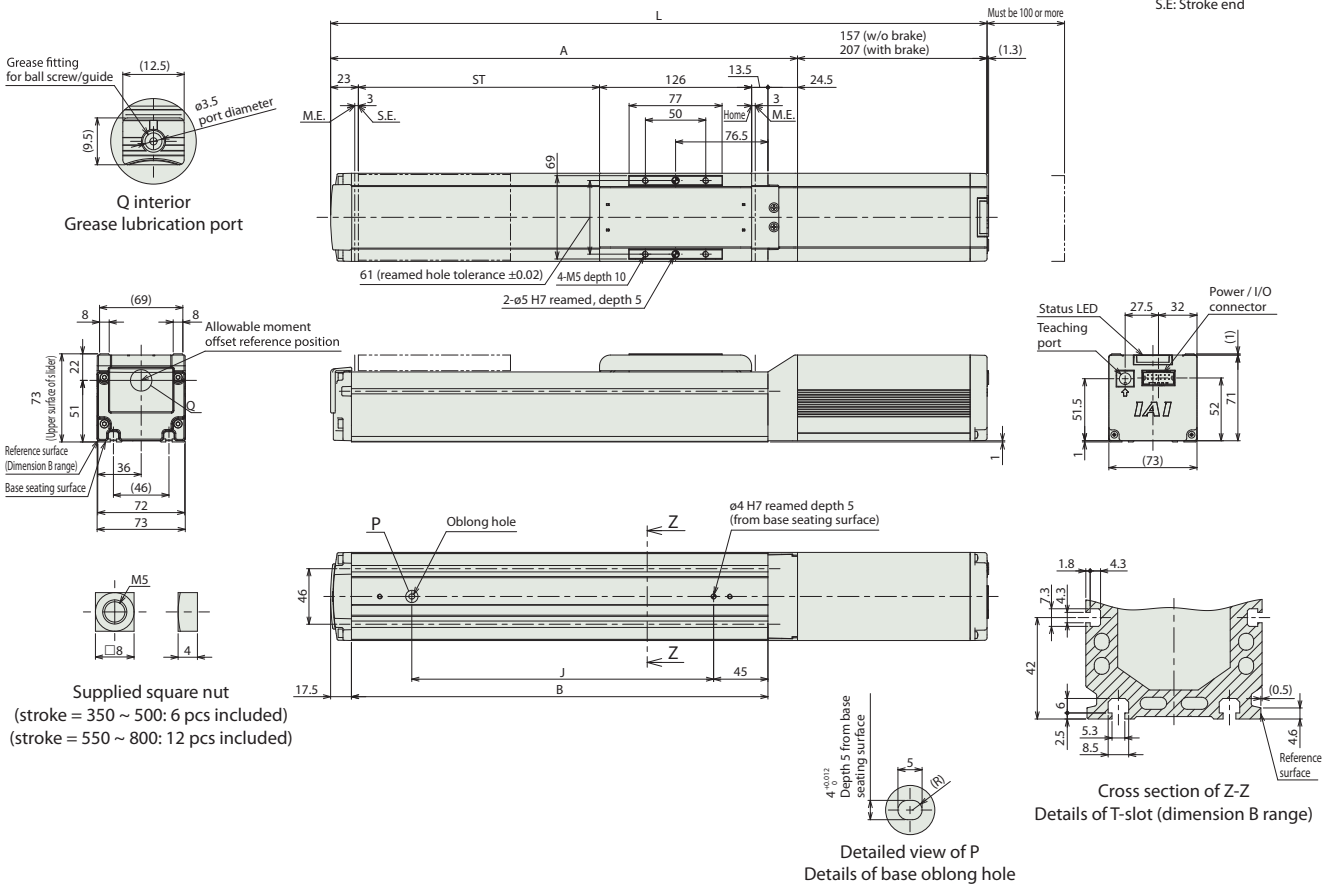
Dimensions

CAD drawings can be downloaded from our website.
www.iai-automation.com

■ EC-S7□A

(Note) Upon home return, the slider will move to the M.E. Be careful of interference with surrounding objects.
(Note) Nut holders (stroke = 350 ~ 500: 6 pcs, 550 ~ 800: 12 pcs) are included with the square nuts.

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



■ Dimensions by Stroke

Stroke		350	400	450	500	550	600	650	700	750	800
L	Without brake	694	744	794	844	894	944	994	1044	1094	1144
	With brake	744	794	844	894	944	994	1044	1094	1144	1194
A		537	587	637	687	737	787	837	887	937	987
B		495	545	595	645	695	745	795	845	895	945
J		400	450	500	550	600	650	700	750	800	850

■ Mass by Stroke

Stroke		350	400	450	500	550	600	650	700	750	800
Mass (kg)	Without brake	5.1	5.4	5.6	5.9	6.2	6.5	6.7	7.0	7.3	7.6
	With brake	5.6	5.9	6.2	6.4	6.7	7.0	7.3	7.6	7.8	8.1

Main Specifications (double slider specification)

Item			Description		
Lead		Ball screw lead (mm)	16	8	4
Horizontal	Payload	Max. payload (kg) (energy-saving disabled)	44	49	49
		Max. payload (kg) (energy-saving enabled)	33	38	38
	Speed / acceleration/ deceleration	Max. speed (mm/s)	560	420	175
		Min. speed (mm/s)	20	10	5
		Rated acceleration/deceleration (G)	0.3	0.3	0.3
		Max. acceleration/deceleration (G)	1	1	1
Vertical	Payload	Max. payload (kg) (energy-saving disabled)	-	14	17
		Max. payload (kg) (energy-saving enabled)	-	8	13
	Speed / acceleration/ deceleration	Max. speed (mm/s)	-	350	175
		Min. speed (mm/s)	-	10	5
		Rated acceleration/deceleration (G)	-	0.3	0.3
		Max. acceleration/deceleration (G)	-	0.5	0.5
Push		Max. push force (N)	209	418	836
		Max. push speed (mm/s)	20	20	20
Brake		Brake specification	Non-excitation actuating solenoid brake		
		Brake holding force (kgf)	8	16	19
Stroke		Min. nominal stroke (mm)	350	350	350
		Min. effective stroke (mm)	200	200	200
		Max. nominal stroke (mm)	800	800	800
		Max. effective stroke (mm)	650	650	650
		Stroke pitch (mm)	50	50	50

(Note) Nominal stroke: Stroke listed in the model name
Effective stroke: Actually operable stroke
(Note) Lead 16 cannot be vertically mounted.

Item	Description
Drive system	Ball screw ø12mm, rolled C10
Positioning repeatability	±0.05mm
Lost motion	- (notation not available due to 2-point positioning function)
Base	Dedicated aluminum extruded material (A6063SS-T5 equivalent), black alumite treatment
Linear guide	Linear motion infinite circulating type
Allowable static moment	Ma: 441 N·m
	Mb: 630 N·m
	Mc: 209 N·m
Allowable dynamic moment (Note 1)	Ma: 119 N·m
	Mb: 171 N·m
	Mc: 56.7 N·m
Ambient operating temperature, humidity	0 ~ 40°C, 85%RH or less (no condensation)
Ingress protection	IP20
Vibration & shock resistance	4.9m/s^2
Overseas standards	CE marking, RoHS directive
Motor type	Pulse motor (□56)
Encoder type	Incremental/battery-less absolute
Number of encoder pulses	800 pulse/rev

(Note 1) Based on the standard rated operation life of 5000km. Operation life varies according to operating and mounting conditions. Please refer to service life on P. 33 of the EleCylinder Catalog V10.

■ Slider Type Moment Direction

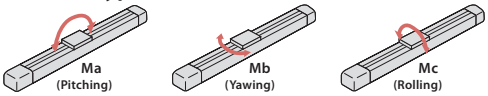


Table of Payload by Speed/Acceleration (double slider specification) *The energy-saving setting is disabled at shipping. Please refer to P. 4 for details.

■ Energy-Saving Setting Disabled (power mode) The unit for payload is kg. If blank, operation is not possible.

Lead 16

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	44	33	26	25		
140	44	33	26	25		
280	44	32	22	20		
420	30	20	10	6		
560	10	6	4	2		

Lead 8

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	49	43	38	38	14	14
70	49	43	38	38	14	14
140	49	38	36	33	14	14
210	49	33	28	20	8	7
280	36	24	16	10	5	4
350	14	4	1		1	
420	3					

Lead 4

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	49	43	38	38	17	17
35	49	43	38	38	17	17
70	49	43	38	38	17	17
105	49	43	38	33	17	17
140	40	30	25	20	9	7
175	25	8			4	1

■ Energy-Saving Setting Enabled (energy-saving mode) The unit for payload is kg. If blank, operation is not possible.

Lead 16

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	33	18	
140	33	18	
280	23	10	
420	10	3	

Lead 8

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	38	23	8
70	38	23	8
140	38	23	5
210	20	10	2
280	5		

Lead 4

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	38	28	13
35	38	28	13
70	38	28	13
105	36	26	4
140	6		

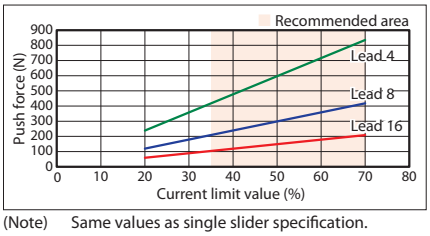
Stroke and Maximum Speed (double slider specification)

Lead (mm)	Nominal stroke	350 ~ 600	650	700	750	800
	Effective stroke	200 ~ 450	500	550	600	650
	Energy-saving setting	(Every 50mm)	(mm)	(mm)	(mm)	(mm)
16	Disabled	560				550
	Enabled	420				
8	Disabled	420 <350>	410 <350>	350	305	275
	Enabled	280 <210>				275 <210>
4	Disabled	175		170	145	125
	Enabled	140 <105>				125 <105>

(Unit: mm/s)

(Note) Values in brackets < > are for vertical use.
(Note) Nominal stroke: Stroke listed in the model name
Effective stroke: Actually operable stroke

Correlation between Push Force and Current Limit (double slider spec.)



(Note) Same values as single slider specification.

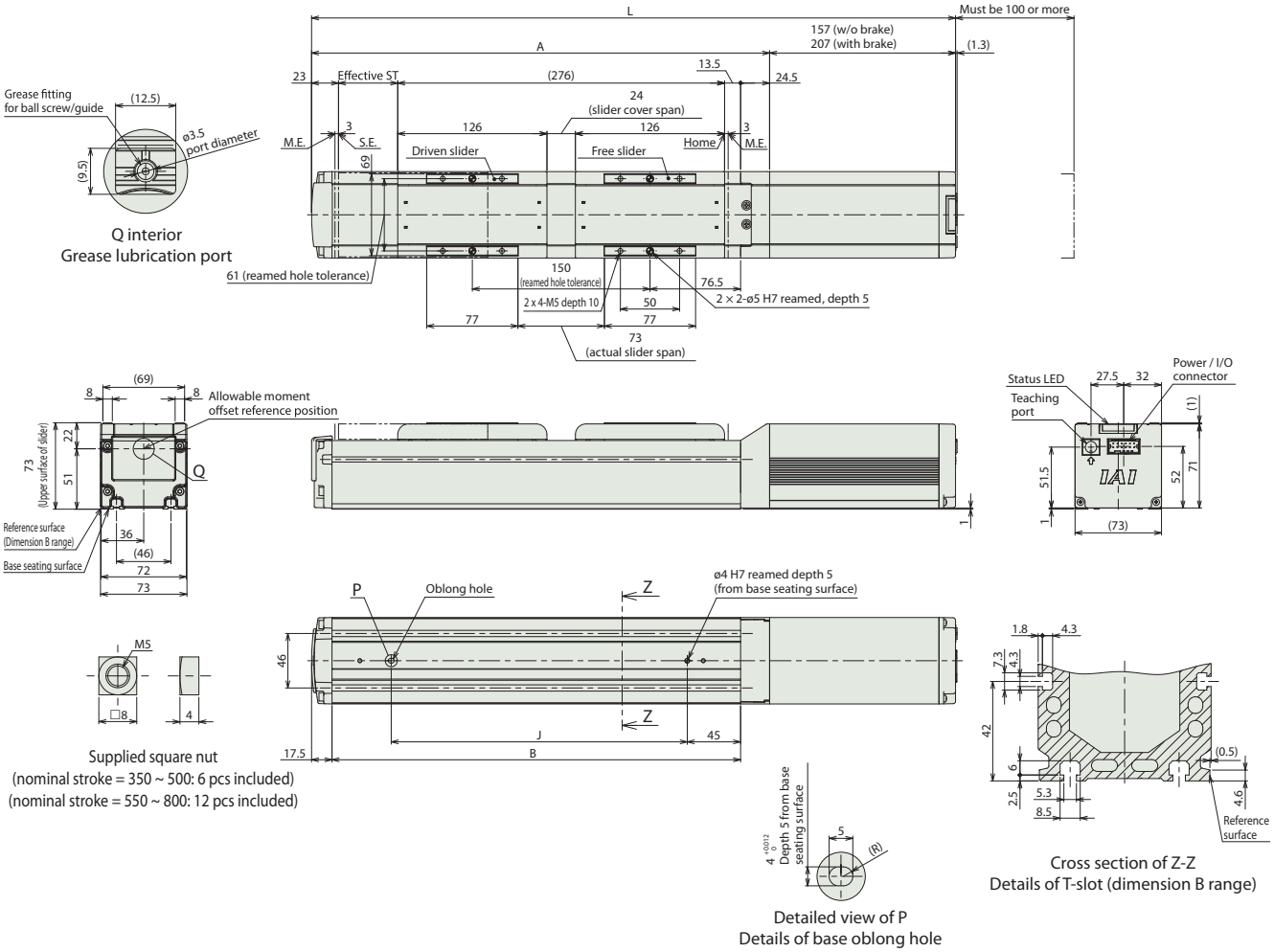
Dimensions for Double Slider Specification

CAD drawings can be downloaded from our website.
www.iai-automation.com

■ EC-S7□A (double slider specification)

(Note) Upon home return, the slider will move to the M.E. Be careful of interference with surrounding objects.
(Note) Nut holders (nominal stroke = 350 ~ 500: 6 pcs, 550 ~ 800: 12 pcs) are included with the square nuts.
(Note) Connect the slider at the slider cover span in the dimensions or the reamed hole distance dimensions.

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



■ Dimensions by Stroke

	Nominal stroke	350	400	450	500	550	600	650	700	750	800
	Effective stroke	200	250	300	350	400	450	500	550	600	650
L	Without brake	694	744	794	844	894	944	994	1044	1094	1144
	With brake	744	794	844	894	944	994	1044	1094	1144	1194
A		537	587	637	687	737	787	837	887	937	987
B		495	545	595	645	695	745	795	845	895	945
J		400	450	500	550	600	650	700	750	800	850

(Note) Nominal stroke: Stroke listed in the model name
Effective stroke: Actually operable stroke

■ Mass by Stroke

Nominal stroke		350	400	450	500	550	600	650	700	750	800
Effective stroke		200	250	300	350	400	450	500	550	600	650
Mass (kg)	Without brake	5.55	5.85	6.05	6.35	6.65	6.95	7.15	7.45	7.75	8.05
	With brake	6.05	6.35	6.65	6.85	7.15	7.45	7.75	8.05	8.25	8.55

(Note) It is the sum of single slider specification's mass and free slider's mass (0.45kg).

Applicable Controllers

(Note) EC Series products are equipped with a built-in controller. Please refer to P. 65 for details on built-in controllers.

EC-S8□A

Simple Dust-proof | Coupled Motor | Body Width 90 mm | 24v Pulse Motor

■ Model Specification Items

EC - [Series] - [Type] [Lead] A - [Specifications] - [Stroke] - [Power I/O cable length] - [Options]

Series	Type		Lead		Specifications	Stroke	Power I/O cable length	Options
	S8	Standard	S 30mm H 20mm M 10mm L 5mm	A	Long stroke supported	350 ~ 1100: 350mm ~ 1100mm (every 50mm)	See power I/O cable length table below	See options below

CE RoHS 10

Horizontal | Vertical | Side | Ceiling

POINT Selection Notes

(1) Longer strokes may cause the maximum speed to decrease due to the resonance of the ball screw. Check the stroke maximum speed required in the "Stroke and Maximum Speed" table.

(2) "Main Specifications" displays the payload's maximum value. If the energy-saving setting is enabled, the main specifications will change. Please refer to "Table of Payload by Speed/Acceleration" for details.

(3) If performing push-motion operations, refer to the "Correlation between Push Force and Current Limit" diagram. The push forces listed are only reference values. Please refer to P. 58 for applicable notes.

(4) Depending on the ambient operating temperature, duty ratio control is necessary. Please refer to P. 58 for details.

(5) Pay close attention to the installation orientation. Please refer to P. 5 for details.

(6) Reference value of the overhang load length is 400mm or below in the Ma, Mb, and Mc directions (for double slider specification, 800mm or below). Please refer to the explanation on P. 5 for the overhang load length.

(7) 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.

(8) When selecting the double slider specification, refer to P. 57 for precautions. For models to be ordered, please contact IAI.

Power / I/O cable length

■ Standard connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
0	No cable	Terminal block supplied (Note 2)	CB-REC-PWBIO□□□-RB supplied
1 ~ 3	1 ~ 3m	CB-EC-PWBIO□□□-RB supplied	
4 ~ 5	4 ~ 5m		
6 ~ 7	6 ~ 7m		
8 ~ 10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note 2) Only terminal block connector is included. Please refer to P. 66 for details.
(Note) Robot cable is standard.

■ 4-way connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
S1 ~ S3	1 ~ 3m	CB-EC2-PWBIO□□□-RB supplied	CB-REC2-PWBIO□□□-RB supplied
S4 ~ S5	4 ~ 5m		
S6 ~ S7	6 ~ 7m		
S8 ~ S10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note) Robot cable is standard.

Options * Please check the Options reference pages to confirm each option.

Name	Option code	Reference page
RCON-EC connection specification (Note 1)	ACR	53
Brake	B	53
—	—	—
Designated grease specification (Note 2)	G1/G5	54
Non-motor end specification	NM	55
PNP specification	PN	55
Slider part roller specification (Note 3)	SR	55
Split motor and controller power supply specification	TMD2	56
Double slider specification (Note 2) (Note 3) (Note 4)	W	56
Battery-less absolute encoder specification	WA	56
Wireless communication specification	WL	56
Wireless axis operation specification	WL2	56

(Note 1) If the RCON-EC connection specification (ACR) is selected, the PNP specification (PN) and split motor and controller power supply specification (TMD2) cannot be selected.
(Note 2) The double slider specification (W) and designated grease specification (G1/G5) cannot be used together.
(Note 3) When using the slider part roller specification (SR) and double slider specification (W) together, the price of the former will be doubled.
(Note 4) Some leads cannot be selected. Please refer to P. 24-4 for details.

Main Specifications

Item			Description			
Lead		Ball screw lead (mm)	30	20	10	5
Horizontal	Payload	Max. payload (kg)	23	35	70	80
		—	—	—	—	—
	Speed / acceleration/ deceleration	Max. speed (mm/s)	1200	975	450	225
		Min. speed (mm/s)	38	25	13	7
		Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
		Max. acceleration/deceleration (G)	1	1	0.5	0.3
Vertical	Payload	Max. payload (kg)	2	4	25	55
		—	—	—	—	—
	Speed / acceleration/ deceleration	Max. speed (mm/s)	850	650	450	225
		Min. speed (mm/s)	38	25	13	7
		Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
		Max. acceleration/deceleration (G)	0.5	0.5	0.5	0.3
Push		Max. push force (N)	78	103	235	470
		Max. push speed (mm/s)	38	25	20	20
Brake		Brake specification	Non-excitation actuating solenoid brake			
		Brake holding force (kgf)	2	4	25	55
Stroke		Min. stroke (mm)	350	350	350	350
		Max. stroke (mm)	1100	1100	1100	1100
		Stroke pitch (mm)	50	50	50	50

Item	Description
Drive system	Ball screw ø16mm, rolled C10
Positioning repeatability	±0.05mm
Lost motion	- (notation not available due to 2-point positioning function)
Base	Dedicated aluminum extruded material (A6063SS-T6 equivalent), black alumite treatment
Linear guide	Linear motion infinite circulating type
Allowable static moment	Ma: 173 N·m
	Mb: 173 N·m
	Mc: 271 N·m
Allowable dynamic moment (Note 1)	Ma: 61 N·m
	Mb: 61 N·m
	Mc: 116 N·m
Ambient operating temperature, humidity	0 ~ 40°C, 85%RH or less (no condensation)
Ingress protection	IP20
Vibration & shock resistance	4.9m/s^2
Overseas standards	CE marking, RoHS directive
Motor type	Pulse motor (□56SP) (Power capacity: max. 6A)
Encoder type	Incremental/battery-less absolute
Number of encoder pulses	800 pulse/rev

(Note 1) Based on the standard rated operation life of 5000km. Operation life varies according to operating and mounting conditions. Please refer to service life on P. 33 of the EleCylinder Catalog V10.

■ Slider Type Moment Direction

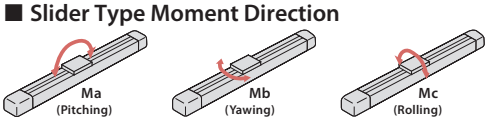


Table of Payload by Speed/Acceleration

The unit for payload is kg. If blank, operation is not possible.

Lead 30

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	23	16	13	12	2	1
200	23	16	13	12	2	1
450	20	16	13	11	1	1
650	18	15	12	8	1	1
850	14	10	7	5	1	1
1000	8	6	3	2		
1200	4	2	1			

Lead 20

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	35	30	25	25	4	4
200	35	30	25	25	4	4
300	35	30	25	23	4	4
400	35	30	23	20	1	1
650	18	15	8	6	1	1
800	10	6	2	1		
900	7	3				
975	4	1				

Lead 10

Orientation	Horizontal		Vertical	
Speed (mm/s)	Acceleration (G)			
	0.3	0.5	0.3	0.5
0	70	70	25	25
100	70	70	25	25
200	65	50	20	20
300	60	30	9	9
400	25	15	3	2
450	25	15	3	

Lead 5

Orientation	Horizontal	Vertical
Speed (mm/s)	Acceleration (G)	
	0.3	0.3
0	80	55
50	80	55
75	80	30
135	80	18
175	70	12
200	50	6
225	20	1

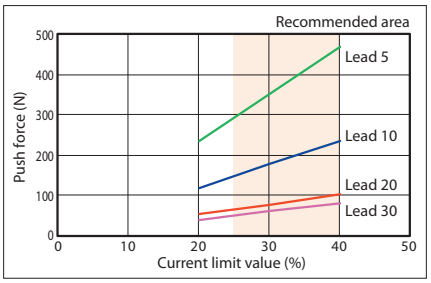
Stroke and Maximum Speed

Lead (mm)	350~700 (every 50mm)	750 (mm)	800 (mm)	850 (mm)	900 (mm)	950 (mm)	1000 (mm)	1050 (mm)	1100 (mm)
30	1200<850>		1160<850>	1040<850>	940<850>	860<850>	780	720	660
20	975<650>	880<650>	780<650>	700<650>	640	580	530	480	440
10	450	430	380	340	310	280	260	240	220
5	225	215	190	170	150	140	130	115	110

(Unit: mm/s)

(Note) Values in brackets < > are for vertical use.

Correlation between Push Force and Current Limit



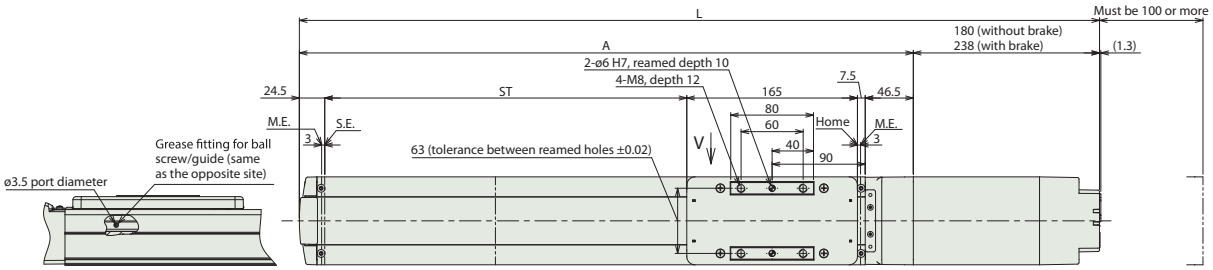
Dimensions

CAD drawings can be downloaded from our website.
www.iai-automation.com

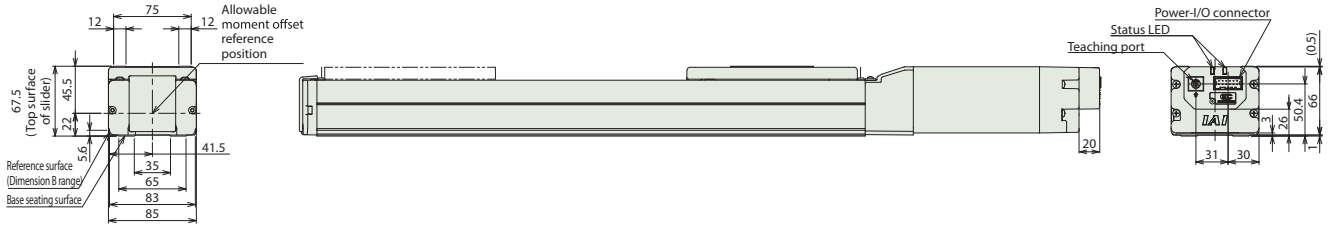
■ EC-S8□A

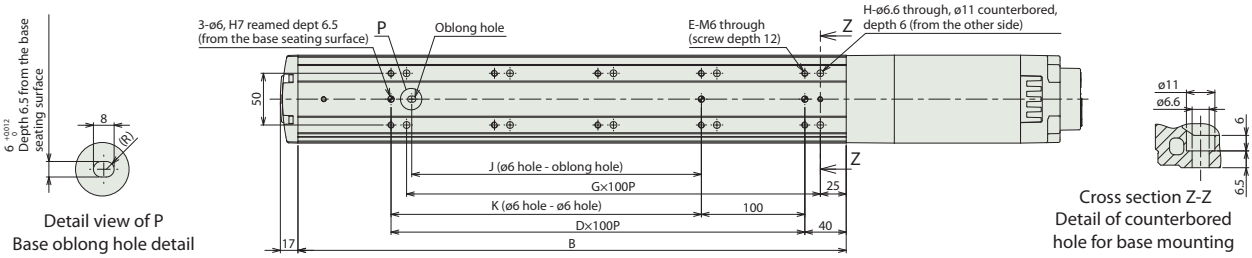
(Note) When the slider is returning to its home position, be careful of interference from surrounding objects, as it will travel until it reaches the M.E.
(Note) To mount the actuator using the through holes on the base, it is necessary to remove the side cover and stainless sheet.

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



View of V,
Interior grease lubrication port





Detail view of P
Base oblong hole detail

Cross section Z-Z
Detail of counterbored hole for base mounting

■ Dimensions by Stroke

Stroke		350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
L	Without brake	773.5	823.5	873.5	923.5	973.5	1023.5	1073.5	1123.5	1173.5	1223.5	1273.5	1323.5	1373.5	1423.5	1473.5	1523.5
	With brake	831.5	881.5	931.5	981.5	1031.5	1081.5	1131.5	1181.5	1231.5	1281.5	1331.5	1381.5	1431.5	1481.5	1531.5	1581.5
A		593.5	643.5	693.5	743.5	793.5	843.5	893.5	943.5	993.5	1043.5	1093.5	1143.5	1193.5	1243.5	1293.5	1343.5
B		530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280
D		4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
E		10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
G		4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
H		10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
J		280	380	380	480	480	580	580	680	680	780	780	880	880	980	980	1080
K		300	400	400	500	500	600	600	700	700	800	800	900	900	1000	1000	1100

■ Mass by Stroke

Stroke		350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
Mass (kg)	Without brake	6.4	6.7	7.0	7.3	7.6	7.9	8.2	8.5	8.8	9.1	9.4	9.7	10.0	10.3	10.6	10.9
	With brake	6.7	7.0	7.3	7.6	7.9	8.2	8.5	8.8	9.1	9.4	9.7	10.0	10.3	10.6	10.9	11.2

Main Specifications (double slider specification)

Item			Description		
Lead		Ball screw lead (mm)	20	10	5
Horizontal	Payload	Max. payload (kg)	35	63	73
		—	—	—	—
	Speed / acceleration/ deceleration	Max. speed (mm/s)	800	450	225
		Min. speed (mm/s)	25	13	7
		Rated acceleration/deceleration (G)	0.3	0.3	0.3
		Max. acceleration/deceleration (G)	0.5	0.5	0.3
Vertical	Payload	Max. payload (kg)	—	18	48
		—	—	—	—
	Speed / acceleration/ deceleration	Max. speed (mm/s)	—	300	175
		Min. speed (mm/s)	—	13	7
		Rated acceleration/deceleration (G)	—	0.3	0.3
		Max. acceleration/deceleration (G)	—	0.5	0.3
Push		Max. push force (N)	103	235	470
		Max. push speed (mm/s)	25	20	20
Brake		Brake specification	Non-excitation actuating solenoid brake		
		Brake holding force (kgf)	4	25	55
Stroke		Min. nominal stroke (mm)	350	350	350
		Min. effective stroke (mm)	150	150	150
		Max. nominal stroke (mm)	1100	1100	1100
		Max. effective stroke (mm)	900	900	900
		Stroke pitch (mm)	50	50	50

(Note) Nominal stroke: Stroke listed in the model name
Effective stroke: Actually operable stroke
(Note) Lead 20 cannot be vertically mounted.

Item	Description
Drive system	Ball screw ø16mm, rolled C10
Positioning repeatability	±0.05mm
Lost motion	- (notation not available due to 2-point positioning function)
Base	Dedicated aluminum extruded material (A6063SS-T6 equivalent), black alumite treatment
Linear guide	Linear motion infinite circulating type
Allowable static moment	Ma: 1560 N·m
	Mb: 1560 N·m
	Mc: 542 N·m
Allowable dynamic moment (Note 1)	Ma: 449 N·m
	Mb: 449 N·m
	Mc: 188 N·m
Ambient operating temperature, humidity	0 ~ 40°C, 85%RH or less (no condensation)
Ingress protection	IP20
Vibration & shock resistance	4.9m/s^2
Overseas standards	CE marking, RoHS directive
Motor type	Pulse motor (□56SP) (Power capacity: max. 6A)
Encoder type	Incremental/battery-less absolute
Number of encoder pulses	800 pulse/rev

(Note 1) Based on the standard rated operation life of 5000km. Operation life varies according to operating and mounting conditions. Please refer to service life on P. 33 of the EleCylinder Catalog V10.

■ Slider Type Moment Direction

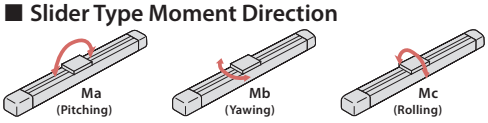


Table of Payload by Speed/Acceleration (double slider specification)

The unit for payload is kg. If blank, operation is not possible.

Lead 20

Orientation	Horizontal		Vertical	
Speed (mm/s)	Acceleration (G)			
	0.3	0.5	0.3	0.5
0	35	30		
200	35	30		
300	35	30		
400	28	23		
650	13	8		
800	3			

Lead 10

Orientation	Horizontal		Vertical	
Speed (mm/s)	Acceleration (G)			
	0.3	0.5	0.3	0.5
0	63	63	18	18
100	63	63	18	18
200	58	42	13	13
300	53	23	2	2
400	18	8		
450	18			

Lead 5

Orientation	Horizontal	Vertical
Speed (mm/s)	Acceleration (G)	
	0.3	0.3
0	73	48
50	73	48
75	73	23
135	73	11
175	63	5
200	43	
225	13	

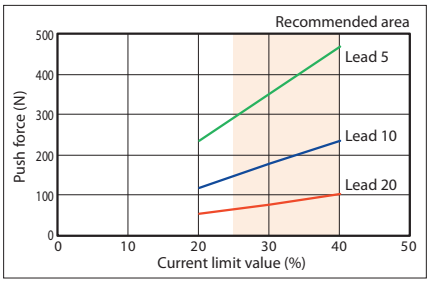
Stroke and Maximum Speed (double slider specification)

Lead (mm)										
	Nominal stroke	350~700	750	800	850	900	950	1000	1050	1100
	Effective stroke	150~500 (every 50mm)	550 (mm)	600 (mm)	650 (mm)	700 (mm)	750 (mm)	800 (mm)	850 (mm)	900 (mm)
20		800		780	700	640	580	530	480	440
10		450<300>	430<300>	380<300>	340<300>	310<300>	280	260	240	220
5		225<175>	215<175>	190<175>	170	150	140	130	115	110

(Unit: mm/s)

(Note) Values in brackets < > are for vertical use.
(Note) Nominal stroke: Stroke specified as the model code
Effective stroke: Actually operable stroke

Correlation between Push Force and Current Limit (double slider spec.)



(Note) Same values as those for the single slider specification.

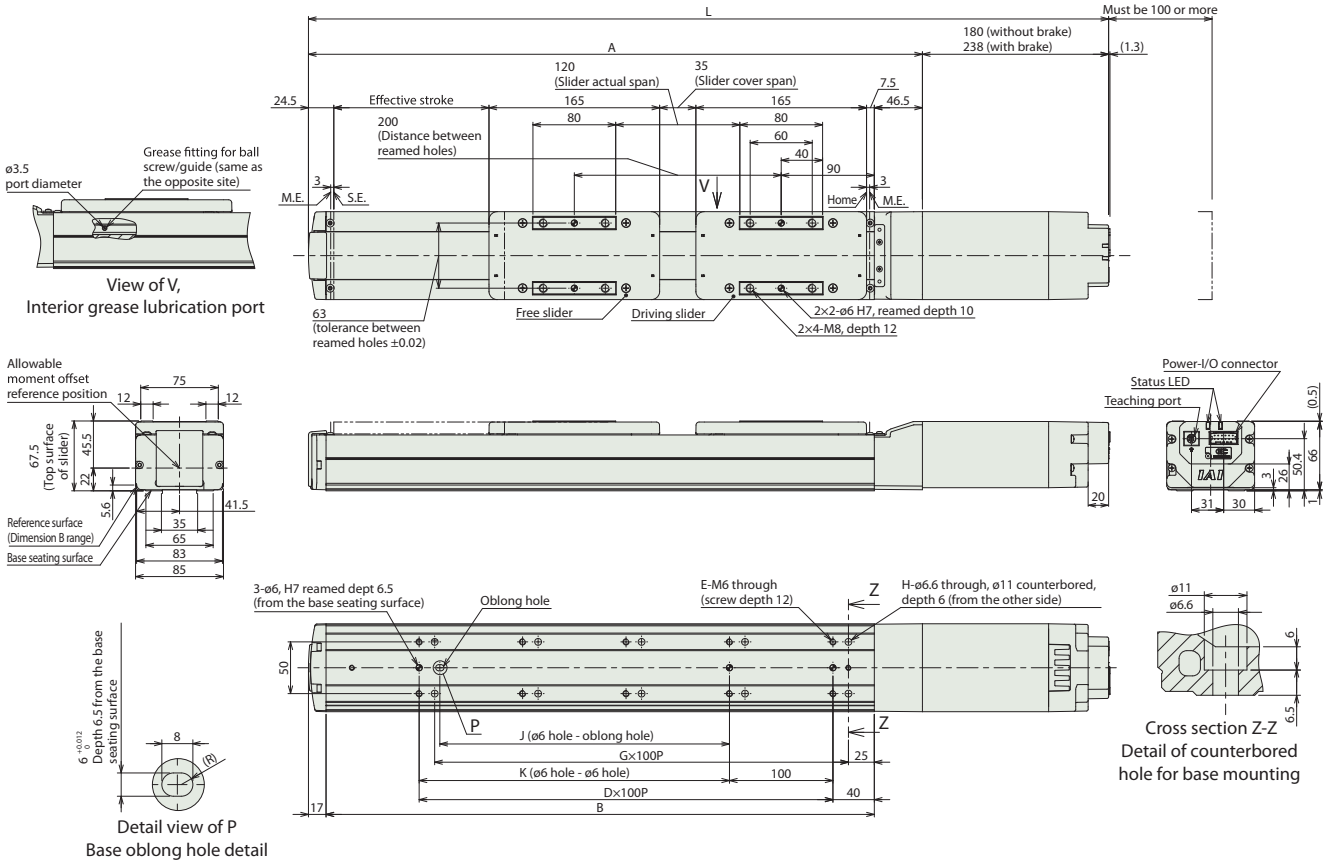
Dimensions for Double Slider Specification

CAD drawings can be downloaded from our website.
www.iai-automation.com

■ EC-S8□A (double slider specification)

(Note) When the slider is returning to its home position, be careful of interference from surrounding objects, as it will travel until it reaches the M.E.
(Note) Connect the slider at the slider cover span or distance between reamed holes as specified in the drawing.
(Note) To mount the actuator using the through holes on the base, it is necessary to remove the side cover and stainless sheet.

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



■ Dimensions by Stroke

Nominal stroke		350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
Effective stroke		150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900
L	Without brake	773.5	823.5	873.5	923.5	973.5	1023.5	1073.5	1123.5	1173.5	1223.5	1273.5	1323.5	1373.5	1423.5	1473.5	1523.5
	With brake	831.5	881.5	931.5	981.5	1031.5	1081.5	1131.5	1181.5	1231.5	1281.5	1331.5	1381.5	1431.5	1481.5	1531.5	1581.5
A		593.5	643.5	693.5	743.5	793.5	843.5	893.5	943.5	993.5	1043.5	1093.5	1143.5	1193.5	1243.5	1293.5	1343.5
B		530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280
D		4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
E		10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
G		4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
H		10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
J		280	380	380	480	480	580	580	680	680	780	780	880	880	980	980	1080
K		300	400	400	500	500	600	600	700	700	800	800	900	900	1000	1000	1100

(Note) Nominal stroke: Stroke specified as the model code
Effective stroke: Actually operable stroke

■ Mass by Stroke

Nominal stroke		350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
Effective stroke		150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900
Mass (kg)	Without brake	7.19	7.49	7.79	8.09	8.39	8.69	8.99	9.29	9.59	9.89	10.19	10.49	10.79	11.09	11.39	11.69
	With brake	7.49	7.79	8.09	8.39	8.69	8.99	9.29	9.59	9.89	10.19	10.49	10.79	11.09	11.39	11.69	11.99

(Note) The mass is added by 0.79 kg of the free slider to the single slider specification.

Applicable Controllers

(Note) EC Series products are equipped with a built-in controller. Please refer to P. 65 for details on built-in controllers.

EC-S6X□AH

Simple Dust-proof | Support Mechanism | Coupled Motor | Body Width 60 mm | 24v Pulse Motor

■ Model Specification Items

EC - [ ] [ ] AH - [ ] - [ ] - [ ]

Series	Type		Lead		Specifications		Stroke		Power I/O cable length	Options
	S6X	Standard	S	20mm	AH	High rigidity	450	450mm	See power I/O cable length table below	See options below
			H	12mm			~	~		
			M	6mm			1500	1500mm (every 50mm) *Depending on the lead, the maximum stroke varies. Confirm with the Main Specifications.		
			L	3mm						

CE RoHS 10

Horizontal | Vertical | Side | Ceiling

POINT Selection Notes

(1) Longer strokes may cause the maximum speed to decrease due to the resonance of the ball screw. Check the stroke maximum speed required in the "Stroke and Maximum Speed" table.

(2) "Main Specifications" displays the payload's maximum value. If the energy-saving setting is enabled, the main specifications will change. Please refer to "Table of Payload by Speed/Acceleration" for details.

(3) If performing push-motion operations, refer to the "Correlation between Push Force and Current Limit" diagram. The push forces listed are only reference values. Please refer to P. 58 for applicable notes.

(4) Depending on the ambient operating temperature, duty ratio control is necessary. Please refer to P. 58 for details.

(5) Pay close attention to the installation orientation. Please refer to P. 5 for details.

(6) Reference value of the overhang load length is under 300mm in the Ma, Mb, and Mc directions. Please refer to the explanation on P. 5 for the overhang load length.

(7) 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.

Power / I/O cable length

■ Standard connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
0	No cable	Terminal block supplied (Note 2)	CB-REC-PWBIO□□□-RB supplied
1 ~ 3	1 ~ 3m	CB-EC-PWBIO□□□-RB supplied	
4 ~ 5	4 ~ 5m		
6 ~ 7	6 ~ 7m		
8 ~ 10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note 2) Only terminal block connector is included. Please refer to P. 66 for details.
(Note) Robot cable is standard.

■ 4-way connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
S1 ~ S3	1 ~ 3m	CB-EC2-PWBIO□□□-RB supplied	CB-REC2-PWBIO□□□-RB supplied
S4 ~ S5	4 ~ 5m		
S6 ~ S7	6 ~ 7m		
S8 ~ S10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note) Robot cable is standard.

Options * Please check the Options reference pages to confirm each option.

Name	Option code	Reference page
RCON-EC connection specification (Note 1)	**ACR**	53
Brake	**B**	53
Designated grease specification (Note 2)	**G1/G5**	54
Non-motor end specification	**NM**	55
PNP specification	**PN**	55
Slider part roller specification	**SR**	55
Split motor and controller power supply specification	**TMD2**	56
Battery-less absolute encoder specification	**WA**	56
Wireless communication specification	**WL**	56
Wireless axis operation specification	**WL2**	56

(Note 1) If the RCON-EC connection specification (ACR) is selected, the PNP specification (PN) and split motor and controller power supply specification (TMD2) cannot be selected.
(Note 2) The maximum speed and payload of the optional specified grease specification (G1) are the same as those of the cleanroom specification.

Main Specifications

Item			Description			
Lead		Ball screw lead (mm)	20	12	6	3
Horizontal	Payload	Max. payload (kg) (energy-saving disabled)	15	26	32	40
		Max. payload (kg) (energy-saving enabled)	8	14	20	25
	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
		Max. acceleration/deceleration (G)	1	1	1	1
Vertical	Payload	Max. payload (kg) (energy-saving disabled)	1	2.5	6	16
		Max. payload (kg) (energy-saving enabled)	0.75	2	5	10
	Speed / acceleration/ deceleration	Max. speed (mm/s)	1120	800	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		Max. push force (N)	67	112	224	449
		Max. push speed (mm/s)	20	20	20	20
Brake		Brake specification	Non-excitation actuating solenoid brake			
		Brake holding force (kgf)	1	2.5	6	16
Stroke		Min. stroke (mm)	450	450	450	450
		Max. stroke (mm)	1500	1500	1400	1000
		Stroke pitch (mm)	50	50	50	50

Item	Description
Drive system	Ball screw ø10mm, rolled C10
Positioning repeatability	±0.05mm
Lost motion	- (notation not available due to 2-point positioning function)
Base	Dedicated aluminum extruded material (A6063SS-T6 equivalent), black alumite treatment
Linear guide	Linear motion infinite circulating type
Allowable static moment	Ma: 48.5 N·m
	Mb: 69.3 N·m
	Mc: 103 N·m
Allowable dynamic moment (Note 1)	Ma: 33.7 N·m
	Mb: 40.2 N·m
	Mc: 55.3 N·m
Ambient operating temperature, humidity	0 ~ 40°C, 85%RH or less (no condensation)
Ingress protection	IP20
Vibration & shock resistance	4.9m/s^2
Overseas standards	CE marking, RoHS directive
Motor type	Pulse motor (□42)
Encoder type	Incremental/battery-less absolute
Number of encoder pulses	800 pulse/rev

(Note 1) Based on the standard rated operation life of 5000km. Operation life varies according to operating and mounting conditions. Please refer to service life on P. 33 of the EleCylinder Catalog V10.

■ Slider Type Moment Direction

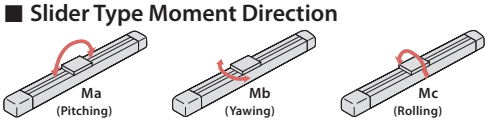


Table of Payload by Speed/Acceleration *The energy-saving setting is disabled at shipping. Please refer to P. 4 for details.

■ Energy-Saving Setting Disabled (power mode) The unit for payload is kg. If blank, operation is not possible.

Lead 20

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	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	4	1	1
800	10	6.5	4.5	3	1	1
960	8	5	3.5	1.5	1	1
1120	5	3	1		0.5	0.5
1280		0.5				

(Note) Refer to precautions when selecting "G5" option

Lead 12

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	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	24	18	14	12	2.5	2.5
440	21	13	11	7	2.5	2.5
560	15	11	4	3	2.5	2.5
700	8	7	3	2	1	1
800	4	1.5	1		0.5	
900	1					

(Note) Refer to precautions when selecting "G5" option

Lead 6

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	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	21	12	9	6	3.5	3
450	14	7	4		2	1

(Note) Refer to precautions when selecting "G5" option

Lead 3

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	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	30	22	12.5	12
200	27	26	21	14	7	6
225	17	11	5		2	

(Note) Refer to precautions when selecting "G5" option

■ Energy-Saving Setting Enabled (energy-saving mode) The unit for payload is kg.

Lead 20

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	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	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	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

(Note) Refer to precautions when selecting "G5" option

Lead 6

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	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

(Note) Refer to precautions when selecting "G5" option

Lead 3

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	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

(Note) Refer to precautions when selecting "G5" option

<Precautions when selecting "G5" (designated grease specification) option>

Use at the following speed or lower during use in an environmental temperature of 10°C or lower.

· Lead 20: 800mm/s or lower · Lead 12: 440mm/s or lower · Lead 6: 220mm/s or lower · Lead 3: 110mm/s or lower

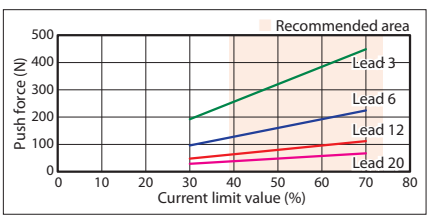
Stroke and Maximum Speed

Lead (mm)	Energy-saving setting	450 ~ 650 (every 50mm)	700 (mm)	750 (mm)	800 (mm)	850 (mm)	900 (mm)	950 (mm)	1000 (mm)	1050 (mm)	1100 (mm)	1150 (mm)	1200 (mm)	1250 (mm)	1300 (mm)	1350 (mm)	1400 (mm)	1450 (mm)	1500 (mm)
20	Disabled	1280 <1120>				1120	970	940	860	790	730	640	610	580	540	470	450	430	400
	Enabled	800								790	730	640	610	580	540	470	450	430	400
12	Disabled	900 <800>	860 <800>	770	680	620	560	510	460	425	380	360	330	315	285	270	250	235	220
	Enabled	680				620	560	510	460	425	380	360	330	315	285	270	250	235	220
6	Disabled	450	430	380	340	310	280	255	230	210	185	175	165	140	135	125	115		
	Enabled	340				310	280	255	230	210	185	175	165	140	135	125	115		
3	Disabled	225	210	190	165	145	135	125	115										
	Enabled	170			165	145	135	125	115										

(Unit: mm/s)

(Note) Values in brackets < > are for vertical use.
(Note) Blank fields will not be set.

Correlation between Push Force and Current Limit



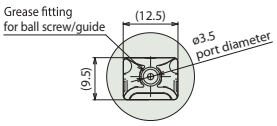
Dimensions

CAD drawings can be downloaded from our website.
www.iai-automation.com

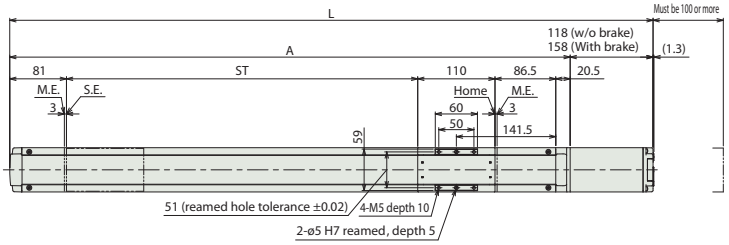
■ EC-S6X□AH

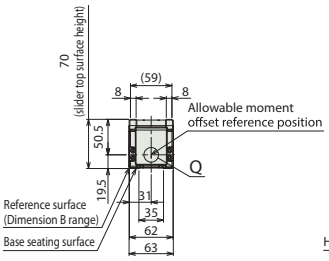
(Note) Upon home return, the slider will move to the M.E. Be careful of interference with surrounding objects.

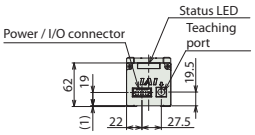
ST: Stroke
M.E: Mechanical end
S.E: Stroke end

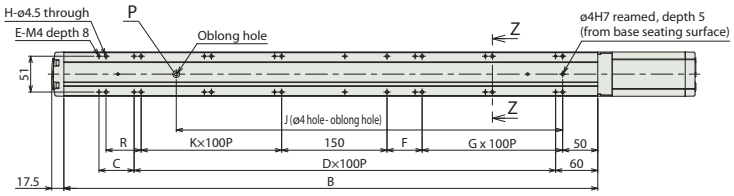


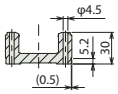
Q interior
Grease lubrication port



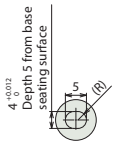








Cross section of Z-Z
Details of base
mounting through hole



Detailed view of P
Details of base oblong hole

■ Dimensions by Stroke

Stroke		450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500
L	Without brake	866	916	966	1016	1066	1116	1166	1216	1266	1316	1366	1416	1466	1516	1566	1616	1666	1716	1766	1816	1866	1916
	With brake	906	956	1006	1056	1106	1156	1206	1256	1306	1356	1406	1456	1506	1556	1606	1656	1706	1756	1806	1856	1906	1956
A		748	798	848	898	948	998	1048	1098	1148	1198	1248	1298	1348	1398	1448	1498	1548	1598	1648	1698	1748	1798
B		710	760	810	860	910	960	1010	1060	1110	1160	1210	1260	1310	1360	1410	1460	1510	1560	1610	1660	1710	1760
C		0	50	0	50	0	50	0	50	0	50	0	50	0	50	0	50	0	50	0	50	0	50
D		6	6	7	7	8	8	9	9	10	10	11	11	12	12	13	13	14	14	15	15	16	16
E		14	16	16	18	18	20	20	22	22	24	24	26	26	28	28	30	30	32	32	34	34	36
F		50	50	0	0	50	50	0	0	50	50	0	0	50	50	0	0	50	50	0	0	50	50
G		2	2	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6	6	7	7	7	7
H		14	16	16	16	18	20	20	20	22	24	24	24	26	28	28	28	30	32	32	32	34	36
J		500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550
K		2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6	6	7	7	7
R		0	50	50	0	0	50	50	0	0	50	50	0	0	50	50	0	0	50	50	0	0	50

■ Mass by Stroke

Stroke		450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500
Mass (kg)	Without brake	4.5	4.7	5.0	5.2	5.4	5.6	5.8	6.1	6.3	6.5	6.7	7.0	7.2	7.4	7.6	7.8	8.1	8.3	8.5	8.7	8.9	9.2
	With brake	4.7	4.9	5.2	5.4	5.6	5.8	6.0	6.3	6.5	6.7	6.9	7.2	7.4	7.6	7.8	8.0	8.3	8.5	8.7	8.9	9.1	9.4

Applicable Controllers

(Note) EC Series products are equipped with a built-in controller. Please refer to P. 65 for details on built-in controllers.

EC-S7X□AH

Simple Dust-proof | Support Mechanism | Coupled Motor | Body Width 80 mm | 24v Pulse Motor

■ Model Specification Items

EC - [ ] [ ] AH - [ ] - [ ] - [ ]

Series	Type		Lead		Specifications		Stroke		Power I/O cable length	Options
	S7X	Standard	S	24mm	AH	High rigidity	550 ~ 1500	550mm ~ 1500mm (every 50mm) *Depending on the lead, the maximum stroke varies. Confirm with the Main Specifications.	See power I/O cable length table below	See options below
			H	16mm						
			M	8mm						
			L	4mm						

CE RoHS 10

Horizontal | Vertical | Side | Ceiling

POINT Selection Notes

(1) Longer strokes may cause the maximum speed to decrease due to the resonance of the ball screw. Check the stroke maximum speed required in the "Stroke and Maximum Speed" table.

(2) "Main Specifications" displays the payload's maximum value. If the energy-saving setting is enabled, the main specifications will change. Please refer to "Table of Payload by Speed/Acceleration" for details.

(3) If performing push-motion operations, refer to the "Correlation between Push Force and Current Limit" diagram. The push forces listed are only reference values. Please refer to P. 58 for applicable notes.

(4) Depending on the ambient operating temperature, duty ratio control is necessary. Please refer to P. 58 for details.

(5) Pay close attention to the installation orientation. Please refer to P. 5 for details.

(6) Reference value of the overhang load length is under 300mm in the Ma, Mb, and Mc directions. Please refer to the explanation on P. 5 for the overhang load length.

(7) 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.

Power / I/O cable length

■ Standard connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
0	No cable	Terminal block supplied (Note 2)	CB-REC-PWBIO□□□-RB supplied
1 ~ 3	1 ~ 3m	CB-EC-PWBIO□□□-RB supplied	
4 ~ 5	4 ~ 5m		
6 ~ 7	6 ~ 7m		
8 ~ 10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note 2) Only terminal block connector is included. Please refer to P. 66 for details.
(Note) Robot cable is standard.

■ 4-way connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
S1 ~ S3	1 ~ 3m	CB-EC2-PWBIO□□□-RB supplied	CB-REC2-PWBIO□□□-RB supplied
S4 ~ S5	4 ~ 5m		
S6 ~ S7	6 ~ 7m		
S8 ~ S10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note) Robot cable is standard.

Options * Please check the Options reference pages to confirm each option.

Name	Option code	Reference page
RCON-EC connection specification (Note 1)	**ACR**	53
Brake	**B**	53
Designated grease specification (Note 2)	**G1/G5**	54
Non-motor end specification	**NM**	55
PNP specification	**PN**	55
Slider part roller specification	**SR**	55
Split motor and controller power supply specification	**TMD2**	56
Battery-less absolute encoder specification	**WA**	56
Wireless communication specification	**WL**	56
Wireless axis operation specification	**WL2**	56

(Note 1) If the RCON-EC connection specification (ACR) is selected, the PNP specification (PN) and split motor and controller power supply specification (TMD2) cannot be selected.
(Note 2) The maximum speed and payload of the optional specified grease specification (G1) are the same as those of the cleanroom specification.

Main Specifications

Item			Description			
Lead		Ball screw lead (mm)	24	16	8	4
Horizontal	Payload	Max. payload (kg) (energy-saving disabled)	37	46	51	51
		Max. payload (kg) (energy-saving enabled)	18	35	40	40
	Speed / acceleration/ deceleration	Max. speed (mm/s)	1230	980	420	195
		Min. speed (mm/s)	30	20	10	5
		Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
		Max. acceleration/deceleration (G)	1	1	1	1
Vertical	Payload	Max. payload (kg) (energy-saving disabled)	3	8	16	25
		Max. payload (kg) (energy-saving enabled)	2	5	10	15
	Speed / acceleration/ deceleration	Max. speed (mm/s)	1080	840	420	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		Max. push force (N)	139	209	418	836
		Max. push speed (mm/s)	20	20	20	20
Brake		Brake specification	Non-excitation actuating solenoid brake			
		Brake holding force (kgf)	3	8	16	25
Stroke		Min. stroke (mm)	550	550	550	550
		Max. stroke (mm)	1500	1500	1500	1100
		Stroke pitch (mm)	50	50	50	50

Item	Description
Drive system	Ball screw ø12mm, rolled C10
Positioning repeatability	±0.05mm
Lost motion	- (notation not available due to 2-point positioning function)
Base	Dedicated aluminum extruded material (A6063SS-T6 equivalent), black alumite treatment
Linear guide	Linear motion infinite circulating type
Allowable static moment	Ma: 115 N·m
	Mb: 115 N·m
	Mc: 229 N·m
Allowable dynamic moment (Note 1)	Ma: 75.5 N·m
	Mb: 90.0 N·m
	Mc: 134 N·m
Ambient operating temperature, humidity	0 ~ 40°C, 85%RH or less (no condensation)
Ingress protection	IP20
Vibration & shock resistance	4.9m/s^2
Overseas standards	CE marking, RoHS directive
Motor type	Pulse motor (□56)
Encoder type	Incremental/battery-less absolute
Number of encoder pulses	800 pulse/rev

(Note 1) Based on the standard rated operation life of 5000km. Operation life varies according to operating and mounting conditions. Please refer to service life on P. 33 of the EleCylinder Catalog V10.

■ Slider Type Moment Direction

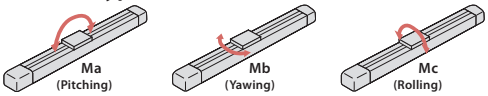


Table of Payload by Speed/Acceleration *The energy-saving setting is disabled at shipping. Please refer to P. 4 for details.

■ Energy-Saving Setting Disabled (power mode) The unit for payload is kg. If blank, operation is not possible.

Lead 24

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (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	20	15	10	9	3	3
860	12	10	5	4	2	2
1080	8	4	2	1	1	
1230	3	1				

(Note) Refer to precautions when selecting "G5" option

Lead 16

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	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	8	5	3	2	2
840	7	2			0.5	
980	0.5					

(Note) Refer to precautions when selecting "G5" option

Lead 8

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	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	28	9	4		5	3
420	7				2	

(Note) Refer to precautions when selecting "G5" option

Lead 4

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	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	4
210	4					

(Note) Refer to precautions when selecting "G5" option

■ Energy-Saving Setting Enabled (energy-saving mode) The unit for payload is kg.

Lead 24

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	18	10	2
200	18	10	2
420	18	10	2
640	10	2	1
800	5	0.5	0.5

Lead 16

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	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

Lead 8

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	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	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	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

<Precautions when selecting "G5" (designated grease specification) option>

Use at the following speed or lower during use in an environmental temperature of 10°C or lower.

· Lead 24: 860mm/s or lower · Lead 16: 560mm/s or lower · Lead 8: 280mm/s or lower · Lead 4: 140mm/s or lower

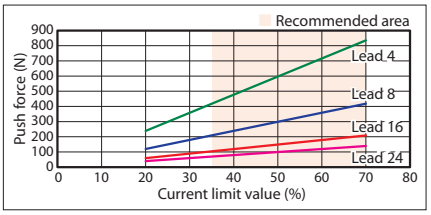
Stroke and Maximum Speed

Lead (mm)	Energy-saving setting	550 ~ 850 (every 50mm)	900 (mm)	950 (mm)	1000 (mm)	1050 (mm)	1100 (mm)	1150 (mm)	1200 (mm)	1250 (mm)	1300 (mm)	1350 (mm)	1400 (mm)	1450 (mm)	1500 (mm)
24	Disabled	1230 <1080>			1160 <1080>	1080	990	920	850	770	735	680	635	565	550
	Enabled	800								770	735	680	635	565	550
16	Disabled	980 <840>	920 <840>	835	760	700	645	590	555	510	470	440	420	375	355
	Enabled	560							555	510	470	440	420	375	355
8	Disabled	420			375	345	310	285	255	245	230	215	190	180	170
	Enabled	280							255	245	230	215	190	180	170
4	Disabled	195 <175>			175	165	150								
	Enabled	140													

(Unit: mm/s)

(Note) Values in brackets < > are for vertical use.
(Note) Blank fields will not be set.

Correlation between Push Force and Current Limit



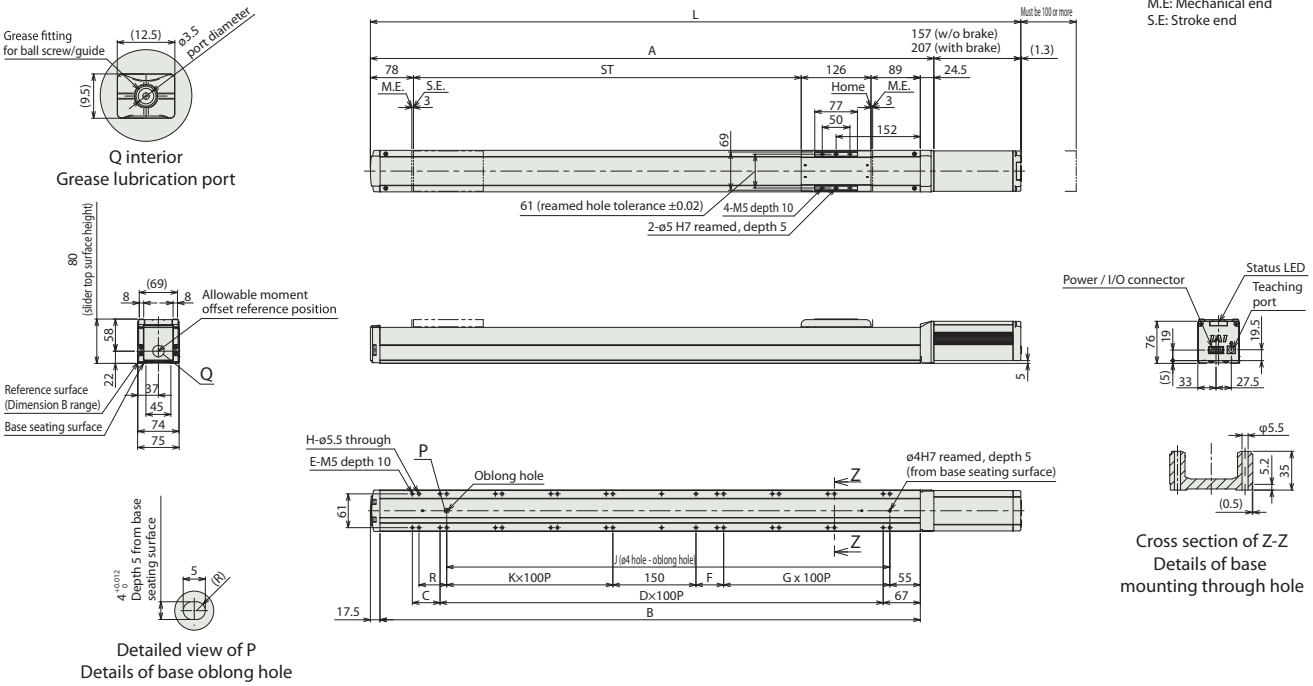
Dimensions

CAD drawings can be downloaded from our website.
www.iai-automation.com

■ EC-S7X□AH

(Note) Upon home return, the slider will move to the M.E. Be careful of interference with surrounding objects.

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



Detailed view of P
Details of base oblong hole

Cross section of Z-Z
Details of base mounting through hole

■ Dimensions by Stroke

Stroke		550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500
L	Without brake	1024.5	1074.5	1124.5	1174.5	1224.5	1274.5	1324.5	1374.5	1424.5	1474.5	1524.5	1574.5	1624.5	1674.5	1724.5	1774.5	1824.5	1874.5	1924.5	1974.5
	With brake	1074.5	1124.5	1174.5	1224.5	1274.5	1324.5	1374.5	1424.5	1474.5	1524.5	1574.5	1624.5	1674.5	1724.5	1774.5	1824.5	1874.5	1924.5	1974.5	2024.5
A		867.5	917.5	967.5	1017.5	1067.5	1117.5	1167.5	1217.5	1267.5	1317.5	1367.5	1417.5	1467.5	1517.5	1567.5	1617.5	1667.5	1717.5	1767.5	1817.5
B		825.5	875.5	925.5	975.5	1025.5	1075.5	1125.5	1175.5	1225.5	1275.5	1325.5	1375.5	1425.5	1475.5	1525.5	1575.5	1625.5	1675.5	1725.5	1775.5
C		0	50	0	50	0	50	0	50	0	50	0	50	0	50	0	50	0	50	0	50
D		7	7	8	8	9	9	10	10	11	11	12	12	13	13	14	14	15	15	16	16
E		16	18	18	20	20	22	22	24	24	26	26	28	28	30	30	32	32	34	34	36
F		0	0	50	50	0	0	50	50	0	0	50	50	0	0	50	50	0	0	50	50
G		3	3	3	3	4	4	4	4	5	5	5	5	6	6	6	6	7	7	7	7
H		16	16	18	20	20	20	22	24	24	24	26	28	28	28	30	32	32	32	34	36
J		650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600
K		2	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6	6	7	7	7
R		50	0	0	50	50	0	0	50	50	0	0	50	50	0	0	50	50	0	0	50

■ Mass by Stroke

Stroke		550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500
Mass (kg)	Without brake	7.7	8.0	8.2	8.5	8.8	9.1	9.4	9.6	9.9	10.2	10.5	10.7	11.0	11.3	11.6	11.9	12.1	12.4	12.7	13.0
	With brake	8.2	8.5	8.7	9.0	9.3	9.6	9.9	10.1	10.4	10.7	11.0	11.2	11.5	11.8	12.1	12.4	12.6	12.9	13.2	13.5

Applicable Controllers

(Note) EC Series products are equipped with a built-in controller. Please refer to P. 65 for details on built-in controllers.

EC-S8X□A

Simple Dust-proof | Support Mechanism | Coupled Motor | Body Width 90 mm | 24v Pulse Motor

■ Model Specification Items

EC - [ ] [ ] A - [ ] - [ ] - [ ]

Series	Type		Lead		Specifications		Stroke		Power I/O cable length	Options
	S8X	Standard	S	30mm	A	Long stroke supported	700	700mm	See power I/O cable length table below	See options below
			H	20mm			≀	≀		
			M	10mm			1500	1500mm (every 50mm)		
			L	5mm						

CE RoHS 10

Horizontal | Vertical | Side | Ceiling

POINT Selection Notes

(1) Longer strokes may cause the maximum speed to decrease due to the resonance of the ball screw. Check the stroke maximum speed required in the "Stroke and Maximum Speed" table.

(2) "Main Specifications" displays the payload's maximum value. If the energy-saving setting is enabled, the main specifications will change. Please refer to "Table of Payload by Speed/Acceleration" for details.

(3) If performing push-motion operations, refer to the "Correlation between Push Force and Current Limit" diagram. The push forces listed are only reference values. Please refer to P. 58 for applicable notes.

(4) Depending on the ambient operating temperature, duty ratio control is necessary. Please refer to P. 58 for details.

(5) Pay close attention to the installation orientation. Please refer to P. 5 for details.

(6) Reference value of the overhang load length is under 400mm in the Ma, Mb, and Mc directions. Please refer to the explanation on P. 5 for the overhang load length.

(7) 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.

Power / I/O cable length

■ Standard connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
0	No cable	Terminal block supplied (Note 2)	CB-REC-PWBIO□□□-RB supplied
1 ~ 3	1 ~ 3m	CB-EC-PWBIO□□□-RB supplied	
4 ~ 5	4 ~ 5m		
6 ~ 7	6 ~ 7m		
8 ~ 10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note 2) Only terminal block connector is included. Please refer to P. 66 for details.
(Note) Robot cable is standard.

■ 4-way connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
S1 ~ S3	1 ~ 3m	CB-EC2-PWBIO□□□-RB supplied	CB-REC2-PWBIO□□□-RB supplied
S4 ~ S5	4 ~ 5m		
S6 ~ S7	6 ~ 7m		
S8 ~ S10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note) Robot cable is standard.

Options * Please check the Options reference pages to confirm each option.

Name	Option code	Reference page
RCON-EC connection specification (Note 1)	**ACR**	53
Brake	**B**	53
Designated grease specification	**G1/G5**	54
Non-motor end specification	**NM**	55
PNP specification	**PN**	55
Slider part roller specification	**SR**	55
Split motor and controller power supply specification	**TMD2**	56
Battery-less absolute encoder specification	**WA**	56
Wireless communication specification	**WL**	56
Wireless axis operation specification	**WL2**	56

(Note 1) If the RCON-EC connection specification (ACR) is selected, the PNP specification (PN) and split motor and controller power supply specification (TMD2) cannot be selected.

Main Specifications

Item			Description			
Lead		Ball screw lead (mm)	30	20	10	5
Horizontal	Payload	Max. payload (kg)	18	35	70	80
		—	—	—	—	—
	Speed / acceleration/ deceleration	Max. speed (mm/s)	1200	975	450	225
		Min. speed (mm/s)	38	25	13	7
		Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
		Max. acceleration/deceleration (G)	1	1	0.5	0.3
Vertical	Payload	Max. payload (kg)	2	4	25	55
		—	—	—	—	—
	Speed / acceleration/ deceleration	Max. speed (mm/s)	850	650	450	225
		Min. speed (mm/s)	38	25	13	7
		Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
		Max. acceleration/deceleration (G)	0.5	0.5	0.5	0.3
Push		Max. push force (N)	78	103	235	470
		Max. push speed (mm/s)	38	25	20	20
Brake		Brake specification	Non-excitation actuating solenoid brake			
		Brake holding force (kgf)	2	4	25	55
Stroke		Min. stroke (mm)	700	700	700	700
		Max. stroke (mm)	1500	1500	1500	1500
		Stroke pitch (mm)	50	50	50	50

Item	Description
Drive system	Ball screw ø16mm, rolled C10
Positioning repeatability	±0.05mm
Lost motion	- (notation not available due to 2-point positioning function)
Base	Dedicated aluminum extruded material (A6063SS-T6 equivalent), black alumite treatment
Linear guide	Linear motion infinite circulating type
Allowable static moment	Ma: 173 N·m
	Mb: 173 N·m
	Mc: 271 N·m
Allowable dynamic moment (Note 1)	Ma: 61 N·m
	Mb: 61 N·m
	Mc: 116 N·m
Ambient operating temperature, humidity	0 ~ 40°C, 85%RH or less (no condensation)
Ingress protection	IP20
Vibration & shock resistance	4.9m/s^2
Overseas standards	CE marking, RoHS directive
Motor type	Pulse motor (□56SP) (Power capacity: max. 6A)
Encoder type	Incremental/battery-less absolute
Number of encoder pulses	800 pulse/rev

(Note 1) Based on the standard rated operation life of 5000km. Operation life varies according to operating and mounting conditions. Please refer to service life on P. 33 of the EleCylinder Catalog V10.

■ Slider Type Moment Direction

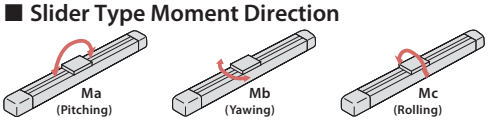


Table of Payload by Speed/Acceleration

The unit for payload is kg. If blank, operation is not possible.

Lead 30

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	18	13	12	12	2	2
200	18	13	12	12	2	2
400	18	13	12	12	1.5	1
650	18	13	12	8	1	1
850	14	10	7	5	1	1
1000	8	6	3	2		
1200	4	2	1			

Lead 20

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	35	30	25	25	4	4
200	35	30	25	25	4	4
300	35	30	25	23	4	4
400	35	30	23	20	1	1
650	10	10	8	6	1	1
800	10	6	2	1		
900	7	3				
975	4	1				

Lead 10

Orientation	Horizontal		Vertical	
Speed (mm/s)	Acceleration (G)			
	0.3	0.5	0.3	0.5
0	70	70	25	25
100	70	70	25	25
200	65	50	20	20
300	60	30	9	9
400	25	15	3	2
450	20	7	3	

Lead 5

Orientation	Horizontal	Vertical
Speed (mm/s)	Acceleration (G)	
	0.3	0.3
0	80	55
50	80	55
75	80	30
135	80	6
175	70	3
200	30	3
225	2	1

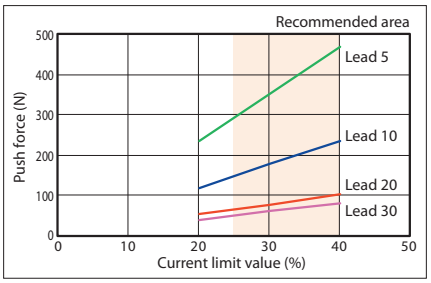
Stroke and Maximum Speed

Lead (mm)	700~1150 (every 50mm)	1200 (mm)	1250 (mm)	1300 (mm)	1350 (mm)	1400 (mm)	1450 (mm)	1500 (mm)
30	1200<850>			1190<850>	1110<850>	1040<850>	980<850>	920<850>
20	975<650>	910<650>	850<650>	790<650>	740<650>	690<650>	650	610
10	450	440	410	380	360	340	320	300
5	225	210	200	190	180	170	160	150

(Unit: mm/s)

(Note) Values in brackets < > are for vertical use.

Correlation between Push Force and Current Limit



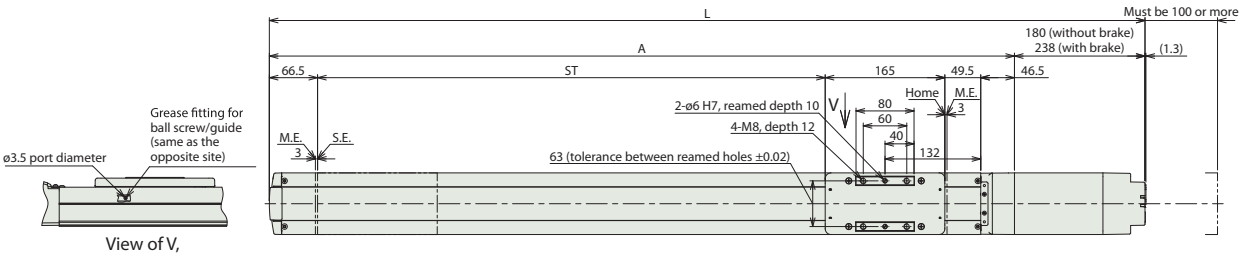
Dimensions

CAD drawings can be downloaded from our website.
www.iai-automation.com

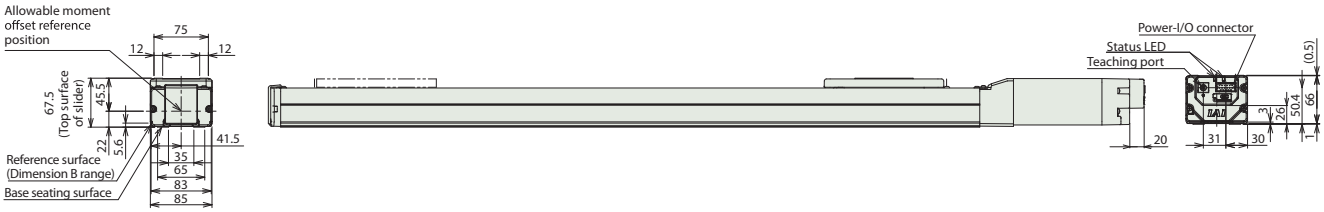
■ EC-S8X□A

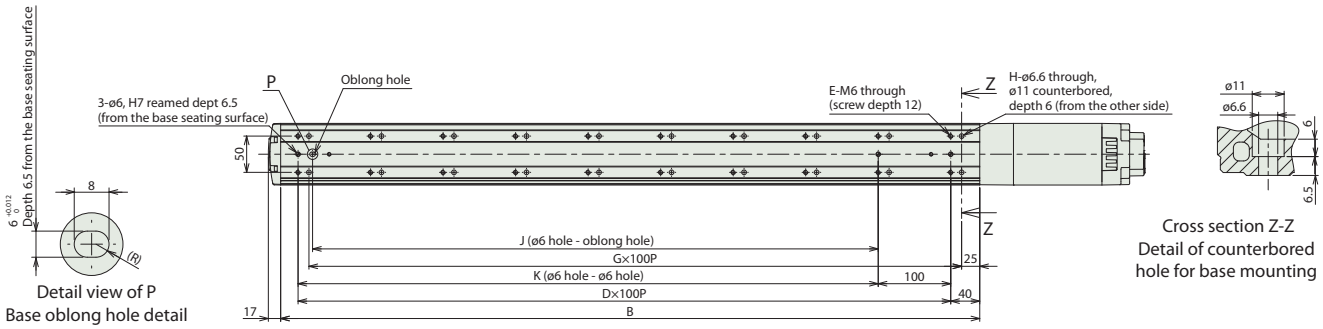
(Note) When the slider is returning to its home position, be careful of interference from surrounding objects, as it will travel until it reaches the M.E.
(Note) To mount the actuator using the through holes on the base, it is necessary to remove the side cover and stainless sheet.

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



View of V,
Interior grease lubrication port





Detail view of P
Base oblong hole detail

Cross section Z-Z
Detail of counterbored hole for base mounting

■ Dimensions by Stroke

Stroke		700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500
L	Without brake	1207.5	1257.5	1307.5	1357.5	1407.5	1457.5	1507.5	1557.5	1607.5	1657.5	1707.5	1757.5	1807.5	1857.5	1907.5	1957.5	2007.5
	With brake	1265.5	1315.5	1365.5	1415.5	1465.5	1515.5	1565.5	1615.5	1665.5	1715.5	1765.5	1815.5	1865.5	1915.5	1965.5	2015.5	2065.5
A		1027.5	1077.5	1127.5	1177.5	1227.5	1277.5	1327.5	1377.5	1427.5	1477.5	1527.5	1577.5	1627.5	1677.5	1727.5	1777.5	1827.5
B		964	1014	1064	1114	1164	1214	1264	1314	1364	1414	1464	1514	1564	1614	1664	1714	1764
D		9	9	10	10	11	11	12	12	13	13	14	14	15	15	16	16	17
E		20	20	22	22	24	24	26	26	28	28	30	30	32	32	34	34	36
G		9	9	10	10	11	11	12	12	13	13	14	14	15	15	16	16	17
H		20	20	22	22	24	24	26	26	28	28	30	30	32	32	34	34	36
J		780	780	880	880	980	980	1080	1080	1180	1180	1280	1280	1380	1380	1480	1480	1580
K		800	800	900	900	1000	1000	1100	1100	1200	1200	1300	1300	1400	1400	1500	1500	1600

■ Mass by Stroke

Stroke		700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500
Mass (kg)	Without brake	9.2	9.5	9.8	10.1	10.4	10.7	11.0	11.3	11.6	11.9	12.2	12.5	12.8	13.1	13.4	13.7	14.0
	With brake	9.7	10.0	10.3	10.6	10.9	11.2	11.5	11.8	12.1	12.4	12.7	13.0	13.3	13.6	13.9	14.2	14.5

Applicable Controllers

(Note) EC Series products are equipped with a built-in controller. Please refer to P. 65 for details on built-in controllers.

EC-S3□AR

Simple Dust-proof | Side-mounted Motor | Body Width 40 mm | 24v Pulse Motor

■ Model Specification Items

EC - [ ] [ ] A R - [ ] - [ ] - [ ]

Series	Type		Lead		Specifications		Specifications		Stroke		Power I/O cable length	Options
-	S3	Standard	H	6mm	A	Long stroke supported	R	Side-mounted motor	200 ~ 400	200mm ~ 400mm (every 50mm)	See power I/O cable length table below	See options below
			M	4mm								
			L	2mm								

CE RoHS 10

Horizontal | Vertical | Side | Ceiling

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

POINT Selection Notes

(1) "Main Specifications" displays the payload's maximum value. Please refer to "Table of Payload by Speed/Acceleration" for details.

(2) If performing push-motion operations, refer to the "Correlation between Push Force and Current Limit" diagram. The push forces listed are only reference values. Please refer to P. 58 for applicable notes.

(3) Pay close attention to the installation orientation. Please refer to P. 5 for details.

(4) Reference value of the overhang load length is under 100mm in the Ma, Mb, and Mc directions. Please refer to the explanation on P. 5 for the overhang load length.

(5) 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.

Power / I/O cable length

■ Standard connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
0	No cable	Terminal block supplied (Note 2)	CB-REC-PWBIO□□□-RB supplied
1 ~ 3	1 ~ 3m	CB-EC-PWBIO□□□-RB supplied	
4 ~ 5	4 ~ 5m		
6 ~ 7	6 ~ 7m		
8 ~ 10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note 2) Only terminal block connector is included. Please refer to P. 66 for details.
(Note) Robot cable is standard.

■ 4-way connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
S1 ~ S3	1 ~ 3m	CB-EC2-PWBIO□□□-RB supplied	CB-REC2-PWBIO□□□-RB supplied
S4 ~ S5	4 ~ 5m		
S6 ~ S7	6 ~ 7m		
S8 ~ S10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note) Robot cable is standard.

Options * Please check the Options reference pages to confirm each option.

Name	Option code	Reference page
RCON-EC connection specification (Note 1)	**ACR**	53
Brake	**B**	53
Foot bracket	**FT**	53
Designated grease specification	**G5**	54
Side-mounted motor to the left (Note 2)	**ML**	54
Side-mounted motor to the right (Note 2)	**MR**	54
—	**—**	—
—	**—**	—
Non-motor end specification	**NM**	55
PNP specification	**PN**	55
Slider part roller specification	**SR**	55
Split motor and controller power supply specification	**TMD2**	56
Battery-less absolute encoder specification	**WA**	56
Wireless communication specification	**WL**	56
Wireless axis operation specification	**WL2**	56

(Note 1) If the RCON-EC connection specification (ACR) is selected, the PNP specification (PN) and split motor and controller power supply specification (TMD2) cannot be selected.
(Note 2) Be sure to enter a code in the option column for Model Specification Items.

Main Specifications

Item			Description		
Lead		Ball screw lead (mm)	6	4	2
Horizontal	Payload	Max. payload (kg)	3.5	6	9
	Speed / acceleration/ deceleration	Max. speed (mm/s)	360	240	120
		Min. speed (mm/s)	8	5	3
		Rated acceleration/deceleration (G)	0.3	0.3	0.3
		Max. acceleration/deceleration (G)	0.5	0.3	0.3
Vertical	Payload	Max. payload (kg)	1.5	2.5	3.5
	Speed / acceleration/ deceleration	Max. speed (mm/s)	360	240	120
		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		Max. push force (N)	45	68	136
		Max. push speed (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)	200	200	200
		Max. stroke (mm)	400	400	400
		Stroke pitch (mm)	50	50	50

Item	Description
Drive system	Ball screw ø6mm, rolled C10
Positioning repeatability	±0.05mm
Lost motion	- (notation not available due to 2-point positioning function)
Base	Dedicated aluminum extruded material (A6063SS-T5 equivalent), black alumite treatment
Linear guide	Linear motion infinite circulating type
Allowable static moment	Ma: 9.5N·m
	Mb: 13.5N·m
	Mc: 15.1N·m
Allowable dynamic moment (Note 1)	Ma: 3.8N·m
	Mb: 5.4N·m
	Mc: 6.1N·m
Ambient operating temperature, humidity	0 ~ 40°C, 85%RH or less (no condensation)
Ingress protection	IP20
Vibration & shock resistance	4.9m/s^2
Overseas standards	CE marking, RoHS directive
Motor type	Pulse motor (□28)
Encoder type	Incremental/battery-less absolute
Number of encoder pulses	800 pulse/rev

(Note 1) Based on the standard rated operation life of 5000km. Operation life varies according to operating and mounting conditions. Please refer to service life on P. 33 of the EleCylinder Catalog V10.

■ Slider Type Moment Direction

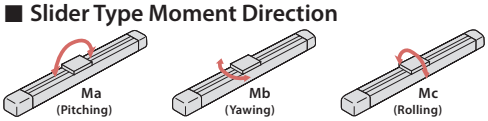


Table of Payload by Speed/Acceleration

The unit for payload is kg.

Lead 6

Orientation	Horizontal		Vertical
Speed	Acceleration (G)		
(mm/s)	0.3	0.5	0.3
0	3.5	3	1.5
120	3.5	3	1.5
210	3.5	3	1.5
255	3.5	3	1.5
315	3.5	3	1.5
360	3.5	3	1.5

Lead 4

Orientation	Horizontal	Vertical
Speed	Acceleration (G)	
(mm/s)	0.3	0.3
0	6	2.5
80	6	2.5
140	6	2.5
170	6	2.5
210	6	2.5
240	5.5	2.5

Lead 2

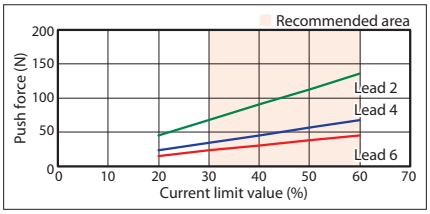
Orientation	Horizontal	Vertical
Speed	Acceleration (G)	
(mm/s)	0.3	0.3
0	9	3.5
40	9	3.5
70	9	3.5
85	9	3.5
105	9	3.5
120	9	3

Stroke and Maximum Speed

Lead (mm)	200 ~ 400 (every 50mm)
6	360
4	240
2	120

(Unit: mm/s)

Correlation between Push Force and Current Limit



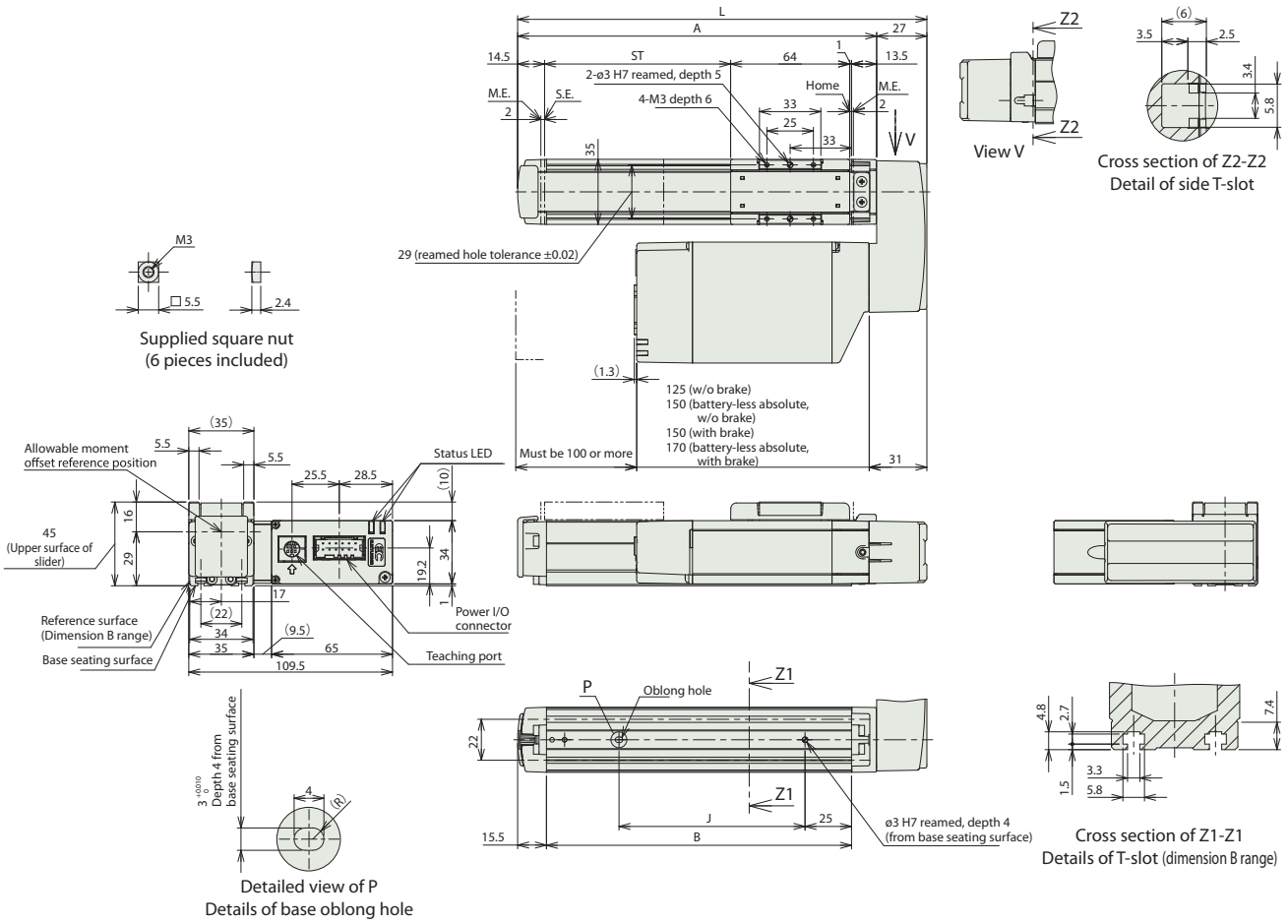
Dimensions

CAD drawings can be downloaded from our website.
www.iai-automation.com

■ EC-S3□AR

(Note) Upon home return, the slider will move to the M.E. Be careful of interference with surrounding objects.
(Note) Nut holders (6 pcs) are included with the square nuts.
(Note) (Note) The drawings below are for side-mounted motor to the left (ML).

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



■ Dimensions by Stroke

Stroke	200	250	300	350	400
L	320	370	420	470	520
A	293	343	393	443	493
B	264	314	364	414	464
J	200	250	300	350	400

■ Mass by Stroke

Stroke		200	250	300	350	400
Mass (kg)	Without brake	1.1	1.2	1.3	1.4	1.5
	With brake	1.2	1.3	1.4	1.5	1.6

Applicable Controllers

(Note) EC Series products are equipped with a built-in controller. Please refer to P. 65 for details on built-in controllers.

EC-S4□AR

Simple Dust-proof | Side-mounted Motor | Body Width 40 mm | 24v Pulse Motor

■ Model Specification Items

EC - [ ] [ ] A R - [ ] - [ ] - [ ]

Series	Type		Lead		Specifications		Specifications		Stroke		Power I/O cable length	Options
	S4	Standard	S	16mm	A	Long stroke supported	R	Side-mounted motor	250 ~ 500	250mm ~ 500mm (every 50mm)	See power I/O cable length table below	See options below
			H	10mm								
			M	5mm								
			L	2.5mm								

CE RoHS 10

Horizontal | Vertical | Side | Ceiling

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

POINT Selection Notes

(1) Longer strokes may cause the maximum speed to decrease due to the resonance of the ball screw. Check the stroke maximum speed required in the "Stroke and Maximum Speed" table.

(2) "Main Specifications" displays the payload's maximum value. Please refer to "Table of Payload by Speed/Acceleration" for details.

(3) If performing push-motion operations, refer to the "Correlation between Push Force and Current Limit" diagram. The push forces listed are only reference values. Please refer to P. 58 for applicable notes.

(4) Pay close attention to the installation orientation. Please refer to P. 5 for details.

(5) Reference value of the overhang load length is under 150mm in the Ma, Mb, and Mc directions. Please refer to the explanation on P. 5 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.

Power / I/O cable length

■ Standard connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
0	No cable	Terminal block supplied (Note 2)	CB-REC-PWBIO□□□-RB supplied
1 ~ 3	1 ~ 3m	CB-EC-PWBIO□□□-RB supplied	
4 ~ 5	4 ~ 5m		
6 ~ 7	6 ~ 7m		
8 ~ 10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note 2) Only terminal block connector is included. Please refer to P. 66 for details.
(Note) Robot cable is standard.

■ 4-way connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
S1 ~ S3	1 ~ 3m	CB-EC2-PWBIO□□□-RB supplied	CB-REC2-PWBIO□□□-RB supplied
S4 ~ S5	4 ~ 5m		
S6 ~ S7	6 ~ 7m		
S8 ~ S10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note) Robot cable is standard.

Options * Please check the Options reference pages to confirm each option.

Name	Option code	Reference page
RCON-EC connection specification (Note 1)	**ACR**	53
Brake	**B**	53
Foot bracket	**FT**	53
Designated grease specification	**G5**	54
Side-mounted motor to the left (Note 2)	**ML**	54
Side-mounted motor to the right (Note 2)	**MR**	54
—	**—**	—
—	**—**	—
Non-motor end specification	**NM**	55
PNP specification	**PN**	55
Slider part roller specification	**SR**	55
Split motor and controller power supply specification	**TMD2**	56
Battery-less absolute encoder specification	**WA**	56
Wireless communication specification	**WL**	56
Wireless axis operation specification	**WL2**	56

(Note 1) If the RCON-EC connection specification (ACR) is selected, the PNP specification (PN) and split motor and controller power supply specification (TMD2) cannot be selected.
(Note 2) Be sure to enter a code in the option column for Model Specification Items.

Main Specifications

Item			Description			
Lead		Ball screw lead (mm)	16	10	5	2.5
Horizontal	Payload	Max. payload (kg) (energy-saving disabled)	7	12	15	18
		Max. payload (kg) (energy-saving enabled)	4	10	12	14
	Speed / acceleration/ deceleration	Max. speed (mm/s)	800	700	350	175
		Min. speed (mm/s)	40	30	7	4
		Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
		Max. acceleration/deceleration (G)	1	1	0.5	0.3
Vertical	Payload	Max. payload (kg) (energy-saving disabled)	1.5	2.5	5	6.5
		Max. payload (kg) (energy-saving enabled)	1	2	4.5	6.5
	Speed / acceleration/ deceleration	Max. speed (mm/s)	800	600	350	150
		Min. speed (mm/s)	40	30	7	4
		Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
		Max. acceleration/deceleration (G)	0.5	0.5	0.5	0.3
Push		Max. push force (N)	39	62	124	263
		Max. push speed (mm/s)	40	30	20	20
Brake		Brake specification	Non-excitation actuating solenoid brake			
		Brake holding force (kgf)	1.5	2.5	5	6.5
Stroke		Min. stroke (mm)	250	250	250	250
		Max. stroke (mm)	500	500	500	500
		Stroke pitch (mm)	50	50	50	50

Item	Description
Drive system	Ball screw ø8mm, rolled C10
Positioning repeatability	±0.05mm
Lost motion	- (notation not available due to 2-point positioning function)
Base	Dedicated aluminum extruded material (A6063SS-T5 equivalent), black alumite treatment
Linear guide	Linear motion infinite circulating type
Allowable static moment	Ma: 13.0N·m
	Mb: 18.6N·m
	Mc: 25.3N·m
Allowable dynamic moment (Note 1)	Ma: 5.0N·m
	Mb: 7.1N·m
	Mc: 9.7N·m
Ambient operating temperature, humidity	0 ~ 40°C, 85%RH or less (no condensation)
Ingress protection	IP20
Vibration & shock resistance	4.9m/s^2
Overseas standards	CE marking, RoHS directive
Motor type	Pulse motor (□35)
Encoder type	Incremental/battery-less absolute
Number of encoder pulses	800 pulse/rev

(Note 1) Based on the standard rated operation life of 5000km. Operation life varies according to operating and mounting conditions. Please refer to service life on P. 33 of the EleCylinder Catalog V10.

■ Slider Type Moment Direction

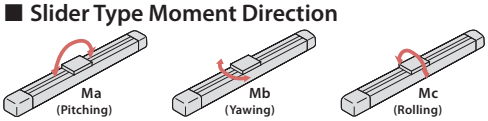


Table of Payload by Speed/Acceleration *The energy-saving setting is disabled at shipping. Please refer to P. 4-1 for details.

■ Energy-Saving Setting Disabled (power mode) The unit for payload is kg. If blank, operation is not possible.

Lead 16

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	7	6	6	5	1.5	1.25
140	7	6	6	5	1.5	1.25
280	7	6	6	5	1.5	1.25
420	7	6	5	4	1.5	1.25
560	7	6	4.5	3	1.5	1.25
700	6	4	3.5	3	1.5	1.25
800		3	2.5	2		1

Lead 10

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	12	11	10	10	2.5	2
175	12	11	10	10	2.5	2
350	12	9	9	7	2.5	2
435	12	8	7	5	2.5	2
525	11	7	6	4	1.5	1.5
600	8	5	4	2	1	1
700		3	2	1		

Lead 5

Orientation	Horizontal		Vertical	
Speed (mm/s)	Acceleration (G)			
	0.3	0.5	0.3	0.5
0	15	14	5	4.5
85	15	14	5	4.5
130	15	14	5	4.5
215	15	14	5	4.5
260	15	14	5	4.5
300	15	14	4	4
350	13	10	2	2

Lead 2.5

Orientation	Horizontal	Vertical
Speed (mm/s)	Acceleration (G)	
	0.3	0.3
0	18	6.5
40	18	6.5
85	18	6.5
105	18	6.5
135	18	6.5
150	18	6
175	18	

■ Energy-Saving Setting Enabled (energy-saving mode) The unit for payload is kg. If blank, operation is not possible.

Lead 16

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	4	3.5	1
140	4	3.5	1
280	4	3.5	1
420	4	3.5	1
560	4	3	1
700	3	2	
800		1	

Lead 10

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	10	8	2
175	10	8	2
350	9	6	2
435	7	3	1
525	4	1	

Lead 5

Orientation	Horizontal	Vertical
Speed (mm/s)	Acceleration (G)	
	0.3	0.3
0	12	4.5
85	12	4.5
130	12	4
215	10	4
260	9	2.5

Lead 2.5

Orientation	Horizontal	Vertical
Speed (mm/s)	Acceleration (G)	
	0.3	0.3
0	14	6.5
40	14	6.5
85	14	6.5
105	14	4
135	14	2

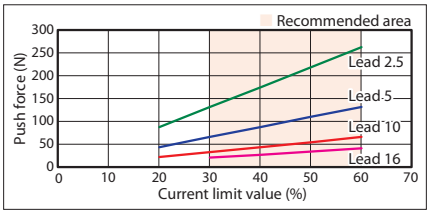
Stroke and Maximum Speed

Lead (mm)	Energy-saving setting	250 ~ 450 (every 50mm)	500 (mm)
16	Disabled	800	
	Enabled	800 <560>	
10	Disabled	700	600
	Enabled	525<435>	
5	Disabled	350	300
	Enabled	260	
2.5	Disabled	175 <150>	150
	Enabled	135	

(Unit: mm/s)

(Note) Values in brackets < > are for vertical use.

Correlation between Push Force and Current Limit



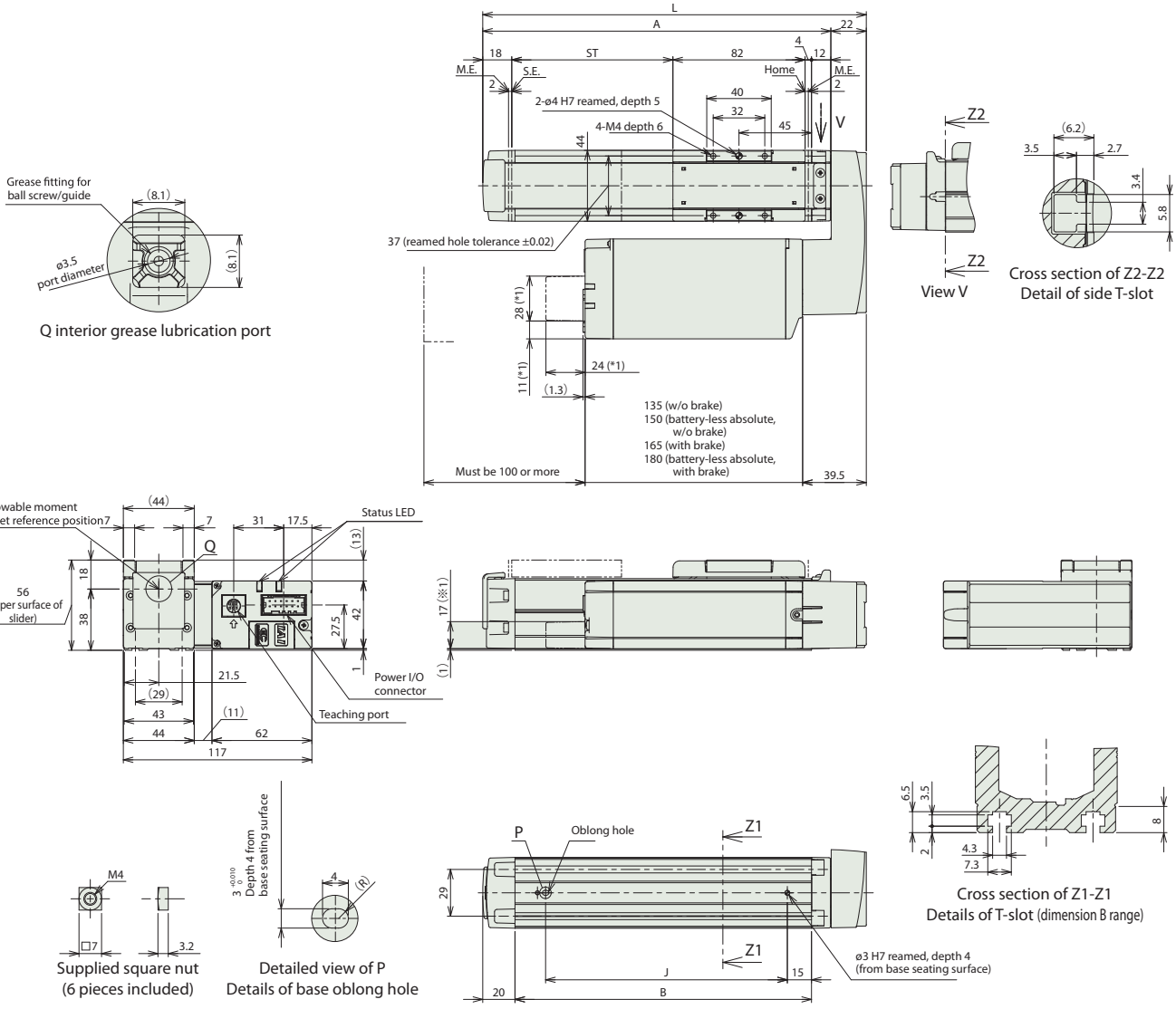
Dimensions

CAD drawings can be downloaded from our website.
www.iai-automation.com

■ EC-S4□AR

*1 Dimensions are for the product with WL/WL2 options.
(Note) Upon home return, the slider will move to the M.E. Be careful of interference with surrounding objects.
(Note) Nut holders (6 pcs) are included with the square nuts.
(Note) The drawings below are for side-mounted motor to the left (ML).

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



■ Dimensions by Stroke

Stroke	250	300	350	400	450	500
L	388	438	488	538	588	638
A	366	416	466	516	566	616
B	334	384	434	484	534	584
J	300	350	400	450	500	550

■ Mass by Stroke

Stroke		250	300	350	400	450	500
Mass (kg)	Without brake	1.9	2.1	2.2	2.4	2.5	2.7
	With brake	2.1	2.3	2.4	2.6	2.7	2.9

Applicable Controllers

(Note) EC Series products are equipped with a built-in controller. Please refer to P. 65 for details on built-in controllers.

EC-S6□AR

Simple Dust-proof | Side-mounted Motor | Body Width 60 mm | 24v Pulse Motor

■ Model Specification Items

EC - [ ] [ ] A R - [ ] - [ ] - [ ]

Series	Type		Lead		Specifications		Specifications		Stroke		Power I/O cable length	Options
	S6	Standard	S	20mm	A	Long stroke supported	R	Side-mounted motor	250 ~ 800	250mm ~ 800mm (every 50mm)	See power I/O cable length table below	See options below
			H	12mm								
			M	6mm								
			L	3mm								

Horizontal | Vertical | Side | Ceiling

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

POINT Selection Notes

(1) Longer strokes may cause the maximum speed to decrease due to the resonance of the ball screw. Check the stroke maximum speed required in the "Stroke and Maximum Speed" table.
(2) "Main Specifications" displays the payload's maximum value. If the energy-saving setting is enabled, the main specifications will change. Please refer to "Table of Payload by Speed/Acceleration" for details.
(3) If performing push-motion operations, refer to the "Correlation between Push Force and Current Limit" diagram. The push forces listed are only reference values. Please refer to P. 58 for applicable notes.
(4) Depending on the ambient operating temperature, duty ratio control is necessary. Please refer to P. 58 for details.
(5) Pay close attention to the installation orientation. Please refer to P. 5 for details.
(6) Reference value of the overhang load length is 220mm or below in the Ma, Mb, and Mc directions (for double slider specification, 440mm or below). Please refer to the explanation on P. 5 for the overhang load length.
(7) 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.
(8) When selecting the double slider specification, refer to P. 57 for models to be ordered and precautions.

Power / I/O cable length

■ Standard connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
0	No cable	Terminal block supplied (Note 2)	CB-REC-PWBIO□□□-RB supplied
1 ~ 3	1 ~ 3m	CB-EC-PWBIO□□□-RB supplied	
4 ~ 5	4 ~ 5m		
6 ~ 7	6 ~ 7m		
8 ~ 10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note 2) Only terminal block connector is included. Please refer to P. 66 for details.
(Note) Robot cable is standard.

■ 4-way connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
S1 ~ S3	1 ~ 3m	CB-EC2-PWBIO□□□-RB supplied	CB-REC2-PWBIO□□□-RB supplied
S4 ~ S5	4 ~ 5m		
S6 ~ S7	6 ~ 7m		
S8 ~ S10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note) Robot cable is standard.

Options * Please check the Options reference pages to confirm each option.

Name	Option code	Reference page
RCON-EC connection specification (Note 1)	ACR	53
Brake	B	53
Foot bracket	FT	53
Designated grease specification (Note 2)	G5	54
Side-mounted motor to the left (Note 3)	ML	54
Side-mounted motor to the right (Note 3)	MR	54
—	—	—
Non-motor end specification	NM	55
PNP specification	PN	55
Slider part roller specification (Note 4)	SR	55
Split motor and controller power supply specification	TMD2	56
Double slider specification (Note 2) (Note 4) (Note 5)	W	56
Battery-less absolute encoder specification	WA	56
Wireless communication specification	WL	56
Wireless axis operation specification	WL2	56

(Note 1) If the RCON-EC connection specification (ACR) is selected, the PNP specification (PN) and split motor and controller power supply specification (TMD2) cannot be selected.
(Note 2) The double slider specification (W) and designated grease specification (G5) cannot be used together.
(Note 3) Be sure to enter a code in the option column for Model Specification Items.
(Note 4) When using the slider part roller specification (SR) and double slider specification (W) together, the price of the former will be doubled.
(Note 5) Some leads cannot be selected. Please refer to P. 40 for details.

Main Specifications

Item			Description			
Lead		Ball screw lead (mm)	20	12	6	3
Horizontal	Payload	Max. payload (kg) (energy-saving disabled)	15	26	32	40
		Max. payload (kg) (energy-saving enabled)	8	14	20	25
	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)	1	1	1	1
Vertical	Payload	Max. payload (kg) (energy-saving disabled)	1	2.5	6	12.5
		Max. payload (kg) (energy-saving enabled)	0.75	2	5	10
	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
		Max. acceleration/deceleration (G)	0.5	0.5	0.5	0.5
Push		Max. push force (N)	67	112	224	449
		Max. push speed (mm/s)	20	20	20	20
Brake		Brake specification	Non-excitation actuating solenoid brake			
		Brake holding force (kgf)	1	2.5	6	12.5
Stroke		Min. stroke (mm)	350	300	250	250
		Max. stroke (mm)	800	800	800	800
		Stroke pitch (mm)	50	50	50	50

Item	Description
Drive system	Ball screw ø10mm, rolled C10
Positioning repeatability	±0.05mm
Lost motion	- (notation not available due to 2-point positioning function)
Base	Dedicated aluminum extruded material (A6063SS-T5 equivalent), black alumite treatment
Linear guide	Linear motion infinite circulating type
Allowable static moment	Ma: 48.5 N·m
	Mb: 69.3 N·m
	Mc: 97.1 N·m
Allowable dynamic moment (Note 1)	Ma: 11.6 N·m
	Mb: 16.6 N·m
	Mc: 23.3 N·m
Ambient operating temperature, humidity	0 ~ 40°C, 85%RH or less (no condensation)
Ingress protection	IP20
Vibration & shock resistance	4.9m/s^2
Overseas standards	CE marking, RoHS directive
Motor type	Pulse motor (□42)
Encoder type	Incremental/battery-less absolute
Number of encoder pulses	800 pulse/rev

(Note 1) Based on the standard rated operation life of 5000km. Operation life varies according to operating and mounting conditions. Please refer to service life on P. 33 of the EleCylinder Catalog V10.

■ Slider Type Moment Direction

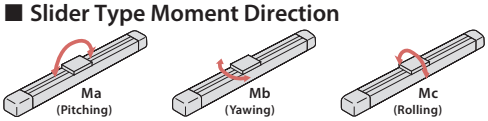


Table of Payload by Speed/Acceleration *The energy-saving setting is disabled at shipping. Please refer to P. 4-1 for details.

■ Energy-Saving Setting Disabled (power mode) The unit for payload is kg. If blank, operation is not possible.

Lead 20

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	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	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	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	18	12	7	5	2.5	2.5
700	10	5	4	3	1.5	1

(Note) Refer to the cautions when "G5" option is selected.

Lead 6

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	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	14	6	4	2	2.5	1.5
450	6					

(Note) Refer to the cautions when "G5" option is selected.

Lead 3

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	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	28	15	10	9	8
200	24	12	4		5	3
225	4				1	

(Note) Refer to the cautions when "G5" option is selected.

■ Energy-Saving Setting Enabled (energy-saving mode) The unit for payload is kg.

Lead 20

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	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	0.5

Lead 12

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	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		

(Note) Refer to the cautions when "G5" option is selected.

Lead 6

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	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	3		

(Note) Refer to the cautions when "G5" option is selected.

Lead 3

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	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	3		

(Note) Refer to the cautions when "G5" option is selected.

<Cautions on the "G5" (designated grease specification) option>

Use at or less than the speed specified below when using the ambient temperature of 10°C or lower.

* **Lead 12**: 440mm/s or less, **Lead 6**: 220mm/s or less, **Lead 3**: 110mm/s or less

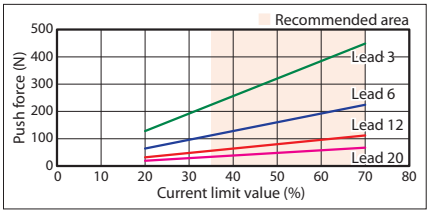
Stroke and Maximum Speed

Lead (mm)	Energy-saving setting	250 (mm)	300 (mm)	350~450 (every 50mm)	500 (mm)	550 (mm)	600 (mm)	650 (mm)	700 (mm)	750 (mm)	800 (mm)
20	Disabled			800						700	620
	Enabled			800						700	620
12	Disabled		700				560	500	430	380	330
	Enabled		680<560>				560	500	430	380	330
6	Disabled	450<400>			410 <400>	340	290	250	210	180	160
	Enabled	340<280>					290 <280>	250	210	180	160
3	Disabled	225			200	170	140	120	105	90	80
	Enabled	170<140>					140	120	105	90	80

(Unit: mm/s)

(Note) Values in brackets < > are for vertical use.
(Note) If blank, there is no setting.

Correlation between Push Force and Current Limit



Dimensions

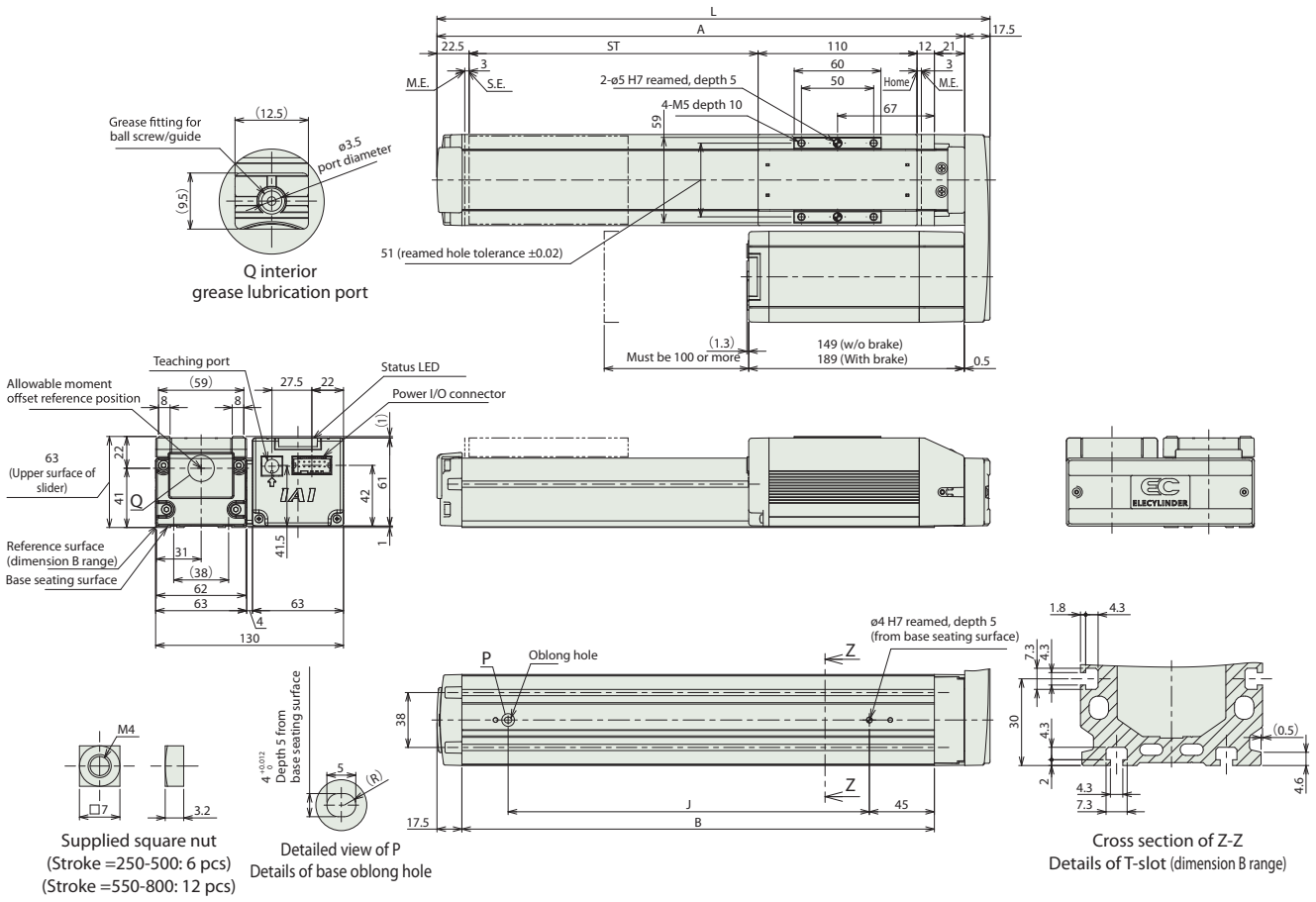
CAD drawings can be downloaded from our website.
www.iai-automation.com

2D CAD 3D CAD

■ EC-S6□AR

(Note) When the slider is returning to its home position, be careful of interference from surrounding objects, as it will travel until it reaches the M.E.
(Note) Nut holders are included with the square nuts (6 pcs for stroke=250-500, 12 pcs for stroke 550-800).
(Note) The drawings below are for side-mounted motor to the left (ML).

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



■ Dimensions by Stroke

Stroke	250	300	350	400	450	500	550	600	650	700	750	800
L	433	483	533	583	633	683	733	783	833	883	933	983
A	415.5	465.5	515.5	565.5	615.5	665.5	715.5	765.5	815.5	865.5	915.5	965.5
B	377	427	477	527	577	627	677	727	777	827	877	927
J	300	350	400	450	500	550	600	650	700	750	800	850

■ Mass by Stroke

Stroke		250	300	350	400	450	500	550	600	650	700	750	800
Mass (kg)	Without brake	3.1	3.3	3.5	3.7	3.9	4.1	4.3	4.5	4.7	4.9	5.1	5.3
	With brake	3.3	3.5	3.7	3.9	4.1	4.3	4.5	4.7	4.9	5.1	5.3	5.5

Main Specifications (double slider specification)

Item			Description		
Lead		Ball screw lead (mm)	12	6	3
Horizontal	Payload	Max. payload (kg) (energy-saving disabled)	24	30	38
		Max. payload (kg) (energy-saving enabled)	12	18	23
	Speed / acceleration/ deceleration	Max. speed (mm/s)	560	340	200
		Min. speed (mm/s)	15	8	4
		Rated acceleration/deceleration (G)	0.3	0.3	0.3
		Max. acceleration/deceleration (G)	1	1	1
Vertical	Payload	Max. payload (kg) (energy-saving disabled)	-	4	10
		Max. payload (kg) (energy-saving enabled)	-	3	8
	Speed / acceleration/ deceleration	Max. speed (mm/s)	-	280	170
		Min. speed (mm/s)	-	8	4
		Rated acceleration/deceleration (G)	-	0.3	0.3
		Max. acceleration/deceleration (G)	-	0.5	0.5
Push		Max. push force (N)	112	224	449
		Max. push speed (mm/s)	20	20	20
Brake		Brake specification	Non-excitation actuating solenoid brake		
		Brake holding force (kgf)	2.5	6	12.5
Stroke		Min. nominal stroke (mm)	300	250	250
		Min. effective stroke (mm)	150	100	100
		Max. nominal stroke (mm)	800	800	800
		Max. effective stroke (mm)	650	650	650
		Stroke pitch (mm)	50	50	50

(Note) Nominal stroke: Stroke listed in the model name
Effective stroke: Actually operable stroke
(Note) Lead 12 cannot be vertically mounted.

Item	Description
Drive system	Ball screw ø10mm, rolled C10
Positioning repeatability	±0.05mm
Lost motion	- (notation not available due to 2-point positioning function)
Base	Dedicated aluminum extruded material (A6063SS-T5 equivalent), black alumite treatment
Linear guide	Linear motion infinite circulating type
Allowable static moment	Ma: 364 N·m
	Mb: 520 N·m
	Mc: 129 N·m
Allowable dynamic moment (Note 1)	Ma: 106 N·m
	Mb: 152 N·m
	Mc: 37.9 N·m
Ambient operating temperature, humidity	0 ~ 40°C, 85%RH or less (no condensation)
Ingress protection	IP20
Vibration & shock resistance	4.9m/s^2
Overseas standards	CE marking, RoHS directive
Motor type	Pulse motor (□42)
Encoder type	Incremental/battery-less absolute
Number of encoder pulses	800 pulse/rev

(Note 1) Based on the standard rated operation life of 5000km. Operation life varies according to operating and mounting conditions. Please refer to service life on P. 33 of the EleCylinder Catalog V10.

■ Slider Type Moment Direction

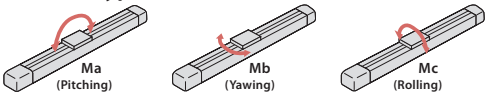


Table of Payload by Speed/Acceleration (double slider specification) *The energy-saving setting is disabled at shipping. Please refer to P. 4-1 for details.

■ Energy-Saving Setting Disabled (power mode) The unit for payload is kg. If blank, operation is not possible.

Lead 12

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	24	16	14	12		
80	24	16	14	12		
200	24	16	14	12		
320	24	16	10	8		
440	18	10	5	3		
560	7	4				

Lead 6

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	30	24	22	18	4	4
40	30	24	22	18	4	4
100	30	24	22	18	4	4
160	30	24	22	18	4	4
220	28	22	18	14	2	2
280	26	20	3	1	2	1
340	6					

Lead 3

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	38	33	33	33	10	10
50	38	33	33	33	10	10
80	38	33	33	28	10	10
110	38	33	33	28	10	10
140	36	31	28	24	8	8
170	34	22			2.5	2
200	7					

■ Energy-Saving Setting Enabled (energy-saving mode) The unit for payload is kg. If blank, operation is not possible.

Lead 12

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	12	8	
80	12	8	
200	12	8	
320	12	6	
440	7	1	

Lead 6

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	18	12	3
40	18	12	3
100	18	12	3
160	18	12	3
220	12	10	1
280	6	2	

Lead 3

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	23	20	8
20	23	20	8
50	23	20	8
80	23	20	8
110	18	12	6
140	10	6	1

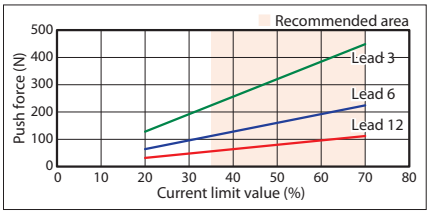
Stroke and Maximum Speed (double slider specification)

Lead (mm)	Nominal stroke	250	300 ~ 500	550	600	650	700	750	800
	Effective stroke	100	150 ~ 350	400	450	500	550	600	650
	Energy-saving setting	(mm)	(every 50mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
12	Disabled		560			500	430	380	330
	Enabled		440				430	380	330
6	Disabled	340<280>			290 <280>	250	210	180	160
	Enabled	280<220>				250 <220>	210	180	160
3	Disabled	200<170>		170	140	120	105	90	80
	Enabled	140				120	105	90	80

(Unit: mm/s)

(Note) Values in brackets < > are for vertical use.
(Note) Nominal stroke: Stroke listed in the model name
Effective stroke: Actually operable stroke

Correlation between Push Force and Current Limit (double slider spec.)



(Note) Same values as single slider specification.

Dimensions for Double Slider Specification

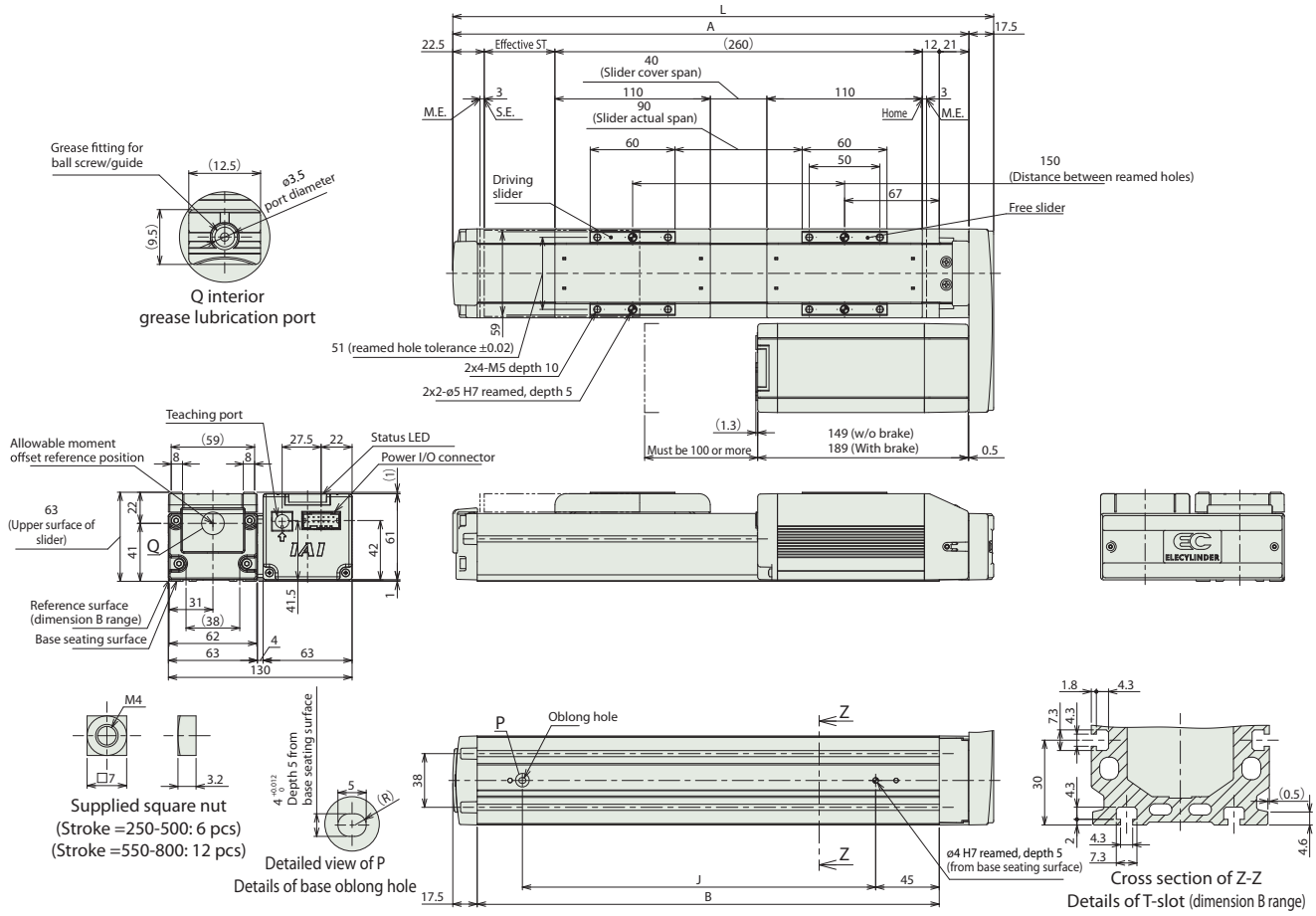
CAD drawings can be downloaded from our website.
www.iai-automation.com

2D CAD 3D CAD

■ EC-S6□AR (double slider specification)

(Note) Upon home return, the slider will move to the M.E. Be careful of interference with surrounding objects.
(Note) Nut holders (nominal stroke = 250 ~ 500: 6 pcs, 550 ~ 800: 12 pcs) are included with the square nuts.
(Note) Connect the slider at the slider cover span in the dimensions or the reamed hole distance dimensions.

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



■ Dimensions by Stroke

Nominal stroke	250	300	350	400	450	500	550	600	650	700	750	800
Effective stroke	100	150	200	250	300	350	400	450	500	550	600	650
L	433	483	533	583	633	683	733	783	833	883	933	983
A	415.5	465.5	515.5	565.5	615.5	665.5	715.5	765.5	815.5	865.5	915.5	965.5
B	377	427	477	527	577	627	677	727	777	827	877	927
J	300	350	400	450	500	550	600	650	700	750	800	850

(Note) Nominal stroke: Stroke listed in the model name
Effective stroke: Actually operable stroke

■ Mass by Stroke

Nominal stroke		250	300	350	400	450	500	550	600	650	700	750	800
Effective stroke		100	150	200	250	300	350	400	450	500	550	600	650
Mass (kg)	Without brake	3.37	3.57	3.77	3.97	4.17	4.37	4.57	4.77	4.97	5.17	5.37	5.57
	With brake	3.57	3.77	3.97	4.17	4.37	4.57	4.77	4.97	5.17	5.37	5.57	5.77

(Note) It is the sum of single slider specification's mass and free slider's mass (0.27kg).

Applicable Controllers

(Note) EC Series products are equipped with a built-in controller. Please refer to P. 65 for details on built-in controllers.

EC-S7□AR

Simple Dust-proof | Side-mounted Motor | Body Width 70 mm | 24v Pulse Motor

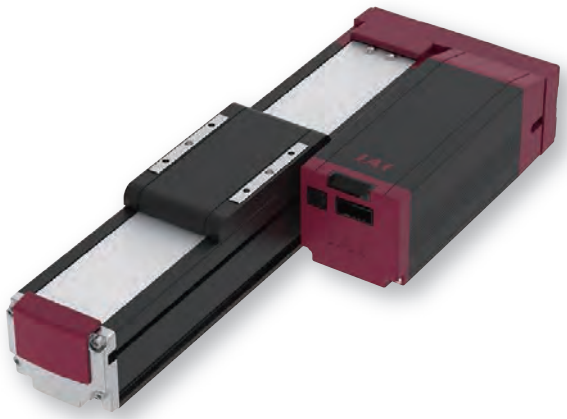
■ Model Specification Items

EC - [ ] [ ] A R - [ ] - [ ] - [ ]

Series	Type		Lead		Specifications		Specifications		Stroke		Power I/O cable length	Options
	S7	Standard	S	24mm	A	Long stroke supported	R	Side-mounted motor	350 ~ 800	350mm ~ 800mm (every 50mm)	See power I/O cable length table below	See options below
			H	16mm								
			M	8mm								
			L	4mm								

CE RoHS 10

Horizontal | Vertical | Side | Ceiling



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

POINT Selection Notes

(1) Longer strokes may cause the maximum speed to decrease due to the resonance of the ball screw. Check the stroke maximum speed required in the "Stroke and Maximum Speed" table.
(2) "Main Specifications" displays the payload's maximum value. If the energy-saving setting is enabled, the main specifications will change. Please refer to "Table of Payload by Speed/Acceleration" for details.
(3) If performing push-motion operations, refer to the "Correlation between Push Force and Current Limit" diagram. The push forces listed are only reference values. Please refer to P. 58 for applicable notes.
(4) Depending on the ambient operating temperature, duty ratio control is necessary. Please refer to P. 58 for details.
(5) Pay close attention to the installation orientation. Please refer to P. 5 for details.
(6) Reference value of the overhang load length is 280mm or below in the Ma, Mb, and Mc directions (for double slider specification, 560mm or below). Please refer to the explanation on P. 5 for the overhang load length.
(7) 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.
(8) When selecting the double slider specification, refer to P. 57 for models to be ordered and precautions.

Power / I/O cable length

■ Standard connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
0	No cable	Terminal block supplied (Note 2)	CB-REC-PWBIO□□□-RB supplied
1 ~ 3	1 ~ 3m	CB-EC-PWBIO□□□-RB supplied	
4 ~ 5	4 ~ 5m		
6 ~ 7	6 ~ 7m		
8 ~ 10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note 2) Only terminal block connector is included. Please refer to P. 66 for details.
(Note) Robot cable is standard.

■ 4-way connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
S1 ~ S3	1 ~ 3m	CB-EC2-PWBIO□□□-RB supplied	CB-REC2-PWBIO□□□-RB supplied
S4 ~ S5	4 ~ 5m		
S6 ~ S7	6 ~ 7m		
S8 ~ S10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note) Robot cable is standard.

Options * Please check the Options reference pages to confirm each option.

Name	Option code	Reference page
RCON-EC connection specification (Note 1)	**ACR**	53
Brake	**B**	53
Foot bracket	**FT**	53
Designated grease specification (Note 2)	**G5**	54
Side-mounted motor to the left (Note 3)	**ML**	54
Side-mounted motor to the right (Note 3)	**MR**	54
—	**—**	—
Non-motor end specification	**NM**	55
PNP specification	**PN**	55
Slider part roller specification (Note 4)	**SR**	55
Split motor and controller power supply specification	**TMD2**	56
Double slider specification (Note 2) (Note 4) (Note 5)	**W**	56
Battery-less absolute encoder specification	**WA**	56
Wireless communication specification	**WL**	56
Wireless axis operation specification	**WL2**	56

(Note 1) If the RCON-EC connection specification (ACR) is selected, the PNP specification (PN) and split motor and controller power supply specification (TMD2) cannot be selected.
(Note 2) The double slider specification (W) and designated grease specification (G5) cannot be used together.
(Note 3) Be sure to enter a code in the option column for Model Specification Items.
(Note 4) When using the slider part roller specification (SR) and double slider specification (W) together, the price of the former will be doubled.
(Note 5) Some leads cannot be selected. Please refer to P. 45 for details.

Main Specifications

Item			Description			
Lead		Ball screw lead (mm)	24	16	8	4
Horizontal	Payload	Max. payload (kg) (energy-saving disabled)	37	46	51	51
		Max. payload (kg) (energy-saving enabled)	18	35	40	40
	Speed / acceleration/ deceleration	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
		Max. acceleration/deceleration (G)	1	1	1	1
Vertical	Payload	Max. payload (kg) (energy-saving disabled)	3	8	16	19
		Max. payload (kg) (energy-saving enabled)	2	5	10	15
	Speed / acceleration/ deceleration	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
		Max. acceleration/deceleration (G)	0.5	0.5	0.5	0.5
Push		Max. push force (N)	139	209	418	836
		Max. push speed (mm/s)	20	20	20	20
Brake		Brake specification	Non-excitation actuating solenoid brake			
		Brake holding force (kgf)	3	8	16	19
Stroke		Min. stroke (mm)	400	350	350	350
		Max. stroke (mm)	800	800	800	800
		Stroke pitch (mm)	50	50	50	50

Item	Description
Drive system	Ball screw ø12mm, rolled C10
Positioning repeatability	±0.05mm
Lost motion	- (notation not available due to 2-point positioning function)
Base	Dedicated aluminum extruded material (A6063SS-T5 equivalent), black alumite treatment
Linear guide	Linear motion infinite circulating type
Allowable static moment	Ma: 79.7 N·m
	Mb: 114 N·m
	Mc: 157 N·m
Allowable dynamic moment (Note 1)	Ma: 17.7 N·m
	Mb: 25.3 N·m
	Mc: 34.9 N·m
Ambient operating temperature, humidity	0 ~ 40°C, 85%RH or less (no condensation)
Ingress protection	IP20
Vibration & shock resistance	4.9m/s^2
Overseas standards	CE marking, RoHS directive
Motor type	Pulse motor (□56)
Encoder type	Incremental/battery-less absolute
Number of encoder pulses	800 pulse/rev

(Note 1) Based on the standard rated operation life of 5000km. Operation life varies according to operating and mounting conditions. Please refer to service life on P. 33 of the EleCylinder Catalog V10.

■ Slider Type Moment Direction

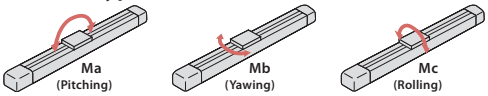


Table of Payload by Speed/Acceleration *The energy-saving setting is disabled at shipping. Please refer to P. 4-1 for details.

■ Energy-Saving Setting Disabled (power mode) The unit for payload is kg. If blank, operation is not possible.

Lead 24

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (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	11	3	3
640	18	13	9	7.5	3	3
860	9	6	4	2	1.5	1

Lead 16

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	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	10	8	5	3	2.5
700	6	2			1	

(Note) Refer to the cautions when "G5" option is selected.

Lead 8

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	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	7	6
350	13	3			2	

(Note) Refer to the cautions when "G5" option is selected.

Lead 4

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	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	30	13	8	12.5	12
175	10				1	

(Note) Refer to the cautions when "G5" option is selected.

■ Energy-Saving Setting Enabled (energy-saving mode) The unit for payload is kg.

Lead 24

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	18	10	2
200	18	10	2
420	18	10	2
640	7	2	1
800	1		

Lead 16

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	35	20	5
140	35	20	5
280	25	12	3
420	15	6	1.5
500	6	1	0.5
560	2		

Lead 8

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	40	25	10
70	40	25	10
140	40	25	7
210	25	14	4
280	2		

Lead 4

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	40	30	15
35	40	30	15
70	40	30	15
105	40	25	8
140	10		1

<Cautions on the "G5" (designated grease specification) option>

Use at or less than the speed specified below when using the ambient temperature of 10°C or lower.

* **Lead 16**: 560mm/s or less, **Lead 8**: 280mm/s or less, **Lead 4**: 140mm/s or less

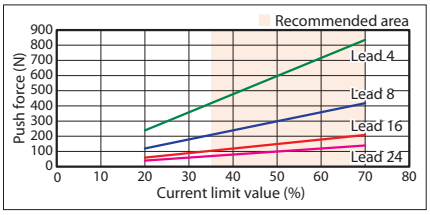
Stroke and Maximum Speed

Lead (mm)	Energy-saving setting	350 (mm)	400~650 (every 50mm)	700 (mm)	750 (mm)	800 (mm)
24	Disabled		860			
	Enabled		800<640>			
16	Disabled	700			620	550
	Enabled	560<500>				550 <500>
8	Disabled	350			305	275
	Enabled	280<210>				275 <210>
4	Disabled	175		170	145	125
	Enabled	120				

(Unit: mm/s)

(Note) Values in brackets < > are for vertical use.
(Note) If blank, there is no setting.

Correlation between Push Force and Current Limit



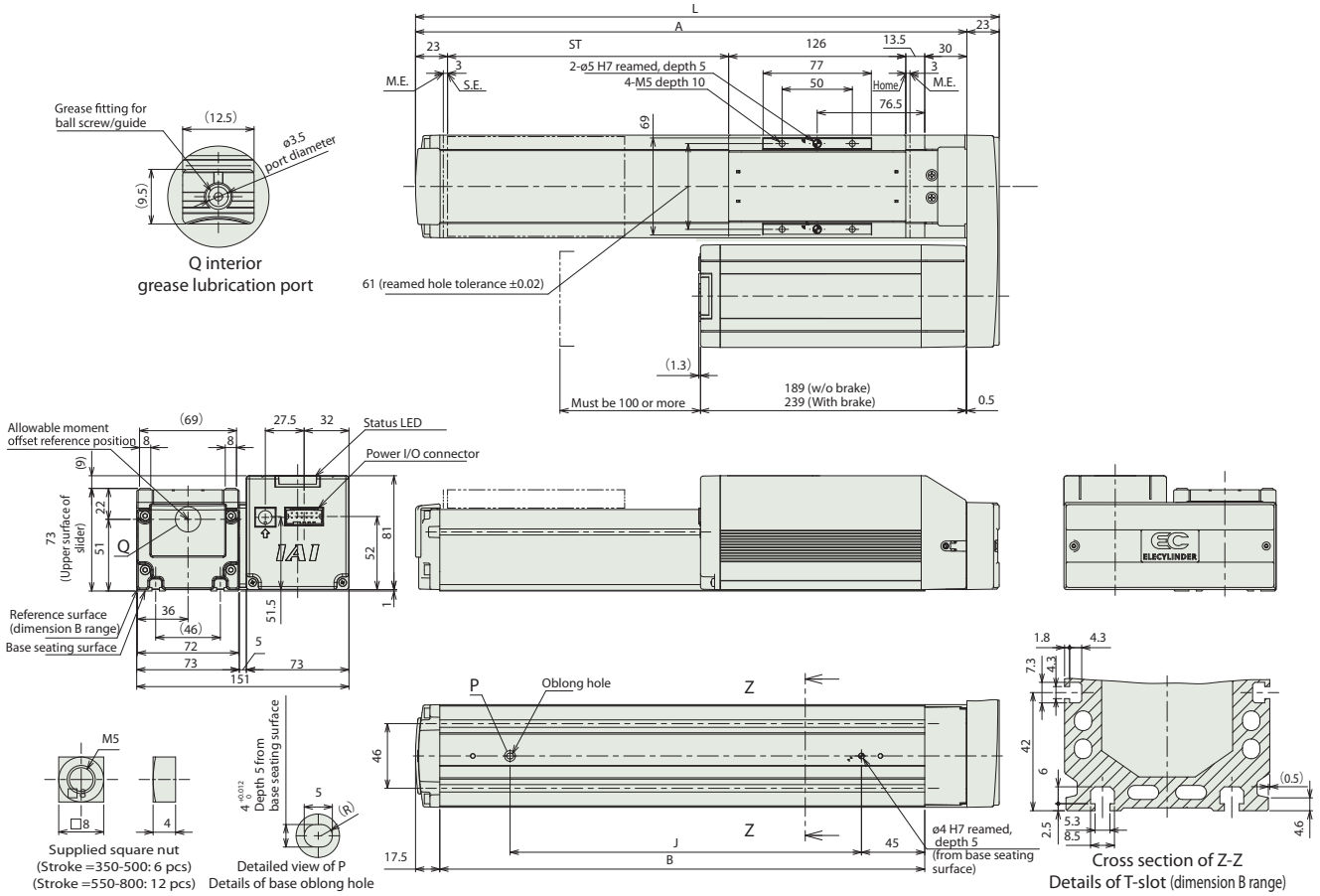
Dimensions

CAD drawings can be downloaded from our website.
www.iai-automation.com

■ EC-S7□AR

(Note) When the slider is returning to its home position, be careful of interference from surrounding objects, as it will travel until it reaches the M.E.
(Note) Nut holders are included with the square nuts (6 pcs for stroke=350-500, 12 pcs for stroke 550-800).
(Note) The drawings below are for side-mounted motor to the left (ML).

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



■ Dimensions by Stroke

Stroke	350	400	450	500	550	600	650	700	750	800
L	565.5	615.5	665.5	715.5	765.5	815.5	865.5	915.5	965.5	1015.5
A	542.5	592.5	642.5	692.5	742.5	792.5	842.5	892.5	942.5	992.5
B	495	545	595	645	695	745	795	845	895	945
J	400	450	500	550	600	650	700	750	800	850

■ Mass by Stroke

Stroke		350	400	450	500	550	600	650	700	750	800
Mass (kg)	Without brake	5.7	6.0	6.2	6.5	6.8	7.1	7.3	7.6	7.9	8.2
	With brake	6.2	6.5	6.8	7.0	7.3	7.6	7.9	8.2	8.4	8.7

Main Specifications (double slider specification)

Item			Description		
Lead		Ball screw lead (mm)	16	8	4
Horizontal	Payload	Max. payload (kg) (energy-saving disabled)	44	49	49
		Max. payload (kg) (energy-saving enabled)	33	38	38
	Speed / acceleration/ deceleration	Max. speed (mm/s)	560	280	140
		Min. speed (mm/s)	20	10	5
		Rated acceleration/deceleration (G)	0.3	0.3	0.3
		Max. acceleration/deceleration (G)	1	1	1
Vertical	Payload	Max. payload (kg) (energy-saving disabled)	-	14	17
		Max. payload (kg) (energy-saving enabled)	-	8	13
	Speed / acceleration/ deceleration	Max. speed (mm/s)	-	210	140
		Min. speed (mm/s)	-	10	5
		Rated acceleration/deceleration (G)	-	0.3	0.3
		Max. acceleration/deceleration (G)	-	0.5	0.5
Push		Max. push force (N)	209	418	836
		Max. push speed (mm/s)	20	20	20
Brake		Brake specification	Non-excitation actuating solenoid brake		
		Brake holding force (kgf)	8	16	19
Stroke		Min. nominal stroke (mm)	350	350	350
		Min. effective stroke (mm)	200	200	200
		Max. nominal stroke (mm)	800	800	800
		Max. effective stroke (mm)	650	650	650
		Stroke pitch (mm)	50	50	50

(Note) Nominal stroke: Stroke listed in the model name
Effective stroke: Actually operable stroke
(Note) Lead 16 cannot be vertically mounted.

Item	Description
Drive system	Ball screw ø12mm, rolled C10
Positioning repeatability	±0.05mm
Lost motion	- (notation not available due to 2-point positioning function)
Base	Dedicated aluminum extruded material (A6063SS-T5 equivalent), black alumite treatment
Linear guide	Linear motion infinite circulating type
Allowable static moment	Ma: 441 N·m
	Mb: 630 N·m
	Mc: 209 N·m
Allowable dynamic moment (Note 1)	Ma: 119 N·m
	Mb: 171 N·m
	Mc: 56.7 N·m
Ambient operating temperature, humidity	0 ~ 40°C, 85%RH or less (no condensation)
Ingress protection	IP20
Vibration & shock resistance	4.9m/s^2
Overseas standards	CE marking, RoHS directive
Motor type	Pulse motor (□56)
Encoder type	Incremental/battery-less absolute
Number of encoder pulses	800 pulse/rev

(Note 1) Based on the standard rated operation life of 5000km. Operation life varies according to operating and mounting conditions. Please refer to service life on P. 33 of the EleCylinder Catalog V10.

■ Slider Type Moment Direction

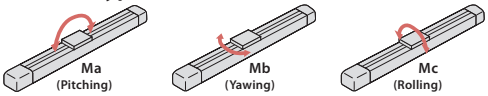


Table of Payload by Speed/Acceleration (double slider specification) *The energy-saving setting is disabled at shipping. Please refer to P. 4-1 for details.

■ Energy-Saving Setting Disabled (power mode) The unit for payload is kg. If blank, operation is not possible.

Lead 16

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	44	33	26	25		
140	44	33	26	25		
280	44	32	22	20		
420	22	15	8	6		
560	5					

Lead 8

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	49	43	38	38	14	14
70	49	43	38	38	14	14
140	49	38	36	33	14	14
210	47	31	26	18	5	3.5
280	29	14	9	5.5		

Lead 4

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	49	43	38	38	17	17
35	49	43	38	38	17	17
70	49	43	38	38	17	17
105	49	43	38	33	15	15
140	38	21	6	1	5.5	3

■ Energy-Saving Setting Enabled (energy-saving mode) The unit for payload is kg. If blank, operation is not possible.

Lead 16

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	33	18	
140	33	18	
280	23	10	
420	8	1	

Lead 8

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	38	23	8
70	38	23	8
140	38	23	5
210	18	8	

Lead 4

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	38	28	13
35	38	28	13
70	38	28	13
105	36	21	4

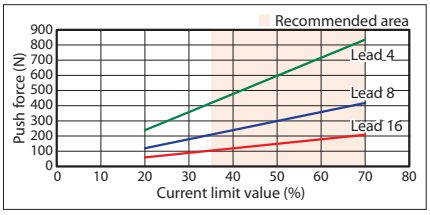
Stroke and Maximum Speed (double slider specification)

Lead	Nominal stroke	350~750	800
	Effective stroke	200~600	650
(mm)	Energy-saving setting	(Every 50mm)	(mm)
16	Disabled	560	550
	Enabled	420	
8	Disabled	280 <210>	275 <210>
	Enabled	210 <140>	
4	Disabled	140	125
	Enabled	105	

(Unit: mm/s)

(Note) Values in brackets < > are for vertical use.
(Note) Nominal stroke: Stroke listed in the model name
Effective stroke: Actually operable stroke

Correlation between Push Force and Current Limit (double slider spec.)



(Note) Same values as single slider specification.

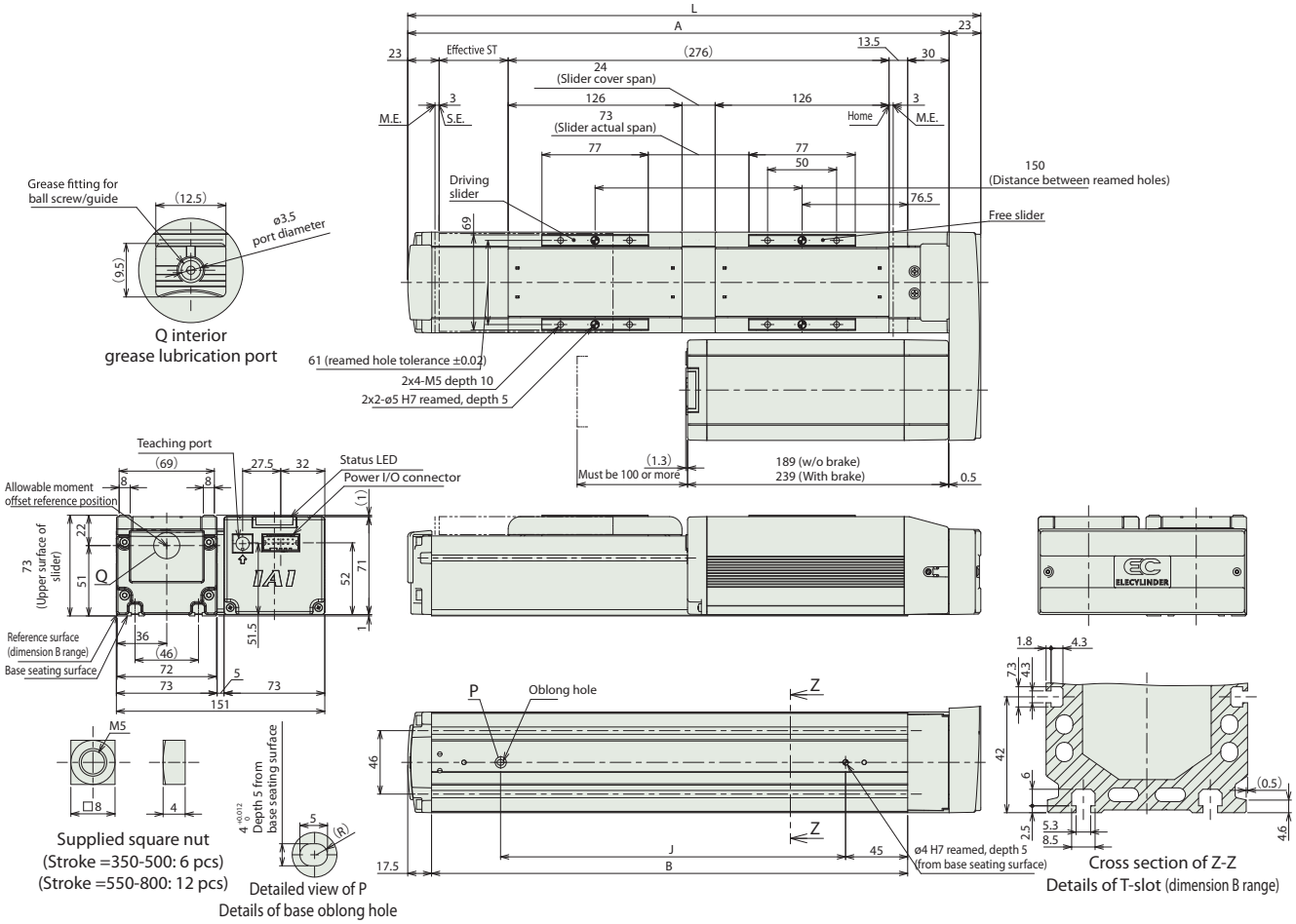
Dimensions for Double Slider Specification

CAD drawings can be downloaded from our website.
www.iai-automation.com

■ EC-S7□AR (double slider specification)

(Note) Upon home return, the slider will move to the M.E. Be careful of interference with surrounding objects.
(Note) Nut holders (nominal stroke = 350 ~ 500: 6 pcs, 550 ~ 800: 12 pcs) are included with the square nuts.
(Note) Connect the slider at the slider cover span in the dimensions or the reamed hole distance dimensions.

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



■ Dimensions by Stroke

Nominal stroke	350	400	450	500	550	600	650	700	750	800
Effective stroke	200	250	300	350	400	450	500	550	600	650
L	565.5	615.5	665.5	715.5	765.5	815.5	865.5	915.5	965.5	1015.5
A	542.5	592.5	642.5	692.5	742.5	792.5	842.5	892.5	942.5	992.5
B	495	545	595	645	695	745	795	845	895	945
J	400	450	500	550	600	650	700	750	800	850

(Note) Nominal stroke: Stroke listed in the model name
Effective stroke: Actually operable stroke

■ Mass by Stroke

Nominal stroke		350	400	450	500	550	600	650	700	750	800
Effective stroke		200	250	300	350	400	450	500	550	600	650
Mass (kg)	Without brake	6.15	6.45	6.65	6.95	7.25	7.55	7.75	8.05	8.35	8.65
	With brake	6.65	6.95	7.25	7.45	7.75	8.05	8.35	8.65	8.85	9.15

(Note) It is the sum of single slider specification's mass and free slider's mass (0.45kg).

Applicable Controllers

(Note) EC Series products are equipped with a built-in controller. Please refer to P. 65 for details on built-in controllers.

EC-S8□AR

Simple Dust-proof | Side-mounted Motor | Body Width 90 mm | 24v Pulse Motor

■ Model Specification Items

EC - [ ] [ ] A R - [ ] - [ ] - [ ]

Series	Type		Lead		Specifications		Specifications		Stroke		Power I/O cable length	Options
-	S8	Standard	S	30mm	A	Long stroke supported	R	Side-mounted motor	-		-	-
			H	20mm					350 ~ 1100	350mm ~ 1100mm (every 50mm)	See power I/O cable length table below	See options below
			M	10mm								
			L	5mm								

CE RoHS 10

Horizontal | Vertical | Side | Ceiling

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

POINT Selection Notes

(1) Longer strokes may cause the maximum speed to decrease due to the resonance of the ball screw. Check the stroke maximum speed required in the "Stroke and Maximum Speed" table.

(2) "Main Specifications" displays the payload's maximum value. If the energy-saving setting is enabled, the main specifications will change. Please refer to "Table of Payload by Speed/Acceleration" for details.

(3) If performing push-motion operations, refer to the "Correlation between Push Force and Current Limit" diagram. The push forces listed are only reference values. Please refer to P. 58 for applicable notes.

(4) Depending on the ambient operating temperature, duty ratio control is necessary. Please refer to P. 58 for details.

(5) Pay close attention to the installation orientation. Please refer to P. 5 for details.

(6) Reference value of the overhang load length is 400mm or below in the Ma, Mb, and Mc directions (for double slider specification, 800mm or below). Please refer to the explanation on P. 5 for the overhang load length.

(7) 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.

(8) When selecting the double slider specification, refer to P. 57 for precautions. For models to be ordered, please contact IAI.

Power / I/O cable length

■ Standard connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
0	No cable	Terminal block supplied (Note 2)	CB-REC-PWBIO□□□-RB supplied
1 ~ 3	1 ~ 3m	CB-EC-PWBIO□□□-RB supplied	
4 ~ 5	4 ~ 5m		
6 ~ 7	6 ~ 7m		
8 ~ 10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note 2) Only terminal block connector is included. Please refer to P. 66 for details.
(Note) Robot cable is standard.

■ 4-way connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
S1 ~ S3	1 ~ 3m	CB-EC2-PWBIO□□□-RB supplied	CB-REC2-PWBIO□□□-RB supplied
S4 ~ S5	4 ~ 5m		
S6 ~ S7	6 ~ 7m		
S8 ~ S10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note) Robot cable is standard.

Options * Please check the Options reference pages to confirm each option.

Name	Option code	Reference page
RCON-EC connection specification (Note 1)	**ACR**	53
Brake	**B**	53
—	**—**	—
Designated grease specification (Note 2)	**G5**	54
Side-mounted motor to the left (Note 3)	**ML**	54
Side-mounted motor to the right (Note 3)	**MR**	54
—	**—**	—
Non-motor end specification	**NM**	55
PNP specification	**PN**	55
Slider part roller specification (Note 4)	**SR**	55
Split motor and controller power supply specification	**TMD2**	56
Double slider specification (Note 2) (Note 4) (Note 5)	**W**	56
Battery-less absolute encoder specification	**WA**	56
Wireless communication specification	**WL**	56
Wireless axis operation specification	**WL2**	56

(Note 1) If the RCON-EC connection specification (ACR) is selected, the PNP specification (PN) and split motor and controller power supply specification (TMD2) cannot be selected.
(Note 2) The double slider specification (W) and designated grease specification (G5) cannot be used together.
(Note 3) Be sure to enter a code in the option column for Model Specification Items.
(Note 4) When using the slider part roller specification (SR) and double slider specification (W) together, the price of the former will be doubled.
(Note 5) Some leads cannot be selected. Please refer to P. 46-4 for details.

Main Specifications

Item			Description			
Lead		Ball screw lead (mm)	30	20	10	5
Horizontal	Payload	Max. payload (kg)	20	35	70	80
		—	—	—	—	—
	Speed / acceleration/ deceleration	Max. speed (mm/s)	1200	975	450	225
		Min. speed (mm/s)	38	25	13	7
		Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
		Max. acceleration/deceleration (G)	1	1	0.5	0.3
Vertical	Payload	Max. payload (kg)	2	4	25	55
		—	—	—	—	—
	Speed / acceleration/ deceleration	Max. speed (mm/s)	850	650	400	200
		Min. speed (mm/s)	38	25	13	7
		Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
		Max. acceleration/deceleration (G)	0.5	0.5	0.5	0.3
Push		Max. push force (N)	78	103	235	470
		Max. push speed (mm/s)	38	25	20	20
Brake		Brake specification	Non-excitation actuating solenoid brake			
		Brake holding force (kgf)	2	4	25	55
Stroke		Min. stroke (mm)	350	350	350	350
		Max. stroke (mm)	1100	1100	1100	1100
		Stroke pitch (mm)	50	50	50	50

Item	Description
Drive system	Ball screw ø16mm, rolled C10
Positioning repeatability	±0.05mm
Lost motion	- (notation not available due to 2-point positioning function)
Base	Dedicated aluminum extruded material (A6063SS-T6 equivalent), black alumite treatment
Linear guide	Linear motion infinite circulating type
Allowable static moment	Ma: 173 N·m
	Mb: 173 N·m
	Mc: 271 N·m
Allowable dynamic moment (Note 1)	Ma: 61 N·m
	Mb: 61 N·m
	Mc: 116 N·m
Ambient operating temperature, humidity	0 ~ 40°C, 85%RH or less (no condensation)
Ingress protection	IP20
Vibration & shock resistance	4.9m/s^2
Overseas standards	CE marking, RoHS directive
Motor type	Pulse motor (□56SP) (Power capacity: max. 6A)
Encoder type	Incremental/battery-less absolute
Number of encoder pulses	800 pulse/rev

(Note 1) Based on the standard rated operation life of 5000km. Operation life varies according to operating and mounting conditions. Please refer to service life on P. 33 of the EleCylinder Catalog V10.

■ Slider Type Moment Direction

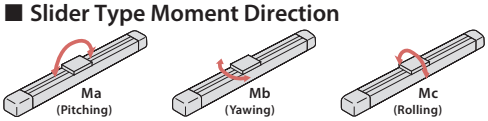


Table of Payload by Speed/Acceleration

The unit for payload is kg. If blank, operation is not possible.

Lead 30

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	20	16	13	12	2	2
200	20	16	13	12	2	2
450	20	13	12	11	1	1
650	14	10	9	8	1	1
850	9	6	4	2	1	1
1000	5	3	2	1		
1200	1					

Lead 20

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	35	25	25	25	4	4
200	35	25	25	25	4	4
300	35	25	24	16	4	4
400	35	22	18	12	1	1
650	18	9	4	3	1	1
800	10	3	1			
900	7	1				
975	4					

Lead 10

Orientation	Horizontal		Vertical	
Speed (mm/s)	Acceleration (G)			
	0.3	0.5	0.3	0.5
0	70	70	25	25
100	70	70	25	25
200	60	50	14	14
300	45	30	7	7
400	15	9	2	1
450	11	2		

Lead 5

Orientation	Horizontal	Vertical
Speed (mm/s)	Acceleration (G)	
	0.3	0.3
0	80	55
50	80	55
75	80	30
135	80	18
175	70	11
200	40	3
225	10	

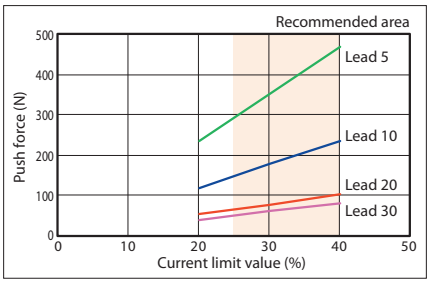
Stroke and Maximum Speed

Lead (mm)	350~700 (every 50mm)	750 (mm)	800 (mm)	850 (mm)	900 (mm)	950 (mm)	1000 (mm)	1050 (mm)	1100 (mm)
30	1200<850>		1160<850>	1040<850>	940<850>	860<850>	780	720	660
20	975<650>	880<650>	780<650>	700<650>	640	580	530	480	440
10	450<400>	430<400>	380	340	310	280	260	240	220
5	225<200>	215<200>	190	170	150	140	130	115	110

(Unit: mm/s)

(Note) Values in brackets < > are for vertical use.

Correlation between Push Force and Current Limit



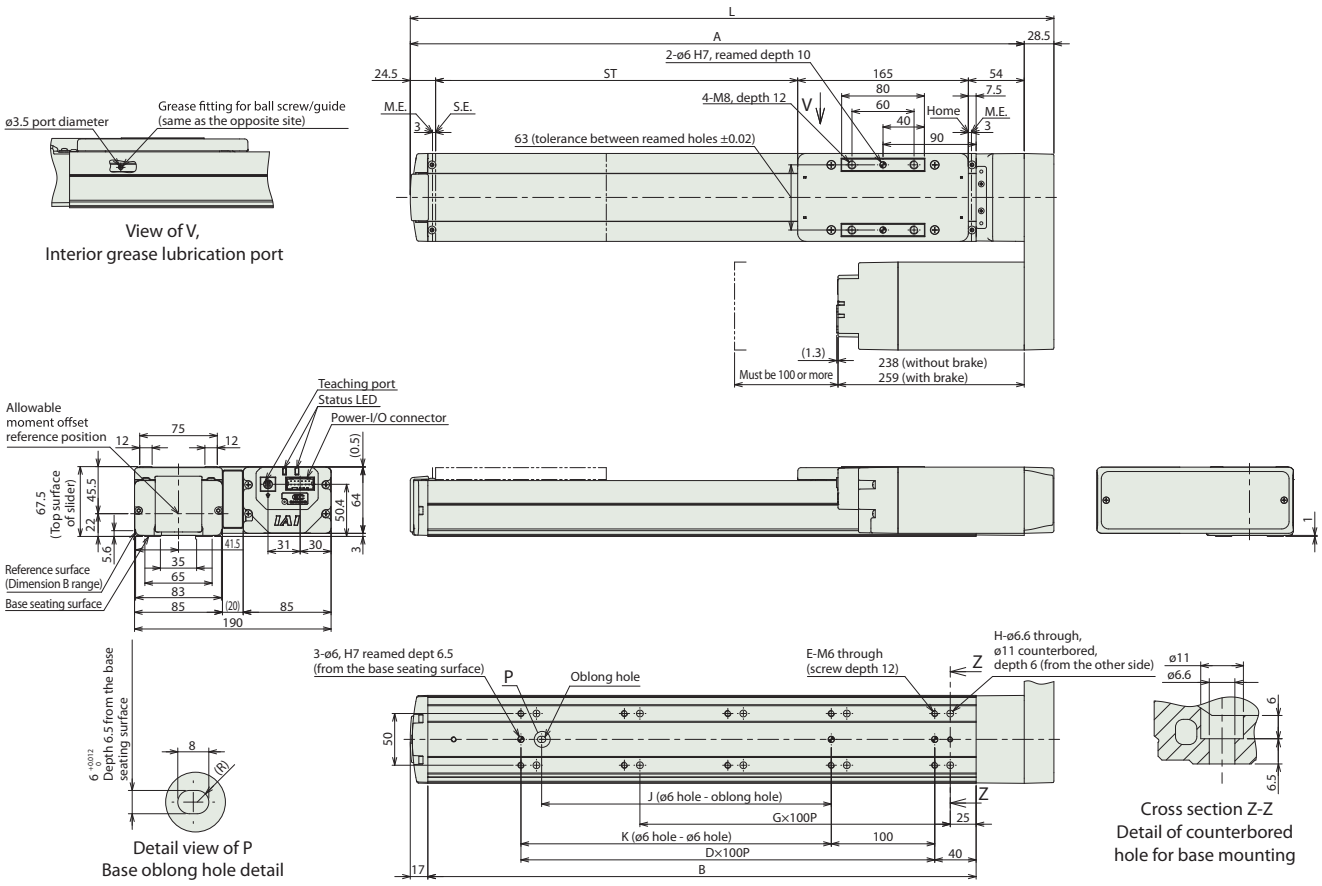
Dimensions

CAD drawings can be downloaded from our website.
www.iai-automation.com

■ EC-S8□AR

(Note) When the slider is returning to its home position, be careful of interference from surrounding objects, as it will travel until it reaches the M.E.
(Note) To mount the actuator using the through holes on the base, it is necessary to remove the side cover and stainless sheet.
(Note) The following drawings show the side-mounted motor to the left (ML).

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



■ Dimensions by Stroke

Stroke	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
L	622	672	722	772	822	872	922	972	1022	1072	1122	1172	1222	1272	1322	1372
A	593.5	643.5	693.5	743.5	793.5	843.5	893.5	943.5	993.5	1043.5	1093.5	1143.5	1193.5	1243.5	1293.5	1343.5
B	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280
D	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
E	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
G	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
H	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
J	280	380	380	480	480	580	580	680	680	780	780	880	880	980	980	1080
K	300	400	400	500	500	600	600	700	700	800	800	900	900	1000	1000	1100

■ Mass by Stroke

Stroke		350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
Mass (kg)	Without brake	6.9	7.2	7.5	7.8	8.1	8.4	8.7	9.0	9.3	9.6	9.9	10.2	10.5	10.8	11.1	11.4
	With brake	7.7	8.0	8.3	8.6	8.9	9.2	9.5	9.8	10.1	10.4	10.7	11.0	11.3	11.6	11.9	12.2

Main Specifications (double slider specification)

Item			Description		
Lead		Ball screw lead (mm)	20	10	5
Horizontal	Payload	Max. payload (kg)	35	63	73
		—	—	—	—
	Speed / acceleration/ deceleration	Max. speed (mm/s)	800	450	200
		Min. speed (mm/s)	25	13	7
		Rated acceleration/deceleration (G)	0.3	0.3	0.3
		Max. acceleration/deceleration (G)	0.5	0.5	0.3
Vertical	Payload	Max. payload (kg)	—	18	48
		—	—	—	—
	Speed / acceleration/ deceleration	Max. speed (mm/s)	—	200	175
		Min. speed (mm/s)	—	13	7
		Rated acceleration/deceleration (G)	—	0.3	0.3
		Max. acceleration/deceleration (G)	—	0.5	0.3
Push		Max. push force (N)	103	235	470
		Max. push speed (mm/s)	25	20	20
Brake		Brake specification	Non-excitation actuating solenoid brake		
		Brake holding force (kgf)	4	25	55
Stroke		Min. nominal stroke (mm)	350	350	350
		Min. effective stroke (mm)	150	150	150
		Max. nominal stroke (mm)	1100	1100	1100
		Max. effective stroke (mm)	900	900	900
		Stroke pitch (mm)	50	50	50

(Note) Nominal stroke: Stroke listed in the model name
Effective stroke: Actually operable stroke
(Note) Lead 20 cannot be vertically mounted.

Item	Description
Drive system	Ball screw ø16mm, rolled C10
Positioning repeatability	±0.05mm
Lost motion	- (notation not available due to 2-point positioning function)
Base	Dedicated aluminum extruded material (A6063SS-T6 equivalent), black alumite treatment
Linear guide	Linear motion infinite circulating type
Allowable static moment	Ma: 1560 N·m
	Mb: 1560 N·m
	Mc: 542 N·m
Allowable dynamic moment (Note 1)	Ma: 449 N·m
	Mb: 449 N·m
	Mc: 188 N·m
Ambient operating temperature, humidity	0 ~ 40°C, 85%RH or less (no condensation)
Ingress protection	IP20
Vibration & shock resistance	4.9m/s^2
Overseas standards	CE marking, RoHS directive
Motor type	Pulse motor (□56SP) (Power capacity: max. 6A)
Encoder type	Incremental/battery-less absolute
Number of encoder pulses	800 pulse/rev

(Note 1) Based on the standard rated operation life of 5000km. Operation life varies according to operating and mounting conditions. Please refer to service life on P. 33 of the EleCylinder Catalog V10.

■ Slider Type Moment Direction

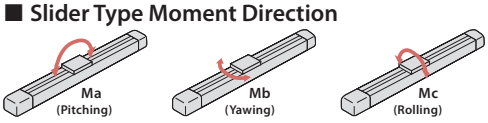


Table of Payload by Speed/Acceleration (double slider specification)

The unit for payload is kg. If blank, operation is not possible.

Lead 20

Orientation	Horizontal		Vertical	
Speed (mm/s)	Acceleration (G)			
	0.3	0.5	0.3	0.5
0	35	25		
200	35	25		
300	35	25		
400	28	15		
650	13	2		
800	3			

Lead 10

Orientation	Horizontal		Vertical	
Speed (mm/s)	Acceleration (G)			
	0.3	0.5	0.3	0.5
0	63	63	18	18
100	63	63	18	18
200	53	42	7	7
300	38	23		
400	8	2		
450	4			

Lead 5

Orientation	Horizontal	Vertical
Speed (mm/s)	Acceleration (G)	
	0.3	0.3
0	73	48
50	73	48
75	73	23
135	73	11
175	50	4
200	20	

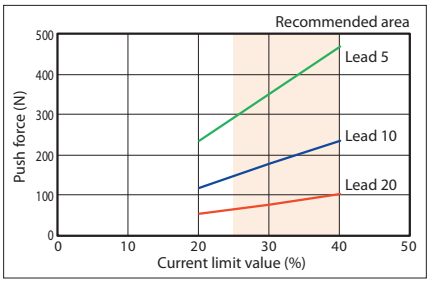
Stroke and Maximum Speed (double slider specification)

Lead (mm)										
	Nominal stroke	350~700	750	800	850	900	950	1000	1050	1100
	Effective stroke	150~500	550	600	650	700	750	800	850	900
		(every 50mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
20		800		780	700	640	580	530	480	440
10		450<200>	430<200>	380<200>	340<200>	310<200>	280<200>	260<200>	240<200>	220<200>
5		200<175>	200<175>	190<175>	170	150	140	130	115	110

(Unit: mm/s)

(Note) Values in brackets < > are for vertical use.
(Note) Nominal stroke: Stroke specified as the model code
Effective stroke: Actually operable stroke

Correlation between Push Force and Current Limit (double slider spec.)



(Note) Same values as those for the single slider specification.

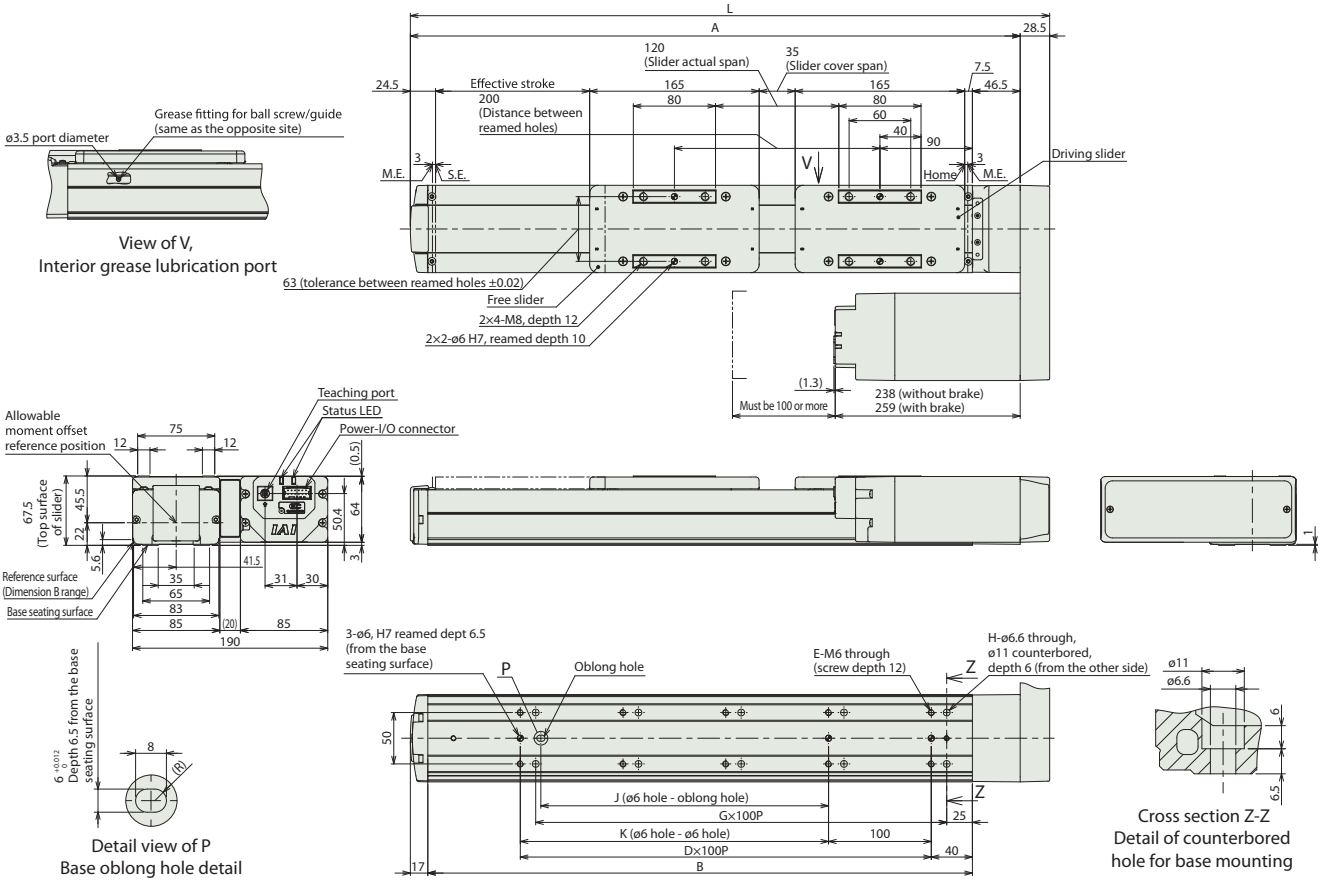
Dimensions for Double Slider Specification

CAD drawings can be downloaded from our website.
www.iai-automation.com

■ EC-S8□AR (double slider specification)

(Note) When the slider is returning to its home position, be careful of interference from surrounding objects, as it will travel until it reaches the M.E.
(Note) Connect the slider at the slider cover span or distance between reamed holes as specified in the drawing.
(Note) To mount the actuator using the through holes on the base, it is necessary to remove the side cover and stainless sheet.

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



■ Dimensions by Stroke

Nominal stroke	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
Effective stroke	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900
L	622	672	722	772	822	872	922	972	1022	1072	1122	1172	1222	1272	1322	1372
A	593.5	643.5	693.5	743.5	793.5	843.5	893.5	943.5	993.5	1043.5	1093.5	1143.5	1193.5	1243.5	1293.5	1343.5
B	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280
D	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
E	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
G	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
H	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
J	280	380	380	480	480	580	580	680	680	780	780	880	880	980	980	1080
K	300	400	400	500	500	600	600	700	700	800	800	900	900	1000	1000	1100

(Note) Nominal stroke: Stroke specified as the model code
Effective stroke: Actually operable stroke

■ Mass by Stroke

Nominal stroke		350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
Effective stroke		150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900
Mass (kg)	Without brake	7.71	8.01	8.30	8.60	8.89	9.18	9.48	9.77	10.07	10.37	10.67	10.97	11.27	11.57	11.87	12.17
	With brake	8.53	8.83	9.12	9.42	9.71	10.01	10.30	10.59	10.89	11.19	11.49	11.79	12.09	12.39	12.69	12.99

(Note) The mass is added by 0.79 kg of the free slider to the single slider specification.

Applicable Controllers

(Note) EC Series products are equipped with a built-in controller. Please refer to P. 65 for details on built-in controllers.

EC-S6X□AHR

Simple Dust-proof | Support Mechanism | Side-mounted Motor | Body Width 60 mm | 24v Pulse Motor

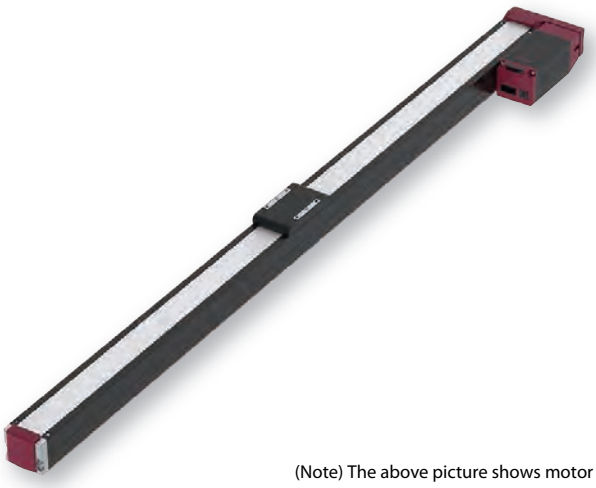
■ Model Specification Items

EC - [ ] [ ] AHR - [ ] - [ ] - [ ]

Series	Type		Lead		Specifications		Stroke		Power I/O cable length	Options
	S6X	Standard	S	20mm	AHR	High rigidity Side-mounted motor	450 ~ 1500	450mm ~ 1500mm (every 50mm) *Depending on the lead, the maximum stroke varies. Confirm with the Main Specifications.	See power I/O cable length table below	See options below
			H	12mm						
			M	6mm						
			L	3mm						

CE RoHS 10

Horizontal | Vertical | Side | Ceiling



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

POINT Selection Notes

(1) Longer strokes may cause the maximum speed to decrease due to the resonance of the ball screw. Check the stroke maximum speed required in the "Stroke and Maximum Speed" table.

(2) "Main Specifications" displays the payload's maximum value. If the energy-saving setting is enabled, the main specifications will change. Please refer to "Table of Payload by Speed/Acceleration" for details.

(3) If performing push-motion operations, refer to the "Correlation between Push Force and Current Limit" diagram. The push forces listed are only reference values. Please refer to P. 58 for applicable notes.

(4) Depending on the ambient operating temperature, duty ratio control is necessary. Please refer to P. 58 for details.

(5) Pay close attention to the installation orientation. Please refer to P. 5 for details.

(6) Reference value of the overhang load length is under 300mm in the Ma, Mb, and Mc directions. Please refer to the explanation on P. 5 for the overhang load length.

(7) 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.

Power / I/O cable length

■ Standard connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
0	No cable	Terminal block supplied (Note 2)	CB-REC-PWBIO□□□-RB supplied
1 ~ 3	1 ~ 3m	CB-EC-PWBIO□□□-RB supplied	
4 ~ 5	4 ~ 5m		
6 ~ 7	6 ~ 7m		
8 ~ 10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note 2) Only terminal block connector is included. Please refer to P. 66 for details.
(Note) Robot cable is standard.

■ 4-way connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
S1 ~ S3	1 ~ 3m	CB-EC2-PWBIO□□□-RB supplied	CB-REC2-PWBIO□□□-RB supplied
S4 ~ S5	4 ~ 5m		
S6 ~ S7	6 ~ 7m		
S8 ~ S10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note) Robot cable is standard.

Options * Please check the Options reference pages to confirm each option.

Name	Option code	Reference page
RCON-EC connection specification (Note 1)	**ACR**	53
Brake	**B**	53
Foot bracket	**FT**	53
Designated grease specification	**G5**	54
Side-mounted motor to the left (Note 2)	**ML**	54
Side-mounted motor to the right (Note 2)	**MR**	54
—	**—**	—
Non-motor end specification	**NM**	55
PNP specification	**PN**	55
Slider part roller specification	**SR**	55
Split motor and controller power supply specification	**TMD2**	56
—	**—**	—
Battery-less absolute encoder specification	**WA**	56
Wireless communication specification	**WL**	56
Wireless axis operation specification	**WL2**	56

(Note 1) If the RCON-EC connection specification (ACR) is selected, the PNP specification (PN) and split motor and controller power supply specification (TMD2) cannot be selected.
(Note 2) Be sure to enter a code in the option column for Model Specification Items.

Main Specifications

Item			Description			
Lead		Ball screw lead (mm)	20	12	6	3
Horizontal	Payload	Max. payload (kg) (energy-saving disabled)	15	26	32	40
		Max. payload (kg) (energy-saving enabled)	8	14	20	25
	Speed / acceleration/ deceleration	Max. speed (mm/s)	1120	800	450	200
		Min. speed (mm/s)	25	15	8	4
		Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
		Max. acceleration/deceleration (G)	1	1	1	1
Vertical	Payload	Max. payload (kg) (energy-saving disabled)	1	2.5	6	16
		Max. payload (kg) (energy-saving enabled)	0.75	2	5	10
	Speed / acceleration/ deceleration	Max. speed (mm/s)	960	700	400	200
		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		Max. push force (N)	67	112	224	449
		Max. push speed (mm/s)	20	20	20	20
Brake		Brake specification	Non-excitation actuating solenoid brake			
		Brake holding force (kgf)	1	2.5	6	16
Stroke		Min. stroke (mm)	550	500	450	500
		Max. stroke (mm)	1500	1500	1400	1000
		Stroke pitch (mm)	50	50	50	50

Item	Description
Drive system	Ball screw ø10mm, rolled C10
Positioning repeatability	±0.05mm
Lost motion	- (notation not available due to 2-point positioning function)
Base	Dedicated aluminum extruded material (A6063SS-T6 equivalent), black alumite treatment
Linear guide	Linear motion infinite circulating type
Allowable static moment	Ma: 48.5 N·m
	Mb: 69.3 N·m
	Mc: 103 N·m
Allowable dynamic moment (Note 1)	Ma: 33.7 N·m
	Mb: 40.2 N·m
	Mc: 55.3 N·m
Ambient operating temperature, humidity	0 ~ 40°C, 85%RH or less (no condensation)
Ingress protection	IP20
Vibration & shock resistance	4.9m/s^2
Overseas standards	CE marking, RoHS directive
Motor type	Pulse motor (□42)
Encoder type	Incremental/battery-less absolute
Number of encoder pulses	800 pulse/rev

(Note 1) Based on the standard rated operation life of 5000km. Operation life varies according to operating and mounting conditions. Please refer to service life on P. 33 of the EleCylinder Catalog V10.

■ Slider Type Moment Direction

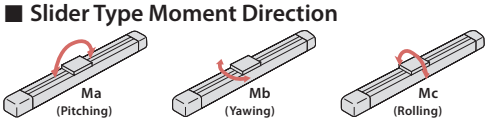


Table of Payload by Speed/Acceleration *The energy-saving setting is disabled at shipping. Please refer to P. 4-1 for details.

■ Energy-Saving Setting Disabled (power mode) The unit for payload is kg. If blank, operation is not possible.

Lead 20

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	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	5	4	1	1
800	9	5	3	2	1	1
960	6	3	2	1	0.5	0.5
1120	4	1				

(Note) Refer to the cautions when "G5" option is selected.

Lead 12

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	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	21	13	11	8	2.5	2.5
560	13	9	5	3	2	2
700	6	3	2	1	1	0.5
800	3					

(Note) Refer to the cautions when "G5" option is selected.

Lead 6

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	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	18	6	6
280	32	25	17	13	6	5.5
340	20	11	6	5	4	3
400	10	3			2	
450	3					

(Note) Refer to the cautions when "G5" option is selected.

Lead 3

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	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	30	11	15	12
170	40	23	10	4	6	5
200	10	1			1	

(Note) Refer to the cautions when "G5" option is selected.

■ Energy-Saving Setting Enabled (energy-saving mode) The unit for payload is kg.

Lead 20

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	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	3	0.5	

Lead 12

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	14	10	2
80	14	10	2
200	14	10	2
320	14	10	2
440	11	5	1.5
560	4	0.5	0.5

(Note) Refer to the cautions when "G5" option is selected.

Lead 6

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	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	11	3	1.5
340	1		

(Note) Refer to the cautions when "G5" option is selected.

Lead 3

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	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	4	3

(Note) Refer to the cautions when "G5" option is selected.

<Precautions when selecting "G5" (designated grease specification) option>

Use at the following speed or lower during use in an environmental temperature of 10°C or lower.

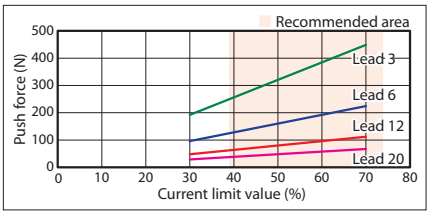
· Lead 20: 800mm/s or lower · Lead 12: 440mm/s or lower · Lead 6: 220mm/s or lower · Lead 3: 110mm/s or lower

Stroke and Maximum Speed

Lead (mm)	Energy-saving setting	450 (mm)	500 (mm)	550~650 (every 50mm)	700 (mm)	750 (mm)	800 (mm)	850 (mm)	900 (mm)	950 (mm)	1000 (mm)	1050 (mm)	1100 (mm)	1150 (mm)	1200 (mm)	1250 (mm)	1300 (mm)	1350 (mm)	1400 (mm)	1450 (mm)	1500 (mm)
20	Disabled			1120<960>					970 <960>	940	860	790	730	640	610	580	540	470	450	430	400
	Enabled			800<640>								790 <640>	730 <640>	640	610	580	540	470	450	430	400
12	Disabled		800<700>			770 <700>	680	620	560	510	460	425	380	360	330	315	285	270	250	235	220
	Enabled		560							510	460	425	380	360	330	315	285	270	250	235	220
6	Disabled	450<400>			430 <400>	380	340	310	280	255	230	210	185	175	165	140	135	125	115		
	Enabled	340<280>						310 <280>	280	255	230	210	185	175	165	140	135	125	115		
3	Disabled		200			190	165	145	135	125	115										
	Enabled	140							135	125	115										

(Note) Values in brackets < > are for vertical use. (Unit: mm/s)
(Note) Blank fields will not be set.

Correlation between Push Force and Current Limit



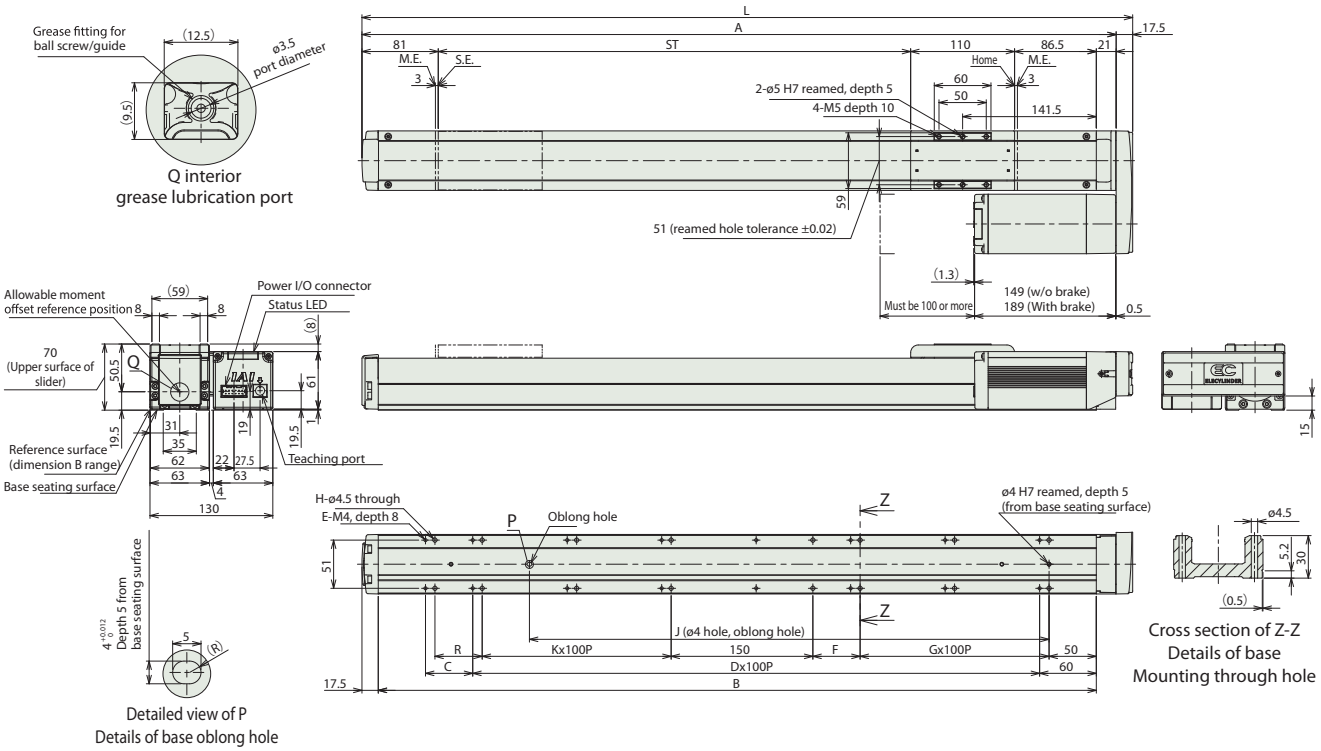
Dimensions

CAD drawings can be downloaded from our website.
www.iai-automation.com

■ EC-S6X□AHR

(Note) When the slider is returning to its home position, be careful of interference from surrounding objects, as it will travel until it reaches the M.E.
(Note) The drawings below are for side-mounted motor to the left (ML).

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



■ Dimensions by Stroke

Stroke	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500
L	766	816	866	916	966	1016	1066	1116	1166	1216	1266	1316	1366	1416	1466	1516	1566	1616	1666	1716	1766	1816
A	748.5	798.5	848.5	898.5	948.5	998.5	1048.5	1098.5	1148.5	1198.5	1248.5	1298.5	1348.5	1398.5	1448.5	1498.5	1548.5	1598.5	1648.5	1698.5	1748.5	1798.5
B	710	760	810	860	910	960	1010	1060	1110	1160	1210	1260	1310	1360	1410	1460	1510	1560	1610	1660	1710	1760
C	0	50	0	50	0	50	0	50	0	50	0	50	0	50	0	50	0	50	0	50	0	50
D	6	6	7	7	8	8	9	9	10	10	11	11	12	12	13	13	14	14	15	15	16	16
E	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28	30	30	32	32	34	34	36
F	50	50	0	0	50	50	0	0	50	50	0	0	50	50	0	0	50	50	0	0	50	50
G	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6	6	7	7	7	7
H	14	16	16	16	18	20	20	20	22	24	24	24	26	28	28	28	30	32	32	32	34	36
J	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550
K	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6	6	7	7	7
R	0	50	50	0	0	50	50	0	0	50	50	0	0	50	50	0	0	50	50	0	0	50

■ Mass by Stroke

Stroke		450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500
Mass (kg)	Without brake	4.9	5.1	5.4	5.6	5.8	6.0	6.2	6.5	6.7	6.9	7.1	7.4	7.6	7.8	8.0	8.2	8.5	8.7	8.9	9.1	9.3	9.6
	With brake	5.2	5.4	5.7	5.9	6.1	6.3	6.5	6.8	7.0	7.2	7.4	7.7	7.9	8.1	8.3	8.5	8.8	9.0	9.2	9.4	9.6	9.9

Applicable Controllers

(Note) EC Series products are equipped with a built-in controller. Please refer to P. 65 for details on built-in controllers.

EC-S7X□AHR

Simple Dust-proof | Support Mechanism | Side-mounted Motor | Body Width 80 mm | 24v Pulse Motor

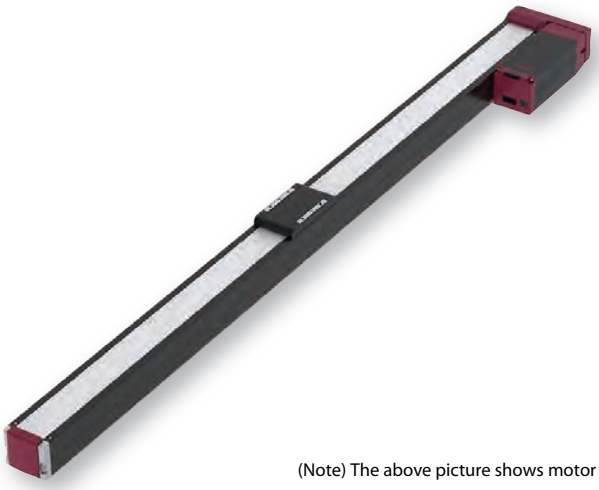
■ Model Specification Items

EC - [ ] [ ] AHR - [ ] - [ ] - [ ]

Series	Type		Lead		Specifications		Stroke		Power I/O cable length	Options
	S7X	Standard	S	24mm	AHR	High rigidity Side-mounted motor	700 ~ 1500	700mm ~ 1500mm (every 50mm) *Depending on the lead, the maximum stroke varies. Confirm with the Main Specifications.	See power I/O cable length table below	See options below
			H	16mm						
			M	8mm						
			L	4mm						

CE RoHS 10

Horizontal | Vertical | Side | Ceiling



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

POINT Selection Notes

(1) Longer strokes may cause the maximum speed to decrease due to the resonance of the ball screw. Check the stroke maximum speed required in the "Stroke and Maximum Speed" table.

(2) "Main Specifications" displays the payload's maximum value. If the energy-saving setting is enabled, the main specifications will change. Please refer to "Table of Payload by Speed/Acceleration" for details.

(3) If performing push-motion operations, refer to the "Correlation between Push Force and Current Limit" diagram. The push forces listed are only reference values. Please refer to P. 58 for applicable notes.

(4) Depending on the ambient operating temperature, duty ratio control is necessary. Please refer to P. 58 for details.

(5) Pay close attention to the installation orientation. Please refer to P. 5 for details.

(6) Reference value of the overhang load length is under 300mm in the Ma, Mb, and Mc directions. Please refer to the explanation on P. 5 for the overhang load length.

(7) 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.

Power / I/O cable length

■ Standard connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
0	No cable	Terminal block supplied (Note 2)	CB-REC-PWBIO□□□-RB supplied
1 ~ 3	1 ~ 3m	CB-EC-PWBIO□□□-RB supplied	
4 ~ 5	4 ~ 5m		
6 ~ 7	6 ~ 7m		
8 ~ 10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note 2) Only terminal block connector is included. Please refer to P. 39 for details.
(Note) Robot cable is standard.

■ 4-way connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
S1 ~ S3	1 ~ 3m	CB-EC2-PWBIO□□□-RB supplied	CB-REC2-PWBIO□□□-RB supplied
S4 ~ S5	4 ~ 5m		
S6 ~ S7	6 ~ 7m		
S8 ~ S10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note) Robot cable is standard.

Options * Please check the Options reference pages to confirm each option.

Name	Option code	Reference page
RCON-EC connection specification (Note 1)	**ACR**	53
Brake	**B**	53
Foot bracket	**FT**	53
Designated grease specification	**G5**	54
Side-mounted motor to the left (Note 2)	**ML**	54
Side-mounted motor to the right (Note 2)	**MR**	54
—	**—**	—
Non-motor end specification	**NM**	55
PNP specification	**PN**	55
Slider part roller specification	**SR**	55
Split motor and controller power supply specification	**TMD2**	56
—	**—**	—
Battery-less absolute encoder specification	**WA**	56
Wireless communication specification	**WL**	56
Wireless axis operation specification	**WL2**	56

(Note 1) If the RCON-EC connection specification (ACR) is selected, the PNP specification (PN) and split motor and controller power supply specification (TMD2) cannot be selected.
(Note 2) Be sure to enter a code in the option column for Model Specification Items.

Main Specifications

Item			Description			
Lead		Ball screw lead (mm)	24	16	8	4
Horizontal	Payload	Max. payload (kg) (energy-saving disabled)	37	46	51	51
		Max. payload (kg) (energy-saving enabled)	18	35	40	40
	Speed / acceleration/ deceleration	Max. speed (mm/s)	1080	700	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)	1	1	1	1
Vertical	Payload	Max. payload (kg) (energy-saving disabled)	3	8	16	25
		Max. payload (kg) (energy-saving enabled)	2	5	10	15
	Speed / acceleration/ deceleration	Max. speed (mm/s)	860	560	350	140
		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		Max. push force (N)	139	209	418	836
		Max. push speed (mm/s)	20	20	20	20
Brake		Brake specification	Non-excitation actuating solenoid brake			
		Brake holding force (kgf)	3	8	16	25
Stroke		Min. stroke (mm)	700	700	700	700
		Max. stroke (mm)	1500	1500	1500	1100
		Stroke pitch (mm)	50	50	50	50

Item	Description
Drive system	Ball screw ø12mm, rolled C10
Positioning repeatability	±0.05mm
Lost motion	- (notation not available due to 2-point positioning function)
Base	Dedicated aluminum extruded material (A6063SS-T6 equivalent), black alumite treatment
Linear guide	Linear motion infinite circulating type
Allowable static moment	Ma: 115 N·m
	Mb: 115 N·m
	Mc: 229 N·m
Allowable dynamic moment (Note 1)	Ma: 75.5 N·m
	Mb: 90.0 N·m
	Mc: 134 N·m
Ambient operating temperature, humidity	0 ~ 40°C, 85%RH or less (no condensation)
Ingress protection	IP20
Vibration & shock resistance	4.9m/s^2
Overseas standards	CE marking, RoHS directive
Motor type	Pulse motor (□56)
Encoder type	Incremental/battery-less absolute
Number of encoder pulses	800 pulse/rev

(Note 1) Based on the standard rated operation life of 5000km. Operation life varies according to operating and mounting conditions. Please refer to service life on P. 33 of the EleCylinder Catalog V10.

■ Slider Type Moment Direction

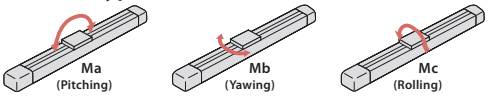


Table of Payload by Speed/Acceleration *The energy-saving setting is disabled at shipping. Please refer to P. 4-1 for details.

■ Energy-Saving Setting Disabled (power mode) The unit for payload is kg. If blank, operation is not possible.

Lead 24

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (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	11	3	3
640	15	10	8	6.5	3	2
860	9	6	3	2	1	0.5
1080	3					

(Note) Refer to the cautions when "G5" option is selected.

Lead 16

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	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	19	8	8
420	30	19	15	10	5	4.5
560	15	9	5	2	2.5	2
700	3	1				

(Note) Refer to the cautions when "G5" option is selected.

Lead 8

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	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	11	1			1	

(Note) Refer to the cautions when "G5" option is selected.

Lead 4

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	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	25	10	6	12.5	10
175	11					

(Note) Refer to the cautions when "G5" option is selected.

■ Energy-Saving Setting Enabled (energy-saving mode) The unit for payload is kg.

Lead 24

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	18	10	2
200	18	10	2
420	18	10	2
640	9	2	1
800	1		

Lead 16

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	35	20	5
140	35	20	5
280	25	12	3
420	14	4	1.5
500	4		

Lead 8

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

Lead 4

Orientation	Horizontal		Vertical
Speed (mm/s)	Acceleration (G)		
	0.3	0.7	0.3
0	40	30	15
35	40	30	15
70	40	30	15
105	40	20	8
120	8		1

<Precautions when selecting "G5" (designated grease specification) option>

Use at the following speed or lower during use in an environmental temperature of 10°C or lower.

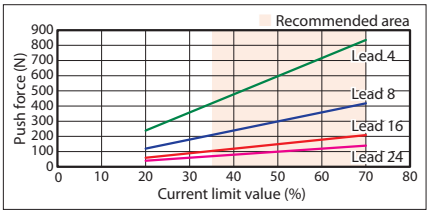
· Lead 24: 860mm/s or lower · Lead 16: 560mm/s or lower · Lead 8: 280mm/s or lower · Lead 4: 140mm/s or lower

Stroke and Maximum Speed

Lead (mm)	Energy-saving setting	700~1000 (every 50mm)	1050 (mm)	1100 (mm)	1150 (mm)	1200 (mm)	1250 (mm)	1300 (mm)	1350 (mm)	1400 (mm)	1450 (mm)	1500 (mm)
24	Disabled	1080<860>		990 <860>	920 <860>	850	770	735	680	635	565	550
	Enabled	800<640>					770 <640>	735 <640>	680 <640>	635	565	550
16	Disabled	700<560>		645 <560>	590 <560>	555	510	470	440	420	375	355
	Enabled	500<420>						470 <420>	440 <420>	420	375	355
8	Disabled	350	345	310	285	255	245	230	215	190	180	170
	Enabled	210								190	180	170
4	Disabled	170 <140>	165 <140>	150 <140>								
	Enabled	120										

(Note) Values in brackets < > are for vertical use. (Unit: mm/s)
(Note) Blank fields will not be set.

Correlation between Push Force and Current Limit



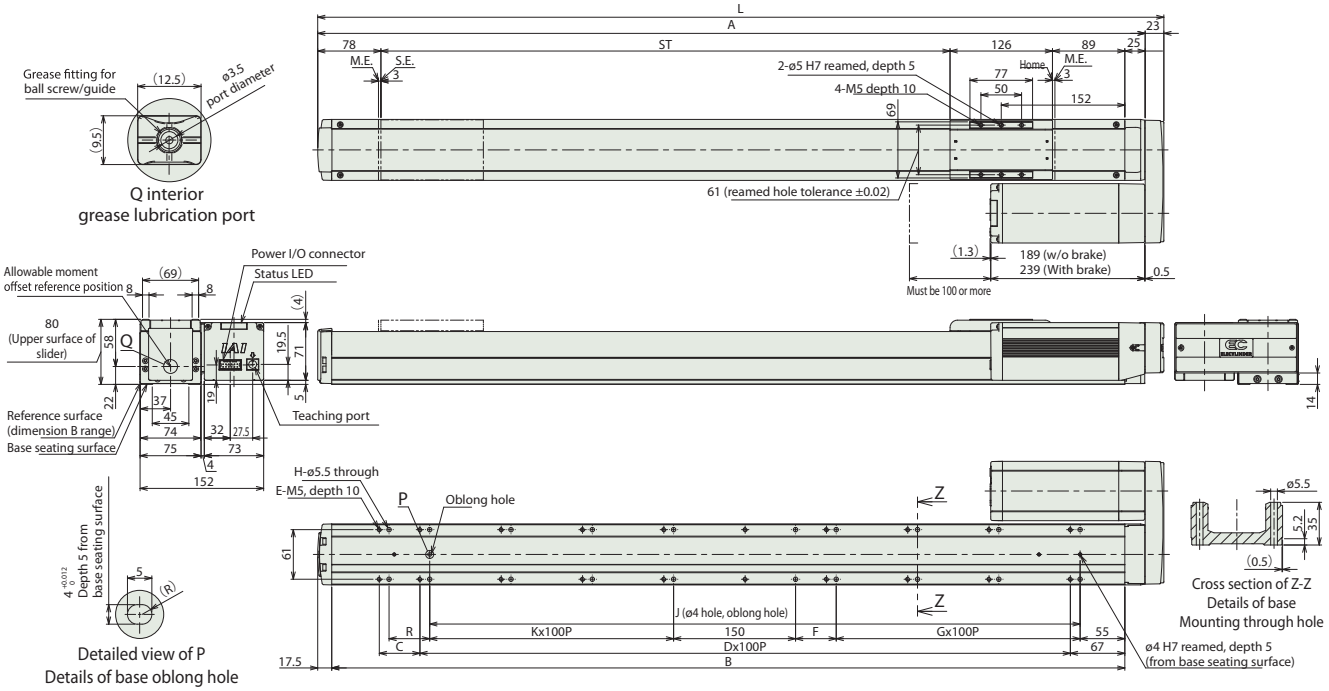
Dimensions

CAD drawings can be downloaded from our website.
www.iai-automation.com

■ EC-S7X□AHR

(Note) When the slider is returning to its home position, be careful of interference from surrounding objects, as it will travel until it reaches the M.E.
(Note) The drawings below are for side-mounted motor to the left (ML).

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



■ Dimensions by Stroke

Stroke	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500
L	1041	1091	1141	1191	1241	1291	1341	1391	1441	1491	1541	1591	1641	1691	1741	1791	1841
A	1018	1068	1118	1168	1218	1268	1318	1368	1418	1468	1518	1568	1618	1668	1718	1768	1818
B	975.5	1025.5	1075.5	1125.5	1175.5	1225.5	1275.5	1325.5	1375.5	1425.5	1475.5	1525.5	1575.5	1625.5	1675.5	1725.5	1775.5
C	50	0	50	0	50	0	50	0	50	0	50	0	50	0	50	0	50
D	8	9	9	10	10	11	11	12	12	13	13	14	14	15	15	16	16
E	20	20	22	22	24	24	26	26	28	28	30	30	32	32	34	34	36
F	50	0	0	50	50	0	0	50	50	0	0	50	50	0	0	50	50
G	3	4	4	4	4	5	5	5	5	6	6	6	6	7	7	7	7
H	20	20	20	22	24	24	24	26	28	28	28	30	32	32	32	34	36
J	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600
K	3	3	4	4	4	4	5	5	5	5	6	6	6	6	7	7	7
R	50	50	0	0	50	50	0	0	50	50	0	0	50	50	0	0	50

■ Mass by Stroke

Stroke		700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500
Mass (kg)	Without brake	8.9	9.2	9.5	9.8	10.0	10.3	10.6	10.9	11.1	11.4	11.7	12.0	12.3	12.5	12.8	13.1	13.4
	With brake	9.4	9.7	10.0	10.3	10.5	10.8	11.1	11.4	11.6	11.9	12.2	12.5	12.8	13.0	13.3	13.6	13.9

Applicable Controllers

(Note) EC Series products are equipped with a built-in controller. Please refer to P. 65 for details on built-in controllers.

EC-S8X□AR

Simple Dust-proof | Support Mechanism | Side-mounted Motor | Body Width 90 mm | 24v Pulse Motor

■ Model Specification Items

EC - [ ] [ ] AR - [ ] - [ ] - [ ]

Series	Type		Lead		Specifications		Stroke		Power I/O cable length	Options
	S8X	Standard	S	30mm	AR	Long stroke supported Side-mounted motor	700	700mm	See power I/O cable length table below	See options below
			H	20mm			≀	≀		
			M	10mm			1500	1500mm (every 50mm)		
			L	5mm						

CE RoHS 10

Horizontal | Vertical | Side | Ceiling

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

POINT Selection Notes

(1) Longer strokes may cause the maximum speed to decrease due to the resonance of the ball screw. Check the stroke maximum speed required in the "Stroke and Maximum Speed" table.

(2) "Main Specifications" displays the payload's maximum value. If the energy-saving setting is enabled, the main specifications will change. Please refer to "Table of Payload by Speed/Acceleration" for details.

(3) If performing push-motion operations, refer to the "Correlation between Push Force and Current Limit" diagram. The push forces listed are only reference values. Please refer to P. 58 for applicable notes.

(4) Depending on the ambient operating temperature, duty ratio control is necessary. Please refer to P. 58 for details.

(5) Pay close attention to the installation orientation. Please refer to P. 5 for details.

(6) Reference value of the overhang load length is under 400mm in the Ma, Mb, and Mc directions. Please refer to the explanation on P. 5 for the overhang load length.

(7) 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.

Power / I/O cable length

■ Standard connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
0	No cable	Terminal block supplied (Note 2)	CB-REC-PWBIO□□□-RB supplied
1 ~ 3	1 ~ 3m	CB-EC-PWBIO□□□-RB supplied	
4 ~ 5	4 ~ 5m		
6 ~ 7	6 ~ 7m		
8 ~ 10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note 2) Only terminal block connector is included. Please refer to P. 66 for details.
(Note) Robot cable is standard.

■ 4-way connector cable

Cable code	Cable length	User wiring specification (flying leads)	RCON-EC connection specification (Note 1) (with connectors on both edges)
S1 ~ S3	1 ~ 3m	CB-EC2-PWBIO□□□-RB supplied	CB-REC2-PWBIO□□□-RB supplied
S4 ~ S5	4 ~ 5m		
S6 ~ S7	6 ~ 7m		
S8 ~ S10	8 ~ 10m		

(Note 1) If RCON-EC connection specification (ACR) is selected as an option.
(Note) Robot cable is standard.

Options * Please check the Options reference pages to confirm each option.

Name	Option code	Reference page
RCON-EC connection specification (Note 1)	**ACR**	53
Brake	**B**	53
—	—	—
Designated grease specification	**G5**	54
Side-mounted motor to the left (Note 2)	**ML**	54
Side-mounted motor to the right (Note 2)	**MR**	54
—	—	—
Non-motor end specification	**NM**	55
PNP specification	**PN**	55
Slider part roller specification	**SR**	55
Split motor and controller power supply specification	**TMD2**	56
—	—	—
Battery-less absolute encoder specification	**WA**	56
Wireless communication specification	**WL**	56
Wireless axis operation specification	**WL2**	56

(Note 1) If the RCON-EC connection specification (ACR) is selected, the PNP specification (PN) and split motor and controller power supply specification (TMD2) cannot be selected.
(Note 2) Be sure to enter a code in the option column for Model Specification Items.

Main Specifications

Item			Description			
Lead		Ball screw lead (mm)	30	20	10	5
Horizontal	Payload	Max. payload (kg)	14	35	70	80
		—	—	—	—	—
	Speed / acceleration/ deceleration	Max. speed (mm/s)	1200	975	450	200
		Min. speed (mm/s)	38	25	13	7
		Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
		Max. acceleration/deceleration (G)	1	1	0.5	0.3
Vertical	Payload	Max. payload (kg)	2	4	25	55
		—	—	—	—	—
	Speed / acceleration/ deceleration	Max. speed (mm/s)	850	650	400	200
		Min. speed (mm/s)	38	25	13	7
		Rated acceleration/deceleration (G)	0.3	0.3	0.3	0.3
		Max. acceleration/deceleration (G)	0.5	0.5	0.5	0.3
Push		Max. push force (N)	78	103	235	470
		Max. push speed (mm/s)	38	25	20	20
Brake		Brake specification	Non-excitation actuating solenoid brake			
		Brake holding force (kgf)	2	4	25	55
Stroke		Min. stroke (mm)	700	700	700	700
		Max. stroke (mm)	1500	1500	1500	1500
		Stroke pitch (mm)	50	50	50	50

Item	Description
Drive system	Ball screw ø16mm, rolled C10
Positioning repeatability	±0.05mm
Lost motion	- (notation not available due to 2-point positioning function)
Base	Dedicated aluminum extruded material (A6063SS-T6 equivalent), black alumite treatment
Linear guide	Linear motion infinite circulating type
Allowable static moment	Ma: 173 N·m
	Mb: 173 N·m
	Mc: 271 N·m
Allowable dynamic moment (Note 1)	Ma: 61 N·m
	Mb: 61 N·m
	Mc: 116 N·m
Ambient operating temperature, humidity	0 ~ 40°C, 85%RH or less (no condensation)
Ingress protection	IP20
Vibration & shock resistance	4.9m/s^2
Overseas standards	CE marking, RoHS directive
Motor type	Pulse motor (□56SP) (Power capacity: max. 6A)
Encoder type	Incremental/battery-less absolute
Number of encoder pulses	800 pulse/rev

(Note 1) Based on the standard rated operation life of 5000km. Operation life varies according to operating and mounting conditions. Please refer to service life on P. 33 of the EleCylinder Catalog V10.

■ Slider Type Moment Direction

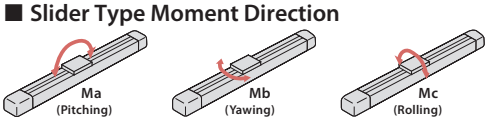


Table of Payload by Speed/Acceleration

The unit for payload is kg. If blank, operation is not possible.

Lead 30

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	14	13	12	12	2	2
200	14	13	12	12	2	2
400	14	13	12	11	1.5	1
650	14	10	9	8	1	1
850	9	6	4	2	1	1
1000	5	3	2	1		
1200	1					

Lead 20

Orientation	Horizontal				Vertical	
Speed (mm/s)	Acceleration (G)					
	0.3	0.5	0.7	1	0.3	0.5
0	35	25	25	25	4	4
200	35	25	25	25	4	4
300	35	25	24	16	4	4
400	35	22	18	12	1	1
650	10	9	4	3	1	1
800	10	3	1			
900	7	1				
975	4					

Lead 10

Orientation	Horizontal		Vertical	
Speed (mm/s)	Acceleration (G)			
	0.3	0.5	0.3	0.5
0	70	70	25	25
100	70	70	25	25
200	60	50	14	14
300	45	30	7	7
400	15	9	2	1
450	11	2		

Lead 5

Orientation	Horizontal	Vertical
Speed (mm/s)	Acceleration (G)	
	0.3	0.3
0	80	55
50	80	55
75	80	30
135	80	6
175	70	3
200	13	3

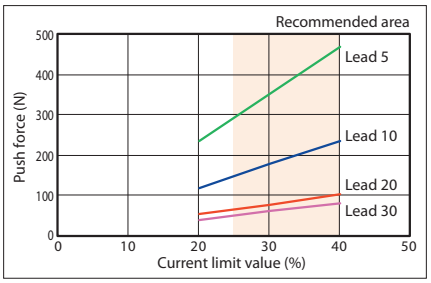
Stroke and Maximum Speed

Lead (mm)	700~1150 (every 50mm)	1200 (mm)	1250 (mm)	1300 (mm)	1350 (mm)	1400 (mm)	1450 (mm)	1500 (mm)
30	1200<850>			1190<850>	1110<850>	1040<850>	980<850>	920<850>
20	975<650>	910<650>	850<650>	790<650>	740<650>	690<650>	650	610
10	450<400>	440<400>	410<400>	380	360	340	320	300
5	200			190	180	170	160	150

(Unit: mm/s)

(Note) Values in brackets < > are for vertical use.

Correlation between Push Force and Current Limit



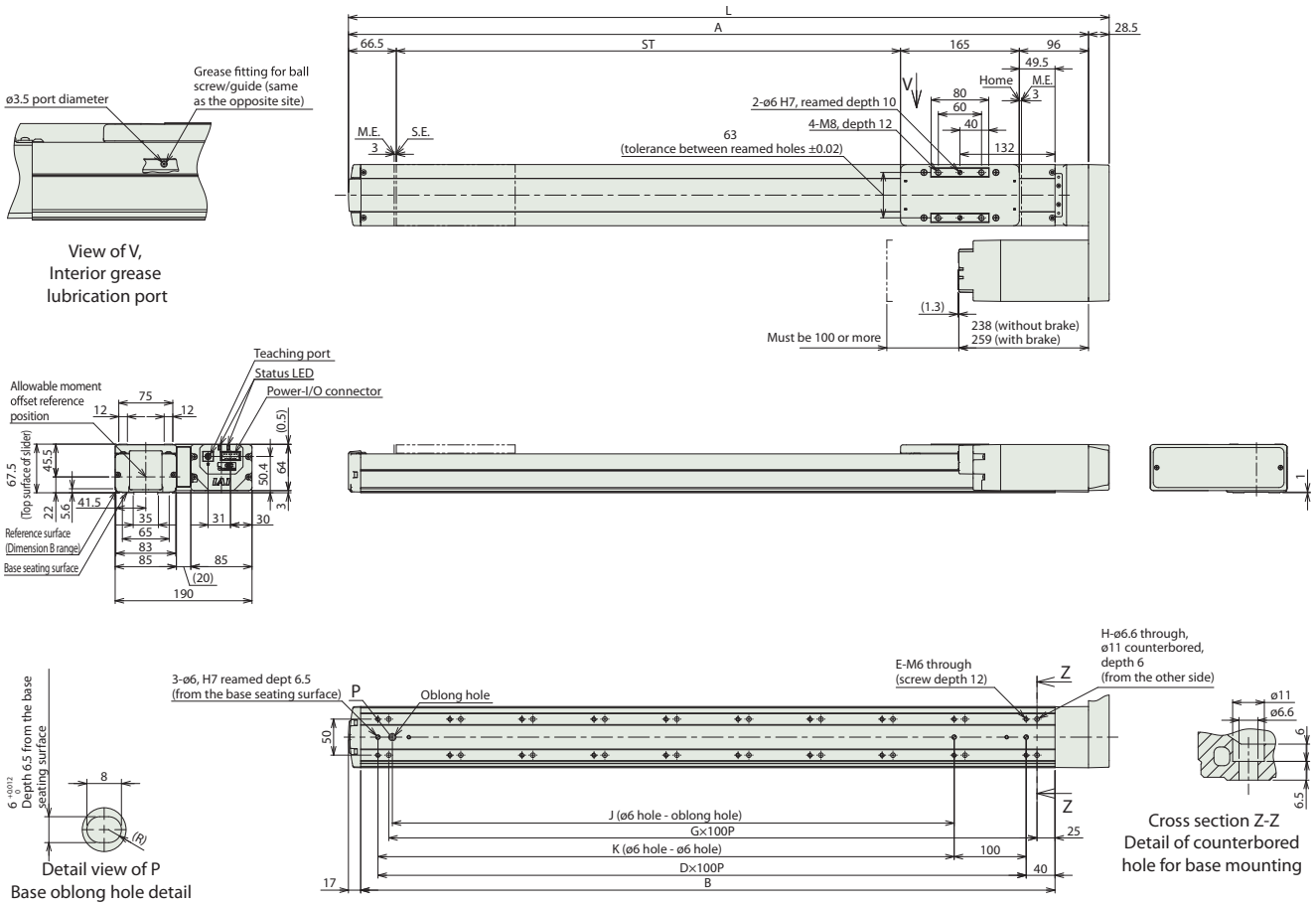
Dimensions

CAD drawings can be downloaded from our website.
www.iai-automation.com

■ EC-S8X□AR

(Note) When the slider is returning to its home position, be careful of interference from surrounding objects, as it will travel until it reaches the M.E.
(Note) To mount the actuator using the through holes on the base, it is necessary to remove the side cover and stainless sheet.
(Note) The following drawings show the side-mounted motor to the left (ML).

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



■ Dimensions by Stroke

Stroke	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500
L	1056	1106	1156	1206	1256	1306	1356	1406	1456	1506	1556	1606	1656	1706	1756	1806	1856
A	1027.5	1077.5	1127.5	1177.5	1227.5	1277.5	1327.5	1377.5	1427.5	1477.5	1527.5	1577.5	1627.5	1677.5	1727.5	1777.5	1827.5
B	964	1014	1064	1114	1164	1214	1264	1314	1364	1414	1464	1514	1564	1614	1664	1714	1764
D	9	9	10	10	11	11	12	12	13	13	14	14	15	15	16	16	17
E	20	20	22	22	24	24	26	26	28	28	30	30	32	32	34	34	36
G	9	9	10	10	11	11	12	12	13	13	14	14	15	15	16	16	17
H	20	20	22	22	24	24	26	26	28	28	30	30	32	32	34	34	36
J	780	780	880	880	980	980	1080	1080	1180	1180	1280	1280	1380	1380	1480	1480	1580
K	800	800	900	900	1000	1000	1100	1100	1200	1200	1300	1300	1400	1400	1500	1500	1600

■ Mass by Stroke

Stroke		700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500
Mass (kg)	Without brake	9.6	9.9	10.2	10.5	10.8	11.1	11.4	11.7	12.0	12.3	12.6	12.9	13.2	13.5	13.8	14.1	14.4
	With brake	10.5	10.8	11.1	11.4	11.7	12.0	12.3	12.6	12.9	13.2	13.5	13.8	14.1	14.4	14.7	15.0	15.3

Applicable Controllers

(Note) EC Series products are equipped with a built-in controller. Please refer to P. 65 for details on built-in controllers.

Options

RCON-EC connection specification

*Cannot be selected with the TMD2 and PN options (the ACR option includes the split motor and controller power supply specification)

Model ACR **Applicable models** All models

Description Select this option when connecting to a field network via RCON-EC.
*If this option is selected, the power supply must be a twin power supply and the input/output specification must be NPN.
Therefore, it cannot be selected with the TMD2 or PN options.

Brake

Model B **Applicable models** All models

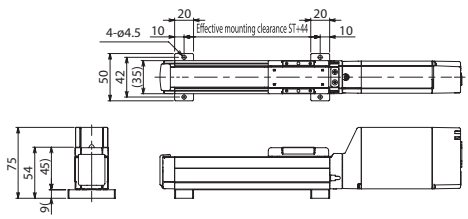
Description This mechanism stops the slider from moving when the power or servo is turned off. When using the actuator vertically, this option is required.

Foot bracket

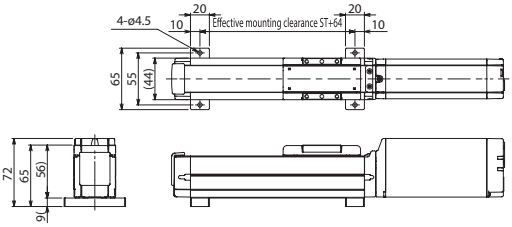
Model FT **Applicable models** EC-S3☐A(R) / S4☐A(R) / S6☐A(R) / S7☐A(R) / S6X☐AHR / S7X☐AHR

Description This bracket is used for mounting the actuator body from the top with bolts.
*Not assembled before shipment. Refer to the drawings for mounting instructions.

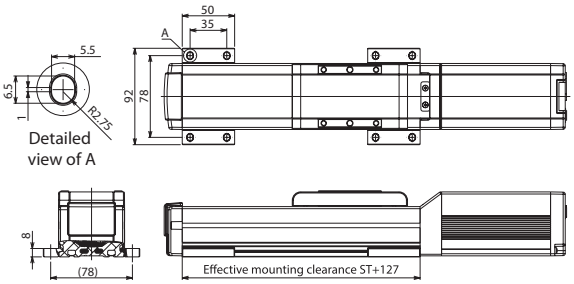
EC-S3☐A Individual model number: EC-FT-SRR3 (2-piece set)
(Material: Aluminum)



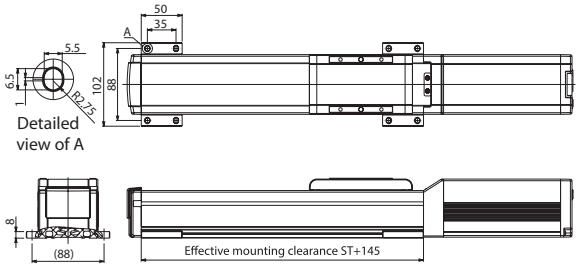
EC-S4☐A Individual model number: EC-FT-SRR4 (2-piece set)
(Material: Aluminum)



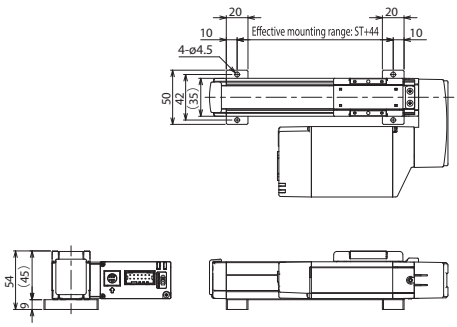
EC-S6☐A Individual model number: EC-FTSB (4-piece set)
(Material: Steel [steam treatment])



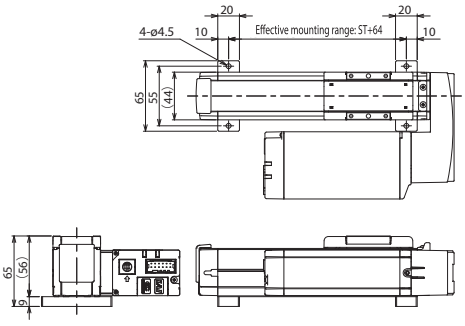
EC-S7☐A Individual model number: EC-FTSB (4-piece set)
(Material: Steel [steam treatment])



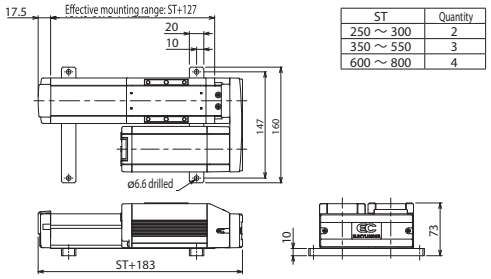
EC-S3☐AR Individual model number: EC-FT-SRR3 (2 pcs/set)
(Material: Aluminum)



EC-S4☐AR Individual model number: EC-FT-SRR4 (2 pcs/set)
(Material: Aluminum)

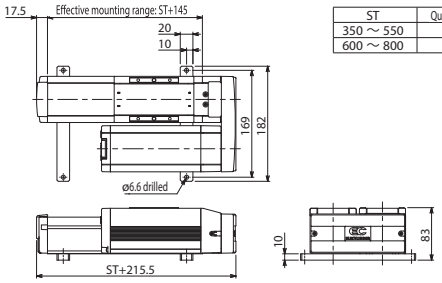


EC-S6☐AR Individual model number: EC-FT-SRR6R
(Material: Aluminum)



ST	Quantity
250 ～ 300	2
350 ～ 550	3
600 ～ 800	4

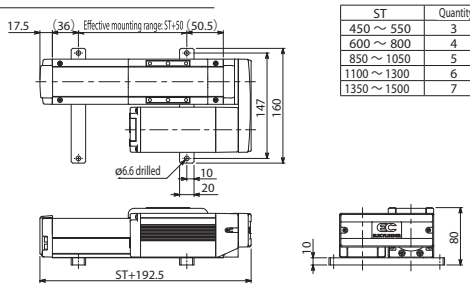
EC-S7☐AR Individual model number: EC-FT-SRR7R
(Material: Aluminum)



ST	Quantity
350 ～ 550	3
600 ～ 800	4

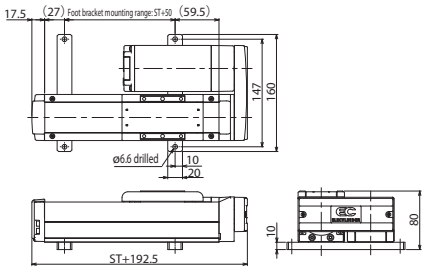
EC-S6X☐AHR Individual model number: EC-FT-SRR6R
(Material: Aluminum)

Dimensions for side-mounted motor to the left



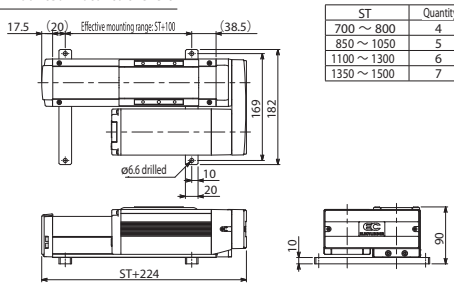
ST	Quantity
450 ～ 550	3
600 ～ 800	4
850 ～ 1050	5
1100 ～ 1300	6
1350 ～ 1500	7

Dimensions for side-mounted motor to the right



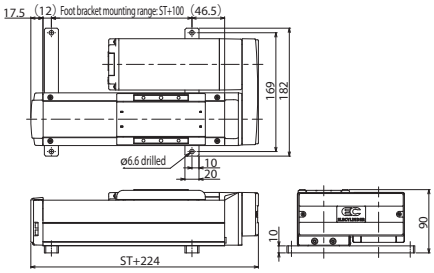
EC-S7X☐AHR Individual model number: EC-FT-SRR7R
(Material: Aluminum)

Dimensions for side-mounted motor to the left



ST	Quantity
700 ～ 800	4
850 ～ 1050	5
1100 ～ 1300	6
1350 ～ 1500	7

Dimensions for side-mounted motor to the right



Order necessary quantity according to the stroke. If the quantity is 3 or more, mount them at an even interval as much as possible.

Designated grease specification

Model **G1/G5** **Applicable models** **G1: EC-S3☐A / S4☐A / S6☐A / S7☐A / S6X☐AH / S7X☐AH**
*** The side-mounted motor specification cannot not be selected.**
G5: All models

Description The grease applied to the actuator ball screw and linear guide is changed to environmental low-dust grease (KURODA C-Grease) for G1 and food processing machine grease (White Alcom grease) for G5.

Orientation of the side-mounted motor

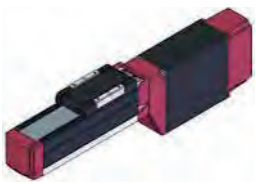
Model **ML/MR** **Applicable models** **EC-S3☐AR / S4☐AR / S6☐AR / S7☐AR / S6X☐AHR / S7X☐AHR**

Description This option is to specify the orientation of the side-mounted motor.
The side-mounted to the left is ML, and to the right is MR. * Make sure to specify either code.

Motor mounting direction changes

Model **MOB / MOL / MOR / MOT** **Applicable models** EC-S3□A / S4□A

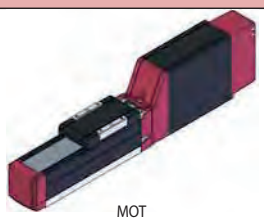
Description One of four motor mounting directions can be selected: bottom, left, right, or top.* Be sure to enter a code in the model number.



MOB
Motor mounting direction (bottom)

MOL
Motor mounting direction (left)

MOR
Motor mounting direction (right)



MOT
Motor mounting direction (top)

Non-motor end specification

Model **NM** **Applicable models** All models

Description The home position is normally set to the motor side. This option is for setting the home position on the other side in order to accommodate variations in equipment layout, etc.

PNP specification *Cannot be ordered simultaneously with the ACR option, which is NPN specification.

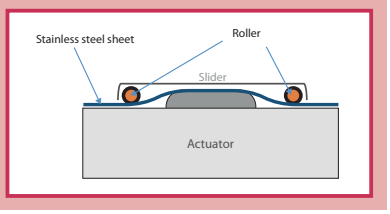
Model **PN** **Applicable models** All models

Description EC Series products provide NPN specification input/output for connecting external devices as standard.
Specifying this option changes input/output to the PNP specification.

Slider part roller specification

Model **SR** **Applicable models** All models

Description The slider structure of the standard slider type is changed to a roller structure similar to that of the cleanroom-compliant specification.
By using the slider part roller specification, the slider cover external view is rendered the same as that of the cleanroom type.



Twin power supply specification

* Cannot be selected with the ACR option (the RCON-EC connection specification is a split motor and controller power supply specification)

Model **TMD2** Applicable models **All models**

Description
This option includes an actuator operation stop input.
Select this option to allow shutting down the actuator drive power only.
Please refer to P. 66 for more information on wiring.

Double slider

Model **W** Applicable models **EC-S6□A(R) / S7□A(R)**

Description
This option adds a free slider on the ball screw motor side.
Doubling the slider enables increased allowable moment and overhang load length.
At shipping, the driven slider and free slider are not coupled. They are to be coupled by the customer for use.

Battery-less absolute encoder specification

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
This option enables support for wireless communication. Specifying this option enables wireless communication with the TB-03 and the wireless teaching controller. The start point, end point, and AVD can be adjusted via wireless communication.

Wireless axis operation specification

Model **WL2** Applicable models **All models**

Description
Specifying WL2 allows the product to operate wirelessly as with WL (start point, end point, and AVD adjustment), and also to perform axis travel operation tests (forward end/backward end movement, jog, and inching). However, this function is not meant to perform automatic operation. Refer to P. 118 of the EC main catalogue V10 for precautions on axis operation using wireless connection.
(Note) Customers cannot change WL to WL2, or WL2 to WL. Please contact IAI for this.

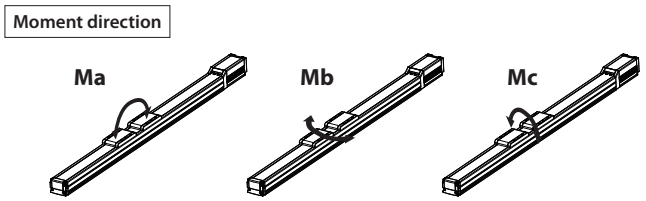
Double Slider Specification

■ Precautions for Double Slider Specification

(1) The allowable dynamic moment and overhang load length change depending on the span between the two sliders.

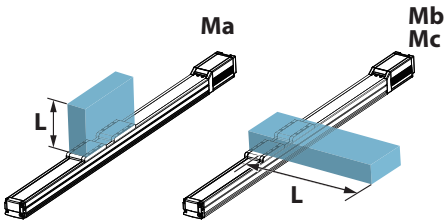
Allowable dynamic moment direction figure

These values for the allowable dynamic moment are based on the standard rated operation life. Note that use exceeding the moment specification value will shorten the guide life.

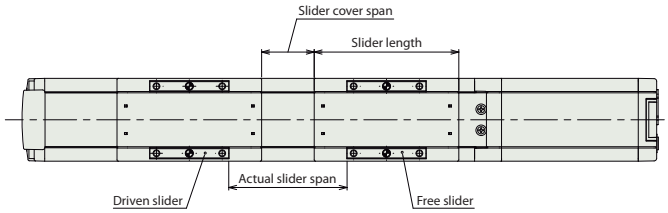


Overhang load length figure

Use exceeding the overhang allowable value may lead to vibration, so be sure to use within the allowable values.

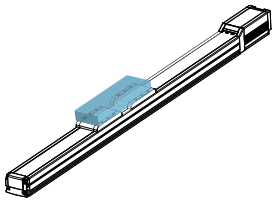


Double slider specification figure



Slider coupling part (image)

At shipping, the driven slider and free slider are not coupled. They are to be coupled by the customer for use.
(Note) Be sure to couple the sliders at the slider span specified as of ordering.



(2) Be sure to specify the effective stroke upon ordering.

Ex. EC-S6MA-750-3-W (effective stroke 600mm)

(3) When specifying the double slider specification option, the effective stroke (actually operable stroke) is the length of the nominal stroke (stroke as in the model name) minus Ⓐ (slider length + slider cover span). When ordering, select a stroke length including the length plus Ⓐ or more as the required stroke. As well, make sure the effective stroke is at least the minimum effective stroke with double slider specification.

Nominal stroke ≥ Effective stroke + Ⓐ
(stroke as in model name) (actually operable stroke)

Ex. EC-S6□A
Effective stroke: 600mm Ⓐ : 150mm
600mm + 150mm = 750mm -> Order at 750mm or above in the model name

For double slider specification Available effective strokes (mm)	Ⓐ Slider length + Slider cover span (mm)
100 ~ 650 (nominal stroke 250 ~ 800)	150
200 ~ 650 (nominal stroke 350 ~ 800)	150

(4) Be sure to confirm the payload with double slider specification in the Table of Payload by Speed/Acceleration (double slider specification) on the product specification pages.

(5) Longer strokes may cause the maximum speed to decrease due to the resonance of the ball screw. Confirm with the table "Stroke and Maximum Speed (double slider specification)" on the product specification pages.

■ Double Slider Specification Table

Model	Allowable dynamic moment						Overhang load length (mm)	Slider mass (kg)	Slider length (mm)	Effective stroke available with double slider specification (mm)	Ⓐ Slider length + Slider cover span (mm)
	Standard rated operation life (km)	Slider span (mm)		Ma direction (N·m)	Mb direction (N·m)	Mc direction (N·m)	Ma/ Mb/ Mc direction				
		Actual slider span	Slider cover span								
EC-S6□A(R)	5000	90	40	106	152	37.9	440	0.27	110	100 ~ 650 (nominal stroke 250 ~ 800)	150
EC-S7□A(R)	5000	73	24	119	171	56.7	560	0.45	126	200 ~ 650 (nominal stroke 350 ~ 800)	150

■ Double Slider Specification Availability Table

Model	Lead	Double slider specification availability	
		Horizontal mounting	Vertical mounting
EC-S6□A(R)	S	—	—
	H	○	—
	M	○	○
	L	○	○
EC-S7□A(R)	S	—	—
	H	○	—
	M	○	○
	L	○	○

Duty Ratio

The duty ratio is the operating rate shown as the actuator's operating time during one cycle in, expressed as a percentage.

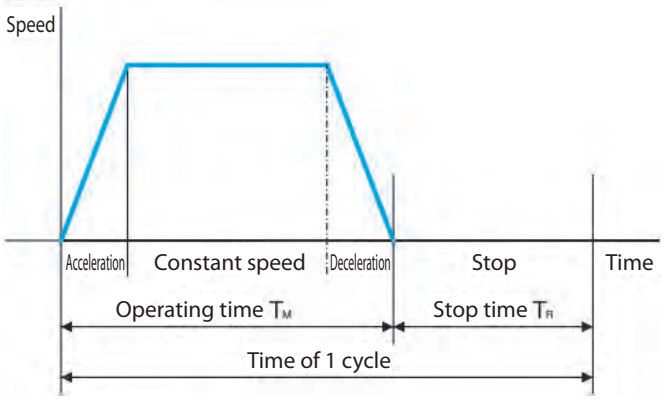
The duty ratio for each EleCylinder type is limited to the values below.
The data below is applicable even during operation at maximum speed and maximum acceleration/deceleration.

[Duty ratio]

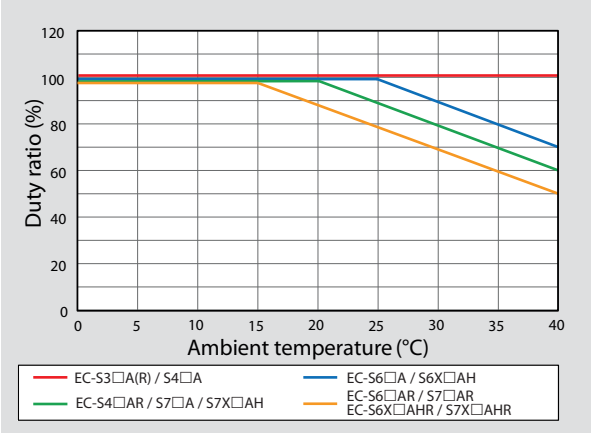
The duty ratio is the operating rate shown as the operating time of EleCylinder during one cycle, expressed as a percentage (%).

$$D = \frac{TM}{TM + TR} \times 100\ (\%)$$

D: Duty ratio
TM: Operating time (including push-motion operation)
TR: Stop time



■ Ambient Temperature and Duty Ratio



Push-Motion Operation

Push-motion operation is a function that keeps the slider pushed up against a workpiece, as with an air cylinder.
Please check the usage instructions and precautions below prior to use.

[Push force adjustment]

- The push force during push-motion operation can be adjusted by changing the "Push force (%)" on EleCylinder.
- Check the push force for the applicable model in the "Correlation Diagrams between Push Force and Current Limit" on the product specification page, and select a model that matches your conditions.

[Lead selection method]

Select a lead with the desired push force within the recommended current limit value range (colored area of the graph).

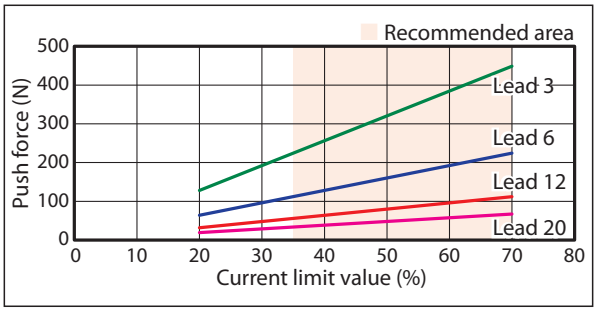
Lead 6 would be appropriate for the EC-S6□A type shown in the figure to the right if a push force of 150N is desired. Selecting lead 3 would limit the adjustment range.

[Precautions]

If pushing with a slider type, the allowable dynamic moment of the guide will need to be taken into consideration. Be sure to limit the push current so that the reactive moment caused by the push force does not exceed the allowable dynamic moment (Ma, Mb) listed in the catalog.

(Example)

EC-S6□A



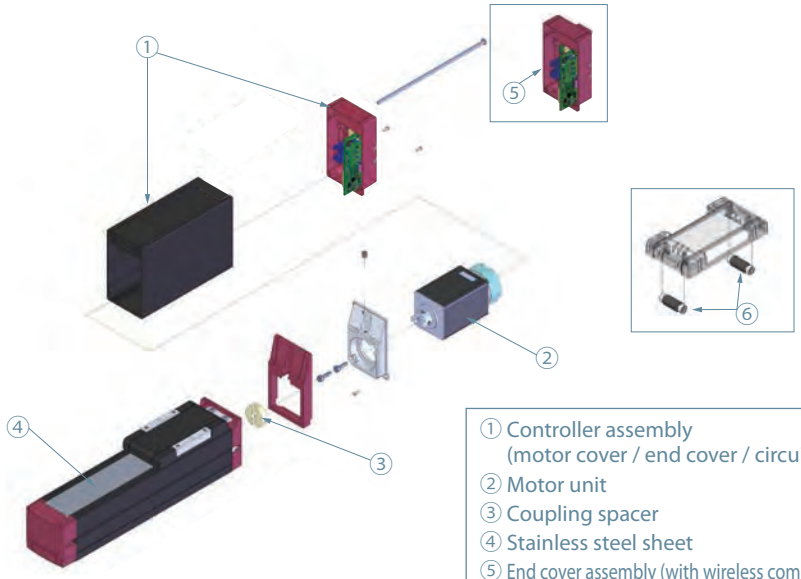
<Correlation Diagrams between Push Force and Current Limit>

Caution

- **The "Correlation Diagrams between Push Force and Current Limit" show lower guidelines for push force for each current limit value.**
- **Individual differences in the motor and variations in machine efficiency may cause the push force lower limit to be exceeded by around 40%, even if the current limit value is the same. This is especially true when the current limit value is 30% or lower, and the push force lower limit could be exceeded by 40% or more.**

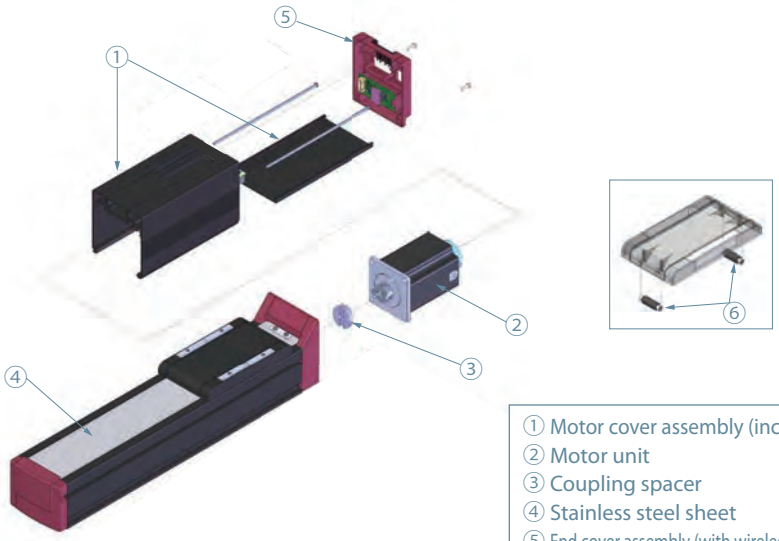
Maintenance Parts (Actuator)

EC-S3□A
EC-S4□A



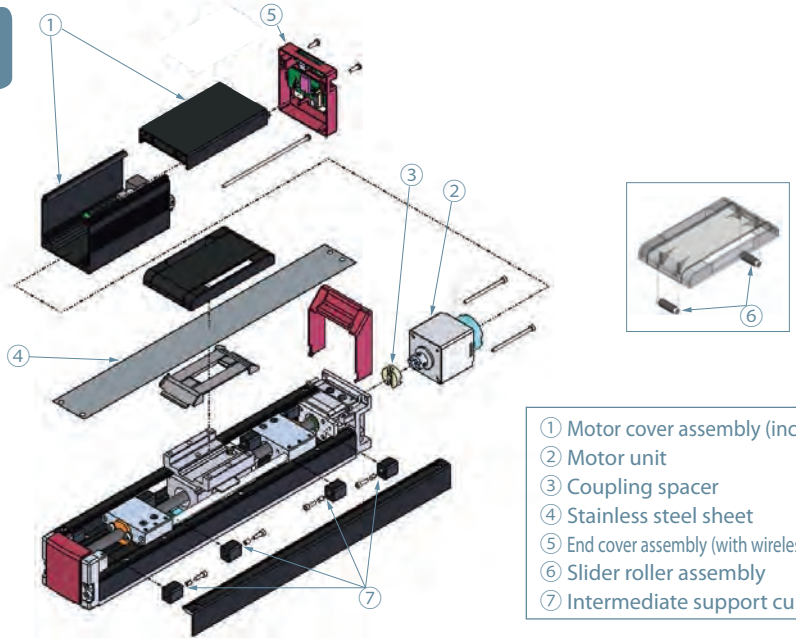
① Controller assembly
(motor cover / end cover / circuit board cable)
② Motor unit
③ Coupling spacer
④ Stainless steel sheet
⑤ End cover assembly (with wireless communication circuit board cable)
⑥ Slider roller assembly

EC-S6□A
EC-S7□A



① Motor cover assembly (including controller circuit board)
② Motor unit
③ Coupling spacer
④ Stainless steel sheet
⑤ End cover assembly (with wireless communication circuit board cable)
⑥ Slider roller assembly

EC-S6X□AH
EC-S7X□AH



① Motor cover assembly (including controller circuit board)
② Motor unit
③ Coupling spacer
④ Stainless steel sheet
⑤ End cover assembly (with wireless communication circuit board cable)
⑥ Slider roller assembly
⑦ Intermediate support cushion

The numbers in the table correspond to the numbers in the schematics.
(Note) Mounting screws are not included with maintenance parts. Please contact our sales department for modification purposes.

① Controller assembly [Model number configuration] Basic model number - (when selecting ACR) - (when selecting TMD2) - (when selecting WL2)

Type	Encoder	Brake	I/O	Basic model number	RCON-EC connection specification* Model: ACR	Split motor and controller power supply specification* Model: TMD2	Wireless axis operation specification Model: WL2
S3□A	Incremental	No	NPN	MWB-EC-SRR3	ACR (I/O for NPN only)	TMD2	WL2
			PNP	MWB-EC-SRR3-P			
		Yes	NPN	MWB-EC-SRR3-B			
			PNP	MWB-EC-SRR3-B-P			
	Battery-less absolute	No	NPN	MWB-EC-SRR3-WA			
			PNP	MWB-EC-SRR3-WA-P			
		Yes	NPN	MWB-EC-SRR3-WA-B			
			PNP	MWB-EC-SRR3-WA-B-P			
S4□A	Incremental	No	NPN	MWB-EC-SRR4			
			PNP	MWB-EC-SRR4-P			
		Yes	NPN	MWB-EC-SRR4-B			
			PNP	MWB-EC-SRR4-B-P			
	Battery-less absolute	No	NPN	MWB-EC-SRR4-WA			
			PNP	MWB-EC-SRR4-WA-P			
		Yes	NPN	MWB-EC-SRR4-WA-B			
			PNP	MWB-EC-SRR4-WA-B-P			

*Also common when selecting wireless communication specification (model number: WL). (Note) A wireless communication circuit board is not included.

② Motor unit

Type	Encoder	Brake	Model
S3□A	Incremental	No	EC-MUSRR3
		Yes	EC-MUSRR3-B
	Battery-less absolute	No	EC-MUSRR3-WA
		Yes	EC-MUSRR3-WA-B
S4□A	Incremental	No	EC-MUSRR4
		Yes	EC-MUSRR4-B
	Battery-less absolute	No	EC-MUSRR4-WA
		Yes	EC-MUSRR4-WA-B

③ Coupling spacer

Type	Model
S3□A	CPG-EC-SRR3
S4□A	CPG-EC-SRR4

④ Stainless steel sheet

Type	Model
S3□A	ST-EC-S3-○○○
S4□A	ST-EC-S4-○○○

*○○○ indicates the stroke

⑤ End cover assembly

Type	Model
S3□A	EWB-EC-(D)SRR3
S4□A	EWB-EC-(D)SRR4

(Note) With wireless communication circuit board cable. Please contact our sales department for non-wireless specifications.

⑥ Slider roller assembly

Type	Model
S3□A	EC-SR-S3
S4□A	EC-SR-S467

*The model above is one item worth. When 1 axis worth is required, prepare two items.

---

① Motor cover assembly [Model number configuration] Basic model number - (when selecting ACR) - (when selecting TMD2) - (when selecting WL2)

Type	Brake	I/O	Basic model number	RCON-EC connection specification* Model: ACR	Split motor and controller power supply specification* Model: TMD2	Wireless axis operation specification Model: WL2
S6□A	No	NPN	MWB-EC-SR6	ACR (I/O for NPN only)	TMD2	WL2
		PNP	MWB-EC-SR6-P			
	Yes	NPN	MWB-EC-SR6-B			
		PNP	MWB-EC-SR6-B-P			
S7□A	No	NPN	MWB-EC-SR7			
		PNP	MWB-EC-SR7-P			
	Yes	NPN	MWB-EC-SR7-B			
		PNP	MWB-EC-SR7-B-P			

*Also common when selecting wireless communication specification (model number: WL). (Note) A wireless communication circuit board is not included.

② Motor unit

Type	Encoder	Brake	Model
S6□A	Incremental	No	EC-MUSR6
		Yes	EC-MUSR6-B
	Battery-less absolute	No	EC-MUSR6-WA
		Yes	EC-MUSR6-WA-B
S7□A	Incremental	No	EC-MUS7
		Yes	EC-MUS7-B
	Battery-less absolute	No	EC-MUS7-WA
		Yes	EC-MUS7-WA-B

③ Coupling spacer

Type	Model
S6□A	CPG-EC-SR6
S7□A	CPG-EC-SR7

④ Stainless steel sheet

Type	Model	
	Single slider	Double-slider
S6□A	ST-EC-S6-○○○	ST-EC-S6D-○○○
S7□A	ST-EC-S7-○○○	ST-EC-S7D-○○○

*○○○ indicates the stroke in the model name

⑤ End cover assembly

Type	Model
S6□A	EWB-EC-(D)SR6
S7□A	EWB-EC-(D)SR7

(Note) With wireless communication circuit board cable. Please contact our sales department for non-wireless specifications.

⑥ Slider roller assembly

Type	Model
S6□A S7□A	EC-SR-S467

*The model above is one item worth. When 1 axis worth is required, prepare two items.

---

① Motor cover assembly [Model number configuration] Basic model number - (when selecting ACR) - (when selecting TMD2) - (when selecting WL2)

Type	Brake	I/O	Basic model number	RCON-EC connection specification* Model: ACR	Split motor and controller power supply specification* Model: TMD2	Wireless axis operation specification Model: WL2
S6X□AH	No	NPN	MWB-ECH-(D)SRR6	ACR (I/O for NPN only)	TMD2	WL2
		PNP	MWB-ECH-(D)SRR6-P			
	Yes	NPN	MWB-ECH-(D)SRR6-B			
		PNP	MWB-ECH-(D)SRR6-B-P			
S7X□AH	No	NPN	MWB-ECH-(D)SRR7			
		PNP	MWB-ECH-(D)SRR7-P			
	Yes	NPN	MWB-ECH-(D)SRR7-B			
		PNP	MWB-ECH-(D)SRR7-B-P			

*Also common when selecting wireless communication specification (model number: WL). (Note) A wireless communication circuit board is not included.

② Motor unit

Type	Encoder	Brake	Model
S6X□AH	Incremental	No	EC-MUSR6
		Yes	EC-MUSR6-B
	Battery-less absolute	No	EC-MUSR6-WA
		Yes	EC-MUSR6-WA-B
S7X□AH	Incremental	No	EC-MUS7
		Yes	EC-MUS7-B
	Battery-less absolute	No	EC-MUS7-WA
		Yes	EC-MUS7-WA-B

③ Coupling spacer

Type	Model
S6X□AH	CPG-EC-SR6
S7X□AH	CPG-EC-SR7

④ Stainless steel sheet

Type	Model
S6X□AH	ST-ECXH-S6-○○○
S7X□AH	ST-ECXH-S7-○○○

*○○○ indicates the stroke

⑤ End cover assembly

Type	Model
S6X□AH	EWB-ECH-(D)SRR6
S7X□AH	EWB-ECH-(D)SRR7

(Note) With wireless communication circuit board cable. Please contact our sales department for non-wireless specifications.

⑥ Slider roller assembly

Type	Model
S6X□AH S7X□AH	EC-SR-S467

*The model above is one item worth. When 1 axis worth is required, prepare two items.

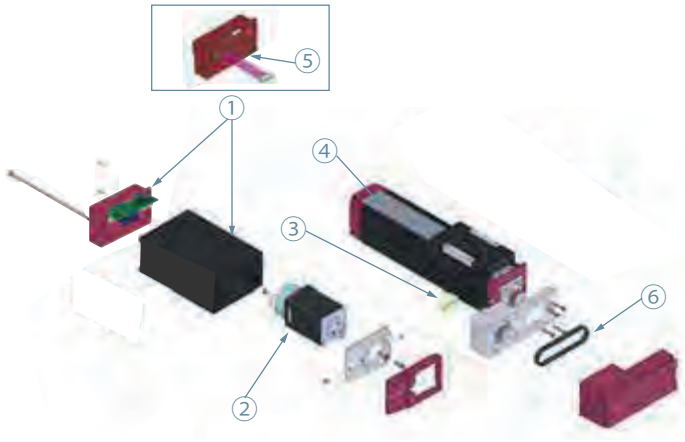
⑦ Intermediate support cushion

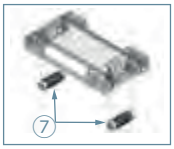
Type	Model
S6X□AH S7X□AH	IMSC-EC-S6S7

*The model above is one item worth. When 1 axis worth is required, prepare eight items. One rolled bushing is included per model.

Maintenance Parts (Actuator)

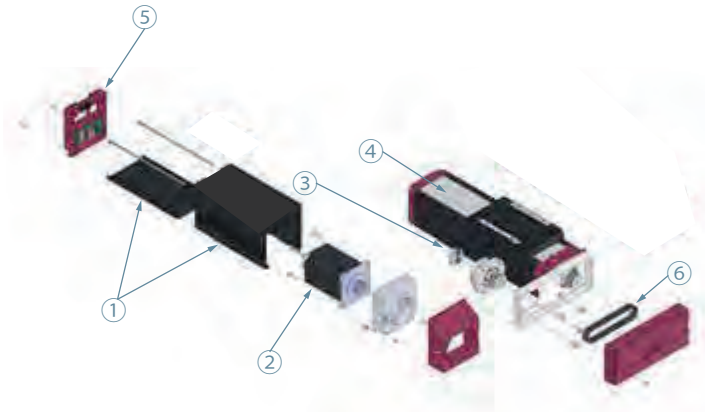
EC-S3□AR
EC-S4□AR

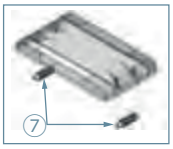




① Controller assembly
(motor cover / end cover / circuit board cable)
② Motor unit
③ Coupling spacer
④ Stainless steel sheet
⑤ End cover assembly
(with wireless communication circuit board cable)
⑥ Timing belt
⑦ Slider roller assembly

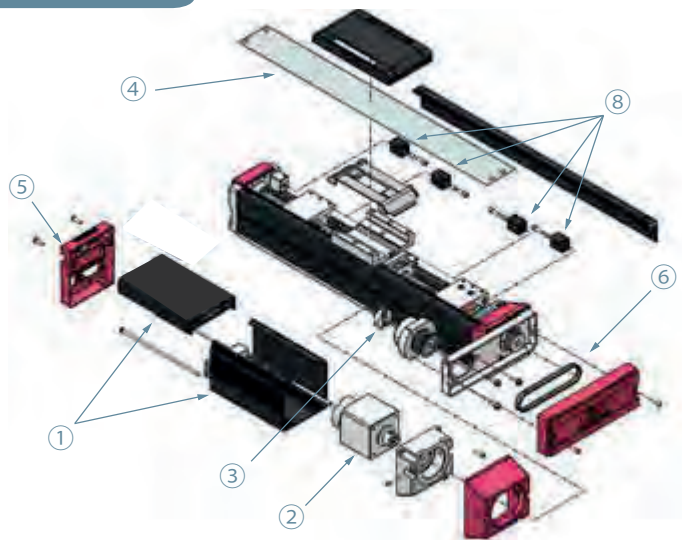
EC-S6□AR
EC-S7□AR

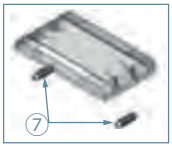




① Motor cover assembly (including controller circuit board)
② Motor unit
③ Coupling spacer
④ Stainless steel sheet
⑤ End cover assembly
(with wireless communication circuit board cable)
⑥ Timing belt
⑦ Slider roller assembly

EC-S6X□AHR
EC-S7X□AHR





① Motor cover assembly (including controller circuit board)
② Motor unit
③ Coupling spacer
④ Stainless steel sheet
⑤ End cover assembly
(with wireless communication circuit board cable)
⑥ Timing belt
⑦ Slider roller assembly
⑧ Intermediate support cushion

The numbers in the table correspond to the numbers in the schematics.
(Note) Mounting screws are not included with maintenance parts. Please contact our sales department for modification purposes.

① Controller assembly [Model number configuration] Basic model number - (when selecting ACR) - (when selecting TMD2) - (when selecting WL2)

Type	Encoder	Brake	I/O	Basic model number	RCON-EC connection specification* Model: ACR	Split motor and controller power supply specification* Model: TMD2	Wireless axis operation specification Model: WL2
S3□AR	Incremental	No	NPN	MWB-EC-SRR3	ACR (I/O for NPN only)	TMD2	WL2
			PNP	MWB-EC-SRR3-P			
		Yes	NPN	MWB-EC-SRR3-B			
			PNP	MWB-EC-SRR3-B-P			
	Battery-less absolute	No	NPN	MWB-EC-SRR3-WA			
			PNP	MWB-EC-SRR3-WA-P			
		Yes	NPN	MWB-EC-SRR3-WA-B			
			PNP	MWB-EC-SRR3-WA-B-P			
S4□AR	Incremental	No	NPN	MWB-EC-SRR4			
			PNP	MWB-EC-SRR4-P			
		Yes	NPN	MWB-EC-SRR4-B			
			PNP	MWB-EC-SRR4-B-P			
	Battery-less absolute	No	NPN	MWB-EC-SRR4-WA			
			PNP	MWB-EC-SRR4-WA-P			
		Yes	NPN	MWB-EC-SRR4-WA-B			
			PNP	MWB-EC-SRR4-WA-B-P			

*Also common when selecting wireless communication specification (model number: WL). (Note) A wireless communication circuit board is not included.

② Motor unit

Type	Encoder	Brake	Model
S3□AR	Incremental	No	EC-MUSRR3
		Yes	EC-MUSRR3-B
	Battery-less absolute	No	EC-MUSRR3-WA
		Yes	EC-MUSRR3-WA-B
S4□AR	Incremental	No	EC-MUSRR4
		Yes	EC-MUSRR4-B
	Battery-less absolute	No	EC-MUSRR4-WA
		Yes	EC-MUSRR4-WA-B

③ Coupling spacer

Type	Model
S3□AR	CPG-EC-SRR3
S4□AR	CPG-EC-SRR4

④ Stainless steel sheet

Type	Model
S3□AR	ST-EC-S3-○○○
S4□AR	ST-EC-S4-○○○

*○○○ indicates the stroke

⑤ End cover assembly

Type	Model
S3□AR	EWB-EC-(D)SRR3
S4□AR	EWB-EC-(D)SRR4

(Note) With wireless communication circuit board cable. Please contact our sales department for non-wireless specifications.

⑥ Timing belt

Type	Model
S3□AR	TB-RCP6-STRA4R
S4□AR	TB-RCP5-SA4R

⑦ Slider roller assembly

Type	Model
S3□AR	EC-SR-S3
S4□AR	EC-SR-S467

*The model above is one item worth. When 1 axis worth is required, prepare two items.

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① Motor cover assembly [Model number configuration] Basic model number - (when selecting ACR) - (when selecting TMD2) - (when selecting WL2)

Type	Brake	I/O	Basic model number	RCON-EC connection specification* Model: ACR	Split motor and controller power supply specification* Model: TMD2	Wireless axis operation specification Model: WL2
S6□AR	No	NPN	MWB-EC-SR6	ACR (I/O for NPN only)	TMD2	WL2
		PNP	MWB-EC-SR6-P			
	Yes	NPN	MWB-EC-SR6-B			
		PNP	MWB-EC-SR6-B-P			
S7□AR	No	NPN	MWB-EC-SR7			
		PNP	MWB-EC-SR7-P			
	Yes	NPN	MWB-EC-SR7-B			
		PNP	MWB-EC-SR7-B-P			

*Also common when selecting wireless communication specification (model number: WL). (Note) A wireless communication circuit board is not included.

② Motor unit

Type	Encoder	Brake	Model
S6□AR	Incremental	No	EC-MUSR6
		Yes	EC-MUSR6-B
	Battery-less absolute	No	EC-MUSR6-WA
		Yes	EC-MUSR6-WA-B
S7□AR	Incremental	No	EC-MUS7
		Yes	EC-MUS7-B
	Battery-less absolute	No	EC-MUS7-WA
		Yes	EC-MUS7-WA-B

③ Coupling spacer

Type	Model
S6□AR	CPG-EC-SR6
S7□AR	CPG-EC-SR7

④ Stainless steel sheet

Type	Model	
	Single slider	Double-slider
S6□AR	ST-EC-S6-○○○	ST-EC-S6D-○○○
S7□AR	ST-EC-S7-○○○	ST-EC-S7D-○○○

*○○○ indicates the stroke in the model name

⑤ End cover assembly

Type	Model
S6□AR	EWB-EC-(D)SR6
S7□AR	EWB-EC-(D)SR7

(Note) With wireless communication circuit board cable. Please contact our sales department for non-wireless specifications.

⑥ Timing belt

Type	Model
S6□AR	TB-EC-SRR6R
S7□AR	TB-EC-SRR7R

⑦ Slider roller assembly

Type	Model
S6□AR S7□AR	EC-SR-S467

*The model above is one item worth. When 1 axis worth is required, prepare two items.

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① Motor cover assembly [Model number configuration] Basic model number - (when selecting ACR) - (when selecting TMD2) - (when selecting WL2)

Type	Brake	I/O	Basic model number	RCON-EC connection specification* Model: ACR	Split motor and controller power supply specification* Model: TMD2	Wireless axis operation specification Model: WL2
S6X□AHR	No	NPN	MWB-ECH-(D)SRR6	ACR (I/O for NPN only)	TMD2	WL2
		PNP	MWB-ECH-(D)SRR6-P			
	Yes	NPN	MWB-ECH-(D)SRR6-B			
		PNP	MWB-ECH-(D)SRR6-B-P			
S7X□AHR	No	NPN	MWB-ECH-(D)SRR7			
		PNP	MWB-ECH-(D)SRR7-P			
	Yes	NPN	MWB-ECH-(D)SRR7-B			
		PNP	MWB-ECH-(D)SRR7-B-P			

*Also common when selecting wireless communication specification (model number: WL). (Note) A wireless communication circuit board is not included.

② Motor unit

Type	Encoder	Brake	Model
S6X□AHR	Incremental	No	EC-MUSR6
		Yes	EC-MUSR6-B
	Battery-less absolute	No	EC-MUSR6-WA
		Yes	EC-MUSR6-WA-B
S7X□AHR	Incremental	No	EC-MUS7
		Yes	EC-MUS7-B
	Battery-less absolute	No	EC-MUS7-WA
		Yes	EC-MUS7-WA-B

③ Coupling spacer

Type	Model
S6X□AHR	CPG-EC-SR6
S7X□AHR	CPG-EC-SR7

④ Stainless steel sheet

Type	Model
S6X□AHR	ST-ECXH-S6-○○○
S7X□AHR	ST-ECXH-S7-○○○

*○○○ indicates the stroke

⑤ End cover assembly

Type	Model
S6X□AHR	EWB-ECH-(D)SRR6
S7X□AHR	EWB-ECH-(D)SRR7

(Note) With wireless communication circuit board cable. Please contact our sales department for non-wireless specifications.

⑥ Timing belt

Type	Model
S6X□AHR	TB-EC-SRR6R
S7X□AHR	TB-EC-SRR7R

⑦ Slider roller assembly

Type	Model
S6X□AHR S7X□AHR	EC-SR-S467

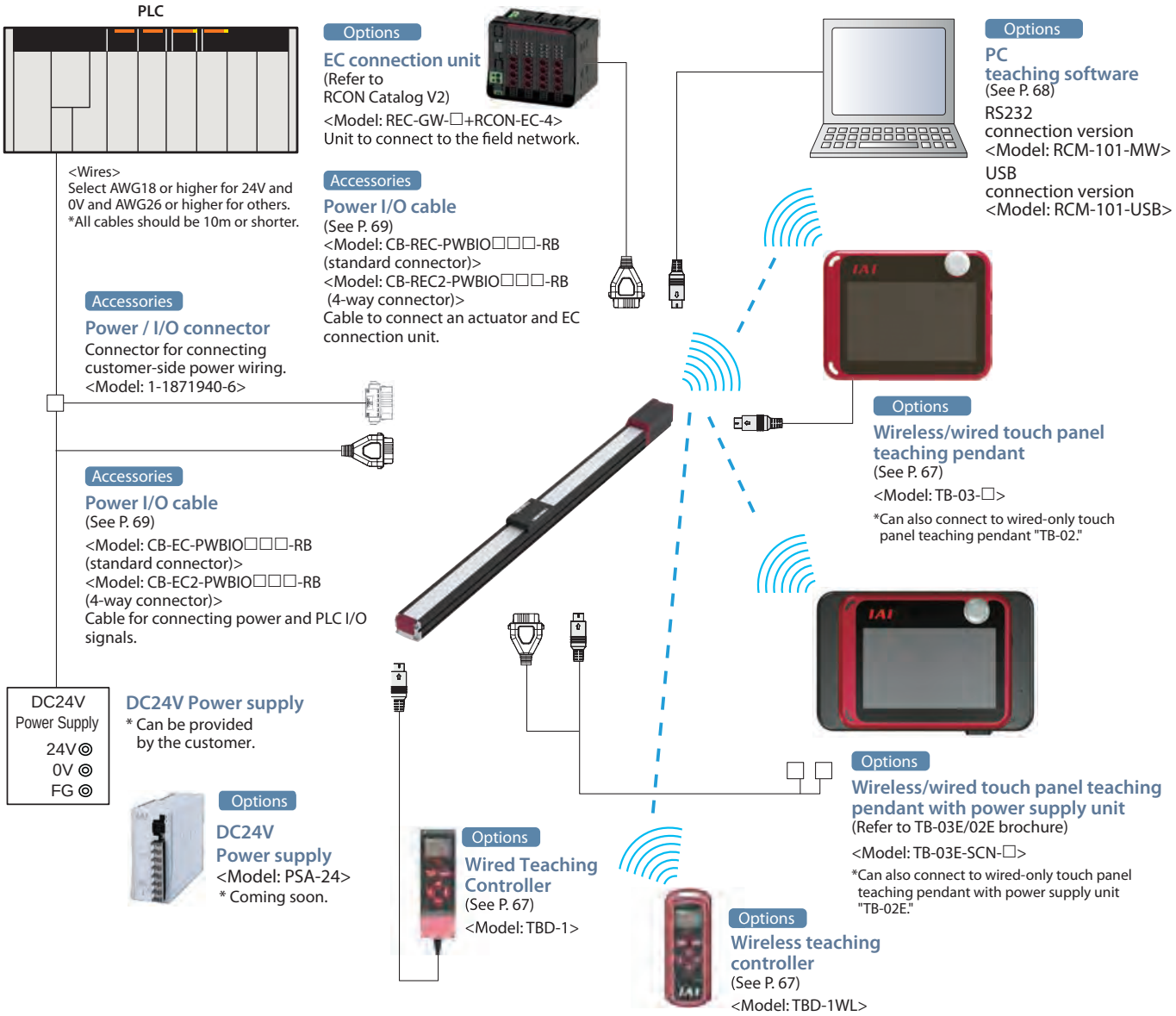
*The model above is one item worth. When 1 axis worth is required, prepare two items.

⑧ Intermediate support cushion

Type	Model
S6X□AHR S7X□AHR	IMSC-EC-S6S7

*The model above is one item worth. When 1 axis worth is required, prepare eight items. One rolled bushing is included per model.

System Configuration



List of Accessories

■ Power I/O Cables, Connectors

[Standard connector]

Product category		Accessories
Power I/O cable length (selected with actuator model)	RCON-EC connection specification (ACR) selection	
0	No	Power / I/O connector (1-1871940-6)
	Yes	—
1 ~ 10	No	Power I/O cable (CB-EC-PWBIO□□□-RB)
	Yes	Power I/O cable (CB-REC-PWBIO□□□-RB)

[Four-way connector]

Product category		Accessories
Power I/O cable length (selected with actuator model)	RCON-EC connection specification (ACR) selection	
S1 ~ S10	No	Power I/O cable (CB-EC2-PWBIO□□□-RB)
	Yes	Power I/O cable (CB-REC2-PWBIO□□□-RB)

Table of Connectability between EleCylinder and Teaching Tools

■ EleCylinder single unit

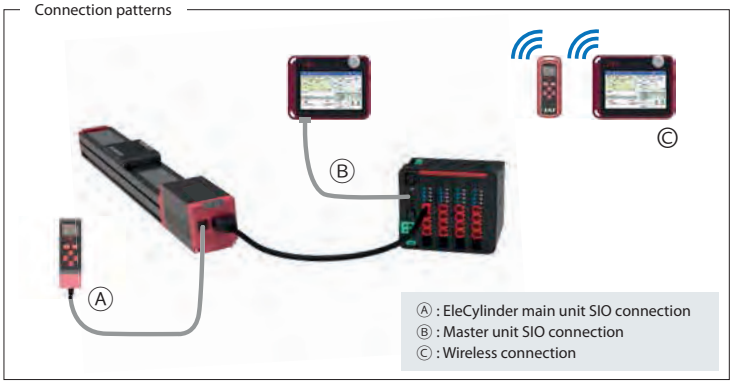
○: Connection/Operation possible

Teaching tool			Connection/ operation	Preference order (for simultaneous connection)
Wired connection	TB-02/03		○	1
	Wired Teaching Controller		○	1
Wireless connection	TB-03		○ *1 *2	2
	Wireless Teaching Controller		○ *1 *2	2

*1 Connectable only when EleCylinder is the wireless connection specification (with optional WL or WL2).
*2 Trial operations are impossible when connecting to the WL specification. Trail operations are possible when connecting to the WL2 specification.

■ When connecting EleCylinder with REC/RCON/RSEL (RCON-EC-4 connection)

Connection patterns



○: Connection/Operation possible △: Connectable/Some operations impossible —: Not connectable

Teaching tool			Connection patterns	AUTO (during automatic operation)		Manual	
				Connection/ operation	Preference order (for simultaneous connection)	Connection/ operation	Preference order (for simultaneous connection)
Wired connection	TB-02/03		Ⓐ	—		—	
			Ⓑ	△ *4	1	○	1
	Wired Teaching Controller		Ⓐ	—		—	
			Ⓑ	—		—	
Wireless connection	TB-03		Ⓒ	△ *1 *4	2	○ *1 *2	2
	Wireless Teaching Controller		Ⓒ	△ *1 *3	2	○ *1 *2	2

*1 Connectable only when EleCylinder is the wireless connection specification (with optional WL or WL2).
*2 Trial operations are impossible when connecting to the WL specification. Trail operations are possible when connecting to the WL2 specification.
*3 Setting and operations of speed, acceleration/deceleration are possible. Position edit and trial operations are impossible.
*4 Only monitor is supported (operations are impossible)

Basic Controller Specifications

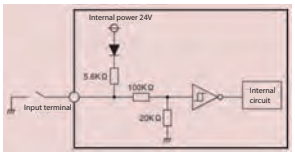
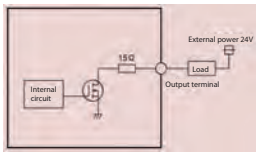
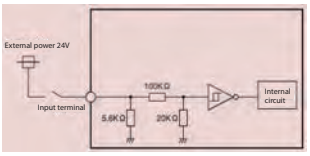
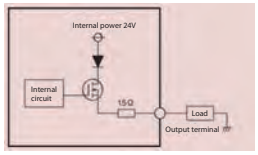
Specification item			Specification content
Number of controlled axes			1 axis
Power supply voltage			24VDC ±10%
Power capacity (includes control power 0.3A) (Note 1)		S3☐A(R)	Max. 2.2A (with energy-saving setting enabled only)
		S4☐A(R), S6☐A(R), S7☐A(R), S6X☐AH(R), S7X☐AH(R)	With energy-saving setting disabled: Rated 3.5A, max. 4.2A With energy-saving setting enabled: Max. 2.2A
Brake release power supply			24VDC ±10%, 200mA (only for external brake release)
Generated heat (at duty ratio 100%)		S3☐A(R)	5W
		S4☐A(R), S6☐A(R), S7☐A(R), S6X☐AH(R), S7X☐AH(R)	8W
Inrush current (Note 2)		S3☐A(R)	2A
		S4☐A(R), S6☐A(R), S7☐A(R), S6X☐AH(R), S7X☐AH(R)	8.3A (with inrush current limit circuit)
Momentary power failure resistance			Max 500µs
Motor size			☐28, ☐35, ☐42, ☐56
Motor rated current			1.2A
Motor control system			Weak field-magnet vector control
Supported encoders			Incremental (800 pulse/rev), battery-less absolute encoder (800 pulse/rev)
SIO			RS-485 1ch (Modbus protocol compliant)
PIO	Input specification	No. of inputs	3 points (forward, backward, alarm clear)
		Input voltage	24VDC ±10%
		Input current	5mA per circuit
		Leakage current	Max. 1mA/1 point
		Isolation method	Non-isolated
	Output specification	No. of outputs	3 points (forward complete, backward complete, alarm)
		Output voltage	24VDC ±10%
		Output current	50mA/1 point
		Residual voltage	2V or less
		Isolation method	Non-isolated
Data setting, input method			PC teaching software, touch panel teaching pendant, digital speed controller
Data retention memory			Position and parameters are saved in non-volatile memory (no limit to number of rewrites)
LED display	Controller status display		Servo ON (green light ON) / Alarm (red light ON) / Initializing when power comes ON (orange light ON) / Minor failure alarm (green/red alternately blinking) / Operation from teaching: Stop from teaching (red light ON) / Servo OFF (light OFF)
	Wireless status display		Initializing wireless hardware, without wireless connection, or connecting from TP board (light OFF) Connecting through wireless (green blinking) / Wireless hardware error (red blinking) / Initializing when power comes ON (orange light ON)
Predictive maintenance/preventative maintenance			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 *Only when configured in advance
Ambient operating temperature			0 ~ 40°C
Ambient operating humidity			5%RH ~ 85%RH or less (no condensation or freezing)
Operating ambience			No corrosive gas or excessive dust
Insulation resistance			500VDC 10MΩ
Electric shock protection mechanism			Class 1 basic insulation
Cooling method			Natural air cooling

(Note 1) When connecting to RCON-EC, control power 0.3A is subtracted from the value.
(Note 2) Inrush current flows for approximately 5ms after the power is input. (At 40°C) Inrush current value differs depending on the impedance on the power line.

Solenoid Valve Method

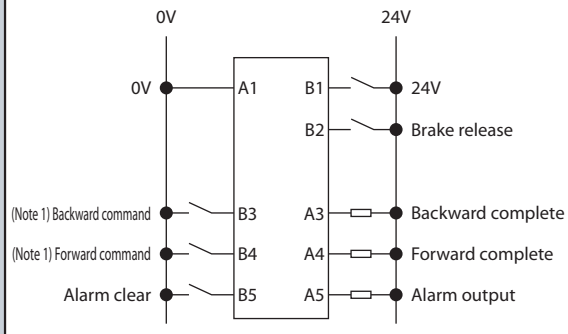
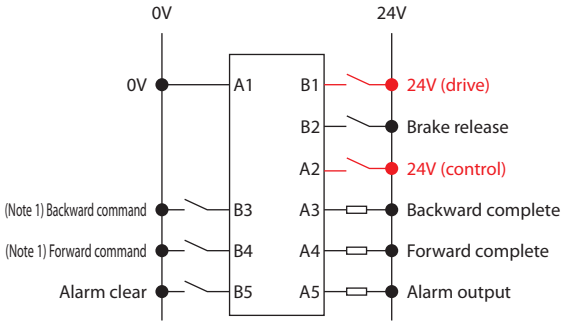
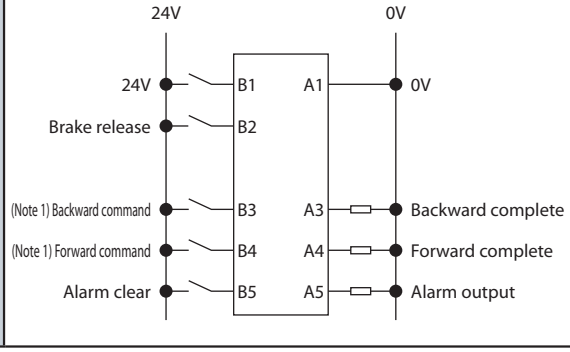
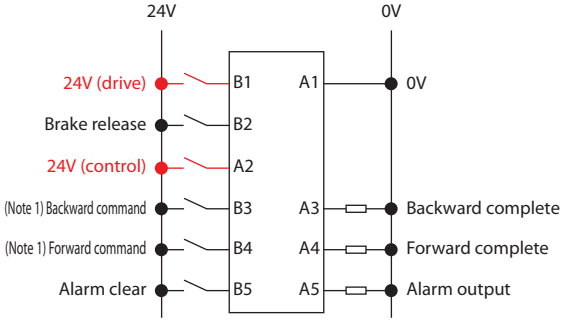
EleCylinder products normally use a double solenoid method.
Change parameter No. 9 ("solenoid valve type selection") to use the single solenoid method.
<Caution>
Operation cannot be performed using the single solenoid method when operating connected to RCON-EC.

I/O (Input/Output) Specifications

I/O		Input		Output	
Specifications		Input voltage	24VDC ±10%	Load voltage	24VDC ±10%
		Input current	5mA per circuit	Maximum load current	50mA/1 point
		ON/OFF voltage	ON voltage: MIN. 18VDC OFF voltage: MAX. 6VDC	Residual voltage	2V or less
		Leakage current	Max. 1mA/1 point	Leakage current	Max. 0.1mA/1 point
Isolation method		Non-isolated from external circuit		Non-isolated from external circuit	
I/O logic	NPN				
	PNP				

(Note) Non-Isolated is the only isolation wiring method available. When grounding an external device (such as a PLC) connected to EleCylinder, use the same ground as EleCylinder.

I/O Signal Wiring Diagram

I/O		Standard specification	Split motor and controller power supply specification (option model: TMD2)
Power / I/O connector		0V A1 (Reserved) A2 Backward complete A3 Forward complete A4 Alarm output A5 (Reserved) A6  B1 24V B3 Backward command (Note 1) B4 Forward command (Note 1) B5 Alarm clear B6 (reserved)	Drive power and control power are separate for the TMD2 specification. 0V A1 24V (control) A2 Backward complete A3 Forward complete A4 Alarm output A5 (Reserved) A6  B1 24V (drive) B2 Brake release B3 Backward command (Note 1) B4 Forward command (Note 1) B5 Alarm clear B6 (reserved)
I/O logic	NPN		
	PNP		

(Note 1) Switching to the single solenoid method will change B3 to "Forward/Backward command" and B4 to "Unused."

I/O Signal Table

Power / I/O connector pin assignment			
Pin No.	Connector nameplate name	Signal abbreviation	Function overview
B3 (Note 1)	Backward	ST0	Backward command
B4 (Note 1)	Forward	ST1	Forward command
B5	Alarm reset	RES	Alarm reset
A3	Backward complete	LS0/PE0	Backward complete/push complete
A4	Forward complete	LS1/PE1	Forward complete/push complete
A5	Alarm	*ALM	Alarm detection (b-contact)
B2	Brake release	BKRLS	Brake forced release (for brake equipped specification)
B1 (Note 2)	24V	24V	24V input
A1	0V	0V	0V input
A2 (Note 2)	(24V)	(24V)	24V input

(Note 1) Switching to the single solenoid method will change B3 to "Forward/Backward" and B4 to "Unused." However, the power / I/O connector display will still read "B3: Backward" and "B4: Forward."

(Note 2) B1 is 24V (drive) and A2 is 24V (control) for the split motor and controller power supply specification (TMD2).

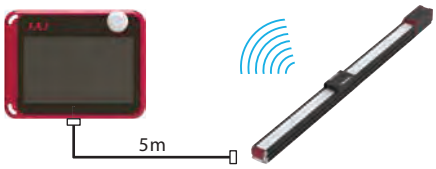
Options

Wireless/wired touch panel teaching pendant

■ **Features** This teaching device supports wireless connections.
Start point/end point/AVD (Acceleration/Speed/Declaration) input and axis operation can be performed wirelessly.

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

■ **Configuration** Wireless or wired connection



■ **Specifications**

Rated voltage	DC24V
Power consumption	3.6W or less (150mA or less)
Ambient operating temperature	0 ~ 40°C
Ambient operating humidity	5 ~ 85%RH (non-condensing)
Environmental resistance	IPX0
Mass	Approx. 485g (body) + approx. 175g (battery)
Charging method	Wired connection with dedicated adapter/controller
Wireless connection	Bluetooth 4.2 class2

Wireless Teaching Controller

■ **Features** It allows for easy input of starting/ending points and AVD (acceleration, velocity, deceleration) and jog motions from a remote place.
(Only for EleCylinder equipped with the wireless option)

■ **Model** **TBD-1WL-□**

■ **Configuration** Wireless connection

■ **Specifications**

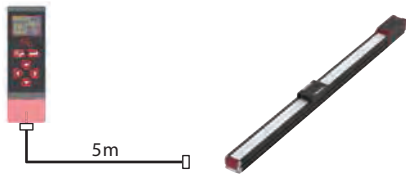
Power source input voltage range	DC5.9V (5.7 ~ 6.3V) [supplied from the dedicated AC adapter]
Ambient operating temperature	0 ~ 40°C (non-condensing, no frost)
Ambient operating humidity	5 ~ 85%RH (non-condensing, no frost)
Environmental resistance	IPX0
Mass	Approx. 115g (including battery mass 55g)
Charging method	Dedicated adapter
Wireless connection	Bluetooth 4.2 class2

Wired Teaching Controller

■ **Features** It allows for easy input of starting/ending points and AVD (acceleration, velocity, deceleration) and jog motions.
Possible to be used for all EleCylinder models due to the wired connection.

■ **Model** **TBD-1**

■ **Configuration** Wired connection



■ **Specifications**

Rated voltage	DC24V±10% [supplied from controller]
Power consumption	1.44W or less (60mA or less)
Ambient operating temperature	0 ~ 40°C (non-condensing, no frost)
Ambient operating humidity	5 ~ 85%RH (non-condensing, no frost)
Degree of protection	IP20
Mass	21g (main unit) + 184g (main unit integrated cable 5m)

PC teaching software (Windows only)

■ **Features** This software provides functions such as position teaching, trial operation, and monitoring.
It provides a complete range of functions required to make adjustments, to help reduce start-up time.

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

■ **Configuration**

Please contact IAI for the current supported versions.

PC software

Your dedicated cable
[RCB-CV-MW/CB-RCA-SIO050]

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

■ **Configuration**

Please contact IAI for the current supported versions.

PC software

USB converter
RCB-CV-USB

3m

USB cable
CB-SEL-USB030

5m

External device
communication cable
CB-RCA-SIO050

24V power supply

■ **Model** **PSA-24** (without fan) *Coming soon*

■ **Model** **PSA-24L** (with fan) *Coming soon*

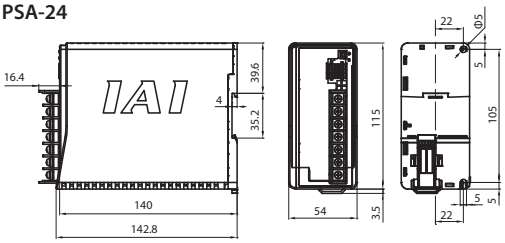
■ **Specifications Table**

Item	Specifications
	230VAC input
Power input voltage range	230VAC ±10%
Input power supply current	1.9A or less
Power capacity	Without fan: 280VA With fan: 380VA
Inrush current*1	Without fan: 34A (typ.) With fan: 54.8A (typ.)
Generated heat	23W (204W continuous rated) 37W (330W continuous rated)
Output voltage range*2	24V ±10%
Continuous rated output	Without fan: 8.5A (204W) With fan: 13.8A (330W)
Peak output	17A (408W)
Efficiency	90% or more
Parallel connection*3	Up to 5 units

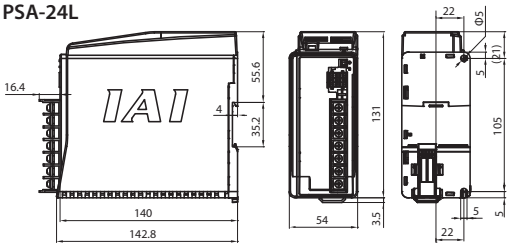
*1 The pulse width of flowing inrush current is less than 5ms.
*2 In order to enable parallel operation, this power supply can vary the output voltage according to the load. The power supply unit is therefore for use with IAI controllers only.
*3 Parallel connection cannot be used under the following conditions.
- Parallel connection of PSA-24 (specification without fan) and PSA-24L (specification with fan)
- Parallel connection with a power supply unit other than this power supply

■ **External Dimensions**

PSA-24



PSA-24L



Maintenance Parts (Cables)

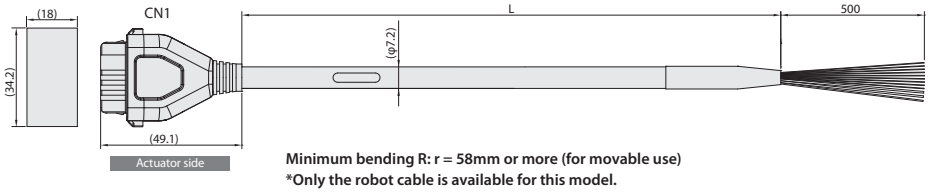
When placing an order for a replacement cable after purchasing a product, please use the model name shown below.

■ **Table of Compatible Cables**

Cable type	Cable model
Power I/O cable (user-wired specification)	CB-EC-PWBIO□□□-RB
Power I/O cable (user-wired specification, four-way connector)	CB-EC2-PWBIO□□□-RB
Power I/O cable (RCON-EC connection specification)	CB-REC-PWBIO□□□-RB
Power I/O cable (RCON-EC connection specification, four-way connector)	CB-REC2-PWBIO□□□-RB

Model CB-EC-PWBIO□□□-RB

*Please indicate the cable length (L) in □□□, maximum 10m (for example, 030 = 3m)



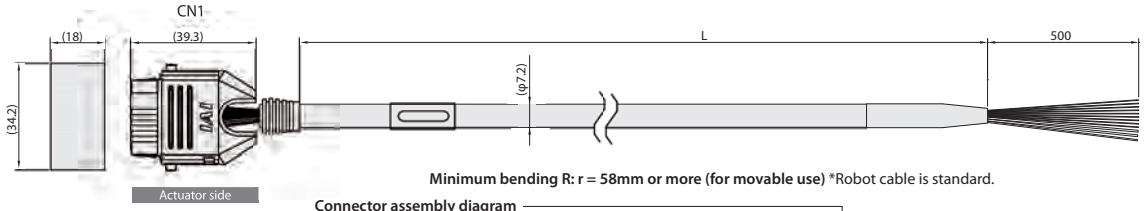
Minimum bending R: r = 58mm or more (for movable use)
***Only the robot cable is available for this model.**

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

(Note 1) 24V (control) when split motor and controller power supply specification (TMD2) is selected.

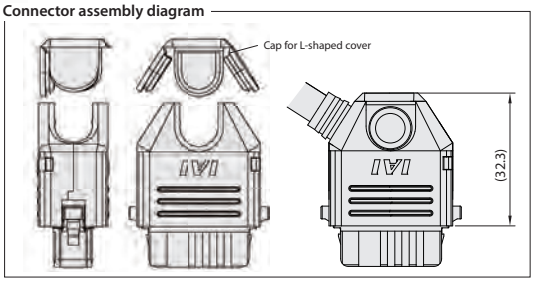
Model CB-EC2-PWBIO□□□-RB

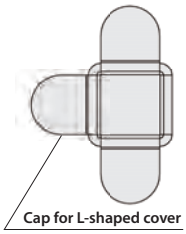
*Please indicate the cable length (L) in □□□, maximum 10m (for example, 030 = 3m)



Minimum bending R: r = 58mm or more (for movable use) *Robot cable is standard.

Connector assembly diagram



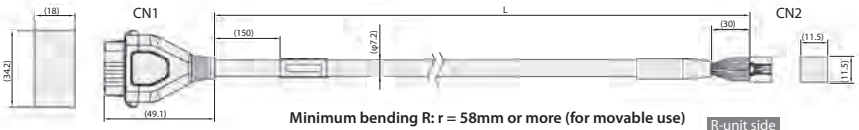


Color	Signal name	Pin No.
Black (AWG18)	0V	A1
Red (AWG18)	24V	B1
Light blue (AWG22)	(Reserved) (Note 1)	A2
Orange (AWG26)	IN0	B3
Yellow (AWG26)	IN1	B4
Green (AWG26)	IN2	B5
Pink (AWG26)	(Reserved)	B6
Blue (AWG26)	OUT0	A3
Purple (AWG26)	OUT1	A4
Gray (AWG26)	OUT2	A5
White (AWG26)	(Reserved)	A6
Brown (AWG26)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

(Note 1) 24V (control) when split motor and controller power supply specification (TMD2) is selected.

Model CB-REC-PWBIO□□□-RB

*Please indicate the cable length (L) in □□□, maximum 10m (for example, 030 = 3m)



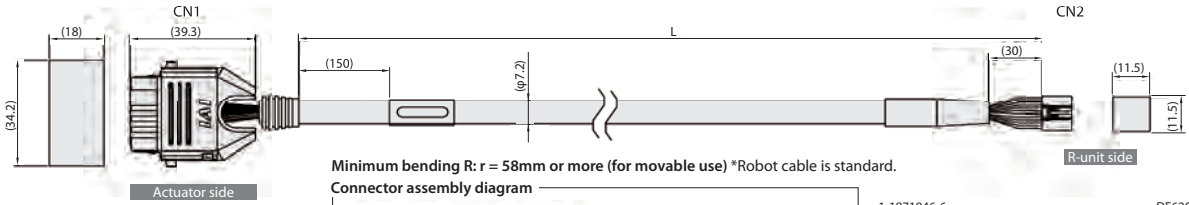
Minimum bending R: r = 58mm or more (for movable use)
***Only the robot cable is available for this model.**

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

Pin No.	Signal name	Color
1	24V (MP)	Red (AWG18)
12	24V (CP)	Light blue (AWG22)
7	OUT0	Orange (AWG26)
8	OUT1	Yellow (AWG26)
9	OUT2	Green (AWG26)
6	SD+	Yellow (AWG26)
10	SD-	Light gray (AWG26)
3	INO	Blue (AWG26)
4	IN1	Purple (AWG26)
5	IN2	Gray (AWG26)
11	BKRLS	Brown (AWG26)
13	FG	Green (AWG26)

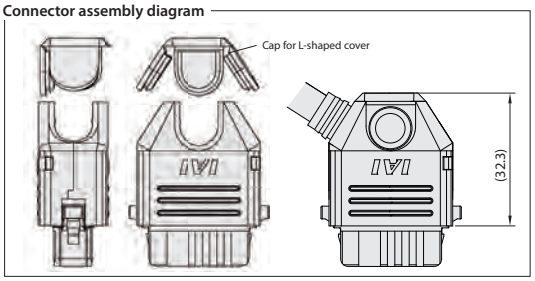
Model CB-REC2-PWBIO□□□-RB

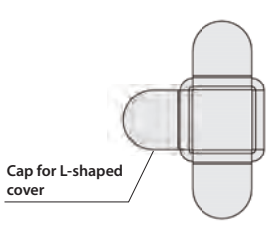
*Please indicate the cable length (L) in □□□, maximum 10m (for example, 030 = 3m)



Minimum bending R: r = 58mm or more (for movable use) *Robot cable is standard.

Connector assembly diagram





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

DF62C-13S-2C(18)

Pin No.	Signal name	Color
2	0V	Black (AWG22)
1	24V (MP)	Red (AWG22)
12	24V (CP)	Light blue (AWG22)
7	OUT0	Orange (AWG26)
8	OUT1	Yellow (AWG26)
9	OUT2	Green (AWG26)
6	SD+	Yellow (AWG26)
10	SD-	Light gray (AWG26)
3	INO	Blue (AWG26)
4	IN1	Purple (AWG26)
5	IN2	Gray (AWG26)
11	BKRLS	Brown (AWG26)
13	FG	Green (AWG26)

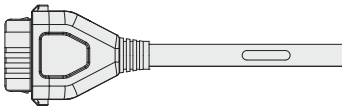
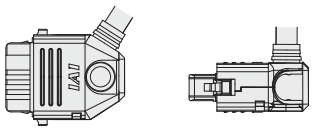
Maintenance Parts (Cables)

■ Four-way connector cable

This cable can change the EleCylinder cable connector to four directions.
The cable wiring for the connector is the same as that of power / I/O cable CB-EC-PWBIO□□□-RB / CB-REC-PWBIO□□□-RB.

■Model

Indicate the cable length (L) in □□□,
(e.g.) 050=5m

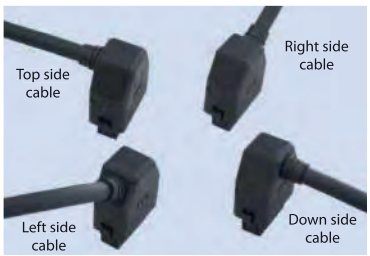
	Standard connector (actuator side)	4-way connector (actuator side)
External view		
User wiring specification	CB-EC-PWBIO□□□-RB	CB-EC**2**-PWBIO□□□-RB
RCON-EC connection specification	CB-REC-PWBIO□□□-RB	CB-REC**2**-PWBIO□□□-RB

■Ordering method

The cable length is minimum 1m and maximum 10m.
Can be specified in 1m units.

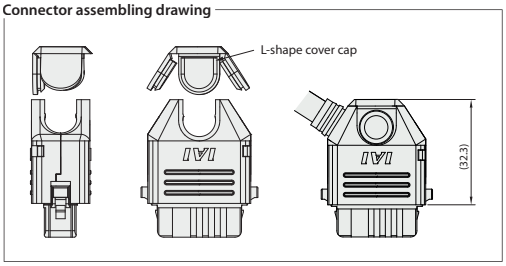
(ex.) When ordering a 4-way connector with a 3m/10m cable.
Cable length **3**m : CB-EC2-PWBIO**030**-RB
Cable length **10**m : CB-EC2-PWBIO**100**-RB

■Assembling method



Cable direction can be set to any of 4 directions

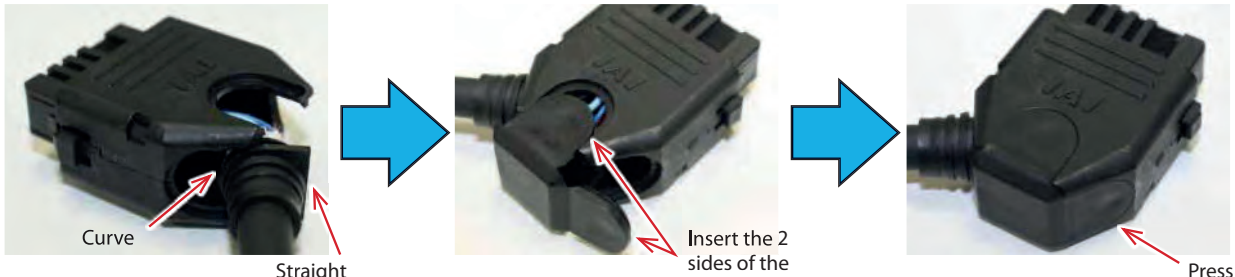
Connector assembling drawing



① Insert while sliding along the groove in the desired direction from the semi-cylindrical curved portion.

② Confirm that the cable has been firmly inserted, and then insert the 2 sides of the lid along the groove.

③ Finally, press the remaining side of the lid.



EC EleCylinder Series
Long Stroke Slider Type V2b
Catalogue No. 0124-E

ELECYLINDER

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