

EC-SRG11

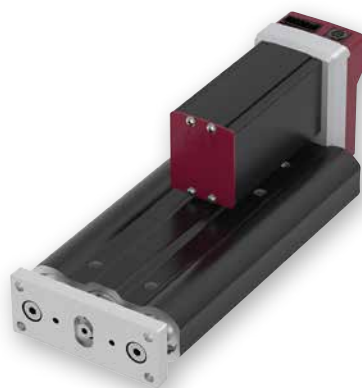


Body width
110
mm

24V
stepper
motor

Model specification items

EC	-	SRG11				
Series	-	Type	Lead	Stroke	Cable length	Option
			H 10mm M 5mm L 2.5mm	50 100 150 200 250 300	50mm 300mm (Every 50mm)	Refer to the table of power - I/O cable below Refer to the table of options below



Stroke

Stroke (mm)
50
100
150
200
250
300

Table of options

Name	Option code	Reference page
RCON-EC connection specification (Note 1)	ACR	2-477
Brake	B	2-477
Front spacer	F5	2-482
Specified grease specification	G5	2-487
Non-motor end specification	NM	2-490
PNP specification (Note 1)	PN	2-490
Twin power supply specification	TMD2	2-493
Battery-less absolute encoder specification	WA	2-494
Wireless communication specification	WL	2-494
Wireless axis operation specification	WL2	2-495

(Note 1) When RCON-EC connection specification (ACR) is selected, PNP specification (PN) and twin power supply specification (TMD2) cannot be selected.

Selection Notes



- (1) Payload in the "Main Specifications" displays the maximum value.
- (2) The horizontal payload represents a value when a guide is used so that radial load and moment load are not applied on the rod. If a guide is not installed, refer to the "Front Bracket Tip Load and Operational Life."
- (3) When performing the push motion, refer to the "Correlation between the Push Force and Current Limit" for confirmation. The push force is only for a reference value.
- (4) When a $\phi 7.8$ through hole is used, it is necessary to remove the motor cover.

Table of Power - I/O cable length

Standard connector cable

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

(Note 2) Only the terminal block connector is included. Refer to P2-503 for details.

(Note 3) If RCON-EC connection specification (ACR) is selected as an option.

(Note) The robot cable is standard.

4-way connector cable

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

(Note 4) If RCON-EC connection specification (ACR) is selected as an option.

(Note) The robot cable is standard.

Main specifications

		Item	Description		
Lead		Ball screw lead (mm)	10	5	2.5
Horizontal	Payload	Max. payload (kg) (energy-saving disabled)	16	25	35
		Max. payload (kg) (energy-saving enabled)	9	22	35
	Speed/acceleration/deceleration	Max. speed (mm/s)	700	350	175
		Min. speed (mm/s)	13	7	4
Vertical	Payload	Max. payload (kg) (energy-saving disabled)	2.5	5	10
		Max. payload (kg) (energy-saving enabled)	2	4.5	6.5
	Speed/acceleration/deceleration	Max. speed (mm/s)	600	350	175
		Min. speed (mm/s)	13	7	4
Push		Max. acceleration/deceleration (G)	0.3	0.3	0.3
		Max. acceleration/deceleration (G)	1	0.5	0.3
		Max. push force (N)	77	150	308
		Max. push speed (mm/s)	20	20	20
Brake		Brake specification	Non-excitation actuating solenoid brake		
		Brake holding force (kgf)	2.5	5	10
		Min. stroke (mm)	50	50	50
		Max. stroke (mm)	300	300	300
		Stroke pitch (mm)	50	50	50

Item	Description
Driving system	Ball screw, $\phi 8$ mm, rolled C10
Positioning repeatability	± 0.05 mm
Lost motion	- (two-point positioning function; cannot be represented)
Rod	$\phi 25$ mm, Material: Aluminum Hard alumite treated
Guide shaft	SUJ2
Front bracket	Material: Aluminum white alumite treated
Rod non-rotational precision	± 0.01 degree
Ambient operating temperature, humidity	0 - 40°C, 85%RH or less (Non-condensing)
Degree of protection	IP20
Vibration/shock resistance	4.9m/s ²
Overseas standards	CE marking, RoHS directive
Motor type	Stepper motor (□35)
Encoder type	Incremental/battery-less absolute
Number of encoder pulses	800 pulse/rev

Payload by speed and acceleration. * The energy-saving setting is disabled at shipping. Refer to P1-25 for details.

■ **Energy-saving setting disabled (power mode)** The unit for payload is kg. If blank, operation is not possible.

Lead 10

Orientation	Horizontal					Vertical	
	Acceleration (G)						
Speed (mm/s)	0.3	0.5	0.7	1	0.3	0.5	
0	16	10	10	8.5	2.5	2	
175	16	10	10	8.5	2.5	2	
350	16	9	8	6	2.5	2	
435	11	7	5.5	4.5	2.5	2	
525	7	4.5	3	3	1.5	1.5	
600	5	2.5	2.5	2.5	1		
700		2	1.5				

Lead 5

Orientation	Horizontal				Vertical	
	Acceleration (G)					
Speed (mm/s)	0.3	0.5	0.3	0.5		
0	25	22	5	4.5		
85	25	22	5	4.5		
130	25	22	5	4.5		
215	25	19	5	4.5		
260	22	12	5	4		
300	18	12	3	3		
350	10	7	1	1		

Lead 2.5

Orientation	Horizontal		Vertical	
	Acceleration (G)			
Speed (mm/s)	0.3	0.3	0.3	0.3
0	35		10	
40	35		10	
80	35		10	
105	35		10	
135	32		6	
150	13.5		2	
175	11		1	

■ **Energy-saving setting enabled (energy-saving mode)** The unit for payload is kg. If blank, operation is not possible.

Lead 10

Orientation	Horizontal			Vertical	
	Acceleration (G)				
Speed (mm/s)	0.3	0.7	0.3		
0	9	6	2		
175	9	6	2		
350	9	6	1.5		
435	4	1	0.5		
525	1				

Lead 5

Orientation	Horizontal		Vertical	
	Acceleration (G)			
Speed (mm/s)	0.3	0.3		
0	22	4.5		
85	22	4.5		
130	22	4.5		
215	18	3		
260	8	1		

Lead 2.5

Orientation	Horizontal		Vertical	
	Acceleration (G)			
Speed (mm/s)	0.3	0.3		
0	35	6.5		
40	35	6.5		
80	35	6.5		
105	22	4		
135	10	1		

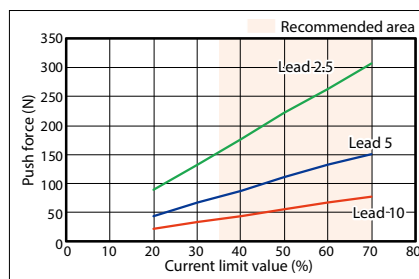
Stroke and maximum speed

Lead (mm)	Energy-saving setting	50 ~ 200 (every 50mm)	250 (mm)	300 (mm)
10	Disabled	700<600>	520	370
	Enabled	525<435>	520<435>	370
5	Disabled	350	260	185
	Enabled	260		185
2.5	Disabled	175	130	90
	Enabled	135	130	90

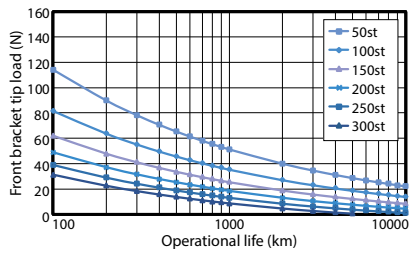
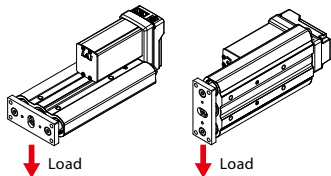
(The unit is mm/s)

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

Correlation between Push force and Current Limit

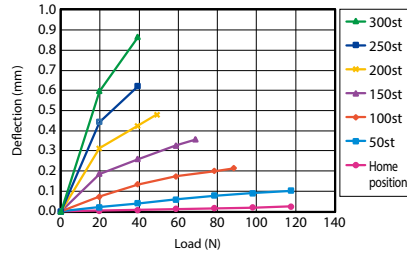
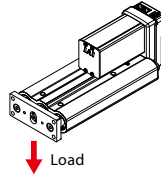


Front bracket tip load and operational life

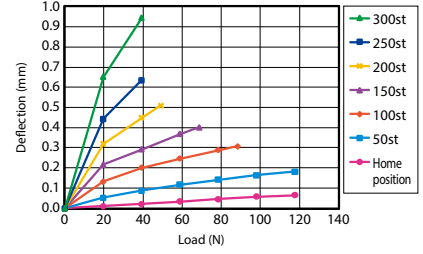
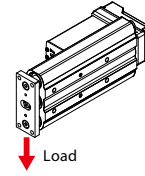


Front bracket tip deflection

Guide horizontal

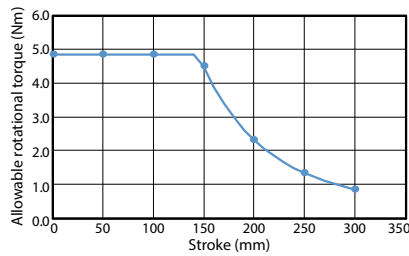
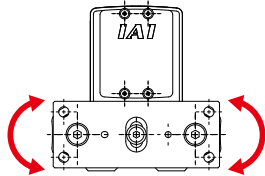


Guide vertical



(Note) Front bracket tip deflection is a reference value.

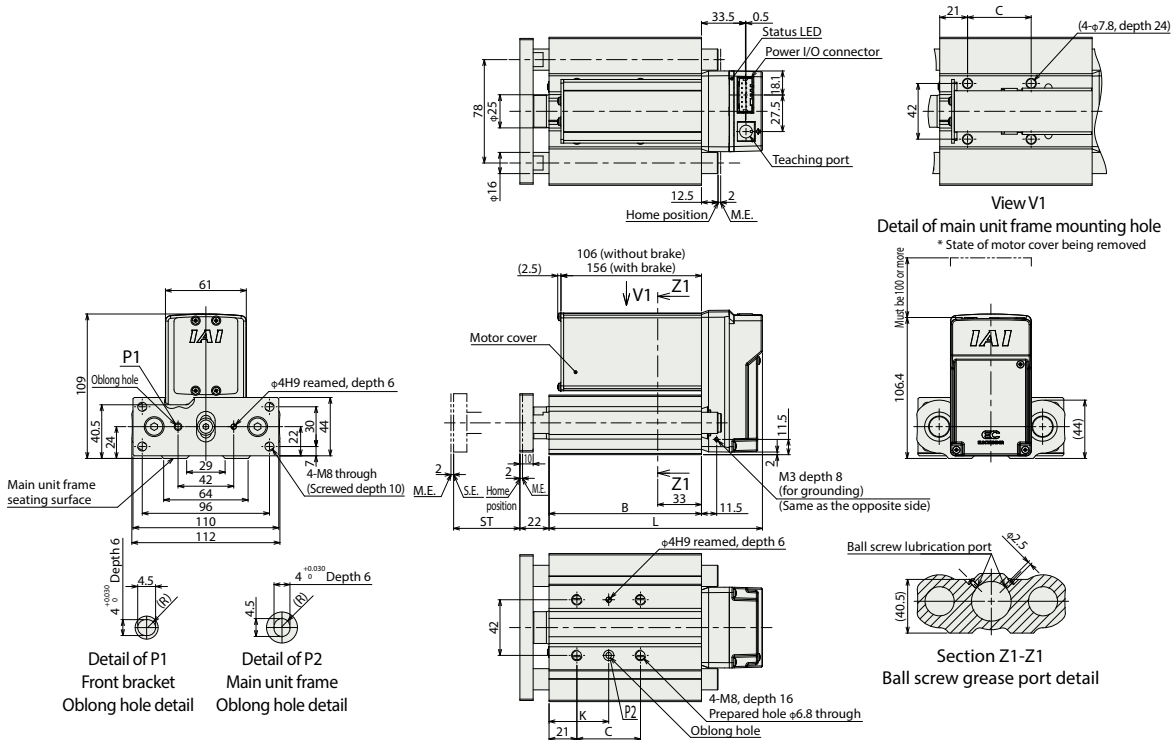
Front bracket allowable rotational torque



(Note) The rotational torque should be within the allowable range in the graph.

(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.

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



■ Dimensions by stroke

Stroke	50	100	150	200	250	300
L	161	211	261	311	361	411
B	115	165	215	265	315	365
C	48	48	124	124	200	200
K	45	45	83	83	121	121

■ Mass by stroke

Mass (kg)	Stroke		50	100	150	200	250	300
		Without brake	With brake	2.7	3.3	3.9	4.5	5.1
			3.0	3.6	4.2	4.8	5.4	6.0

(Note) The EC series is equipped with a built-in controller. Refer to P2-499 for the details of the built-in controller.

EC-SRG15



Body width
150
mm

24V
stepper
motor

Model specification items

EC	SRG15				
Series	Type	Lead	Stroke	Cable length	Option
		H 20mm M 6mm L 3mm	50 50mm 100 100mm 150 150mm 200 200mm 250 250mm 300 300mm (Every 50mm)	Refer to the table of power · I/O cable below	Refer to the table of options below



Stroke

Stroke (mm)
50
100
150
200
250
300

Selection Notes



- (1) Payload in the "Main Specifications" displays the maximum value.
- (2) The horizontal payload represents a value when a guide is used so that radial load and moment load are not applied on the rod. If a guide is not installed, refer to the "Front Bracket Tip Load and Operational Life."
- (3) When performing the push motion, refer to the "Correlation between the Push Force and Current Limit" for confirmation. The push force is only for a reference value.

Table of options

Name	Option code	Reference page
RCON-EC connection specification (Note 1)	ACR	2-477
Brake	B	2-477
Specified grease specification	G5	2-487
Non-motor end specification	NM	2-490
PNP specification (Note 1)	PN	2-490
Twin power supply specification (Note 1)	TMD2	2-493
Battery-less absolute encoder specification	WA	2-494
Wireless communication specification	WL	2-494
Wireless axis operation specification	WL2	2-495

(Note 1) When RCON-EC connection specification (ACR) is selected, PNP specification (PN) and twin power supply specification (TMD2) cannot be selected.

Table of Power · I/O cable length

Standard connector cable

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

(Note 2) Only the terminal block connector is included. Refer to P2-503 for details.

(Note 3) If RCON-EC connection specification (ACR) is selected as an option.

(Note) The robot cable is standard.

4-way connector cable

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

(Note 4) If RCON-EC connection specification (ACR) is selected as an option.

(Note) The robot cable is standard.

Main specifications

		Item	Description		
Lead		Ball screw lead (mm)	20	6	3
Horizontal	Payload	Max. payload (kg) (energy-saving disabled)	6	40	60
		Max. payload (kg) (energy-saving enabled)	6	40	40
	Speed/acceleration/deceleration	Max. speed (mm/s)	800	450	225
		Min. speed (mm/s)	25	8	4
Vertical	Payload	Max. payload (kg) (energy-saving disabled)	0.5	7	12.5
		Max. payload (kg) (energy-saving enabled)	0.5	7	12.5
	Speed/acceleration/deceleration	Max. speed (mm/s)	640	400	200
		Min. speed (mm/s)	25	8	4
Push		Max. acceleration/deceleration (G)	0.3	0.3	0.3
		Max. acceleration/deceleration (G)	1	1	1
		Max. push force (N)	67	224	449
		Max. push speed (mm/s)	25	20	20
Brake		Brake specification	Non-excitation actuating solenoid brake		
		Brake holding force (kgf)	0.5	7	12.5
		Min. stroke (mm)	50	50	50
Stroke		Max. stroke (mm)	300	300	300
		Stroke pitch (mm)	50	50	50

Item	Description
Driving system	Ball screw, ϕ 10mm, rolled C10
Positioning repeatability	\pm 0.05mm
Lost motion	- (two-point positioning function; cannot be represented)
Rod	ϕ 25mm, Material: Aluminum Hard alumite treated
Guide shaft	SUJ2
Front bracket	Material: Aluminum white alumite treated
Rod non-rotational precision	\pm 0.03 degree
Ambient operating temperature, humidity	0 - 40°C, 85%RH or less (Non-condensing)
Degree of protection	IP20
Vibration/shock resistance	4.9m/s ²
Overseas standards	CE marking, RoHS directive
Motor type	Stepper motor (42)
Encoder type	Incremental/battery-less absolute
Number of encoder pulses	800 pulse/rev

Payload by speed and acceleration. * The energy-saving setting is disabled at shipping. Refer to P1-25 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)	Speed (mm/s)	Acceleration (G)
0	6	5	5	0.5
160	6	5	5	0.5
320	6	5	3	0.5
480	6	5	3	0.5
640	6	4	3	0.5
800	4	3		

Lead 6

Orientation	Horizontal			Vertical			
	Speed (mm/s)	0.3	0.5	0.7	1	0.3	0.5
0	40	35	30	25	7	7	
50	40	35	30	25	7	7	
90	40	35	30	25	7	7	
160	40	30	25	20	7	7	
250	40	27.5	22.5	18	7	7	
350	20	10	8	5	2.5	2	
400	10	3	3		0.5		
450	3						

Lead 3

Orientation	Horizontal		Vertical	
	Speed (mm/s)	Acceleration (G)	Speed (mm/s)	Acceleration (G)
0	60	50	45	40
45	60	50	45	40
80	60	50	45	40
125	60	45	35	30
175	40	35	25	15
200	30	20	10	3
225	5			

■ **Energy-saving setting enabled (energy-saving mode)** The unit for payload is kg. If blank, operation is not possible.

Lead 20

Orientation	Horizontal			Vertical
	Speed (mm/s)	Acceleration (G)	Speed (mm/s)	Acceleration (G)
0	6	5	5	0.5
160	6	5	5	0.5
310	6	5	5	0.5
480	4	3	3	0.5
640	1	1		

Lead 6

Orientation	Horizontal		Vertical
	Speed (mm/s)	Acceleration (G)	Speed (mm/s)
0	40	20	7
50	40	20	7
90	40	20	7
160	40	20	7
200	35	18	5
250	10	5	2.5

Lead 3

Orientation	Horizontal		Vertical
	Speed (mm/s)	Acceleration (G)	Speed (mm/s)
0	40	25	12.5
25	40	25	12.5
45	40	25	12.5
80	40	25	12
95	40	20	9
125	40	10	5

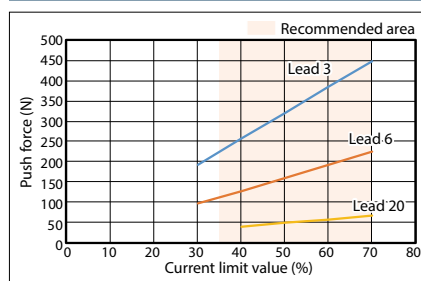
Stroke and maximum speed

Lead (mm)	Energy-saving setting	50 ~ 200 (every 50mm)	250 (mm)	300 (mm)
20	Disabled		800<640>	
	Enabled		640<480>	
6	Disabled	450<400>	370<350>	265
	Enabled		250	
3	Disabled	225<200>	185	130
	Enabled		125	

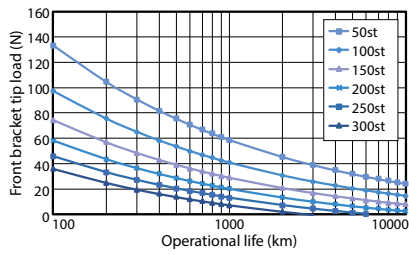
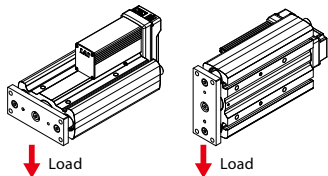
(The unit is mm/s)

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

Correlation between Push force and Current Limit

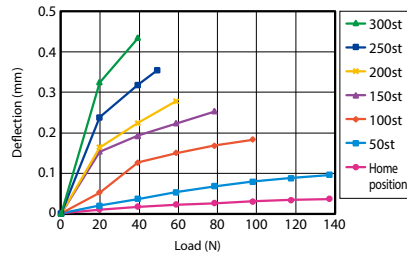
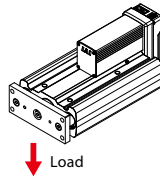


Front bracket tip load and operational life

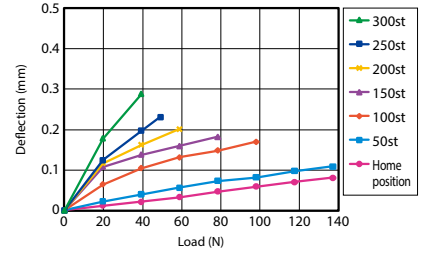
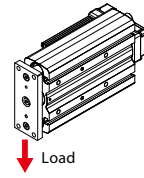


Front bracket tip deflection

Guide horizontal

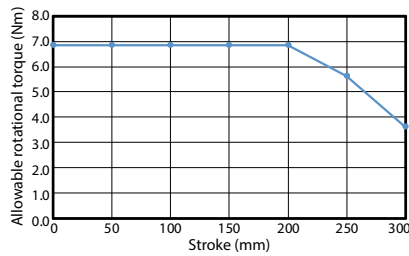
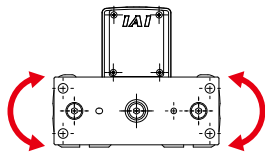


Guide vertical



(Note) Front bracket tip deflection is a reference value.

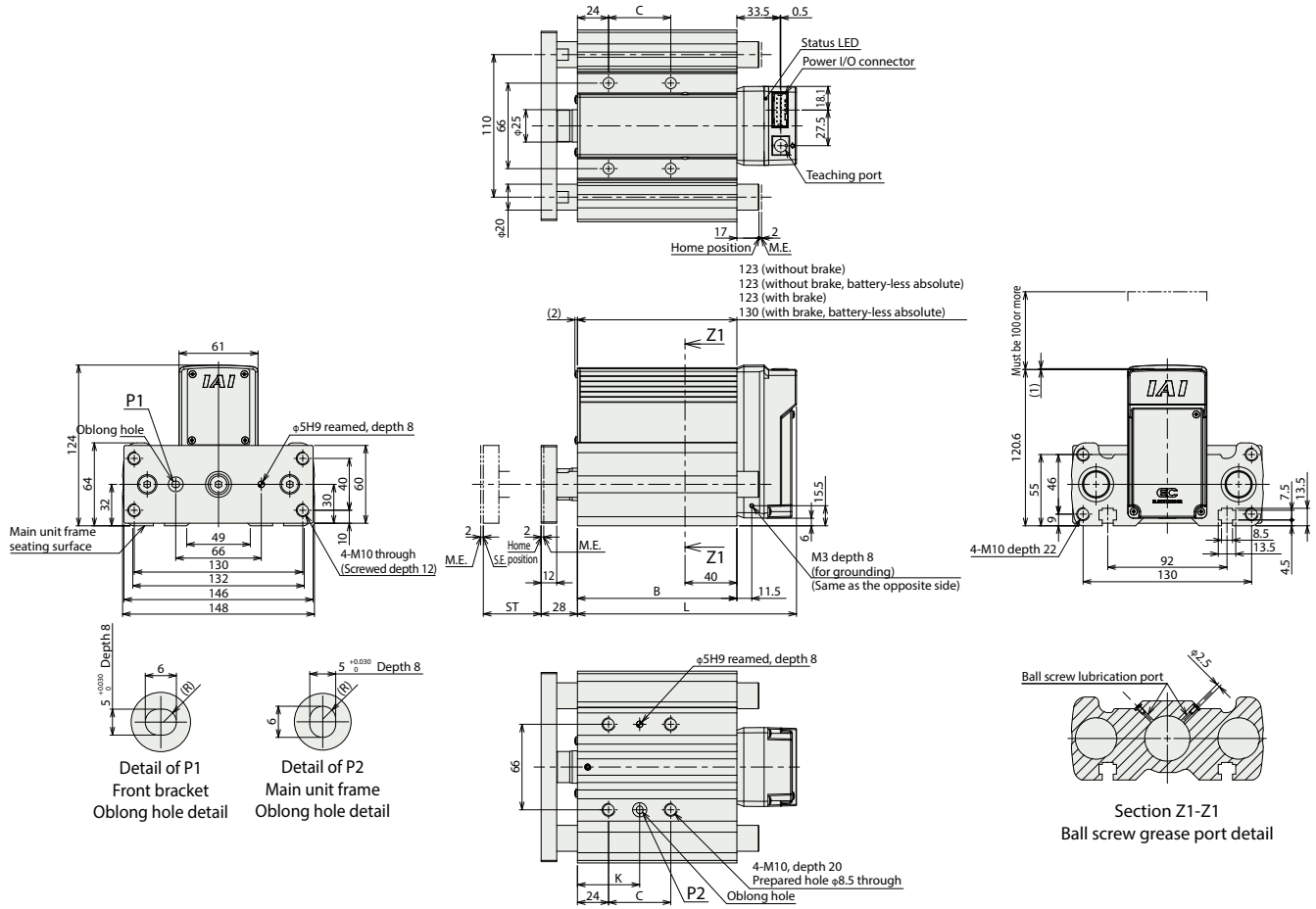
Front bracket allowable rotational torque



(Note) The rotational torque should be within the allowable range in the graph.

(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.

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



■ Dimensions by stroke

Stroke	50	100	150	200	250	300
L	169	219	269	319	369	419
B	123	173	223	273	323	373
C	48	48	124	124	200	200
K	48	48	86	86	124	124

■ Mass by stroke

Mass (kg)	Stroke		50	100	150	200	250	300
		Without brake		4.3	5.4	6.5	7.6	8.7
	With brake		4.5	5.6	6.7	7.8	8.9	10

(Note) The EC series is equipped with a built-in controller. Refer to P2-499 for the details of the built-in controller.