

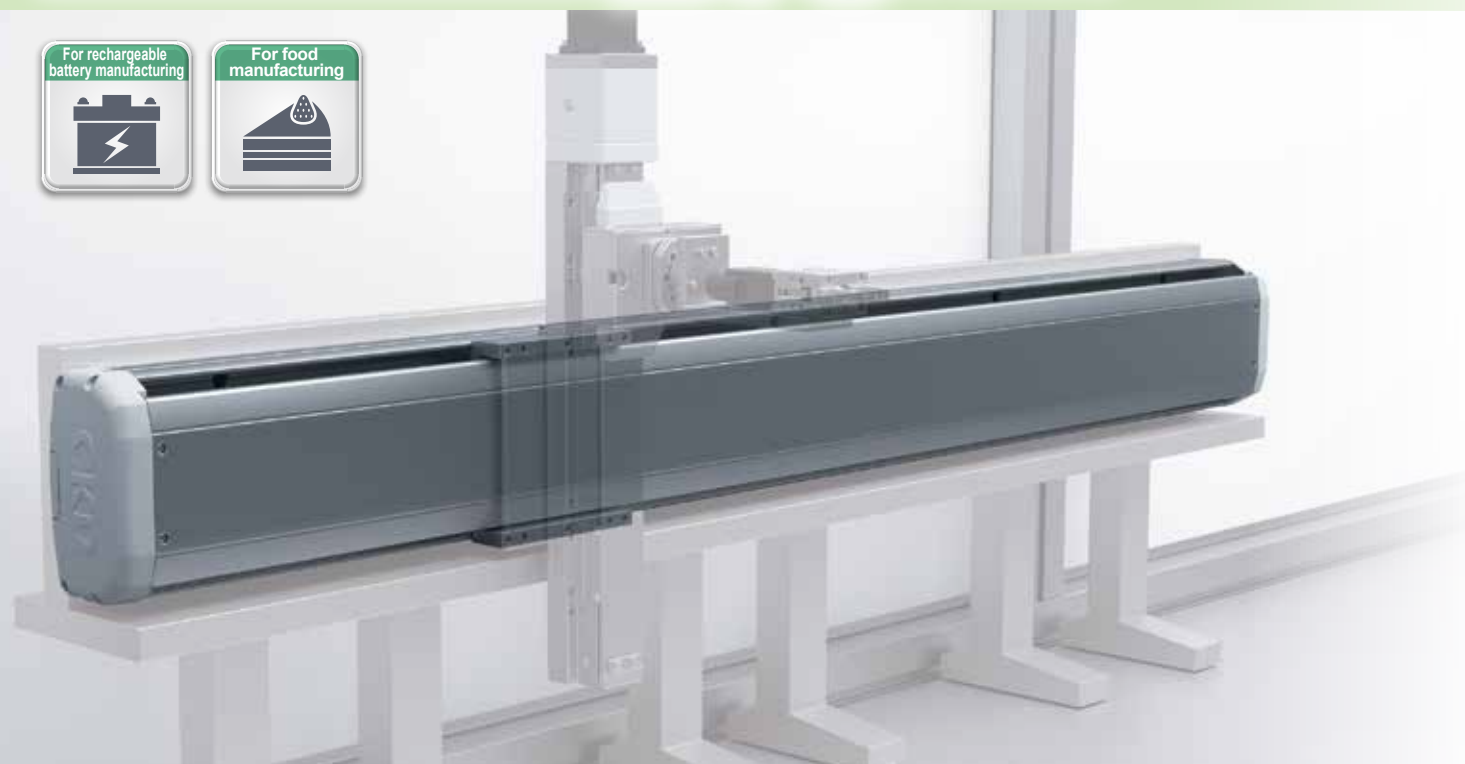
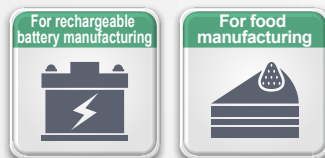
Electric Actuator
Servo Motor Compatible
Motorless Specification

ETS

Slider Type (Ball Screw Drive)



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For high-load transfer

Line-up	Body Size	13			14		17		22	Catalog page
	Motor capacity	100 W	200 W	400 W	200 W	400 W	400 W	750 W	750 W	
ETS										120
ETS-X										120
ETS-P4										CC-1226AA
ETS-FP1										CC-1271AA

List of supported motor manufacturers * Refer to each model page compatible model and capacity

Servo Motor

Mitsubishi Electric Corporation Delta Electronics Co., Ltd. Sanyo Denki Co., Ltd. Mitsubishi Electric Corporation Keyence Corporation Panasonic Corporation
OMRON Corporation Fuji Electric Corporation FANUC CORPORATION DENSO WAVE INCORPORATED Bosch Rexroth AG
Rockwell Automation, Inc. SIEMENS AG

Supports high-load transfer

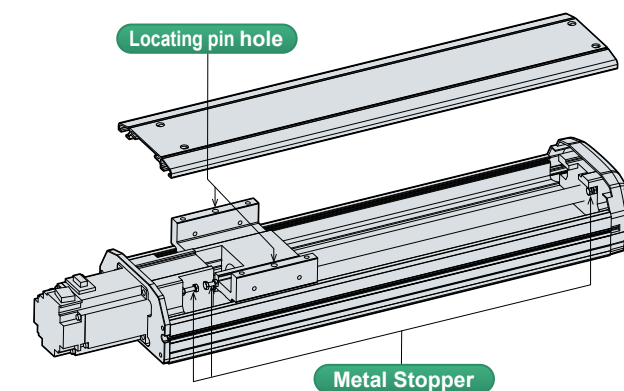
It has a high-rigidity structure with two built-in linear guides to firmly support the load. A grease nipple is equipped on the side of the actuator. It is possible to grease the ball screw and guide all at once from the outside without disassembling the main body. Significantly reduces maintenance man-hours.



*Select by model No.

Wide Variations

Multi-axis configurations (orthogonal combinations) are also possible to suit the application. You can choose from 3 types of configurations. In addition, a metal stopper specification is also available. By establishing an accurate zero point based on a mechanical reference, it is possible to perform accurate homing by pushing against the mechanical end.



A-type (X-Y axis)

Max. payload: 50 kg

3 sizes



P-type (X-Z axis)

Max. payload: 35 kg

3 sizes



F-type (Y-Z axis)

Max. payload: 22 kg

1 size



Motor fold-back variations

We have prepared a total of 5 motor fold-back variations that can be selected according to the equipment.



* Please check the specification page for the conditions under which built-in mounting can be selected.

System Table

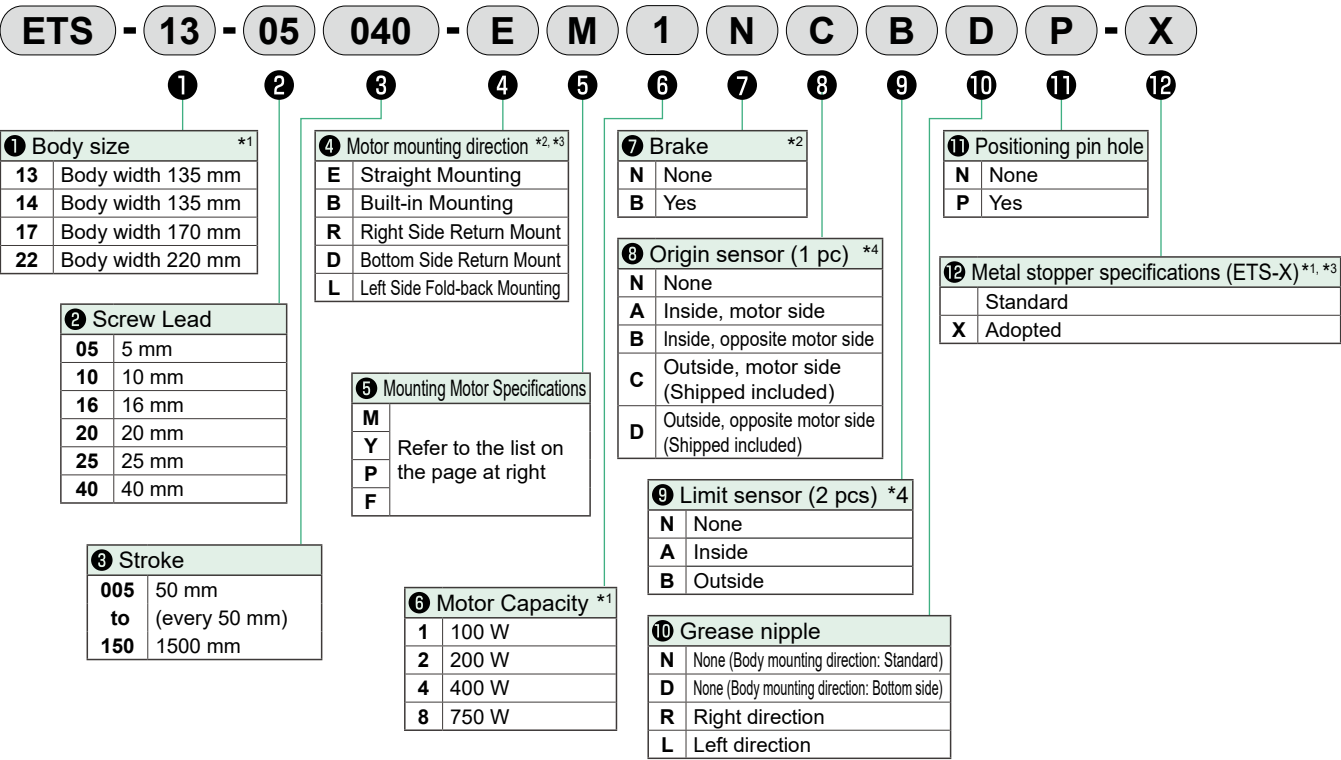
Type	Model No.	Application Motor (W)	Body Width (mm)	Screw Lead (mm)	Max. Payload (kg)										Stroke (mm) and Max. Speed (mm/s) *6																				Page																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
					Horizontal *2	Vertical	50 mm	100	150	200	250	*7						450	500	550	*7		650	700	750	800	850	*7		*7		1100	1150	1200		1250	1300	1350	1400	1450	*7		1550	1600	1650																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
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*1 ETS-13 100 W is only available with the metal stopper (ETS-X) specification.
*2 For wall-mounted installation, the payload is the same as for horizontal installation.
*3 The upper value is the payload for 100 W, and the lower value is the payload for 200/400 W.
*4 The upper value is the payload for 200 W, and the lower value is the payload for 400 W.

*5 The upper value is the payload for 400 W, and the lower value is the payload for 750 W.
*6 The max. speed is the speed when the motor mounted by the customer can output a rotation speed of 3000 rpm. The max. speed is restricted by the stroke. Do not operate at speeds exceeding the limit.
*7 ⌚ shows the Positioning time. This is the case when a specific stroke is operated under horizontal installation, at max. speed, and max. acceleration/deceleration. Please note that this is not the value at max. payload.

Model Number Configuration

Model No. Notation Method



Screw Lead / Stroke Compatibility Table by Body Size

1 Body Size	2 Screw Lead	3 Stroke
13	05	005 to 105 (50 mm to 1050 mm)
	10	
	16	
	20	
14	05	005 to 105 (50 mm to 1050 mm)
	10	
	16	
	20	
17	05	005 to 125 (50 mm to 1250 mm)
	10	
	20	
	40	
22	05	005 to 150 (50 mm to 1500 mm)
	10	
	25	
	40	

Model Number Display Example

ETS-13-05040-EM1 NCBNP-X

- 1 Body Size : 13 Series
- 2 Screw lead : 5 mm
- 3 Stroke : 400 mm
- 4 Motor Mounting Direction : Straight Mounting
- 5 Mounting motor specification : M (Refer to the table on the page at right)
- 6 Motor Capacity : 400 W
- 7 Brake : None
- 8 Origin sensor : External motor side
- 9 Limit sensor : Outside
- 10 Grease nipple : None
- 11 Locating pin hole : Yes
- 12 Metal Stopper Specification (ETS-X) : Adopted

*This product is available only for the actuator (and motor mounting part) and does not include a motor. The user must prepare, mount, and adjust the motor and driver.

Recommended Servo Motor Mounting List

Recommended Servo Motor Mounting List

Code	Manufacturer	Series	100 W *3
M	Mitsubishi Electric Corporation	MELSERVO J4	HG-KR13
		MELSERVO J5	HK-KT13 W
M	Delta Electronics, Inc.	ECMA-C *2	ECMA-C10401
M	Sanyo Denki Co., Ltd.	SANMOTION R	R2□A04010
Y	Yaskawa Electric Corporation	Σ-7 *1	SGM7 J-01
		Σ-X *1	SGMXJ-01
Y	Keyence Corporation	SV	SV-□010
		SV2 *1	SV2-□010
P	Panasonic Corporation	MINAS A5	MSMD01
		MINAS A6 *1	MSMF01
M	OMRON Corporation	G5	R88 M-K10030
		1 S *1	R88 M-1 M10030
M	Fuji Electric Co., Ltd.	ALPHA7 GYS	GYS101 D7-□B2□
		ALPHA7 GYB	-
F	FANUC CORPORATION *1	βiS-B	A06 B-0112-B1
M	DENSO WAVE INCORPORATED	410627	410627-121□
			410627-122□
P	Bosch Rexroth AG	MSM	MSM019 B
M	Rockwell Automation, Inc. *1	TLP	TLP-A046-010-DKA□2
M	SIEMENS AG *1	1 FK2 *5	1 FK2102-1 AG0

Code	Manufacturer	Series	200 W (ETS-13/14 Series)	400 W (ETS-13/14/17 Series)	750 W (ETS-17/22 Series) *4
M	Mitsubishi Electric Corporation	MELSERVO J4	HG-KR23	HG-KR43	HG-KR73
		MELSERVO J5	HK-KT23 W	HK-KT43 W	HK-KT7 M3 W
M	Delta Electronics, Inc.	ECMA-C *2	ECMA-C10602	ECMA-C10604	ECMA-C10807
M	Sanyo Denki Co., Ltd.	SANMOTION R	R2□A06020	R2□A06040	-
Y	Yaskawa Electric Corporation	Σ-7 *1	SGM7 J-02	SGM7 J-04	SGM7 J-08
		Σ-X *1	SGMXJ-02	SGMXJ-04	SGMXJ-08
Y	Keyence Corporation	SV	SV-□020	SV-□040	SV-□075
		SV2 *1	SV2-□020	SV2-□040	SV2-□075
P	Panasonic Corporation	MINAS A5	MSMD02	MSMD04	MSMD08
		MINAS A6 *1	MSMF02	MSMF04	MSMF08
P	OMRON Corporation	G5	R88 M-K20030	R88 M-K40030	R88 M-K75030
		1 S *1	R88 M-1 M20030	R88 M-1 M40030	R88 M-1 M75030
M	Fuji Electric Co., Ltd.	ALPHA7 GYS	GYS201 D7-□B2□	GYS401 D7-□B2□	-
		ALPHA7 GYB	GYB201 D7-□B2□	GYB401 D7-□B2□	GYB751 D7-□B2□
F	FANUC CORPORATION *1	βiS-B	A06 B-2115-B1	A06 B-2116-B1	A06 B-2063-B1
M	DENSO WAVE INCORPORATED	410627	410627-125□	410627-127□	-
			410627-126□	410627-128□	-
P	Bosch Rexroth AG	MSM	MSM031 B	MSM031 C	MSM041 B
M	Rockwell Automation, Inc. *1	TLP	TLP-A070-020-DKA□2	TLP-A070-040-DKA□2	TLP-A090-075-DKA□2
M	SIEMENS AG *1	1 FK2 *5	1 FK2203-2 AG0	1 FK2203-4 AG0	1 FK2204-5 AK0

* For mounting motors other than the above and products from other motor manufacturers, please contact us.
*1 "Built-in mounting" is not supported.
*2 The ECMA series (with brake) does not support "built-in mounting".
*3 ETS-13 100 W is only available with the metal stopper specification, and "built-in mounting" cannot be selected.
*4 "Built-in mounting" is not supported for the ETS-17 750 W.
*5 The servo motor is a regulated item under Paragraph 7(8) of Appended Table 5 of the Export Trade Control Order, and its specifications also meet the applicable criteria. (As of January 2021)



Electric Actuator Ball Screw Drive Slider Type

ETS-13 Series

Motor Straight, Built-in Mounting Type

- Servo Motor Capacity: 100 W (metal stopper specifications), 200 W, 400 W

Model No. Notation Method

ETS

13

05

005

E

M

1

N

N

N

N

N

X

1 Body Size

13 Body width 135 mm

2 Screw Lead

05 5 mm

10 10 mm

16 16 mm

20 20 mm

3 Stroke

005 to 105 50 mm (every 50 mm) 1050 mm

4 Motor mounting direction^{*1, *3}

E Straight Mounting

B Built-in Mounting

5 Mounting Motor Specifications

M Select the mounting motor specification from the table below.

Y

P

F

6 Motor Capacity^{*2}

1 100 W

2 200 W

4 400 W

7 Brake^{*3}

N None

B Yes

8 Origin sensor (1 pc)^{*4, *5, *6}

N None

A Inside, motor side

B Inside, opposite motor side

C Outside, motor side

D Outside, opposite motor side

9 Limit sensor (2 pcs)^{*4, *5, *6}

N None

A Inside

B Outside

10 Grease nipple^{*6, *7}

N None (Body mounting direction: Standard)

R Right direction

L Left direction

11 Positioning pin hole

N None

P Yes

12 Metal stopper specifications (ETS-X)^{*1, *2}

Standard

X Adopted

Manufacturer	100 W	200 W	400 W
Mitsubishi Electric Corporation	M	M	M
Delta Electronics, Inc.	M	M	M
Sanyo Denki Co., Ltd.	M	M	M
Yaskawa Electric Corporation	Y	Y	Y
Keyence Corporation	Y	Y	Y
Panasonic Corporation	P	P	P
OMRON Corporation	M	P	P
Fuji Electric Co., Ltd.	M	M	M
FANUC CORPORATION	F	F	F
DENSO WAVE INCORPORATED (ETS-X only)	M	M	M
Bosch Rexroth AG	P	P	P
Rockwell Automation, Inc.	M	M	M
SIEMENS AG	M	M	M

^{*1} For the metal stopper specification, "built-in mounting" cannot be selected.

^{*2} 100 W can only be selected when the metal stopper specification is selected.

^{*3} "Yes" can only be selected when "Built-in mounting" is chosen for the motor mounting direction.

^{*4} The home sensor and limit sensor are a set. If either is "None," please select "None" for the other as well.

^{*5} If the sensor is mounted on the inside, the position cannot be adjusted by the customer. (Shipped Included)

If the sensor is mounted on the outside, the position can be adjusted by the customer. (Shipped included)

^{*6} If you wish to use the home sensor, limit sensor, and grease nipple in the same direction, please contact us.

^{*7} Here, "Body mounting direction: Standard" means that it can be mounted from either the top or bottom side.

* 100 W is only compatible with the metal stopper specification.
* Refer to P. 123 for motor model No.

Specifications						
Applicable Motor Capacity ^{*1}		100 W / 200 W / 400 W Servo Motor				
Drive Method		Ball screw ø16				
Ball Screw Accuracy Grade		C7				
Stroke		50 to 1050				
Screw lead		5 10 16 20				
Max. payload ^{*1, *2}	Horizontal kg	100 W	50	30	22	18
		200 W	70	47	30	24
		400 W	70	47	30	24
	Vertical kg	100 W	12	8	5	3
		200 W	17	12	6	4
		400 W	17	12	6	4
Max. Speed		mm/s	250	500	800	1000
Rated thrust ^{*1, *2}	100 W	N	341	170	106	85
	200 W	N	683	341	213	174
	400 W	N	1388	694	433	347
Repeatability		mm	±0.01			
Lost Motion		mm	0.1 or less			
Dynamic allowable load		N	4822			
Static Allowable Moment		N·m	MP : 175 MY : 174 MR : 153			
Dynamic allowable moment		N·m	MP : 45.1 MY : 45.1 MR : 191.7			
Operating ambient temperature, humidity			0 to 40°C (no freezing) 35 to 80% RH (no condensation)			
Storage Ambient Temperature, Humidity			-10 to 50°C (No freezing) 35 to 80% RH (no condensation)			
Atmosphere			No corrosive gas, explosive gas, or dust			

^{*1} 100 W can only be selected with the metal stopper (ETS-X) specification.
^{*2} The rated thrust and max. payload are guide values assuming the mounted motor can output its rated torque.

Stroke and Max. Speed

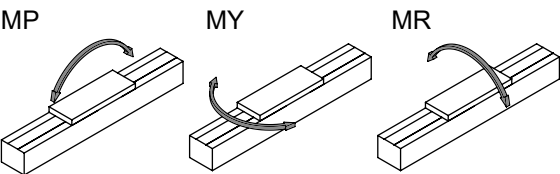
(mm/s)							
Stroke	100 to 750	800	850	900	950	1050	
5	250	225	200	175	150	125	
10	500	450	400	350	300	250	
16	800	720	640	560	480	400	
20	1000	900	800	700	600	500	

* The max. speed is the speed when the motor mounted by the customer can output a rotation speed of 3000 rpm.

Allowable Overhang Length

* Refer to P. 158 for details.

Moment Direction

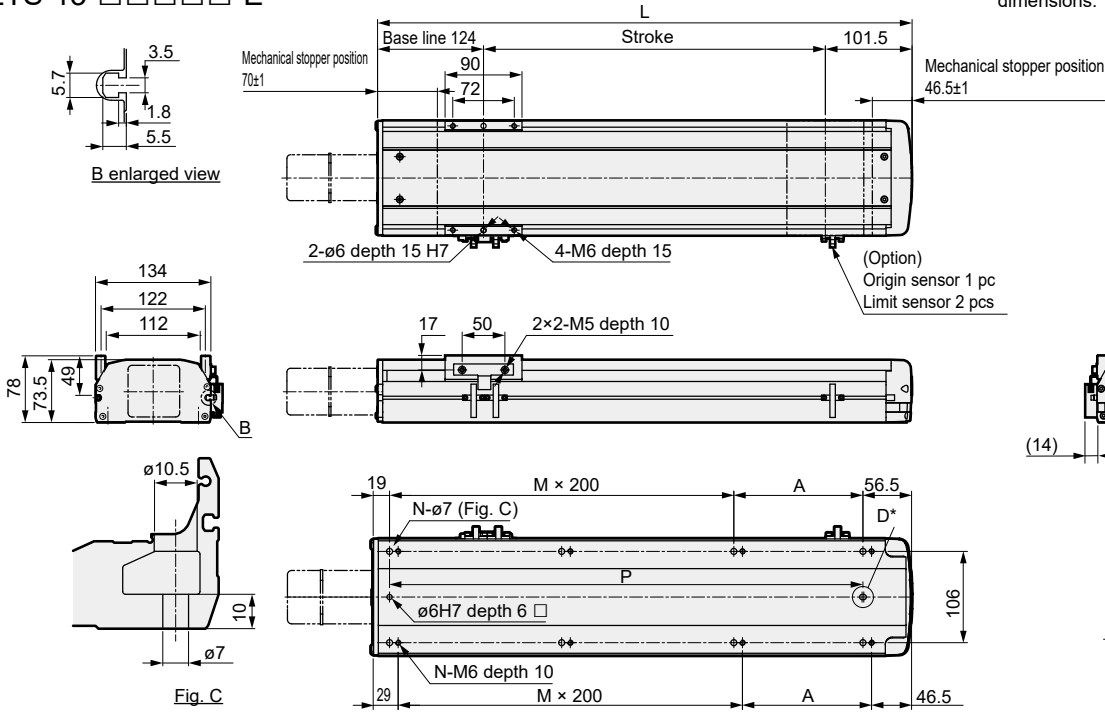


ETS-13 Series

Dimensions / List of attachments

External Dimension Drawing Motor Straight Mounting

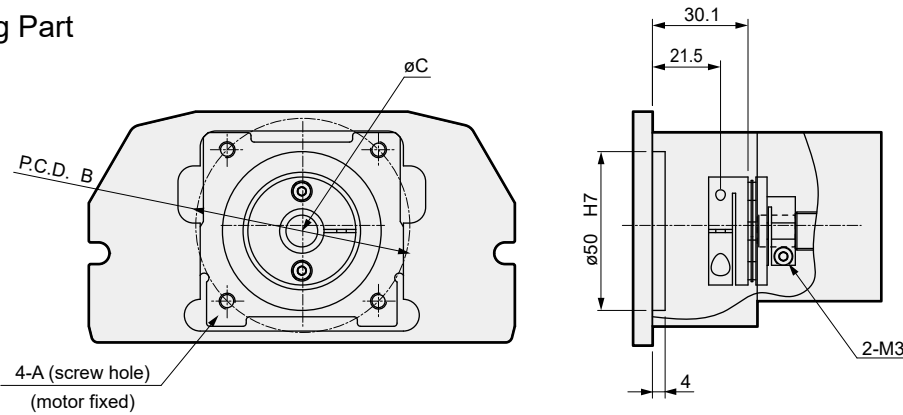
● ETS-13-□□□□□-E



● Refer to P. 164 for grease nipple dimensions.

Stroke (mm)	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050
L	275.5	325.5	375.5	425.5	475.5	525.5	575.5	625.5	675.5	725.5	775.5	825.5	875.5	925.5	975.5	1025.5	1075.5	1125.5	1175.5	1225.5	1275.5
A	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200
M	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5
N	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14
P	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200
Weight (kg)	5.9	6.5	6.9	7.4	7.9	8.4	8.9	9.3	9.9	10.3	10.9	11.3	11.8	12.3	12.8	13.3	13.8	14.3	14.8	15.2	15.8

Motor Mounting Part



Mounting Motor Specification		A	B	C	Motor mounting bolts
M	100 W, 200 W, 400 W	M4/M5/M5	ø46/ø70/ø70	ø8/ø14/ø14	4-M5 x L18/4-M5 x L20
Y	100 W, 200 W, 400 W	M4/M5/M5	ø46/ø70/ø70	ø8/ø14/ø14	4-M5 x L18/4-M5 x L20
P	100 W, 200 W, 400 W	M3/M4/M4	ø45/ø70/ø70	ø8/ø11/ø14	4-M4 x L18/4-M4 x L20
F	100 W, 200 W, 400 W	M4/M5/M5	ø46/ø70/ø70	ø8/ø9/ø14	4-M5 x L18/4-M5 x L20 4-M5 x L20

* 100 W is only compatible with the metal stopper specification.

List of Accessories

[Motor Mounting Parts]

Mounting Motor Specification	Coupling	Motor Capacity	Motor mounting bolts	
			Size	Quantity
M	Shipped Included	100 W / 200 W / 400 W	M4/M5/M5	2/4/4
Y			M4/M5/M5	2/4/4
P			M3/M4/M4	4/4/4
F			M4/M5/M5	2/4/4

* 100 W is only compatible with the metal stopper specification.

[Home Sensor / Limit Sensor]

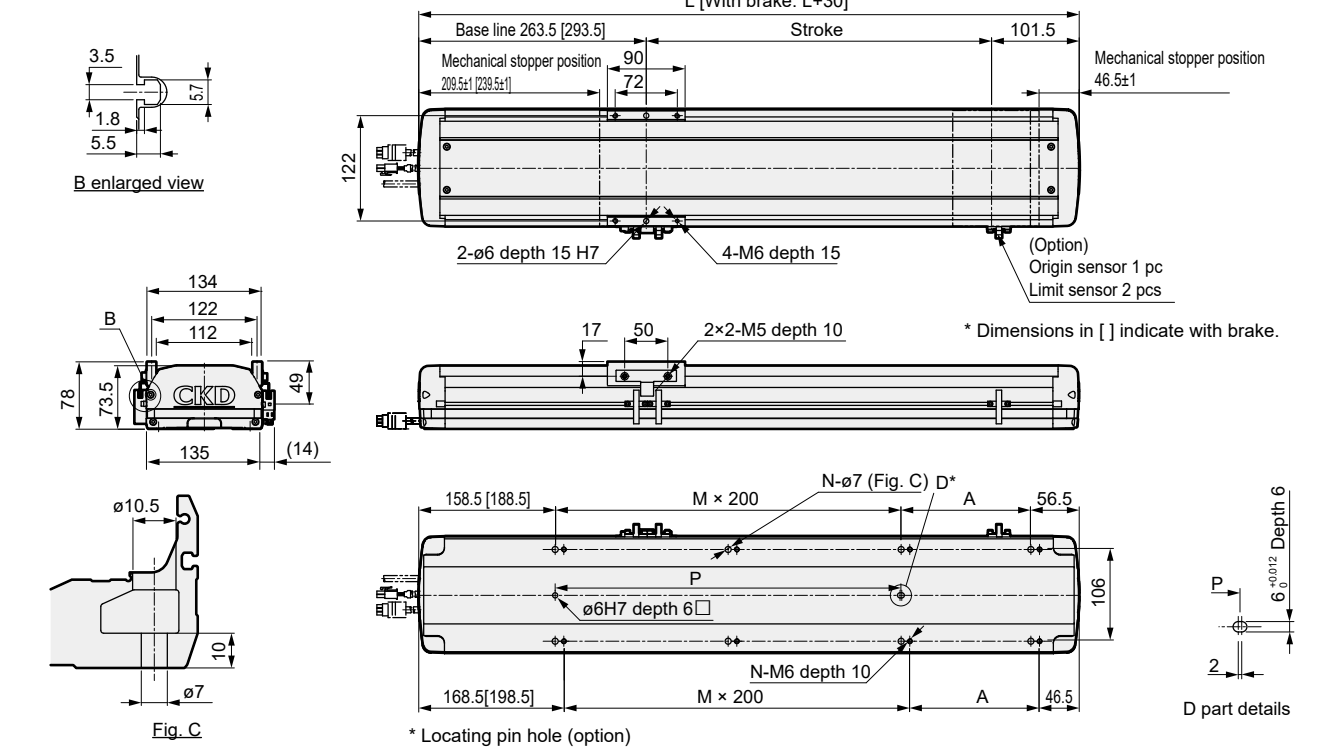
Manufacturer	Model	Quantity
OMRON	EE-SX672	3

* For sensor specifications, please refer to P. 162.

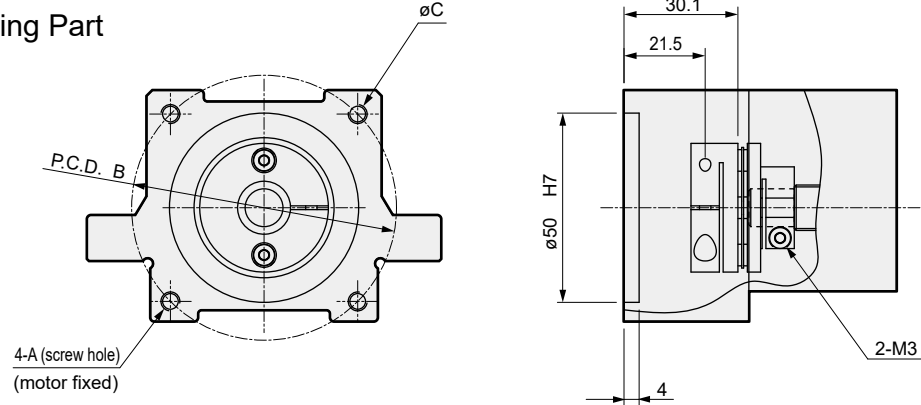
External Dimension Drawing Motor Built-in Mounting

● ETS-13-□□□□□-B

● Refer to P. 164 for grease nipple dimensions.



Motor Mounting Part



Mounting Motor Specification		A	B	C	Motor mounting bolts
M	100 W, 200 W, 400 W	M4/M5/M5	ø46/ø70/ø70	ø8/ø14/ø14	4-M5 x L18/4-M5 x L20
Y	100 W, 200 W, 400 W	M4/M5/M5	ø46/ø70/ø70	ø8/ø14/ø14	4-M5 x L18/4-M5 x L20
P	100 W, 200 W, 400 W	M3/M4/M4	ø45/ø70/ø70	ø8/ø11/ø14	4-M4 x L18/4-M4 x L20

* 100 W is only compatible with the metal stopper specification.

List of Accessories

[Motor Mounting Parts]

Mounting Motor Specification	Coupling	Motor Capacity	Motor mounting bolts	
			Size	Quantity
M	Shipped Included	100 W/ 200 W/ 400 W	M4/M5/M5	2/4/4
Y			M4/M5/M5	2/4/4
P			M3/M4/M4	4/4/4

[Home Sensor / Limit Sensor]

Manufacturer	Model	Quantity
OMRON	EE-SX672	3

* For sensor specifications, please refer to P. 162.

MEMO



Electric Actuator Ball Screw Drive Slider Type

ETS-13 Series

Reverse Parallel Motor Mount Type

- Servo Motor Capacity : 100 W (metal stopper specifications), 200 W, 400 W

Model No.	Notation Method
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The diagram illustrates the relationship between the 12 characters of the motor model code and their corresponding specifications. The model code is: **ETS - 13 - 05 - 005 - R - M - 1 - N - N - N - N - X**. Each character is linked to a specific specification table.

- 1 Body Size**: 13 Body width 135 mm
- 2 Screw Lead**: 05 5 mm, 10 10 mm, 16 16 mm, 20 20 mm
- 3 Stroke**: 005 50 mm (every 50 mm), 105 1050 mm
- 4 Motor mounting direction***: R Right Side Return Mount, D Bottom Side Return Mount, L Left Side Fold-back Mounting
- 5 Mounting Motor Specifications**: M Select the mounting motor, Y specification from the table below, P specification from the table below, F specification from the table below
- 6 Motor Capacity *1**: 1 100 W, 2 200 W, 4 400 W
- 7 Brake**: N None
- 8 Origin sensor (1 pc) *2, *3, *4**: N None, A Inside, motor side, B Inside, opposite motor side, C Outside, motor side, D Outside, opposite motor side
- 9 Limit sensor (2 pcs) *2, *3, *4**: N None, A Inside, B Outside
- 10 Grease nipple *4, *5, *6**: N None (Body mounting direction: Standard), R Right direction, L Left direction
- 11 Positioning pin hole**: N None, P Yes
- 12 Metal stopper specifications (ETS-X) *1**: Standard, X Adopted

Manufacturer	100 W	200 W	400 W
Mitsubishi Electric Corporation	M	M	M
Delta Electronics, Inc.	M	M	M
Sanyo Denki Co., Ltd.	M	M	M
Yaskawa Electric Corporation	Y	Y	Y
Keyence Corporation	Y	Y	Y
Panasonic Corporation	P	P	P
OMRON Corporation	M	P	P
Fuji Electric Co., Ltd.	M	M	M
FANUC CORPORATION	F	F	F
DENSO WAVE INCORPORATED (ETS-X only)	M	M	M
Bosch Rexroth AG	P	P	P
Rockwell Automation, Inc.	M	M	M
SIEMENS AG	M	M	M

* Refer to P. 123 for motor model No.

*1 100 W can only be selected when the metal stopper specification is selected.

*2 The home sensor and limit sensor are a set. If either is "None," please select "None" for the other as well.

*3 If the sensor is mounted on the inside, the position cannot be adjusted by the customer. (Shipped Included)

If the sensor is mounted on the outside, the position can be adjusted by the customer. (Shipped included)

*5 Here, "Body mounting direction: Standard" means that it can be mounted from either the top or bottom side.

*6 If "R" is selected for the motor mounting direction, "R" cannot be selected for the grease nipple.

If "L" is selected, "L" cannot be selected for the grease nipple.

Specifications

Applicable Motor Capacity *1			100 W/200 W/400 W Servo Motor			
Drive Method			Ball screw ø16			
Ball Screw Accuracy Grade			C7			
Stroke mm			50 to 1050			
Screw lead mm			5	10	16	20
Max. payload *1, *2	Horizontal kg	100 W	50	30	22	18
		200 W	70	47	30	24
		400 W	70	47	30	24
	Vertical kg	100 W	12	8	5	3
		200 W	17	12	6	4
		400 W	17	12	6	4
Max. Speed mm/s		250	500	800	1000	
Rated thrust *1, *2	100 W N	341	170	106	85	
	200 W N	683	341	213	174	
	400 W N	1388	694	433	347	
Repeatability mm		±0.01				
Lost Motion mm		0.1 or less				
Dynamic allowable load N		4822				
Static Allowable Moment N·m		MP: 175 MY: 174 MR: 153				
Dynamic allowable moment N·m		MP: 45.1 MY: 45.1 MR: 191.7				
Operating ambient temperature, humidity		0 to 40°C (no freezing) 35 to 80% RH (no condensation)				
Storage Ambient Temperature, Humidity		-10 to 50°C (No freezing) 35 to 80% RH (no condensation)				
Atmosphere		No corrosive gas, explosive gas, or dust				

*1 100 W can only be selected with the metal stopper (ETS-X) specification.

*2 The rated thrust and max. payload are guide values assuming the mounted motor can output its rated torque.

Stroke and Max. Speed

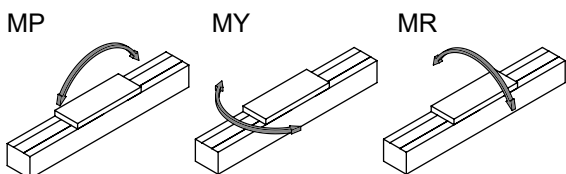
(mm/s)						
Stroke Screw Lead	100 to 750	800	850	900	950	1050
5	250	225	200	175	150	125
10	500	450	400	350	300	250
16	800	720	640	560	480	400
20	1000	900	800	700	600	500

* The max. speed is the speed when the motor mounted by the customer can output a rotation speed of 3000 rpm.

Allowable Overhang Length

* Refer to P. 158 for details.

Moment Direction

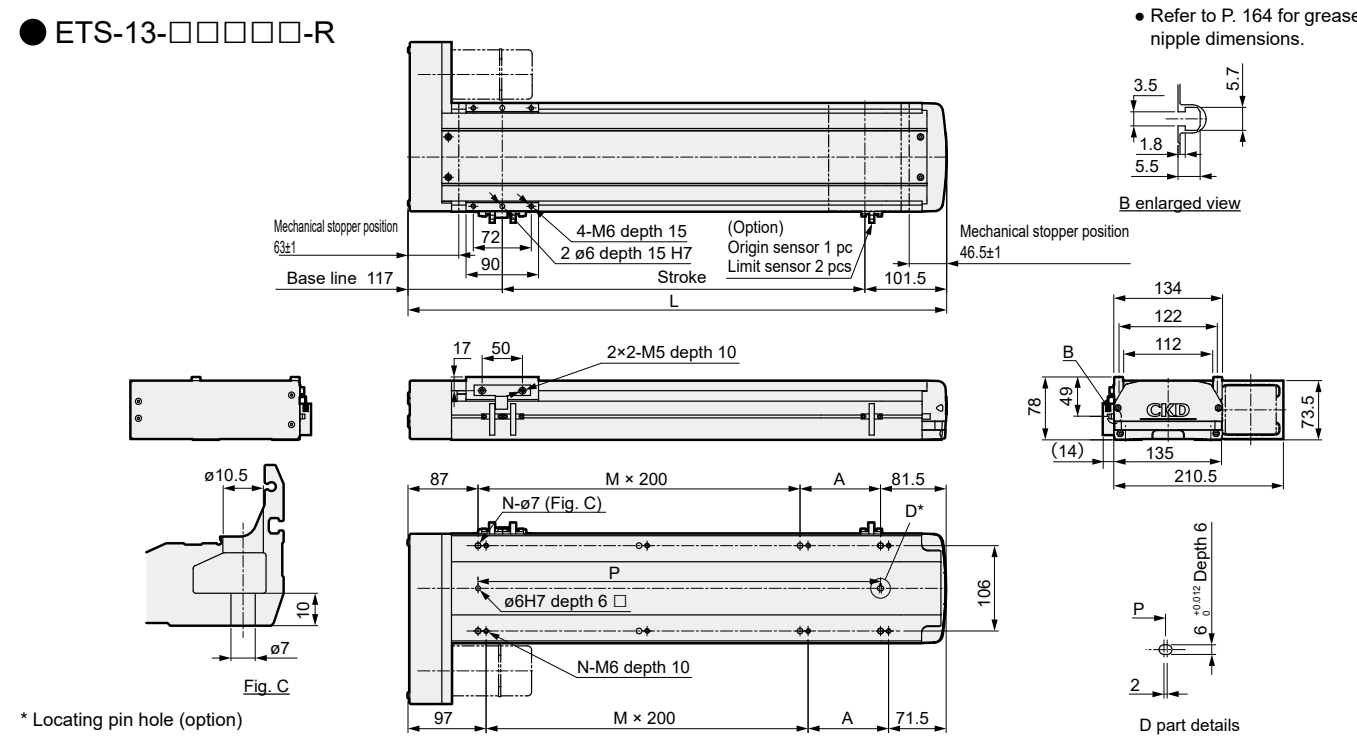


ETS-13 Series

Dimensions / List of attachments

External Dimension Drawing Motor Right Side Fold-back Mounting

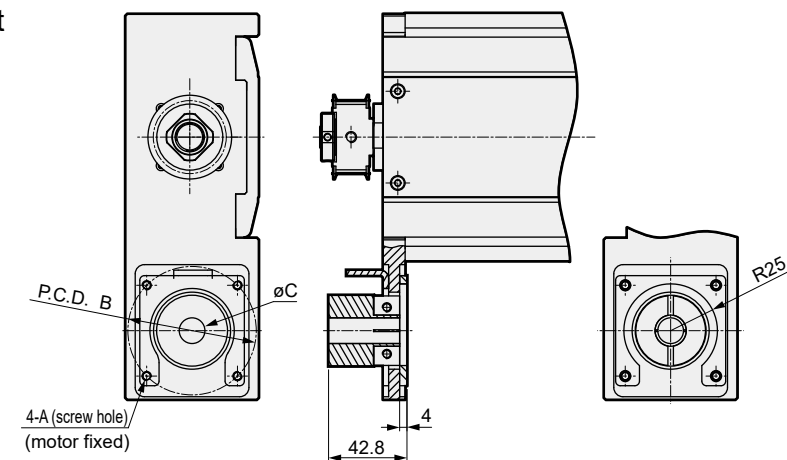
- ETS-13-□□□□□-R



* Locating pin hole (option)

Stroke (mm)	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050
L	268.5	318.5	368.5	418.5	468.5	518.5	568.5	618.5	668.5	718.5	768.5	818.5	868.5	918.5	968.5	1018.5	1068.5	1118.5	1168.5	1218.5	1268.5
A	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100
M	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5
N	4	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14
P	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
Weight (kg)	6.7	7.3	7.7	8.2	8.7	9.2	9.7	10.1	10.7	11.1	11.7	12.1	12.6	13.1	13.6	14.1	14.6	15.1	15.6	16.0	16.6

Motor Mounting Part



Mounting Motor Specification		A	B	C	Motor mounting bolts
M	100 W, 200 W, 400 W	M4/M5/M5	ø46/ø70/ø70	ø8/ø14/ø14	4-M5 x L18/4-M5 x L25
Y	100 W, 200 W, 400 W	M4/M5/M5	ø46/ø70/ø70	ø8/ø14/ø14	4-M5 x L18/4-M5 x L25
P	100 W, 200 W, 400 W	M3/M4/M4	ø45/ø70/ø70	ø8/ø11/ø14	4-M4 x L18/4-M4 x L25
F	100 W, 200 W, 400 W	M4/M5/M5	ø46/ø70/ø70	ø8/ø9/ø14	4-M5 x L18/4-M5 x L25 4-M5 x L18

* 100 W is only compatible with the metal stopper specification.

List of Accessories

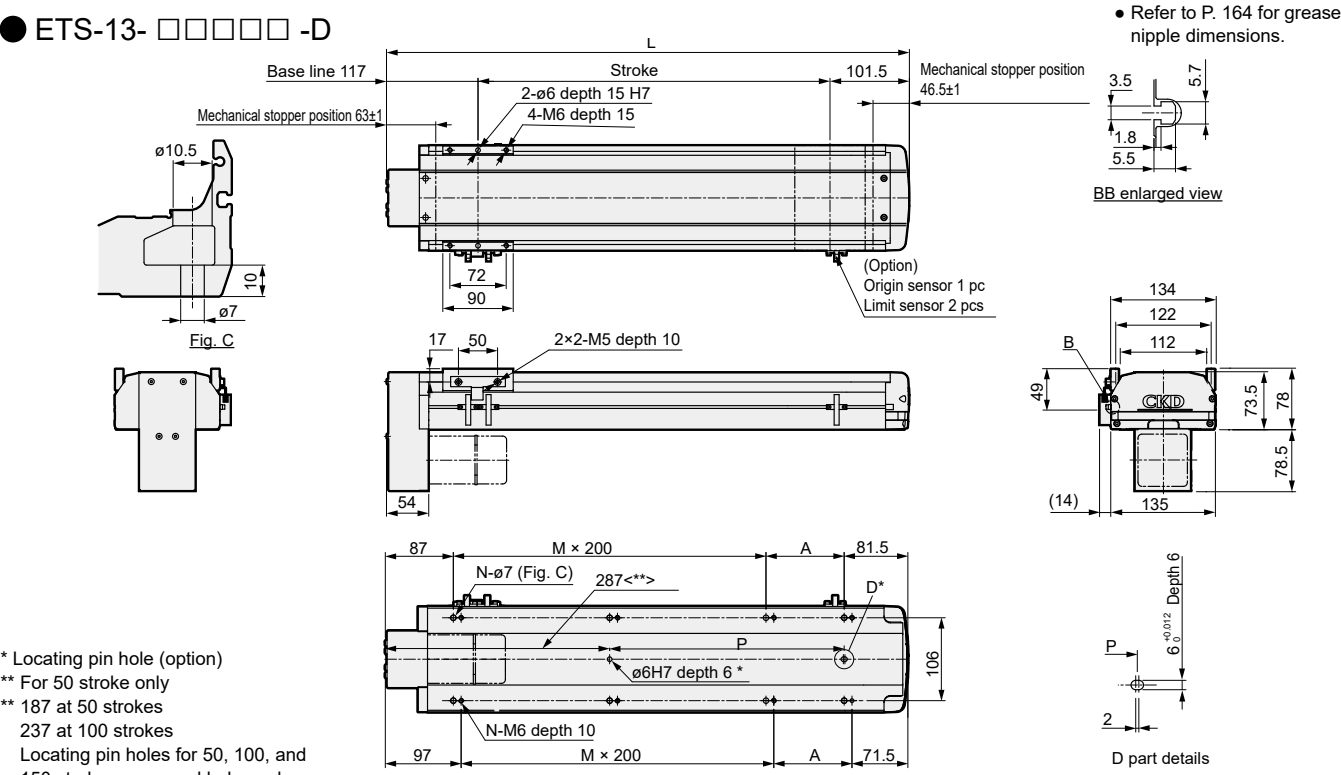
[Motor Mounting Parts]				
Mounting Motor Specification	Timing belt, pulley	Motor Capacity	Motor mounting bolts	
			Size	Quantity
M	Shipped included	100 W/ 200 W/ 400 W	M4/M5/M5	2/4/4
Y			M4/M5/M5	2/4/4
P			M3/M4/M4	4/4/4
F			M4/M5/M5	2/4/4

* 100 W is only compatible with the metal stopper specification.

[Home Sensor / Limit Sensor]		
Manufacturer	Model	Quantity
OMRON	EE-SX672	3

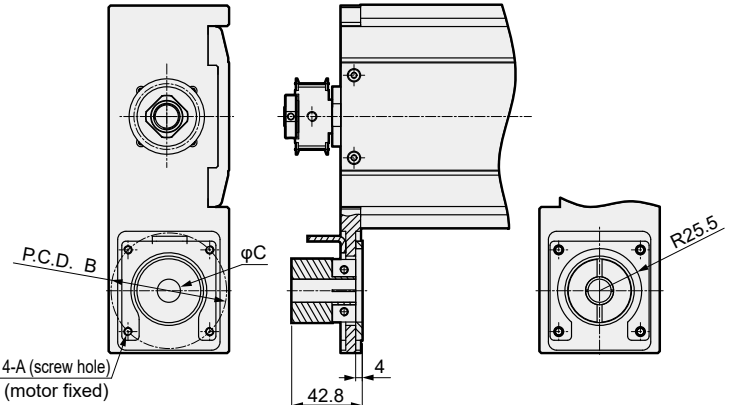
* For sensor specifications, please refer to P. 162.

External Dimension Drawing Motor Bottom Side Fold-back Mounting



Stroke (mm)	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050
L	268.5	318.5	368.5	418.5	468.5	518.5	568.5	618.5	668.5	718.5	768.5	818.5	868.5	918.5	968.5	1018.5	1068.5	1118.5	1168.5	1218.5	1268.5
A	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100
M	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5
N	4	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14
P	0	0	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900
Weight (kg)	6.7	7.3	7.7	8.2	8.7	9.2	9.7	10.1	10.7	11.1	11.7	12.1	12.6	13.1	13.6	14.1	14.6	15.1	15.6	16.0	16.6

Motor Mounting Part



Mounting Motor Specification	A	B	C	Motor mounting bolts
M 100 W, 200 W, 400 W	M4/M5/M5	ø46/ø70/ø70	ø8/ø14/ø14	4-M5 x L18/4-M5 x L25
Y 100 W, 200 W, 400 W	M4/M5/M5	ø46/ø70/ø70	ø8/ø14/ø14	4-M5 x L18/4-M5 x L25
P 100 W, 200 W, 400 W	M3/M4/M4	ø45/ø70/ø70	ø8/ø11/ø14	4-M4 x L18/4-M4 x L25
F 100 W, 200 W, 400 W	M4/M5/M5	ø46/ø70/ø70	ø8/ø9/ø14	4-M5 x L18/4-M5 x L25 4-M5 x L18

* 100 W is only compatible with the metal stopper specification.

List of Accessories

[Motor Mounting Parts]

Mounting Motor Specification	Timing belt, pulley	Motor Capacity	Motor mounting bolts	
			Size	Quantity
M	Shipped included	100 W/ 200 W/ 400 W	M4/M5/M5	2/4/4
Y			M4/M5/M5	2/4/4
P			M3/M4/M4	4/4/4
F			M4/M5/M5	2/4/4

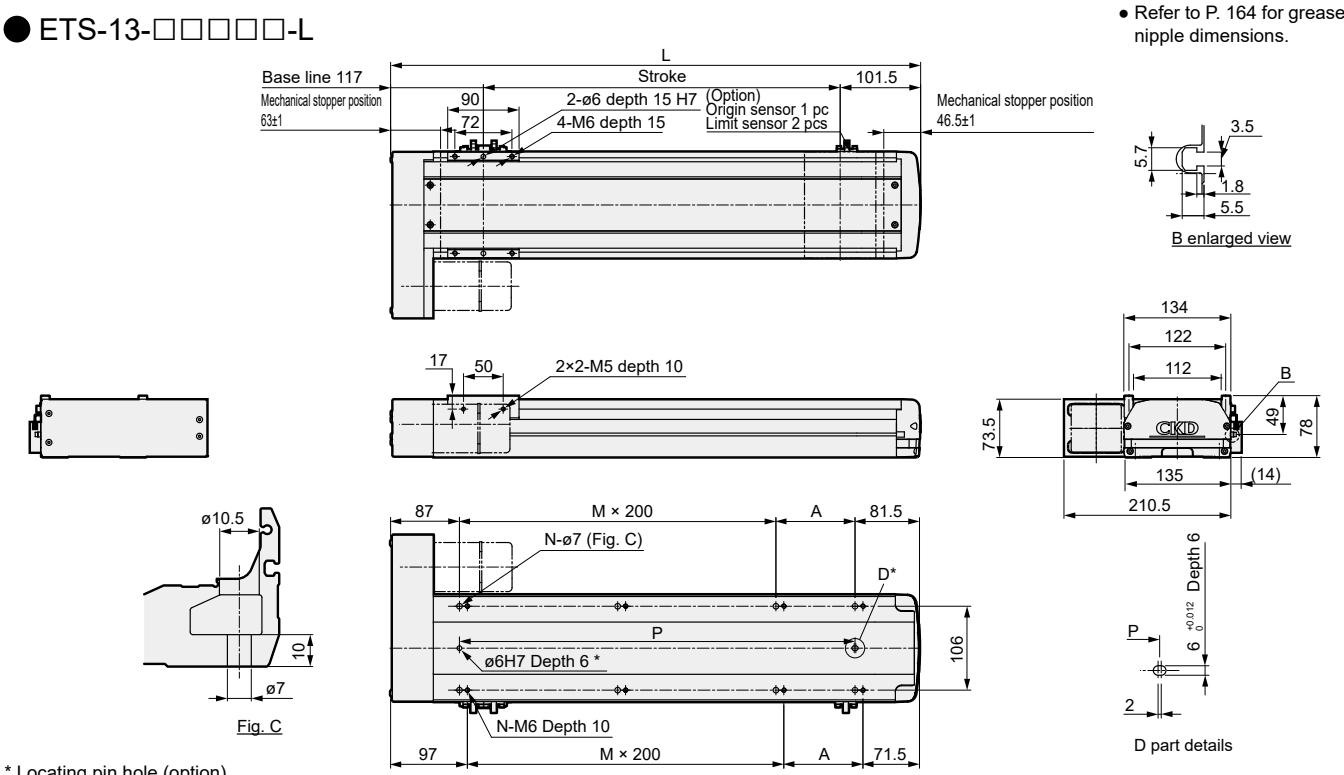
* 100 W is only compatible with the metal stopper specification.

[Home Sensor / Limit Sensor]

Manufacturer	Model	Quantity
OMRON	EE-SX672	3

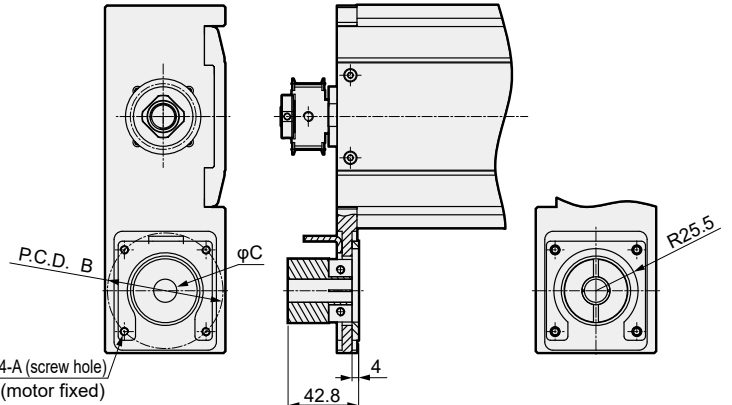
* For sensor specifications, please refer to P. 162.

External Dimension Drawing Motor Left Side Fold-back Mounting



Stroke (mm)	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050
L	268.5	318.5	368.5	418.5	468.5	518.5	568.5	618.5	668.5	718.5	768.5	818.5	868.5	918.5	968.5	1018.5	1068.5	1118.5	1168.5	1218.5	1268.5
A	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100
M	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5
N	4	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14
P	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
Weight (kg)	6.7	7.3	7.7	8.2	8.7	9.2	9.7	10.1	10.7	11.1	11.7	12.1	12.6	13.1	13.6	14.1	14.6	15.1	15.6	16.0	16.6

Motor Mounting Part



Mounting Motor Specification	A	B	C	Motor mounting bolts
M 100 W, 200 W, 400 W	M4/M5/M5	ø46/ø70/ø70	ø8/ø14/ø14	4-M5 x L18/4-M5 x L25
Y 100 W, 200 W, 400 W	M4/M5/M5	ø46/ø70/ø70	ø8/ø14/ø14	4-M5 x L18/4-M5 x L25
P 100 W, 200 W, 400 W	M3/M4/M4	ø45/ø70/ø70	ø8/ø11/ø14	4-M4 x L18/4-M4 x L25
F 100 W, 200 W, 400 W	M4/M5/M5	ø46/ø70/ø70	ø8/ø9/ø14	4-M5 x L18/4-M5 x L25 4-M5 x L18

* 100 W is only compatible with the metal stopper specification.

List of Accessories

[Motor Mounting Parts]

Mounting Motor Specification	Timing belt, pulley	Motor Capacity	Motor mounting bolts	
			Size	Quantity
M	Shipped included	100 W/ 200 W/ 400 W	M4/M5/M5	2/4/4
Y			M4/M5/M5	2/4/4
P			M3/M4/M4	4/4/4
F			M4/M5/M5	2/4/4

* 100 W is only compatible with the metal stopper specification.

[Home Sensor / Limit Sensor]

Manufacturer	Model	Quantity
OMRON	EE-SX672	3

* For sensor specifications, please refer to P. 162.



Electric Actuator Ball Screw Drive Slider Type

ETS-14 Series

Motor Straight, Built-in Mounting Type

● Servo Motor Capacity : 200 W / 400 W

ETS-14 Series

Dimensions / List of attachments

Model No. Notation Method

ETS

14

05

005

E

M

2

N

N

N

N

N

X

1 Body Size

14 Body width 135 mm

2 Screw Lead

05 5 mm

10 10 mm

16 16 mm

20 20 mm

3 Stroke

005 50 mm

to (every 50 mm)

105 1050 mm

4 Motor Mounting Direction

E Straight Mounting

B Built-in Mounting

5 Mounting Motor Specifications

M Select the mounting motor specification from the table below.

Y

P

F

6 Motor Capacity

2 200 W

4 400 W

7 Brake

*2

N None

B Yes

8 Origin sensor (1 pc)

*3, *4, *5

N None

A Inside, motor side

B Inside, opposite motor side

C Outside, motor side

D Outside, opposite motor side

9 Limit sensor (2 pcs)

*3, *4, *5

N None

A Inside

B Outside

10 Grease nipple

*5, *6

N None (Body mounting direction: Standard)

R Right direction

L Left direction

11 Positioning pin hole

N None

P Yes

12 Metal stopper specifications (ETS-X)*1

Standard

Adopted

Manufacturer	200 W	400 W
Mitsubishi Electric Corporation	M	M
Delta Electronics, Inc.	M	M
Sanyo Denki Co., Ltd.	M	M
Yaskawa Electric Corporation	Y	Y
Keyence Corporation	Y	Y
Panasonic Corporation	P	P
OMRON Corporation	P	P
Fuji Electric Co., Ltd.	M	M
FANUC CORPORATION	F	F
DENSO WAVE (INCORPORATED) (ETS-X only)	M	M
Bosch Rexroth AG	P	P
Rockwell Automation, Inc.	M	M
SIEMENS AG	M	M

*1 For the metal stopper specification, "built-in mounting" cannot be selected.
*2 "Yes" can only be selected when "Built-in mounting" is chosen for the motor mounting direction.
*3 The home sensor and limit sensor are a set. If either is "None," please select "None" for the other as well.
*4 If the sensor is mounted on the inside, the position cannot be adjusted by the customer. (Shipped Included)
If the sensor is mounted on the outside, the position can be adjusted by the customer. (Shipped included)
*5 If you wish to use the home sensor, limit sensor, and grease nipple in the same direction, please contact us.
*6 Here, "Body mounting direction: Standard" means that it can be mounted from either the top or bottom side.
* Refer to P. 123 for motor model No.

Specifications

Applicable Motor Capacity			200 W/400 W Servo Motor			
Drive Method			Ball screw ø16			
Ball Screw Accuracy Grade			C7			
Stroke		mm	50 to 1050			
Screw lead		mm	5	10	16	20
Max. Payload *1	Horizontal	200 W kg	95	75	44	35
		400 W kg	110	88	48	40
		200 W kg	27	18	7	6
		400 W kg	33	22	10	8
Max. Speed		mm/s	250	500	800	1000
Rated thrust *1	200 W	N	683	341	213	174
	400 W	N	1388	694	433	347
Repeatability		mm	±0.01			
Lost Motion		mm	0.1 or less			
Dynamic allowable load N			6567			
Static Allowable Moment N·m			MP: 552.0 MY: 551.0 MR: 485.0			
Dynamic allowable moment N·m			MP: 262.7 MY: 262.7 MR: 261.0			
Operating ambient temperature, humidity			0 to 40°C (no freezing) 35 to 80% RH (no condensation)			
Storage Ambient Temperature, Humidity			-10 to 50°C (No freezing) 35 to 80% RH (no condensation)			
Atmosphere			No corrosive gas, explosive gas, or dust			

*1 Rated thrust and maximum payload are guideline values, assuming that the motor mounted will output the rated torque.

Stroke and Max. Speed

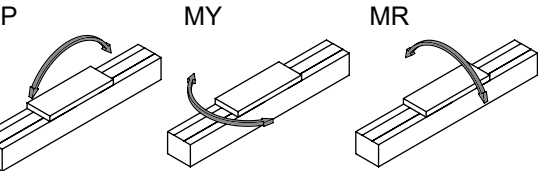
Stroke	(mm/s)					
	100 to 750	800	850	900	950	1050
5	250	225	200	175	150	125
10	500	450	400	350	300	250
16	800	720	640	560	480	400
20	1000	900	800	700	600	500

* The max. speed is the speed when the motor mounted by the customer can output a rotation speed of 3000 rpm.

Allowable Overhang Length

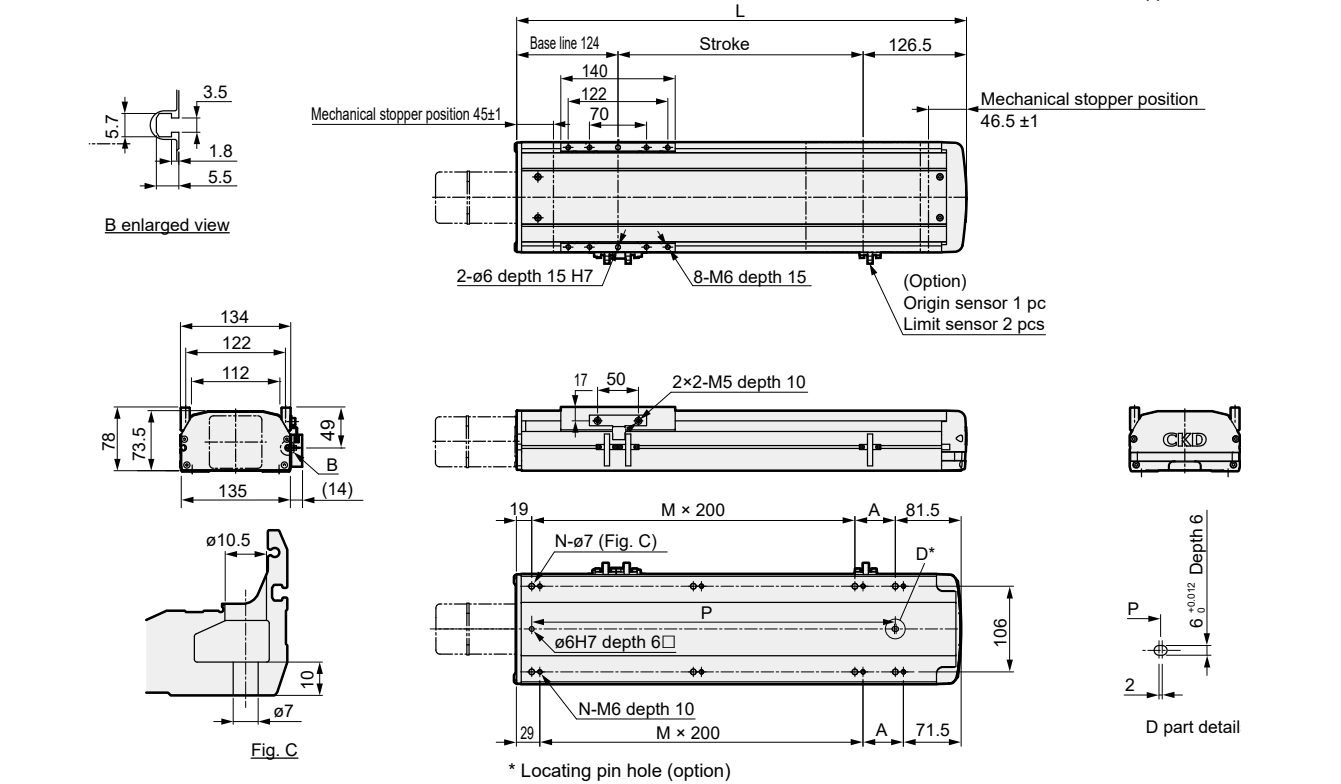
* Refer to P. 158 for details.

Moment Direction



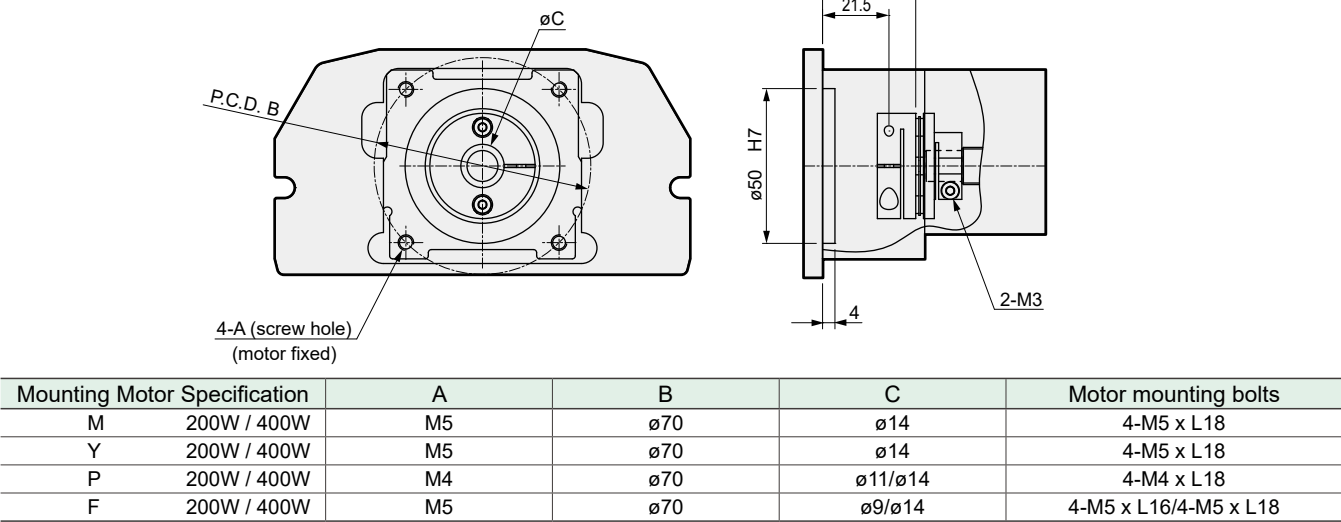
External Dimension Drawing Motor Straight Mounting

● ETS-14-□□□□□-E



Stroke (mm)	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050
L	300.5	350.5	400.5	450.5	500.5	550.5	600.5	650.5	700.5	750.5	800.5	850.5	900.5	950.5	1000.5	1050.5	1100.5	1150.5	1200.5	1250.5	1300.5
A	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200
M	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5
N	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14
P	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200
Weight (kg)	6.1	6.7	7.1	7.6	8.1	8.6	9.1	9.5	10.1	10.5	11.1	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.4	16.0

Motor Mounting Part



List of Accessories

[Motor Mounting Parts]

Mounting Motor Specification	Coupling	Motor Capacity	Motor mounting bolts Size	Quantity
M	Shipped attached	200 W/400 W	M5	4
Y			M5	4
P			M4	4
F			M5	4

[Home Sensor / Limit Sensor]

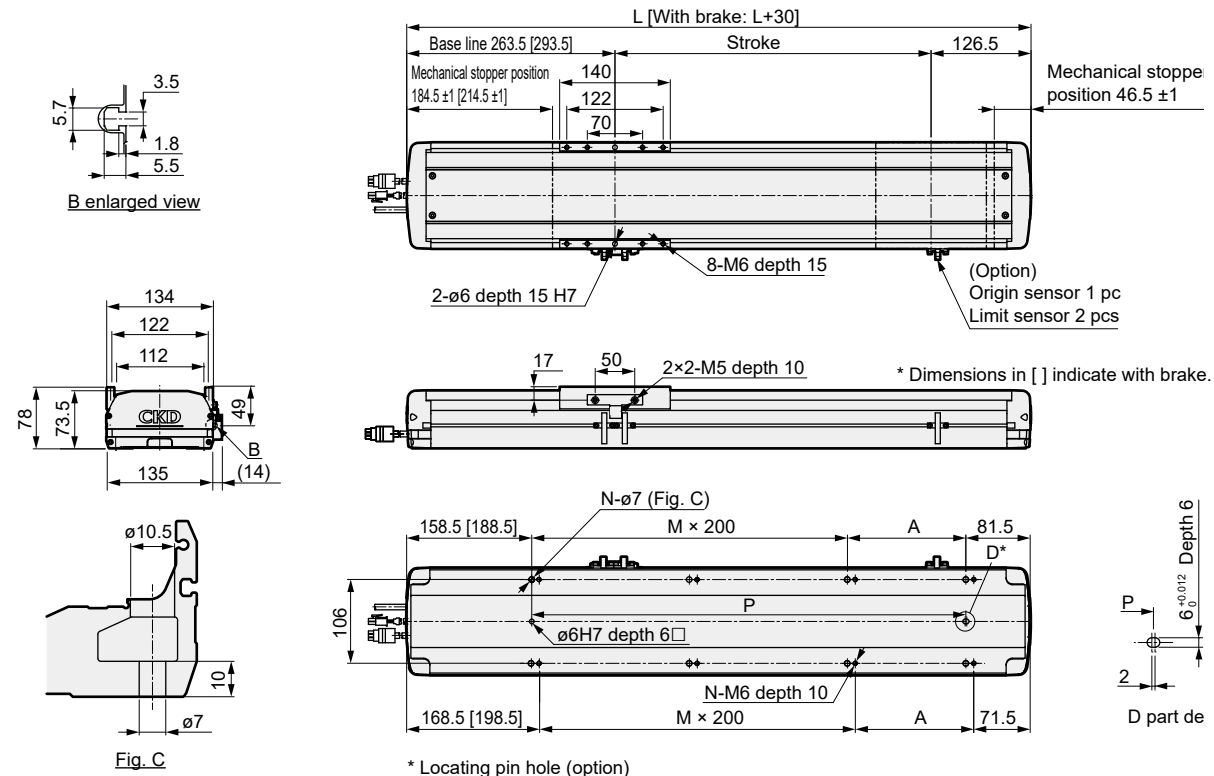
Manufacturer	Model	Quantity
OMRON	EE-SX672	3

* For sensor specifications, please refer to P. 162.

External Dimension Drawing Motor Built-in Mounting

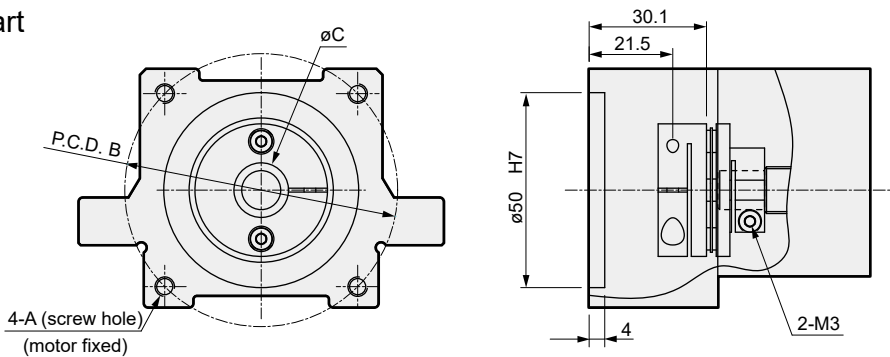
● ETS-14-□□□□□-B

● Refer to P. 164 for grease nipple dimensions.



Stroke (mm)	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050
L	440	490	540	590	640	690	740	790	840	890	940	990	1040	1090	1140	1190	1240	1290	1340	1390	1440
A	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200
M	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5
N	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14
P	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200
Weight (kg)	8.3	9.3	10.3	11.2	12.2	13.1	14.1	15.0	16.0	16.9	17.9	18.8	19.8	20.7	21.7	22.6	23.6	24.5	25.5	26.4	27.4
	8.9	9.9	10.8	11.8	12.7	13.7	14.6	15.6	16.5	17.5	18.4	19.4	20.3	21.3	22.2	23.2	24.1	25.1	26.0	27.0	27.9

Motor Mounting Part



Mounting Motor Specification		A	B	C	Motor mounting bolts
M	200W / 400W	M5	ø70	ø14	4-M5 x L18
Y	200W / 400W	M5	ø70	ø14	4-M5 x L18
P	200W / 400W	M4	ø70	ø11/ø14	4-M4 x L18

List of Accessories

[Motor Mounting Parts]

Mounting Motor Specification	Coupling	Motor Capacity	Motor mounting bolts	
			Size	Quantity
M	Shipped attached	200W/400W	M5	4
Y			M5	4
P			M4	4

[Home Sensor / Limit Sensor]

Manufacturer	Model	Quantity
OMRON	EE-SX672	3

* For sensor specifications, please refer to P. 162.

MEMO



Electric Actuator Ball Screw Drive Slider Type

ETS-14 Series

Motor Fold-back Mounting Type

● Servo Motor Capacity : 200 W / 400 W

Model No. Notation Method

ETS - 14 - 05 005 - R M 2 N N N N N - X

1 Body Size

14 Body width 135 mm

2 Screw Lead

05 5 mm

10 10 mm

16 16 mm

20 20 mm

3 Stroke

005 50 mm

to 105 (every 50 mm)

105 1050 mm

4 Motor mounting direction*6

R Right Side Return Mount

D Bottom Side Return Mount

L Left Side Fold-back Mounting

5 Mounting Motor Specifications

M Select the mounting motor specification from the table below.

Y

P

F

6 Motor Capacity

2 200 W

4 400 W

7 Brake

N None

8 Origin sensor (1 pc)

*1, *2, *3

N None

A Inside, motor side

B Inside, opposite motor side

C Outside, motor side

D Outside, opposite motor side

9 Limit sensor (2 pcs)

*1, *2, *3

N None

A Inside

B Outside

10 Grease nipple

*3, *4, *5

N None (Body mounting direction: Standard)

R Right direction

L Left direction

11 Positioning pin hole

N None

P Yes

12 Metal Stopper

Specification (ETS-X)

Standard

X Adopted

Manufacturer	200 W	400 W
Mitsubishi Electric Corporation	M	M
Delta Electronics, Inc.	M	M
Sanyo Denki Co., Ltd.	M	M
Yaskawa Electric Corporation	Y	Y
Keyence Corporation	Y	Y
Panasonic Corporation	P	P
OMRON Corporation	P	P
Fuji Electric Co., Ltd.	M	M
FANUC CORPORATION	F	F
DENSO WAVE INCORPORATED (ETS-X only)	M	M
Bosch Rexroth AG	P	P
Rockwell Automation, Inc.	M	M
SIEMENS AG	M	M

*1 The home sensor and limit sensor are a set. If either is "None," please select "None" for the other as well.
*2 If the sensor is mounted on the inside, the position cannot be adjusted by the customer. (Shipped Included)
If the sensor is mounted on the outside, the position can be adjusted by the customer. (Shipped included)
*3 If you wish to use the home sensor, limit sensor, and grease nipple in the same direction, please contact us.
*4 Here, "Body mounting direction: Standard" means that it can be mounted from either the top or bottom side.
*5 If "R" is selected for the motor mounting direction, "R" cannot be selected for the grease nipple.
If "L" is selected, "L" cannot be selected for the grease nipple.
* Refer to P. 123 for motor model No.

Specifications							
Applicable Motor Capacity			200 W/400 W Servo Motor				
Drive Method			Ball screw ø16				
Ball Screw Accuracy Grade			C7				
Stroke *1			mm 50 to 1050				
Screw lead			mm 5 10 16 20				
Max. Payload *1	Horizontal	200 W kg	95	75	44	35	
		400 W kg	110	88	48	40	
	Vertical	200 W kg	27	18	7	6	
		400 W kg	33	22	10	8	
Max. Speed			mm/s	250	500	800	1000
Rated thrust *1	200 W	N	683	341	213	174	
	400 W	N	1388	694	433	347	
Repeatability			mm	±0.01			
Lost Motion			mm	0.1 or less			
Dynamic allowable load			N	6567			
Static Allowable Moment			N·m	MP : 552.0 MY : 551.0 MR : 485.0			
Dynamic allowable moment			N·m	MP : 262.7 MY : 262.7 MR : 261.0			
Operating ambient temperature, humidity			0 to 40°C (no freezing) 35 to 80% RH (no condensation)				
Storage Ambient Temperature, Humidity			-10 to 50°C (No freezing) 35 to 80% RH (no condensation)				
Atmosphere			No corrosive gas, explosive gas, or dust				

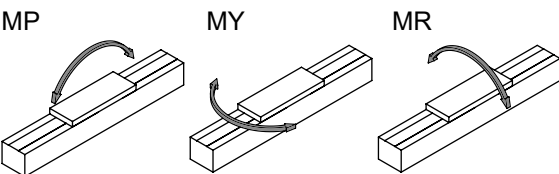
*1 Rated thrust and maximum payload are guideline values, assuming that the motor mounted will output the rated torque.

Stroke and Max. Speed						
						(mm/s)
Stroke Screw Lead	100 to 750	800	850	900	950	1050
5	250	225	200	175	150	125
10	500	450	400	350	300	250
16	800	720	640	560	480	400
20	1000	900	800	700	600	500

* The max. speed is the speed when the motor mounted by the customer can output a rotation speed of 3000 rpm.

Allowable Overhang Length						
* Refer to P. 158 for details.						

Moment Direction

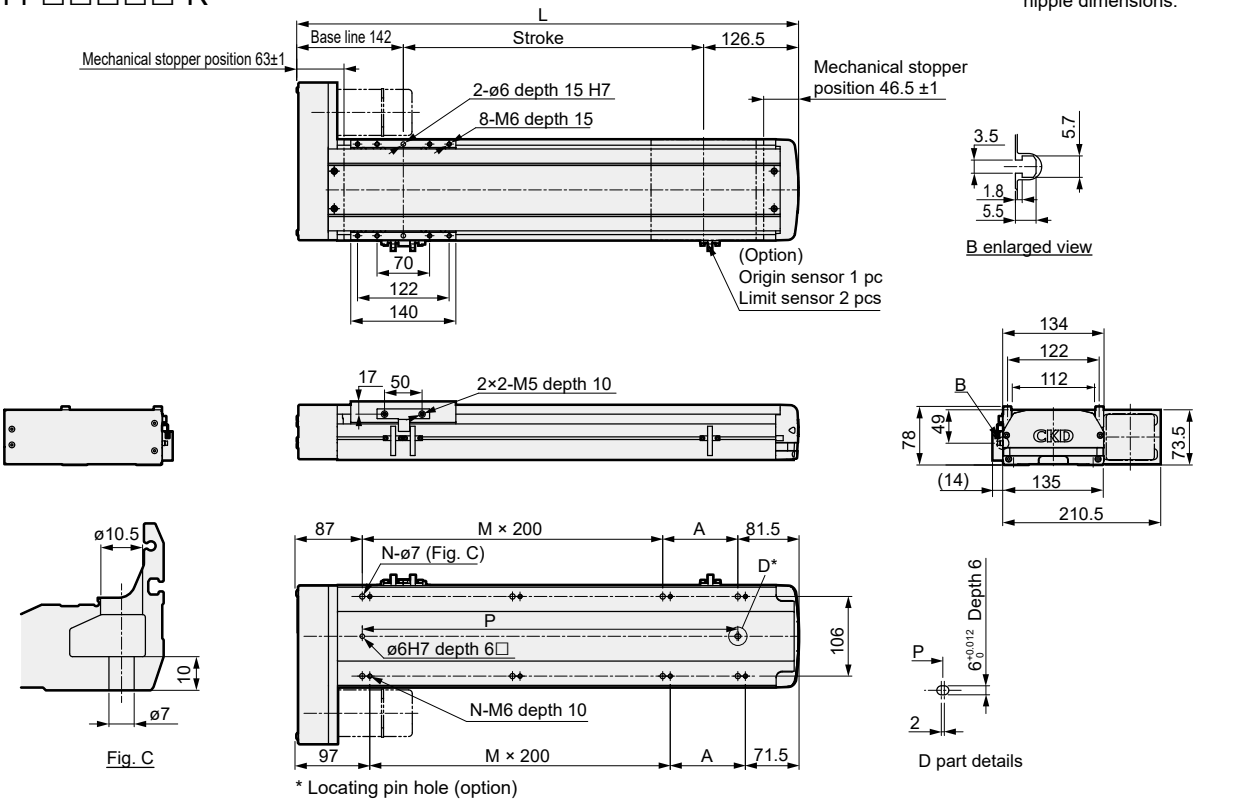


ETS-14 Series

Dimensions / List of attachments

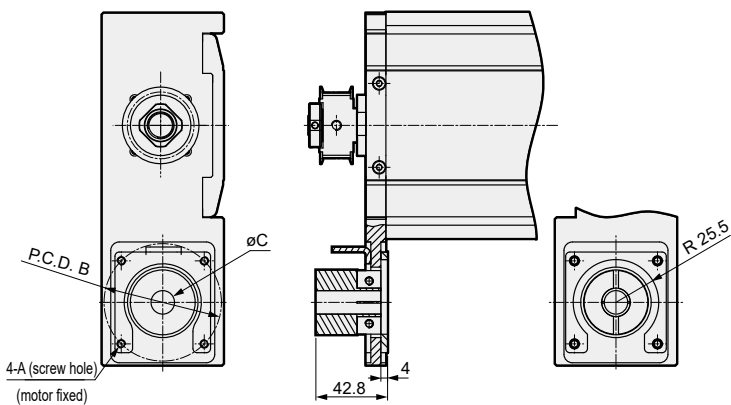
External Dimension Drawing Motor Right Side Fold-back Mounting

● ETS-14-□□□□□-R



Stroke (mm)	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050
L	318.5	368.5	418.5	468.5	518.5	568.5	618.5	668.5	718.5	768.5	818.5	868.5	918.5	968.5	1018.5	1068.5	1118.5	1168.5	1218.5	1268.5	1318.5
A	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150
M	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5
N	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14
P	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150
Weight (kg)	6.9	7.5	7.9	8.4	8.9	9.4	9.9	10.3	10.9	11.3	11.9	12.3	12.8	13.3	13.8	14.3	14.8	15.3	15.8	16.2	16.8

Motor Mounting Part



Mounting Motor Specification		A	B	C	Motor mounting bolts
M	200W / 400W	M5	ø70	ø14	4-M5 x L18
Y	200W / 400W	M5	ø70	ø14	4-M5 x L18
P	200W / 400W	M4	ø70	ø11/ø14	4-M4 x L18
F	200W / 400W	M5	ø70	ø9/ø14	4-M5 x L18

List of Accessories

[Motor Mounting Parts]

Mounting Motor Specification	Timing belt, pulley	Motor Capacity	Motor mounting bolts	
			Size	Quantity
M	Shipped included	200 W/400 W	M5	4
Y			M5	4
P			M4	4
F			M5	4

[Home Sensor / Limit Sensor]

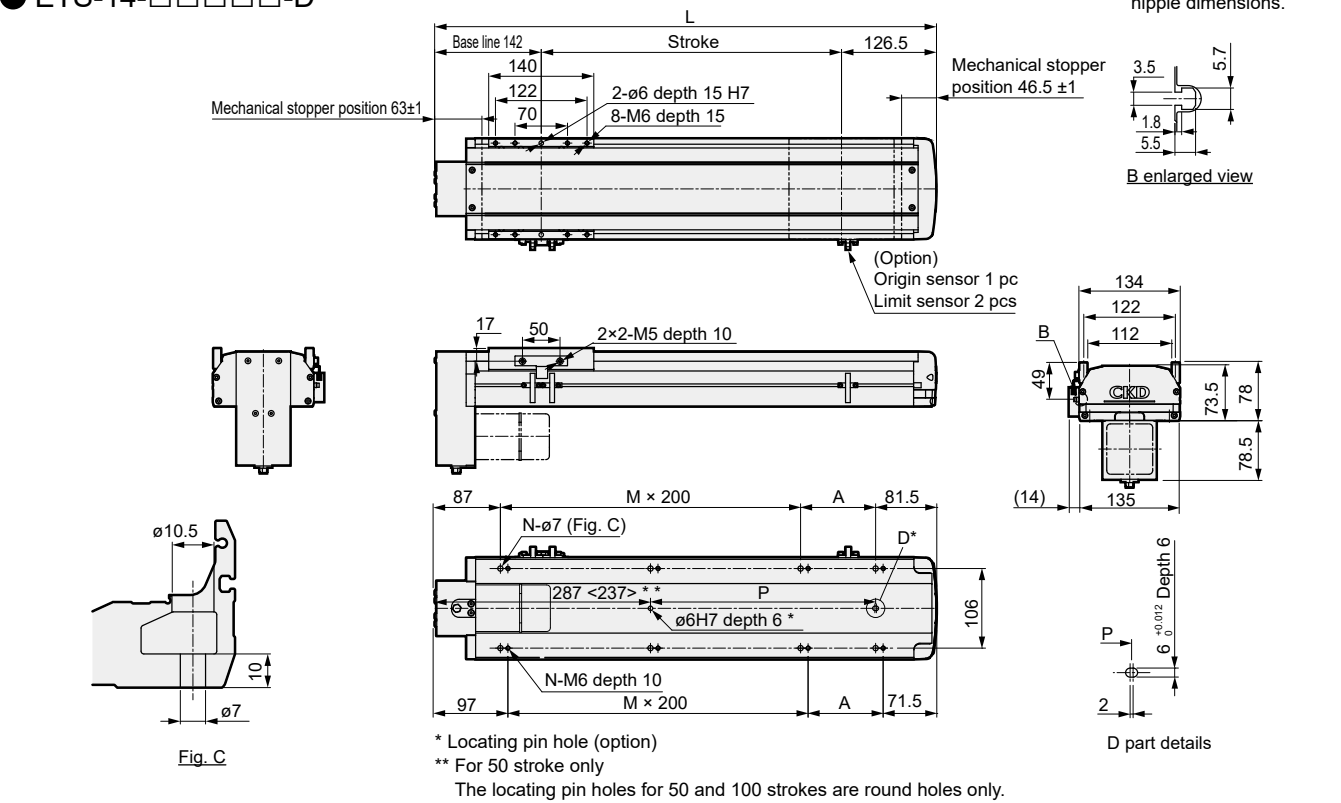
Manufacturer	Model	Quantity
OMRON	EE-SX672	3

* For sensor specifications, please refer to P. 162.

External Dimension Drawing Motor Bottom Side Fold-back Mounting

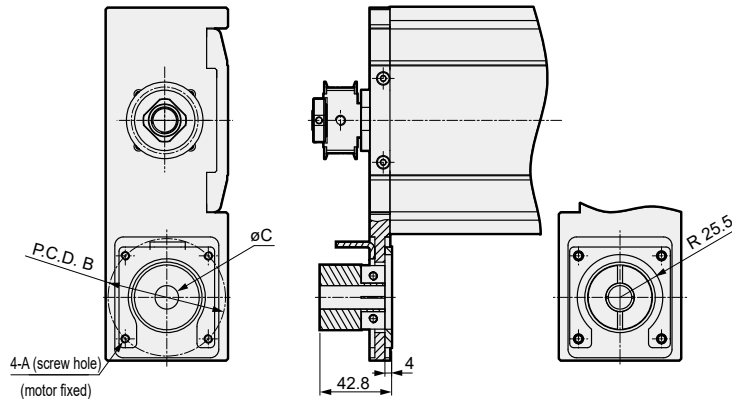
● ETS-14-□□□□□-D

● Refer to P. 164 for grease nipple dimensions.



Stroke (mm)	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050
L	318.5	368.5	418.5	468.5	518.5	568.5	618.5	668.5	718.5	768.5	818.5	868.5	918.5	968.5	1018.5	1068.5	1118.5	1168.5	1218.5	1268.5	1318.5
A	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150
M	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5
N	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14
P	0	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
Weight (kg)	6.9	7.5	7.9	8.4	8.9	9.4	9.9	10.3	10.9	11.3	11.9	12.3	12.8	13.3	13.8	14.3	14.8	15.3	15.8	16.2	16.8

Motor Mounting Part



Mounting Motor Specification		A	B	C	Motor mounting bolts
M	200W / 400W	M5	ø70	ø14	4-M5 x L18
Y	200W / 400W	M5	ø70	ø14	4-M5 x L18
P	200W / 400W	M4	ø70	ø11/ø14	4-M4 x L18
F	200W / 400W	M5	ø70	ø9/ø14	4-M5 x L18

List of Accessories

[Motor Mounting Parts]

Mounting Motor Specification	Timing belt, pulley	Motor Capacity	Motor mounting bolts	
			Size	Quantity
M	Shipped included	200 W/400 W	M5	4
Y			M5	4
P			M4	4
F			M5	4

[Home Sensor / Limit Sensor]

Manufacturer	Model	Quantity
OMRON	EE-SX672	3

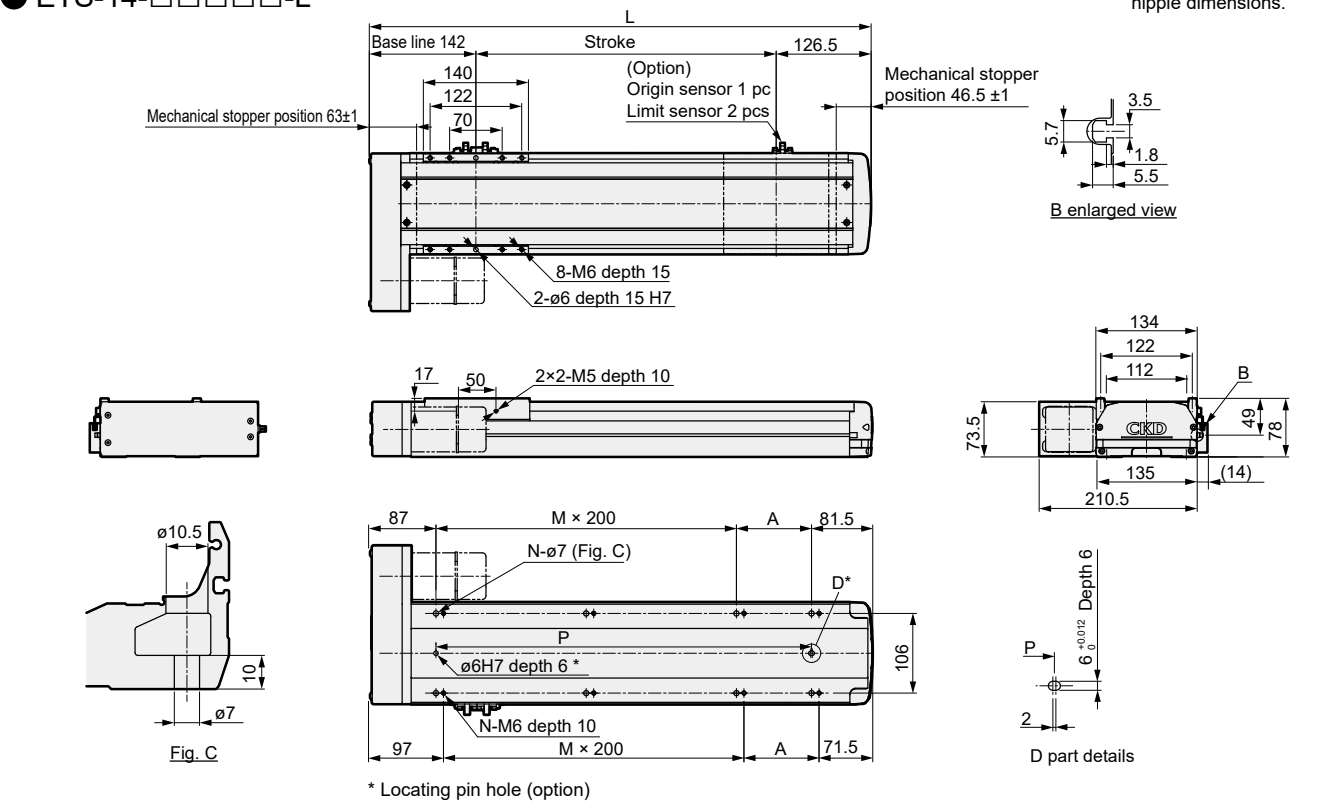
* For sensor specifications, please refer to P. 162.

Dimensions / List of attachments

External Dimension Drawing Motor Left Side Fold-back Mounting

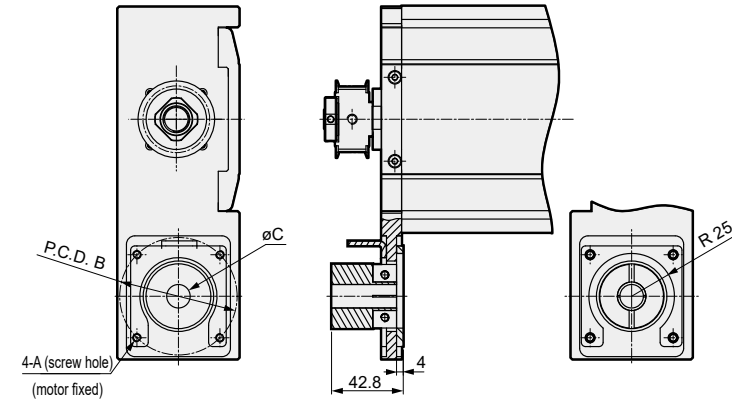
● ETS-14-□□□□□-L

● Refer to P. 164 for grease nipple dimensions.



Stroke (mm)	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050
L	318.5	368.5	418.5	468.5	518.5	568.5	618.5	668.5	718.5	768.5	818.5	868.5	918.5	968.5	1018.5	1068.5	1118.5	1168.5	1218.5	1268.5	1318.5
A	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150
M	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5
N	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14
P	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150
Weight (kg)	6.9	7.5	7.9	8.4	8.9	9.4	9.9	10.3	10.9	11.3	11.9	12.3	12.8	13.3	13.8	14.3	14.8	15.3	15.8	16.2	16.8

Motor Mounting Part



Mounting Motor Specification		A	B	C	Motor mounting bolts
M	200W / 400W	M5	ø70	ø14	4-M5 x L18
Y	200W / 400W	M5	ø70	ø14	4-M5 x L18
P	200W / 400W	M4	ø70	ø11/ø14	4-M4 x L18
F	200W / 400W	M5	ø70	ø9/ø14	4-M5 x L18

List of Accessories

[Motor Mounting Parts]

Mounting Motor Specification	Timing belt, pulley	Motor Capacity	Motor mounting bolts	
			Size	Quantity
M	Shipped included	200 W/400 W	M5	4
Y			M5	4
P			M4	4
F			M5	4

[Home Sensor / Limit Sensor]

Manufacturer	Model	Quantity
OMRON	EE-SX672	3

* For sensor specifications, please refer to P. 162.



Electric Actuator Ball Screw Drive Slider Type

ETS-17 Series

Motor Straight, Built-in Mounting Type

● Servo Motor Capacity: 400 W / 750 W

Model No. Notation Method

ETS

17

05

005

E

M

4

N

N

N

N

N

X

1

2

3

4

5

6

7

8

9

10

11

12

1 Body Size

17 Body width 170 mm

2 Screw Lead

05 5 mm

10 10 mm

20 20 mm

40 40 mm

3 Stroke

005 to 125 100 mm (every 50 mm) 1250 mm

4 Motor mounting direction

E Straight Mounting

B Built-in Mounting

5 Mounting Motor Specifications

M Select the mounting motor specification from the table below.

Y

P

F

6 Motor Capacity

4 400 W

8 750 W

7 Brake

N None

B Yes

8 Origin sensor (1 pc)

N None

A Inside, motor side

B Inside, opposite motor side

C Outside, motor side

D Outside, opposite motor side

9 Limit sensor (2 pcs)

N None

A Inside

B Outside

10 Grease nipple

N None (Body mounting direction: Standard)

R Right direction

L Left direction

11 Positioning pin hole

N None

P Yes

12 Metal stopper specifications (ETS-X)

Standard

X Adopted

Manufacturer	400 W	750 W
Mitsubishi Electric Corporation	M	M
Delta Electronics, Inc.	M	M
Sanyo Denki Co., Ltd.	M	-
Yaskawa Electric Corporation	Y	Y
Keyence Corporation	Y	Y
Panasonic Corporation	P	P
OMRON Corporation	P	P
Fuji Electric Co., Ltd.	M	M
FANUC CORPORATION	F	F
DENSO WAVE INCORPORATED (ETS-X only)	M	-
Bosch Rexroth AG	P	P
Rockwell Automation, Inc.	M	M
SIEMENS AG	M	M

*1 Also for the metal stopper specification, "built-in mounting" cannot be selected.
*2 "Yes" can only be selected when "Built-in mounting" is chosen for the motor mounting direction.
*3 The home sensor and limit sensor are a set. If either is "None," please select "None" for the other as well.
*4 If the sensor is mounted on the inside, the position cannot be adjusted by the customer. (Shipped Included)
If the sensor is mounted on the outside, the position can be adjusted by the customer. (Shipped included)
*5 If you wish to use the home sensor, limit sensor, and grease nipple in the same direction, please contact us.
*6 Here, "Body mounting direction: Standard means that it can be mounted from either the top or bottom side.
* Refer to P. 123 for motor model No.

Specifications

Applicable Motor Capacity			400 W/750 W Servo Motor			
Drive Method			Ball Screw ø20			
Ball Screw Accuracy Grade			C7			
Stroke		mm	50 to 1250			
Screw lead		mm	5	10	20	40
Max. Payload *1	Horizontal	400 W kg	120	110	75	35
		750 W kg	120	120	83	50
	Vertical	400 W kg	40	30	14	7
		750 W kg	50	40	25	10
Max. Speed		mm/s	250	500	1000	2000
Rated thrust *1	400 W	N	1388	694	347	174
	750 W	N	2100	1050	525	260
Repeatability		mm	±0.01			
Lost motion			0.1 or less			
Dynamic allowable load		N	10102			
Static Allowable Moment		N·m	MP : 1034.0 MY : 1032.0 MR : 908.0			
Dynamic allowable moment		N·m	MP : 424.3 MY : 424.3 MR : 520.3			
Operating ambient temperature, humidity			0 to 40°C (no freezing) 35 to 80% RH (no condensation)			
Storage Ambient Temperature, Humidity			-10 to 50°C (No freezing) 35 to 80% RH (no condensation)			
Atmosphere			No corrosive gas, explosive gas, or dust			

*1 Rated thrust and maximum payload are guideline values, assuming that the motor mounted will output the rated torque.

Stroke and Max. Speed

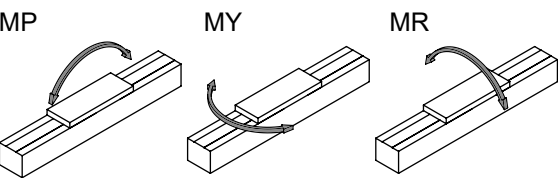
Stroke Screw Lead	(mm/s)					
	100 to 850	950	1050	1150	1250	
5	250	225	200	175	150	
10	500	450	400	350	300	
20	1000	900	800	700	600	
40	2000	1800	1600	1400	1200	

* The max. speed is the speed when the motor mounted by the customer can output a rotation speed of 3000 rpm.

Allowable Overhang Length

* Refer to P. 158 for details.

Moment Direction

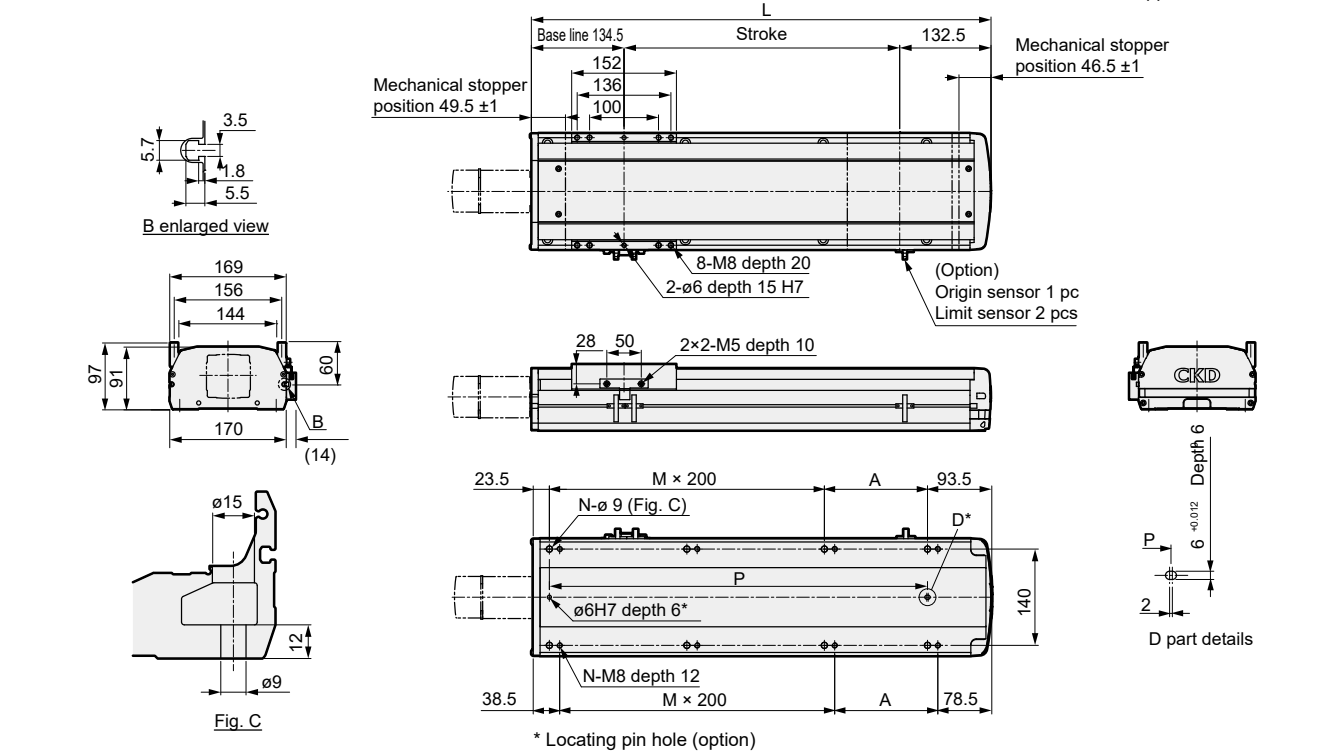


ETS-17 Series

Dimensions / List of attachments

External Dimension Drawing Motor Straight Mounting

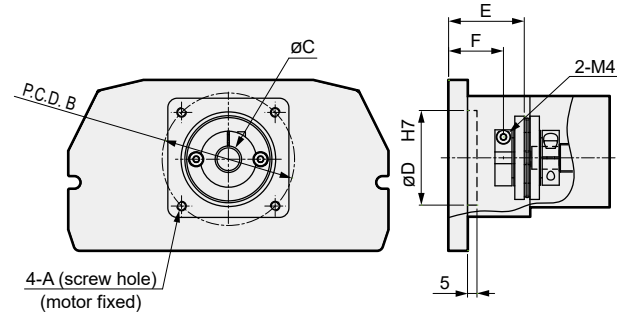
● ETS-17-□□□□□-E



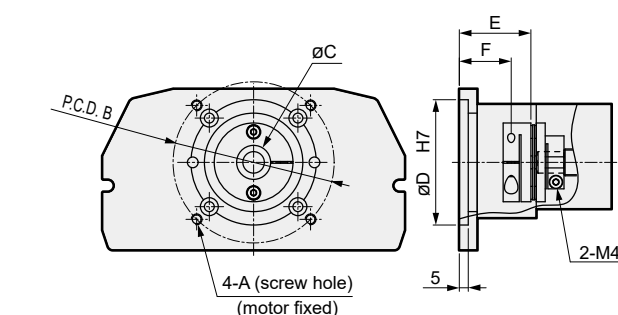
Stroke (mm)	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250
L	317	367	417	467	517	567	617	667	717	767	817	867	917	967	1017	1067	1117	1167	1217	1267	1317	1367	1417	1467	1517
A	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200
M	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	5	6	6	6
N	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16
P	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400
Weight (kg)	9.5	10.3	11.1	11.9	12.7	13.4	14.2	15.0	15.8	16.5	17.3	18.1	18.9	19.6	20.4	21.2	22.0	22.7	23.5	24.3	25.1	25.9	26.7	27.5	28.3

Motor Mounting Part

● ETS-17-400W



● ETS-17-750W



Mounting Motor Specification		A	B	C	D	E	F	Motor mounting bolts
M	400W/750W	M5/M6	$\phi 70/\phi 90$	$\phi 14/\phi 19$	50/70	40	29	4-M5 x L18/4-M6 x L16
Y	400W/750W	M5/M6	$\phi 70/\phi 90$	$\phi 14/\phi 19$	50/70	40	29	4-M5 x L18/4-M6 x L16
P	400W/750W	M4/M5	$\phi 70/\phi 90$	$\phi 14/\phi 19$	50/70	40	29	4-M4 x L18/4-M5 x L16
F	400W/750W	M5/M6	$\phi 70/\phi 100$	$\phi 14/\phi 14$	50/80	40/26	29/15	4-M5 x L18/4-M6 x L16

List of Accessories

[Motor Mounting Parts]

Mounting Motor Specification	Coupling	Motor Capacity	Motor mounting bolts Size	Quantity
M	Shipped Included	400W/750W	M5/M6	4
Y			M5/M6	4
P			M4/M5	4
F			M5/M6	4

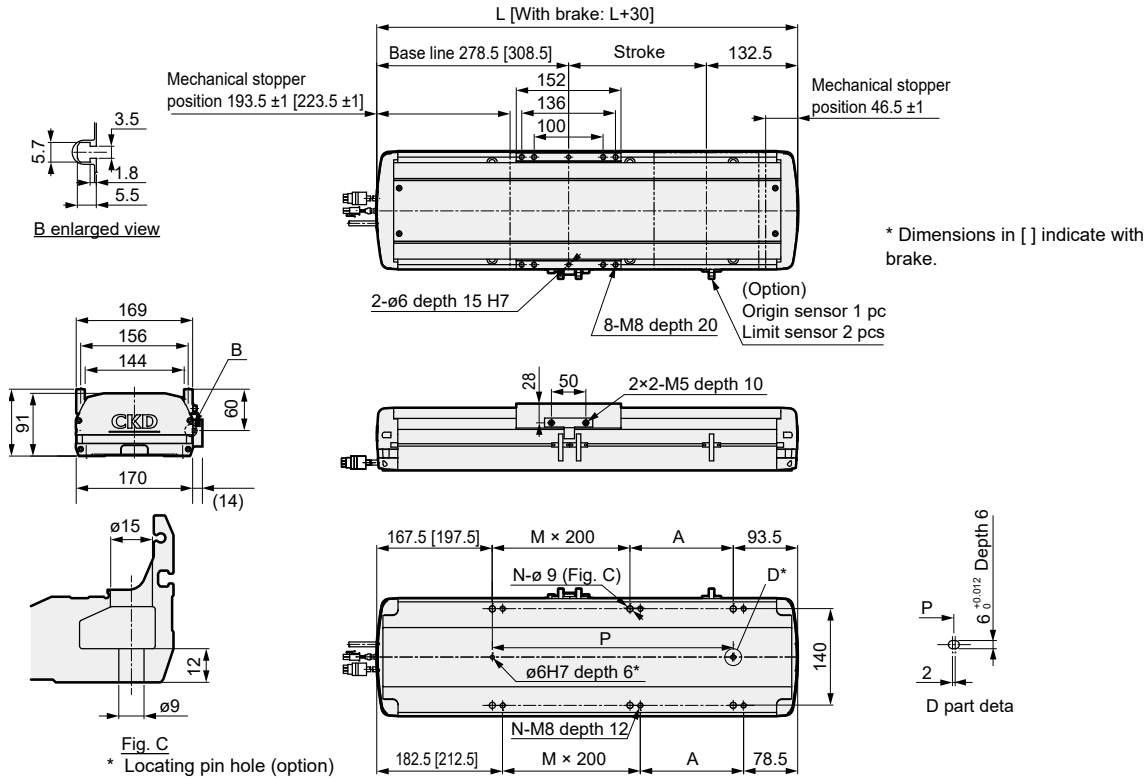
[Home Sensor / Limit Sensor]

Manufacturer	Model	Quantity
OMRON	EE-SX672	3

* For sensor specifications, please refer to P. 162.

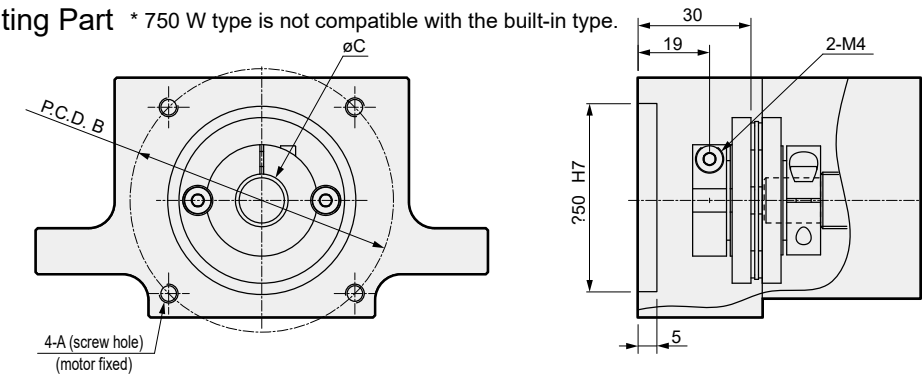
External Dimension Drawing Motor Built-in Mounting

● ETS-17-□□□□□-B * 750 W type is not compatible with the built-in type. ● Refer to P. 164 for grease nipple dimensions.



Stroke (mm)	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250
L	461	511	561	611	661	711	761	811	861	911	961	1011	1061	1111	1161	1211	1261	1311	1361	1411	1461	1511	1561	1611	1661
A	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200
M	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6	6
N	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16
P	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400
Weight (kg)	12.9	14.3	15.7	17.1	18.6	20.0	21.4	22.8	24.2	25.6	27.0	28.4	29.8	31.2	32.6	34.0	35.4	36.8	38.2	39.6	41.0	42.4	43.8	45.2	46.6
(kg)	13.8	15.2	16.6	18.0	19.4	20.8	22.2	23.6	25.0	26.4	27.8	29.2	30.6	32.0	33.4	34.8	36.2	37.6	39.0	40.4	41.8	43.2	44.7	46.1	47.5

Motor Mounting Part * 750 W type is not compatible with the built-in type.



Mounting Motor Specification		A	B	C	Motor mounting bolts
M	400 W	M5	ø70	ø14	4-M5 x L18
Y	400 W	M5	ø70	ø14	4-M5 x L18
P	400 W	M4	ø70	ø14	4-M4 x L18

List of Accessories

[Motor Mounting Parts]

Mounting Motor Specification	Coupling	Motor Capacity	Motor mounting bolts	
			Size	Quantity
M	Shipped Included	400 W	M5	4
Y			M5	4
P			M4	4

[Home Sensor / Limit Sensor]

Manufacturer	Model	Quantity
OMRON	EE-SX672	3

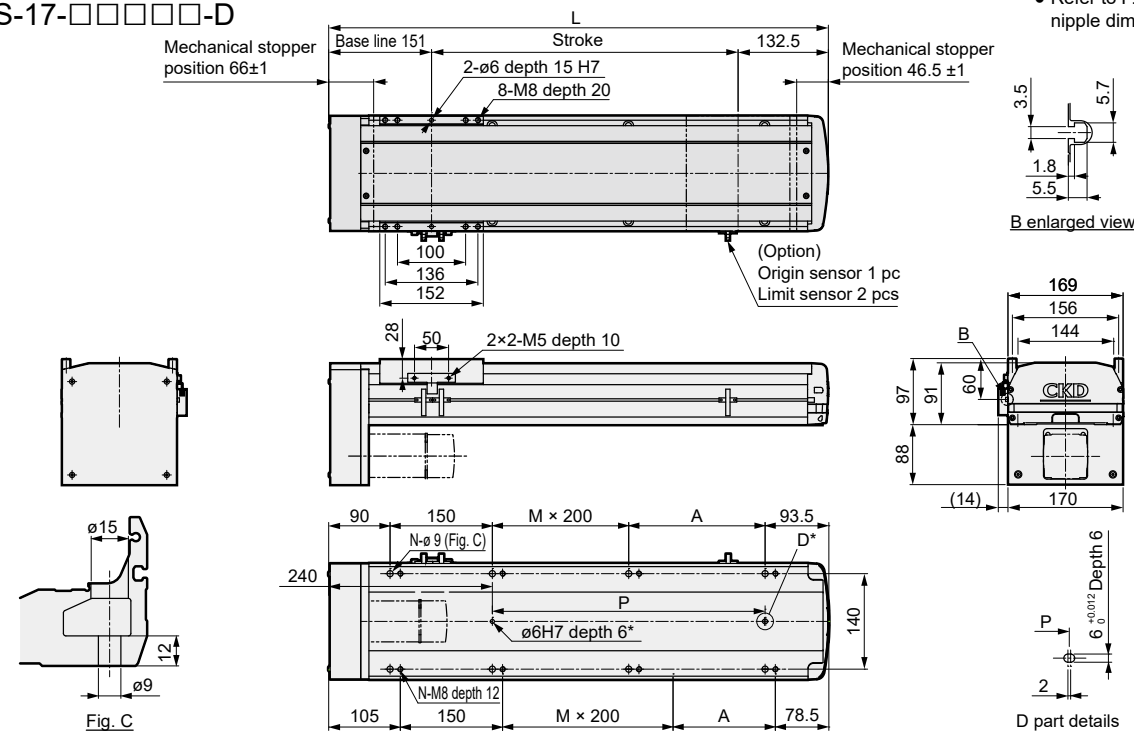
* For sensor specifications, please refer to P. 162.

MEMO

External Dimension Drawing Motor Bottom Side Fold-back Mounting

● ETS-17-□□□□□-D

- Refer to P. 164 for grease nipple dimensions.



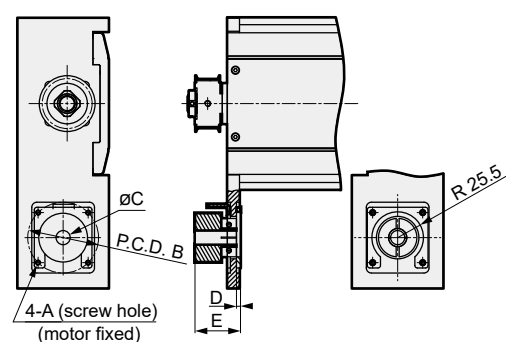
* Locating pin hole (option)

The locating pin hole for 50 stroke

Stroke (mm)	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250
L	333.5	383.5	433.5	483.5	533.5	583.5	633.5	683.5	733.5	783.5	833.5	883.5	933.5	983.5	1033.5	1083.5	1133.5	1183.5	1233.5	1283.5	1333.5	1383.5	1433.5	1483.5	1533.5
A	0	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200
M	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5
N	4	6	6	6	6	8	8	8	8	10	10	10	12	12	12	12	12	14	14	14	14	16	16	16	16
P (kg)	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200
Weight (kg)	11.1	11.9	12.7	13.5	14.3	15.0	15.8	16.6	17.4	18.1	18.9	19.7	20.5	21.2	22.0	22.8	23.6	24.3	25.1	25.9	26.7	27.5	28.3	29.1	29.9

Motor Mounting Part

● ETS-17-400W



Mounting Motor Specification		A	B	C	D	E	Motor mounting bolts
M	400W / 750W	M5/M6	ø70/ø90	ø14/ø19	4/5	45/46	4-M5 x L18/4-M6 x L24
Y	400W / 750W	M5/M6	ø70/ø90	ø14/ø19	4/5	45/46	4-M5 x L18/4-M6 x L24
P	400W / 750W	M4/M5	ø70/ø90	ø14/ø19	4/5	45/46	4-M4 x L18/4-M5 x L24
F	400W / 750W	M5/M6	ø70/ø100	ø14/ø14	4/7	45/48	4-M5 x L18/4-M6 x L25

List of Accessories

[Motor Mounting Parts]

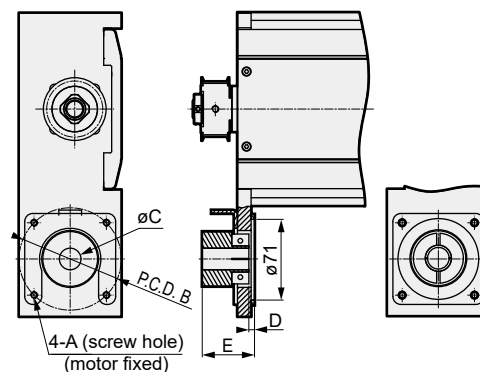
Mounting Motor Specification	Timing belt, pulley	Motor Capacity	Motor mounting bolts	
			Size	Quantity
M	Shipped included	400W/750W	M5/M6	4
Y			M5/M6	4
P			M4/M5	4
F			M5/M6	4

[Home Sensor / Limit Sensor]

Manufacturer	Model	Quantity
OMRON	EE-SX672	3

* For sensor specifications, please refer to P. 162.

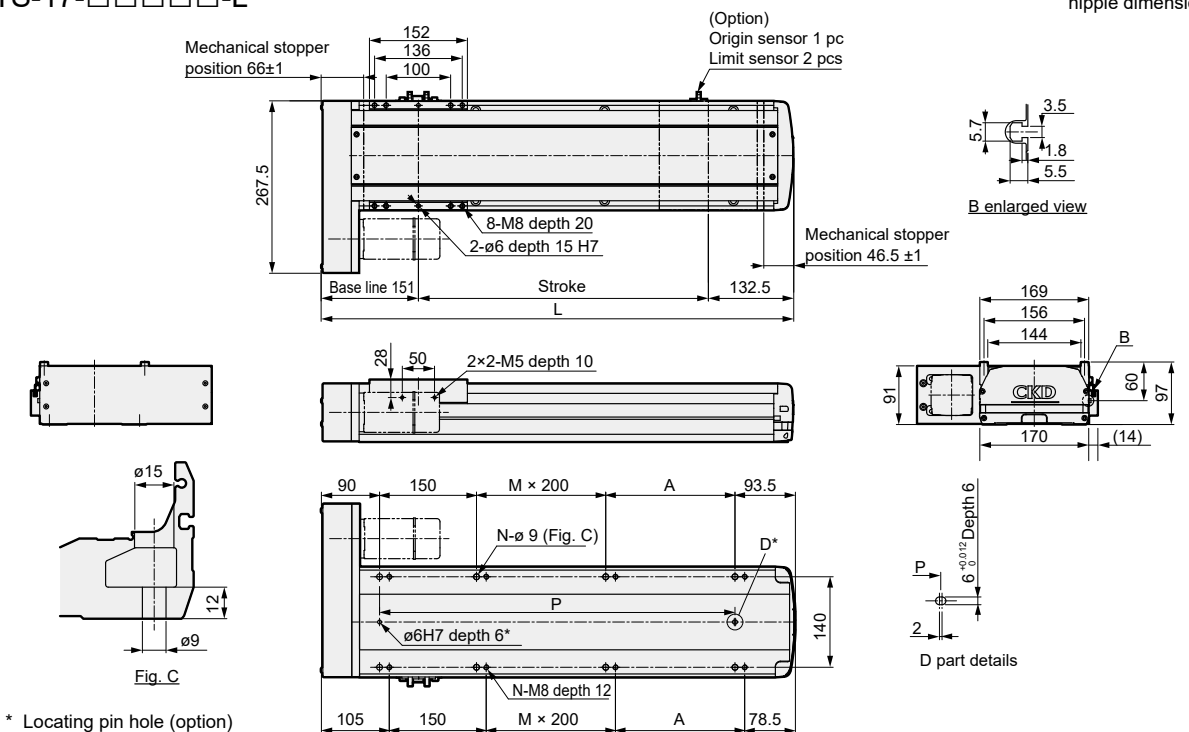
● ETS-17-750W



External Dimension Drawing Motor Left Side Fold-back Mounting

● ETS-17-□□□□□-L

- Refer to P. 164 for grease nipple dimensions.

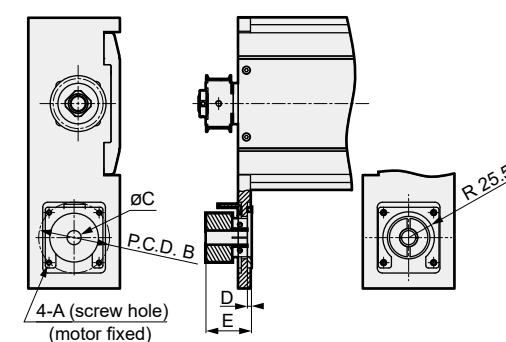


* Locating pin hole (option)

Stroke (mm)	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250
L	333.5	383.5	433.5	483.5	533.5	583.5	633.5	683.5	733.5	783.5	833.5	883.5	933.5	983.5	1033.5	1083.5	1133.5	1183.5	1233.5	1283.5	1333.5	1383.5	1433.5	1483.5	1533.5
A	0	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200
M	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5
N	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16
P	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350
Weight (kg)	10.8	11.6	12.4	13.2	14.0	14.7	15.5	16.3	17.1	17.8	18.6	19.4	20.2	20.9	21.7	22.5	23.3	24.0	24.8	25.6	26.4	27.2	28.0	28.8	29.6

Motor Mounting Part

● ETS-17-400W



Mounting Motor Specification		A	B	C	D	E	Motor mounting bolts
M	400W / 750W	M5/M6	ø70/ø90	ø14/ø19	4/5	45/46	4-M5 x L18/4-M6 x L24
Y	400W / 750W	M5/M6	ø70/ø90	ø14/ø19	4/5	45/46	4-M5 x L18/4-M6 x L24
P	400W / 750W	M4/M5	ø70/ø90	ø14/ø19	4/5	45/46	4-M4 x L18/4-M5 x L24
F	400W / 750W	M5/M6	ø70/ø100	ø14/ø14	4/7	45/48	4-M5 x L18/4-M6 x L25

List of Accessories

[Motor Mounting Parts]

Mounting Motor Specification	Timing belt, pulley	Motor Capacity	Motor mounting bolts	
			Size	Quantity
M	Shipped included	400W/750W	M5/M6	4
Y			M5/M6	4
P			M4/M5	4
F			M5/M6	4

[Home Sensor / Limit Sensor]

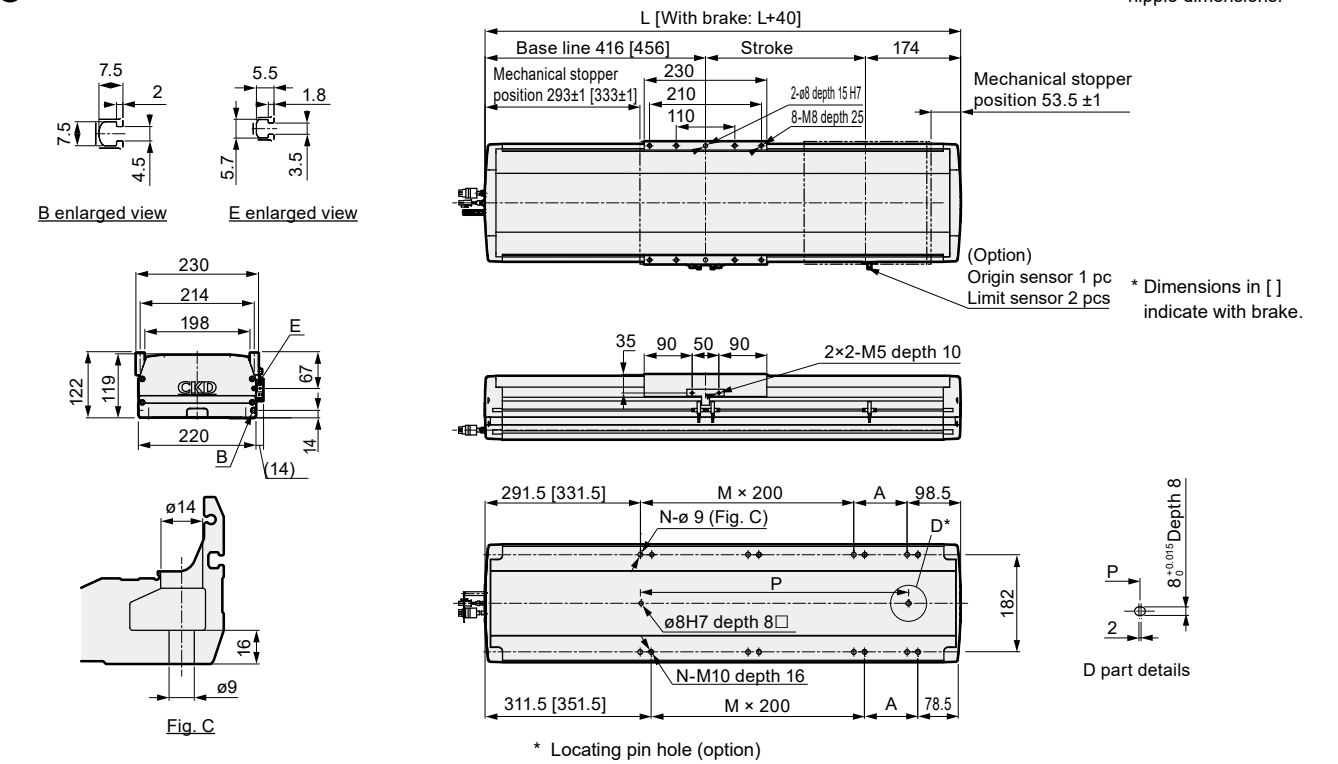
Manufacturer	Model	Quantity
OMRON	EE-SX672	3

* For sensor specifications, please refer to P. 162.

External Dimension Drawing Motor Built-in Mounting

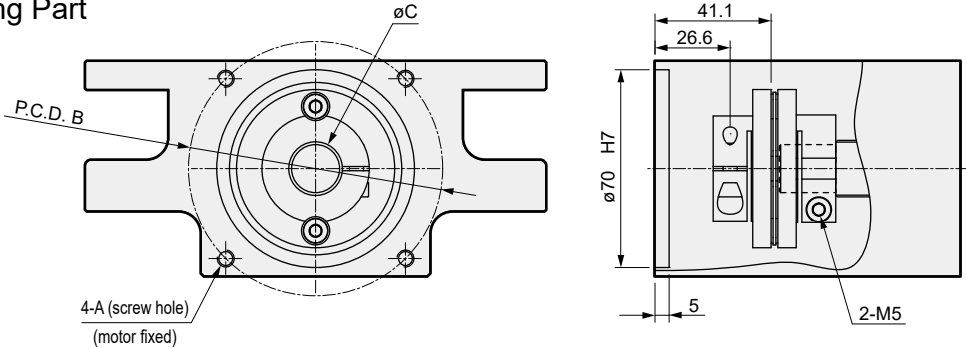
● ETS-22-□□□□□-B

• Refer to P. 164 for grease nipple dimensions.



Stroke (mm)	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500
L	640	690	740	790	840	890	940	990	1040	1090	1140	1190	1240	1290	1340	1390	1440	1490	1540	1590	1640	1690	1740	1790	1840	1890	1940	1990	2040	2090
A	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100
M	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6	6	7	7	7	7	8	8
N	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18	18	18	20	20
P	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700
Weight (kg)	w/o brake																													
	26.1	28.1	30.2	32.2	34.2	36.3	38.3	40.4	42.4	44.4	46.5	48.5	50.6	52.6	54.6	56.7	58.7	60.7	62.8	64.8	66.9	68.9	70.9	73.0	75.0	77.1	79.1	81.1	83.2	85.2
	With Brake																													
	27.4	29.4	31.4	33.4	35.5	37.5	39.5	41.6	43.6	45.7	47.7	49.7	51.8	53.8	55.9	57.9	59.9	62.0	64.0	66.0	68.1	70.1	72.2	74.2	76.2	78.3	80.3	82.4	84.4	86.4

Motor Mounting Part



Mounting Motor Specification	A	B	C	Motor mounting bolts
M 750 W	M6	ø90	ø19	4-M6 x L16
Y 750 W	M6	ø90	ø19	4-M6 x L16
P 750 W	M5	ø90	ø19	4-M5 x L16

List of Accessories

[Motor Mounting Parts]

Mounting Motor Specification	Coupling	Motor Capacity	Motor mounting bolts	
			Size	Quantity
M	Shipped Included	750 W	M6	4
Y			M6	4
P			M5	4

[Home Sensor / Limit Sensor]

Manufacturer	Model	Quantity
OMRON	EE-SX672	3

* For sensor specifications, please refer to P. 162.

MEMO



Electric Actuator Ball Screw Drive Slider Type

ETS-22 Series

Motor Fold-back Mounting Type

- Servo Motor Capacity : 750 W

Model No. Notation Method

1 Body Size

22	Body width 220 mm
----	-------------------

2 Screw Lead

05	5 mm
10	10 mm
25	25 mm
40	40 mm

3 Stroke

005	100 mm to every 50 mm
150	1500 mm

4 Motor mounting direction^{*5}

R	Right Side Return Mount
D	Bottom Side Return Mount
L	Left Side Fold-back Mounting

5 Mounting Motor Specifications

M	Select the mounting motor specification from the table below.
Y	
P	
F	

6 Motor Capacity

8	750 W
---	-------

7 Brake

N	None
---	------

8 Origin sensor (1 pc)^{*1, *2, *3}

N	None
A	Inside, motor side
B	Inside, opposite motor side
C	Outside, motor side
D	Outside, opposite motor side

9 Limit sensor (2 pcs)^{*1, *2, *3}

N	None
A	Inside
B	Outside

10 Grease nipple^{*3, *4, *5}

N	None (Body mounting direction: Standard)
R	Right direction
L	Left direction

11 Positioning pin hole

N	None
P	Yes

12 Metal Stopper Specification (ETS-X)

	Standard
X	Adopted

Manufacturer 750 W

Mitsubishi Electric Corporation	M
Delta Electronics, Inc.	M
Sanyo Denki Co., Ltd.	-
Yaskawa Electric Corporation	Y
Keyence Corporation	Y
Panasonic Corporation	P
OMRON Corporation	P
Fuji Electric Co., Ltd.	M
FANUC CORPORATION	F
DENSO WAVE INCORPORATED (ETS-X only)	-
Bosch Rexroth AG	P
Rockwell Automation, Inc.	M
SIEMENS AG	M

^{*1} The home sensor and limit sensor are a set. If either is "None," please select "None" for the other as well.
^{*2} If the sensor is mounted on the inside, the position cannot be adjusted by the customer. (Shipped Included)
 If the sensor is mounted on the outside, the position can be adjusted by the customer. (Shipped included)
^{*3} If you wish to use the home sensor, limit sensor, and grease nipple in the same direction, please contact us.
^{*4} Here, "Body mounting direction: Standard means that it can be mounted from either the top or bottom side.
^{*5} If "R" is selected for the motor mounting direction, "R" cannot be selected for the grease nipple.
 If "L" is selected, "L" cannot be selected for the grease nipple.

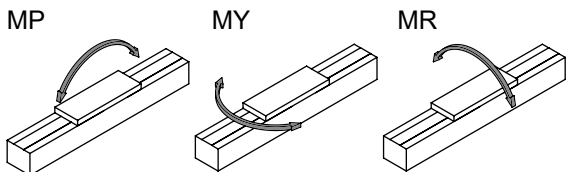
* Refer to P. 123 for motor model No.

Specifications

Applicable Motor Capacity		750 W Servo Motor			
Drive Method		Ball Screw ø25		ø20	
Ball Screw Accuracy Grade		C7			
Stroke mm		50 to 1500			
Screw lead mm		5	10	25	40
Max. payload *1	Horizontal kg	150	150	120	60
	Vertical kg	55	45	20	10
Max. Speed mm/s		250	500	1250	2000
Rated thrust *1 N		2100	1050	420	260
Repeatability mm		±0.01			
Lost Motion mm		0.1 or less			
Dynamic allowable load N		14174			
Static Allowable Moment N·m		MP : 2052.0 MY : 2052.0 MR: 1810.0			
Dynamic allowable moment N·m		MP : 1098.5 MY : 1098.5 MR : 999.3			
Operating ambient temperature, humidity		0 to 40°C (no freezing) 35 to 80% RH (no condensation)			
Storage Ambient Temperature, Humidity		-10 to 50°C (No freezing) 35 to 80% RH (no condensation)			
Atmosphere		No corrosive gas, explosive gas, or dust			

*1 Rated thrust and maximum payload are guideline values, assuming that the motor mounted will output the rated torque.

Moment Direction



Stroke and Max. Speed

Stroke Screw Lead	100 to 900	1000	1100	1200	1300	1400	1500	
5	250	225	200	175	150	125	100	
10	500	450	400	350	300	250	200	
25	1250	1125	1000	875	750	625	500	
Stroke Screw Lead	100 to 850	950	1050	1150	1250	1350	1450	1500
40	2000	1800	1600	1400	1200	1000	800	600

* The max. speed is the speed when the motor mounted by the customer can output a rotation speed of 3000 rpm.

Allowable Overhang Length

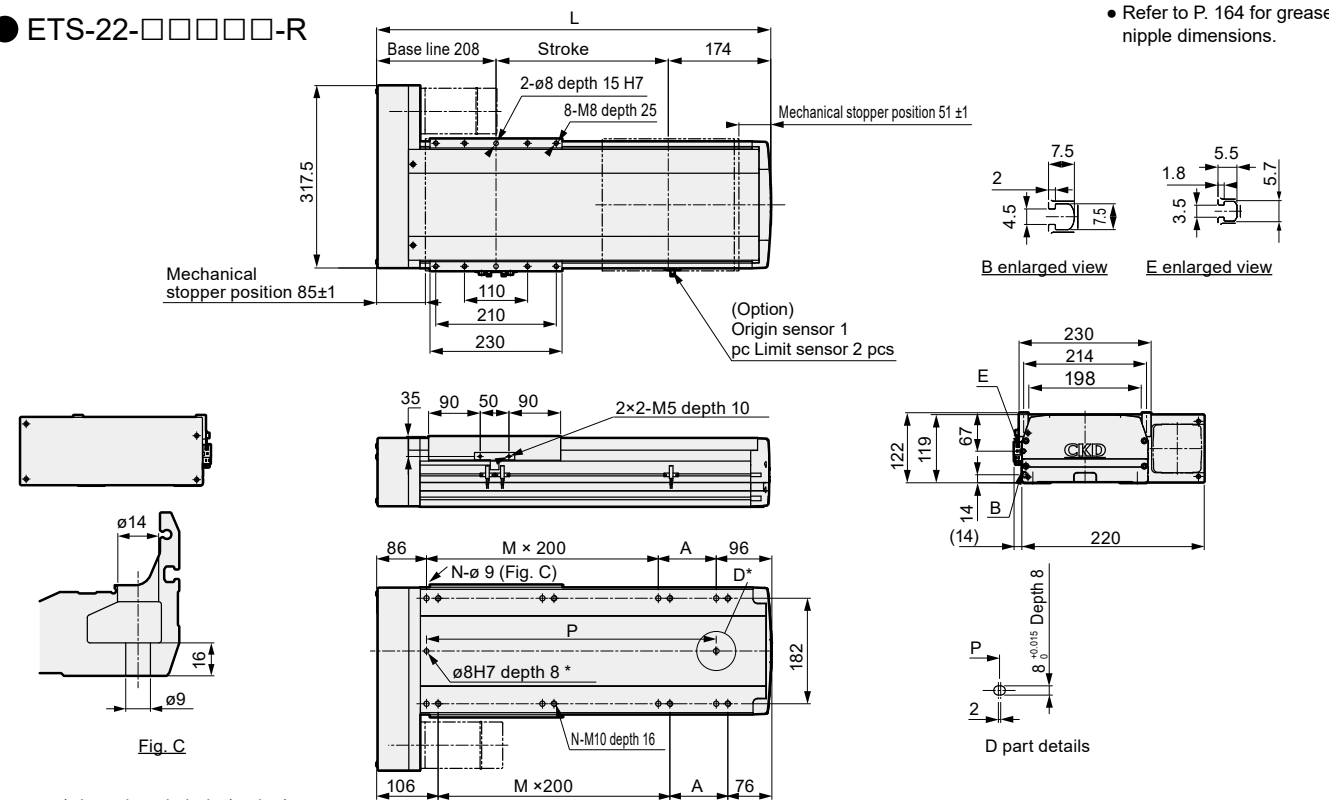
* Refer to P. 158 for details.

ETS-22 Series

Dimensions / List of attachments

External Dimension Drawing Motor Right Side Fold-back Mounting

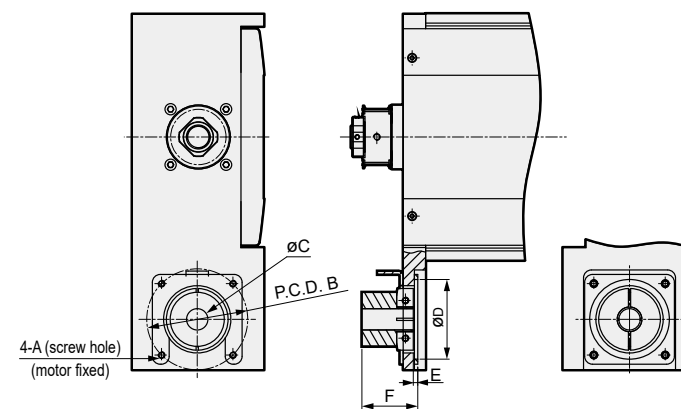
● ETS-22-□□□□□-R



* Locating pin hole (option)

Stroke (mm)	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500
L	432	482	532	582	632	682	732	782	832	882	932	982	1032	1082	1132	1182	1232	1282	1332	1382	1432	1482	1532	1582	1632	1682	1732	1782	1832	1882
A	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100
M	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6	6	7	7	7	7	8	8
N	6	6	6	6	8	8	8	8	8	8	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18	18	18	20
P	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700
Weight (kg)	22.5	23.7	24.9	26.2	27.4	28.6	29.8	31.0	32.3	33.5	34.7	35.9	37.1	38.4	39.6	40.8	42.0	43.2	44.5	45.7	46.9	48.1	49.3	50.6	51.8	53.0	54.2	55.4	56.6	57.8

Motor Mounting Part



Mounting Motor Specification		A	B	C	D	E	F	Motor mounting bolts
M	750 W	M6	ø90	ø19	ø71	4	49.8	4-M6 x L16
Y	750 W	M6	ø90	ø19	ø71	4	49.8	4-M6 x L16
P	750 W	M5	ø90	ø19	ø71	4	49.8	4-M5 x L16
F	750 W	M6	ø100	ø14	ø81	8	53.8	4-M6 x L25

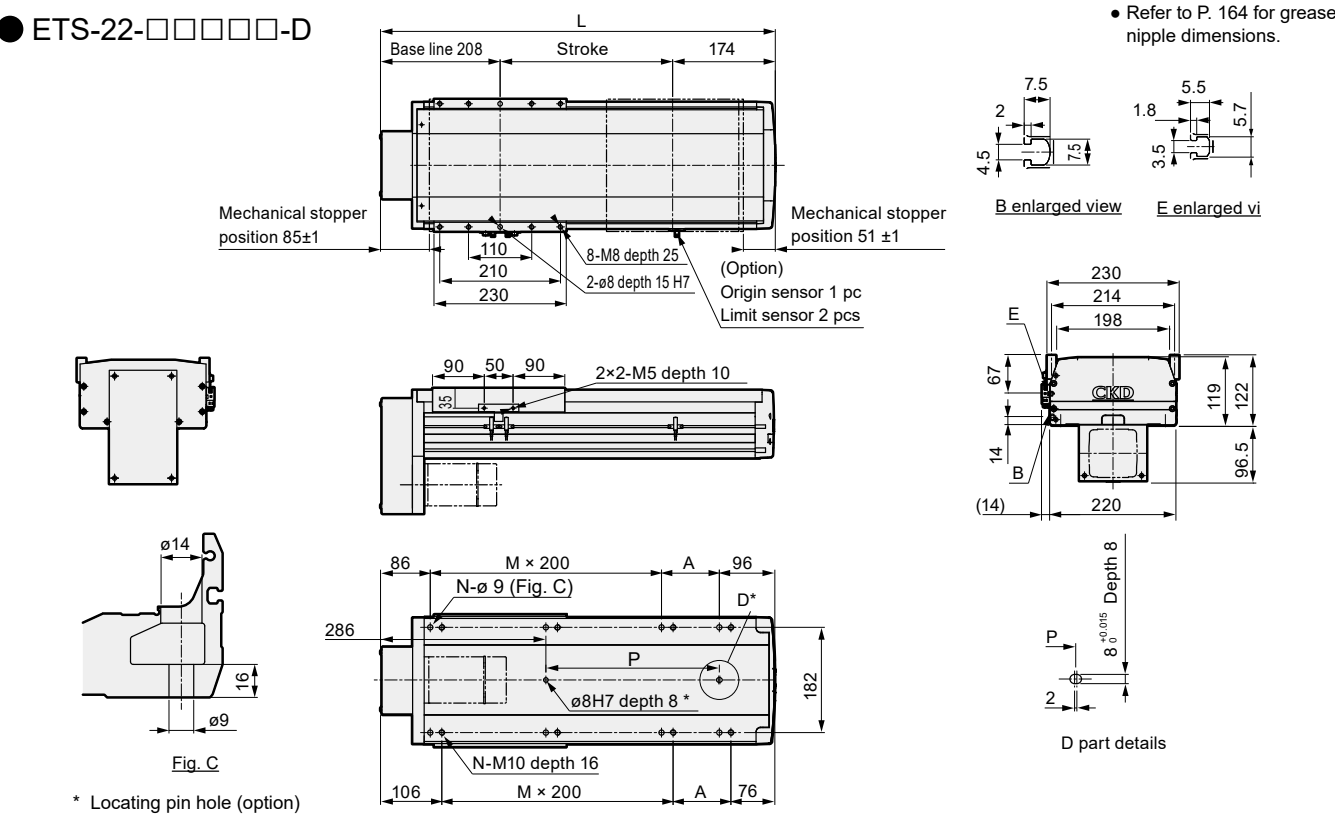
List of Accessories

[Motor Mounting Parts]				
Mounting Motor Specification	Timing belt, pulley	Motor Capacity	Motor mounting bolts	
			Size	Quantity
M	Shipped included	750 W	M6	4
Y			M6	4
P			M5	4
F			M6	4

[Home Sensor / Limit Sensor]		
Manufacturer	Model	Quantity
OMRON	EE-SX672	3

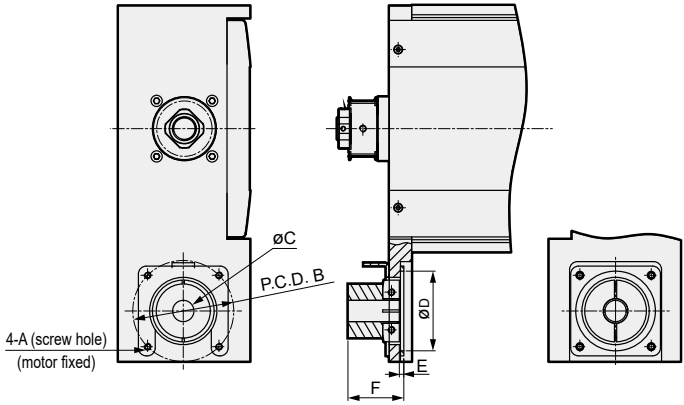
* For sensor specifications, please refer to P. 162.

External Dimension Drawing Motor Bottom Side Fold-back Mounting



Stroke (mm)	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500
L	432	482	532	582	632	682	732	782	832	882	932	982	1032	1082	1132	1182	1232	1282	1332	1382	1432	1482	1532	1582	1632	1682	1732	1782	1832	1882
A	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100
M	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6	6	7	7	7	7	8	8
N	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	14	14	14	14	16	16	16	16	16	18	18	18	18	20	20
P	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500
Weight (kg)	22.4	23.6	24.8	26.1	27.3	28.5	29.7	30.9	32.2	33.4	34.6	35.8	37.0	38.3	39.5	40.7	41.9	43.1	44.4	45.6	46.8	48.0	49.2	50.5	51.7	52.9	54.1	55.3	56.5	57.7

Motor Mounting Part



Mounting Motor Specification		A	B	C	D	E	F	Motor mounting bolts
M	750 W	M6	ø90	ø19	ø71	4	49.8	4-M6 x L16
Y	750 W	M6	ø90	ø19	ø71	4	49.8	4-M6 x L16
P	750 W	M5	ø90	ø19	ø71	4	49.8	4-M5 x L16
F	750 W	M6	ø100	ø14	ø81	8	53.8	4-M6 x L25

List of Accessories

[Motor Mounting Parts]

Mounting Motor Specification	Timing belt, pulley	Motor Capacity	Motor mounting bolts
			Size Quantity
M	Shipped included	750 W	M6 4
Y			M6 4
P			M5 4
F			M6 4

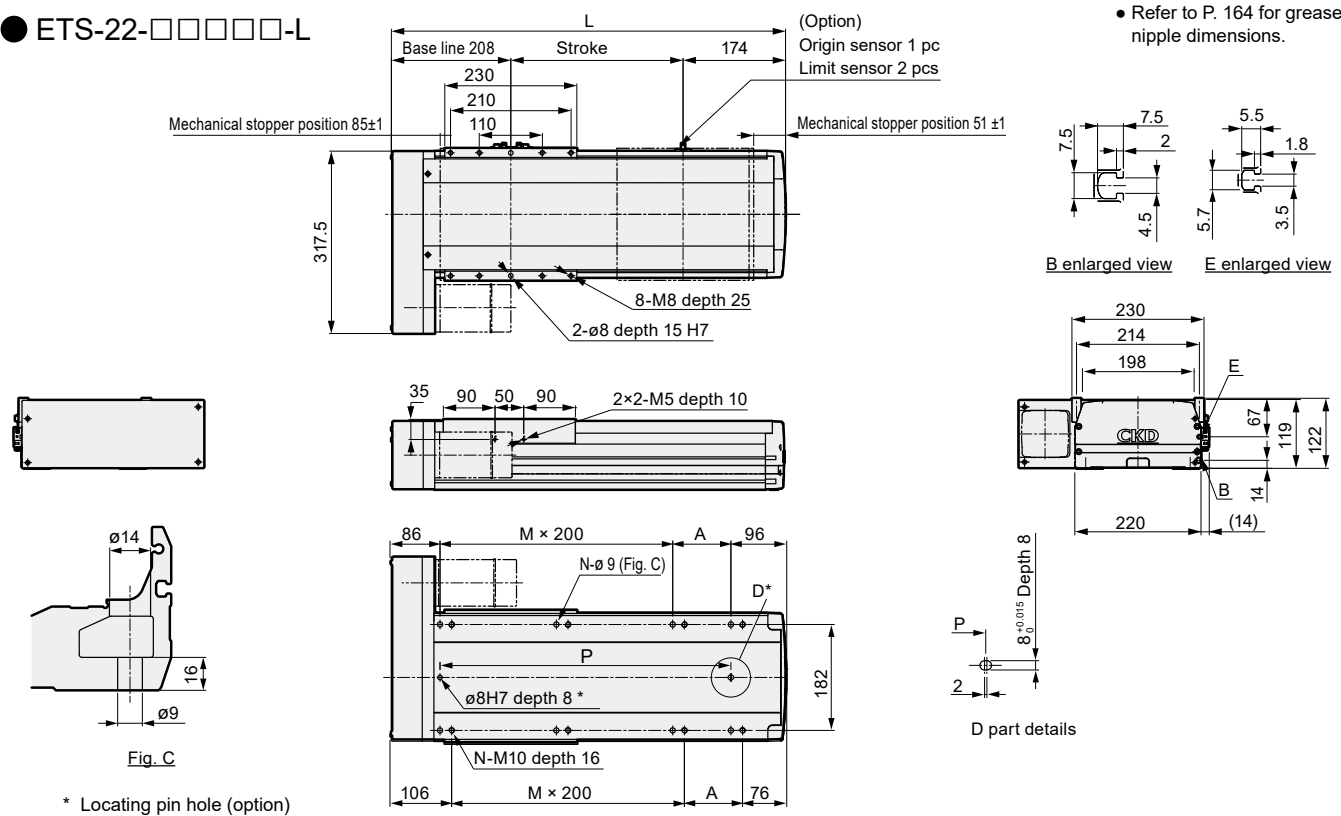
[Home Sensor / Limit Sensor]

Manufacturer	Model	Quantity
OMRON	EE-SX672	3

* For sensor specifications, please refer to P. 162.

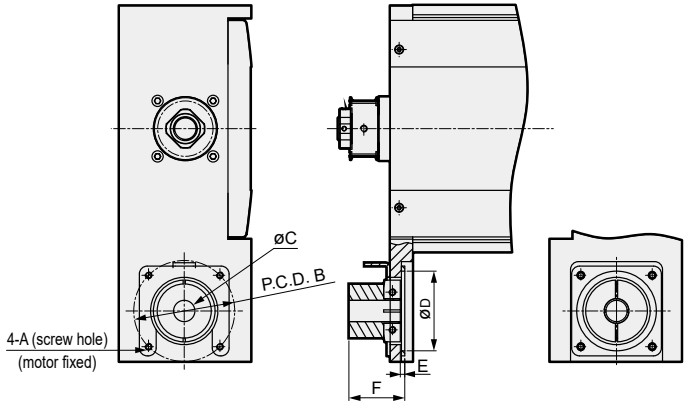
Dimensions / List of attachments

External Dimension Drawing Motor Left Side Fold-back Mounting



Stroke (mm)	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500
L	432	482	532	582	632	682	732	782	832	882	932	982	1032	1082	1132	1182	1232	1282	1332	1382	1432	1482	1532	1582	1632	1682	1732	1782	1832	1882
A	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100
M	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6	6	7	7	7	7	8	8
N	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	14	14	14	14	16	16	16	16	16	18	18	18	18	20	20
P	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700
Weight (kg)	22.5	23.7	24.9	26.2	27.4	28.6	29.8	31.0	32.3	33.5	34.7	35.9	37.1	38.4	39.6	40.8	42.0	43.2	44.5	45.7	46.9	48.1	49.3	50.6	51.8	53.0	54.2	55.4	56.6	57.8

Motor Mounting Part



Mounting Motor Specification		A	B	C	D	E	F	Motor mounting bolts
M	750 W	M6	ø90	ø19	ø71	4	49.8	4-M6 x L16
Y	750 W	M6	ø90	ø19	ø71	4	49.8	4-M6 x L16
P	750 W	M5	ø90	ø19	ø71	4	49.8	4-M5 x L16
F	750 W	M6	ø100	ø14	ø81	8	53.8	4-M6 x L25

List of Accessories

[Motor Mounting Parts]

Mounting Motor Specification	Timing belt, pulley	Motor Capacity	Motor mounting bolts
			Size Quantity
M	Shipped included	750 W	M6 4
Y			M6 4
P			M5 4
F			M6 4

[Home Sensor / Limit Sensor]

Manufacturer	Model	Quantity
OMRON	EE-SX672	3

* For sensor specifications, please refer to P. 162.

Model Selection

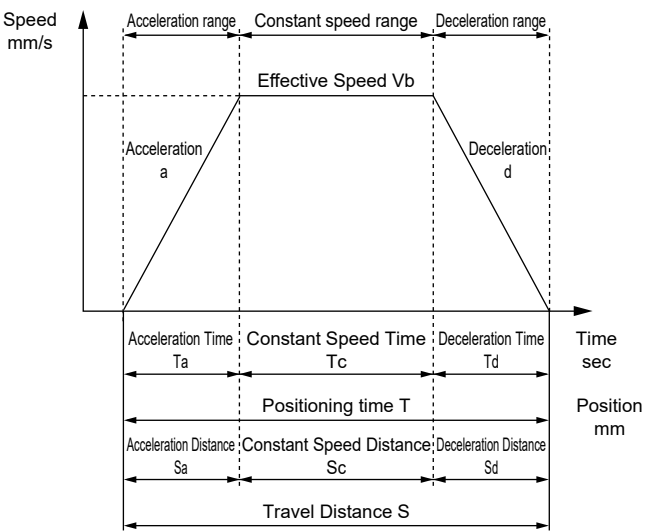
MEMO

STEP-1 Confirmation of Payload

Payload varies depending on the mounting orientation and screw lead. Select the size and screw lead by referring to the selection table (P. 120) and the specification table for each model.

STEP-2 Confirmation of Positioning Time

Calculate the positioning time for the selected product according to the example below and check if it meets the required tact time. Select the speed and acceleration/deceleration from the specification table for each model and the motor selected by the customer.



	Content	Code	Unit	Remarks
Setting Value	Set Speed	V	mm/s	
	Set Acceleration	a	mm/s ²	
	Set Deceleration	d	mm/s ²	
	Travel Distance	S	mm	
Calculated Value	Reached Speed	Vmax	mm/s	$= \{2 \times a \times d \times S / (a + d)\}^{1/2}$
	Effective Speed	Vb	mm/s	The smaller of V and Vmax
	Acceleration Time	Ta	s	$= Vb/a$ [0.2 sec or more]
	Deceleration Time	Td	s	$= Vb/d$ [0.2 sec or more]
	Constant Speed Time	Tc	s	$= Sc / Vb$
	Acceleration Distance	Sa	mm	$= (a \times Ta^2) / 2$
	Deceleration Distance	Sd	mm	$= (d \times Td^2) / 2$
	Constant Speed Distance	Sc	mm	$= S - (Sa + Sd)$
	Positioning Time	T	s	$= Ta + Tc + Td$

* Do not use at speeds exceeding the specifications.
* The setting of acceleration/deceleration by acceleration / deceleration time varies depending on the set speed and stroke.
* Depending on the acceleration/deceleration and stroke, a trapezoidal velocity waveform may not be formed (the set speed may not be reached). In that case, select the smaller of the set speed (V) and the reached speed (Vmax) as the effective speed (Vb).
* Please use an acceleration/deceleration time of 0.2 sec or more.
* 1 G $\approx$ 9.8 m/s².

STEP-3 Confirmation of Allowable Overhang Length

Confirm that the overhang length of the load during operation is within the allowable overhang length (P. 158 to 160).

For details on selection, please check the "Model Selection System" on the CKD website or contact our sales representative.

Introduction to the Model Selection System on our website

[For confirmation via PC]

(https://www.ckd.co.jp/kiki/en/selection_system/)

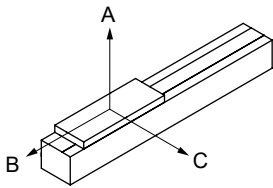
[For confirmation via iPad or smartphone]



* May not display correctly depending on the smartphone's usage environment.

Allowable Overhang Length (ETS Series)

[Horizontal Installation]



[Allowable Overhang Length]

● ETS-13 *1

Motor Mounting	Acceleration/Deceleration Time sec	Screw Lead	Payload kg	Overhang mm		
				A	B	C
Straight Fold-back	0.2	5	40	800	65	230
			55	560	45	160
			70	430	34	120
		10	25	600	100	280
			35	420	70	195
			47	300	50	145
		16	10	900	230	520
			20	440	115	250
			30	280	75	170
		20	5	1200	430	850
			15	400	140	270
			24	250	85	160

* For ceiling-mounted use, please select 1/3 of the max. payload, static allowable moment, dynamic allowable load, dynamic allowable moment, and overhang length. Please use the overhang length to the load's center of gravity within each A, B, and C direction.

*1 ETS-13 400 W will have the same values.

● ETS-14 200 W

Motor Mounting	Acceleration/Deceleration Time sec	Screw Lead	Payload kg	Overhang mm		
				A	B	C
Straight Fold-back	0.2	5	60	2300	250	240
			80	1600	180	170
			95	1150	145	140
		10	30	2000	500	450
			50	1400	280	250
			75	1000	170	160
		16	10	2200	1200	1000
			20	1600	600	500
			44	800	260	220
		20	10	2300	1200	1000
			20	1400	600	500
			35	1000	330	290

● ETS-14 400 W

Motor Mounting	Acceleration/Deceleration Time sec	Screw Lead	Payload kg	Overhang mm		
				A	B	C
Straight Fold-back	0.2	5	60	2300	250	240
			80	1600	180	170
			110	1150	120	115
		10	30	2000	500	450
			50	1400	280	250
			88	700	140	125
		16	10	2200	1200	1000
			20	1600	600	500
			48	900	260	220
		20	10	2300	1200	1000
			20	1400	600	500
			40	850	280	230

● ETS-17 400 W

Motor Mounting	Acceleration/Deceleration Time sec	Screw Lead	Payload kg	Overhang mm		
				A	B	C
Straight Fold-back	0.2	5	60	2950	400	475
			100	2000	220	265
			110	1850	200	240
		10	60	1600	350	400
			75	1350	270	320
			90	1050	220	230
		20	30	1850	650	650
			50	1100	380	380
			75	700	240	240
		40	10	1700	1150	900
			20	850	550	430
			35	450	300	240

● ETS-17 750 W

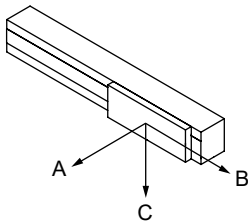
Motor Mounting	Acceleration/Deceleration Time sec	Screw Lead	Payload kg	Overhang mm		
				A	B	C
Straight Fold-back	0.2	5	60	3300	410	470
			100	2000	230	260
			120	1700	180	210
		10	60	2300	400	440
			75	1850	310	350
			95	1450	230	270
		20	30	2000	650	620
			50	1150	370	370
			83	650	210	210
		40	10	1650	1150	850
			20	530	350	270
			50	300	190	150

● ETS-22

Motor Mounting	Acceleration/Deceleration Time sec	Screw Lead	Payload kg	Overhang mm		
				A	B	C
Straight Fold-back	0.2	5	60	3600	650	650
			100	2800	350	340
			150	2300	260	230
		10	60	2850	960	810
			100	2000	570	460
			150	1450	340	310
		25	50	2000	850	610
			80	1200	500	360
			120	770	300	220
		40	10	4200	2850	1850
			30	1400	900	600
			60	650	420	270

Allowable Overhang Length (ETS Series)

[When Wall-Mounted]



[Allowable Overhang Length]

● ETS-13 *1

Motor Mounting	Acceleration/Deceleration Time sec	Screw Lead	Payload kg	Overhang mm		
				A	B	C
Straight Fold-back	0.2	5	40	240	70	850
			55	170	50	600
			70	125	35	450
		10	25	300	100	620
			35	210	70	420
			47	150	50	300
		16	10	530	230	900
			20	250	110	430
			30	170	70	280
		20	5	900	450	1300
			15	290	150	420
			24	170	90	260

* For ceiling-mounted use, please select 1/3 of the max. payload, static allowable moment, dynamic allowable load, dynamic allowable moment, and overhang length. Please use the overhang length to the load's center of gravity within each A, B, and C direction.

*1 ETS-13 400 W will have the same values.

● ETS-14 200 W

Motor Mounting	Acceleration/Deceleration Time sec	Screw Lead	Payload kg	Overhang mm		
				A	B	C
Straight Fold-back	0.2	5	60	240	250	1600
			80	170	180	1200
			95	140	145	1050
		10	30	420	460	1500
			50	240	250	1000
			75	150	160	700
		16	10	1050	1200	2650
			20	500	620	1450
			44	230	270	800
		20	10	1000	1200	1900
			20	500	600	1000
			35	270	300	600

● ETS-14 400 W

Motor Mounting	Acceleration/Deceleration Time sec	Screw Lead	Payload kg	Overhang mm		
				A	B	C
Straight Fold-back	0.2	5	60	240	250	1600
			80	170	180	1200
			110	115	120	1050
		10	30	420	460	1500
			50	240	250	1000
			88	120	130	700
		16	10	1050	1200	2650
			20	500	620	1450
			48	200	230	800
		20	10	1000	1200	1900
			20	500	600	1000
			40	230	290	600

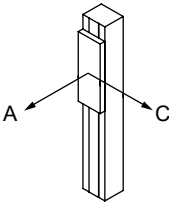
● ETS-17 400 W

Motor Mounting	Acceleration/Deceleration Time sec	Screw Lead	Payload kg	Overhang mm		
				A	B	C
Straight Fold-back	0.2	5	60	500	420	2450
			100	280	240	1600
			110	250	215	1400
		10	60	420	380	1950
			75	330	300	1500
			90	270	240	1200
		20	30	650	650	1600
			50	375	380	900
			75	245	240	600
		40	10	900	1100	1750
			20	450	550	850
			35	240	300	470

● ETS-17 750 W

Motor Mounting	Acceleration/Deceleration Time sec	Screw Lead	Payload kg	Overhang mm		
				A	B	C
Straight Fold-back	0.2	5	60	500	430	2700
			100	280	240	1650
			120	230	200	1350
		10	60	420	380	2300
			75	330	300	1800
			95	250	230	1400
		20	30	640	650	1700
			50	370	380	1000
			83	210	210	560
		40	10	900	1150	1700
			20	280	350	550
			50	160	195	310

[Vertical Installation]



[Allowable Overhang Length]

● ETS-13 *1

Motor Mounting	Acceleration/Deceleration Time sec	Screw Lead	Payload kg	Overhang mm	
				A	C
Straight · Fold-back	0.2	5	5	600	600
			10	300	300
			12	250	250
		10	4	650	650
			6	430	430
			8	320	320
		16	1	1350	1350
			2	900	900
			6	350	350
		20	1	1050	1050
			2	900	900
			4	550	550

* For ceiling-mounted use, please select 1/3 of the max. payload, static allowable moment, dynamic allowable load, dynamic allowable moment, and overhang length. Please use the overhang length to the load's center of gravity within each A, B, and C direction.
*1 ETS-13 400 W will have the same values.

● ETS-14 200 W

Motor Mounting	Acceleration/Deceleration Time sec	Screw Lead	Payload kg	Overhang mm	
				A	C
Straight · Fold-back	0.2	5	20	755	755
			25	605	605
			27	560	560
		10	10	1350	1350
			15	900	900
			18	750	750
		16	2	2400	2400
			4	1700	1700
			7	1300	1300
		20	6	1700	1700

● ETS-14 400 W

Motor Mounting	Acceleration/Deceleration Time sec	Screw Lead	Payload kg	Overhang mm	
				A	C
Straight · Fold-back	0.2	5	20	755	755
			25	605	605
			33	455	455
		10	10	1350	1350
			15	900	900
			22	650	650
		16	2	2400	2400
			4	1700	1700
			10	1000	1000
		20	4	1800	1800
			6	1200	1200
			8	900	900

● ETS-17 400 W

Motor Mounting	Acceleration/Deceleration Time sec	Screw Lead	Payload kg	Overhang mm	
				A	C
Straight · Fold-back	0.2	5	20	1400	1400
			30	950	950
			40	700	700
		10	15	1700	1700
			25	1000	1000
			30	850	850
		20	5	2000	2000
			10	1800	1800
			14	1400	1400
		40	7	650	650

● ETS-17 750 W

Motor Mounting	Acceleration/Deceleration Time sec	Screw Lead	Payload kg	Overhang mm	
				A	C
Straight · Fold-back	0.2	5	20	1500	1500
			30	1000	1000
			50	600	600
		10	15	1700	1700
			25	1000	1000
			40	620	620
		20	5	2200	2200
			10	1900	1900
			25	730	730
		40	10	700	700

● ETS-22

Motor Mounting	Acceleration/Deceleration Time sec	Screw Lead	Payload kg	Overhang mm	
				A	C
Straight · Fold-back	0.2	5	30	2400	2400
			50	1450	1450
			55	1050	1050
		10	20	3,000	3,000
			30	2000	2000
			45	1350	1350
		25	15	2600	2600
			20	1950	1950
			25	1550	1550
		40	5	2600	2600
			10	1950	1950

Servo motor compatible

EBS

EBR

ETS

ETS Multi Axis

ECS

ETV

ECV

EKS

ESM

Ending

Servo motor compatible

EBS

EBR

ETS

ETS Multi Axis

ECS

ETV

ECV

EKS

ESM

Ending

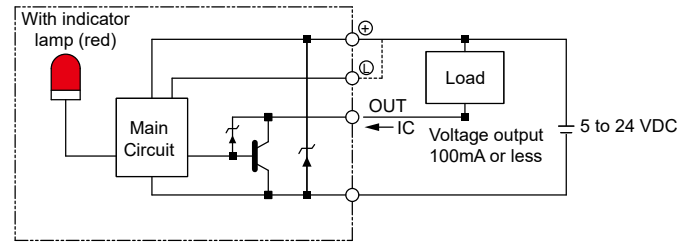
Home Sensor, Limit Sensor

Manufacturer	Model	Quantity
OMRON	EE-SX672	3

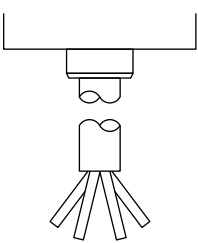
Performance

Item	Specifications
Hysteresis	0.025 mm or less
Light source (peak emission wavelength)	GaAs infrared emitting diode (940 nm)
Indicator Light	Lights up when light is received (red)
Power Supply Voltage	5 to 24 VDC ±10% Ripple (p-p) 10% or less
Current Consumption	35 mA or less (NPN type)
Control output	NPN type : NPN open collector Output 5 to 24 VDC 100 mA or less Off-state current 0.5 mA or less Residual voltage 0.8 V or less (at 100 mA load current) Residual voltage 0.4 V or less (at 40 mA load current)
Ambient illuminance	Illuminance at Light-Receiving Surface: Fluorescent Lamp: 1000 lx or less
Ambient Temperature Range	Operating : -25 to +55°C Storage : -30 to +80 °C (however, no freezing or condensation)
Ambient humidity range	Operating : 5 to 85 %RH Storage : 5 to 95 %RH (however, no freezing or condensation)
Enclosure	IP50 IEC60529 standard
Cord length	2 m (Connector with cord (EE-1006 2 M))

Output circuit



Wiring Diagram

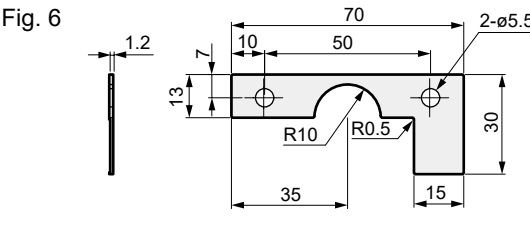
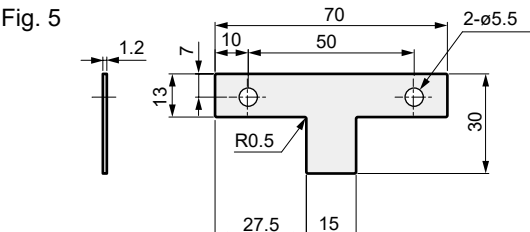
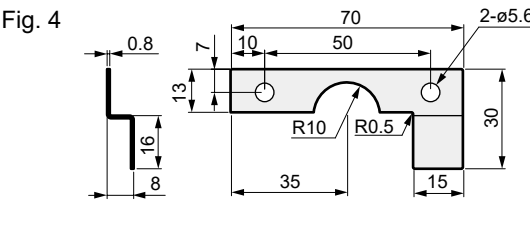
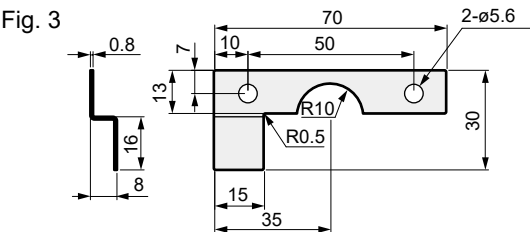
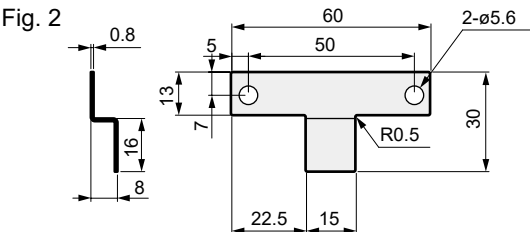
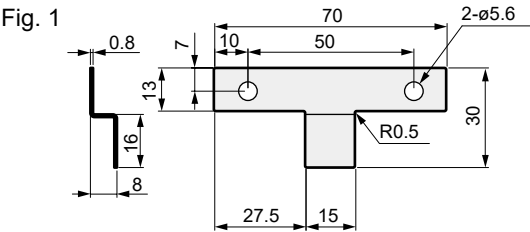


Terminal arrangement

Brown	5 to 24 VDC
Pink	L
Blue	0 V
Black	OUTPUT

Sensor Dog External Dimension Drawing

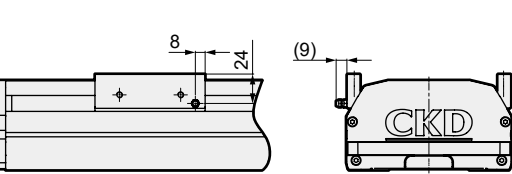
Body Size	E/D/B	Motor Mounting Direction			
		R		L	
		Without grease nipple	With grease nipple	Without grease nipple	With grease nipple
ETS-13	Fig. 1	Fig. 1	Fig. 2	Fig. 1	Fig. 2
ETS-14	Fig. 1	Fig. 1	Fig. 3	Fig. 1	Fig. 4
ETS-17	Fig. 1	Fig. 1	Fig. 3	Fig. 1	Fig. 4
ETS-22	Fig. 5	Fig. 5	Fig. 6	Fig. 5	Fig. 6



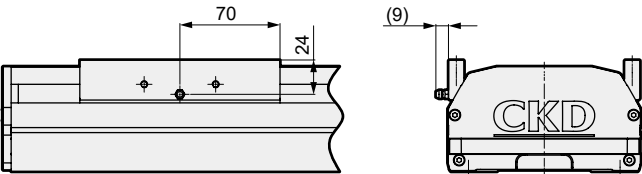
Grease Nipple Dimension Drawing

* Symmetrical with respect to the actuator.

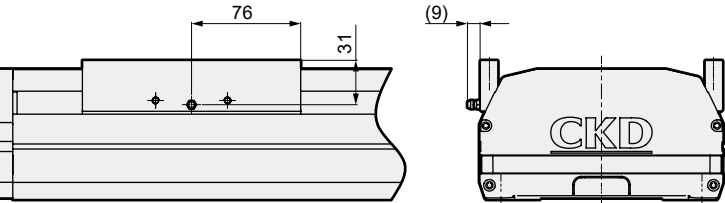
● ETS-13



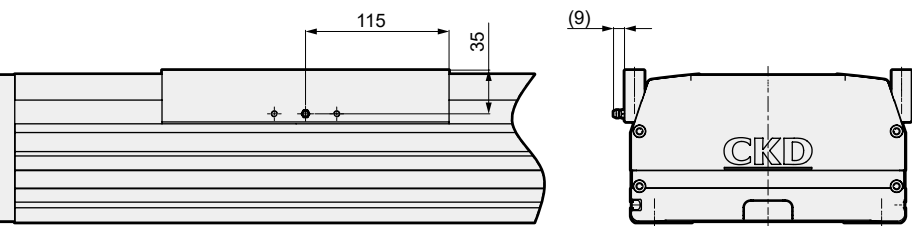
● ETS-14



● ETS-17



● ETS-22



MEMO

List of Accessories

Basic Type

Motor Mounting Bolts (Common for all motor mounting directions)

Model No.	Mounting Motor Specification	Motor Capacity	Size	Quantity
ETS-13	M	100 W/200 W/400 W	M4/M5/M5	2/4/4
	Y		M4/M5/M5	2/4/4
	P		M3/M4/M4	4
	F		M4/M5/M5	2/4/4
ETS-14	M	200 W/400 W	M5	4
	Y		M5	4
	P		M4	4
	F		M5	4
ETS-17	M	400 W	M5	4
	Y		M5	4
	P		M4	4
	F		M5	4
	M	750 W	M6	4
	Y		M6	4
	P		M5	4
ETS-22	F	750 W	M6	4
	M		M6	4
	Y		M6	4
	P		M5	4
ETS-22	F	750 W	M6	4
	M		M6	4
	Y		M6	4
	P		M5	4

By Motor Mounting Direction

Model No.	Attached Part Name	Quantity
E (External direct mounting) B (Built-in)	Coupling (Shipped Included)	1 pc
R (Right fold-back mounting) L (Left fold-back mounting)	Timing Belt	1 pc.
D (Bottom fold-back mounting)	Pulley	1 pc

When home/limit sensor is selected *1

Sensor mounting direction	Shipment Form	Quantity
Inner sensor	Shipped assembled in fixed position	3 pcs. *2
Outer sensor	Shipped included *3	

*1 The shipping form for the home and limit sensors varies depending on whether they are mounted inside or outside.
*2 If "None" is selected for either the home sensor or the limit sensor, the other will also be "None".
*3 Sensor mounting screws are also attached.

Maintenance Parts

Maintenance Parts Set

Model Number	Applicable Models	Component Parts			
		①	②	③	④
		Timing Belt 	Pulley 	Sensor Dog 	Photoelectric Bracket 
ETS-08 JP002-0005	ETS-13, 14	○ (2 pcs)	○ (4 pcs)	○ (1 pc)	-
ETS-08 JP002-0007	ETS-17	○ (4 pcs)	○ (2 pcs)	○ (1 pc)	-
ETS-08 JP002-0008	ETS-22	○ (3 pcs)	○ (2 pcs)	○ (1 pc)	-

* For sensor dogs (P. 163), body sizes 13/14/17 are Fig. 1, and body size 22 is Fig. 5.
For other sensor dogs, please contact us.
* For maintenance parts for the metal stopper specification (ETS-X), please contact us.

Maintenance parts (coupling)

Model Number	Applicable Models	Motor Capacity	Bore Diameter
			
ETS-22007-000289	ETS-13,14 (Mounting motor specification : F)	200 W	ø9
ETS-22007-000016	ETS-13,14 (Mounting motor specification : P)	200 W	ø11
ETS-22007-000017	ETS-13,14 (Mounting motor specification : M, Y)	200 W/400 W	ø14
ETS-22007-000022	ETS-17 (Mounting motor specification : P)	400 W	ø14
ETS-22007-000358	ETS-17 (Mounting motor specification : F)	750 W	ø14
ETS-22007-000397	ETS-22 (Mounting motor specification : F)	750 W	ø14
ETS-22007-000024	ETS-17 (Mounting motor specification : M, Y)	750 W	ø19
ETS-22007-000029	ETS-22 (Mounting motor specification : M, Y, P)	750 W	ø19

Maintenance parts (external mounted sensor)

Basic Price Model Number	Applicable Models	Part
		
ETS-22008-000001	All models	Body
ETS-22008-000006		Cable



To Use This Product Safely

Be sure to read this before use.
For general information on Electric Actuators, please refer to Intro 15.

Individual Precautions: Electric Actuator ETS Series

During Design and Selection

Danger

- Do not use in locations where hazardous materials such as ignitable, flammable, or explosive substances are present. There is a possibility of ignition, fire, or explosion.
- Ensure that the product is free of water droplets and oil droplets. This can cause fire or failure.

- When mounting the product, be sure to securely hold and fix it (including the workpiece). There is a risk of injury due to the product tipping over, falling, or malfunctioning.

Warning

- Use within the product's specified operating range.
- If there is a risk of danger to the human body, install a protective cover.
 - If the moving parts of the electric actuator pose a particular danger to the human body, design the structure so that people cannot enter the drive range of the electric actuator or directly touch that area.
- Design a safety circuit or equipment so that damage to equipment, injury to persons, etc., does not occur when the machine stops in the event of a system failure such as emergency stop or power outage.
- Install indoors with low humidity.
 - In places exposed to rain or high humidity (over 85% RH, with condensation), there is a risk of electric leakage and fire. Oil drops and oil mist are also strictly prohibited.
 - Use in such environments can cause damage and malfunction.
- Use and store in accordance with the working / storage temperatures and where there is no condensation.
(Storage temperature: -10°C to 50°C, Storage humidity: 35% to 80%, Operating Temperature: 0°C to 40°C, Operating humidity: 35% to 80%) This can cause abnormal product stoppage or reduced service life. If heat accumulates, ventilate.
- Install in a location free from direct sunlight, dust, and corrosive gas / explosive gas/inflammable gas / combustibles, and away from heat sources. In addition, this product has not been considered for chemical resistance. This can cause failure, explosion, or fire.

- Use and store in a location free from strong electromagnetic waves, ultraviolet rays, and radiation. This can cause malfunction or failure.
- Consider the possibility of power source failure.
 - In case of breakdown in the power source, take countermeasures without causing trouble or damage to the operator or equipment.
- Consider the operating state when restarting after an emergency stop or abnormal stop.
 - Design so that restarting does not cause harm to people or damage to the equipment. Also, if it is necessary to reset the electric actuator to the starting position, design a safe control device. Consider the possibility of failure of the installed motor. Take measures to prevent injury to personnel or damage to equipment in the event of a power source failure.

- Avoid using this product where vibration and impact are present.
- Do not apply a load to the product that is greater than or equal to the allowable load listed in the materials for selection.

Caution

- Do not use in a range where the moving table could collide with the stroke end and break.
- Clearly state the maintenance conditions in the equipment's instruction manual.
 - The functionality of this product may be significantly reduced and safety may not be ensured depending on the usage conditions, environment, and maintenance. If maintenance is performed correctly, the product's functions can be fully utilized.
- Regarding installing, setting up, and/or adjusting the actuator, read through the instruction manual and operate correctly.
- The product is manufactured in conformity with the related standards. Never disassemble or modify.
- Refer to the instruction manual of the motor mounted to the product and control for your safety before wiring and designing.
- The customer is responsible for confirming the compatibility of CKD products with the customer's systems, machines and equipment.

For precautions regarding mounting, installation, adjustment, operation, and maintenance, please refer to the CKD Equipment Product Site(<https://www.ckd.co.jp/kiki/en/>) → 'model No.' → [Instruction Manual](#) .

ETSModel Selection Check Sheet → CKD (Contact)

Please fill out this form and send it to your nearest sales office. We will respond with the model selection results.

Customer :

Company		Department	
Name		E-mail	
TEL		FAX	

Selection Conditions :

Desired Model	ETS-		
Basic Specifications	Max. Stroke :	mm	Ball screw lead : mm
Operating Conditions	Moving stroke :	mm	travel time : s
	Set Speed :	mm/s	
	Set acceleration/deceleration :	mm/s ² (set acceleration/deceleration time :	s)
	Repeatability : ±	mm	
Load Conditions	Slider Type		
	Load weight :	kg	
	Mounting Orientation : Horizontal / Wall-mounted / Vertical / Ceiling-mounted / Other		
	Distance from slider center to load's center of gravity		
	Direction A :	mm	
	Direction B :	mm	
Direction C :	mm		
Operating Environment	Pressing load :	None / Yes (N)	
	During operation / When stopped	Direction of force on slider center ()	
Motor Used	Ambient Temperature :	°C	Ambient Humidity : %
	Atmosphere :		
Special Notes	Manufacturer :	, Model No. :	
	Motor capacity, size :		