

Discontinued some variations

Sales of ECS-05 to ECS-12 will be terminated.

ECS

Servo motor compatible
electric actuator
Motorless specification

Slider (ball screw drive low dust specifications)



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EBS

EBR

ETS

Servo motor compatible
ETS Multi-Axis

ECS

ETV

ECV

EKS

EBS

Stepper motor compatible
EBR

ETS

ECS

ECS

Safety
precautions

How to order

How to order

ECS - 06 - 05 040 - E M 1 N C B D P - M

A

B

C

D

E

F

G

H

I

J

K

L

A Body size	
05	Body width 51 mm
06	Body width 65 mm
10	Body width 102 mm
12	Body width 102 mm
14	Body width 135 mm
17	Body width 170 mm
22	Body width 220 mm

B Screw lead	
02	2 mm
05	5 mm
10	10 mm
16	16 mm
20	20 mm
25	25 mm
40	40 mm

C Stroke length	
005	50 mm
to	(In 50 mm increments)
150	1500 mm

D Motor mounting direction *1	
E	Straight mounting
B	Built-in mounting
R	Right mounting
D	Bottom mounting
L	Left mounting

E Mounted motor specification	
M	
Y	Refer to the list on the page at right
P	
F	

F Motor capacity	
1	100 W
2	200 W
4	400 W
8	750 W

G Brake *1	
N	None
B	Yes

H Origin sensor (1 pc) *2	
N	None
A	Inside motor side
B	Inside motor opposite side
C	Outside motor side (Included at shipment)
D	Outside motor opposite side (Included at shipment)

I Limit sensor (2 pcs) *2	
N	None
A	Inside
B	Outside

L Magnet slider method *3	
	Standard
M	Yes

K Positioning pin hole	
N	None
P	Yes

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

*1: Select "Yes" to the Brake only when the motor mounting direction is built-in mounting.

For other mounting directions, select "None."

*2: The sensor dog is assembled at shipment regardless of sensor presence.

*3: ECS-05/06 uses the magnet slider method. Other sizes use the standard.

Manufacturer	50 W	100 W	200 W	400 W	750 W
Mitsubishi Electric Corporation	M	M	M	M	M
Delta Electronics Co., Ltd.	M	M	M	M	M
Sanyo Denki Co., Ltd.	M	M	M	M	-
YASKAWA Electric Corporation	Y	Y	Y	Y	Y
Keyence Corporation	Y	Y	Y	Y	Y
Panasonic Corporation	P	P	P	P	P
OMRON Corporation	M	M	P	P	P
Fuji Electric Co., Ltd.	M	M	M	M	M
FANUC CORPORATION	F	F	F	F	F
Bosch Rexroth AG	P	P	P	P	P
Rockwell Automation, Inc.	M	M	M	M	M
SIEMENS AG	M	M	M	M	M

Example of model No.

ECS-06-05040-EM1NCBDP-M

A Body size	: 06 Series
B Screw lead	: 5 mm
C Stroke length	: 400 mm
D Motor mounting direction	: Straight
E Mounted motor specification	: M (refer to the table on the page at right)
F Motor capacity	: 100 W
G Brake	: None
H Origin sensor	: External motor side
I Limit sensor	: Outside
J Grease nipple	: None (Body mounting method: Bottom side)
K Positioning pin hole	: Yes
L Magnet slider method	: Yes

*This product is composed of an actuator (and motor mounting parts) only; there is no motor attached.
The user must prepare, mount, and adjust the motor and driver.

Discontinued some variations

ECS Series

List of servo motors recommended for mounting

List of servo motors recommended for mounting

Code	Manufacturer	Series	100 W *3 (ECS-05/06/10/12 Series)
M	Mitsubishi Electric Corporation	MELSERVO J4	HG-KR13
		MELSERVO J5	HK-KT13W
M	Delta Electronics Co., Ltd.	ECMA-C *2	ECMA-C10401
M	Sanyo Corporation, Ltd.	SANMOTION R	R2□A04010
Y	YASKAWA Electric Corporation	Σ-V	SGMJV-01
		Σ-7 *1	SGM7J-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	R88M-K10030
		1S *1	R88M-1M10030
M	Fuji Electric Co., Ltd.	ALPHA7 GYS	GYS101D7-□B2□
		ALPHA7 GYB	-
F	FANUC CORPORATION *1	βiS-B	A06B-0112-B1
P	Bosch Rexroth AG	MSM	MSM019B
M	Rockwell Automation, Inc. *1	TLP	TLP-A046-010-DKA□2
	SIEMENS AG *1	1FK2 *6	1FK2102-1AG0

Code	Manufacturer	Series	200 W *3 *4 (ECS-10/12/14 Series)	400 W (ECS-14/17 Series)	750 W *5 (ECS-17/22 Series)
M	Mitsubishi Electric Corporation	MELSERVO J4	HG-KR23	HG-KR43	HG-KR73
		MELSERVO J5	HK-KT23W	HK-KT43W	HK-KT7M3W
M	Delta Electronics Co., Ltd.	ECMA-C *2	ECMA-C10602	ECMA-C10604	ECMA-C10807
M	Sanyo Corporation, Ltd.	SANMOTION R	R2□A06020	R2□A06040	-
Y	YASKAWA Electric Corporation	Σ-V	SGMJV-02	SGMJV-04	SGMJV-08
		Σ-7 *1	SGM7J-02	SGM7J-04	SGM7J-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	R88M-K20030	R88M-K40030	R88M-K75030
		1S *1	R88M-1M20030	R88M-1M40030	R88M-1M75030
M	Fuji Electric Co., Ltd.	ALPHA7 GYS	GYS201D7-□B2□	GYS401D7-□B2□	GYS751D7-□B2□
		ALPHA7 GYB	GYB201D7-□B2□	GYB401D7-□B2□	GYB751D7-□B2□
F	FANUC CORPORATION *1	βiS-B	A06B-2115-B1	A06B-2116-B1	A06B-2063-B1
P	Bosch Rexroth AG	MSM	MSM031B	MSM031C	MSM041B
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	1FK2 *6	1FK2203-2AG0	1FK2203-4AG0	1FK2204-5AK0

* Contact CKD for mounting other than the above motors and products of other motor manufacturers.

*1: Cannot be used with built-in mounting.

*2: ECMA series (with brake) cannot be used with built-in mounting.

*3: Contact CKD when using an OMRON motor with ECS-12 built-in mounting.

*4: ECS-10 and 12 200 W cannot be used with built-in mounting.

*5: ECS-17 750 W cannot be used with built-in mounting.

*6: The servo motor is subject to the regulations of Export Trade Control Order Appendix Table 1 Item 7 (8), and is applicable with regard to its specifications. (as of January 2021)

Servo motor compatible

ETV

ECV

EKS

EBS

Stepper motor compatible

EBR

ETS

ECS

Safety
precautions

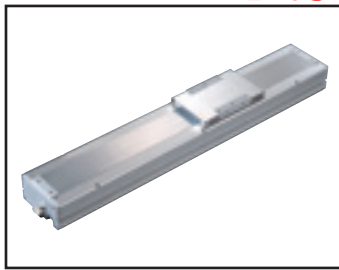
Discontinued some variations

Electric actuator Ball screw drive Slider Low dust specification

ECS-14 Series

Straight motor mounting, built-in mounting

● Servo motor capacity: 200 W/400 W



How to order

ECS	-	14	-	05	-	040	-	E	M	2	N	N	N	N	P		
		A		B		C		D	E		F	G	H	I	J	K	
A Body size		14		Body width 135 mm		D Motor mounting direction *1		E Straight mounting B Built-in mounting		H Origin sensor (1 pc) *2 *3 *4		N None A Inside motor side B Inside motor opposite side C Outside motor side D Outside motor opposite side		K Positioning pin hole		N None P Yes	
B Screw lead		05 5 mm 10 10 mm 16 16 mm 20 20 mm		E Mounted motor specification		M Y Select the mounted motor specification from the table below. P F		F Motor capacity		2 200 W 4 400 W		I Limit sensor (2 pcs) *2 *3 *4		N None A Inside B Outside		J Grease nipple *4 *5	N None (Body mounting direction: Standard) R Right L Left
C Stroke length		005 50 mm to 105 1050 mm (In 50 mm increments)		G Brake *1		N None B Yes											

*1: "Yes" to the Brake can be selected only when the motor mounting method is built-in mounting.

*2: Origin sensor and limit sensor are available as a set. As it is both-or-nothing, select "None" for both.

*3: For sensor inside mounting, the user cannot adjust the position. (Assembled at shipment)

For sensor outside mounting, the user can adjust the position. (Included at shipment)

*4: Contact CKD to use the origin sensor, limit sensor and grease nipple in the same direction.

*5: "Body mounting direction: Standard" here refers to mounting from the bottom side.

* Refer to page 275 for the motor model No.

Manufacturer	200 W	400 W
Mitsubishi Electric Corporation	M	M
Delta Electronics Co., Ltd.	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
Bosch Rexroth AG	P	P
Rockwell Automation, Inc.	M	M
SIEMENS AG	M	M

Specifications

Applicable motor capacity			200 W/400 W servo motor			
Drive method			Ball screw ø16			
Ball screw accuracy grade			C7			
Stroke length			mm			
Screw lead			mm			
Max. load capacity *1	Vertical	200 W kg	95	10	16	20
		400 W kg	110	88	48	35
		200 W kg	27	18	7	40
		400 W kg	33	22	10	6
Max. speed			mm/s			
Rated thrust *1	200 W	N	683	341	213	174
	400 W	N	1388	694	433	347
Repeatability			mm			
Lost motion			mm			
Dynamic allowable load			N			
Static allowable moment			N·m			
Dynamic allowable moment			N·m			
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 max. load capacity are guideline values assuming that the motor mounted will output the rated torque.

Stroke and max. speed

		(mm/s)					
Screw lead	Stroke length	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

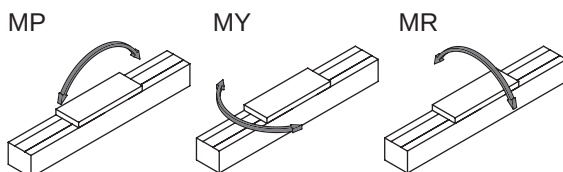
*The max. speed is the speed when the motor mounted by the customer can output a rotation speed of 3000 rpm.

The max. speed is restricted by the stroke. Do not move at speeds beyond the limit.

Allowable overhang length

*Refer to page 330 for details.

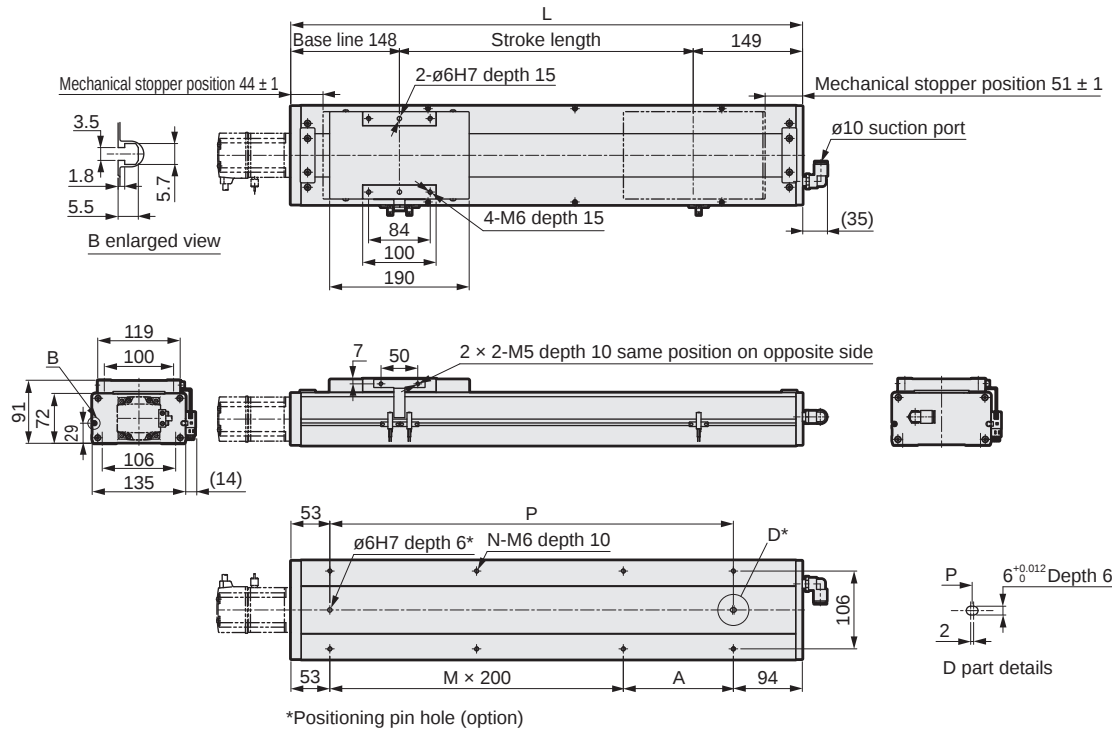
Moment direction



Dimensions Straight motor mounting

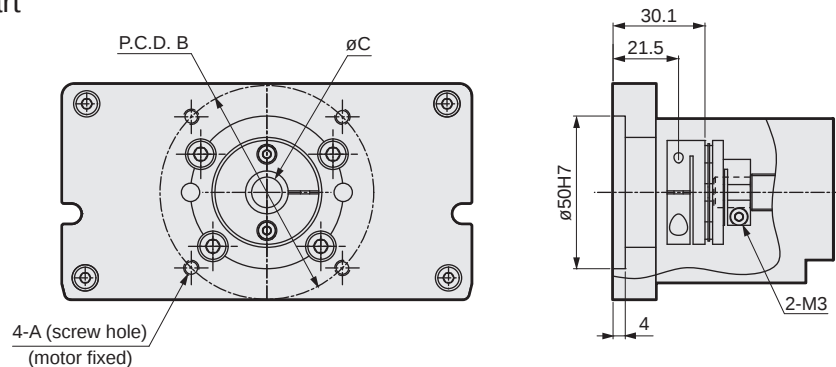
● ECS-14-*****-E

· Refer to page 336 for grease nipple dimensions.



Stroke length (mm)	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050
L	347	397	447	497	547	597	647	697	747	797	847	897	947	997	1047	1097	1147	1197	1247	1297	1347
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)	10.5	11.1	11.7	12.3	12.9	13.5	14.1	14.7	15.3	15.9	16.5	17.1	17.7	18.3	18.9	19.5	20.1	20.7	21.3	21.9	22.5

Motor mounting part



Mounted motor specification		A	B	C	Motor mounting bolt
M	200 W/400 W	M5	ø70	ø14	4-M5 × L18
Y	200 W/400 W	M5	ø70	ø14	4-M5 × L18
P	200 W/400 W	M4	ø70	ø11/ø14	4-M4 × L18
F	200 W/400 W	M5	ø70	ø9/ø14	4-M5 × L16/4-M5 × L18

List of attachments

[Motor mounting parts]

Mounted motor specification	Coupling	Fitting	Motor capacity	Motor mounting bolt	
				Size	Quantity
M	Assembled at shipment	Included at shipment	200 W/400 W	M5	4
Y				M5	4
P				M4	4
F				M5	4

*Refer to page 338 for fitting details.

[Origin sensor/Limit sensor]

Manufacturer	Model	Quantity
OMRON Corporation	EE-SX672	3

*Refer to page 334 for sensor specifications.

EBS

EBR

ETS

Servo motor compatible
ETS Multi-Axis
ECS

ETV

ECV

EKS

EBS

Stepper motor compatible
EBR
ETS
ECS

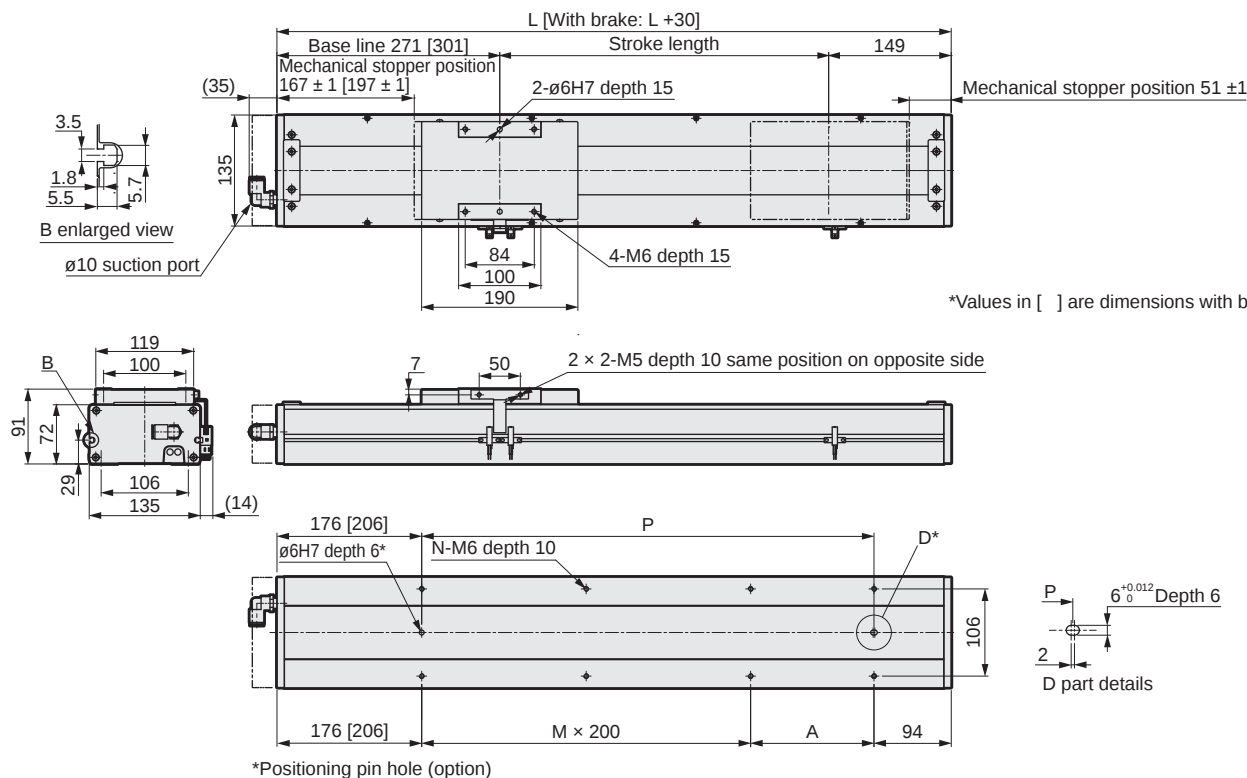
ECS

Safety
precautions

Dimensions Motor built-in mounting

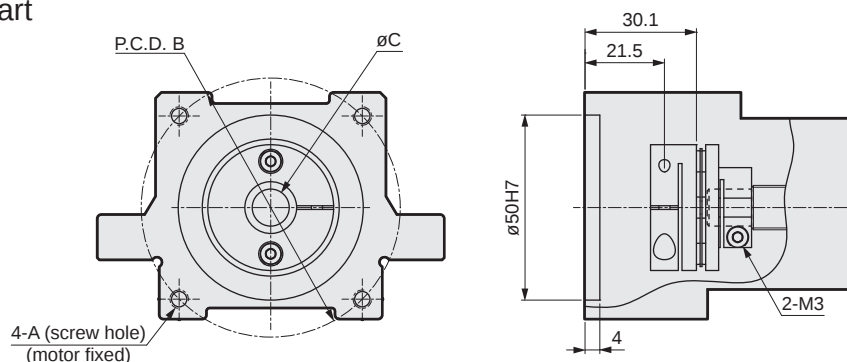
● ECS-14-*****-B

Refer to page 336 for grease nipple dimensions.



Stroke length (mm)	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050
L	470	520	570	620	670	720	770	820	870	920	970	1020	1070	1120	1170	1220	1270	1320	1370	1420	1470
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)	11.5	12.1	12.7	13.3	13.9	14.5	15.1	15.7	16.3	16.9	17.5	18.1	18.7	19.3	19.9	20.5	21.1	21.7	22.3	22.9	23.5

Motor mounting part



Mounted motor specification	A	B	C	Motor mounting bolt
M 200 W/400 W	M5	ø70	ø14	4-M5 × L18
Y 200 W/400 W	M5	ø70	ø14	4-M5 × L18
P 200 W/400 W	M4	ø70	ø11/ø14	4-M4 × L18

List of attachments

[Motor mounting parts]

Mounted motor specification	Coupling	Fitting	Motor capacity	Motor mounting bolt	
				Size	Quantity
M	Assembled at shipment	Included at shipment	200 W/ 400 W	M5	4
Y				M5	4
P				M4	4

*Refer to page 338 for fitting details.

[Origin sensor/Limit sensor]

Manufacturer	Model	Quantity
OMRON Corporation	EE-SX672	3

*Refer to page 334 for sensor specifications.

MEMO

Servo motor compatible							Stepper motor compatible				Safety precautions
EBS	EBR	ETS	ETS Multi-Axis	ECS	ETV	ECV	EKS	EBS	EBR	ETS	ECS

Discontinued some variations

Electric actuator Ball screw drive Slider Low dust specification

ECS-14 Series

Motor side mounting (left, right, bottom)

● Servo motor capacity: 200 W/400 W



How to order

ECS - 14 - 05 050 - R M 2 N N N N P

A Body size
14 Body width 135 mm

B Screw lead
05 5 mm
10 10 mm
16 16 mm
20 20 mm

C Stroke length
005 50 mm
to (In 50 mm increments)
105 1050 mm

D Motor mounting direction*5
R Right mounting
D Bottom mounting
L Left mounting

E Mounted motor specification
M Select the mounted motor specification from the table below.
Y
P
F

F Motor capacity
2 200 W
4 400 W

G Brake
N None

H Origin sensor (1 pc) *1 *2 *3
N None
A Inside motor side
B Inside motor opposite side
C Outside motor side
D Outside motor opposite side

I Limit sensor (2 pcs) *1 *2 *3
N None
A Inside
B Outside

J Grease nipple *3 *4 *5
N None (Body mounting direction: Standard)
R Right
L Left

K Positioning pin hole
N None
P Yes

Manufacturer	200 W	400 W
Mitsubishi Electric Corporation	M	M
Delta Electronics Co., Ltd.	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
Bosch Rexroth AG	P	P
Rockwell Automation, Inc.	M	M
SIEMENS AG	M	M

- *1: Origin sensor and limit sensor are available as a set. As it is both-or-nothing, select "None" for both.
 *2: For sensor inside mounting, the user cannot adjust the position. (Assembled at shipment)
 For sensor outside mounting, the user can adjust the position. (Included at shipment)
 *3: Contact CKD to use the origin sensor, limit sensor and grease nipple in the same direction.
 *4: "Body mounting direction: Standard" here refers to mounting from the bottom side.
 *5: When selecting motor mounting direction R, grease nipple R cannot be selected.
 When selecting L, grease nipple L cannot be selected.

* Refer to page 275 for the motor model No.

Specifications

Applicable motor capacity			200 W/400 W servo motor				
Drive method			Ball screw ø16				
Ball screw accuracy grade			C7				
Stroke length			50 to 1050				
Screw lead			mm				
Screw lead			5	10	16	20	
Max. load capacity *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, MY: 551, MR: 485			
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 max. load capacity are guideline values assuming that the motor mounted will output the rated torque.

Stroke and max. speed

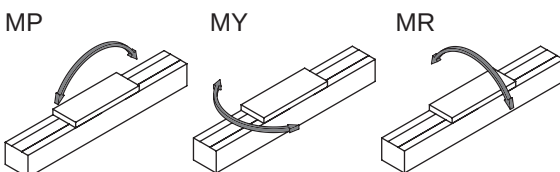
		(mm/s)					
Screw lead	Stroke length	100 to 750	800	850	900	950	1050
5		250	225	200	175	150	125
10		500	450	400	350	300	250
16		800	720	640	560	480	400
20		1000	900	800	700	600	500

*The max. speed is the speed when the motor mounted by the customer can output a rotation speed of 3000 rpm.
 The max. speed is restricted by the stroke. Do not move at speeds beyond the limit.

Allowable overhang length

*Refer to page 330 for details.

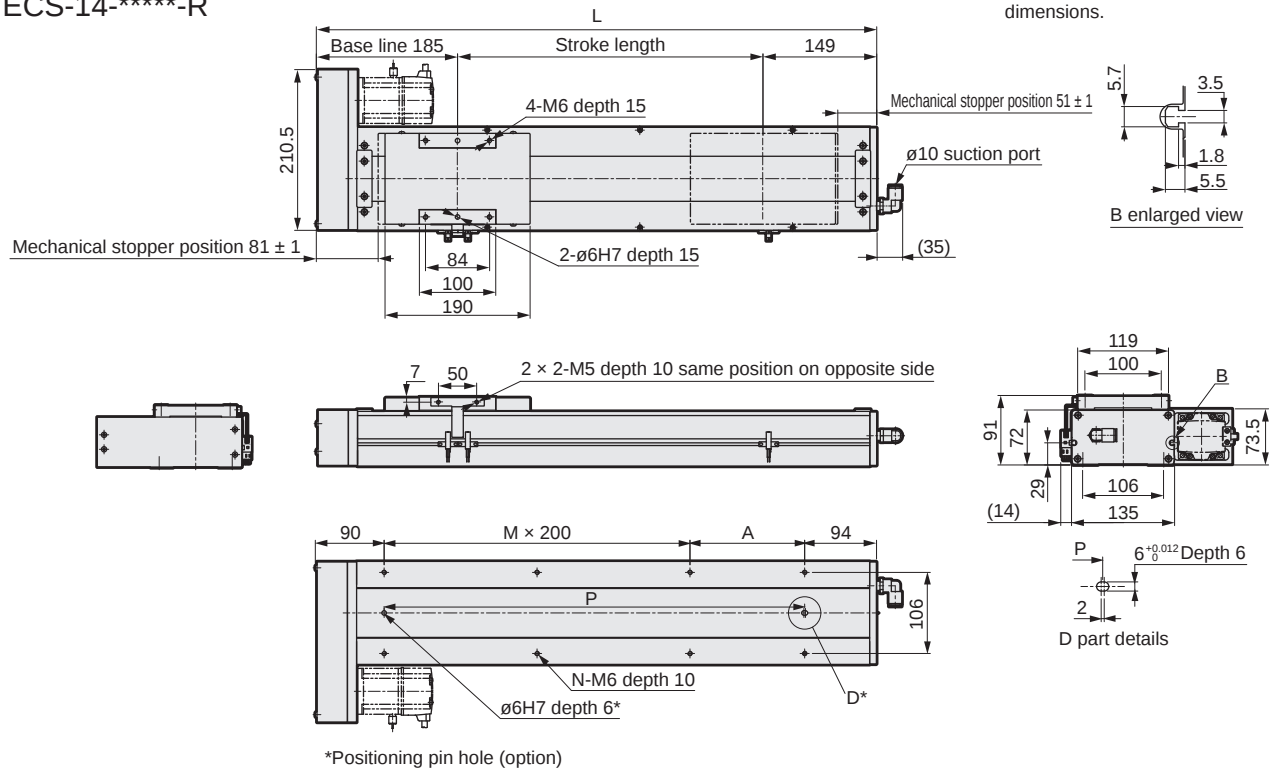
Moment direction



Dimensions Motor right-side mounting

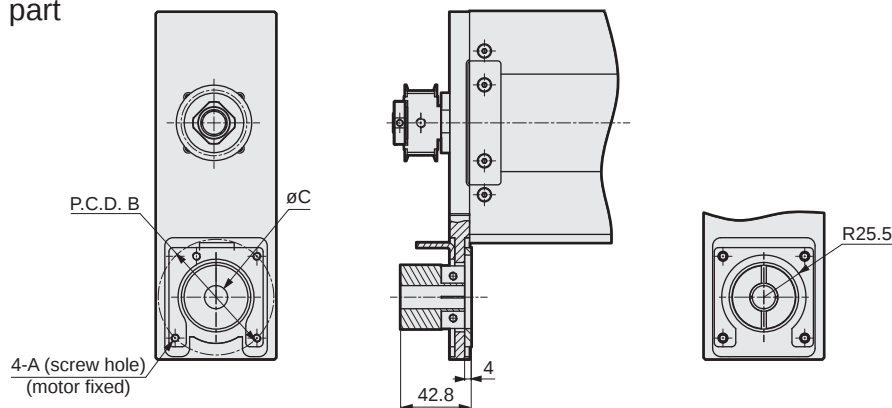
● ECS-14-*****-R

Refer to page 336 for grease nipple dimensions.



Stroke length (mm)	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050
L	384	434	484	534	584	634	684	734	784	834	884	934	984	1034	1084	1134	1184	1234	1284	1334	1384
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)	11.0	11.6	12.2	12.8	13.4	14.0	14.7	15.3	15.9	16.5	17.1	17.8	18.4	19.0	19.6	20.2	20.9	21.5	22.1	22.7	23.3

Motor mounting part



Mounted motor specification		A	B	C	Motor mounting bolt
M	200 W/400 W	M5	ø70	ø14	4-M5 × L18
Y	200 W/400 W	M5	ø70	ø14	4-M5 × L18
P	200 W/400 W	M4	ø70	ø11/ø14	4-M4 × L18
F	200 W/400 W	M5	ø70	ø9/ø14	4-M5 × L18

List of attachments

[Motor mounting parts]

Mounted motor specification	Timing belt, pulley	Fitting	Motor capacity	Motor mounting bolt
				Size Quantity
M	Included at shipment	Included at shipment	200 W/400 W	M5 4
Y				M5 4
P				M4 4
F				M5 4

*Refer to page 338 for fitting details.

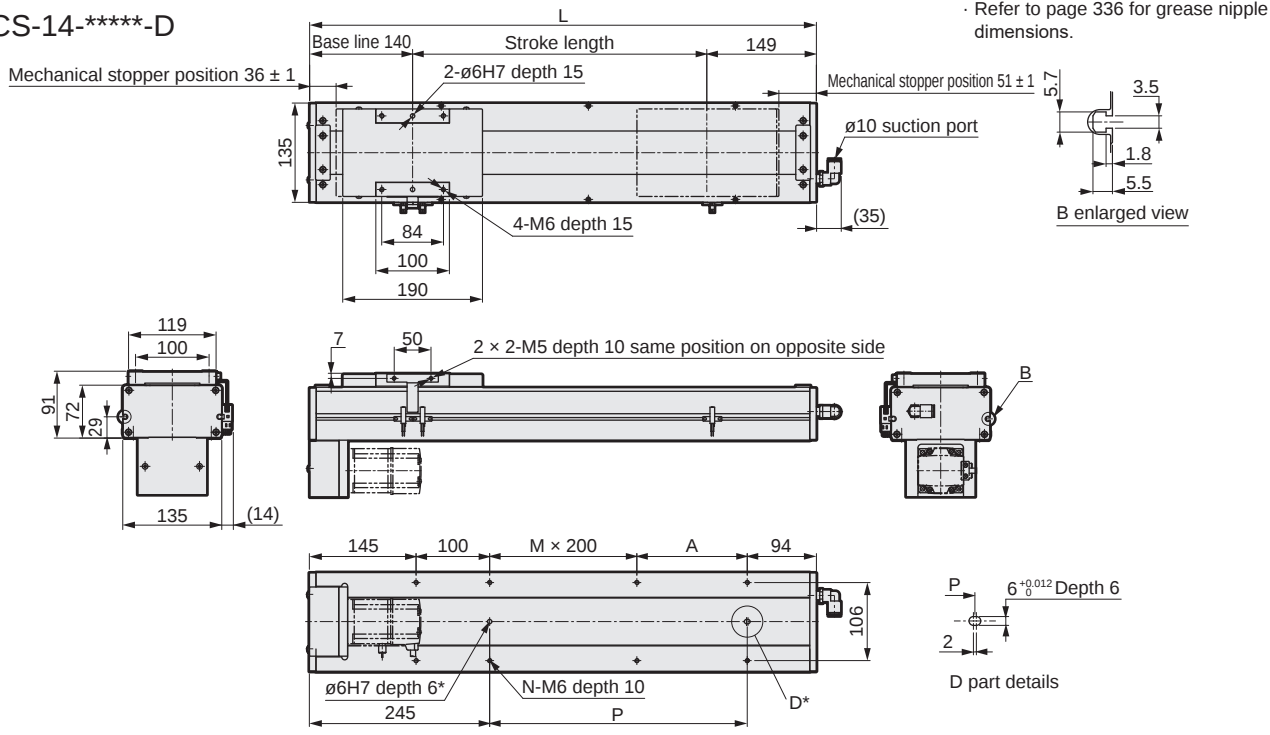
[Origin sensor/Limit sensor]

Manufacturer	Model	Quantity
OMRON Corporation	EE-SX672	3

*Refer to page 334 for sensor specifications.

Dimensions Motor bottom mounting

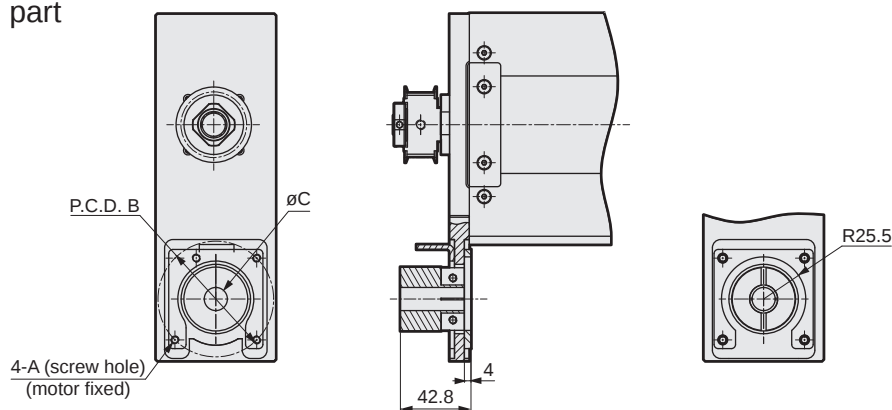
● ECS-14-*****-D



*Positioning pin hole (option)
Round positioning pin holes are available only for stroke 50

Stroke length (mm)	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050
L	339	389	439	489	539	589	639	689	739	789	839	889	939	989	1039	1089	1139	1189	1239	1289	1339
A	0	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
N	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14
P	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
Weight (kg)	11.0	11.6	12.2	12.8	13.4	14.0	14.7	15.3	15.9	16.5	17.1	17.8	18.4	19.0	19.6	20.2	20.9	21.5	22.1	22.7	23.3

Motor mounting part



Mounted motor specification		A	B	C	Motor mounting bolt
M	200 W/400 W	M5	ø70	ø14	4-M5 × L18
Y	200 W/400 W	M5	ø70	ø14	4-M5 × L18
P	200 W/400 W	M4	ø70	ø11/ø14	4-M4 × L18
F	200 W/400 W	M5	ø70	ø9/ø14	4-M5 × L18

List of attachments

[Motor mounting parts]

Mounted motor specification	Timing belt, pulley	Fitting	Motor capacity	Motor mounting bolt
				Size Quantity
M				M5 4
Y	Included at shipment	Included at shipment	200 W/400 W	M5 4
P				M4 4
F				M5 4

*Refer to page 338 for fitting details.

[Origin sensor/Limit sensor]

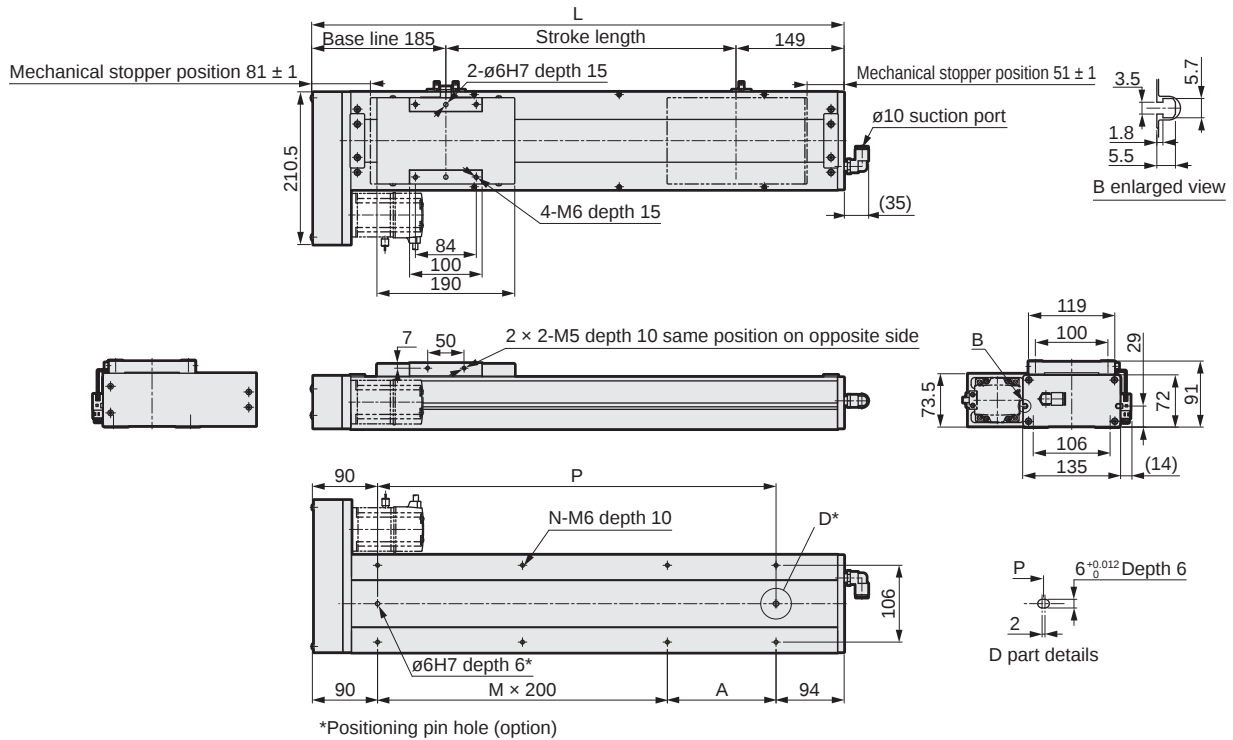
Manufacturer	Model	Quantity
OMRON Corporation	EE-SX672	3

*Refer to page 334 for sensor specifications.

Dimensions Motor left-side mounting

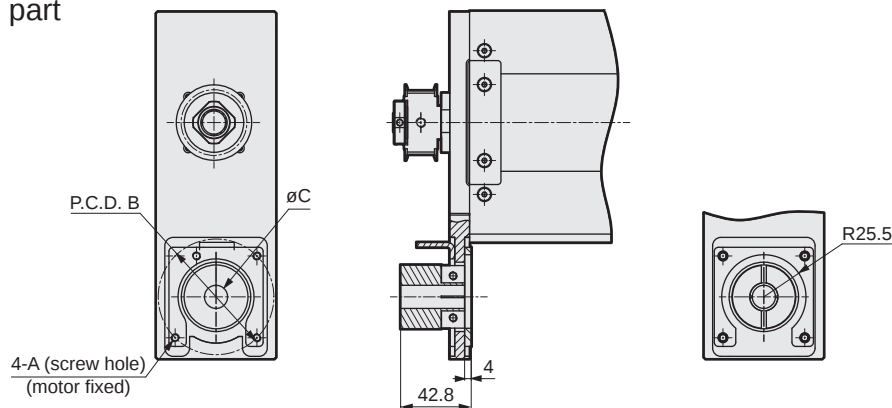
● ECS-14-*****-L

Refer to page 336 for grease nipple dimensions.



Stroke length (mm)	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050
L	384	434	484	534	584	634	684	734	784	834	884	934	984	1034	1084	1134	1184	1234	1284	1334	1384
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)	11.0	11.6	12.2	12.8	13.4	14.0	14.7	15.3	15.9	16.5	17.1	17.8	18.4	19.0	19.6	20.2	20.9	21.5	22.1	22.7	23.3

Motor mounting part



Mounted motor specification		A	B	C	Motor mounting bolt
M	200 W/400 W	M5	ø70	ø14	4-M5 × L18
Y	200 W/400 W	M5	ø70	ø14	4-M5 × L18
P	200 W/400 W	M4	ø70	ø11/ø14	4-M4 × L18
F	200 W/400 W	M5	ø70	ø9/ø14	4-M5 × L18

List of attachments

[Motor mounting parts]

Mounted motor specification	Timing belt, pulley	Fitting	Motor capacity	Motor mounting bolt
				Size Quantity
M	Included at shipment	Included at shipment	200 W/400 W	M5 4
Y				M5 4
P				M4 4
F				M5 4

*Refer to page 338 for fitting details.

[Origin sensor/Limit sensor]

Manufacturer	Model	Quantity
OMRON Corporation	EE-SX672	3

*Refer to page 334 for sensor specifications.

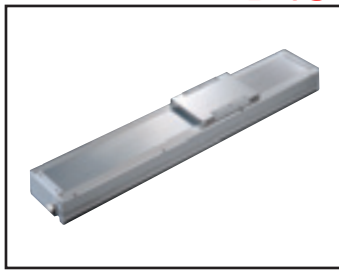
Discontinued some variations

Electric actuator Ball screw drive Slider Low dust specification

ECS-17 Series

Straight motor mounting, built-in mounting

● Servo motor capacity: 400 W/750 W



How to order

ECS - 17 - 05 040 - E M 4 N N N N P

A Body size
17 Body width 170 mm

B Screw lead
05 5 mm
10 10 mm
20 20 mm
40 40 mm

C Stroke length
005 to 125 50 mm to (In 50 mm increments) 1250 mm

D Motor mounting direction *1 *2
E Straight mounting
B Built-in mounting

E Mounted motor specification
M Select the mounted motor specification from the table below.
Y
P
F

F Motor capacity *1
4 400 W
8 750 W

G Brake *2
N None
B Yes

H Origin sensor (1 pc) *3 *4 *5
N None
A Inside motor side
B Inside motor opposite side
C Outside motor side
D Outside motor opposite side

I Limit sensor (2 pcs) *3 *4 *5
N None
A Inside
B Outside

J Grease nipple *5 *6
N None (Body mounting direction: Standard)
R Right
L Left

K Positioning pin hole
N None
P Yes

Manufacturer	400 W	750 W
Mitsubishi Electric Corporation	M	M
Delta Electronics Co., Ltd.	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
Bosch Rexroth AG	P	P
Rockwell Automation, Inc.	M	M
SIEMENS AG	M	M

- *1: The built-in mounting motor mounting method cannot be selected for the 750 W motor capacity.
 *2: "Yes" to the Brake can be selected only when the motor mounting method is built-in mounting.
 *3: Origin sensor and limit sensor are available as a set. As it is both-or-nothing, select "None" for both.
 *4: For sensor inside mounting, the user cannot adjust the position. (Assembled at shipment)
 For sensor outside mounting, the user can adjust the position. (Included at shipment)
 *5: Contact CKD to use the origin sensor, limit sensor and grease nipple in the same direction.
 *6: "Body mounting direction: Standard" here refers to mounting from the bottom side.

* Refer to page 275 for the motor model No.

Specifications

Applicable motor capacity			400 W/750 W servo motor			
Drive method			Ball screw ø20			
Ball screw accuracy grade			C7			
Stroke length			50 to 1250			
Screw lead			5	10	20	40
Max. load capacity *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			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			mm 0.1 or less			
Dynamic allowable load			N 10102			
Static allowable moment			N·m MP: 1034, MY: 1032, MR: 908			
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 max. load capacity are guideline values assuming that the motor mounted will output the rated torque.

Stroke and max. speed

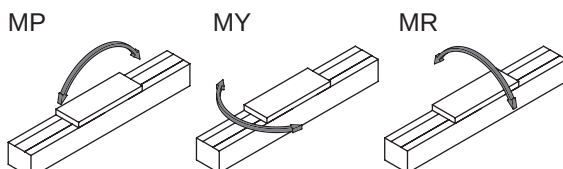
		(mm/s)				
Stroke length	Screw lead	100 to 850	950	1050	1150	1250
5	5	250	225	200	175	150
	10	500	450	400	350	300
	20	1000	900	800	700	600
	40	2000	1800	1600	1400	1200

*The max. speed is the speed when the motor mounted by the customer can output a rotation speed of 3000 rpm.
 The max. speed is restricted by the stroke. Do not move at speeds beyond the limit.

Allowable overhang length

*Refer to page 330 for details.

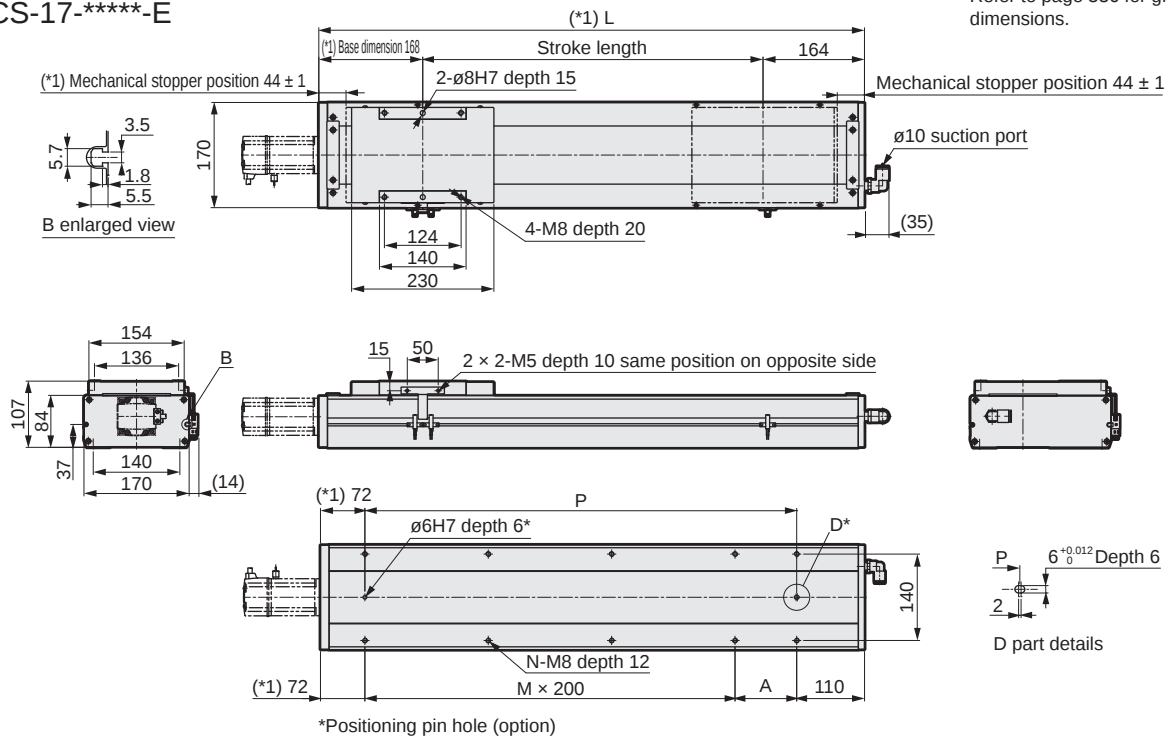
Moment direction



Dimensions Straight motor mounting

● ECS-17-****-E

Refer to page 336 for grease nipple dimensions.

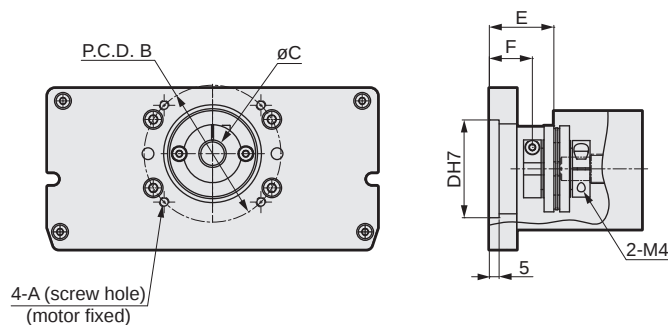


Stroke length (mm)	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250
L (*1)	382	432	482	532	582	632	682	732	782	832	882	932	982	1032	1082	1132	1182	1232	1282	1332	1382	1432	1482	1532	1582
A	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	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)	12.0	12.7	13.4	14.2	15.0	15.8	16.6	17.3	18.1	18.9	19.7	20.5	21.2	22.0	22.8	23.6	24.4	25.1	25.9	26.7	27.5	28.3	29.0	29.8	30.6

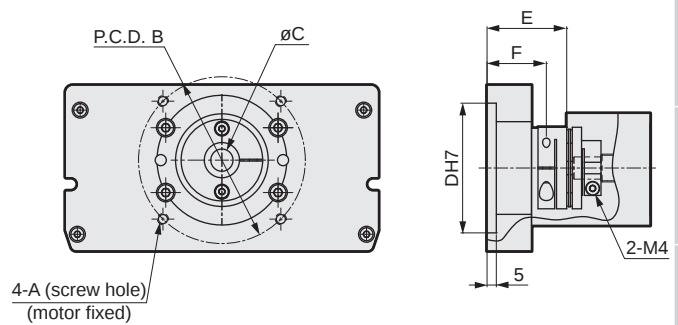
(*1) The 750 W motor capacity is +10 mm.

Motor mounting part

● ECS-17-400W-E



● ECS-17-750W-E



Mounted motor specification	A	B	C	D	E	F	Motor mounting bolt
M 400 W/750 W	M5/M6	ø70/ø90	ø14/ø19	ø50/ø70	33/43	22/32	4-M5 × L18/4-M6 × L20
Y 400 W/750 W	M5/M6	ø70/ø90	ø14/ø19	ø50/ø70	33/43	22/32	4-M5 × L18/4-M6 × L20
P 400 W/750 W	M4/M5	ø70/ø90	ø14/ø19	ø50/ø70	33/43	22/32	4-M4 × L18/4-M5 × L20
F 400 W/750 W	M5/M6	ø70/ø100	ø14/ø14	ø50/ø80	33/29	22/18	4-M5 × L18/4-M6 × L20

List of attachments

[Motor mounting parts]

Mounted motor specification	Coupling	Fitting	Motor capacity	Motor mounting bolt
				Size Quantity
M	Assembled at shipment	Included at shipment	400 W/750 W	M5/M6 4
Y				M5/M6 4
P				M4/M5 4
F				M5/M6 4

*Refer to page 338 for fitting details.

[Origin sensor/Limit sensor]

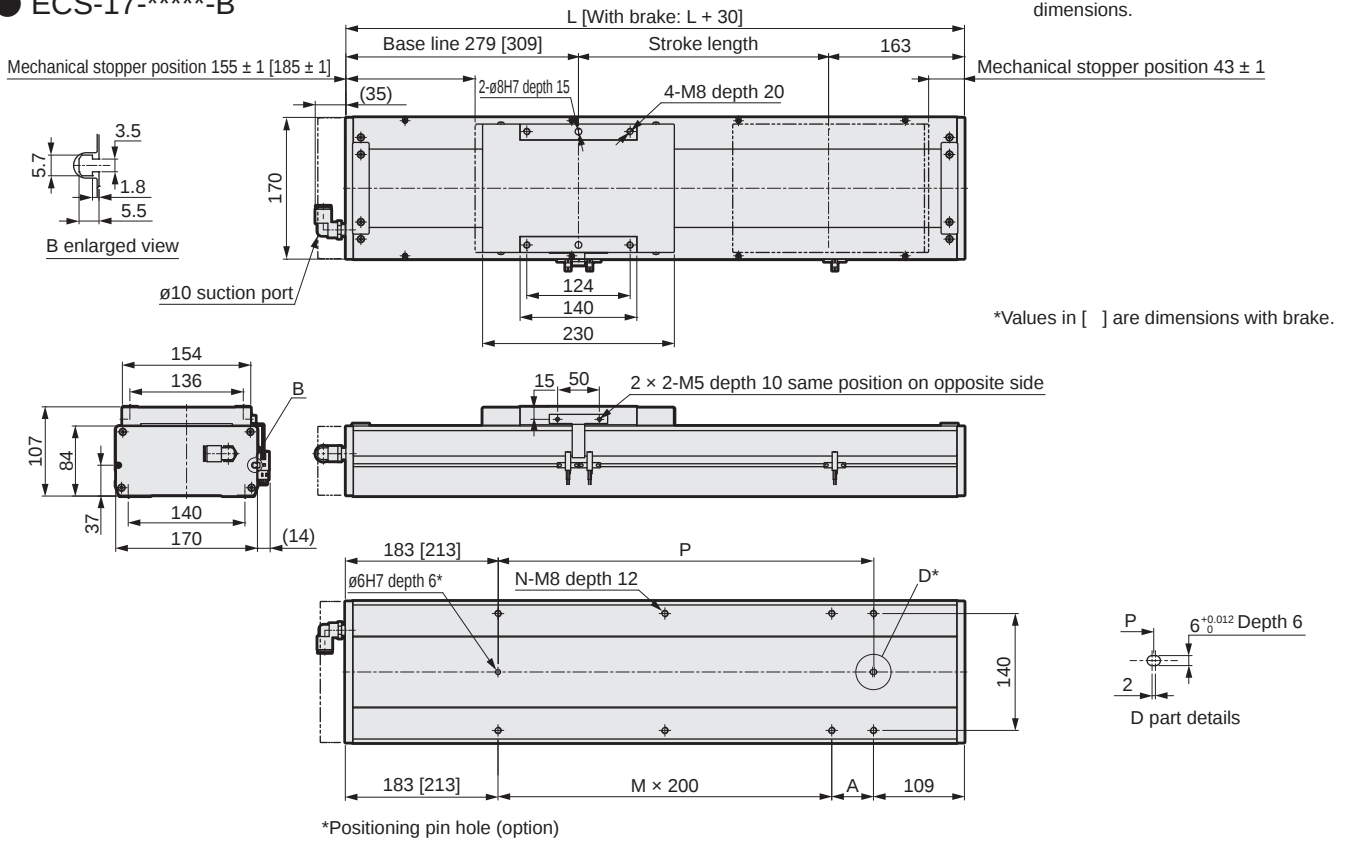
Manufacturer	Model	Quantity
OMRON Corporation	EE-SX672	3

*Refer to page 334 for sensor specifications.

Dimensions Motor built-in mounting

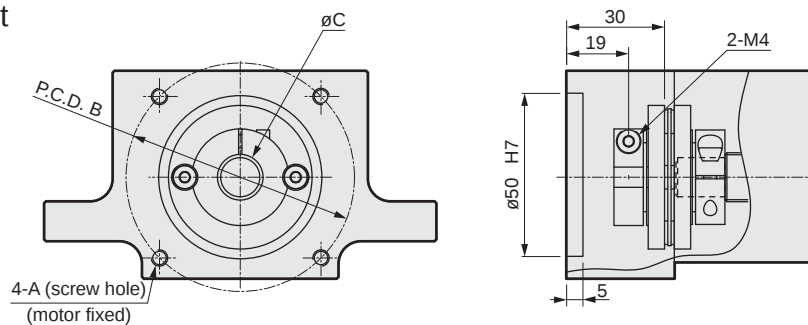
● ECS-17-*****-B

· Refer to page 336 for grease nipple dimensions.



Stroke length (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	492	542	592	642	692	742	792	842	892	942	992	1042	1092	1142	1192	1242	1292	1342	1392	1442	1492	1542	1592	1642	1692
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)	12.5	13.3	14.1	14.9	15.7	16.5	17.3	18.1	18.9	19.7	20.5	21.3	22.1	22.9	23.7	24.5	25.3	26.1	26.9	27.7	28.6	29.4	30.2	31.0	31.8

Motor mounting part



Mounted motor specification		A	B	C	Motor mounting bolt
M	400 W	M5	$\phi 70$	$\phi 14$	4-M5 x L18
Y	400 W	M5	$\phi 70$	$\phi 14$	4-M5 x L18
P	400 W	M4	$\phi 70$	$\phi 14$	4-M4 x L18

List of attachments

[Motor mounting parts]

Mounted motor specification	Coupling	Fitting	Motor capacity	Motor mounting bolt	
				Size	Quantity
M	Assembled at shipment	Included at shipment	400 W	M5	4
Y				M5	4
P				M4	4

*Refer to page 338 for fitting details.

[Origin sensor/Limit sensor]

Manufacturer	Model	Quantity
OMRON Corporation	EE-SX672	3

*Refer to page 334 for sensor specifications.

MEMO

Servo motor compatible							Stepper motor compatible				Safety precautions
EBS	EBR	ETS	ETS Multi-Axis	ECS	ETV	ECV	EKS	EBS	EBR	ETS	ECS

Discontinued some variations

Electric actuator Ball screw drive Slider Low dust specification

ECS-17 Series

Motor side mounting (left, right, bottom)

● Servo motor capacity: 400 W/750 W



How to order

ECS - 17 - 05 040 - R M 4 N N N N P

A Body size
17 Body width 170 mm

B Screw lead
05 5 mm
10 10 mm
20 20 mm
40 40 mm

C Stroke length
005 to 125 (In 50 mm increments)
50 mm to 1250 mm

D Motor mounting direction
R Right mounting
D Bottom mounting
L Left mounting

E Mounted motor specification
M Select the mounted motor specification from the table below.
Y
P
F

F Motor capacity
4 400 W
8 750 W

G Brake
N None

H Origin sensor (1 pc) *1 *2 *3
N None
A Inside motor side
B Inside motor opposite side
C Outside motor side
D Outside motor opposite side

I Limit sensor (2 pcs) *1 *2 *3
N None
A Inside
B Outside

J Grease nipple *3 *4 *5
N None (Body mounting direction: Standard)
R Right
L Left

K Positioning pin hole
N None
P Yes

Manufacturer	400 W	750 W
Mitsubishi Electric Corporation	M	M
Delta Electronics Co., Ltd.	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
Bosch Rexroth AG	P	P
Rockwell Automation, Inc.	M	M
SIEMENS AG	M	M

- *1: Origin sensor and limit sensor are available as a set. As it is both-or-nothing, select "None" for both.
 *2: For sensor inside mounting, the user cannot adjust the position. (Assembled at shipment)
 For sensor outside mounting, the user can adjust the position. (Included at shipment)
 *3: Contact CKD to use the origin sensor, limit sensor and grease nipple in the same direction.
 *4: "Body mounting direction: Standard" here refers to mounting from the bottom side.
 *5: When selecting motor mounting direction R, grease nipple R cannot be selected.
 When selecting L, grease nipple L cannot be selected.

* Refer to page 275 for the motor model No.

Specifications

Applicable motor capacity			400 W/750 W servo motor					
Drive method			Ball screw ø20					
Ball screw accuracy grade			C7					
Stroke length			mm					
Screw lead			mm					
Max. load capacity *1	Vertical	Horizontal	400 W kg	120	110	20	40	
		750 W kg	120	120	83	50		
		400 W kg	40	30	14	7		
		750 W kg	50	40	25	10		
Max. speed			mm/s					
Rated thrust			400 W	N	1388	694	347	174
*1			750 W	N	2100	1050	525	260
Repeatability			mm					
Lost motion			mm					
Dynamic allowable load			N					
Static allowable moment			N·m					
Dynamic allowable moment			N·m					
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 max. load capacity are guideline values assuming that the motor mounted will output the rated torque.

Stroke and max. speed

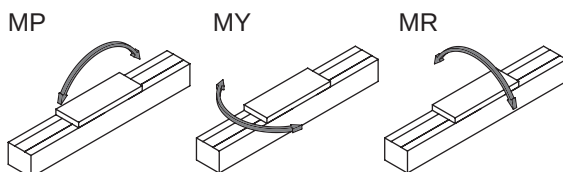
		(mm/s)				
Screw lead	Stroke length	100 to 850	950	1050	1150	1250
5		250	225	200	175	150
10		500	450	400	350	300
20		1000	900	800	700	600
40		2000	1800	1600	1400	1200

*The max. speed is the speed when the motor mounted by the customer can output a rotation speed of 3000 rpm.
 The max. speed is restricted by the stroke. Do not move at speeds beyond the limit.

Allowable overhang length

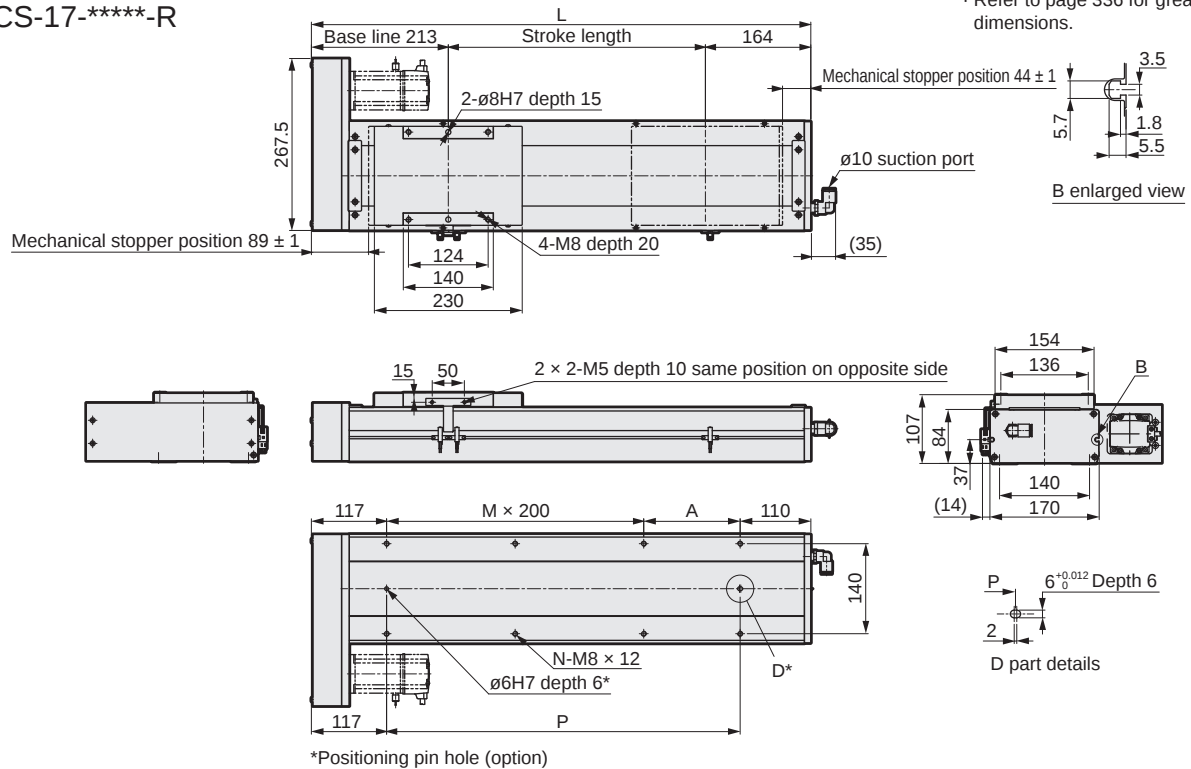
*Refer to page 330 for details.

Moment direction



Dimensions Motor right-side mounting

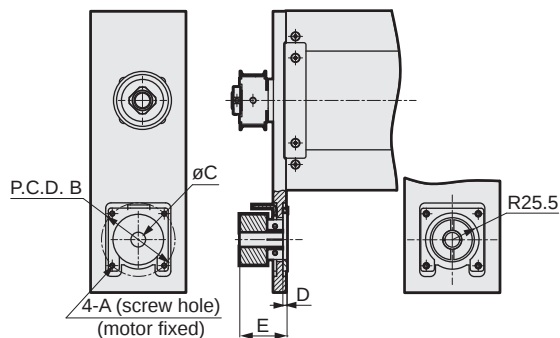
● ECS-17-****-R



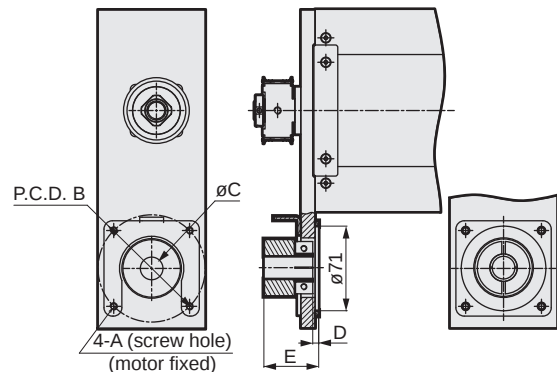
Stroke length (mm)	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250
L	427	477	527	577	627	677	727	777	827	877	927	977	1027	1077	1127	1177	1227	1277	1327	1377	1427	1477	1527	1577	1627
A	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	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)	12.6	13.4	14.2	15.0	15.8	16.6	17.4	18.1	18.9	19.7	20.5	21.3	22.1	22.9	23.6	24.4	25.2	26.0	26.8	27.6	28.4	29.1	29.9	30.7	31.5

Motor mounting part

● ECS-17-400W-R



● ECS-17-750W-R



Mounted motor specification	A	B	C	D	E	Motor mounting bolt
M 400 W/750 W	M5/M6	ø70/ø90	ø14/ø19	4/5	45/46	4-M5 × L18/4-M6 × L24
Y 400 W/750 W	M5/M6	ø70/ø90	ø14/ø19	4/5	45/46	4-M5 × L18/4-M6 × L24
P 400 W/750 W	M4/M5	ø70/ø90	ø14/ø19	4/5	45/46	4-M4 × L18/4-M5 × L24
F 400 W/750 W	M5/M6	ø70/ø100	ø14/ø14	4/7	45/48	4-M5 × L18/4-M6 × L25

List of attachments

[Motor mounting parts]

Mounted motor specification	Timing belt, pulley	Fitting	Motor capacity	Motor mounting bolt
				Size Quantity
M	Included at shipment	Included at shipment	400 W/750 W	M5/M6 4
Y				M5/M6 4
P				M4/M5 4
F				M5/M6 4

*Refer to page 338 for fitting details.

[Origin sensor/Limit sensor]

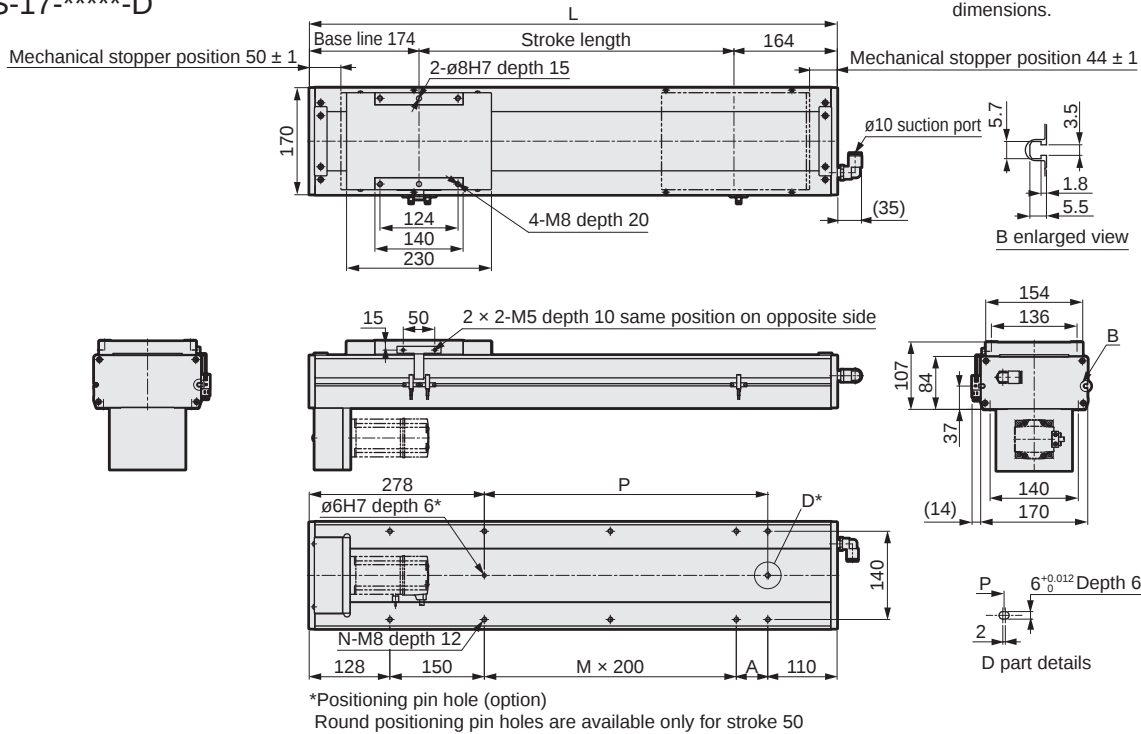
Manufacturer	Model	Quantity
OMRON Corporation	EE-SX672	3

*Refer to page 334 for sensor specifications.

Dimensions Motor bottom mounting

● ECS-17-*****-D

· Refer to page 336 for grease nipple dimensions.

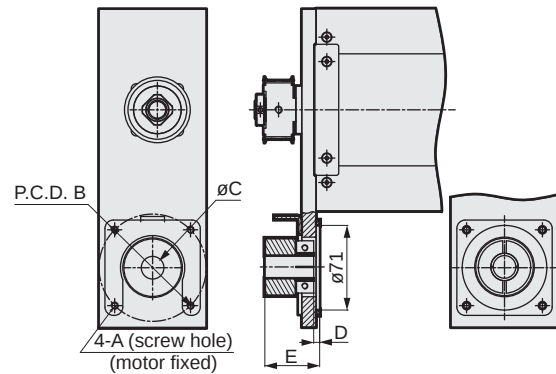
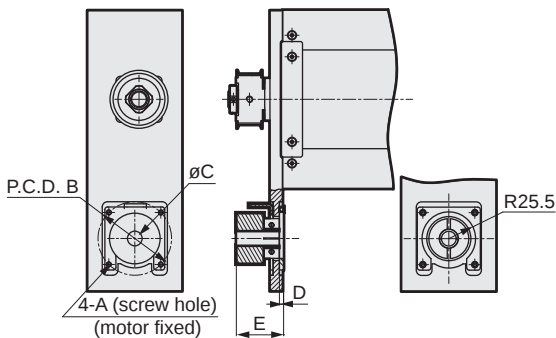


Stroke length (mm)	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250
L	388	438	488	538	588	638	688	738	788	838	888	938	988	1038	1088	1138	1188	1238	1288	1338	1388	1438	1488	1538	1588
A	0	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	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	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)	12.6	13.4	14.2	15.0	15.8	16.6	17.4	18.1	18.9	19.7	20.5	21.3	22.1	22.9	23.6	24.4	25.2	26.0	26.8	27.6	28.4	29.1	29.9	30.7	31.5

Motor mounting part

● ECS-17-400W-D

● ECS-17-750W-D



Mounted motor specification		A	B	C	D	E	Motor mounting bolt
M	400 W/750 W	M5/M6	ø70/ø90	ø14/ø19	4/5	45/46	4-M5 × L18/4-M6 × L24
Y	400 W/750 W	M5/M6	ø70/ø90	ø14/ø19	4/5	45/46	4-M5 × L18/4-M6 × L24
P	400 W/750 W	M4/M5	ø70/ø90	ø14/ø19	4/5	45/46	4-M4 × L18/4-M5 × L24
F	400 W/750 W	M5/M6	ø70/ø100	ø14/ø14	4/7	45/48	4-M5 × L18/4-M6 × L25

List of attachments

[Motor mounting parts]

Mounted motor specification	Timing belt, pulley	Fitting	Motor capacity	Motor mounting bolt	
				Size	Quantity
M	Included at shipment	Included at shipment	400 W/750 W	M5/M6	4
Y				M5/M6	4
P				M4/M5	4
F				M5/M6	4

*Refer to page 338 for fitting details.

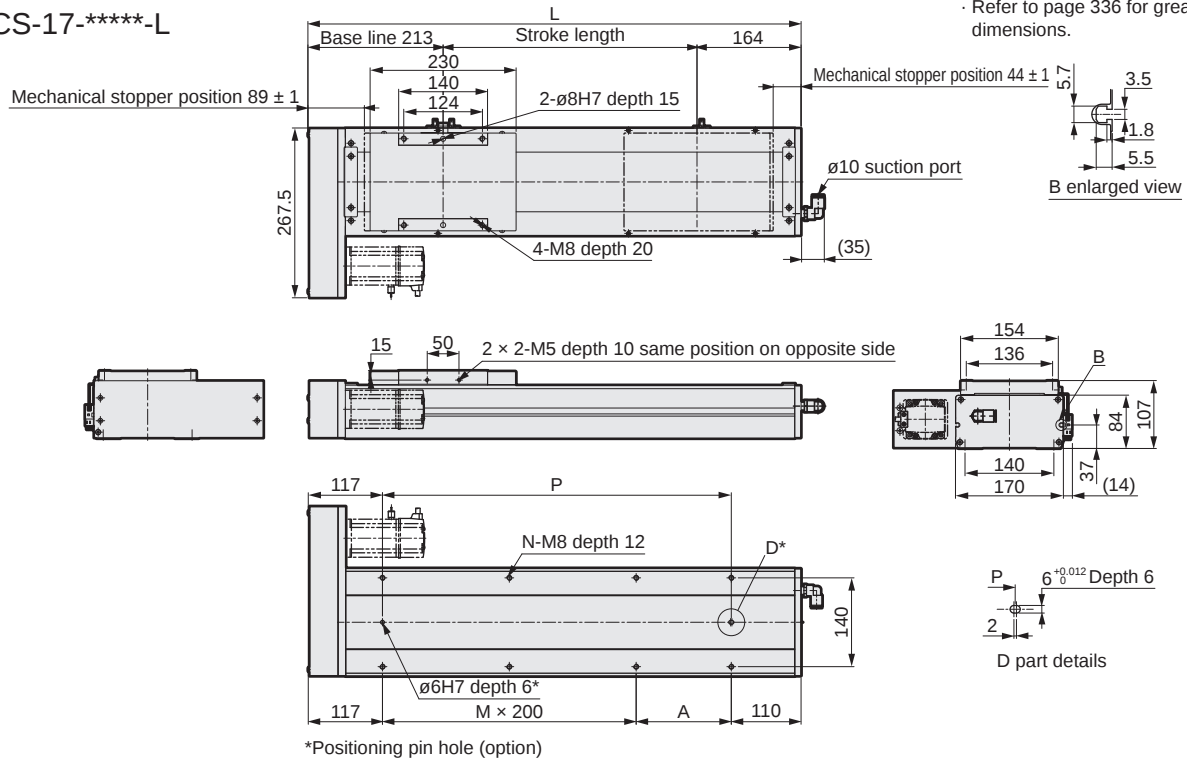
[Origin sensor/Limit sensor]

Manufacturer	Model	Quantity
OMRON Corporation	EE-SX672	3

*Refer to page 334 for sensor specifications.

Dimensions Motor left-side mounting

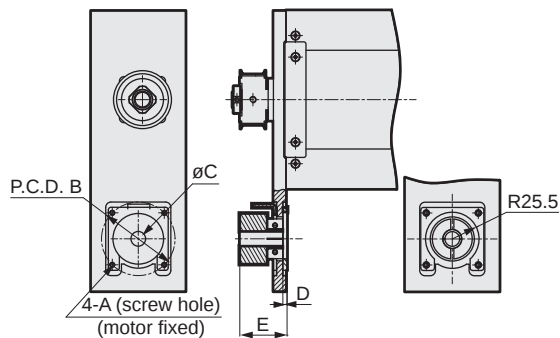
● ECS-17-****-L



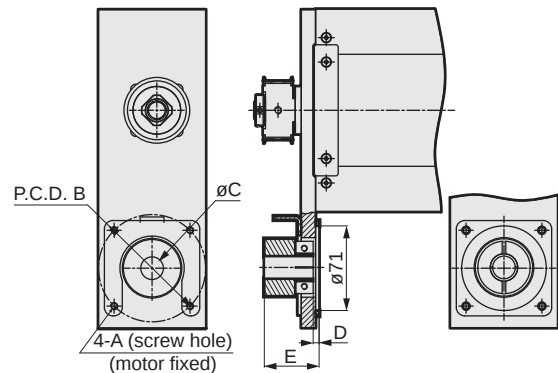
Stroke length (mm)	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250
L	427	477	527	577	627	677	727	777	827	877	927	977	1027	1077	1127	1177	1227	1277	1327	1377	1427	1477	1527	1577	1627
A	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	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)	12.6	13.4	14.2	15.0	15.8	16.6	17.4	18.1	18.9	19.7	20.5	21.3	22.1	22.9	23.6	24.4	25.2	26.0	26.8	27.6	28.4	29.1	29.9	30.7	31.5

Motor mounting part

● ECS-17-400W-L



● ECS-17-750W-L



Mounted motor specification	A	B	C	D	E	Motor mounting bolt
M 400 W/750 W	M5/M6	ø70/ø90	ø14/ø19	4/5	45/46	4-M5 × L18/4-M6 × L24
Y 400 W/750 W	M5/M6	ø70/ø90	ø14/ø19	4/5	45/46	4-M5 × L18/4-M6 × L24
P 400 W/750 W	M4/M5	ø70/ø90	ø14/ø19	4/5	45/46	4-M4 × L18/4-M5 × L24
F 400 W/750 W	M5/M6	ø70/ø100	ø14/ø14	4/7	45/48	4-M5 × L18/4-M6 × L25

List of attachments

[Motor mounting parts]

Mounted motor specification	Timing belt, pulley	Fitting	Motor capacity	Motor mounting bolt
				Size Quantity
M	Included at shipment	Included at shipment	400 W/750 W	M5/M6 4
Y				M5/M6 4
P				M4/M5 4
F				M5/M6 4

*Refer to page 338 for fitting details.

[Origin sensor/Limit sensor]

Manufacturer	Model	Quantity
OMRON Corporation	EE-SX672	3

*Refer to page 334 for sensor specifications.

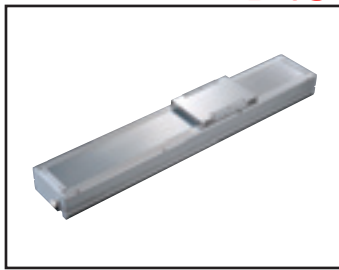
Discontinued some variations

Electric actuator Ball screw drive Slider Low dust specification

ECS-22 Series

Straight motor mounting, built-in mounting

● Servo motor capacity: 750 W



How to order

ECS - 22 - 05 050 - E M 8 N N N N P

A Body size
22 Body width 220 mm

B Screw lead
05 5 mm
10 10 mm
25 25 mm
40 40 mm

C Stroke length
005 100 mm
to (In 50 mm increments)
150 1500 mm

D Motor mounting direction *1
E Straight mounting
B Built-in mounting

E Mounted motor specification
M Select the mounted motor specification from the table below.
Y
P
F

F Motor capacity
8 750 W

G Brake *1
N None
B Yes

H Origin sensor (1 pc) *2 *3 *4
N None
A Inside motor side
B Inside motor opposite side
C Outside motor side
D Outside motor opposite side

I Limit sensor (2 pcs) *2 *3 *4
N None
A Inside
B Outside

K Positioning pin hole
N None
P Yes

J Grease nipple *4 *5
N None (Body mounting direction: Standard)
R Right
L Left

Manufacturer	750 W
Mitsubishi Electric Corporation	M
Delta Electronics Co., Ltd.	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
Bosch Rexroth AG	P
Rockwell Automation, Inc.	M
SIEMENS AG	M

*Refer to page 275 for the motor model No.

- *1: "Yes" to the Brake can be selected only when the motor mounting method is built-in mounting.
 *2: Origin sensor and limit sensor are available as a set. As it is both-or-nothing, select "None" for both.
 *3: For sensor inside mounting, the user cannot adjust the position. (Assembled at shipment)
 For sensor outside mounting, the user can adjust the position. (Included at shipment)
 *4: Contact CKD to use the origin sensor, limit sensor and grease nipple in the same direction.
 *5: "Body mounting direction: Standard" here refers to mounting from the bottom side.

Specifications

Applicable motor capacity	750 W servo motor			
Drive method	Ball screw $\phi 25$ $\phi 20$			
Ball screw accuracy grade	C7			
Stroke length mm	50 to 1500			
Screw lead mm	5	10	25	40
Max. load capacity *1	Horizontal kg	150	150	120
	Vertical kg	55	45	20
Max. speed mm/s	250	500	1250	2000
Rated thrust *1	N	2100	1050	420
Repeatability mm	± 0.01			
Lost motion mm	0.1 or less			
Dynamic allowable load N	14174			
Static allowable moment N·m	MP: 2052, MY: 2052, MR: 1810			
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 max. load capacity are guideline values assuming that the motor mounted will output the rated torque.

Stroke and max. speed

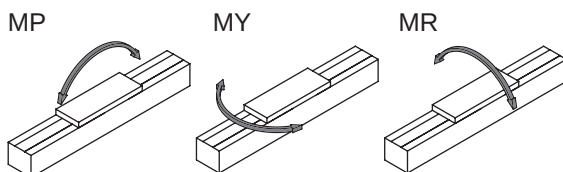
		(mm/s)						
Stroke length	Screw lead	100 to 900	1000	1100	1200	1300	1400	1500
5	5	250	225	200	175	150	125	100
	10	500	450	400	350	300	250	200
	25	1250	1125	1000	875	750	625	500
Stroke length	Screw lead	100 to 850	950	1050	1150	1250	1350	1450
40	40	2000	1800	1600	1400	1200	1000	800
								600

*The max. speed is the speed when the motor mounted by the customer can output a rotation speed of 3000 rpm.
 The max. speed is restricted by the stroke. Do not move at speeds beyond the limit.

Allowable overhang length

*Refer to page 330 for details.

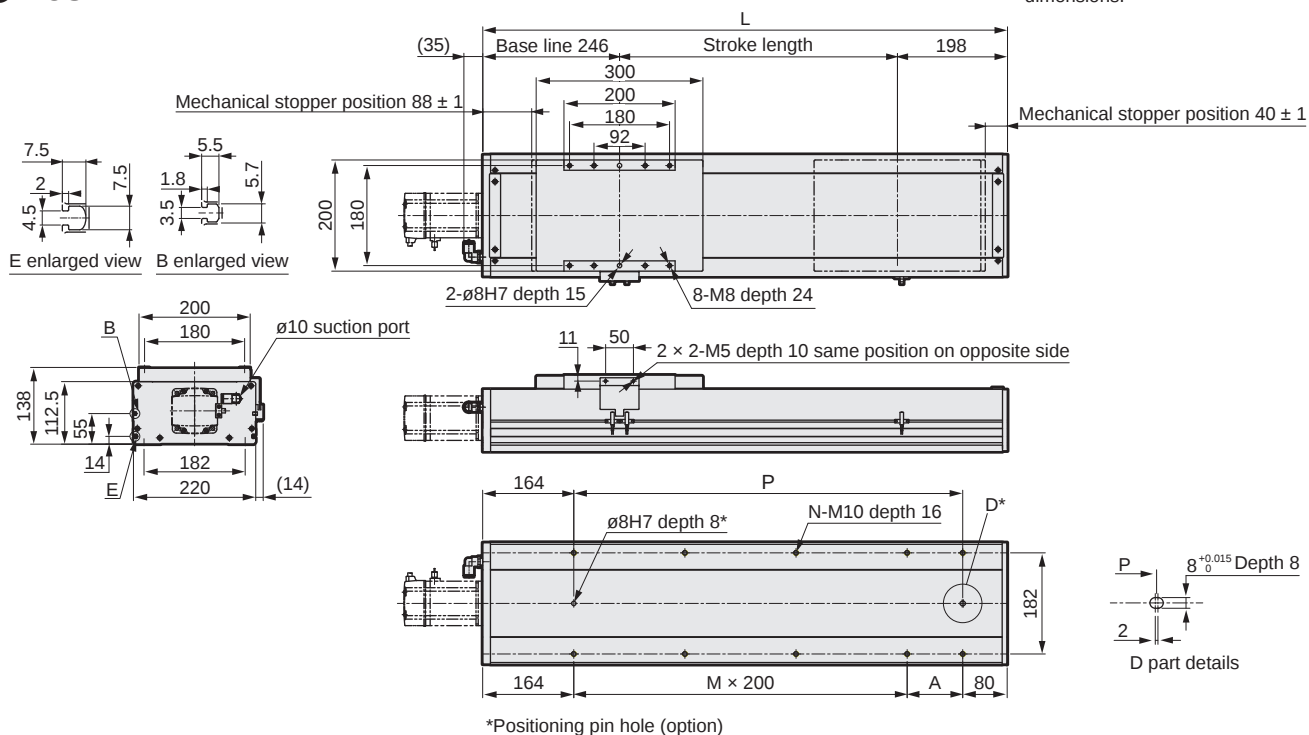
Moment direction



Dimensions Straight motor mounting

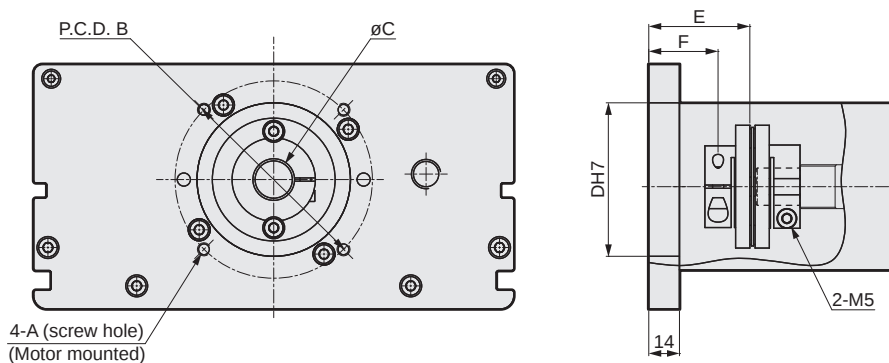
● ECS-22-*****-E

- Refer to page 336 for grease nipple dimensions.



Stroke length (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	494	544	594	644	694	744	794	844	894	944	994	1044	1094	1144	1194	1244	1294	1344	1394	1444	1494	1544	1594	1644	1694	1744	1794	1844	1894	1944
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)	27.5	28.9	30.5	31.9	33.4	34.9	36.3	37.8	39.2	40.7	42.1	43.6	45.1	46.5	48.0	49.4	50.9	52.4	53.8	55.3	56.7	58.2	59.7	61.1	62.6	64.0	65.5	67.0	68.4	69.9

Motor mounting part



Mounted motor specification		A	B	C	D	E	F	Motor mounting bolt
M	750 W	M6	ø90	ø19	ø70	46.1	31.6	4-M6 × L16
Y	750 W	M6	ø90	ø19	ø70	46.1	31.6	4-M6 × L16
P	750 W	M5	ø90	ø19	ø70	46.1	31.6	4-M5 × L16
F	750 W	M6	ø100	ø14	ø80	29.7	15.2	4-M6 × L16

List of attachments

[Motor mounting parts]

Mounted motor specification	Coupling	Fitting	Motor capacity	Motor mounting bolt	
				Size	Quantity
M	Assembled at shipment	Included at shipment	750 W	M6	4
Y				M6	4
P				M5	4
F				M6	4

*Refer to page 338 for fitting details.

[Origin sensor/Limit sensor]

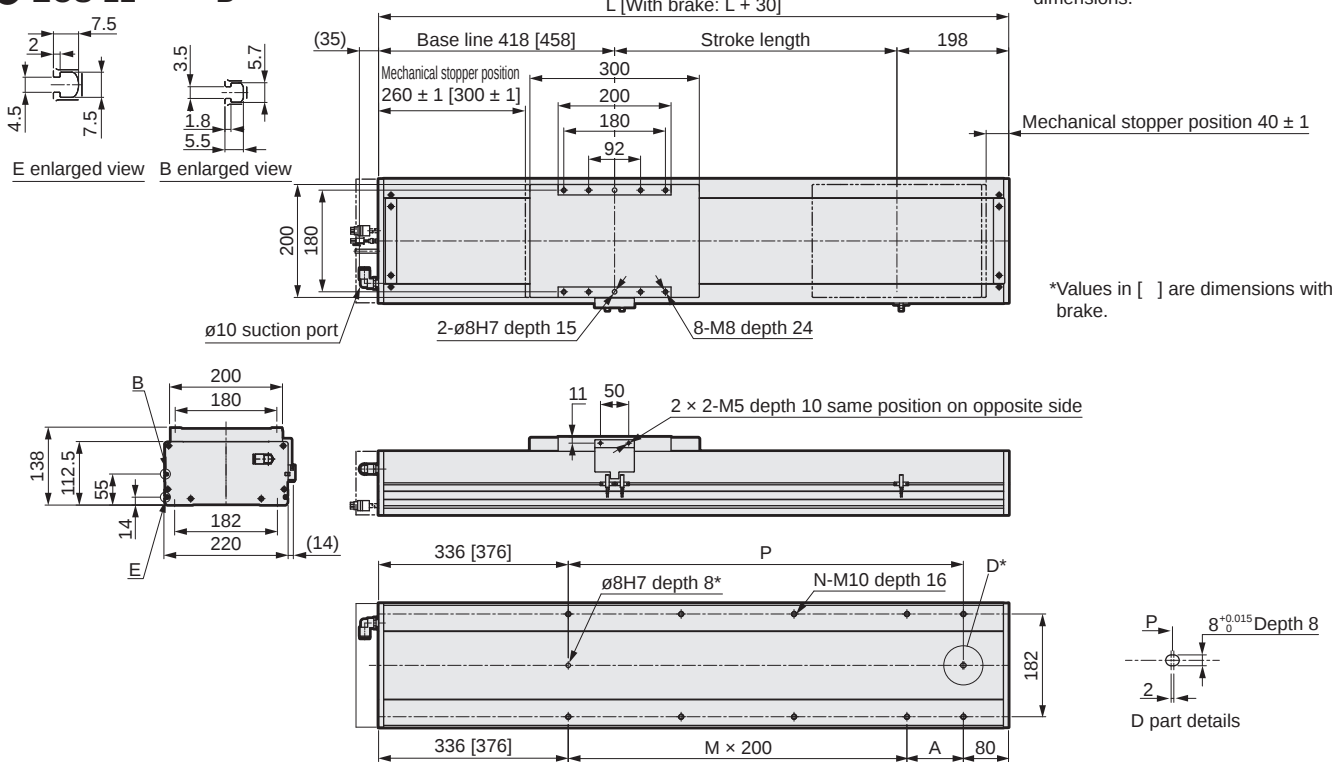
Manufacturer	Model	Quantity
OMRON Corporation	EE-SX672	3

*Refer to page 334 for sensor specifications.

Dimensions Motor built-in mounting

● ECS-22-*****-B

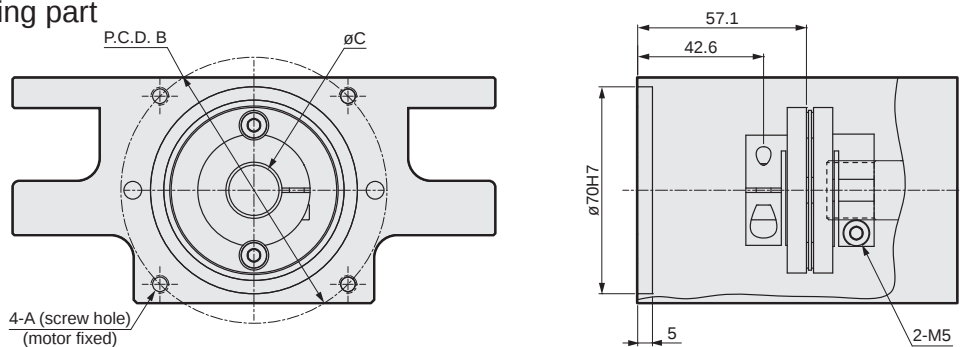
- Refer to page 336 for grease nipple dimensions.



*Positioning pin hole (option)

Stroke length (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	666	716	766	816	866	916	966	1016	1066	1116	1166	1216	1266	1316	1366	1416	1466	1516	1566	1616	1666	1716	1766	1816	1866	1916	1966	2016	2066	2116
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)	26.0	31.3	32.7	34.2	35.7	37.1	38.6	40.1	41.6	43.0	44.5	46.0	47.4	48.9	50.4	51.8	53.3	54.8	56.3	57.7	59.2	60.7	62.1	63.6	65.1	66.5	68.0	69.5	71.0	72.4

Motor mounting part



Mounted motor specification		A	B	C	Motor mounting bolt
M	750 W	M6	ø90	ø19	4-M6 × L16
Y	750 W	M6	ø90	ø19	4-M6 × L16
P	750 W	M5	ø90	ø19	4-M5 × L16

List of attachments

[Motor mounting parts]

Mounted motor specification	Coupling	Fitting	Motor capacity	Motor mounting bolt	
				Size	Quantity
M	Assembled at shipment	Included at shipment	750 W	M6	4
Y				M6	4
P				M5	4

[Origin sensor/Limit sensor]

Manufacturer	Model	Quantity
OMRON Corporation	EE-SX672	3

*Refer to page 334 for sensor specifications.

*Refer to page 338 for fitting details.

Discontinued some variations

ECS-22 Series

Dimensions/List of attachments

MEMO

Servo motor compatible							Stepper motor compatible				Safety precautions
EBS	EBR	ETS	ETS Multi-Axis	ECS	ETV	ECV	EKS	EBS	EBR	ETS	ECS

Discontinued some variations

Electric actuator Ball screw drive Slider Low dust specification

ECS-22 Series

Motor side mounting (left, right, bottom)

● Servo motor capacity: 750 W



How to order

ECS - 22 - 05 040 - R M 8 N N N N P

A	B	C	D	E	F	G	H	I	J	K
A Body size	B Screw lead	C Stroke length	D Motor mounting direction	E Mounted motor specification	F Motor capacity	G Brake	H Origin sensor (1 pc) *1 *2 *3	I Limit sensor (2 pcs) *1 *2 *3	J Grease nipple *3 *4 *5	K Positioning pin hole
22 Body width 220 mm	05 5 mm 10 10 mm 25 25 mm 40 40 mm	005 100 mm to (In 50 mm increments) 150 1500 mm	R Right mounting D Bottom mounting L Left mounting	M Y Select the mounted motor specification from the table below. P F	8 750 W	N None A Inside B Outside	N None A Inside motor side B Inside motor opposite side C Outside motor side D Outside motor opposite side	N None A Inside B Outside	N None (Body mounting direction: Standard) R Right L Left	N None P Yes

- *1: Origin sensor and limit sensor are available as a set. As it is both-or-nothing, select "None" for both.
 *2: For sensor inside mounting, the user cannot adjust the position. (Assembled at shipment)
 For sensor outside mounting, the user can adjust the position. (Included at shipment)
 *3: Contact CKD to use the origin sensor, limit sensor and grease nipple in the same direction.
 *4: "Body mounting direction: Standard" here refers to mounting from the bottom side.
 *5: When selecting motor mounting direction R, grease nipple R cannot be selected.
 When selecting L, grease nipple L cannot be selected.

Manufacturer	750 W
Mitsubishi Electric Corporation	M
Delta Electronics Co., Ltd.	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
Bosch Rexroth AG	P
Rockwell Automation, Inc.	M
SIEMENS AG	M

*Refer to page 275 for the motor model No.

Specifications

Applicable motor capacity		750 W servo motor			
Drive method		Ball screw ø25			ø20
Ball screw accuracy grade		C7			
Stroke length mm		50 to 1500			
Screw lead mm		5	10	25	40
Max. load capacity *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, MY: 2052, MR: 1810			
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 max. load capacity are guideline values assuming that the motor mounted will output the rated torque.

Stroke and max. speed

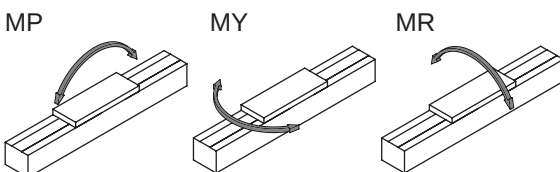
		(mm/s)						
Screw lead	Stroke length	100 to 900	1000	1100	1200	1300	1400	1500
		250	225	200	175	150	125	100
Screw lead	Stroke length	100 to 850	950	1050	1150	1250	1350	1450
		2000	1800	1600	1400	1200	1000	800

*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 move at speeds beyond the limit.

Allowable overhang length

*Refer to page 330 for details.

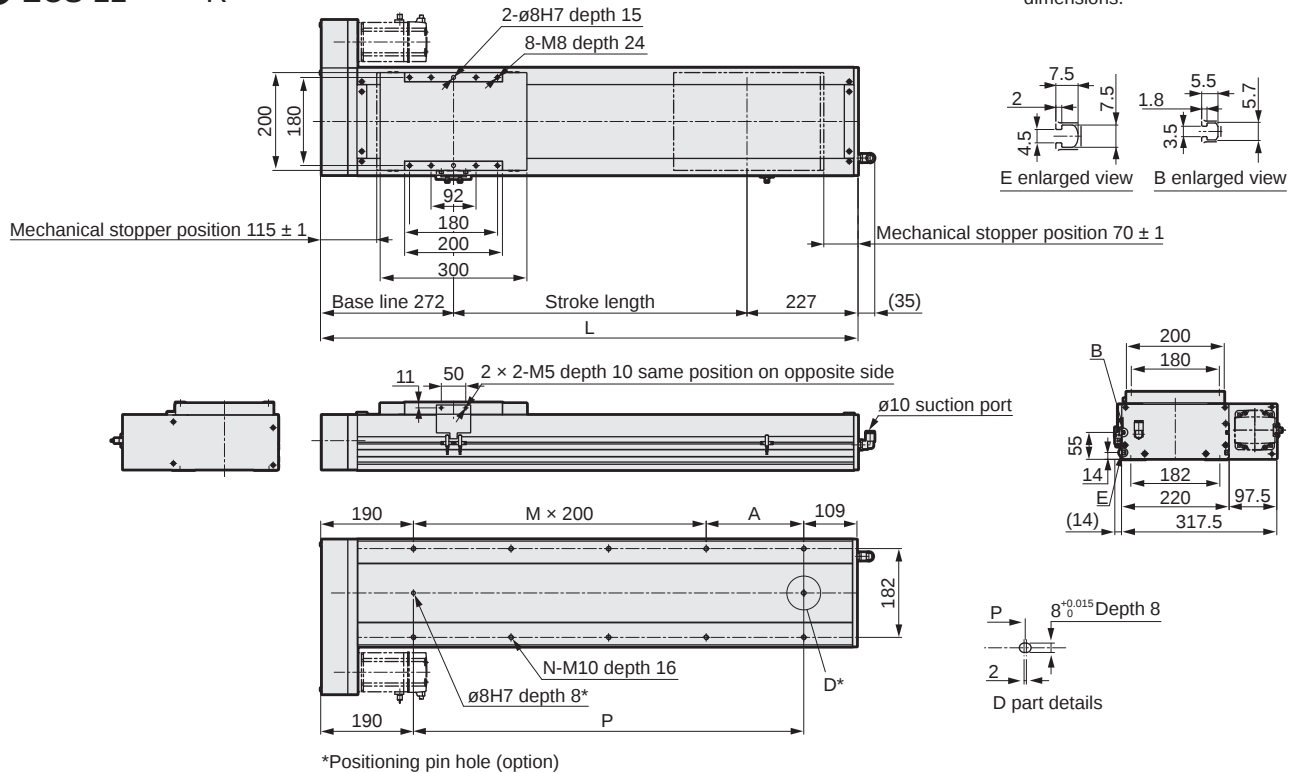
Moment direction



Dimensions Motor right-side mounting

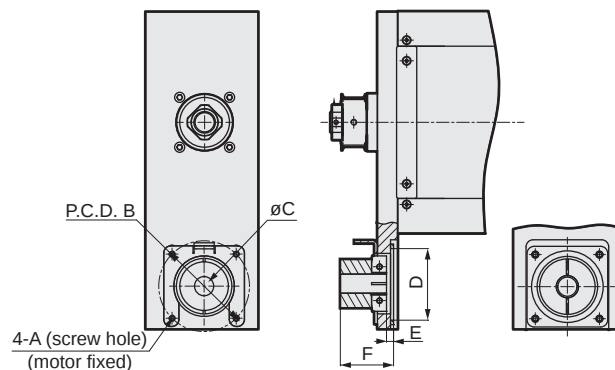
● ECS-22-*****-R

Refer to page 336 for grease nipple dimensions.



Stroke length (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	549	599	649	699	749	799	849	899	949	999	1049	1099	1149	1199	1249	1299	1349	1399	1449	1499	1549	1599	1649	1699	1749	1799	1849	1899	1949	1999
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	10	10	10	10	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)	26.0	30.1	31.6	33.0	34.5	35.9	37.4	38.9	40.3	41.8	43.2	44.7	46.2	47.6	49.1	50.5	52.0	53.5	54.9	56.4	57.8	59.3	60.8	62.2	63.7	65.1	66.6	68.1	69.5	71.0

Motor mounting part



Mounted motor specification		A	B	C	D	E	F	Motor mounting bolt
M	750 W	M6	ø90	ø19	ø71	7	52.8	4-M6 × L24
Y	750 W	M6	ø90	ø19	ø71	7	52.8	4-M6 × L24
P	750 W	M5	ø90	ø19	ø71	7	52.8	4-M5 × L24
F	750 W	M6	ø100	ø14	ø81	8	53.8	4-M6 × L25

List of attachments

[Motor mounting parts]

Mounted motor specification	Timing belt/pulley	Fitting	Motor capacity	Motor mounting bolt
				Size Quantity
M	Included at shipment	Included at shipment	750 W	M6 4
Y				M6 4
P				M5 4
F				M6 4

*Refer to page 338 for fitting details.

[Origin sensor/Limit sensor]

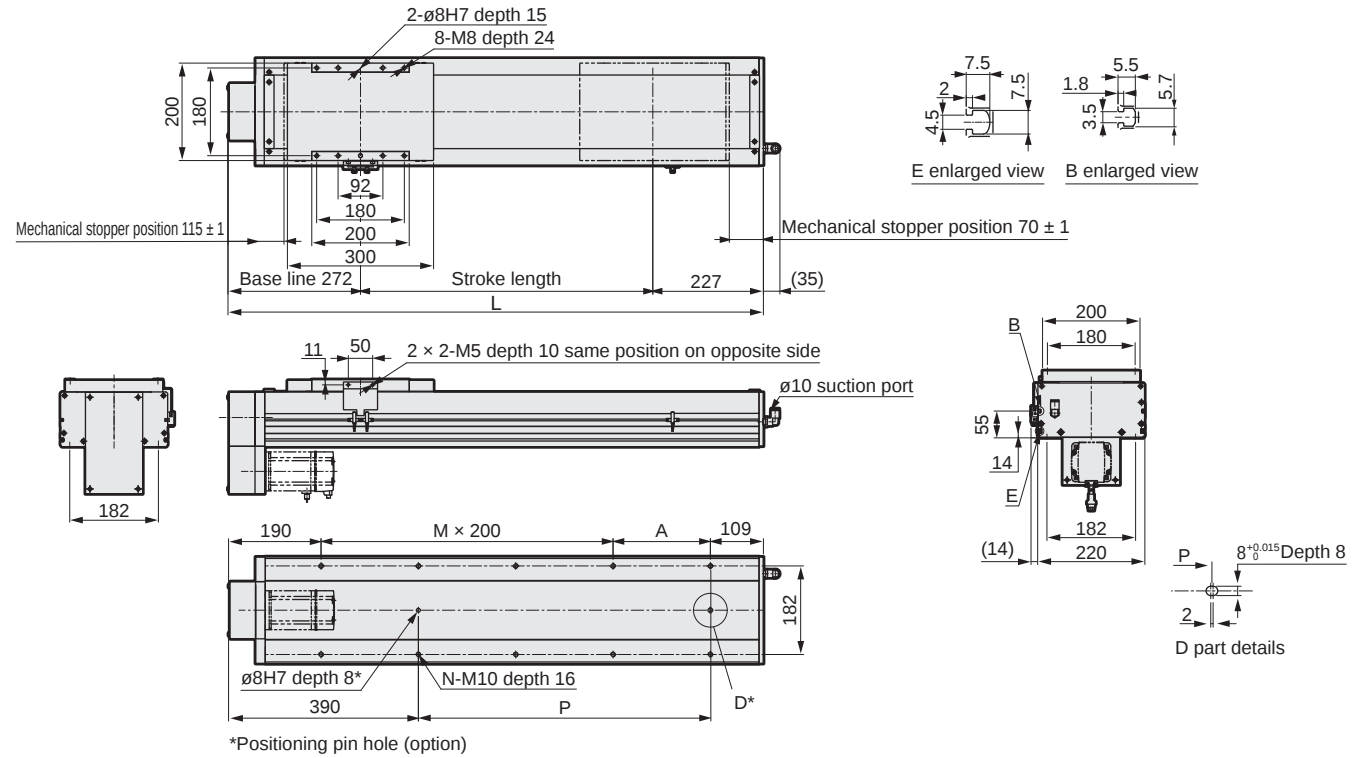
Manufacturer	Model	Quantity
OMRON Corporation	EE-SX672	3

*Refer to page 334 for sensor specifications.

Dimensions Motor bottom mounting

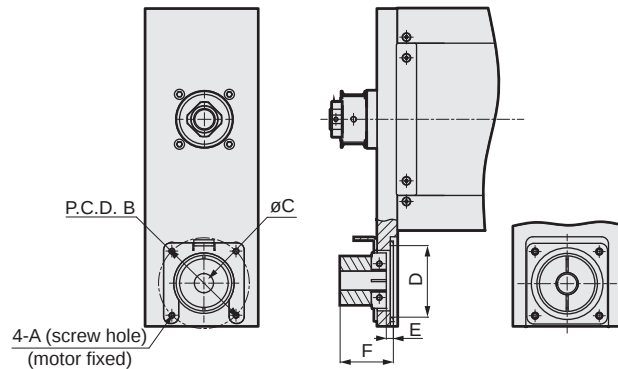
● ECS-22-*****-D

· Refer to page 336 for grease nipple dimensions.



Stroke length (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	549	599	649	699	749	799	849	899	949	999	1049	1099	1149	1199	1249	1299	1349	1399	1449	1499	1549	1599	1649	1699	1749	1799	1849	1899	1948	1999
A	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
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	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)	27.5	30.1	31.6	33.0	34.5	35.9	37.4	38.9	40.3	41.8	43.2	44.7	46.2	47.6	49.1	50.5	52.0	53.5	54.9	56.4	57.8	59.3	60.8	62.2	63.7	65.1	66.6	68.1	69.5	71.0

Motor mounting part



Mounted motor specification		A	B	C	D	E	F	Motor mounting bolt
M	750 W	M6	ø90	ø19	ø71	7	52.8	4-M6 × L24
Y	750 W	M6	ø90	ø19	ø71	7	52.8	4-M6 × L24
P	750 W	M5	ø90	ø19	ø71	7	52.8	4-M5 × L24
F	750 W	M6	ø100	ø14	ø81	8	53.8	4-M6 × L25

List of attachments

[Motor mounting parts]

Mounted motor specification	Timing belt/pulley	Fitting	Motor capacity	Motor mounting bolt	
				Size	Quantity
M	Included at shipment	Included at shipment	750 W	M6	4
Y				M6	4
P				M5	4
F				M6	4

*Refer to page 338 for fitting details.

[Origin sensor/Limit sensor]

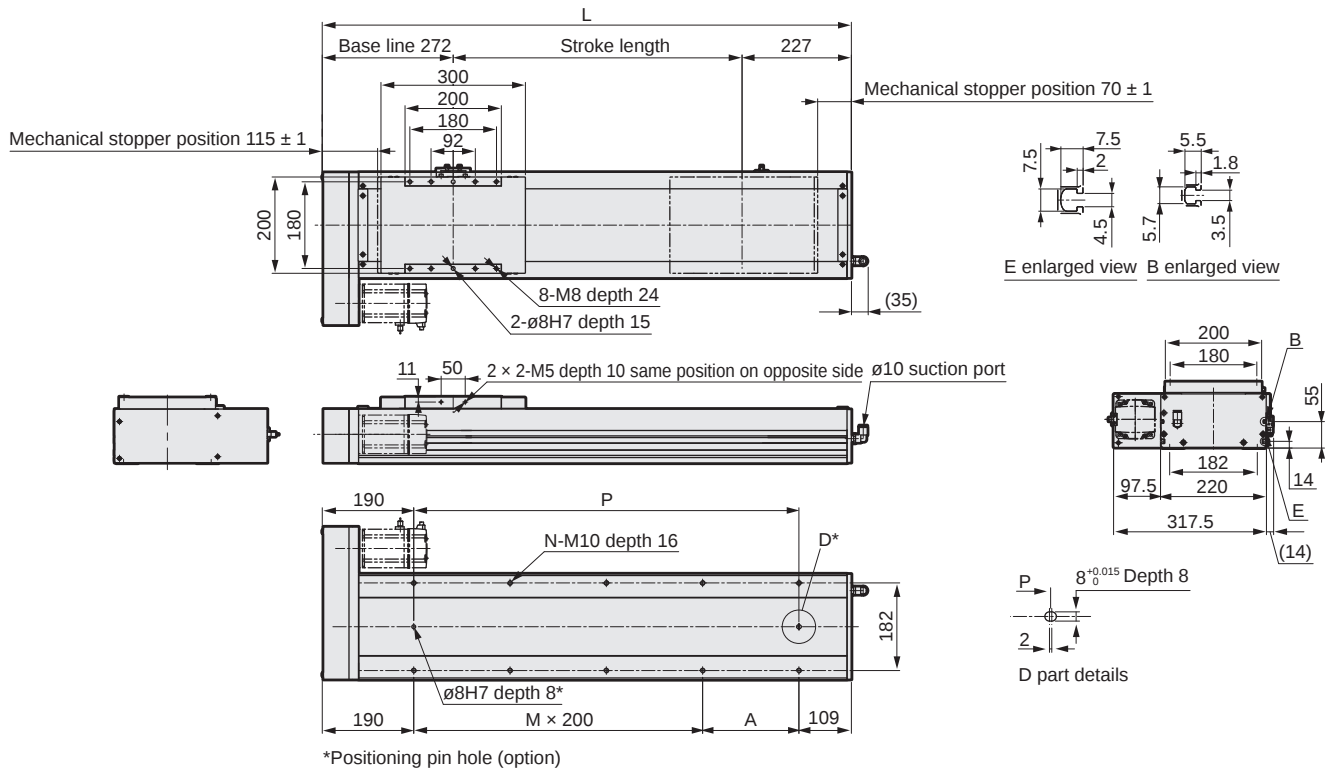
Manufacturer	Model	Quantity
OMRON Corporation	EE-SX672	3

*Refer to page 334 for sensor specifications.

Dimensions Motor left-side mounting

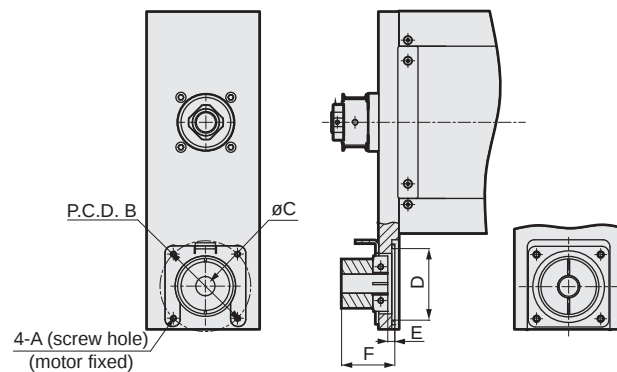
● ECS-22-*****-L

· Refer to page 336 for grease nipple dimensions.



Stroke length (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	549	599	649	699	749	799	849	899	949	999	1049	1099	1149	1199	1249	1299	1349	1399	1449	1499	1549	1599	1649	1699	1749	1799	1849	1899	1949	1999
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	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)	26.0	30.1	31.6	33.0	34.5	35.9	37.4	38.9	40.3	41.8	43.2	44.7	46.2	47.6	49.1	50.5	52.0	53.5	54.9	56.4	57.8	59.3	60.8	62.2	63.7	65.1	66.6	68.1	69.5	71.0

Motor mounting part



Mounted motor specification		A	B	C	D	E	F	Motor mounting bolt
M	750 W	M6	ø90	ø19	ø71	7	52.8	4-M6 × L24
Y	750 W	M6	ø90	ø19	ø71	7	52.8	4-M6 × L24
P	750 W	M5	ø90	ø19	ø71	7	52.8	4-M5 × L24
F	750 W	M6	ø100	ø14	ø81	8	53.8	4-M6 × L25

List of attachments

[Motor mounting parts]

Mounted motor specification	Timing belt/pulley	Fitting	Motor capacity	Motor mounting bolt
				Size Quantity
M	Included at shipment	Included at shipment	750 W	M6 4
Y				M6 4
P				M5 4
F				M6 4

*Refer to page 338 for fitting details.

[Origin sensor/Limit sensor]

Manufacturer	Model	Quantity
OMRON Corporation	EE-SX672	3

*Refer to page 334 for sensor specifications.

Model selection

STEP 1 Confirming load capacity

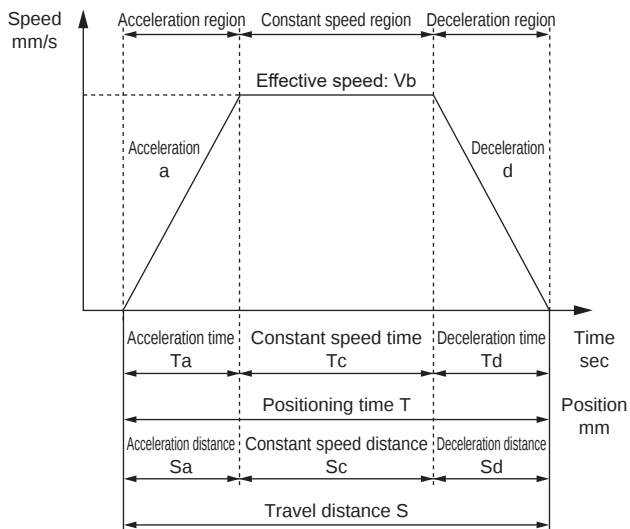
Load capacity varies with mounting orientation and screw lead.

Refer to the selection table (page 272) and the specification table for each model to select the size and screw lead.

STEP 2 Confirming positioning time

Calculate the positioning time of the selected product according to the following example and confirm that the required tact is achievable.

Select the speed and acceleration/deceleration from the specification table for each model and the motor selected by the customer.



	Description	Code	Unit	Remarks
Set value	Set speed	V	mm/s	
	Set acceleration	a	mm/s ²	
	Set deceleration	d	mm/s ²	
	Travel distance	S	mm	
Calculated value	Achieved speed	Vmax	mm/s	$= \{2 \times a \times d \times S / (a + d)\}^{1/2}$
	Effective speed	Vb	mm/s	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 that exceed the specifications.

*Acceleration/deceleration setting by acceleration/deceleration time varies with set speed and stroke length.

*Depending on acceleration/deceleration and stroke length, the trapezoid speed waveform may not be formed (the set speed may not be achieved). In this case, select the effective speed (Vb) from the set speed (V) and the achieved speed (Vmax), whichever is smaller.

*Use with acceleration time/deceleration time of 0.2 sec or longer.

*1 G $\approx$ 9.8 m/s².

STEP 3 Confirming allowable overhang length

Make sure that the load overhang length during operation is within the allowable range (pages 330 to 332).

For selection details, confirm with the CKD online model selection system, or contact CKD.

Introducing the online model selection system

[For confirmation via PC]

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

[For confirmation via iPad or smartphone]



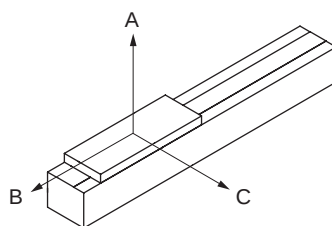
*Depending on your smartphone environment, it may not be displayed correctly.

MEMO

Servo motor compatible							Stepper motor compatible				Safety precautions
EBS	EBR	ETS	ETS Multi-Axis	ECS	ETV	ECV	EKS	EBS	EBR	ETS	ECS

Allowable overhang length (ECS Series)

[When installed horizontally]



[Allowable overhang length]

● ECS-05

Motor mounted	Acceleration/deceleration time sec	Screw lead	Weight kg	Overhang mm		
Straight / side/bottom	0.2	2	5	750	45	105
			10	350	20	47
		5	4	480	45	105
			7	300	25	55
		10	3	300	55	110
			5	180	30	65

● ECS-06

Motor mounted	Acceleration/deceleration time sec	Screw lead	Weight kg	Overhang mm		
Straight / side/bottom	0.2	2	10	400	65	150
			30	150	15	40
		5	10	520	50	110
			30	130	10	25
		10	3	800	145	330
			8	280	50	120
			15	140	23	55

● ECS-10

Motor mounted	Acceleration/deceleration time sec	Screw lead	Weight kg	Overhang mm		
Straight / side/bottom	0.2	5	30	560	50	50
			50	310	27	27
			15	440	90	90
		10	25	250	50	50
			30	200	40	40
			5	950	270	230
		16	10	480	130	110
			22	200	55	45
			5	750	250	200
		20	10	370	120	95
			15	240	80	60

● ECS-12

Motor mounted	Acceleration/deceleration time sec	Screw lead	Weight kg	Overhang mm		
Straight / side/bottom	0.2	5	30	900	70	80
			50	420	30	40
			15	900	150	160
		10	25	490	80	85
			30	400	60	70
			5	1700	430	450
		16	10	800	200	220
			22	330	80	85
			5	1200	420	400
		20	10	580	200	190
			15	370	120	120

● ECS-14 (200 W)

Motor mounted	Acceleration/deceleration time sec	Screw lead	Weight kg	Overhang mm		
Straight / side/bottom	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

● ECS-14 (400 W)

Motor mounted	Acceleration/deceleration time sec	Screw lead	Weight kg	Overhang mm		
Straight / side/bottom	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	800	260	220
		20	10	2300	1200	1000
			20	1400	600	500
			40	600	280	230

● ECS-17 (400 W)

Motor mounted	Acceleration/deceleration time sec	Screw lead	Weight kg	Overhang mm		
Straight / side/bottom	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

● ECS-17 (750 W)

Motor mounted	Acceleration/deceleration time sec	Screw lead	Weight kg	Overhang mm		
Straight / side/bottom	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

● ECS-22

Motor mounted	Acceleration/deceleration time sec	Screw lead	Weight kg	Overhang mm		
Straight / side/bottom	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

*When suspending from above, use 1/3 of the static allowable moment, dynamic allowable load, dynamic allowable moment, and overhang length. Use overhang length up to the center of gravity of the load within A, B and C directions.

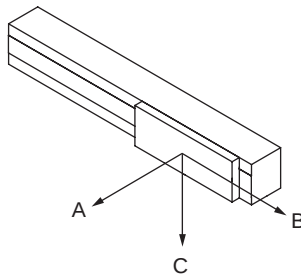
Discontinued some variations

Sales of ECS-05 to ECS-12 will be terminated.

ECS Series
Technical data

Allowable overhang length (ECS Series)

[When wall-mounted]



[Allowable overhang length]

● ECS-05

Motor mounted	Acceleration/deceleration time sec	Screw lead	Weight kg	Overhang mm		
				A	B	C
Straight / side/bottom	0.2	2	5	105	45	750
			10	47	20	350
		5	4	100	45	450
			7	55	23	240
		10	3	110	55	400
			5	60	30	230

● ECS-06

Motor mounted	Acceleration/deceleration time sec	Screw lead	Weight kg	Overhang mm		
				A	B	C
Straight / side/bottom	0.2	2	15	110	42	400
			30	45	15	180
		5	5	240	95	1150
			10	115	50	540
			30	25	10	140
			3	320	150	700
		10	8	110	50	250
			15	50	25	120

● ECS-10

Motor mounted	Acceleration/deceleration time sec	Screw lead	Weight kg	Overhang mm		
				A	B	C
Straight / side/bottom	0.2	5	10	160	160	1400
			20	75	75	650
			30	45	45	400
			10	130	140	690
		10	20	60	65	330
			30	40	40	210
			5	230	250	750
			10	110	120	370
		16	22	45	50	160
			5	220	250	650
			10	105	120	320
		20	15	65	75	210

● ECS-12

Motor mounted	Acceleration/deceleration time sec	Screw lead	Weight kg	Overhang mm		
				A	B	C
Straight / side/bottom	0.2	5	10	330	270	2200
			20	145	120	1000
			30	90	70	600
		10	10	260	240	850
			20	115	110	520
			30	70	60	300
		16	5	450	450	1300
			10	210	210	600
			22	80	80	240
		20	5	410	410	1200
			10	190	195	600
			15	120	120	390

● ECS-14 (200 W)

Motor mounted	Acceleration/deceleration time sec	Screw lead	Weight kg	Overhang mm		
				A	B	C
Straight / side/bottom	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

● ECS-14 (400 W)

Motor mounted	Acceleration/deceleration time sec	Screw lead	Weight kg	Overhang mm		
				A	B	C
Straight / side/bottom	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

● ECS-17 (400 W)

Motor mounted	Acceleration/deceleration time sec	Screw lead	Weight kg	Overhang mm		
				A	B	C
Straight / side/bottom	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

● ECS-17 (750 W)

Motor mounted	Acceleration/deceleration time sec	Screw lead	Weight kg	Overhang mm		
				A	B	C
Straight / side/bottom	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

● ECS-22

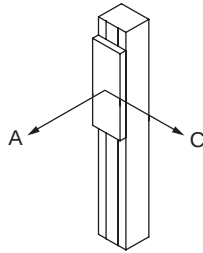
Motor mounted	Acceleration/deceleration time sec	Screw lead	Weight kg	Overhang mm		
				A	B	C
Straight / side/bottom	0.2	5	60	940	1100	3850
			100	540	620	2450
			150	340	400	2150
		10	60	800	980	3700
			100	460	540	2200
			150	280	350	1450
		25	50	600	790	1950
			80	360	480	1200
			120	220	290	750
		40	10	1950	2900	3500
			30	620	950	1400
			60	290	430	650

*When suspending from above, use 1/3 of the static allowable moment, dynamic allowable load, dynamic allowable moment, and overhang length. Use overhang length up to the center of gravity of the load within A, B and C directions.

EBS
EBR
ETS
ETS Multi-Axis
ECS
ETV
ECV
EKS
EBS
EBR
ETS
ECS
Safety precautions

Allowable overhang length (ECS Series)

[When installed vertically]



[Allowable overhang length]

● ECS-05

Motor mounted	Acceleration/deceleration time sec	Screw lead	Weight kg	Overhang mm	
Straight / side/bottom	0.2	2	3	A	C
			7	80	80
		5	3	35	35
			10	65	65
		10	1.5	120	120

● ECS-06

Motor mounted	Acceleration/deceleration time sec	Screw lead	Weight kg	Overhang mm	
Straight / side/bottom	0.2	2	5	A	C
			15	160	160
		5	2	53	53
			2	300	300
			4	150	150
			10	60	60
		10	1	410	410
			2	205	205
			5	82	82

● ECS-10

Motor mounted	Acceleration/deceleration time sec	Screw lead	Weight kg	Overhang mm	
Straight / side/bottom	0.2	5	5	A	C
			10	310	310
			12	155	155
			4	130	130
		10	4	360	360
			6	240	240
			8	180	180
			1	1050	1050
		16	2	525	525
			5	210	210
			1	850	850
			2	425	425
		20	3	283	283

● ECS-12

Motor mounted	Acceleration/deceleration time sec	Screw lead	Weight kg	Overhang mm	
Straight / side/bottom	0.2	5	5	A	C
			10	600	600
			12	300	300
			4	250	250
		10	4	650	650
			6	430	430
			8	320	320
			1	1050	1050
		16	2	525	525
			5	210	210
			3	650	700
		20			

● ECS-14 (200 W)

Motor mounted	Acceleration/deceleration time sec	Screw lead	Weight kg	Overhang mm	
Straight / side/bottom	0.2	5	20	A	C
			25	755	755
			27	605	605
			10	560	560
		10	10	1350	1350
			15	900	900
			18	750	750
			2	2400	2400
		16	4	1700	1700
			7	1300	1300
			6	1200	1200
		20			

● ECS-14 (400 W)

Motor mounted	Acceleration/deceleration time sec	Screw lead	Weight kg	Overhang mm	
Straight / side/bottom	0.2	5	20	A	C
			25	755	755
			33	605	605
			10	455	455
		10	10	1350	1350
			15	900	900
			22	650	650
			2	2400	2400
		16	4	1700	1700
			10	1000	1000
			4	1800	1800
			6	1200	1200
		20	8	900	900

● ECS-17 (400 W)

Motor mounted	Acceleration/deceleration time sec	Screw lead	Weight kg	Overhang mm	
Straight / side/bottom	0.2	5	20	A	C
			30	1400	1400
			40	950	950
			15	700	700
		10	15	1700	1700
			25	1000	1000
			30	850	850
			5	2000	2000
		20	10	1800	1800
			14	1400	1400
			5	650	650

● ECS-17 (750 W)

Motor mounted	Acceleration/deceleration time sec	Screw lead	Weight kg	Overhang mm	
Straight / side/bottom	0.2	5	20	A	C
			30	1500	1500
			50	1000	1000
			50	600	600
		10	15	1700	1700
			25	1000	1000
			40	620	620
			5	2200	2200
		20	10	1900	1900
			25	730	730
			10	700	700

● ECS-22

Motor mounted	Acceleration/deceleration time sec	Screw lead	Weight kg	Overhang mm	
Straight / side/bottom	0.2	5	30	A	C
			50	2400	2400
			55	1450	1450
			55	1050	1050
		10	20	3000	3000
			30	2000	2000
			45	1350	1350
			15	2600	2600
		25	20	1950	1950
			5	2600	2600
			10	1950	1950

*When suspending from above, use 1/3 of the static allowable moment, dynamic allowable load, dynamic allowable moment, and overhang length. Use overhang length up to the center of gravity of the load within A, B and C directions.

MEMO

Servo motor compatible							Stepper motor compatible				Safety precautions
EBS	EBR	ETS	ETS Multi-Axis	ECS	ETV	ECV	EKS	EBS	EBR	ETS	ECS

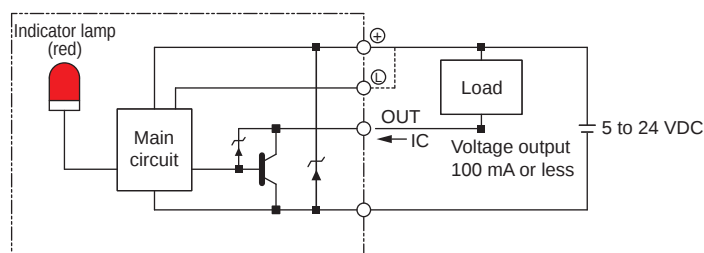
Origin sensor, limit sensor

	Manufacturer	Model
Outside mounted sensor	OMRON Corporation	EE-SX672
Inside mounted sensor	OMRON Corporation	EE-SX674

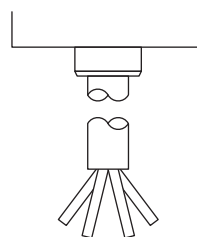
Performance

Item	Specifications
Hysteresis	0.025 mm or less
Light source (peak emission wavelength)	GaAs infrared LED (940 nm)
Indicator lamp	ON when receiving light (red)
Power supply voltage	5 to 24 VDC $\pm 10\%$ ripple (P-P) 10% or less
Current consumption	35 mA or less (NPN)
Control output	NPN: 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 load current 100 mA) Residual voltage 0.4 V or less (at load current 40 mA)
Operating ambient illumination	Light-receiving surface luminance Fluorescent light: 1,000 lx or less
Ambient temperature range	When operating: -25 to +55°C When stored: -30 to +80°C (no condensation or freezing)
Ambient humidity range	When operating: 5 to 85% RH When stored: 5 to 95% RH (no condensation or freezing)
Degree of protection	IP50 IEC 60529 Standards
Cord length	2 m (Connector with cord [EE-1006 2M])

Output circuit



Wiring diagram



Terminal layout

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

Discontinued some variations

Sales of ECS-05 to ECS-12 will be terminated.

ECS Series
Technical data

Sensor dog dimensions

Motor mounting direction	
Body size	E/D/R/L
ECS-05	Fig. 1
ECS-06	Fig. 2

Fig. 1

Fig. 2

Motor mounting direction					
Body size	E/D/B	R		L	
		Grease nipple None	Grease nipple Yes	Grease nipple None	Grease nipple Yes
ECS-10	Fig. 3	Fig. 3		Fig. 3	
ECS-12	Fig. 3	Fig. 3	Fig. 4	Fig. 3	Fig. 5

Motor mounting direction					
Body size	E/D/B	R		L	
		Grease nipple None	Grease nipple Yes	Grease nipple None	Grease nipple Yes
ECS-14	Fig. 6	Fig. 6	Fig. 7	Fig. 6	Fig. 7
ECS-17	Fig. 6	Fig. 6	Fig. 7	Fig. 6	Fig. 7
ECS-22	Fig. 8	Fig. 8		Fig. 8	

Fig. 3

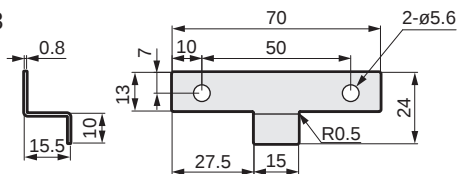


Fig. 4

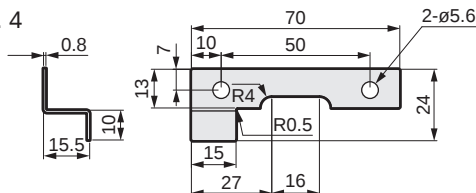


Fig. 5

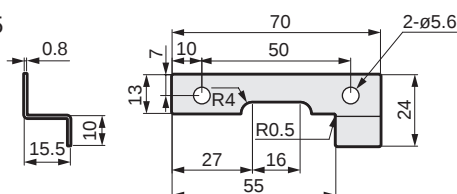


Fig. 6

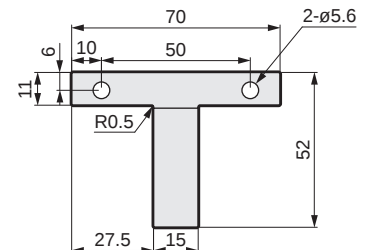
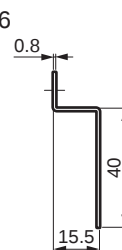


Fig. 7

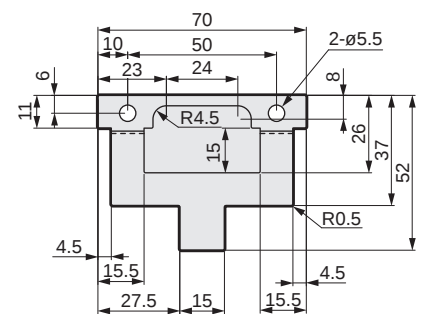
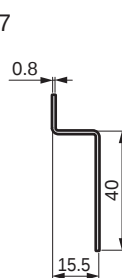
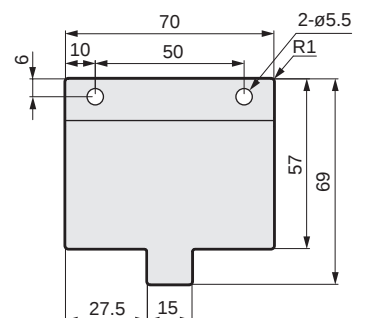
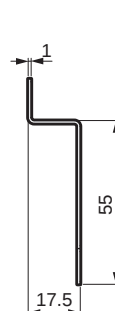


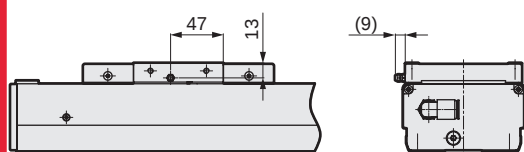
Fig. 8



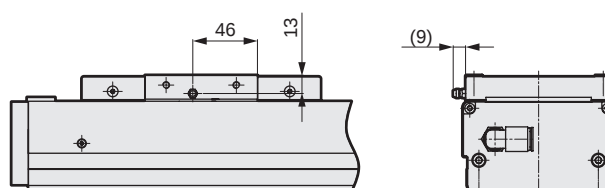
Grease nipple dimensions

*Horizontally symmetrical against the actuator.

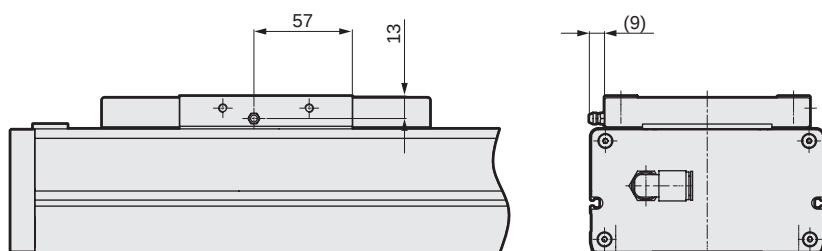
● ECS-10



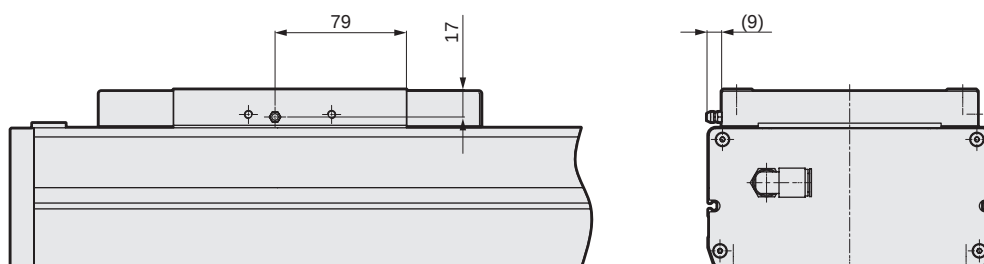
● ECS-12



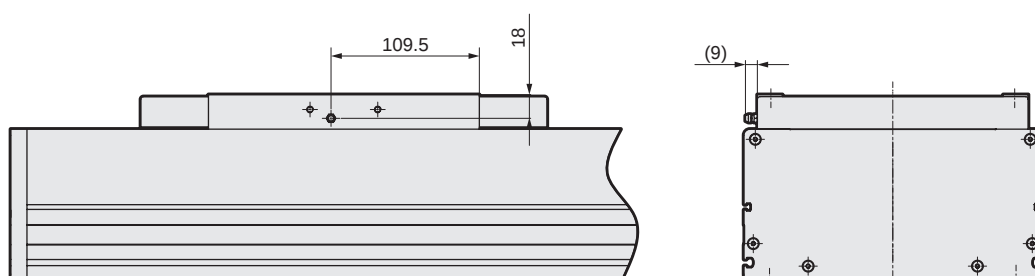
● ECS-14



● ECS-17



● ECS-22



Servo motor compatible

Stepper motor compatible

Safety precautions

Discontinued some variations

ECS Series

Grease nipple dimensions

MEMO

Servo motor compatible							Stepper motor compatible				Safety precautions
EBS	EBR	ETS	ETS Multi-Axis	ECS	ETV	ECV	EKS	EBS	EBR	ETS	ECS

List of attachments

Basic

Motor mounting bolt (common motor mounting direction)

Model No.	Mounted motor specification	Motor capacity	Size	Quantity
ECS-05	M	100 W	M4	2
ECS-06	Y		M4	2
ECS-10	P		M3	4
ECS-12	F		M4	2
ECS-14	M	200 W 400 W	M5	4
	Y		M5	4
	P		M4	4
	F		M5	4
ECS-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
	F		M6	4
ECS-22	M	750 W	M6	4
	Y		M6	4
	P		M5	4
	F		M6	4

By motor mounting direction

Model No.	Attachment name	Included quantity
E (external direct mounting) B (built-in)	Coupling (Assembled at shipment)	1
R (right-side mounting) L (left-side mounting) D (bottom mounting)	Timing belt Pulley	1 1

When origin/limit sensor is selected *1

Sensor mounting direction	Shipping format	Quantity
Inside sensor	Fixed position assembled at shipment	3 *2
Outside sensor	Included at shipment *3	

*1 Shipping format varies according to whether origin sensor and limit sensor are assembled inside or outside.

*2 When "None" is selected for origin sensor or limit sensor, the other sensor is also "None".

*3 Sensor mounting screws are also included.

Suction port fitting

Model No.	Fitting model No.	Shipping format	Quantity
ECS-05/ECS-06	GWL6-M5	Assembled at shipment	2
ECS-10 to ECS-22	GWL10-8	Included at shipment	1

Discontinued some variations

Sales of ECS-05 to ECS-12 will be terminated. **ECS Series**
Maintenance parts

Maintenance parts

● Maintenance parts set

Model No.	Compatibility	Components				
		(1)	(2)	(3)	(4)	(5)
		Timing belt 	Pulley 	Sensor dog 	Photoelectric bracket 	Roller unit 
ETS-08JP002-0001	ECS-05	○ (1 pc)	○ (1 pc)	○ (1 pc)	-	-
ETS-08JP002-0002	ECS-06	○ (2 pcs)	○ (1 pc)	○ (1 pc)	-	-
ECS-08JP002-0009	ECS-10	○ (3 pcs)	○ (2 pcs)	○ (1 pc)	○ (4 pcs)	○ (4 pcs)
ECS-08JP002-0010	ECS-12	○ (2 pcs)	○ (2 pcs)	○ (1 pc)	○ (4 pcs)	○ (4 pcs)
ECS-08JP002-0011	ECS-14	○ (2 pcs)	○ (3 pcs)	○ (1 pc)	-	○ (4 pcs)
ECS-08JP002-0012	ECS-17	○ (4 pcs)	○ (2 pcs)	○ (1 pc)	-	○ (4 pcs)
ECS-08JP002-0013	ECS-22	○ (3 pcs)	○ (2 pcs)	○ (1 pc)	-	○ (6 pcs)

● Maintenance parts (coupling)

Model No. 	Compatibility	Motor capacity	Hole diameter
ETS-22007-000136	ECS-05, 06	100 W	ø8
ETS-22007-000014	ECS-10, 12	100 W	ø8
ETS-22007-000289	ECS-10,12,14 (Mounted motor specification: F)	200W	ø9
ETS-22007-000016	ECS-10, 12, 14 (Mounted motor specification: P)	200 W	ø11
ETS-22007-000017	ECS-10, 12, 14 (Mounted motor specification: M, Y)	200 W/400 W	ø14
ETS-22007-000022	ECS-17 (Mounted motor specification: P)	400 W	ø14
ETS-22007-000358	ECS-17 (Mounted motor specification: F)	750 W	ø14
ETS-22007-000397	ECS-22 (Mounted motor specification: F)	750 W	ø14
ETS-22007-000024	ECS-17 (Mounted motor specification: M, Y)	750 W	ø19
ETS-22007-000029	ECS-22 (Mounted motor specification: M, Y, P)	750 W	ø19

● Maintenance parts (outside mounted sensor)

Basic price model No. 	Compatibility	Part
ETS-22008-000001	All models	Body
ETS-22008-000006		Cable

EBS

EBR

ETS

ETS Multi-Axis

ECS

ETV

ECV

EKS

EBS

EBR

ETS

ECS

Safety

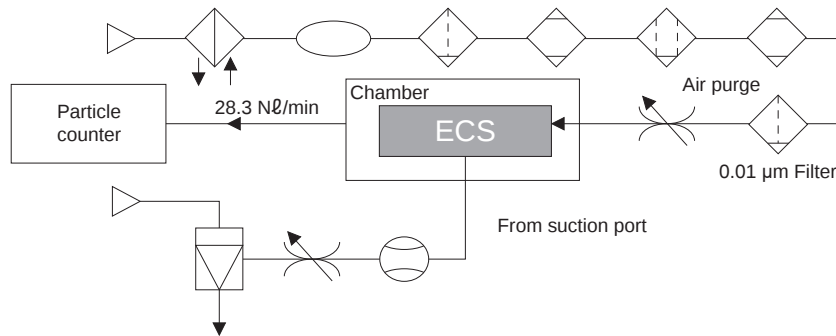
precautions

Servo motor compatible

Stepper motor compatible

Dust generation characteristics Reference data

Test circuit



Measuring method

- (1) Set a test sample in the acrylic resin chamber.
- (2) Supply clean air at the same flow rate as the particle counter intake rate (28.3 N ℓ /min).
- (3) Place the chamber in an ISO class 4 (class 10) clean bench.
- (4) Activate the test sample, and measure changes in particle concentration over time during the specified measurement time.
- (5) Test sample operating speed

Measuring conditions

Item		Description
Test sample	Model No.	Operating speed 400 mm/sec for ECS-06-10040
		Operating speed 800 mm/sec for ECS-14-20040
		Operating speed 800 mm/sec for ECS-17-20040
	Acceleration/deceleration time	0.3 sec
	Air intake	40.0 N ℓ /min for ECS-06-10040
		60.0 N ℓ /min for ECS-14-20040
		60.0 N ℓ /min for ECS-17-20040
Chamber	Internal capacity	28.3 N ℓ
Particle counter	Name	Laser dust monitor
	Min. measurable particle diameter	0.1 μm
	Intake	28.3 N ℓ /min
Setting conditions	Sampling	10 min
	Interval	40 min
	Measurement time	50 h

Dust generation data

The values in the data are measured values under the above conditions, and are not guaranteed.

