

Electric Actuator Motorless General
Catalog No. CB-055A

Electric actuator, Servo motor compatible, Motorless specifications
Slider (ball screw drive low dust specifications)

ECS-FP1 Series

● Applicable motor capacity: 100W/200W/400W/750W servo motor

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



Specifications

Item		ECS-05-E/R/D/L				ECS-06-E/R/D/L			
Applicable motor capacity		100 W servo motor							
Drive method		Ball screw ø12							
Ball screw accuracy grade		C7							
Stroke length *1 mm		50 to 800							
Screw lead mm		2	5	10		2	5	10	
Max.workload *2	Horizontal kg	10	10	5		30	30	15	
	Vertical kg	7	3	1.5		15	10	5	
Max. speed mm/s		100	250	500		100	250	500	
Rated thrust *2 N		825	330	165		854	341	170	
Repeatability mm		±0.01							
Lost motion mm		0.1 or less							
Dynamic allowable load N		551				1209			
Static allowable moment N·m		MP:20 MY:16 MR:19				MP:80 MY:70 MR:75			
Dynamic allowable moment N·m		MP:2.8 MY:2.8 MR:6.8				MP:8.9 MY:8.9 MR:24.8			

Item		ECS-10-E/B/R/D/L				ECS-12-E/B/R/D/L			
Applicable motor capacity		100 W servo motor							
Drive method		Ball screw ø16							
Ball screw accuracy grade		C7							
Stroke length *1 mm		50 to 1050							
Screw lead mm		5	10	16	20	5	10	16	20
Max.workload *2	Horizontal kg	50	30	22	18	50	30	22	18
	Vertical kg	12	8	5	3	12	8	5	3
Max. speed mm/s		250	500	800	1000	250	500	800	1000
Rated thrust *2 N		341	170	106	85	341	170	106	85
Repeatability mm		±0.01							
Lost motion mm		0.1 or less							
Dynamic allowable load N		2651				1660			
Static allowable moment N·m		MP:110 MY:110 MR:120				MP:150 MY:150 MR:130			
Dynamic allowable moment N·m		MP:24.1 MY:24.1 MR:24.8				MP:42.3 MY:42.3 MR:53.1			

Item		ECS-14-E/B/R/D/L				ECS-17-E/B/R/D/L			
Applicable motor capacity		200 W/400W servo motor				400 W/750W servo motor			
Drive method		Ball screw ø16				Ball screw ø20			
Ball screw accuracy grade		C7							
Stroke length *1 mm		50 to 1050				50 to 1250			
Screw lead mm		5	10	16	20	5	10	20	40
Max.workload *2	Horizontal kg	200 W	95	75	44	35	-	-	-
		400 W	110	88	48	40	120	110	75
		750 W	-	-	-	-	120	120	83
	Vertical kg	200 W	27	18	7	6	-	-	-
		400 W	33	22	10	8	40	30	14
		750 W	-	-	-	-	50	40	25
Max. speed mm/s		250	500	800	1000	250	500	1000	2000
Rated thrust *2 N	200 W	683	341	213	174	-	-	-	-
	400 W	1388	694	433	347	1388	694	347	174
	750 W	-	-	-	-	2100	1050	525	260
Repeatability mm		±0.01							
Lost motion mm		0.1 or less							
Dynamic allowable load N		6567				10102			
Static allowable moment N·m		MP:552 MY:551 MR:485				MP:1034 MY:1032 MR:908			
Dynamic allowable moment N·m		MP:262.7 MY:262.7 MR:261.0				MP:424.3 MY:424.3 MR:520.3			

Item		ECS-22-E/B/R/D/L			
Applicable motor capacity		750 W servo motor			
Drive method		Ball screw ø25		ø20	
Ball screw accuracy grade		C7			
Stroke length *1 mm		50 to 1500			
Screw lead mm		5	10	25	40
Max.workload *2	Horizontal kg	150	150	120	60
	Vertical kg	55	45	20	10
Max. speed mm/s		250	500	1250	2000
Rated thrust *2 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			

*1 Stroke length is 50 pitch.

*2 Rated thrust and maximum load capacity are guideline values assuming that the motor mounted will output the rated torque.

*3 The same load capacity as when installed horizontally when wall-mounted.

*1 Stroke length is 50 pitch.

*2 Rated thrust and maximum load capacity are guideline values, assuming that the motor mounted will output the rated torque.

*3 The same load capacity as when installed horizontally when wall-mounted.

Discontinued some variations

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

ECS-FP1 Series

How to order

How to order

ECS-06-05040-EM1NCBPN-M-FP1

Model No.

A Body size

B Screw lead

C Stroke

D Motor mounting direction

E Mounted motor specification

F Motor capacity

G Brake

H Origin sensor

I Limit sensor

J Grease nipple

K Positioning pin hole

L Magnet
Slider method

[Example of model No.]

ECS-06-05040-EM1NCBPN-M-FP1

A Body size: body width 65mm

B Screw lead: 5 mm

C Stroke length: 100 mm

D Motor mounting direction: Straight

E Mounted motor specification: Mitsubishi Electric Corporation

F Motor capacity: 100 W

G Brake: None

H Origin sensor: Outside motor side

I Limit sensor: Outside

J Grease nipple: None (Body mounting direction: Standard)

K Positioning pin hole: Yes

L Magnet slider method: Yes

*1 Select "Yes" only when the motor mounting direction is "built-in mounting".
For other mounting directions, select "None".

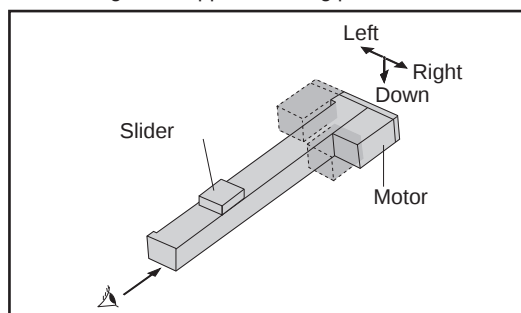
*2 Origin sensor and limit sensor are a set.
As it is both-or-nothing, select "None" for both. The sensor dog is assembled at shipment regardless of the presence of the sensor.

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

E Mounted motor specification

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

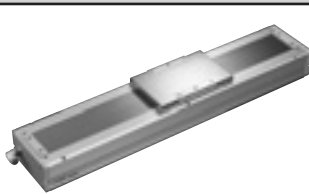
Motor and grease nipple mounting position



Refer to ECS Series servo motor compatibility in "Electric Actuator Motorless (CB-055A)" for the motor list, dimensions and model selection recommended for mounting.

Code	Description
A Body size	
05	Body width 51mm
06	Body width 65mm
10	Body width 102mm
12	Body width 102mm
14	Body width 135mm
17	Body width 170mm
22	Body width 220mm
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	
005 to 150	50 mm (In 50 mm increments) 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	Select the mounted motor
Y	specification from the table below.
P	
F	
F Motor capacity	
1	100 W (body size: 05, 06, 10, 12)
2	200 W (body size: 14)
4	400 W (body size: 14, 17)
8	750 W (body size: 17, 22)
G Brake *1	
N	None
B	Yes
H Origin sensor (1 pc) *2	
N	None
A	Inside motor side
B	Inside opposite motor side
C	Outside motor side (Included at shipment)
D	Outside motor opposite side (Included at shipment)
I Limit sensor (2 pcs) *2F	
N	None
A	Inside
B	Outside (Included at shipment)
J Grease nipple	
N	None (Body mounting direction: Standard)
R	Right
L	Counterclockwise
K Positioning pin hole	
N	None
P	Yes
L Magnet slider method *3	
Blank	Standard
M	Adoption

Electric actuator	Pneumatic cylinders	Assistive device	Pneumatic valves	FRL/Accessory Components	Vacuum components	Main line components	Fluid control valves	Main line components	Anti-bacterial/bacteria-removing filter	Vacuum components	Fluid control valves



Electric Actuator Motorless General
Catalog No. CB-055A

Electric actuator, Stepper motor compatible, Motorless specifications
Slider (ball screw drive low dust specifications)

ECS-FP1 Series

● Applicable motor sizes: □42, □56, □60 Stepping motor

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



Specifications

Item		ECS-05-E/R/D/L				ECS-06-E/R/D/L			
Applicable motor sizes		☐ 42 Stepper motor							
Drive method		Ball screw ø12							
Ball screw accuracy grade		C7							
Stroke length *1 mm		50 to 800							
Screw lead mm		2	5	10	2	5	10		
Max.workload *2	Horizontal kg	10	10	5	30	30	15		
	Vertical kg	7	3	1.5	15	10	5		
Max. speed *3 mm/s		100	250	500	100	250	500		
Rated thrust *2 N		825	330	165	854	341	170		
Repeatability mm		±0.01							
Lost motion mm		0.1 or less							
Dynamic allowable load N		551				1209			
Static allowable moment N·m		MP:20 MY:16 MR:19				MP:80 MY:70 MR:75			
Dynamic allowable moment N·m		MP:2.8 MY:2.8 MR:6.8				MP:8.9 MY:8.9 MR:24.8			
Item		ECS-10-E/R/D/L				ECS-12-E/R/D/L			
Applicable motor sizes		☐ 56, ☐ 60 Stepping motor							
Drive method		Ball screw ø16							
Ball screw accuracy grade		C7							
Stroke length *1 mm		50 to 1050							
Screw lead mm		5	10	16	20	5	10	16	20
Max.workload *2	Horizontal kg	50	30	22	18	50	30	22	18
	Vertical kg	12	8	5	3	12	8	5	3
Max. speed *3 mm/s		250	500	800	1000	250	500	800	1000
Rated thrust *2 N		683	341	213	174	683	341	213	174
Repeatability mm		±0.01							
Lost motion mm		0.1 or less							
Dynamic allowable load N		2651				1660			
Static allowable moment N·m		MP:110 MY:110 MR:120				MP:150 MY:150 MR:130			
Dynamic allowable moment N·m		MP:24.1 MY:24.1 MR:24.8				MP:42.3 MY:42.3 MR:53.1			
Item		ECS-14-E/R/D/L							
Applicable motor sizes		☐ 56, ☐ 60 Stepping motor							
Drive method		Ball screw ø16							
Ball screw accuracy grade		C7							
Stroke length *1 mm		50 to 1050							
Screw lead mm		5	10	16	20				
Max.workload *2	Horizontal kg	110	88	48	40				
	Vertical kg	33	22	10	8				
Max. speed *3 mm/s		250	500	800	1000				
Rated thrust *2 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							

*1 Stroke length is 50 pitch.

*2 The rated thrust and maximum load capacity are the allowable values of the actuator body. The actual thrust and load capacity may be limited by the motor used.

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

*4 The same load capacity as when mounted horizontally for wall mounting.

Discontinued some variations

Sales of ECS-05 to ECS-12 will be terminated. **ECS-FP1 Series**

How to order

How to order

ECS-06-05040-EAANCBNP-M-FP1

Model No.

A Body size

B Screw lead

C Stroke

D Motor mounting direction

E Mounted motor specification

F Motor size

G Brake

H Origin sensor

I Limit sensor

J Grease nipple

K Positioning pin hole

L Magnet
Slider method

[Example of model No.]

ECS-06-05040-EAANCBNP-M-FP1

A Body size: body width 65mm

B Screw lead: 5 mm

C Stroke length: 100 mm

D Motor mounting direction: Straight

E Mounted motor specification: Oriental Motor Co., Ltd.

F Motor size: □42

G Brake: None

H Origin sensor: Outside motor side

I Limit sensor: Outside

J Grease nipple: None (Body mounting direction: Standard)

K Positioning pin hole: Yes

L Magnet slider method: Yes

*1 Origin sensor and limit sensor are a set.

As it is both-or-nothing, select "None" for both. The sensor dog is assembled at shipment regardless of the presence of the sensor.

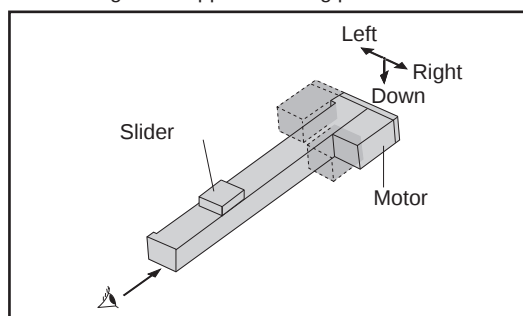
*2 ECS-05/06 uses a magnet slider method.

Other sizes use the standard.

E Mounted motor specification

Manufacturer	□42	□56	□60
Oriental Motor Co., Ltd.	A	-	A
MinebeaMitsumi Incorporated	B	B	-
Dyadic Systems Co., Ltd.	B	C	-

Motor and grease nipple mounting position



Code	Description
A Body size	
05	Body width 51mm
06	Body width 65mm
10	Body width 102mm
12	Body width 102mm
14	Body width 135mm
B Screw lead	
02	2 mm
05	5 mm
10	10 mm
16	16 mm
20	20 mm
C Stroke	
005 to 105	50 mm (In 50 mm increments) 1050 mm
D Motor mounting direction	
E	Straight mounting
R	Right mounting
D	Bottom mounting
L	Left mounting
E Mounted motor specification	
A	Select the mounted motor
B	specification from the table below.
C	
F Motor size	
A	□42 (body size: 05, 06)
B	□56 (body size: 10, 12, 14)
C	□60 (body size: 10, 12, 14)
G Brake	
N	None
B	Yes
H Origin sensor (1 pc) *1	
N	None
A	Inside motor side
B	Inside opposite motor side
C	Outside motor side (Included at shipment)
D	Outside motor opposite side (Included at shipment)
I Limit sensor (2 pcs) *1	
N	None
A	Inside
B	Outside (Included at shipment)
J Grease nipple	
N	None (Body mounting direction: Standard)
R	Right
L	Counterclockwise
K Positioning pin hole	
N	None
P	Yes
L Magnet slider method *2	
Blank	Standard
M	Adoption

For the motor list, dimensions and model selection recommended for mounting, refer to ECS Series stepping motor compatibility in "Electric Actuator Motorless (CB-055A)".