

# **e**-Actuator

# New RoHS Easy to Operate Integrated Controller

Battery-less Absolute (Step Motor 24 VDC)

**2-position stop** 

**3-position stop** 

085 C.32

Opposite end

# Easy to set up,

# just like air equipment!

Single/Double

solenoid mode

**Closed center** 

mode

# **Downsized with** Integrated Controller

# Wiring saving

Origin

end

Labor saving · Programless · Reduced adjustment time

#### With internal battery-less absolute encoder

 Restart from the last stop position is possible after recovery of the power supply.

 Reduced maintenance (No need to manage or replace batteries)

> p. **4** Adopts metal connectors

Cycle time setting available

Annual CO<sub>2</sub> emissions:

5.8 - 14.1[kg-CO2e/year]

Max. 60% reduction (SMC comparison)

\* The numerical values vary depending on the operating conditions.

Mode switching

p. 4

**Compatible Actuators** 

Slider Type Rod Type Size: 25, 32 Size: 25, 32 EQFS H Series EQY H Series

# EQFS H/EQY H Series

# **e-Actuator** [Easy to Operate] Integrated Controller EQFS H/EQY H Series

Battery-less Absolute (Step Motor 24 VDC)



# Set the speed, acceleration, and deceleration.



Setting complete

## Test operation is possible immediately after setting up.



Just press the forward/backward button.

**A**Caution The stop position can be changed. For use in positions other than the default setting, refer to the operation manual.



### **e-Actuator Easy to Operate** Integrated Controller **EQFS H/EQY H** Series

Battery-less Absolute (Step Motor 24 VDC)



# **e-Actuator Easy to Operate** Integrated Controller **EQFS H/EQY H** Series

Battery-less Absolute (Step Motor 24 VDC)

# Cycle times are also easily set.

# Cycle time can be set

For single solenoid (2-position)/ double solenoid (2-position) mode

Origin

end

Opposite
end

# in all operating modes.



**SMC** 

#### **Operating Conditions**



\* In these charts, settling time is not included.





Battery-less Absolute (Step Motor 24 VDC)

# Annual CO<sub>2</sub> emissions reduced by up to 60% through motor control optimization (SMC comparison)





The numerical values vary depending on the operating conditions.

# Adopts metal connectors



# Restart from the last stop position is possible.

# Easy operation restart after recovery of the power supply

The position information is held by the encoder even when the power supply is turned off. A return to origin operation is not necessary when the power supply is recovered.

# Does not require the use of batteries. **Reduced maintenance**

Batteries are not used to store the position information. Therefore, there is no need to store spare batteries or replace dead batteries.

# Auto switches are mountable.

2-color indicator solid state auto switch (Compatible with the D-M9 series) Accurate setting of the mounting position can be performed without mistakes.

A green light lights up when within the optimum operating range.



\* The auto switches should be ordered separately. For details, refer to the Web Catalog.



# **e-Actuator Easy to Operate** Integrated Controller **EQFS H/EQY H** Series

Battery-less Absolute (Step Motor 24 VDC)

Type Sider Rod   Series EOFS_H p.6 EQY_H EQY_H p.12   Actuation type Ball screw g.12 p.12 p.12   Actuation type Ball screw g.11 p.12 p.12   Max. speed*1 (mm/s) 1200 500 p.12   Positioning repeatability (mm) ±0.02 ±0.02 ±0.02   Drive motor Battery-less absolute (step motor 24 VDC) • •   Power supply 24 VDC ±10% • •   Operation mode Positioning operation Parallel input: 3 inputs Parallel output: 4 outputs   Size 25 • •   Max. work load [kg] Ne when inpartitives are [N] Size 25 40 (15)   Max. work load [kg] Nax. work load [kg	Variatio	ons								
EOFS_H   EOY_H     Series   EOY_H   p.12     Actuation type   Ball screw   Ball screw   Ball screw + Belt (In-line: Ball screw)     Max. speed=1 [nm//s]   1200   500   500     Positioning repeatability [nm]   ±0.02   ±0.02   ±0.02     Drive motor   Battery-less absolute (Sep motor 24 VDC)   •   •   •     Power supply   24 VDC ±10%   •   •   •     I/O signal   Positioning operation   Parallel input: 3 inputs Parallel output: 4 outputs   Positioning operation   Positioning operation     Size   25   •   •   •   •     Max. work load [kg] Input	Тур	е		Slider	Rod 🛹					
Actuation type   Ball screw   Ball screw   Ball screw + Belt (In-line: Ball screw)     Max. speed*1 [mm/s]   1200   500     Positioning repeatability [mm]   ±0.02   ±0.02     Drive motor   Battery-less absolute (step motor 24 VDC)   ●     Power suply   24 VDC ±10%     I/O signal   VO signal   Parallel input: 3 inputs Parallel output: 4 outputs     Operation mode   Positioning operation   Positioning operation     Size   25   ●   ●     Max. work load [kg] meantiness at transmiter weitability   Size   25   40 (15)   70 (30)     Max. surk load [kg] [N]   Size   25   40 (15)   70 (30)   100 (46)     Max. pushing force [N]   Size   25   40 (15)   70 (30)   100 (46)     Max. surk load [km] [N]   Size   25   40 (15)   70 (30)   100 (46)     Max. surk load [km] [N]   Size   25   40 (15)   70 (30)   100 (46)   100 (46)     Max. surk load [km] [N]   Size   25   40 (15)   70 (30)   100 (46)   100 (46)   100 (46)   100 (46)   100 (46)   100 (46)<	Serie	es		EQFS_H	EQY_H					
Max. speed*1 [mm/s]1200500Positioning repeatability [mm]±0.02±0.02Drive motorBattery-less absolute (step motor 24 VDC)••Power supply24 VDC ±10%Power supply24 VDC ±10%I/O signalVParallel input: 3 inputs Parallel output: 4 outputsOperation modePositioning operation 9Positioning operation •Size25•Ax. work load [kg] [N]Size2540 (15)Max. pushing force [N]Size2540 (15)Max. stroke [mm]1000500Auto switch mounting••	Actuation type     Ball screw     Ball screw + Bet (In-line: Ball screw + Bet (In-line) + Bet (In-									
$\begin{array}{ c c c c } \hline Positioning repeatability [mm] & \pm 0.02 & \pm 0.02 \\ \hline Power supply & \hline & \bullet & \bullet$	Max. speed	* <sup>1</sup> [mm/s	]	1200	500					
Drive motorBattery-less absolute (Step motor 24 VDC)•Power supply24 VDC ±10%I/O signalParallel input: 3 inputs Parallel output: 4 outputsOperation modePositioning operationPositioning operation Pushing operation (Excludes intermediate points)Size25•25••Max. work load [kg] [N]Size2540 (15)Max. pushing force [N]Size2540 (15)Max. stroke [rm]1000500Auto switch mounting••	Positioning repe	atability	[mm]	±0.02	±0.02					
24 VDC ±10%     I/O signal   Parallel input: 3 inputs Parallel output: 4 outputs     Operation mode   Positioning operation Positioning operation Pushing operation (Excludes intermediate points)     Size   25   0   0     Max. work load [kg] The values in parentheses are for when mounted vertically   25   40 (15)   70 (30)     Max. pushing force [N]   Size   25   40 (15)   70 (30)     Max. pushing force [N]   Size   25   40 (15)   70 (30)     Max. stroke [mm]   1000   500     Auto switch mounting   0   0	Drive motor	Battery-les (Step moto	s absolute or 24 VDC)	•	•					
Parallel input: 3 inputs Parallel output: 4 outputs     Operation mode   Positioning operation   Positioning operation     Size   25   0   0     Max. work load [kg] for when mounted vertically   25   40 (15)   70 (30)     Max. pushing force [N]   25   40 (15)   70 (30)     Max. stroke [mm]   9   1000   500	Power s	upply		24 VD0	C ±10%					
Operation mode     Positioning operation     Positioning operation Pushing operation (Excludes intermediate points)       Size     25     • <t< td=""><td>I/O sig</td><td>gnal</td><td></td><td colspan="7">Parallel input: 3 inputs Parallel output: 4 outputs</td></t<>	I/O sig	gnal		Parallel input: 3 inputs Parallel output: 4 outputs						
Size     25     •     •       32     •     •     •       Max. work load [kg] The values in parentheses are for when mounted vertically     32     40 (15)     70 (30)       Max. pushing force [N]     Size     25     40 (15)     100 (46)       Max. pushing force [N]     Size     25     40 (15)     100 (46)       Max. pushing force [N]     Size     25     452     452       32     0     1000     500     500       Max. stroke [mm]     1000     500     0	Operatior	n mode		Positioning operation	Positioning operation Pushing operation (Excludes intermediate points)					
Size32 $\bullet$ Max. work load [kg] The values in parentheses are for when mounted vertically2540 (15)70 (30)Max. pushing force [N]Size2540 (15)100 (46)Max. pushing force [N]Size2540452320707707Max. stroke [rmm]1000500Auto switch mounting $\bullet$ $\bullet$	0:		25	•	•					
Max. work load [kg] The values in parentheses are for when mounted vertically     25     40 (15)     70 (30)       Max. pushing force [N]     Size     25     68 (20)     100 (46)       Max. pushing force [N]     Size     25     400 (15)     400 (15)       Max. pushing force [N]     Size     25     400 (15)     400 (15)       Max. pushing force [N]     Size     25     400 (15)     452 (100)       Max. stroke [mm]     1000     500     500       Auto switch mounting     Image: Content of the stroke	5120		32		•					
The values in parentheses are for when mounted vertically Size 32 68 (20) 100 (46)   Max. pushing force [N] Size 25 452   Max. stroke [mm] 1000 500   Auto switch mounting ● ●	Max. work load [kg]		25	40 (15)	70 (30)					
Max. pushing force [N]     25     452       32     707       Max. stroke [mm]     1000     500       Auto switch mounting	The values in parentheses are for when mounted vertically	Size	32	68 (20)	100 (46)					
N]     Size     32     707       Max. stroke [mm]     1000     500       Auto switch mounting     •     •     •	Max. pushing force	0:	25		452					
Max. stroke [mm]   1000   500     Auto switch mounting   •   •	[N]	Size	32		707					
Auto switch mounting	Max. strok	ke [mm]		1000	500					
	Auto switch	mountin	g	•	•					

\*1 The numerical values vary depending on the actuator type, work load, speed, and specifications. Please contact SMC for further details.



**SMC** 

Battery-less Absolute (Step Motor 24 VDC)

# **e-Actuator** Easy to Operate **Integrated Controller / Slider Type** EQFS H Series EQFS25, 32

300

6

Nil

Ν

How to Order

EQFS 32 RHA-

Integrated controller Battery-less absolute (Step motor 24 VDC)

Left side parallel

2 Mot	or mounting position		<b>3</b> Мо	tor type				
Nil	In-line			Battery-less absolute				
R	Right side parallel	ide parallel		(Step motor 24 VDC)				

4 Lea	4 Lead [mm]									
Symbol	EQFS25	EQFS32								
Н	20	24								
Α	12	16								
В	6	8								
С	3	4								

Grease application (Seal band part)

With

Without (Roller specification)

**B** 5

(RoHS)

**5** Stroke

Size

25

32

50	50
to	to
1000	1000

L

\* For details, refer to the applicable stroke table below.

Controller position							
В	Integrated controller						

#### 9 Parallel input

6 Motor option

Nil

В

	•
5	NPN
6	PNP

Without option

With lock

#### **Applicable Stroke Table**

Cino										Stro	oke									
Size	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
25																				
								•									_	—		



### Specifications

		Model			EQES	25⊟H			EOES	32⊟H			
Stroke [mm]*1				50 to	800			50 to	1000				
	ouono [iiiii	.1	Horizontal	15	26	40	40	39.5	50	68	68		
	Work load	<b>[kg]</b> *2	Vertical	2	6	12.5	15	4	10	16	20		
			Up to 400	- 20 to 1200	12 to 850	6 to 450	3 to 225	24 to 1100	16 to 750	8 to 450	4 to 125		
			401 to 500	20 to 1100	12 to 750	6 to 400	3 to 225	24 to 1100	16 to 750	8 to 450	4 to 125		
			501 to 600	20 to 900	12 to 540	6 to 270	3 to 135	24 to 1100	16 to 750	8 to 400	4 to 125		
s	Speed	Stroke	601 to 700	20 to 630	12 to 420	6 to 230	3 to 115	24 to 930	16 to 620	8 to 310	4 to 125		
ion	[mm/s]	range	701 to 800	20 to 550	12 to 330	6 to 180	3 to 90	24 to 750	16 to 500	8 to 250	4 to 125		
cat			801 to 900		_	_	_	24 to 610	16 to 410	8 to 200	4 to 100		
scifi			901 to 1000	_	_	_	_	24 to 500	16 to 340	8 to 170	4 to 85		
spe	Max. accele	eration/	Horizontal		100	000 (Varies de	epending on t	he work load	and duty ratio	*2)			
tor	deceleratio	n [mm/s²]	Vertical		50	00 (Varies de	pending on th	ne work load a	nd duty ratio*	<sup>(2</sup> )			
tua	Positioning	repeatabili	ty [mm]	±0.02									
Ac	Lost motio	n [mm]*3		0.1 or less									
	Lead [mm]			20	12	6	3	24	16	8	4		
	Impact/Vib	ration resist	ance [m/s <sup>2</sup> ]*4	50/20									
	Actuation t	уре		Ball screw (EQFS⊟H), Ball screw + Belt (EQFS⊟ <sup>R</sup> H)									
	Guide type			Linear guide									
	Operating t	emperature	range [°C]	5 to 40									
	Operating I	numidity rar	nge [%RH]			g	0 or less (No	condensation	)				
su	Motor size				<b>_</b> 4	42			□5	6.4			
tio tio	Motor type					Battery-	less absolute	(Step motor 2	24 VDC)				
fice	Encoder						Battery-les	s absolute					
ec 🖽	Power supp	oly voltage [	<b>v</b> ]				24 VD0	C±10%					
ds	Power [W]*	5 *7			Max. po	ower 89			Max. po	wer 116			
it	Type*6						Non-magn	etizing lock					
catio	Holding for	ce [N]		47	78	157	294	72	108	216	421		
ecifi	Power [W]*	7			5	5			5	5			
spe	Power supp	oly voltage [	V]		24 VDC ±10%								

\*1 Please contact SMC for non-standard strokes as they are produced as special orders.

\*2 The max. work load at 3000 mm/s<sup>2</sup> acceleration and deceleration speed

Work load varies depending on the speed and acceleration. Please contact SMC for details.

Furthermore, if the cable length exceeds 5 m, please contact SMC.

\*3 A reference value for correcting errors in reciprocal operation

\*4 Impact resistance: No malfunction occurred when the actuator was tested with a drop tester in both an axial direction and a perpendicular direction to the lead screw. (The test was performed with the actuator in the initial state.)

Vibration resistance: No malfunction occurred in a test ranging between 45 to 2000 Hz. The test was performed in both an axial direction and a perpendicular direction to the lead screw. (The test was performed with the actuator in the initial state.)

\*5 Indicates the max. power during operation

This value can be used for the selection of the power supply.

\*6 With lock only

\*7 For an actuator with lock, add the power for the lock.



#### **Dimensions: In-line Motor**



\*1 When mounting the actuator using the body mounting reference plane, set the height of the opposite surface or pin to be 3 mm or more. (Recommended height: 5 mm)

In addition, be aware that surfaces other than the body mounting reference plane (B dimension range) may slightly protrude from the body mounting reference plane. Be sure to provide a clearance of 1 mm or more to avoid interference with workpieces, facilities, etc.

- \*2 The distance the table moves according to movement instructions
- Make sure that workpieces mounted on the table do not interfere with other workpieces or the facilities around the table.
- \*3 Indicates the factory default origin position (0 mm)
- \*4 [] refers to when the rotation direction reference is changed.

Dimensions [mm]										
Stroke [mm]	Without lock	With lock	Α	В	n	D	E	F	G	н
50					4			25	100	30
100, 150					4		_		100	
200, 250					6	2	240		220	
300, 350, 400	070 4	010 4	6	110	8	3	360		340	
450, 500	270.4	310.4	0		10	4	480	35	460	45
550, 600, 650					12	5	600		580	
700, 750					14	6	720		700	
800					16	7	840	]	820	





### **Dimensions: In-line Motor**



\*1 When mounting the actuator using the body mounting reference plane, set the height of the opposite surface or pin to be 3 mm or more. (Recommended height: 5 mm)

In addition, be aware that surfaces other than the body mounting reference plane (B dimension range) may slightly protrude from the body mounting reference plane. Be sure to provide a clearance of 1 mm or more to avoid interference with workpieces, facilities, etc.

**SMC** 

- \*2 The distance the table moves according to movement instructions
- Make sure that workpieces mounted on the table do not interfere with other workpieces or the facilities around the table.
- \*3 Indicates the factory default origin position (0 mm)
- \*4 [] refers to when the rotation direction reference is changed.
- \*5 A switch spacer (BMY3-016) is required to secure auto switches. Please order it separately.

Dimensions [mm]											
Stroke [mm]	Without lock	With lock	Α	В	n	D	E	G			
50, 100, 150					4	—	_	130			
200, 250, 300					6	2	300	280			
350, 400, 450					8	3	450	430			
500, 550, 600	314.9	359.9	6	130	10	4	600	580			
650, 700, 750					12	5	750	730			
800, 850, 900					14	6	900	880			
950, 1000					16	7	1050	1030			



#### **Dimensions: Right/Left Side Parallel Motor**

#### EQFS25RH



- \*1 When mounting the actuator using the body mounting reference plane, set the height of the opposite surface or pin to be 3 mm or more. (Recommended height: 5 mm)
- In addition, be aware that surfaces other than the body mounting reference plane (B dimension range) may slightly protrude from the body mounting reference plane. Be sure to provide a clearance of 1 mm or more to avoid interference with workpieces, facilities, etc. \*2 The distance the table moves according to movement instructions
- Make sure that workpieces mounted on the table do not interfere with other workpieces or the facilities around the table.
- \*3 Indicates the factory default origin position (0 mm)
- \*4 [] refers to when the rotation direction reference is changed.

Dimensions									[mm]
Stroke [mm]	L	Α	В	n	D	E	F	G	Н
50				4			25	100	30
100, 150				4		_		100	
200, 250				6	2	240		220	
300, 350, 400	150.4	6	110	8	3	360		340	
450, 500	159.4	0		10	4	480	35	460	45
550, 600, 650				12	5	600		580	
700, 750				14	6	720		700	
800				16	7	840		820	





### Dimensions: Right/Left Side Parallel Motor

#### EQFS32RH



\*1 When mounting the actuator using the body mounting reference plane, set the height of the opposite surface or pin to be 3 mm or more. (Recommended height: 5 mm)

In addition, be aware that surfaces other than the body mounting reference plane (B dimension range) may slightly protrude from the body mounting reference plane. Be sure to provide a clearance of 1 mm or more to avoid interference with workpieces, facilities, etc.

- \*2 The distance the table moves according to movement instructions
- Make sure that workpieces mounted on the table do not interfere with other workpieces or the facilities around the table.
- \*3 Indicates the factory default origin position (0 mm)
- \*4 [] refers to when the rotation direction reference is changed.
- \*5 A switch spacer (BMY3-016) is required to secure auto switches. Please order it separately.

Dimensions							[mm]
Stroke [mm]	L	Α	В	n	D	E	G
50, 100, 150				4	—	—	130
200, 250, 300		6	130	6	2	300	280
350, 400, 450				8	3	450	430
500, 550, 600	195.6			10	4	600	580
650, 700, 750				12	5	750	730
800, 850, 900				14	6	900	880
950, 1000				16	7	1050	1030



Battery-less Absolute (Step Motor 24 VDC)

# **e-Actuator** Easy to Operate **Integrated Controller / Rod Type** EQY H Series EQY25, 32

How to Order

EQY 25 DHB-50

Integrated controller **Battery-less absolute** (Step motor 24 VDC)

Left side parallel

In-line

2 Mot	or mounting position	<b>В</b> м
Nil	Top side parallel	ш
R	Right side parallel	п

#### otor type

Battery-less absolute (Step motor 24 VDC)

4 Lea	ad [mm]						
Symbol	EQY25	EQY32					
Н	20	24					
Α	12	16					
В	6	8					
С	3	4					

6	Stroke	[mm]
---	--------	------

Size

25

32

30	30
to	to
500	500

R L

D

6 Motor option Nil Without option В With lock

#### Rod end thread Nil Rod end female thread

Ontroller position

Parallel input

B

5

6

M Rod end male thread (1 rod end nut is included.)	
--	--

Integrated controller

NPN

PNP

3

\* For details, refer to the applicable stroke table below.

### 8 Mounting\*1

Symbol	Turne	Motor mounting position						
Symbol	Туре	Parallel	In-line					
Nil	Ends tapped <sup>*2</sup> Body bottom tapped	•	•					
L	Foot bracket	•	_					
F	Rod flange*2	•	•					
G	Head flange*2	●*4	—					
D	Double clevis*3	•	_					

\*1 The mounting bracket is shipped together with the product but does not come assembled.

\*2 For the horizontal cantilever mounting of the rod flange or ends tapped types, use the actuator within the following stroke range.

· EQY25: 200 or less · EQY32: 100 or less \*3 For the mounting of the double clevis type, use the actuator within the following stroke range.

·EQY25: 200 or less ·EQY32: 200 or less

\*4 The head flange type is not available for the EQY32.

#### Applicable Stroke Table

Size								Stroke	[mm]			
	30	50	100	150	200	250	300	350	400	450	500	Manufacturable stroke range
25										—	—	15 to 400
32		•			•					•		20 to 500

#### For auto switches, refer to the Web Catalog.

(RoHS)

### Specifications

		Model			EQY	25⊡H			EQY	32⊡H					
	Stroke [mm]				30 to	400			30 to	500					
		<1	Horizontal	8	26	40	70	30	50	90	100				
	work load [kg]	•	Vertical	2	8	16	30	3	13	26	46				
	Pushing force	<b>[N]</b> *2 *3 *4		36 to 76	63 to 122	126 to 238	232 to 452	50 to 118	80 to 189	156 to 370	296 to 707				
		a	Up to 300	30 to 900	18 to 700	9 to 450	5 to 225	30 to 900	24 to 800	12 to 400	6 to 200				
ns	Speed [mm/s]	Stroke	350 to 400	30 to 900	18 to 600	9 to 300	5 to 150	30 to 900	24 to 640	12 to 320	6 to 160				
atio		range	450 to 500	—	—	—	-	30 to 900	24 to 640	12 to 320	6 to 160				
fice	Max. accelerat	tion/	Horizontal	10000 (Varies depending on the work load and duty ratio*1)											
eci	deceleration [	mm/s²]	Vertical	5000 (Varies depending on the work load and duty ratio*1)											
sp	Pushing speed	d [mm/s²]*5			35 0	r less			30 oi	r less					
tor	Positioning re	peatability [	mm]	±0.02											
tua	Lost motion [r	<b>nm]</b> *6					0.1 o	r less			-				
Ac	Lead [mm]			20	12	6	3	24	16	8	4				
	Impact/Vibrati	on resistanc	<b>e [m/s²]</b> *7				50/	/20							
	Actuation type	•		Ball screw + Belt (EQY H), Ball screw (EQY DH)											
	Guide type			Sliding bushing (Piston rod)											
	Operating tem	perature rar	ige [°C]	5 to 40											
-	Operating hun	nidity range	[%RH]			9	0 or less (No	condensatior	1)						
ions	Motor size					42			□5	6.4					
ificat	Motor type					Battery-	less absolute	(Step motor 2	24 VDC)						
spec	Encoder						Battery-les	s absolute							
tric	Power supply	voltage [V]					24 VDC	C±10%							
Elec	Power [W]*8 *9				Max. po	ower 86			Max. po	wer 109					
it	Type <sup>*10</sup>						Non-magn	etizing lock							
catio	Holding force	[N]		47	78	157	294	75	108	216	421				
Loc!	Power [W]*9				Ę	5			Ę	5					
- spe	Power supply	voltage [V]					24 VDC	C±10%							

\*1 Horizontal: Please use an external guide (friction coefficient: 0.1 or less). The work load shows the maximum value. The actual work load and transfer speed change according to the condition of the external guide.

For the speed, acceleration, and duty ratio according to the work load, please contact SMC.

Vertical: If the rod orientation is vertical or radial load is applied to the rod, please use an external guide (friction coefficient: 0.1 or less). The work load represents the maximum value. The actual work load and transfer speed change according to the condition of the external guide. For the speed, acceleration, and duty ratio according to the work load, please contact SMC.

The values shown in () are the max. acceleration/deceleration.

Set the acceleration/deceleration speed to 10000 [mm/s<sup>2</sup>] or less for the horizontal direction and 5000 [mm/s<sup>2</sup>] or less for the vertical direction.

\*2 Pushing force accuracy is  $\pm 20\%$  (F.S.).

\*3 The pushing force set values for EQY25 H are 25% to 50%, and for EQY32 H are 30% to 70%.

The pushing force values change according to the duty ratio and pushing speed. Please contact SMC for details.

\*4 The speed and force may change depending on the cable length, load, and mounting conditions. Furthermore, if the cable length exceeds 5 m, then it will decrease by up to 10% for each 5 m. (At 15 m: Reduced by up to 20%)

\*5 The allowable speed for pushing operation. When push conveying a workpiece, operate at the vertical work load or less.

\*6 A reference value for correcting errors in reciprocal operation

\*7 Impact resistance: No malfunction occurred when the actuator was tested with a drop tester in both an axial direction and a perpendicular direction to the lead screw. (The test was performed with the actuator in the initial state.)

Vibration resistance: No malfunction occurred in a test ranging between 45 to 2000 Hz. The test was performed in both an axial direction and a perpendicular direction to the lead screw. (The test was performed with the actuator in the initial state.)

\*8 Indicates the max. power during operation. This value can be used for the selection of the power supply.

\*9 For an actuator with lock, add the power for the lock.

\*10 With lock only

#### **e-Actuator** Easy to Operate Integrated Controller / Rod Type **EQY** H Series Battery-less Absolute (Step Motor 24 VDC)

#### **Dimensions: Top Side Parallel Motor**



Motor option: With lock





Motor mounting position Left side parallel **Right side parallel** 







- \*1 The range of movement of the rod according to the movement instructions. Make sure that workpieces mounted on the rod do not interfere with other workpieces or the facilities around the rod.
- \*2 Indicates the factory default origin position (0 mm)
- \*3 [] refers to when the rotation direction reference is changed.
- \*4 The direction of rod end width across flats differs depending on the products.

#### **Dimensions**

Size	Stroke range [mm]	Α	в	С	D	EH	EV	н	J	к	L	М	01	R	S	S2	т	T2	U	cv	v	X Without lock	<b>2</b> With lock	Y
25	15 to 100	136.2	121.7 146.7	13	20	44	45.5	M8 x 1.25	24	17	14.5	34	M5 x 0.8	8	46	58.1	115	113.6	1	66.3	57.8	144	184	32.2
32	20 to 100	153.6	135.1	13	25	51	56.5	M8 x 1 25	31	22	18.5	40	M6 x 1	10	60	70.8	142	140.3	2	83.5	69.8	144	187	39.1
32	101 to 500	183.6	165.1	10	25		00.0	110 / 1.20			10.0	40	WOX I		00	10.0	142	140.5	2	00.0	00.0	144	107	00.1

#### **Body Bottom Tapped**

Boo	dy Bottor	n Tapp	ed							[mm]
Size	Stroke range [mm]	МА	МС	MD	МН	ML	мо	MR	ХА	ХВ
	15 to 39		24	32		50				
	40 to 100		40	41		50				
25	101 to 124	20	42	41	29	29	M5 x 0.8	6.5	4	5
	125 to 200		59	49.5		75				
	201 to 400		76	58						
	20 to 39		22	36		50				6
	40 to 100		36	13		50				
32	101 to 124	25	50	40	30		M6 x 1	8.5	5	
	125 to 200		53	51.5		80				
	201 to 500		70	60						

[mm]

### **Dimensions: In-line Motor**



#### Body Bottom Tapped

Size	Stroke range [mm]	МА	МС	MD	мн	ML	МО	MR	ХА	ХВ
25	15 to 39	20	24	32	29	50	M5 x 0.8	6.5	4	5
	40 to 100		40	41						
	101 to 124		42			75				
	125 to 200		59	49.5						
	201 to 400		76	58						
	20 to 39		22	36	30	50	M6 x 1	8.5	5	6
32	40 to 100	25	36	43		50				
	101 to 124					80				
	125 to 200		53	51.5						
	201 to 500		70	60						

### **SMC**

[mm]

Integrated Controller / Rod Type Battery-less Absolute (Step Motor 24 VDC) Battery-less Absolute (Step Motor 24 VDC)

#### Dimensions



End Male Inread [mm]											
Size	B1 C1 Ø		øD	Hı	к	Lı	L2	ММ			
25	22	20.5	20	8	17	38	23.5	M14 x 1.5			
32	22	20.5	25	8	22	42	23.5	M14 x 1.5			

 The L<sub>1</sub> measurement is when the unit is in the original position. At this position, 2 mm at the end.



Material: Carbon steel (Chromating)

\* The A measurement is when the unit is in the original position. At this position, 2 mm at the end.

\* When the motor mounting is the right or left side parallel type, the head side foot bracket should be mounted outward.

∕⁄∂SMC

- \* Refer to the **Web Catalog** for details on the rod end nut and mounting bracket.
- \* Refer to the specific product precautions ("Handling") in the **Web Catalog** when mounting end brackets such as knuckle joint or workpieces.



#### Dimensions



Included parts · Flange · Body mounting bolt

Rod/Head Flange [mm										
Size	FD	FT	FV	FX	FZ	LL	М			
25	5.5	8	48	56	65	6.5	34			
32	5.5	8	54	62	72	10.5	40			
Material: Carbon steel (Nickel plating)										





Included parts · Double clevis · Body mounting bolt · Clevis pin · Retaining ring

For the models and dimensions of the mounting bracket and simple joint bracket, refer to the Web Catalog for the LEY series.

#### \* Refer to the Web Catalog for details on the rod end nut and mounting bracket.

#### **Double Clevis**

Double Clevis											[mm]
Size	Stroke range [mm]	Α	CL	CD	СТ	CU	cw	сх	cz	L	RR
25	30 to 100	166.2	156.2	10	5	14	20	18	36	14.5	10
	101 to 200	191.2	181.2								
32	30 to 100	185.6	175.6	10	6	14	22	10	26	105	10
	101 to 200	215.6	205.6	10	0	14	22	10	30	18.5	10

Material: Cast iron (Coating)

\* The A and CL measurements are when the unit is in the original position. At this position, 2 mm at the end.



# ▲ Safety Instructions

These safety instructions are intended to prevent hazardous situations and/or equipment damage. These instructions indicate the level of potential hazard with the labels of "**Caution**," "**Warning**" or "**Danger**." They are all important notes for safety and must be followed in addition to International Standards (ISO/IEC)<sup>\*1</sup>, and other safety regulations.

- Caution: indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.
- Warning: Warning indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.

**Danger** indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

### **A**Warning

1. The compatibility of the product is the responsibility of the person who designs the equipment or decides its specifications.

Since the product specified here is used under various operating conditions, its compatibility with specific equipment must be decided by the person who designs the equipment or decides its specifications based on necessary analysis and test results. The expected performance and safety assurance of the equipment will be the responsibility of the person who has determined its compatibility with the product. This person should also continuously review all specifications of the product referring to its latest catalog information, with a view to giving due consideration to any possibility of equipment failure when configuring the equipment.

2. Only personnel with appropriate training should operate machinery and equipment.

The product specified here may become unsafe if handled incorrectly. The assembly, operation and maintenance of machines or equipment including our products must be performed by an operator who is appropriately trained and experienced.

- 3. Do not service or attempt to remove product and machinery/ equipment until safety is confirmed.
  - The inspection and maintenance of machinery/equipment should only be performed after measures to prevent falling or runaway of the driven objects have been confirmed.
  - 2. When the product is to be removed, confirm that the safety measures as mentioned above are implemented and the power from any appropriate source is cut, and read and understand the specific product precautions of all relevant products carefully.
  - Before machinery/equipment is restarted, take measures to prevent unexpected operation and malfunction.

# 4. Contact SMC beforehand and take special consideration of safety measures if the product is to be used in any of the following conditions.

- 1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.
- 2. Installation on equipment in conjunction with atomic energy, railways, air navigation, space, shipping, vehicles, military, medical treatment, combustion and recreation, or equipment in contact with food and beverages, emergency stop circuits, clutch and brake circuits in press applications, safety equipment or other applications unsuitable for the standard specifications described in the product catalog.
- 3. An application which could have negative effects on people, property, or animals requiring special safety analysis.
- 4. Use in an interlock circuit, which requires the provision of double interlock for possible failure by using a mechanical protective function, and periodical checks to confirm proper operation.

- \*1) ISO 4414: Pneumatic fluid power General rules relating to systems.
  - ISO 4413: Hydraulic fluid power General rules relating to systems. IEC 60204-1: Safety of machinery – Electrical equipment of machines. (Part 1: General requirements)
  - ISO 10218-1: Manipulating industrial robots Safety. etc.

## 

 The product is provided for use in manufacturing industries. The product herein described is basically provided for peaceful use in manufacturing industries. If considering using the product in other industries, consult SMC beforehand

and exchange specifications or a contract if necessary. If anything is unclear, contact your nearest sales branch.

#### Limited warranty and Disclaimer/ Compliance Requirements

The product used is subject to the following "Limited warranty and Disclaimer" and "Compliance Requirements".

Read and accept them before using the product.

#### Limited warranty and Disclaimer

- The warranty period of the product is 1 year in service or 1.5 years after the product is delivered, whichever is first.\*2) Also, the product may have specified durability, running distance or replacement parts. Please consult your nearest sales branch.
- 2. For any failure or damage reported within the warranty period which is clearly our responsibility, a replacement product or necessary parts will be provided. This limited warranty applies only to our product independently, and not to any other damage incurred due to the failure of the product.
- Prior to using SMC products, please read and understand the warranty terms and disclaimers noted in the specified catalog for the particular products.

\*2) Vacuum pads are excluded from this 1 year warranty. A vacuum pad is a consumable part, so it is warranted for a year after it is delivered. Also, even within the warranty period, the wear of a product due to the use of the vacuum pad or failure due to the deterioration of rubber material are not covered by the limited warranty.

#### **Compliance Requirements**

- The use of SMC products with production equipment for the manufacture of weapons of mass destruction (WMD) or any other weapon is strictly prohibited.
- 2. The exports of SMC products or technology from one country to another are governed by the relevant security laws and regulations of the countries involved in the transaction. Prior to the shipment of a SMC product to another country, assure that all local rules governing that export are known and followed.

## 

SMC products are not intended for use as instruments for legal metrology.

Measurement instruments that SMC manufactures or sells have not been qualified by type approval tests relevant to the metrology (measurement) laws of each country. Therefore, SMC products cannot be used for business or certification ordained by the metrology (measurement) laws of each country.

A Safety Instructions Be sure to read the "Handling Precautions for SMC Products" (M-E03-3) and "Operation Manual" before use.

# **SMC** Corporation

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