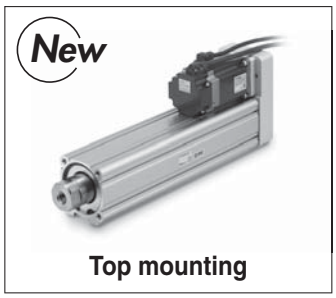
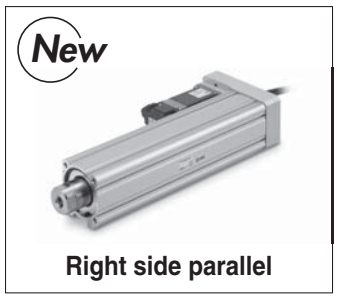
Electric Actuator/Rod Type

AC Servo Motor (400 W) | **Size: 63** | **Dust/Drip proof (IP65) specification** (Select options) | **RoHS**

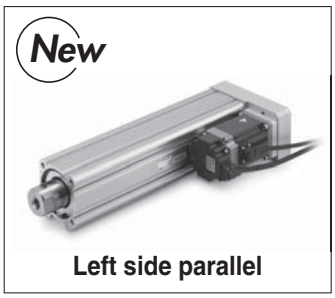
●Motor mounting position can be selected from 4 directions!



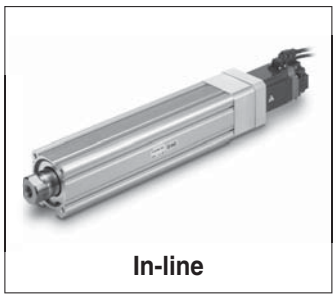
Top mounting



Right side parallel



Left side parallel


In-line

◎Max. work load [kg]

	New Top/Parallel	In-line
Horizontal	200	80
Vertical	115	72

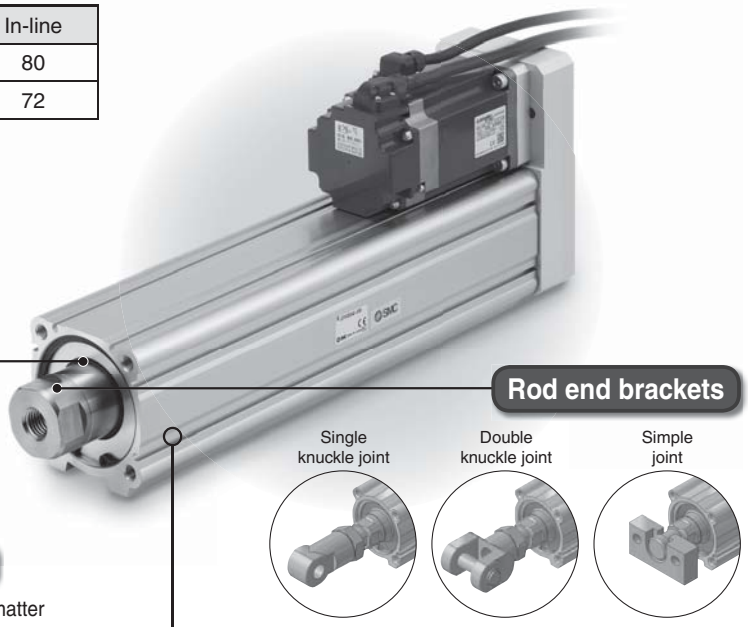
◎Max. pushing force [N]

New Top/Parallel	3343
In-line	1910

◎Max. speed: 1000 mm/s

＊ 500 stroke

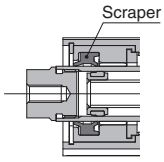
◎Dust/Drip proof specification: Equivalent to IP65



Rod end brackets

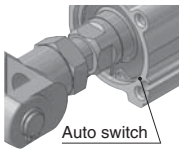
Scraper

Prevents foreign matter from entering.



Groove for auto switch

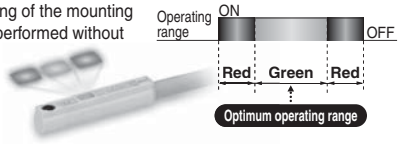
For checking the limit and intermediate signal
Applicable to the D-M9□ and D-M9□W (2-colour indication)
＊ The auto switches should be ordered separately.



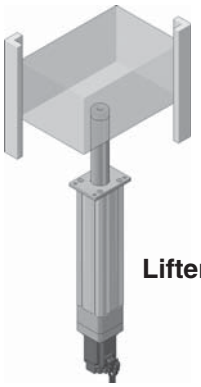
2-colour indication solid state auto switch

Appropriate setting of the mounting position can be performed without mistakes.

A green light lights up at the optimum operating range.



Application



Offering 4 types of AC servo motor drivers

Incremental type

Pulse input type/ Positioning type
Series LECSA



Absolute type

Pulse input type
Series LECSB



CC-Link direct input type
Series LECSC



SSCNET Ⅲ type
Series LECSS



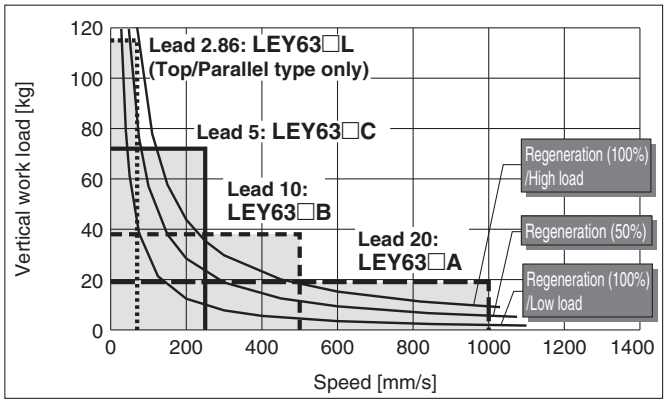
Series LEY

SMC

Speed–Work Load Graph

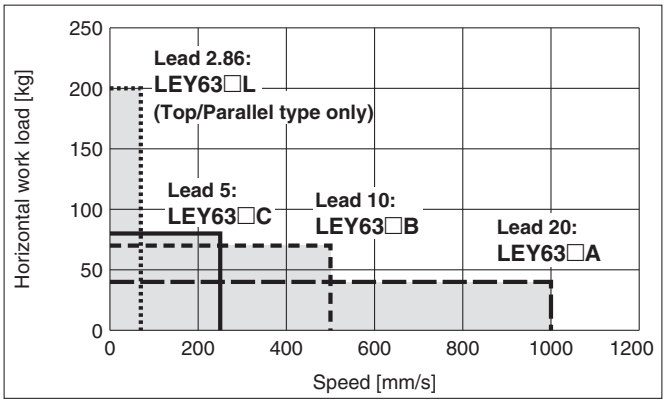
Vertical transfer

LEY63□



Horizontal transfer

LEY63□



Required conditions for "Regeneration option"

∗ Regeneration option required when using product above "Regeneration" line in graph. (Order separately)

[How to read the graph]
Required conditions change depending on operating conditions.
"Regeneration (50%)" : Duty ratio 50% or more
"Regeneration (100%)": Duty ratio 100%

"Regeneration Option" Models

Size	Regenerative conditions	Vertical transfer	Horizontal transfer
LEY63□	Regeneration (50%)	LEC-MR-RB-032	Not required
	Regeneration (100%)/Low load	LEC-MR-RB-032	
	Regeneration (100%)/High load	LEC-MR-RB-12	

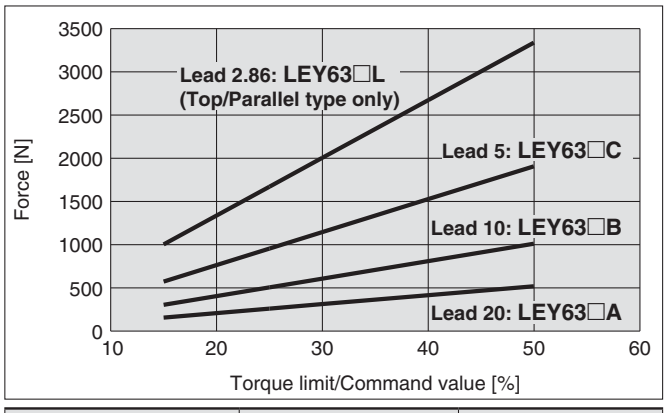
Allowable Stroke Speed

[mm/s]

Model	AC servo motor	Lead		Stroke [mm]							
		Symbol	[mm]	100	200	300	400	500	600	700	800
LEY63□	400 W/□60	A	20	1000					800	600	500
		B	10	500					400	300	250
		C	5	250					200	150	125
		(Motor rotation speed)		(3000 rpm)					(2400 rpm)	(1800 rpm)	(1500 rpm)
		L	2.86	70							
		(Motor rotation speed)		(1470 rpm)							

Force Conversion Graph

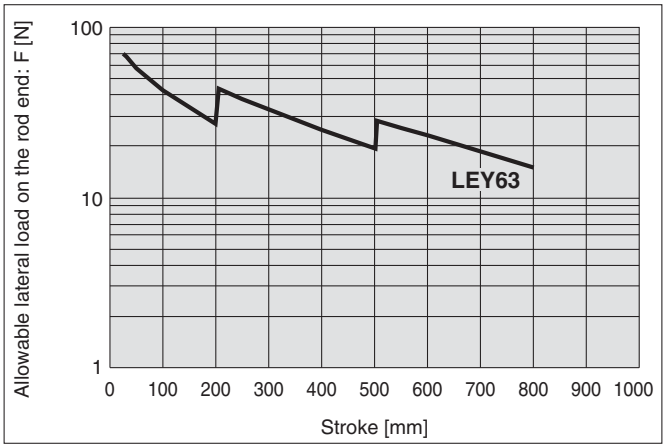
LEY63□



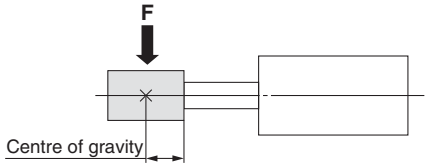
Torque limit/Command value [%]	Duty ratio [%]	Continuous pushing time [minute]
25 or less	100	—
30	100 (60)	— (1.5)
40	50 (30)	1.5 (0.5)
50	30 (20)	0.5 (0.16)

∗ 1 The values in ( ) are for a closely-mounted driver.
∗ 2 When limiting torque with incremental encoder, parameter No. PC12/ the value of the internal torque command should be set 50% or less.
∗ 3 When limiting torque with absolute encoder, parameter No. PC13/the value of the maximum output command for analogue torque should be set 50% or less.

Graph of Allowable Lateral Load on the Rod End



[Stroke] = [Product stroke] + [Distance from the rod end to the centre of gravity of the workpiece]



Electric Actuator/Rod Type

Series LEY

LEY63

How to Order

LEY 63 ❶ S4 ❸ B ❹ – 200 ❺ ❻ ❼ ❽ ❾ – S ❿ 2 ⓫ A2 ⓬ ⓭

❶ Size

63

❷ Motor mounting position

—	Top mounting
R	Right side parallel
L	Left side parallel
D	In-line

❸ Motor type

Symbol	Type	Output [W]	Actuator size	Compatible drivers
S4	AC servo motor (Incremental encoder)	400	63	LECSA2-S4
S8	AC servo motor (Absolute encoder)	400	63	LECSB2-S8 LECSC2-S8 LECSS2-S8

❹ Lead [mm]

Symbol	LEY63
A	20
B	10
C	5
L	2.86*

* Screw lead 5 mm, Pulley ratio [4:7] equivalent lead
* Only available for top mounting and right/left side parallel types.

❺ Stroke [mm]

100	100
to	to
800	800

❻ Dust/Drip proof

—	IP5x (Dust proof specification)
P	IP65 (Dust/Drip proof specification)/ With vent hole tap

* When using the dust/drip proof (IP65), correctly mount the fitting and tubing to the vent hole tap, and then place the end of the tubing in an area not exposed to dust or water.
* The fitting and tubing should be provided separately by the customer. Select [Applicable tubing O.D.: ø4 or more, Connection thread: Rc1/8].

❼ Motor option

—	Without option
B	With lock

❽ Rod end thread

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

❾ Mounting*1

Symbol	Type	Motor mounting position	
		Top/Parallel	In-line
—	Ends tapped (Standard)*2	●	●
U	Body bottom tapped	●	●
L	Foot	●	—
F	Rod flange*2	●	●
D	Double clevis*3	●	—

*1 Mounting bracket is shipped together, (but not assembled).
*2 For horizontal cantilever mounting with the rod flange and ends tapped, use the actuator within the following stroke range.
• LEY63: 400 or less
*3 For mounting with the double clevis, use the actuator within the following stroke range.
• LEY63: 300 or less

❿ Cable type Note 1)

—	Without cable
S	Standard cable
R	Robotic cable (Flexible cable)

Note 1) The motor and encoder cables are included. (The lock cable is also included when the motor with lock option is selected.)

⓫ Cable length Note 2) [m]

—	Without cable
2	2
5	5
A	10

Note 2) The length of the encoder, motor and lock cables are the same.

⓬ Driver type

	Compatible drivers	Power supply voltage
—	Without driver	
A2	LECSA2/Pulse input (Incremental encoder)	200 V to 230 V
B2	LECSB2/Pulse input (Absolute encoder)	200 V to 230 V
C2	LECSC2/CC-Link (Absolute encoder)	200 V to 230 V
S2	LECSS2/SSCNETⅢ (Absolute encoder)	200 V to 230 V

* When the driver type is selected, the cable is included. Select cable type and cable length.
Example) S2S2: Standard cable (2 m) + Driver (LECSS2)
S2 : Standard cable (2 m)
— : Without cable and driver

⓭ I/O connector

—	Without connector
H	With connector

* Applicable stroke table

Model \ Stroke [mm]	100	200	300	400	500	600	700	800	Manufacturable stroke range
LEY63	●	●	●	●	●	●	●	●	50 to 800

Note) Consult with SMC for the manufacture of intermediate strokes.

Specifications

Model			LEY63S$^{4}_{8}$□ (Top/Parallel)				LEY63DS$^{4}_{8}$□ (In-line)		
Actuator specifications	Stroke [mm] Note 1)		100, 200, 300, 400, 500, 600, 700, 800						
	Work load [kg]	Horizontal Note 2)	40	70	80	200	40	70	80
		Vertical	19	38	72	115	19	38	72
	Pushing force [N]/Set value Note 3) : 15 to 50% Note 4)		156 to 521	304 to 1,012	573 to 1,910	1,003 to 3,343	156 to 521	304 to 1,012	573 to 1,910
	Max. speed [mm/s] Note 5)	Stroke range: Up to 500	1000	500	250	70	1000	500	250
		Stroke range: 505 to 600	800	400	200		800	400	200
		Stroke range: 605 to 700	600	300	150		600	300	150
		Stroke range: 705 to 800	500	250	125		500	250	125
	Pushing speed [mm/s] Note 6)		30 or less						
	Max. acceleration/deceleration [mm/s^2]		5,000			3,000	5,000		
	Positioning repeatability [mm]		±0.02						
	Screw lead [mm] (including pulley ratio)		20	10	5	5 (2.86)	20	10	5
	Impact/Vibration resistance [m/s^2] Note 7)		50/20						
	Actuation type		Ball screw			Ball screw + Belt (Pulley ratio 4:7)	Ball screw		
	Guide type		Sliding bushing (Piston rod)						
	Operating temperature range [°C]		5 to 40						
	Operating humidity range [%RH]		90 or less (No condensation)						
	Required conditions for Note 8) "Regeneration option" [kg]	Horizontal	Not required	Not required	Not required	Not required	Not required	Not required	Not required
		Vertical	2 or more	5 or more	12 or more	46 or more	2 or more	5 or more	12 or more
Electric specifications	Motor output/Size		400 W/□60						
	Motor type		AC servo motor (200 VAC)						
	Encoder		Motor type S4: Incremental 17-bit encoder (Resolution: 131072 p/rev) Motor type S8: Absolute 18-bit encoder (Resolution: 262144 p/rev)						
	Power consumption [W] Note 9)	Horizontal	210						
		Vertical	230						
	Standby power consumption when operating [W] Note 10)	Horizontal	2						
		Vertical	18						
	Max. instantaneous power consumption [W] Note 11)		1275						
Lock unit specifications	Type Note 12)		Non-magnetizing lock						
	Holding force [N]		313	607	1,146	2,006	313	607	1,146
	Power consumption [W] at 20°C Note 13)		7.9						
	Rated voltage [V]		24 VDC$^{0}_{-10\%}$						

Note 1) Consult with SMC for non-standard strokes as they are produced as special orders.
Note 2) The maximum value of the horizontal work load. An external guide is necessary to support the load. The actual work load changes according to the condition of the external guide. Please confirm using actual device.
Note 3) Set values for the driver.
Note 4) The force setting range (set values for the driver) for the pushing operation with the torque control mode etc. The pushing force and duty ratio change according to the set value. Set it with reference to "Force Conversion Graph" on page 1.
Note 5) The allowable speed changes according to the stroke.
Note 6) The allowable collision speed for the pushing operation with the torque control mode etc.
Note 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. (Test was performed with the actuator in the initial state.)
Vibration resistance: No malfunction occurred in a test ranging between 45 to 2000 Hz. Test was performed in both an axial direction and a perpendicular direction to the lead screw. (Test was performed with the actuator in the initial state.)
Note 8) The work load conditions which require "Regeneration option" when operating at the maximum speed (Duty ratio: 100%).
Note 9) The power consumption (including the driver) is for when the actuator is operating.
Note 10) The standby power consumption when operating (including the driver) is for when the actuator is stopped in the set position during the operation.
Note 11) The maximum instantaneous power consumption (including the driver) is for when the actuator is operating.
Note 12) Only when motor option "With lock" is selected.
Note 13) For an actuator with lock, add the power consumption for the lock.

Weights

Product Weights

[kg]

Series		LEY63S□ (Motor mounting position: Top/Parallel)							
Stroke [mm]		100	200	300	400	500	600	700	800
Motor type	Incremental encoder	5.4	6.6	8.3	9.4	10.5	12.2	13.4	14.5
	Absolute encoder	5.5	6.7	8.4	9.5	10.6	12.3	13.5	14.6

Series		LEY63DS□□ (Motor mounting position: In-line)							
Stroke [mm]		100	200	300	400	500	600	700	800
Motor type	Incremental encoder	5.6	6.7	8.4	9.6	10.7	12.4	13.5	14.7
	Absolute encoder	5.7	6.8	8.5	9.7	10.8	12.5	13.6	14.8

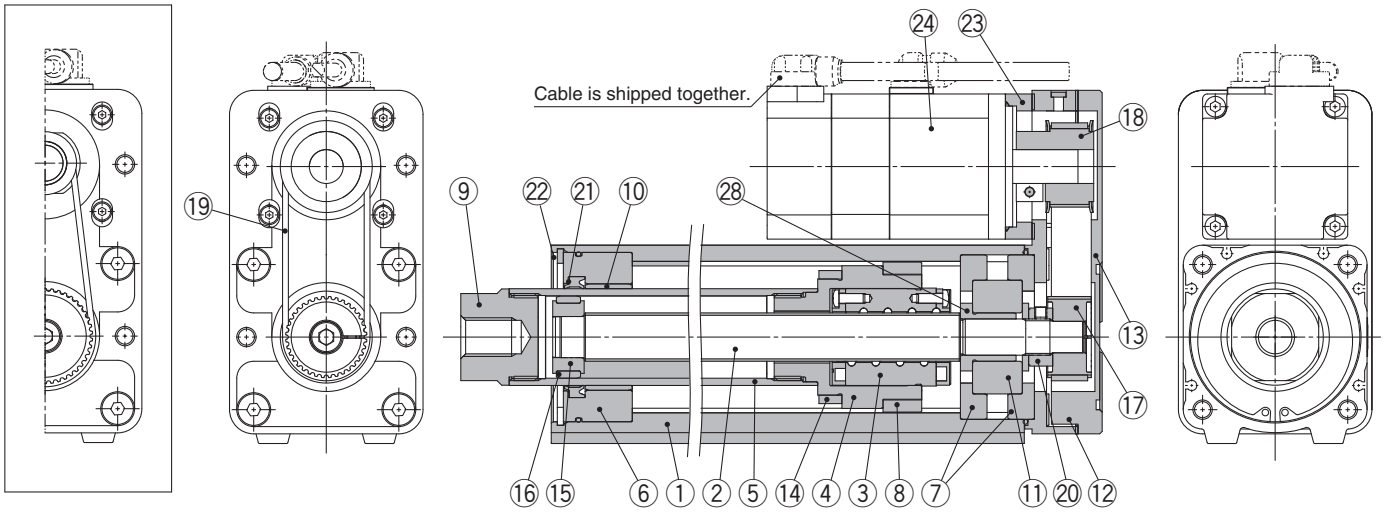
Additional Weights

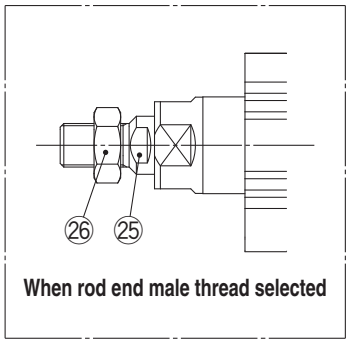
[kg]

Size		63
Lock	Incremental encoder	0.4
	Absolute encoder	0.6
Rod end male thread	Male thread	0.12
	Nut	0.04
Foot (2 sets including mounting bolt)		0.26
Rod flange (including mounting bolt)		0.51
Double clevis (including pin, retaining ring and mounting bolt)		0.58

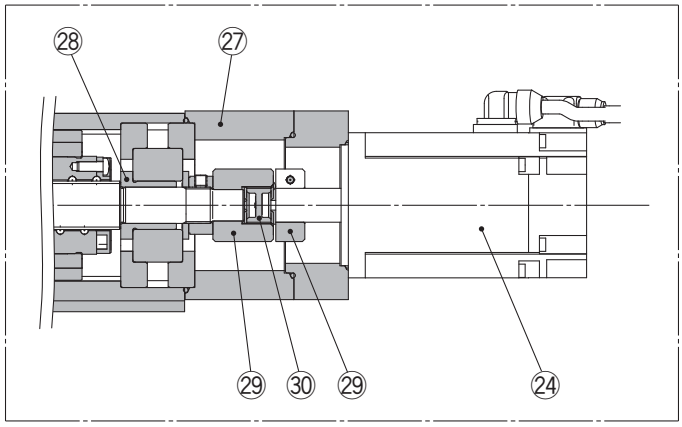
Construction

Motor top mounting type: LEY63





In-line motor type: LEY63D



Component Parts

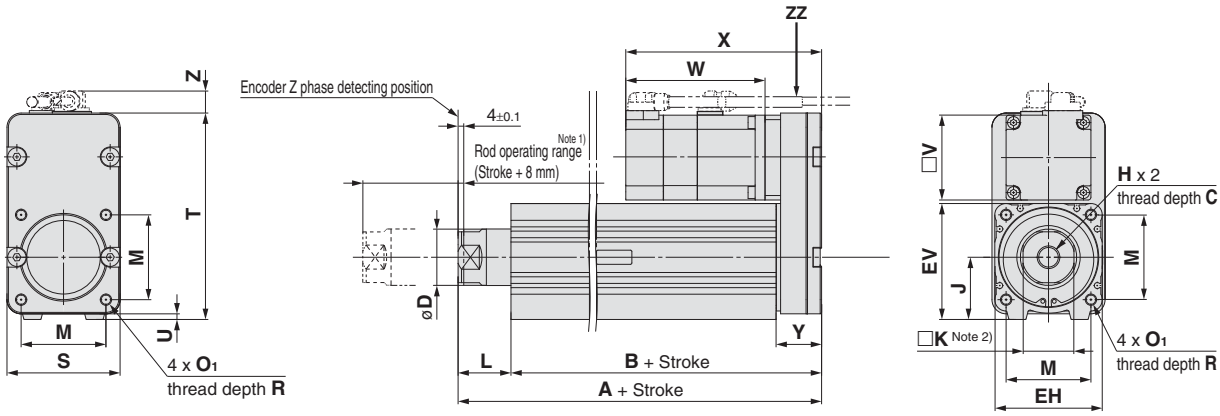
No.	Description	Material	Note
1	**Body**	Aluminium alloy	Anodised
2	**Ball screw shaft**	Alloy steel	
3	**Ball screw nut**	Resin/Alloy steel	
4	**Piston**	Aluminium alloy	
5	**Piston rod**	Stainless steel	Hard chrome anodised
6	**Rod cover**	Aluminium alloy	
7	**Bearing holder**	Stainless steel	
8	**Rotation stopper**	Resin	
9	**Socket**	Free cutting carbon steel	Nickel plating
10	**Bushing**	Lead bronze cast	
11	**Bearing**	—	
12	**Return box**	Aluminium alloy	Coating
13	**Return plate**	Aluminium alloy	Coating
14	**Magnet**	—	
15	**Wear ring holder**	Stainless steel	

No.	Description	Material	Note
16	**Wear ring**	Resin	
17	**Screw shaft pulley**	Aluminium alloy	
18	**Motor pulley**	Aluminium alloy	
19	**Belt**	—	
20	**Lock nut**	Alloy steel	Hard chrome anodised
21	**Seal**	NBR	
22	**Retaining ring**	Steel for spring	
23	**Motor adapter**	Aluminium alloy	Coating
24	**Motor**	—	
25	**Socket (Male thread)**	Free cutting carbon steel	Nickel plating
26	**Nut**	Alloy steel	Trivalent chromated
27	**Motor block**	Aluminium alloy	Coating
28	**Spacer A**	Stainless steel	
29	**Hub**	Aluminium alloy	
30	**Spider**	Urethane	

Replacement Parts (Top/Parallel only)/Belt

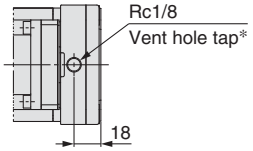
No.	Size	Lead	Order no.
19	**63**	A/B/C	LE-D-2-5
		L	LE-D-2-6

Dimensions: Motor Top/Parallel



Note 1) Range within which the rod can move.
Make sure a workpiece mounted on the rod does not interfere with the workpieces and facilities around the rod.
Note 2) The direction of rod end width across flats (□K) differs depending on the products.

IP65 (Dust/Drip proof specification): LEY63□□□-□P (View ZZ)



* When using the dust/drip proof (IP65), correctly mount the fitting and tubing to the vent hole tap, and then place the end of the tubing in an area not exposed to dust or water. The fitting and tubing should be provided separately by the customer.
Select [Applicable tubing O.D.: ø4 or more, Connection thread: Rc1/8].

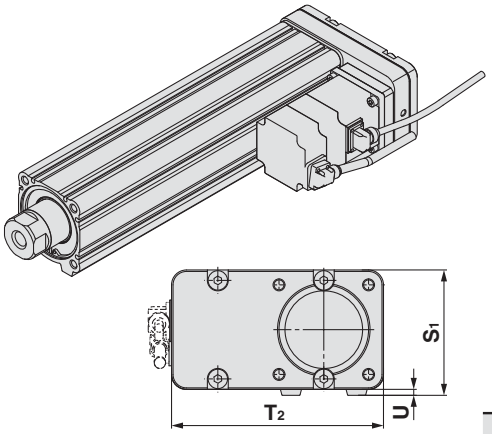
[mm]

Size	Stroke range [mm]	A	B	C	D	EH	EV	H	J	K	L	M	O_1	R	S
63	Up to 200	192.6	155.2	21	40	76	82	M16 x 2	44	36	37.4	60	M8 x 1.25	16	80
	205 to 500	227.6	190.2												
	505 to 800	262.6	225.2												

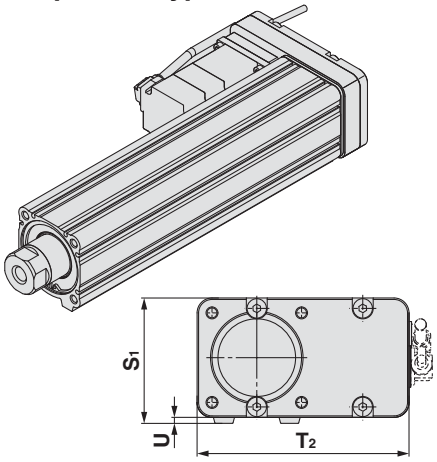
Size	Stroke range [mm]	T	U	V	Incremental encoder						Absolute encoder					
					Without lock			With lock			Without lock			With lock		
					W	X	Z	W	X	Z	W	X	Z	W	X	Z
63	Up to 200	150	4	60	110.2	150.2	11.6 (12.6)*	138.8	178.8	11.6 (12.6)*	98.5	138.5	11.6 (12.6)*	138	178	11.6 (12.6)*
	205 to 500															
	505 to 800															

* The values in ( ) are the dimensions when L is selected for screw lead.

Motor left side parallel type: LEY63L



Motor right side parallel type: LEY63R



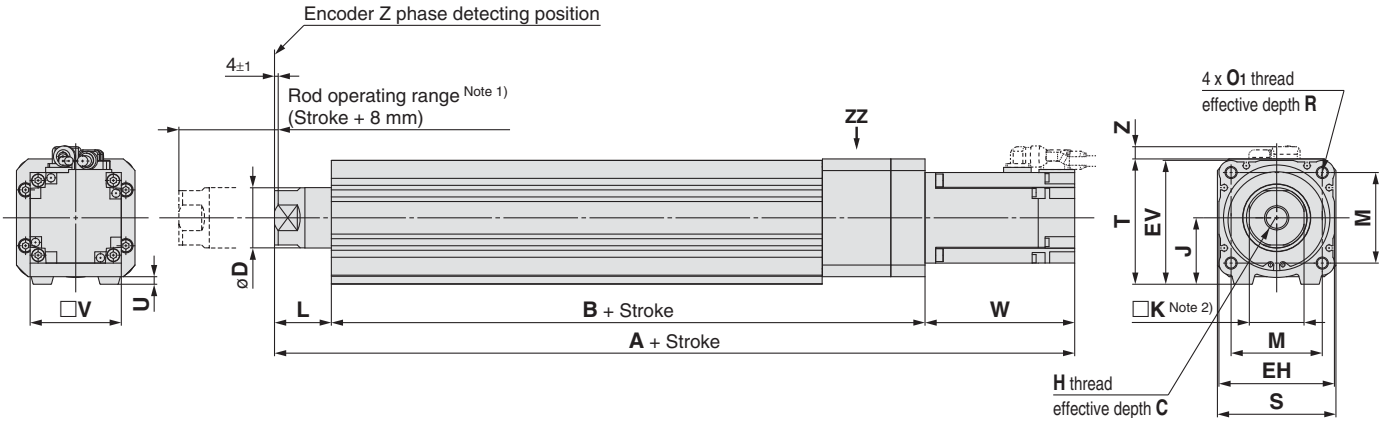
[mm]

Size	S_1	T_2	U
63	84	146	4

Note) When the motor is mounted on the left or right side in parallel, the groove for auto switch on the side to which the motor is mounted is hidden.

Dimensions: In-line Motor

LEY63D□



Note 1) Range within which the rod can move. Make sure a workpiece mounted on the rod does not interfere with the workpieces and facilities around the rod.

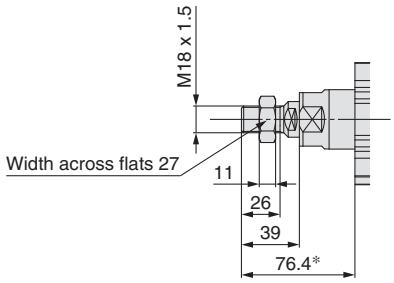
Note 2) The direction of rod end width across flats (□K) differs depending on the products.

[mm]

Size	Stroke range [mm]	C	D	EH	EV	H	J	K	L	M	O_1	R	S	T	U
63	Up to 200	21	40	76	82	M16 x 2	44	36	37.4	60	M8 x 1.25	16	78	83	5
	205 to 500														
	505 to 800														

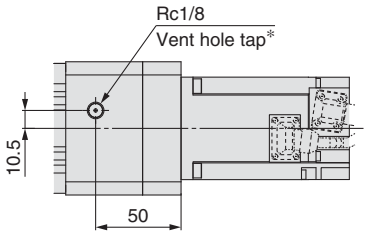
Size	Stroke range [mm]	B	V	Incremental encoder						Absolute encoder					
				Without lock			With lock			Without lock			With lock		
				A	W	Z	A	W	Z	A	W	Z	A	W	Z
63	Up to 200	190.7	60	338.3	110.2	8.1	366.9	138.8	8.1	326.6	98.5	8.1	366.1	138	8.1
	205 to 500	225.7		373.3			401.9			361.6			401.1		
	505 to 800	260.7		408.3			436.9			396.6			436.1		

End male thread: LEY63□□□-□□M



* The measurement 76.4 is when the unit is in the encoder Z phase detecting position. At this position, 4 mm at the end.

IP65 (Dust/Drip proof specification): LEY63D□□-□P (View ZZ)

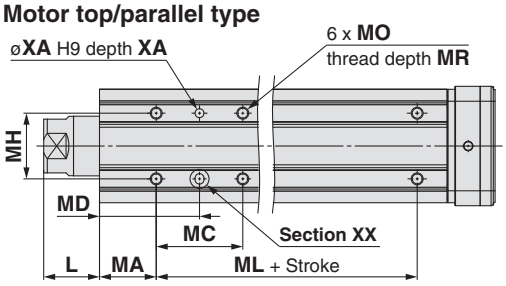


* When using the dust/drip proof (IP65), correctly mount the fitting and tubing to the vent hole tap, and then place the end of the tubing in an area not exposed to dust or water. The fitting and tubing should be provided separately by the customer.
Select [Applicable tubing O.D.: ø4 or more, Connection thread: Rc1/8].

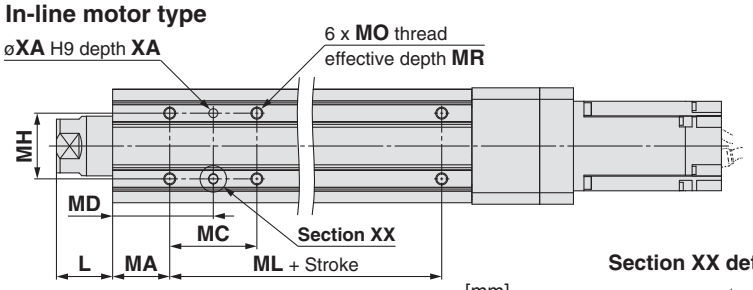
Dimensions

Body bottom tapped: LEY63□□□-□□U

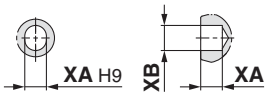
Motor top/parallel type



In-line motor type



Section XX details

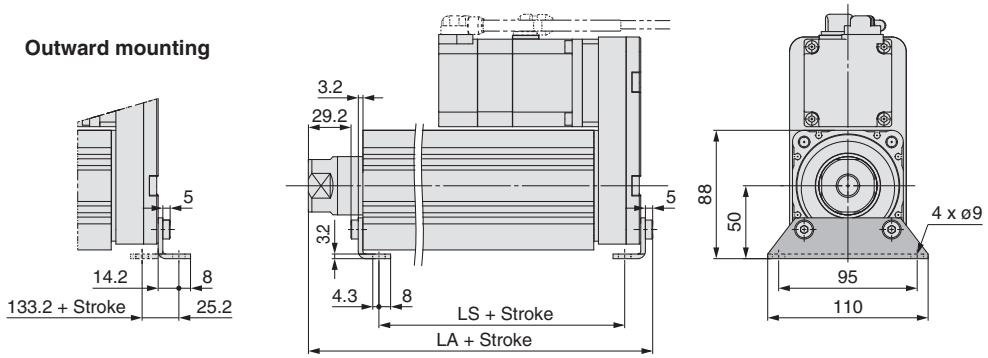


[mm]

Size	Stroke range [mm]	L	MA	MC	MD	MH	ML	MO	MR	XA	XB
63	50 to 74	37.4	38	24	50	44	65	M8 x 1.25	11	6	7
	75 to 124			45	60.5						
	125 to 200			58	67						
	201 to 500			86	81		100				
	501 to 800						135				

Foot: LEY63□□□-□□L

Outward mounting



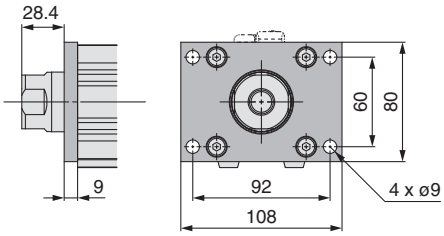
Included parts
- Foot
- Body mounting bolt

Material: Carbon steel (Chromate treated)

∗ The overall length is when the unit is in the Z phase first detecting position. At this position, 4 mm at the end.

Note) When the motor mounting is the right or left side parallel type, the head side foot should be mounted outwards.

Rod flange: LEY63□□□-□□F



Included parts
- Flange
- Body mounting bolt

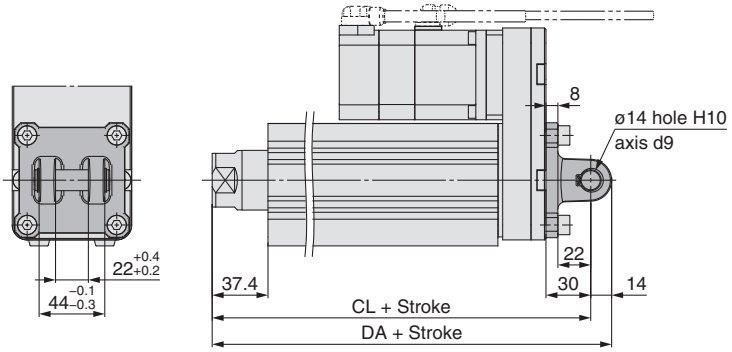
Material: Carbon steel (Nickel plating)

∗ Z phase first detection: the value for 4 mm.

[mm]

Size	Stroke range [mm]	LA	LS
63	50 to 200	200.8	133.2
	201 to 500	235.8	168.2
	501 to 800	270.8	203.2

Double clevis: LEY63□□□-□□D



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

Material: Cast iron (Coating)

∗ The overall length is when the unit is in the Z phase first detecting position. At this position, 4 mm at the end.

[mm]

Size	Stroke range [mm]	DA	CL
63	50 to 200	236.6	222.6
	201 to 500	271.6	257.6
	501 to 800	306.6	292.6

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