Model No. designation

LPE 100 L K 5 MSIJ

Power Cylinder Eco series

Rated thrust

025： 250N{25.5kgf}
050： 500N{51.0kgf}
100：1000N{102kgf}

Rated speed

L and H: check the actual speed with reference to the standard model list

Main body shape

T: straight
K: parallel

Stroke

1 : 100mm　4 : 400mm
2 : 200mm　5 : 500mm
3 : 300mm　6 : 600mm

Options

M: anti-rod rotation specifications
S: with magnetic sensor*
I : I-type end fitting
U: U-type end fitting
J : bellows

(the standard end part is a screw shape.)

* When a magnetic sensor is equipped, anti-rod rotation specifications are always adopted. (Code: MS)

Standard model list

Model number	Rated thrust N{kgf}	Rated speed mm/s 200/200/220V 50/60/60Hz	Motor output	Standard stroke mm
LPE025H	250{25.5}	160/190/200	0.25N·m(50W or equivalent)	100 200 300 400 500 600
LPE050L	500{51.0}	90/100/110	0.25N·m(50W or equivalent)	
LPE050H	500{51.0}	160/170/190	0.50N·m(90W or equivalent)	
LPE100L	1.00k{102}	90/90/110	0.50N·m(90W or equivalent)	

* Pressing force varies depending on the machine type, and is two or three times the rated thrust.

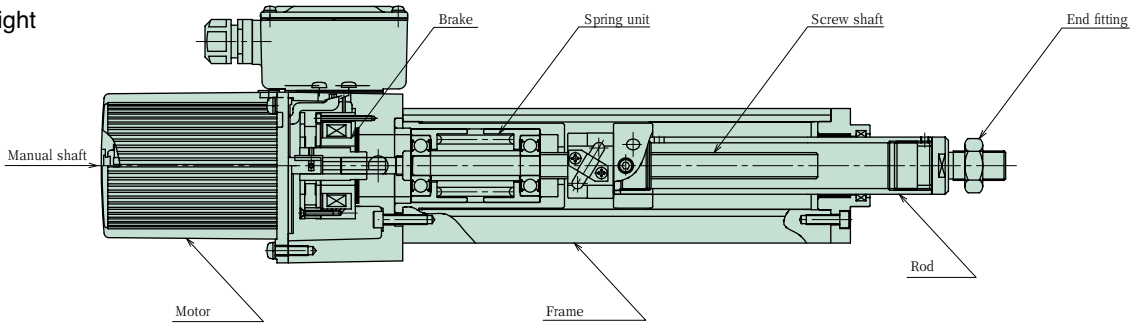
Standard environment of use

Model / Environment	Indoor type
Ambient temperature	0～40℃
Relative humidity	45～85%
Shock resistance value	0.5G or less
Installation altitude	1000m or lower above sea level
Ambient	Normally indoors*

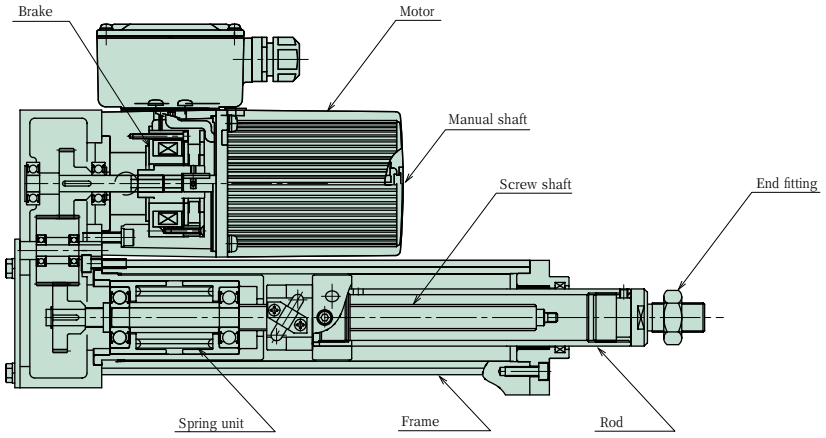
* Normally indoors means no exposure to wind, rain and water, and dust at a level inside an ordinary factory.

Structure

Straight

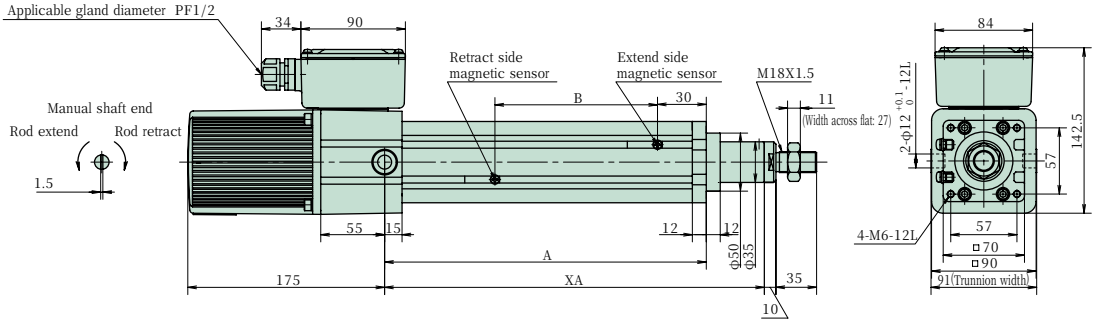


Parallel



Dimensions Table

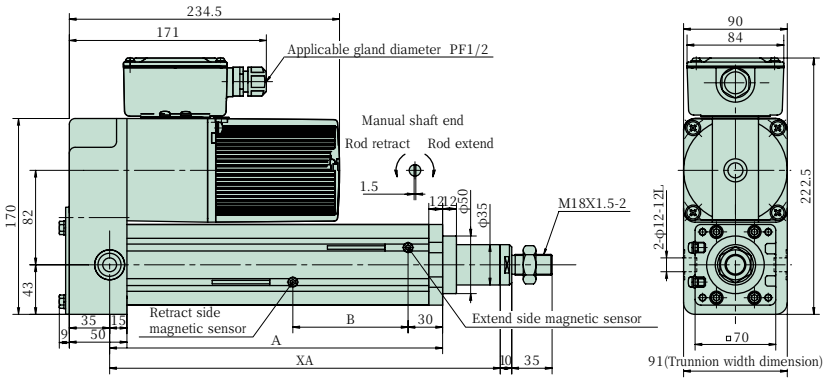
Straight



Unit: mm

Model	Main body shape	Stroke	A	B	XA		Approximate mass (kg)
					MIN	MAX	
LPE025H LPE050L LPE050H LPE100L	T	100	289	100	339	439	9
		200	389	200	439	639	10
		300	489	300	539	839	11
		400	589	400	639	1039	12
		500	689	500	739	1239	13
		600	789	600	839	1439	14

Parallel

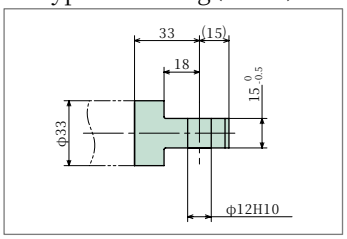


Unit: mm

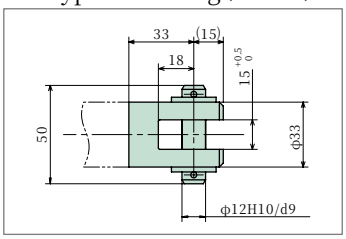
Model	Main body shape	Stroke	A	B	XA		Approximate mass (kg)
					MIN	MAX	
LPE025H LPE050L LPE050H LPE100L	K	100	289	100	339	439	14
		200	389	200	439	639	15
		300	489	300	539	839	16
		400	589	400	639	1039	17
		500	689	500	739	1239	18
		600	789	600	839	1439	19

Options

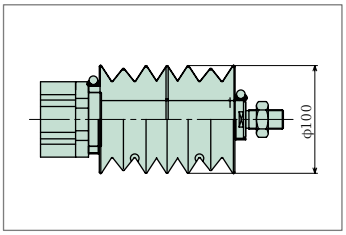
■I-type end fitting(－I)



■U-type end fitting(－U)

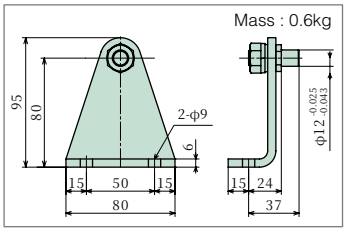


■Bellows(－J)



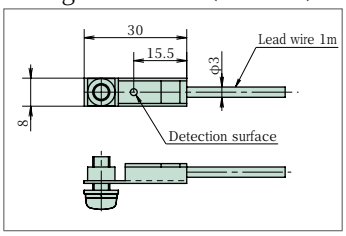
When bellows are equipped, flange mount is not available.

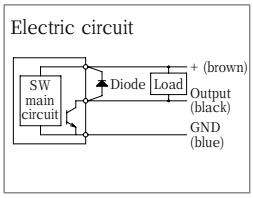
■Trunnion column(LPE025-T)



For the trunnion column, do not place the code at the end of the model number, but separately place an order from the main body model number.

■Magnetic sensor(－MS)





Magnetic sensor specifications

No contact switch (DC 3-wire system) (lead wire 1m)	
Power voltage	DC5～26V
Consumption current	8mA MAX（DC24V）
Output specifications	15mA MAX（DC24V） Open collector output

The magnetic sensor cannot be attached later. If it is necessary, place an order first. Types with a lamp or 2 wire type are also available. Refer to page 21.

Selection

Conditions of use required for selection

1. Machine to use and application
2. Thrust or load N{kgf}
3. Stroke mm
4. Speed mm/s
5. Frequency of operation, starts/min.
6. Power voltage, frequency
7. Type of load of machine used
8. Environment of use
9. Hours of operation and annual number of operating days

Selection procedures

1. Select the suitable model number from the standard model list (page13) based on thrust, speed and stroke.
2. Check that the number of cycles of the selected cylinder is within the allowable range with reference to the table at the right. (Table 1)
3. Check that the use conditions are satisfied with reference to the thrust – speed graph. (Figure 1)
4. In the case of use for transportation, check that the mass of the conveyed material is within the allowable range. (Table 2)
5. Select options as required.

Table 1 Allowable number of starts

starts/min.

Model number	Stroke mm	Thrust N			
		10	250	500	1000
LPE025H	100	15	12	—	—
	200	15	12	—	—
	300	10	10	—	—
	400	9	5	—	—
	500	8	4	—	—
	600	6	3	—	—
LPE050L	100	15	10	5	—
	200	8	8	5	—
	300	5	5	5	—
	400	5	5	3	—
	500	5	4	2	—
	600	4	4	2	—
LPE050H	100	15	12	10	—
	200	12	10	8	—
	300	10	10	6	—
	400	9	8	5	—
	500	8	7	4	—
	600	7	6	3	—
LPE100L	100	12	10	8	5
	200	8	8	8	5
	300	5	5	5	4
	400	5	5	5	3
	500	5	5	4	2
	600	4	4	4	2

Figure 1 Thrust – speed graph

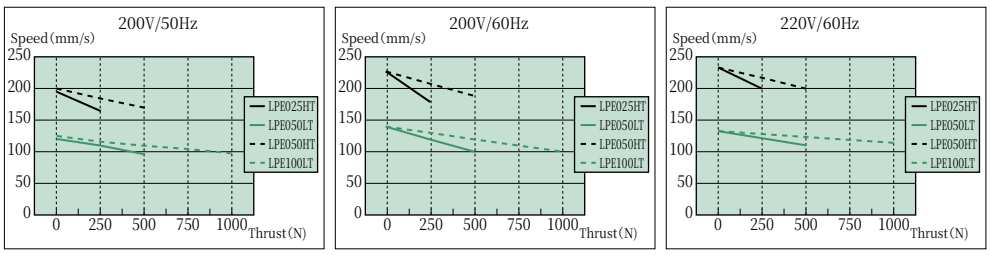


Table 2 Conveyed material mass in consideration of inertia

kg

Model number	Horizontal	Vertical
LPE025HT	50	25
LPE050LT	100	50
LPE050HT	100	50
LPE100LT	200	100

* The data of the above table 1 and figure 1 are numerical values at an ambient temperature of 20℃.
The numerical values may vary depending on the ambient temperature and other conditions, so use them as a guide.

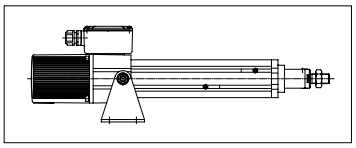
⚠ WARNING

■ Cautions for selecting

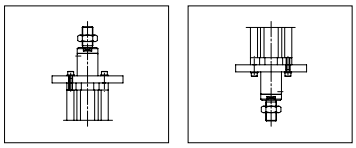
- No anti-rod rotation mechanism is attached to a cylinder with standard specifications. To use the end part freely, select the anti-rod rotation specifications (option).
  And when a magnetic sensor (option) is equipped, anti-rod rotation specifications are required.
- Refer to the allowable number table on page 15 to check that the number of the starts of selected cylinder is within the allowable range.
- If this cylinder is used for press or pull contact stopping, the strength of the equipment side must be 300% or more of the rated thrust.

■ Cautions for installation

- Install the main body using a trunnion or a flange mount.
  When it is used with oscillation using a trunnion mount, select an I-type or an U-type end fitting.
- If lateral load is applied, provide a guide so as not to receive lateral load or bending moment directly.
- When it is installed with a flange mount, install it in the vertical direction. (Refer to the figure at the right.)
- When it is used horizontally for a long stroke, support the bottom part of the frame end as shown in the figure below. Do not fix the frame and the supporting base.



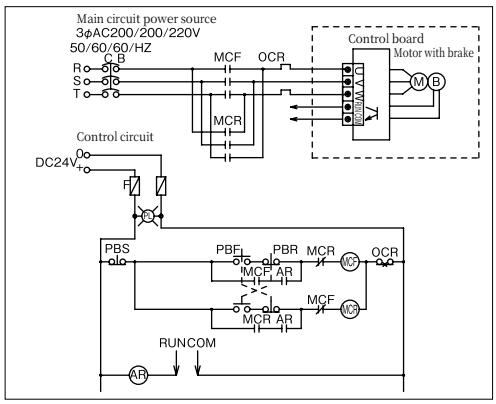
Trunnion mount



Flange mount

■ Cautions for use

- The motor stops when press or pull contact stops, however, on-the terminal block electricity is still being conducted. Never fail to cut off the main power source before working with the terminal box open.
- When adjusting the stroke manually, remove the cap bolt of the opposite load side of the motor, and turn the manual shaft with a flat-blade screwdriver or the like. However, use this only as an emergency since it is an operation with the brake working. And when operating manually, make sure to remove the load.
- Never use an inverter. This cylinder controls the press contact force by detecting overcurrent with the built-in CDS inside the terminal block and stopping the motor. If an inverter is used, the CDS circuit may be broken.
- Megger testing is prohibited for this cylinder. It may break the built in CDS. Remove all the terminals in the terminal block for megger testing of external circuits.
- Ensure the change over between extend and retract are at an interval of 0.2 seconds or more.
- The temperature around the motor may rapidly increase during operation and immediately after stopping. Do not touch around the motor part.
- Refer to the diagram below for connection and reference circuitry.



NOTE:

① This is a single acting circuit diagram. The cylinder extends with the PBF and automatically stops with the press contact force at the stroke end or when hitting a wall in the middle of a stroke, etc. For retract, the cylinder retracts with the PBR and stops in the same manner as the extend side. Provide a circuit for allowing MCF and MCR to be turned OFF every time the cylinder stops.

② RUN and COM terminals can take out the output signal of the cylinder action.
Open collector output: 50mA maximum 30V DC
Coil current of the relay AR must be 50mA DC or less.

③ Use an electromagnetic contactor with a contact capacity of SC-0 made of a Fuji Electric or equivalent.