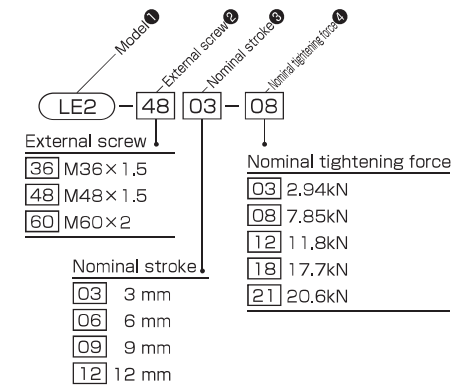
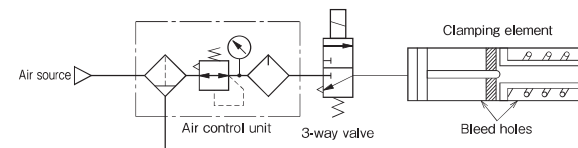


● How to order

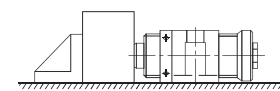


Structure

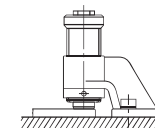


The internal mechanism of the clamping element is extremely simple. The boosting piston of the pneumatic cylinder at the rear of the body is inserted to the hydraulic chamber, large hydraulic pressure is generated by the area ratio between pneumatic piston and hydraulic piston, and power is applied to the hydraulic piston. The hydraulic piston is returned by the spring when the pneumatic circuit is turned off.

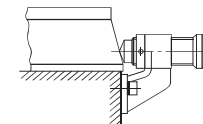
Application Examples



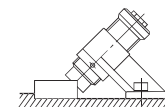
The clamping element is installed horizontally for clamping work to be drilled, polished, tapped or milled.



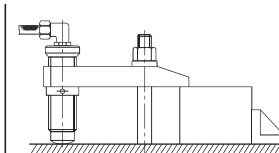
The clamping element is installed vertically for clamping plate-like work.



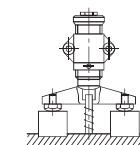
Used for clamping large parts having irregular shapes, such as castings and blank members.



The clamping element is installed at 45° and combined with a V-shaped clamping jig to give clamping force of x-y component.



Clamping using a clamp lever. Lever ratio: 1:2



Simultaneously clamping two pieces of work

Low pneumatic pressure is converted to high hydraulic pressure by the principle of booster, and the hydraulic pressure is given to the outside by the hydraulic piston to use it as power. Easy-to-use small and light boosters integral with clamp head

- Cylindrical shape with reduced overall length and external dimensions
- Since the cylinder volume is extremely small, the air consumption is very low.
- The mounting position can be adjusted with the clamp ring. The stroke is so short, that they can be tightened quickly.



Specifications

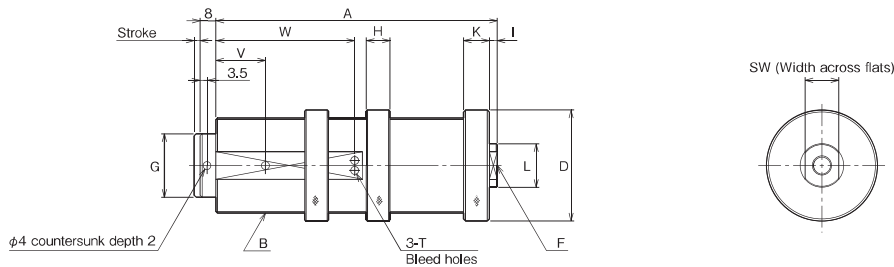
Model number	Item	Nominal stroke mm	Boosting ratio	Theoretical clamping force at max. working pneumatic pressure kN	Working pneumatic pressure range	Weight kg
LE2-3603-03		3	7.84	3.73	0.15 to 0.9 MPa	0.7
LE2-3606-03		6				0.9
LE2-3609-03		9				1.0
LE2-4803-08		3	8.16	8.34	0.15 to 0.9 MPa	1.3
LE2-4806-08		6				1.5
LE2-4809-08		9				1.7
LE2-4812-08		12	16	12.1	0.15 to 0.7 MPa	2.0
LE2-4803-12		3				1.4
LE2-6006-18		6				2.6
LE2-6009-18		9	11	18.0	0.15 to 0.9 MPa	3.4
LE2-6012-18		12				3.8
LE2-6003-21		3	17.36	20.8	0.15 to 0.7 MPa	2.5
LE2-6006-21		6				3.7

Theoretical Tightening Force

Unit: kN

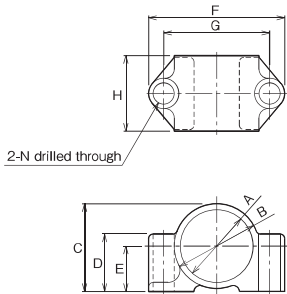
Model number	Item	Working pneumatic pressure (MPa)								
		0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
LE2-3603-03	0.392	0.637	1.08	1.52	1.96	2.40	2.84	3.29	3.73	
LE2-3606-03										
LE2-3609-03										
LE2-4803-08										
LE2-4806-08	0.981	1.47	2.45	3.43	4.41	5.39	6.37	7.35	8.34	
LE2-4809-08										
LE2-4812-08										
LE2-4803-12										
LE2-6006-18	1.67	2.50	4.41	6.37	8.24	10.2	12.1	—	—	
LE2-6009-18										
LE2-6012-18										
LE2-6003-21										
LE2-6006-21	3.33	4.9	7.85	11.3	14.5	17.7	20.8	—	—	
LE2-6006-21										

LE2

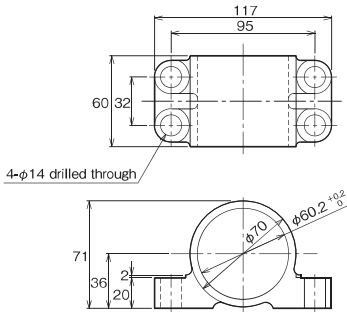


Mounting Bracket **SZZ**

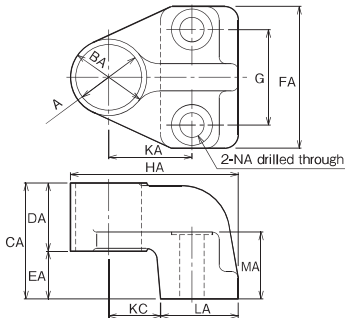
H3600
H4800



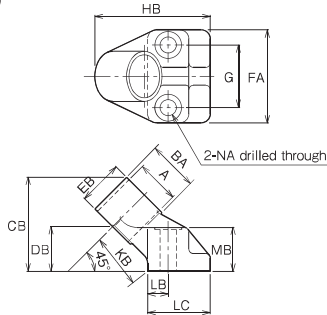
H6000



V3600
V4800
V6000



D3600
D4800
D6000



Dimensional Table/LE2

Symbol Model number	Nominal stroke mm	A	B	D	F	G	H	I	K	L	SW	T	V	W
LE2-3603-03	3	100	M36×1.5	φ42	G1/8	φ22f8	12	4	13	φ22	17	φ3	25	56
LE2-3606-03	6	142											25	72
LE2-3609-03	9	192											46	96
LE2-4803-08	3	112	M48×1.5	φ56	G1/8	φ32f8	12	4	13	φ22	17	φ4	26	66
LE2-4806-08	6	147											20	75
LE2-4809-08	9	188											34	90
LE2-4812-08	12	236	M48×1.5	φ56	G1/8	φ32f8	12	4	13	φ22	17	φ4	40	111
LE2-4803-12	3	142											25	70
LE2-6006-18	6	175											30	85
LE2-6009-18	9	245	M60×2	φ70	G1/4	φ40f8	14	5	18	φ25	22	φ4	60	122
LE2-6012-18	12	291											60	134
LE2-6003-21	3	168	M60×2	φ70	G1/4	φ40f8	14	5	18	φ25	22	φ4	40	83
LE2-6006-21	6	283											70	133

● Use the nominal stroke subtracted by 1 mm as an effective stroke.

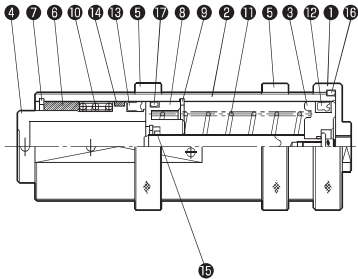
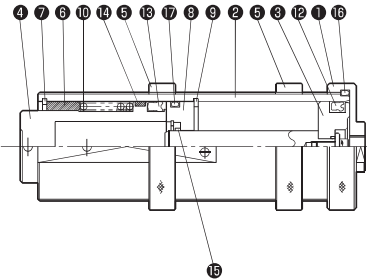
Dimensional Table/Mounting bracket

Symbol Model number	A	B	BA	C	CA	CB	D	DA	DB	E	EA	EB	F
*3600	φ36.2 ^{+0.1/0}	φ42	φ44	45	65	85	34	35	44.5	24	30	35	72
*4800	φ48.2 ^{+0.1/0}	φ56	φ56	58	85	105	38	50	50	30	35	50	90
*6000	φ60.2 ^{+0.1/0}	φ70	φ70	71	105	146	—	70	71.5	36	35	70	117

Symbol Model number	FA	G	H	HA	HB	MA	MB	N	NA	KA	KB	KC	LA	LB	LC
*3600	81	54	40	102	99	38	38	φ11	φ14	48	55	32	48	18	50
*4800	104	70	50	123	129	49	49	φ14	φ18	61	63	38	57	23	70
*6000	135	90	60	169	173	59	52	φ14	φ22	82	88	52	82	27	95

● To fit the bracket, use hex. socket head cap screws.

LE2



[LE2-3603-03 · LE2-3606-03 · LE2-3609-03
LE2-4803-08 · LE2-4806-08 · LE2-4809-08 · LE2-4812-08
LE2-6006-18 · LE2-6009-18 · LE2-6012-18]

[LE2-4803-12 · LE2-6003-21 · LE2-6006-21]

Parts List

No.	Name	Material	Qty.
①	Upper cover	Carbon steel for machine structural use	1
②	Tube	Carbon steel for machine structural use	1
③	Pneumatic piston assembly	Hardened and polished (plated with hard chrome)	1
④	Output shaft (hydraulic piston)	Carbon steel for machine structural use (plated with hard chrome)	1
⑤	Clamp ring	Carbon steel for machine structural use	2
⑥	Bush	Oil-impregnated metal	1
⑦	Bush retainer	Carbon tool steel	1
⑧	Intermediate ring	Free cutting brass	1
⑨	Intermediate ring retainer	Carbon tool steel	1
⑩	Return spring	Piano wire	1
⑪	Pneumatic piston return spring	Piano wire	1
⑫	Pneumatic piston seal	Nitrile rubber	1
⑬	Hydraulic piston seal	Nitrile rubber	1
⑭	Hydraulic piston wear ring	Resin	1
⑮	Boosting piston seal	Nitrile rubber	1
⑯	Tube gasket	Nitrile rubber	1
⑰	Intermediate ring gasket	Nitrile rubber	1



Toggle Presses

TPH.....ED58

