Plate Cylinder with Lock

Series MLU

ø25, ø32, ø40, ø50

How to Order

Without Auto Switch MLU B 25 — 30 D — F

With Auto Switch MDLU B 25 — 30 D — F — J79W S

Built-in magnet

Mounting

B	Standard
L	Axial foot type
F	Front flange type
G	Rear flange type
C	Single clevis
D	Double clevis

Size

25	Pressure receiving area equivalent to that of ø25 type
32	Pressure receiving area equivalent to that of ø32 type
40	Pressure receiving area equivalent to that of ø40 type
50	Pressure receiving area equivalent to that of ø50 type

Port thread type

Nil	M threads	ø25
	Rc	ø32, ø40, ø50
TN	NPT	

Stroke (mm)

Refer to page 2 for standard strokes and intermediate strokes.

Action

D	Double acting

Rod end shape

Nil	Rod end female thread
M	Rod end male thread

Locking direction

F	Extension locking
B	Retraction locking

Auto switch

Nil	Without auto switch (built-in magnet cylinder)

∗Select auto switch, models from the table below.
∗The auto switch is packed together when shipped (unmounted).

Number of auto switches

Nil	2 pcs.
S	1 pc.
n	"n" pcs.

Auto switch specifications

Type	Special function	Electrical entry	Indicator light	Wiring (output)	Load voltage DC	Load voltage DC	Load voltage AC	Rail mount Perpendicular	Rail mount In-line	Lead wire length (m) * 0.5 (Nil)	3 (L)	5 (Z)	None (N)	Applicable load	
Reed switch	—	Grommet	Yes	3-wire (NPN equiv.)	—	5V	—	—	A76H	●	●	—	—	IC circuit	—
				2-wire		—	200V	A72	A72H	●	●	—	—		
					24V	12V	100V	A73	A73H	●	●	●	—		
			No			5V, 12V	100V or less	A80	A80H	●	●	—	—	—	Relay, PLC
		Connector	Yes			—	—	A73C	—	●	●	●	●		
			No			5V, 12V	24V or less	A80C	—	●	●	●	●		
	Diagnostic indication (2-color display)	Grommet	Yes			—	—	A79W	—	●	●	—	—		
Solid state switch	—	Grommet	Yes	3-wire (NPN)	24V	5, 12V	—	F7NV	F79	●	●	○	—	IC circuit	Relay, PLC
				3-wire (PNP)				F7PV	F7P	●	●	○	—		
				2-wire		12V		F7BV	J79	●	●	○	—	—	
		Connector						J79C	—	●	●	●	●		
	Diagnostic indication (2-color display)	Grommet		3-wire (NPN)		5, 12V		F7NWV	F79W	●	●	○	—	IC circuit	
				3-wire (PNP)				—	F7PW	●	●	○	—		
	Water resistant (2-color display)			2-wire		12V	—	F7BWV	J79W	●	●	○	—	—	
								—	F7BA	—	●	○	—		
								F7BAV	—	—	●	○	—		
	With timer			3-wire (NPN)		5, 12V		—	F7NT	—	●	○	—	IC circuit	
	With diagnostic output (2-color display)			4-wire (NPN)		5V,1 2V		—	F79F	●	●	○	—		
	Latch type with diagnostic output (2-color display)					—		—	F7LF	●	●	○	—	—	
	Magnetic field resistant (2-color display)			2-wire				—	P5DW	—	●	●	—		

∗Lead wire length symbols 0.5m·····Nil (Example) A73C
3m·····L (Example) A73CL
5m·····Z (Example) A73CZ
None·····N (Example) A73CN

∗Solid state switches marked with a "○" symbol are produced upon receipt of order.

∗D-P5DWL type can only be mounted on the types for tubing of ø40 and ø50. Only D-P5DWL is mounted when shipped.

Cylinder Specifications

Size	25	32	40	50
Action	Double acting single rod			
Fluid	Air			
Proof pressure	1.05MPa			
Maximum operating pressure	0.7MPa			
Minimum operating pressure	0.2MPa Note)			
Ambient and fluid temperature	−10 to 60°C (with no freezing)			
Lubrication	Non-lube			
Cushion	Rubber bumper (standard)			
Rod end thread tolerance	JIS class 2			
Stroke length tolerance	$^{+1.4}_{0}$			
Piston speed	50 to 500mm/s			
Cylinder port size	M5 x 0.8	Rc, NPT, 1/8		Rc, NPT, 1/4

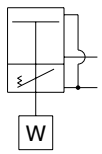
Note) The minimum operating pressure of the cylinder is 0.1MPa when the cylinder and lock are connected to separate ports.

Lock Specifications

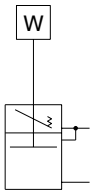
Size	25	32	40	50
Locking action	Spring locking (exhaust locking)			
Unlocking pressure	0.2MPa or more			
Locking pressure	0.05MPa or less			
Locking direction	One direction (extension locking, retraction locking, each type)			
Maximum operating pressure	0.7MPa			
Unlocking port connection size	M5 x 0.8	Rc, NPT, 1/8		
Holding force N (maximum static load)	245	403	629	982

Symbol

Extension locking



Retraction locking



Non-rotating Rod Accuracy

Size	25	32	40	50
Non-rotating rod accuracy	±1°	±0.8°	±0.5°	±0.5°

Standard Strokes

Size	Standard stroke (mm)	Max. manufacturable stroke
25, 32, 40, 50	5, 10, 15, 20, 25, 30, 35, 40, 45, 50 75, 100, 125, 150, 175, 200, 250, 300	300

∗Strokes other than the above are produced upon receipt of order.

Theoretical Output

Unit: N

Size	Rod size (mm)	Actuation direction	Piston area (mm^2)
25	12	IN·OUT	378
32	14	IN·OUT	650
40	16	IN·OUT	1056
50	20	IN·OUT	1649

Size	Operating pressure (MPa)					
	0.2	0.3	0.4	0.5	0.6	0.7
25	76	113	151	189	227	265
32	130	195	260	325	390	455
40	211	317	422	528	634	739
50	330	495	660	824	989	1154

∗Theoretical output (N) = Pressure (MPa) x Piston area (mm^2)

Weights

Unit: kg

	Size	25	32	40	50
Basic weight	Standard	0.34	0.58	0.87	1.52
	Axial foot type	0.41	0.72	1.08	1.86
	Flange type/Front, rear	0.44	0.72	1.10	1.98
	Single clevis	0.40	0.70	1.09	1.92
	Double clevis (with pin)	0.41	0.74	1.13	1.99
Additional weight per 50mm of stroke		0.12	0.16	0.22	0.34
Attached metal weight	Single clevis (Double clevis bracket)	0.06	0.12	0.22	0.40
	Double clevis (Single clevis bracket)	0.07	0.16	0.26	0.47
	Single knuckle joint	0.03	0.04	0.07	0.16
	Double knuckle joint (with pin)	0.05	0.09	0.14	0.29

Note) The weights of the attached metal single clevis and double clevis include the weight of two pieces of mounting bolts.

Calculation method—Example: **MDLUL32-100**

●Basic weight·····0.72 (axial foot type·size32)
●Additional weight·····0.16/50 stroke
●Stroke·····100 stroke
0.72 +100/50 x 0.16 = 1.04kg