

Fine Lock Cylinder

Double Acting, Single Rod

Series CLM2

ø20, ø25, ø32, ø40

How to Order

CLM2 **L** **25** - **100** - **E** -

With auto switch **CDLM2** **L** **25** - **100** - **E** - **M9BW** -

With auto switch (Built-in magnet)

Type

Nil	Pneumatic
H	Air-hydro

Port thread type

Nil	Rc
TN	NPT

Mounting style

B	Basic style	T	Head side trunnion style
L	Axial foot style	E	Clevis integrated style
F	Rod side flange style	BZ	Boss-cut basic style
G	Head side flange style	FZ	Boss-cut flange style
C	Single clevis style		
D	Double clevis style		

Bore size

20	20 mm
25	25 mm
32	32 mm
40	40 mm

Cylinder stroke (mm)

Refer to "Standard Stroke" on page 612.

With rod boot

Nil	None
J	Nylon tarpaulin
K	Heat resistant tarpaulin

Number of auto switches

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

Auto switch

Nil	Without auto switch
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* For the applicable auto switch model, refer to the table below.

Lock operation

E	Spring locking (Exhaust locking)
P	Pneumatic locking (Pressure locking)
D	Spring and pneumatic locking

Made to Order
Refer to page 612 for details.

Built-in Magnet Cylinder Model

If a built-in magnet cylinder without an auto switch is required, there is no need to enter the symbol for the auto switch.
(Example) CDLM2F32-100-P

Applicable Auto Switch/Refer to pages 1719 to 1827 for further information on auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model	Lead wire length (m)					Pre-wired connector	Applicable load				
					DC	AC		0.5 (Nil)	1 (M)	3 (L)	5 (Z)	None (N)						
Solid state switch	—	Grommet	Yes	3-wire (NPN)	24 V	5 V, 12 V	—	M9N	●	●	●	○	○	○	IC circuit	Relay, PLC		
		3-wire (PNP)		12 V		M9P		●	●	●	○	○	○					
		Connector				2-wire		5 V, 12 V	M9B	●	—	●	○	○	○		—	
		Terminal conduit		3-wire (NPN)		12 V		H7C	●	—	●	●	—					
	Diagnostic indication (2-color indication)	Grommet		3-wire (NPN)	5 V, 12 V	G39A	—	—	—	—	●	—	IC circuit					
				2-wire	12 V	K39A	—	—	—	—	●	—						
				Water resistant (2-color indication) With diagnostic output (2-color indication)	3-wire (NPN)	5 V, 12 V	M9NW	●	●	●	○	○	○	IC circuit				
					3-wire (PNP)	12V	M9PW	●	●	●	○	○	○					
					2-wire	M9BW	●	●	●	○	○	○	—					
						4-wire (NPN)	5 V, 12 V	H7BA	—	—	●	○		○	○			
Reed switch	—	Grommet	Yes	3-wire (NPN equivalent)	—	5V	—	A96	●	—	●	—	—	—	IC circuit	—		
				2-wire	24 V	12 V	100 V	A93	●	—	●	—	—	—	—		—	
							100 V or less	A90	●	—	●	—	—	—	IC circuit			
							100 V, 200V	B54	●	—	●	●	—	—				—
		200 V or less					B64	●	—	●	—	—	—					
		—					C73C	●	—	●	●	●	—	IC circuit				
		24 V or less					C80C	●	—	●	●	●	—					
		—					A33A	—	—	—	—	●	—	—	PLC			
		100 V, 200 V					A34A	—	—	—	—	●	—					
		DIN terminal		Grommet	Yes	2-wire	24 V	12 V	100 V, 200 V	A44A	—	—	—	—	●	—	—	Relay, PLC
										B59W	●	—	●	—	—	—		
		Diagnostic indication (2-color indication)		Grommet	Yes	2-wire	24 V	12 V	100 V, 200 V	B59W	●	—	●	—	—	—	—	—

- * Lead wire length symbols: 0.5 m Nil (Example) M9NW
1 m M (Example) M9NWM
3 m L (Example) M9NWL
5 m Z (Example) M9NWZ
None N (Example) H7CN
- * Solid state auto switches marked with "○" are produced upon receipt of order.
* D-A9□V□/M9□V□/M9□WV□/M9□A(V)L types cannot be mounted.
* Do not indicate suffix "N" for no lead wire on D-A3□A/A44A/G39A/K39A models.
- * Since there are other applicable auto switches than listed above, refer to page 624 for details.
* For details about auto switches with pre-wired connector, refer to pages 1784 and 1785.
* D-A9□/M9□/M9□W auto switches are shipped together (not assembled). (Only auto switch mounting brackets are assembled at the time of shipment.)

CLJ2

CLM2

CLG1

CL1

MLGC

CNG

MNB

CNA

CNS

CLS

CLQ

RLQ

MLU

MLGP

ML1C

D-□

-X□

Individual
-X□

Series CLM2

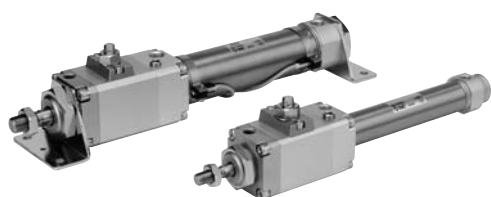
Provided with a compact lock mechanism, it is suitable for intermediate stop, emergency stop, and drop prevention.

Locking in both directions

The piston rod can be locked in either direction of its cylinder stroke.

Maximum piston speed: 500 mm/s

It can be used at 50 to 500 mm/s provided that it is within the allowable kinetic energy range.



Made to Order Specifications
(For details, refer to page 1836.)

Symbol	Specifications
—XA□	Change of rod end shape

Rod Boot Material

Symbol	Rod boot material	Maximum ambient temperature
J	Nylon tarpaulin	70°C
K	Heat resistant tarpaulin	110°C *

* Maximum ambient temperature for the rod boot itself.

Refer to pages 621 to 624 for cylinders with auto switches.

- Minimum auto switch mounting stroke
- Proper auto switch mounting position (detection at stroke end) and mounting height
- Operating range
- Switch mounting bracket: Part no.

Specifications

Bore size (mm)	20	25	32	40
Action	Double acting, Single rod			
Type	Air cylinder			
Lock operation	Spring locking (Exhaust locking) Pneumatic locking (Pressurized locking), Spring and pneumatic locking			
Fluid	Air			
Proof pressure	1.5 MPa			
Maximum operating pressure	1.0 MPa			
Minimum operating pressure	0.08 MPa			
Ambient and fluid temperature	Without auto switch: -10 to 70°C (No freezing) With auto switch: -10 to 60°C (No freezing)			
Lubrication	Not required (Non-lube)			
Piston speed	50 to 500 mm/s *			
Cushion	Rubber bumper (Standard equipment)			
Stroke length tolerance	+1.4 0			
Piping/Screw-in type	Rc 1/8			Rc 1/4
Mounting	Basic style, Axial foot style, Rod side flange style, Head side flange style, Single clevis style, Double clevis style, Head side trunnion style, Clevis integrated style, Boss-cut basic style, Boss-cut flange style			

* Constraints associated with the allowable kinetic energy are imposed on the speeds at which the piston can be locked. The maximum speed of 750 mm/s can be accommodated if the piston is to be locked in the stationary state for the purpose of drop prevention.

Fine Lock Specifications

Lock operation	Spring locking (Exhaust locking)	Spring and pneumatic locking	Pneumatic locking (Pressure locking)
Fluid	Air		
Maximum operating pressure	0.5 MPa		
Unlocking pressure	0.3 MPa or more		0.1 MPa or more
Lock starting pressure	0.25 MPa or less		0.05 MPa or more
Locking direction	Both directions		

* Refer to page 614 for the allowable kinetic energy when locking, holding force of spring locking and stopping accuracy.

Standard Stroke / Refer to the minimum auto switch mounting stroke (page 623) for those with an auto switch.

Bore size (mm)	Standard stroke ⁽¹⁾ (mm)	Maximum stroke (mm)
20	25, 50, 75, 100, 125, 150 200, 250, 300	1000
25		1500
32		2000
40		2000



Note 1) Intermediate strokes other than listed above are produced upon receipt of order. Manufacture of intermediate strokes at 1 mm intervals is possible. (Spacers are not used.)

Note 2) When exceeding 300 strokes, the allowable maximum stroke length is determined by the stroke selection table (technical data).