

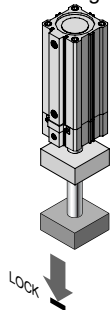
Series **CLQ** Compact Cylinder

Drop prevention is possible within the entire stroke at any position.

- Drop prevention in the middle of stroke
- Locking position can be changed in accordance with the external stopper position and the thickness of clamped workpieces.

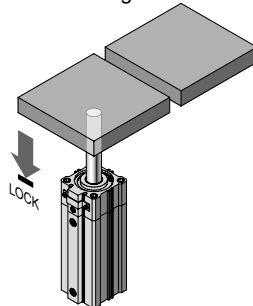
Drop prevention for press fitting jig

Extension locking



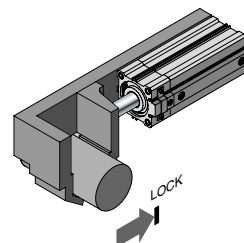
Drop prevention for lifter

Retraction locking

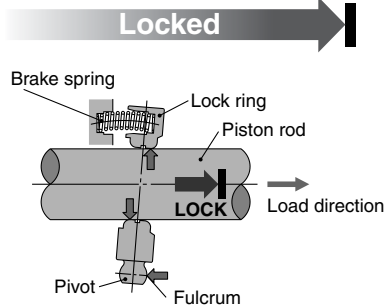
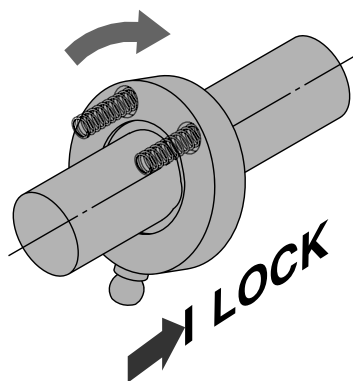


Holding a clamped condition

Retraction locking

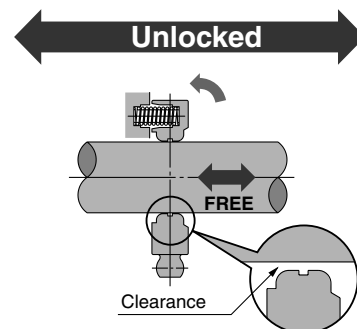


Simple Construction/Simple and reliable locking type



Unlocking port: Air exhausted

1. The lock ring is tilted by the spring force.
2. The tilting is increased by the load and the piston rod is securely locked.



Unlocking port: Air supplied

1. The lock ring becomes perpendicular to the piston, creating clearance between the piston rod and lock ring, which allows the piston rod to move freely.

Compact Cylinder with Lock Double Acting, Single Rod Series *CLQ*

ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100

How to Order

CLQ B 40 - 30 D - F -

With auto switch **CDLQ B 40 - 30 D - F - M9BW -**

With auto switch
(Built-in magnet)

Mounting style

ø20, ø25 ø32 to ø100

B	Through-hole/ Both ends tapped common (Standard)	B	Through-hole (Standard)
L	Foot style	A	Both ends tapped style
F	Rod side flange style	L	Foot style
G	Head side flange style	F	Rod side flange style
D	Double clevis style	G	Head side flange style
		D	Double clevis style

* Mounting bracket is shipped together, (but not assembled).

Bore size

20	20 mm	50	50 mm
25	25 mm	63	63 mm
32	32 mm	80	80 mm
40	40 mm	100	100 mm

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) CDLQL32-30D-B

Port thread type

Nil	Rc, M (ø20, ø25)
TN	NPT
TF	G

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

Locking direction

F	Extension locking
B	Retraction locking

Number of auto switches

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

Made to Order
Refer to page 817 for details.

Body option

Nil	Standard (Rod end female thread)
C	With rubber bumper
M	Rod end male thread
CM	With rubber bumper, Rod end male thread

Action
D Double acting

Cylinder stroke (mm)
For "Standard strokes" and "Manufacture of Intermediate of Stroke", refer to page 817.

Applicable Auto Switch/Refer to pages 1719 to 1827 for detailed specifications of auto switches.

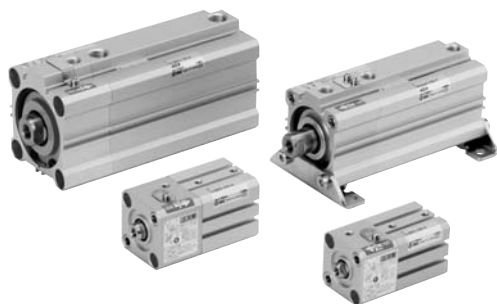
Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model				Lead wire length (m)					Pre-wired connector	Applicable load										
					DC	AC	Perpendicular		In-line		0.5 (Nil)	1 (M)	3 (L)	5 (Z)	None (N)												
							ø20, ø25	ø32 to ø100	ø20, ø25	ø32 to ø40 to ø100																	
Solid state switch	—	Grommet	Yes	3-wire (NPN)	24 V	5 V, 12 V	—	M9NV		M9N		●	●	●	○	—	○	IC circuit	Relay, PLC								
		3-wire (PNP)		M9PV				M9P		●	●	●	○	—	○												
	Connector	2-wire		12V				M9BV		M9B		●	●	●	○	—	○			—							
		—		J79C				—		●	—	●	●	●	—												
	Diagnostic indication (2-color indication)	Grommet		3-wire (NPN)				24 V	5 V, 12 V	—	M9NWV		M9NW		●	●	●	○		—	○	IC circuit					
				3-wire (PNP)							M9PWV		M9PW		●	●	●	○		—	○						
	2-wire			M9BWV							M9BW		●	●	●	○	—	○		—							
	3-wire (NPN)			M9NAV							M9NA		○	○	●	○	—	○			IC circuit						
	3-wire (PNP)			M9PAV							M9PA		○	○	●	○	—	○									
	2-wire			M9BAV							M9BA		○	○	●	○	—	○		—							
	4-wire			5 V, 12 V							—		F79F		●	—	●	○			—	○	IC circuit				
	With diagnostic output (2-color indication)			—							—		P4DW		●	—	●	●		—	○	—					
Magnetic field resistant (2-color indication)	2-wire (Non-polar)		—		—		—		—	—	●	●	—	○	—												
Reed switch	—	Grommet	Yes	3-wire (NPN equivalent)	—	5 V	—	A96V		A96		●	—	●		—	—	—	IC circuit	Relay, PLC							
								—		200V		A72		A72H		●	—	●			—	—	—				
								Connector	2-wire	24 V	12 V	100V	A93V		A93		●	—	●		—	—	—				
													5 V, 12 V		100 V or less		A90V		A90		●	—	●	—	—	—	
		12 V											—		A73C		—		●		—	●	●	●	—	—	
		5 V, 12 V											24 V or less		A80C		—		●		—	●	●	●	—	—	
		Diagnostic indication (2-color indication)						Grommet	Yes	3-wire (NPN equivalent)	—	5 V	—	A79W		—		●	—		●	—	—	—	—		
														—		—		—			—	—	—	—		—	—

* Lead wire length symbols: 0.5 m Nil (Example) M9NV
1 m M (Example) M9NWM
3 m L (Example) M9NWL
5 m Z (Example) M9NWZ
None N (Example) J79CN

* Solid state auto switches marked with "○" are produced upon receipt of order.
* D-P4DWL is compatible with ø40 to ø100.
* D-P4DW is assembled at the time of shipment.

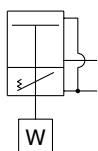
* Since there are other applicable auto switches than listed, refer to page 837 for details.
* For details about auto switches with pre-wired connector, refer to pages 1784 and 1785.
* When D-A9□(V)/M9□(V)/M9□W(V)/M9□A(V)L types with ø32 to ø50 are mounted on a side other than the port side, order auto switch mounting brackets separately. Refer to page 836 for details.
* When mounting brackets (foot/head side flange/double clevis style) are used, then in some cases auto switches cannot be retrofitted.

Compact Cylinder with Lock Double Acting, Single Rod **Series CLQ**

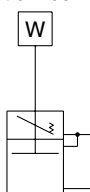


JIS Symbol

Extension locking



Retraction locking



Made to Order Specifications

(For details, refer to pages 1836 and 1926.)

Symbol	Specifications
—XA□	Change of rod end shape
—XC35	With coil scraper (ø40 to ø100 only)

Cylinder Specifications

Bore size (mm)	20	25	32	40	50	63	80	100
Action	Double acting, Single rod							
Fluid	Air							
Proof pressure	1.5 MPa							
Maximum operating pressure	1.0 MPa							
Minimum operating pressure	0.2 MPa <small>Note 1)</small>							
Ambient and fluid temperature	Without auto switch: -10 to 70°C (No freezing) With auto switch: -10 to 60°C (No freezing)							
Lubrication	Non-lube							
Piston speed	50 to 500 mm/s							
Stroke length tolerance	± 1.0 mm <small>Note 2)</small>							
Cushion	None, rubber bumper							
Port size (Rc, NPT, G)	M5 x 0.8	1/8		1/4		3/8		

Note 1) The minimum operating pressure of the cylinder is 0.1 MPa when the cylinder and lock are connected to separate ports.

Note 2) Stroke length tolerance does not include the amount of bumper change.

Lock Specifications

Bore size (mm)	20	25	32	40	50	63	80	100
Locking action	Spring locking (Exhaust locking)							
Unlocking pressure	0.2 MPa or more							
Lock starting pressure	0.05 MPa or less							
Locking direction	One direction (Either extension locking or retraction locking)							
Unlocking port size	Rc	M5 x 0.8	1/8				1/4	
	NPT	—	—				—	
	G	—	M5 x 0.8				1/8	1/4
Holding force (N) (Maximum static load)	157	245	402	629	982	1559	2513	3927
	Equivalent to 0.5 MPa							

Note) Be sure to select cylinders referring page 812.

Standard Stroke

Bore size (mm)	Standard stroke (mm)
20, 25	5, 10, 15, 20, 25, 30, 35, 40, 45, 50
32, 40, 50, 63, 80, 100	10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100

Manufacture of Intermediate Stroke

Description	Spacer is installed in the standard stroke body.	
Part no.	Refer to "How to Order" for the standard model no. on page 816.	
Method	Dealing with the stroke by the 1 mm interval is available by installing spacer with standard stroke cylinder.	
Stroke range	Bore size (mm)	Stroke range (mm)
	20, 25	1 to 50
	32, 40, 50, 63, 80, 100	1 to 100
Example	Part no.: CLQB40-47D-B 3 mm spacer is installed in standard cylinder CLQB40-50D-B. B dimension is 79.5 mm.	

Note) ø40 to ø100 bumper spacers with intermediate strokes can be manufactured in 5 mm increments from 55 to 95 mm.

Refer to pages 834 to 837 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.

CLJ2

CLM2

CLG1

CL1

MLGC

CNG

MNB

CNA

CNS

CLS

CLQ

RLQ

MLU

MLGP

ML1C

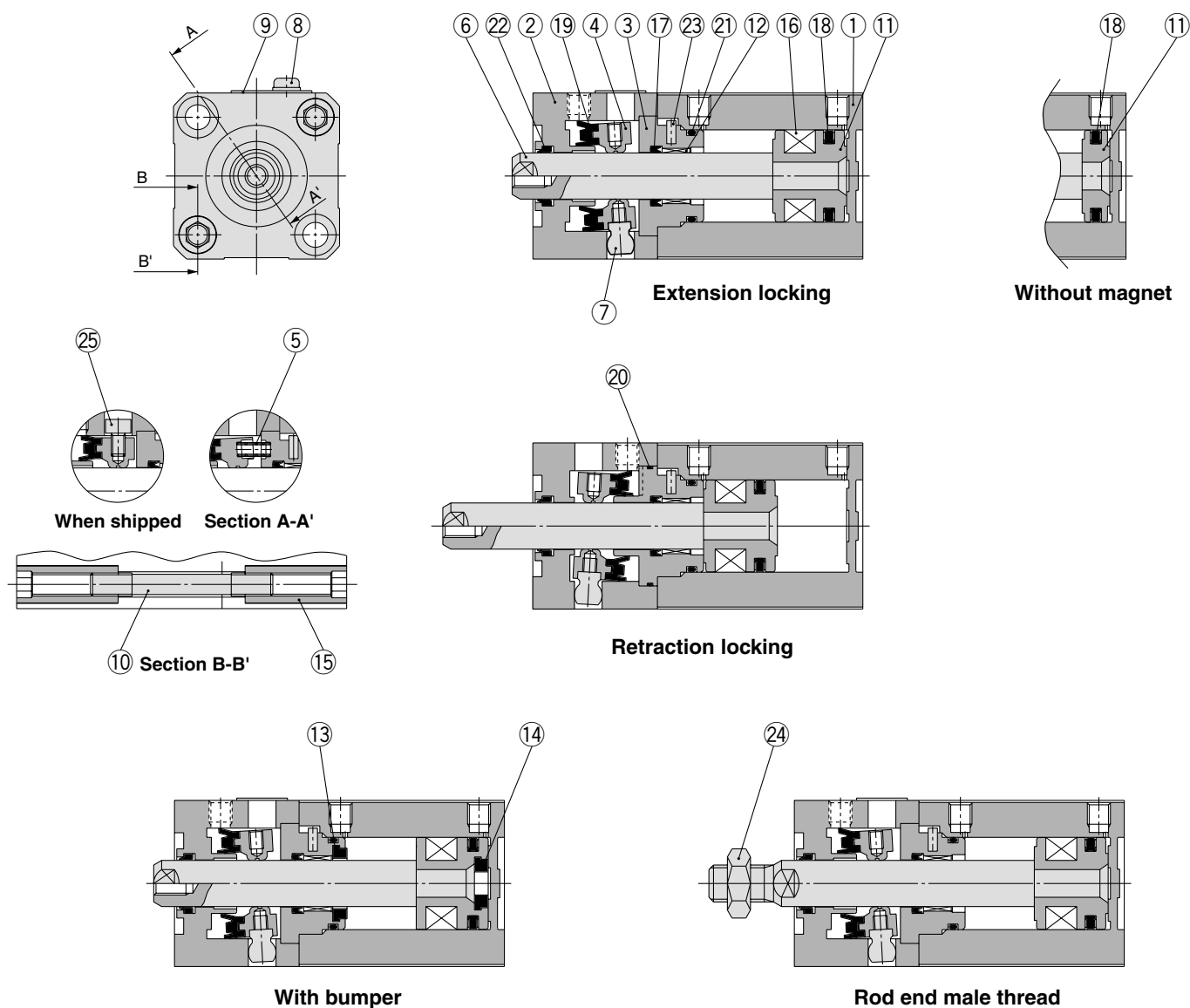
D-□

-X□

Individual
-X□

Series CLQ

Construction: ø20 to ø32



Note) The sectional drawing above shows the locked condition. (A bolt is used to maintain the cylinder in the unlocked condition when shipped.)

Component Parts

No.	Description	Material	Note
1	Cylinder tube	Aluminum alloy	Hard anodized
2	Lock body	Aluminum alloy	Hard anodized
3	Intermediate collar	Aluminum alloy	Extension locking: Chromated Retraction locking: Hard anodized
4	Lock ring	Carbon steel	Heat treated
5	Brake spring	Steel wire	Zinc chromated
6	Piston rod	Stainless steel	ø20, 25: Hard chrome plated
		Carbon steel	ø32: Hard chrome plated
7	Pivot	Chromium molybdenum steel	Electroless nickel plated
8	Dust cover holding bolt	Carbon steel	Nickel plated
9	Dust cover	Stainless steel	
10	Tie-rod	Rolled steel	ø20: Nickel plated ø25: Zinc chromated ø32: Black zinc chromated
11	Piston	Aluminum alloy	Chromated

No.	Description	Material	Note
12	Bushing	Oil-impregnated sintered alloy	ø20, 25
		Copper alloy	ø32
13	Bumper A	Urethane	
14	Bumper B	Urethane	
15	Tie-rod nut	Carbon steel	Nickel plated
16	Magnet	—	
17	Rod seal	NBR	
18	Piston seal	NBR	
19	Lock ring seal	NBR	
20	Tube gasket A	NBR	
21	Tube gasket B	NBR	
22	Scraper	NBR	
23	Parallel pin	Stainless steel	JIS B 1354
24	Rod end nut	Carbon steel	Nickel plated
25	Unlocking bolt	Chromium molybdenum steel	Nickel plated