Compact Cylinder with Air Cushion and Lock

Series RLQ

ø32, ø40, ø50, ø63

How to Order

RLQ B 32 □ – 50 M – F □

With auto switch **RDLQ B 32 □ – 50 M – F □ – M9BW □**

With auto switch
(Built-in magnet)

Mounting style

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

∗ Mounting brackets are shipped together (not assembled).

Bore size

32	32 mm
40	40 mm
50	50 mm
63	63 mm

Port thread type

Nil	Rc
TN	NPT
TF	G

Cylinder stroke (mm)
Refer to "Standard Stroke" on page 845.

Body option

Nil	Standard (Rod end female thread)
M	Rod end male thread

Locking direction

F	Extension locking
B	Retraction locking

Auto switch

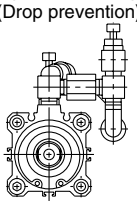
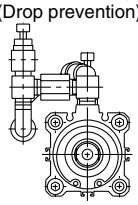
Nil	Without auto switch

∗ For the applicable auto switch model, refer to the table below.

Number of auto switches

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

Bypass piping

Nil	R	L
None (Emergency stop)	With bypass piping, right-hand piping (Drop prevention) 	With bypass piping, left-hand piping (Drop prevention) 

∗ The right and left indicate the piping directions viewed from the front.
∗ When no by-pass piping is used (when the product is used for emergency stops), solenoid valves for unlocking are necessary.
∗ For detailed information, please refer to "Pneumatic Circuit" in Specific Product Precautions on page 841.

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) RDLQL40-50-B

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

Type	Special function	Electrical entry direction	Indicator light	Wiring (output)	Load voltage DC	Load voltage AC	Auto switch model: Perpendicular	Auto switch model: In-line	Lead-wire length (m): 0.5 (Nil)	1 (M)	3 (L)	5 (Z)	None (N)	Pre-wired connector	Applicable load	
Solid state switch	—	Grommet	Yes	3-wire (NPN)	5 V, 12 V	—	**M9NV**	**M9N**	●	●	●	○	—	○	IC circuit	Relay PLC
				3-wire (PNP)			**M9PV**	**M9P**	●	●	●	○	—	○		
				2-wire	12 V		**M9BV**	**M9B**	●	●	●	○	—	○	—	
		Connector					**J79C**	—	●	—	●	●	●	—		
	Diagnostic indication (2-color display)	Grommet		3-wire (NPN)	5 V, 12 V		**M9NWV**	**M9NW**	●	●	●	○	—	○	IC circuit	
				3-wire (PNP)			**M9PWV**	**M9PW**	●	●	●	○	—	○		
				2-wire	12 V		**M9BWV**	**M9BW**	●	●	●	○	—	○	—	
	Water resistant (2-color display)			3-wire (NPN)	5 V, 12 V		**M9NAV**	**M9NA**	○	○	●	○	—	○	IC circuit	
				3-wire (PNP)			**M9PAV**	**M9PA**	○	○	●	○	—	○		
				2-wire	12 V		**M9BAV**	**M9BA**	○	○	●	○	—	○	—	
	With diagnostic output (2-color display)			4-wire	5 V, 12 V		—	**F79F**	●	—	●	○	—	○	IC circuit	
Reed switch	—	Grommet	Yes	3-wire (NPN equiv.)	—	5 V	—	**A96V**	●	—	●	—	—	—	IC circuit	—
				2-wire	—	200 V	**A72**	**A72H**	●	—	●	—	—	—	—	Relay PLC
					24 V	12 V	100 V	**A93V**	**A93**	●	—	●	—	—	—	
			No			5 V, 12 V	100 V or less	**A90V**	**A90**	●	—	●	—	—	IC circuit	
		Connector	Yes			12 V	—	**A73C**	—	●	—	●	●	●	—	—
			No			5 V, 12 V	24 V or less	**A80C**	—	●	—	●	●	●	—	IC circuit
	Diagnostic indication (2-color display)	Grommet	Yes			—	—	**A79W**	—	●	—	●	—	—	—	—

∗ 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) J79CN

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

∗ Besides the models in the above table, there are some other auto switches that are applicable. For more information, refer to page 861.
∗ Refer to pages 1784 and 1785 for the details of auto switches with a pre-wired connector.
∗ When mounting D-A9□(V)/M9□(V)/M9□W(V)/M9□A(V)L types on a side other than the port side as for bore 32 to 50, order auto switch mounting brackets separately. Refer to page 860 for details.
∗ When mounting brackets (foot/head side flange/double clevis style) are used, then in some cases auto switches cannot be retrofitted.

Cylinder Specifications

Bore size (mm)	32	40	50	63
Fluid	Air			
Proof pressure	1.5 MPa			
Maximum operating pressure	1.0 MPa			
Minimum operating pressure	0.2 MPa Note)			
Ambient and fluid temperature	Without auto switch: –10 to 70°C (with no freezing) With auto switch: –10 to 60°C (with no freezing)			
Lubrication	Non-lube			
Stroke length tolerance	$^{+1.0}_{0}$ mm			
Piston speed	50 to 500 mm/s			
Port size (Rc, NPT, G)	1/8		1/4	

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

Lock Specifications

Bore size (mm)		32	40	50	63
Locking action		Spring locking (Exhaust locking)			
Unlocking pressure		0.2 MPa or more			
Locking pressure		0.05 MPa or less			
Locking direction		One direction (Either extension locking or retraction locking)			
Maximum operating pressure		1.0 MPa			
Unlocking port Port size	**Rc**	1/8			
	NPT				
	G	M5 x 0.8			
Holding force N (Maximum static load) Note)		402	629	982	1559

Note) Be sure to make cylinder selections in accordance with the method given on page 840.

Standard Stroke

Bore size (mm)	Standard stroke (mm)
32, 40	20, 25, 30, 40, 50, 75, 100
50, 63	30, 40, 50, 75, 100

Manufacture of Intermediate Stroke

Method	Exclusive body	
Ordering	Please refer to “How to Order” for standard part no. (page 844).	
Description	Available in stroke increments of 1 mm, using an exclusive body for the specified stroke.	
Stroke range	Bore size (mm)	Stroke range (mm)
	32, 40	21 to 99
	50, 63	31 to 99
Example	Part no. : RLQB32-47-B A special tube is manufactured for a 47 mm stroke.	

Effective Cushion Length

Bore size (mm)	32	40	50	63
Effective cushion length (mm)	6.6	6.6	7.1	7

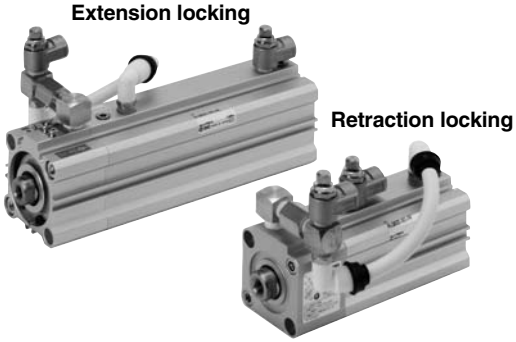
Allowable Kinetic Energy

For the allowable kinetic energy, please refer to “Selection” from page 840.

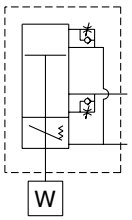
With bypass piping

Extension locking

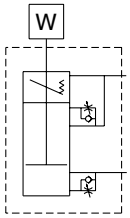
Retraction locking



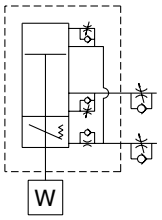
Symbol



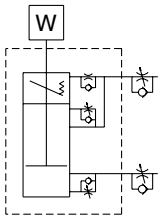
Extension locking
Without bypass pipe



Retraction locking
Without bypass pipe



Extension locking
With bypass pipe



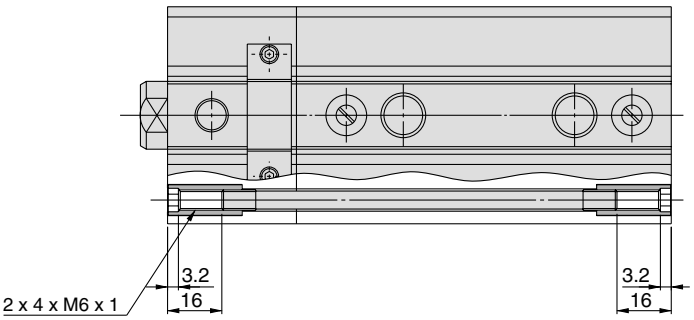
Retraction locking
With bypass pipe

Refer to pages 859 to 861 for cylinders with auto switches.

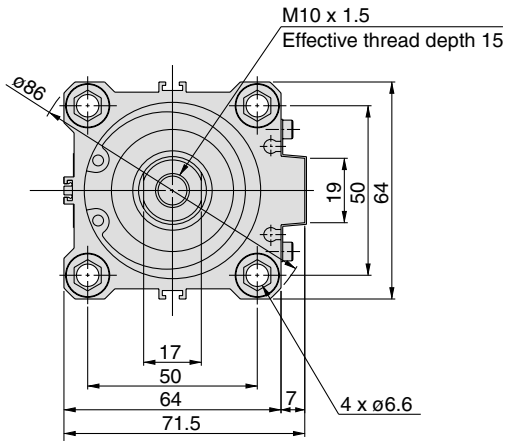
- Minimum auto switch mounting stroke
- Proper auto switch mounting position (detection at stroke end) and mounting height
- Operating range
- Switch mounting bracket: Part no.

Dimensions: ø50 (Emergency stop)

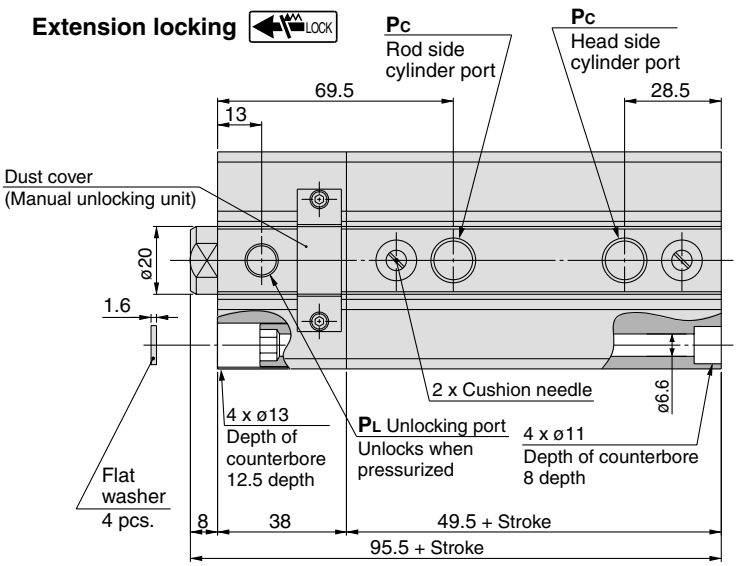
Both ends tapped style: R□LQA50



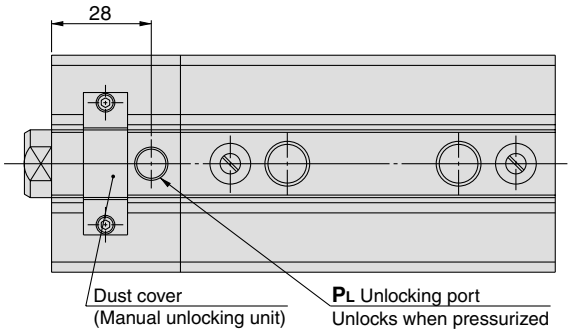
Basic style (Through-hole): R□LQB50



Extension locking

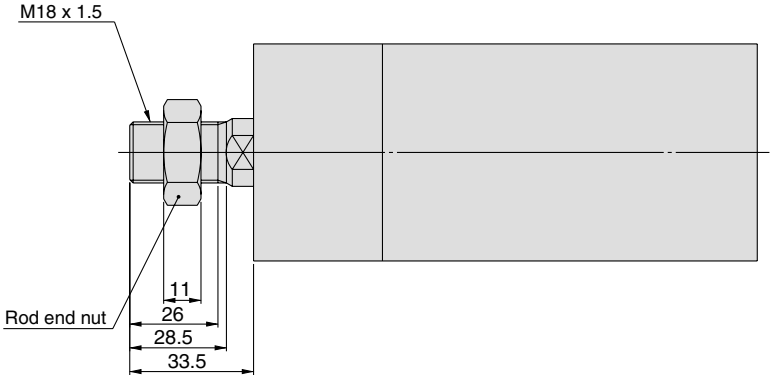


Retraction locking



Port thread type	Pc	PL
Rc	1/4	1/8
NPT		
G		M5 x 0.8

Rod end male thread



∗ Refer to page 857 for details of rod end nuts and accessory brackets.