



The external dimensions and the related things about auto switches are the same as standard type, double acting, single rod. For Series CQ2, CDQ2, refer to Best Pneumatics Vol. 7.

Low Speed Cylinder Double Acting, Single Rod Series CQ2X

ø32, ø40, ø50, ø63, ø80, ø100

How to Order

Without auto switch

CQ2X B 40 - 30 D

With auto switch

CDQ2X B 40 - 30 D F9BW

Built-in magnet

Low speed cylinder

Mounting style

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

Bore size

32	32 mm
40	40 mm
50	50 mm
63	63 mm
80	80 mm
100	100 mm

Action

D	Double acting
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Standard stroke
Refer to "Standard Stroke" on page 10-3-13.

Auto switch

Nil	Without auto switch (Built-in magnet)
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* For the applicable auto switch model, refer to the table below.
* Auto switches are shipped together, (but not assembled).

Number of auto switches

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

Cushion/Rod end thread

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

* Combination above is possible.

Applicable Auto Switch

Refer to page 10-20-1 for further information on auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage			Rail mounting style		Direct mounting style		Lead wire length (m)*				Pre-wire connector	Applicable load			
					DC	AC	ø32 to ø100		ø32 to ø100		0.5 (Nil)	3 (L)	5 (Z)	None (N)						
							Perpendicular	In-line	Perpendicular	In-line										
Reed switch	—	Grommet	Yes	3-wire (NPN equivalent)	—	5 V	—	—	A76H	A96V	A96	●	●	—	—	—	IC circuit	—	Relay, PLC	
		Connector		2-wire	24 V	12 V	100 V	A72	A72H	—	—	●	●	—	—	—				
								A73	A73H	—	—	●	●	●	—	—				
								—	—	A93V	A93	●	●	—	—	—				
	Diagnostic indication (2-color indication)	Grommet				—	—	—	A73C	—	—	—	●	●	●	●	—			—
								A79W	—	—	—	●	●	—	—	—				
Solid state switch	—	Grommet	Yes	3-wire (NPN)	24 V	5 V, 12 V	—	F7NV	F79	M9NV	M9N	●	●	○	—	○	IC circuit	Relay, PLC		
		3-wire (PNP)		F7PV				F7P	M9PV	M9P	●	●	○	—	○					
		Connector		2-wire				12 V	F7BV	J79	M9BV	M9B	●	●	○	—			○	
									J79C	—	—	—	●	●	●	●			—	
	Diagnostic indication (2-color indication)	Grommet		3-wire (NPN)		5 V, 12 V		F7N WV	F79W	F9N WV	F9N W	●	●	○	—	○	IC circuit			
				3-wire (PNP)				—	F7P W	F9P WV	F9P W	●	●	○	—	○				
				2-wire				12 V	F7B WV	J79W	F9B WV	F9B W	●	●	○	—			○	
				4-wire (NPN)					5 V, 12 V	—	F79F	—	—	●	●	○			—	○
	With diagnostic output (2-color indication)																			

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

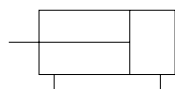
* Solid state switches marked with "○" are produced upon receipt of order.

- Since there are other applicable auto switches than listed, refer to Best Pneumatics Vol. 7 for details.
- For details about auto switches with pre-wire connector, refer to page 10-20-66.

Low Speed Cylinder Double Acting, Single Rod Series CQ2X



JIS Symbol
Double acting,
Single rod



Specifications

Bore size (mm)		32	40	50	63	80	100
Model		Pneumatic (Non-lube)					
Fluid		Air					
Proof pressure		1.5 MPa					
Maximum operating pressure		1.0 MPa					
Ambient and fluid temperature		Without auto switch: -10 to 70°C (No freezing) With auto switch: -10 to 60°C (No freezing)					
Piping	Screw-in type	Note)	Rc 1/8	Rc 1/4	Rc 1/4	Rc 3/8	Rc 3/8
		M5 x 0.8					
		Rc 1/8					
Rubber bumper		None					
Rod end thread		Female thread					
Rod end thread tolerance		JIS Class 2					
Stroke length tolerance		+1.0 0					
Mounting		Through-hole					
Piston speed		0.5 to 300 mm/s					

Note) Only 5 stroke comes with M5 x 0.8 in the case of no auto switch.

Minimum Operating Pressure

Bore size (mm)	32	40	50	63	80	100
Min. operating pressure (MPa)	0.025			0.01		

Standard Stroke

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

• Manufacturing of Intermediate stroke
Intermediate strokes by the 1 mm interval are available by using spacers with standard stroke cylinders. But, as for ø40 to ø100 with damper, please consult with SMC separately.
Example) 18 mm width spacer is installed in the standard cylinder CQ2XB40-75D to make CQ2XB40-57D.

⚠ Precautions

Be sure to read before handling. For Safety Instructions and Actuator Precautions, refer to pages 10-24-3 to 10-24-6.

Snap Ring Installation/Removal

⚠ Caution

- For installation and removal, use an appropriate pair of pliers (tool for installing a type C snap ring).
- Even if a proper plier (tool for installing type C snap ring) is used, it is likely to inflict damage to a human body or peripheral equipment, as a snap ring may be flown out of the tip of a plier (tool for installing a type C snap ring). Be much careful with the popping of a snap ring. Besides, be certain that a snap ring is placed firmly into the groove of rod cover before supplying air at the time of installment.

Pneumatic Circuit

- Pressure supplied to cylinder should be set affordably. When the operating pressure is low, low speed operation may not be stable depending on a load condition. Besides, the maximum speed may be restricted depending on a pneumatic circuit, or operating pressure.

Maintenance

⚠ Caution

1. Replacement parts/Seal kit

Order it in accordance with the bore size.

Bore size (mm)	Kit no.	Contents
32	CQ2X32-PS	Piston seal: 1 pc.
40	CQ2X40-PS	Rod seal: 1 pc.
50	CQ2X50-PS	Gasket: 1 pc.
63	CQ2X63-PS	Grease pack (10 g): 1 pc.
80	CQ2X80-PS	
100	CQ2X100-PS	

2. Grease pack

When maintenance requires only grease, use the following part numbers to order.

Grease pack
GR-L-005 (5 g)
GR-L-010 (10 g)
GR-L-150 (150 g)

Mounting Bracket Part No.

Bore size (mm)	Foot ⁽¹⁾	Flange	Double clevis ⁽³⁾
32	CQ-L032	CQ-F032	CQ-D032
40	CQ-L040	CQ-F040	CQ-D040
50	CQ-L050	CQ-F050	CQ-D050
63	CQ-L063	CQ-F063	CQ-D063
80	CQ-L080	CQ-F080	CQ-D080
100	CQ-L100	CQ-F100	CQ-D100

Note 1) When ordering foot bracket, order 2 pieces per cylinder.

Note 2) Parts belonging to each bracket are as follows.

Foot or Flange: Body mounting bolts
Double clevis: Clevis pin, Type C snap ring for shaft, Body mounting bolts

Note 3) For double clevis style, clevis pin and snap ring are shipped together.