

Compact Cylinder: With End Lock

Series CBQ2

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

How to Order

Without auto switch

CBQ2 B 40 — 30 DC — H N —

With auto switch

CDBQ2 B 40 — 30 DC — H N — M9BW —

With auto switch
(Built-in magnet)

Mounting

ø20, ø25

ø32 to ø100

B	Through-hole/Both ends tapped common (Standard)	B	Through-hole (Standard) Note 2)
L	Foot	A	Both ends tapped
F	Rod flange	L	Foot
G	Head flange	F	Rod flange
D	Double clevis	G	Head flange
		D	Double clevis

Note 1) Mounting brackets are shipped together, (but not assembled).
Note 2) At the 75 and 100 mm strokes with ø80, ø100, both ends tapped (A) is the standard. Through-hole (B) is not available.

Note 3) Mounting brackets are 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

Port thread type

Nil	M thread	ø20, ø25
	Rc	
TN	NPT	ø32 to ø100
TF	G	

Cylinder stroke (mm)

Refer to the next page for standard strokes and intermediate strokes.

Number of auto switches

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

Auto switch

Nil Without auto switch

* Refer to the below table for applicable auto switches.

Manual release type

N	Non-lock type
L	Lock type

Lock position

H	Head end lock
R	Rod end lock

Body option

Nil	Rod end female thread
CM	Rod end male thread

Made to Order

Refer to the next page for details.

Cushion

C	Rubber bumper
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Action

D	Double acting
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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) CDBQ2L32-30DC-RL

Applicable Auto Switches/Refer to pages 1263 to 1371 in Best Pneumatics No. 2 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	Perpendicular		In-line		0.5 (Nil)	1 (M)	3 (L)	5 (Z)	None (N)								
							ø20, ø25	ø32 to ø100	ø20, ø25	ø32 ø40 to ø100													
Solid state auto 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		M9BV				M9B		●	●	●	○	—	○	—							
		—		J79C				—		●	—	●	●	●	—								
	Diagnostic indication (2-color indication)	Grommet		3-wire (NPN)				24 V	5 V, 12 V	—	M9NVV		M9NW		●	●	●	○		—	○	IC circuit	
				3-wire (PNP)							M9PWV		M9PW		●	●	●	○		—	○		
	Water resistant (2-color indication)			2-wire							M9BWV		M9BW		●	●	●	○		—	○		—
				3-wire (NPN)							M9NAV**		M9NA**		○	○	●	○		—	○	IC circuit	
	With diagnostic output (2-color indication)			3-wire (PNP)							M9PAV**		M9PA**		○	○	●	○		—	○		
				Magnetic field resistant (2-color indication)							2-wire	M9BAV**		M9BA**		○	○	●		○	—		○
4-wire	5 V, 12 V		—		—		—				—	F79F	●	—	●	○	—	○	IC circuit				
2-wire (Non-polar)	—		—		—		—				—	P4DW	—	—	●	●	—	○	—				
Reed auto switch	_____		Grommet	Yes	3-wire (NPN equivalent)	—	5 V				—	A96V		A96		●	—	●	—	—	—	IC circuit	—
												—	200 V	—	A72	—	A72H	●	—	●	—	—	
		Connector	12 V					100 V	A93V			A93		●	—	●	—	—	—	—	—		
			5 V, 12 V					100 V or less	A90V			A90		●	—	●	—	—	—	—	IC circuit		
			12 V					—	—			A73C		—		●	—	●	●	●	—	—	
	Diagnostic indication (2-color indication)	Grommet	Yes	5 V, 12 V	24 V or less	—		A80C		—		●	—	●	●	●	—	IC circuit					
						—		A79W		—		●	—	●	—	—	—	—					

** Water resistant type auto switches can be mounted on the above models, but in such case SMC cannot guarantee water resistance. Consult with SMC regarding water resistant types with the above model numbers.

* Lead wire length symbols: 0.5 m Nil (Example) M9NV
1 m M (Example) M9NW
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.
* The D-P4DWL type is available from ø40 to ø100 only.
* Only for the D-P4DWL type, an auto switch is assembled and shipped with the cylinder.

* There are other applicable auto switches other than the listed above. For details, refer to page 155.

* For details about auto switches with pre-wired connector, refer to pages 1328 and 1329 in Best Pneumatics No. 2.

* When the D-A9□(V)/M9□(V)/M9□W(V)/M9□A(V)L types with ø32 to ø50 are mounted on a surface other than the port side, order auto switch mounting brackets separately. Refer to page 154 for details.

Series CBQ2



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	0.15 MPa <small>Note)</small>							
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							
Allowable kinetic energy (J)	0.055	0.09	0.15	0.26	0.46	0.77	1.36	2.27
Stroke length tolerance	+1.0 mm 0							
Lock position	Head end, Rod end							
Holding force (Max.) (N)	215	330	550	860	1340	2140	3450	5390
Pressure for unlocking	0.15 MPa or less							
Backlash	2 mm or less							
Manual release	Non-lock type, Lock type							

Note) 0.05 MPa except for the end lock unit



Made to Order
(For details, refer to pages 177 to 207.)

Symbol	Specifications
-XC26	With split pins for double clevis pin/ double knuckle joint pin and flat washers

Refer to pages 151 to 155 for the specifications of cylinders with auto switches.

- Auto switch proper mounting position (detection at stroke end) and its mounting height
- Minimum stroke for auto switch mounting
- Operating range
- Auto switch mounting brackets/Part no.

Standard Strokes

Bore size	Standard stroke (mm)
20 to 63	10, 15, 20, 25, 50, 75, 100
80, 100	25, 50, 75, 100

Manufacture of Intermediate Strokes

Type	A spacer is installed in the standard stroke body.	
Part no.	Refer to "How to Order" for the standard model number. (P. 140)	
Description	Strokes in 5 mm intervals are available by installing a spacer in the standard stroke cylinder.	
Stroke range	Bore size	Stroke range
	20 to 100	5 to 95
Example	Part no.: CBQ2B40-45DC-HL CBQ2B40-50DC-HL with 5 mm width spacer inside	

Mounting Brackets/Part No.

Bore size (mm)	Foot <small>Note 1)</small>	Flange	Double clevis <small>Note 2)</small>
20	CQS-L020	CQS-F020	CQS-D020
25	CQS-L025	CQS-F025	CQS-D025
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 a 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 retaining rings for axis, Body mounting bolts

Note 3) Clevis pin and retaining rings are included with double clevis.