

Compact Cylinder: Large Bore Size Double Acting, Single Rod Series CQ2

ø125, ø140, ø160, ø180, ø200

How to Order

Without auto switch CQ2B 125 - 30 DC Z -

With auto switch CDQ2B 125 - 30 DC Z - M9BW

With auto switch
(Built-in magnet)

Mounting
B Through-hole/Both ends tapped common (Standard)

* Cylinder mounting bolts are not included. Order them separately referring to "Mounting Bolt for CQ2B" on page 59.

Bore size

125	125 mm
140	140 mm
160	160 mm
180	180 mm
200	200 mm

Port thread type

Nil	Rc
TN	NPT
TF	G

Cylinder stroke (mm)
Refer to the next page for standard strokes.

Action
D Double acting

Auto switch
Nil Without auto switch

* Refer to the below table for applicable auto switches.

Auto switch mounting groove
Z ø125 to ø200 4 surfaces

Body option

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

Cushion
C Rubber bumper

Made to Order
Refer to the next page for details.

Number of auto switches

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

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) CDQ2B140-30DCZ

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)		
Solid state auto switch	——	Grommet	Yes	3-wire (NPN)	24 V	5 V,	—	M9NV	M9N	●	●	●	○	—	○	IC circuit	Relay, PLC
	3-wire (PNP)			12 V		M9PV		M9P	●	●	●	○	—	○			
	2-wire			12 V		M9BV		M9B	●	●	●	○	—	○			
	Diagnostic indication (2-color indication)			3-wire (NPN)		5 V,		M9NWV	M9NW	●	●	●	○	—	○	IC circuit	
				3-wire (PNP)		12 V		M9PWV	M9PW	●	●	●	○	—	○		
				2-wire		12 V		M9BWV	M9BW	●	●	●	○	—	○		
	Water resistant (2-color indication)			3-wire (NPN)		5 V,		M9NAV**	M9NA**	○	○	●	○	—	○	IC circuit	
				3-wire (PNP)		12 V		M9PAV**	M9PA**	○	○	●	○	—	○		
				2-wire		12 V		M9BAV**	M9BA**	○	○	●	○	—	○		
Reed auto switch	——	Grommet	Yes	3-wire (NPN equivalent)	—	5 V	—	A96V	A96	●	—	●	—	—	—	IC circuit	—
			No	2-wire	24 V	5 V, 12 V	100 V or less	A93V	A93	●	—	●	—	—	—	—	IC circuit

* 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) M9NW
1 m M (Example) M9NWM
3 m L (Example) M9NWL
5 m Z (Example) M9NWZ

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

* There are other applicable auto switches other than the listed above. For details, refer to page 175.

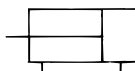
* For details about auto switches with pre-wired connector, refer to pages 1328 and 1329 in Best Pneumatics No. 2.

Compact Cylinder: Large Bore Size Double Acting, Single Rod *Series CQ2*

Specifications



JIS Symbol
Double acting,
Single rod



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

Symbol	Specifications
-XB10	Intermediate stroke (Exclusive body type)
-X271	Fluororubber seals, ø125 to ø160 only

Bore size (mm)	125	140	160	180	200
Action	Double acting, Single rod				
Fluid	Air				
Proof pressure	1.5 MPa			1.05 MPa	
Maximum operating pressure	1.0 MPa			0.7 MPa	
Minimum operating pressure	0.05 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			20 to 400 mm/s	
Allowable kinetic energy (J)	7.4	9.8	12.4		
Stroke length tolerance	+1.4 mm Note) 0				

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

Standard Strokes

Bore size (mm)	Standard stroke (mm)
125, 140, 160 180, 200	10, 20, 30, 40, 50, 75, 100, 125, 150, 175, 200, 250, 300

Manufacture of Intermediate Strokes

Type	A spacer is installed in the standard stroke body.		Exclusive body (-XB10)	
Part no.	Refer to “How to Order” for the standard model number. (P. 57)		Suffix “-XB10” to the end of standard model number. (P. 57)	
Description	Strokes in 5 mm intervals are available by installing a spacer in the standard stroke cylinder.		Strokes in 1 mm intervals are available by using an exclusive body with the specified stroke.	
Stroke range	Bore size	Stroke range	Bore size	Stroke range
	125 to 200	5 to 295	125 to 160	11 to 299
Example	Part no.: CQ2B160-165DCZ CQ2B160-175DCZ with 10 mm width spacer inside The B dimension is 266 mm.		Part no.: CQ2B160-165DCZ-XB10 Makes 165 mm stroke tube. The B dimension is 256 mm.	

Refer to pages 169 to 175 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.