

Compact Cylinder: Standard Double Acting, Single Rod

Series CQ2

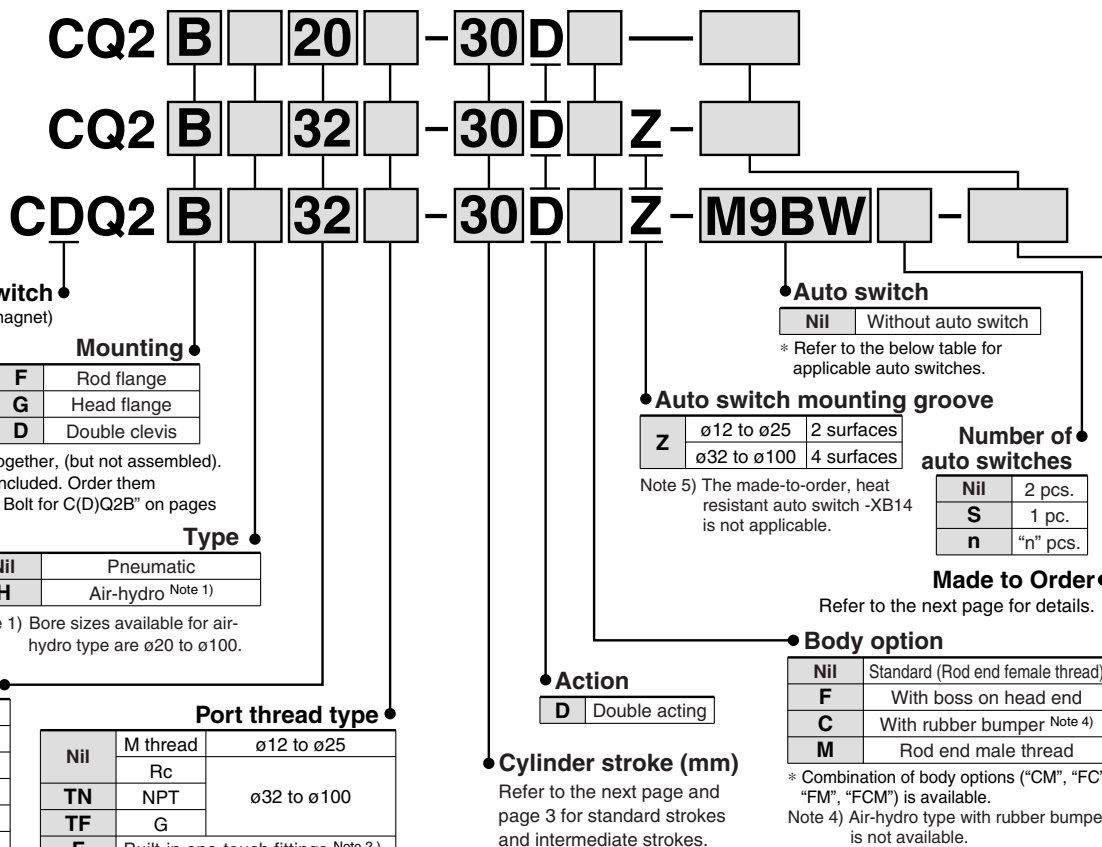
ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100

How to Order

Without auto switch
ø12 to ø25

Without auto switch
ø32 to ø100

With auto switch



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) CDQ2L32-25DZ

Refer to pages 1263 to 1371 in Best Pneumatics No. 2 for further information on auto switches.
Refer to the individual catalog (ES20-201) for the D-P3DW type.

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, 12 V	—	M9NV	M9N	●	●	●	○	—	○	IC circuit	Relay, PLC		
	3-wire (PNP)			M9PV				M9P	●	●	●	○	—	○					
	2-wire			M9BV				M9B	●	●	●	○	—	○					
	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 **	○	○	●	○	—	○					
	Magnetic field resistant (2-color indication)			2-wire (Non-polar)				——	——	P3DW	●	—	●	●	—	○		——	
Reed auto switch	——	Grommet	Yes	3-wire (NPN equivalent)	——	5 V	——	A96V	A96	●	—	●	—	—	——	IC circuit	——		
				No	2-wire	24 V	12 V	100 V	A93V	A93	●	—	●	—	—	——	——	Relay, PLC	
						5 V, 12 V	100 V or less	A90V	A90	●	—	●	—	—	——	IC circuit			

* Water resistant type auto switches can be mounted on the above models, but in such case SMC cannot guarantee water resistance.
If water resistance is needed, we recommend water resistant cylinders be used. (Page 156)

* Lead wire length symbols: 0.5 m Nil (Example) M9NV
1 m M (Example) M9NVW
3 m L (Example) M9NVWL
5 m Z (Example) M9NVWZ

* 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.

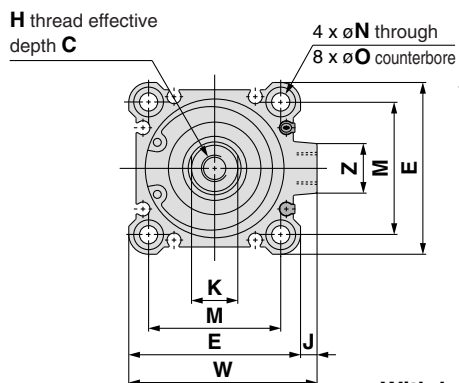
Series CQ2

Dimensions

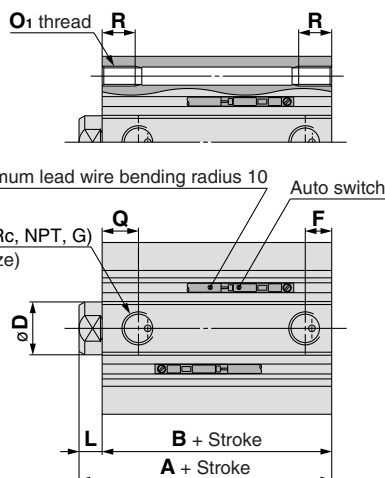
Ø32 to Ø50/With Auto Switch

(In the case of without auto switches, the A, B, F, P and Q dimensions will be only changed. Refer to the dimension table.)

Standard (Through-hole): CQ2B/CDQ2B



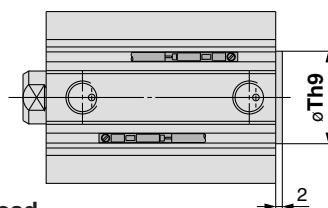
Both ends tapped: CQ2A/CDQ2A



Both Ends Tapped (mm)

Bore size (mm)	O ₁	R
32	M6 x 1.0	10
40	M6 x 1.0	10
50	M8 x 1.25	14

With boss on head end

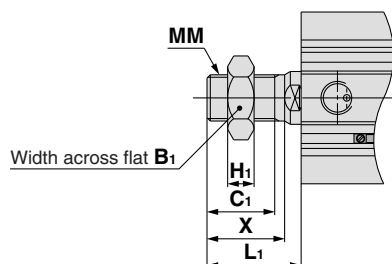


With Boss on Head End (mm)

Bore size (mm)	Th9
32	21 ⁰ _{-0.052}
40	28 ⁰ _{-0.052}
50	35 ⁰ _{-0.062}

Note 1) With boss on rod end: Option (Suffix "-XC36" to the end of model number.)

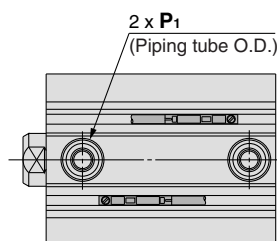
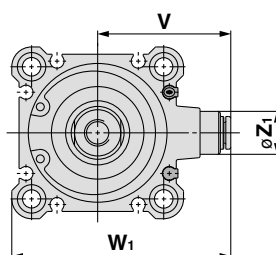
Rod end male thread



Rod End Male Thread (mm)

Bore size (mm)	B ₁	C ₁	H ₁	L ₁	MM	X
32	22	20.5	8	28.5	M14 x 1.5	23.5
40	22	20.5	8	28.5	M14 x 1.5	23.5
50	27	26	11	33.5	M18 x 1.5	28.5

Built-in one-touch fittings: Ø32 to Ø50



Built-in One-touch Fittings (mm)

Bore size (mm)	Z ₁	P ₁	V	W ₁
32	13	6	36.5	59
40	13	6	40.5	66
50	16	8	50	82

Standard For auto switch proper mounting position and its mounting height, refer to pages 169 to 175.

Bore size (mm)	Stroke range (mm)	Without auto switch					With auto switch					C	D	E	H	J	K	L	M	N
		A	B	F	P	Q	A	B	F	P	Q									
32	5	30	23	5.5	M5 x 0.8	11.5	40	33	7.5	1/8	10.5	13	16	45	M8 x 1.25	4.5	14	7	34	5.5
	10 to 50	40	33	7.5	1/8	10.5	40	33	7.5	1/8	10.5	13	16	45	M8 x 1.25	4.5	14	7	34	5.5
	75, 100	40	33	7.5	1/8	10.5	40	33	7.5	1/8	10.5	13	16	45	M8 x 1.25	4.5	14	7	34	5.5
40	5 to 50	36.5	29.5	8	1/8	11	46.5	39.5	8	1/8	11	13	16	52	M8 x 1.25	5	14	7	40	5.5
	75, 100	46.5	39.5	8	1/8	11	46.5	39.5	8	1/8	11	13	16	52	M8 x 1.25	5	14	7	40	5.5
	75, 100	46.5	39.5	8	1/8	11	46.5	39.5	8	1/8	11	13	16	52	M8 x 1.25	5	14	7	40	5.5
50	10 to 50	38.5	30.5	10.5	1/4	10.5	48.5	40.5	10.5	1/4	10.5	15	20	64	M10 x 1.5	7	17	8	50	6.6
	75, 100	48.5	40.5	10.5	1/4	10.5	48.5	40.5	10.5	1/4	10.5	15	20	64	M10 x 1.5	7	17	8	50	6.6
	75, 100	48.5	40.5	10.5	1/4	10.5	48.5	40.5	10.5	1/4	10.5	15	20	64	M10 x 1.5	7	17	8	50	6.6

Bore size (mm)	O	W	Z
32	9 depth 7	49.5	14
40	9 depth 7	57	15
50	11 depth 8	71	19

Note 2) The external dimensions with rubber bumper are same as those of the standard, as shown above.

* For details about the rod end nut and accessory brackets, refer to page 19.

Note 3) For calculation on the longitudinal dimension of intermediate strokes, refer to page 3. The spacer-installed type (Standard, -XB10A) and the exclusive body type (-XB10) are available.