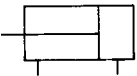


# Compact Cylinder: Standard Double Acting, Single Rod **Series CQ2**



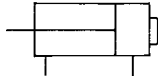
**JIS Symbol**

Double acting,  
Single rod



**Symbol**

With boss on  
head end



**Made to Order**

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

Symbol	Specifications
-XA□	Special rod end shape
-XB6	Heat resistant cylinder (-10 to 150°C) w/o auto switch only
-XB7	Cold resistant cylinder (-40 to 70°C) w/o auto switch only
-XB9	Low-speed cylinder (10 to 50 mm/s)
-XB10	Intermediate stroke (Exclusive body type)
-XB10A	Intermediate stroke (Spacer-installed type)
-XB11	Long stroke (Air-hydro type only)
-XB13	Low-speed cylinder (5 to 50 mm/s)
-XB14	Cylinder with heat resistant auto switch ø16 to ø63 only
-XC4	With heavy-duty scraper, ø20 to ø100 only
-XC6	Piston rod/Retaining ring/Rod end nut material: Stainless steel
-XC8	Adjustable stroke cylinder/Adjustable extension type
-XC9	Adjustable stroke cylinder/Adjustable retraction type
-XC10	Dual stroke cylinder/Double rod
-XC11	Dual stroke cylinder/Single rod
-XC26	With split pins for double clevis pin/ double knuckle joint pin and flat washers
-XC27	Double clevis pin/Double knuckle joint pin material: Stainless steel 304
-XC35	With coil scraper, ø32 to ø100 only
-XC36	With boss on rod end
-X144	Special port location, with auto switch ø12 to ø25 only
-X202	Full length dimension is the same as Series CQ1, Except ø16, ø25.
-X203	L dimension from rod cover is the same as Series CQ1, ø20, ø32 only.
-X271	Fluororubber seals
-X525	Long stroke of adjustable extension stroke cylinder (-XC8)
-X526	Long stroke of adjustable retraction stroke cylinder (-XC9)
-X636	Long stroke of dual stroke single rod cylinder
-X1876	Cylinder tube: With concave boss on head end

Note) -XB14: The body shape is the same as the existing product.

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.

## Specifications

### Pneumatic type

Bore size (mm)		12	16	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		0.07 MPa		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									
Allowable kinetic energy (J)	Standard	0.022	0.038	0.055	0.09	0.15	0.26	0.46	0.77	1.36	2.27
	With rubber bumper	0.043	0.075	0.11	0.18	0.29	0.52	0.91	1.54	2.71	4.54
Stroke length tolerance		+1.0 mm (Note) 0									

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

### Air-hydro type

Bore size (mm)	20	25	32	40	50	63	80	100
Action	Double acting, Single rod							
Fluid	Turbine oil <sup>Note)</sup>							
Proof pressure	1.5 MPa							
Maximum operating pressure	1.0 MPa							
Minimum operating pressure	0.18 MPa			0.1 MPa				
Ambient and fluid temperature	5 to 60°C							
Piston speed	5 to 50 mm/s							
Cushion	None							
Stroke length tolerance	+1.0 mm 0							

Note) Refer to "Handling Precautions for SMC Products" (M-E03-3) for Actuator Precautions (5).

## Standard Strokes

### Pneumatic type

Bore size	Standard stroke (mm)
<b>12, 16</b>	5, 10, 15, 20, 25, 30
<b>20, 25</b>	5, 10, 15, 20, 25, 30, 35, 40, 45, 50
<b>32, 40</b>	5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100
<b>50 to 100</b>	10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100

- For long strokes exceeding the standard stroke range, refer to page 69.
- For intermediate strokes, refer to page 3.

### Air-hydro type

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

## Mounting Brackets/Part No.

Bore size (mm)	Model	Foot (Note 1)	Flange	Double clevis
<b>12</b>	Without switch	CQ2□□-□D	CQ-F012	CQ-D012
	With switch	CQ2□□-□DZ		
<b>16</b>	Without switch	CQ2□□-□D	CQ-F016	CQ-D016
	With switch	CQ2□□-□DZ		
<b>20</b>	Without switch	CQ2□□-□D	CQ-F020	CQ-D020
	With switch	CQ2□□-□DZ		
<b>25</b>	Without switch	CQ2□□-□D	CQ-F025	CQ-D025
	With switch	CQ2□□-□DZ		
<b>32</b>	CQ2□□-□DZ	CQ-L032	CQ-F032	CQ-D032
<b>40</b>	CQ2□□-□DZ	CQ-L040	CQ-F040	CQ-D040
<b>50</b>	CQ2□□-□DZ	CQ-L050	CQ-F050	CQ-D050
<b>63</b>	CQ2□□-□DZ	CQ-L063	CQ-F063	CQ-D063
<b>80</b>	CQ2□□-□DZ	CQ-L080	CQ-F080	CQ-D080
<b>100</b>	CQ2□□-□DZ	CQ-L100	CQ-F100	CQ-D100

Note 1) When ordering a foot bracket, the required quantity will be different depending on the bore size.

- ø12 to ø25:
  - Without switch: Order 2 pieces per cylinder.
  - With switch: Order 1 piece per cylinder. (Part number for a set of 2 foot brackets)
- ø32 to ø100:
  - 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