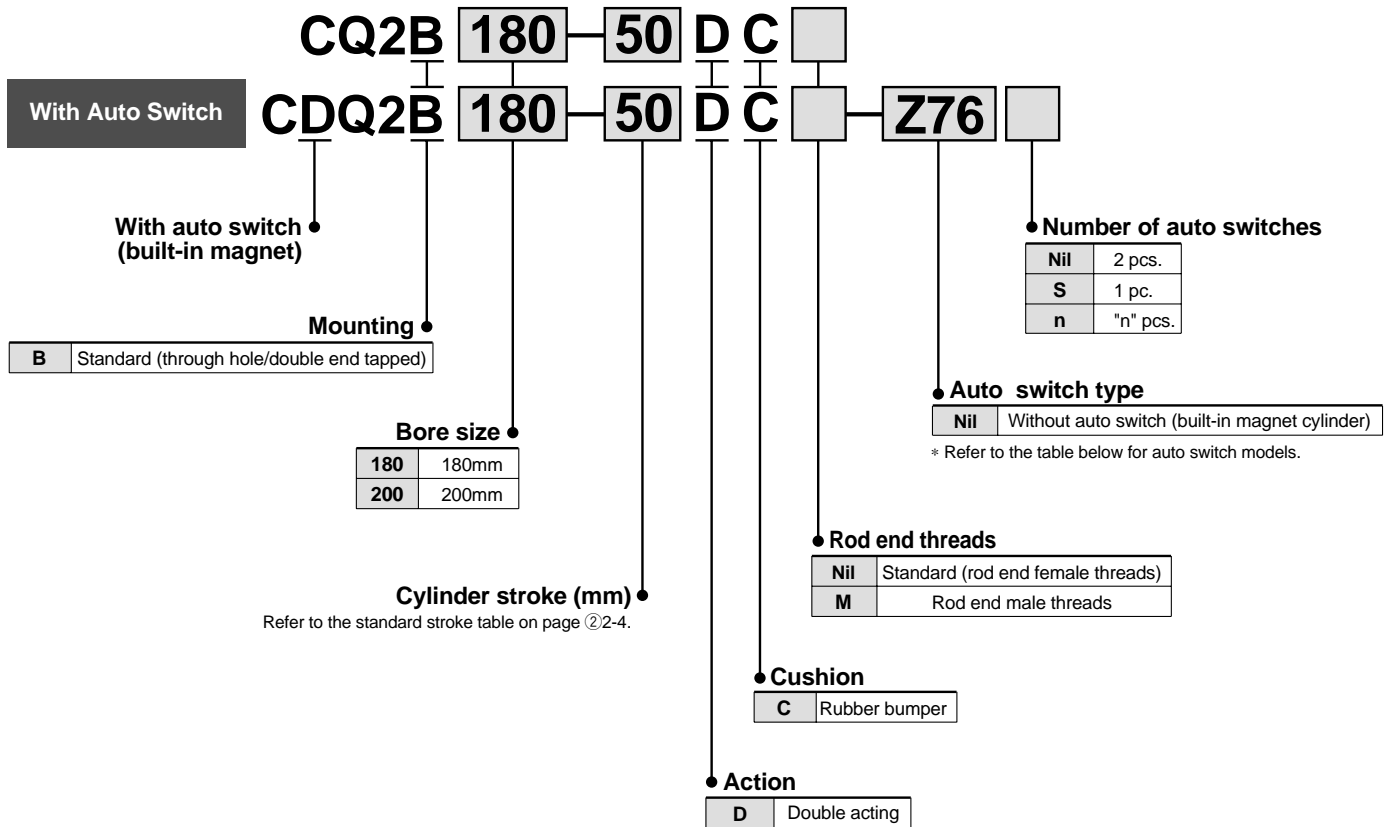


Compact Cylinder/Double Acting: Single Rod

Series CQ2

ø180, ø200

How to Order



Applicable auto switches

Type	Special function	Electrical entry	Indicator light	Wiring (output)	Load voltage		Auto switch models		*Lead wire length (mm)			Applicable loads		Detailed specifications		
					DC	AC	Electrical entry direction	Perpendicular	In-line	0.5 (Nil)	3 (L)	5 (Z)				
Reed switch	-	Grommet	Yes	3 wire	-	5V	-	-	Z76	●	●	-	IC circuit	-	P.9	
				2 wire	12V	100V	-	Z73	●	●	●	-	Relay, PLC			
					5V, 12V	100V or less	-	Z80	●	●	-	IC circuit				
Solid state switch	Diagnostic indication (2 color indicator)	Grommet	Yes	3 wire (NPN)	24V	5V, 12V	-	Y69A	Y59A	●	●	○	IC circuit	Relay, PLC	P.10	
				3 wire (PNP)				Y7PV	Y7P	●	●	○	IC circuit			
				2 wire				12V	Y69B	Y59B	●	●	○			-
				3 wire (NPN)				5V, 12V	Y7NWV	Y7NW	●	●	○			IC circuit
				3 wire (PNP)					Y7PWV	Y7PW	●	●	○			
				Water resistant (2 color indicator)				2 wire	12V	Y7BWV	Y7BW	●	●			○
	-							-	Y7BA	-	-	●	○			

* Lead wire length symbols: 0.5m Nil (Example) Y69B
 3m L Y69BL
 5m Z Y69BZ

** Auto switches marked with a "○" symbol are produced upon receipt of order.

Series CQ2

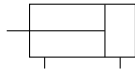


Specifications

Fluid	Air
Proof pressure	1.05MPa
Maximum operating pressure	0.7MPa
Minimum operating pressure	0.05MPa
Ambient and fluid temperature	Without auto switch: -10°C to 70°C (with no freezing)
	With auto switch: -10°C to 60°C (with no freezing)
Lubrication	Non-lube
Cushion	Rubber bumper
Rod end threads	Female threads
Thread tolerance	JIS class 2
Stroke length tolerance	+1.4 0
Mounting brackets	Basic type
Mounting	Through hole/Double end tapped

Symbol

Double acting: Single rod



Standard Strokes

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

• Manufacture of intermediate strokes

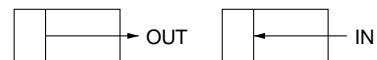
Intermediate strokes in 5mm increments can be manufactured by installing spacers inside standard stroke cylinders.

Example) CQ2B180-160DC is produced by installing a 15mm spacer in a standard stroke cylinder CQ2B180-175DC.

Minimum Strokes for Mounting of Auto Switches

Bore size (mm)	Number of switches	D-Z7, Z8	D-Y5, Y6, Y7	DD-Y7□W, D-Y7BAL
		2 pcs. (different sides, same side)	10	5
	1 pc.	5	5	10

Theoretical Output/Double Acting Type



Unit: N

Bore size (mm)	Operating direction	Operating Pressure (MPa)					
		0.2	0.3	0.4	0.5	0.6	0.7
180	IN	4838	7257	9676	12095	14514	16933
	OUT	5089	7634	10179	12724	15268	17812
200	IN	6032	9048	12064	15080	18096	21112
	OUT	6283	9425	12566	15708	18850	21991

Do not apply loads greater than 50% of the theoretical output.

Weight Table

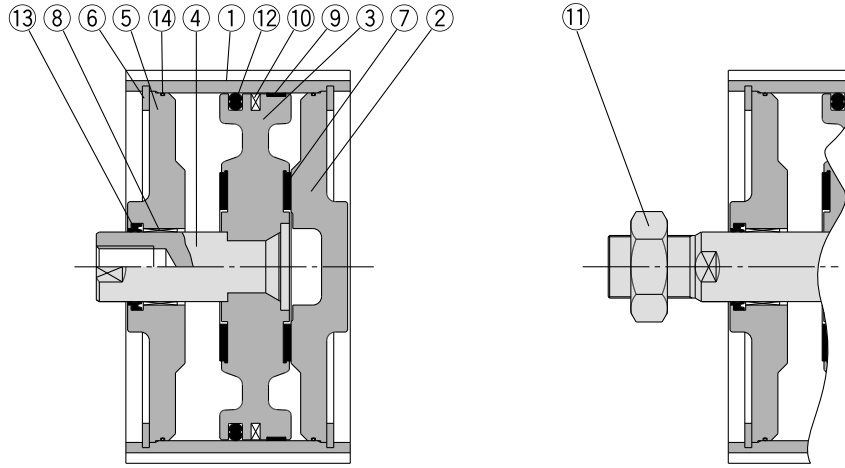
Unit: kg

Bore size (mm)	Standard strokes (mm)													With magnet	Rod end male threads
	10	20	30	40	50	75	100	125	150	175	200	250	300	Additional weight	Additional weight
180	11.97	12.39	12.81	13.24	13.67	14.73	15.80	16.87	17.93	18.99	20.05	22.18	24.31	0.08	0.74
200	15.30	15.87	16.35	16.84	17.33	18.55	19.77	20.99	22.21	23.43	24.74	27.08	29.52	0.09	0.74

Example) CDQ2B180-100DCM

Basic weight	CQ2B180-100DC	15.80kg
Additional weight	Built-in magnet	0.08kg
	Rod end male threads	0.74kg
	Total	16.62kg

Construction



Rod end male threads

Parts list

No.	Description	Material	Note
1	Cylinder tube	Aluminum alloy	Hard anodized
2	Head cover	Cast iron	Nickel plated
3	Piston	Aluminum alloy casting	Chromated
4	Piston rod	Carbon steel	Hard chrome plated
5	Rod cover	Cast iron	Nickel plated
6	Snap ring	Carbon tool steel	Phosphate coated
7	Bumper	Polyurethane	
8	Bushing	Lead-bronze casting	
9	Wear ring	Resin	
10	Magnet	–	CDQ2B only

Parts list

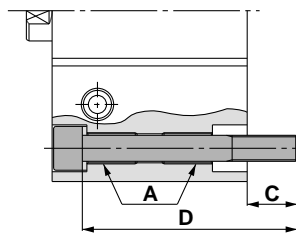
No.	Description	Material	Note
11	Rod end nut	Rolled steel	Nickel plated
12	Piston seal	NBR	
13	Rod seal	NBR	
14	Tube gasket	NBR	

Replacement parts: Seal kits

Bore size (mm)	Seal kit No.	Contents
180	CQ2B180-PS	A set of Nos.12, 13 and 14 from the table above
200	CQ2B200-PS	

Mounting

Mounting/Through hole type mounting bolts are available.
 How to order: Add "Bolt" in front of the bolts to be used.
 (Example) Bolt M18 x 125 ℓ



Note1) When mounting with through hole type mounting bolts, be sure to use the flat washers which are included.

Note 2) When mounting a cylinder with a stroke over 100mm, use the section A mounting threads.

Model	C	D	Mounting bolt
C (D) Q2B180- 10DC	36	125	M18 x 125 ℓ
C (D) Q2B180- 20DC		135	M18 x 135 ℓ
C (D) Q2B180- 30DC		145	M18 x 145 ℓ
C (D) Q2B180- 40DC		155	M18 x 155 ℓ
C (D) Q2B180- 50DC		165	M18 x 165 ℓ
C (D) Q2B180- 75DC		190	M18 x 190 ℓ
C (D) Q2B180-100DC		215	M18 x 215 ℓ

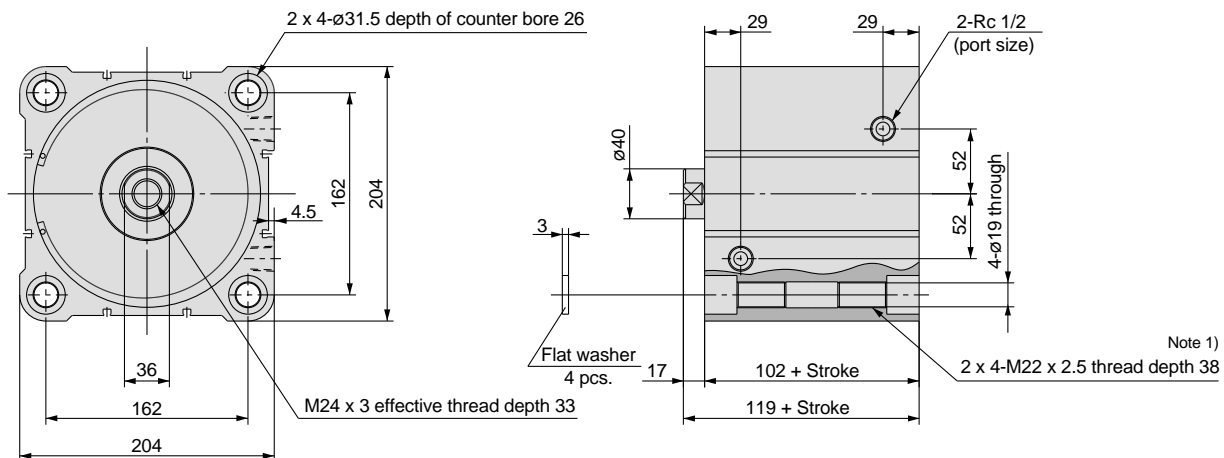
Model	C	D	Mounting bolt
C (D) Q2B200- 10DC	39	135	M18 x 135 ℓ
C (D) Q2B200- 20DC		145	M18 x 145 ℓ
C (D) Q2B200- 30DC		155	M18 x 155 ℓ
C (D) Q2B200- 40DC		165	M18 x 165 ℓ
C (D) Q2B200- 50DC		175	M18 x 175 ℓ
C (D) Q2B200- 75DC		200	M18 x 200 ℓ
C (D) Q2B200-100DC		225	M18 x 225 ℓ

Series CQ2

Dimensions

Dimensions are the same with and without auto switches.

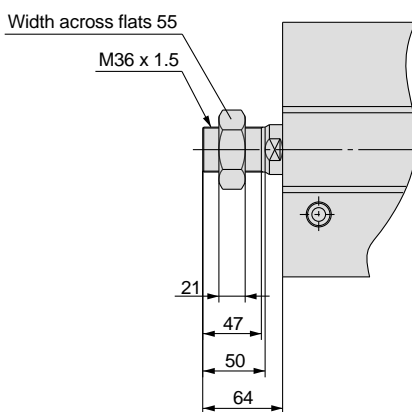
Ø180



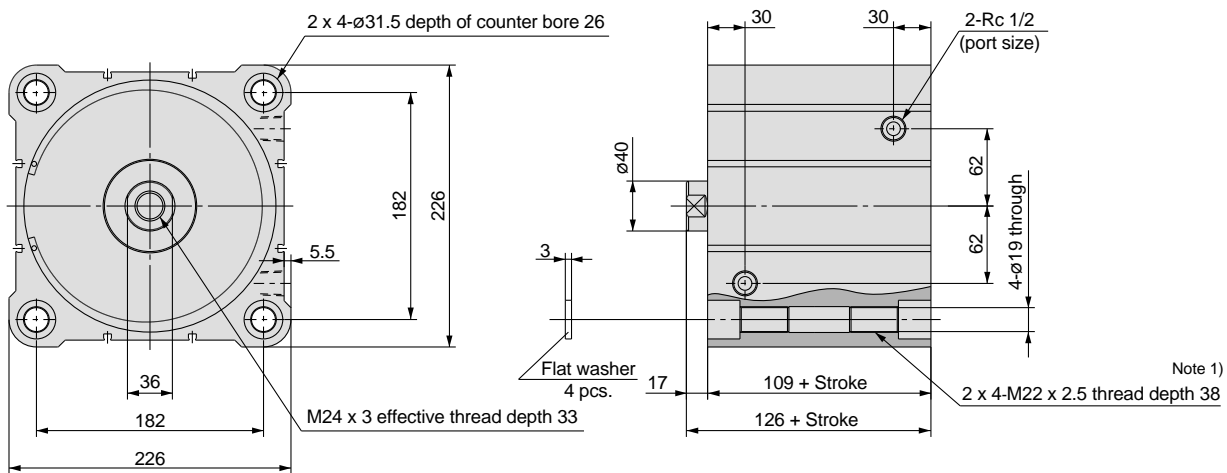
Note 1)

2 x 4-M22 x 2.5 thread depth 38

Note 1) 2 x 4-M22 x 2.5 threads through for strokes of 20mm or less.



Ø200



Note 1)

2 x 4-M22 x 2.5 thread depth 38

Note 1) 2 x 4-M22 x 2.5 threads through for strokes of 20mm or less.

