



# Compact Cylinder: Anti-lateral Load Type Double Acting, Single Rod

## Series CQ2

ø32, ø40, ø50, ø63, ø80, ø100

### How to Order

**Without auto switch**

**With auto switch**

CQ2 **B** **S** **32** — **30** **D** **C** **□**

CDQ2 **B** **S** **32** — **30** **D** **C** **□** — **F9BW** **S**

**Number of auto switches**

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

**Mounting style**

B	Through-hole (Standard)
A	Both ends tapped style
L	Foot style
F	Rod side flange style
G	Head side flange style
D	Double clevis style

**Cushion**

S	Anti-lateral load type
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**Cylinder stroke (mm)**

Refer to "Standard Stroke" on page 7-6-133.

**Bore size**

32	32 mm
40	40 mm
50	50 mm
63	63 mm
80	80 mm
100	100 mm

**Auto switch**

Nil	Without auto switch (Built-in magnet)
S	Auto switch

\* For the applicable auto switch model, refer to the table below.  
\* Auto switches are shipped together, (but not assembled). (Except D-P5DWL)

**Body option 2**

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

**Cushion**

C	Rubber bumper
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**Body option 1**

Nil	Standard
F	With boss in head side

**Action**

D	Double acting
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**Built-in magnet**

**Mounting style**

**Cushion**

**Cylinder stroke (mm)**

**Bore size**

**Auto switch**

**Number of auto switches**

**Body option 2**

**Cushion**

**Body option 1**

**Action**

### Applicable Auto Switch/Refer to page 7-9-1 for further information on auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Rail mounting		Direct mounting		Lead wire length (m) *				Pre-wire connector	Applicable load			
					DC	AC	Perpendicular	In-line	Perpendicular	In-line	0.5 (Nil)	3 (L)	5 (Z)	None (N)					
Reed switch	—	Grommet	Yes	3-wire (NPN equivalent)	—	5 V	—	A76H	A96V	A96	●	●	—	—	—	IC circuit	—		
				—	—	200 V	A72	A72H	—	—	●	●	—	—	—	—	—	—	
	Connector	2-wire		24 V	12 V	100 V	A73	A73H	—	—	●	●	●	—	—	—	—	Relay, PLC	
				12 V	—	—	A73C	—	—	—	—	●	●	●	●	—	—		—
Diagnostic indication (2-color indication)	Grommet	—	—	—	—	—	A79W	—	—	—	●	●	—	—	—	—	—		
Solid state switch	—	Grommet	Yes	3-wire (NPN)	5 V, 12 V	—	F7NV	F79	M9NV	M9N	●	●	○	—	○	IC circuit	—		
				3-wire (PNP)			F7PV	F7P	M9PV	M9P	●	●	○	—	○	—		—	
	Connector	2-wire		12 V	F7BV	J79	M9BV	M9B	●	●	○	—	○	—	—	—	—	Relay, PLC	
					J79C	—	—	—	●	●	●	●	—	—	—	—	—		
	Diagnostic indication (2-color indication)	Grommet		3-wire (NPN)	5 V, 12 V	—	F7NWW	F79W	F9NWW	F9NW	●	●	○	—	○	—	IC circuit	—	
							3-wire (PNP)	—	F7PW	F9PWV	F9PW	●	●	○	—	○	—		—
	Water resistant (2-color indication)	Grommet		2-wire	24 V	12 V	—	F7BWV	J79W	F9BWV	F9BW	●	●	○	—	○	—	—	—
								—	F7BA	—	F9BA	—	●	●	○	—	○	—	
With diagnostic output (2-color indication)	Grommet	4-wire (NPN)	5 V, 12 V	—	—	—	F79F	—	—	●	●	○	—	○	IC circuit	—			
						—	P5DW	—	—	—	●	●	—	○	—		—		
Magnetic field resistant (2-color indication)	Grommet	2-wire	—	—	—	—	—	—	—	—	●	●	—	○	—	—	—		

\* Lead wire length symbols: 0.5 m.....Nil (Example) A73C  
 3 m.....L (Example) A73CL  
 5 m.....Z (Example) A73CZ  
 None.....N (Example) A73CN

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

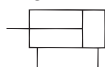
- D-P5DWL type is available from ø40 up to ø100 only.
- There are other applicable auto switches other than the listed above. For details, refer to page 7-6-23.
- For details about auto switches with pre-wire connector, refer to page 7-9-36.



# Compact Cylinder: Anti-lateral Load Type Double Acting, Single Rod Series CQ2



**JIS symbol**  
Double acting,  
Single rod



## ⚠ Precautions

**Be sure to read before handling.**  
**For Safety Instructions and Actuator Precautions, refer to pages 7-13-3 to 7-13-6.**

## ⚠ Caution

### Snap Ring Installation/Removal

- For installation and removal, use an appropriate pair of pliers (tool for installing a type C snap ring).
- Even if a proper plier (tool for installing type C snap ring) is used, it is likely to inflict damage to a human body or peripheral equipment, as a snap ring may be flown out of the tip of a plier (tool for installing a type C snap ring). Be much careful with the popping of a snap ring. Besides, be certain that a snap ring is placed firmly into the groove of rod cover before supplying air at the time of installment.



### Made to Order Specifications (For details, refer to page 7-10-1.)

Symbol	Specifications
-XC6	Piston rod and rod end nut made of stainless steel
-XC18	NPT finish piping port
-X271	Fluoro rubber for seals

## Type

Bore size (mm)		32	40	50	63	80	100
Pneumatic	Mounting	Through-hole (Standard)	●	●	●	●	●
		Both ends tapped style	●	●	●	●	●
	Built-in magnet	●	●	●	●	●	
	Screw-in type	Rc 1/8	Rc 1/8	Rc 1/4	Rc 1/4	Rc 3/8	Rc 3/8
	Rod end male thread	●	●	●	●	●	●
	With rubber bumper (Standard)	●	●	●	●	●	●

## Specifications

Type	Pneumatic (Non-lube)
Fluid	Air
Proof pressure	1.5 MPa
Maximum operating pressure	1.0 MPa
Ambient and fluid temperature	Without auto switch: -10 to 70°C (No freezing) With auto switch: -10 to 60°C (No freezing)
Cushion	Rubber bumper (Standard equipment)
Rod end thread	Female thread
Rod end thread tolerance	JIS Class 2
Stroke length tolerance	$\begin{matrix} +1.0 \\ 0 \end{matrix}$
Mounting	Through-hole
Piston speed	50 to 500 mm/s

## Minimum Operating Pressure

Bore size (mm)	32	40	50	63	80	100
Minimum operating pressure	0.05					

## Allowable Kinetic Energy

Bore size (mm)	32	40	50	63	80	100
Allowable kinetic energy	0.29	0.52	0.91	1.54	2.71	4.54

## Standard Stroke

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

## Manufacture of Intermediate Stroke

Description	Spacer is installed in the standard stroke body.	Exclusive body (-XB10)	
Part no.	Refer to "How to Order" for the standard model no. on page 7-6-132.	Suffix "-XB10" to the end of standard model no. on page 7-6-132.	
Description	Dealing with the stroke by the 1 mm interval is available by installing spacer with standard stroke cylinder.	Dealing with the stroke by the 1 mm interval by using an exclusive body with the specified stroke.	
Stroke range	Bore size	Bore size	Stroke range
	32 to 100	1 to 99	32, 40 50 to 100
Example	Part no.: CQ2BS50-57DC CQ2BS50-75DC with 18 mm width spacer. B dimension is 125.5 mm.	Part no.: CQ2BS50-57DC-XB10 Makes 57 stroke tube. B dimension is 107.5 mm.	

- In the case of an exclusive body with  $\phi 32$  to 100 (-XB10) with the stroke length exceeding 50 mm, the reference values of the longitudinal dimension will be changed. Calculate length dimensions by deducting from those of 75 or 100 mm stroke models.

CUJ

CU

CQS

CQM

CQ2

RQ

MU

D-

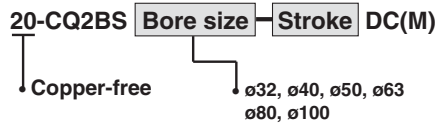
-X

20-

Data

# Series CQ2

## Copper-free (For CRT manufacturing process)



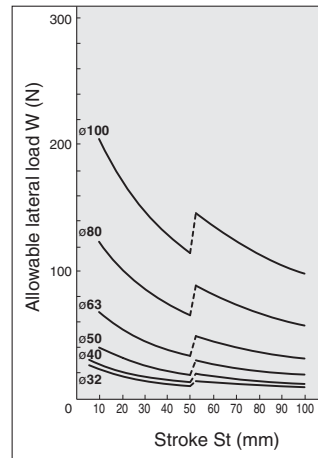
To prevent the influence of copper ions or halogen ions during CRT manufacturing processes, copper and fluorine materials are not used in the component parts.

### Specifications

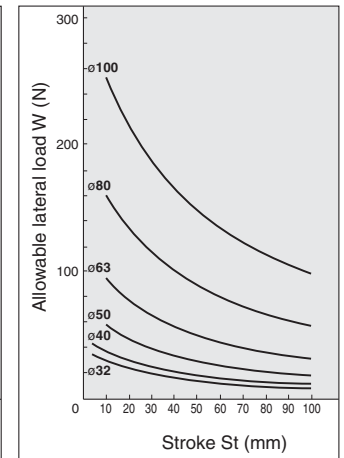
Action	Double acting, Single rod
Bore size (mm)	32, 40, 50, 63, 80, 100
Proof pressure	1.5 MPa
Max. operating pressure	1.0 MPa
Rubber bumper	With (Standard equipment)
Piping	Screw-in piping
Piston speed	50 to 500 mm/s
Mounting	Both ends tapped style
Auto switch	Mountable

## Allowable Load at Rod End

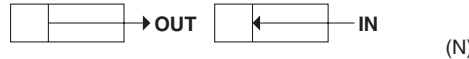
### Without Auto Switch



### With Auto Switch



### Theoretical Output



Bore size (mm)	Operating direction	Operating pressure (MPa)		
		0.3	0.5	0.7
32	IN	181	302	422
	OUT	241	402	563
40	IN	317	528	739
	OUT	377	628	880
50	IN	495	825	1155
	OUT	589	982	1374
63	IN	841	1402	1962
	OUT	935	1559	2182
80	IN	1361	2268	3175
	OUT	1508	2513	3519
100	IN	2144	3574	5003
	OUT	2356	3927	5498

### Weight

Bore size (mm)	Cylinder stroke (mm)											
	5	10	15	20	25	30	35	40	45	50	75	100
32	142	163	184	204	225	246	267	287	308	329	482	587
40	224	247	270	293	316	339	362	386	409	432	616	736
50	—	400	436	472	508	545	581	617	653	690	982	1170
63	—	589	630	671	712	753	794	835	876	916	1264	1475
80	—	1079	1147	1215	1282	1350	1418	1486	1554	1622	2194	2528
100	—	1863	1953	2044	2135	2226	2316	2407	2498	2589	3393	3853

### Additional Weight

Bore size (mm)		32	40	50	63	80	100
Both ends tapped style		6	6	6	19	45	45
Rod end male thread	Male thread	26	27	53	53	120	175
	Nut	17	17	32	32	49	116
Foot style (Including mounting bolt)		143	155	243	324	696	1062
Rod side flange style (Including mounting bolt)		180	214	373	559	1056	1365
Head side flange style (Including mounting bolt)		165	198	348	534	1017	1309
Double clevis style (Including pin, snap ring, bolt)		151	196	393	554	1109	1887

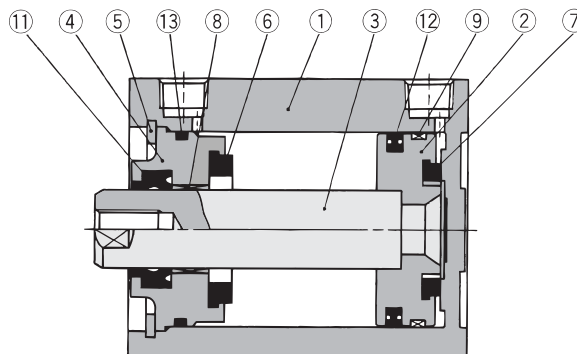
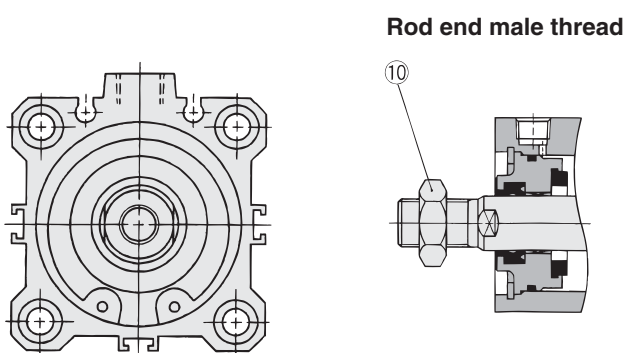
Calculation: (Example) CQ2DS32-20DCM

- Cylinder weight: CQ2BS32-20DC..... 204 g
- Option weight: Both ends tapped style..... 6 g
- Rod end male thread..... 43 g
- Double clevis style..... 151 g

404 g

# Compact Cylinder: Anti-lateral Load Type Double Acting, Single Rod Series CQ2

## Construction



### Component Parts

No.	Description	Material	Note
①	Cylinder tube	Aluminum alloy	Hard anodized
②	Piston	Aluminum alloy	Chromated
③	Piston rod	Carbon steel	Hard chrome plated
④	Collar	Aluminum alloy	Anodized
⑤	Snap ring	Carbon tool steel	Phosphate coated
⑥	Bumper A	Urethane	
⑦	Bumper B	Urethane	
⑧	Bushing	Phosphor bronze alloy	
⑨	Wear ring	Resin	
⑩	Rod end nut	Carbon steel	Nickel plated
⑪	Rod seal	NBR	
⑫	Piston seal	NBR	
⑬	Tube gasket	NBR	

### Replacement Parts: Seal Kit

Bore size (mm)	Kit no.	Contents
32	CQ2B32-PS	Set of left nos. ⑪, ⑫, ⑬
40	CQ2B40-PS	
50	CQ2B50-PS	
63	CQ2B63-PS	
80	CQ2B80-PS	
100	CQ2B100-PS	

\* Seal kit includes ⑪, ⑫, ⑬. Order the seal kit, based on each bore size.

### Mounting Bracket Part No.

Bore size (mm)	Foot (1)	Flange	Double clevis
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) Order two foot brackets per cylinder.  
 Note 2) Parts belonging to each bracket are as follows: Foot, Flange/Body mounting bolt, Double clevis/Clevis pin, C shape snap ring for axis, Body mounting bolt.

### Auto Switch Mounting Bracket Part No.

Bore size (mm)	Mounting bracket part no.	Note	Applicable auto switch	
			Reed switch	Solid state switch
32, 40 50, 63 80, 100	BQ-2	<ul style="list-style-type: none"> <li>Switch mounting screw (M3 x 0.5 x 10 ℓ)</li> <li>Switch spacer</li> <li>Switch mounting nut</li> </ul>	D-A7□/A80 D-A73C/A80C D-A7□H/A80H D-A79W	D-F7□/J79 D-F7□V D-J79C D-F7□W/J79W D-F7□WV D-F7BAL/F7BAVL D-F79F
40 to 100	BQP1-050	<ul style="list-style-type: none"> <li>Switch mounting bracket</li> <li>Switch mounting nut</li> <li>Hexagon socket head cap bolt (M3 x 0.5 x 14/ spring washer 2 pcs.)</li> <li>Round head Phillips screw (M3 x 0.5 x 16/ spring washer 2 pcs.)</li> </ul>	—	D-P5DWL

CUJ

CU

CQS

CQM

**CQ2**

RQ

MU

D-

-X

20-

Data

# Compact Cylinder: Anti-lateral Load Series CDQ2 With Auto Switch



\* Refer to page 7-9-1 for further information on auto switches.



## Standard Specifications

Type	Pneumatic (Non-lube)
Fluid	Air
Ambient and fluid temperature	-10 to 60°C (No freezing)

Other specifications are the same as standard specifications on page 7-6-133.

## How to Order

For "How to Order" with auto switch, refer to page 7-6-132.

## Weight

Bore size (mm)	Cylinder stroke (mm)											
	5	10	15	20	25	30	35	40	45	50	75	100
32	201	222	243	263	284	305	326	346	367	388	493	598
40	300	323	347	370	393	416	439	462	485	508	628	748
50	—	518	554	590	626	663	699	735	771	808	996	1184
63	—	748	788	829	870	911	952	993	1034	1075	1286	1497
80	—	1340	1408	1476	1543	1611	1679	1747	1815	1883	2217	2552
100	—	2242	2333	2424	2514	2605	2696	2787	2877	2968	3428	3888

### With auto switch

Calculation: (Example) CDQ2DS32-20DCM

- Cylinder weight: CDQ2BS32-20DC..... 263 g
  - Option weight: Both ends tapped style..... 6 g
  - Rod end male thread..... 43 g
  - Double clevis style..... 151 g
- 463 g

## Additional Weight

Bore size (mm)	32	40	50	63	80	100
Both ends tapped style	6	6	6	19	45	45
Rod end male thread	Male thread	26	27	53	53	120
	Nut	17	17	32	32	49
Foot style (Including mounting bolt)	143	155	243	324	696	1062
Rod side flange style (Including mounting bolt)	180	214	373	559	1056	1365
Head side flange style (Including mounting bolt)	165	198	348	534	1017	1309
Double clevis style (Included pin, snap ring, bolt)	151	196	393	554	1109	1887

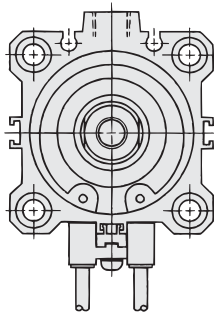
Add the weight of auto switches and mounting brackets when auto switches are mounted.

## Auto Switch Mounting Bracket Weight

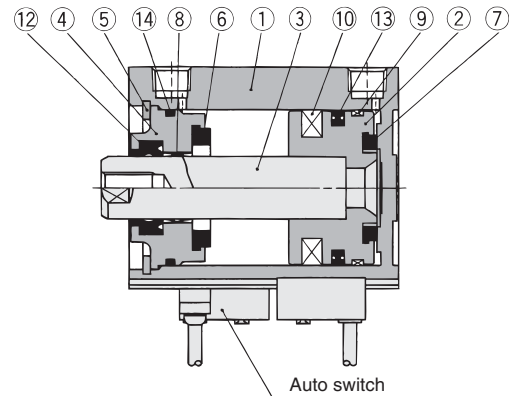
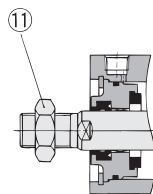
Mounting bracket part no.	Applicable bore size (mm)	Weight (g)
<b>BQ-2</b>	32 to 100	1.5

\* For the auto switch weight, refer to page 7-9-1.

## Construction



### Rod end male thread



## Component Parts

No.	Description	Material	Note
①	Cylinder tube	Aluminum alloy	Hard anodized
②	Piston	Aluminum alloy	Chromated
③	Piston rod	Carbon steel	Hard chrome plated
④	Collar	Aluminum alloy	Anodized
⑤	Snap ring	Carbon tool steel	Phosphate coated
⑥	Bumper A	Urethane	
⑦	Bumper B	Urethane	
⑧	Bushing	Lead-bronze casted	
⑨	Wear ring	Resin	
⑩	Magnet	—	
⑪	Rod end nut	Carbon steel	
⑫	Rod seal	NBR	
⑬	Piston seal	NBR	
⑭	Tube gasket	NBR	

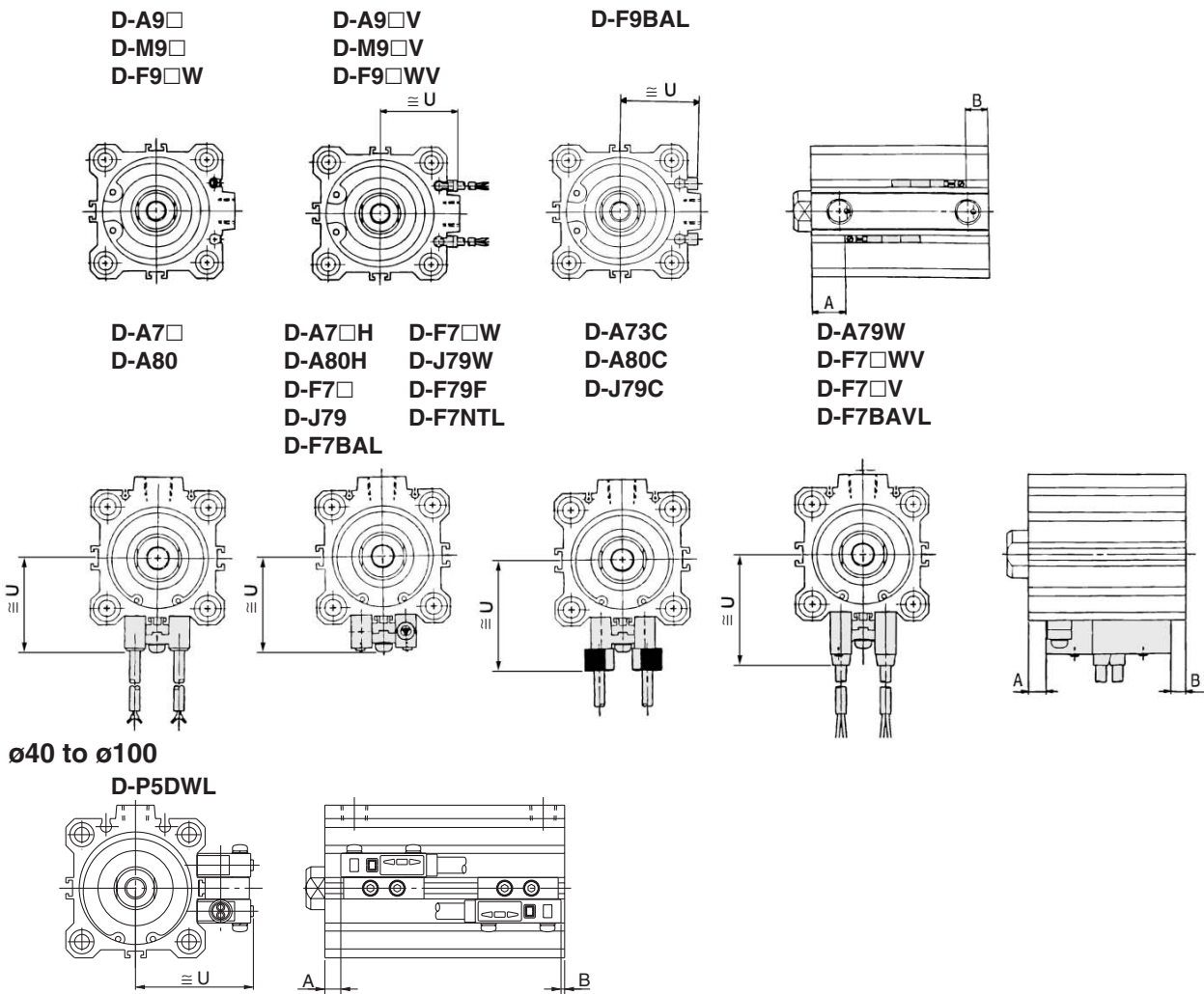
## Replacement Parts: Seal Kit

Bore size (mm)	Kit no.	Contents
32	CQ2B32-PS	Set of left nos. ⑫, ⑬, ⑭
40	CQ2B40-PS	
50	CQ2B50-PS	
63	CQ2B63-PS	
80	CQ2B80-PS	
100	CQ2B100-PS	

\* Seal kit includes ⑫, ⑬, ⑭. Order the seal kit, based on each bore size.

# Compact Cylinder with Auto Switch: Anti-lateral Load Type Double Acting, Single Rod Series **CDQ2**

## Proper Auto Switch Mounting Position (Detection at stroke end) and Its Mounting Height



- CUJ
- CU
- CQS
- CQM
- CQ2**
- RQ
- MU
- D-
- X
- 20-
- Data

### Proper Auto Switch Mounting Position

Bore size (mm)	D-A7□/A80		D-A7□H/A80H D-A73C/A80C/F79F D-F7□/J79/J79W D-F7□V/J79C D-F7□W/F7□WV D-F7BAL/F7BAVL		D-A79W		D-A9□ D-A9□V		D-M9□ D-M9□V D-F9□W D-F9□WV		D-F9BAL		D-P5DWL	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B
32	15	10	15.5	10.5	12.5	7.5	14	9	18	13	17	12	—	—
40	18.5	13	19	13.5	16	10.5	17.5	12	21.5	16	20.5	15	14.5	9
50	16	16.5	16.5	17	13.5	14	15	15.5	19	19.5	18	18.5	12	12.5
63	18.5	19.5	19	20	16	17	17.5	18.5	21.5	22.5	20.5	21.5	14.5	15.5
80	21.5	24	22	24.5	19	21.5	20.5	23	24.5	27	23.5	26	17.5	20
100	24.5	30.5	25	31	22	28	23.5	29.5	27.5	33.5	26.5	32.5	20.5	26.5

### Auto Switch Mounting Height

Bore size (mm)	D-A7□/A80	D-A7□H/A80H D-F7□, D-J79, D-F7□W D-J79W, D-F7BAL D-F79F, D-F7NTL	D-A73C D-A80C	D-F7□V D-F7□WV D-F7BAVL	D-J79C	D-A79W	D-A9□V	D-M9□V D-F9□WV	D-F9BAL	D-P5DWL
	U	U	U	U	U	U	U	U	U	U
32	31.5	32.5	38.5	35	38	34	27	29	26.5	—
40	35	36	42	38.5	41.5	37.5	30.5	32.5	30	44
50	41	42	48	44.5	47.5	43.5	36.5	38.5	36	50
63	47.5	48.5	54.5	51	54	50	40	42	39.5	56.5
80	57.5	58.5	64.5	61	64	60	50	52	49.5	66.5
100	67.5	68.5	74.5	71	74	70	60	62	59.5	76.5



# Series CQ2/CDQ2

(In the case of auto switches, A and B dimensions will be only changed. Refer to the dimension chart.)

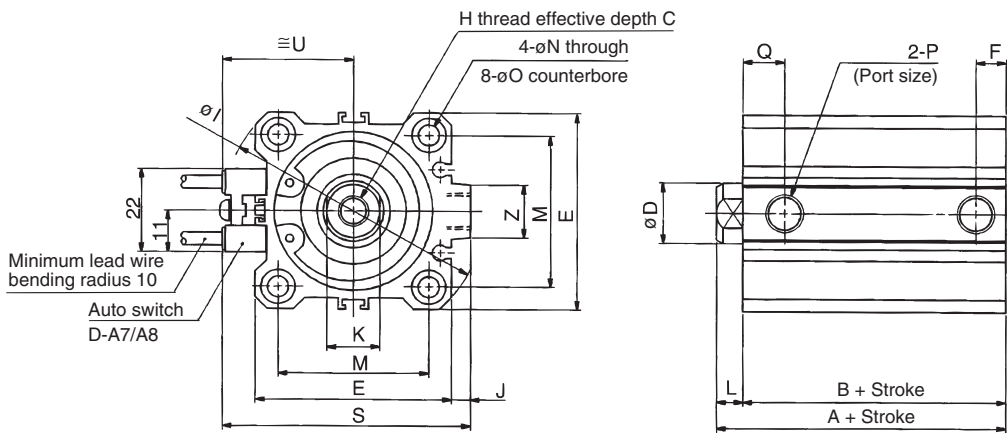
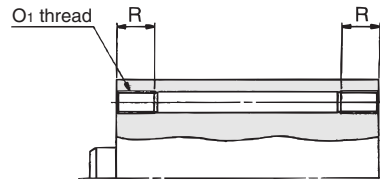
## Dimensions: $\phi 32$ to $\phi 50$

Basic style (Through-hole): CQ2BS/CDQ2BS

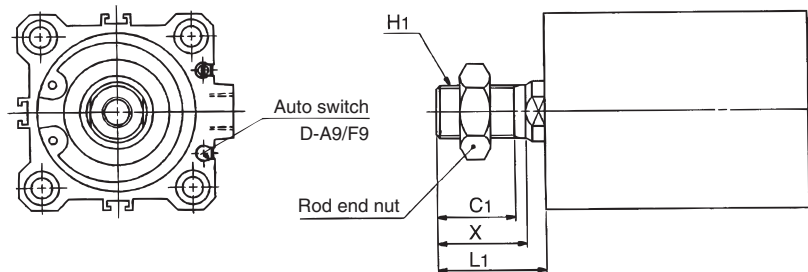
Both ends tapped style: CQ2AS/CDQ2AS

### Both Ends Tapped Style

Bore size (mm)	O1	R
32	M6 x 1.0	10
40	M6 x 1.0	10
50	M8 x 1.25	14



### Rod end male thread



Dimensions of with boss in head side are equivalent to Series CQ2, double acting, single rod. Refer to page 7-6-16.

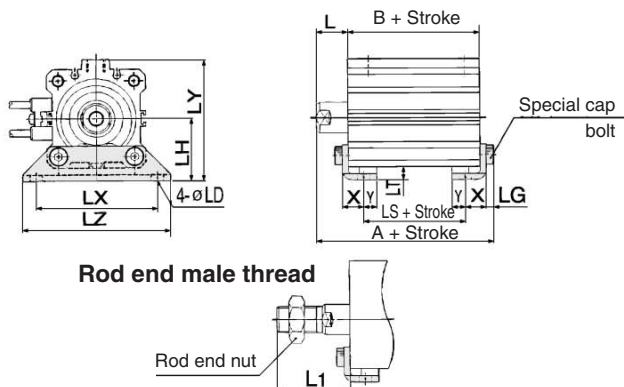
### Rod End Male Thread

Bore size (mm)	C1	X	H1	L1
32	20.5	23.5	M14 x 1.5	28.5
40	20.5	23.5	M14 x 1.5	28.5
50	26	28.5	M18 x 1.5	33.5

Bore size (mm)	Stroke range (mm)	Without auto switch		With auto switch		C	D	E	F	H	I	J	K	L	M	N	O	P	Q	S	U	Z
		A	B	A	B																	
32	5 to 50	40	33	50	43	13	16	45	7.5	M8 x 1.25	60	4.5	14	7	34	5.5	9 depth 7	Rc 1/8	10.5	58.5	31.5	14
	75, 100	50	43																			
40	5 to 50	46.5	39.5	56.5	49.5	13	16	52	8	M8 x 1.25	69	5	14	7	40	5.5	9 depth 7	Rc 1/8	11	66	35	14
	75, 100	56.5	49.5																			
50	10 to 50	48.5	40.5	58.5	50.5	15	20	64	10.5	M10 x 1.5	86	7	17	8	50	6.6	11 depth 8	Rc 1/4	10.5	80	41	19
	75, 100	58.5	50.5																			

# Compact Cylinder: Anti-lateral Load Type Double Acting, Single Rod Series **CQ2/CDQ2**

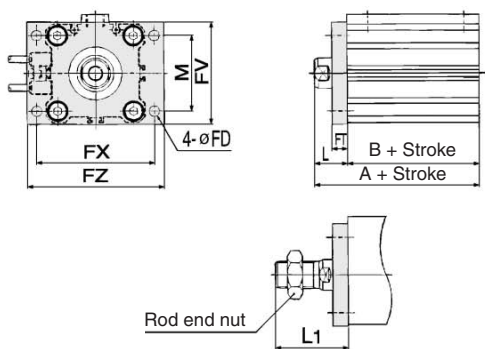
## Foot style: CQ2LS/CDQ2LS



Rod end male thread

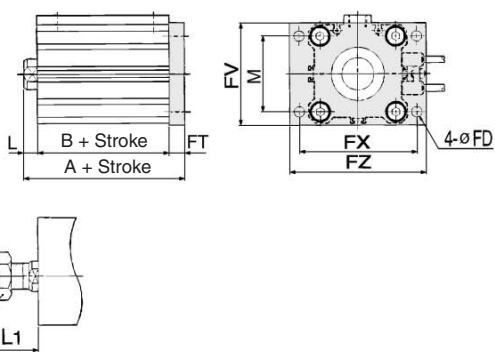
Rod end nut

## Rod side flange style: CQ2FS/CDQ2FS



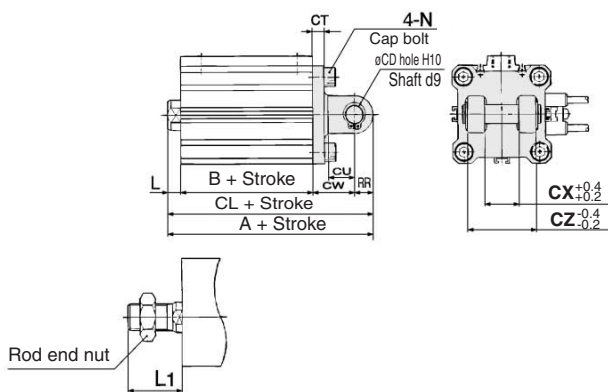
Rod end nut

## Head side flange style: CQ2GS/CDQ2GS



Rod end nut

## Double clevis style: CQ2DS/CDQ2DS



Rod end nut

## Foot Style

Bore size (mm)	Stroke range (mm)	Without auto switch			With auto switch			L	L1	LD
		A	B	LS	A	B	LS			
32	5 to 50	57.2	33	17	67.2	43	27	17	38.5	6.6
	75, 100	67.2	43	27						
40	5 to 50	63.7	39.5	23.5	73.7	49.5	33.5	17	38.5	6.6
	75, 100	73.7	49.5	33.5						
50	10 to 50	66.7	40.5	17.5	76.7	50.5	27.5	18	43.5	9
	75, 100	76.7	50.5	27.5						

Bore size (mm)	Stroke range (mm)	LG	LH	LT	LX	LY	LZ	X	Y
32	5 to 50	4	30	3.2	57	57	71	11.2	5.8
	75, 100								
40	5 to 50	4	33	3.2	64	64	78	11.2	7
	75, 100								
50	10 to 50	5	39	3.2	79	78	95	14.7	8
	75, 100								

Foot bracket material: Carbon steel

## Rod Side Flange Style

Bore size (mm)	Stroke range (mm)	Without auto switch		With auto switch		FD	FT	FV	FX	FZ
		A	B	A	B					
32	5 to 50	50	33	60	43	5.5	8	48	56	65
	75, 100	60	43							
40	5 to 50	56.5	39.5	66.5	49.5	5.5	8	54	62	72
	75, 100	66.5	49.5							
50	10 to 50	58.5	40.5	68.5	50.5	6.6	9	67	76	89
	75, 100	68.5	50.5							

Bore size (mm)	Stroke range (mm)	L	L1	M
32	5 to 50	17	38.5	34
	75, 100			
40	5 to 50	17	38.5	40
	75, 100			
50	10 to 50	18	43.5	50
	75, 100			

Flange bracket material: Carbon steel

## Head Side Flange Style

Bore size (mm)	Stroke range (mm)	Without auto switch	With auto switch	L	L1
		A	A		
32	5 to 50	48	58	7	28.5
	75, 100	58			
40	5 to 50	54.5	64.5	7	28.5
	75, 100	64.5			
50	10 to 50	57.5	67.5	8	33.5
	75, 100	67.5			

Flange bracket material: Carbon steel

(\* Dimensions except A, L and L1 are same as rod side flange style.)

## Double Clevis Style

Bore size (mm)	Stroke range (mm)	Without auto switch			With auto switch			CD	CT	CU
		A	B	CL	A	B	CL			
32	5 to 50	70	33	60	80	43	70	10	5	14
	75, 100	80	43	70						
40	5 to 50	78.5	39.5	68.5	88.5	49.5	78.5	10	6	14
	75, 100	88.5	49.5	78.5						
50	10 to 50	90.5	40.5	76.5	100.5	50.5	86.5	14	7	20
	75, 100	100.5	50.5	86.5						

Bore size (mm)	Stroke range (mm)	CW	CX	CZ	L	L1	N	RR
32	5 to 50	20	18	36	7	28.5	M6 x 1.0	10
	75, 100							
40	5 to 50	22	18	36	7	28.5	M6 x 1.0	10
	75, 100							
50	10 to 50	28	22	44	8	33.5	M8 x 1.25	14
	75, 100							

\* For details about the rod end nut and accessory brackets, refer to page 7-6-20.

\* Clevis pin and set ring are shipped together.

CUJ

CU

CQS

CQM

CQ2

RQ

MU

D-

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Data



# Series CQ2/CDQ2

(In the case of auto switches, A and B dimensions will be only changed. Refer to the dimension chart.)

## Dimensions: $\phi 63$ to $\phi 100$

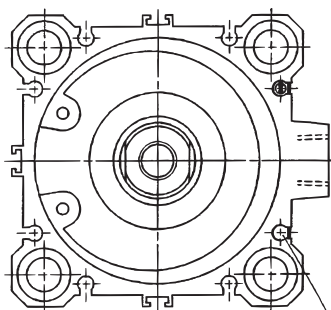
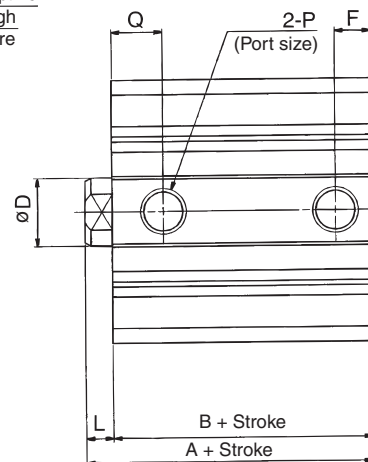
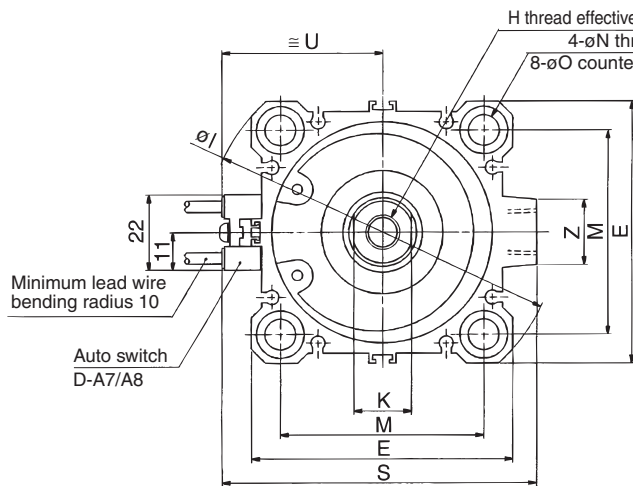
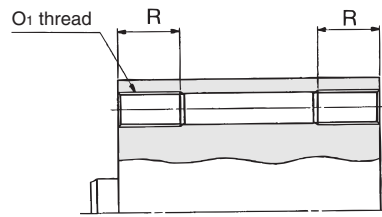
### Basic style (Through-hole): CQ2BS/CDQ2BS

### Both ends tapped style: CQ2AS/CDQ2AS

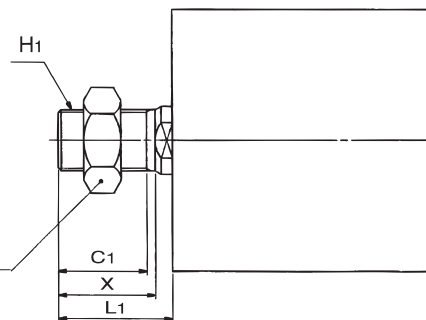
Dimensions of with boss in head side are equivalent to Series CQ2, double acting, single rod. Refer to page 7-6-18.

### Both Ends Tapped Style

Bore size (mm)	O1	R
63	M10 x 1.5	18
80	M12 x 1.75	22
100	M12 x 1.75	22



### Rod end male thread



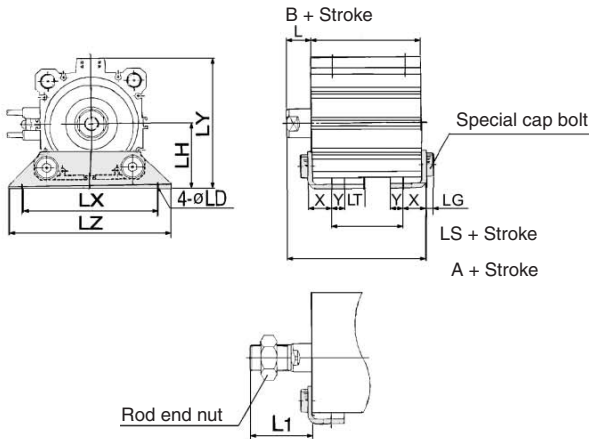
### Rod End Male Thread

Bore size (mm)	C1	X	H1	L1
63	26	28.5	M18 x 1.5	33.5
80	32.5	35.5	M22 x 1.5	43.5
100	32.5	35.5	M26 x 1.5	43.5

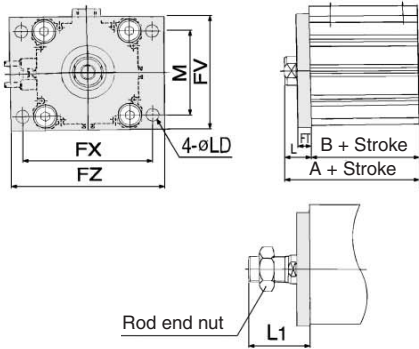
Bore size (mm)	Stroke range (mm)	Without auto switch		With auto switch		C	D	E	F	H	I	J	K	L	M	N	O	P	Q	S	U	Z
		A	B	A	B																	
63	10 to 50	54	46	64	56	15	20	77	10.5	M10 x 1.5	103	7	17	8	60	9	14 depth 10.5	Rc 1/4	15	93	47.5	19
	75, 100	64	56																			
80	10 to 50	63.5	53.5	73.5	63.5	21	25	98	12.5	M16 x 2.0	132	6	22	10	77	11	17.5 depth 13.5	Rc 3/8	16	112.5	57.5	26
	75, 100	73.5	63.5																			
100	10 to 50	75	63	85	73	27	30	117	13	M20 x 2.5	156	6.5	27	12	94	11	17.5 depth 13.5	Rc 3/8	23	132.5	67.5	26
	75, 100	85	73																			

# Compact Cylinder: Anti-lateral Load Type Double Acting, Single Rod Series **CQ2/CDQ2**

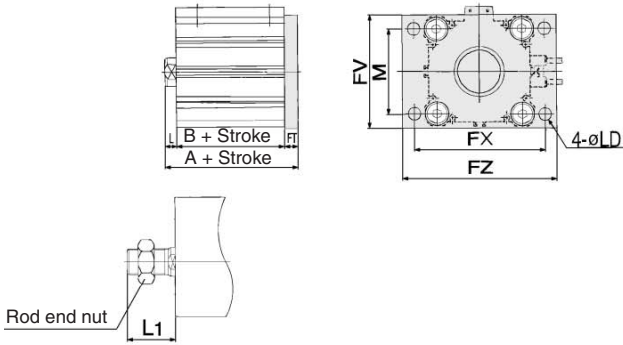
## Foot style: CQ2LS/CDQ2LS



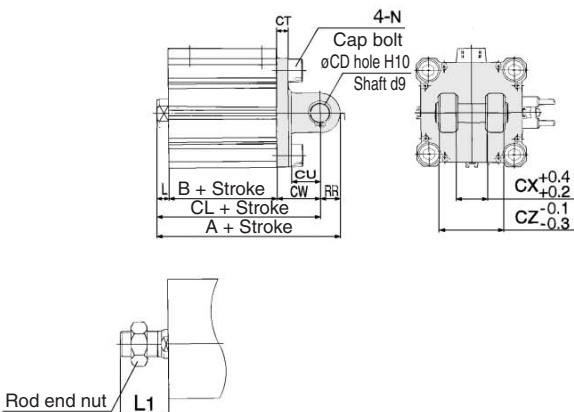
## Rod side flange style: CQ2FS/CDQ2FS



## Head side style: CQ2GS/CDQ2GS



## Double clevis style: CQ2DS/CDQ2DS



## Foot Style

Bore size (mm)	Stroke range (mm)	Without auto switch			With auto switch			L	L1	LD
		A	B	LS	A	B	LS			
63	10 to 50	72.2	46	20	82.2	56	30	18	43.5	11
	75, 100	82.2	56	30						
80	10 to 50	85	53.5	23.5	95	63.5	33.5	20	53.5	13
	75, 100	95	63.5	33.5						
100	10 to 50	98	63	29	108	73	39	22	53.5	13
	75, 100	108	73	39						

Bore size (mm)	Stroke range (mm)	LG	LH	LT	LX	LY	LZ	X	Y
63	10 to 50	5	46	3.2	95	91.5	113	16.2	9
	75, 100								
80	10 to 50	7	59	4.5	118	114	140	19.5	11
	75, 100								
100	10 to 50	7	71	6	137	136	162	23	12.5
	75, 100								

Foot bracket material: Carbon steel

## Rod Side Flange Style

Bore size (mm)	Stroke range (mm)	Without auto switch		With auto switch		FD	FT	FV	FX	FZ
		A	B	A	B					
63	10 to 50	64	46	74	56	9	9	80	92	108
	75, 100	74	56							
80	10 to 50	73.5	53.5	83.5	63.5	11	11	99	116	134
	75, 100	83.5	63.5							
100	10 to 50	85	63	95	73	11	11	117	136	154
	75, 100	95	73							

Bore size (mm)	Stroke range (mm)	L	L1	M
63	10 to 50	18	43.5	60
	75, 100			
80	10 to 50	20	53.5	77
	75, 100			
100	10 to 50	22	53.5	94
	75, 100			

Flange bracket material: Carbon steel

## Head Side Flange Style

Bore size (mm)	Stroke range (mm)	Without auto switch		With auto switch		L	L1
		A	B	A	B		
63	10 to 50	63		73		8	33.5
	75, 100	73					
80	10 to 50	74.5		84.5		10	43.5
	75, 100	84.5					
100	10 to 50	86		96		12	43.5
	75, 100	96					

(\* Dimensions except A, L and L1 are same as rod side flange style.)  
Flange bracket material: Carbon steel

## Double Clevis Style

Bore size (mm)	Stroke range (mm)	Without auto switch			With auto switch			CD	CT	CU
		A	B	CL	A	B	CL			
63	10 to 50	98	46	84	108	56	94	14	8	20
	75, 100	108	56	94						
80	10 to 50	119.5	53.5	101.5	129.5	63.5	111.5	18	10	27
	75, 100	129.5	63.5	111.5						
100	10 to 50	142	63	120	152	73	130	22	13	31
	75, 100	152	73	130						

Bore size (mm)	Stroke range (mm)	CW	CX	CZ	L	L1	N	RR
63	10 to 50	30	22	44	8	33.5	M10 x 1.5	14
	75, 100							
80	10 to 50	38	28	56	10	43.5	M12 x 1.75	18
	75, 100							
100	10 to 50	45	32	64	12	43.5	M12 x 1.75	22
	75, 100							

\* For details about the rod end nut and accessory brackets, refer to page 7-6-20.  
\* Clevis pin and set ring are shipped together.

CUJ

CU

CQS

CQM

**CQ2**

RQ

MU

D-

-X

20-

Data