

Compact Cylinder: Standard Type Double Acting, Single Rod

Series CQ2

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

How to Order

Without auto switch CQ2 **B** **20** **30** **D** **XG**

With auto switch CDQ2 **B** **20** **30** **D** **XG**

Built-in magnet

Mounting style

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

* Mounting brackets are shipped together, (but not assembled).

Bore size

12	12 mm	40	40 mm
16	16 mm	50	50 mm
20	20 mm	63	63 mm
25	25 mm	80	80 mm
32	32 mm	100	100 mm

ISO 1179 Ports 32 bore and above

Action

D	Double acting
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Body option

Nil	Standard (Rod end female thread)
F	With boss in head side
C	With rubber bumper
M	Rod end male thread ^(Note)

* Combination of body options ("CM", "FC", "FM", "FCM") is available.
Note) Air-hydro type with rubber bumper is not available.

Cylinder stroke (mm)

Compact Cylinder: Standard Type Double Acting, Single Rod Series CQ2



Type

Bore size (mm)		12	16	20	25	32	40	50	63	80	100
Pneumatic	Mounting	Through-hole (Standard)	●	●	●	●	●	●	●	●	●
		Both ends tapped style	●	●	●	●	●	●	●	●	●
	Built-in magnet		●	●	●	●	●	●	●	●	●
	Piping	Screw-in type	M5 x 0.8	M5 x 0.8	M5 x 0.8	M5 x 0.8	M5 x 0.8 ⁽¹⁾ G 1/8	G 1/8	G 1/4	G 1/4	G 3/8
			●	●	●	●	●	●	●	●	●
			●	●	●	●	●	●	●	●	●
			●	●	●	●	●	●	●	●	●

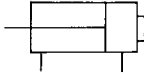
Note 1) In the case of without auto switch, M5 x 0.8 is used for 5 stroke only.

Note 2) In the case of built-in fitting, the 5 mm stroke with ø32 bore is the same external dimensions as 10 mm stroke.

Symbol
Double acting,
Single rod



Symbol
With boss in
head side



Standard Stroke

Pneumatic

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

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)
Rubber bumper	None
Rod end thread	Female thread
Rod end thread tolerance	JIS class 2
Stroke length tolerance	+1.0 0
Mounting	Through-hole
Piston speed	50 to 500 mm/s

Note 3) For caution on handling, refer to page.

* For applications involving lateral loads, refer to anti-lateral load type.

Minimum Operating Pressure

(MPa)

Bore size (mm)	12	16	20	25	32	40	50	63	80	100
Pneumatic (Non-lube)	0.07			0.05						

Mounting Bracket Part No.

Bore size (mm)	Foot ⁽⁴⁾	Flange	Double clevis ⁽⁵⁾
12	CQ-L012	CQ-F012	CQ-D012
16	CQ-L016	CQ-F016	CQ-D016
20	CQ-L020	CQ-F020	CQ-D020
25	CQ-L025	CQ-F025	CQ-D025
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 4) When ordering foot bracket, order 2 pieces per cylinder.

Note 5) Parts belonging to each bracket are as follows. Foot, Flange: Body mounting bolt/Double clevis: Clevis pin, Type C snap ring for axis, body mounting bolt

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 7-6-2.	Suffix "-XB10" to the end of standard model no. on page 7-6-2.
Description	Dealing with intermediate stroke by the 1 mm interval is available by using 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	Stroke range
	12, 16	12, 16
	20, 25	20, 25
32 to 100	1 to 29	6 to 29
	1 to 49	6 to 49
32 to 100	1 to 99	6 to 99
	50 to 100	11 to 99
Example	Part No.: CQ2B50-57D 18 mm width spacer is installed in the standard CQ2B50-75D. B dimension is 115.5 mm.	Part no. CQ2B50-57D-XB10 Makes 57 stroke tube. B dimension is 97.5 mm.



- In the case of spacer type, intermediate stroke with damper for ø40 to ø100, it can be manufactured by 5 mm intervals in 5 mm and 55 to 95 mm.
- In the case of an exclusive body with ø32 to ø100 (-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.

⚠ Precautions

⚠ Caution

Snap Ring Installation/Removal

1. For installation and removal, use an appropriate pair of pliers (tool for installing a type C snap ring).

2. 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.

Allowable Kinetic Energy

Table (1) Load Weight and Piston Speed (J)

Bore size (mm)	12	16	20	25	32	40	50	63	80	100
Standard Allowable kinetic energy: Ea	0.022	0.038	0.055	0.09	0.15	0.26	0.46	0.77	1.36	2.27
With rubber bumper Allowable kinetic energy: Eb	0.043	0.075	0.110	0.18	0.29	0.52	0.91	1.54	2.71	4.54

$$\text{Kinetic energy } E \text{ (J)} = \frac{(m_1 + m_2) V^2}{2}$$

m1: Weight of cylinder operating part kg

m2: Load weight kg

V: Piston speed m/s

Table (2) Weight of Cylinder Movable Parts/Without Built-in Magnet (g)

Bore size (mm)	Cylinder stroke (mm)											
	5	10	15	20	25	30	35	40	45	50	75	100
12	5	6	7	8	10	11	—	—	—	—	—	—
16	9	11	13	15	17	19	—	—	—	—	—	—
20	15	18	21	24	27	31	34	37	40	44	—	—
25	24	28	33	37	42	46	51	55	60	64	—	—
32	45	52	60	68	76	84	92	100	107	115	170	209
40	64	72	80	88	96	104	112	119	127	135	190	229
50	—	117	129	141	153	166	178	190	202	214	300	361
63	—	153	165	177	190	202	214	226	239	251	337	398
80	—	270	289	308	327	347	366	385	404	423	557	653
100	—	487	515	543	570	598	625	653	681	708	901	1038

Table (3) Weight of Cylinder Movable Parts/With Built-in Magnet (g)

Bore size (mm)	Cylinder stroke (mm)											
	5	10	15	20	25	30	35	40	45	50	75	100
12	8	9	10	11	12	13	—	—	—	—	—	—
16	16	18	20	22	24	26	—	—	—	—	—	—
20	28	31	34	37	40	44	47	50	53	56	—	—
25	44	48	53	57	62	66	71	75	80	84	—	—
32	78	86	93	101	109	117	125	133	140	148	187	227
40	109	117	125	133	140	148	156	164	172	180	219	258
50	—	187	199	211	223	236	248	260	272	285	346	407
63	—	254	266	278	290	303	315	327	339	352	413	474
80	—	433	453	472	491	510	530	549	568	587	683	778
100	—	741	768	796	823	851	879	906	934	962	1099	1236

Table (4) (g)

Bore size (mm)		12	16	20	25	32	40	50	63	80	100
Rod end male thread	Thread	1.5	3	6	12	26	27	53	53	120	175
	Nut	1	2	4	8	17	17	32	32	49	116
With rubber bumper		0	0	-2	-3	-3	-7	-9	-18	-31	-56

Calculation: (Example) CDQ2B32-20DCM

• Cylinder weight: CDQ2B32-20D.....101 g

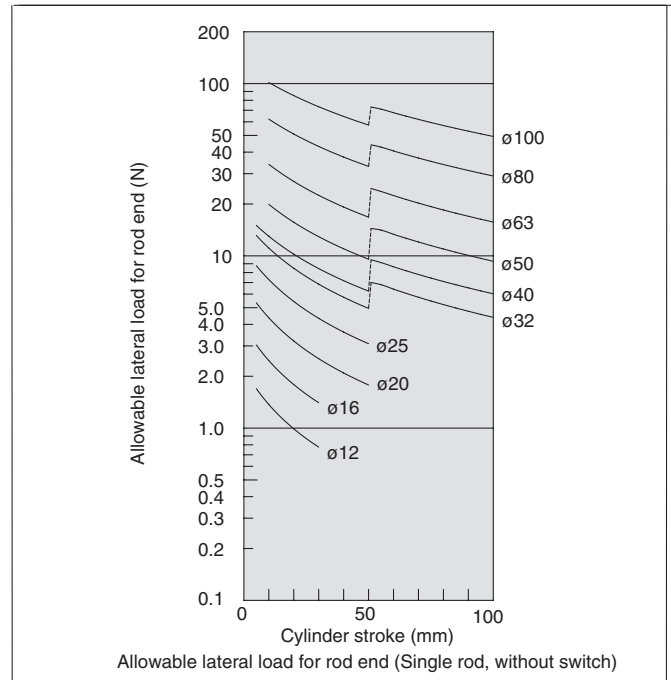
• Option weight: Rod end male thread..... 43 g

Rubber bumper.....-3 g

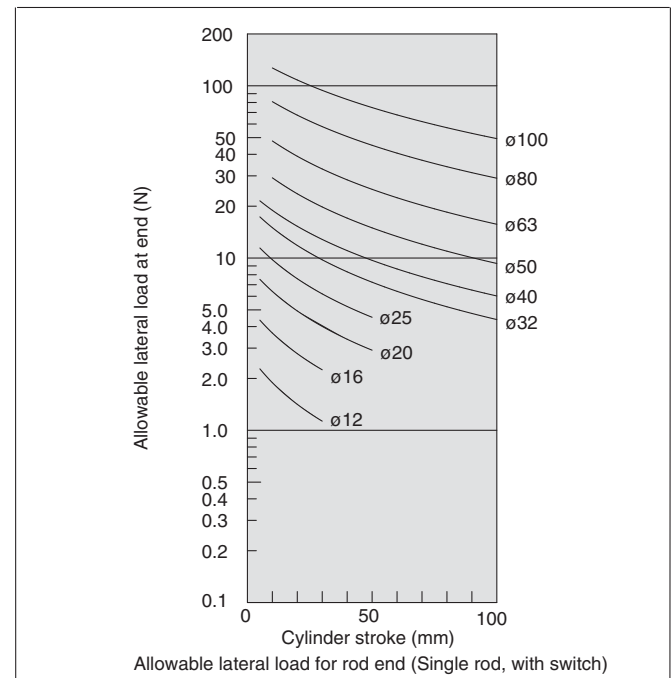
141 g

Allowable Lateral Load at Rod End

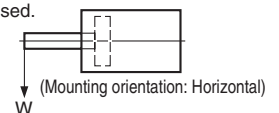
Without Auto Switch



With Auto Switch

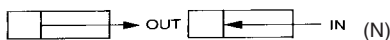


If an allowable lateral load at rod end is exceeding the value in the graph, we recommend anti-lateral load type cylinder be used.



Series CQ2

Theoretical Output



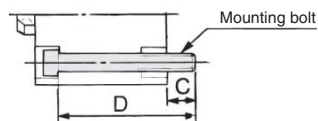
Bore size (mm)	Operating direction	Operating pressure (MPa)		
		0.3	0.5	0.7
12	IN	25	42	59
	OUT	34	57	79
16	IN	45	75	106
	OUT	60	101	141
20	IN	71	118	165
	OUT	94	157	220
25	IN	113	189	264
	OUT	147	245	344
32	IN	181	302	422
	OUT	241	402	563
40	IN	317	528	739
	OUT	377	628	880
50	IN	495	825	1150
	OUT	589	982	1370
63	IN	841	1400	1960
	OUT	935	1560	2180
80	IN	1360	2270	3170
	OUT	1510	2510	3520
100	IN	2140	3570	5000
	OUT	2360	3930	5500

Mounting Bolt for CQ2

Mounting method: Mounting bolt for through-hole mounting style of CQ2B is available as an option.

Ordering: Add the word "Bolt" in front of the bolts to be used.

Example) Bolt M3 x 25 ℓ 4 pcs.



Model	C	D	Mounting bolt
CQ2B12-5D	6.5	25	M3 x 25 ℓ
-10D		30	x 30 ℓ
-15D		35	x 35 ℓ
-20D		40	x 40 ℓ
-25D		45	x 45 ℓ
-30D		50	x 50 ℓ
CQ2B16-5D	5	25	M3 x 25 ℓ
-10D		30	x 30 ℓ
-15D		35	x 35 ℓ
-20D		40	x 40 ℓ
-25D		45	x 45 ℓ
-30D		50	x 50 ℓ
CQ2B20-5D	7.5	25	M5 x 25 ℓ
-10D		30	x 30 ℓ
-15D		35	x 35 ℓ
-20D		40	x 40 ℓ
-25D		45	x 45 ℓ
-30D		50	x 50 ℓ
-35D		55	x 55 ℓ
-40D		60	x 60 ℓ
-45D		65	x 65 ℓ
-50D		70	x 70 ℓ
CQ2B25-5D	9.5	30	M5 x 30 ℓ
-10D		35	x 35 ℓ
-15D		40	x 40 ℓ
-20D		45	x 45 ℓ
-25D		50	x 50 ℓ
-30D		55	x 55 ℓ
-35D		60	x 60 ℓ
-40D		65	x 65 ℓ
-45D		70	x 70 ℓ
-50D		75	x 75 ℓ

Model	C	D	Mounting bolt
CQ2B32-5D	9	30	M5 x 30 ℓ
-10D		35	x 35 ℓ
-15D		40	x 40 ℓ
-20D		45	x 45 ℓ
-25D		50	x 50 ℓ
-30D		55	x 55 ℓ
-35D		60	x 60 ℓ
-40D		65	x 65 ℓ
-45D		70	x 70 ℓ
-50D		75	x 75 ℓ
CQ2B40-5D	7.5	35	M5 x 35 ℓ
-10D		40	x 40 ℓ
-15D		45	x 45 ℓ
-20D		50	x 50 ℓ
-25D		55	x 55 ℓ
-30D		60	x 60 ℓ
-35D		65	x 65 ℓ
-40D		70	x 70 ℓ
-45D		75	x 75 ℓ
-50D		80	x 80 ℓ
CQ2B50-10D	12.5	45	M6 x 45 ℓ
-15D		50	x 50 ℓ
-20D		55	x 55 ℓ
-25D		60	x 60 ℓ
-30D		65	x 65 ℓ
-35D		70	x 70 ℓ
-40D		75	x 75 ℓ
-45D		80	x 80 ℓ
-50D		85	x 85 ℓ
-75D		120	x 120 ℓ
-100D		145	x 145 ℓ

Model	C	D	Mounting bolt
CQ2B63-10D	14.5	50	M8 x 50 ℓ
-15D		55	x 55 ℓ
-20D		60	x 60 ℓ
-25D		65	x 65 ℓ
-30D		70	x 70 ℓ
-35D		75	x 75 ℓ
-40D		80	x 80 ℓ
-45D		85	x 85 ℓ
-50D		90	x 90 ℓ
-75D		125	x 125 ℓ
CQ2B80-10D	15	55	M10 x 55 ℓ
-15D		60	x 60 ℓ
-20D		65	x 65 ℓ
-25D		70	x 70 ℓ
-30D		75	x 75 ℓ
-35D		80	x 80 ℓ
-40D		85	x 85 ℓ
-45D		90	x 90 ℓ
-50D		95	x 95 ℓ
-75D		130	x 130 ℓ
CQ2B100-10D	15.5	65	M10 x 65 ℓ
-15D		70	x 70 ℓ
-20D		75	x 75 ℓ
-25D		80	x 80 ℓ
-30D		85	x 85 ℓ
-35D		90	x 90 ℓ
-40D		95	x 95 ℓ
-45D		100	x 100 ℓ
-50D		105	x 105 ℓ
-75D		140	x 140 ℓ
-100D		165	x 165 ℓ

Weight

(g)

Bore size (mm)	Cylinder stroke (mm)											
	5	10	15	20	25	30	35	40	45	50	75	100
12	29	35	41	47	54	60	—	—	—	—	—	—
16	42	50	59	67	76	84	—	—	—	—	—	—
20	63	75	88	101	114	127	140	152	165	178	—	—
25	86	100	115	129	144	158	173	187	202	216	—	—
32	131	152	173	193	214	235	256	277	297	318	471	576
40	206	229	252	275	298	321	344	367	390	413	597	717
50	—	369	405	441	477	514	550	586	622	659	951	1139
63	—	538	579	620	661	702	742	783	824	865	1213	1424
80	—	997	1064	1132	1200	1268	1336	1404	1471	1539	2111	2446
100	—	1738	1829	1920	2011	2101	2192	2283	2374	2464	3269	3729

Additional Weight

(g)

Bore size (mm)	12	16	20	25	32	40	50	63	80	100
Both ends tapped style	2	2	6	6	6	6	6	19	45	45
Rod end male thread	Thread	1.5	3	6	12	26	27	53	53	120
	Nut	1	2	4	8	17	17	32	32	49
With boss in head side	0.7	1.3	2	3	5	7	13	25	45	96
With rubber bumper	0	0	-2	-3	-3	-7	-9	-18	-31	-56
Built-in One-touch fittings	—	—	—	—	12	12	21	21	—	—
Foot style (Including mounting bolt)	55	67	164	186	143	155	243	324	696	1062
Rod side flange style (Including mounting bolt)	57	69	139	161	180	214	373	559	1056	1365
Rear flange style (Including mounting bolt)	54	65	133	152	165	198	348	534	1017	1309
Double clevis style (Including pin, snap ring, bolt)	32	39	88	123	151	196	393	554	1109	1887

Calculation: (Example) CQ2D32-20DCM

- Cylinder weight: CQ2B32-20D 193 g
- Option weight: Both ends tapped style 6 g
- Rod end male thread 43 g
- Rubber bumper -3 g
- Double clevis style 151 g

390 g

Series CQ2

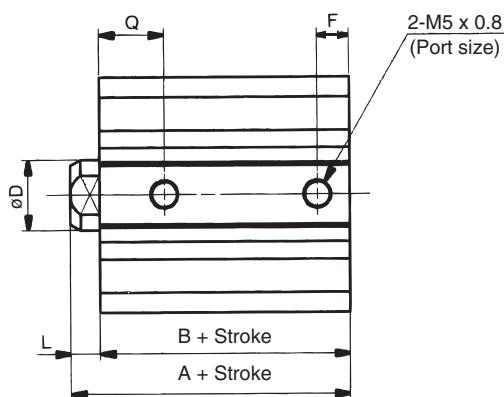
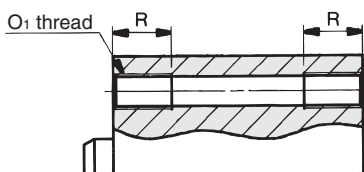
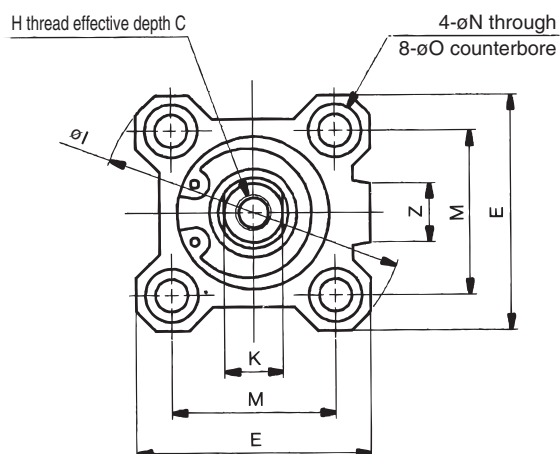
Dimensions: $\phi 12$ to $\phi 25$

Basic style (Through-hole): CQ2B

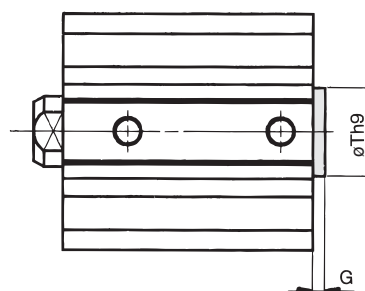
Both ends tapped style: CQ2A

Both Ends Tapped Style

Bore size (mm)	O ₁	R
12	M4 x 0.7	7
16	M4 x 0.7	7
20	M6 x 1.0	10
25	M6 x 1.0	10



With boss in head side

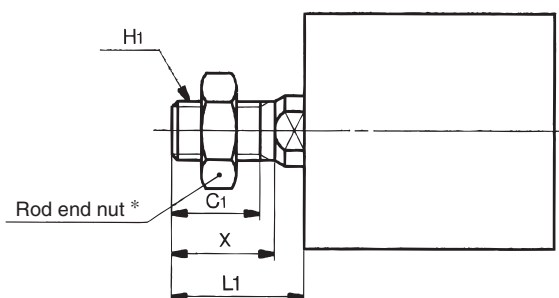


With Boss in Head Side

Bore size (mm)	G	Th9
12	1.5	15 ⁰ _{-0.043}
16	1.5	20 ⁰ _{-0.052}
20	2	13 ⁰ _{-0.043}
25	2	15 ⁰ _{-0.043}

Note) With boss in rod side:
Option
(Suffix "-XC36" to the end of part number.)

Rod end male thread



Rod End Male Thread

Bore size (mm)	C ₁	X	H ₁	L ₁
12	9	10.5	M5 x 0.8	14
16	10	12	M6 x 1.0	15.5
20	12	14	M8 x 1.25	18.5
25	15	17.5	M10 x 1.25	22.5

Basic Style

Bore size (mm)	Stroke range (mm)	A	B	C	D	E	F	H	I	K	L	M	N	O	Q	Z
12	5 to 30	20.5	17	6	6	25	5	M3 x 0.5	32	5	3.5	15.5	3.5	6.5 depth 3.5	7.5	—
16	5 to 30	22	18.5	8	8	29	5.5	M4 x 0.7	38	6	3.5	20	3.5	6.5 depth 3.5	8	10
20	5 to 50	24	19.5	7	10	36	5.5	M5 x 0.8	47	8	4.5	25.5	5.5	9 depth 7	9	10
25	5 to 50	27.5	22.5	12	12	40	5.5	M6 x 1.0	52	10	5	28	5.5	9 depth 7	11	10

Note) External dimensions with rubber bumper are same as standard type as shown above.

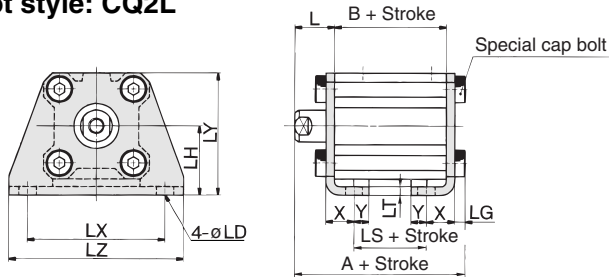
* For details about the rod end nut and accessory brackets.



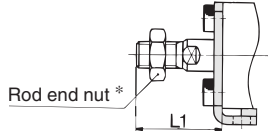
For calculation on the longitudinal dimension of the intermediate strokes,

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

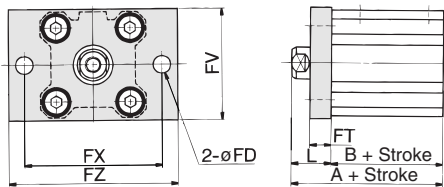
Foot style: CQ2L



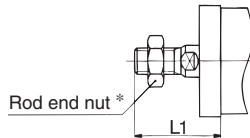
Rod end male thread



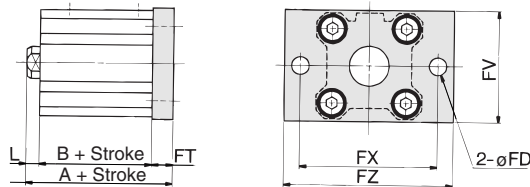
Rod side flange style: CQ2F



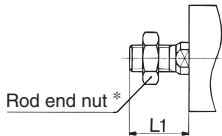
Rod end male thread



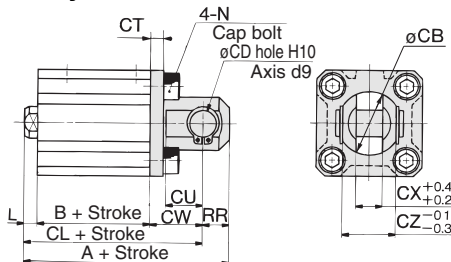
Head side flange style: CQ2G



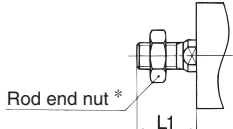
Rod end male thread



Double clevis style: CQ2D



Rod end male thread



Foot Style

Bore size (mm)	Stroke range (mm)	A	B	L	L1	LD	LG	LH	LS	LT	LX	LY	LZ	X	Y
12	5 to 30	35.3	17	13.5	24	4.5	2.8	17	5	2	34	29.5	44	8	4.5
16	5 to 30	36.8	18.5	13.5	25.5	4.5	2.8	19	6.5	2	38	33.5	48	8	5
20	5 to 50	41.2	19.5	14.5	28.5	6.6	4	24	7.5	3.2	48	42	62	9.2	5.8
25	5 to 50	44.7	22.5	15	32.5	6.6	4	26	7.5	3.2	52	46	66	10.7	5.8

Foot bracket material: Carbon steel

Rod Side Flange Style

Bore size (mm)	Stroke range (mm)	A	B	FD	FT	FV	FX	FZ	L	L1
12	5 to 30	30.5	17	4.5	5.5	25	45	55	13.5	24
16	5 to 30	32	18.5	4.5	5.5	30	45	55	13.5	25.5
20	5 to 50	34	19.5	6.6	8	39	48	60	14.5	28.5
25	5 to 50	37.5	22.5	6.6	8	42	52	64	15	32.5

Flange bracket material: Carbon steel

Head Side Flange Style

Bore size (mm)	Stroke range (mm)	A	L	L1
12	5 to 30	26	3.5	14
16	5 to 30	27.5	3.5	15.5
20	5 to 50	32	4.5	18.5
25	5 to 50	35.5	5	22.5

Flange bracket material: Carbon steel

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

Double Clevis Style

Bore size (mm)	Stroke range (mm)	A	B	CB	CD	CL	CT	CU	CW	CX	CZ	L	L1	N	RR
12	5 to 30	40.5	17	12	5	34.5	4	7	14	5	10	3.5	14	M4 x 0.7	6
16	5 to 30	43	18.5	14	5	37	4	10	15	6.5	12	3.5	15.5	M4 x 0.7	6
20	5 to 50	51	19.5	20	8	42	5	12	18	8	16	4.5	18.5	M6 x 1.0	9
25	5 to 50	57.5	22.5	24	10	47.5	5	14	20	10	20	5	22.5	M6 x 1.0	10

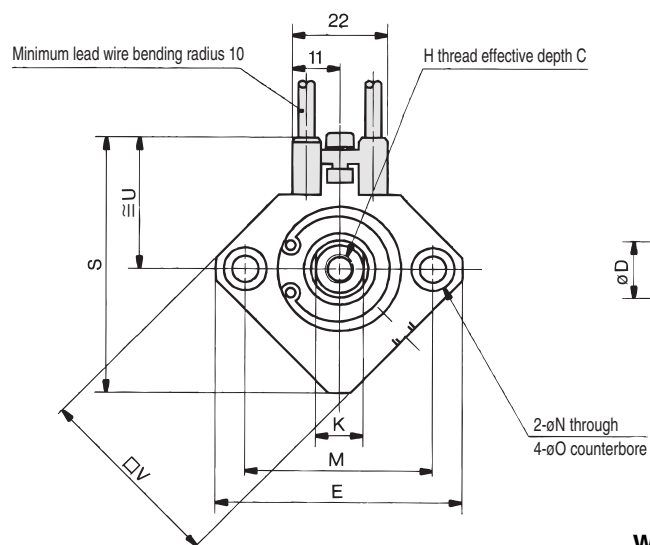
Double clevis bracket material: Carbon steel

* For details about the rod end nut and accessory brackets.
** Clevis pin and snap ring are shipped together.

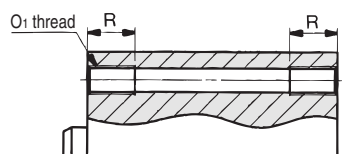
Series CDQ2

Dimensions: ø12 to ø25/With Auto Switch

Basic style (Through-hole): CDQ2B

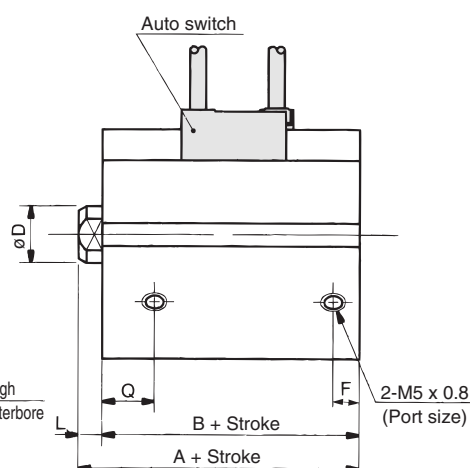


Both ends tapped style: CDQ2A

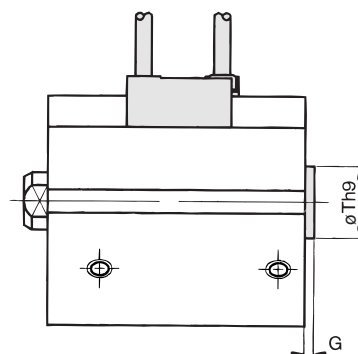


Both Ends Tapped Style

Bore size (mm)	O ₁	R
12	M4 x 0.7	7
16	M4 x 0.7	7
20	M6 x 1.0	10
25	M6 x 1.0	10



With boss in head side

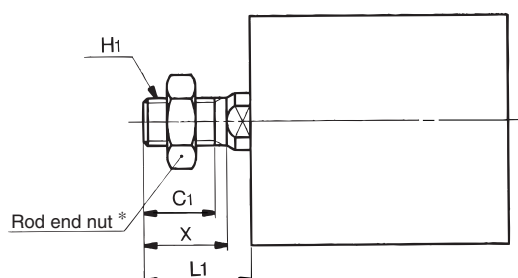


With Boss in Head Side

Bore size (mm)	G	Th9
12	1.5	15 ⁰ _{-0.043}
16	1.5	20 ⁰ _{-0.052}
20	2	13 ⁰ _{-0.043}
25	2	15 ⁰ _{-0.043}

Note 1) With boss in rod side:
Option
(Suffix "-XC36" to the end of part number.)

Rod end male thread



Rod End Male Thread

Bore size (mm)	C ₁	X	H ₁	L ₁
12	9	10.5	M5 x 0.8	14
16	10	12	M6 x 1.0	15.5
20	12	14	M8 x 1.25	18.5
25	15	17.5	M10 x 1.25	22.5

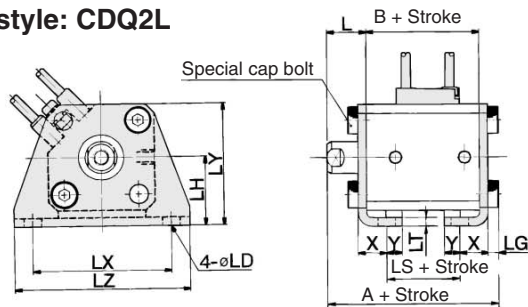
Basic Style

Bore size (mm)	Stroke range (mm)	A	B	C	D	E	F	H	K	L	M	N	O	Q	S	U	V
12	5 to 30	31.5	28	6	6	32	6.5	M3 x 0.5	5	3.5	22	3.5	6.5 depth 3.5	11	35.5	19.5	25
16	5 to 30	34	30.5	8	8	38	5.5	M4 x 0.7	6	3.5	28	3.5	6.5 depth 3.5	10	41.5	22.5	29
20	5 to 50	36	31.5	7	10	47	5.5	M5 x 0.8	8	4.5	36	5.5	9 depth 7	10.5	48	24.5	36
25	5 to 50	37.5	32.5	12	12	52	5.5	M6 x 1.0	10	5	40	5.5	9 depth 7	11	53.5	27.5	40

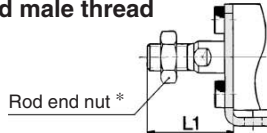
Note 2) External dimensions with rubber bumper are same as standard type as shown above.

Compact Cylinder with Auto Switch: Standard Type Double Acting, Single Rod **Series CDQ2**

Foot style: CDQ2L



Rod end male thread

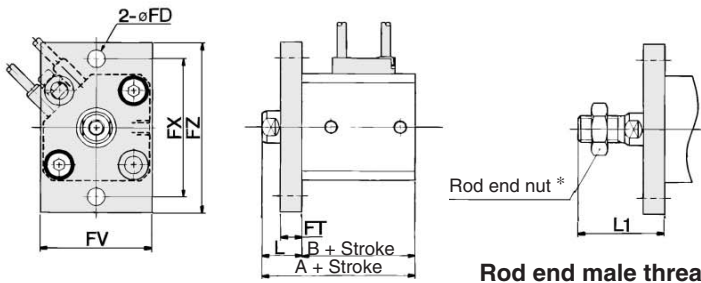


Foot Style

Bore size (mm)	Stroke range (mm)	A	B	L	L1	LD	LG	LH	LS	LT	LX	LY	LZ	X	Y
12	5 to 30	46.3	28	13.5	24	4.5	2.8	17	16	2	34	29.5	44	8	4.5
16	5 to 30	48.8	30.5	13.5	25.5	4.5	2.8	19	18.5	2	38	33.5	48	8	5
20	5 to 50	53.2	31.5	14.5	28.5	6.6	4	24	19.5	3.2	48	42	62	9.2	5.8
25	5 to 50	54.7	32.5	15	32.5	6.6	4	26	17.5	3.2	52	46	66	10.7	5.8

Foot bracket material: Carbon steel

Rod side flange style: CDQ2F



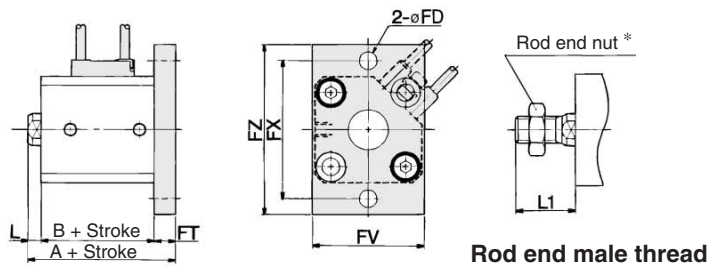
Rod end male thread

Rod Side Flange Style

Bore size (mm)	Stroke range (mm)	A	B	FD	FT	FV	FX	FZ	L	L1
12	5 to 30	41.5	28	4.5	5.5	25	45	55	13.5	24
16	5 to 30	44	30.5	4.5	5.5	30	45	55	13.5	25.5
20	5 to 50	46	31.5	6.6	8	39	48	60	14.5	28.5
25	5 to 50	47.5	32.5	6.6	8	42	52	64	15	32.5

Flange bracket material: Carbon steel

Head side flange style: CDQ2G



Rod end male thread

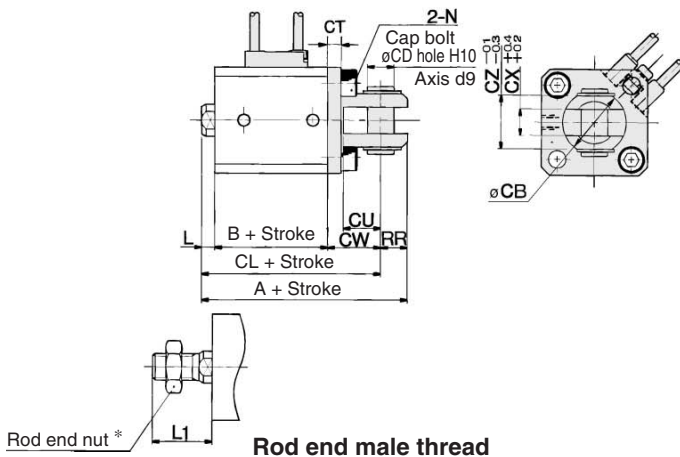
Head Side Flange Style

Bore size (mm)	Stroke range (mm)	A	L	L1
12	5 to 30	37	3.5	14
16	5 to 30	39.5	3.5	15.5
20	5 to 50	44	4.5	18.5
25	5 to 50	45.5	5	22.5

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

Flange bracket material: Carbon steel

Double clevis style: CDQ2G



Rod end male thread

Double Clevis Style

Bore size (mm)	Stroke range (mm)	A	B	CB	CD	CL	CT	CU	CW	CX	CZ	L	L1	N	RR
12	5 to 30	51.5	28	12	5	45.5	4	7	14	5	10	3.5	14	M4 x 0.7	6
16	5 to 30	55	30.5	14	5	49	4	10	15	6.5	12	3.5	15.5	M4 x 0.7	6
20	5 to 50	63	31.5	20	8	54	5	12	18	8	16	4.5	18.5	M6 x 1.0	9
25	5 to 50	67.5	32.5	24	10	57.5	5	14	20	10	20	5	22.5	M6 x 1.0	10

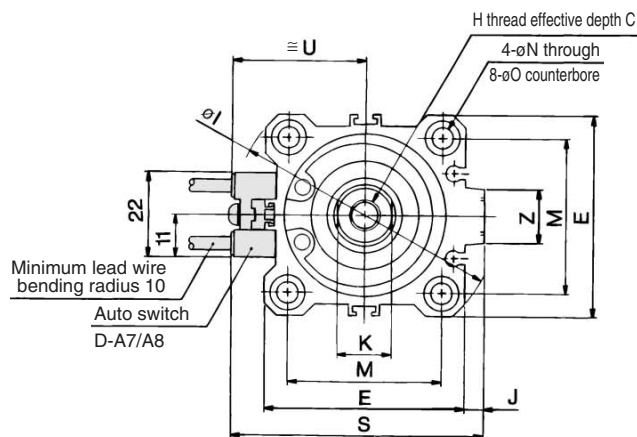
Double clevis bracket material: Carbon steel

** Clevis pin and snap ring are shipped together.

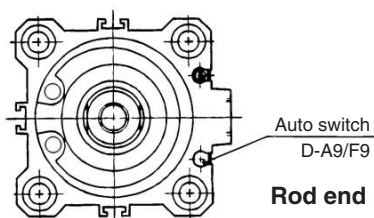
Series CQ2/CDQ2

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

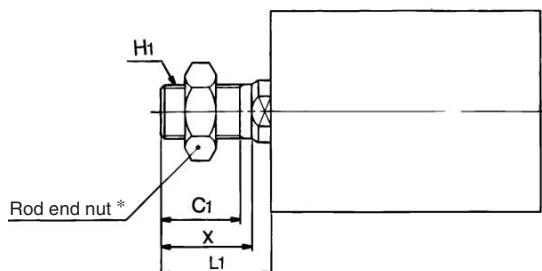
Basic style (Through-hole): CQ2B/CDQ2B



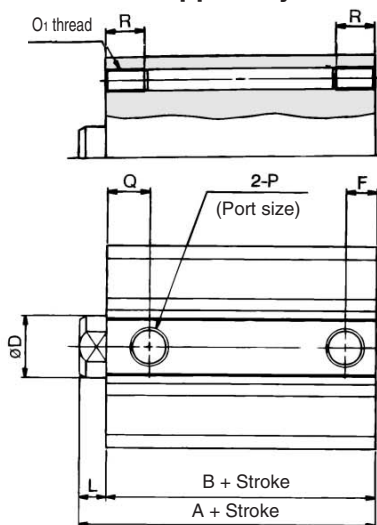
With boss in head side



Rod end male thread



Both ends tapped style: CDQ2A



Both Ends Tapped Style

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 in Head Side

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

Rod End Male Thread

Bore size (mm)	C ₁	X	H ₁	L ₁
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

Basic Style

Bore size (mm)	Stroke range (mm)	Without auto switch					With auto switch					C	D	E	H	I	J	K	L	M
		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	G1/8	10.5	13	16	45	M8 x 1.25	60	4.5	14	7	34
	10 to 50	40	33	7.5	G 1/8	10.5	46.5	39.5	8	G1/8	11	13	16	52	M8 x 1.25	69	5	14	7	40
	75, 100	46.5	39.5	10.5	G 1/4	10.5	48.5	40.5	10.5	G1/4	10.5	15	20	64	M10 x 1.5	86	7	17	8	50

Bore size (mm)	N	O	S	U	Z
32	5.5	9 depth 7	58.5	31.5	14
40	5.5	9 depth 7	66	35	14
50	6.6	11 depth 8	80	41	19

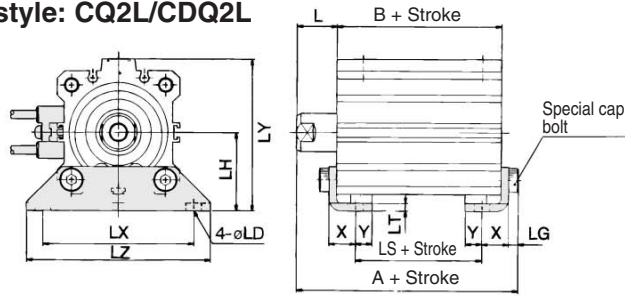


Note 1) External dimensions with rubber bumper are same as standard type as shown above.

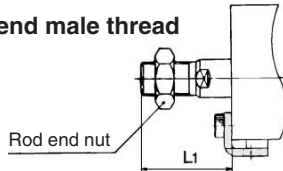
Compact Cylinder: Standard Type

Double Acting, Single Rod Series CQ2/CDQ2

Foot style: CQ2L/CDQ2L



Rod end male thread



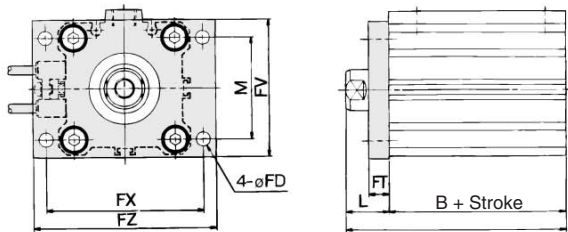
Foot Style

Bore size (mm)	Stroke range (mm)	Without auto switch			With auto switch			L	L1	LD	LG	LH	LT	LX	LY
		A	B	LS	A	B	LS								
32	5 to 50	47.2	23	7	57.2	33	17	17	38.5	6.6	4	30	3.2	57	57
	75, 100	57.2	33	17	63.7	39.5	23.5	17	38.5	6.6	4	33	3.2	64	64
40	5 to 50	53.7	29.5	13.5	63.7	39.5	23.5	17	38.5	6.6	4	33	3.2	64	64
	75, 100	63.7	39.5	23.5	66.7	40.5	17.5	18	43.5	9	5	39	3.2	79	78
50	10 to 50	56.7	30.5	7.5	66.7	40.5	17.5	18	43.5	9	5	39	3.2	79	78
	75, 100	66.7	40.5	17.5											

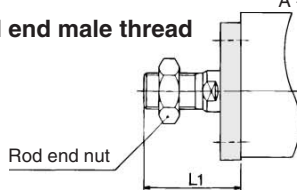
Foot bracket material: Carbon steel

Bore size (mm)	LZ	X	Y
32	71	11.2	5.8
40	78	11.2	7
50	95	14.7	8

Rod side flange style: CQ2F



Rod end male thread

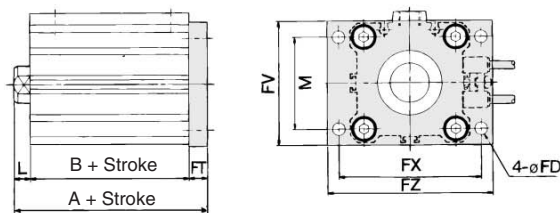


Rod Side Flange Style

Bore size (mm)	Stroke range (mm)	Without auto switch		With auto switch		FD	FT	FV	FX	FZ	L	L1	M
		A	B	A	B								
32	5 to 50	40	23	50	33	5.5	8	48	56	65	17	38.5	34
	75, 100	50	33	56.5	39.5	5.5	8	54	62	72	17	38.5	40
40	5 to 50	46.5	29.5	56.5	39.5	5.5	8	54	62	72	17	38.5	40
	75, 100	56.5	39.5	58.5	40.5	6.6	9	67	76	89	18	43.5	50
50	10 to 50	48.5	30.5	58.5	40.5	6.6	9	67	76	89	18	43.5	50
	75, 100	58.5	40.5										

Flange bracket material: Carbon steel

Head side flange style: CD2G/CDQ2G

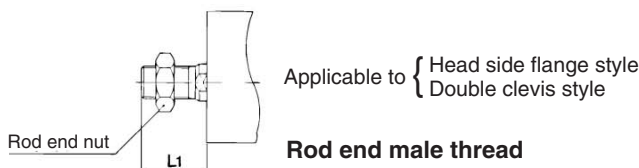


Head Side Flange Style

Bore size (mm)	Stroke range (mm)	Without auto switch	With auto switch	L	L1
		A	A		
32	5 to 50	38	48	7	28.5
	75, 100	48	54.5	7	28.5
40	5 to 50	44.5	54.5	7	28.5
	75, 100	54.5	57.5	8	33.5
50	10 to 50	47.5	57.5	8	33.5
	75, 100	57.5			

Flange bracket material: Carbon steel

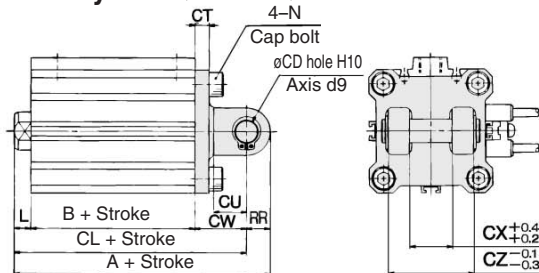
(* Dimensions except A, L and L1 are the same as rod side flange style.)



Applicable to { Head side flange style
Double clevis style

Rod end male thread

Double clevis style: CQ2D/CPQ2D



Double Clevis Style

Bore size (mm)	Stroke range (mm)	Without auto switch			With auto switch			CD	CT	CU	CW	CX	CZ	L	L1
		A	B	CL	A	B	CL								
32	5 to 50	60	23	50	70	33	60	10	5	14	20	18	36	7	28.5
	75, 100	70	33	60	78.5	39.5	68.5	10	6	14	22	18	36	7	28.5
40	5 to 50	68.5	29.5	58.5	78.5	39.5	68.5	10	6	14	22	18	36	7	28.5
	75, 100	78.5	39.5	68.5	90.5	40.5	76.5	14	7	20	28	22	44	8	33.5
50	10 to 50	80.5	30.5	66.5	90.5	40.5	76.5	14	7	20	28	22	44	8	33.5
	75, 100	90.5	40.5	76.5											

Double clevis bracket material: Cast iron

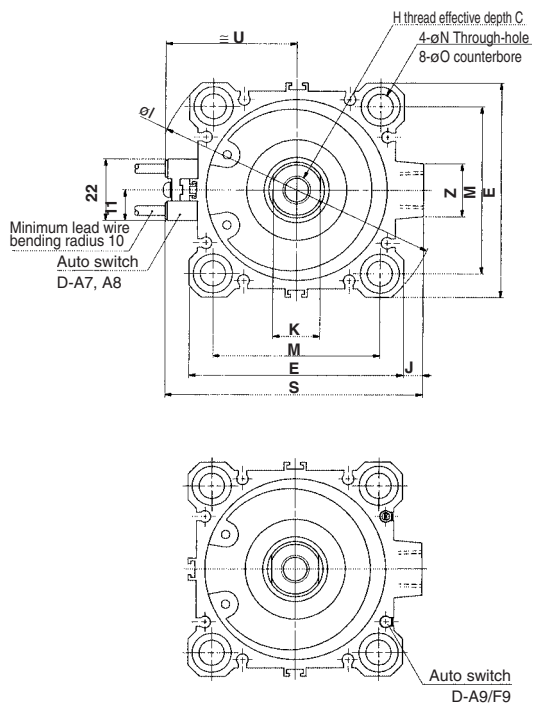
Bore size (mm)	N	RR
32	M6 x 1.0	10
40	M6 x 1.0	10
50	M8 x 1.25	14

** Clevis pin and snap ring are shipped together.

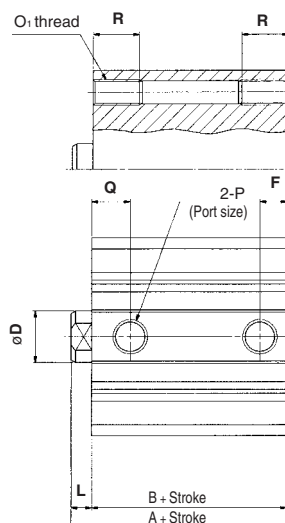
Series CQ2/CDQ2

Dimensions: ø63 to ø100

Basic style (Through-hole)



Both ends tapped style: CQ2A/CDQ2A



Both Ends Tapped Style

Bore size (mm)	O ₁	R
63	M10 x 1.5	18
80	M12 x 1.75	22
100	M12 x 1.75	22

With Boss in Head Side

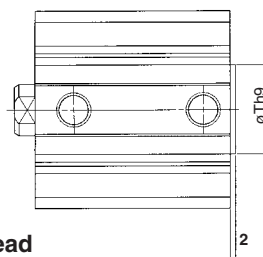
Bore size (mm)	Th9
63	35 ⁰ _{-0.062}
80	43 ⁰ _{-0.062}
100	59 ⁰ _{-0.07}

Note 1) With boss in rod side:
Option
(Suffix "-XC36" to the end
of part number.)

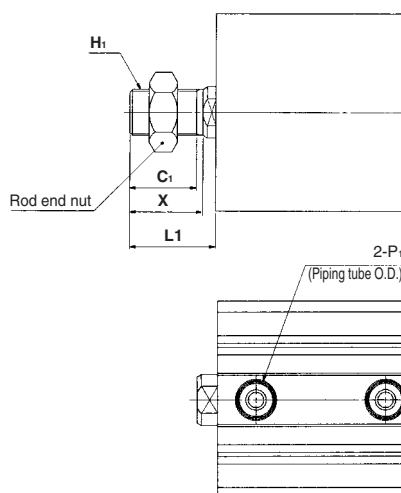
**Rod End
Male Thread**

Bore size (mm)	C ₁	X	H ₁	L ₁
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

With boss in head side



Rod end male thread



Basic Style

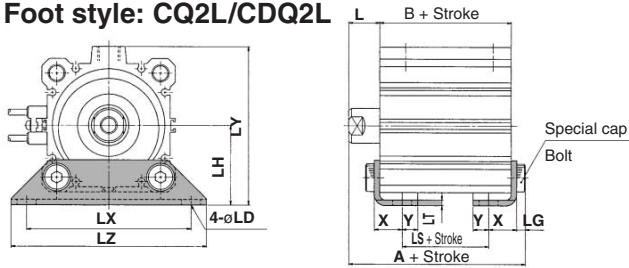
Bore size (mm)	Stroke range (mm)	Without auto switch		With auto switch		C	D	E	F	H	I	J	K	L	M	N	O	P	Q	S
		A	B	A	B															
63	10 to 50	44	36	54	46	15	20	77	10.5	M10 x 1.5	103	7	17	8	60	9	14 depth 10.5	G 1/4	15	93
	75, 100	54	46																	
80	10 to 50	53.5	43.5	63.5	53.5	21	25	98	12.5	M16 x 2.0	132	6	22	10	77	11	17.5 depth 13.5	G 3/8	16	112.5
	75, 100	63.5	53.5																	
100	10 to 50	65	53	75	63	27	30	117	13	M20 x 2.5	156	6.5	27	12	94	11	17.5 depth 13.5	G 3/8	23	132.5
	75, 100	75	63																	

Bore size (mm)	U	Z
63	47.5	19
80	57.5	26
100	67.5	26

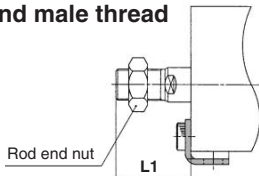
Note 2) External dimensions with rubber bumper are same as standard type as shown above.

Compact Cylinder: Standard Type Double Acting, Single Rod Series **CQ2/CDQ2**

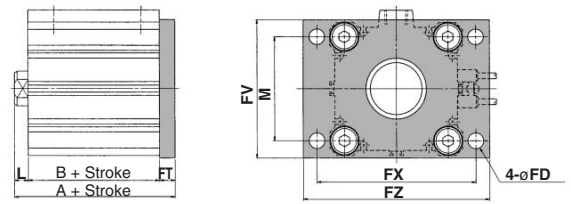
Foot style: CQ2L/CDQ2L



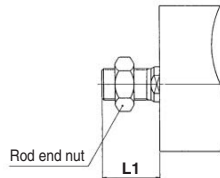
Rod end male thread



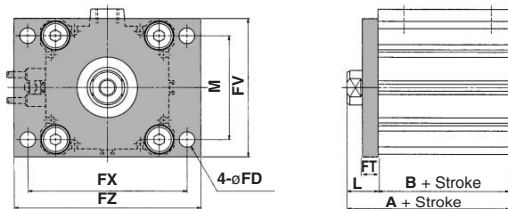
Head side flange style: CQ2G/CDQ2G



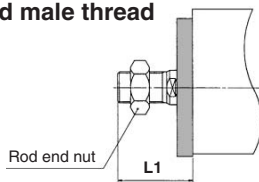
Rod end male thread



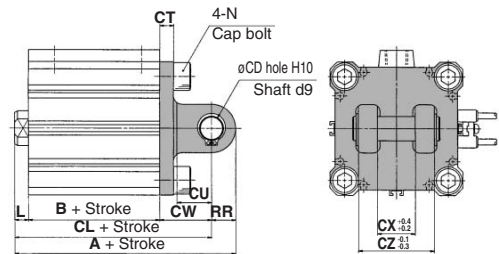
Rod side flange style: CQ2F/CDQ2F



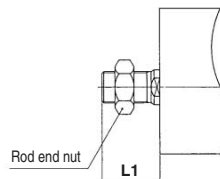
Rod end male thread



Double clevis style: CQ2D/CDQ2D



Rod end male thread



Foot Style

Bore size (mm)	Stroke range (mm)	Without auto switch			With auto switch			L	L1	LD	LG	LH	LT
		A	B	LS	A	B	LS						
63	10 to 50	62.2	36	10	72.2	46	20	18	43.5	11	5	46	3.2
	75, 100	72.2	46	20	72.2	46	20	18	43.5	11	5	46	3.2
80	10 to 50	75	43.5	13.5	85	53.5	23.5	20	53.5	13	7	59	4.5
	75, 100	85	53.5	23.5	85	53.5	23.5	20	53.5	13	7	59	4.5
100	10 to 50	88	53	19	98	63	29	22	53.5	13	7	71	6
	75, 100	98	63	29	98	63	29	22	53.5	13	7	71	6

Foot bracket material: Carbon steel

Bore size (mm)	Stroke range (mm)	LX	LY	LZ	X	Y
63	10 to 50	95	91.5	113	16.2	9
	75, 100	95	91.5	113	16.2	9
80	10 to 50	118	114	140	19.5	11
	75, 100	118	114	140	19.5	11
100	10 to 50	137	136	162	23	12.5
	75, 100	137	136	162	23	12.5

Rod Side Flange Style

Bore size (mm)	Stroke range (mm)	Without auto switch		With auto switch		FD	FT	FV	FX	FZ	L	L1	M
		A	B	A	B								
63	10 to 50	54	36	64	46	9	9	80	92	108	18	43.5	60
	75, 100	64	46	64	46	9	9	80	92	108	18	43.5	60
80	10 to 50	63.5	43.5	73.5	53.5	11	11	99	116	134	20	53.5	77
	75, 100	73.5	53.5	73.5	53.5	11	11	99	116	134	20	53.5	77
100	10 to 50	75	53	85	63	11	11	117	136	154	22	53.5	94
	75, 100	85	63	85	63	11	11	117	136	154	22	53.5	94

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	53	36	63	46	8	33.5
	75, 100	63	46	63	46	8	33.5
80	10 to 50	64.5	43.5	74.5	53.5	10	43.5
	75, 100	74.5	53.5	74.5	53.5	10	43.5
100	10 to 50	76	53	86	63	12	43.5
	75, 100	86	63	86	63	12	43.5

Flange bracket material: Carbon steel

Double Clevis Style

Bore size (mm)	Stroke range (mm)	Without auto switch		With auto switch		CD	CL	CT	CU	CW	CX	CZ	L
		A	B	A	B								
63	10 to 50	88	36	98	46	14	84	8	20	30	22	44	8
	75, 100	98	46	98	46	14	84	8	20	30	22	44	8
80	10 to 50	109.5	43.5	119.5	53.5	18	101.5	10	27	38	28	56	10
	75, 100	119.5	53.5	119.5	53.5	18	101.5	10	27	38	28	56	10
100	10 to 50	132	53	142	63	22	120	13	31	45	32	64	12
	75, 100	142	63	142	63	22	120	13	31	45	32	64	12

Double clevis bracket material: Cast iron

Bore size (mm)	Stroke range (mm)	L1	N	RR
63	10 to 50	33.5	M10 x 1.5	14
	75, 100	33.5	M10 x 1.5	14
80	10 to 50	43.5	M12 x 1.75	18
	75, 100	43.5	M12 x 1.75	18
100	10 to 50	43.5	M12 x 1.75	22
	75, 100	43.5	M12 x 1.75	22

* Clevis pin and set ring are shipped together.

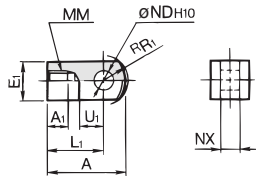
Series CQ2

Accessory Bracket

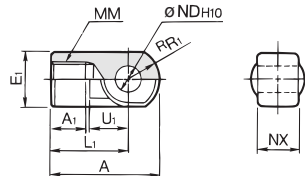
Single Knuckle Joint

For I-G012, I-Z015A
I-G02, I-G03

For I-G04, I-G05
I-G08, I-G10



Material: Carbon steel



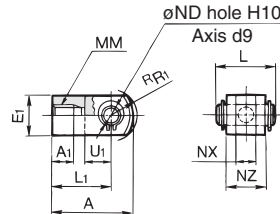
Material: Cast iron

Part no.	Applicable bore size (mm)	A	A ₁	E ₁	L ₁	MM	R _{R1}	U ₁	ND _{H10}	NX
I-G012	12	21.5	6	□10	16	M5 x 0.8	6.3	7	5 ^{+0.048} ₀	5 ^{-0.2} _{-0.4}
I-Z015A	16	32	8	□12	25	M6 x 1	8.1	14	5 ^{+0.048} ₀	6.4 ^{-0.1} _{-0.3}
I-G02	20	34	8.5	□16	25	M8 x 1.25	10.3	11.5	8 ^{+0.058} ₀	8 ^{-0.2} _{-0.4}
I-G03	25	41	10.5	□20	30	M10 x 1.25	12.8	14	10 ^{+0.058} ₀	10 ^{-0.2} _{-0.4}
I-G04	32, 40	42	14	□22	30	M14 x 1.5	12	14	10 ^{+0.058} ₀	18 ^{-0.3} _{-0.5}
I-G05	50, 63	56	18	□28	40	M18 x 1.5	16	20	14 ^{+0.070} ₀	22 ^{-0.3} _{-0.5}
I-G08	80	71	21	□38	50	M22 x 1.5	21	27	18 ^{+0.070} ₀	28 ^{-0.3} _{-0.5}
I-G10	100	79	21	□44	55	M26 x 1.5	24	31	22 ^{+0.084} ₀	32 ^{-0.3} _{-0.5}

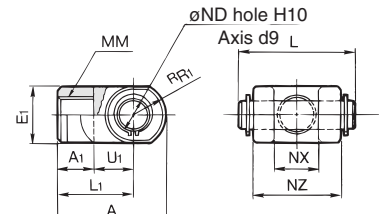
Double Knuckle Joint

For Y-G012, Y-Z015A
Y-G02, Y-G03

For Y-G04, Y-G05
Y-G08, Y-G10



Material: Carbon steel

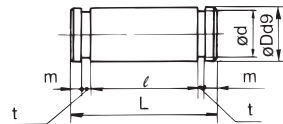


Material: Cast iron

Part no.	Applicable bore size (mm)	A	A ₁	E ₁	L ₁	MM	R _{R1}	U ₁	ND _{H10}	NX	NZ	L	Applicable pin part no.
Y-G012	12	21.5	6	□10	16	M5 x 0.8	6.3	7	5 ^{+0.048} ₀	5 ^{-0.4} _{-0.2}	10	14.6	IY-G012
Y-Z015A	16	28	11	□12	21	M6 x 1	8.1	10	5 ^{+0.048} ₀	6.5 ^{-0.2} _{-0.4}	12	16.6	IY-J015
Y-G02	20	34	8.5	□16	25	M8 x 1.25	10.3	11.5	8 ^{+0.058} ₀	8 ^{-0.4} _{-0.2}	16	21	IY-G02
Y-G03	25	41	10.5	□20	30	M10 x 1.25	12.8	14	10 ^{+0.058} ₀	10 ^{-0.4} _{-0.2}	20	25.6	IY-G03
Y-G04	32, 40	42	16	□22	30	M14 x 1.5	12	14	10 ^{+0.058} ₀	18 ^{-0.5} _{-0.3}	36	41.6	IY-G04
Y-G05	50, 63	56	20	□28	40	M18 x 1.5	16	20	14 ^{+0.070} ₀	22 ^{-0.5} _{-0.3}	44	50.6	IY-G05
Y-G08	80	71	23	□38	50	M22 x 1.5	21	27	18 ^{+0.070} ₀	28 ^{-0.5} _{-0.3}	56	64	IY-G08
Y-G10	100	79	24	□44	55	M26 x 1.5	24	31	22 ^{+0.084} ₀	32 ^{-0.5} _{-0.3}	64	72	IY-G10

* Knuckle pin and snap ring are included.

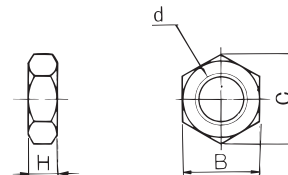
Knuckle Pin (Common with double clevis pin)



Material: Carbon steel

Part no.	Applicable bore size (mm)	Dd9	L	d	ℓ	m	t	Applicable snap ring
IY-G012	12	5 ^{-0.030} _{-0.060}	14.6	4.8	10.2	1.5	0.7	Type C 5 for axis
IY-J015	16	5 ^{-0.030} _{-0.060}	16.6	4.8	12.2	1.5	0.7	Type C 5 for axis
IY-G02	20	8 ^{-0.040} _{-0.076}	21	7.6	16.2	1.5	0.9	Type C 8 for axis
IY-G03	25	10 ^{-0.040} _{-0.076}	25.6	9.6	20.2	1.55	1.15	Type C 10 for axis
IY-G04	32, 40	10 ^{-0.040} _{-0.076}	41.6	9.6	36.2	1.55	1.15	Type C 10 for axis
IY-G05	50, 63	14 ^{-0.050} _{-0.093}	50.6	13.4	44.2	2.05	1.15	Type C 14 for axis
IY-G08	80	18 ^{-0.050} _{-0.093}	64	17	56.2	2.55	1.35	Type C 18 for axis
IY-G10	100	22 ^{-0.065} _{-0.117}	72	21	64.2	2.55	1.35	Type C 22 for axis

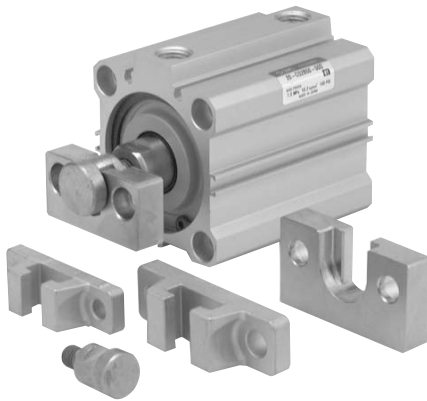
Rod End Nut



Material: Carbon steel

Part no.	Applicable bore size (mm)	d	H	B	C
NTJ-015A	12	M5 x 0.8	4	8	9.2
NT-015A	16	M6 x 1	5	10	11.5
NT-02	20	M8 x 1.25	5	13	15.0
NT-03	25	M10 x 1.25	6	17	19.6
NT-04	32, 40	M14 x 1.5	8	22	25.4
NT-05	50, 63	M18 x 1.5	11	27	31.2
NT-08	80	M22 x 1.5	13	32	37.0
NT-10	100	M26 x 1.5	16	41	47.3

Simple Joint: $\phi 32$ to $\phi 100$



Joint and Mounting Bracket (Type A, Type B) Part No.

YA — **03**

• Mounting bracket		• Applicable air cylinder bore	
YA	Type A mounting bracket	03	For $\phi 32$, $\phi 40$
YB	Type B mounting bracket	05	For $\phi 50$, $\phi 63$
YU	Joint	08	$\phi 80$
		10	$\phi 100$

Allowable Eccentricity

Bore size (mm)	32	40	50	63	80	100
Eccentricity tolerance	± 1				± 1.5	± 2
Backlash	0.5					

<Ordering>

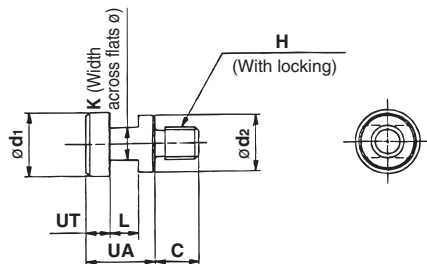
- Joints are not included with the A or B type mounting brackets. Order them separately.

(Example)

- Bore size $\phi 40$ Part no.
- Type A mounting bracket part no. YA-03
- Joint: YU-03

Joint Part No.

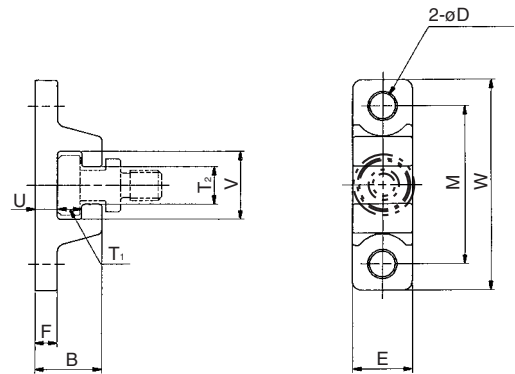
Bore size (mm)	Joint part no.	Applicable mounting bracket		Weight (g)
		Type A mounting bracket	Type B mounting bracket	
32, 40	YU-03	YA-03	YB-03	25
50, 63	YU-05	YA-05	YB-05	40
80	YU-08	YA-08	YB-08	90
100	YU-10	YA-10	YB-10	160



Material: Chromium molybdenum steel (Nickel plated)

Part no.	Applicable bore size (mm)	UA	C	d ₁	d ₂	H	K	L	UT	Weight (g)
YU-03	32, 40	17	11	15.8	14	M8 x 1.25	8	7	6	25
YU-05	50, 63	17	13	19.8	18	M10 x 1.5	10	7	6	40
YU-08	80	22	20	24.8	23	M16 x 2	13	9	8	90
YU-10	100	26	26	29.8	28	M20 x 2.5	14	11	10	160

Type A Mounting Bracket

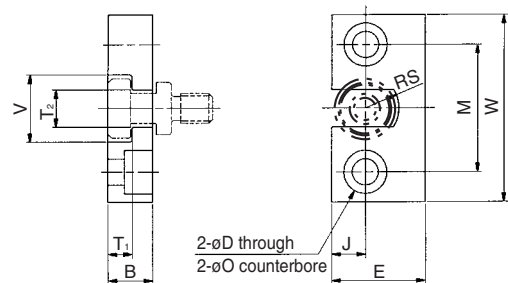


Material: Chromium molybdenum steel (Nickel plated)

Part no.	Bore size (mm)	B	D	E	F	M	T ₁	T ₂
YA-03	32, 40	18	6.8	16	6	42	6.5	10
YA-05	50, 63	20	9	20	8	50	6.5	12
YA-08	80	26	11	25	10	62	8.5	16
YA-10	100	31	14	30	12	76	10.5	18

Part no.	Bore size (mm)	U	V	W	Weight (g)
YA-03	32, 40	6	18	56	55
YA-05	50, 63	8	22	67	100
YA-08	80	10	28	83	195
YA-10	100	12	36	100	340

Type B Mounting Bracket



Material: Precision die-casting material equivalent to stainless steel 304

Part no.	Bore size (mm)	B	D	E	J	M	øO
YB-03	32, 40	12	7	25	9	34	11.5 depth 7.5
YB-05	50, 63	12	9	32	11	42	14.5 depth 8.5
YB-08	80	16	11	38	13	52	18 depth 12
YB-10	100	19	14	50	17	62	21 depth 14

Part no.	Bore size (mm)	T ₁	T ₂	V	W	RS	Weight (g)
YB-03	32, 40	6.5	10	18	50	9	80
YB-05	50, 63	6.5	12	22	60	11	120
YB-08	80	8.5	16	28	75	14	230
YB-10	100	10.5	18	36	90	18	455

Compact Cylinder: Standard Type

Double Acting, Double Rod

Series CQ2W

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

How to Order

Without
auto switch

CQ2W **B** **20** — **30** **D** **□** - XG

With auto switch

CDQ2W **B** **20** — **30** **D** **□** - XG

Built-in magnet

Mounting style

B	Through-hole (Standard)	L	Foot style
A	Both ends tapped style	F	Flange style

* Mounting brackets are shipped together, (but not assembled).

Bore size

12	12 mm	40	40 mm
16	16 mm	50	50 mm
20	20 mm	63	63 mm
25	25 mm	80	80 mm
32	32 mm	100	100 mm

ISO 1179 Ports 32 bore and above

Body option

Nil	Standard (Rod end female thread)
C	With rubber bumper ^{Note)}
M	Rod end male thread

Action

D	Double acting
----------	---------------

Cylinder stroke (mm)

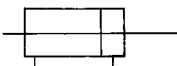
* Combination of body options ("CM") is available.
Note) Air-hydro type with rubber bumper is not available.

Series CQ2W



Symbol

Double acting,
double rod



⚠ Precautions

Snap Ring Installation/Removal

⚠ Caution

1. 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.

Mounting

1. When removing a load, be sure to secure the wrench flats of the piston rod on the load side.
2. If this is done without securing the piston rod on the load side, be aware that the coupled (screwed-in) portion of the piston rod could become loosened.

Type

Bore size (mm)		12	16	20	25	32	40	50	63	80	100
Pneumatic	Mounting	Through-hole (Standard)	●	●	●	●	●	●	●	●	●
		Both ends tapped style	●	●	●	●	●	●	●	●	●
	Built-in magnet		●	●	●	●	●	●	●	●	●
	Piping	Screw-in type	M5 x 0.8	M5 x 0.8	M5 x 0.8	M5 x 0.8	M5 x 0.8 ⁽¹⁾	G 1/8	G 1/4	G 1/4	G 3/8
	Rod end male thread		●	●	●	●	●	●	●	●	●
Air-hydro	With rubber bumper		●	●	●	●	●	●	●	●	●
	Mounting	Through-hole (Standard)	—	—	●	●	●	●	●	●	●
		Both ends tapped style	—	—	●	●	●	●	●	●	●
	Built-in magnet		—	—	●	●	●	●	●	●	●
	Piping	Screw-in type	—	—	M5 x 0.8	M5 x 0.8	M5 x 0.8 ⁽¹⁾	Rc 1/8	Rc 1/4	Rc 1/4	Rc 3/8
	Rod end male thread		—	—	●	●	●	●	●	●	●



Note 1) In the case of without auto switch, M5 x 0.8 is used for 5 stroke only.

Note 2) In the case of built-in fitting, the 5 mm stroke with ø32 bore is the same external dimensions as 10 mm stroke.

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)	
Rubber bumper	None	
Rod end thread	Female thread	
Rod end thread tolerance	JIS Class 2	
Stroke length tolerance	+1.0 0	
Mounting	Through-hole	
Piston speed	50 to 500 mm/s	

Standard Stroke

Pneumatic (Non-lube)

Bore size (mm)	Standard stroke
12, 16	5, 10, 15, 20, 25, 30
20, 25	5, 10, 15, 20, 25, 30, 35, 40, 45, 50
32, 40	5, 10, 15, 20, 25, 30, 35, 40, 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.	"How to Order" for the standard model no. on page 7-6-25.	Suffix "-XB10" to the end of standard model no. on page 7-6-25.
Description	Dealing with the stroke by the 5 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	Stroke range
	—	12, 16 6 to 29
	32 to 100	20, 25 6 to 49
Example	Part no.: CQ2WB50-65D CQ2WB50-75D with 10 mm spacer inside. B dimension is 125.5 mm.	Part no.: CQ2WB50-65D-XB10 Makes 65 stroke tube. B dimension is 115.5 mm.

• Air-hydro type is excluded.

• In the case of special body type for ø32 to ø100 (-XB10), standard value for longitudinal dimensions will be changed.

Subtract from 75 and 100 stroke dimensions and figure it out.

Compact Cylinder: Standard Type Double Acting, Double Rod **Series CQ2W**

Minimum Operating Pressure

(MPa)

Bore size (mm)	12	16	20	25	32	40	50	63	80	100
Pneumatic (Non-lube)	0.07	0.07	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Air-hydro	—	—	0.18	0.18	0.18	0.10	0.10	0.10	0.10	0.10

Allowable Kinetic Energy

(J)

Bore size (mm)	12	16	20	25	32	40	50	63	80	100
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

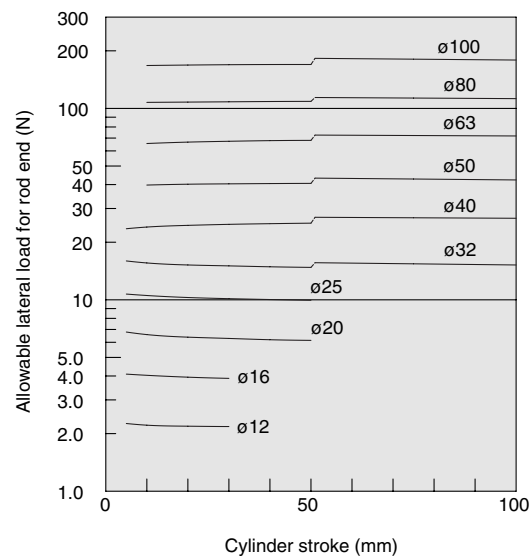
Mounting Bracket Part No.

Bore size (mm)	Foot ⁽⁴⁾	Flange
12	CQ-L012	CQ-F012
16	CQ-L016	CQ-F016
20	CQ-L020	CQ-F020
25	CQ-L025	CQ-F025
32	CQ-L032	CQ-F032
40	CQ-L040	CQ-F040
50	CQ-L050	CQ-F050
63	CQ-L063	CQ-F063
80	CQ-L080	CQ-F080
100	CQ-L100	CQ-F100

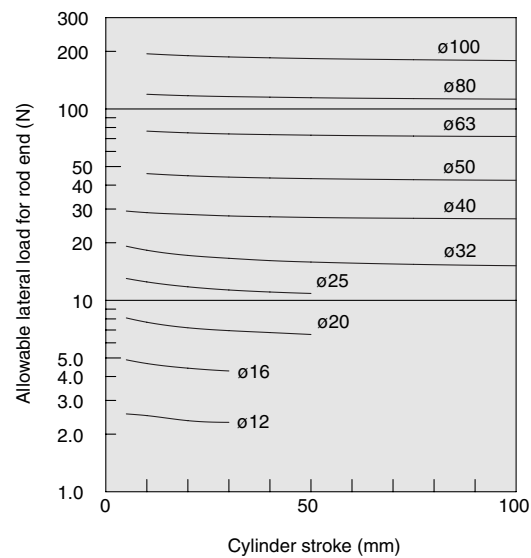
Note 4) Order two foot brackets per cylinder.

Note 5) Parts belonging to each bracket are as follows.
Foot or Flange style: Body mounting bolt

Allowable Lateral Load at Rod End



Allowable lateral load for rod end (Double rod, without switch)



Allowable lateral load for rod end (Double rod, with switch)

Series CQ2W

Theoretical Output

(N)

Bore size (mm)	Operating pressure (MPa)		
	0.3	0.5	0.7
12	25	42	59
16	45	75	106
20	71	118	165
25	113	189	264
32	181	302	422
40	317	528	739
50	495	825	1150
63	841	1400	1960
80	1360	2270	3170
100	2140	3570	5000

Weight

(g)

Bore size (mm)	Cylinder stroke (mm)											
	5	10	15	20	25	30	35	40	45	50	75	100
12	42	49	56	63	70	77	—	—	—	—	—	—
16	59	68	77	86	95	104	—	—	—	—	—	—
20	89	104	119	134	149	164	179	194	209	224	—	—
25	119	136	153	170	187	204	221	238	255	272	—	—
32	192	220	244	268	292	316	340	364	388	412	532	652
40	292	323	354	385	416	447	478	509	540	571	726	881
50	—	528	573	618	663	708	753	798	843	888	1113	1338
63	—	676	714	753	792	831	870	909	948	987	1182	1377
80	—	1241	1325	1409	1493	1577	1661	1745	1829	1913	2333	2753
100	—	2106	2225	2344	2463	2582	2701	2820	2939	3058	3653	4248

Additional Weight

(g)

Bore size (mm)	12	16	20	25	32	40	50	63	80	100
Both ends tapped style	2	2	6	6	6	6	6	19	45	45
Rod end male thread	Male thread									
	Nut									
With rubber bumper	0	0	-2	-2	-3	-7	-12	-20	-34	-57
Built-in One-touch fittings	—	—	—	—	12	12	21	21	—	—
Foot style (Including mounting bolt)	57	71	170	195	159	171	267	349	735	1117
Flange style (Including bolt)	57	69	139	161	180	214	373	559	1056	1365

Calculation: (Example) CQ2WF32-20DCM

- Cylinder weight: CQ2WB32-20D 268 g
- Option weight: Both ends tapped style 6 g
- Rod end male thread 86 g
- Rubber bumper -3 g
- Flange style 180 g

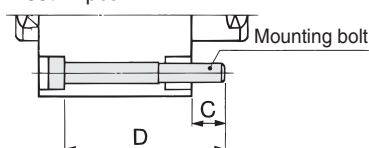
537 g

Mounting Bolt for CQ2WB

Mounting method: Mounting bolt for through-hole mounting style of CQ2WB is available as an option.

Ordering: Add the word "Bolt" in front of the bolts to be used.

Example) Bolt M3 x 35ℓ 4 pcs.



Model	C	D	Bolt
CQ2WB12-5D	8.3	35	M3 x 35ℓ
-10D		40	x 40ℓ
-15D		45	x 45ℓ
-20D		50	x 50ℓ
-25D		55	x 55ℓ
-30D		60	x 60ℓ
CQ2WB16-5D	7.5	35	M3 x 35ℓ
-10D		40	x 40ℓ
-15D		45	x 45ℓ
-20D		50	x 50ℓ
-25D		55	x 55ℓ
-30D		60	x 60ℓ
CQ2WB20-5D	6	30	x 30ℓ
-10D		35	x 35ℓ
-15D		40	x 40ℓ
-20D		45	x 45ℓ
-25D		50	x 50ℓ
-30D		55	x 55ℓ
-35D		60	x 60ℓ
-40D		65	x 65ℓ
-45D		70	x 70ℓ
-50D		75	x 75ℓ
CQ2WB25-5D	8	35	M5 x 35ℓ
-10D		40	x 40ℓ
-15D		45	x 45ℓ
-20D		50	x 50ℓ
-25D		55	x 55ℓ
-30D		60	x 60ℓ
-35D		65	x 65ℓ
-40D		70	x 70ℓ
-45D		75	x 75ℓ
-50D		80	x 80ℓ

Model	C	D	Bolt
CQ2WB32-5D	6.5	35	M5 x 35ℓ
-10D		40	x 40ℓ
-15D		45	x 45ℓ
-20D		50	x 50ℓ
-25D		55	x 55ℓ
-30D		60	x 60ℓ
-35D		65	x 65ℓ
-40D		70	x 70ℓ
-45D		75	x 75ℓ
-50D		80	x 80ℓ
CQ2WB40-5D	7	45	M5 x 45ℓ
-10D		50	x 50ℓ
-15D		55	x 55ℓ
-20D		60	x 60ℓ
-25D		65	x 65ℓ
-30D		70	x 70ℓ
-35D		75	x 75ℓ
-40D		80	x 80ℓ
-45D		85	x 85ℓ
-50D		90	x 90ℓ
CQ2WB50-10D	12.5	125	x 125ℓ
-100D		150	x 150ℓ
-15D		55	M6 x 55ℓ
-20D		60	x 60ℓ
-25D		65	x 65ℓ
-30D		70	x 70ℓ
-35D		75	x 75ℓ
-40D		80	x 80ℓ
-45D		85	x 85ℓ
-50D		90	x 90ℓ
CQ2WB63-10D	13.5	160	x 160ℓ
-15D		170	x 170ℓ
-20D		180	x 180ℓ
-25D		190	x 190ℓ
-30D		200	x 200ℓ
-35D		210	x 210ℓ
-40D		220	x 220ℓ
-45D		230	x 230ℓ
-50D		240	x 240ℓ
-55D		250	x 250ℓ

Model	C	D	Bolt
CQ2WB63-10D	13.5	55	M8 x 55ℓ
-15D		60	x 60ℓ
-20D		65	x 65ℓ
-25D		70	x 70ℓ
-30D		75	x 75ℓ
-35D		80	x 80ℓ
-40D		85	x 85ℓ
-45D		90	x 90ℓ
-50D		95	x 95ℓ
-55D		100	x 100ℓ
CQ2WB80-10D	12.5	60	M10 x 60ℓ
-15D		65	x 65ℓ
-20D		70	x 70ℓ
-25D		75	x 75ℓ
-30D		80	x 80ℓ
-35D		85	x 85ℓ
-40D		90	x 90ℓ
-45D		95	x 95ℓ
-50D		100	x 100ℓ
-55D		105	x 105ℓ
CQ2WB100-10D	13	70	M10 x 70ℓ
-15D		75	x 75ℓ
-20D		80	x 80ℓ
-25D		85	x 85ℓ
-30D		90	x 90ℓ
-35D		95	x 95ℓ
-40D		100	x 100ℓ
-45D		105	x 105ℓ
-50D		110	x 110ℓ
-55D		115	x 115ℓ

Compact Cylinder with Auto Switch: Standard Type

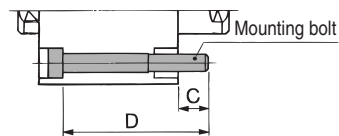
Double Acting, Double Rod Series **CDQ2W**

Mounting Bolt for CDQ2 with Auto Switch

Mounting method: Mounting bolt for through-hole mounting style of CDQ2WB is available as an option.

Ordering: Add the word "Bolt" in front of the bolts to be used.

Example) Bolt M3 x 40ℓ 4 pcs.



Model	C	D	Bolt
CDQ2WB12-5DC	6.1	40	M3 x 40ℓ
-10DC		45	x 45ℓ
-15DC		50	x 50ℓ
-20DC		55	x 55ℓ
-25DC		60	x 60ℓ
-30DC		65	x 65ℓ
CDQ2WB16-5D	7.5	45	M3 x 45ℓ
-10D		50	x 50ℓ
-15D		55	x 55ℓ
-20D		60	x 60ℓ
-25D		65	x 65ℓ
-30D		70	x 70ℓ
CDQ2WB20-5D	9	45	M5 x 45ℓ
-10D		50	x 50ℓ
-15D		55	x 55ℓ
-20D		60	x 60ℓ
-25D		65	x 65ℓ
-30D		70	x 70ℓ
-35D		75	x 75ℓ
-40D		80	x 80ℓ
-45D		85	x 85ℓ
-50D		90	x 90ℓ
CDQ2WB25-5D	8	45	M5 x 45ℓ
-10D		50	x 50ℓ
-15D		55	x 55ℓ
-20D		60	x 60ℓ
-25D		65	x 65ℓ
-30D		70	x 70ℓ
-35D		75	x 75ℓ
-40D		80	x 80ℓ
-45D		85	x 85ℓ
-50D		90	x 90ℓ

Model	C	D	Bolt
CDQ2WB32-5D	6.5	45	M5 x 45ℓ
-10D		50	x 50ℓ
-15D		55	x 55ℓ
-20D		60	x 60ℓ
-25D		65	x 65ℓ
-30D		70	x 70ℓ
-35D		75	x 75ℓ
-40D		80	x 80ℓ
-45D		85	x 85ℓ
-50D		90	x 90ℓ
-75D		115	x 115ℓ
-100D		140	x 140ℓ
CDQ2WB40-5D	7	55	M5 x 55ℓ
-10D		60	x 60ℓ
-15D		65	x 65ℓ
-20D		70	x 70ℓ
-25D		75	x 75ℓ
-30D		80	x 80ℓ
-35D		85	x 85ℓ
-40D		90	x 90ℓ
-45D		95	x 95ℓ
-50D		100	x 100ℓ
-75D		125	x 125ℓ
-100D		150	x 150ℓ
CDQ2WB50-10D	12.5	65	M6 x 65ℓ
-15D		70	x 70ℓ
-20D		75	x 75ℓ
-25D		80	x 80ℓ
-30D		85	x 85ℓ
-35D		90	x 90ℓ
-40D		95	x 95ℓ
-45D		100	x 100ℓ
-50D		105	x 105ℓ
-75D		130	x 130ℓ
-100D		155	x 155ℓ

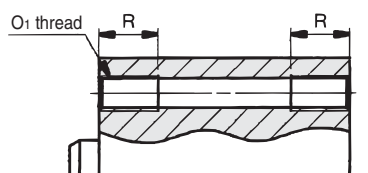
Model	C	D	Bolt
CDQ2WB63-10D	13.5	65	M8 x 65ℓ
-15D		70	x 70ℓ
-20D		75	x 75ℓ
-25D		80	x 80ℓ
-30D		85	x 85ℓ
-35D		90	x 90ℓ
-40D		95	x 95ℓ
-45D		100	x 100ℓ
-50D		105	x 105ℓ
-75D		130	x 130ℓ
-100D		155	x 155ℓ
CDQ2WB80-10D	12.5	70	M10 x 70ℓ
-15D		75	x 75ℓ
-20D		80	x 80ℓ
-25D		85	x 85ℓ
-30D		90	x 90ℓ
-35D		95	x 95ℓ
-40D		100	x 100ℓ
-45D		105	x 105ℓ
-50D		110	x 110ℓ
-75D		135	x 135ℓ
-100D		160	x 160ℓ
CDQ2WB100-10D	13	80	M10 x 80ℓ
-15D		85	x 85ℓ
-20D		90	x 90ℓ
-25D		95	x 95ℓ
-30D		100	x 100ℓ
-35D		105	x 105ℓ
-40D		110	x 110ℓ
-45D		115	x 115ℓ
-50D		120	x 120ℓ
-75D		145	x 145ℓ
-100D		170	x 170ℓ

Series CQ2W

Dimensions: ø12 to ø25/Without Auto Switch

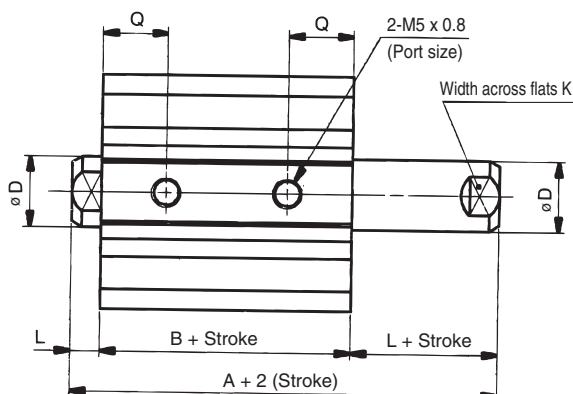
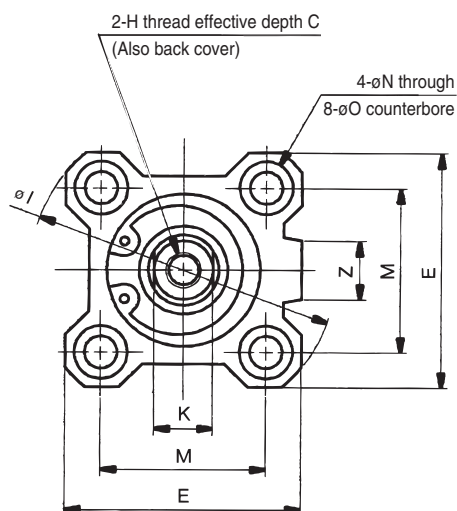
Basic style (Through-hole): CQ2WB

Both ends tapped style: CQ2WA

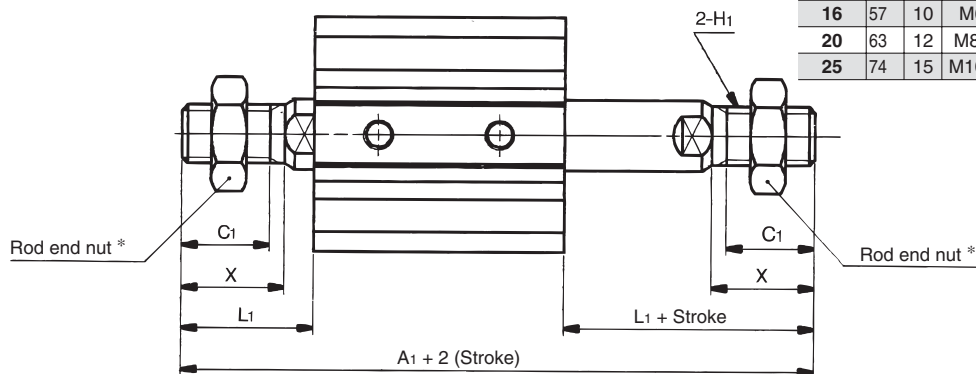


Both Ends Tapped Style

Bore size (mm)	O ₁	R
12	M4 x 0.7	7
16	M4 x 0.7	7
20	M6 x 1.0	10
25	M6 x 1.0	10



Rod end male thread



Rod End Male Thread

Bore size (mm)	A ₁	C ₁	H ₁	L ₁	X
12	53.2	9	M5 x 0.8	14	10.5
16	57	10	M6 x 1.0	15.5	12
20	63	12	M8 x 1.25	18.5	14
25	74	15	M10 x 1.25	22.5	17.5

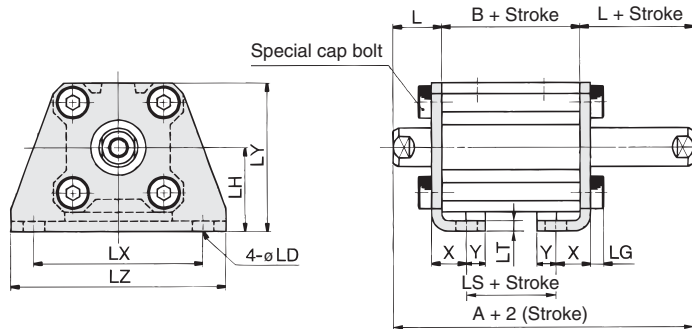
Basic Style

Bore size (mm)	Stroke range (mm)	A	B	C	D	E	H	I	K	L	M	N	O	Q	Z
12	5 to 30	32.2	25.2	6	6	25	M3 x 0.5	32	5	3.5	15.5	3.5	6.5 depth 3.5	10	—
16	5 to 30	33	26	8	8	29	M4 x 0.7	38	6	3.5	20	3.5	6.5 depth 3.5	10	10
20	5 to 50	35	26	7	10	36	M5 x 0.8	47	8	4.5	25.5	5.5	9 depth 7	9.5	10
25	5 to 50	39	29	12	12	40	M6 x 1.0	52	10	5	28	5.5	9 depth 7	11	10

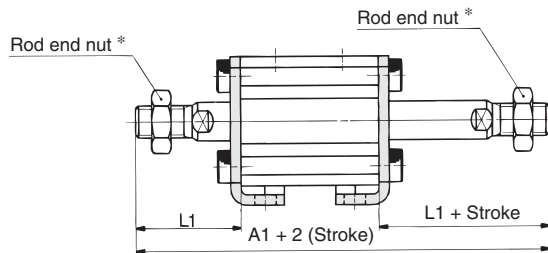
Note) External dimensions with rubber bumper are same as standard type as shown above.

Compact Cylinder: Standard Type Double Acting, Double Rod **Series CQ2W**

Foot style: CQ2WL



Rod end male thread



Rod End Male Thread

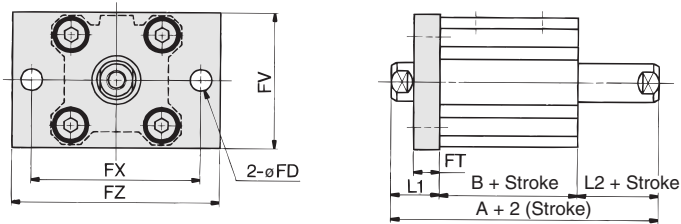
Bore size (mm)	A1	L1
12	73.2	24
16	77	25.5
20	83	28.5
25	94	32.5

Foot Style

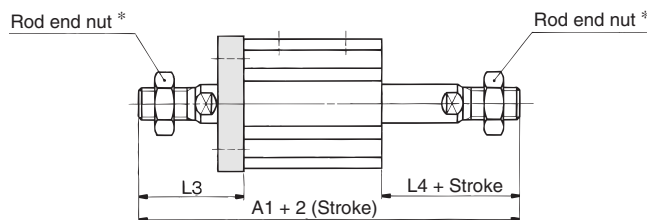
Bore size (mm)	Stroke range (mm)	A	B	L	LD	LG	LH	LS	LT	LX	LY	LZ	X	Y
12	5 to 30	52.2	25.2	13.5	4.5	2.8	17	13.2	2	34	29.5	44	8	4.5
16	5 to 30	53	26	13.5	4.5	2.8	19	14	2	38	33.5	48	8	5
20	5 to 50	55	26	14.5	6.6	4	24	14	3.2	48	42	62	9.2	5.8
25	5 to 50	59	29	15	6.6	4	26	14	3.2	52	46	66	10.7	5.8

Foot bracket material: Carbon steel

Flange style: CQ2WF



Rod end male thread



Rod End Male Thread

Bore size (mm)	A1	L3	L4
12	63.2	24	14
16	67	25.5	15.5
20	73	28.5	18.5
25	84	32.5	22.5

Flange Style

Bore size (mm)	Stroke range (mm)	A	B	FD	FT	FV	FX	FZ	L1	L2
12	5 to 30	42.2	25.2	4.5	5.5	25	45	55	13.5	3.5
16	5 to 30	43	26	4.5	5.5	30	45	55	13.5	3.5
20	5 to 50	45	26	6.6	8	39	48	60	14.5	4.5
25	5 to 50	49	29	6.6	8	42	52	64	15	5

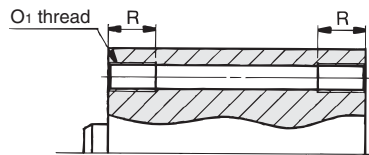
Flange bracket material: Carbon steel

Series CQ2W

Dimensions: ø12 to ø25/With Auto Switch

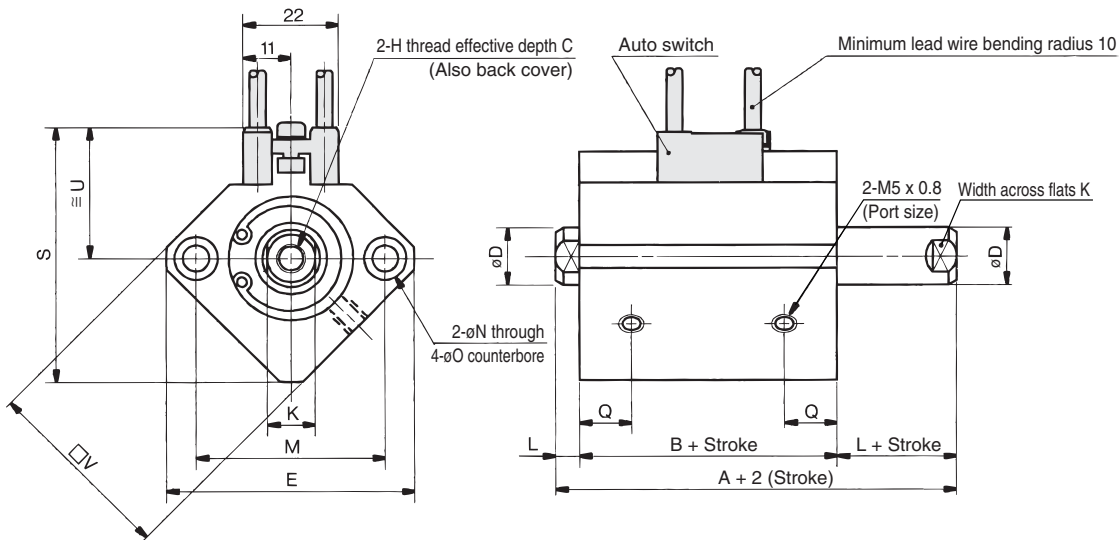
Basic style (Through-hole): CDQ2WB

Both ends tapped style: CDQ2WA

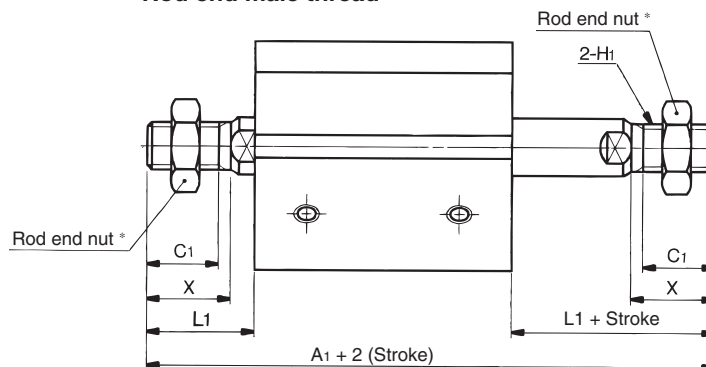


Both Ends Tapped Style

Bore size (mm)	O1	R
12	M4 x 0.7	7
16	M4 x 0.7	7
20	M6 x 1.0	10
25	M6 x 1.0	10



Rod end male thread



Rod End Male Thread

Bore size (mm)	A1	C1	H1	L1	X
12	60.4	9	M5 x 0.8	14	10.5
16	67	10	M6 x 1.0	15.5	12
20	75	12	M8 x 1.25	18.5	14
25	84	15	M10 x 1.25	22.5	17.5

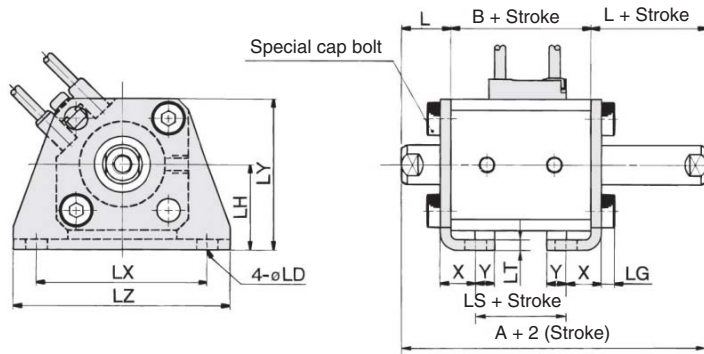
Basic Style

Bore size (mm)	Stroke range (mm)	A	B	C	D	E	H	K	L	M	N	O	Q	S	U	V
12	5 to 30	39.4	32.4	6	6	32	M3 x 0.5	5	3.5	22	3.5	6.5 depth 3.5	10.5	35.5	19.5	25
16	5 to 30	43	36	8	8	38	M4 x 0.7	6	3.5	28	3.5	6.5 depth 3.5	10	41.5	22.5	29
20	5 to 50	47	38	7	10	47	M5 x 0.8	8	4.5	36	5.5	9 depth 7	10.5	48	24.5	36
25	5 to 50	49	39	12	12	52	M6 x 1.0	10	5	40	5.5	9 depth 7	11	53.5	27.5	40

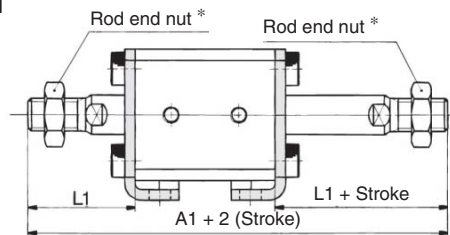
Note) External dimensions with rubber bumper are same as standard type as shown above.

Compact Cylinder: Standard Type Double Acting, Double Rod Series **CQ2W**

Foot style: CDQ2WL



Rod end male thread



Rod End Male Thread

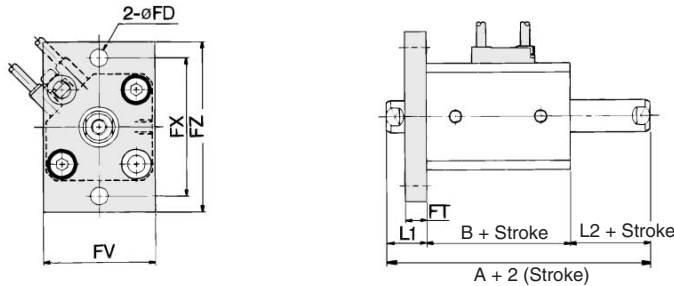
Bore size (mm)	A1	L1
12	80.4	24
16	87	25.5
20	95	28.5
25	104	32.5

Foot Style

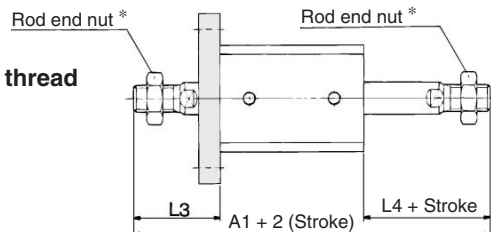
Bore size (mm)	Stroke range (mm)	A	B	L	LD	LG	LH	LS	LT	LX	LY	LZ	X	Y
12	5 to 30	59.4	32.4	13.5	4.5	2.8	17	20.4	2	34	29.5	44	8	4.5
16	5 to 30	63	36	13.5	4.5	2.8	19	24	2	38	33.5	48	8	5
20	5 to 50	67	38	14.5	6.6	4	24	26	3.2	48	42	62	9.2	5.8
25	5 to 50	69	39	15	6.6	4	26	24	3.2	52	46	66	10.7	5.8

Foot bracket material: Carbon steel

Flange style: CDQ2WF



Rod end male thread



Rod End Male Thread

Bore size (mm)	A1	L3	L4
12	70.4	24	14
16	77	25.5	15.5
20	85	28.5	18.5
25	94	32.5	22.5

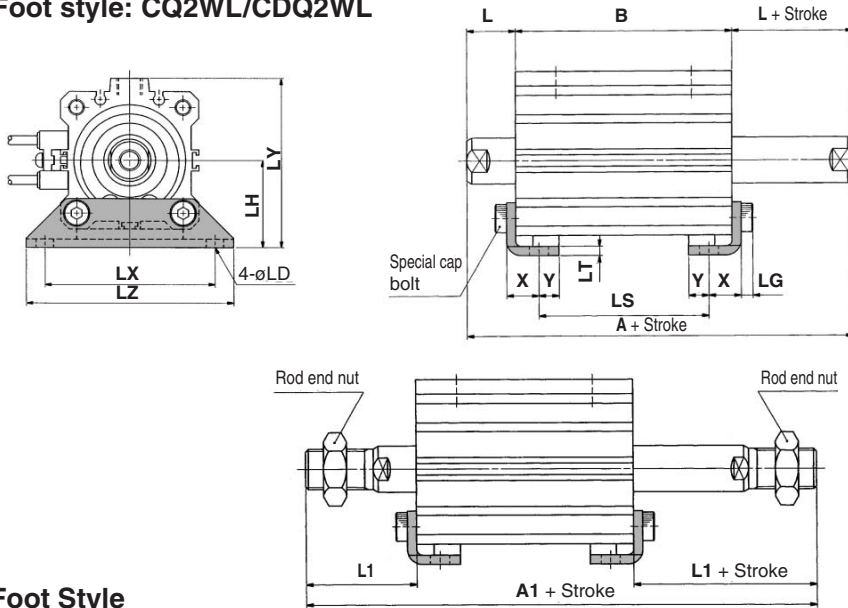
Flange Style

Bore size (mm)	Stroke range (mm)	A	B	FD	FT	FV	FX	FZ	L1	L2
12	5 to 30	49.4	32.4	4.5	5.5	25	45	55	13.5	3.5
16	5 to 30	53	36	4.5	5.5	30	45	55	13.5	3.5
20	5 to 50	57	38	6.6	8	39	48	60	14.5	4.5
25	5 to 50	59	39	6.6	8	42	52	64	15	5

Flange bracket material: Carbon steel

Compact Cylinder: Standard Type Double Acting, Double Rod Series CQ2W/CDQ2W

Foot style: CQ2WL/CDQ2WL



Rod End Male Thread

Bore size (mm)	Without auto switch			With auto switch			L1
	A1			A1			
	50 st or less	55 to 75	80 to 100	50 st or less	55 to 75	80 to 100	
32	107.5 + Stroke	192.5	217.5	117.5 + Stroke	192.5	217.5	38.5
40	117 + Stroke	202	227	127 + Stroke	202	227	38.5
50	127.5 + Stroke	212.5	237.5	137.5 + Stroke	212.5	237.5	43.5

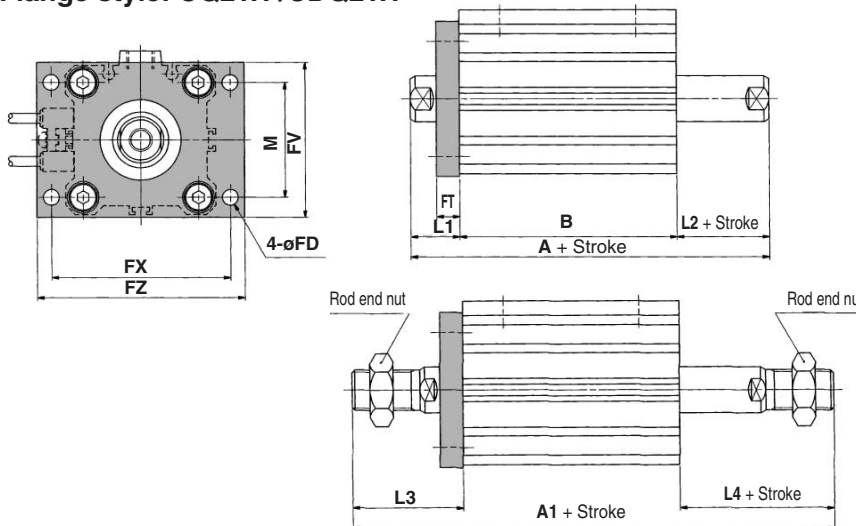
Foot Style

Bore size (mm)	Stroke range (mm)	Without auto switch									With auto switch								
		A			B			LS			A			B			LS		
		50 st or less	55 to 75	80 to 100	50 st or less	55 to 75	80 to 100	50 st or less	55 to 75	80 to 100	50 st or less	55 to 75	80 to 100	50 st or less	55 to 75	80 to 100	50 st or less	55 to 75	80 to 100
32	5 to 50, 75, 100	64.5 + Stroke	149.5	174.5	30.5 + Stroke	115.5	140.5	14.5 + Stroke	99.5	124.5	74.5 + Stroke	149.5	174.5	40.5 + Stroke	115.5	140.5	24.5 + Stroke	99.5	124.5
40	5 to 50, 75, 100	74 + Stroke	159	184	40 + Stroke	125	150	24 + Stroke	109	134	84 + Stroke	159	184	50 + Stroke	125	150	34 + Stroke	109	134
50	10 to 50, 75, 100	76.5 + Stroke	161.5	186.5	40.5 + Stroke	125.5	150.5	17.5 + Stroke	102.5	127.5	86.5 + Stroke	161.5	186.5	50.5 + Stroke	125.5	150.5	27.5 + Stroke	102.5	127.5

Foot bracket material: Carbon steel

Bore size (mm)	L	LD	LG	LH	LT	LX	LY	LZ	X	Y
32	17	6.6	4	30	3.2	57	57	71	11.2	5.8
40	17	6.6	4	33	3.2	64	64	78	11.2	7
50	18	9	5	39	3.2	79	78	95	14.7	8

Flange style: CQ2WF/CDQ2WF



Rod End Male Thread

Bore size (mm)	Without auto switch			With auto switch			L3	L4
	A1			A1				
	50 st or less	55 to 75	80 to 100	50 st or less	55 to 75	80 to 100		
32	97.5 + Stroke	182.5	207.5	107.5 + Stroke	182.5	207.5	38.5	28.5
40	107 + Stroke	202.5	217	117 + Stroke	192	217	38.5	28.5
50	117.5 + Stroke	204	227.5	127.5 + Stroke	202.5	227.5	43.5	33.5

Flange Style

Bore size (mm)	Stroke range (mm)	Without auto switch						With auto switch						FD	FT	FV	FX	FZ	L1	L2	M
		A			B			A			B										
		50 st or less	55 to 75	80 to 100	50 st or less	55 to 75	80 to 100	50 st or less	55 to 75	80 to 100	50 st or less	55 to 75	80 to 100								
32	5 to 50, 75, 100	54.5 + Stroke	139.5	164.5	30.5 + Stroke	115.5	140.5	64.5 + Stroke	139.5	164.5	40.5 + Stroke	115.5	140.5	5.5	8	48	56	65	17	7	34
40	5 to 50, 75, 100	64 + Stroke	149	174	40 + Stroke	125	150	74 + Stroke	149	174	50 + Stroke	125	150	5.5	8	54	62	72	17	7	40
50	10 to 50, 75, 100	66.5 + Stroke	151.5	176.5	40.5 + Stroke	125.5	150.5	76.5 + Stroke	151.5	176.5	50.5 + Stroke	125.5	150.5	6.6	9	67	76	89	18	8	50

Flange bracket material: Carbon steel



Note) When obtaining the full length dimension of 50 stroke or less, it requires to add the stroke twice.

Example) Full length dimension = A + Stroke = (● + Stroke) + Stroke

Series CQ2W/CDQ2W



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

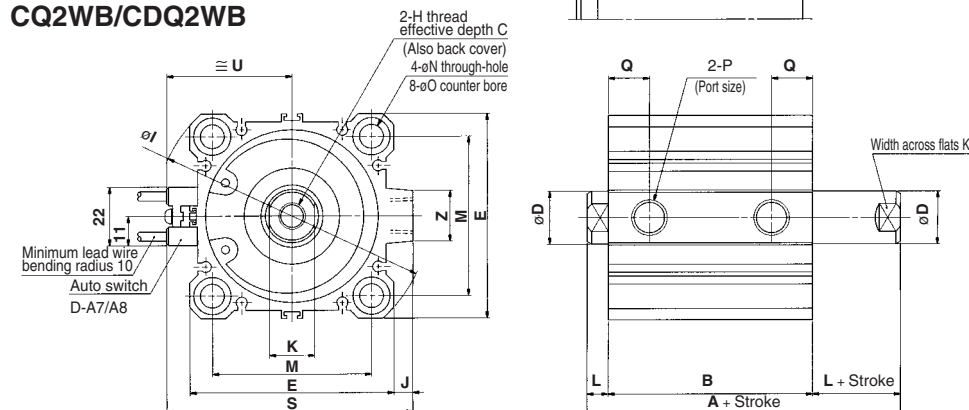
Dimensions: ø63 to ø100/With Auto Switch

Both ends tapped style: CQ2WA/CDQ2WA

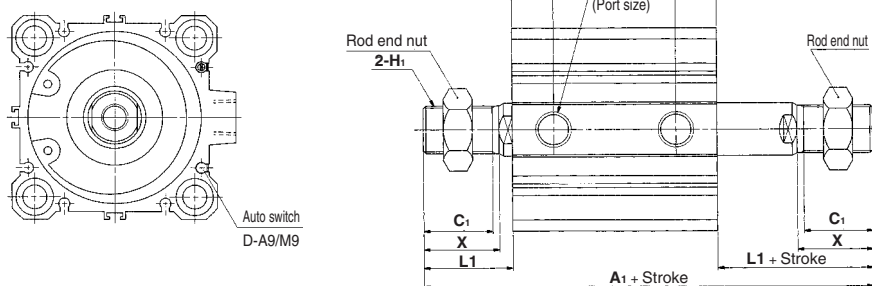
Both Ends Tapped Style

Bore size (mm)	O ₁	R
63	M10 x 1.5	18
80	M12 x 1.75	22
100	M12 x 1.75	22

Basic style (Through-hole): CQ2WB/CDQ2WB



Rod end male thread



Rod End Male Thread

Bore size (mm)	Without auto switch			With auto switch		
	A ₁			A ₁		
	50 or less	55 to 75	80 to 100	50 or less	55 to 75	80 to 100
63	109 + Stroke	194	219	119 + Stroke	194	219
80	138 + Stroke	223	248	148 + Stroke	223	248
100	147.5 + Stroke	232.5	257.5	157.5 + Stroke	232.5	257.5

Bore size (mm)	C ₁	H ₁	L ₁	X
63	26	M18 x 1.5	33.5	28.5
80	32.5	M22 x 1.5	43.5	35.5
100	32.5	M26 x 1.5	43.5	35.5

Basic Style

Bore size (mm)	Stroke range (mm)	Without auto switch						With auto switch					
		A			B			A			B		
		50 or less	55 to 75	80 to 100	50 or less	55 to 75	80 to 100	50 or less	55 to 75	80 to 100	50 or less	55 to 75	80 to 100
63	10 to 50, 75, 100	58 + Stroke	143	168	42 + Stroke	127	152	68 + Stroke	143	168	52 + Stroke	127	152
80	10 to 50, 75, 100	71 + Stroke	156	181	51 + Stroke	136	161	81 + Stroke	156	181	61 + Stroke	136	161
100	10 to 50, 75, 100	84.5 + Stroke	169.5	194.5	60.5 + Stroke	145.5	170.5	94.5 + Stroke	169.5	194.5	70.5 + Stroke	145.5	170.5

Bore size (mm)	C	D	E	H	I	J	K	L	M	N	O	P	Q	S	U	Z
63	15	20	77	M10 x 1.5	103	7	17	8	60	9	14 depth 10.5	G 1/4	15.5	93	47.5	19
80	21	25	98	M16 x 2.0	132	6	22	10	77	11	17.5 depth 13.5	G 3/8	18	112.5	57.5	26
100	27	30	117	M20 x 2.5	156	6.5	27	12	94	11	17.5 depth 13.5	G 3/8	22	132.5	67.5	26



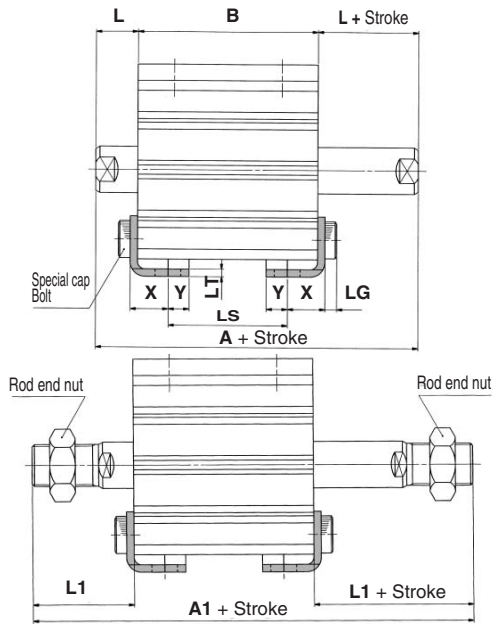
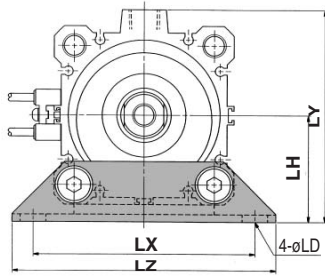
Note 1) External dimensions with rubber bumper are same as standard type as shown above.

Note 2) When obtaining the full length dimension of 50 stroke or less, it requires to add the stroke twice.

Example) Full length dimension = A + Stroke = (●● + Stroke) + Stroke

Compact Cylinder: Standard Type Double Acting, Double Rod Series CQ2W/CDQ2W

Foot style: CQ2W/CDQ2WL



Rod End Male Thread

Bore size (mm)	Without auto switch			With auto switch			L1
	A1			A1			
	50 ϕ or less	55 to 75	80 to 100	50 ϕ or less	55 to 75	80 to 100	
63	129 + Stroke	214	239	139 + Stroke	214	239	43.5
80	158 + Stroke	243	268	168 + Stroke	243	268	53.5
100	167.5 + Stroke	252.5	277	177.5 + Stroke	252.5	277.5	53.5

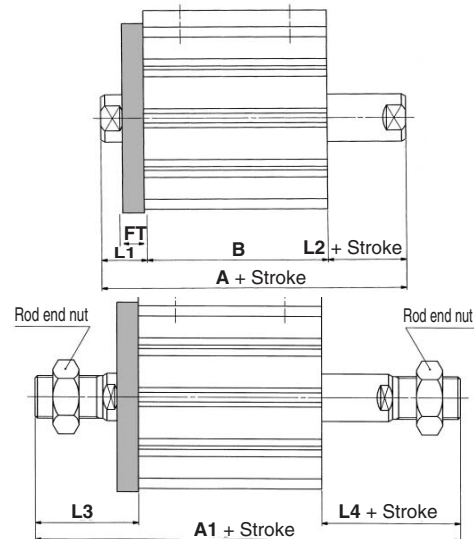
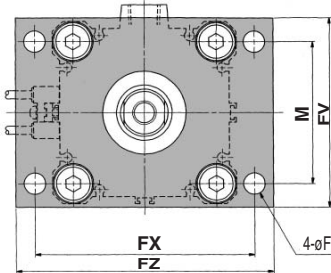
Foot Style

Bore size (mm)	Stroke range (mm)	Without auto switch									With auto switch								
		A			B			LS			A			B			LS		
		50 st or less	55 to 75	80 to 100	50 st or less	55 to 75	80 to 100	50 st or less	55 to 75	80 to 100	50 st or less	55 to 75	80 to 100	50 st or less	55 to 75	80 to 100	50 st or less	55 to 75	80 to 100
63	5 to 50, 75, 100	78 + Stroke	163	188	42 + Stroke	127	152	16 + Stroke	101	126	88 + Stroke	163	188	52 + Stroke	127	152	26 + Stroke	101	126
80	5 to 50, 75, 100	91 + Stroke	176	201	51 + Stroke	136	161	21 + Stroke	106	131	101 + Stroke	176	201	61 + Stroke	136	161	31 + Stroke	106	131
100	10 to 50, 75, 100	104.5 + Stroke	189.5	214.5	60.5 + Stroke	145.5	170.5	26.5 + Stroke	111.5	136.5	114.5 + Stroke	189.5	214.5	70.5 + Stroke	145.5	170.5	36.5 + Stroke	111.5	136.5

Foot bracket material: Carbon steel

Bore size (mm)	L	LD	LG	LH	LT	LX	LY	LZ	X	Y
63	18	11	5	46	3.2	95	91.5	113	16.2	9
80	20	13	7	59	4.5	118	114	140	19.5	11
100	22	13	7	71	6	137	136	162	23	12.5

Flange style: CQ2WF/CDQ2WF



Rod End Male Thread

Bore size (mm)	Without auto switch			With auto switch			L3	L4
	A1			A1				
	50 st or less	55 to 75	80 to 100	50 st or less	55 to 75	80 to 100		
63	119 + Stroke	204	229	129 + Stroke	204	229	43.5	33.5
80	148 + Stroke	233	258	158 + Stroke	233	258	53.5	43.5
100	157.5 + Stroke	242.5	267.5	167.5 + Stroke	242.5	267.5	53.5	43.5

Flange Style

Bore size (mm)	Stroke range (mm)	Without auto switch									With auto switch								
		A			B			A			B			FD	FT	FV	FX	FZ	L1
		50 st or less	55 to 75	80 to 100	50 st or less	55 to 75	80 to 100	50 st or less	55 to 75	80 to 100	50 st or less	55 to 75	80 to 100						
32	10 to 50, 75, 100	68 + Stroke	153	178	42 + Stroke	127	152	78 + Stroke	153	178	52 + Stroke	127	152	9	9	80	92	108	18
40	10 to 50, 75, 100	81 + Stroke	166	191	51 + Stroke	136	161	91 + Stroke	166	191	61 + Stroke	136	161	11	11	99	116	134	20
50	10 to 50, 75, 100	94.5 + Stroke	179.5	204.5	60.5 + Stroke	145.5	170.5	104.5 + Stroke	179.5	204.5	70.5 + Stroke	145.5	170.5	11	11	117	136	154	22

Note) When obtaining the full length dimension of 50 stroke or less, it requires to add the stroke twice.
Example) Full length dimension = A + Stroke = (●● + Stroke) + Stroke

Flange bracket material: Carbon steel