

Compact Cylinder: Standard Double Acting, Single Rod

CQ2 Series

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

How to Order

Without auto switch
ø12 to ø25

CQ2 **B** **20** - **30** **D** - -

Without auto switch
ø32 to ø100

CQ2 **B** **32** - **30** **D** **Z** - -

With auto switch

CDQ2 **B** **32** - **30** **D** **M** **Z** - **L** **W** - **M9BW** -

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬

With auto switch magnet

The overall length of the cylinder with an auto switch magnet is longer than that of the cylinder without an auto switch magnet by the length of the built-in magnet. For details, refer to the dimensions of each size.

① Mounting

B	Through-hole
A	Both ends tapped
L	Foot
LC	Compact foot
F	Rod flange
G	Head flange
D	Double clevis

- * Mounting brackets are shipped together with the product but do not come assembled.
- * Refer to ⑨ for the through-hole type mounting bolt.
- * For cylinders with mounting options "L," "LC," or "F," the cylinder rod protrusion dimensions (Dimensions L and L1) vary from the standard cylinder. When only ordering the cylinder, order the rod end length increased by 10 mm (-XC2) cylinder. For details ⇨ p. 166

② Type

Nil	Pneumatic
H	Air-hydro*1

*1 The bore sizes available for the air-hydro type are ø20 to ø100.

③ Bore size

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

④ Port thread type

Nil	M thread	ø12 to ø25
	Rc	
TN	NPT	ø32 to ø100
TF	G	
F	Built-in One-touch fittings*1	

- *1 The bore sizes available with One-touch fittings are ø32 to ø63. However, they cannot be selected for the air-hydro type.
- * "TF" is not selectable for the air-hydro type.
- * For cylinders without an auto switch magnet, M threads are compatible only with ø32-5 mm stroke.

⑤ Cylinder stroke (For details on the minimum stroke for auto switch mounting ⇨ p. 145)

Pneumatic type [mm]

Bore size	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, 45, 50, 75, 100
50, 63, 80, 100	10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100

- * For long strokes exceeding the standard stroke range ⇨ p. 72
- * For details on the manufacturing of intermediate strokes ⇨ p. 10

Air-hydro type [mm]

Bore size	Standard stroke
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, 63, 80, 100	10, 15, 20, 25, 30, 35, 40, 45, 50, 75, 100

⑥ Action

D	Double acting
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⑦ Body option

Nil	Rod end female thread
F	With boss on head end
C	With rubber bumper*1
M	Rod end male thread

- *1 The type with a rubber bumper is not selectable for the air-hydro type.
- * Combined body options, such as "FC," "FM," "FCM," and "CM" can be selected.

⑧ Auto switch mounting groove

Z	ø12 to ø25	2 surfaces
	ø32 to ø100	4 surfaces

⑨ Through-hole type mounting bolt

Nil	None
L	Shipped together

- * Mounting bolt is shipped together with the product only when the mounting bracket is "B" (Through-hole).
- * When a made-to-order option is selected for ⑩, the mounting bolt is not shipped together with the product. Please order it separately. For details: Without auto switch magnet ⇨ p. 13 With auto switch magnet ⇨ p. 14



10 Rod end bracket (⇒ p. 26, 27)

Nil	None
D	Simple joint A type + Joint
E	Simple joint B type + Joint
V	Single knuckle joint
W	Double knuckle joint

- * Options “D” and “E” must be used in combination with body option (Nil), the rod end female thread, and options “V” and “W” must be used in combination with body option (M), the rod end male thread.
- * The applicable bore size for “D” and “E” is ø32 to ø100.
- * A knuckle pin is not provided with the single knuckle joint (V). If a pin is required, please order it separately. For details ⇒ p. 26

- * When a made-to-order option is selected for **10**, the rod end bracket cannot be selected. Please order it separately.

11 Auto switch

Nil	Without auto switch
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- * For applicable auto switches, refer to the table below.

13 Made to order common specifications

For details ⇒ p. 9

12 Number of auto switches

Nil	2
S	1
n	n

For details on **auto switch mounting** ⇒ p. 139 to 152

- Auto Switch Proper Mounting Position (Detection at stroke end) and Mounting Height
- Minimum Stroke for Auto Switch Mounting
- Operating Range
- Auto Switch Mounting Brackets/Part Nos.

Cylinder Model with Auto Switch Magnet

If a cylinder with an auto switch magnet and without an auto switch is required, there is no need to enter the symbol for the auto switch.
(Example) CDQ2L32-25DZ

Applicable Auto Switches / Refer to the **Web Catalog** for further information on auto switches.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage		Auto switch model		Lead wire length [m]					Pre-wired connector	Applicable load				
					DC	AC	Perpendicular	In-line	0.5 (Nil)	1 (M)	3 (L)	5 (Z)	None (N)						
Solid state auto switch	—	Grommet	Yes	3-wire (NPN)	24 V	5 V, 12 V	—	M9NV	M9N	●	●	●	○	—	○	IC circuit	Relay, PLC		
				3-wire (PNP)				M9PV	M9P	●	●	●	○	—	○				
				2-wire				M9BV	M9B	●	●	●	○	—	○				
	3-wire (NPN)			M9NWV				M9NW	●	●	●	○	—	○	IC circuit				
	3-wire (PNP)			M9PWV				M9PW	●	●	●	○	—	○					
	2-wire			M9BWB				M9BW	●	●	●	○	—	○	—			○	—
	3-wire (NPN)			M9NAV*1				M9NA*1	○	○	●	○	—	○	IC circuit				
	3-wire (PNP)			M9PAV*1				M9PA*1	○	○	●	○	—	○					
	2-wire			M9BAV*1				M9BA*1	○	○	●	○	—	○	—			○	—
	2-wire (Non-polar)			—				P3DWA	●	—	●	—	—	—	—			—	—
Reed auto switch	—	Grommet	Yes	3-wire (NPN equivalent)	24 V	5 V, 12 V	100 V or less	A96V	A96	●	—	●	—	—	—	IC circuit	—		
				2-wire				A93V*2	A93	●	●	●	●	—	—	—	—	Relay, PLC	
				—				A90V	A90	●	—	●	—	—	—	—	—	IC circuit	

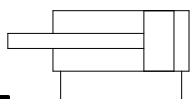
- *1 Water-resistant type auto switches can be mounted on the models on page 7, but SMC cannot guarantee water resistance. A water-resistant type cylinder (⇒ p. 99) is recommended for use in environments which require water resistance.
- *2 The 1 m lead wire is only applicable to the D-A93.
- * Lead wire length symbols: 0.5 m Nil (Example) M9NW
1 m M (Example) M9NWM
3 m L (Example) M9NWL
5 m Z (Example) M9NWZ
- * Solid state auto switches marked with “○” are produced upon receipt of order.
* The D-P3DWA type is only available in sizes ø25 to ø100.
- * There are applicable auto switches other than those listed above. For details ⇒ p. 152

Standard Double Acting, Single Rod **CQ2**
 Double Acting, Double Rod **CQ2W**
 Single Acting, Spring Return, Bent **CQ2**
 Large Bore Size Double Acting, Double Rod **CQ2W**
 Double Acting, Single Rod **CQ2**
 Anti-lateral Load Double Acting, Single Rod **CQ2S**
 Double Acting, Single Rod **CQ2**
 Long Stroke Double Acting, Single Rod **CQ2**
 Non-rotating Rod Double Acting, Double Rod **CQ2KW**
 Double Acting, Single Rod **CQ2K**
 Water Resistant Double Acting, Double Rod **CQ2W-RV**
 Double Acting, Single Rod **CQ2-RV**
 Axial Piping Single Acting, Single Rod **CQP2**
 Double Acting, Single Rod **CQP2**
 Single Acting, Spring Return, Bent **CQP2**
 With End Lock Double Acting, Single Rod **CBQ2**
 Auto Switch
 Made to Order

CQ2 Series

Symbol

Without cushion



Made to Order Common Specifications
(For details ⇨ p. 155 to 188)

Symbol	Specifications
-XA□	Change of rod end shape
-XB6	Heat-resistant cylinder (-10 to 150°C) w/o auto switch only*1
-XB7	Cold-resistant cylinder (-40 to 70°C) w/o auto switch only
-XB9	Low-speed cylinder (10 to 50 mm/s)
-XB10	Intermediate stroke (Using exclusive body)
-XB10A	Intermediate stroke (Spacer-installed type)
-XB13	Low-speed cylinder (5 to 50 mm/s)
-XB14	Cylinder with heat-resistant auto switch*1
-XC2(A)	Rod end length increased by 10 mm (For foot and flange bracket)
-XC4	With heavy duty scraper
-XC6	Piston rod/Retaining ring/Rod end nut material: Stainless steel
-XC8	Adjustable stroke cylinder/Adjustable extension type
-XC9	Adjustable stroke cylinder/Adjustable retraction type
-XC10	Dual stroke cylinder/Double rod type
-XC11	Dual stroke cylinder/Single rod type
-XC26	With split pins for double clevis pin/double knuckle joint pin and flat washers
-XC26□	Double clevis width/Double knuckle width 12.5 mm, 16.5 mm, or 19.5 mm: With double clevis and double knuckle joint
-XC27	Double clevis pin/Double knuckle joint pin material: Stainless steel 304
-XC35	With coil scraper
-XC36	With boss on rod end
-XC85	Grease for food processing equipment
-XC88	Spatter-resistant coil scraper, Lube-retainer, Grease for welding (Piston rod: Stainless steel 304)
-XC89	Spatter-resistant coil scraper, Lube-retainer, Grease for welding (Piston rod: S45C)
-XC91	Spatter-resistant coil scraper, Grease for welding (Piston rod: S45C)
-XC92	Dust-resistant actuator
-X144	Special port location, with auto switch
-X202	Same full length dimension as the CQ1 series
-X203	Same L dimension from the rod cover as the CQ1 series
-X271	Fluororubber seals*1
-X525	Long stroke for adjustable extension stroke cylinder (-XC8)
-X526	Long stroke for adjustable retraction stroke cylinder (-XC9)
-X636	Long stroke for dual stroke single rod cylinder
-X1876	Cylinder tube: With concave boss on head end

*1 Excludes the air-hydro type

Clean Series/Low Particle Generation

For details, refer to the **Web Catalog**.

* Stainless steel accessories are also available.
For details ⇨ p. 26

Moisture Control Tube IDK Series



When operating an actuator with a small bore size and a short stroke at a high frequency, dew condensation (water droplets) may occur inside the piping depending on the conditions.

Simply connecting the moisture control tube to the actuator will prevent dew condensation from occurring. For details, refer to the **Web Catalog**.

⚠ Precautions

Refer to page 189 before handling the products.

Specifications

Pneumatic type

Bore size [mm]	12	16	20	25	32	40	50	63	80	100	
Action	Double acting, Single rod										
Fluid	Air										
Proof pressure	1.5 MPa										
Maximum operating pressure	1.0 MPa										
Minimum operating pressure	0.07 MPa		0.05 MPa								
Ambient and fluid temperatures	Without auto switch magnet: -10 to 70°C (No freezing) With auto switch magnet: -10 to 60°C										
Lubrication	Not required (Non-lube)										
Piston speed	50 to 500 mm/s										
Allowable kinetic energy [J]	Standard	0.022	0.038	0.055	0.09	0.15	0.26	0.46	0.77	1.36	2.27
	With rubber bumper	0.043	0.075	0.11	0.18	0.29	0.52	0.91	1.54	2.71	4.54
Stroke length tolerance	+1.0 mm*1 0										

*1 Stroke length tolerance does not include the amount of bumper change.

Air-hydro type

Bore size [mm]	20	25	32	40	50	63	80	100
Action	Double acting, Single rod							
Fluid	Turbine oil*1							
Proof pressure	1.5 MPa							
Maximum operating pressure	1.0 MPa							
Minimum operating pressure	0.18 MPa		0.1 MPa					
Ambient and fluid temperatures	5 to 60°C							
Piston speed	5 to 50 mm/s							
Cushion	None							
Stroke length tolerance	+1.0 mm 0							

*1 Actuator Precautions 5 ⇨ Refer to the **Web Catalog**.

Mounting Bracket Part Nos.

Bore size [mm]	Foot*1	Compact foot*1	Flange	Double clevis	Double clevis pivot bracket	
12	Without auto switch magnet	CQ-L012	CQ-LC012	CQ-F012	CQ-D012	CQ-C012
	With auto switch magnet	CQ-LZ12	CQ-LCZ12			
16	Without auto switch magnet	CQ-L016	CQ-LC016	CQ-F016	CQ-D016	CQ-C016
	With auto switch magnet	CQ-LZ16	CQ-LCZ16			
20	Without auto switch magnet	CQ-L020	CQ-LC020	CQ-F020	CQ-D020	CQ-C020
	With auto switch magnet	CQ-LZ20	CQ-LCZ20			
25	Without auto switch magnet	CQ-L025	CQ-LC025	CQ-F025	CQ-D025	CQ-C025
	With auto switch magnet	CQ-LZ25	CQ-LCZ25			
32		CQ-L032	CQ-LC032	CQ-F032	CQ-D032	CQ-C032
40		CQ-L040	CQ-LC040	CQ-F040	CQ-D040	CQ-C040
50		CQ-L050	CQ-LC050	CQ-F050	CQ-D050	CQ-C050
63		CQ-L063	CQ-LC063	CQ-F063	CQ-D063	CQ-C063
80		CQ-L080	CQ-LC080	CQ-F080	CQ-D080	CQ-C080
100		CQ-L100	CQ-LC100	CQ-F100	CQ-D100	CQ-C100

*1 When ordering foot and compact foot brackets, the required quantity will be different depending on the bore size.

ø12 to ø25:

• Without auto switch magnet: Order 2 pieces per cylinder.

• With auto switch magnet: Order 1 piece per cylinder. (Part number for a set of 2 foot brackets)

ø32 to ø100:

• Order 2 pieces per cylinder.

* Parts included with each type of bracket are as follows.

Foot, Compact foot, Flange: Body mounting bolts

Double clevis: Clevis pin, Type C retaining rings for axis, Body mounting bolts

* For details on accessory brackets (Options) ⇨ p. 21 to 27

* Foot, compact foot, flange brackets, etc., cannot be retrofitted for through-hole mounting (B).

Manufacturing of Intermediate Strokes (Excludes the air-hydro type)

Strokes are available in 1 mm increments.

As 3 different patterns are available, be sure to double-check the body dimensions before selecting.

How to Order: 57 mm stroke

CQ2B50-57 DZ -

Stroke ●

Stroke suffix

Nil	A 18 mm spacer is installed on 75 mm stroke tube.	⇔ ①
XB10A	A 3 mm spacer is installed on 60 mm stroke tube.	⇔ ②
XB10	Makes 57 mm stroke tube.	⇔ ③

1. Spacer-installed type 1

Symbol

Nil

A spacer is installed on the standard stroke body (◆ indication).

The ⊙ indicates the selectable stroke range.

Bore size [mm]	Stroke range	Stroke															
		5	10	15	20	25	30	35	40	45	50	75	100				
12, 16	1 to 29	⊙	◆	⊙	◆	⊙	◆	⊙	◆	⊙	◆	⊙	◆	⊙	◆	⊙	◆
20, 25	1 to 49	⊙	◆	⊙	◆	⊙	◆	⊙	◆	⊙	◆	⊙	◆	⊙	◆	⊙	◆
32, 40	1 to 99	⊙	◆	⊙	◆	⊙	◆	⊙	◆	⊙	◆	⊙	◆	⊙	◆	⊙	◆
50 to 100	1 to 99	⊙	◆	⊙	◆	⊙	◆	⊙	◆	⊙	◆	⊙	◆	⊙	◆	⊙	◆

Ordering example

Part no.	CQ2B50-57DZ	
Description	<ul style="list-style-type: none"> • Uses a standard stroke (75 mm) tube. • Makes 57 mm stroke with 18 mm spacer inside. • The B dimension is 115.5 mm. B = 40.5 + 75 	

Symbol

-XB10A

2. Spacer-installed type 2

A spacer is installed on the exclusive body (● indication). The overall length is shorter than that of the spacer-installed type 1.

The ⊙ indicates the selectable stroke range. (Strokes with the ● indication are not selectable.)

The — indicates strokes supported by the spacer-installed type 1.

Bore size [mm]	Stroke range	Stroke													
		55	60	65	70	75	80	85	90	95					
32 to 100	51 to 94	⊙	●	⊙	●	⊙	●	⊙	●	⊙	●	⊙	●	⊙	●

Ordering example

Part no.	CQ2B50-57DZ-XB10A	
Description	<ul style="list-style-type: none"> • Uses an exclusive tube (60 mm stroke) in "3". • Makes 57 mm stroke with 3 mm spacer inside. • The B dimension is 100.5 mm. B = 40.5 + 60 	

Symbol

-XB10

3. Exclusive body type

A made-to-order exclusive body for specified strokes is also available. The overall length can be made shorter than that of spacer-installed types 1 and 2.

Bore size [mm]	Stroke range
12, 16	6 to 29
20, 25	6 to 49
32, 40	6 to 99
50 to 100	11 to 99

* In the case of exclusive body type with ø32 to ø100 (-XB10) with the stroke length exceeding 50 mm, reference values of the longitudinal dimension (A/B dimension) will be the same as those with auto switch magnet. For details ⇨ p. 162

Ordering example

Part no.	CQ2B50-57DZ-XB10	
Description	<ul style="list-style-type: none"> • Makes 57 mm stroke tube. • The B dimension is 97.5 mm. B = 40.5 + 57 	

Standard Double Acting, Single Rod **CQ2**

Standard Double Acting, Double Rod **CQ2W**

Single Acting, Spring Return, Bent **CQ2**

Large Bore Size Double Acting, Double Rod **CQ2W**

Anti-lateral Load Double Acting, Single Rod **CQ2S**

Long Stroke Double Acting, Single Rod **CQ2**

Non-rotating Rod Double Acting, Single Rod **CQ2KW**

Water Resistant Double Acting, Single Rod **CQ2-RV**

Water Resistant Double Acting, Double Rod **CQ2W-RV**

Axial Piping Double Acting, Single Rod **CQP2**

Single Acting, Spring Return, Bent **CQP2**

With End Lock Double Acting, Single Rod **CBQ2**

Auto Switch

Made to Order

CQ2 Series

Allowable Kinetic Energy

Load Mass and Piston Speed

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

$$\text{Kinetic energy } E \text{ [J]} = \frac{(m1+m2) V^2}{2}$$

m1: Mass of cylinder movable parts [kg]
m2: Load mass [kg]
V: Piston speed [m/s]

Mass of Cylinder Movable Parts: Without Auto Switch 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

Mass of Cylinder Movable Parts: With Auto Switch 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

Additional Mass of Cylinder Movable Parts [g]

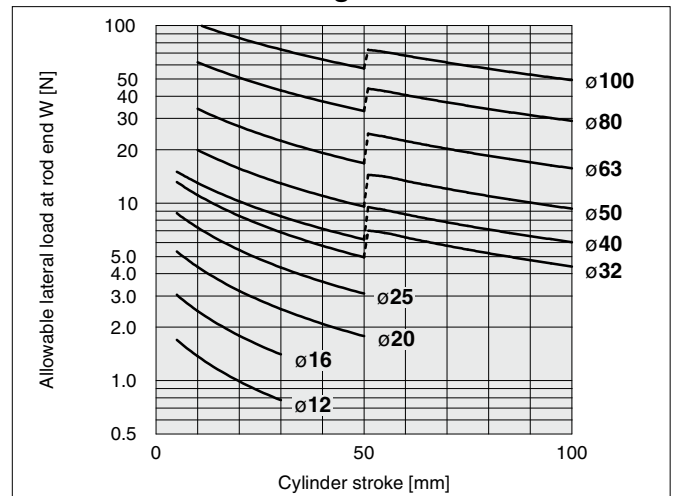
Bore size [mm]	Rod end										
	12	16	20	25	32	40	50	63	80	100	
Rod end male thread	Male thread	1.5	3	6	12	26	27	53	53	120	175
	Nut	1	2	4	8	17	17	32	32	49	116
With rubber bumper	0	0	-2	-3	-3	-7	-9	-18	-31	-56	

Calculation: (Example) **CDQ2B32-20DCMZ**

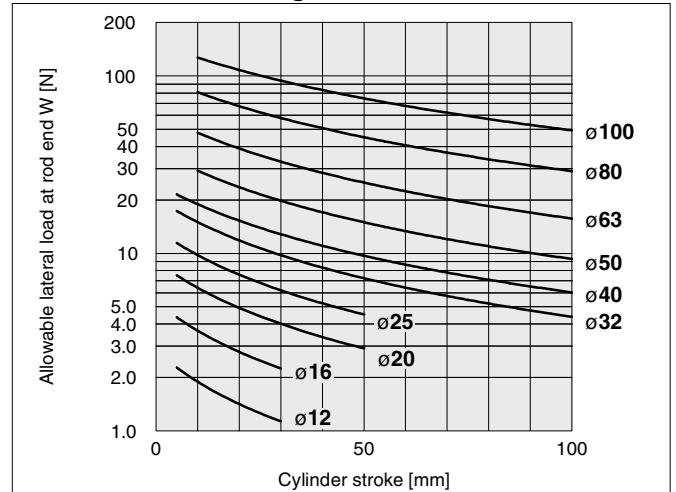
- Basic mass: CDQ2B32-20DCMZ 101 g
- Additional mass: Rod end male thread 43 g
- With rubber bumper -3 g
- 141 g

Allowable Lateral Load at Rod End

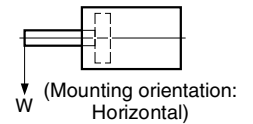
Without Auto Switch Magnet



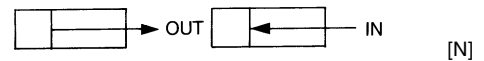
With Auto Switch Magnet



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



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

Weight

Without Auto Switch Magnet

[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	125	145	165	184	204	224	244	263	283	303	448	547
40	187	208	230	251	273	294	315	337	358	380	552	664
50	—	339	372	405	438	471	504	537	570	603	872	1043
63	—	480	518	556	594	632	670	708	746	784	1112	1308
80	—	916	976	1036	1097	1157	1217	1277	1338	1398	1917	2215
100	—	1608	1688	1768	1849	1929	2010	2090	2170	2251	2982	3391

With Auto Switch Magnet

[g]

Bore size [mm]	Cylinder stroke [mm]											
	5	10	15	20	25	30	35	40	45	50	75	100
12	43	49	55	61	67	73	—	—	—	—	—	—
16	64	71	79	87	95	102	—	—	—	—	—	—
20	94	106	118	131	143	155	167	179	191	203	—	—
25	134	149	164	180	195	210	226	241	256	272	—	—
32	182	202	222	241	261	281	300	320	340	359	459	558
40	269	290	312	333	355	376	398	420	441	463	575	687
50	—	455	488	521	554	587	620	653	686	719	891	1062
63	—	627	665	703	741	779	817	855	893	931	1129	1326
80	—	1162	1222	1282	1342	1403	1463	1524	1584	1644	1941	2237
100	—	1966	2047	2127	2208	2288	2368	2449	2529	2610	3018	3426

Additional Weight

[g]

Bore size [mm]	12	16	20	25	32	40	50	63	80	100
Both ends tapped	2	2	6	6	6	6	6	19	45	45
Rod end male thread	1.5	3	6	12	26	27	53	53	120	175
Nut	1	2	4	8	17	17	32	32	49	116
With boss on head end	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 (Including mounting bolts)	50	62	150	175	120	138	219	297	589	968
Compact foot (Including mounting bolts)	37	46	115	134	94	109	172	234	492	762
Rod flange (Including mounting bolts)	57	69	139	161	180	214	373	559	1056	1365
Head flange (Including mounting bolts)	54	65	133	152	165	198	348	534	1017	1309
Double clevis (Including pin, retaining rings, bolts)	32	39	88	123	151	196	393	554	1109	1887

Calculation: (Example) **CQ2D32-20DCMZ**

- Basic weight: CQ2B32-20DZ 184 g
 - Additional weight: Both ends tapped 6 g
 - Rod end male thread 43 g
 - With rubber bumper -3 g
 - Double clevis 151 g
- 381 g

Additional Weight

[g]

Bore size [mm]	12	16	20	25	32	40	50	63	80	100
Both ends tapped	1	1	3	3	6	6	6	19	45	45
Rod end male thread	1.5	3	6	12	26	27	53	53	120	175
Nut	1	2	4	8	17	17	32	32	49	116
With boss on head end	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 (Including mounting bolts)	41	53	126	149	120	138	219	297	589	968
Compact foot (Including mounting bolts)	30	38	94	113	94	109	172	234	492	762
Rod flange (Including mounting bolts)	54	67	131	153	180	214	373	559	1056	1365
Head flange (Including mounting bolts)	52	63	124	144	165	198	348	534	1017	1309
Double clevis (Including pin, retaining rings, bolts)	29	35	78	114	151	196	393	554	1109	1887

Calculation: (Example) **CDQ2D32-20DCMZ**

- Basic weight: CQ2B32-20DZ 241 g
 - Additional weight: Both ends tapped 6 g
 - Rod end male thread 43 g
 - With rubber bumper -3 g
 - Double clevis 151 g
- 438 g

Add each weight of auto switches when auto switches are mounted.

Standard Double Acting, Single Rod **CQ2**

Standard Double Acting, Double Rod **CQ2W**

Single Acting, Spring Return, Double Acting, Single Rod **CQ2**

Large Bore Size Double Acting, Double Rod **CQ2W**

Anti-lateral Load Double Acting, Single Rod **CQ2S**

Long Stroke Double Acting, Single Rod **CQ2**

Non-rotating Rod Double Acting, Double Rod **CQ2KW**

Water Resistant Double Acting, Single Rod **CQ2-RV**

Water Resistant Double Acting, Double Rod **CQ2W-RV**

Axial Piping Double Acting, Single Rod **CQP2**

Single Acting, Spring Return, Axial Piping **CQP2**

With End Lock Double Acting, Single Rod **CBQ2**

Auto Switch

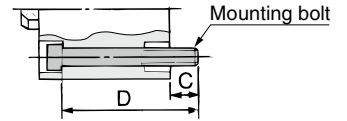
Made to Order

CQ2 Series

Through-hole Type Mounting Bolt for the CQ2: Without Auto Switch Magnet

Mounting bolt for the through-hole mounting of the CQ2B is available as an option.
 Refer to the following for ordering procedures.
 Order the actual number of bolts that will be used.
 For models with an auto switch magnet ⇨ p. 14

Type: Hexagon socket head cap screw
 Material: Chromium molybdenum steel
 Surface treatment: Zinc chromated



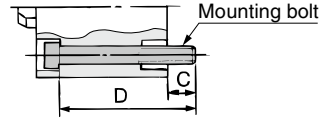
Example) CQ-M3 x 25L 4 pcs.

Cylinder model	C	D	Mounting bolt part no.	Cylinder model	C	D	Mounting bolt part no.	Cylinder model	C	D	Mounting bolt part no.
CQ2B12-5D	6.5	25	CQ-M3 x 25L	CQ2B40-5DZ	7.5	35	CQ-M5 x 35L	CQ2B80-10DZ	15	55	CQ-M10 x 55L
-10D		30	x 30L	-10DZ		40	x 40L	-15DZ		60	x 60L
-15D		35	x 35L	-15DZ		45	x 45L	-20DZ		65	x 65L
-20D		40	x 40L	-20DZ		50	x 50L	-25DZ		70	x 70L
-25D		45	x 45L	-25DZ		55	x 55L	-30DZ		75	x 75L
-30D		50	x 50L	-30DZ		60	x 60L	-35DZ		80	x 80L
CQ2B16-5D	5	25	CQ-M3 x 25L	-35DZ		65	x 65L	-40DZ		85	x 85L
-10D		30	x 30L	-40DZ		70	x 70L	-45DZ		90	x 90L
-15D		35	x 35L	-45DZ		75	x 75L	-50DZ		95	x 95L
-20D		40	x 40L	-50DZ		80	x 80L	-55DZ-XB10		110	x 110L
-25D		45	x 45L	-55DZ-XB10	95	x 95L	-60DZ-XB10	115		x 115L	
-30D		50	x 50L	-60DZ-XB10	100	x 100L	-65DZ-XB10	120		x 120L	
CQ2B20-5D	7.5	25	CQ-M5 x 25L	-65DZ-XB10	105	x 105L	-70DZ-XB10	125		x 125L	
-10D		30	x 30L	-70DZ-XB10	110	x 110L	-75DZ	130		x 130L	
-15D		35	x 35L	-75DZ	115	x 115L	-80DZ-XB10	135		x 135L	
-20D		40	x 40L	-80DZ-XB10	120	x 120L	-85DZ-XB10	140		x 140L	
-25D		45	x 45L	-85DZ-XB10	125	x 125L	-90DZ-XB10	145	x 145L		
-30D		50	x 50L	-90DZ-XB10	130	x 130L	-95DZ-XB10	150	x 150L		
-35D		55	x 55L	-95DZ-XB10	135	x 135L	-100DZ	155	x 155L		
-40D		60	x 60L	-100DZ	140	x 140L	CQ2B100-10DZ	65	CQ-M10 x 65L		
-45D		65	x 65L	CQ2B50-10DZ	45	CQ-M6 x 45L	-15DZ	70	x 70L		
-50D		70	x 70L	-15DZ	50	x 50L	-20DZ	75	x 75L		
CQ2B25-5D	9.5	30	CQ-M5 x 30L	-20DZ	55	x 55L	-25DZ	80	x 80L		
-10D		35	x 35L	-25DZ	60	x 60L	-30DZ	85	x 85L		
-15D		40	x 40L	-30DZ	65	x 65L	-35DZ	90	x 90L		
-20D		45	x 45L	-35DZ	70	x 70L	-40DZ	95	x 95L		
-25D		50	x 50L	-40DZ	75	x 75L	-45DZ	100	x 100L		
-30D		55	x 55L	-45DZ	80	x 80L	-50DZ	105	x 105L		
-35D		60	x 60L	-50DZ	85	x 85L	-55DZ-XB10	120	x 120L		
-40D		65	x 65L	-55DZ-XB10	100	x 100L	-60DZ-XB10	125	x 125L		
-45D		70	x 70L	-60DZ-XB10	105	x 105L	-65DZ-XB10	130	x 130L		
-50D		75	x 75L	-65DZ-XB10	110	x 110L	-70DZ-XB10	135	x 135L		
CQ2B32-5DZ	9	30	CQ-M5 x 30L	-70DZ-XB10	115	x 115L	-75DZ	140	x 140L		
-10DZ		35	x 35L	-75DZ	120	x 120L	-80DZ-XB10	145	x 145L		
-15DZ		40	x 40L	-80DZ-XB10	125	x 125L	-85DZ-XB10	150	x 150L		
-20DZ		45	x 45L	-85DZ-XB10	130	x 130L	-90DZ-XB10	155	x 155L		
-25DZ		50	x 50L	-90DZ-XB10	135	x 135L	-95DZ-XB10	160	x 160L		
-30DZ		55	x 55L	-95DZ-XB10	140	x 140L	-100DZ	165	x 165L		
-35DZ		60	x 60L	-100DZ	145	x 145L					
-40DZ		65	x 65L	CQ2B63-10DZ	50	CQ-M8 x 50L					
-45DZ		70	x 70L	-15DZ	55	x 55L					
-50DZ		75	x 75L	-20DZ	60	x 60L					
-55DZ-XB10		90	x 90L	-25DZ	65	x 65L					
-60DZ-XB10		95	x 95L	-30DZ	70	x 70L					
-65DZ-XB10		100	x 100L	-35DZ	75	x 75L					
-70DZ-XB10		105	x 105L	-40DZ	80	x 80L					
-75DZ	110	x 110L	-45DZ	85	x 85L						
-80DZ-XB10	115	x 115L	-50DZ	90	x 90L						
-85DZ-XB10	120	x 120L	-55DZ-XB10	95	x 95L						
-90DZ-XB10	125	x 125L	-60DZ-XB10	105	x 105L						
-95DZ-XB10	130	x 130L	-65DZ-XB10	110	x 110L						
-100DZ	135	x 135L	-70DZ-XB10	115	x 115L						
			-75DZ	120	x 120L						
			-80DZ-XB10	125	x 125L						
			-85DZ-XB10	130	x 130L						
			-90DZ-XB10	135	x 135L						
			-95DZ-XB10	140	x 140L						
			-100DZ	145	x 145L						
				150	x 150L						

Through-hole Type Mounting Bolt for the CDQ2: With Auto Switch Magnet

Mounting bolt for the through-hole mounting of the CDQ2B is available as an option.
 Refer to the following for ordering procedures.
 Order the actual number of bolts that will be used.
 For models without an auto switch magnet ⇨ p. 13

Type: Hexagon socket head cap screw
 Material: Chromium molybdenum steel
 Surface treatment: Zinc chromated



Example) CQ-M3 x 35L 2 pcs.

Cylinder model	C	D	Mounting bolt part no.	Cylinder model	C	D	Mounting bolt part no.	Cylinder model	C	D	Mounting bolt part no.
CDQ2B12-5DZ	5.5	35	CQ-M3 x 35L	CDQ2B40-5DZ	7.5	45	CQ-M5 x 45L	CDQ2B80-10DZ	15	65	CQ-M10 x 65L
-10DZ		40	x 40L	-10DZ		50	x 50L	-15DZ		70	x 70L
-15DZ		45	x 45L	-15DZ		55	x 55L	-20DZ		75	x 75L
-20DZ		50	x 50L	-20DZ		60	x 60L	-25DZ		80	x 80L
-25DZ		55	x 55L	-25DZ		65	x 65L	-30DZ		85	x 85L
-30DZ		60	x 60L	-30DZ		70	x 70L	-35DZ		90	x 90L
CDQ2B16-5DZ	8	40	CQ-M3 x 40L	-35DZ	75	x 75L	-40DZ	95		x 95L	
-10DZ		45	x 45L	-40DZ	80	x 80L	-45DZ	100		x 100L	
-15DZ		50	x 50L	-45DZ	85	x 85L	-50DZ	105		x 105L	
-20DZ		55	x 55L	-50DZ	90	x 90L	-55DZ-XB10	110		x 110L	
-25DZ		60	x 60L	-55DZ-XB10	95	x 95L	-60DZ-XB10	115	x 115L		
-30DZ		65	x 65L	-60DZ-XB10	100	x 100L	-65DZ-XB10	120	x 120L		
CDQ2B20-5DZ	10.5	40	CQ-M5 x 40L	-65DZ-XB10	105	x 105L	-70DZ-XB10	125	x 125L		
-10DZ		45	x 45L	-70DZ-XB10	110	x 110L	-75DZ	130	x 130L		
-15DZ		50	x 50L	-75DZ	115	x 115L	-80DZ-XB10	135	x 135L		
-20DZ		55	x 55L	-80DZ-XB10	120	x 120L	-85DZ-XB10	140	x 140L		
-25DZ		60	x 60L	-85DZ-XB10	125	x 125L	-90DZ-XB10	145	x 145L		
-30DZ		65	x 65L	-90DZ-XB10	130	x 130L	-95DZ-XB10	150	x 150L		
-35DZ		70	x 70L	-95DZ-XB10	135	x 135L	-100DZ	155	x 155L		
-40DZ		75	x 75L	-100DZ	140	x 140L	CDQ2B100-10DZ	75	CQ-M10 x 75L		
-45DZ		80	x 80L	CDQ2B50-10DZ	55	CQ-M6 x 55L	-15DZ	80	x 80L		
-50DZ		85	x 85L	-15DZ	60	x 60L	-20DZ	85	x 85L		
CDQ2B25-5DZ	9.5	40	CQ-M5 x 40L	-20DZ	65	x 65L	-25DZ	90	x 90L		
-10DZ		45	x 45L	-25DZ	70	x 70L	-30DZ	95	x 95L		
-15DZ		50	x 50L	-30DZ	75	x 75L	-35DZ	100	x 100L		
-20DZ		55	x 55L	-35DZ	80	x 80L	-40DZ	105	x 105L		
-25DZ		60	x 60L	-40DZ	85	x 85L	-45DZ	110	x 110L		
-30DZ		65	x 65L	-45DZ	90	x 90L	-50DZ	115	x 115L		
-35DZ		70	x 70L	-50DZ	95	x 95L	-55DZ-XB10	120	x 120L		
-40DZ		75	x 75L	-55DZ-XB10	100	x 100L	-60DZ-XB10	125	x 125L		
-45DZ		80	x 80L	-60DZ-XB10	105	x 105L	-65DZ-XB10	130	x 130L		
-50DZ		85	x 85L	-65DZ-XB10	110	x 110L	-70DZ-XB10	135	x 135L		
CDQ2B32-5DZ	9	40	CQ-M5 x 40L	-70DZ-XB10	115	x 115L	-75DZ	140	x 140L		
-10DZ		45	x 45L	-75DZ	120	x 120L	-80DZ-XB10	145	x 145L		
-15DZ		50	x 50L	-80DZ-XB10	125	x 125L	-85DZ-XB10	150	x 150L		
-20DZ		55	x 55L	-85DZ-XB10	130	x 130L	-90DZ-XB10	155	x 155L		
-25DZ		60	x 60L	-90DZ-XB10	135	x 135L	-95DZ-XB10	160	x 160L		
-30DZ		65	x 65L	-95DZ-XB10	140	x 140L	-100DZ	165	x 165L		
-35DZ		70	x 70L	-100DZ	145	x 145L	CDQ2B63-10DZ	60	CQ-M8 x 60L		
-40DZ		75	x 75L	CDQ2B63-10DZ	60	CQ-M8 x 60L	-15DZ	65	x 65L		
-45DZ		80	x 80L	-15DZ	65	x 65L	-20DZ	70	x 70L		
-50DZ		85	x 85L	-20DZ	70	x 70L	-25DZ	75	x 75L		
-55DZ-XB10		90	x 90L	-25DZ	75	x 75L	-30DZ	80	x 80L		
-60DZ-XB10		95	x 95L	-30DZ	80	x 80L	-35DZ	85	x 85L		
-65DZ-XB10		100	x 100L	-35DZ	85	x 85L	-40DZ	90	x 90L		
-70DZ-XB10		105	x 105L	-40DZ	90	x 90L	-45DZ	95	x 95L		
-75DZ	110	x 110L	-45DZ	95	x 95L	-50DZ	100	x 100L			
-80DZ-XB10	115	x 115L	-50DZ	100	x 100L	-55DZ-XB10	105	x 105L			
-85DZ-XB10	120	x 120L	-55DZ-XB10	105	x 105L	-60DZ-XB10	110	x 110L			
-90DZ-XB10	125	x 125L	-60DZ-XB10	110	x 110L	-65DZ-XB10	115	x 115L			
-95DZ-XB10	130	x 130L	-65DZ-XB10	115	x 115L	-70DZ-XB10	120	x 120L			
-100DZ	135	x 135L	-70DZ-XB10	120	x 120L	-75DZ	125	x 125L			
			-75DZ	125	x 125L	-80DZ-XB10	130	x 130L			
			-80DZ-XB10	130	x 130L	-85DZ-XB10	135	x 135L			
			-85DZ-XB10	135	x 135L	-90DZ-XB10	140	x 140L			
			-90DZ-XB10	140	x 140L	-95DZ-XB10	145	x 145L			
			-95DZ-XB10	145	x 145L	-100DZ	150	x 150L			
			-100DZ	150	x 150L						

Standard Double Acting, Single Rod **CQ2**

Standard Double Acting, Double Rod **CQ2W**

Single Acting, Spring Return, Bent **CQ2**

Large Bore Size Double Acting, Double Rod **CQ2W**

Anti-lateral Load Double Acting, Single Rod **CQ2S**

Long Stroke Double Acting, Single Rod **CQ2**

Non-rotating Rod Double Acting, Double Rod **CQ2KW**

Water Resistant Double Acting, Single Rod **CQ2-RV**

Water Resistant Double Acting, Double Rod **CQ2W-RV**

Axial Piping Double Acting, Single Rod **CQP2**

Axial Piping Single Acting, Spring Return, Bent **CQP2**

With End Lock Double Acting, Single Rod **CBQ2**

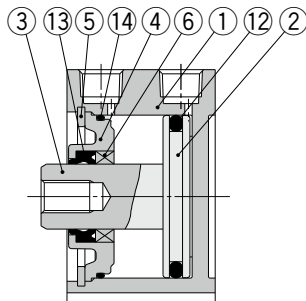
Auto Switch

Made to Order

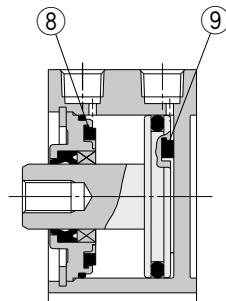
CQ2 Series

Construction

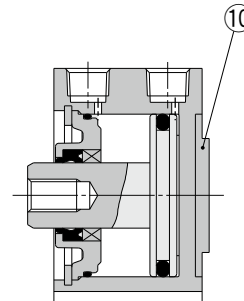
Without auto switch magnet



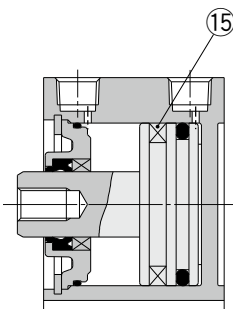
With rubber bumper



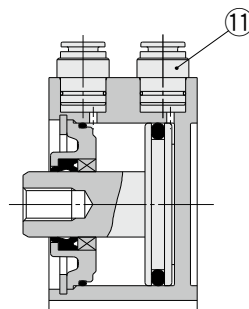
With boss on head end



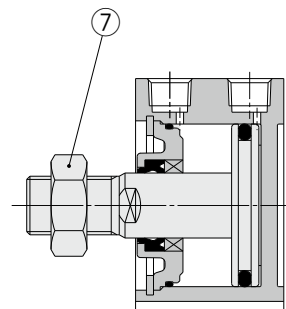
With auto switch magnet



Built-in One-touch fittings



Rod end male thread



Component Parts

No.	Description	Material	Note
1	Cylinder tube	Aluminum alloy	Hard anodized
2	Piston	Aluminum alloy	
3	Piston rod	Stainless steel	ø12 to ø25
		Carbon steel	ø32 to ø100, Hard chrome plating
4	Collar	Aluminum alloy	ø12 to ø40, Anodized
		Aluminum alloy casted	ø50 to ø100, Chromated, Painted
5	Retaining ring	Carbon tool steel	Phosphate coated
6	Bushing	Bearing alloy	For ø50 or more only
7	Rod end nut	Carbon steel	Zinc chromated
8	Bumper A	Urethane	Pneumatic type only

No.	Description	Material	Note
9	Bumper B	Urethane	Pneumatic type only
10	Centering location ring	Aluminum alloy	ø20 to ø100, Hard anodized
11	One-touch fitting	—	ø32 to ø63
12	Piston seal	NBR	
13	Rod seal	NBR	
14	Gasket	NBR	
15	Magnet	—	

Replacement Parts/Seal Kit Pneumatic Type

Bore size [mm]	Kit no.	Contents
12	CQ2B12-PS	Set of nos. 12, 13, 14
16	CQ2B16-PS	
20	CQ2B20-PS	
25	CQ2B25-PS	
32	CQ2B32-PS	
40	CQ2B40-PS	
50	CQ2B50-PS	
63	CQ2B63-PS	
80	CQ2B80-PS	
100	CQ2B100-PS	

Air-hydro Type

Bore size [mm]	Kit no.	Contents
20	CQ2BH20-PS	Set of nos. 12, 13, 14
25	CQ2BH25-PS	
32	CQ2BH32-PS	
40	CQ2BH40-PS	
50	CQ2BH50-PS	
63	CQ2BH63-PS	
80	CQ2BH80-PS	
100	CQ2BH100-PS	

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

* The seal kit does not include a grease pack. Order it separately.

Grease pack part no.: GR-S-010 (10 g)

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

* The seal kit does not include a grease pack. Order it separately.

Grease pack part no.: GR-S-010 (10 g)

Compact Cylinder with Stable Lubrication Function (Lube-retainer)

CDQ2 Mounting type Bore size **M** – Stroke **D** Body option **Z** Mounting bolt Rod end thread – Auto switch

• With auto switch magnet • With stable lubrication function (Lube-retainer)

* Available only for models with an auto switch magnet

Specifications

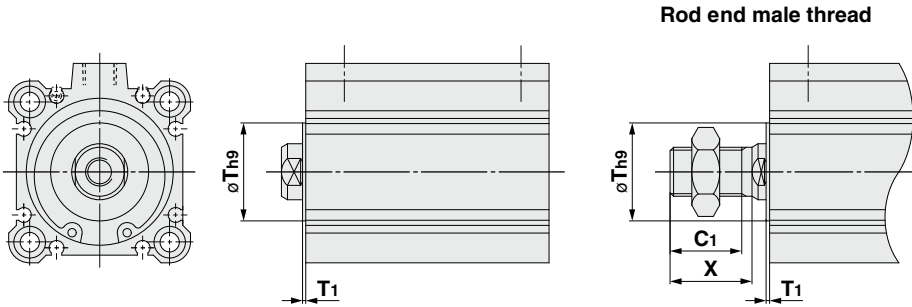
Bore size [mm]	32, 40, 50, 63, 80, 100
Action	Double acting, Single rod
Min. operating pressure	0.1 MPa
Piston speed	50 to 500 mm/s
Cushion	None

* Specifications other than those shown above are the same as the standard model.



Dimensions (Dimensions other than those shown below are the same as those of the standard model.)

ø32 to ø100



Bore size	T	T1	C1	X
32	22	1	20.5	23.5
40	28	1	20.5	23.5
50	35	2	24	26.5
63	35	2	24	26.5
80	—	—	32.5	35.5
100	—	—	32.5	35.5

[mm]

* The mounting dimensions of the mounting bracket are the same as the standard model.

For details, refer to the [Web Catalog](#).

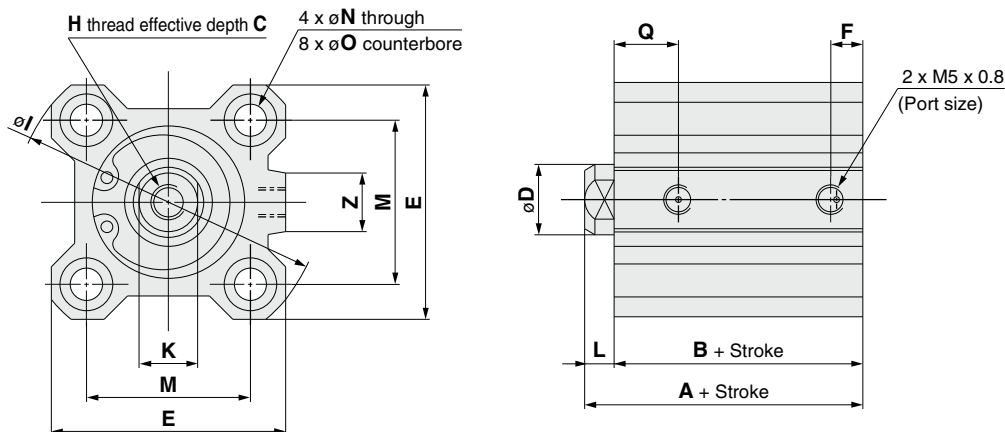
Standard	Double Acting, Single Rod	CQ2
Standard	Double Acting, Double Rod	CQ2W
Single Acting, Spring Return	Double Acting, Double Rod	CQ2
Large Bore Size	Double Acting, Single Rod	CQ2
Large Bore Size	Double Acting, Double Rod	CQ2W
Anti-lateral Load	Double Acting, Single Rod	CQ2□S
Long Stroke	Double Acting, Single Rod	CQ2
Non-rotating Rod	Double Acting, Double Rod	CQ2K
Non-rotating Rod	Double Acting, Double Rod	CQ2KW
Water Resistant	Double Acting, Single Rod	CQ2-RV
Water Resistant	Double Acting, Double Rod	CQ2W-RV
Axial Piping	Double Acting, Single Rod	CQP2
Axial Piping	Single Acting, Spring Return	CQP2
With End Lock	Double Acting, Single Rod	CBQ2
Auto Switch		Auto Switch
Made to Order		Made to Order

CQ2 Series

Bore Size

Ø12 to Ø25 Without Auto Switch Magnet

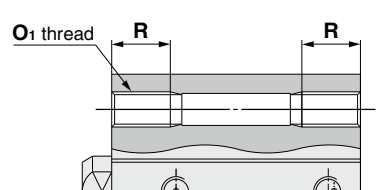
Through-hole: CQ2B



		[mm]															
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	8	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	9	10	

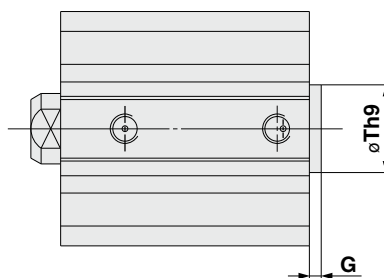
- * For details on the rod end nut and accessory brackets ⇨ p. 26, 27
- * The external dimensions with rubber bumper are same as those of the standard, as shown above.
- * For calculation on the longitudinal dimension of intermediate strokes ⇨ p. 10

Both ends tapped



[mm]		
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

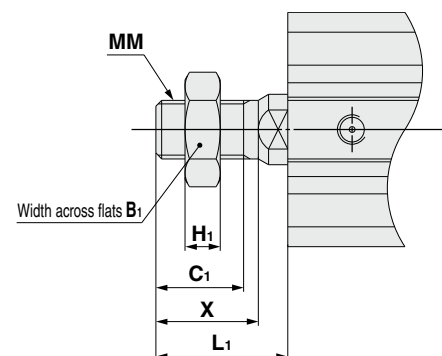
With boss on head end



[mm]		
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}

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

Rod end male thread



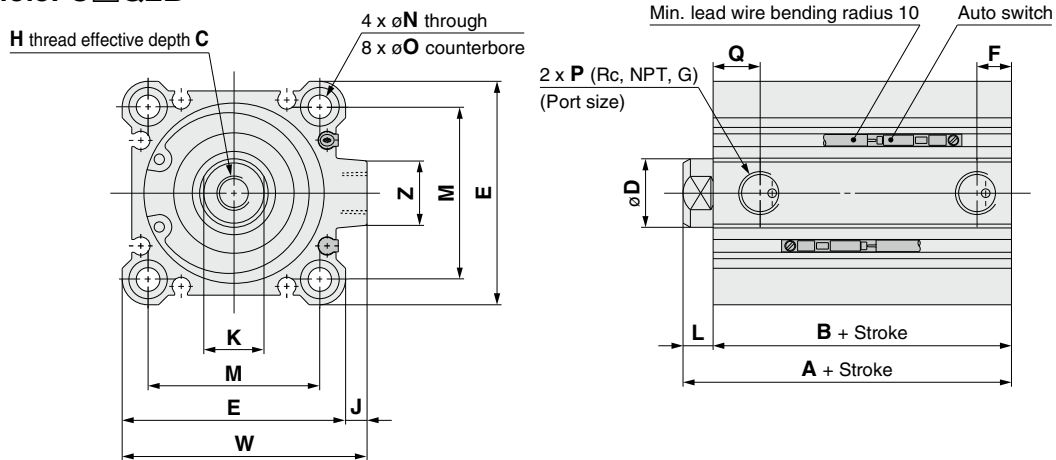
[mm]						
Bore size [mm]	B ₁	C ₁	H ₁	L ₁	MM	X
12	8	9	4	14	M5 x 0.8	10.5
16	10	10	5	15.5	M6 x 1.0	12
20	13	12	5	18.5	M8 x 1.25	14
25	17	15	6	22.5	M10 x 1.25	17.5

CQ2 Series

Bore Size

ø32 to ø50 With/Without Auto Switch Magnet

Through-hole: C□Q2B

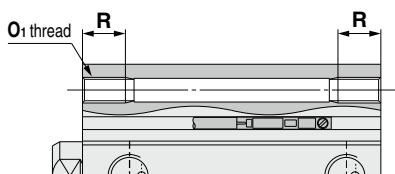


Bore size [mm]	Stroke range [mm]	Without auto switch magnet		With auto switch magnet				[mm]										
		A	B	F	P	A	B	F	P	C	D	E	H	J	K	L	M	N
32	5	30	23	5.5	M5 x 0.8	40	33	7.5	1/8	13	16	45	M8 x 1.25	4.5	14	7	34	5.5
	10 to 50	40	33	7.5	1/8													
	75, 100	46.5	39.5	7.5	1/8													
40	5 to 50	36.5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

Bore size [mm]	O	Q	W	Z
32	9 depth 7	10	49.5	14
40	9 depth 7	12.5	57	15
50	11 depth 8	10.5	71	19

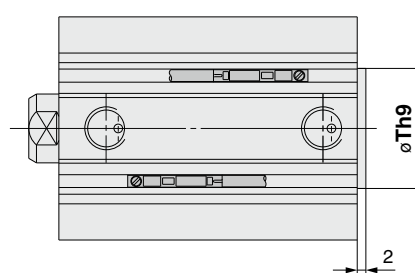
- * For details on the rod end nut and accessory brackets ⇨ p. 26, 27
- * The external dimensions with rubber bumper are same as those of the standard, as shown above.
- * For calculation on the longitudinal dimension of intermediate strokes ⇨ p. 10
- The spacer-installed type (Standard, -XB10A) and the exclusive body type (-XB10) are available.
- * For the auto switch proper mounting position and mounting height ⇨ p. 139 to 145

Both ends tapped



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

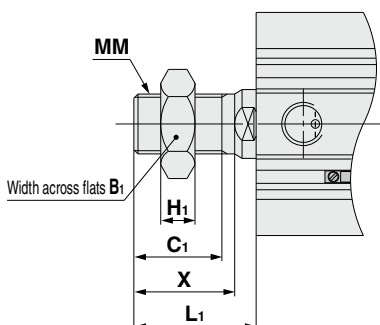
With boss on head end



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

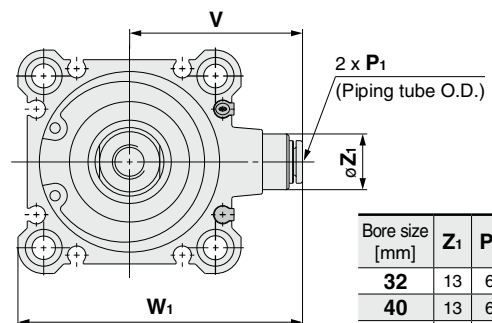
- * With boss on rod end: Option (Suffix "-XC36" to the end of model number.)

Rod end male thread



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

Built-in One-touch fittings



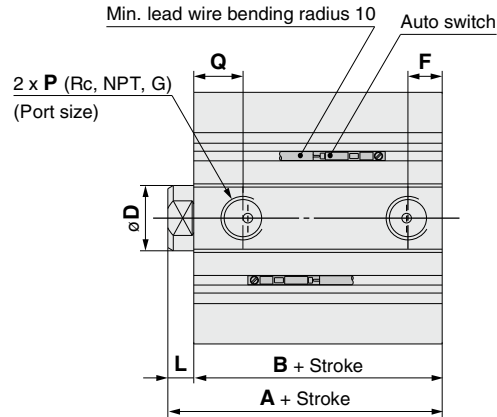
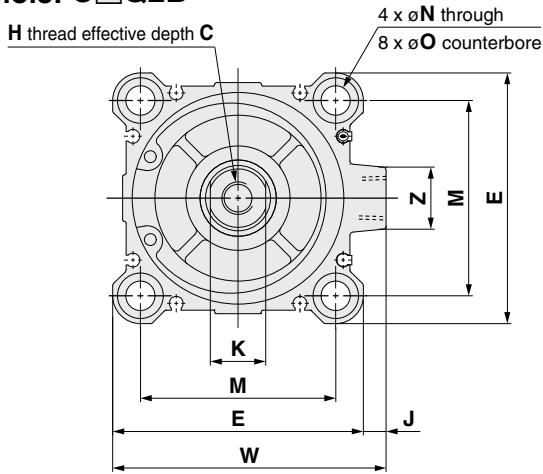
Bore size [mm]	Z ₁	P ₁	V	W ₁
32	13	6	36.5	59
40	13	6	40.5	66
50	16	8	50	82

- * The dimensions of the ø32-5 mm stroke with built-in One-touch fittings (without magnet) are the same as those of the 10 mm stroke cylinder tube.

Bore Size

∅63 to ∅100 With/Without Auto Switch Magnet

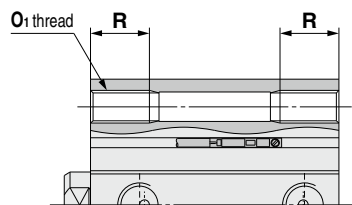
Through-hole: **C□Q2B**



Bore size [mm]	Stroke range [mm]	Without auto switch magnet		With auto switch magnet		C	D	E	F	H	J	K	L	M	N	O	P	Q	W	Z	
		A	B	A	B																
63	10 to 50	44	36	54	46	15	20	77	10.5	M10 x 1.5	7	17	8	60	9	14 depth	10.5	1/4	15	84	19
	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	6	22	10	77	11	17.5 depth	13.5	3/8	16	104	25
	75, 100	63.5	53.5																		
100	10 to 50	65	53	75	63	27	30	117	13	M20 x 2.5	6.5	27	12	94	11	17.5 depth	13.5	3/8	23	123.5	25
	75, 100	75	63																		

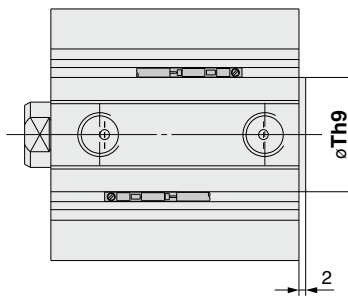
- * For details on the rod end nut and accessory brackets ⇨ p. 26, 27
- * The external dimensions with rubber bumper are same as those of the standard, as shown above.
- * For calculation on the longitudinal dimension of intermediate strokes ⇨ p. 10
- * For the auto switch proper mounting position and mounting height ⇨ p. 139 to 145

Both ends tapped



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

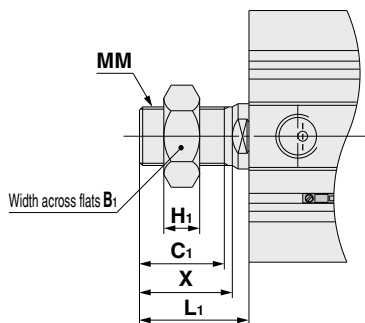
With boss on head end



Bore size [mm]	Th ₉
63	35 ⁰ _{-0.062}
80	43 ⁰ _{-0.062}
100	59 ⁰ _{-0.074}

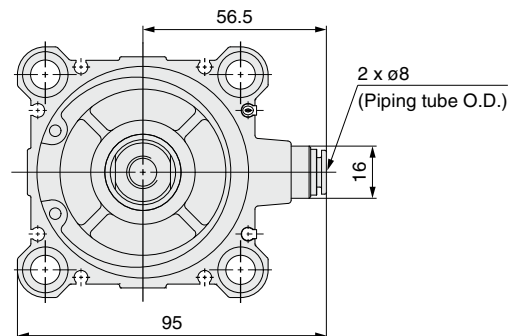
* With boss on rod end: Option (Suffix "XC36" to the end of model number.)

Rod end male thread



Bore size [mm]	B ₁	C ₁	H ₁	L ₁	MM	X
63	27	26	11	33.5	M18 x 1.5	28.5
80	32	32.5	13	43.5	M22 x 1.5	35.5
100	41	32.5	16	43.5	M26 x 1.5	35.5

Built-in One-touch fittings: ∅63



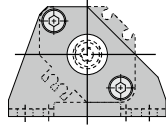
Double Acting, Single Rod	CQ2
Double Acting, Double Rod	CQ2W
Single Acting, Spring Return, Double Rod	CQ2
Double Acting, Single Rod	CQ2
Double Acting, Double Rod	CQ2W
Anti-lateral Load	CQ2□S
Long Stroke	CQ2
Non-rotating Rod	CQ2KW
Water Resistant	CQ2-RV
Double Acting, Single Rod	CQ2
Double Acting, Double Rod	CQ2W-RV
Axial Piping	CQP2
Single Acting, Spring Return, Double Rod	CQP2
With End Lock	CBQ2
Double Acting, Single Rod	Auto Switch
Double Acting, Double Rod	Made to Order

CQ2 Series Accessory Brackets

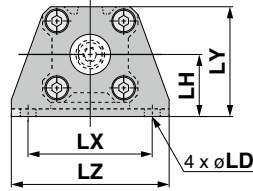
Mounting Brackets

Foot

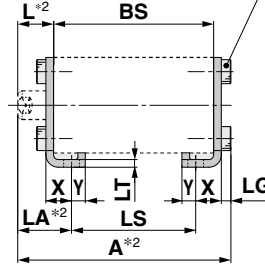
ø12 to ø25 With auto switch magnet
CQ-LZ□□



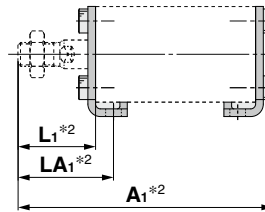
Without auto switch magnet
CQ-L0□□



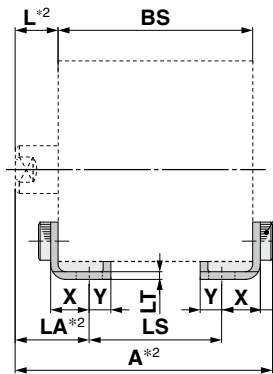
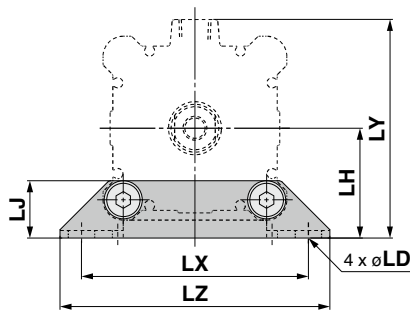
Hexagon socket head cap screw (Accessory)



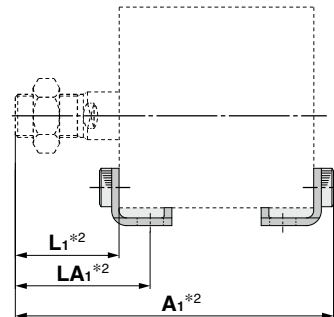
Rod end male thread



ø32 to ø100



Rod end male thread



- *1 The foot bracket cannot be retrofitted for through-hole mounting (B).
- *2 This shows the piston rod in the retracted state. For the single acting, spring extend type (C□Q2□□T), the length of the product will increase with the length of the stroke due to the spring force.

* BS indicates the overall length of the cylinder tube to be used.

Bore size [mm]	Part no.	A	A ₁	L	L ₁	LA	LA ₁	LD	LG	LH	LJ	LS	LT	LX	LY	LZ	X	Y
12	CQ-L012	BS + 18.3	BS + 28.8	13.5	24	19.5	30	4.5	2.8	17	—	BS-12	2	34	29.5	44	8	4.5
	CQ-LZ12																	
16	CQ-L016	BS + 18.3	BS + 30.3	13.5	25.5	19.5	31.5	4.5	2.8	19	—	BS-12	2	38	33.5	48	8	5
	CQ-LZ16																	
20	CQ-L020	BS + 21.7	BS + 35.7	14.5	28.5	20.5	34.5	6.6	4	24	—	BS-12	3.2	48	42	62	9.2	5.8
	CQ-LZ20																	
25	CQ-L025	BS + 22.2	BS + 39.7	15	32.5	22.5	40	6.6	4	26	—	BS-15	3.2	52	46	66	10.7	5.8
	CQ-LZ25																	
32	CQ-L032	BS + 24.2	BS + 45.7	17	38.5	25	46.5	6.6	4	30	18.5	BS-16	3.2	57	57	71	11.2	5.8
40	CQ-L040	BS + 24.2	BS + 45.7	17	38.5	25	46.5	6.6	4	33	18.5	BS-16	3.2	64	64	78	11.2	7
50	CQ-L050	BS + 26.2	BS + 51.7	18	43.5	29.5	55	9	5	39	21	BS-23	3.2	79	78	95	14.7	8
63	CQ-L063	BS + 26.2	BS + 51.7	18	43.5	31	56.5	11	5	46	24	BS-26	3.2	95	91.5	113	16.2	9
80	CQ-L080	BS + 31.5	BS + 65	20	53.5	35	68.5	13	7	59	31	BS-30	4.5	118	114	140	19.5	11
100	CQ-L100	BS + 35	BS + 66.5	22	53.5	39	70.5	13	7	71	36	BS-34	6	137	136	162	23	12.5

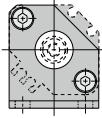
* For details on the rod end nut and accessory brackets ⇨ p. 26, 27

Mounting Brackets

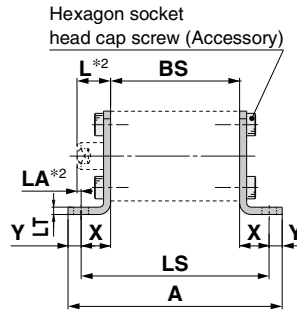
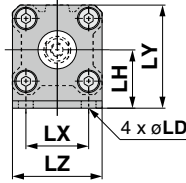
Compact foot

ø12 to ø25

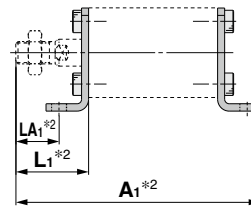
With auto switch magnet
CQ-LCZ□□



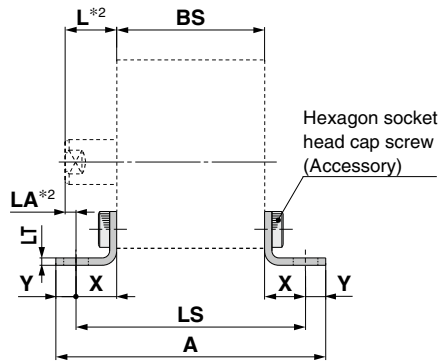
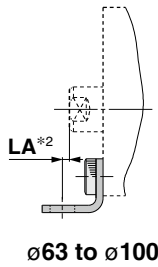
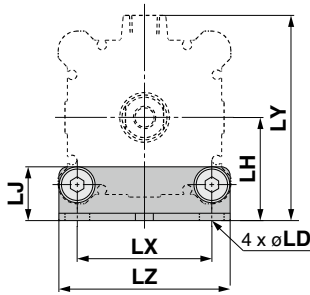
Without auto switch magnet
CQ-LC0□□



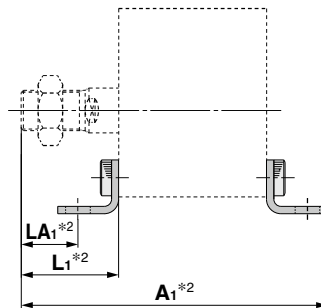
Rod end male thread



ø32 to ø100



Rod end male thread



- *1 The compact foot bracket cannot be retrofitted for through-hole mounting (B).
- *2 This shows the piston rod in the retracted state. For the single acting, spring extend type (C□Q2□T), the length of the product will increase with the length of the stroke due to the spring force.

* BS indicates the overall length of the cylinder tube to be used.

Bore size [mm]	Part no.	A	A ₁	L	L ₁	LA	LA ₁	LD	LH	LJ	LS	LT	LX	LY	LZ	X	Y
12	CQ-LC012	BS + 27.6	BS + 37.8	13.5	24	4.2	14.7	4.5	17	—	BS + 18.6	2	15.5	29.5	25	9.3	4.5
	CQ-LCZ12																
16	CQ-LC016	BS + 28.6	BS + 39.8	13.5	25.5	4.2	16.2	4.5	19	—	BS + 18.6	2	20	33.5	29	9.3	5
	CQ-LCZ16																
20	CQ-LC020	BS + 38	BS + 47.5	14.5	28.5	1.3	15.3	6.6	24	—	BS + 26.4	3.2	25.5	42	36	13.2	5.8
	CQ-LCZ20																
25	CQ-LC025	BS + 38	BS + 51.5	15	32.5	1.8	19.3	6.6	26	—	BS + 26.4	3.2	28	46	40	13.2	5.8
	CQ-LCZ25																
32	CQ-LC032	BS + 39	BS + 58	17	38.5	3.3	24.8	6.6	30	18.5	BS + 27.4	3.2	34	57	45	13.7	5.8
40	CQ-LC040	BS + 41.4	BS + 59.2	17	38.5	3.3	24.8	6.6	33	18.5	BS + 27.4	3.2	40	64	52	13.7	7
50	CQ-LC050	BS + 49.4	BS + 68.2	18	43.5	1.3	26.8	9	39	21	BS + 33.4	3.2	50	78	64	16.7	8
63	CQ-LC063	BS + 54.4	BS + 70.7	18	43.5	0.2	25.3	11	46	24	BS + 36.4	3.2	60	91.5	77	18.2	9
80	CQ-LC080	BS + 67	BS + 87	20	53.5	2.5	31	13	59	31	BS + 45	4.5	77	114	98	22.5	11
100	CQ-LC100	BS + 73	BS + 90	22	53.5	2	29.5	13	71	36	BS + 48	6	94	136	117	24	12.5

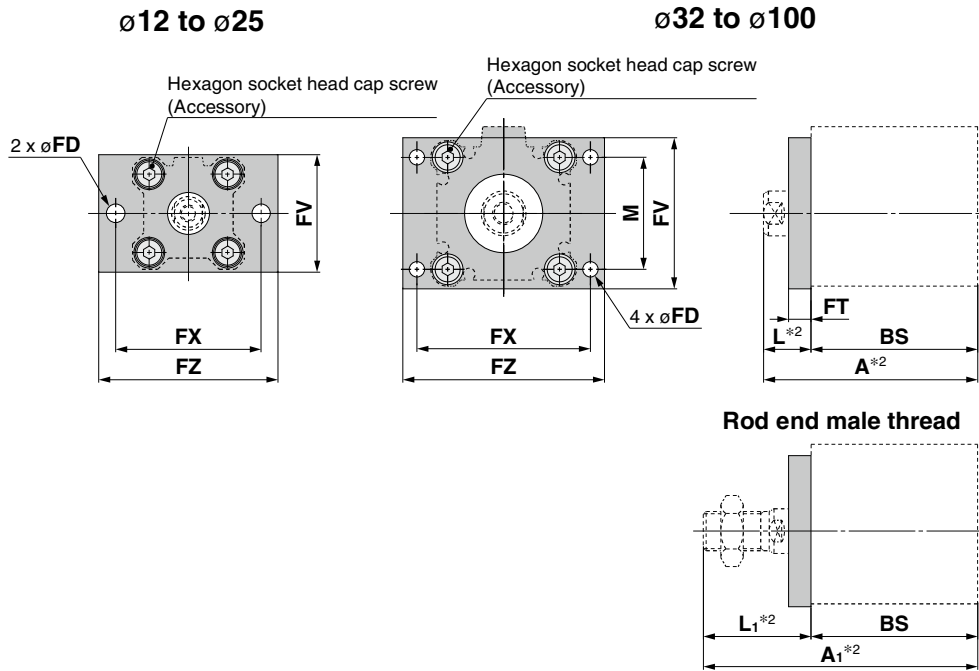
* For details on the rod end nut and accessory brackets ⇨ p. 26, 27

Standard	Double Acting, Single Rod	CQ2
Standard	Double Acting, Double Rod	CQ2W
Standard	Single Acting, Spring Return, Bent	CQ2
Large Bore Size	Double Acting, Single Rod	CQ2
Large Bore Size	Double Acting, Double Rod	CQ2W
Anti-lateral Load	Double Acting, Single Rod	CQ2□S
Anti-lateral Load	Double Acting, Double Rod	CQ2□SW
Long Stroke	Double Acting, Single Rod	CQ2
Long Stroke	Double Acting, Double Rod	CQ2W
Non-rotating Rod	Double Acting, Single Rod	CQ2K
Non-rotating Rod	Double Acting, Double Rod	CQ2KW
Water Resistant	Double Acting, Single Rod	CQ2-RV
Water Resistant	Double Acting, Double Rod	CQ2W-RV
Axial Piping	Double Acting, Single Rod	CQP2
Axial Piping	Double Acting, Double Rod	CQP2W
With End Lock	Double Acting, Single Rod	CBQ2
With End Lock	Double Acting, Double Rod	CBQ2W
Auto Switch	Double Acting, Single Rod	CQ2
Auto Switch	Double Acting, Double Rod	CQ2W
Made to Order	Double Acting, Single Rod	CQ2
Made to Order	Double Acting, Double Rod	CQ2W

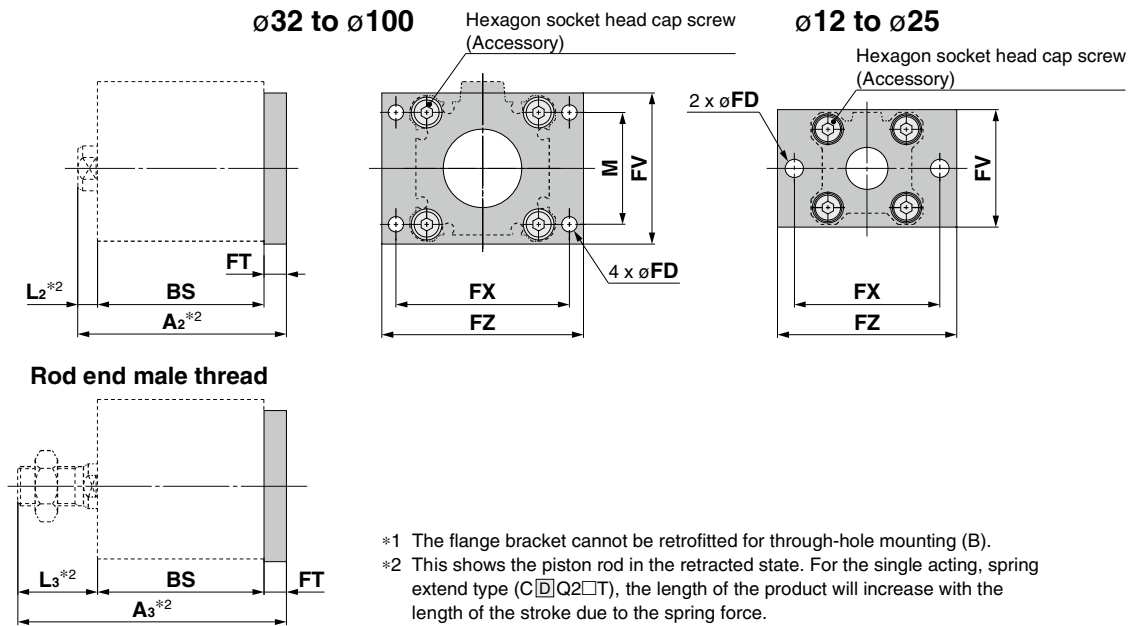
CQ2 Series

Mounting Brackets

Rod flange



Head flange



- *1 The flange bracket cannot be retrofitted for through-hole mounting (B).
- *2 This shows the flange bracket in the retracted state. For the single acting, spring extend type (C□Q2□T), the length of the product will increase with the length of the stroke due to the spring force.

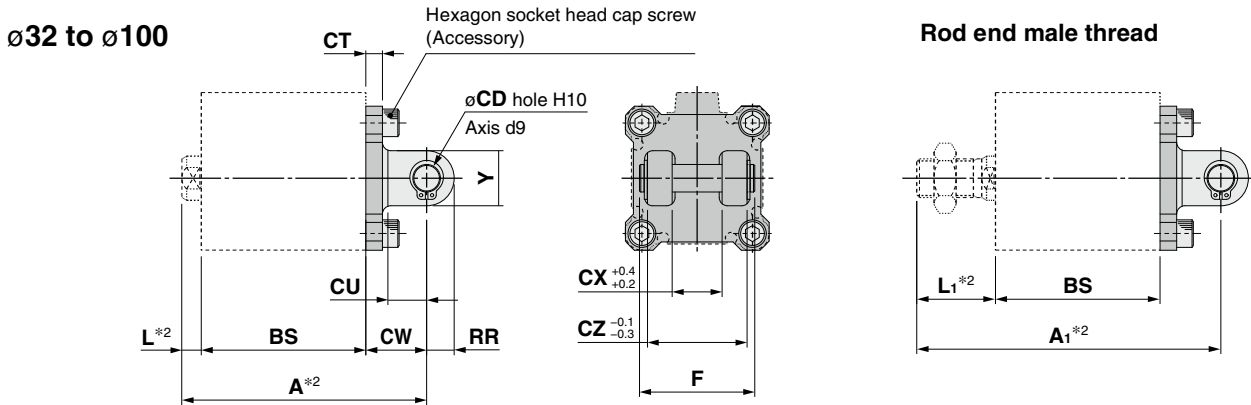
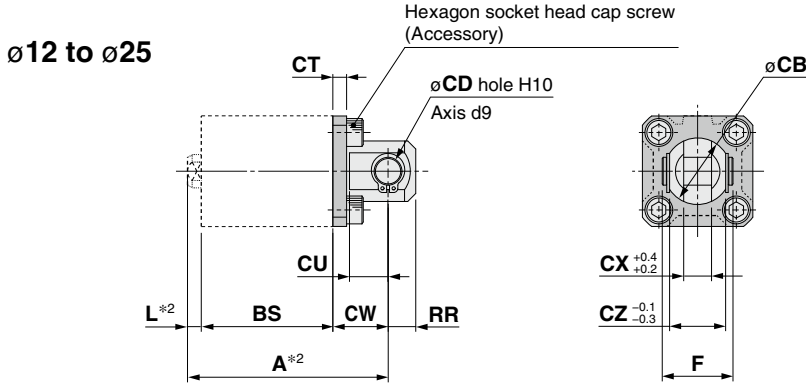
* BS indicates the overall length of the cylinder tube to be used.

Bore size [mm]	Part no.	A	A ₁	A ₂	A ₃	FD	FT	FV	FX	FZ	L	L ₁	L ₂	L ₃	M
12	CQ-F012	BS + 13.5	BS + 24	BS + 9	BS + 19.5	4.5	5.5	25	45	55	13.5	24	3.5	14	—
16	CQ-F016	BS + 13.5	BS + 25.5	BS + 9	BS + 21	4.5	5.5	30	45	55	13.5	25.5	3.5	15.5	—
20	CQ-F020	BS + 14.5	BS + 28.5	BS + 12.5	BS + 26.5	6.6	8	39	48	60	14.5	28.5	4.5	18.5	—
25	CQ-F025	BS + 15	BS + 32.5	BS + 13	BS + 30.5	6.6	8	42	52	64	15	32.5	5	22.5	—
32	CQ-F032	BS + 17	BS + 38.5	BS + 15	BS + 36.5	5.5	8	48	56	65	17	38.5	7	28.5	34
40	CQ-F040	BS + 17	BS + 38.5	BS + 15	BS + 36.5	5.5	8	54	62	72	17	38.5	7	28.5	40
50	CQ-F050	BS + 18	BS + 43.5	BS + 17	BS + 42.5	6.6	9	67	76	89	18	43.5	8	33.5	50
63	CQ-F063	BS + 18	BS + 43.5	BS + 17	BS + 42.5	9	9	80	92	108	18	43.5	8	33.5	60
80	CQ-F080	BS + 20	BS + 53.5	BS + 21	BS + 54.5	11	11	99	116	134	20	53.5	10	43.5	77
100	CQ-F100	BS + 22	BS + 53.5	BS + 23	BS + 54.5	11	11	117	136	154	22	53.5	12	43.5	94

* For details on the rod end nut and accessory brackets ⇨ p. 26, 27

Mounting Brackets

Double clevis



*1 The double clevis bracket cannot be retrofitted for through-hole mounting (B).

*2 This shows the piston rod in the retracted state. For the single acting, spring extend type (C□Q2□T), the length of the product will increase with the length of the stroke due to the spring force.

* BS indicates the overall length of the cylinder tube to be used.

		[mm]														
Bore size [mm]	Part no.	A	A ₁	CB	CD	CT	CU	CW	CX	CZ	F	L	L ₁	RR	Y	
12	CQ-D012	BS + 17.5	BS + 28	12	5	4	7	14	5	10	14.6	3.5	14	6	—	
16	CQ-D016	BS + 18.5	BS + 30.5	14	5	4	10	15	6.5	12	16.6	3.5	15.5	6	—	
20	CQ-D020	BS + 22.5	BS + 36.5	20	8	5	12	18	8	16	21	4.5	18.5	9	—	
25	CQ-D025	BS + 25	BS + 42.5	24	10	5	14	20	10	20	25.6	5	22.5	10	—	
32	CQ-D032	BS + 27	BS + 48.5	—	10	5	14	20	18	36	41.6	7	28.5	10	20	
40	CQ-D040	BS + 29	BS + 50.5	—	10	6	14	22	18	36	41.6	7	28.5	10	20	
50	CQ-D050	BS + 36	BS + 61.5	—	14	7	20	28	22	44	50.6	8	33.5	14	28	
63	CQ-D063	BS + 38	BS + 63.5	—	14	8	20	30	22	44	50.6	8	33.5	14	28	
80	CQ-D080	BS + 48	BS + 81.5	—	18	10	27	38	28	56	64	10	43.5	18	36	
100	CQ-D100	BS + 57	BS + 88.5	—	22	13	31	45	32	64	72	12	43.5	22	44	

* For details on the rod end nut and accessory brackets ⇨ p. 26, 27

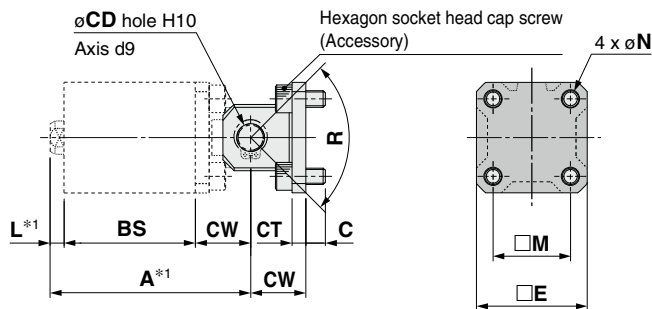
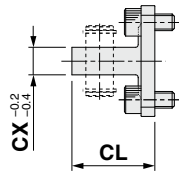
Standard	Double Acting, Double Rod	CQ2W
Standard	Double Acting, Double Rod	CQ2
Standard	Single Acting, Spring Return, Extend	CQ2
Large Bore Size	Double Acting, Single Rod	CQ2
Large Bore Size	Double Acting, Double Rod	CQ2W
Anti-lateral Load	Double Acting, Single Rod	CQ2□S
Long Stroke	Double Acting, Single Rod	CQ2
Long Stroke	Double Acting, Double Rod	CQ2K
Non-rotating Rod	Double Acting, Single Rod	CQ2K
Non-rotating Rod	Double Acting, Double Rod	CQ2KW
Water Resistant	Double Acting, Single Rod	CQ2-RV
Water Resistant	Double Acting, Double Rod	CQ2W-RV
Axial Piping	Double Acting, Single Rod	CQP2
Axial Piping	Double Acting, Double Rod	CQP2
Axial Piping	Single Acting, Spring Return, Extend	CQP2
With End Lock	Double Acting, Single Rod	CBQ2
Auto Switch		Auto Switch
Made to Order		Made to Order

CQ2 Series

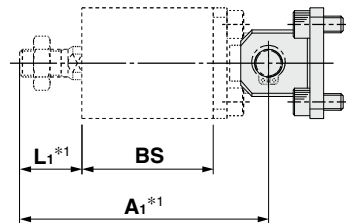
Mounting Brackets

Double clevis pivot bracket

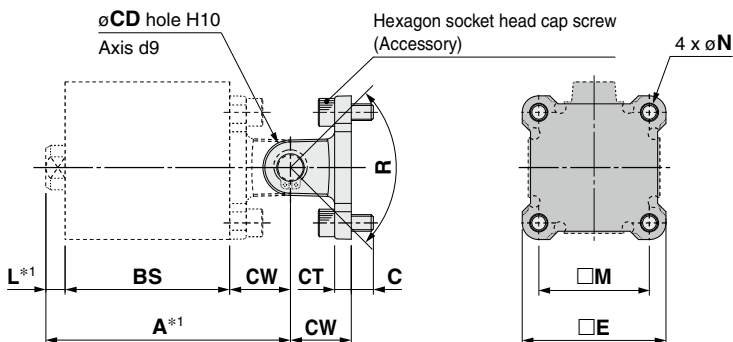
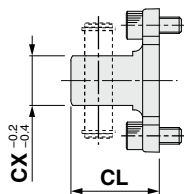
ø12 to ø25



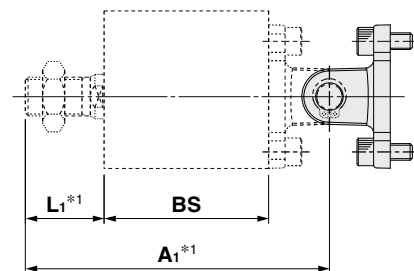
Rod end male thread



ø32 to ø100



Rod end male thread



*1 This shows the piston rod in the retracted state. For the single acting, spring extend type (C□Q2□T), the length of the product will increase with the length of the stroke due to the spring force.

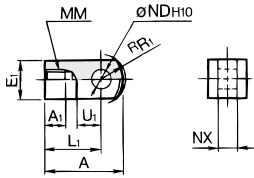
* BS indicates the overall length of the cylinder tube to be used.

Bore size [mm]	Part no.	A	A ₁	C	CD	CL	CT	CW	CX	□E	L	L ₁	□M	N	R	Hexagon socket head cap screw size	Weight [g]
12	CQ-C012	BS + 17.5	BS + 28	6	5	19	4	14	5	25	3.5	14	15.5	4.5	100°	M4 x 10 L	30
16	CQ-C016	BS + 18.5	BS + 30.5	6	5	21	4	15	6.5	28	3.5	15.5	20	4.5	100°	M4 x 10 L	40
20	CQ-C020	BS + 22.5	BS + 36.5	7	8	27	5	18	8	35	4.5	18.5	25.5	6.6	80°	M6 x 12 L	86
25	CQ-C025	BS + 25	BS + 42.5	7	10	30	5	20	10	40	5	22.5	28	6.6	90°	M6 x 12 L	115
32	CQ-C032	BS + 27	BS + 48.5	7	10	30	5	20	18	45	7	28.5	34	6.6	80°	M6 x 12 L	112
40	CQ-C040	BS + 29	BS + 50.5	8	10	32	6	22	18	52	7	28.5	40	6.6	80°	M6 x 14 L	147
50	CQ-C050	BS + 36	BS + 61.5	9	14	42	7	28	22	64	8	33.5	50	9	80°	M8 x 16 L	294
63	CQ-C063	BS + 38	BS + 63.5	12	14	44	8	30	22	77	8	33.5	60	11	60°	M10 x 20 L	448
80	CQ-C080	BS + 48	BS + 81.5	15	18	56	10	38	28	98	10	43.5	77	13.5	70°	M12 x 25 L	884
100	CQ-C100	BS + 57	BS + 88.5	17	22	67	13	45	32	117	12	43.5	94	13.5	70°	M12 x 30 L	1516

* For details on the rod end nut and accessory brackets ⇨ p. 26, 27

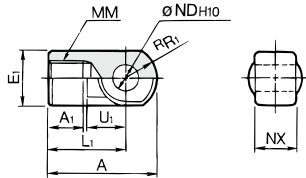
Single Knuckle Joint

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



Material: Carbon steel
Surface treatment: Nickel plating

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

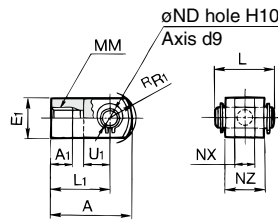


Material: Cast iron
Surface treatment: Zinc chromated

Bore size [mm]	Part no.	A	A ₁	E ₁	L ₁	MM	R _{R1}	U ₁	ND _{H10}	NX	Weight [g]
12	I-G012	21.5	6	□10	16	M5 x 0.8	6.3	7	5 ^{+0.048} ₀	5 ^{-0.2} _{-0.4}	9
16	I-Z015A	32	8	□12	25	M6 x 1	8.1	14	5 ^{+0.048} ₀	6.4 ^{-0.1} _{-0.3}	9
20	I-G02	34	8.5	□16	25	M8 x 1.25	10.3	11.5	8 ^{+0.058} ₀	8 ^{-0.2} _{-0.4}	38
25	I-G03	41	10.5	□20	30	M10 x 1.25	12.8	14	10 ^{+0.058} ₀	10 ^{-0.2} _{-0.4}	70
32, 40	I-G04	42	14	∅22	30	M14 x 1.5	12	14	10 ^{+0.058} ₀	18 ^{-0.3} _{-0.5}	75
50, 63	I-G05	56	18	∅28	40	M18 x 1.5	16	20	14 ^{+0.070} ₀	22 ^{-0.3} _{-0.5}	163
80	I-G08	71	21	∅38	50	M22 x 1.5	21	27	18 ^{+0.070} ₀	28 ^{-0.3} _{-0.5}	370
100	I-G10	79	21	∅44	55	M26 x 1.5	24	31	22 ^{+0.084} ₀	32 ^{-0.3} _{-0.5}	544

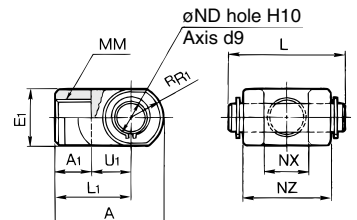
Double Knuckle Joint

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



Material: Carbon steel
Surface treatment: Nickel plating

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

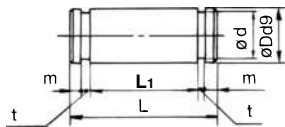


Material: Cast iron
Surface treatment: Zinc chromated

Bore size [mm]	Part no.	A	A ₁	E ₁	L ₁	MM	R _{R1}	U ₁	ND _{H10}	NX	NZ	L	Applicable pin part no.	Weight [g]
12	Y-G012	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	11
16	Y-Z015A	28	11	□12	21	M6 x 1	8.1	10	5 ^{+0.048} ₀	6.5 ^{-0.2} _{-0.3}	12	16.6	IY-J015	11
20	Y-G02	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	45
25	Y-G03	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	86
32, 40	Y-G04	42	16	∅22	30	M14 x 1.5	12	14	10 ^{+0.058} ₀	18 ^{-0.5} _{-0.3}	36	41.6	IY-G04	121
50, 63	Y-G05	56	20	∅28	40	M18 x 1.5	16	20	14 ^{+0.070} ₀	22 ^{-0.5} _{-0.3}	44	50.6	IY-G05	253
80	Y-G08	71	23	∅38	50	M22 x 1.5	21	27	18 ^{+0.070} ₀	28 ^{-0.5} _{-0.3}	56	64	IY-G08	568
100	Y-G10	79	24	∅44	55	M26 x 1.5	24	31	22 ^{+0.084} ₀	32 ^{-0.5} _{-0.3}	64	72	IY-G10	838

* Knuckle pin and retaining rings are included.

Knuckle Pin (Common with double clevis pin)

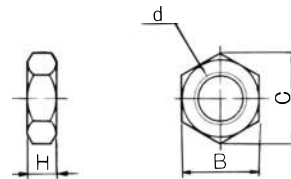


Material: Carbon steel

Bore size [mm]	Part no.	Dd9	L	d	L ₁	m	t	Applicable retaining ring	Weight [g]
12	IY-G012	5 ^{-0.030} _{-0.060}	14.6	4.8	10.2	1.5	0.7	Type C5 for axis	2
16	IY-J015	5 ^{-0.030} _{-0.060}	16.6	4.8	12.2	1.5	0.7	Type C5 for axis	3
20	IY-G02	8 ^{-0.040} _{-0.076}	21	7.6	16.2	1.5	0.9	Type C8 for axis	8
25	IY-G03	10 ^{-0.040} _{-0.076}	25.6	9.6	20.2	1.55	1.15	Type C10 for axis	16
32, 40	IY-G04	10 ^{-0.040} _{-0.076}	41.6	9.6	36.2	1.55	1.15	Type C10 for axis	25
50, 63	IY-G05	14 ^{-0.050} _{-0.093}	50.6	13.4	44.2	2.05	1.15	Type C14 for axis	60
80	IY-G08	18 ^{-0.050} _{-0.093}	64	17	56.2	2.55	1.35	Type C18 for axis	126
100	IY-G10	22 ^{-0.065} _{-0.117}	72	21	64.2	2.55	1.35	Type C22 for axis	212

* Type C retaining rings for axis are included.

Rod End Nut



Material: Carbon steel
Surface treatment: Zinc chromated (∅12 to ∅100)
Nickel plating (∅125 to ∅200)

Bore size [mm]	Part no.	d	H	B	C	Weight [g]
12	NTJ-015A	M5 x 0.8	4	8	9.2	1
16	NT-015A	M6 x 1	5	10	11.5	2
20	NT-02	M8 x 1.25	5	13	15.0	4
25	NT-03	M10 x 1.25	6	17	19.6	8
32, 40	NT-04	M14 x 1.5	8	22	25.4	17
50, 63	NT-05	M18 x 1.5	11	27	31.2	32
80	NT-08	M22 x 1.5	13	32	37.0	49
100	NT-10	M26 x 1.5	16	41	47.3	116
125, 140	NT-12	M30 x 1.5	18	46	53.1	160
160, 180, 200	NT-16	M36 x 1.5	21	55	63.5	230

Rod End Bracket, Rod End Nut Material: Stainless Steel

Part Nos. (Dimensions: Same as the standard type)

Bore size [mm]	Single knuckle joint	Double knuckle joint*1	Knuckle joint pin	Rod end nut
20	I-G02SUS	Y-G02SUS	IY-G02SUS	NT-02SUS
25	I-G03SUS	Y-G03SUS	IY-G03SUS	NT-03SUS
32, 40	I-G04SUS	Y-G04SUS	IY-G04SUS	NT-G04SUS
50, 63	I-G05SUS	Y-G05SUS	IY-G05SUS	NT-05SUS
80	I-G08SUS	Y-G08SUS	IY-G08SUS	NT-08SUS
100	I-G10SUS	Y-G10SUS	IY-G10SUS	NT-10SUS

*1 A knuckle pin and retaining rings are included with the double knuckle joint. Retaining rings are included with the knuckle joint pin.

Standard Double Acting, Single Rod CQ2

Single Acting, Spring Return, Double Rod CQ2

Large Bore Size Double Acting, Double Rod CQ2W

Anti-lateral Load Double Acting, Single Rod CQ2S

Long Stroke Double Acting, Single Rod CQ2

Non-rotating Rod Double Acting, Single Rod CQ2K

Water Resistant Double Acting, Single Rod CQ2-RV

Axial Piping Single Acting, Single Rod CQ2

With End Lock Double Acting, Single Rod CBQ2

Auto Switch

Made to Order