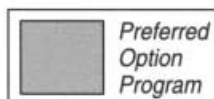


# Series NCQ2/CQ2

## Compact Cylinders

### **The Preferred Option Program: "Quick Delivery and Service Assurance"**



The product series in this catalog utilizes SMC's Preferred Option Program, a unique program intended to emphasize the model configurations that are most readily available where the catalog presents an extensive variety of choices. All other options are available, whereas they may be stocked in lesser quantities or manufactured to order. Special arrangements can be made for repeating (blanket) orders of these product models. Contact your sales representative for further details.



Targeting new trends in the advancement of industrial automation, SMC has developed a category of products recognized as especially significant and of universal importance. We refer to these products as "Z Products". These revolutionary products, whether simple or complex, provide SMC customers with superior performance and availability at a very affordable cost.



Compact Cylinder

# NCQ2/CQ2 Series

ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100, ø125, ø140, ø160

The cylinder is designed with ultra compact overall dimensions offering space saving features. Ideal for use on applications requiring compact size fixtures and equipment.

Series Variation	Action	Style	Standard Built in magnet Mounting thread (A) type Rod end M thread W/ rubber cushion End boss CQ2	Bore size (mm)	Std Stroke (mm)	Page
Standard 	Double Acting	Single rod (N)CQ2	••••••••••••••••••	12, 16, 20, 25 32, 40, 50, 63 80, 100	ø12-ø16/5-30 ø20-ø25/5-50 ø32-ø40/5-100 ø50-ø100/10-100	2
		Double rod (N)CQ2W	••••••••••••••••••	12, 16, 20, 25 32, 40, 50, 63 80, 100	ø12-ø16/5-30 ø20-ø40/5-50 ø50-ø100/10-50	24
	Single Acting	Extension/Retraction (N)CQ2	••••••••••••••••••	12, 16, 20, 25 32, 40, 50	ø12-ø40/5,10 ø50/10,20	38
Rod non-rotating 	Double Acting	Single rod (N)CQ2K	••••••••••••••••••	12, 16, 20, 25 32, 40, 50, 63	ø12, ø16/5-30 ø20, ø25/5-50 ø32, ø40/5-100 ø50, ø63/10-100	60
		Double rod CQ2KW	••••••••••••••••••	12, 16, 20, 25 32, 40, 50, 63	ø12, ø16/5-30 ø20-ø40/5-50 ø50, ø63/10-50	74
Large Bore Size 	Double Acting	Single rod CQ2	••••••••••••••••••	125, 140, 160	10~300	84
		Double rod CQ2W	••••••••••••••••••	125, 140, 160	10~300	88
Long Stroke 	Double Acting	Single rod CQ2	••••••••••••••••••	32, 40, 50 63, 80, 100	125~300	92

W/ one touch fitting (bore size ø22-ø63)  
Foot / flange mounting  
Clevvis mounting  
Copper free  
Air-Hydra (Bore size ø20-ø100)  
Clean Room Series (Bore size ø12-ø63)

### Applicable Auto Switch

Reed switch	D-A7•A8, D-A73C•A80C D-A7□H•A80H, D-A79W
Solid State	D-F7□•J79, D-F7□V, D-J79C, D-F7□W•J79W, D-F7□WV, D-F7BAL, D-F7□F, D-F7NTL

### Made To Order

CQ2 Series made to order spec: see p. 98

Switch specifications see pg. 13



# Compact Cylinder: Standard/ Double Acting Single Rod NCQ2 / CQ2 Series

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

## How To Order

**W/ Auto Switch** NCQ2 **B H 20 F 30 D C**

**W/ Auto Switch** NCDQ2 **B H 20 F 30 D C A73 S**

**Mounting**

B	Through hole	F	Rod side flange
A	Both ends tapped	G	Head side flange
L	Foot	D	Double Clevis

**Style**

-	Air pressure
H	See note 1) Air Hydro

Note 1) The available air-hydro bore sizes: ø20~ø100, CQ2 only.

**Bore Size**

12	12mm (1/2" Nom.)	40	40mm (1-1/2" Nom.)
16	16mm (5/8" Nom.)	50	50mm (2" Nom.)
20	20mm (3/4" Nom.)	63	63mm (2-1/2" Nom.)
25	25mm (1" Nom.)	80	80mm (3-1/4" Nom.)
32	32mm (1-1/4" Nom.)	100	100mm (4" Nom.)

**Piping**

-	Threaded ports
F	See note 2) Built-in one-touch fitting

Note 2) Available built-in one touch fitting bore size: ø32~ø63.  
Not applicable for Air-Hydro type CQ2

**Cylinder Stroke (mm)**  
Please refer to p.3 for standard strokes

**Action**

D	Double
---	--------

Preferred Option Program

**Auto Switch**

-	2 pcs.
S	1 pcs.
n	n pcs.

**Auto Switch Capability**

-	Without Auto Switch
---	---------------------

**Auto Switch Specifications**

Type	Autoswitch		Indicator light	Wire (Output type)	Load Voltage		
	Perpendicular entry	In-line entry			DC	AC	
Reed switch	—	A76H	Yes	3 Wire	—	5V	
	A72	A72H			—	200V	
	A73	A73H			12V	100V	
	A80	A80H	No	2 Wire	24V	5V, 12V	
	A73C	—				12V	—
	A80C	—				5V, 12V	24V
	A79W	—				—	—
Solid State Switch	F7NV	F79	Yes	3 Wire NPN	24V	5V, 12V	
	F7PV	F7P		3 Wire PNP			
	F7BV	J79		2 Wire	12V		
	J79C	—		3 Wire NPN	24V	5V, 12V	
	F7NVV	F79W					
	—	F7PW		3 Wire PNP			
	F7BVV	J79W		2 Wire	12V		
	—	F7BAL		3 Wire NPN	24V	5V, 12V	
	—	F7NTL					
	—	F79F		4 Wire NPN	—		
—	F7LF	—	—				

• Load length 0.5m.....Std. Connector A80C 5m.....Z Connector A80CZ  
3m.....L A80CL No lead.....N A80CN

**Body Option**

-	Std. (Female thread)
C	Note 3) W/ rubber cushion
M	Male thread
F	Head end boss

\* Body option combination is available such as CM, FC, FM, and FCM.  
Note 3) W/ Rubber cushion is not available for the air-hydraulic type.

### Mounting Kits

Bore Size (mm)	Note 4) Foot	Flange	Note 6) Double clevis
12	(N)CQ-L012	(N)CQ-F012	(N)CQ-D012
16	(N)CQ-L016	(N)CQ-F016	(N)CQ-D016
20	(N)CQ-L020	(N)CQ-F020	(N)CQ-D020
25	(N)CQ-L025	(N)CQ-F025	(N)CQ-D025
32	(N)CQ-L032	(N)CQ-F032	(N)CQ-D032
40	(N)CQ-L040	(N)CQ-F040	(N)CQ-D040
50	(N)CQ-L050	(N)CQ-F050	(N)CQ-D050
63	(N)CQ-L063	(N)CQ-F063	(N)CQ-D063
80	(N)CQ-L080	(N)CQ-F080	(N)CQ-D080
100	(N)CQ-L100	(N)CQ-F100	(N)CQ-D100

Note 4) If foot bracket is required for a cylinder, order a pair

Note 5) Each bracket comes with the following accessories;  
Foot / Flange; Body mounting bolt  
Double clevis; Clevis pin, Axis C style snap ring,  
Body mounting bolt

Note 6) The double-clevis is packaged with clevis pin and snap ring.



Standard /  
Double Acting Single rod

# (N)CQ2 Series

## Model



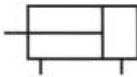
Bore Size		12	16	20	25	32	40	50	63	80	100	
Air-Pressure Type	Mounting	Through hole (std)	●	●	●	●	●	●	●	●	●	
		Both ends tapped	●	●	●	●	●	●	●	●	●	
	Built-In Magnet		●	●	●	●	●	●	●	●	●	
	Piping Method	Threaded PT or NPT	M5x 0.8	M5x 0.8	M5x 0.8	M5x 0.8	Note 1 M5x 0.8 1/8	1/8	1/4	1/4	3/8	3/8
		Built-In One Touch Fitting	-	-	-	-	Note 2 6/4	6/4	8/6	8/6	-	-
	Rod End Male Thread		●	●	●	●	●	●	●	●	●	●
W/Rubber Cushion		●	●	●	●	●	●	●	●	●	●	
W/Head End boss		●	●	●	●	●	●	●	●	●	●	
Air-Hydro Type	Mounting	Through hole (std)	-	-	●	●	●	●	●	●	●	
		Both ends tapped	-	-	●	●	●	●	●	●	●	
	Built-In Magnet		-	-	●	●	●	●	●	●	●	
	Piping Method	Threaded PT or NPT	-	-	M5x 0.8	M5x 0.8	Note 1 M5x 0.8 1/8	1/8	1/4	1/4	3/8	3/8
		Rod End Male Thread	-	-	●	●	●	●	●	●	●	●
	W/ Head End boss		-	-	●	●	●	●	●	●	●	●

Note 1) In cases without autoswitch, only 5 stroke uses M5x0.8

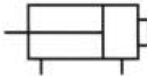
Note 2) In case of built-in fitting, the external tube dimension for ø 32, 5 stroke and 10 stroke are the same.

## Standard Specifications

Double acting/  
Single rod



Head end boss



Model	Air Pressure (Non-Lube)	Air-hydraulic
Media	Air	Hydraulic oil
Proof Pressure	217psi {15.3kgf/cm <sup>2</sup> }	
Max. Operating Pressure	145psi {10.2kgf/cm <sup>2</sup> }	
Ambient and Media temp.	15~160°F{-10°C~+70°C} (At freezing temp. air must be dry)	
Rubber cushion	None	-
Rod end thread	Female Thread (std.)	
Rod end thread tolerance	JIS Class II	
Stroke Length tolerance	+1.0 0 mm	
Mounting	Through hole (std.)	
Piston Speed	2~20in/s (50~500mm/s)	.002~8 in/s(0.5~200mm/s)

## Min. Operating Pressure

psi

Bore size	12	16	20	25	32	40	50	63	80	100
Air pressure type (non-lube)	10.15	10.15	7.25	7.25	7.25	7.25	7.25	7.25	7.25	7.25
Air-hydro	-	-	26.1	26.1	26.1	14.5	14.5	14.5	14.5	14.5

## Cautions

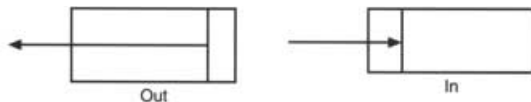
- When mounting, completely flush piping and be careful that dust and chips do not enter the cylinder.
- The Piston rod load should always be aligned with the cylinder axis.
  - Cylinder installation requires accurate alignment.
  - When used as a stopper, avoid side loading of the piston rod.
- Prevent damage to the piston rod. A damaged piston rod will lead to damage of the rod seal and result in leakage.

## Standard stroke

Air pressure type (non-lube)		mm	Air-Hydro		mm
Bore size	Standard stroke		Bore size	Standard stroke	
12,16	5,10,15,20,25,30		20,25	5,10,15,20,25,30,35,40,45,50	
	5,10,15,20,25,30,35,40,45,50			32,40	5,10,15,20,25,30,35,40,45,50,75,100
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

• Available intermediate stroke.

Intermediate strokes in 1mm increments are available by installing a spacer into the STD. stroke cylinder. Contact an SMC representative for ø40-ø100 intermediate stroke cylinder with bumper. Example] CQ2B50-57D can be made by installing a 18 mm (w)spacer into the std. cylinder CQ2B50-75D. 5mm Incremental Stroke (spacers) done as standard.



### Weight/Double acting: Single rod type

lbs

Bore size	Rod direction	Operating pressures PSI		
		50	75	100
		<b>12</b>	OUT	8.7
	IN	6.6	9.8	13.1
<b>16</b>	OUT	15.6	23.4	31.2
	IN	11.7	17.5	23.4
<b>20</b>	OUT	24.3	36.5	48.6
	IN	18.2	27.3	36.5
<b>25</b>	OUT	38.0	57.0	76.0
	IN	29.3	43.9	58.5
<b>32</b>	OUT	62.3	93.5	12.5
	IN	46.8	70.1	93.5
<b>40</b>	OUT	97.4	146	195
	IN	81.8	123	164
<b>50</b>	OUT	152	228	304
	IN	128	192	256
<b>63</b>	OUT	242	362	483
	IN	217	326	434
<b>80</b>	OUT	390	584	779
	IN	352	527	703
<b>100</b>	OUT	609	913	1217
	IN	554	831	1108

Bore size	Stroke											
	5	10	15	20	25	30	35	40	45	50	75	100
<b>12</b>	0.088	0.104	0.119	0.135	0.150	0.165	-	-	-	-	-	-
<b>16</b>	0.135	0.159	0.183	0.207	0.232	0.256	-	-	-	-	-	-
<b>20</b>	0.021	0.247	0.291	0.335	0.381	0.426	0.470	0.516	0.560	0.604	-	-
<b>25</b>	0.260	0.306	0.353	0.399	0.448	0.494	0.540	0.587	0.633	0.681	-	-
<b>32</b>	0.346	0.397	0.445	0.496	0.547	0.595	0.644	0.697	0.747	0.798	1.15	1.40
<b>40</b>	0.600	0.648	0.697	0.745	0.794	0.842	0.891	0.939	0.988	1.04	1.37	1.62
<b>50</b>	-	0.884	0.968	1.05	1.13	1.21	1.30	1.38	1.46	1.55	2.11	2.43
<b>63</b>	-	1.43	1.51	1.60	1.69	1.78	1.87	1.96	2.04	2.13	2.77	3.23
<b>80</b>	-	3.18	3.38	3.58	3.78	3.98	4.18	4.38	4.58	4.78	6.24	7.27
<b>100</b>	-	4.87	5.10	5.34	5.57	5.80	6.04	6.27	6.50	6.74	8.38	9.52

### Weight Adder

Bore size	12	16	20	25	32	40	50	63	80	100
Both ends tapped	0.004	0.004	0.013	0.013	0.013	0.013	0.013	0.042	0.099	0.099
Rod end M thread	Thread	0.003	0.007	0.013	0.026	0.057	0.060	0.117	0.117	0.265
	Nut	0.002	0.004	0.009	0.018	0.037	0.037	0.071	0.071	0.108
Head end boss	0.002	0.003	0.004	0.007	0.011	0.015	0.029	0.055	0.099	0.212
W/ rubber cushion	0.000	0.000	-0.004	-0.007	-0.007	-0.015	-0.020	-0.040	-0.068	-0.123
W/ one touch fitting	-	-	-	-	0.026	0.026	0.046	0.046	-	-
Foot mounting*	0.121	0.148	0.362	0.410	0.315	0.342	0.536	0.714	1.535	2.342
Rod side flange*	0.126	0.152	0.306	0.355	0.397	0.472	0.822	1.233	2.328	3.010
Head side flange*	0.119	0.143	0.293	0.335	0.364	0.437	0.767	1.177	2.242	2.886
Double clevis**	0.071	0.086	0.194	0.271	0.333	0.432	0.867	1.222	2.445	4.161

lbs.

### How to obtain the total weight (lbs)

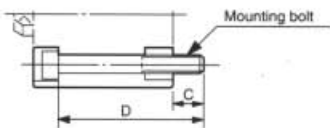
NCQ2D32-20DCM

<b>Std wt.:</b>	NCQ2B32-20D	_____	.496
<b>Wt. adder:</b>	Mounting end (both) tap	_____	0.013
	Rod end M thread	_____	.057
	W/ rubber cushion	_____	-0.007
	Double clevis	_____	.333
	<b>Total</b>		<b>.892</b>

\* (incl. mounting bolt) \*\* (incl. pin, snap ring, bolt)

### Mounting Bolt For (N)CQ2

Special long mounting bolt for through hole mounting is available as an option.  
How to Order:  
Specify the required bolts  
Example) Bolt M3x35L 4pcs.



Thread	Pitch
M3	0.5
M5	0.8
M6	1.0
M8	1.25
M10	1.5

Model	C	D	Mounting bolt
(N)CQ2B12-5D	6.5	25	M3x25L
		-10D	30 x30L
		-15D	35 x35L
		-20D	40 x40L
		-25D	45 x45L
		-30D	50 x50L
(N)CQ2B16-5D	5	25	M3x25L
		-10D	30 x30L
		-15D	35 x35L
		-20D	40 x40L
		-25D	45 x45L
		-30D	50 x50L
(N)CQ2B20-5D	7.5	25	M5x25L
		-10D	30 x30L
		-15D	35 x35L
		-20D	40 x50L
		-25D	45 x45L
		-30D	50 x50L
		-35D	55 x55L
		-40D	60 x60L
(N)CQ2B25-5D	9.5	30	M5x30L
		-10D	35 x35L
		-15D	40 x40L
		-20D	45 x45L
		-25D	50 x50L
		-30D	55 x55L
		-35D	60 x60L
		-40D	65 x65L
(N)CQ2B32-5D	9	30	M5x30L
		-10D	35 x35L
		-15D	40 x40L
		-20D	45 x45L
		-25D	50 x50L
		-30D	55 x55L
		-35D	60 x60L
		-40D	65 x65L
(N)CQ2B40-5D	7.5	35	M5x35L
		-10D	40 x40L
		-15D	45 x45L
		-20D	50 x50L
		-25D	55 x55L
		-30D	60 x60L
		-35D	65 x65L
		-40D	70 x70L
		-45D	75 x75L
		-50D	80 x80L
(N)CQ2B50-10D	12.5	45	M6x45L
		-15D	50 x50L
		-20D	55 x55L
		-25D	60 x60L
		-35D	70 x70L
		-40D	75 x75L
(N)CQ2B63-10D	15	55	M8x55L
		-15D	60 x60L
		-20D	65 x65L
		-25D	70 x70L
		-30D	75 x75L

Model	C	D	Mounting bolt		
(N)CQ2B32-5D	9	30	M5x30L		
		-10D	35 x35L		
		-15D	40 x40L		
		-20D	45 x45L		
		-25D	50 x50L		
		-30D	55 x55L		
		-35D	60 x60L		
		-40D	65 x65L		
		-45D	70 x70L		
		-50D	75 x75L		
		-75D	110 x110L		
		-100D	135 x135L		
		(N)CQ2B40-5D	7.5	35	M5x35L
				-10D	40 x40L
-15D	45 x45L				
-20D	50 x50L				
-25D	55 x55L				
-30D	60 x60L				
-35D	65 x65L				
-40D	70 x70L				
-45D	75 x75L				
-50D	80 x80L				
-75D	115 x115L				
-100D	140 x140L				
(N)CQ2B50-10D	12.5	45	M6x45L		
		-15D	50 x50L		
		-20D	55 x55L		
		-25D	60 x60L		
		-30D	65 x65L		
		-35D	70 x70L		
		-40D	75 x75L		
		-45D	80 x80L		
		-50D	85 x85L		
		-75D	120 x120L		
		-100D	145 x145L		

Model	C	D	Mounting bolt
(N)CQ2B63-10D	14.5	50	M8x50L
		-15D	55 x55L
		-20D	60 x60L
		-25D	65 x65L
		-30D	70 x70L
		-35D	75 x75L
		-40D	80 x80L
		-45D	85 x85L
		-50D	90 x90L
		-75D	125 x125L
(N)CQ2B80-10D	15	55	M10x55L
		-15D	60 x60L
		-20D	65 x65L
		-25D	70 x70L
		-30D	75 x75L
		-35D	80 x80L
		-40D	85 x85L
		-45D	90 x90L
		-50D	95 x95L
		-75D	130 x130L
(N)CQ2B100-10D	15.5	65	M10x65L
		-15D	70 x70L
		-20D	75 x75L
		-25D	80 x80L
		-30D	85 x85L
		-35D	90 x90L
		-40D	95 x95L
		-45D	100 x100L
		-50D	105 x105L
		-75D	140 x140L

### Clean Room Series Air Cylinder

**10** — **CQ2B** Bore Size — Stroke D (M)

- Clean series  
10- Relief type  
11- Vacuum type
- $\phi 12, \phi 16, \phi 20, \phi 25, \phi 32, \phi 40, \phi 50, \phi 63$

The double sealing structure of the rod end is designed to exhaust the air through a relief port directly to the outside of clean room. Can be used for class 100 clean room application.



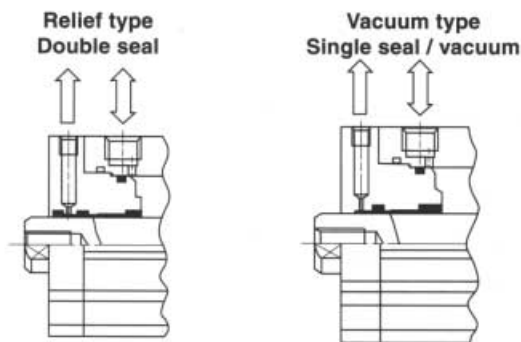
#### Specifications

Action	Double acting single rod
Bore Size	$\phi 12, \phi 16, \phi 20, \phi 25, \phi 32, \phi 40, \phi 50, \phi 63$
Proof pressure	217psi, {15.3kgf / cm <sup>2</sup> }
Max. operating pressure	145psi {10.2kgf / cm <sup>2</sup> }
Rubber cushion	None
Piping	Threaded piping
Piston speed	2~20 in / sec (50~500mm / s)
Mounting	Through hole
Auto switch capability	Capable

Consult SMC for more detailed information.

Note) In case of  $\phi 12$  with auto switch, rubber cushion is standard.

#### Construction



The **relief porting type** exhausts the air between the two rod seals, offering less dust and contamination (1/20 of conventional cylinders).

The **Vacuum type** structure is exactly the same as 10 Series. However, removing the outer seal allows atmospheric air to be drawn out by vacuum through the clearance between the rod and cover.

By doing so, the dust generated from the outside becomes almost non-existent. Can be used for higher degree of cleanliness than a standard cylinder.

### Copper Free Series Air Cylinder

**20** — **CQ2B** Bore Size — Stroke D (C) (M)

- Copper Free series
- $\phi 50, \phi 63, \phi 80, \phi 100$

Changed surface treatment and material to electroless nickel plated and copper free, respectively, to remove copper ion so that no interference will occur when used in cathode ray tube manufacturing process.

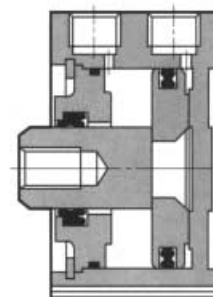


#### Specifications

Action	Double acting single rod
Bore Size	$\phi 50, \phi 63, \phi 80, \phi 100$
Proof pressure	217psi, {15.3kgf / cm <sup>2</sup> }
Max. operating pressure	145psi {10.2kgf / cm <sup>2</sup> }
Rubber cushion	With & without
Piping	Threaded piping
Piston speed	2~20 in / sec (50~500mm / s)
Mounting	Through hole, both ends tapping
Auto switch capability	Capable

Consult SMC for more detailed information.

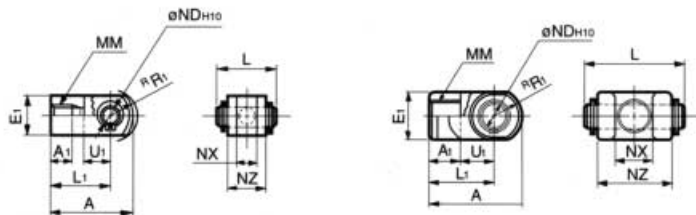
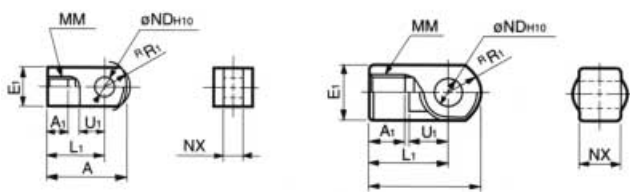
#### Construction



Accessories

**SINGLE ROD CLEVIS (ROD EYE)**

**DOUBLE ROD CLEVIS (ROD EYE)**



**CQ2 - Single Rod Clevis**

mm

Part Number	Applicable bore size	A	A <sub>1</sub>	E <sub>1</sub>	L <sub>1</sub>	MM	<sup>R</sup> R <sub>1</sub>	U <sub>1</sub>	ND <sub>H10</sub>	NX
I-G012	12	21.5	6	□10	16	M5x0.8	6.3	7	5 <sup>+0.048</sup> <sub>0</sub>	5 <sup>-0.2</sup> <sub>-0.4</sub>
I-Z015	16	32	8	□12	25	M6x1	8.1	14	5 <sup>+0.048</sup> <sub>0</sub>	6.4 <sup>-0.1</sup> <sub>-0.3</sub>
I-G02	20	34	8.5	□16	25	M8x1.25	10.3	11.5	8 <sup>+0.058</sup> <sub>0</sub>	8 <sup>-0.2</sup> <sub>-0.4</sub>
I-G03	25	41	10.5	□20	30	M10x1.25	12.8	14	10 <sup>+0.058</sup> <sub>0</sub>	10 <sup>-0.2</sup> <sub>-0.4</sub>
I-G04	32,40	42	14	∅22	30	M14x1.5	12	14	10 <sup>+0.058</sup> <sub>0</sub>	18 <sup>-0.3</sup> <sub>-0.5</sub>
I-G05	50,63	56	18	∅28	40	M18x1.5	16	20	14 <sup>+0.070</sup> <sub>0</sub>	22 <sup>-0.3</sup> <sub>-0.5</sub>
I-G08	80	71	21	∅38	50	M22x1.5	21	27	18 <sup>+0.070</sup> <sub>0</sub>	28 <sup>-0.3</sup> <sub>-0.5</sub>
I-G10	100	79	21	∅44	55	M26x1.5	24	31	22 <sup>+0.084</sup> <sub>0</sub>	32 <sup>-0.3</sup> <sub>-0.5</sub>

**CQ2 - Double Rod Clevis**

mm

Part Number	Applicable bore size	A	A <sub>1</sub>	E <sub>1</sub>	L <sub>1</sub>	MM	<sup>R</sup> R <sub>1</sub>	U <sub>1</sub>	ND <sub>H10</sub>	NX	NZ	L	PIN PART NO.
Y-G012	12	21.5	6	□10	16	M5x0.8	6.3	7	5 <sup>+0.048</sup> <sub>0</sub>	5 <sup>-0.2</sup> <sub>-0.4</sub>	10	14.6	IY-G012
Y-Z015A	16	28	11	□12	21	M6x1	8.1	10	5 <sup>+0.048</sup> <sub>0</sub>	6.5 <sup>-0.2</sup> <sub>0</sub>	12	16.6	IY-J015
Y-G02	20	34	8.5	□16	25	M8x1.25	10.3	11.5	8 <sup>+0.058</sup> <sub>0</sub>	8 <sup>-0.2</sup> <sub>-0.4</sub>	16	21	IY-G02
Y-G03	25	41	10.5	□20	30	M10x1.25	12.8	14	10 <sup>+0.058</sup> <sub>0</sub>	10 <sup>-0.2</sup> <sub>-0.4</sub>	20	25.6	IY-G03
Y-G04	32,40	42	16	∅22	30	M14x1.5	12	14	10 <sup>+0.058</sup> <sub>0</sub>	18 <sup>-0.3</sup> <sub>-0.5</sub>	36	41.6	IY-G04
Y-G05	50,63	56	20	∅28	40	M18x1.5	16	20	14 <sup>+0.070</sup> <sub>0</sub>	22 <sup>-0.3</sup> <sub>-0.5</sub>	44	50.6	IY-G05
Y-G08	80	71	23	∅38	50	M22x1.5	21	27	18 <sup>+0.070</sup> <sub>0</sub>	28 <sup>-0.3</sup> <sub>-0.5</sub>	56	64	IY-G08
Y-G10	100	79	24	∅44	55	M26x1.5	24	31	22 <sup>+0.084</sup> <sub>0</sub>	32 <sup>-0.3</sup> <sub>-0.5</sub>	64	72	IY-G10

Clevis, Pin and Snap Ring are in the package

**NCQ2 - Single Rod Clevis**

mm

Part Number	Applicable bore size	A	A <sub>1</sub>	E <sub>1</sub>	L <sub>1</sub>	MM	<sup>R</sup> R <sub>1</sub>	U <sub>1</sub>	ND <sub>H10</sub> Inch	NX
RCS-01	12	21.5	6	□10	16	#8-32UNC	6.3	7	3/16 <sup>+0.002</sup> <sub>0</sub>	5 <sup>-0.2</sup> <sub>-0.4</sub>
RCS-015	16	32	6	□12	25	#8-32UNC	12	14	3/16 <sup>+0.002</sup> <sub>0</sub>	6.4 <sup>-0.1</sup> <sub>-0.3</sub>
RCS-02	20	34	6	□16	25	#10-32UNF	10.3	11.5	5/16 <sup>+0.002</sup> <sub>0</sub>	8 <sup>-0.2</sup> <sub>-0.4</sub>
RCS-025	25	41	8	□20	30	1/4-28UNF	18	14	3/8 <sup>+0.002</sup> <sub>0</sub>	10 <sup>-0.2</sup> <sub>-0.4</sub>
RCS-03	32	42	16	∅22	30	5/16-24UNF	12	14	3/8 <sup>+0.002</sup> <sub>0</sub>	18 <sup>-0.3</sup> <sub>-0.5</sub>
RCS-04	40	42	11	∅22	30	3/8-24UNF	12	14	3/8 <sup>+0.002</sup> <sub>0</sub>	18 <sup>-0.3</sup> <sub>-0.5</sub>
RCS-05	50, 63	56	18	∅28	40	1/2-20UNF	16	20	1/2 <sup>+0.003</sup> <sub>0</sub>	22 <sup>-0.3</sup> <sub>-0.5</sub>
RCS-08	80	71	21	∅38	50	5/8-18UNF	21	27	3/4 <sup>+0.003</sup> <sub>0</sub>	28 <sup>-0.3</sup> <sub>-0.5</sub>
RCS-10	100	79	21	∅44	55	3/4-16UNF	24	31	7/8 <sup>+0.003</sup> <sub>0</sub>	32 <sup>-0.3</sup> <sub>-0.5</sub>

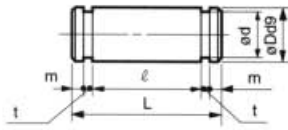
Clevis Pin and Retaining Rings not included, see RCSK "xx" on page 7

**NCQ2 - Double Rod Clevis**

mm

Part Number	Applicable bore size	A	A <sub>1</sub>	E <sub>1</sub>	L <sub>1</sub>	MM	<sup>R</sup> R <sub>1</sub>	U <sub>1</sub>	ND <sub>H10</sub> Inch	NX	NZ	L
RCD-01	12	21.5	6	□10	16	#8-32UNC	6.3	7	3/16 <sup>+0.002</sup> <sub>0</sub>	5 <sup>-0.2</sup> <sub>-0.4</sub>	10	14
RCD-015	16	28	6	□12	21	#8-32UNC	12	10	3/16 <sup>+0.002</sup> <sub>0</sub>	6.5 <sup>+0.2</sup> <sub>+0.1</sub>	12	16
RCD-02	20	34	6	□16	25	#10-32UNF	10.3	11.5	5/16 <sup>+0.002</sup> <sub>0</sub>	8 <sup>-0.2</sup> <sub>-0.4</sub>	16	21
RCD-025	25	41	8	□20	30	1/4-28UNF	18	14	3/8 <sup>+0.002</sup> <sub>0</sub>	10 <sup>-0.2</sup> <sub>-0.4</sub>	20	25
RCD-03	32	42	16	∅22	30	5/16-24UNF	12	14	3/8 <sup>+0.002</sup> <sub>0</sub>	18 <sup>+0.5</sup> <sub>+0.3</sub>	36	41
RCD-04	40	42	16	∅22	30	3/8-24UNF	12	14	3/8 <sup>+0.002</sup> <sub>0</sub>	18 <sup>+0.5</sup> <sub>+0.3</sub>	36	41
RCD-05	50,63	56	20	∅28	40	1/2-20UNF	16	20	1/2 <sup>+0.003</sup> <sub>0</sub>	22 <sup>+0.5</sup> <sub>+0.3</sub>	44	50
RCD-08	80	71	23	∅38	50	5/8-18UNF	21	27	3/4 <sup>+0.003</sup> <sub>0</sub>	28 <sup>+0.5</sup> <sub>+0.3</sub>	56	64
RCD-10	100	79	24	∅44	55	3/4-16UNF	24	31	7/8 <sup>+0.003</sup> <sub>0</sub>	32 <sup>+0.5</sup> <sub>+0.3</sub>	64	72

Clevis Pin and Retaining Rings not included, see RCSK "xx" on page 7



CQ2 - Double Rod Clevis Pin

mm

Part Number	Applicable bore size	Dd9	L	d	ℓ	m	t	Snap ring
IY-G012	12	5 <sup>-0.030</sup> / <sub>-0.060</sub>	14.6	4.8	10.2	1.5	0.7	Axial C style 5
IY-J015	16	5 <sup>-0.030</sup> / <sub>-0.060</sub>	16.6	4.8	12.2	1.5	0.7	Axial C style 5
IY-G02	20	8 <sup>-0.040</sup> / <sub>-0.076</sub>	21	7.6	16.2	1.5	0.9	Axial C style 8
IY-G03	25	10 <sup>-0.040</sup> / <sub>-0.076</sub>	25.6	9.6	20.2	1.55	1.15	Axial C style 10
IY-G04	32, 40	10 <sup>-0.040</sup> / <sub>-0.076</sub>	41.6	9.6	36.2	1.55	1.15	Axial C style 10
IY-G05	50, 63	14 <sup>-0.050</sup> / <sub>-0.093</sub>	50.6	13.4	44.2	2.05	1.15	Axial C style 14
IY-G08	80	18 <sup>-0.050</sup> / <sub>-0.093</sub>	64	17	56.2	2.55	1.35	Axial C style 18
IY-G10	100	22 <sup>-0.065</sup> / <sub>-0.117</sub>	72	21	64.2	2.55	1.35	Axial C style 22

NCQ2 - Double Rod Clevis Pin

mm

Part Number	Applicable bore size	D	L	d	ℓ	m	t
PS-01	12	4.77 <sup>-0.03</sup> / <sub>-0.06</sub>	14	4.45	10.2	1.44	0.46
PS-015	16	4.77 <sup>-0.03</sup> / <sub>-0.06</sub>	16	4.45	12.2	1.44	0.46
PS-02	20	7.94 <sup>-0.040</sup> / <sub>-0.076</sub>	21	7.37	16.2	1.66	0.74
PS-025	25	9.53 <sup>-0.046</sup> / <sub>-0.076</sub>	25	8.94	20.2	1.66	0.74
PS-03	32, 40	9.53 <sup>-0.040</sup> / <sub>-0.076</sub>	41	8.94	36.2	1.66	0.74
PS-05	50, 63	12.7 <sup>-0.05</sup> / <sub>-0.076</sub>	50	11.89	44.2	1.9	1.0
PS-08	80	19.05 <sup>-0.065</sup> / <sub>-0.117</sub>	64	17.89	56.2	2.73	1.17
PS-10	100	22.23 <sup>-0.065</sup> / <sub>-0.117</sub>	72	20.85	64.2	2.73	1.17

Kits

NCQ2 Double Rod Clevis

Kit Part Number	Applicable bore size	Includes		
		Clevis (1)	Pin (1)	Retaining Rings (2)
RCDK-01	12	RCD-01	PS-01	PC-01
RCDK-015	16	RCD-015	PS-015	PC-01
RCDK-02	20	RCD-02	PS-02	PC-02
RCDK-025	25	RCD-025	PS-025	PC-03
RCDK-03	32	RCD-03	PS-03	PC-03
RCDK-04	40	RCD-04	PS-04	PC-03
RCDK-05	50,63	RCD-05	PS-05	PC-05
RCDK-08	80	RCD-08	PS-08	PC-08
RCDK-10	100	RCD-10	PS-10	PC-10

NCQ2 Single Rod Clevis (Rod Eye)

Kit Part Number	Applicable bore size	Includes		
		Clevis (1)	Pin (1)	Retaining Rings (2)
RCSK-01	12	RCS-01	PS-01	PC-01
RCSK-015	16	RCS-015	PS-015	PC-01
RCSK-02	20	RCS-02	PS-02	PC-02
RCDK-025	25	RCS-025	PS-025	PC-03
RCSK-03	32	RCS-03	PS-03	PC-03
RCSK-04	40	RCS-04	PS-03	PC-03
RCSK-05	50,63	RCS-05	PS-05	PC-05
RCSK-08	80	RCS-08	PS-08	PC-08
RCSK-10	100	RCS-10	PS-10	PC-10

NCQ2 Rod Clevis Pin

Kit Part Number	Applicable bore size	Includes	
		Pin (1)	Retaining Rings (2)
PRA-01	12	PS-01	PC-01
PRA-015	16	PS-015	PC-01
PRA-02	20	PS-02	PC-02
PRA-025	25	PS-025	PC-03
PRA-03	32,40	PS-03	PC-03
PRA-05	50, 63	PS-05	PC-05
PRA-08	80	PS-08	PC-08
PRA-10	100	PS-10	PC-10

CQ2 - Jam Nut

mm

Part Number	Applicable bore size	d	H	B	C
NTJ-015A	12	M5x0.8	4	8	9.2
NT-015A	16	M6x1	5	10	11.5
NT-02	20	M8x1.25	5	13	15.0
NT-03	25	M10x1.25	6	17	19.6
NT-04	32, 40	M14x1.5	8	22	25.4
NT-05	50, 63	M18x1.5	11	27	31.2
NT-08	80	M22x1.5	13	32	37.0
NT-10	100	M26x1.5	16	41	47.3
NT-12	125,140	M30x1.5	18	46	53.1
NT-16	160	M36x1.5	21	55	63.5

NCQ2 - Jam Nut

mm

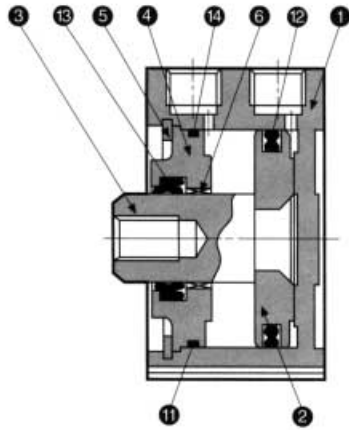
Model	Applicable bore size	d	H	B	C
JM-01	12, 16	8-32 UNC	3.3	8.7	10
JM-02	20	10-32 UNF	3.3	9.5	11
JM-025	25	1/4-28 UNF	4.1	11.2	13
JM-03	32	5/16-24 UNF	4.8	12.7	14.7
JM-04	40	3/8-24 UNF	5.6	14.3	16.5
JM-05	50, 63	1/2-20 UNF	7.9	19.1	22
JM-08	80	5/8-18 UNF	9.7	23.8	27.4
JM-10	100	3/4-16 UNF	10.7	28.7	33

NOTE: Jam Nut Included when option "M" is ordered

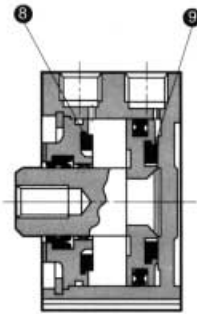


# Compact Cylinder: Standard / Double Acting Single Rod

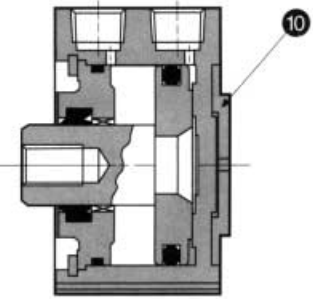
## Construction / Part List



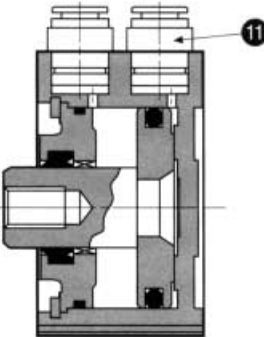
Double Acting / Single Rod



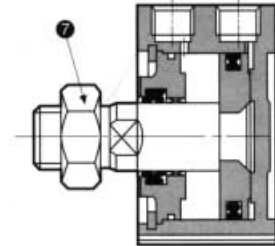
With Cushion



End Boss Head End



One Touch Fittings



Male Thread With Jam Nut

## Parts list

No.	Description	Material	Remarks
1	Cylinder tube	Aluminum alloy	Hard anodized
2	*Piston	Aluminum alloy	Chromate
3	*Piston rod	Stainless steel	ø12~25
		Carbon steel	ø32~100, hard chrome plated
4	Collar	Bearing grade aluminum	ø12~40, black anodized
		Aluminum alloy casting	ø50~100, black painted
5	Retaining ring	Carbon tool steel	Phosphate coating

No.	Description	Material	Remarks
6	Bushing	Leaded tin bronze casting	Used for only ø50 and above
7	Rod end nut	Carbon steel	Nickel plated
8	Bumper A	polyurethane rubber	
9	Bumper B	polyurethane rubber	
10	End boss	Aluminum alloy	Hard anodizing
11	One touch fittings	—	ø32~ø63

\* Piston and piston rod are connected (one-piece).  
For bore size 12~ø25 rubber cushion using stainless steel piston rod.

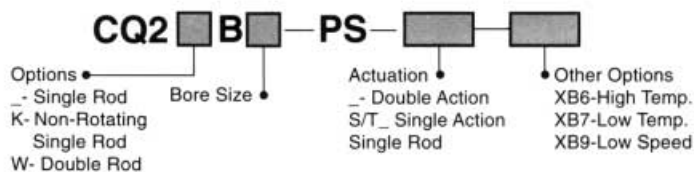
## Seal List

No.	Description	Material	Parts No.									
			ø12	ø16	ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
12	Piston seal	NBR	NLP-12-7L	NLP-16A	NLP-20A	NLP-25A	NLP-32A	NLP-40A	NLP-50A	NLP-63B	NLP-80B	NLP-100B
13	Rod seal	NBR	DYR-6K	DYR-8K	DYR-10SK	DYR-12	DYR-16	PDU-16Z	PDU-20Z	PDU-20Z	PDU-25Z	PDU-30Z
14	Gasket	NBR	SP-013-6	C14	C18	C22	C29	C36	C46	C60	C75	C95

## Air Hydro (CQ2 only)

No.	Description	Material	Parts No.							
			ø20	ø25	ø32	ø40	ø50	ø63	ø80	ø100
12	Piston seal	NBR	RPS-20A	RPS-25A	RPS-32A	RPS-40A	RPS-50A	RPS-63A	RPS-80A	RPS-100A
13	Rod seal	NBR	PS-10	PS-12	PS-16	HDU-16	HDU-20	HDU-20	HDU-25	HDU-30
14	Gasket	NBR	C18	C22	C29	C36	C46	C60	C75	C95

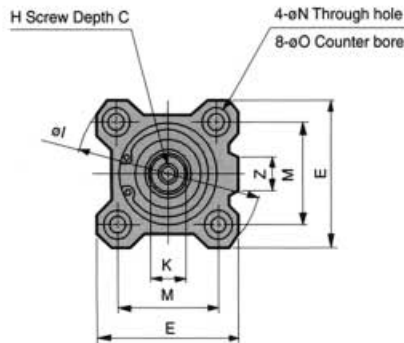
## Seal Kit Part Numbers



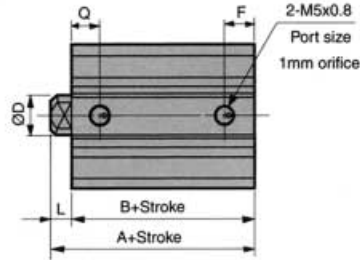
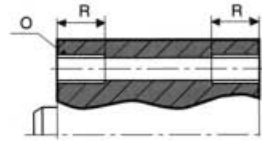
# (N)CQ2 Series

Bore Size  $\phi 12 \sim \phi 25$

## Through Hole / (N)CQ2B



## Both ends tapped



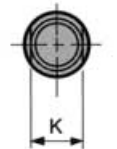
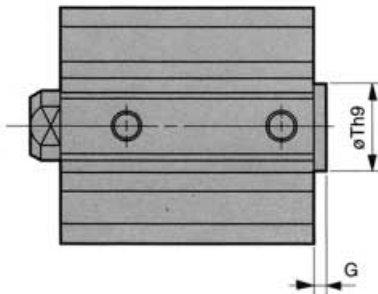
## (N)CQ2A Both Ends Tapped

Bore size	CQ2 O	NCQ2 inch O	R
12	M4x0.7	8-32 UNC	7
16	M4x0.7	8-32 UNC	7
20	M6x1.0	1/4 - 20 UNC	10
25	M6x1.0	1/4 - 20 UNC	10

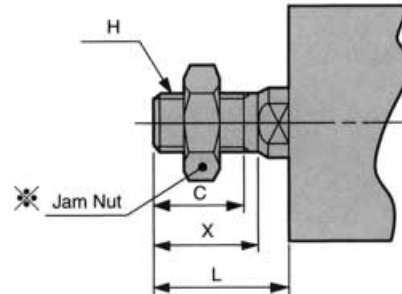
## Standard

Bore size	Stroke	A	B	CQ2 C	NCQ2 C	D	E	F	CQ2 H	NCQ2 inch H	I	K	L	M	N	O	Q	Z
12	5~30	20.5	17	6	5.4	6	25	5	M3x0.5	#8-32	32	5	3.5	15.5	3.5	6.5 depth 3.5	7.5	-
16	5~30	22	18.5	8	5.4	8	29	5.5	M4x0.7	#8-32	38	6	3.5	20	3.5	6.5 depth 3.5	8	10
20	5~50	24	19.5	7	7	10	36	5.5	M5x0.8	#10-32	47	8	4.5	25.5	5.5	9 depth 7	9	10
25	5~50	27.5	22.5	12	10	12	40	5.5	M6x1.0	1/4 - 28 UNF	52	10	5	28	5.5	9 depth 7	11	10

Note) The external dimensions of cylinder with rubber cushion are the same as that of the above standard.



Piston Rod



## End Boss (CQ2 only) mm

Bore size	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 $^{0}_{-0.043}$

## NCQ2 Male Rod End mm

Bore size	X	H inch	L	K
12	8	#8-32UNC	11.5	5
16	8	#8-32UNC	11.5	6
20	8	#10-32UNF	12.5	8
25	9.5	1/4-28UNF	14.5	10

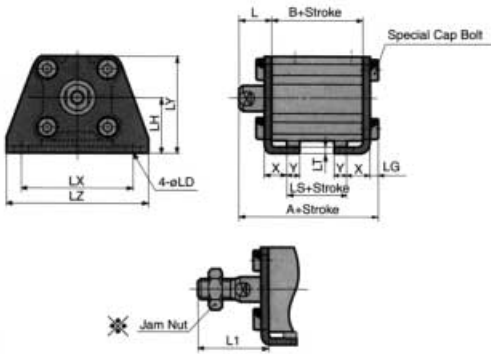
## CQ2 Male Rod End mm

Bore size	C	X	H	L	K
12	9	10.5	M5x0.8	14	5
16	10	12	M6x1.0	15.5	6
20	12	14	M8x1.25	18.5	8
25	15	17.5	M10x1.25	22.5	10

Note 1) Rod side End Boss is offered as an option.  
(Add - XC36 at the end of part no.)

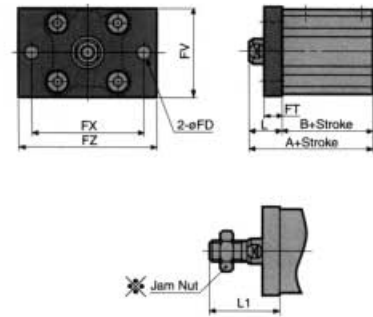
✳ Rod end nut and accessories detail: see p. 6.  
"C" dim. not applicable.

Compact Cylinder: Standard / Double Acting Single Rod



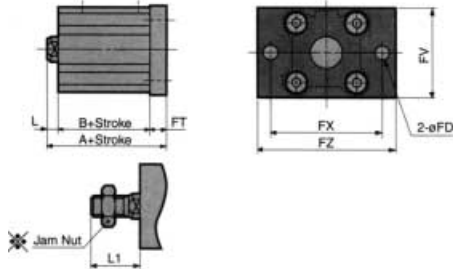
Foot / (N)CQ2L

Bore size (mm)	Stroke range (mm)	A	B	L	CQ2 L1	NCQ2 L1	LD	LG	LH	LS	LT	LX	LY	LZ	X	Y
12	5-30	35.3	17	13.5	24	21.5	4.5	2.8	17	5	2	34	29.5	44	8	4.5
16	5-30	36.8	18.5	13.5	25.5	21.5	4.5	2.8	19	6.5	2	38	33.5	48	8	5
20	5-50	41.2	19.5	14.5	28.5	22.5	6.6	4	24	7.5	3.2	48	42	62	9.2	5.8
25	5-50	44.7	22.5	15	32.5	24.5	6.6	4	26	7.5	3.2	52	46	66	10.7	5.8



Rod Side Flange / (N)CQ2F

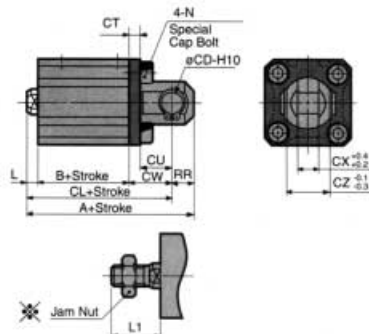
Bore size (mm)	Stroke range (mm)	A	B	FD	FT	FV	FX	FZ	L	CQ2 L1	NCQ2 L1
12	5-30	30.5	17	4.5	5.5	25	45	55	13.5	24	21.5
16	5-30	32	18.5	4.5	5.5	30	45	55	13.5	25.5	21.5
20	5-50	34	19.5	6.6	8	39	48	60	14.5	28.5	22.5
25	5-50	37.5	22.5	6.6	8	42	52	64	15	32.5	24.5



Head Side Flange / (N)CQ2G

Bore size (mm)	Stroke range (mm)	A	L	CQ2 L1	NCQ2 L1
12	5-30	26	3.5	14	11.5
16	5-30	27.5	3.5	15.5	11.5
20	5-50	32	4.5	18.5	12.5
25	5-50	35.5	5	22.5	14.5

\*Dimensions for the head flange cylinder are the same as rod flange except A, L, L1.

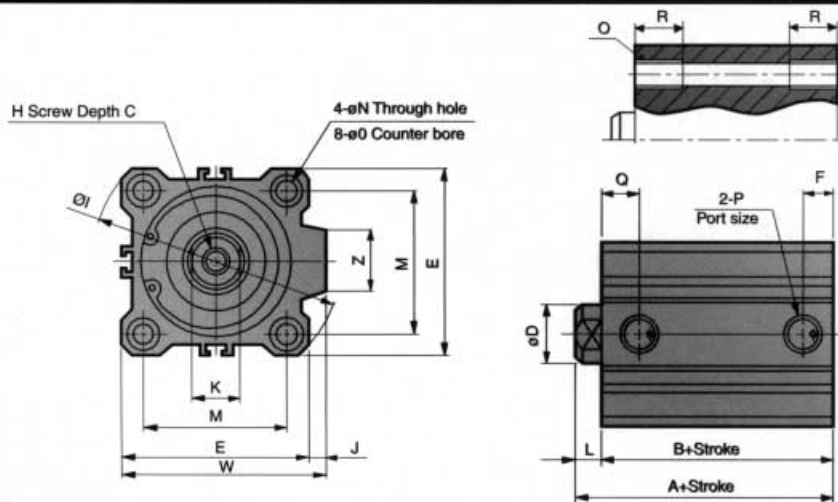


Double Clevis / (N)CQ2D

Bore size (mm)	Stroke range (mm)	A	B	CQ2 CD	NCQ2 inch CD	CL	CT	CU	CW	CX	CZ	L	CQ2 L1	NCQ2 L1	CQ2 N	NCQ2 inch N	RR
12	5-30	40.5	17	5	3/16	34.5	4	7	14	5	10	3.5	14	11.5	M4x0.7	8-32	6
16	5-30	43	18.5	5	3/16	37	4	10	15	6.5	12	3.5	15.5	11.5	M4x0.7	8-32	6
20	5-50	51	19.5	8	5/16	42	5	12	18	8	16	4.5	18.5	12.5	M6x1.0	1/4-20	9
25	5-50	57.5	22.5	10	3/8	47.5	5	14	20	10	20	5	22.5	14.5	M6x1.0	1/4-20	10

\* Rod end nut and accessories detail: see p. 6.  
 \*\* Clevis pin and snap rings are included in the package.

Bore Size  $\phi 32 \sim \phi 100$



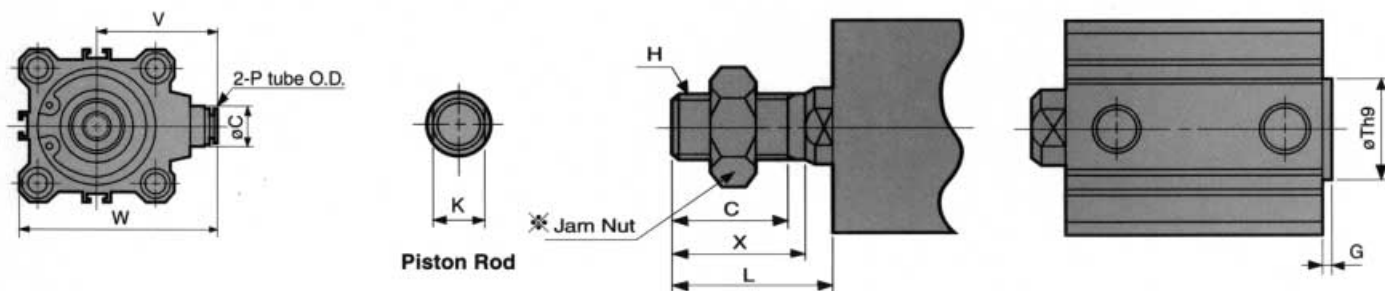
(N)CQ2A  
Both Ends Tapped

Bore size	CQ2 O	NCQ2 inch O	R
32	M6x1.0	1/4 20 UNC	10
40	M6x1.0	1/4 - 20 UNC	10
50	M8x1.25	5/16 - 18 UNC	14
63	M10x1.5	7/16 - 14 UNC	18
80	M12x1.75	1/2 - 13 UNC	22
100	M12x1.75	1/2 - 13 UNC	22

Standard

Bore size	Stroke (mm)	A	B	CQ2 C	NCQ2 C	D	E	F	CQ2 H	NCQ2 Inch H	I	J	K	L	M	N	O	P	Orifice	Q	W	Z	
32	5	30	23	13	13.3	16	45	5.5	M8x1.25	5/16-24UNF	60	4.5	14	7	34	5.5	9 depth 7	M5x0.8	1.7	11.5	49.5	14	
	10~50	40	33					7.5										10.5					
	75, 100	40	33					7.5										10.5					
40	5~50	36.5	29.5	13	18.3	16	52	8	M8x1.25	3/8-24UNF	69	5	14	7	40	5.5	9 depth 7	1/8	2	11	57	14	
	75, 100	46.5	39.5					8															10.5
	10~50	38.5	30.5					8															10.5
50	10~50	38.5	30.5	15	17.6	20	64	10.5	M10x1.5	1/2-20UNF	86	7	17	8	50	6.6	11 depth 8	1/4	2.2	10.5	71	19	
	75, 100	48.5	40.5					10.5															10.5
	10~50	44	36					10.5															10.5
63	10~50	44	36	15	17.6	20	77	10.5	M10x1.5	1/2-20UNF	103	7	17	8	60	9	14 depth 10.5	1/4	3	15	84	19	
	75, 100	54	46					10.5															10.5
	10~50	53.5	43.5					10.5															10.5
80	10~50	53.5	43.5	21	24.3	25	98	12.5	M16x2.0	5/8-18UNF	132	6	22	10	77	11	17.5 depth 13.5	3/8	4	16	104	26	
	75, 100	63.5	53.5					12.5															10.5
	10~50	65	53					12.5															10.5
100	10~50	65	53	27	27	30	117	13	M20x2.5	3/4-16UNF	156	6.5	27	12	94	11	17.5 depth 13.5	3/8	5	23	123.5	26	
	75, 100	75	63					13															10.5
	10~50	75	63					13															10.5

Note 1) The external dimensions of cylinder with rubber cushion are the same as that of the above standard.  
 2) In case of built-in fitting type, bore size  $\phi 32$ , 5 stroke has the same external dimensions as 10 stroke.



One Touch Fittings

Bore size	C	P	V	W
32	13	6	38	60.5
40	13	6	42	68
50	16	8	50	82
63	16	8	56.5	95

NCQ2 Male Rod End

Bore size	X	H Inch	L	K
32	12.7	5/16-24UNF	19.7	14
40	16	3/8-24UNF	23	14
50	19.5	1/2-20UNF	27.5	17
63	19.5	1/2-20UNF	27.5	17
80	25.5	5/8-18UNF	35.5	22
100	28.5	3/4-16UNF	40.5	27

CQ2 Male Rod End

Bore size	C	X	H	L	K
32	20.5	23.5	M14x1.5	28.5	14
40	20.5	23.5	M14x1.5	28.5	14
50	26	28.5	M18x1.5	33.5	17
63	26	28.5	M18x1.5	33.5	17
80	32.5	35.5	M22x1.5	43.5	22
100	32.5	35.5	M26x1.5	43.5	27

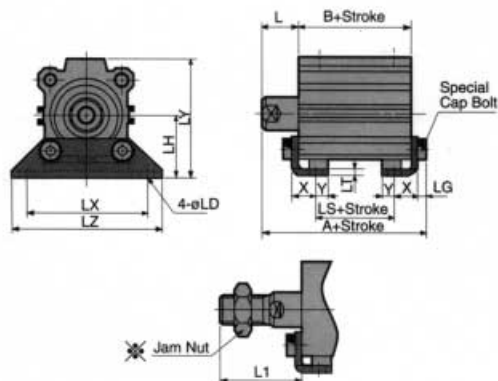
End Boss (CQ2 only)

Bore size	G	Th9
32	2	21 <sup>0</sup> <sub>-0.052</sub>
40	2	28 <sup>0</sup> <sub>-0.052</sub>
50	2	35 <sup>0</sup> <sub>-0.062</sub>
63	2	35 <sup>0</sup> <sub>-0.062</sub>
80	2	43 <sup>0</sup> <sub>-0.062</sub>
100	2	59 <sup>0</sup> <sub>-0.074</sub>

"C" dimension not applicable  
 \*Rod end nut and accessories are detailed on p. 6.

Note) With rod end inlets an option.  
 (Add - XC36 at the end of part no.)

# Compact Cylinder: Standard / Double Acting Single Rod



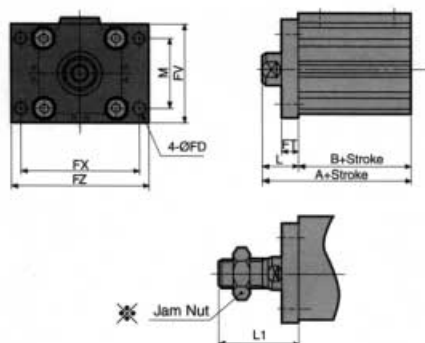
## Foot / (N)CQ2L

mm

Bore size	Stroke	A	B	L	CQ2 L1	NCQ2 L1	LD	LG	LH	LS	LT	LX	LY	LZ	X	Y
32	5-50	47.2	23	17	38.5	29.7	6.6	4	30	7	3.2	57	57	71	11.2	5.8
	75, 100	57.2	33							17						
40	5-50	53.7	29.5	17	38.5	33	6.6	4	33	13.5	3.2	64	64	78	11.2	7
	75, 100	63.7	39.5							23.5						
50	10-50	56.7	30.5	18	43.5	37.5	9	5	39	7.5	3.2	79	78	95	14.7	8
	75, 100	66.7	40.5							17.5						
63	10-50	62.2	36	18	43.5	37.5	11	5	46	10	3.2	95	91.5	113	16.2	9
	75, 100	72.2	46							20						
80	10-50	75	43.5	20	53.5	45.5	13	7	59	13.5	4.5	118	114	140	19.5	11
	75, 100	85	53.5							23.5						
100	10-50	88	53	22	53.5	50.5	13	7	71	19	6	137	136	162	23	12.5
	75, 100	98	63							29						

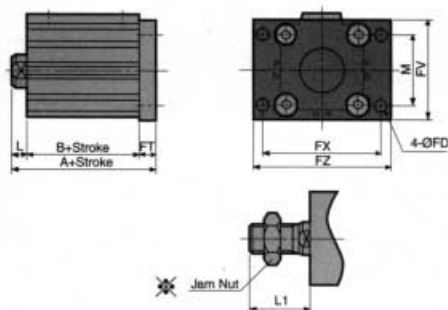
## Rod Flange / (N)CQ2F

mm



Bore size	Stroke	A	B	FD	FT	FV	FX	FZ	L	CQ2 L1	NCQ2 L1	M
32	5-50	40	23	5.5	8	48	56	65	17	38.5	29.7	34
	75, 100	50	33									
40	5-50	46.5	29.5	5.5	8	54	62	72	17	38.5	33	40
	75, 100	56.5	39.5									
50	10-50	48.5	30.5	6.6	9	67	76	89	18	43.5	37.5	50
	75, 100	58.5	40.5									
63	10-50	54	36	9	9	80	92	108	18	43.5	37.5	60
	75, 100	64	46									
80	10-50	63.5	43.5	11	11	99	116	134	20	53.5	45.5	77
	75, 100	73.5	53.5									
100	10-50	75	53	11	11	117	136	154	22	53.5	50.5	94
	75, 100	85	63									

## Head Flange / (N)CQ2G<sub>mm</sub>

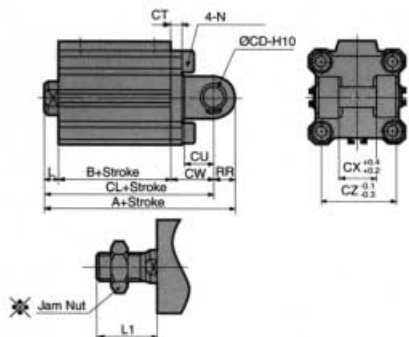


Bore size	Stroke	A	L	CQ2 L1	NCQ2 L1
32	5-50	38	7	28.5	19.7
	75, 100	48			
40	5-50	44.5	7	28.5	23
	75, 100	54.5			
50	10-50	47.5	8	33.5	27.5
	75, 100	57.5			
63	10-50	53	8	33.5	27.5
	75, 100	63			
80	10-50	64.5	10	43.5	35.5
	75, 100	74.5			
100	10-50	76	12	43.5	40.5
	75, 100	86			

\* Dimensions for the head flange cylinder are the same as rod flange except A, L, L1.

## Double Clevis / (N)CQ2D

mm



Bore size	Stroke	A	B	CQ2 CD	NCQ2 Inch CD	CL	CT	CU	CW	CX	CZ	L	CQ2 L1	NCQ2 L1	CQ2 N	NCQ2 Inch N	RR
32	5-50	60	23	10	3/8	50	5	14	20	18	36	7	28.5	19.7	M6x1.0	1/4-20	10
	75, 100	70	33			60											
40	5-50	68.5	29.5	10	3/8	58.5	6	14	22	18	36	7	28.5	23	M6x1.0	1/4-20	10
	75, 100	78.5	39.5			68.5											
50	10-50	80.5	30.5	14	1/2	66.5	7	20	28	22	44	8	33.5	27.5	M8x1.25	5/16-18	14
	75, 100	90.5	40.5			76.5											
63	10-50	88	36	14	1/2	74	8	20	30	22	44	8	33.5	27.5	M10x1.5	7/16-14	14
	75, 100	98	46			84											
80	10-50	109.5	43.5	18	5/8	91.5	10	27	38	28	56	10	43.5	35.5	M12x1.75	1/2-13	18
	75, 100	119.5	53.5			101.5											
100	10-50	132	53	22	7/8	110	13	31	45	32	64	12	43.5	40.5	M12x1.75	1/2-13	22
	75, 100	142	63			120											

\* Rod end nut and accessories detail: see p. 6.

\* Clevis pin and snap ring are included in the package.